

An
Bord
Pleanála

Inspector's Report ABP-302885-18 & ABP- 302848-18

Development

N6 Galway City Ring Road Motorway
Scheme 2018 and Protected Road
Scheme 2018 and Compulsory
Purchase Order

Applicant(s)

Galway County Council on behalf of
itself and Galway City Council

Type of Application

Road Scheme

Observer(s)

See Appendix 1, 2 and 3

Date of Site Inspection

7th February, 6th & 7th March, 12th &
13th November 2019, 21st & 22nd
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Contents

1.0 Introduction.....	7
2.0 Site Description	9
3.0 Background.....	11
4.0 Proposed Development.....	12
4.1. Public Notice Description	12
4.2. The Scheme.....	12
4.3. Need for the Development	17
4.4. The Routing of the Scheme	18
4.5. Route Selection.....	20
4.6. Documentation Submitted with the application.....	22
4.7. Further Information Request	23
4.8. Applicant's Response.....	24
4.9. Oral Hearing Documentation.....	34
4.10. Changes to Road Design introduced at the Oral Hearing	35
5.0 Policy Context.....	36
5.1. The Paris Agreement	36
5.2. European Union – TEN-T Core and Comprehensive Network.....	36
5.3. Project Ireland 2040 - National Planning Framework.....	37
5.4. Spatial Planning and National Roads: Guidelines for Planning Authorities, DoECLG 2012.	37
5.5. Smarter Travel a Sustainable Transport future, a New Transport Policy for Ireland 2009-2020.....	38
5.6. Climate Action Plan 2019	38
5.7. National Biodiversity Action Plan 2017 – 2021.....	39

5.8. Regional Spatial and Economic Strategy (RSES) for the Northern and Western Region	39
5.9. Regional Planning Guidelines for the West Region 2010 - 2022.....	40
5.10. Galway City Development Plan 2017 – 2023.....	40
5.11. Galway County Development Plan 2015 – 2021	43
5.12. Galway Transportation Strategy (GTS).....	47
5.13. Ardaun Local Area Plan 2018 – 2024	48
5.14. Bearna Local Area Plan	48
5.15. Natural Heritage Designations	48
6.0 Observations.....	54
6.1. Introduction	54
6.2. Prescribed Bodies	54
6.3. Observers.....	57
6.4. Further Submissions following re-advertisement of Further Information Response	58
7.0 Compulsory Purchase Order	60
7.1. Documentation Submitted	60
7.2. Oral Hearing.....	63
8.0 Oral Hearing	64
8.1. Overview	64
9.0 Assessment.....	74
10.0 Planning Assessment.....	75
10.1. Introduction	75
10.2. Legal and Procedural Issues	76
10.3. Policy Considerations	82

10.4.	Need, justification and purpose of the road.....	92
10.5.	Design of Road	98
10.6.	Evaluation of Alternatives	111
10.7.	Socio-Economic Impacts	124
10.8.	Residential and Community Amenities	126
10.9.	Services and Utilities.....	145
10.10.	Construction Activities	148
10.11.	Consultations.....	168
10.12.	Implications of Covid-19 Pandemic for Proposed Development	169
10.13.	Planning Conclusion	172
11.0	Environmental Impact Assessment.....	174
11.1.	Introduction	174
11.2.	Consultations	175
11.3.	Alternatives	176
11.4.	Major Accidents	190
11.5.	Likely Significant Direct and Indirect Effects	190
11.6.	Population and Human Health	191
11.7.	Biodiversity	217
11.8.	Land, Soil, Water, Air and Climate – Land and Soils	232
11.9.	Land, Soil, Water, Air and Climate – Hydrogeology.....	247
11.10.	Land, Soil, Water, Air and Climate – Hydrology.....	275
11.11.	Land, Soil, Water, Air and Climate – Air Quality and Climate	294
11.12.	Land, Soil, Water, Air and Climate – Noise and Vibration	321
11.13.	Material Assets – Traffic and Transportation	353
11.14.	Material Assets – Landscape and Visual	392

11.15.	Material Assets – Archaeological, Architectural and Cultural Heritage	416
11.16.	Material Assets – Agriculture	428
11.17.	Material Assets – Non-Agriculture	442
11.18.	Interactions and Cumulative Impacts.....	453
11.19.	Reasoned Conclusion.....	458
12.0	Appropriate Assessment.....	468
12.1.	Introduction	468
12.2.	Screening the need for Appropriate Assessment.....	470
12.3.	Stage 2 Appropriate Assessment.....	474
12.4.	Potential for adverse effects	475
12.5.	Conservation Objectives	481
12.6.	Mitigation Measures.....	481
12.7.	Conclusions on Site Integrity	484
12.8.	Response to submissions	485
12.9.	Conclusion and Appropriate Assessment Determination in relation to Site Integrity.....	486
13.0	CPO	490
13.1.	Format of CPO and Schedule	490
13.2.	Overview of Objections	491
13.3.	Assessment	493
13.4.	Community Need	494
13.5.	Suitability of the Lands.....	495
13.6.	Accordance with Planning Policy	495
13.7.	Use of Alternative Methods.....	497
13.8.	CPO Issues Common to Multiple Objectors.....	497

13.9.	Site-Specific CPO Issues.....	509
13.10.	Conclusions on CPO	658
14.0	Recommendation	660
14.1.	The Compulsory Purchase Order	660
14.2.	Application for Approval of Proposed Road Development	662
15.0	Conditions	673
16.0	Appendix 1: Overview of Observations	1
16.1.	Observations.....	1
16.2.	Observers Part 1.....	2
16.3.	Observers Part 2.....	5
16.4.	Thematic Summary of submissions	20
17.0	Appendix 2: List of Objectors to CPO, outstanding at time of completion of report	1
18.0	Appendix 3: Observers at Further Information Stage.....	1
18.1.	List of observers at Further Information Stage.....	1
19.0	Appendix 4: Ecological Impact Assessment, prepared by Richard Arnold of Thomson Environmental Consultants.....	1
20.0	Appendix 5: Hydrogeology report, prepared by James Dodd of Envireau Water	1
21.0	Appendix 6: Appropriate Assessment Report, prepared by Richard Arnold of Thomson Environmental Consultants.....	1
22.0	Appendix 7: List of Documents Submitted at Oral Hearing	1

1.0 Introduction

- 1.1. Galway County Council on behalf of itself and Galway City Council has made an application for the provision of a Protected Road Scheme¹ and a Motorway Scheme between the western side of Bearna Village and a tie-in with the existing N6 at Coolagh, Briarhill, referred to as the proposed N6 Galway City Ring Road and referred to herein as the Proposed Road Development (PRD).
- 1.2. The PRD comprises c.6km of single carriageway from the western side of Bearna village as far as Ballymoneen Road and c.12km of dual carriageway from Ballymoneen Road to the eastern tie in with the existing N6 at Coolagh, Briarhill as well as associated link roads, side roads, junctions and structures. The section of the proposed road development from the tie-in with the R336 Coast Road west of Bearna to the N59 Letteragh junction will be a protected road and the section from this junction to the tie-in with the N6 will be a motorway.
- 1.3. This report considers two concurrent applications: ABP-302885-18 and ABP-302448-18.
- 1.4. ABP-302848-18 - The Council is seeking approval for the Protected Road and the Motorway Scheme Project together with an Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS) in accordance with Section 50 of the Roads Acts 1993 as amended, and Part XAB of the Planning and Development Acts 2000 as amended. This application was submitted to the Board on 23rd October 2018.
- 1.5. ABP-302885-18 – The Council is seeking approval for a Motorway Scheme and a Protected Road Scheme under Section 49 of the Roads Acts, 1993 as amended. The Orders were made pursuant to the powers conferred on the local authority by the Planning and Development Acts 2000 as amended, the Housing Acts 1966 as amended, the Roads Acts 1993 as amended, and the Local Government Acts 1925 as amended. If confirmed, the Orders would authorise the local authority to acquire compulsorily c.280 hectares of lands, which are described in the schedules to the

¹ A Protected Road 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.

proposed schemes. In addition, the proposed schemes entail the extinguishment of a number of public and private rights of way.

- 1.5.1. The full extent of the lands required for the schemes as described, including the public and private rights of way, wayleaves and right of access are shown outlined on the deposited maps, Drawing No's. N6-DM-0001 to N6-DM-0007 (Protected Road Scheme) and Drawing No's. N6-DM-1001 to N6-DM-1014 (Motorway Scheme). The Drawings were received by the Board on 26th October 2018. These schedules were subsequently amended during the Oral Hearing.
- 1.5.2. The PRD is located in parts of the Gaeltacht area.
- 1.5.3. Maps and photos are included in the file pouch.

2.0 Site Description

- 2.1. The city of Galway is located at the point where the River Corrib flows into the sea. This river drains Lough Corrib and there is a relatively small area of land between the southern extremity of Lough Corrib and Galway Bay. While the city centre is located close to the sea outfall of the Corrib at a point where the river is tidal, the city has over the past century expanded to the west and east and also to the north, on either side of the River Corrib.
- 2.2. The immediate surrounds of the River Corrib are generally low lying and the river is relatively narrow downstream of Menlough. To the north of Menlough, however, there are extensive low-lying marshy areas and several channels. The area generally to the west of the River Corrib and the N59 has a base of granite rock and this area is generally quite uneven with a patchwork of small fields, areas with poor drainage and land of variable agricultural quality. There is a high point at Tonabrocky Hill, whose level is given as 111 metres above sea level. There is a dense network of minor roads in this area and extensive ribbon development along these roads.
- 2.3. To the east of the river there are the older villages of Menlough, Coolagh and Ballindooly. There is extensive ribbon development along the roads linking these settlements. There are significant heritage items in the Menlough area including the castle and graveyard.
- 2.4. Closer to the centre there are extensive residential, industrial and commercial land uses. A number of industrial parks characterise the east side of the city as well as the Galway Racecourse at Ballybrit. Galway Mayo Institute of Technology (GMIT) is located to the east of city and the National University of Ireland Galway (NUIG) is located on the west side of the river with extensive sports and playing facilities at Dangan.
- 2.5. The existing N6 is a national primary route which connects the M6 motorway on the eastern side of Galway City to the N59 and the R338 on the western side of Galway City. The N6 also links four national routes around the city, namely the N59, N84, N83 and the N6/M6. It also links a number of regional routes including the R336 which accesses south Connemara.

- 2.6. There are currently four bridges that cross the River Corrib of which three are in close proximity to the city centre.

3.0 Background

- 3.1. A previous scheme was submitted for approval to An Bord Pleanála on the 1st December 2006, known as the Galway City Outer Bypass (GCOB). The Board granted approval for the eastern part of the scheme on 28th November 2008. The Board was not satisfied that the part of the proposed road development between the N59 Moycullen Road and the R336 Road would not be prejudicial to the preservation of the Tonabrocky bog habitat or that significant adverse effects would not be avoidable or could not be avoided by an alternative route and considered this part of the route to be contrary to sustainable development.
- 3.2. Following a third-party request, the High Court took a judicial review of the Board's decision to approve permission of the eastern section on the basis that the Board erred in its interpretation of Article 6 of the Habitats Directive. The High Court upheld the Board's decision. A third party appealed this decision to the Supreme Court who sought the opinion of the Court of Justice of the European Union (CJEU). The CJEU opinion delivered on the 11th April 2013 established that the loss of a small area of Priority Annex I habitat, for which the Lough Corrib cSAC is selected, would adversely affect the integrity of the cSAC and the provisions of Article 6(4) must apply in granting consent. Following this opinion, the Supreme Court quashed the earlier Board decision to grant approval of the eastern section of the GCOB under Article 6(3) of the Habitats Directive.
- 3.3. Following this decision and the Board's refusal to approve the western end of the project, the applicant decided to reassess the work to ensure all possible alternatives were investigated. The resulting project is the subject of this application for approval now before the Board.

4.0 Proposed Development

4.1. Public Notice Description

4.1.1. The PRD is described as follows in the public notices:

- A dual carriageway, consisting of 2 lanes and a hard shoulder in each direction divided by a segregating barrier;
- A single carriageway, consisting of 1 lane and a hard shoulder in each direction;
- New link roads;
- The realignment / improvement of regional, county and local roads crossed by the proposed road development; and
- Localised works to the existing electricity transmission and distribution networks (specifically comprising of the diversion of the 110kV and 38kV services) together with all ancillary and consequential works associated therewith.

4.2. The Scheme

4.2.1. The PRD contains the following major components:

- 5.6km of a single carriageway from c.2km to the west of Bearna village at An Baile Nua to the east of Ballymoneen Road junction;
- 11.9km of dual carriageway from Ballymoneen Road to the tie-in with the N6 road at Coolagh, Briarhill;
- 4 Major Structures:
 - A viaduct and bridge over the NUIG Sporting Campus and the River Corrib c.620m in length;
 - A viaduct over non-designated priority Annex I habitat at Menlough of c.320m in length;
 - A tunnel of c.270m in length beneath a section of Lough Corrib cSAC exiting in Lackagh Quarry known as the Lackagh Tunnel;

- A tunnel of c.240m in length under the Galway Racecourse at Ballybrit to the north of the racetrack, known as the Galway Racecourse Tunnel;
- Tunnel maintenance buildings adjacent to Lackagh and Galway Racecourse tunnels;
- Four main link roads:
 - N59 Link Road North;
 - N59 Link Road South;
 - Parkmore Link Road;
 - City North Business Park Link.
- 7 standard overbridges, typically 2 or 3 span bridges;
- 10 standard underbridges: at local roads typically a single span portal frame arrangement, at regional roads a clear span;
- 15 retaining structures expected to be of reinforced earth and/or reinforced concrete retaining wall configuration;
- 43 culvert type structures of which 28 are structural to accommodate drainage, watercourses and wildlife;
- 29 Sign Gantries;
- 56 Noise Barriers;
- 28 side roads which require redesign and realignment;
- Full size all-weather GAA pitch and a training pitch at the NUIG Sporting Campus²;
- New stables for the Galway Racecourse;
- Footpaths and cycle lane provision;
- Access roads with private rights of way;
- Lighting, Fencing and Barriers;

² Note this was amended at the Oral Hearing – see below

- Environmental measures including lands north of Menlo Castle to provide an enhancement of the core foraging habitat for the Lesser Horseshoe bat known to roost at Menlo Castle, and all other associated works;
- Material Deposition Areas;
- Temporary site compounds;
- Drainage works;
- Landscaping works; and
- Utilities and services diversion works.

Outline Description

- 4.2.2. From the R336 Coast Road to Ballymoneen Road the mainline of the PRD is a Type 1 Single Carriageway in accordance with TII Publications, with a minimum width of 18.3m and is designated as a Protected National Road. From Ballymoneen Road to the tie-in with the existing N6 at Coolagh, Briarhill the mainline is a standard Dual Carriageway Urban Motorway (D2UM). The mainline from Ballymoneen Road to the N59 Letteragh Junction will be designated as a Protected National Road and the mainline from the N59 Letteragh Junction to the N6 will be designated as a motorway, however, the cross sections remain the same with a minimum width of 27.6m.
- 4.2.3. Between the N84 Headford Road junction and the N83 Tuam Road junction the mainline cross section will widen to 34.6m to accommodate a third lane in either direction. The cross sections at the River Corrib bridge and Menlough viaduct consist of the same as described above, with the exception of the hard shoulder width which is reduced to 0.5m and a raised verge of 0.6m. The cross sections of the two tunnels consist of 2 x 3.75m lanes in both directions and a minimum maintained headroom of 5.3m.

Major Components

River Corrib Bridge

- 4.2.4. The EIAR describes the bridge crossing the River Corrib. It is 650m in length³ and comprises of an eight span bridge carrying the proposed road development over the river adjacent to a retained embankment with five culvert openings on the east approach. There will be no instream piers and the piers to the east within the footprint of the SAC are located in areas of non-Annex I habitat. On the west approach it is a viaduct structure traversing the NUIG Sporting Campus. The bridge is further described as a single concrete box without supports in the river. It is of variable depth between 3 and 7m with the main span being 153m across the river. The superstructure will be supported on reinforced concrete piers.

Menlough Viaduct

- 4.2.5. A viaduct structure is located outside but adjacent to the Lough Corrib SAC. The total length is dictated by the area of priority Annex I habitat over which it crosses, namely Limestone Pavement and a Turlough. It has a total length of c.320m and the PRD is on embankment on both approaches to it. The viaduct contains eight spans of a similar 40m span length. The minimum distance between the soffit of the superstructure and the ground level is c. 1.5m at one pinch point, at the location of the high point in the rock outcropping on the western side. The bridge deck superstructure will consist of prefabricated pre-cast post-tensioned beams supporting a cast in-situ concrete bridge deck. The substructure will consist of conventional reinforced concrete piers at intermediate supports while the reinforced concrete bankseats at the abutments will be supported on a reinforced earthworks system. No substructure supports are proposed within the extents of the Turlough.

Lackagh Tunnel

- 4.2.6. The tunnel is described as being c.270m long. The eastern portal of the tunnel is located within the inactive Lackagh Quarry, which is a limestone quarry. The central section of the tunnel will pass under the Lough Corrib SAC. The western portal is proposed to be located in agricultural fields outside of the Lough Corrib SAC. The purpose of this tunnel is to traverse the Lough Corrib SAC without directly impacting on the Limestone pavement and the Calcareous grass within the SAC.

Galway Racecourse Tunnel

³ Depending on chainage – slight changes in length used throughout the EIAR

- 4.2.7. This tunnel consists of c.240m twin tube reinforced cut and cover tunnel with a central wall. The proposed mainline passes through the north-western corner of the Galway Racecourse property and necessitates a cut and cover tunnel. The purpose of the tunnel is to avoid by design disruption to operations and functioning of the Galway Racecourse.

Underbridges

- 4.2.8. There are 10 underbridges proposed to carry the PRD over local, regional and national roads. All underbridges are single span and three types are proposed.
- Type 1: Buried reinforced concrete box structure
 - Type 2: Bridge deck with reinforced earth wall abutment
 - Type 3: Concrete deck with side slopes.

Overbridges

- 4.2.9. There are 7 overbridges of which 4 are required to carry local roads over the PRD, 1 is required as a mammal crossing and 2 are required at Coolagh Junction to provide free flow access between the R446 and the PRD.

4.2.10. Nature and extent of the land acquisition

- 4.2.11. Approximately 280 hectares of land is included in the CPO.

- 4.2.12. It is proposed to demolish 44 residential properties, 2 industrial properties (1 of which comprises four buildings), and 2 commercial properties. An additional 10 residential properties, one commercial property and one landholding that has full residential planning permission, require full acquisition. It is proposed that 17 farm buildings will be acquired to accommodate the proposal. Acquisition is further required of lands at 5 properties where there is 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.

4.2.13. Construction phase

- 4.2.14. A Construction Environmental Management Plan (CEMP) accompanies the application which documents the overall environmental strategy to be adopted during the construction phase.

- 4.2.15. An east to west build sequence is envisaged and construction may be completed in two concurrent phases or a single overall contract:
- Phase 1: N6 Coolagh to N59 Letteragh Junction – 9.9km (including the N59 Link road north and south)
 - Phase 2: N59 Letteragh Junction to R336 Coast Road.
- 4.2.16. It is considered that the PRD is suitable for a Design and Build Scheme or a Public Private Partnership contract (although no decisions have been made on the exact contract).
- 4.2.17. For construction purposes the works have been split into 15 sections. The EIAR lists the works for each section in Chapter 7. Potential Haul Routes and excavation volumes, surpluses and deficits in material requirements have been identified.
- 4.2.18. Thirteen sites have been identified as potential site compounds across the PRD. Site compounds have been identified within the permanent proposed development boundary where possible, with one location identified for temporary acquisition during the construction phase only.

4.3. Need for the Development

- 4.3.1. The need for the PRD is detailed in Chapter 3 of the EIAR. It is stated that the need for the PRD arises directly from the necessity to address the serious transport issues facing Galway City and environs. It is considered that a transport solution has been developed and the PRD forms an essential part of the solution.
- 4.3.2. It is stated that the transport issues facing Galway City and its environs as a result of the inadequacy of the existing road network are wide ranging with associated impacts including congestion throughout the city road network, over capacity of existing junctions, journey time unreliability, journey time variability, peak hour delays, by-passable traffic in conflict with internal traffic, strategic traffic in conflict with local traffic, inadequate transport links to access markets within the city, lack of accessibility to the western region, limited road space for cyclists, and impact of traffic on city's reputation.
- 4.3.3. It is stated that the overall ambition of the PRD is to achieve a number of specific objectives under a number of multi-criteria categories. It is the intention to provide a

project which is attractive to all, delivers the road component of the overall transport solution, provides benefit to the local and the larger regional population and is cognisant of the sensitive environment. Furthermore, the PRD was developed to be part of Ireland's comprehensive network in accordance with the European Union's TEN-T Transport policy.

- 4.3.4. It is concluded that the overriding need for the PRD is underpinned by the fact that a modern economy requires a world-class road transport infrastructure that is sustainable from an economic, social and environmental perspective. The need to deliver the PRD is supported in terms of policy from European to local level. The PRD need is defined in terms of its potential to solve existing transport issues including but not limited to those issues as listed in Section 4.3.2 above.
- 4.3.5. The functionality of the PRD is twofold – it provides for the strategic need of the TEN-T comprehensive road network and connectivity of Galway city and the West Region to the national road network, as well as providing a solution to relieve the city centre roads of unnecessary strategic traffic and providing the necessary road space for other modes of transport namely walking, cycling and public transport.

4.4. The Routing of the Scheme

- 4.4.1. Eleven figures illustrate the route of the road contained within Volume 3A of the EIAR. Each section of road is summarised in the table below, with the relevant EIAR figure identified as well as the chainage.

EIAR Figure	Chainage	Description
5.2.01	Ch.0+000 - Ch.1+350	PRD ties into existing R336 Coast Road in An Baile Nua with an at-grade roundabout. Proceeds north and east. Local connectivity at Na Forai Maola is maintained via an overbridge link.
5.2.02	Ch.0+360 – Ch.2+780	Proceeds north and east. At-grade roundabout at Bearna to Moycullen Road L1321.

EIAR Figure	Chainage	Description
5.2.03	Ch.2+800 – Ch.4+440	Proceed east. Local connectivity maintained at Aille Road with an overbridge. At-grade signalised junction at Cappagh Road.
5.2.04	Ch.4+460 – Ch.5+620	Proceed east. At-grade signalised junction at Ballymoneen Road junction.
5.2.05	Ch.5+660 – Ch.7+300	PRD becomes dual carriageway to the east of Ballymoneen Road. Local connectivity maintained at Ragoon Road via an underbridge and at Letteragh Road via an underbridge.
5.2.06	Ch.7+320 – Ch.8+940	Proceed east to the grade separated N59 junction. Junction connects to the N59 Moycullen road via the proposed N59 Link Road north and to the Ragoon and Letteragh Road via the N59 Link Road south. PRD crosses over the N59 Road at Dangan via an underbridge.
5.2.07	Ch.8+960 – Ch.10+540	PRD travels on a viaduct over the NUIG Sports Campus before crossing over the River Corrib on a bridge structure. Total length of viaduct and bridge is 620m. PRD continues east on an embankment towards the Menlough Viaduct. PRD crosses over Menlo Castle Boithrin and Bothar Nua. The Menlough viaduct is 320m crossing over Seanbothar.
5.2.08	Ch.10+580 - Ch.12+200	Continuing east the PRD enters a section of cut preceding the Lackagh Tunnel which is c.270m in length west of the Lackagh Quarry and exits the tunnel in the quarry. Tunnel maintenance building is located adjacent to the tunnel. PRD continues east with a grade separated junction located at the N84 Headford Road junction at Ballinfoyle.
5.2.09	Ch.12+240 - Ch.13+860	PRD continues east. Local connectivity at Castlegar is maintained via the School Road overbridge. A grade separated junction is proposed at the N83 Tuam Road.

EIAR Figure	Chainage	Description
5.2.10	Ch.13+900 – Ch.15+500	This junction provides access to the proposed Parkmore Link Road between the Ballybrit Business Park and the Parkmore Industrial Estate via the proposed City North Business Park Link road. PRD enters the Galway Racecourse Tunnel which is c.240m in length at Ballybrit to the north of the racetrack. On emerging from the tunnel, the PRD continues south-east.
5.2.11	Ch.15+700 – Ch.17.540	Local connectivity is maintained to Briarhill Business Park via an underbridge. PRD crosses over the Monivea R339 Road and continues south to enter a cutting as it reaches its junction with the existing N6 at Coolagh junction. This junction will be a fully grade separated junction.

4.5. Route Selection

- 4.5.1. The Route Selection Report details the evolution of the project since the need to address the transportation issues in Galway City and environs was recognised by Galway City and Galway County Council in 1999. The history of the original Galway City Outer Bypass (2006 GCOB) project is detailed in section 3 above, and the subject project for the now named N6 Galway City Ring Road Project began in 2013.
- 4.5.2. The Route Selection Report identified 6 phases of the project of which the first four are as follows.
- Phase 1: Feasibility Study, Constraints Study, Consideration of all Options;
 - Phase 2: Project Appraisal of Feasible Options;
 - Phase 3: Selection of Preferred Option, Publish Route Selection Report, Design, EIA & the Statutory Process (CPO);
 - Phase 4: Application to An Bord Pleanála, Oral Hearing, Decision.
- 4.5.3. A constraints study was completed within the scheme study area. Constraints of a physical, procedural, legal and environmental nature were identified. Following on from initial feasibility studies the options considered included:

- Do Nothing
- Do Minimum
- Do something – public transport
- Lough Corrib Route Options
- Coastal Route Options
- Upgrade existing road alternative (on-line)
- Build new road alternative (off-line)

- 4.5.4. Feasible route options carried forward for further assessment comprised on-line options which included an upgrade of existing infrastructure, partial on-line/off-line options and total new construction off-line. Stage 1 Route Options were presented to the public and following this consultation and further studies, the route options were refined and became Stage 2 Route Options.
- 4.5.5. A project appraisal of the Stage 2 Route Options was carried out using multiple criteria which included Economy, Safety, Environment, Accessibility and Social Inclusion and Integration. For the Stage 2 assessment the route options were assessed in three sections: Section 1 extends from the R336 to Galway City boundary, Section 2 extends from the city boundary to the existing N6 in the east of the city. An additional break line at the N6 tie-in at Coolagh was incorporated to compare the junction layouts at the N6 tie-in for the Stage 2 assessment which is referred to as Section 3.
- 4.5.6. A matrix of the project appraisal for each of the three sections was prepared. The options within each section were categorised from preferred to intermediate to least preferred. Upon completion of the project appraisal, the Emerging Preferred Route Corridor was developed as an amalgamation of different route options. This option was put on public display as well as details of the Integrated Transport Management Programme.
- 4.5.7. The Route Selection Report concluded that the preferred route corridor of the N6 Galway City Transport Project should be adopted because a road component is needed, and the extent of provision of road infrastructure necessary within the

preferred corridor was reviewed, in-conjunction with the wider integrated management transport programme for Galway.

4.6. Documentation Submitted with the application

- 4.6.1. A substantial amount of documentation was submitted with the application as well as the Compulsory Purchase Order (CPO). The CPO is detailed in Section 7 below.
- 4.6.2. An Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS) have been submitted as part of the application.
- 4.6.3. The EIAR comprises the following (in hard copy format):
- Volume 1: Non-Technical Summary
 - Volume 2A: EIAR Main Text Part 1 - Chapters 1 – 7
 - Volume 2B: EIAR Main Text Part 2 - Chapter 8
 - Volume 2C: EIAR Main Text Part 3 – Chapter 9 – 12
 - Volume 2D: EIAR Main Text Part 4 – Chapter 13 – 17
 - Volume 2E: EIAR Main Text Part 5 – Chapter 18 – 21
 - Volume 3A: Figures Part 1 associated with Chapters 1, 5, 7, 8 and 9
 - Volume 3B: Figures Part 2 associated with Chapters 10, 11, 12, 13, 14, 15, 16, 17 and 18
 - Volume 4A: Appendices Part 1 associated with Chapters 1, 5 and 6
 - Volume 4B: Appendices Part 2 associated with Chapters 6 & 7
 - Volume 4C: Appendices Part 3 associated with Chapter 7
 - Volume 4D: Appendices Part 4 associated with Chapter 7 & 8
 - Volume 4E: Appendices Part 5 associated with Chapter 8
 - Volume 4F: Appendices Part 6 associated with Chapter 9
 - Volume 4G: Appendices Part 7 associated with Chapter 9
 - Volume 4H: Appendices Part 8 associated with Chapter 9
 - Volume 4I: Appendices Part 9 associated with Chapter 9

- Volume 4J: Appendices Part 10 associated with Chapter 10
- Volume 4K: Appendices Part 11 associated with Chapter 11 & 12
- Volume 4L: Appendices Part 12 associated with Chapter 13, 14, 15, 16, 17 and 18
- A separate Schedule of Environmental Commitments is provided.

4.6.4. The Natura Impact Statement comprises the following:

- Provision of Information for Appropriate Assessment Screening
- Volume 1: Executive Summary
- Volume 2: Main Report
- Volume 3: Figures
- Volume 4A: Appendices Part 1 including Appendix A to E
- Volume 4B: Appendices Part 2 including Appendix F
- Volume 4C: Appendices Part 3 including Appendix G to O

4.7. Further Information Request

4.7.1. Further information was requested from the applicant in a letter dated the 4th April 2019. The information requested was listed under 8 different headings and can be summarised as follows:

- **Drawings:** detailed drawings of the major structures at an appropriate scale, sections and elevations of pinch points of structures with the SAC boundary, examples of underbridges and overbridges, retaining wall details, Lackagh quarry restoration plan, and pedestrian and cycle details.
- **Route Selection Report:** Copy of report requested.
- **Appropriate Assessment:** Additional habitat sampling both within and external to the SAC, detailed mapping where the development boundary overlaps with the SAC, additional detail of outfall into River Corrib, clarification on supporting role of non-Annex I habitat, and clarification of other assessments.

- **Birds:** Night survey queries, RPS report is 13 years old – is it still reliable, assess impact of bridge on wintering birds, and address potential conflict in mitigation measures.
- **Bats:** Clarify if there is a link between the Lesser Horseshoe Bat population at Menlo, Ross House and Ebor Hall, and query the quantity of Core Sustenance Zone (CSZ).
- **Other Ecological Issues:** Demonstrate culverts are effective mitigation for certain species, and address Biodiversity in general.
- **Traffic & Transport:** Justify use of 2012 as base year and clarify how population growth scenarios in TII National Traffic Model compare to the population growth targets set out in NPF.
- **Clarifications:** Drawing queries, access road locations, node numbering and information on watertight seal to be used on the Lackagh Tunnel.

4.8. Applicant's Response

4.8.1. The applicant responded to the Request for Further Information (RFI) on the 30th August 2019 following their request for additional time to respond. The response included four volumes of information which was considered significant and was re-advertised. The information was submitted as follows:

- Volume 1 – Report
- Volume 2 – Appendices
- Volume 3 – Appendix A.2.1 – Route Selection Report
- Volume 4 – Appendix A.10.1 – N6 Galway City Ring Road – Design Report.

4.8.2. In Volume 1 a summary of the information submitted is provided. It is summarised herein under the different headings.

Drawings

4.8.3. As part of the RFI response to this item, a copy of the N6 Galway City Ring Road Design Report was submitted. Appendices to the Design Report include a number of the drawings requested, which are also included in Volume 2 – Appendices of the RFI response for ease of reference.

- 4.8.4. With respect to the River Corrib Bridge a copy of four general arrangement drawings were included as part of Appendix A.1.1 of the RFI response. It is clarified that a 2m high noise barrier will be provided along the full length of the bridge which will be given the appropriate architectural treatment. Two additional figures are provided to include cross-sections of the retaining walls on the eastern approach to the bridge.
- 4.8.5. It is stated that the design for the River Corrib bridge includes the structure over the river and NUIG Sporting Campus and drawings referred to above are applicable to the NUIG structure. Additional figures are included in Appendix A.1.2 of cross-sections of the embankment on the western approach to the bridge over the NUIG campus.
- 4.8.6. Drawings of the Menlough viaduct are included in Appendix A.1.3 and an additional figure presents the areas of Annex I habitat within the Zone of Influence of the Menlough viaduct and the elevation of the viaduct with its height above the Limestone pavement.
- 4.8.7. Copies of the drawings with respect to the Lackagh Tunnel are included in Appendix A.1.4 and additional figures present cross-sections to detail the pinch points with the SAC. Copies of the drawings of the Galway Racecourse tunnel are included in Appendix A.1.5.
- 4.8.8. The different types of underbridges and overbridges are detailed in drawings in Appendix A.1.6 and A.1.7. Mammal underpasses and wildlife overpass are detailed in drawings in Appendix A.1.7 and A.1.8.
- 4.8.9. Drawings of proposed boundary treatment, and where the different boundary treatment types are proposed, are included in Appendix A.1.9. It is noted that the purpose of the boundary treatment is to secure the extents of the road development as well as preventing errant persons or wildlife accessing the network and posing a risk to road users. The type of boundary treatment varies depending on different circumstances governed by listed criteria.
- 4.8.10. It is stated that a combination of retaining structure and reinforced soil embankment is proposed between Ch.9+850 to Ch.10+050 to ensure that the road does not encroach on Annex I habitat. A selection of the type of retaining system is governed by the ground conditions at a particular location. The rock head level changes significantly requiring retaining system solutions for shallow and deep rock ground

conditions which can be constructed outside the SAC Annex I habitat. Additional figures include cross-sections of the retaining structure in Appendix A.1.10.

- 4.8.11. With respect to the final plan layout of Lackagh Quarry post construction, additional figures are provided in Appendix A.1.11. Mitigation measures are proposed including provision of artificial bat roosts and stabilisation of the existing blast damaged rock face to prevent encroachment on the SAC and Annex I habitat.
- 4.8.12. It is noted that Material Deposition Areas (MDAs) have been designed to provide the required stability to the existing blast damaged rock face and to facilitate the creation of compensatory ecological habitat. The creation of MDAs to the north of the road within the quarry is limited to the north-western area as the north-eastern area is used to mitigate potential impacts on Peregrine Falcon. Four MDA areas within the quarry were originally presented in the EIAR.
- 4.8.13. A modified layout is now proposed. The modifications were assessed by the environmental specialists and it was considered that there are no additional amendments to the EIAR following the assessment. It is considered that the proposed modifications do not compromise the mitigation measures included in the EIAR as the same plan area of compensatory ecological habitat can be created and the exposed rock face can be stabilised with the modified layout.
- 4.8.14. It summarises that c.366,000m³ of material will be generated for placement in MDAs and can be split into c.76,000m³ of peat and 290,000m³ of U1 Non-hazardous material. Bulking will occur in the order of 30% leading to material for deposition in the order of c.475,800m³. With originally excess allowable material deposition capacity there was scope to refine the MDA locations, footprints and volumes. These details are included in Appendix A.1.11.
- 4.8.15. The construction works at the quarry face comprise the MDA placement and the slope stability measures and both facilitate the development of new petrifying springs. It is stated that, if the Board require, new spring features can be created by installing drill holes from the quarry face into the rock mass.
- 4.8.16. An overlaid map of the original 2006 Galway City Outer Bypass and the proposed road is provided in Appendix A.1.12. Additional figures detailing pedestrian and cyclist crossing facilities are provided in Appendix A.1.13.

Route Selection Report

- 4.8.17. A copy of the Route Selection Report is provided which sets out the consideration of alternatives and the process followed in identifying the proposed road.

Appropriate Assessment

- 4.8.18. A number of items were requested under this heading including additional relevé data.
- 4.8.19. It is stated that as Annex I habitat areas were key biodiversity constraints in the context of informing the route selection process, they were avoided where possible by the various route options. As a result, the majority of the relevés recorded at that time lie outside of the proposed development boundary. As requested, additional relevés (116 no.) were taken between June and August 2019 in each location where the proposed development boundary overlaps with the Lough Corrib SAC. The full relevé dataset is provided as part of the RFI response. The habitat mapping carried out in 2019 generally reflects and confirms the habitat mapping already submitted in the EIAR and NIS in the area of overlap between the boundary and Lough Corrib SAC with a few exceptions. An additional area of Limestone pavement (205m²) was identified in Menlough and was classified as *8240 habitat. The design of proposed access road AR10/01 has been amended to avoid direct and indirect impacts on this area. As a result, this change in habitat classification does not affect the assessment or conclusions presented in the NIS. Other amendments were of a minor nature and the conclusion of the NIS still stands.
- 4.8.20. In excess of 700 relevés were recorded between June and August 2019 within the proposed boundary but outside of the cSAC boundary as per RFI item 3b. The quantity of relevés taken for each habitat type varied depending on factors including the ecological value of the habitat type. In addition to providing the relevé and survey results, a review of the EIAR assessment was also undertaken in light of changes. The changes to Fossit habitat classification are mainly attributed to changes in grassland types and to scrub encroachment. The changes are due to a number of factors including the passage of time since previous surveys, increase of encroachment of scrub, changes in land-use management and the significant increase in relevé intensity which resulted in finer scale mapping. The 2019 results confirm that the impacts of the development in terms of habitat loss or degradation remain the same as presented in the EIAR with the exception of one small area of a

new Annex I habitat type and changes in the areas and precise locations of Annex I habitat to be lost. The areas of residual habitat losses differ in some cases and are presented as part of the RFI response. It remains the case that some of the Annex I habitat types that are being lost outside of the European sites cannot be directly compensated and there will be a residual effect at the international geographic scale for the permanent loss of c.1.18Ha of Limestone Pavement and c.0.01Ha of Blanket Bog, loss of c.2.49Ha of Wet Heath and the loss of a Petrifying Spring feature at Lackagh Quarry at county scale⁴. There are also a number of habitat types of a local biodiversity importance that will be permanently lost as a result of the road.

- 4.8.21. It is concluded that the findings of the 2019 surveys have no implications for any European sites as presented in the NIS. The only change to the significant residual effects already documented in the EIAR are the addition of an adverse significant residual effect at the international geographic scale for the permanent loss of 93m² of Blanket Bog and changes in the areas and precise locations of Annex I habitats to be lost.
- 4.8.22. Clarification of area 1.f. as referred to in the NIS is provided. Detailed maps showing all areas of Limestone pavement within SAC and the development boundary are provided.
- 4.8.23. The definition of 50% exposed Limestone pavement is explained. Two contexts are provided. It is noted that in the second context there are no guidelines or definitions (50% surface bedrock to differentiate between *8240 wooded limestone pavement habitat type and non-Annex I woodland habitat type with some limestone boulders or rocks in it). It is stated that best expert judgement was used, and a very conservative approach was taken.
- 4.8.24. The drainage outfall from the N59 Link Road North will discharge into an existing ditch which will ultimately outfall into the SAC and SPA. It is summarised that the habitats along the drainage ditch include a diverse range of habitat types including Annex I habitats.
- 4.8.25. With respect to the River Corrib classification, it is stated that little is known about the distribution of Annex I *Ranunculus fluitans* and *Callitriche-Batrachium* in this SAC and no location maps are available. There is no direct reference to any specific part

⁴ Note these areas were amended at the oral hearing

of the River Corrib in the conservation objectives. The EU habitats and interpretation manual gives only a very brief description and it can be interpreted very broadly to include any river vegetation with floating components. It is clarified that in the EIAR and NIS it is stated that within the area covered by the aquatic surveys, it does not correspond with the Annex I habitat of Watercourses type of plain to montane levels with *Ranunculus fluitans* and *Callitriche-Batrachion* vegetation, and does not state that the entire river does not feature this habitat type.

- 4.8.26. An explanation of how the Irish Semi-Natural Grassland Survey 2007 – 2012 has been applied is provided. Responses to the requests relating to the supporting roles of habitats inside and outside the SAC are provided. It is concluded that habitats both within and outside the SAC do provide a supporting role to habitats within the SAC. However, this role will not be affected by the proposed development due to its design and mitigation measures.
- 4.8.27. With respect to the extent of vegetation clearance required within the development boundary, it is confirmed that no areas of qualifying interest Annex I habitat will be removed from within the SAC during site clearance or to facilitate construction. All other areas of vegetation aside from those highlighted will be removed to facilitate the construction and operation of the road. Their loss will not affect the conservation objective attributes and targets supporting the conservation condition of any of the QI habitats or species of the SAC.
- 4.8.28. Timelines are provided to establish compensatory measures⁵ which range from 10 to 50 years.
- 4.8.29. In terms of clarifying groundwater impacts, specifically groundwater lowering, only one European site, Lough Corrib SAC, is within the hydrogeological zone of influence of the road. The hydrogeological study identified the groundwater bodies that contribute to GWDTE being Ross Lake GWB, Lough Corrib Fen 1 (Menlough) GWB, Lough Corrib Fen 2 GWB and the Clare-Galway GWB. The design ensures that groundwater levels are not lowered in contributing groundwater bodies.
- 4.8.30. How GWDTE in the SAC are working hydrogeologically and if flow paths may change post construction are described. It is clarified that groundwater flow paths will remain the same as they currently are following construction of the proposed road

⁵ “compensatory habitat” areas are not compensatory measures in the context of Article 6(4)

and will not change as a result of any permanent groundwater lowering. The road will not pose any temporary or permanent barrier to the movement of groundwater in these groundwater bodies.

- 4.8.31. An 'in-combination' assessment of all the plans and projects together is provided.
- 4.8.32. With respect to the comments by the Department of Culture, Heritage and the Gaeltacht relating to the Designated Sites conservation objectives, it is stated that all the Qualifying Interests (QIs) of all European sites within the potential zone of influence have been considered in detail within the NIS. It is stated that certain QIs are not present within the zone of influence and, therefore, the conservation objectives of those QIs cannot be undermined in any way and it is therefore not necessary to consider these QIs in any more detail.

Birds

- 4.8.33. A copy of the RPS Bird Survey of 2006 was included in the response. It is stated that the fact that the 2006 survey was at a different location is not of great importance given the relatively short length of the river corridor between Lough Corrib and Galway City and the surveys were only c.600m from the proposed bridge. Birds present would be expected to commute and/or forage along the entire river. The 2006 survey data was used as available background information supported and confirmed by the results of the 2014, 2015 and 2016 wintering and breeding bird surveys.
- 4.8.34. Based on existing published scientific literature bridges, regardless of their design, do not pose a collision risk that would have any long-term effect on the Special Conservation Interest (SCI) bird populations of any SPA site.
- 4.8.35. It is stated that there are three distinct habitat complexes of relevance to wintering birds which lie within 300m of the proposed bridge: the playing fields at NUIG, the River Corrib, and the agricultural fields and woodland on the east bank of the River Corrib. The lands on the east bank of the River Corrib were not included in a dedicated survey as the surrounding landscape is not suitable for birds listed as SCI of the SPA. The wintering birds recorded during 2014/2015 using the River Corrib and NUIG Playing fields were consistent with the findings of the 2006 surveys. It is considered that during operation, while there is likely to be some level of displacement of wintering birds using the NUIG playing fields in the immediate

vicinity of the supporting piers, the structure of the bridge is extremely unlikely to displace wintering birds from using the river or the adjacent playing fields.

- 4.8.36. It is stated that in June 2019 an adjustment was made to the bird species listed as SCI of Inner Galway Bay SPA. The Black-throated diver was included as an SCI and the Shoveler was removed. Therefore, the Black-throated diver was not assessed in the NIS published in October 2018. It is noted that at the nearest point the proposed road is more than 1km from the Inner Galway Bay SPA boundary and, therefore, there is no risk of direct impact. The Black-throated diver was not recorded at any of the winter bird survey sites. The only potential impact pathway is for construction works to affect water quality in receiving watercourses. As stated in the NIS, mitigation measures will be implemented which will ensure hydrological impacts do not occur. Therefore, habitat degradation will not occur or affect the conservation objectives supporting the conservation condition of the Black-throated diver population. Therefore, the conclusion of the NIS assessment of Inner Galway Bay SPA still applies.
- 4.8.37. It is considered that there is no time restriction on blasting in Lackagh Quarry to avoid disturbance to nesting Peregrine Falcons. It is clarified that construction works between the proposed Lackagh Tunnel and the N84 road junction commence prior to mid-February to ensure that disturbance influences the nest site selection as opposed to displacing an incubating female from the nest. The timing of blasting associated with the construction of the eastern approach to Lackagh Quarry is included only in relation to wintering birds at Ballindooley Lough and will be carried out between April and September to minimise disturbance. Blasting in relation to the Lackagh Tunnel is outside the zone of influence of Ballindooley Lough.

Bats

- 4.8.38. In terms of the presence of a link or not between the various populations of Lesser Horseshoe bats at Menlo, Ross House and Ebor Hall, it is clarified that the Menlo Castle population is not linked to the QI of Ross Lake and Woods cSAC or Lough Corrib cSAC (Ebor Hall). The road poses no risk of affecting the conservation objectives supporting the QI Lesser Horseshoe population of any European sites.
- 4.8.39. With respect to Core Sustenance Zones (CSZ) it is considered that high-suitability bat habitat within each CSZ results in only minor increases in the percentage of

habitat loss affecting each of the CSZ and does not affect the conclusions of the impact assessment of habitat loss on these roost sites as presented in the EIAR.

Other Ecological Issues

- 4.8.40. Information is provided on the effectiveness of culverts and it is considered that the proposed mitigation measures to reduce or prevent isolation of populations of red squirrel, pine marten and common lizard are effective.
- 4.8.41. An assessment of the likely impacts on biodiversity in general in accordance with the 2014 EIA Directive is provided.

Traffic and Transport

- 4.8.42. The RFI is broken down into three areas with respect to justification of the use of 2012 data: Justification of the use of 2012 as the base year for traffic assessment; population and economic changes in the intervening years; and recent traffic survey data.
- 4.8.43. A summary of the response for each point is provided followed by detailed information. The summary can be outlined as follows:
- **2012 Base year:** Traffic modelling began in 2013. At that time the Western Regional Model (WRM) was under development with a base year of 2012. The WRM is the most appropriate model for the appraisal of the road. The fact that 2012 is the base year is irrelevant to the forecast traffic flows as the forecast flows are determined based on land use, population forecasts and economic assumptions, as opposed to applying a growth factor to the base year flows as previously done.
 - **Population and Economic Changes:** All population and economic changes which have occurred between 2012 and May 2019 have been accounted for in the forecasting undertaken.
 - **Recent Traffic Survey Data:** Recent (2018) traffic survey data has been collated for Galway City, however, its incorporation into the WRM would not alter the future year demand forecasts which are determined using planning data/land use assumptions combined with the various calibrated travel behaviour parameters.

- 4.8.44. In light of the publication of the NPF, population and employment growth forecasts have been developed for the area aligned with the NPF forecasts for the city and region. The NPF scenario was prepared with inputs from the NTA and Galway City and County Council Planners and has been derived using a 'bottoms up' approach based on an understanding of existing planning applications in the city and county, land use zoning and plot ratios as well as local, regional and national policy.
- 4.8.45. A modelling exercise was undertaken using the PRD for the NPF Growth Forecast and comparing it to the 2039 TII Central Case Do-Something Scenario as presented in the EIAR. Comparison tables were produced comparing the NPF forecasts and the forecasts in the EIAR in terms of population and employment. It is clear that the total growth assumed for Galway City and County is higher in the NPF Scenario, and city population forecasts are significantly higher in the NPF scenario (55% NPF vs. 14% TII Central Growth). Similarly, the total jobs growth for the city and county in the NPF forecasts is 51%, which is more than double the TII Central Forecast of 24%.
- 4.8.46. In line with policy, the NTA/GCC NPF forecasts assume that the majority of future population and employment growth in the region will occur within Galway City and its Environs. These forecasts have been input into the National Demand Forecasting Model and the WRM to determine the resultant traffic flows in the Design Year of 2039 with the PRD in place (the 2039 Do-Something NPF scenario) against the TII Central Case presented in the EIAR. Both scenarios have the same infrastructure assumed (PRD only) but differ in their planning and land use assumption.
- 4.8.47. The results show some increases in delay and congestion as a result of the differing demographic assumptions, but these increases are considered to be relatively minor in the context of the increases in population and employment assumed to take place under the NPF assumptions.
- 4.8.48. A sensitivity test comparing the NPF with the PRD and the Galway Transport Strategy (GTS) with the TII Central case with the PRD and the GTS was carried out, i.e. the NPF + GTS vs. TII + GTS. The results indicate that the GTS measures have a greater impact when combined with the NPF growth assumptions. Both vehicle distance and total network travel time show a reduction and average speed improves as a result of the GTS measures in the NPF scenario. Comparison of journey times indicates that the introduction of the GTS measures has a minimal impact on journey

times under the NPF scenario whereas they result in further delays using the TII Central case.

- 4.8.49. The ratio of flow to capacity at key junctions has been analysed including the GTS measures. In the EIAR scenario there are minor benefits along key junctions but an increase in links experiencing an RFC >90% on a network wide basis. Under NPF assumptions, network performance improves at both key junctions and on a network wide basis because of the introduction of the GTS measures.
- 4.8.50. It is noted that the above analysis utilises the forecasts developed by the NTA and Galway City and County Council Planners to assign population and employment as set out in the NPF. In May 2019 TII also undertook a similar exercise and released updated travel demand projections for the country aligned with the national forecasts contained in the NPF. It is stated that while both forecasts are aligned to the NPF, given the urban setting of the PRD and the granular level of detail within the NTA NPF scenario, it is considered that the NTA NPF scenario represents the most appropriate forecasts for re-appraising the scheme.
- 4.8.51. The consequent implications of NPF traffic forecasts on environmental receptors were assessed. Noise, Air Quality, Water Quality and Human Health are detailed. The reassessment shows no adverse impacts on these pathways which could affect human health.

Clarifications

- 4.8.52. Clarification of drawing numbers, tables, node numbers and figures are provided.

4.9. Oral Hearing Documentation

- 4.9.1. The applicant, prescribed bodies and third parties introduced a substantial number of documents at the oral hearing which will be considered as part of the assessment. These documents were numbered and are referred to throughout the assessment and are listed in Appendix 7.

4.10. Changes to Road Design introduced at the Oral Hearing

- 4.10.1. The applicant introduced amendments to the design at the Oral Hearing including the omission of works on the NUIG pitches and revisions to the Parkmore Link Road adjacent to Boston Scientific Campus and the Galway Racecourse.
- 4.10.2. With respect to the works to the NUIG pitches the applicant stated that NUIG do not want the mitigation measures originally proposed in the EIAR. They are pursuing their own plans to mitigate the impacts of the proposed road development, and have recently received planning permission for those works from An Bord Pleanála (ref ABP-308412-20).
- 4.10.3. With respect to the Parkmore Link Road, it is stated that changes to the Boston Scientific Campus have occurred since the publication of the EIAR. To address those changes and to provide mitigation, the proposed routing of the Parkmore Link Road has been amended to a route to the east of their site. It was stated at the Oral Hearing that each specialist assessed the changes proposed and concluded that there were no changes to the conclusions of the EIAR or the NIS. The assessment sections of this report include an assessment of the changes proposed.

5.0 Policy Context

5.1. The Paris Agreement

- 5.1.1. The Paris Agreement entered into force on 4 November 2016. To date, 189 of the 197 Parties to the Convention have ratified the agreement including Ireland. The Paris Agreement builds upon the Convention and for the first time brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.
- 5.1.2. The Paris Agreement central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change.

European Policy

5.2. European Union – TEN-T Core and Comprehensive Network

- 5.2.1. The European Union adopted a transport infrastructure policy in December 2013 – “Infrastructure TEN-T – Connecting Europe”. The main legislative basis for this policy is the EU Regulation No. 1315/2013 (enacted in January 2014). The TEN-T network is a Trans-European Network that connects the continent between east and west, north and south. The policy is to “close the gaps” between member states’ transport networks by removing bottlenecks and building missing links etc. It seeks to upgrade infrastructure and streamline cross-border transport operations for passengers and business throughout the EU. It is also an objective to improve connections between different modes of transport and to contribute to the EU’s climate change objectives.
- 5.2.2. The TEN-T network includes the core transport routes in all EU member states for all transport modes and consists of two planning layers, namely the core transport network and the comprehensive transport network. The core network represents the major transport corridors connecting Europe and is supported by the comprehensive

network. The proposed road development is stated as being part of the TEN-T comprehensive road network.

National Policy

5.3. Project Ireland 2040 - National Planning Framework

- 5.3.1. The National Planning Framework (NPF) was published jointly with the National Development Plan 2018-2027 Infrastructure Investment Programme under the umbrella of Project Ireland 2040. The NPF states that Galway has been Ireland's most rapidly developing urban area for half a century and is a key driver for the west of Ireland. Delivery of the Galway City Ring Road is acknowledged as a key future growth enabler for the city. National Strategic Outcome 2 includes advancing orbital traffic management solutions and specifically refers to the Galway City Ring Road. In addition, the NPF provides information on the expected growth of Galway City and environs of 120,000 persons by 2040.
- 5.3.2. The National Development Plan 2018 – 2027 seeks the delivery of major national infrastructure projects in the interest of regional connectivity. The N6 Galway City Ring Road is one such project included in the National Development Plan for appraisal and delivery.

5.4. Spatial Planning and National Roads: Guidelines for Planning Authorities, DoECLG 2012.

- 5.4.1. These guidelines set out planning policy considerations relating to development affecting national primary and secondary roads, including motorways and associated junctions. It is stated that

“National roads play a key role within Ireland’s overall transport system and in the country’s economic, social and physical development. The primary purpose of the national road network is to provide strategic transport links between the main centres of population and employment, including key international gateways such as the main ports and airports, and to provide access between all regions. A modern economy requires a world-class road transport network that is sustainable from an economic, social and environmental perspective. Better national roads improve access to the

regions, enhancing their attractiveness for inward investment and new employment opportunities and contribute to enhanced competitiveness by reducing transport costs”.

5.5. Smarter Travel a Sustainable Transport future, a New Transport Policy for Ireland 2009-2020

- 5.5.1. The document states that the Government reaffirms its vision for sustainability in transport and sets out five key goals: (i) to reduce overall travel demand, (ii) to maximise the efficiency of the transport network, (iii) to reduce reliance on fossil fuels, (iv) to reduce transport emissions, and (v) to improve accessibility to transport.
- 5.5.2. There is a broad range of 49 actions designed to achieve more sustainable transport by 2020. Chapter 4 details the actions to encourage Smarter Travel. Chapter 5 details Actions to Deliver Alternative Ways of Travelling. Chapter 6 details Actions to Improve the Efficiency of Motorised Transport. There are many Actions which relate to improving the effectiveness of public transport and seeking to encourage modal shift to more sustainable forms of transport than motorised vehicles.

5.6. Climate Action Plan 2019

- 5.6.1. The Climate Action Plan 2019 has been published and was unanimously endorsed by the Dáil. The Action Plan contains a substantial number of actions under a broad range of headings including the Built Environment and Transport. It is stated that agriculture makes up for c.32% of emissions compared to just 11% in Europe. However, in all other sectors Ireland also has a higher carbon footprint.
- 5.6.2. In terms of transport, the actions relate to the acceleration of the take up of EV cars and vans so that we reach 100% of all new cars and vans being EVs by 2030. In addition, it is intended to make growth less transport intensive through better planning, remote and home-working and modal shift to public transport.
- 5.6.3. It is stated that the Government will adopt a strong suite of policies to influence the transport intensity of growth and the carbon intensity of travel. Furthermore, to make growth less transport intensive some key policies include successful execution of the NPF designed to promote compact, connected and sustainable living, expansion of walking, cycling and public transport to promote modal shift, and better use of market

mechanisms to support modal shift. In addition, it is stated that important influences will be enhancing priority for public transport, enhancing EV charging network and giving Local Authorities more discretion in designating low emission zones.

- 5.6.4. Measures to deliver targets are detailed including encouraging modal shift. Commitments have been made to an additional 500,000 public transport and active travel journeys daily by 2035. It is acknowledged that policies need to be better aligned to achieve more ambitious targets for modal shift involving building supporting infrastructure such as sustainable mobility projects etc.

5.7. National Biodiversity Action Plan 2017 – 2021

- 5.7.1. The National Biodiversity Action Plan 2017 – 2021 was published by the Department of Culture, Heritage and the Gaeltacht. This plan is the third such plan for Ireland, and captures the objectives, targets and actions for biodiversity that will be undertaken by a wide range of government, civil society and private sectors to achieve Ireland's Vision for Biodiversity. This plan provides a framework to track and assess progress towards Ireland's Vision for Biodiversity over a five-year timeframe from 2017 to 2021. Seven objectives are identified underpinned by targets.
- 5.7.2. The Department of Culture, Heritage and the Gaeltacht is the official body responsible for oversight of the implementation of this Plan and for coordinating the other Public Authorities, NGOs and private sector organisations involved in the process.

Regional Policy

5.8. Regional Spatial and Economic Strategy (RSES) for the Northern and Western Region

- 5.8.1. The Northern and Western Regional Assembly adopted the first Regional Spatial and Economic Strategy for the Northern and Western Region at its January Meeting held on 24th January 2020.
- 5.8.2. Chapter 3 of the RSES considers People and Places. It is noted that the Galway Transport Strategy has already been prepared and it will now be implemented as an objective of the Galway Metropolitan Area Strategic Plan (MASP). Galway city and

suburbs are identified for 50% of new housing and for a population of up to 120,000. A key ambition of the RSES is to deliver compact growth.

- 5.8.3. Under the heading of 'Connected City' in Section 3.6.4, it is an objective to improve the road network around the city and in particular to support the delivery of the GTS including the N6 GCRR. The road is identified as a main transportation component of the MASP. The road is further identified in policy Regional Policy Objective 6.6 which lists projects to be delivered in the short term and before 2027.

5.9. Regional Planning Guidelines for the West Region 2010 - 2022

- 5.9.1. While these Guidelines have been superseded by the RSES they were in force at the time of lodgement and preparation of the project. The Galway City Outer Bypass is listed as a future investment priority. Section 3.5.2 identifies actions to achieve regional competitiveness. For the retention of existing jobs reduced transport costs by improving the road networks particularly the M6 and Galway Outer Bypass are specifically identified.

Local Policy

5.10. Galway City Development Plan 2017 – 2023

- 5.10.1. Chapter 1 outlines the introduction and the core strategy, chapter 3 refers to Transportation, chapter 4 to Natural Heritage, Recreation and Amenities, chapter 5 to Economic Activity, chapter 8 to Built Heritage and Urban Design and chapter 9 to Environment and Infrastructure. It is further noted that it is intended to prepare Local Area Plans for Ardaun, Murrough and Headford Road area and Area Plans for Castlegar and Menlough.
- 5.10.2. Seven strategic goals are listed in chapter 1 which includes the encouragement of sustainable modes of transport and the integration of transportation with land use. It is also stated that the Core Strategy is supported and informed by the Galway Transport Strategy (GTS). The GTS consolidates the recommendations from transportation studies and strategies carried out by the Galway Transportation Unit (GTU) since 2008, with national transport policy direction and transport guidance from the NTA. It is also informed by the ongoing N6 Galway City Ring Road (N6 GCRR) project. Of relevance to the subject project it is stated "*.....it also affirms the*

need for a strategic ring road incorporating a new river crossing. Public transport measures alone have been deemed incapable of delivering a solution to the specific, significant problems associated with transport in the city, which will be further exacerbated by additional future demand unless addressed now". It is further stated "Cumulatively the components of the GTS, which includes the N6 GCRR, will address the congestion on the major routes through the city".

- 5.10.3. Chapter 3 refers to Transportation and it is stated that the aim is "To integrate sustainable land use and transportation, facilitating access and choice to a range of transport modes, accessible to all sections of the community that ensures safety and ease of movement to and within the City and onward connectivity to the wider area of County Galway and the West Region". **Policy 3.4 Traffic Network** includes:

Enhance the delivery of an overall integrated transport solution for the city and environs by supporting the reservation of a corridor route to accommodate an orbital route as provided for in the N6 GCRR project.

Policy 3.7 Road and Street Network and Accessibility includes:

Support the N6 Galway City Ring Road project in conjunction with Galway County Council and Transport Infrastructure Ireland (TII) in order to develop a transportation solution to address the existing congestion on the national and regional road network.

- 5.10.4. Chapter 4 addresses Natural Heritage, Recreation and Amenity as well as identifying the European and National Designated sites (see Section 5.15 below for further details). It states that the aim is to:

To provide for a green network in the city that allows for the sustainable use, management and protection of natural heritage, recreation amenity areas, parks and open spaces in an integrated manner. The green network will ensure the protection of nature and provide for the enhancement and expansion of passive and active recreational opportunities. It will be accessible to all and by sustainable modes of transport, where feasible. Ensure better integration of environmental and natural resource considerations in the Development Plan through the SEA process and provide the highest level of protection for European Sites, taking account of Article 6 of the Habitats Directive.

- 5.10.5. The strategy includes the promotion of a green network for the city and supports accessibility to the city's green network for the wider community and by sustainable modes of transport. In addition to promoting Galway as a 'Healthy City' it seeks to conserve, protect and enhance the designated and non-designated sites and natural habitats. Figure 4.1 illustrates the Green Network which clearly indicates the green areas along either side of the River Corrib. **Policy 4.1 Green Network** lists 19 areas to be supported.
- 5.10.6. Section 4.2 lists the Protected Spaces at European, National and Local levels. Table 4.3 identifies the Network of Local Biodiversity Areas including areas that the road will directly traverse or be proximate to including the River Corrib, Menlough to Coolagh Hill, Ballindooley to Castlegar and Ballybrit Racecourse. **Policy 4.2 Protected Spaces: Sites of European, National and Local Ecological Importance** seeks to protect sites that form part of the Natura 2000 network.
- 5.10.7. Section 4.4 addresses Green Spaces. Figure 4.4 identifies the Hierarchy of Parks in the city and includes lands zoned for Recreational and Amenity including lands alongside the River Corrib.
- 5.10.8. Section 4.5.1 refers to Greenways and Public Rights of Way (RoW). It states that the Galway Transport Strategy (GTS) identifies green corridors which will offer safe and direct routes for both pedestrians and cyclists to work/school and or for leisure. Section 4.5.3 refers to views of Special Amenity Value and Interest. The following panoramic protected views are of relevance: V.1 panoramic views of the city and the River Corrib from Circular Road; V.2 views from Dyke Road and Coolagh Road encompassing the River Corrib and Coolagh fen; and V.7 views encompassing Lough Corrib from parts of the Quarry Road and Monument Road. Linear protected views include: V.10 Views from Galway-Moycullen Road (N59) of the River Corrib; V.11 views from the waterside of the River Corrib; and V.14 Views northwards encompassing the River Corrib and adjoining lands from Quincentenary Bridge.
- 5.10.9. Section 4.7 refers to Specific Objectives. It is stated that the Council has a number of objectives that have been informed by various studies and plans, primarily the Recreation and Amenity Needs Study, the Galway City Heritage Plan 2016-2021, the Galway City Biodiversity Plan 2014-2024, the Galway City SFRA and the Galway Transport Strategy.

5.10.10. Chapter 5 refers to Economic Activity. **Policy 5.1 Enterprise** includes:

“Support the implementation of the phased plan of transportation measures as proposed for in the Galway Transport Strategy (GTS) including for public transport, walking and cycling, and a strategic new road, the N6 GCRR”

5.10.11. Section 8.8 of chapter 8 lists specific objectives including an objective to facilitate the restoration of Menlough Castle.

5.10.12. Chapter 9 refers to Environment and Infrastructure. This chapter includes a range of policies with respect to noise, light, climate change resilience and air. **Policy 9.10 Air Quality and Noise** includes

“Ensure the design of development incorporates measures to minimise noise levels in their design and reduce the emission and intrusion of any noise or vibration which might adversely impact on residential amenities, where appropriate.

Consider the Galway City Council Noise Action Plan 2013-2018 in the assessment of relevant development applications, where appropriate”.

Policy 9.11 Light Pollution:

“Ensure the design of external lighting minimises the incidence of light pollution, glare and spillage into the surrounding environment and has due regard to the visual and residential amenities of surrounding areas”.

5.11. Galway County Development Plan 2015 – 2021

5.11.1. Chapter 1 provides the Introduction. Chapter 2 includes the Spatial and Core Strategy and includes the variation to include the GTS. Chapter 5 refers to Roads and Transportation and includes the same variation. Chapter 9 refers to Heritage, Landscape & Environmental Management, and chapter 10 to Cultural, Social & Community Development.

5.11.2. Chapter 1 outlines the strategic aims. Strategic aim no.7 refers to **Sustainable Transportation** and seeks to *Minimise travel demand and promote the increase of sustainable mobility throughout the County*. Chapter 2 notes that Local Area Plans provide for zoning provisions and include reference to Bearna, Headford and Ardaun as well as Gaeltacht areas.

5.11.3. Chapter 5 did not originally refer to the N6 Galway City Ring Road. It was stated that the city and county were examining the transportation issues. A variation to the Plan was adopted on 24th April 2017 to include it.

5.11.4. The variation to the Plan includes:

Objective DS 2 – Galway Transportation and Planning Study Area

(GTPS) a) Continue to recognise the defined Galway Transport and Planning Study Area, the commuter zone of Galway City, which requires careful management of growth and strong policies to shape and influence this growth in a sustainable manner. b) Support a review of the Galway Transportation and Planning Study during the lifetime of the Plan, in co-operation with Galway City Council. Consideration of the inclusion of a Strategic Transport Assessment shall form part of this review.

5.11.5. The N6 Galway City Ring Road was added to Table 5.1 of the Plan which listed Priority Transportation Infrastructure Objectives. The Plan notes the following: ‘Galway County Council together with Galway City Council, the National Transport Authority (NTA) and Transport Infrastructure Ireland (TII) are committed to delivering a sustainable transport vision for Galway where all elements of transport are working together to achieve an integrated transport solution. This will be progressed in the city and environs area by the delivery of the GTS, which includes measures such as public transport, bus networks; rail, park and ride, cycle networks and the provision of the N6 GCRR as set out in Table 5.1 Priority Transport Infrastructure Objectives 2015-2021’.

Policy TI 2 – Development of an Integrated and Sustainable Transport System:

It is the policy of the Council to promote the development of an integrated and sustainable high quality transport system for the county, which includes the specific areas identified in the Galway Transport Strategy(GTS), which shall:

a) Promote closer co-ordination between land use and sustainable transportation; b) Continue the provision of a range of transport options within Galway and in collaboration with Galway City Council, the National Transport Authority(NTA), Transport Infrastructure Ireland(TII), other statutory agencies and transport providers, including safe road network, a range of bus and rail

services, adequate facilities for walking and cycling and opportunities of air and water-based travel.

- 5.11.6. Variation No.2(B) includes the Gaeltacht Plan. The Gaeltacht Plan states with respect to transport:

As this plan will form part of the Galway County Development Plan objectives relating to the provision of transport network infrastructure and community facilities which are already included in the County Development Plan are not considered necessary to repeat

- 5.11.7. Chapter 9 refers to Heritage, Landscape & Environmental Management and notes the designated sites as well as the Architectural Conservation Area of Bearna. In section 9.2 it states:

The Galway County Biodiversity Plan provides a framework for the conservation of natural heritage and biodiversity at the County level; • To promote appropriate enhancement of the built and natural environment as an integral part of any development; • To promote a reasonable balance between conservation measures and development needs in the interests of promoting orderly and sustainable development; • To protect the landscape categories within the County and avoid negative impacts upon the natural environment; • To promote appropriate enhancement of the natural environment as an integral part of any development.

- 5.11.8. General Heritage Policies include:

Policy GH 1 – *Conserve, protect and enhance the special character of the County as defined by its natural heritage and biodiversity, its built environment, landscape and cultural, social and sporting heritage.*

Policy GH 2 – *Ensure that heritage protection is an integral part of coherent policies on economic and social development and of urban and rural planning.*

Policy GH 3 – *Implement the legislative provisions of the Planning and Development Act, 2000 (as amended), which offers protection to the architectural, archaeological and natural heritage.*

Policy GH 4 – *Engage with all relevant stakeholders (and in particular local communities) in matters relating to the protection of natural, built and cultural heritage.*

5.11.9. Section 9.9 refers to Natural Heritage and Biodiversity Policies and Objectives and include the following objective which is of particular relevance:

Objective NHB 11 – *Trees, Parkland/Woodland, Stonewalls and Hedgerows*

a) Protect important trees, tree clusters and hedgerows within the County and ensure that development proposals take cognisance of significant trees/tree stands. Ensure that all planting schemes use suitable native variety of trees of Irish provenance;

b) Seek to retain natural boundaries, including stonewalls, hedgerows and tree boundaries, wherever possible and replace with a boundary type similar to the existing boundary where removal is unavoidable. Discourage the felling of mature trees to facilitate development and encourage tree surgery rather than felling where possible. All works to be carried out in accordance with the provisions of the Forestry Act, 1946.

5.11.10. Section 10.4 refers to An Ghaeltacht. Policies and Objectives include the following:

Policy G 1 – *Preserving and Promoting An Ghaeltacht in the Planning Process The Council through the Gaeltacht Local Area Plan 2008-2018 has outlined policies and objectives to protect and encourage the social, cultural and linguistic heritage of the Gaeltacht, whilst seeking to realise the economic and development potential of the Gaeltacht in a balanced and sustainable manner over the lifetime of the plan.*

Policy G 2 – *Economic Development in An Ghaeltacht Galway County Council, through its Economic Development role, is committed to working closely with all the statutory development agencies, especially Údarás na Gaeltachta, to achieve sustainable development in the Galway Gaeltacht while protecting and promoting the Irish language as the first community language of the area.*

5.11.11. Section 10.13 refers to Public Rights of Way policy and objectives. The policies include preservation of public rights of way.

- 5.11.12. Chapter 12 addresses Implementation & Monitoring. Table 12.1 sets out Performance Indicators and includes 11 Strategic Aims.
- 5.11.13. Chapter 13 addresses Development Management Standards. Section 13.9 provides Guidelines for Infrastructure and Services.
- 5.11.14. A Draft of the new County Development Plan 2022 – 2028 has been published and is currently out for public consultation until 30th July 2021. The Draft Plan continues to support the Galway Transportation Strategy including the subject PRD.

5.12. Galway Transportation Strategy (GTS)

- 5.12.1. The introduction to the GTS states that the transport problems currently experienced across the city are having a significant effect on the quality of life of residents and are now impacting on the economic capability of the city. To address these issues Galway City and Galway County Council in partnership with the National Transport Authority have developed the GTS.
- 5.12.2. The GTS details the current issues facing residents, businesses, tourists and commuters to Galway. With respect to the road network, it is noted that traffic wishing to cross the river are drawn in close proximity to the city centre. Quincentenary Bridge is the sole option for traffic wishing to avoid the centre and as a result there is heavy congestion and delay often leading to traffic re-routing towards Salmon Weir Bridge, Wolfe Tone Bridge and O'Brien's Bridge. It is stated that the M/N6 is a highly important national road and is identified as part of the Ten-T Comprehensive network. It is also identified as a Strategic Radial Corridor in the National Spatial Strategy (NSS) and is an important inter-urban transport corridor linking the Galway Gateway with the Greater Dublin Area and gives access to regional and international markets.
- 5.12.3. It is noted that 60% of all trips in the city are by car. Figure 2.3 illustrates the highest trip volume destination and origins. The GTS highlights the key challenges to be addressed by the transport networks. A strategy for all modes of transport and users is detailed. Of relevance is the fact that it is noted that *'unless additional capacity is provided for traffic, the overall objectives for the Transport Strategy will not be met'*. It is further stated that *'A new road link to the north of the city is therefore proposed as part of this Transport Strategy'*.

- 5.12.4. Section 4 of the GTS sets out the strategy for the Traffic Network including the city centre access, road and street network, HGV management and parking. Public transport is addressed in section 5. Cycling, walking and public realm are addressed in section 7. Section 9 details Implementation and Outcome. The N6 Galway City Ring Road is considered to be in the medium to long term phase.
- 5.12.5. The GTS was subject to a Strategic Environmental Assessment which is included in Appendix I of the documentation.

5.13. Ardaun Local Area Plan 2018 – 2024

- 5.13.1. Ardaun is an area of c.164Ha located on the east side of Galway, 5km from the city centre. Ardaun is identified as a key growth area in the Galway City Development Plan and is capable of delivering up to 4,640 homes and accommodating a population of up to 12,621.
- 5.13.2. The LAP includes an Urban Design Framework, a Land Use Strategy, a Development Phasing Approach. The main development challenges are listed including the north/south physical division caused by the existing N6/M6, and the fact that the PRD route corridor reservation traverses the north-western section.

5.14. Bearna Local Area Plan

- 5.14.1. The Bearna LAP was adopted as a variation No. 2(a) to the County Development Plan on the 23rd July 2018.

5.15. Natural Heritage Designations

Site Code	Site Name & designation	Brief Description & Qualifying Features	Distance to PRD (closest point)
Natura 2000			
000297	Lough Corrib cSAC pNHA including	Comprises Lough Corrib, River Corrib, twelve or more other rivers and the land surrounding the Lough,	0 km (i.e. overlapping boundaries),

Site Code	Site Name & designation	Brief Description & Qualifying Features	Distance to PRD (closest point)
000228	Ballycurke Lough pNHA and River Corrib and adjoining wetlands LBA	encompassing bog, heath, woodland, grassland and limestone pavement. Supporting important populations of stoneworts in the southern basin of Lough Corrib and a population of lesser horseshoe bats at Ebor Hall, plus Ballycurke Lough pNHA	to north and south
000268	Galway Bay Complex cSAC pNHA, including Rusheen Bay – Barna Woods – Illaunafamona LBA and Mutton Island and nearby shoreline LBA and overlapping with Lough Atalia and Renmore Lagoon LBA	Inner part of Galway Bay including shallow, inter-tidal inlets and bays, small islands, coastal cliffs, lagoons and surrounding terrestrial habitats.	0.16km, south
004042	Lough Corrib SPA	Lough Corrib.	0.2km
004031	Inner Galway Bay SPA	Inner Galway Bay, see description for Galway Bay Complex cSAC.	1.1km

Site Code	Site Name & designation	Brief Description & Qualifying Features	Distance to PRD (closest point)
004142 000253 NHA	Cregganna Marsh SPA NHA	Primarily lowland wet grassland with other habitats including limestone pavement.	4km, south-east
002034	Connemara Bog Complex cSAC pNHA	A very large site encompassing the majority of the south Connemara lowlands, underlain with granite and supporting areas of deep peat, with the main habitat being Atlantic blanket bog. The blanket bog is interspersed with a variety of base-poor terrestrial habitats and lakes, supporting a number of rare plant species.	6km west
004181	Connemara Bog Complex SPA	South Connemara lowlands, see description for Connemara Bog Complex cSAC.	9km west
000606	Lough Fingall Complex cSAC pNHA	Within an area of flat, low-lying limestone and supporting a complex of calcareous habitats including limestone pavements, calcareous grassland and a series of turloughs. The grassland supports a variety of orchids and an additional feature of the site is an internationally important population of lesser horseshoe bats.	9.5km south east
001312	Ross Lake and Woods cSAC pNHA	Ross lake is a medium size lake on limestone supporting a variety of stoneworts adjoined by a conifer plantation and some broadleaved	10km north-west

Site Code	Site Name & designation	Brief Description & Qualifying Features	Distance to PRD (closest point)
		woodland. Supports otter and a breeding population of common gull.	
000020	Black Head-Poulsallagh cSAC pNHA	Part of the Burren, including the shoreline, sand dunes at Fanore, limestone pavement and the Caher River.	11km south
000322	Rahasane Turlough cSAC pNHA	One of only two large turloughs in the country which still functions naturally, supporting two rare plant species including Fen Violet (<i>Viola persicifolia</i>), and is also the most important turlough in Ireland for its birdlife.	11.5km south east
004089	Rahasane Turlough SPA	Large turlough, see description for cSAC.	12km south-east
001285	Kiltiernan Turlough cSAC pNHA	A relatively dry turlough which is notable for the presence of two rare plant species; alder buckthorn (<i>Frangula alnus</i>) and fen violet (<i>Viola persicifolia</i>)	12km south east
000242	Castletaylor Complex cSAC pNHA	Complex of habitats on limestone including Caranavoodaun turlough, limestone pavement, calcareous grassland, heath and woodland.	12km south east
001271	Gortnandarragh Limestone	Limestone pavement located on the south side of Lough Corrib, interspersed with heath, grassland and	12.5km north-west

Site Code	Site Name & designation	Brief Description & Qualifying Features	Distance to PRD (closest point)
	Pavement cSAC pNHA	scrub, plus an area of bog, which is the only known locality for the endemic fungus <i>Entoloma jenny</i>	
002244	Ardrahan Grassland cSAC	Large flat limestone area with a mosaic of calcareous habitats plus Brackloon Lough, a small marl lake, with adjoining wetlands and two small turloughs.	13km south east
000054	Moneen Mountain cSAC pNHA	Part of the Burren, open limestone pavement, associated grassland and heaths, plus scrub and woodland.	13km south
001926	East Burren Complex cSAC pNHA	All of the high ground in the eastern Burren area, comprising limestone pavement and associated calcareous grasslands and heath, scrub and woodland together with a network of calcareous lakes and turlough.	13km south
002008	Maumturk Mountains cSAC	A series of peaks over 600m above sea level and surrounding areas, with wet heath, dry heath and blanket bog.	34km, northwest
002031	The Twelve Bens/Garraun Complex cSAC	A series of peaks over 500m above sea level and surrounding areas with heath and blanket bog, part of the Connemara National Park.	47km, northwest
Natural Heritage Areas and proposed Natural Heritage Areas			

Site Code	Site Name & designation	Brief Description & Qualifying Features	Distance to PRD (closest point)
002364	Moycullen Bogs NHA and part of Ballagh – Barnacranny Hill LBA	Connemara peatland, including blanket bog, fen, wet grassland, heathland and scrub, located east of Tonabrocky.	0m, immediately adjacent
002431	Oughterard District Bog NHA	Large area of lowland and upland blanket bog, interspersed with other peatland habitats.	15km
001267	Furbogh Wood pNHA	Oak woodland bordering the Furbogh River, and one of the few Atlantic woodlands which occurs directly at the coast, and on a mineral soil.	2.3km
000287	Kiltullagh Turlough pNHA	Turlough, unusual in supporting a dry grassland type.	2.2km
002083	Killarainy Lodge, Moycullen	Natterer's bat nursery roost	7.2km
001260	Drimcong Wood pNHA	Mixed broadleaved and coniferous woodland	8.2km
001788	Turloughcor pNHA	Wetland Supporting wintering bird populations	15km

6.0 Observations

6.1. Introduction

- 6.1.1. There were many submissions and objections during the course of the project, at application stage, further information stage and at the oral hearing. All of the submissions and objections have been read and are summarised within this report and addressed throughout the Assessment sections. For ease of reading the key points are summarised in this section of the Report and more detail including how each submission has been addressed is provided in Appendices 1, 2 and 3.

6.2. Prescribed Bodies

6.2.1. An Taisce

- Reference to EIAR; transport generating projects must assess project against Smarter Travel policy, traffic generation, congestion, air pollution, GHG, cumulative impact. If adverse impacts cannot be mitigated, consent cannot be allowed.
- Refer to national policy and consider that recent planning decisions have failed to comply and are in breach of Smarter Travel objectives.
- Significant lessons to be learned from the M50 and Limerick City bypass.
- Applicants justification for proposal is flawed.
- Individually and cumulatively planning decisions have failed to mitigate continuing climate emissions, air pollution and congestion.
- If consent is given there is no legal obligation on behalf of the developer to ensure efficient public transport is developed in tandem.

6.2.2. Department of Communications, Climate Action & Environment

- Submission from Geological Survey of Ireland – refer to information provided on the geology of Ireland.
- Note three County Geological Sites (CGS) within 2km of proposal; Roadstone Quarry on the Tuam Road, Mushroom Rock in Menlough and Knocknagrena.

Consider there is no envisaged impact on the integrity of the CGS by the proposal.

- Groundwater vulnerability is deemed extreme.
- Seek a copy of site investigation and any other reports should development go ahead.

6.2.3. Department of Culture, Heritage and the Gaeltacht (NPWS)

- Note series of pre-application meetings and consultations and that draft NIS and draft Biodiversity chapter of the EIAR were reviewed as an exceptional measure.
- Acknowledge the extent and detail of the surveys carried out and the extent to which the ecological and other data have informed and modified aspects of the design to minimise adverse effects on biodiversity.
- Consider the extent and nature of habitat impacts and/or changes in the SAC are difficult to ascertain. Clearer drawings would assist. Relationship of the road to nearby qualifying interest Annex I habitats within the SAC is difficult to ascertain.
- Hydrology – application would benefit from clarity in changes to the hydrogeological regime in Lackagh Tunnel on the groundwater catchment area. It is unclear what the hydrological connectivity between the groundwater dependent terrestrial ecosystems (GWDTEs) of the SAC are. Further elucidation could be beneficial.
- Risk of bird collision with the bridge is given no further consideration beyond identifying potential impacts. Refer to effects of habitat loss and fragmentation on wintering birds and considers that further information is required.
- Reference is made to the additional matters to be taken into account and addressed with respect to the EIA: Moycullen Bogs NHA and bog eco-hydrology; linear habitat resource which will be lost needs clarification; impact of habitat on Marsh Fritillary.

- Note losses of Annex I habitat outside of SAC are to be compensated by translocating habitat from one location to another - query long-term management.
- Notes that the EIAR documents one of the most detailed and comprehensive surveys for bats ever undertaken in Ireland.
- Considers there could be potential tensions between mitigation measures set out in the NIS and EIAR.
- Notes that mitigation measures and commitments must apply to all parts of the development including the enabling works.

6.2.4. Irish Water

- Support development as part of the Galway Transport Strategy.
- Irish Water about to submit a planning application to relocate the Terryland Water Treatment Plant intake in the main River Corrib channel and significant projects are underway to service the planned development at Ardaun.
- Require a number of items to be agreed prior to construction.

6.2.5. National Transport Authority (NTA)

- NTA worked with both Councils to produce the Galway Transport Strategy (GTS). The GTS was written into the Development Plans to give proposals a statutory basis.
- The ring road was identified as an integral part of the GTS and accordingly the NTA supports the proposed road scheme as an important element of the GTS.

6.2.6. Transport Infrastructure Ireland (TII)

- Fully support the proposal and confirm the scheme is included in TII's current capital programme.

6.2.7. Udaras na Gaeltachta

- Support the proposal as it is critical that the N6 is built to provide access to the Gaeltacht areas and the rest of the county.

- Speedy access is crucial for many industries such as the fish/shellfish industry.
- With the closure of Galway Airport in 2011 it is now more important than ever that the ring road is built.

6.3. Observers

6.3.1. Submissions were received from 79 observers (listed in Appendix 1 of this report) in response to the application for the proposed motorway scheme and the protected road scheme. These comprise submissions from individuals and families, interest groups and umbrella groups as well as submissions from public representatives. The issues raised by observers are summarised in Appendix 1 both by name of observer and thematically. They generally fall under the following headings: -

- Support for the proposed development
- The need for, and purpose of, the development
- Policies and Objectives of statutory documents
- Legal and procedural matters
- Public consultation
- Alternatives considered
- Impact on amenities of the area particularly the Sports Campus of NUIG, Dangan and the River Corrib
- Loss of dwellings
- Severance of communities
- Impact on local road network
- Impact on pedestrians, cyclists and school children
- Traffic modelling
- Junction strategy and design of road
- Impacts on health and quality of life and general amenity
- Noise and vibration impacts

- Air and climate change impacts
- Landscape and visual impacts
- Impacts on flora and fauna
- Water Quality impacts
- Material assets including socio-economic impacts and future development plans for lands
- Ecology prioritised over all other matters
- Cultural heritage impacts
- EIAR deficient.

6.4. Further Submissions following re-advertisement of Further Information Response

6.4.1. The Further Information response was deemed significant and was re-advertised. In total 17 valid submissions were received (a number of parties submitted more than one observation). Six were from prescribed bodies: Development Applications Unit (NPWS), Irish Water, An Taisce, HSE, Udaras na Gaeltacht and Geological Survey Ireland. The remainder were from observers who had previously made submissions and two new observers. The list of the observers and submissions made is in Appendix 3 to this report. In summary issues raised include:

- Support for the development
- Likely effects on European Sites
- Likely effects on the Environment
- Assessment of later consents and public consultation
- Pest control
- Impact of Parkmore Link Road
- Noise and landscaping at Ard na Gaoithe
- Ecology was prioritised over all other matters
- FI response contains nothing to address concerns

- EIAR is flawed
- Irish Water requirements
- Concerns with impact on Gort na Bro estate
- Individual concerns on houses in the Dangan area
- Concerns with new drawings and stone walls, boundary treatment, route selection etc.
- Request adequate access to zoned site on the Tuam Road.
- No assessment of impact on wells being permanently disabled for bottled water plant and loss of this natural resource.
- Adequate and meaningful consultation.

7.0 Compulsory Purchase Order

7.1. Documentation Submitted

7.1.1. The CPOs submitted to the Board on the 26th October 2018 for both the Protected Road Scheme and the Motorway Scheme are accompanied by:

- Chief Executive's Order no. 2426 signed 17th October 2018 for the Motorway Scheme.
 - The Chief Executive's Order details the documentation in connection with the making of the CPO, the certificates from the Engineer and Planners and notes that an EIAR and NIS are to be prepared and directs an application be made to the Board for approval of the proposed development.
- 14 no. officially sealed deposit maps (Drawing Nos. N6-DM-1001 to N6-DM-1014) for the Motorway Scheme.
- Schedule for the Motorway Scheme which is split into two volumes. The schedule is split into 7 parts, however, schedules 2, 5, 6, and 7 are not applicable in this instance. Schedule 1 details the lands to be compulsorily acquired, schedule 2 details the rights proposed to be acquired in relation to land for the purposes of the proposed motorway, schedule 3 is a description of the public and private rights of way to be extinguished, and schedule 4 details the lands in respect to which it is proposed to restrict access.
 - Land proposed to be acquired forming part of the motorway is shown bordered in red and coloured blue and described in Schedule 1 Part 1.
 - Land proposed to be acquired not forming part of the motorway is shown bordered in red and coloured grey and described in Schedule 1 Part 2.
 - Rights of way to be extinguished are shown between tags coloured green and described in Schedule 3.

- Land in which it is proposed to prohibit, close, stop up, remove, alter, divert or restrict a means of direct access to or from the motorway are described in Schedule 4.
- 7 no. officially sealed deposit maps (Drawing Nos. N6-DM-0001 to N6-DM-0007) for the Protected Road Scheme.
- Schedule for the Protected Road Scheme. The schedule is split into 7 parts, however, schedules 5 and 6 are not applicable in this instance. Schedule 1 details the lands to be compulsorily acquired, schedule 2 details the rights proposed to be acquired in relation to land for the purposes of the proposed protected road, schedule 3 is a description of the public and private rights of way to be extinguished, schedule 4 details the lands in respect to which it is proposed to restrict access and schedule 7 details the particulars of planning permissions proposed to be revoked and the planning permissions proposed to be modified and the extent of such modifications.
 - Land proposed to be acquired forming part of the protected road is shown bordered in red and coloured yellow and described in Schedule 1 Part 1.
 - Land proposed to be acquired not forming part of the protected road is shown bordered in red and coloured grey and described in Schedule 1 Part 2.
 - Rights in relation to land to be acquired are shown between tags and coloured purple and described in Schedule 2.
 - Rights of way to be extinguished are shown between tags coloured green and described in Schedule 3, parts 1 and 2.
 - Land in which it is proposed to prohibit, close, stop up, remove, alter, divert or restrict a means of direct access to or from the protected road are described in Schedule 4.
 - Particulars of planning permission to be revoked or modified are described in Schedule 7, parts 1 and 2.
- A certified and signed copy of the Engineer's report dated 16th October 2018.

- The report certifies that the lands set out in the Deposit Maps and described in the schedules are a true and accurate description of the lands which will be affected by the scheme and which are required for the provision of the road.
- The report recommends that the Motorway Scheme and the Protected Road Scheme be made and that the statutory notices be published and served.
- Recommends that the Motorway Scheme and the Protected Road Scheme and the EIAR and the NIS be submitted to An Bord Pleanála for approval.
- Certificate dated 3rd October 2018 and signed by the Assistant Director of Services of the Planning Department of Galway City Council.
 - Report certifies that the road is in accordance with the policies and objectives of the Development Plans and is in accordance with the proper planning and sustainable development of the area.
 - Certifies that the lands indicated on the deposit maps are necessary and required for the proposed road.
- Certificate dated 2nd October 2018 and signed by the Director of Services of the Planning, Environment and Emergency Services Department of Galway County Council.
 - Report certifies that the road is in accordance with the policies and objectives of the Development Plan and is in accordance with the proper planning and sustainable development of the area.
 - Certifies that the lands indicated on the deposit maps are necessary and required for the proposed road.
 - Certifies that the road is in accordance with the objectives of the Galway Transport Strategy (GTS) 2017 and the National Planning Framework.
- Copies of newspaper notices dated 25th and 26th October 2018.

7.2. Oral Hearing

- 7.2.1. Revised versions of the CPO Schedules and deposit maps were submitted at the oral hearing to correct various errors and to address changes in legal interest, matters arising from the hearing (including the proposed Parkmore Link Road modification) and as parties withdrew their objections. I refer the Board to the versions submitted prior to the close of the oral hearing on 4th November 2020, identified as 'Issue 3'. The applicant also submitted versions with 'tracked changes' to assist the Board in identifying the alterations.

8.0 Oral Hearing

8.1. Overview

- 8.1.1. Following the applicant's response to the Further Information request and the advertising of same, the date was set for the holding of the Oral Hearing. The hearing was arranged to commence in the G Hotel on the Dublin Road, in Galway on 18th February 2020. Mid-way through the hearing, the Covid 19 Pandemic occurred and in line with Government Guidance the hearing was adjourned. As it became clear that it was not going to be possible to complete the hearing in a normal format for the foreseeable future, a decision was made to recommence the hearing using a virtual meeting format. The hearing recommenced on 12th October 2020 online using Microsoft Teams. The remainder of the hearing was held online, and the hearing concluded on 4th November 2020.
- 8.1.2. The hearing was recorded by the Board's appointed Consultant, Artane Studios. There is a full recording of the hearing attached to this file. In addition, services were provided to allow anyone who wished to make their presentation in Irish to do so.
- 8.1.3. Prior to the hearing commencing, all parties were asked if they wished to participate in the hearing and if so, how much time they would like. A very detailed agenda was drafted, and it was decided to split the hearing into three modules. Everyone who sought to engage in the hearing was accommodated as much as reasonably possible, having regard to the legislation requiring the Inspector to hold the hearing in as expeditious a manner as possible.
- 8.1.4. The modules were as follows:
- Introduction
 - Module 1: Issues relating to Ecology and Hydrogeology
 - Module 2: All other Planning matters
 - Module 3: CPO
- 8.1.5. As the hearing progressed, due to parties not appearing, or parties withdrawing their objection to the proposal, the agenda had to be amended. The agenda was updated and accessible on the Board's website.

8.1.6. The hearing opened on 18th February 2020. The applicant took the first three days of the hearing to introduce the project very briefly, having been advised that all the documentation was to be taken as read. The applicant introduced their consultants and each consultant summarised the key points about their respective topic and responded to the submissions made by the various objectors/observers. In addition, the changes to the project were introduced including the changes to the Parkmore Link Road and works to the NUIG Sports campus. Each consultant confirmed that they had assessed the changes and that there was no change to the conclusion of their relevant sections of the EIAR and NIS. The applicant was represented by:

- Mr Jarlath Fitzsimons and Mr Declan McGrath (both Senior Counsel)
- Mr Mike Evans – Arup
- Ms Eileen McCarthy – Arup - Project Lead
- John O'Malley – Kieran O'Malley & Co. - Planning Lead
- Andrew Archer & David Conlon – Systra – Traffic
- Aebhin Cawley & Andrew Speer – Scott Cawley – Ecology
- Con Curtin – Curtin Agricultural Consultants – Agriculture
- Michael Sadlier – EVC (Veterinary Surgeon) – Equine
- Dr Leslie Brown – Arup – Hydrogeology
- Tony Cawley – Hydro Ltd. – Hydrology
- Juli Crowley & Marie Fleming – Arup – Soils/Geology
- Gareth Maguire – Independent Consultant – NUIG Sports Campus
- Dr Craig Bullock – Optimize – Population and Human Beings/Socio Economic
- John Cronin – John Cronin & Associates – Human Beings – Irish Language
- Faith Bailey – IAC Archaeology – Archaeology
- Jennifer Harmon – AWN Consulting Ltd. – Noise & Vibration
- Sinead Whyte – Arup – Air Quality & Climate
- Dr Martin Hogan – EHA – Human Health

- Thomas Burns – Brady Shipman Martin – Landscape & Visual

8.1.7. On Day 4, the 21st February 2020, the Prescribed Bodies were provided opportunities to make submissions and ask questions. The NPWS made a submission. Mr Arnold on behalf of the Board asked the NPWS a number of questions to assist with his assessment for the Board. Following this Mr Peter Butler on behalf of An Taisce made a submission. These submissions are referred to throughout this report as part of my assessment.

8.1.8. Module 1 Ecology and Hydrogeology began on Day 5. The agenda clearly indicated in advance that only these two topics would be discussed during this module.

8.1.9. The following parties made a submission/asked questions.

Day 5 Monday 24th February 2020

- Deirdre Goggin
- Peadar O'Maoilain on behalf of Kevin Kelly and Shane Kelly
- Kevin Gill
- Peter Connolly
- Brendan Mulligan
- Patrick McDonagh
- Michael O'Connor representing businesses and residents in Salthill
- Tom Corr on behalf of Dermot & Sarah Harley
- Stephen Dowds on behalf of the N6 Action Group
- Dermot Flanagan on behalf of McHugh Property Group

Day 6 Tuesday 25th February 2020

- Vincent Carragher
- Dermot Flanagan on behalf of McHugh Property Group
- Galway Athletics Board – Brian Bruton (secretary) and Ruth Molloy
- Mr Arnold and Mr Dodds asked questions on behalf of the Board.

8.1.10. Due to availability issues of the Board's external consultants, Module 1 was paused as planned. As per the agenda, Module 2 'All other Planning Matters' started on Tuesday 3rd March 2020. The following parties made a submission/asked questions.

Day 7 Tuesday 3rd March 2020

- Sean O'Neachtain (note submission in Irish)
- Deirdre Goggin
- Damien Kelly
- Maura O'Connell and Audrey Dineen
- Kevin Gill
- Peadar O'Maolain on behalf of Shane Kelly and Kevin Kelly
- Gerard O'Donnell representing Padraig and Imelda Burke
- John Hughes
- Pamela Harty of MKO on behalf of GVA the Statutory Receivers Plot 229
- Linda Rabbitt
- Hands Across the Corrib

Day 8 Wednesday 4th March 2020

- Dermot Flanagan on behalf of the Connolly Motor Group
- Marie O'hEocha
- Thomas Kilgariff
- Stephen Meagher and James McCloon on behalf of Aughnacurra Residents Association
- Derrick Hambleton
- Ciaran Ferrie
- Brendan Mulligan
- Michael Murphy
- M&M Qualtech

- John O'Carroll

Day 9 Thursday 5th March 2020

- Lorretta Needham and Tom Rea
- Neasa Bheilbigh on behalf of Galway Cycle Bus Network
- Joseph Kelly on behalf of Atlantic Greenway Project
- Finbarr McCarthy
- Tony Newry and Deirdre O'Connor on behalf of Parkmore Traffic Action Group
- Brian Bruton, Brian McNicholl, Niall Murphy, Michelle Van Kamp, on behalf of Galway City Harriers

Day 10 Friday 6th March 2020

- Peter Connolly
- Patrick McDonagh
- Dermot Flanagan on behalf of McHugh Property Group
- Neil O'Leary, Shane Foran, Kevin Jennings on behalf of Galway Cycling Campaign
- Frank McDonald on behalf of An Taisce

8.1.11. Module 2 was paused after Day 10 and Module 1 resumed on Day 11. The following parties made a submission/asked questions.

Day 11 Tuesday 10th March 2020

- Questioning between Mr Arnold, Mr Dodd and the applicant
- Stephen Dowds on behalf of N6 Action Group

Day 12 Wednesday 11th March 2020

- Applicant responds to Mr Arnold and Mr Dodd's questions
- NPWS responds to Mr Arnold's questions

8.1.12. Module 1 closed on 11th March 2020. As noted above the Covid 19 Pandemic resulted in the adjournment of the hearing. As it became clear that the Covid-19

pandemic was ongoing for much longer than anyone anticipated, it was decided to restart the hearing in a 'virtual' manner using Microsoft Teams. Module 2 restarted on 12th October 2020. The following parties made a submission/asked questions.

Day 13 Monday 12th October 2020

- Senator Sean Kyne
- Catherine Connolly TD
- Senator Pauline O'Reilly
- Cllr. Noel Larkin
- Neil Walker and Helen Leahy on behalf of IBEC
- Terrance McDonagh on behalf of Galway City Community Network
- John C. O'Carroll
- Kenny Deary and J.P. Gilmartin on behalf of Galway Chamber of Commerce
- John J. Martin

Day 14 Tuesday 13th October 2020

- Kevin Miller on behalf of Gaynor Miller clients including Mr Tom Burke and James & Tracy Gavin
- Rooney Property Consultants on behalf of clients Mr John Glynn, Michael & Geraldine Flaherty and Kevin McDonagh & Ursula McDonagh

Day 15 Wednesday 14th October 2020

- Senator Ollie Crowe
- Eamonn O'Cuiv TD
- Vincent Costello on behalf of clients Denis & Margaret O'Neill and Jarlath & Mary Kemple
- Damien Kelly
- Dermot Flanagan, Peter Kingston, Pamela Harty, Senan Clandillon on behalf of Galway Race Committee

Day 16 Monday 19th October 2020

- Michael O'Donnell, Julian Keenan, Imelda Shanahan on behalf of Caiseal Geal Teoranta (Castlegar Nursing Home)
- Dermot Flanagan and Senan Clandillon on behalf of McHugh Property Group
- Peter Butler on behalf of An Taisce
- Kevin Jennings and Shane Foran on behalf of Galway Cycling Campaign
- Brendan Mulligan
- Dermot Flanagan on behalf of Connolly Motor Group

Day 17 Tuesday 20th October 2020

- Gerard Lawless
- Richard Burke
- Eamon Galligan on behalf of Brooks Timber and Building Supplies Ltd (Brooks)
- Dermot Flanagan on behalf of Connolly Motor Group
- Stephen Dowds and Cormac Rabbitte on behalf of N6 Action Group

Day 18 Wednesday 21st October 2020

- Michael O'Donnell, Imelda Shanahan on behalf of Caiseal Gael Teoranta
- Peter Butler on behalf of An Taisce
- Vincent Carragher
- Kevin Jennings on behalf of Galway Cycling Campaign
- Damien Kelly
- Stephen Dowds on behalf of N6 Action Group
- Brendan Mulligan
- Neasa Bheilbhig on behalf of Galway Cycle Bus
- Dermot Flanagan on behalf of Galway Race Committee, McHugh Property Group & Connolly Motor Group
- Ciaran Ferrie

8.1.13. Module 3 dealing with the CPO began on the 27th October 2020, albeit there was substantial overlap between Module 2 and 3. The following parties made a submission/asked questions.

Day 19 Tuesday 27th October 2020

- Deirdre Goggin & Michael Kenny
- Se Greenan
- Peter Connolly
- Ross Tobin
- Michael Flattery on behalf of Mary Flattery
- Colm Ryan and Pamela Harty of MKO on behalf of Strategic Land Investments
- John Corridon on behalf of Vantage Towers Ltd.

Day 20 Wednesday 28th October 2020

- Stephen Meagher on behalf of Aughnacurra Residents Association
- Michael Murphy
- Loretta Needham and Tom Rea
- Gerald Lawless
- Sharon Morris and Edward O'Reilly
- Mike Lydon on behalf of James Fahy
- John M. Gallagher representing Peter Broughan, Thomas McGrath, Peter O'Halloran, Nora Codyre and Pat Codyre
- Owen Kennedy on behalf of Joyce Mackie & Loughheed clients

Day 21 Thursday 29th October 2020

- Dermot Flanagan and Senan Clandillon on behalf of McHugh Property Group
- Robert McLoughlin of Avison Young on behalf of Tesco Ireland
- Peadair O'Maolainn on behalf of Shane Kelly

Day 22 Friday 30th October 2020

- Eamon Galligan on behalf of Brooks Timber and Building Supplies Ltd (Brooks)
- Kevin Gill
- Michael O'Donnell and consultants on behalf of Annette & Michael Kerin and Castlegar Nursing Home
- Dr Annette Kerin
- Professor Michael Kerin

Day 23 Wednesday 4th November 2020

- Eamon Galligan, Callum Bain and Michael Conmy on behalf of Brooks
- Tom Corr on behalf of Dermot & Sarah Harney
- Marie O'Donovan
- Dermot Harney
- Kevin Miller on behalf of James Maloney
- Paul Gaynor on behalf of Mathew & Eileen Burke
- Stephen Dowds on behalf of the N6 Action Group
- Rory Mulcahy on behalf of the Clada Group
- John Gallagher on behalf of Tom McGrath
- Dermot Flanagan on behalf of Connolly Group and Galway Race Committee
- Vincent Costello on behalf of Patrick Griffin
- Tom Corr
- Marie O'Donovan
- Michael O'Donnell
- Dr Annette Kerin
- Professor Michael Kerin

- 8.1.14. As with the submission by/on behalf of the Prescribed Bodies, all issues raised by observers through Modules 1, 2 and 3, as well as responses provided by the applicant are addressed throughout the assessment section of this report.
- 8.2. The hearing closed on Wednesday 4th November 2020. Numerous changes were made to the CPO Schedules as well as the Schedule of Environmental Commitments in the EIAR. These are addressed throughout the assessment of the project.
- 8.3. A list of all documents received at the oral hearing is included in Appendix 7. Each document is assigned a reference number and they are referenced as appropriate throughout the report.

9.0 Assessment

- 9.1. Under the proposed scheme, consent is being sought for the motorway development, the protected road and for the compulsory purchase of the lands required for the construction of each of these elements of the proposed development. I have examined the file and the planning history, considered European, national and local policies and guidance and inspected the site.
- 9.2. Having regard to the requirements of the Planning and Development Act, 2000 as amended, this assessment is divided into three main parts, planning assessment, environmental impact assessment and appropriate assessment. In each assessment, where necessary, I refer to the issues raised by all parties, made either to the Board in response to the application, submissions received following advertisement of further information, or at the oral hearing.
- 9.3. There is an inevitable overlap between the assessments, for example, with matters raised falling within both the planning assessment and the environmental impact assessment. In the interest of brevity, matters are generally not repeated but rather cross-referencing is applied.
- 9.4. A second Inspector, Mr Niall Haverty (Senior Planning Inspector) was appointed by the Board to assist with the assessment of the application.
- 9.5. The Board engaged specialists in the areas of Ecology and Hydrogeology. The three specialist reports are included as Appendices 4, 5 and 6. These reports have informed the Environmental Impact Assessment and the Appropriate Assessment carried out.

10.0 Planning Assessment

10.1. Introduction

- 10.1.1. A substantial amount of information has been submitted to the Board over the course of this application. The Planning Assessment below has had regard to all the information provided, including the original application documentation, the response to the request for Further Information, submissions and observations by third parties, as well as information presented at the oral hearing by both the applicant and the observers and objectors.
- 10.1.2. I draw the Board's attention to the fact that the applicant introduced changes to the design of the road at the oral hearing. These will be considered herein, including changes to the design of the Parkmore Link Road and omission of works to the pitches at NUIG. Changes introduced and agreed between landowners and the applicant as part of the CPO process will be addressed in Section 13 below.
- 10.1.3. Having regard to all of the information received, I consider that the key issues for consideration by the Board in this case are as follows:
- Legal and Procedural Issues
 - Policy Considerations
 - Need, Justification and Purpose of the Proposed Road Development
 - Design of the Road
 - Evaluation of Alternatives
 - Socio-Economic Impacts
 - Residential and Community Amenities
 - Services and Utilities
 - Construction Activities
 - Material Deposition Areas
 - Consultations
 - Implications of Covid-19 Pandemic for proposed development

- 10.1.4. As there is a degree of overlap between the topics covered in this section and the EIA of the project, I recommend that it should be read in conjunction with section 11. Unavoidably there is an element of repetition within each assessment given the extensive nature of the project and the given the need to ensure that a robust assessment has been carried out. For example, the impacts on the Galway Racecourse, Lackagh Quarry and loss of dwellings are assessed under different headings throughout this report.
- 10.1.5. The original 2006 Galway City Outer Bypass project as referred to in Section 3 above has been raised many times by observers. Throughout the below assessments it will be referred to as the 2006 GCOB.

10.2. Legal and Procedural Issues

- 10.2.1. A number of observers and objectors raised issues in relation to legislation and procedural issues which are addressed herein.

Obligation to carry out an EIA of the entirety of the Galway Transport Strategy (GTS)

- 10.2.2. Many submissions referred to the fact that the EIAR submitted only considered the road whereas it should have examined and assessed the entirety of the GTS, on the basis that the road is a project that is identified as part of the GTS. The GTS is referred to in the policy section above (section 5.12). The history of the GTS is described within the applicant's documentation. The GTS was prepared to develop an overall transportation strategy for Galway and was subject to a Strategic Environmental Assessment (SEA) which is included in Appendix I of that documentation. In addition, the GTS was adopted as part of both the City and County Development Plans, which in themselves have been subject to SEA.
- 10.2.3. The GTS is a plan/strategy. The requirement for SEA derives from the SEA Directive (2001/42/EC) which came into force in 2001. The Directive is entitled '*The Assessment of the effects of certain plans and programmes on the environment*' and it relates to plans and programmes, not to individual projects, such as that proposed. A project is required to be subject to an environmental impact assessment under the various EIA Directives including the amending Directive 2014/52/EU. Case Law has clearly distinguished between a plan and a stand-alone project. A plan or programme

sets the framework for future development consent. I am satisfied that the subject road is a project and is distinct from the other projects identified in the GTS. I am satisfied there is no legal basis for subjecting the GTS to EIA.

Article 6(4) of the Habitats Directive and the 2006 GCOB

- 10.2.4. Many objectors queried why the applicant did not seek approval of the original 2006 GCOB project under Article 6(4) of the Habitats Directive for 'Imperative Reasons of Overriding Public interest' IROPI. I have addressed this in detail under the heading of Alternatives below in section 10.6. The Competent Authority must determine whether there are imperative reasons. One of the first steps to consider with respect to Article 6(4) is if alternative solutions exist and, as proven by the subject proposal, they do. I am satisfied that it is highly unlikely that the original 2006 GCOB could have progressed under Article 6(4) on this basis.

Modifications to the project

- 10.2.5. On the first day of the oral hearing, the applicant proposed changes in relation to the Parkmore Link Road and the works to be undertaken on the NUIG Sports campus. These have been detailed in section 4.10 above. Works at NUIG have been omitted from the project and the Parkmore Link Road has been modified. I am satisfied that the scope of the proposed changes are relatively minor having regard to the scale of the overall project.
- 10.2.6. With respect to procedures, the applicant's legal team stated that the Board has the jurisdiction to consider modifications to the proposed road development under section 51(6) of the Roads Act 1993, as amended. Section 51(6) states:

An Bord Pleanála, having reached a reasoned conclusion under subsection (5)(c) and being satisfied that the reasoned conclusion remains up-to-date, may, by order, approve a proposed road development, with or without modifications and subject to whatever environmental conditions (including conditions regarding monitoring measures, parameters to be monitored and the duration of monitoring) it considers appropriate, or may refuse to approve such development. (my emphasis)

I draw the Board's attention to the fact that the Parkmore Link Road modification involved changes to the redline boundary as indicated on the drawing number *Proposed Road Development Plan City East Junction Sheet 14 of 15, Drawing No.*

5.1.14 *Issue 12* dated 17th February 2020. The applicant's legal team advised that all relevant experts conducted an assessment of this change and no changes to the conclusions of their EIAR or NIS were required.

- 10.2.7. At the hearing there was a discussion about the change of boundary at this stage of proceedings. The applicant's legal team restated section 51(6) of the Roads Act which permits the Board to approve a proposed development with modifications. The applicant's legal team confirmed at the hearing that Galway County Council had entered into a binding contract for the purchase of the third-party lands required for the proposed modification and submitted an extract of the contract at the hearing. No objections were forthcoming at the hearing to the proposed modification.
- 10.2.8. The Board can approve the proposal with or without the proposed modification. I am of the opinion that the proposed modification is a refined and improved mitigation measure to address the severance issues raised by the objector, Boston Scientific. As can be seen throughout this report, I am satisfied that there will be no change to the identified impacts as a result of the modification. I consider that the oral hearing is part of the EIA process and, therefore, enhanced mitigation measures can be introduced at this stage. Should the Board concur with my recommendation to approve the road with the enhanced mitigation to the Parkmore Link Road, I recommend that a condition to this effect should be appended to that decision.
- 10.2.9. With respect to NUIG, the schedules have been amended to omit the works and I note that the University has sought and received planning permission for their own works on the campus.

Inadequacies of the EIAR, Non Compliance of the EIAR with EU Directive

- 10.2.10. Many objectors considered that the EIAR was inadequate including Mr Michael O'Donnell on behalf of his clients, Caiseal Gael Teoranta (Castlegar Nursing Home). Mr O'Donnell was of the opinion that the EIAR had failed to carry out any analysis of the impact of the PRD on his client's facility. It was his contention that the nursing home would not be able to continue to function during construction and would be seriously impacted during the operational phase. Mr O'Donnell was of the opinion that the impact was not described anywhere in the EIAR or assessed, and no engagement had taken place with his client and the EIAR is, therefore, not in accordance with the EU Directive. Mr Fitzsimons for the applicant responded stating

exactly where the analysis and assessment had been carried out and in what sections of the EIAR this information could be found. I have reviewed the EIAR and I am satisfied that the EIAR does examine and assess the various works on School Road and the Castlegar area to enable the Board to carry out an EIA.

10.2.11. Other objectors were likewise of the opinion that the EIAR was inadequate particularly in relation to the impact on Human Beings. Many objectors considered that Ecology/Biodiversity has taken precedence over Human Beings. I am satisfied that the EIAR has been prepared in accordance with the EIA Directive which clearly indicates that Population and Human Health as well as Biodiversity are to be addressed within the EIAR. At the oral hearing the Project Lead, Ms McCarthy addressed this issue many times and explained the process of route selection whereby the topics of Human Beings and Ecology were considered to be priority constraints throughout the process.

10.2.12. Friends of the Irish Environment were of the opinion that the EIAR was not in compliance with the EIA Directive. They consider that the analysis of greenhouse gas emissions within the EIAR is cursory and that basic details have been omitted. I do not agree and refer the Board to section 11.11 of this report whereby an assessment of air emissions and climate is addressed.

10.2.13. I am satisfied that the EIAR and accompanying documentation is adequate to permit the Board to carry out an EIA and the EIAR has had full regard to the EIA Directive. Section 11 of this Report carries out an EIA of the development based on the EIAR, the Further Information submitted by the applicant, submissions from observers and objectors, as well as up to date information provided throughout the course of the oral hearing.

Conclusion of significant negative impact in EIA

10.2.14. In An Taisce's first written submission, under section 2 'The EIA Directive' it is stated that *'If adverse impacts cannot be mitigated then consent therefore cannot be allowed'*. This is not the case. Despite a reasoned conclusion determining that there will be negative impacts as a result of this project, the Board is not precluded from granting permission. It is the case in relation to *Appropriate Assessment* that the Board is precluded from approving the project if there is an adverse effect on the integrity of designated sites having regard to their conservation objectives.

Reference to EU cases

10.2.15. Mr Peter Sweetman amongst others made a submission wherein he stated that it is not possible to grant permission because this development would not comply with CJEU judgements: C-258/11, C-164/17 and C-462/17. No other information is provided to clarify how Mr Sweetman considers the development will not comply. Mr Sweetman did not turn up at the oral hearing to address his submission.

10.2.16. The above cases refer to compliance with the Habitats Directive. As can be seen in Section 12 of this Report, in accordance with Article 6(3) of the Habitats Directive a Stage 1 Screening and a Stage 2 Appropriate Assessment have been carried out. I am satisfied that based on the conclusion of the AA process the Board can determine that the proposed road will not adversely affect the integrity of any European site having regard to the conservation objectives and can proceed to make a decision to approve or refuse the proposed road development.

Format of the Oral Hearing

10.2.17. The observer 'Hands Across the Corrib' raised an issue with the format of the oral hearing with respect to the modules approach. They stated that it was different to how the 2006 GCOB hearing was held. I am satisfied that the hearing was run in a manner as required by the Planning and Development Act 2000, as amended. Section 135 of the P&D Act states:

The person conducting an oral hearing of an appeal, referral or application shall have discretion as to the conduct of the hearing and shall conduct the hearing expeditiously and without undue formality (but subject to any direction given by the Board under subsection (2A) or (2AB)).

10.2.18. Upon the resumption of the hearing in October 2020 following the adjournment due to Covid-19 restrictions, a number of parties objected to the hearing being held in an online virtual format. As noted above, section 135 of the P&D Act as amended, provides that the Inspector has discretion as to the manner in which the hearing will be held and the section further states that the hearing shall be held expeditiously. Given the extreme circumstances brought about by the pandemic it was decided that it was reasonable to complete the hearing in an online virtual format with the use of

MS Teams. No evidence was presented that any party was unable to participate in the hearing.

CPO Powers

- 10.2.19. At the hearing an issue was raised in respect of the CPO of lands occupied by Brooks Timber and Building Supplies Ltd (Brooks). Brooks are the tenant of the lands and I note that the landowner withdrew the objection to the CPO. It was stated that the tenant has 7 years left to run on the lease. However, Mr Eamon Galligan (SC) on behalf of Brooks raised concerns regarding the powers of the applicant to CPO the lands. The lands appeared to Mr Galligan to be subject to CPO for the purposes of providing new stables for Galway Racecourse and not for the purposes of constructing a road. Mr Galligan raised concerns with the right of the applicant to acquire lands for the benefit of another landowner/a third party. Mr Galligan suggested that the Board should seek clarity from the High Court because the Board has the power to refer questions of law to the High Court or at the very least take legal advice.
- 10.2.20. The applicant's legal team stated that the suggestion that the acquisition of the lands for the purpose of constructing stables was entirely incorrect. It was clarified that the construction of the Galway Racecourse tunnel necessitated the demolition of buildings. It was further stated that once it became clear that the buildings had to be demolished for the purposes of the road construction, the land was considered as a possible mitigation for the replacement of stables, following completion of the tunnel works. It was noted that this approach had been adopted for other lands, such as lands in Lackagh quarry being used for material deposition areas.
- 10.2.21. This was the subject of much discussion during the hearing and is discussed further in Section 13 below. However, I am satisfied that the initial reason for acquiring the lands is for the purposes of constructing the tunnel which is part of the overall road development for which CPO powers for the applicant are not in question. Following this activity, the applicant has taken the opportunity to provide mitigation for the racecourse. Financial compensation for Brooks and the landowner is not a matter for the Board.

ARUP Involvement

10.2.22. Some objectors questioned ARUP involvement in the project and at what point they came on board. The Project Lead addressed this in response to Mr Michael Murphy's question on Day 8 of the hearing (amongst others). Ms McCarthy clearly explained the role of ARUP at different phases of the project and the different tender and procurement processes. Ms McCarthy explained how works were stopped by Bec (Environmental Consultants) and shared with all other consultants at Phase 1 and then further along Ms McCarthy explained about Phase 2 and the equivalent assessment of all alternatives.

10.2.23. I am of the view that the Board has no role in the appointment of consultants and that is a matter for the applicant. The question was put in the discussion on alternatives and public consultation (addressed below), however I am satisfied that the applicant has fully complied with their requirements on public consultation as will be addressed further below at both statutory and non-statutory stages. Alternatives are also addressed below.

Other Consents

10.2.24. A number of observers and objectors queried other consents required. I am satisfied that, where necessary, the applicant has set out what other consents are required and whether they have been obtained as part of the process so far or will be applied for at a future date. I am satisfied that there are no outstanding consents that in any way interfere with or present as an obstacle to the Board's adjudication on the application.

10.3. Policy Considerations

10.3.1. There is a suite of documents to which reference has been made by the applicant in setting the policy context support for the proposed road. These are identified in Chapter 2 of the EIAR. I note that the Climate Action Plan 2019 was not published at the time of the submission of the application, however, I consider it herein and it was addressed at the oral hearing. In addition, the decision on the third runway at Heathrow Airport with reference to the Paris Agreement was made during the course of the project and was referred to by both applicant and observers and is also considered herein and within the EIA section of this report.

- 10.3.2. Many objectors submitted that the PRD was not in accordance with national, regional and local sustainable development objectives. I have addressed this under the various headings below. In the first instance, however, sustainable development is a cornerstone of the Planning and Development Act 2000, as amended. It is also a fundamental principle of EU environmental law and has informed my assessment of the PRD. In addition, many objectors submitted that transport policies were prioritised over other policies and there was inherent conflict. This is addressed herein and in the relevant sections of this report.
- 10.3.3. Moreover, a number of objectors stated that the development of a road was *contrary* to policies at all levels. While this is further addressed below in this section and under Evaluation of Alternatives, of note and importance is that a ring road has been determined to be part of the solution to the traffic problems in Galway. This is strengthened by a ring road's clear inclusion in policy documents from National to Regional to Local. A route corridor for a ring road is identified in maps, strategic objectives, and local objectives in the hierarchy of statutory plans at varying degrees of detail as appropriate to the policy level document. All the statutory documents referenced are subject to SEA and it is clear that the development of a ring road is part of those policy documents which have been adopted by elected representatives. This proposed road development is of course subject to further EIA and AA assessment as considered herein.

Paris Agreement

- 10.3.4. As addressed in section 11.11 below (EIA - air and climate), a number of objectors submitted that the proposed development was contrary to Ireland's obligation under the Paris Agreement. In support of this a number of parties made reference to the judgement of the UK Court of Appeal which related to the proposed third runway at Heathrow Airport. As will be described in more detail below, the judgement related to a failure to take the Paris Agreement into account and not to the acceptability or otherwise of a new runway.
- 10.3.5. The Paris Agreement seeks to limit global warming but does not seek to prevent development. Ireland has adopted climate action legislation and policies which aim to fulfil our obligations under the Paris Agreement, in particular the achievement of climate neutrality or net zero emissions by 2050. While it is accepted that the road

will result in additional carbon emissions during construction and operation, I do not consider this to be contrary to our Paris Agreement obligations as such obligations are set out at a national level. These will require broader sectoral adaptation and the implementation of carbon budgets as envisioned in the Climate Action and Low Carbon Development (Amendment) Bill 2021.

European Policy

- 10.3.6. In a European context the *TEN-T policy* which pertains to transport, sets out the framework for policy development in transport with the aim being to “close the gaps” between Member States’ transport networks. The PRD is stated as forming part of the TEN-T Comprehensive road network which feeds into the Core network at regional and national level.
- 10.3.7. EU Regulation No. 1315/2013 (enacted in January 2014) sets out the requirements for high quality roads that shall form part of the TEN-T road network, both Core and Comprehensive. As per Article 17(3) high quality roads shall be specially designed and built for motor traffic and shall be motorways, express roads or conventional strategic roads.
- 10.3.8. I am satisfied that the proposed road forms part of the TEN-T comprehensive network and has been designed accordingly. This is further detailed below in section 10.5.

National Policy

- 10.3.9. The *National Planning Framework (NPF)* states that Galway has been Ireland’s most rapidly developing urban area for half a century and is a key driver for the west of Ireland and balanced regional development. Delivery of the PRD is acknowledged as a key future growth enabler for the city. National Strategic Outcome 2 includes advancing orbital traffic management solutions and specifically refers to the Galway City Ring Road. It is identified as a project which will enhance connectivity to and within the region.
- 10.3.10. Furthermore, the population projections for Galway included in the NPF informed the revisions to the transport assessment and are detailed throughout this report. There was a substantial increase in projected population growth, and this was reflected in the applicant’s revised assessment at Further Information stage. Many objectors raised concerns about the road leading to further sprawl as it would be seen as an

enabler to increasing commuter patterns and private vehicle use. However, I am satisfied that the City, County and Local Area Development Plans must be consistent with the NPF. The NPF promotes sustainable development founded upon a compact city model with increased residential density accompanied by enhanced public transportation and proper provision for cycling and walking. The road will enable capacity for trips to be made without the need to go into the centre of the city meaning less congestion in the city centre. This will enable road space to be re-allocated to more sustainable modes of transport as set out in the GTS. Compact growth and enhanced regional accessibility are two of the ten Strategic Outcomes in the NPF.

- 10.3.11. I am satisfied that the PRD is identified as a “key future growth enabler set out for Galway”, thereby confirming that the PRD is consistent with and supported by the NPF.
- 10.3.12. The *National Development Plan 2018 – 2027* seeks the delivery of major national infrastructure projects in the interest of regional connectivity. The PRD is one such project.
- 10.3.13. The *Climate Action Plan 2019* refers to the NPF which anticipates the growth for Galway and the rest of the country. As noted above this will be grounded in compact, connected and sustainable development. Some objectors submitted that the road would be contrary to the Climate Action Plan. The Plan recognises the challenge for the transport sector associated with population and jobs growth.
- 10.3.14. The actions detailed in the Plan relate to the acceleration of the take up of Electric Vehicles (EV) cars and vans, so that we reach 100% of all new cars and vans being EVs by 2030. In addition, it is intended to make growth less transport intensive through better planning (compact growth as detailed in the NPF), remote and home-working and modal shift to public transport.
- 10.3.15. Actions no’s. 85 to 100 are designed to encourage modal shift away from private vehicles. Many objectors contended that the PRD was in direct contravention of the Climate Action Plan particularly in relation to modal shift. However, the GTS states that one of the key requirements for its success is the PRD. This is needed to free up the city roads to improve public transport reliability and journey times, reduce

congestion in the city and the emissions associated with that congestion, which will support the objectives of the Climate Action Plan.

10.3.16. It is clear that road infrastructure will still be required and there is no prohibition on additional road infrastructure in the Climate Action Plan. This is further addressed in section 11.11 below where climate is assessed in detail and the most recent legislative changes are discussed.

10.3.17. Ms Catherine Connolly TD raised the issue about the Supreme Court quashing of the Climate Mitigation Plan in July 2020. She stated that we are now ‘in a vacuum’. Ms Connolly TD also referred to the new Climate Bill 2020. I do not agree that we are in a vacuum in terms of policy such that the Board would not be in a position to assess the project. I am of the opinion that there are sufficient policies at all levels to enable the Board to assess the project. As stated above, this is dealt with in particular detail in Section 11.11 below.

10.3.18. In terms of *Smarter Travel – A Sustainable Transport Future* it is stated that the proposal would be consistent with one of the key goals which seek to improve economic competitiveness through maximising the efficiency of the transport system and alleviating congestion and infrastructural bottlenecks. The road network is also an important element in providing for improved public transport such as the services provided by the CIE Group and private operators. Moreover, it is considered to be an essential component of the GTS and necessary to relieve congestion in the city centre, thereby enabling the other components of the GTS to be implemented. It is stated by the applicant that the principles of Smarter Travel underpin the GTS.

10.3.19. A number of submissions both in written format and made at the oral hearing considered that the proposal is contrary to the aims of Smarter Travel. In particular An Taisce stated that the Board must assess the direct and indirect impacts of the proposal on Smarter Travel policy. They consider that the application has failed to assess the long-term traffic generation associated with the proposal. I do not agree that this is the case - the data provided in the transport assessment clearly assesses the situation in the long-term. An Taisce detail recent decisions they consider are in breach of Smarter Travel including car parking facilities which they are of the view are contributing to Ireland's car dependency.

10.3.20. Mr Brendan Mulligan made similar points at the oral hearing in relation to Smarter Travel. He questioned the predicted reduction in private car mode share against Smarter Travel target of 45%. In addition, he queried the expected mode share for cycling and the number of car parking spaces recently granted by the Council as part of such developments as Bonham Quay. The assessment and mode share are addressed in section 11.13 below.

10.3.21. I would agree that there is always the possibility that providing a new road will result in an increase in the number of cars attracted onto the road network. It is, therefore, necessary to understand the role of the road within the bigger picture of the GTS. As stated by the applicant at the hearing, at the outset it became very clear that a road on its own would not solve the problems of traffic in Galway City. The GTS provides the balance and opportunity to facilitate and encourage the use of other modes of transport such as public transport, cycling and walking. The road will divert considerable traffic volumes away from the city, thereby reducing congestion and making the city a more attractive and safer place to walk or cycle. I am of the opinion, on balance, that the PRD would support the removal of through traffic from the town, reduce journey times for public transport and enable a reduction in congestion which are all key aims of Smarter Travel. In coming to this conclusion, I have also had regard to the applicant's Table 2.1 in chapter 2 of the EIAR which provides an assessment of the Smarter Travel policies.

10.3.22. An Taisce made reference to the Department of the Environment, Community and Local Government document '*Spatial Development and National Roads, Guidelines for Planning Authorities*'. They consider that there are significant lessons to be learned from the development of the M50 and Limerick City Bypass. I once again refer the Board to the role of the PRD within the GTS.

10.3.23. The subject PRD is a project that is identified within the GTS amongst other projects and has, therefore, been considered as part of a suite of measures to address the transport issues in Galway. I draw the Board's attention to the fact that other projects identified in the GTS have already been brought forward for approval which will support the overall strategy of the GTS including the Salmon Weir pedestrian and cycle bridge which is currently under assessment by the Board (Ref. ABP-308783). Furthermore, the project has been identified in policy documents at all levels and of importance, within the NPF framework, which promotes compact growth unlike the

older roads referred to by An Taisce which predate such co-ordinated policy documents.

10.3.24. I note that the *National Biodiversity Action Plan* is addressed in the EclA and AA section of this report.

Regional Policy

10.3.25. Under the heading of 'Connected City' in the *Regional Spatial and Economic Strategy*, it is an objective to improve the road network around the city and in particular to support the delivery of the GTS including the PRD. The road is identified as a main transportation component of the Metropolitan Area Strategic Plan (MASP). The road is further identified in policy objective 6.6 which lists projects to be delivered in the short term and before 2027.

10.3.26. A number of observers were of the opinion that the road is contrary to policies with respect to the emission of greenhouse gases, as well as commitments to climate change made in regional and national policy. The point was also made that the road is based on outdated and flawed logic and is in conflict with the NPF which is committed to sustainable development. I have addressed the NPF above and will address emissions in the EIA section below.

10.3.27. I am satisfied that there is policy support for a ring road around Galway at a European and national, as well as at regional level. The road is considered to be necessary to enable the success of the GTS and that without the road, the aims and objectives of the GTS will not be achievable. A new ring road is identified as an infrastructural project to be carried out in the short to medium term. In conclusion, it is stated as being a requisite for the implementation of the full suite of projects identified as part of the GTS at a county and city level, addressed further below.

Local Policy Context

10.3.28. The actual and detailed location of the road is not identified in policy documents referred to above (as is appropriate). Thus, while support for a road is clear, there is no specific location identified in those documents. However, in both the City and County Development Plans, as well as the Ardaun Local Area Plan, the route corridor is referred to in written statements and identified on maps. A variation to the County Development Plan was adopted on 24th April 2017 to include reference to the GTS which incorporates the PRD.

- 10.3.29. It was argued in written submissions and at the oral hearing that the road would open up other areas for development in the future and would encourage urban sprawl. However, the NPF states that the expected growth of Galway city and environs to 2040 is to a population of 120,000 persons. I note that in response to the RFI, a 'bottoms up' approach to how this growth would be managed has been developed by a combination of the NTA and Galway City and County Councils. Having regard to this level of detail and the policies and objectives of the regional and city and county plans, it is clear that such sprawl, should it occur, would be contrary to those plans.
- 10.3.30. Many objectors considered that the PRD breached plans at all levels particularly in relation to sustainable development which underpins all plans. This is addressed above.
- 10.3.31. Some objectors made the point that the applicant had only focussed on transport policies of the various Development Plans to the detriment of other policies and objectives. I propose to address the PRD's compliance with other development plan policies and objectives under the relevant sections throughout this report. However, for the avoidance of doubt, the presumed and planned for existence of this road has been included in relevant Development Plans. The Plans have been prepared or varied and subject to the necessary environmental assessments with this road included.
- 10.3.32. Some objectors were of the opinion that the road was completely contrary to the land use zoning objectives of various locations such as Aughnacurra, The Heath, NUIG sports campus, Lackagh Quarry and employment locations. This was further articulated during the oral hearing and subject of much discussion. In the first instance I would draw the Board's attention to my earlier comment about how the PRD has been identified in the Development Plans. In addition, and of utmost importance with respect to the objectors' comments, there is an over-arching comment in the City Development Plan, in section 11.2 that states:

Priority will be given to the reservation of the N6 GCRR Preferred Route Corridor and the associated land requirements over other land use zonings and specific objectives.

I am satisfied, having regard to this clear statement in the Development Plan, that the land required for the PRD takes precedence over other land use zonings and specific objectives in the City Development Plan.

10.3.33. Thus, while there may be perceived conflicts between the land requirements for a road and lands zoned 'CF – Institutional and Community' or 'R - residential development', it is clear that the development of the road takes precedence. I have addressed potential impact on amenities further in section 10.8 below. With respect to the CF zoning of NUIG Sports Campus I note that the zoning objective states:

CF - To provide for and facilitate the sustainable development of community, cultural and institutional uses and development of infrastructure for the benefit of the citizens of the city

10.3.34. Some objectors noted the zoning of the lands at The Heath and considered its proposed use for agricultural purposes was contrary to the zoning. This is dealt with in detail in section 13 of this report. However, I would note that the acquisition of the estate road is in accordance with the provisions of the Roads Act.

10.3.35. A number of objectors referred to the zoning of Lackagh Quarry (including Patrick McDonagh, Linda Rabbitte). The quarry is currently zoned 'Agriculture' in the City Development plan. Section 4.6.2 of the Plan with respect to agriculture states the following:

Agricultural lands serve a number of purposes; they provide for agricultural uses, have an important recreation, amenity and biodiversity value and can also facilitate strategic projects, such as roads.

As can be seen such zoned lands can facilitate roads. Hence as well as having regard to the over-arching comment in the City Development Plan, in section 11.2, I am satisfied that the zoning of the quarry or any other lands zoned for agriculture does not preclude the development of the road.

10.3.36. A substantial number of objectors referred to the GTS and it generated much discussion at the hearing over many days. As noted elsewhere the GTS has been adopted into the Development Plans and, therefore, has been put on a statutory footing. The history and background to the GTS is addressed in section 5.12 above. The applicant addressed comments made about the timing of the finalisation of the GTS being subsequent to the selection of the Emerging Preferred Route Corridor of

the PRD. A solution to Galway's traffic problems has been the subject of many studies and strategies. The GTS builds on previous transport studies including the Galway Transportation and Planning Study 2002 which included the development of the 2006 GCOB. The applicant has provided a clear history to the development of the road as part of the Alternatives chapter of the EIAR and within many submissions presented at the hearing by the applicant's consultants in particular, including, the brief presented by the Project Lead, Ms Eileen McCarthy. Based on the information provided in the EIAR as well as statements given at the hearing, I am satisfied that the timing of the GTS and the preferred emerging route are not in conflict with each other. As was explained during the hearing, as work on the GTS proceeded, the PRD team focussed on possible options for a new crossing of the river – in this way the two studies informed each other.

10.3.37. In response to the many questions put forward by the objectors about the GTS, on Day 16 of the hearing the applicant's consultants again provided an overview of the GTS, the reason for not proceeding with a light rail or GLUAS for Galway and information was provided about the situation in the absence of the GTS. I draw the Board's attention to submission 65 presented by the applicant dated 16th October 2020 which provides a comprehensive response to many issues raised in Module 2 of the hearing.

10.3.38. The applicant informed the hearing that many other projects identified in the GTS are progressing such as the Salmon Weir Pedestrian Bridge (currently with the Board Ref. ABP. 308783) as well as improvements to cycling infrastructure. In response to car parking queries raised in relation to new car parking being constructed in the city (e.g. Bonham Quay), it was stated that the implementation of demand management in tandem with the full GTS and the NPF will result in a step change in sustainable travel.

10.3.39. As will be addressed throughout this report, I am satisfied that the PRD does not prohibit future public transport – it is not a case of either/or, rather a combination of both components. I note the applicant refers to cities such as Copenhagen and Seville, which were raised at the hearing, have a high level of walking, cycling and public transport use and have invested in all types of infrastructure including ring roads around the city.

10.3.40. Some objectors considered that the transport strategy should be subsumed within a comprehensive long-term 20 years vision for sustainable development of the region (including Professor Gerald L Lyons). I am satisfied that the GTS is a comprehensive review of the transport problems facing Galway and an overarching strategy to address those problems.

10.3.41. Concerns were raised about the ‘severance’ impact of the road on the Ardaun corridor including by Tesco and Brendan Mulligan. The *Ardaun LAP* covers an area of c.164Ha located on the east side of Galway, 5km from the city centre. Ardaun is identified as a key growth area in the Galway City Development Plan and is capable of delivering up to 4,640 homes and accommodating a population of up to 12,621. The PRD is clearly identified in the Ardaun LAP within the Plan. I would also further note that severance already exists due to the N6/M6.

10.3.42. With respect to policy and objectives, I am satisfied that the proposed road is a key component of the GTS which, as noted above, is adopted as part of the Development Plans for the city and county.

Conclusion

10.3.43. In conclusion, therefore, I submit that the project has support at European, national, regional and local policy levels with the proposal being fully in accordance with those plans and would advance specific objectives as set out in the National Planning Framework, the National Development Plan, the Regional Spatial and Economic Strategy and the current County and City Development Plans.

10.4. Need, justification and purpose of the road

Need and Justification

10.4.1. I draw the Board’s attention to section 11.13 of this report which provides in depth detail of the need for the road and the following should be read in-conjunction with that section.

10.4.2. The need for the PRD is dealt with in Chapter 3 of the EIAR and was set out in a number of submissions made by the applicant at the oral hearing particularly the submission made by the Project Lead Ms Eileen McCarthy. In addition, a number of written and oral submissions by observers supporting the proposal emphasised the

need for the road for the economic and social well-being of the residents of the city (including IBEC, Parkmore Action Group, Galway Chamber of Commerce and Mr Sean O'Neachtain). Similarly, many observers questioned the need for the road including Professor Terrence McDonough, N6 Action Group, Mr Kevin Gill, Professor Kerin and others.

- 10.4.3. The EIAR states that the need for the road arises directly from the necessity to address the very serious transport issues facing Galway City and its environs, and that this road forms an essential part of the transport solution. It is submitted that the existing transport network breaks down on a frequent basis as there is no resilience in the network, e.g. wet afternoon, vehicle collision, etc. The associated consequential impacts are stated including congestion, overcapacity of existing junctions, journey time unreliability, by-passable traffic in conflict with internal traffic, lack of accessibility to the western region, etc.
- 10.4.4. An overview of the existing road network has been analysed to establish the underlying issues. It is explained that the N6 terminates at the R338, at the at-grade Browne roundabout junction with the N59. The R338 continues in a westerly direction to the Coast Road, the R336. While the N6 bypasses the city centre a large portion of traffic is not fully bypassing the city environs, rather it is using the N6 and the R338 to move in an east/west direction across the city. It is considered that the existing road network is at capacity and is insufficient to cater for the current travel demand in the city, its environs and the western region.
- 10.4.5. Traffic analysis was carried out using the detailed multi-modal traffic model, i.e. the Western Regional Traffic Model (WRM) which was developed by the NTA. It is stated that this model provides a very clear picture of travel patterns that informed the understanding of travel demand in the city and environs, which has guided the selection of a transport solution.
- 10.4.6. In response to the traffic queries in the RFI, the revised information contained in the NPF with respect to projected growth in Galway up to 2040 was analysed to compare it with the data used originally in the EIAR (TII Central Case)⁶. The projected growth provided for in the NPF was analysed in detail by the NTA and

⁶ The TII Central Case is used in the EIAR and uses assumptions from the TII National Model Medium Growth Scenario

Galway City and County Council together (NTA/GCC NPF) ⁷. A number of scenarios were compared including TII Central Case vs. NTA/GCC NPF, TII Central Case + GTS vs. NTA/GCC NPF + GTS and a Do-Minimum scenario. A significant amount of data and tables comparing journey times, ratio of flow to capacity and network statistics have been provided. For the convenience of the Board, I have reproduced some of the data that is presented in Section 8 of the Response to the RFI as well as the further changes that were introduced at the oral hearing. I draw the Board's attention to the fact that this information is examined and assessed in detail in section 11.13 below.

10.4.7. In the first instance it is appropriate to review the population differences between both scenarios as detailed in Table 8.4 of the RFI.

Scenario	2016 Census	TII Central Case Forecast (2039)		NTA/GCC NPF Forecast (2039)	
		Total	% Increase from 2016	Total	% Increase from 2016
2039 Galway City Population	78,668	90,000	14%	121,741	55%
2039 Galway County Population	179,390	205,362	14%	218,459	22%
Galway Total	258,058	295,362	14%	340,200	32%

Table 10.4.1 Population Growth Comparison

Source: Table 8.4 of the RFI

Table 8.10 of the RFI provides information with respect to the Ratio of Flow to Capacity AM peak on the Network in 2039 and was amended at the hearing:

⁷ The NTA/GCC NPF scenario is based on population and employment growth aligned to NPF growth forecasts and distributed within the city and county based on existing planning applications, existing land use zoning & plot ratios and existing & emerging policy, a "bottoms up" approach

RFC >90%	TII Central Case (EIAR)	TII Central Case + GTS (EIAR)	NTA/GCC NPF 'Do Minimum' (RFI)	NTA/GCC NPF 'Do Something' N6 GCRR (RFI)	NTA/GCC NPF 'Do Something' N6 GCRR + GTS ⁸ (RFI)	NTA/GCC NPF 'Do Something' N6 GCRR + GTS + Parking Management (Oral Hearing)
Key Junctions (N6/R338)	12	8	22	14	8	5
Entire Network	115	131	281	185	129	Not Stated

Table 10.4.2: Number of Junctions at or over capacity in the AM Peak

Source: EIAR, NPF Traffic Sensitivity Test, 'Response to Issues Raised in Module 2' document.

In addition, Table 8.11 considers the City Centre Mode Share Percentage in 2039.

10.4.8. As can be seen from the tables reproduced above, there is a very significant projected increase in population growth between both scenarios compared to 2016, 55% for the NPF vs. 14% for the EIAR. Hence why the data was reviewed again to understand the implications for such significant growth on the proposed road design at the RFI stage. The applicant considers that although the growth is substantial, due to the introduction of the GTS measures under NPF assumptions, the network performance results in some improvements over and above those of the EIAR (TII) assumptions. It is stated that there are considerable benefits to be gained from good integration of land use and transport, and that the GTS measures will have a much greater impact in terms of encouraging sustainable travel when implemented alongside a complementary land use policy.

10.4.9. I draw the Board's attention to the fact that the NPF 'Do Something + GTS' scenario does indeed improve the situation across several criteria, in particular, the reduction in the number of junctions that are operating above their 90% capacity across the network with the road in place. However, what needs to be highlighted is that even

⁸ There is a discrepancy between Table 4-7 and Table 7-5 in the NPF Traffic Sensitivity Test in respect of the number of junctions at capacity under the DS N6 GCRR + GTS scenario. Table 7-5 appears to have erroneously copied the figures from the PM peak table, so I have used the Table 4-7 figures. This would also be consistent with Table 9 of the 'Response to queries raised in Module 2' document.

with the road in place plus implementation of the GTS measures, there will still be junctions operating above 90% capacity.

10.4.10. This issue was addressed further at the oral hearing and is addressed in detail in section 11.13 below.

10.4.11. Prior to the hearing being adjourned as a result of the Covid-19 pandemic, a number of observers (e.g. Mr Damien Kelly) suggested that the need for the road was questionable on the basis that more and more people would work from home. The pandemic has proven this to be the case. However, I draw the Board's attention to section 10.12 below.

Purpose

10.4.12. The purpose of the road was queried in many submissions and many times at the oral hearing. Various parties submitted that the purpose of the road was unclear and, therefore, its need had not been proven. Many observers commented on the fact that the numbers seeking to bypass the city are very low and considered that the problem is axial and not radial.

10.4.13. The original 2006 GCOB was clearly designed to be a bypass in the traditional sense of the word. However, it was stated many times by the applicant during the hearing, this PRD is not designed simply as a bypass, but effectively as a link road. It was emphasised by the applicant at the hearing that a key conclusion of the initial assessment of the transport problem was that through traffic or by-passable traffic is not the major component of the problem, and that any improvement needed to be developed within the context of an overall strategy that comprehensively considered all modes. It was stated that a team was commissioned to develop such a strategy for Galway which culminated in the Galway Transport Strategy (GTS). It was stated that the GTS seeks to deliver an integrated network of 'links' and 'nodes' along which people can travel and change corridors and modes as necessary to make their journey.

10.4.14. It is considered that the network is undeveloped along its northern half which results in Galway lacking the connected road network which would facilitate more direct travel. I draw the Board's attention to Figures 2, 3 and 4 of the 'Brief Summary of Proposed Development' Submission no.2 presented by Mr Mike Evans and Ms Eileen McCarthy at the hearing. I am of the opinion that these figures provide a good

overview of the current situation and illustrate what could be argued to be the missing link or undeveloped northern half of the network. As a result of this missing link all traffic has to come into the city to access the spine road before it then moves around the city or bypasses the city. I am satisfied that the PRD provides the required outer edge route developing the road network of the northern half of the city which will facilitate more direct journeys and divert through traffic away from the central spine.

10.4.15. As noted by some observers, a bypass is normally required to allow traffic to proceed to a further destination around a town or city. This point was made on numerous occasions at the hearing including by An Taisce representative Peter Butler, who cited the Athlone bypass as an example. Other observers stated that the road was a 'road to nowhere'. In the subject case, there is no further city destination for the traffic – the majority of traffic is simply attempting to move from one side of the city (east side or west side) or to cross between east and west of the river. Only a small fraction of traffic is seeking to get further west.

10.4.16. While the alternatives for the PRD are discussed further below, I am satisfied that the purpose of the road is not just as a bypass and it could not be justified based on the small percentage of vehicles seeking to bypass the city to get to the west (3% as per Plate 6.3 in Chapter 6 of the EIAR). Its purpose is broader than the original 2006 GCOB. This was reiterated many times at the hearing by the applicant under the headings Economy, Safety, Environment, Accessibility & Social Inclusion and Integration.

Conclusion

10.4.17. I am of the view that it has been demonstrated that there is a clear and pressing need for the PRD as a result of the issues faced by Galway City which suffers from undue traffic congestion, delays and poor journey characteristics. Furthermore, the congestion and delay are forecast to continue and to worsen without any major intervention. It has also been clearly demonstrated that the proposed development would facilitate the freeing up of the city and village centres thereby enabling the other projects identified to succeed in the goals of modal change.

10.4.18. I am satisfied that the need, justification and purpose of the road has been adequately demonstrated by the applicant. It is clear that it is not simply a bypass

road as per the original 2006 GCOB. I also accept the applicant's contention that 20 years has passed since the original road was mooted and a lot has changed in terms of policy at national, regional and local levels which results in changes to the purpose of the road. It is considered, therefore, that the need and justification for the proposed development has been adequately established.

10.5. Design of Road

Road Type and Cross-Section

- 10.5.1. A number of parties (e.g. Tom Kilgarrieff and Gabor Molinar, Galway N6 Action Group), queried the design of the PRD, contending that a 'full' Motorway designation was not required and that the PRD is over-engineered, particularly noting that it connects a National Road (N6) to a Regional Road (R336) and that unlike other Motorway bypasses, such as at Athlone, Galway is a destination or end-point as demonstrated by the 3% figure for traffic seeking to bypass the City.
- 10.5.2. I consider that this issue warrants consideration as, while dual carriageways and Motorways can have the same cross-section, the Motorway designation has implications for junction typology and the higher design speed drives the geometric design, militating against more compact alignments and junctions. Having regard to the nature of the receiving environment and the extent of land acquisition required, I consider it appropriate to address whether the design of the PRD is appropriately balanced between providing sufficient capacity and minimising its physical footprint and associated impacts on the environment.
- 10.5.3. As noted in Section 10.3 above, the PRD forms part of the 'comprehensive network' identified in the Trans-European Transport Network (TEN-T) policy. TEN-T requires that all roads that form part of the network, as a minimum, be a 'high quality road'. This is defined under Article 17(3) of Regulation (EU) No. 1315/2013 as either a 'motorway', 'express road' or 'conventional strategic road'. A 'motorway' is defined in the Regulation as a road *"specially designed and built for motor traffic, which does not serve properties bordering on it and which is provided, except at special points or temporarily, with separate carriageways for the two directions of traffic, separated from each other by a dividing strip not intended for traffic or, exceptionally, by other means; does not cross at grade with any road, railway or tramway track, bicycle path*

or footpath; and is specially sign-posted as a motorway". An 'express road' is defined as a road designed for motor traffic, which is accessible primarily from interchanges or controlled junctions and which; prohibits stopping and parking on the running carriageway; and does not cross at grade with any railway or tramway track. A 'conventional strategic road' is defined as a road which is not a motorway or express road but which is still a high-quality road.

- 10.5.4. It can be seen from these definitions that the TEN-T Policy is not overly prescriptive regarding the type of road and cross-section that is required. I also note that, unlike the term 'motorway', the terms 'express road' and 'conventional strategic road' are not clearly defined as any particular cross-section type in Irish Standards. The required road type and cross-section is, therefore, primarily a function of capacity and forecast traffic rather than policy.
- 10.5.5. The proposed mainline of the PRD from the R336 Coast Road to Ballymoneen Road is a 'Type 1 Single Carriageway' with a design speed of 85 km/hr, designated as a Protected National Road. From Ballymoneen Road to the eastern tie-in with the existing N6 at Coolagh, the proposed mainline is a 'Standard Dual Carriageway Urban Motorway' (D2UM). The portion of the mainline between Ballymoneen Road and the N59 Letteragh Junction will be designated as part of the Protected National Road, while the portion from the N59 Letteragh Junction to the N6 Coolagh Junction will be designated as a Motorway, notwithstanding that both portions have the same cross-section. The design speed in this area will be 100km/hr. A third lane in each direction is also proposed between the N84 Headford Road and the N83 Tuam Road junctions, to cater for forecast traffic.
- 10.5.6. A typical cross-section of the Type 1 Single Carriageway is shown in Plate 5.1 of the EIAR and it has a total width of 18.3m, including 2 x 3.65m lanes, 2.5m hard shoulders and min. 3m verges. A typical cross-section of the D2UM is shown in Plate 5.2 of the EIAR and it has a total width of 27.6m, including 2 x 3.5m lanes in each direction, a 2.6m central reserve, 2.5m hard shoulders and min. 3m verges. The cross-sections in the two tunnels differ slightly.
- 10.5.7. Details of the incremental cross-section assessment undertaken by the applicant are summarised in Section 6.4.3 of the EIAR, with more detail in Section 7.5 of Appendix

A.6.1 (Phase 3 Traffic Modelling Report) and in Section 3.2 of the Design Report, a copy of which was submitted with the response to the RFI.

- 10.5.8. Due to the PRD traversing both rural and suburban/urban areas, the applicant's cross-section analysis had regard to both TII publication DN-GEO-03031⁹ 'Rural Road Link Design' and the UK DMRB TA 79/99 'Traffic Capacity of Urban Roads'. The UK guidance has no effect in Ireland, however, I consider it to be a useful good practice guide to capacity in urban areas. The analysis utilised predicted traffic volumes for the 2039 Design Year and hourly flows for the AM peak. The Phase 3 Traffic Modelling Report notes that traffic flows are a starting point only, and that capacity depends on other factors also. In particular, given the number of junctions proposed within the PRD, and the distances between them, I consider that junction capacity may have the potential to act as the limiting factor on overall capacity, rather than road link capacity. If traffic cannot clear the junctions efficiently, there is the potential for backing-up to occur onto the mainline, reducing capacity.
- 10.5.9. Table 3.2 of the Design Report summarises the cross-section assessment and it is clear that a Type 1 single carriageway between the R336 and Ballymoneen Road is more than adequate to cater for the forecast AADT in the Design Year with a sufficient factor of safety. It would appear that – based solely on AADT – the only portion of the PRD that would warrant a full Motorway is the portion between the N83 and N84, with traffic volumes dropping off significantly in either direction beyond this link. It appears that the remainder of this portion of the PRD could in theory operate adequately as a Type 1 Dual Carriageway, however, such a road would have the same cross-section and similar landtake requirement, albeit that more compact junctions may be achievable. The designation of such a short portion of Motorway would not be feasible, in my opinion, and I note that the AADT figures for the PRD set out in Tables 5-1 and 5-2 of the NPF Traffic Sensitivity Test submitted in response to the FI request (i.e. incorporating the higher NPF population and economic growth) are generally higher than those utilised in the cross-section analysis, and that a number of sections are on the cusp between Dual Carriageway and Motorway capacity. The AADT between the N83 and N84 in the NPF is sufficient

⁹ The Phase 3 Traffic Modelling Report refers to the earlier NRA TD 9/12 document, which has been replaced by TII Publication DN-GEO-03031.

to justify a third lane on this portion and I note that the additional lane does not continue beyond this required section, which is appropriate in my opinion.

10.5.10. Having regard to TII and UK DMRB guidance, and noting that such guidance is effectively a blunt tool, with consideration of broader economic, environmental and policy matters required, such as the strategic function of the PRD as part of the TEN-T Network, I do not consider that the cross-section of the PRD mainline is over-engineered or over-specified, noting that it drops to a single carriageway from Ballymoneen Road to the R336 Coast Road, as the traffic volumes drop. I conclude that the road types and cross-sections chosen are proportionate and responsive to the forecast traffic volumes and do not include excessive 'headroom' or excess capacity beyond that which is appropriate to reasonably future-proof the PRD.

Junction Strategy

10.5.11. Having concluded that the PRD road type and cross-section is appropriate to cater for the forecast traffic, without being significantly over-designed, I turn now to the proposed junction strategy, the objectives for which are set out in Section 6.4.3.1 of the EIAR and with a more detailed report contained in Appendix G of Appendix A.6.1 of the EIAR, which includes details of the iterative design process undertaken. The issue is also addressed in Section 4 of the Design Report.

10.5.12. At the outset, I note that, while TEN-T requires that all roads forming part of the network be a 'high quality road', it does not dictate the required junction type. Notwithstanding this, and having regard to the definition of a 'high quality road' set out in Article 17(3) of Regulation (EI) No. 1315/2013, the choice of a 'motorway' or an 'express road' would restrict access to junctions only, while certain junction types are only compatible with certain cross-sections, as per TII Standards. Having regard to the strategic nature of the road, both in terms of distributing traffic and its TEN-T function, I consider it appropriate that all access to the mainline be limited to junctions only. As noted above, I consider that the applicant has justified the need for a portion of the PRD to comprise a Motorway, one of the consequences of which is that TII Standards require junctions on Motorways to be fully grade-separated.

10.5.13. Given that the PRD also seeks to move car trips from existing City Centre roads to the PRD, adequate connectivity to the radial routes that converge on the City is also an important element of the junction strategy.

10.5.14. I note that the Junction Strategy included in the EIAR utilises TII publication DN-GEO-03043 'Geometric Design of Major/Minor Priority Junctions and Vehicular Access to National Roads'. This publication was in fact withdrawn in 2017 and replaced with DN-GEO-03060. This replacement TII publication does not include the graph that is replicated in Figure 2 of the applicant's Junction Strategy, but does contain guidance on suitable junction types for various AADT levels.

10.5.15. Travelling from west to east, the junctions on the PRD mainline are as follows:

- **Bearna West Roundabout (Ch. 0):** Proposed roundabout at the junction of the R336 Coast Road and the start of the single carriageway portion of the N6 GCRR. Footpaths are proposed on each arm of the junction to facilitate pedestrian crossings away from the flaring of the approaches.

Traffic flows on the R336 in the 2039 Design Year are c. 13,000, with c. 11,000 diverting onto the PRD, and the remainder continuing into Bearna village. I consider that the provision of a roundabout is an appropriate solution for this junction, having regard to the AADT level, and consider that a roundabout will be effective in minimising delays due to the high percentage of traffic turning left onto the PRD and that it will also slow traffic continuing straight in to the 50km/hr zone leading into Bearna Village. I also consider the pedestrian arrangements to be acceptable, noting the rural location and low level of pedestrian activity in the area.

- **Bearna East Roundabout (Ch. 2+800):** Proposed roundabout at the junction of the single carriageway portion of the N6 GCRR and the Bearna to Moycullen Road (L1321). Footpaths are proposed on each arm of the junction to facilitate pedestrian crossing away from the flaring of the approaches.

Traffic flows on the PRD in the 2039 Design Year are c. 11,000 on the western approach and 18,000 on the eastern approach. This junction will form an important node on the PRD providing linkages to Bearna Village and Moycullen. I consider that the provision of a roundabout is an appropriate solution for this junction, having regard to the AADT level, the relatively balanced flows and likely low level of pedestrian and cycle traffic in this rural area. I consider that a roundabout, rather than a signalised junction, will be

effective in minimising delays on the mainline and that it will operate comfortably within capacity due to the AADTs in this area. I also consider the pedestrian arrangements to be acceptable, noting the rural location and low level of pedestrian activity in the area.

- **Cappagh Road Junction (Ch. 4+450):** Proposed at-grade signalised junction of the N6 GCRR and Cappagh Road. Footpaths are proposed on each arm of the junction, connecting into the existing networks in the area. An existing roundabout junction of Cappagh Road and the Western Distributor Road is located c. 370m south of this junction.

Cappagh Road is currently a relatively little-used local road. There will be a significant increase in traffic movements on the portion of Cappagh Road to the south of the PRD due to traffic from the Knocknacarra area accessing the PRD. The PRD would have a traffic flow of c. 18,000 in this area, with c. 6,500 on Cappagh Road to the south and c. 300 to the north. The applicant considered several options at this location, including an underbridge (i.e. no direct access to the PRD) and a roundabout, but has proposed a signalised junction due to the ratio of flow to capacity being close to capacity. LINSIG analysis found that a signalised junction would operate at an acceptable level with residual capacity for the future. I consider this signalised junction proposal to be acceptable, noting the capacity issue and functionality issues associated with the roundabout option and the fact that the junction is approaching more built-up areas, and as such an urban street junction in accordance with DMURS is a preferable solution in my view. The underbridge option considered at an earlier stage would also have detrimental impacts on residential amenity due to the embankments required and would lead to an excessive volume of traffic accessing the PRD at the Ballymoneen Road Junction.

- **Ballymoneen Road Junction (Ch. 5+650):** Proposed at-grade signalised junction of the N6 GCRR and Ballymoneen Road. This is the location at which the road cross-section changes from single carriageway to dual carriageway. Footpaths are proposed on each arm of the junction connecting into the existing networks in the area.

Ballymoneen Road is a part rural road and part urban street connecting Ragoon Road to the Western Distributor Road and onwards to the R336. There is also a secondary school located on this road, close to the junction with the Western Distributor Road. This junction will be used by traffic from Knocknacarra and Ballyburke to access the PRD mainline with a predicted traffic flow of c. 18,000 on the mainline, 6,000 on Ballymoneen Road to the south of the PRD and 4,000 on Ballymoneen Road to the north of the PRD. Improvements to the Ballymoneen Road are also proposed in the vicinity of the junction to address its substandard geometry. Having regard to the forecast AADTs, the applicant considered both a roundabout and a signalised junction at this location but has proposed a signalised junction due to the ratio of flow to capacity for the roundabout being close to capacity and issues with regard to unbalanced flows on the major/minor arms. LINSIG analysis found that a signalised junction would operate at an acceptable level with residual capacity for the future. Mean maximum queues predicted in the AM peak are c. 14.5 pcu on the eastbound approach, which I note would not impact on any of the upstream or downstream junctions. I consider this signalised junction proposal to be acceptable, noting the issues associated with the roundabout option, and consider that an urban street junction in accordance with DMURS is a preferable solution in this developing suburban area.

- **N59 Letteragh Junction (Ch. 7+600):** Proposed standard grade-separated junction, which is offset from the N59, with a proposed Link Road to the north connecting to the N59 at a signalised junction and a proposed Link Road to the south connecting to Letteragh Road and on to the Ragoon Road. This is the location at which the designation of the PRD changes from a Protected Road to a Motorway, although there is no change in cross-section at this location.

The Motorway designation of the PRD at this location dictates a grade-separated junction, and the design is a relatively standard diamond arrangement, with the exception that it is offset from the N59. While offsetting of the junction, rather than providing a direct on-line junction, is unusual, I consider that it is justified by the level of impact on residential property which would arise from an on-line junction due to the developed nature of the N59 in

this area. It also allows for the provision of additional road links to distribute traffic and improve connectivity/permeability in the Knocknacarra, Letteragh and Rahoon areas.

As a result of junction analysis the standard 'dumbbell' arrangement with roundabouts positioned at the termini of the slip lanes has been replaced with signalised junctions. This signalised approach prevents the dominant traffic movements totally controlling the junctions during peak hours and allows for dedicated crossing points for pedestrians and cyclists on each arm of the junction and footpaths and cycleways through the overall Letteragh Junction. Noting that the N59 Link Roads North and South are being designed as urban streets with street lighting and footpaths, I consider that this signalised approach is acceptable from an operational safety, performance and urban design perspective.

- **N84 Headford Road (Ch. 12+100):** Proposed standard grade-separated junction located directly on the N84 Headford Road. Again, the Motorway designation of the PRD at this location dictates a grade-separated junction and the design is a standard diamond arrangement. As a result of the traffic modelling the standard 'dumbbell' arrangement with roundabouts positioned at the termini of the slip lanes has been replaced with signalised junctions on the N84. This signalised approach prevents the dominant traffic movements totally controlling the junctions during peak hours and allows for dedicated crossing points for pedestrians and cyclists on each arm of the junction and footpaths through the N84 Junction, linking to existing footpaths on either side. LINSIG analysis shows that this will be a busy junction, with a high degree of saturation in the peak periods, however, the level of queuing predicted can be cleared in a single cycle without impacting on other junctions. I consider that the proposed junction arrangement is justified and that the signalised approach on the N84 interconnection is acceptable from an operational safety, performance and urban design perspective.
- **N83 Tuam Road Junction and Parkmore Link Road (14+000):** Proposed grade-separated junction and associated link roads. Various options and iterations of this junction were considered by the applicant, as outlined in the Junction Strategy Report, and the proposed junction is a relatively complex

split-junction arrangement, requiring a substantial landtake. The reason for the split arrangement is to accommodate the volume of traffic coming from the west of the City to access the N83 and Parkmore Link Road in the morning peak and the reverse movement in the evening peak. Again, the Motorway designation requires full grade separation at this junction. This area will experience the highest AADTs (c. 60,000¹⁰) of the entire PRD, due to the proximity to major trip generators, including various business parks, industrial estates and Galway Racecourse and the role of the N83 as a primary access to the City. As a result a third lane in each direction is proposed on this section of Motorway as outlined above.

Eastbound traffic on the PRD can exit onto the N83 or access the PRD via the Parkmore Link Road. Conversely, westbound traffic on the PRD can exit onto the Parkmore Link Road or access the PRD via the N83. A proposed single carriageway link (City North Business Park Link) to the south of the mainline links the N83 and Parkmore Link Roads, allowing for the relatively low level of southbound traffic on the N83 that wishes to access the PRD in an eastbound direction.

I note that dedicated crossing points are provided on each arm of the N83 junction, with cycleways and footpaths provided through the junction. These will connect into existing and proposed networks in the area and I note that a dedicated inward bus only lane is also accommodated on the portion of the N83 within the PRD boundary. All of these measures will improve connectivity and pedestrian/cycle infrastructure in the area.

The splitting of the junction and the associated construction of the Parkmore Link Road and City North Business Park Link will also connect a number of the major industrial areas/employment centres of the City with new urban streets featuring dedicated cycleways and footpaths along their length. The new links will also support future bus routes serving the Ballybrit and Parkmore industrial estates and improve connectivity more generally within this north eastern section of the City.

¹⁰ Updated figure included in NPF Traffic Sensitivity Test.

While the proposed design of this junction and link roads with its split arrangement requires a significant land take, the final design is more compact and less complex than earlier iterations considered by the applicant and includes significant improvements to connectivity, pedestrian and cycle infrastructure in this area. Given the extremely high traffic levels forecast in this area and the strategic importance of providing high quality access to and from some of the City's key employment locations/trip generators, while maintaining the freeflow of traffic on the mainline and minimising delays on the N83 at the signalised junctions where it intersects the merge and diverge arms, I consider the proposed approach to be acceptable.

- **Coolagh Junction (Ch. 16+500):** Proposed grade-separated junction at the intersection of the PRD and the existing N6 at Coolagh. The N6 is the primary access point to Galway from both the east and the south, since the opening of the M17/M18, and the current at-grade Coolagh Roundabout junction experiences significant congestion, as addressed above. Various options and iterations of the proposed junction were considered by the applicant, as outlined in the Junction Strategy Report and the junction, as proposed, is a complex arrangement with a substantial footprint that seeks to provide a partial free-flow transfer of traffic from the existing N6 to the PRD.

Traffic destined for the eastern part of the city will diverge from the existing N6 to an at-grade junction in the vicinity of the existing N6 Coolagh Roundabout, with access via the proposed Briarhill Link to Bóthar na dTreabh. This junction will also provide for interchange between the R446/N67 and the PRD.

No footpaths or dedicated cycleways are proposed at this junction. I consider this to be acceptable, given the complex nature of the junction, the high traffic speeds and the availability of safer alternatives.

The area to the east of this proposed junction is known as Ardaun and is identified as one of the key growth areas for the City. Its future development is governed by the Ardaun Local Area Plan 2018-2024, which post-dates the selection of the preferred route option for the PRD, and it includes the proposed PRD alignment in the land use zoning map. Mr Brendan Mulligan

queried the impact of the PRD on the future development of Ardaun, particularly with regard to public transport/active travel access arrangements.

A transport access review of the Ardaun lands was undertaken by Galway City Council in consultation with the NTA in 2018 and this identified access arrangements and associated phasing for the development of the lands. This includes an upgrade of the Martin Roundabout to signals, new access onto the R446, links to Doughiska and a public transport, pedestrian and cyclist crossing over the proposed N6 GCRR to link Ardaun North and South.

While the future Ardaun development area will be severed somewhat from the existing built-up area of the City by the PRD, I consider that the provision of adequate car, pedestrian and public transport access to the LAP lands once the PRD has been constructed has been fully considered and has been incorporated within the LAP.

The proposed Coolagh Junction is quite complex in its configuration. This arises from the number of high capacity roads meeting at this location, the high traffic flows on the N6, the PRD and the R446 in the Design Year and the need to provide a partial free-flow of traffic arriving at Galway from the east and south at this location. In the circumstances I conclude that the design of the proposed Coolagh Junction is acceptable.

10.5.16. In addition to the junctions on the PRD mainline there are numerous overbridges, underbridges and new/realigned junctions on roads that intersect the PRD mainline. In particular, I would note the Na Foráí Maola to Troscaigh Overbridge (Ch. 1+375). This is an overbridge over the PRD mainline, linking to the proposed Na Foráí Maola to Troscaigh Link Road North and South. These Link Roads are required due to the severance of the Foráí Maola Road and Troscaigh Road (L5387) either side of the PRD and the overbridge provides a combined route over the N6 GCRR mainline with no access provided to the mainline. Footpaths are proposed on the overbridge. The impact of severance on local communities was raised by a number of parties at the oral hearing and is addressed in Section 10.8 and 11.6. From a traffic perspective I consider the proposed approach to be acceptable and I do not consider that a direct connection to the PRD would be warranted at this rural location.

10.5.17. Additional LINSIG analysis of a number of the abovementioned junctions was also undertaken to assess the implications of the NPF growth scenario on the junction capacity and performance. The results of this are set out in Appendix A of the NPF Traffic Sensitivity Test submitted in response to the RFI and I note that it demonstrates that the proposed junctions will continue to operate successfully in the 2039 design year with some minor changes to signal timings and flare lane lengths.

Road Levels

10.5.18. The PRD is variously located in cut or on embankments, with a limited extent of the road mainline at-grade. The most extensive embankments and cuttings are generally where the PRD interacts with existing roads, where over or under bridges or grade separated junctions are proposed. A number of parties have raised concerns with regard to proposed road levels, particularly with regard to their impact on residential and visual amenities.

10.5.19. To a large degree I consider that the levels of the PRD are driven by the confluence of topography, interfaces with existing roads and the technical requirements of the relevant TII standards which dictate permissible horizontal and vertical alignment.

10.5.20. A considerable number of the CPO objections contended that there was inadequate information or uncertainty with regard to road levels. Having reviewed the drawings submitted, particularly the Proposed Design Geometry series (Figures 5.2.01 – 5.2.11) and the Plan & Profile series (Figures 5.3.01 – 5.3.21), I consider that the proposed road levels are clear and unambiguous.

10.5.21. The proposed Na Foráí Maola to Troscaigh Link Road and Overbridge were raised as a concern by a number of residents of the area due to their elevated nature and the associated embankments. This link road and overbridge is required to retain connectivity for the local community due to the proposed severance of Na Foráí Maola Road and Troscaigh Road (L5387). Photomontages of the overbridge and link road are included in Appendix 12.3 of the EIAR, where the c. 7m elevated link can be seen from various vantage points. There will be visual impacts associated with these elevated structures, which are addressed elsewhere, however, I consider that the rationale for their elevation has been sufficiently demonstrated and that the link serves an important role in avoiding total community severance and maintaining linkages.

10.5.22. In conclusion, I am satisfied that the proposed road levels are clear and are justified with regard to the local topography, interactions with local road and technical requirements.

Boundary Treatments and Stone Walls

10.5.23. Many of the submissions and objections raised issues with regard to proposed boundary treatments, generally contending that there was inadequate detail or uncertainty with regard to boundaries or that the proposed boundaries were not acceptable. The loss of existing stone walls and requests for replacement stone walls were also raised by a number of parties.

10.5.24. These issues are addressed in respect of individual affected property owners in detail in Section 13 while the landscape and visual impacts of the boundaries and cultural heritage issues associated with the stone walls are addressed in the EIA section 11.14 of this report.

10.5.25. In general, however, I consider that the proposed boundary treatments are acceptable. The use of a stone boundary along the mainline, as sought by a number of parties, would create its own visual issues, due to what would be a homogenous and somewhat alien landscape feature in contrast with the existing dry stone walls in the area. I consider that the provision of timber post-and-rail fences and substantial landscaping planting is generally preferable along the PRD mainline, with replacement stone or render boundary walls to affected houses.

Drainage Design, Attenuation Ponds, Major Structures

10.5.26. The design of the drainage system, attenuation ponds and major structures, such as the River Corrib bridge, and associated mitigation measures, are addressed in detail in the relevant sections of the EIA section of this report and are not repeated here in the interests of minimising repetition. In general, however, the design of these elements of the PRD is considered to be acceptable and appropriate to the context of the receiving environment.

Parkmore Link Road Modification

10.5.27. As noted in Section 4.10 above, the applicant proposed a modification to the proposed Parkmore Link Road at the oral hearing. It is stated that changes to the Boston Scientific Campus that have occurred since the publication of the EIAR

provide the rationale for the modification. The proposed routing of the Parkmore Link Road has been amended to a route to the east of the Boston Scientific Campus. Each of the applicant's specialists, in their submissions to the oral hearing, addressed the proposed modification and all concluded that there were no changes to the relevant conclusions of the EIAR or the NIS. The EIA sections of this report also include an assessment of this proposed modification.

10.5.28. The applicant's initial proposal for the Parkmore Link Road would have run to the west of the main Boston Scientific building, severing the campus, in order to link proposed Business Park Junction 2 to the existing Morris Junction of Bóthar na dTreabh. The proposed modification would still run from Business Park Junction 2 to Bothar na dTreabh but it would run along the eastern edge of the Boston Scientific Campus, adjoining Galway Racecourse, connecting to Bóthar na dTreabh at the proposed City East Business Park Junction. I note that the proposed modified alignment retains the cycle paths and footpaths of the original proposal. I note that Boston Scientific withdrew their objection to the proposal on foot of the proposed modification being presented at the oral hearing.

10.5.29. I am of the opinion that the proposed modification is a significantly improved design. There are thousands of people employed in the Boston Scientific Campus, and severance of the two sides of the campus could clearly have negative impacts on the operation of the facility. The proposed modification mitigates these severance impacts while maintaining the functionality of the Link Road and I am satisfied that there will be no significant additional or changed impacts as a result of this proposed modification.

10.6. Evaluation of Alternatives

10.6.1. Alternatives to the subject proposal are addressed herein and in section 11.3 of the EIA below. The EIA section 11.3 below summarises the information presented in the EIAR and throughout the course of the project and should be read in-conjunction with this section. Various alternative solutions were discussed and proposed by objectors both at a fundamental level with respect to the concept of a road as well as alternative route options once it was decided that a road was needed. Having regard to the importance of this topic there is considerable overlap between the assessment undertaken here and that presented in the EIA below.

- 10.6.2. Based on the information before the Board, it is clear that a significant amount of work has been conducted over the duration of the project with respect to alternatives following on from the legal judgements relating to the 2006 GCOB. In my opinion the consideration of alternatives is of utmost importance for this project having regard to the negative impacts that the route, the subject of this application, will result in, particularly in terms of the demolition and acquisition of 54 residential properties and other commercial properties.
- 10.6.3. Having regard to the number of alternative solutions to Galway's traffic problems that were raised in submissions, and the significant level of discussion of the issue at the oral hearing, I am of the view that it is appropriate to recap work carried out to date to address the transportation issues, before addressing the alternative route options to the proposed road development itself. The fundamental issue of whether a road as proposed in the subject application is required at all was raised by many observers and many believed that other modes of transport should be prioritised before the necessity for a new road is considered. This is addressed below. This will be followed by an assessment of the alternative routes and alternatives put forward as well as considering the 2006 GCOB.
- 10.6.4. At the hearing the applicant's Project Lead explained the process of assessing alternatives in response to many questions. The process of starting in 2013 after the CJEU judgement, the involvement of ARUP, the assessment of the numerous routes and the fact that it quickly became apparent that a road alone would not solve the issues but would be required as part of the solution was restated on numerous occasions throughout the hearing.

Alternative Options

- 10.6.5. With respect to the question of whether the road itself is the correct response to the traffic issues being experienced in Galway currently, I am satisfied that the applicant has provided a description of the reasonable alternatives studied which are relevant to the proposed project. I am satisfied that a reasonable assessment of option alternatives including 'do nothing', 'do minimum' etc. has been carried out. I would also draw the Board's attention to the fact that the road is included in the City and County Development Plans which were themselves subject to a Strategic Environmental Assessment (SEA) as was the relevant variation to the County Plan.

Of note is the fact that the Galway Transport Strategy (GTS) which is part of the Statutory Plans was also subject to SEA. It could be argued that as a decision to include a road has been fully assessed and adopted as part of the statutory plans, there is no need to revisit this decision. However, as it was the subject of so much discussion at the hearing and in written objections it is appropriate for the benefit of the Board to recap the history and to address the submissions.

10.6.6. The GTS SEA reviewed four alternatives as part of that assessment including:

- Do-minimum approach
- Prioritisation of a Road Transport based approach
- Prioritisation of a Public Transport based approach
- Provision of an Integrated Transport based approach

10.6.7. The last alternative above, ‘the Integrated Transport based approach’, is considered to provide for *‘sequential provision of transport related measures which are aimed at reducing existing congestion in order to provide an improved public transport service and improved infrastructure for alternative modes of transport such as walking and cycling’*¹¹. It is noted that the approach allows for a new road link to the north of the city which will be sequentially followed by public transport measures to reduce volumes of traffic on Quincentenary Bridge and Wolfe Tone Bridge. The medium to long term outcome of this alternative is stated as allowing for the provision of an effective high frequency bus network in Galway City resulting in increased usage of public transport and improved corridors for alternative modes of transport.

10.6.8. An Taisce and many others questioned the GTS and the conclusions of the Report which support the provision of the subject road. It was contended that the GTS cannot objectively be described as a reasonable attempt to maximise the use of public transport to solve traffic congestion problems in Galway City before building the subject road. However, I would note that the GTS is not before the Board for approval – the GTS is a strategy and is not a project for approval by the Board. While I accept that An Taisce and others were highlighting and questioning the GTS as it supports the provision of a road, the GTS is an approved and adopted part of

¹¹ SEA Statement P.10

the County and City Development Plans. This is also addressed above in Section 10.2 and 10.3.

10.6.9. With respect to a number of objectors making points querying the solution to the congestion being a road, I draw the Board's attention to submissions made by certain individuals which are reflective of comments made by many parties. Mr Frank McDonald on behalf of An Taisce referred to international best practice in tackling traffic and transport to create more civilised urban environments and how examples of cities such as Vienna and Zurich have all worked to reduce the dominance of private cars in favour of public transport, cycling and walking. He notes that this road proposal would be Galway's second ring road and that the first ring road including the Quincentennial Bridge did not solve the traffic problems. Mr McDonald also stated that the proponents of the road are *'locked into outdated 1970s thinking about transport planning'*. This is also echoed somewhat by Professor Kerin and his team of Consultants. When the oral hearing resumed in October 2020 following the adjournment due to the Covid-19 pandemic, Professor Kerin and his team stated that *'the road is a 20th Century solution to a 21st Century problem'*. The 'Hands across the Corrib' group made similar points in their submission (submission no. 46 at the oral hearing) and stated that the road *'has been included in so many plans and strategies that it is now unthinkable for anyone to develop a plan without it. That has heavily influenced the skewed thinking which has gone into researching and justifying the GCRR'*. In addition, the point is made that *'the obvious problems'* in the general Parkmore/Briarhill area can be resolved with separate projects but are not separate projects because they have been *'rolled into the GCRR because they can benefit from the 'ring-fenced' funding'*. Mr Kilgariff also made the point at the hearing that the 2006 GCOB was part of an overall plan in the late 90s/early 2000s to tackle Galway's traffic problems.

10.6.10. At the oral hearing many observers questioned the adequacy of assessments of public transport options. In particular, An Taisce submitted that the proposals for conversion of public roads to bus lanes in the GTS were inadequate and submitted that it would be premature to approve the proposed road until serious efforts have been made to maximise the conversion of private car users to public transport. I refer the Board to submission no. 34 presented at the oral hearing by Mr Peter Butler on behalf of An Taisce. Mr Butler was afforded the opportunity to present the

detailed and substantial work that has been carried out by An Taisce including analysis of average journey speeds between two representative locations and at different times of the year (including August outside of school times with corresponding conclusions that school runs are contributing to the morning traffic peaks – this point was also made by Mr Damien Kelly and others). In addition, Mr Butler presented, with accompanying photographs, works required to provide for the development of a bus corridor across the city.

10.6.11. I would consider that this is a viable option and could be pursued. As discussed in Section 10.4 and 11.13, I am satisfied that the road network is under-developed along its northern half resulting in Galway lacking the connected road network which would facilitate more direct travel, thereby diverting through traffic away from the central spine. I am satisfied that the construction of the road would not preclude the development of any bus corridor or impede the other works identified in the GTS. This point was repeated often at the hearing by the applicant – the provision of the road would effectively ‘free up space’ by facilitating the reallocation of road space in the city centre to active modes and public transport as well as improvements to the public realm, making journeys by foot or by cycling far more pleasant and safe.

10.6.12. A Light Rail option for Galway or the GLUAS was also raised in written submissions and at the oral hearing by many including Mr Kevin Gill, Mr Derrick Hambleton (An Taisce), Mr Brendan Mulligan and Mr John J Martin amongst others. This option was comprehensively addressed by the applicant at the hearing and in the EIAR. The applicant stated that analysis of potential light rail routes showed that there is not sufficient demand to warrant the implementation of a light rail system as the highest demand achievable for travel on an east-west light rail corridor would amount to approximately 25% of the capacity of a light rail system during peak periods. This can be catered for by a bus-based public transport network. Based on the data presented at the hearing, I am satisfied that there is insufficient demand to warrant a light rail option at this stage. Furthermore, while this could in the future become an option it is currently not an option for assessment before the Board and the road would not preclude the development of a Light Rail system in the future.

10.6.13. Park and Ride options were also suggested at the hearing by many observers including Ms Deirdre Goggin, Mr Brendan Mulligan and Ms Catherine Connolly TD, as well as improvements/additions to the School Cycle Bus which has been

successfully implemented in Galway. I consider that all these options can contribute to, and some are included in, the GTS.

- 10.6.14. The Galway Cycling Campaign made significant contributions to the hearing on many topics (addressed throughout this report). Submissions were made on the role of cycling in cities as well as the problems faced by cycling and walking which they consider derive from car promotion. While their submissions were informative, they were wide ranging and focussed on issues that potentially would be better addressed at plan making stages rather than in the context of the subject road. I acknowledge that some of their comments were in relation to the provision of cycling lanes and safe passage for cyclists, and as noted by the applicant, where legal to do so, (i.e. not on the motorway/protected road) the subject road and link roads includes cycling lanes and walkways.
- 10.6.15. Upon the resumption of the hearing in October 2020, Mr John J. Martin referred to a ferry across Lough Corrib. The applicant advised that this option had been considered in the early stages but was not considered to be a feasible option, which I accept. I would consider that this option would not meet the project objectives for journey time reliability, amongst others.
- 10.6.16. In addition to the above on alternatives to a road, I draw the Board's attention to Section 10.4 of this Report which considers the 'need' for the road. I also refer the Board to Section 11.13, Traffic, which identifies that a road is needed if the highlighted inadequacies in transportation for the city are to be addressed. As noted above, all the other alternative modes or facilities to encourage modal shift such as Park and Ride, Cycle Routes, improved bus corridors etc. are included or have been considered by the Council as part of the GTS as well as other public realm improvements. I would also note that there is progress on the projects that are identified in the GTS already. Based on these facts, I am satisfied that the applicant has addressed alternatives to a road satisfactorily. Furthermore, as noted in policy considerations in section 10.3 above, the road is identified in the many statutory documents from the National Planning Framework to the City Development Plans which have all been subject to SEA and AA, including those alternatives.
- 10.6.17. In conclusion, I am of the view that the applicant has fully addressed alternatives to a road satisfactorily and I concur with the applicant that a road solution is required and

that other alternative modes are not precluded and indeed will be supported by the provision of a road on the northern half of the city and environs. I concur with the applicant that the transport solution must address the existing road network capacity in support of an efficient public transport option. I also draw the Board's attention to the fact that the alternatives to a road have already been subject to SEA in the many policy documents.

Alternative Routes

10.6.18. I will now turn to the alternative route options for a road put forward by the applicant and will consider the alternatives submitted by some of the objectors. As well as addressing alternatives to the mainline road, other alternatives considered by the applicant included alternatives at Rosan Glas housing estate for the N59 link road (this is also addressed in section 10.8 and 11.13). Alternatives raised by individuals near their dwellings have been addressed in the CPO section 13 of this report. I also note that a number of objectors and observers were keen to stress that they were not objecting to the road per se – but to the route it was taking, and this fed into individual's reasons for objecting.

10.6.19. As noted above, an alternative route for the Parkmore Link Road at the Boston Scientific campus was submitted by the applicant at the oral hearing and is addressed elsewhere in this report. As a result of the revision, Boston Scientific withdrew their objection to the proposal. I am of the opinion that this alternative as put forward at the hearing is preferable, as I did not consider a road splitting the campus in two was acceptable from a safety point of view as well as other concerns raised in their original written submission. I have further addressed this under section 10.2 and 10.5.

10.6.20. With respect to the applicant's alternative route options, the detail included in the EIAR and the Route Selection Report submitted by the applicant at Further Information stage has been considered as well as submissions raised in writing and at the hearing. I have summarised the stages considered in determining the preferred route in the EIA section of my report below, section 11.3. I draw the Board's attention to the detailed work carried out by the applicant and the step-by-step description of how the preferred route option was determined as detailed in the

EIAR, the Route Selection Report and again repeated by the Project Lead in response to many questions at the oral hearing.

10.6.21. Alternatives for the mainline were repeatedly raised at the oral hearing and in numerous submissions in relation to the mainline road including the 2006 GCOB, an alternative presented by Mr John M Gallagher, the N6 Action Group and others, as well as queries on the design of the mainline raised by Mr Kilgariff and his Consultant Mr Gabor Molinar.

10.6.22. The 2006 GCOB was raised continuously over the course of the development of the project, including at the various public consultation stages as described in the Route Selection Report submitted at the FI stage. Many observers queried why this was not investigated further particularly considering the lower level of residential demolitions required (including Mr Michael Murphy, N6 Action Group, Ms Deirdre Goggin). Mr Murphy, in particular, questioned why no meeting was held between the applicant, An Bord Pleanála and the NRA following the CJEU decision – this was not addressed by the applicant. Furthermore, Mr Murphy queried why the 2006 GCOB was ruled out at such an early stage – Mr Murphy posited that the ‘blue’ route was already determined to be the preferred route at that stage. Ms McCarthy emphasised that the ‘blue’ route was not pre-determined and was subject to public consultation along with the other 5 routes in January 2015.

10.6.23. Questions were raised as to why the applicant did not reapply for the 2006 GCOB route under Article 6(4) of the Habitats Directive. Notwithstanding the fact that it is the Board who determines if a project should be progressed for reasons of IROPI, I am of the view that there is not an *absence of alternative solutions* as referred to in Article 6(4) – the option before the Board is an alternative solution - and therefore proceeding with the 2006 GCOB under Article 6(4) would be likely to fail at the first test. Article 6(4) states:

*If, in spite of a negative assessment of the implications for the site and **in the absence of alternative solutions**, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is*

protected. It shall inform the Commission of the compensatory measures adopted. (my emphasis)

Thus, I am satisfied that the 2006 GCOB as originally presented is very unlikely to have been successfully progressed under Article 6(4) as suggested by numerous objectors as there is at least one alternative solution.

10.6.24. With respect to other points made by objectors about the merits of the 2006 GCOB route, the applicant stated that while the 2006 GCOB Scheme had the least number of property demolitions, the western section did not receive planning permission from ABP under the earlier application due to potential environmental impacts in the area of Moycullen Bog Complex NHA, as well as the European Court Judgement on the eastern side. The applicant did look at an alternative route for the west side to avoid the NHA and called it the Cyan Route. This route resulted in the number of property demolitions increasing to 16.

10.6.25. It is also stated by the applicant that the 2006 GCOB would not deliver the optimum intermodal transport solution and noted that there was almost twenty years of a time lapse and significant changes in the interim in technology and planning policy. At the oral hearing the Project Lead's Brief detailed a list of reasons why it was not selected as the preferred route, e.g. no connectivity with the N83, no Parkmore Link Road, impact on SAC, and profound impact on Menlo Castle. Of note the Project Lead acknowledged that the 2006 GCOB has less impacts on communities and amenities but at the expense of longer journey times and less relevant journey possibilities between east and west. It was restated on many occasions throughout the hearing, on behalf of the applicant by many consultants, that the 2006 GCOB did not address the problems now faced by Galway and the applicant's legal team stated that the 2006 GCOB "*was an answer to a different question*".

10.6.26. At the hearing the issue of potential amendments to the 2006 GCOB route to address the perceived shortcomings was raised – as noted above this is the Cyan Route. The applicant was asked if consideration was given to tunnelling under the section of the SAC that was to be crossed by the 2006 GCOB. The applicant confirmed that this had been looked at, but the tunnel would have been excessively long (in excess of 2km) and would have missed connecting with the other sections of road. In the applicant's submission at the hearing '*Response to Queries raised in*

Module 2 re 2006 GCOB', (submission no.65) the applicant submitted that a tunnel peer review was undertaken in December 2014 with the ARUP London tunnelling team to understand the scale of engineering involved. Based on the length of tunnel required, the presence of karst bedrock and the complex hydrogeology and sensitive receptors, it was determined that the type of tunnelling would require a Tunnel Boring Machine and have a very real potential to have adverse impacts on the integrity of the Lough Corrib SAC.

10.6.27. In addition, the applicant confirmed that a junction with the N83 was considered as part of the cyan route option to address the previous lack of connectivity with that road. This is detailed in *Appendix 5.5 Cyan Route Option Report* to the Route Selection Report submitted at Further Information stage. This report also notes that the cyan route option directly impacts on Lough Corrib SAC at three locations. With respect to the impact on Menlo Castle, I note that this was not considered a reason for refusal by the Board at that time and do not agree with the applicant that this was a reason to discount the 2006 GCOB.

10.6.28. Following a question from Ms Goggin in relation to the route selection, the applicant explained that the traffic analysis which was undertaken to inform the 2006 GCOB utilised manual origin and destination surveys using roadside surveys undertaken by An Gardai Siochana of every tenth vehicle. By comparison, the current design team had the 2011 Census data available which gave detail on place of work and education (POWSCAR) for every home in the study area which provided them with a better understanding of the problems and the proposed route is preferred for addressing these problems. It was further noted that the traffic modelling available for the 2006 GCOB was not capable of modelling public transport, walking or cycling. Modelling techniques have advanced significantly and the Western Regional Model (WRM) is capable of modelling walking, cycling, public transport as well as private vehicle trips. It was also noted that the development pattern that the 2006 GCOB was designed to serve did not materialise and the 2006 GCOB would not have been the correct solution for the reality of the actual development of the city and county – the envisaged development of the Ardaun area to the east of the city did not happen, as an example.

10.6.29. In conclusion, with respect to the 2006 GCOB route option, I am satisfied that there would be an impact on the Lough Corrib SAC and, along with the points made by the

applicant in terms of it not addressing the problems identified by the team, that the 2006 GCOB alternative was fully assessed and addressed by the applicant and was properly discounted.

10.6.30. With respect to other route alternatives, I note that Mr Gallagher's alternative involved the demolition of an additional 3 houses, and I am not persuaded that the alternative would be justified for an increase in demolitions. In addition, some high-level alternatives were presented on Day 8 of the hearing. Mr Gabor Molinar (Road Engineer) raised questions on behalf of Mr Kilgariff. Mr Molinar was of the opinion that the road should be assessed as part of the overall GTS and not as a standalone road. I have addressed this point above. In addition, Mr Molinar was of the view that the road should be reduced to a simple dual carriageway (citing the Athlone Bypass as an example) and was of the view that other issues other than economy should be considered. He made the point that the impact of this road on humans is unprecedented because of how many people it affects. An alternative route option was proposed by Mr Molinar on behalf of Mr Kilgariff. It was noted as requiring demolitions and as going through some karst features. It is acknowledged as being a longer route and more expensive but considered less impactful on humans. Mr Kilgariff restated that he was of the opinion that the proposed route is over-engineered. The applicant addressed this option at the hearing as part of the response to the Module 2 questions (submission no. 78 dated 16th October 2020). It was stated that at-grade junctions on the section from N6/M6 to the N59 would fail due to the predicted traffic volumes on the mainline and that west of the N59 Letteragh Junction traffic is much lower and, therefore, has at-grade junctions. I am satisfied with the applicant's response having regard to my assessment in section 11.13 below.

10.6.31. Mr Stephen Dowds represented the N6 Action Group. Mr Dowds contended that the EIA process was fundamentally flawed and that a two-tier system was used for route selection. The first phase was to define 'Option Development Zones': areas that were suitable or unsuitable "from a human beings and ecological perspective". Mr Dowds submitted that it was very difficult to see how human beings informed the designations on the map (EIAR p.124) but that ecology certainly did. I have listed the specific concerns raised by Mr Dowds and have added in brackets where else in this report these are addressed. Mr Dowds urged the Board to reject the proposal due to

the unprecedented demolition of dwellings (see section 10.8, 11.6 and 11.17); the route through an urban area (see 10.3); it is neither a bypass nor a distributor road (see 10.4 and 10.5); failure to demonstrate the need for the road (see 10.4 and 11.13); failure to justify the scale and capacity of the motorway (see 10.4, 10.5 and 11.13); encouraging increased use of private cars (11.13); the skewing of the route selection process to protect ecology over human beings and the route was pre-determined (EIA Section 11); and, that it is not possible to drive a motorway through an SAC and IROPI procedure should be used (AA Section 12). Following the reading into the record of this list, Mr Dowds proceeded to present an alternative/amendment to the route.

- 10.6.32. An alternative route was presented in the region of the river crossing by the N6 Action Group Roads Engineer Mr Cormac Rabbitt. Mr Dowds stated that since the adjournment of the hearing due to the Covid-19 pandemic this amendment was presented to the Council. This alternative has clearly been considered in some detail. I draw the Board's attention to this submission no. 89 and 89A, which I consider has merit. The advantage of this alternative stated by the N6 Action Group is that it avoids the impact on NUIG Sports Campus; the demolition of dwellings at Aughnacurra and Ard an Locha; noise, air and visual impacts; a number of CPO's; and avails of a river crossing previously approved by the Board.
- 10.6.33. The applicant responded to the alternative proposed. The Project Lead Ms McCarthy explained that they had considered this alternative when first proposed by Mr Dowds and his team. It was stated that drawings were shared with Mr Dowds of their crossing point overlaid with the constraints including ecology, severance of Menlo Castle, and it was stated that it does not meet the functionality of the N6 GCRR – it restores primacy to the N59 – primacy to the wrong order. The Project Lead concluded that this was not a reasonable alternative to meet the project objectives. Mr Dowds acknowledged that the proposed alternative is not perfect but having regard to the fact that it saves so many dwellings was of the view that it merits consideration. Having regard to the other factors as detailed throughout this report, I am persuaded that while this option would address some of the traffic problems facing Galway, it would not address all of the issues that are required to be addressed as detailed in the EIAR and addressed throughout this report. In

particular, I am persuaded that the junction with the N59 would be problematic in terms of primacy.

10.6.34. In conclusion, it is considered that the process undertaken by the applicant has been a robust assessment of alternative options having regard to environmental considerations and the stated Project Objectives which are considered to be reasonable. I agree that the route chosen is the one which best meets these objectives. I also accept that the consideration of options within the selected route corridor and the strategy for key junctions was a rigorous process which had regard to environmental considerations and to the Project Objectives. I generally concur with the reasons for choosing the preferred alternatives as presented in the EIAR and as revised during the oral hearing.

10.6.35. Many of the residents of the Rosan Glas housing development submitted objections to the route of the N59 link road south. This road will run to the west of their housing estate and result in a reroute of their access onto the Ragoon Road. The residents were of the opinion that the road should have moved further west. However, I am satisfied that the location of the road acts as a transition between the residential development and the area to the west that is zoned 'Enterprise, Industrial and Related'. I am of the opinion that the alternative options were explored and am satisfied that this option is acceptable. This is addressed further in section 11.13.

Alternative Designs

10.6.36. Many observers queried the need for the road to be motorway standard and considered that less impactful alternative designs would suffice, contending that a 'full' motorway designation was not required and that the PRD is over-engineered. The assessment of the road type and cross-section is carried out in section 10.5 and 11.13. As the road forms part of the TEN-T network at a minimum the road needs to be a 'high quality' road. I have assessed the type of road and the junction strategy alternatives examined by the applicant and am satisfied that a reasonable assessment of the main alternatives has been considered and assessed.

Conclusion

10.6.37. In conclusion, I am satisfied that the applicant has addressed alternatives comprehensively and as part of consultation has considered the alternative proposals put forward by the objectors. As noted throughout this report, there are

some significant negative impacts associated with the preferred option currently before the Board with respect to the number of residential demolitions and acquisitions which the Board will have to consider but, in terms of considering alternatives I am satisfied that main alternatives have been considered and assessed. This is further expanded upon in section 11.3 below.

10.7. Socio-Economic Impacts

- 10.7.1. The socio-economic impacts are addressed across a range of chapters in the EIAR and will also be detailed in sections 11.6, 11.16 and 11.17 below. Included in the project is the demolition of two industrial and two commercial properties as well as the impacts during construction. I have addressed the demolition of dwellings in section 10.8, 11.3, 11.6 and 11.17 below.
- 10.7.2. However, in the first instance, it is noted that a number of objectors withdrew their submissions/objections at the start of, or during the course of the hearing, including Boston Scientific and the Clada Group. Furthermore, many people from the business community made submissions in support of the project. This included IBEC, IDA, Parkmore Traffic Action Group (made up from members of various businesses), the Irish Hotels Federation and other individuals. Údarás na Gaeltachta also made a submission in support of the proposal stating that it was of the opinion that the road would support jobs thereby supporting local people to stay in the Gaeltacht area. At the oral hearing some individuals spoke about the impact the traffic congestion was having on their staff as well as on their business. They urged the Board to approve the proposal.
- 10.7.3. I am satisfied, as will be demonstrated throughout this report, that the road will have a positive impact on businesses as it will help improve journey times, and more importantly journey time reliability. As detailed in section 10.3 above, Galway City is a key driver for the west of Ireland and balanced regional development. The road is recognised in policy documents as a requirement to support the objectives of the GTS, which will further enhance the city centre and businesses therein.
- 10.7.4. With respect to Tourism, I am satisfied that the road will result in a positive impact on the tourism industry. I note that submissions in support of the PRD were submitted by the Irish Hotel Federation, and Coach Tourism and Transport Council of Ireland.

In addition, the road will make access to the west easier including Connemara and the Gaeltacht areas.

- 10.7.5. Galway Racecourse contributes to the tourism offering of Galway also. As part of the project the racecourse will benefit from new state-of-the-art stables and the applicant has made commitments around works not taking place during festival periods. Concerns were raised by Brooks Timber and Building Suppliers Ltd (Brooks) who currently occupy one of the commercial buildings to be demolished and located where the new stables are to be placed. The landowner withdrew the objection to the CPO but Brooks as the tenant did not. At the hearing Brooks argued that the lands are not required for the purposes of the road but for the development of stables and that CPO powers do not provide for development for third parties. The applicant contended that the building Brooks occupy will be significantly impacted due to the construction works of the Galway Racecourse tunnel and that it is those works that require the demolition of the buildings. Having regard to this fact, the opportunity arose to avail of this site after construction of the tunnel to provide replacement stables for the racecourse. This is further addressed in section 10.2, 11.17 and section 13 below.
- 10.7.6. Tesco raised concerns about severance on the Ardaun lands where they have plans to develop. The Ardaun lands have already been severed by the current N6/M6 motorway and the subject proposal is clearly detailed in the Ardaun LAP. While the severance will potentially be increased, this option has already been subject to SEA process and has been adopted by the Councillors as part of the LAP process.
- 10.7.7. Dunnes Stores in Briarhill Shopping Centre made a written submission requesting details of access to the centre. The design of the development at this location is identified in Figures 5.1.11.
- 10.7.8. Dangan House Nurseries made a written submission expressing concern with the impact of the road on Dangan and the tranquillity and amenities the riverside offers. They are located near the NUIG sportsgrounds and have a thriving restaurant and garden centre and consider the house and grounds an institution. They expressed concerns with noise and the fundamental issue of a road. Noise will be addressed in section 11.12 below and the decision to pursue a road as the solution is addressed above and in 11.3 below.

- 10.7.9. A number of objectors raised concerns about the impact of the road to obtain planning permission for development or second dwellings for their children in the future. I concur with the applicant's response that the future development potential of any site is a matter for zoning under the Development Plan and an application to the planning authority for planning permission. The applicant addressed individual issues raised in relation to this in section 4.21.3 of the Projects Leads Brief (submission no.3).
- 10.7.10. Value for money was raised as an issue by some objectors including Mr Brendan Mulligan. I am of the opinion that value for money is not a matter for the Board. However, I also note that the project is clearly highlighted as being included in the National Development Plan.
- 10.7.11. Access to businesses was raised as an issue by Connolly Motors. The applicant has put forward solutions to minimise impacts during construction which I am satisfied will reduce impacts.

Conclusion

- 10.7.12. In conclusion, I am satisfied that the road will result in positive impacts on the socio-economics of the area. The majority of the business community who made a submission support the road. The road is seen as being vital to support Galway city as an economic driver for the western region and to continue to attract inward investment and support balanced regional development.

10.8. Residential and Community Amenities

- 10.8.1. Section 13 of this Report addresses the CPO and specific individual issues raised, including the loss of dwellings, hence I intend to address the potential impacts on residential and community amenities in a more general way in this section. However, I have had full regard to the individual issues raised as will be seen below and will address such individual issues as appropriate. I have split this section into considering impacts on residences followed by impacts on the overall community.

Residential Amenities

- 10.8.2. With respect to **residential amenities**, observers raised many issues relating to potential impacts on their amenities. This section will consider concerns such as the

potential overbearing impact due to the embankments and noise barriers, loss of privacy, noise, street lighting, and location of infiltration ponds. In addition, I will address the loss of 54 residential dwellings of which 44 will be demolished and another 10 will be acquired. This topic is also assessed in Section 11.6 and 11.17 of this report.

- 10.8.3. As will also be addressed in many sections, objectors and observers were of the opinion that ecology was prioritised over human beings. I am satisfied that this is not the case and the development of the road has assessed the impacts as required by European and Irish legislation which address both topics. Furthermore, at the hearing the applicant explained how the impact on human beings was considered and addressed.

Loss of dwellings

- 10.8.4. I have listed exactly where all the dwellings that are being demolished are in detail in section 11.6. However, having regard to the number of dwellings being subject to CPO, the consideration of the impact on residential amenities as a result is addressed herein. This aspect of the project is one of the most significant negative impacts of the project. At the oral hearing many of the individual property owners who will lose their homes spoke at length about the impact this project has had on their lives to date and into the future¹². Many objectors very clearly articulated how they have been 'living in limbo' since the preferred emerging route was published and how this has impacted on their health and wellbeing and will continue to do so well after a decision on the project is made by the Board. 28 homeowners made a submission in relation to the acquisition and demolition of their homes. 27 of them object to being forced to leave their homes and state that their homes are irreplaceable and unique in their setting. I note that at the hearing one objector made the point that just because 28 of the 54 homeowners made a submission, it cannot be assumed that the remaining homeowners do not object. I fully concur with this point. There may be many reasons why the other homeowners did not make a submission. At the hearing one objector who took the opportunity to speak, detailed how she and her husband will not be able to afford a new home which provides them

¹² Having regard to the sensitivity of this topic I have not named the individuals who spoke on this topic throughout this report, but should the Board wish to hear the detail it is available on the recording of the hearing.

with the same garden space that they enjoy currently in such close proximity to the city centre and within walking distance to their place of work. The same objector stated that, at her and her husband's age, they will not qualify for a mortgage that they would need to be able to buy a house in any way comparable to their current home.

- 10.8.5. It was raised many times by many objectors that the 2006 GCOB would have resulted in the demolition of only 8 houses. It was further stated that the 2006 GCOB Inspector noted that the demolition of 8 houses was the 'limit of acceptability' for such a project. Another objector queried how many people live in the dwellings noting that while 54 houses would be demolished, 123 people would be affected directly. Another objector made the point that those people losing houses should have been dealt with as one group. Time and again the point was made that the people losing their homes were not given any additional consultation time over and above any other landowners.
- 10.8.6. Many objectors losing their homes stated that the Council should provide alternative homes or parcels of land. Concerns were raised that those within the City boundary, but in houses on relatively large plots, would be at a disadvantage and unable to get planning permission within the County area, where it was considered any possibility of self-builds would be.
- 10.8.7. The applicant in response to the submissions, and as noted in the EIAR, stated that, from the outset of the project, every effort was made to avoid property demolitions. It was explained that it was not possible to avoid demolitions given the constraints and the need for proximity between the proposed road development and the urban environment. The applicant stated that the unavoidable acquisition of dwellings must be considered and balanced with the overall benefits that the road presents for the future of Galway. To mitigate the impact the applicant commits to serving Notice to Treat on dwellings to be acquired within six months of confirmation of the scheme approval and homeowners can engage early with the Council to seek to agree on a compensation amount in advance of any Notice to Treat being served. The applicant also stated that through the services of a property advisory company they have entered into negotiations with the homeowners with a view to agreeing a compensation amount and stated that 51 of the 54 homeowners have engaged with the process.

- 10.8.8. I am of the view that the loss of homes is the most significant negative impact of this project. To compound matters, some areas are losing a substantial proportion of their community, such as in Castlegar and Aughnacurra, and the remaining homeowners will experience a sense of loss and severance with submissions expressing the concerns with being 'left behind'. For the Board's information the *clusters* of homes to be demolished are as follows: 7 homes are to be acquired north of Bearna where the road crosses the Na Forai Maola Road and the Troscaigh Road; 9 homes are to be acquired at the N59 Moycullen Road (Ard an Locha and Aughnacurra); 14 homes at the N84 Headford Road; 6 at School Road; and, 3 at the N83 Tuam Road.
- 10.8.9. With respect to consultations, particularly for those homeowners losing their home, based on submissions made in writing and at the hearing, the homeowners experienced frustration and did not believe that they had been treated fairly. Of course, the applicant is constrained by law in terms of the CPO process. However, the Council have stated that they will serve the Notice to Treat within six months should the Board approve the project. This will expedite the process and avoid undue delay which was a concern of some objectors.
- 10.8.10. However as made very clear by affected parties who spoke at the oral hearing, this in no way mitigates their losses. In my opinion the demolition/acquisition of dwellings is the most significant negative impact arising from the construction of this road and is a key element in the decision to approve or refuse this proposal.
- 10.8.11. I am of the view that the Board must be satisfied that the 'need' for this road and the 'greater good' this road will serve outweighs the impact on the immediately affected residents and the communities. For the residents that will unwillingly lose their homes and their communities, no amount of compensation or mitigation will suffice. However, I am also mindful of the fact that this road is grounded in policy at all levels of the planning hierarchy and is considered necessary to enable Galway function and continue to grow as a driver of the western region. As stated above, I am satisfied that the need for the road has been established; sufficient examination of alternatives has been carried out; and the number of dwellings to be demolished, albeit high, has been minimised.

Overbearing Impact

- 10.8.12. A number of observers raised concerns about the overbearing nature of the road, in particular the addition of embankments and noise barriers (including Maura O'Connell, Audrey Dineen, residents of Aughnacurra). In general, these residents are those who live in close proximity to the road but are not part of the CPO process. This is particularly the case where residents live near the road that is on fill and embankments, such as the Ard an Locha and Aughnacurra housing developments.
- 10.8.13. Chapter 12 of the EIAR addresses the visual impact from individual residences. This information can assist in understanding the overbearing impact that may be perceived by individuals. Photomontages from key locations in Appendix A12.3 are supplied to assist the Board. In particular, I draw the Board's attention to the images relating to Aughnacurra as a representative image. I also draw the Board's attention to Figures 12.1.01 to 12.1.15 of the EIAR. While these figures are in respect of visual impact they will assist in understanding where a sense of overbearance will be experienced. In particular, I draw the Board's attention to Figure 12.1.06 and 12.1.08. Landscape and Visual Impact is also considered in detail in section 11.14 of this report.
- 10.8.14. At the oral hearing the Project Lead addressed the submissions made regarding the level of the road in relation to the surrounding lands in section 4.23 of her brief. Each submission is addressed and the reason for the level of the road is explained. Where photomontages have been prepared these are indicated.
- 10.8.15. Having regard to the photomontages and the drawings, it is clear that there will be a short-term impact in some areas and a sense of the road being overbearing on remaining adjacent properties not subject to CPO. This is particularly the case in Aughnacurra and Ard an Locha housing developments. However, as the landscaping matures this impact will lessen but, nonetheless, will remain as a negative impact. The impact on these two estates as well as other dwellings is addressed in detail in section 11.14 below.

Loss of privacy

- 10.8.16. Loss of privacy was raised as an issue. Parts of the route cross over very rural and sparsely populated areas of the county. The project will introduce a new development and there may be a perception of being overlooked by passing traffic,

where there was no traffic before. This was raised by many objectors, in particular, over the west side of the proposed road north of Bearna.

10.8.17. As stated at the hearing by the applicant landscaping along the road boundary has been designed to establish a relatively low-growing but dense planting that will provide for effective screening of the road which will also assist in ameliorating any concerns of overlooking from vehicles travelling along the road. As further stated by the applicant in proposing landscape measures, due to the exposed nature of the landscape in certain areas, overall growth of the planting will be restricted which will help to maintain existing open views from properties whilst screening the road.

10.8.18. At the oral hearing, the applicant provided a detailed response to the individual objections that raised the issue of landscaping which assists in understanding if there could be an issue with privacy and overlooking. This is set out in section 4.2.21 of the submission of Mr Thomas Burns at the hearing (submission 26). While this primarily relates to landscaping it provides details of specifics for individuals to assist in understanding of potential privacy impacts.

10.8.19. Overall visual impact is further assessed in section 11.14 of this report. I am satisfied that there is not a seriously negative impact on privacy.

New and diverted access roads

10.8.20. As a result of the proposed road, certain other roads will be diverted permanently (e.g. Ann Gibbons Road). Other roads will be rerouted e.g. Na Forai Maola road. Other areas will be opened up to traffic to enable access to and from the mainline road – some of these roads previously being very lightly trafficked. Other areas will experience a potential increase in traffic due to the requirement to provide access to isolated and bisected parcels of land. These changes are detailed in Figures 7.101 to 7.124. This will result in changes including for the residents of Rosan Glas and The Heath. These areas are dealt with in section 11.13 and 13 below also. However, in terms of impacts on residential amenities these two areas are addressed further.

10.8.21. The Heath is a small residential development located off the Circular Road which is in turn located off the N59 Moycullen Road. The applicant intends to provide an agricultural access from this residential development into a parcel of land that will be isolated as a result of the proposed road (see Figure 7.106 – AR07/10). Almost every resident in this development objected to the plan to provide an alternative

agricultural access via their housing estate to what they consider is a small, isolated parcel of land. It was queried why the Council were simply not taking this remaining parcel of land as it was too small to be of use. The objectors contend that the internal estate road is in no way suitable for agricultural traffic, that it was designed only for light traffic loading for a small number of dwellings and that safety issues would arise from its use by agricultural machinery and livestock. This will be dealt with further in the CPO below, but as was clarified at the hearing, this road already serves agricultural zoned lands. The applicant contends that the road has the capacity to serve this additional agricultural zoned land. Having regard to the fact that agricultural lands can already be accessed through The Heath, I consider that the very limited extent of additional agricultural lands that will be accessed via the estate road (i.e. 1.14 ha) is such that any additional agricultural traffic is likely to be negligible. A number of the objectors in The Heath also expressed concern regarding the use of the estate road by construction traffic. The applicant confirmed at the oral hearing that there will be no access via this road to the mainline construction site and that the only construction traffic will be the traffic required to construct the Access Road AR 07/10 (stated to be c. 250 truck movements over a 4-week period). Given the short duration of the works, I do not consider that any significant issues arise from this limited level of construction traffic. This is further detailed in section 13 below.

10.8.22. A substantial number of residents of the Rósán Glas housing estate objected to the proposal to route the N59 Link Road South via their housing estate and to funnel their access onto the Link Road at one location midway along Bóthar Diarmuida. The applicant clarified that the proposed alignment was selected to eliminate conflict between direct accesses from existing homes and traffic accessing the proposed road development in the three roads in this area, namely Bóthar Diarmuida, Bóthar Stiofáin and Gort na Bró road. The proposed Link Road would travel adjacent but separate from Bóthar Diarmuida allowing it to function as an estate road. The access to the N59 will be moved further north and will still serve the needs of the estate. Access at all times during construction will be maintained as will pedestrian access. In addition, a 1.2m high boundary wall between Bóthar Diarmuida and the N59 Link Road South will be erected to maintain safety, amenity and sense of privacy. I am

satisfied that there is no significant inconvenience or negative impact to residents of Rósan Glas.

10.8.23. Works are included on the Gort na Bró roundabout as part of the N59 Link Road South. The Council have committed to provide a cycle path from the newly installed pedestrian crossing at the entrance to Gael Scoil Mhic Amhlaigh north to Ragoon Road. In addition at the hearing the applicant stated that a detailed topographic survey had been undertaken on the completed construction of the boundary of Gael Scoil Mhic Amhlaigh and Gort na Bró road. An amendment to the road has been made to complete the tie-in with no works proposed on the school's landscaped area and plot 473a.201 was removed from the schedule.

Lighting/Light Pollution

10.8.24. Chapter 5 of the EIAR describes the street lighting incorporated into the design. It is stated that limiting light trespass is a key priority and that multiple measures have been taken to ensure that light is applied only where it is required. It is proposed to provide public lighting at roundabouts as well as at junctions with the Cappagh Road, Ballymoneen Road, N59 Letteragh, N84 Headford Road, N83 Tuam Road and the Coolagh Junction, and associated slip roads. There will also be lighting at the entrances to the tunnels. The City North Business Park Link, Parkmore Link and N59 Link Road North and South will also be lit as they are urban roads.

10.8.25. Numerous observers raised concerns about lighting, both from street lighting and from the introduction of car headlights travelling along the new road(s) including Mr Kevin Gill. One objector made the point that their dwelling has very large windows with no curtains and they will be subject to lighting from cars. I am of the view that lighting from cars are a fact of modern life and I am satisfied that the traffic will be relatively light at this section of the road.

10.8.26. At the oral hearing concerns were raised about the introduction of 'new' lighting, including on behalf of Mr James Treacy. As stated in the Landscape Chapter of the EIAR (Chapter 12) the introduction of roadside lighting will emphasise the degree of change in the rural landscape brought about by the proposal and associated traffic use. This will be a new feature in the environment, particularly in the rural parts of the county where there is limited light pollution currently. However, while I accept

that this will be a new feature, I do not consider it to be a significant or unusual impact.

10.8.27. The applicant presented, in Section 4.16 of the Project Lead's Statement, individual responses to the lighting concerns raised in the submissions received. The distance from the nearest lighting column is provided for each property as well as the isolines which indicate the level of light spill from the lanterns. In the majority of cases, the light level at the edge of dwellings is the equivalent of moonlight from a full moon.

10.8.28. I am satisfied that lighting and light spill is minimised and I do not consider it to be a significant negative impact on residential amenities.

Infiltration Ponds

10.8.29. Concerns were raised about the location of the infiltration ponds for reasons of possible anti-social behaviour, attraction of vermin and safety concerns where they are located in more urban areas.

10.8.30. I am satisfied that these ponds are a feature of road development around the country and are not a new or unusual feature of roads. Secure fencing is proposed as well as appropriate screen planting. Therefore, I do not accept that there will be a significantly serious adverse effect on amenities. A condition requiring that the fences are paladin rather than palisade type fences is recommended should the Board consider approving the proposal. This is dealt with in detail in section 11.14 below.

Septic tanks

10.8.31. Concerns were raised by the residents of Aughnacurra housing development about the potential damage to individual septic tanks with respect to road drainage runoff. The applicant confirmed at the hearing that the road drainage in the vicinity of the estate will be to an existing drainage channel which will be attenuated to greenfield runoff rates. Based on the information provided I am satisfied that the proposed road drainage will not damage the existing drainage or cause flooding.

10.8.32. Another issue raised was in relation to the possibility of providing access to foul sewer connections for private dwellings in the vicinity of the project that are currently operating on a septic tank. The applicant clarified that if an existing connection to

either a public water supply or a foul system is affected by the proposed works it will be reconnected but any 'new' connections were not included as part of the project.

Oversized vehicles

10.8.33. Concerns were raised about the rerouting of oversized vehicles away from tunnels and via residential areas. This was raised particularly in relation to the possible rerouting at Lackagh Quarry. Following Inspectors' queries at the hearing the applicant provided information on the numbers of oversized vehicles that have to be rerouted at tunnels such as the Port Tunnel and Limerick Tunnel. I am satisfied that the tunnel has been designed to the latest standards and that the numbers of vehicles that would have to be rerouted would be low and not of sufficient quantity to cause a significant negative impact.

Property prices

10.8.34. Many objectors raised concerns about the impact of the proposed road on the value of their properties. The applicant stated at the hearing that road schemes can have a positive impact on property prices where the scheme leads to improved accessibility and offered the M17/M18 by way of example. The opening up of the motorway linking Tuam, Corofin and Gort has had a positive impact on property prices in the catchment area. It is considered that improved accessibility and reliable journey times assist in that regard. The applicant further states that the road is a key component of the GTS and will enable the maximum benefits of the GTS to be realised. It is, therefore, expected that property prices will be increased. It is acknowledged that a road scheme can have a negative impact on property prices where it results in the loss of amenity, but it is stated that the mitigation measures proposed will result in no significant impact on the value of most properties.

10.8.35. I would agree with the applicant that property prices may be impacted during the construction phase, but that they are likely to recover during the operational phase. I am satisfied, therefore, that there will not be a significantly negative impact on property prices.

Other housing

10.8.36. Some objectors queried if the road would impact on plans for social housing (Mr Kevin Gill). The applicant confirmed that the PRD would not impact on any housing

plans be it social or recently granted permissions outside of those identified in the EIAR.

Community Amenities

10.8.37. With respect to **community amenities**, observers were particularly concerned with the impact on access to the riverside as well as National University of Ireland Galway (NUIG) Sports Campus facilities. In addition, concerns were raised about the impact on school children and how they get to school, the impact on Bushy Park church, graveyards, Castlegar Nursing Home, Galway Racecourse and severance of communities.

NUIG Sports Campus

10.8.38. The impact on NUIG Sports Campus is described within the EIAR and was the subject of much discussion at the oral hearing. The Sports Campus will be impacted during both construction and operation phases. The Sports Campus will lose some sports fields as well as part of the sports pavilion. I draw the Board's attention to Figure 5.1.07 as well as Figure 7.001 submitted. As can be seen the clubhouse will be reduced in size and some playing fields will be lost. As part of mitigation it was initially proposed to construct an all-weather full size GAA pitch and a training pitch at the location of the existing GAA pitches. However, at the start of the hearing, the University withdrew their objection and it was clarified that the proposed mitigation measures included in the application originally are not required because the University was in the process of seeking permission from the Council for revisions to the layout of their facilities based on their own plans. The sports pavilion will be modified and will continue to function as a sports facility post construction.

10.8.39. Chapter 7 of the EIAR details the construction activities around the campus. It states that at the beginning of the construction phase the land to be acquired as per the proposed development boundary will be fenced and access across it restricted. In addition, temporary construction fencing or hoarding may be required during construction. Table 7.1 of the EIAR states that the construction of the River Corrib bridge will take 18 – 24 months. At the oral hearing it was clarified that the pavilion will be out of use for the duration of the construction of the bridge. Following this the pavilion will be amended to accommodate the new viaduct. However, at the hearing the applicant committed to ensuring that welfare facilities would be made available at

all times throughout the duration of construction and the Schedule of Environmental Commitments was updated to reflect this.

10.8.40. Section 15.5.2.4 of the EIAR also refers to the campus and it is stated that the sporting 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. At the hearing the applicant restated and acknowledged there would be a significant amenity impact during construction. Access to the bank of the River Corrib, which is used as a local amenity and the river itself will also be impacted at times during construction but it was clarified that access to the river will not be prohibited. The existing sports pitches adjacent to the River Corrib will be unavailable for use. As noted above a planning permission for new pitches has recently been approved for NUIG separate to this application. During operation there will be no severance of the facility and the principal effect will be the presence of traffic on the bridge overhead. It is noted that noise screening is provided by way of mitigation.

10.8.41. While the University withdrew their objection to the CPO, a number of other sporting bodies continued to object to the proposal. Other sporting bodies expressed concern with the impact on the sporting grounds which are available to the public and not just the students. At the oral hearing detailed submissions were made by the Galway Athletics Board and the Galway City Harriers. It was stated that they had a petition against the road that was signed by over 3,000 people. They questioned the zoning of the site on the basis that it is not zoned for a road; they consider that strategic objectives in the City Development Plan would be contravened by the road; they consider it is contrary to the Healthy Galway City Strategy 2019-2021; and, consider that there would be a negative amenity impact on the area including Menlo Castle, as well as the sporting impact. Other concerns raised are addressed under the relevant headings of this report. Other individuals including Mr John J. Martin raised concerns and believed that students needs were not being represented.

10.8.42. The zoning issue and relevant strategic objectives have been addressed in section 10.3 above. The Healthy Ireland Strategy referred to by the observers is noted and impacts on health via the vectors of noise and air are addressed under section 11.6 of this report. The benefits of sporting activity for the community were detailed by many individuals at the hearing on behalf of the various sporting organisations. The

importance of the NUIG sports grounds to provide those sporting opportunities at all levels and for all ages was described in detail. Concerns were raised about the impact of air and noise pollution at operation stage of the road due to its proximity to the facilities.

- 10.8.43. Noise and air are addressed in section 11.11 and 11.12 below. There is no doubt that there will be a change to the current environment of the sports campus. However as detailed below this is an unavoidable impact. The applicant amended the Schedule of Environmental Commitments to ensure that convenience welfare facilities will be available at all times (during works to the Pavilion) and that while there will be restrictions during certain construction activities these will be minimised. Notwithstanding the mitigation measures proposed I am of the view that while these will reduce the impact there will continue to be a moderate negative impact.

Riverside walk

- 10.8.44. A number of observers expressed concern with the lack of access to the river during the construction phase. The amenity of the river so close to the city and the attractive pedestrian facility therein was noted by many.
- 10.8.45. At the oral hearing it was clarified that access will be maintained across the construction site via a sequence of pathways which will enable the public to continue to use this area for recreation and training.
- 10.8.46. There is no doubt that the existence of the bridge will result in higher noise levels along the river at Dangan and on the eastern bank near Menlo Castle, which attracts a substantial number of tourists and residents alike. However, as noted in the relevant sections of this report, the noise levels will be mitigated and will not result in a significant adverse impact on users of the area.
- 10.8.47. The impact of the bridge across the river on the visual amenities is also discussed in Section 11.14 below. At the hearing the applicant was asked if consideration was given to the architectural treatment of the bridge. What is proposed and presented in the photomontages is a very utilitarian and 'engineering' type structure. The applicant confirmed that consideration had been given to the architectural treatment of the bridge but it was decided to keep the design simple so as not to detract from the river or the amenities.

Green Network Policies

10.8.48. As noted in section 5.10 above, Chapter 4 of the Galway City Development Plan addresses Natural Heritage, Recreation and Amenity and lists policies therein. Many observers were of the opinion that the PRD was contrary to the policies relating to amenities and the green network.

10.8.49. The loss of amenity area at NUIG and access to the riverside is of significant concern to objectors. However, while there may be a loss of pitches, this will be mitigated with the new pitch development recently granted permission by the Board. In addition, at the hearing the applicant committed to maintaining access at all times to the riverside walk during construction.

10.8.50. As noted throughout, the PRD has been an integral part of the City Development Plan and all zonings, policies and objectives of the Plan have taken it into account.

10.8.51. Section 5.11 above refers to the heritage and amenity policies stated in the County Development Plan. I have had regard to policies outlined therein including general heritage policies and natural heritage policies. I am satisfied that the applicant has taken account of the policies throughout the EIAR and that they do not conflict with policies relating to the road.

Galway City Cycling

10.8.52. The Galway City Cycling Campaign raised concerns with cycling around the city. There was also a submission made about the Galway Cycle Bus which is an innovative cycling programme whereby children cycle to school as a group and are supported by parents.

10.8.53. There was much discussion about cycling lanes and bus lanes particularly around Gort na Bro and along the N59. While a number of the concerns raised will be addressed by way of the GTS, the applicant confirmed that a segregated cycle lane will be provide at the roundabout at Gort na Bro and drawings were submitted and the Schedule of Environmental Commitments was updated to confirm that.

10.8.54. Other concerns were raised about crossing roads as a cyclist or taking young children to sporting events on bicycles. There were concerns about rural roads used by cyclists currently being used in the future to access the PRD.

10.8.55. In response Mr Finn from the Council, on behalf of the applicant, referred to works ongoing as part of the GTS to improve safety for cyclists and pedestrians. He

referred to the current works removing the roundabouts and stated that this work was being done solely to provide more suitable and sustainable walking and cycling through the junctions.

10.8.56. I am of the opinion that, while a lot of concerns were raised about facilities for cyclists at the hearing, these concerns will be addressed by the subject road by way of moving traffic out of the city. The GTS includes a number of projects relating to improving facilities for cyclists. The GTS identifies this road as being a requisite to free-up space in the city to enable a number of these projects to proceed.

Galway Racecourse and environs

10.8.57. The Galway Racecourse plays an important role in community events as well as being a key tourism attraction, particularly the Galway Summer Race Festival. The specific issues that the racecourse has with the CPO will be addressed below. I intend to address the proposed changes to the racecourse and the potential impact on the wider community amenities herein.

10.8.58. It is proposed to tunnel under the racecourse and new stables will be provided as part of the project. During construction temporary stables are proposed. Appendix A7.4 details how the tunnel will be constructed.

10.8.59. It is stated that there are four race meetings per year of which the most prolific is the Galway Summer Race Festival. The applicant states that no construction activity will take place during any of the race meetings and to accommodate preparations for the main Summer Race Festival, lands will be fully available to the Galway Race Committee (GRC) for the months of June and July during the construction phase. The submission from the GRC states that the races attract visitors from all over the world and in 2017 over 150,000 persons attended the races. It is further submitted that the Summer Race Festival contributes enormously to the local economy and that spending within the confines of the racecourse is only a fraction of the total spend generated within the local economy.

10.8.60. The GRC consider that it has not been provided with sufficient detail that the aspirations set out in the EIAR will be delivered, to avoid disruption to the operation and functioning of all operations conducted at the Racecourse. The GRC in their submission outline a long number of items of concern where they require confirmation from the applicant that the activity will be carried out as per the

commitments in the EIAR, and/or where they consider further information and detail is required.

10.8.61. Appendix A15.1 in Appendix 4L includes a Stableyard Project Design Report prepared by Coady Architects on behalf of the applicant. The report describes the provision of a Temporary Stableyard for the construction duration and describes the provision of a new permanent stableyard and horsebox parking. In summary the new schedule of accommodation includes 158 no. stables, covered machinery area, Maintenance shed, Turf club offices, Racecourse vet, grooms area and bedding store.

10.8.62. In terms of the impact on community amenities, I accept that the racecourse provides an important amenity for residents as well as tourists. I accept that there will be some inconvenience during construction but the commitments made in the EIAR, and again at the oral hearing, will limit and minimise those impacts. The new facilities proposed include new state-of-the-art stables which are detailed on drawings submitted as part of the application and as detailed above. In addition, there is a commitment that all temporary access provisions or diversions are to be constructed to the same standard of existing access roads. Water quality from new wells will be monitored and assessed for 12 months after the construction period.

10.8.63. In conclusion, I do not accept that there will be a seriously adverse impact on the amenities enjoyed by the local community, or the tourism offer of the Racecourse. Following completion of the road, the racecourse will enjoy new stables as well as a permanent access from the new Parkmore Link Road. I am satisfied that the racecourse mitigation measures will ensure there will not be serious adverse effects during construction. Overall, I am of the opinion that the racecourse will benefit positively as a result of this proposal.

Severance of Communities

10.8.64. The requirement to demolish individual dwellings is addressed as part of the CPO in Section 13 below and addressed above. I intend to address the broader impact of the severance of communities due to the introduction of the road in this section. A substantial number of observers expressed concern with the route of the road which in their opinion splits villages and communities in two by introducing a physical barrier.

- 10.8.65. Chapter 15 of the EIAR addresses Material Assets – Non-Agriculture and is further examined in Section 11.17 below. There are over 300 non-agricultural properties directly impacted by the proposal, i.e. full acquisition or part acquisition of the property. As noted elsewhere 44 residential dwellings will be demolished and another 10 will be acquired.
- 10.8.66. Chapter 18 of the EIAR considers Population and Human Health and addresses community severance. It is stated that severance is a typical impact of a road and its effect is to potentially discourage community interaction and occurs where access to community facilities or between neighbourhoods is impeded. In addition to the physical severance that is discussed in the EIAR, there can also be an impact on communities whereby there is a sudden reduction in the numbers of people in the community due to the demolition of dwellings. Castlegar is one such area where there is a significant number of demolitions proposed. The EIAR also acknowledges that the most significant construction related severance will occur in Castlegar.
- 10.8.67. The EIAR considers that the transfer of through and other traffic from more central areas of the city will allow space for improved and new crossing facilities for both pedestrians and cyclists in line with the GTS. Other crossing facilities are proposed which are considered to reduce any residual impact on severance.
- 10.8.68. The communities and small hamlets around the Na Faorí Maola Road (L5386), the Troscaigh Road (L5387), as well as around the Ann Gibbons Road (L13215) and the Clybaun Road will, in particular, be severed from each other. For these residents, whereby they previously travelled up or down these roads with relative ease, they will now need to take detours to meet neighbours etc. This was raised by many at the hearing including by Mr John O'Carroll. On the eastern side of the river, there will be similar issues for the communities around the junctions with the N83 road and the N84 road.
- 10.8.69. There are also clusters of dwellings being demolished in areas such as the Aughnacurra estate which will impact on the cohesion of communities (See Figure 15.3.06). On the eastern side of the river, communities around the N84 junction, the School Road/Castlegar village, and the N83 junction will lose a significant number of their community due to the number of dwellings being demolished in these areas (see Figures 15.3.08 and 15.3.09).

10.8.70. All new road projects by their very nature will cause division of land and in this case communities. As part of the overall project the applicant is providing numerous access roads and connections to private land to minimise the impact on landholdings. In addition, where roads are being severed, such as Troscaigh Road alternative access is being provided. I acknowledge that there will be an impact on the amenities of communities and, in particular, the smaller communities as a result of the road severance. Other communities will benefit by virtue of the fact that heavy traffic and congestion will be taken out of their communities as a result of the project. This will be of benefit to some communities but there will be an impact on the smaller communities of Castlegar, for example, which is losing a substantial number of dwellings as well as being divided. Similar to the loss of dwellings, the Board need to be satisfied that the positive impact outweighs the significant negative impact that will undoubtedly be felt by individual homeowners and communities left behind. As noted above with respect to the loss of dwellings, I am mindful of the fact that this road is grounded in policy at all levels of the planning hierarchy and is considered necessary to enable Galway function and continue to grow as a driver of the western region. I am satisfied that the need for the road has been established; sufficient examination of alternatives has been carried out; and the number of dwellings to be demolished has been minimised.

10.8.71. The Ardaun corridor was raised by objectors. This is the area identified for future development and expansion to the east of the city. Concerns were raised that the road would result in this area developing separately to the rest of the city. I note that the existing N6 already bisects this area and that the route of the proposed road is clearly identified in all Development Plans for the area. As the road is identified, any future designs will take account of its existence and will address any real or perceived issues of severance.

Community Facilities

10.8.72. The Castlegar Nursing Home made a substantial submission at the oral hearing and contended that they would have to close as a result of the project. Arguments were put forward that they had not been assessed as a sensitive receptor for EIAR purposes and that the residents would be seriously affected by noise, dust and visually both during construction and operation. I have addressed the issue regarding the fact that they were assessed for EIAR purposes in section 10.2 above.

10.8.73. I fully accept that there will be potential serious impacts on the Nursing Home during construction. However, I am satisfied that mitigation measures as outlined and detailed in the EIAR and assessed below in section 11.11 and 11.12 will reduce the impacts to an acceptable level. I have also addressed the home during the operation of the road and I have concluded that there will not be a seriously negative impact.

Schools, Graveyards and Churches

10.8.74. Concerns were raised about children accessing schools and more vulnerable people accessing facilities such as churches and community services. This is addressed further in section 11.6. However, I am of the opinion that once the road is constructed there will be a positive impact on school children and more vulnerable persons. The road is designed to remove traffic from the city centre and out of villages such as Bearna and Castlegar thereby leading to safer environments for local people. Cycling lanes are being provided, where legal to do so, improving facilities for pedestrians and cyclists. The road is a key component of the GTS and will enable the Council to pursue such projects.

10.8.75. Concerns were raised about access to Lisheen Graveyard. The design has provided for a crossing point to allow for access but it is noted that there will be a significant negative residual impact on amenity use of the path compared with the existing environment due to the extensive new road network.

Safety and Security

10.8.76. Concerns were raised about the road providing easy access to more rural and isolated dwellings. In addition, concerns were raised about trespassing on newly formed private access roads serving severed lands. I am satisfied that, while new roads are being created or others diverted, this will not result in changes to the opportunities for anti-social behaviour or trespassing over and above the current situation. While the Ann Gibbons road is being severed this road leads into agricultural lands and is overlooked by dwellings as it currently is. There are no dwellings north of where the road is being severed currently, therefore, there is no change or reduction in passive surveillance.

Conclusion on Residential and Community Amenities

10.8.77. In conclusion, I accept that there will be serious impacts on residential and community amenities including loss of dwellings and severance of communities

which cannot be avoided or mitigated. As noted above, the Board needs to be fully satisfied that the benefits of the road outweigh the serious negative impacts on individuals and communities left behind. However, I am also mindful of the fact that this road is grounded in policy at all levels of the planning hierarchy and is considered necessary to enable Galway function and continue to grow as a driver of the western region. I am satisfied that the need for the road has been established; sufficient examination of alternatives has been carried out; and the number of dwellings to be demolished has been minimised.

10.8.78. There will be impacts to other residences that currently enjoy a lightly trafficked environment. Noise and light will become more prevalent in rural areas as access roads are rerouted particularly on the western side of the proposal. Some dwellings that currently enjoy long distance views will have those views interrupted or experience a sense of overbearance where the road is on an embankment. Some dwellings will experience a loss of privacy – particularly dwellings in more rural and remote areas.

10.8.79. However, with every linear project there will be impacts that cannot be mitigated but equally the positive advantages for the amenities of communities will also be significant. These positive impacts include reduced traffic in the city centre and in villages as traffic makes use of the link road and avoids rat-runs. Some rural dwellings will see benefits in a reduction of traffic on more rural and unsuitable roads. The road design includes cycle lanes and pathways, where legal to do so, thereby improving facilities for non-vehicular users and more vulnerable persons. There are also the main significant advantages of improving journey times and journey reliability both for private and public transport. These advantages will be experienced by individual residents and communities alike.

10.9. Services and Utilities

10.9.1. The infrastructure of a number of service providers will be impacted by the PRD. No permanent disruptions to services provided by these bodies are expected and all temporary disruptions are expected to be kept to a minimum. In order to avoid trenching in the new road for services after completion, provision will be made at construction stage for future crossing by services where agreed with the local authority.

- 10.9.2. A number of existing 110kV electricity transmission circuits (which are owned by ESB Networks and operated by EirGrid) traverse the corridor of the PRD 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 also owned and operated by ESB Networks) are located within or adjacent to the corridor of the PRD. A number of these existing electricity circuits cross the corridor of the PRD and, consequently, require a local diversion and/or modification to facilitate the PRD. There is an existing ESB distribution substation located in Ballybrit. The PRD traverses the existing 110kV lines at four areas (townlands) and existing 38kV lines at 12 areas. The applicant states that a working group has been formed with ESB Networks, EirGrid, and ESBI.
- 10.9.3. Following consultations and over the course of the project local changes were made.
- 10.9.4. 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 PRD traverses a number of watermains in both the rural and urban areas. The PRD 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 PRD.
- 10.9.5. The majority of properties in the rural areas within the study area utilise septic tanks. At the hearing the possibility of dwellings that are currently served by individual septic tanks being connected to the foul sewer, if works were in proximity, was raised. The applicant confirmed 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. However, it was clarified that any future connection to public water mains and sewers is a matter to be discussed and agreed with Irish Water and Galway City Council separately and is not part of this proposed road development.
- 10.9.6. Irish Water made a submission stating that it has no objection in principle to the proposed development subject to the provision of diversion/build over agreements,

future proofing sleeves at Ardaun to be agreed prior to construction, provision of connection agreements and employing best practice measures.

- 10.9.7. In response to the further information request Irish Water requested the Board to be cognisant of a number of items relating to their proposed new water intake for the Terryland Water Treatment Plant. This included ongoing liaison, consultation in the preparation of incident response plans, regular project updates, compliance with the Water Framework Directive, EIA Directive and other requirements which I am satisfied can be subject to conditions.
- 10.9.8. Other objectors raised concerns with potential impact of surface water pollution, adequacy of drainage details and implications for flooding of properties. This is addressed further in section 11.10 below. The applicant provided an overview of the HAWRAT analysis carried out at the hearing. The analysis confirmed that the pollution control measures proposed upstream of the storm outfall are acceptable and ensure there would not be a significant impact on any receiving watercourse. I am satisfied that the proposed drainage systems for the road will not have a significant impact. The hydrological assessment and dispersion modelling carried out by the applicant indicates that routine road drainage discharge to the River Corrib via the proposed drainage outfalls will not impact the drinking water quality at either the existing or proposed Galway City supply intake.
- 10.9.9. The PRD crosses the gas transmission and distribution lines. Works along School Road in Castlegar were discussed in detail during the hearing. In particular concerns were raised about the impact of the works on the Castlegar Nursing Home on School Road which is addressed in section 11.6 and 11.12. Works along School Road are quite extensive and involve the rerouting of a foul sewer and the main gas supply to the city as part of the Enabling Works. The diversion of the gas distribution network at Rahoon and gas transmission network at School Road is described in Chapter 7 of the EIAR. However while there will be some impacts these are temporary only and will be acutely felt for a short duration while the diversion works are ongoing adjacent to properties. They will be subject to the mitigation measures as described in the Construction Environmental Management Plan which will mitigate the impacts to an acceptable level.

10.9.10. At the oral hearing a submission was made by Vantage Towers who operate Vodafone Towers across Ireland. A mast tower will be removed on plot 226 which it was stated provides coverage across Knocknacara and surrounding areas. The applicant referred to the planning history of this structure. It is noted that retention permission was granted with a condition stating that it was for two years only (Reg. Ref. 18/173) and would be reassessed having regard to the subject road. I am satisfied that it is very clear that the retention permission for the mast was clearly identified as being for a short duration.

Conclusion

10.9.11. In conclusion, I am satisfied that there will not be a seriously negative impact on services and utilities. There will be some short-term impacts where services are being diverted but this will be carried out with appropriate mitigation measures in place.

10.10. Construction Activities

10.10.1. Construction activities are addressed in Chapter 7 of the EIAR. Figures 7.001, 7.002 and 7.101 – 7.124 identify the proposed site compounds, haul routes and construction sections. Figures 7.201 and 7.202 identify potential and proposed blasting locations, and Figures 7.301 and 7.302 identify proposed Material Deposition Areas. Appendices A.7.1 to A.7.4 contain constructability reports for the main structures proposed (i.e. the River Corrib Bridge, Menlough Viaduct, Lackagh Tunnel and Galway Racecourse Tunnel, respectively), while Appendix A.7.5 provides the Construction Environmental Management Plan. The detailed drawings of the structures submitted by the applicant in response to the request for further information are also of relevance to this section.

10.10.2. The Schedule of Environmental Commitments, which was updated at numerous stages over the course of the oral hearing, also sets out commitments in relation to construction activities.

10.10.3. The primary submission responding to the construction activity-related written submissions/objections, was given at the oral hearing on 18th February 2020 by Eileen McCarthy of ARUP on behalf of the applicant. However, as with the EIAR,

construction activities were also addressed by other members of the applicant's project team under a number of the other environmental headings.

10.10.4. I consider that the main issues in relation to construction activities are as follows:

- Environmental impacts associated with construction.
- Sources of materials and site compounds.
- Construction traffic and haul routes.
- Material Deposition Areas and Lackagh Quarry.
- Galway Racecourse Tunnel.
- Waste Management.
- Invasive species management.
- Pest Control.

Environmental Impacts Associated with Construction

10.10.5. A considerable number of parties raised issues in relation to construction phase environmental impacts, particularly with regard to stress and disturbance, noise and vibration, air emissions, dust, water pollution, impacts on services and access to houses and agricultural lands. These issues are addressed in detail in the relevant EIA sections of this report. Where CPO objectors raised issues with regard to construction impacts on their retained lands, these are addressed in Section 13 in respect of each objector's property.

10.10.6. One issue that was of concern to a number of parties was the potential for structural damage to properties as a result of blasting. This issue is addressed in the Noise and Vibration, Land and Soils and Hydrogeology Sections of the EIA section below. In summary, it is considered that the applicant has set out a clear and comprehensive protocol for blasting operations, including blast design, trial blasts and the application of suitable limit values. In particular, I note the commitment to carrying out pre-construction and post-construction condition surveys on properties in the vicinity of areas where blasting will be utilised and to carry out remedial works if necessary. Subject to compliance with the commitments made, I do not consider that structural damage to properties is likely to occur. Furthermore, I consider the use of blasting to be preferable to elongated periods of mechanical rock breaking in

the interests of minimising the duration of construction works in any one area and the associated potential impacts on the surrounding population.

Sources of Materials and Site Compounds

- 10.10.7. The design of the PRD includes substantial areas of cut and fill and the applicant's modelling has identified an overall surplus of excavation material west of the River Corrib and an overall deficit of fill material east of the River Corrib. All excavated material that meets the required standards will be reused as part of the fill sections, following testing to ensure it is suitable for its proposed end use.
- 10.10.8. If the PRD is constructed in phases, then there will be an overall surplus in Phase 1 and overall deficit in Phase 2. The surplus material from Phase 1 will be stored within the PRD boundary in a series of Material Deposition Areas (MDAs) located at various points along the alignment, and subsequently used to balance the deficit in Phase 2. The location of the MDAs is shown in Figures 7.301 and 7.302 of the EIAR (and subsequently modified). Unsuitable materials will be treated as waste and delivered to authorised waste facilities. The issue of waste management is addressed separately below.
- 10.10.9. While the construction of the PRD will generate the majority of required fill materials, significant quantities of other construction materials will be also required. The applicant has not identified specific sources of construction materials, but the EIAR notes that there are operational quarries located in close proximity to the PRD and states that there is potential to import bituminous material for paving from one of these quarries. The EIAR states that materials required from quarries will only be sourced from quarries which are listed on the register maintained by the local authority.
- 10.10.10. With regard to rock arising from excavation, which it is proposed to re-use for fill, I note that the applicant proposes to undertake rock crushing at a number of site compounds. The primary Site Compound will be located at Lackagh Quarry (Site Compound SC 11/01) and will include rock crushing and concrete batching plants. Several residents in the vicinity of Lackagh Quarry are opposed to its use as a construction compound. However, given its size, its readily accessible location relative to the various working areas to the east and west along the alignment of the PRD, and its deeply sunken nature surrounded by rock faces, which will assist in

mitigating noise, dust and visual impacts associated with construction activities, I consider it to be a suitable location for the primary compound. The other twelve Site Compounds are generally well distributed along the PRD alignment in close proximity to major structure locations or areas of extensive cut or fill.

10.10.11. Additional rock crushing plants will be located at a number of Site Compounds in proximity to areas where extensive cut is required to minimise haulage distances for excavated material and a mobile crushing plant may also be utilised. A number of additional concrete batching plants will also be installed at Site Compounds.

10.10.12. A number of parties in the Twomileditch, Castlegar area objected to the proposed construction site compound SC 14/01 due to its proximity to their houses and the sloping nature of the site which they contend will require substantial earthworks to level. The applicant's response to this issue was that separate compounds will be located on the lower and higher levels of this field, which is adjacent to the N83 Tuam Road and that, therefore, there is no requirement to excavate/redeposit material in this area to create the compound. This compound is immediately adjacent to the proposed N83 Tuam Road Junction and I consider it to be suitable location in the interests of minimising haulage distances. Measures to address noise and dust and protect residential amenity are considered in the CEMP and assessed elsewhere in this report.

10.10.13. A submission (Ref. 98) was made on 30th October 2020 by Julian Keenan of Trafficwise on behalf of Professor and Dr Kerin, residents of Ard an Locha regarding construction and traffic issues. The applicant subsequently submitted a response document entitled 'Response to Submission on behalf of Prof. Michael and Dr Annette Kerin to Oral Hearing' (Ref. 103). This was followed by a further response from Mr Keenan on 4th November 2020 and questioning by Mr Michael O'Donnell, representing the Kerin family.

10.10.14. Mr Keenan contends that the applicant has underestimated the excavation volumes in the vicinity of the Kerin's property, particularly with respect to rock, and thus underestimated construction traffic and associated impacts. The applicant disputes Mr Keenan's analysis. Ms Fleming, on behalf of the applicant and responding to questioning by Mr O'Donnell, stated that she did not accept Mr

Keenan's methodology contending that it was very basic, compared to the 3-D modelling undertaken by the applicant.

10.10.15. Having reviewed the information provided by both sides, and noting that the applicant's assessment is based on 3-D modelling data, rather than the more simplistic assessment undertaken by Mr Keenan (which is understandable given his lack of access to the model), I consider that there is no reasonable basis for believing that the applicant's figures for excavation volumes are materially inaccurate or underestimated.

10.10.16. With regard to Mr Keenan's comparison of the proposed deep cutting at the Letteragh Junction to a commercial quarry, I consider that while the processes undertaken are very similar, the two are not equivalent. The proposed cutting in a temporary activity that will take place over a limited period of time, unlike a quarry where excavations will be ongoing for decades in most cases. Construction in a built-up area may result in temporary impacts that are acceptable on a time limited basis but which would not be acceptable on a long-term basis.

10.10.17. The proposed MDAs and treatment of excavated materials are addressed in more detail below and in the Land and Soils section 11.8.

Construction Traffic and Haul Routes

10.10.18. A number of parties raised issues with regard to construction traffic, haul routes and the impacts associated with same on residential amenity, road safety and environmental matters such as air, dust and noise pollution.

10.10.19. A Construction Traffic Management Plan (CTMP) is contained within the Draft Construction Environmental Management Plan (CEMP) included in Appendix A.7.5 of the EIAR, while the potential haul routes identified across the PRD are identified in Table 7.4 of the EIAR, and illustrated in Figures 7.001 and 7.002, and in more detail in Figures 7.101-7.124.

10.10.20. I note that the CTMP, as with the overall CEMP, is a draft or 'live' document which will be finalised by the contractor when appointed. While it could be argued that this creates a degree of uncertainty, it is appropriate in my opinion that the contractor would input to the finalisation of construction management protocols and procedures, based on their experience and detailed design considerations. The Schedule of Environmental Commitments includes a number of commitments to

ensure that the updated CEMP is consistent with the version before the Board and that it is appropriately enforced, including:

- Item 1.1: Contract documents will include a requirement for the Contractor to update and finalise the CEMP for the PRD prior to construction once appointed and to implement and maintain it during the construction phase.
- Item 1.2: The final SoEC will be included in the CEMP. The CEMP will detail implementation methodologies for all environmental commitments.
- Item 1.3: There will be a contract management team appointed by the client on site for the duration of the construction phase. The team will supervise the construction of the works including monitoring the Contractor's performance to ensure that the proposed construction phase environmental commitments are implemented and that construction impacts and nuisance are minimised.
- Item 1.19: All project staff and material suppliers will be required to adhere to the CTMP. As outlined within the CTMP, the Contractor shall agree and implement monitoring measures to confirm the effectiveness of the CTMP and compliance will be monitored by the resident engineer on behalf of the client. Regular inspections/spot checks will also be carried out to ensure that all project staff and material supplies follow the agreed measures adopted in the CTMP.

10.10.21. The draft CTMP includes requirements that will be placed on the contractor in relation to site access/egress, traffic signage, speed limits, delivery timings, road and vehicle cleaning, road condition monitoring and road closures. It also addresses emergency procedures during the construction phase.

10.10.22. As noted above, the haul routes are identified in Table 7.4 of the EIAR, together with an overview of their condition, while the increase in HGV percentage in each construction zone is set out in Table 7.6. The applicant has taken a conservative approach to construction traffic since, as the mainline progresses, it will be used as a major haul route.

10.10.23. With regard to the impact of heavily laden construction traffic on existing roads, I note that pre and post-construction structural condition surveys are proposed for the haul routes, with monitoring for deterioration throughout the

construction phase. This commitment is contained within both the SoEC (Item 1.18) and the CEMP.

10.10.24. A number of residents of The Heath, a residential estate located off Circular Road, raised concerns in relation to the proposed acquisition of their internal access road and its use by construction traffic.

10.10.25. The acquisition issue is addressed in the CPO Section of this report. With regard to construction traffic, I note that there is no access to the PRD mainline construction site from Circular Road or from The Heath. The only construction traffic that will enter The Heath will be the traffic required to construct a proposed 4m wide access road serving severed lands. These works will generate c. 250 truck movements over a 4-week period and given this short duration and the commitments regarding covering of trucks, wheel washing etc. I do not consider that construction traffic will significantly impact residents of The Heath.

10.10.26. A number of parties living in the vicinity of Lackagh Quarry, including Ms Linda Rabbitte and Mr Patrick McDonagh, expressed concern about pedestrian safety and access to a local greenway/boithrín, due to construction traffic accessing Lackagh Quarry. The applicant made an undertaking at the oral hearing to provide a pedestrian crossing at the entrance to Lackagh Quarry prior to the commencement of construction and to restrict speed on the access road to the site compound to 15km/hr. This is included as Item 18.15 in the final version of the Schedule of Environmental Commitments submitted at the oral hearing and I consider that it will improve pedestrian safety at what will be a busy access road during the construction phase.

10.10.27. Two submissions on behalf of the residents of Racecourse Avenue, to the north of the proposed Galway Racecourse Tunnel, raised concerns regarding the use of this road by construction traffic. I note that this road is identified as a restricted access Haul Route HR 15/02, and that it will be used for delivery of materials only and not for hauling excavated materials. I consider that this restricted use, together with the CEMP measures for mitigating construction impacts will be sufficient to ensure that construction of the PRD does not have an unacceptable impact on Racecourse Avenue.

10.10.28. With regard to construction phase road closures and diversions, these are detailed in Section 7.4.5 of the EIAR. Two locations are identified where temporary road diversions will be put in place in order to construct bridge structures. These are at Aille Road L5384 (Ch. 3+300) and School Road, Castlegar L2134 (Ch. 13+150). Temporary night-time closure of existing roads may also be required where overbridges are to be constructed (e.g. at Ragoon Road, Letteragh Road, N59 Moycullen Road, Menlo Castle Bóithrín, Bóthar Nua, An Seanbóthar, N84 Headford Road, N83 Tuam Road, Briarhill Business Park Road and R339 Monivea Road). These closures will be of limited duration but given the potential impact on local residents I consider it important that a robust public communications strategy is put in place. An outline of such a strategy is set out in Section 13 of the CEMP, and the applicant states that the final strategy will be put in place by the contractor. I note that it will include complaints management procedures as well as procedures to inform people who may be directly affected by particularly disruptive construction activities (e.g. blasting, demolition, road closures and diversions, pile driving etc.)

10.10.29. In addition to the temporary road diversions/closures, two permanent road closures are proposed: the Ann Gibbons Road L13215 (Ch. 2+500) in Troscaigh will be severed by the PRD and a permanent diversion for local traffic will be required via the existing Bearna to Moycullen Road L1321; and the existing link road from the Western Distributor Road Roundabout at Gort na Bró to the Knocknacarra Shopping Centre will be closed and replaced with a new link road connecting to the Gort na Bró Road. While these road closures may inconvenience some road users, I am satisfied that the alternative travel arrangements are acceptable.

10.10.30. With regard to access arrangements along the PRD route, I note that the applicant has committed to maintaining access to all existing residential areas, business premises and public facilities during the construction phase.

Material Deposition Areas and Lackagh Quarry

10.10.31. The applicant intends to minimise the importation of material from outside the site by reusing materials arising within the site area to the greatest extent possible. Where surplus materials arise which cannot be incorporated into the construction fill activities, it is proposed that it will be placed in a series of material deposition areas

(MDAs) at various locations along the route of the PRD which will significantly reduce the deposition of material off-site.

10.10.32. Approximately 366,000m³ of surplus material will be generated, comprising c. 76,000m³ of peat and c. 290,000m³ of U1 non-hazardous material. This U1 material includes topsoil, made ground, unsuitable rock and clay, logs and stumps etc. This equates to a total volume of excess materials of c. 476,000m³ when a bulking factor is applied (i.e. 1m³ of material in the ground may be greater than 1 m³ when excavated and placed elsewhere).

10.10.33. The locations of the MDAs are illustrated in Figures 7.301 and 7.302, and they are listed in Table 11.27 of the EIAR, together with their area and approximate capacity. The Board should note that the EIAR incorrectly identifies 40 MDAs. A revised version of Table 11.27 was included in the Corrigenda presented at the oral hearing. The applicant clarified that 32 No. MDAs are proposed and the capacity of a number of the MDAs was altered. One of the MDAs was also omitted in error from Figure 7.301 and an updated version of this drawing was submitted with the Corrigenda.

10.10.34. There was much discussion at the oral hearing in relation to the proposed MDAs in Lackagh Quarry. This included submissions and questions by Dermot Flanagan SC and Senan Clandillon representing McHugh Property Holdings (19th October and 29th October 2020) and questions by the Board's consultant Hydrogeologist and Ecologist.

10.10.35. Mr Flanagan's clients do not object to the PRD in principle, but are seeking to minimise the impacts on their landholding, either through a reduction in the extent of acquisition or through temporary rather than permanent acquisition, where possible.

10.10.36. It is proposed that Lackagh Quarry will be utilised as the main construction compound during the construction phase of the PRD. As outlined above, having regard to the characteristics of the quarry, I consider it to be a suitable location for the main construction compound.

10.10.37. Similarly, given the volumes of excess material that require a deposition site, and the primarily defunct void that is Lackagh Quarry, I consider that it is, in principle, a suitable location for material deposition. Quarrying activities at the site have been ceased for a number of years, leaving behind potentially unstable rock

faces and a secondary purpose of the MDAs within the quarry is to provide stability to these existing blast-damaged rock faces. Parts of the existing quarry void is currently subject to groundwater flooding and there is some evidence of antisocial behaviour on the site, such as graffiti etc. The judicious use of part of the quarry for material deposition and subsequent habitat creation and active use of the site for the PRD and the associated tunnel operation building have the potential to result in positive impacts for the local environment, in my opinion.

10.10.38. In support of the proposed use of Lackagh Quarry, the applicant notes the “Waste Action Plan for a Circular Economy” published during the course of the oral hearing, which highlights that improvements in waste management practices can offer many opportunities in terms of reduced environmental and financial costs to the industry and society. The applicant contends that the deposition in Lackagh Quarry is consistent with the objectives of this Plan.

10.10.39. The proposed arrangement and design of the MDAs within Lackagh Quarry have been modified over the course of the application. The information initially submitted by the applicant with regard to the proposed final layout for Lackagh Quarry was insufficiently detailed and unclear. This issue formed part of the Request for Further Information, and Appendix A.1.11 of the applicant’s RFI Response provides a significantly greater level of detail of the proposed final layout of the quarry and also provides a deposition assessment for the quarry and modifications to the MDA layouts and capacity. The 3-D modelling images and cross-sections contained in the report are particularly instructive in understanding the final layout of the quarry. Annex 2 of Appendix A.1.11 is a ‘Material Deposition Areas - Baseline Report’, which provides updated details of all of the MDAs, their capacity and design. I note that the total allowable capacity of all MDAs is 806,700m³. Taking various errors into account, as corrected in the corrigenda, the total spare capacity in the MDAs is c. 26%. The applicant contends that this level of spare capacity within the MDAs is appropriate based on their experience from previous construction projects. I would tend to agree that this is a reasonable level of ‘headroom’, without overprovision of MDAs.

10.10.40. I refer the Board to the submissions made by Mr Flanagan (Ref. 82) and Mr Clandillon (Ref. 82A) and the document submitted by the applicant at the oral hearing entitled ‘Response to Queries raised in Module 2 of the N6 Galway City Ring

Road in respect of Lackagh Quarry Material Deposition Areas' (Ref. 76). This document clarifies the applicant's proposals with regard to the MDAs in Lackagh Quarry and includes a Corrigenda Appendix correcting various errors in Appendix A.1.11 of the RFI Response.

10.10.41. It is proposed to place approximately half of the total peat deposition material in Lackagh Quarry, with the remainder placed in certain specified MDAs (see. Table 3.1 in Appendix A.1.11). On foot of the remodelling exercise undertaken by the applicant following engagement with the quarry owners, MDAs DA24, DA27 and DA28 were reshaped, DA 25 was created and DA 23 (southernmost MDA) was removed, enabling the return of c. 3.01 ha of land post-construction to the landowner.

10.10.42. The applicant contends that DA 24 and DA 25 are critical MDAs for the purposes of the safe and sustainable deposition of materials arising and, in particular, the peat material. Of the 3 no. MDAs containing peat the largest is DA24 where 37,000m³ is proposed to be deposited. In order to deposit that quantity of peat the applicant contends that 67,000m³ of U1 material is required to be placed in DA 24, so as to ensure upper shelf stability, to stabilise the quarry face and to allow mixing/binding of peat within DA 24.

10.10.43. Mr Flanagan stated that his client had no difficulty with DA28 (to the north of the PRD mainline) or the proposed attenuation ponds within the quarry but contended that the other MDAs within the quarry were excessive. Mr Clandillon, in his submission, set out alternative geometries for the MDAs, making the argument that DA28 alone could cater for most or all of the deposition requirement or that DA27 and DA28 together would be sufficient, allowing Plot 583a.210 to be returned to the landowner. The applicant's response was that the capacity of DA28 was maxed out and that the size and design of the MDAs was driven by the peat placement and storage criteria.

10.10.44. There was much discussion at the oral hearing regarding the design of the MDAs within the quarry and the proposals put forward by Mr Clandillon. However, noting the multi-purpose nature of these MDAs, which provide a deposition site, a rock face stabilisation solution, and a basis upon which habitats can be created, I consider that the applicant has provided sufficient justification for the scale, location,

design and capacity of the MDAs. Noting that a considerable volume of peat will be placed in the quarry, I consider the contained nature of the void to be suitable for such material and, given the characteristics of peat, it is appropriate that a degree of caution and a suitably conservative design is utilised, rather than seeking to maximise the volume of peat in more constrained parts of the quarry. The applicant has engaged with the landowner and reduced the permanent landtake by redesigning the MDAs and I consider that the revised layout is acceptable.

10.10.45. With regard to the proposal put forward by Mr Flanagan that the calcareous grassland area to be created within the quarry be made available for public use as an amenity area, I do not consider that this would be appropriate or warranted. The habitats are being created for ecological mitigation and compensatory reasons and given the scale of the PRD and its impacts on a wide variety of habitats, I consider that such replacement habitats are a critical element of the scheme. Having regard to the nature and characteristics of Lackagh quarry and the presence of the proposed tunnel operation building and the oversize vehicle road within the quarry, I do not consider it appropriate that general public access to this area be encouraged. There are many more suitable areas in the vicinity for amenity uses.

10.10.46. Other issues at Lackagh Quarry, such as biodiversity and hydrogeological issues, are addressed elsewhere in this report.

Galway Racecourse Tunnel

10.10.47. Submissions on behalf of Galway Racecourse Committee (GRC) were made at various stages in the oral hearing, with the substantive submissions made on 14th October 2020 by Dermot Flanagan SC accompanied by Peter Kingston (Indecon Economic Consultants), Senan Clandillon (Engineer), and Pamela Harty (MKO). Mr Kingston presented a document (Ref. 75) outlining the importance of the racecourse to the economy of Galway and the economic impacts of a once-off closure of the summer race meeting. Ms Harty presented a document (Ref. 75A) outlining the policy support that the racecourse benefits from.

10.10.48. Mr Flanagan made a legal submission (Ref. 75C) outlining various legal provisions and case law relating to EIA and CPO. In particular, he drew attention to the need for conditions to be sufficiently clear as to avoid any doubt, and to the need for monitoring. These issues are stated to be of considerable concern to the GRC in

the context of the construction proposals for the tunnel, stables and the CEMP. Mr Flanagan stated that the GRC agreed with the applicant's position with regard to the acquisition of the Brooks site, where the proposed replacement stables are to be located. He stated that the GRC refers to and relies upon the statement made in Section 15.5.3 of the EIAR that "Galway Racecourse will continue to operate and function to a level of service as is the current situation" and in this regard there can be no ambivalence or uncertainty in the development consent. He summed up the position of his client as requiring 'racing certainty' on the construction process.

10.10.49. Mr Clandillon, in his submission (Ref. 75B), sought clarification regarding certain provisions of the EIAR and again identified the need for certainty and enforceability of conditions/commitments.

10.10.50. The economic and social importance of the Racecourse to the city, county and region is recognised by the applicant, and indeed is reflected in the extensive mitigation proposed in respect of this property and, in particular, the proposed Racecourse Tunnel and the temporary and permanent replacement stables.

10.10.51. Mr Flanagan's concerns outlined at the hearing regarding the need for certainty and no gaps was founded upon the currently unknown nature of the construction contracting and procurement process and the concern that a contractor on a 'design-and-build' contract may seek to value engineer aspects of the PRD or otherwise deviate from the commitments made in the EIAR and associated documents.

10.10.52. The Galway Racecourse Tunnel Constructability Report, which was included as Appendix A.7.4 of the EIAR, outlines the construction methodology and sequencing for the tunnel and other PRD works affecting the Racecourse in considerable detail. The tunnel is a c. 240m long cut-and-cover tunnel comprising a twin-tube reinforced concrete structure which will either be precast or cast in-situ. Excavation for the tunnel will be up 11.3m in depth, requiring the excavation of c. 25,000m³ of rock by means of blasting and mechanical excavation. The location of the tunnel segments within rock will allow for a steeper gradient in the cutting, minimising the width of excavation. The report notes that karst features may be encountered and will be evaluated and treated in accordance with the protocol set out in the CEMP. Dewatering will be required to construct the tunnel and

waterproofing systems will be utilised on the tunnel structure to prevent water ingress.

10.10.53. Other construction phase impacts on the racecourse include the loss of wells due to dewatering of the bedrock aquifer. It is proposed to replace these wells and monitor their quality and yield prior to construction.

10.10.54. Vibration and noise impacts will be monitored and mitigated in accordance with the provisions of the CEMP.

10.10.55. A very detailed construction programme for the works affecting the racecourse over the three year construction phase is set out in Section 3.2 of the report, with a series of associated sequencing drawings included as an Appendix. The programme is informed by a number of criteria set out in Section 3.1 of the report which seek to avoid impacts on the operation of the Racecourse. The programme clearly identifies all works, including both enabling works and construction works, and the time periods associated with each aspect of the development. In particular, I note that the applicant has outlined arrangements to be put in place during each year of construction to ensure that the Summer Festival can proceed and that no construction will occur during this period.

10.10.56. I consider that the construction programme is sufficiently detailed as to avoid any significant ambiguity or uncertainty around impacts on the racecourse and its ongoing operation. With regard to the potential for 'value engineering' or design-and-build contracts to undermine or contradict the commitments made, I note that Item 9.11 in the Schedule of Environmental Commitments states that "construction of structures will be completed in accordance with the CEMP in Appendix A.7.5. The construction of the [...] Galway Racecourse Tunnel will meet the requirements of the Galway Racecourse Tunnel Constructability Report Appendix A.7.4. The adopted construction techniques will comply with the requirements of statutory bodies in terms of noise, vibration, soil and groundwater contamination and disposal of contaminated material".

10.10.57. I also note the commitments in the SoEC that "Galway County Council will continue to liaise with Galway Race Committee in relation to the implementation of any approval granted in so far as it relates to Galway Racecourse" (Item 14.15) and

that the applicant has also committed to employing an equine expert or veterinary practitioner for the duration of the construction contract (Item 14.13).

10.10.58. While the construction of the Racecourse Tunnel and the other works on the racecourse lands clearly have the potential to adversely affect the operation of the racecourse, I consider that the applicant has set out a broad range of mitigation measures relating specifically to the racecourse and more general construction mitigation measures which will be effective in minimising impacts.

10.10.59. With regard to the proposed replacement stables, I consider that the temporary stables are adequate and that the proposed permanent stables are of an extremely high quality which will enhance the amenities and facilities at the racecourse. With regard to the appropriate standards for the stables, I note the additional commitment added by the applicant that “the design and construction of the temporary stables and permanent stables will be carried out in consultation with the Irish Horseracing Regulatory Board (Horse Racing Ireland HRI). The British Horse Racing Association guidelines will be used as a benchmark in the design in the absence of any future specific HRI guidelines”. I consider that these commitments will ensure that the stables are at least of equal quality to the existing stables, or more likely of considerably greater quality.

10.10.60. Jarlath Fitzsimons SC, on behalf of the applicant, responding to Mr Flanagan noted that they were *ad idem* on many matters and that the applicant was acutely aware of the importance of the racecourse. Mr Fitzsimons referred to the information submitted, contending that was in excess of EIA requirements, contained a full suite of information, and that the degree of consultation undertaken and the lack of ambiguity was clear. With regard to the issue of enforceability, Mr Fitzsimons contended that the applicant would be bound by mitigation and monitoring obligations under the EIA Directive, and the provisions of section 51C and 51D of the Roads Act, as amended, which make it compulsory for the developer to comply with environmental conditions attached to a consent by the Board and which assign an enforcement function to TII “to take all reasonable steps to ensure that the developer complies with the modifications and conditions specified in the notification”. Mr Fitzsimons also noted the standard ‘Condition No. 1’ requiring development to be undertaken in accordance with the plans and particulars submitted and drew the

Board's attention to the judgement in the case of Lanigan v Tipperary County Council where the standard condition was deemed to be an enforceable condition.

- 10.10.61. Mr Fitzsimons went on to assert that it would be unlawful for the Board to impose a condition making the GRC a party required to approve matters and that such a condition would be straying out of planning law and into private contract law. He stated that measures identified in respect of Galway Racecourse would be implemented and there was neither a requirement nor an ability to interpose the GRC into such matters.
- 10.10.62. I would generally agree with the position set out by Mr Fitzsimons and do not consider it appropriate that a third party would have decision making or veto power over the fine-grained details of the construction programme. It must be noted, however, that Mr Flanagan stated that the GRC was not trying to interpose themselves into contractual matters and that he would welcome the standard 'Condition No. 1'.
- 10.10.63. In conclusion, I am satisfied that the construction of the PRD within the racecourse lands, and including the construction of the Racecourse Tunnel, its associated portals and the replacement stables and horsebox parking has been fully and adequately considered by the applicant. I am also satisfied that the likely impacts of the construction phase, including the potentially disruptive tunnelling works, have been identified, and that a comprehensive suite of mitigation measures and construction management and monitoring proposals are incorporated within the scheme before the Board. In particular, I note the commitment made by the applicant to continue to liaise with the GRC in relation to the interface of the PRD and the racecourse.
- 10.10.64. I am satisfied that the PRD, if approved, can be constructed without a significant impact or interruption to the continued successful operation of the racecourse, and I further consider that the racecourse will benefit from the PRD as a result of the proposed provision of high-quality replacement stables and improved access arrangements.

Waste Management

- 10.10.65. Surplus materials will be generated as a result of demolition, excavation, construction and operation of the PRD. During demolition works, an estimated

47,400 tonnes of surplus demolition materials will be generated. During excavation works, the majority of the excavated material will be reused within the PRD or placed in the MDAs as addressed above, while c. 15,200 tonnes (7,600m³) of excavated material that is classified as hazardous material (Unacceptable Category) will require disposal. With regard to general construction waste (e.g. scrap timber and steel, machinery oils and chemical cleaning solutions) the applicant refers to BRE benchmark waste generation data which found a rate of 26.07m³ waste / £100k for civil engineering projects. Based on the estimated construction cost for the PRD, the applicant estimates that 25,300 tonnes of construction waste will be generated. It is clearly difficult to accurately estimate likely quantities of general construction waste in advance, but I consider that the use of BRE guidance is a reasonable approach for estimation purposes.

10.10.66. The applicant states that all wastes will be delivered to authorised waste facilities in accordance with the Waste Management Acts 1996-2016. By only using licenced/permited facilities it is contended that any environmental emissions (noise, dust, water) will be managed at the destination site and will, therefore, be the legal responsibility of the owner/operator of the destination site. The applicant considers that they can, therefore, be satisfied that the off-site waste management aspect of the PRD is legally compliant with environmental and waste management legislation.

10.10.67. A Construction and Demolition Waste Management Plan (CDWMP) is included in Section 7 of the Draft CEMP, included as Appendix A.7.5 of the EIAR. I am satisfied that this plan, which includes measures to reduce waste arising, to re-use the majority of excavated materials arising, and to dispose of unsuitable wastes to suitably licensed facilities, meets the requirements of the Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects (Department of Environment, Heritage & Local Government. 2006) and the TII Guidelines for the Management of Waste from National Road Construction Projects. I also consider that it is consistent with applicable waste policy provisions.

10.10.68. I note that a series of commitments are made in the Schedule of Environmental Commitments (Items 7.1 – 7.10 refer) that are consistent with the submitted CDWMP. Subject to compliance with these commitments, I consider that construction and demolition waste arisings will be appropriately managed.

Invasive Species Management

10.10.69. Construction of the PRD will entail site clearance and earthworks in a wide variety of locations, including in proximity to various watercourses, and will also entail the movement of very substantial quantities of materials, as outlined above. I, therefore, consider that the management of non-native invasive species during the construction phase requires consideration.

10.10.70. Ecological surveys undertaken for the EIAR recorded 13 locations of invasive plant species at various locations along the route of the PRD, including Himalayan knotweed (*Persicaria wallichii*), Japanese knotweed (*Fallopia japonica*) and Rhododendron (*Rhododendron ponticum*). The locations where the plant species were found is shown in EIAR Figures 8.15.1 to 8.15.14.

10.10.71. A Non-native Invasive Species Management Plan is included in Section 9 of the Draft CEMP, included as Appendix A.7.5 of the EIAR. The Management Plan is stated as having been developed with reference to the following guidelines:

- Best Practice Management Guidelines Japanese knotweed *Fallopia japonica* (2008) - prepared for NIEA and NPWS as part of Invasive Species Ireland.
- NRA Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads (2008).
- Managing Japanese knotweed on development sites - The Knotweed Code of Practice produced by the Environmental Agency.

10.10.72. The measures included in the Management Plan include a re-survey prior to the commencement of construction, advance treatments, fencing-off of infested areas, and chemical and/or physical treatment during construction, inspection of vehicles etc. The Management Plan sets out the various chemical and physical treatment options, in accordance with the abovementioned guidelines.

10.10.73. As well as the risk of invasive species present in the vicinity of the PRD being spread by construction works, there is also a risk associated with the introduction of new or additional invasive species in topsoil or fill material brought into the site. The applicant has undertaken to inspect this imported material using British Standard BS3882:2015 Specification for Topsoil.

10.10.74. A number of items within the Schedule of Environmental Commitments also set out commitments regarding the control of invasive species during the construction phase (Items 8.2, 8.11 – 8.15 refer). With regard to ongoing control of invasive species in the operational phase, I note Item 7.10 in the SoEC, which states that:

“Following construction, the Non-native Invasive Species Management Plan will be updated for the operational phase, taking into account the results of the detailed construction non-native invasive species management plan and operational maintenance requirements. Follow on treatment methods such as chemical treatment may be employed if specified in the requirements for ongoing control.”

10.10.75. Given the difficulties in eradicating invasive species, I consider this operational phase management to be an important and welcome aspect of the applicant’s strategy. I am satisfied that the implementation of the above measures will minimise the risk of invasive species being spread within the site or to lands outside the site during the construction and operational phases. The potential Biodiversity issues associated with invasive species are addressed in the Biodiversity and Appropriate Assessment sections of this Report.

Pest Control

10.10.76. The HSE’s submission to the RFI Response queried the lack of information provided by the applicant regarding pest control measures during the construction phase. They noted that demolition of buildings which are infested by rodents can result in dispersal of these rodents into the surrounding area and that the control of pests on site is essential in the interest of the protection of public health.

10.10.77. The applicant responded to this issue in Section 4.15.21 of their Main Brief of Evidence at the oral hearing. They stated that a Pest Control Plan (PCP) will be incorporated into the CEMP, in accordance with guidance provided by the Environmental Health Service and the HSE. The PCP is stated to be consistent with the environmental commitments contained within the EIAR and NIS, including the CEMP. The PCP outlined by the applicant includes a site survey by a professional pest control company at least four weeks prior to any demolition works commencing. Where rodent infestations are identified, appropriate treatments will be first agreed

with the Project Ecologist and implemented prior to demolition. Pest monitoring shall also be undertaken on site during demolition/construction works.

- 10.10.78. Construction site management measures to control pests include removal of all refuse from site, filling or removal of old drains and other disused pipes and backfilling of old foundations, cesspits, cavities, etc. with suitable hardcore and a concrete cover. During the laying of new drains, the sewers, open pipe ends and manholes will be protected against entry by rodents when work is not in progress. Surface water pipes discharging into a watercourse will also be fitted with an anti-flood flap valve at the outlet.
- 10.10.79. It is stated that a good standard of hygiene will be maintained on site during the course of construction, with waste food, empty food tins, and other waste which might attract rodents stored in bins with tight fitting lids. Accumulations of old timber, bricks and debris will be cleared away as quickly as is possible, and stocks of building material will be neatly stored.
- 10.10.80. The updated Schedule of Environmental Commitments submitted before the close of the oral hearing included Item 1.22, which states that:
- “A Pest Control Plan (PCP) has been developed to implement pest control measures during construction of the proposed road development and this will be incorporated into the CEMP. A summary of the measures included in the PCP are outlined in the Statement of Evidence – Responses to Engineering, Need for the Project, Alternatives Considered and Material Assets Non-Agriculture Objection/Submissions as read into the record on day one of the oral hearing on 18 February 2020.”*
- 10.10.81. The HSE did not appear at the oral hearing and, therefore, it is not clear if they are satisfied with the applicant’s proposed PCP. However, noting that the outlined measures are consistent with the recommended measures set out in the HSE submission and with published HSE guidance¹³, I consider that the applicant has adequately addressed the issue of pest control and, subject to compliance with the PCP, I do not consider that any significant issues with regard to pest infestations or dispersals are likely to occur.

¹³ ‘Rodent Control for Construction Industry’ HSE Environmental Health.

10.11. Consultations

- 10.11.1. The issue of consultations was raised by many objectors over the course of the project. A common theme was that there was inadequate or selective consultation and insufficient consultation particularly with respect to those people who will have their houses compulsorily acquired should the Board approve the subject proposal.
- 10.11.2. I consider that it is evident with respect to the public consultation reports included as part of the EIAR (Appendix A1.1, A1.2 and A1.3) submitted by the applicant that there were a number of formal events, public displays, advertisements, display boards as well as brochures. In addition to these public information sessions, the applicant noted that over 950 meetings with landowners have taken place since May 2014. A project website was also created, and a project office, located in Ballybrit, was set up for consultation purposes, with a dedicated land liaison officer in place to answer queries or concerns. I also note that the project manager appears to have given generously of her time and responded to individual queries, which I consider constitutes a high level of service. This was evident at the oral hearing, in particular, whereby it was clear that she knew many of the parties personally having engaged with them over the course of the process.
- 10.11.3. The project has been long in planning. During that time there have been many rounds of consultation with members of the public and other stakeholders. I consider that there is evidence that the applicant attempted to respond in a meaningful way to views expressed and that this approach continued during the planning application process.
- 10.11.4. I am of the view that the people losing their homes may have been better served by being treated as a separate group albeit I accept the CPO process with respect to compensation is outside the remit of the Board. This is addressed further in section 13 below. Mr Murphy referred to a 'Town Hall' meeting whereby the N6 Action Group asked the applicant to attend. Ms McCarthy explained that in her opinion 'Town Hall' type meetings do not work but restated her availability during the project.
- 10.11.5. I am of the view that the consultation undertaken was meaningful and thorough. I note that the HSE commended the level of consultation undertaken during the course of the project. Furthermore, having regard to the duration of the oral hearing and opportunities afforded to observers and objectors to make a submission(s) and

question the applicant, I am satisfied that the various parties were provided many opportunities for full participation.

10.11.6. In conclusion, I am satisfied that public consultation in the process, together with the provisions made for written and oral submissions to be made to the Board, whereby each individual/group who expressed an interest in making a submission was facilitated during the course of the hearing, is in accordance with the statutory obligations and with the requirements of the Aarhus Convention.

10.12. Implications of Covid-19 Pandemic for Proposed Development

10.12.1. At the oral hearing, a number of parties (e.g. Gerald Lawless, Galway N6 Action Group, Senator O'Reilly) contended that the Covid-19 Pandemic had undermined the rationale for the proposed development, due primarily to the increased level of working from home, virtual meetings, reduced level of commuting etc. I also note that, subsequent to the close of the oral hearing, the Rural Development Policy 2021-2025 – Our Rural Future was published by the Department of Rural and Community Development. This Policy document seeks to support rural development through a range of measures, including an increased level of remote working.

10.12.2. In response to this issue, the applicant presented a document at the oral hearing on the 19th October 2020, entitled 'Response to Queries raised in Module 2 of the N6 Galway City Ring Road in respect of Traffic and Climate', Submission no.78. Section 8 of that document, and the associated Appendix B, provide a 'Covid-19 Sensitivity Test'.

10.12.3. As the oral hearing had to adjourn for an extended period as a result of the Pandemic and was completed remotely, via Microsoft Teams, this is clearly a pertinent issue. The Pandemic is ongoing at the time of writing this report and I would, therefore, agree with the applicant that the likely medium and long-term effects on future travel behaviour are difficult to accurately predict at this stage.

10.12.4. The Sensitivity Test seeks to predict a potential likely outcome based on identifying those people whose working circumstances allow them to work remotely and estimating what proportion of these people may do so in the future and for how often. This is based on CSO information on journey purposes and employee trips, in

addition to attitudinal surveys which gauge the impacts of Covid-19 on travel behaviours. The methodology utilised had 3 No. steps:

- **Step 1:** Identify the trip types which may be affected by changes in working patterns.
- **Step 2:** Determine what proportion of affected trip types/ user classes will have the ability to work from home.
- **Step 3:** Estimate how often those who can work from home, will work from home.

10.12.5. The WRM which has been used to assess the impacts of the PRD breaks down traffic on the road network into 5 No. User Classes, as follows:

1. Taxi.
2. Business trips (Travel for business purposes e.g. face to face meetings).
3. Commuting trips (Trips from home to work).
4. "Other trips" (includes parent dropping a child to school, food shopping trips, visits to friends/relatives and trips made by retired people).
5. Freight (Trips that involve the transport of goods, produce etc. by light and heavy goods vehicles).

10.12.6. The Sensitivity Test assumes that, in a post-Pandemic environment, User Classes 1, 4, and 5 will not substantially change travel habits and consequently, only User Classes 2 and 3 will be substantially impacted by increased home working. I would generally concur with this analysis but consider it likely that freight trips will remain elevated due to the shift to online shopping over the course of the Pandemic and which may endure into the post-Covid environment. However, given that HGVs represent a relatively low percentage of overall traffic movements, I do not consider that this would alter my conclusion below.

10.12.7. The total pre-Covid traffic demand in the AM peak hour across the WRM network in the 2039 Design Year is 181,278. User Classes 1, 4 and 5, which are expected to remain largely unchanged, account for c. 66% of this figure. The remaining c. 34% (61,628), comprising a mix of Business Trips (7,512) and Commuting Trips (54,116) will be impacted by increased levels of home working.

- 10.12.8. Based on occupation types reported in the 2016 Census for Galway City and County, it is estimated that in the City 64% of workers have the potential to work remotely in the future, reducing to 57% for the County as a whole. The remaining workers are in areas such as skilled trades, caring, service, machine operatives, elementary occupations etc. who are considered unlikely to be able to work remotely. I would agree with this assessment and note that that the higher City figure of 64% was utilised in the sensitivity analysis which is suitably conservative, in my opinion, noting that in reality some office staff will be unable to work remotely.
- 10.12.9. With regard to commuting trips, SYSTRA, the applicant's traffic consultant, administered a travel behaviour and attitude survey of office workers in the UK, in June 2020, which found that respondents were making commuting journeys (i.e. not working from home) 84% of their working days before the introduction of Covid-19 restrictions. Once all restrictions are lifted (i.e. in a post-Covid environment), respondents predicted making commuting journeys on 50% of their working days. This would be equivalent to a 34% reduction in all commuting journeys carried out by office workers.
- 10.12.10. With regard to business trips, SYSTRA has again undertaken a series of monthly surveys in Scotland, with working respondents asked about their expectations regarding business meetings post-Covid. Before Covid-19 restrictions, a third (34%) of working respondents took part in business meetings, with the majority (61%) travelling to attend between one and four business meetings in an average month. Following the Covid pandemic, the results of the survey indicate that approximately 55% of all face-to-face meetings could be replaced by virtual meetings. Given the inherent uncertainties in determining business practices in a post-Covid environment, this would appear to be a reasonable assumption, in my view.
- 10.12.11. Table 14, included in the applicant's abovementioned 'Response to Queries raised in Module 2 of the N6 Galway City Ring Road in respect of Traffic and Climate' incorporates these assumptions on changes to working patterns post-Covid, and contends that, as a result of the drop in business trips and commuting trips outlined above, there could be a total 9% drop in traffic in the AM peak hour across the entire region post-Covid.

10.12.12. The applicant notes that the current NPF demographic forecast results in a 32% increase in traffic on the road network by 2039 and contends that, when viewed in the context of this forecast growth, the impacts of the Covid pandemic will not alter the outcome of the appraisal to date and that full implementation of the GTS is still needed to support the sustainable growth of the city.

10.12.13. Having considered the points made by the objectors/observers and the applicant's response, as detailed in the abovementioned response submission and its associated Appendix B technical report, I find the applicant's reasoning to be persuasive. I note in this regard the data from the TII Traffic Monitoring Units (TMUs) on the National Road network in Galway City and County that are included in Section 2 of Appendix B. This data compares traffic for 2019 and 2020 at the TMU locations and shows a severe reduction in traffic in April 2020 (i.e. during the period of complete lockdown restrictions). However, by September 2020, when restrictions had eased somewhat, traffic levels had returned to c. 90% of those seen in September 2019. Comparison of the daily traffic profile for the average workday across the TMUs in September 2019 and September 2020 also supports the applicant's contention that post-Covid traffic reductions will primarily relate to commuting journeys and business trips, with the AM and PM peak periods dropping to 82% and 87% of the 2019 values, respectively, whereas the Inter Peak period reached 95% of the 2019 values. Taken together, this analysis would imply that, rather than fundamentally reshaping traffic demand, the post-Covid environment may result in a relatively minor reduction in traffic demand, particularly outside of peak periods.

10.12.14. Having regard to the considerable level of population and economic growth forecast for Galway in the NPF, and the European, National, Regional and County-level strategic importance of the proposed development, I do not consider that changes to working practices and associated travel patterns arising from the Covid-19 pandemic undermine or negate the need or purpose of the proposed development.

10.13. Planning Conclusion

10.13.1. It is clear that the road has policy support at all plan levels from National, Regional to local and will assist the Council in realising the aims of the Galway Transport

Strategy. The design of the road is in accordance with the requirements of the European TEN-T network and has adequately provided for future demand. There will be positive socio-economic benefits with respect to balanced regional development as well as tourism and the Gaeltacht. There will not be an unacceptable impact on services or utilities subject to appropriate conditions.

- 10.13.2. It is clear that there are some significant negative impacts associated with this project most notably on those people who will lose their homes and where community severance occurs.
- 10.13.3. There will be construction impacts on the community, but I am satisfied that the applicant has demonstrated that mitigation measures will be taken to minimise disruption and inconvenience. I am also satisfied that the commitments given in the Schedule of Environmental Commitments are enforceable and will serve to mitigate the impacts to an acceptable level for the duration of construction.
- 10.13.4. I am satisfied that the public have been adequately consulted and that the applicant has complied with statutory and non-statutory requirements.
- 10.13.5. I am satisfied that the applicant has put forward a cogent argument that the Covid-19 pandemic will not result in such significant changes to the movement of people such as to result in the road no longer being necessary.
- 10.13.6. I conclude, therefore, that the policy support for the proposed road is robust and comprehensive and that the need, justification and purpose of the road has been adequately demonstrated such that the proposed development would be in accordance with proper planning and sustainable development of the area.

11.0 Environmental Impact Assessment

11.1. Introduction

- 11.1.1. This section of the report comprises an environmental impact assessment of the proposed development. Some of the matters considered have already been addressed in the Planning Assessment above. This section of the report should be read, where necessary, in conjunction with relevant sections of the Planning Assessment and the Appropriate Assessment section below.
- 11.1.2. The Environmental Impact Assessment Report (EIAR) accompanying the application has been prepared by ARUP on behalf of Galway County Council. As noted elsewhere Galway County Council on behalf of itself and Galway City Council is proposing the subject development.
- 11.1.3. The EIAR is presented in the grouped format. The Non-Technical Summary (NTS) is set out as a separate document as Volume 1 which is required to provide a summary of the EIAR in non-technical language. Volume 2 of the EIAR is split into 5 parts, 2A to 2E. Volume 3A and 3B contains all the figures associated with the proposal in A3 format. Volume 4 includes the Appendices split into 12 parts, 4A to 4L.
- 11.1.4. This application was submitted after 16th May 2017, the date for transposition of Directive 2014/52/EU amending the 2011 EIA Directive therefore the subject application falls within the scope of the amending 2014 EIA Directive (Directive 2014/52/EU). It is, therefore, proposed to apply the requirements of Directive 2014/52/EU herein.
- 11.1.5. As is required under Article 3(1) of the amending Directive, the EIAR describes and assesses the direct and indirect significant effects of the project on the following factors: (a) population and human health; (b) biodiversity with particular attention to the species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape. It also considers the interaction between the factors referred to in points (a) to (d). Article 3(2) includes a requirement that the expected effects derived from the vulnerability of the project to major accidents and / or disasters that are relevant to the project concerned are considered.

11.1.6. I have carried out an examination of the information presented by the applicant, including the EIAR, the response to the Further Information request, and the submissions made during the course of the application and during the oral hearing including the corrigenda and the revised Schedule of Environmental Commitments. A summary of the results of the submissions made by the prescribed bodies and observers, including submissions received following the request for Further Information and those submissions made at the oral hearing, has been set out at Section 6, 8 and Appendix 1, 2 and 3 of this report.

11.1.7. These issues are addressed below under the relevant headings, and as appropriate in the reasoned conclusion and recommendation. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality, and that the information contained in the EIAR and supplementary information provided by the developer as part of the response to the Request for Further Information and during the oral hearing is up to date, adequately identifies and describes the direct and indirect and cumulative effects of the proposed development on the environment, and complies with article 94 of the Planning and Development Regulations 2001, as amended.

11.2. Consultations

11.2.1. Details of the consultation entered into by the applicant as part of the preparation of the application and EIAR are considered adequate. I am satisfied that the participation of the public has been effective, and the application has been made accessible to the public by electronic and hard copy means with adequate timelines afforded for submissions.

11.2.2. In conclusion, I am satisfied that the information provided is reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effect of the project on the environment, taking into account current knowledge and methods of assessment. Overall, I am satisfied that the information contained in the EIAR is up to date, complies with the provisions of Article 3, 5 and Annex IV of EU Directive 2014/52/EU amending Directive 2011/92/EU. The content and scope of the EIAR is considered acceptable and in compliance with the requirement of Articles 94 (content of EIAR) and 111 (adequacy of EIAR content) of the Planning and

Development Regulations, 2001 (as amended), the Roads Act, and the provisions of the new amending Directive.

11.3. Alternatives

11.3.1. Chapter 4 addresses the alternatives considered. I have also had regard to the Route Selection Report that was submitted in response to the Further Information Request. At the oral hearing the applicant made submissions responding to the alternatives issues raised in written submissions/objections. These were presented by Ms Eileen McCarthy on the 18th February 2020. A number of parties made further alternative related submissions over the course of the hearing, including questioning of the applicant's consultants. These matters are addressed in the assessment section below.

11.3.2. Article 5(1)(d) of the 2014 EIA Directive requires:

(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;

Annex (IV) (Information for the EIAR) provides more detail on 'reasonable alternatives':

2. A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

Furthermore, Section 50(2)(b) of the Roads Act 1993, as amended, states that the EIAR is to contain:

a description of the reasonable alternatives studied by the road authority or the Authority, as the case may be, which are relevant to the proposed road development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed road development on the environment;

11.3.3. Subsequent to the 2006 Galway City Outer Bypass (GCOB) scheme and the decision of the European Court of Justice and the key constraint of the Lough Corrib SAC, alternatives considered by the applicant included: i)Do-Nothing Alternative, ii)Do-Minimum Alternative, iii)Do-Something Traffic Management Alternatives, and iv)Do-Something Road Based Alternatives.

11.3.4. The applicant provides an overview of the traffic issues and the causes currently being experienced in Galway including:

- Congestion throughout the city road network
- Over capacity of existing junctions
- Journey times unreliable due to uncertain quantum of delay
- Journey time variability throughout the day
- Peak hours traffic delays
- By-passable traffic is in conflict with internal city traffic
- Strategic traffic is in conflict with local traffic
- Inadequate transport links to access employment centres/shopping/ commercial districts within the city
- Inadequate transport connections from Galway onwards to Connemara
- Lack of accessibility to the Western Region as a whole
- Lack of available space to facilitate the improvement of non-motorised modes of transport

11.3.5. It is contended that traffic congestion in Galway City and its environs is crippling and stifling city living as well as cutting off access from the wider region to employment and services in the city. It is stated that the total breakdown of the transport network in Galway occurs on a frequent basis as there is no resilience in the network. It is further stated that this random unpredictable shutdown of Galway's transport network costs millions and has the real potential to prohibit Galway functioning as a city or economic engine for the Western Region.

11.3.6. It is stated that alternatives considered will be assessed against the Galway Transport Strategy (GTS) which is considered to be the overarching strategy in place

for Galway. A constraint study was undertaken within the study area shown in Plate 4.1 which is considered to be the area within which it is possible to develop a transportation solution for the city and its environs. Constraints of a physical and environmental nature were identified.

- 11.3.7. It is stated that the physical form of the city in terms of the built and natural environment and residential areas on both sides of the River Corrib, together with the limited available space between the lake and the bay, plus the presence of the designated sites presents significant constraints for developing new infrastructure for the city. The presence of these constraints focuses attention on the importance of considering reasonable alternatives in order to minimise the impact on the human environment and the designated sites. The significant constraints are depicted on Plate 4.2 in the chapter.
- 11.3.8. Each of the four alternative scenarios referred to above are considered in detail in the EIAR.

Do-Nothing Alternative

- 11.3.9. It is considered that the Do-Nothing alternative will only compound congestion issues experienced across the city. It is concluded that a Do-Nothing alternative would not offer positive economic benefits, would result in further decrease in efficiency of the transportation infrastructure over time, would not offer any safety improvements, would not benefit from smart-mobility/public transport initiatives as it does not facilitate any improvements on these fronts, does not involve any construction works thereby not causing disruption, and would not facilitate the implementation of the GTS measures. It is considered that the Do-Nothing option is not a real option in this case.

Do-Minimum Alternative

- 11.3.10. It is stated that the 'Do Minimum' definition had to be modified due to the planned and likely investment in transportation infrastructure. It is considered that a more realistic alternative was one which included planned and likely transportation schemes including smart mobility measures. The 'Do Minimum' alternative involved an examination of the existing transportation networks and infrastructure and existing policy and plans for Galway City and its environs. Likely and committed

transportation schemes were identified – 11 projects are listed including roundabout upgrades, bus corridors and pedestrianisation of streets.

- 11.3.11. It was concluded that the Do-Minimum alternative would not serve to reduce the existing congestion sufficiently, would not achieve sufficient results to ensure a further decrease in efficiency of the transportation infrastructure overtime would not arise, would not offer significant safety improvements (albeit would contribute to improving safety at a local level), overall would not achieve sufficient results to enable the full implementation of improvements to the public transport and cycling alternatives as capacity will be restricted, would not relieve sufficient traffic congestion and the associated environmental effects on the city centre and would not facilitate the complete implementation of the GTS measures.

Do-Something Traffic Management

- 11.3.12. This option seeks to maximise the value of existing infrastructure without construction of major new infrastructure. The traffic management measures alternative can include some or all of the following: local road safety improvements, fiscal or traffic control measures to manage demand, public transport priority, capacity and/or public transport services, improvements to pedestrian and/or cycling provision and Intelligent Transport Systems (ITS) to improve reliability, safety and operation capacity.
- 11.3.13. The Public Transport Only element of this alternative was developed and analysed as part of the initial studies on the N6 Galway City Transport Project (GCTP). This alternative includes all measures, options and schemes identified by Galway City Council in conjunction with the National Transport Authority as a result of the recommendations of the Galway City Council study entitled Galway Public Transport Feasibility Study of 2010 including Bus Rapid Transit, increasing frequency of all city bus services, bus priority measures, reallocation of road space on the Salmon Weir Bridge, and Light Rail. It is noted that the 2010 study assumed the 2006 GCOB was in place. The Public Transport Only Alternative as modelled in the initial studies of the N6 GCTP does not. The applicant provided further details in particular by Mr Andrew Archer at the oral hearing on bus and light rail options. It was concluded that the 'Public Transport Only' alternative does not provide an adequate transport solution as it does not reduce congestion levels in the city when considered in

isolation. Therefore, the 'Public Transport Only' alternative does not represent an effective 'Traffic Management Alternative' that responds to transportation problems as it does not resolve these problems in isolation. Analysis on the Public Transport Only Option demonstrated that it does not provide a solution in isolation, however, it does form part of the overall holistic transportation solution and is included in the GTS.

- 11.3.14. The GTS is discussed in this section of the chapter. It is stated that through consultation with key stakeholders including TII, NTA, Galway County Council and Galway City Council, it was agreed that a wider integrated transport strategy was required for Galway to identify the level of service requirements for each mode of transport; including walking, cycling, public transport and private vehicle. The more comprehensive 'Traffic Management Alternative' culminated in the GTS which provides Galway City and its environs with a clear implementation framework for transportation over the next 20 years. It is further stated that this is an incremental strategy which seeks to implement sustainable transport solutions to manage traffic demand. A portion of these incremental measures will provide some relief to the traffic problems experienced in Galway City and its environs. However, to fully realise the overall transport solution all measures are required.
- 11.3.15. The development of this strategy involved reviewing and consolidating various existing transport proposals, including the bus study and a light rail study amongst other measures, to form a coherent and integrated transport strategy for Galway City and its environs. It continues stating that this transport strategy seeks to deliver an integrated network of 'links' (routes) and 'nodes' (stops and interchange locations) along which people can travel seamlessly, changing corridors and modes as necessary to make their journey. A synopsis of the range of solutions for each mode is outlined including for pedestrians and cyclists, public transport, cross-city route for journeys not possible by non-car modes, and parking availability. The bus and light-rail information was discussed further at the oral hearing. It was concluded that a high-quality bus-based public transport service will most appropriately cater for the forecasted passenger demand and provide significant flexibility in terms of network options and the ability to integrate with other modes. The reallocation of road space to public transport in the city centre will be accompanied by an associated improvement in the public realm.

11.3.16. It is further stated that, in order to implement the level of service required for each mode of transport, including walking, cycling, public transport and private vehicle as outlined in the GTS, a new crossing of the River Corrib is required. Alternative options for the new River Corrib Crossing were considered as part of the road component for the N6 GCTP. These alternatives are outlined in the 'Do Something Road based Alternatives'.

11.3.17. It notes that the GTS is an incremental strategy which seeks to implement solutions to manage traffic demand. It is noted that a portion of these incremental measures will provide some relief to the traffic problems.

Do-Something Road Based Alternative

11.3.18. This section notes that numerous alternatives for connecting the east and west of the city and county were considered. Alternatives across Lough Corrib and Galway Bay or a tunnel from the far west to the east were all considered and discounted. Alternatives for a new crossing of the River Corrib were considered.

11.3.19. Lough Corrib Route Options, Coastal Route Options and tunnel over project extent alternatives were discounted from further consideration as they were deemed not to meet the project objectives. Plates 4.5, and 4.6 within the EIAR illustrate the options.

11.3.20. In terms of the River Corrib Crossing Alternatives (section 4.7.2 of the EIAR) it is stated that the development of route options for a new crossing of the River Corrib and a road based alternative included designs which avoided existing properties as identified on OS and aerial mapping as much as possible. The N6 Galway City Outer Bypass, 2006 was including in these route options. During the course of the development and appraisal of these alternatives it became evident that more detailed information was available along the route of the 2006 GCOB than other areas of the scheme study area and hence the development of these alternatives was paused until the necessary detailed environmental studies were undertaken on the entire study area. Detailed ecological surveys, ground investigations at Rahoon and archaeology geophysics at Ballybrit were carried out before the route options were further progressed. In parallel to this a study was undertaken to identify an on-line option which reutilised as much of the existing road infrastructure including the existing N6.

- 11.3.21. Once the environmental studies and on-line option development were completed the route option development process recommenced. Based on the initial route options, OS and aerial mapping, transport demand analysis and the results of the ecological surveys, option development zones were developed by the Design Team. These zones are identified on plate 4.7. Option development zones were areas within the scheme study area which from a human beings and ecological perspective the more beneficial route options could be developed whilst also bearing in mind that the need to connect back to the city to effectively resolve existing transportation issues. It was noted that all options developed within these zones still had to be assessed by other environmental specialists which further reduced the zones available. It is stated that the situation arose where route options were developed outside these zones to reduce impacts on other key environmental constraints.
- 11.3.22. The development of these feasible route options was a two-stage process with the initial routes developed known as Stage 1 Route Options. These route options comprised on-line options which included an upgrade of the existing infrastructure, partial on-line/off-line options and total new construction off-line and are shown on Plate 4.8 and a schematic of these options is shown on Plate 4.9 within the EIAR.
- 11.3.23. Following public consultation and further studies the route options were further refined to become the Stage 2 Route Options – Plate 4.10 and 4.11 refer. In addition, the 2006 GCOB, a modification of the 2006 GCOB, the Cyan Route and a switch between two of the off-line route options were also considered. It is stated that given the urban environment, density of residential development and the presence of the designated sites a horizontal and vertical alignment for each option was designed. The vertical alignment for some of the route options included sections of tunnels to reduce the impact on key constraints.
- 11.3.24. Stage 1 route options are each described and identified as the Red Route Option (online route option), the Orange Route Option, Yellow Route Option, Blue Route Option, Pink Route Option, and a Green Route option. Stage 2 options were established after the major amendments and alterations were made, in order to address concerns raised and issues identified through public consultation. It is further noted that the 2006 GCOB road was assessed as an alternative as there was significant knowledge and detail available on this option and it was possible to comparatively assess and rank other road based alternatives with the 2006 GCOB

Route Option. The Cyan Route Option is a reconfiguration of the 2006 GCOB to address issues raised by ABP in its refusal of the western section. The Cyan route reflects the GCOB to the east of the River Corrib and follows an alternative route to the west. A Green-Blue Switch route option was added at Stage 2.

11.3.25. A summary of the key potential significant environmental impacts for each route is provided in Table 4.2. A comparative assessment of property demolitions required is provided in Table 4.3.

11.3.26. Information is provided as to why the 2006 GCOB option was not pursued further. It is stated that full analysis showed that there are other alternatives which better meet the project objectives in terms of capturing existing travel demand. It is noted that the boundary of the Lough Corrib SAC was extended post lodgement of the 2006 GCOB planning application with ABP, resulting in a greater length of this Route Option crossing through the Lough Corrib SAC and, therefore, having a greater impact on its integrity than originally anticipated. It was also considered that the 2006 GCOB would not deliver the optimum intermodal transport solution as extensive traffic modelling showed that it would not deliver relief to congestion to the same level as other road based alternatives.

11.3.27. Likewise, the Cyan route was not advanced further for specified reasons. It is stated that the Cyan Route Option would not deliver the optimum intermodal transport solution as extensive traffic modelling shows that it would not deliver relief to congestion to the same level as other road-based alternatives.

11.3.28. The Green-Blue route provided an alternative crossing of the River Corrib, connecting the Green Route Option west of the river with the Blue Route Option east of the river with the benefit of the avoidance of impacts to NUIG Sporting Campus and reduction of direct impacts on the Dangan area west of the River Corrib, and the avoidance of Menlough Village to the east of the River Corrib. It is considered that this route option had a greater impact on Menlo Castle; the direct impact on residential properties for this alternative route option is also greater with the highest number of residential acquisitions when compared to that of the Blue or Green Route Options considered alone; potentially an impact on flood risk; due to the presence of soft and peat soils, the location of the River Corrib Bridge crossing presents a major negative in terms of soils and geology; significant impacts to a qualifying interest of

the Lough Corrib SAC habitat (Alkaline fen) on the west bank and would affect the integrity of the SAC; and, potentially the most damaging with respect to the local Lesser horseshoe bat population given its proximity to Menlo Castle and the core foraging area, and so it was not advanced further.

11.3.29. Each of the remaining route options were then ranked with respect to their impacts for each environmental discipline as Preferred (P), Intermediate (I), and Least Preferred (LP). The overall ranking for each route option in terms of the environment took into consideration the overall number of preferred, intermediate, and least preferred rankings. During the course of the assessment process Human Beings, Ecology, Landscape & Visual, and Material Assets – Non Agricultural were identified as disciplines which had key significant constraints.

11.3.30. The road was broken down into 3 sections and the different routes were assessed against each other within the specific section. It was concluded that the yellow route option is the preferred route for Section 1 (Bearna area). In Section 2 it is noted that Lough Corrib SAC is one of the more significant constraints and ecology is discussed in detail. The orange and pink route are the preferred route options overall for Section 2. It is noted that the orange route includes a 3.5km tunnel and avoids direct impact on the SAC and its impact on many other ecological receptors is reduced due to the tunnel. It is, however, stated that a 3.5km tunnel has the potential to indirectly impact on groundwater and groundwater dependent habitats within the Lough Corrib SAC and the Galway Bay Complex SAC. With respect to Section 3, it is stated that all route options have a similar number of preferred, intermediate, and least preferred rankings. The pink route is, however, the preferred option.

11.3.31. An overall summary of the rankings for the engineering, environmental and economic appraisal for each alternative, including those discounted as they were considered unfeasible or did not meet the project objectives, are presented in Tables 4.4, 4.5 and 4.6 for the purposes of comparison only.

11.3.32. It is stated that the outcome of the assessment is that the route option selected was a combination of route options which had the least number of residential properties acquired in each section. The yellow route is chosen for section 1 (with slight modifications to reduce potential property impacts), pink in section 2 and pink in section 3.

- 11.3.33. The alternatives chapter then proceeds to consider the N59 Link Road. It is stated that there are three options to connect the N59 to the mainline when the mainline is offset from the N59. An engineering appraisal of the options under the headings of geometry, length, junction strategy, constructability and traffic, was completed. From an engineering perspective the preferred N59 Link is the Orange N59 Link. An environmental appraisal was also carried out. Human Beings, Ecology, Landscape and Visual and Materials Assets – non agricultural were identified as disciplines which had key significant constraints. The Orange N59 Link was the preferred route option from an environmental perspective.
- 11.3.34. The emerging preferred route corridor was developed as an amalgamation of different route options over two sections, namely R336 to the Galway City boundary and the Galway City boundary to existing N6. At this point it was acknowledged that significant engineering infrastructure was required to enable advancement of this preferred route. It is stated that the provision of the River Corrib Bridge, Menlough Viaduct, Lackagh Tunnel and the Racecourse Tunnel are significant infrastructure in proximity to the urban environment but are a justified and proportionate response to deliver a solution in the correct location to solve the transport issues facing Galway.
- 11.3.35. It is further stated that once the emerging preferred route corridor was chosen it was refined as much as possible to eliminate and reduce impacts on the human environment. Significant design measures such as steeper earthwork slopes, steepened green embankments and retaining walls have been incorporated in the design to minimise the impact on the human environment. Additional mitigation measures such as noise barriers and landscaping are utilised to minimise the overall impact. It is stated that the process of producing the design from a route corridor was an iterative process. The input from various groups resulted in c. 20% of the length of the route moving outside the published corridor. It is noted that of the 20%, 4% moved wholly outside the corridor.
- 11.3.36. Amendments made throughout the length of the proposed road development include development of accommodation works via consultation with directly impacted property owners, refinement of local junction and access arrangement layouts in order to improve accessibility and performance and horizontal alignment alterations in order to minimise impact on property owners. These amendments are detailed in section 4.8.1 of the EIAR.

11.3.37. The alternatives section concludes that the road provides for the significant and much needed benefits to the EU transport network, the connectivity of the Western Region and County Galway as well as the built-up environment of Galway City and environs, meets the functionality of the road component of the overall intermodal transport solution, alleviates congestion within the city which results in reduced air and noise pollution, facilitates efficient public transport and multi-modal choice, improves safety, minimises property demolitions, improves quality of life and will deliver the additional crossing of the River Corrib and the new link road as proposed by the GTS. It is acknowledged that the road is going to have negative impacts on the receiving environment including a significant level of property acquisitions or demolitions that are unavoidable.

11.3.38. **Assessment**

11.3.39. Alternatives have been addressed above in detail in section 10.6 and should be read in-conjunction with the below assessment. As noted above and in section 10.6, based on the information before the Board, it is clear that a significant amount of work has been conducted over the duration of the project with respect to alternatives following on from the legal judgements relating to the 2006 GCOB. In my opinion the consideration of alternatives is of particular importance for this project having regard to the negative impacts that the route, the subject of this application, will have in terms of the demolition and acquisition of 54 residential properties.

11.3.40. However, ahead of that assessment, in the first instance many objectors in written and oral submissions contended that the consideration of alternatives was contrary to the EIA Directive as well as being contrary to public participation in decision making. I do not agree that the consideration of alternatives was contrary to the EIA Directive. I am satisfied having regard to the detailed work presented and carried out over the course of the project, and as required by the Roads Act 1993 as amended, that *'a description of the reasonable alternatives studied by the road authority or the Authority, as the case may be, which are relevant to the proposed road development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed road development on the environment'* has been carried out and adequately assessed. Moreover, I am satisfied that the assessment of alternatives is in accordance with Article 5(1)(d) of

the 2014 amending EIA Directive which requires '*(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;*'

11.3.41. At the hearing the applicant's Project Lead explained the process of assessing alternatives in response to many questions. The process of starting in 2013 after the CJEU judgement, the involvement of ARUP, the assessment of the numerous routes and the fact that it quickly became apparent that a road alone would not solve the issues but would be required as part of the solution, was clarified on numerous occasions including in response to, for example, Mr Michael Murphy on Day 8 of the hearing amongst others.

11.3.42. I am satisfied that the applicant did provide a description of reasonable alternatives and an indication of the main reasons for the option chosen.

Alternative Options

11.3.43. As stated in section 10.6 above, with respect to the question of whether the road itself is the correct response to the traffic issues being experienced in Galway currently, I am satisfied that the applicant has provided a description of the reasonable alternatives studied which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option. I am satisfied that a reasonable assessment of option alternatives including 'do nothing', 'do minimum' etc. has been carried out. I would also draw the Board's attention to the fact that the road is included in the City and County Development Plans which were themselves subject to a Strategic Environmental Assessment (SEA) as was the relevant variation to the County Plan. Of note is the fact that the Galway Transport Strategy (GTS) which is part of the Statutory Plans was also subject to SEA. The GTS SEA reviewed four alternatives as part of that assessment including:

- Do-minimum approach
- Prioritisation of a Road Transport based approach
- Prioritisation of a Public Transport based approach
- Provision of an Integrated Transport based approach

11.3.44. I have described the Integrated Transport based approach which was adopted in section 10.6 above.

11.3.45. In conclusion, I am of the view that the applicant has fully addressed alternatives to a road satisfactorily and I concur with the applicant that a road solution is required and that other alternative modes are not precluded and indeed will be supported by the provision of a road on the northern half of the city and environs. Moreover, I concur with the applicant that the transport solution must address the existing road network capacity in support of an efficient public transport option.

Alternative Routes

11.3.46. I have addressed the alternative route options for a road put forward by the applicant and considered the alternatives submitted by some of the objectors in section 10.6 above. As well as addressing alternatives to the mainline road, other alternatives considered by the applicant included alternatives at Rosan Glas housing estate for the N59 link road and at Parkmore. This is also detailed in section 11.13 below.

11.3.47. With respect to the applicant's alternative route options, the detail included in the EIAR and the Route Selection Report submitted by the applicant at Further Information stage has been considered as well as submissions raised at the hearing. I have summarised the stages considered as outlined in the EIAR in determining the preferred route above.

11.3.48. I have addressed the significant alternatives which were repeatedly raised at the oral hearing and in numerous submissions in relation to the mainline road in section 10.6 above amongst others being the 2006 GCOB, the N6 Action Group Alternative, Mr. John M. Gallagher's alternative and the alternative put forward by Mr Molinar on behalf of Mr Kilgariff.

11.3.49. In addition, I am satisfied that the need for the extent and scale of the road required has been adequately addressed. The need for the road to be a motorway as opposed to a dual-carriageway has been adequately addressed in section 10.6 above and in detail in section 11.13 below.

11.3.50. I am of the view that the consideration of options within the selected route corridor and the strategy for key junctions was a rigorous process, which had regard to environmental considerations and to the Project Objectives. I generally concur with

the reasons for choosing the preferred route as presented in the EIAR and as revised during the oral hearing.

Stable Alternatives

11.3.51. I note that alternatives to the location of the new stables for Galway racecourse were also assessed. This is pertinent because the tenants of the lands where the stables are to be located continue to object to the CPO of the lands. At the hearing it was explained that as a result of the tunnel construction the buildings that currently occupy the land will need to be demolished. Following the construction of the tunnel these lands will be available and it was decided to locate the new permanent stables at that location. Alternatives considered included, relocating the stables on top of the tunnel, moving the stables to the infield (inside the race track), moving the stable yard to the western end of the grandstand and to either side of the public area. I am satisfied that there has been adequate consideration of alternatives for the stables with clear description of the reasonable alternatives studied by the developer.

Conclusion

11.3.52. This section should be read in-conjunction with section 10.6 above and section 13 below. Having regard to the detail provided, I am satisfied that the applicant has provided a description of the reasonable alternatives studied which are relevant to the proposed road development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed road development on the environment. The consideration of alternatives is an information requirement of Annex IV of the EIA Directive, and the single most effective means of avoiding significant environmental effects. Having regard to this requirement and its purpose (i.e. avoidance of significant environmental effect) I am satisfied that the consideration of alternatives is adequate. I accept that significant environmental effects relating to demolitions and acquisitions cannot be avoided. However, I am satisfied that the applicant has adequately demonstrated that a substantial number of alternatives were considered at clearly defined stages of the project and as many demolitions and acquisitions were avoided as possible.

11.4. Major Accidents

- 11.4.1. **Chapter 19** addresses Major Accidents as well as inter-relationships, interactions and cumulative impacts. With respect to major accidents it is stated that risks that could not be screened out are low probability but potentially high consequence events. It is further stated that these are events that cannot be feasibly mitigated in the design or eliminated completely. Therefore, the feasible method of mitigating against them lies in developing procedures to manage their potential consequences.
- 11.4.2. The events requiring further assessment are considered to be: Vehicular events; structural collapse events; tunnel fire events; service utilities events; ground conditions related events; hydrogeological events; and hydrological events. Table 19.1 presents the hazards remaining following the screening process, defines the impact, assesses the likelihood of the hazard occurring, and assesses the consequent risk.
- 11.4.3. The outcome of the assessment identified that while these events would have very serious consequences should they occur, the risk is considered 'unlikely'. It is concluded that events have been considered throughout the design process and measures have been included in the design to reduce the severity and potential consequences of such events.
- 11.4.4. I am satisfied that the applicant has addressed the requirements of the EIA Directive with respect to Major Accidents.

11.5. Likely Significant Direct and Indirect Effects

- 11.5.1. The likely significant direct and indirect effects of the development are considered under the following headings, after those set out in Article 3 of the EIA Directive 2014/52/EU:
- population and human health;
 - biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
 - land, soil, water, air and climate;
 - material assets, cultural heritage and the landscape;

- the interaction between the factors referred to in points (a) to (d).

11.5.2. My assessment is based on the information provided by the applicant, including the EIAR, the response to the further information request, the additional material presented at the oral hearing, and the submissions made in the course of the application and during the oral hearing by the prescribed bodies and observers.

11.6. **Population and Human Health**

- 11.6.1. Human Beings, Population and Human Health are addressed in **Chapter 18** of the EIAR. The series of Figures 18.1.001 to 18.1.002 and Figures 18.1.101 – 18.1.115 contained in Volume 3 of the EIAR indicate the land uses in the area. Appendix A.18.1 and A.18.2 contained in Volume 4 of the EIAR provides information on the Health Profile 2015 Galway City and Galway County respectively. It is noted that aspects examined in the chapter relate to impacts of the proposal on socio-economic activities and on local community health. Aspects related to socio-economic activities include journey patterns, amenity and community severance, business, tourism and employment, and the use of the Irish language. Human health impacts are primarily considered through an assessment of the environmental pathways by which health can be affected such as air, noise, water and soil.
- 11.6.2. At the oral hearing the applicant made submissions responding to the population and human health related written observations/objections. These were presented by Dr Craig Bullock, John Cronin and Dr Martin Hogan on the 20th February 2020. A number of parties made further population and human health related submissions over the course of the hearing, including questioning of the applicant's consultants. The Schedule of Environmental Commitments was updated during the hearing on 13th March 2020 and included additional commitments relevant to Population and Human Health (section 21.3) which were included in the final Chapter 21 Schedule of Environmental Commitments issued on the 4th November 2020. These matters are addressed in the assessment section below.

Methodology

- 11.6.3. In terms of **methodology**, it is noted that the assessment has been prepared in accordance with the relevant guidelines. Data has been collected through a review of

relevant documents, information gathered through public consultations, mapping, site visits, and local discussions.

11.6.4. The study area covers the lands within and adjacent to the proposed development boundary in addition to areas where changes in traffic volumes are predicted. The study area for the Irish language appraisal covers the same lands but also includes the Galway Gaeltacht. The study area for protection of human health varies depending on the emission type and its extent.

11.6.5. It is stated that socio-economic impacts due to a development of this nature fall into four key categories:

- Journey Characteristics;
- Amenity;
- Community severance; and
- Economic.

In addition, it is further noted that relative to many other road developments the proposed development will involve a high number of residential and some commercial demolitions and acquisitions.

11.6.6. It is stated that, in line with best practice, the socio-economic assessment generally addresses effects at a community level rather than for individuals or identifiable properties, although impacts for small communities are assessed where these may consist of a handful of houses or families. Impacts on individual businesses are discussed where these are especially significant. **Irish language** and **human health** methodology are addressed. With respect to human health, it is noted that there is no standalone Health Impact Assessment (HIA) carried out.

Receiving Environment

11.6.7. The receiving environment of Galway City and County is described. The increase in population is noted and the envisaged eastward extension of the city towards the Ardaun LAP area. Information on population growth, houses by year built and journey modes and journey times is provided. Information on industrial and commercial estates is provided. The character of the area is described, and it is stated that the health of the population of Galway is broadly similar to other areas in

Ireland. The significance and sensitivity of the study area is described as well as a community profile of the Gaeltacht area.

- 11.6.8. The characteristics of the proposed road development during the construction and operational phase are described. It is noted that the development will result in a number of demolitions and acquisitions. At some locations a high proportion of the total number of properties in a cluster will be acquired which will present a varying negative effect on the remaining residents as well as the impact on the householders directly affected. In terms of the operational stage, it is stated that the road will enable the reallocation of existing road space within the city to public transport. It will facilitate a more efficient public transport system and the provision of a multi-modal choice of travel.

Potential Impacts

- 11.6.9. The potential impacts of the proposal are assessed in a 'do nothing' and a 'do something' scenario during the construction and operation phase, under the headings of journey characteristics, amenity, community severance, economics and tourism, Irish language and human health. It is noted that during construction there will be some significant negative impacts on local amenity particularly at NUIG sports facilities. There will be a direct impact on part of the sports pavilion and on two playing pitches. The central part of the sporting campus will become a construction site for a period of c.18 months. The existing pitches adjacent to the river will be unavailable for use while replacement pitches are being constructed, likely to be c.9 months. It is stated that alternative pitches will be provided to replace the existing pitches. As detailed above, this was amended at the start of the oral hearing and it was confirmed that works to replace the pitches included in the application will no longer proceed. NUIG have pursued their own plans for the replacement of the pitches.
- 11.6.10. During construction of the bridge, access to the river will be restricted. To the east of the river there will be a slight negative impact resulting from the location of the construction compound off Menlo Castle boithrin. The existing unpaved An Seanbothar lane will be used by construction traffic which will impact on amenities. At the N84 Headford Road a large proportion of the total number of residential properties will be acquired. Noise impacts are likely for remaining properties. This

will be similar for the area of Castlegar. There will be an impact on general amenity on at least six households in Cappanabornia. With respect to the Galway Racecourse, the programme will involve cessation of works around racing schedules.

11.6.11. Details of the residential demolitions and acquisitions are described. West of the River Corrib it is stated that five properties will be demolished at Na Forai Maola and two will be acquired. One landholding with planning permission for a dwelling will also be acquired. Two further properties are being acquired in the community of Ballard. One property will be demolished at Ballyburke, one off the L1323 Letteragh Road and two will be demolished and one acquired at Letteragh. Approaching the N59, one property will be acquired and one demolished at Bushypark. Near Dangan, two properties will be demolished, and one acquired at Ard an Locha. Five properties will be demolished and one acquired in Aughnacurra Crescent which is an estate of 14 properties.

11.6.12. East of the River Corrib two properties will be demolished in Menlough. Construction of the N84 Headford Road junction will require the demolition of 14 properties out of a total of 22 residential properties. Further east nine properties are proposed for either acquisition or demolition in Castlegar, two demolitions along Hynes Boithrin and four demolitions and two acquisitions on School Road. Three properties are due for demolition in Cappanabornia and one is proposed for demolition in Ballybrit and two in Briarhill.

11.6.13. Community severance is addressed and it is considered that it is likely to be felt most acutely by local residents where family members or friends are located on the far side of the road. It is further stated that given the scale of construction works it will be less for locations to the east of the river. The Ann Gibbons Road will be permanently severed. Restrictions will apply but continued access will be maintained to the riverbank and to the pitches to the north of the NUIG sporting campus. It is considered that the severance will be psychological rather than physical. More significant construction related severance will occur at Castlegar.

11.6.14. In terms of the economic impact, it is noted that a very significant impact is anticipated on a business located on the N84 Headford Road which bottles water. It is noted that the impact arises from the effects of landtake on one warehouse and an

impact on the company's raw material supply. The proposal requires the acquisition of a builder's providers store and landtake from other commercial businesses. Other businesses could be affected by the need for traffic management during construction including a car dealership and An Post sorting centre. There is potential for environmental impacts on businesses adjacent to the racecourse in the Parkmore Business Park some of which are engaged in activities that are potentially sensitive to vibration and air quality. The Racecourse tunnel will require the acquisition of lands including the demolition of commercial buildings and the demolition of stables. However, the stables will be replaced. A car dealership on the edge of Briarhill Business Park will be impacted.

11.6.15. Once operational the road is deemed to introduce positive impacts in terms of improving journey times and journey amenities and positive impacts for the economy due to improved accessibility and connectivity. There will be positive impacts for areas to the west of the county. It is stated that there will be negative impacts, for example noise and visual intrusion, into areas that are currently quiet and semi-rural, as well as introducing an element of social severance. It is expected to help sustain tourism and to provide new tourism opportunities.

11.6.16. The **potential impacts to health** are addressed under the headings of Health Protection, Health Improvements and Improving Services. In terms of Health Protection with respect to noise it is stated that construction noise is expected to have some negative effects; however, it will be short term and limited by work practices and restricted working hours. The results of the noise modelling carried out for the operational phase shows that there may be potential noise impacts on residential properties adjacent to the proposed road development but that the implementation of low noise road surfacing and noise barriers will mitigate these potential impacts. The noise assessment also shows that there will be a benefit for a significant number of people within the city due to a proportion of current traffic being transferred from their current routes. On the basis of WHO night-time noise guidelines, there will be beneficial effects for the community living along existing roads where traffic will be reduced. Those few residences that may exceed the 55dB level do so by only small margins and are not considered to be enough to have significant health impacts noting that the WHO Guidelines were updated post submission of the EIAR.

11.6.17. Air quality has been considered in both the construction and operational phases.

Given the proposed mitigation measures with regards to control of dust and other air emissions during the construction phase and the relative limited period of time duration, air quality impacts are not expected to have an adverse effect on human health during the construction phase. Detailed modelling based on worst case traffic scenarios identify that Air Quality Standards will not be breached thereby protecting the vulnerable such as asthmatics, the elderly, the very young or the sick in general. The impact on individuals whose homes are being compulsorily acquired is noted and the stress and anxiety they may experience is recognised.

11.6.18. In terms of Health Improvement and Improvement of Access to Services, it is noted that the potential for socio-economic gain will have a positive impact on health outcomes. Other areas of improvements are noted as being a potential decrease in traffic accidents and the potential for improving walking and cycling environments and the health benefits therein. It is considered that there are significant opportunities for improved access to services. This will include those living within Galway City and its environs and those in the west of Galway.

Mitigation Measures

11.6.19. In terms of mitigation measures a number are proposed to improve journey amenity, amenity and minimise severance. Human Health and the Irish Language mitigation measures are addressed.

Residual Impacts

11.6.20. With respect to residual impacts, it is stated that once operational the road will provide for a very significant positive residual impact in terms of improved connectivity across and beyond the city, which in turn will maximise the transfer of cross-city movements to the new road, thereby releasing and freeing the city centre and inner suburbs from congestion. It is expected that the reduction in traffic on the road arteries will provide a residual positive contribution to journey amenity.

11.6.21. There will be a very significant negative impact on householders who will be directly impacted by compulsory purchase. Furthermore, as the proportion of properties to be acquired at three locations is high in relation to the number of properties in the area, a significant negative residual impact could occur at a community level for those households that remain. There will be a significant residual amenity impact on

visitors to Menlo Castle and very significant impact on NUIG Sporting Campus in the absence of a new University Sports Masterplan. It is considered that an appropriate level of master planning would reduce the residual impact to moderate. It is stated that the residual impact on the 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.

11.6.22. It is considered that the improved connectivity will help stimulate economic development and the tourism sector.

11.6.23. There are potential benefits for human health protection. There are individuals who have slight negative impacts because of their proximity.

11.6.24. **Cumulative impacts** are assessed. The EIAR lists the committed projects and planning files for the city and county. The cumulative impacts are addressed under the headings of socio-economic, Irish Language, and Human Health. It is considered that the proposal will provide an opportunity to fully implement the GTS and to provide for improved public transport facilities and facilities for pedestrians and cyclists. It is considered that no significant negative cumulative impact upon the status of Irish as a community language will occur. It is not considered that there will be any negative cumulative effects on human health. The distances between the projects listed and the proposed road development results in no cumulative noise or air quality impacts. There is potential that reduced journey times and fewer unforeseen delays could have a potential benefit on psychological health. Any projects which make roads safer and reduce the probability of road accidents and fatalities can only be seen in positive terms from a human health perspective.

11.6.25. **Assessment**

11.6.26. I consider the potential impacts on Population and Human Health to be of key importance for the Board in deciding on this application. There are significant negative impacts on people who are losing their homes as well as community severance. There are also potential significant impacts on businesses and community amenities both positive and negative. This section should be read in conjunction with the Planning section of this report as well as **Alternatives, Noise, Air and Material Assets Non-Agriculture**. In addition, some individual impacts have been dealt with under the CPO process rather than specifically addressed

herein. I draw the Board's particular attention to Table 18.14 and 18.15 within the EIAR.

11.6.27. I consider the potential significant impacts on Population and Human Health are:

- Loss or acquisition of dwellings
- Severance of communities including the Gaeltacht
- Impact on amenities
- Impact on commercial facilities/socio-economic impacts
- Impact on journey times and journey amenity
- Impact on health

Loss of dwellings

11.6.28. The loss of dwellings is addressed in section 10.8 above and 11.17 below. As previously noted, the loss of a person's home and the unavoidable demolition or acquisition of 54 dwellings to make way for this road is one of the most significant negative impacts of this project which will occur at construction stage. Many of the homeowners do not want to leave their homes and very articulately spoke about the impact of the loss of their homes at the oral hearing.

11.6.29. At the hearing the applicant provided a useful overview of the general location of the dwellings to be demolished or acquired and the numbers of objections received by those homeowners. I also draw the Board's attention to Figures 15.3.1 to 15.3.15. As I consider this to be one of the most significant impacts, for the Board's benefit, I consider it is worth detailing the numbers involved. (note first number is demolition and second is acquisition).

- R336 to N59 Letteragh Junction: Total 11¹⁴ (7 Demo, 4 Acq). Only one objection received. This objector stated at the hearing that his house was to be acquired and he made it very clear that he wished to hold onto his house. He stated that he clearly understood the impacts faced by himself and his family during construction but that as this was temporary, he was willing to accept this. The applicant sought to proceed with the CPO as it was believed

¹⁴ Note error in submission – 5 houses noted for acquisition, 4 is the correct number for this area.

that the impact would be too great during construction. This is addressed further in section 13 below.

- N59 Letteragh Junction to River Corrib: Total 13 (9 Demo, 4 Acq.). Three objectors whose homes are to be acquired made a submission, with one homeowner wishing to proceed with the acquisition. Five homeowners whose homes are to be demolished objected to the demolition.
- River Corrib to the N84 Headford Road Junction: Total 2 (all demo). Both homeowners objected.
- N84 Headford Road Junction: Total 14 (all demo). Six homeowners objected (One objection relates to two dwellings).
- School Road, Castlegar: Total 8 (6 Demo, 2 Acq.). Seven objections were received.
- N83 Tuam Road to Coolagh Junction: Total 6 (all demo). Three objections received.

11.6.30. It is clear from a review of the drawings that, based on the route of the road proposed, these dwellings are directly in the path of the road or would be severely negatively impacted due to proximity. The applicant stated many times in both the EIAR and throughout the course of the hearing that the loss of dwellings was unavoidable given the proximity of the road to residential areas. The applicant also acknowledged that for many of the occupants the loss or acquisition of a private home is of considerable significance. The EIAR states that the residual impacts remain as very significant/significant as no mitigation is possible. Compensation is outside the scope of the EIA process and the remit of the Board. As addressed elsewhere in this report, the loss of homes is a significant impact and, in some cases, no amount of compensation will replace a family home. In my opinion, this is one of the most difficult issues to be addressed and the Board needs to be satisfied that the greater good is properly served by this project to justify the loss of so many family homes. However, as noted above the road is grounded in policy at all levels. I am satisfied that the applicant has provided a robust assessment of alternatives addressed elsewhere and demonstrated that every effort was made to minimise the number of demolitions.

Severance of communities including the Gaeltacht

11.6.31. While a substantial number of dwellings are being demolished or acquired, a significant residual effect will remain for other households and communities in the vicinity of these demolitions or 'those left behind'. This includes communities in the vicinity of Bearna, Na Forai Maola/Troscaigh, Dangan/Bushypark, Headford Road, Cappanabornia and Castlegar. The EIAR considers that the severity of the effect will vary depending on how established the community is, the ties between households, and the physical character of the location. I concur with the applicant's findings that the effect will be significant in areas such as Aughnacurra and Ard an Locha which are distinctive housing estates as well as around the junction with the N84 Headford Road, due to the scale of acquisition, and in the well-established communities of Castlegar. The applicant stated that over time the effect will diminish as new ties are formed and as new people move into the locality. This may be the case in some areas but there will be limited opportunities in others. At best there will be some mitigation in terms of communication during construction, landscaping and screening of the road in the longer term operation phase, provision of pedestrian crossings of existing radial roads, but the loss of community will be significant.

11.6.32. In addition, in some locations particularly to the west of the road, whether there is a loss of dwellings or not, the road will bisect the community and sever people from their neighbours and community facilities. I note that where paths and access routes are being severed, alternative access will be provided where possible. The Ann Gibbons Road will be severed but traffic is light on this road and there are no properties north of the severance point along the road. Objectors from Bearna in particular made strong points at the hearing about severance of their community and that, while alternative routes were provided, they were cumbersome and it may no longer be easy to quickly pop into neighbours. At the hearing the applicant made the point that the residual severance is mainly of a psychological nature, in part due to the character of the landscape or where the proposed road is on an embankment. This was disputed at the hearing by many parties. I am of the view that there will be a significant impact on some communities with respect to severance. However, similar to the loss of dwellings discussed above, this is an unavoidable impact as a result of this project. Mitigation measures put forward will not avoid the significant negative impact. Measures outlined as part of the Communication Strategy in the

CEMP will keep members of the community informed of scheduled activities and the applicant has committed to provide ongoing liaison throughout the construction stage. However, the residual impact will be medium to long-term significant negative depending on location.

11.6.33. I am satisfied that any severance caused by construction traffic such as on Headford Road, or locations north and south of the road development along its length, will be short term and slight negative. I am satisfied that traffic management mitigation measures as detailed in the CEMP will help to mitigate such causes of severance.

11.6.34. The applicant highlighted many times that a positive aspect of this development during operation would be the relief from commuter traffic in areas such as Bearna Village and Castlegar village, thereby enabling further opportunities to provide pedestrian and cyclist facilities which would reduce severance. I agree that relief from severance currently caused by traffic in villages is a positive impact of this project.

11.6.35. Some objectors raised concerns that the road would be a barrier to future residents of the Ardaun area and essentially lead to a separate settlement. The route of the road has been identified in the various statutory plans and any future design of the area will take account of the potential future road. This is also addressed in section 11.13 below.

11.6.36. Another potential impact is with respect to the severance of the Gaeltacht areas. The proposed development extends through an extensive area of the Galway Gaeltacht which abuts and surrounds Galway City. It is noted that this area has experienced rapid population and urban growth in the last few decades and which it is not of Gaeltacht origin. Submissions made by Údarás na Gaeltachta considered that the proposed development would help sustain the Irish Language as the road would give more efficient access to the Gaeltacht and would have a beneficial effect on attracting new industries to the Gaeltacht and Connemara areas. I concur that this in turn would enable Irish speaking people to continue to live in the area and, therefore, result in a positive impact on the Irish language. Severance issues in Gaeltacht areas close to the city are as noted above.

Impact on amenities

- 11.6.37. During the oral hearing, NUIG withdrew their objection and requested that the proposed mitigation measures included as part of this project be omitted (3G pitches etc.). However, several community and sports groups continued to object to the works and the impact on the **sports campus at NUIG** which is used very frequently. Many written and oral submissions were made highlighting the importance of the amenity for a variety of groups. It was repeatedly stated that the amenity so close to the city and open to everyone was a rarity and should not be impacted in anyway.
- 11.6.38. The applicant committed at the oral hearing that access to the NUIG lands will be maintained and that welfare facilities will be provided during construction works to the Sports Pavilion. Safe access across the construction site within NUIG Sporting Campus will be maintained for the duration of the construction contract. Following completion of the works a commitment was made by the Council to provide a right of way for NUIG to use the lands under the proposed viaduct for sporting/athletic purposes by way of a long lease. These commitments were added to the Schedule of Environmental Commitments which was continuously updated at the hearing.
- 11.6.39. As noted elsewhere NUIG decided to pursue their own development of replacement pitches. During construction noise and visual impacts, loss of use of pitches and modification to the sports pavilion will occur. Mitigation measures are detailed in the CEMP including managing construction traffic, providing welfare facilities for the sports clubs and maintaining access at all times. During operation and following the completion of these works, as well as the right of way and access to lands under the viaduct, I am satisfied that the impact on the facilities will be reduced somewhat, but there will continue to be a long-term moderate impact on the sports campus.
- 11.6.40. Access to the **riverside** during construction was raised as a concern. During construction there will also be noise and visual impacts. I noted on site visits that many people walked alongside the river and availed of this amenity so close to the city centre at all hours and days of the week. The applicant stated that construction traffic and works for the River Corrib bridge will be managed to minimise interference. I am of the view that impacts during construction will be moderate, negative and short term and can be managed to minimise impacts.
- 11.6.41. I agree with the applicant and indeed many of the observers that during operation the main effect for users of the sports facilities and the river walk on both sides of the

river will be the presence of traffic on the bridge overhead. Noise screening will be provided as mitigation, but there will be a residual negative effect as the bridge will induce a loss of general amenity in the vicinity of the River Corrib and Menlo Castle.

11.6.42. I am satisfied that while there may be some temporary disruptions for **Galway Racecourse** which serves as an amenity for residents and visitors alike, having regard to the fact that commitments have been given by the applicant to avoid works during the various festivals, the impact is acceptable. Furthermore, I am satisfied that the temporary and permanent stables being developed as part of this project will ensure that there is no long-term negative impact for the racecourse.

11.6.43. Other impacts on **general amenities** which were raised in submissions and at the hearing include access to rural roads for walking, jogging and cycling. This is also addressed under Noise, Air and Landscape and Visual assessments. While some roads may experience an increase in construction traffic, as outlined in the haul route drawings, this will be temporary and the roads will continue to be safe for use by the general public at all times. New over/underbridges and diverted routes will provide access to rural roads during the operation phase unless the road is clearly being severed (such as the Ann Gibbons Road). Some rural roads will benefit from reduced traffic as traffic will no longer use them as rat-runs. However, in the operation phase there will be some existing roads that will experience an increase in traffic as these roads are used to navigate towards the new road. This concern was articulated at the hearing. The impact of noise and air in these localities as a result of the traffic increases are addressed in Section 11.11 and 11.12 of this report. Section 11.13 details how adjacent roads are impacted.

11.6.44. As a result of construction of the mainline and link roads, there will be an impact on the amenities of residential and community areas, such as Rosan Glas, Gort na Bro, and Bushypark Church. Impacts will be as a result of construction traffic movements along the identified haul routes, as well as noise and dust. However, I am satisfied that the mitigation measures outlined by the applicant and, in particular, the CEMP will reduce these impacts to an acceptable level. I am also satisfied that because the project is of a linear construction the impacts will be for a set period of time of limited duration. I am satisfied that there will not be an unacceptable impact on these communities during operation.

Socio Economic Impacts

- 11.6.45. A number of commercial enterprises will be impacted by the proposed road development. Some businesses will be fully acquired and others will lose some road frontage with ensuing concerns about the visibility of their business. Most businesses welcomed the road and made submissions about the positive benefits that the road would bring in providing journey time reliability, both for their products as well as employees. Other businesses expressed concerns with potential impacts during construction with respect to dust and noise. At the hearing the applicant addressed these concerns and restated the mitigation measures proposed to reduce the impacts. Additional mitigation measures were agreed at the hearing and added to the Schedule of Environmental Commitments.
- 11.6.46. Two industrial properties (one of which includes four buildings) and two commercial properties will be demolished. There will also be full acquisition of one commercial property. At the time of the hearing there remained one outstanding objection to the CPO which is dealt with in section 13 below and in detail in section 11.17 below.
- 11.6.47. With respect to the impact during construction I am satisfied that while there will be some disturbance and nuisance for businesses, it is short-term temporary. Mitigation measures include noise and dust control as detailed in the CEMP. Partial land-take is required from some businesses but I am satisfied that, with appropriate signage, impacts will be reduced to slight negative. Tunnel works near the racecourse and businesses in Parkmore will be undertaken in compliance with the CEMP resulting in an acceptable impact of short duration. I have addressed the Galway Racecourse above under amenities and I am satisfied that it will not be impacted under the heading of socio-economic. Overall mitigation measures are proposed which will manage the impacts and reduce them to an acceptable level.
- 11.6.48. During the operation phase I am satisfied that there will be positive impacts with respect to journey time reliability and amenities which will be of benefit to businesses and commercial enterprises. This includes easier access and connectivity between the various Business Parks, the N83, N84 and the existing N6. Furthermore, the addition of the Parkmore Link Road will be a significant positive impact to the many businesses in the area both in terms of employee access and for manufacturing/movement of goods.

11.6.49. I am satisfied that there will be positive benefits to tourism because there will be improvements in journey times, journey characteristics, journey time reliability and easier access to Connemara and the Gaeltacht areas to the west of the city.

Journey Amenities

11.6.50. During construction there will be some impacts on journey amenities and characteristics as a result of temporary night time closure or diversions of roads which carry significant traffic including the major roads in the area, N59, N83, N84. This is also the case for smaller roads such as where minor roads meet construction works. However, I am satisfied that traffic management will minimise delays and I consider that this is temporary short-term.

11.6.51. During operation, the applicant considers that there will be positive impacts on journey amenities having regard to the reduced journey times, improved accessibility, including the accessibility of Gaeltacht areas, as well as improvements that can be brought about as part of the GTS. I am satisfied that the road will have significant positive residual impact in terms of improved connectivity across and beyond the city, releasing and freeing the existing city centre and inner suburbs from congestion, providing opportunities to improve pedestrian, cycling and public transport improvements thereby improving journey characteristics and amenities. This is the key positive impact of the proposal and is further detailed in section 11.13. There will be some negative impacts on existing journey amenities in currently quiet rural areas due to an increase in traffic seeking to access the new road or due to re-routing of roads. This will also be the case around the north link road as additional traffic will be introduced at Bushypark. This will be mitigated by screen planting and noise mitigation but there will be a long-term moderate impact in some areas.

Human Health

11.6.52. Throughout the hearing many objectors raised concerns with the potential impact on human health and were of the opinion that this topic was not properly addressed in the EIAR. The applicant addressed those concerns about the health effects of the road both during construction and operation. The applicant stated that the topic of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as noise or

air). The pathways through which the proposed road could impact on health were assessed primarily through vectors such as noise, air, soil and water. These areas are considered in detail in the relevant sections of this report (section 11.11 and 11.12 in particular).

11.6.53. With respect to construction, potential impacts can occur as a result of noise, dust and air in addition to the psychological impacts of people losing their homes. The applicant has proposed mitigation measures to ensure that impacts are reduced to acceptable levels as discussed in the relevant air and noise chapters herein. I note that, where it is not possible to reduce impacts below acceptable levels, the applicant has included the dwellings in the CPO.

11.6.54. The stress and anxiety of losing homes will remain even in the face of compensation. As noted above there is no doubt that there has been significant stress that has been ongoing for years on some people losing their homes. Some of the objectors verbalised the stress experienced and toll on their mental health at the oral hearing and I accept that there is simply no mitigation outside of compensation for people who are totally opposed to losing their family homes.

11.6.55. The applicant referred to the health benefits of the project, including easier access to services, improved cycling and pedestrian facilities, removal of traffic from villages etc. I agree that there will be improved benefits for cyclists and pedestrians which will have a positive impact on health and safety as well as improved general environments within villages. However, as noted by the applicant's health expert, Dr Martin Hogan, in his submission to the hearing, while the project will have an overall significantly positive impact, the health benefit of the road is not automatically distributed equally and it required consideration of individuals to ensure mitigation is targeted to ensure maximal benefit and least adverse outcomes. I address noise and air in detail below, noting that there is overlap across both topics. Moreover, I draw the Board's attention to the detailed assessment of air and noise (section 11.11 and 11.12). These two topics have been comprehensively addressed and the assessment has greatly informed the assessment under the heading of health.

Health - Noise

11.6.56. Many objectors raised concern with **noise** issues both in written and oral submissions. They referred to the latest WHO Noise Guidelines. These guidelines

were issued after the submission of the project to the Board. This is dealt with extensively in section 11.12 of this report. While noise concerns were raised in relation to loss of sleep and impacts on vulnerable persons, I am satisfied that construction noise is temporary and the linear nature of the project reduces the duration of activities at any one location. In addition the applicant has provided suitable mitigation measures, including additional measures committed to during the hearing. During the operation phase, there will be traffic noise introduced to areas that have been previously quiet and rural in nature. Equally there will be many receptors who will benefit from the reduction in traffic noise – both within the town and village centres as well as areas that have been used as rat-runs. The noise concerns in relation to the impact on health was raised by many objectors (for example Mr Kevin Gill, Galway City Harriers, Mr Damien Kelly, Caiseal Gael Teoranta – Castlegar Nursing Home, Kerin Family).

11.6.57. Dr Martin Hogan at the hearing discussed the WHO Guidelines and considered that the lower levels recommended are for purposes of annoyance criteria rather than more serious health effects. The applicant stated in the response to the Kerin submission (see further below) that: *“It is of note that the WHO ranked the evidence on which the 53 dBLden, annoyance level, is based as “moderate” quality which was downgraded because of inconsistent reports in the literature. The only evidence that was rated as “high” quality was the level of 59.3 dBLden in relation to ischaemic heart disease. Nevertheless, it is accepted that the WHO made strong recommendations whilst also noting that, as reiterated on a number of occasions, these guidelines are for populations rather than individual households”.*

11.6.58. Dr Hogan placed an emphasis on the fact that the Guidelines are for ‘populations’ and the overall impact on the population rather than individual households. The applicant concluded that as the population impacts due to environmental noise will be largely positive, the PRD would be in keeping with the WHO Guidelines. I refer the Board to Dr Hogan’s submission to the hearing presented on the 20th February 2020 (submission no.24) whereby he explained that *“It is conservatively calculated at the level of noise that may be associated with a 5% increase in relative risk of a cardiovascular event. For the vast majority of people, the risk of a cardiovascular event in the next year is less than 1%. For an individual who has that risk of 1%, even allowing for the worst effects, the risk is 1.05%. The difference is therefore*

imperceptible on an individual basis. It is simply a far less significant effect than other risk factors, which is the reason that it is not considered one of the factors when calculating one's own cardiovascular risk. From an individual basis it simply is not significant. However, when one applies this across a large population, such as the population of Europe, even small changes can make a significant difference. This explains why the WHO guidelines are applicable for populations but not for individuals". I find this argument persuasive and accept that the guidelines are applicable for populations and I accept the applicant's contention that *"The WHO realise that every individual residence will not be below 45bDL_{night}"* in relation to sleep.

11.6.59. In response to individual issues raised at the hearing, for example by the Kerin family represented by Michael O'Donnell BL, accompanied by Professor Michael Kerin, Dr Annette Kerin, Dr Imelda Shanahan (TMS Environment Ltd.), Julian Keenan (Traffic Wise) and Karl Searson (Searson Associates), who are residents of Ard an Locha on the south side of the N59 Moycullen Road, the applicant reiterated that all residential dwellings were considered to be highly sensitive receptors (Applicant's Submission 103 in response to the Kerin submissions). The Kerin family supported by their Consultants made a substantial submission at the hearing relating to the WHO Guidelines and various medical articles (including New England and Lancet Journal). Professor Kerin shared information on the European Environmental Agency 2020 report on environmental noise which gives the most recent number of people exposed to greater than 55 dBLden (c.1 million) and 50 dBLnight (c.500,000). The applicant stated that the numbers exposed to these levels are actually falling in Ireland and it is explained that a reason for a fall in Irish numbers is because the dates correspond with the time when motorways and other road infrastructure opened taking large volumes of traffic away from heavily populated areas. Professor Kerin did not agree that the noise levels proposed by the road are acceptable stating that the noise levels exceed WHO and European Guidelines and stated that various health conditions would increase as a result of this motorway. He stated that it is documented that noise above 59dBLden increases cardiovascular diseases by 5% and respiratory diseases based on the catalogued exposure to noise and that is unconscionable that we would accept this. Professor Kerin noted that large cities (citing Birmingham) are spending large sums of money restructuring motorways.

Professor Kerin stated that the road should be located away from built up areas and contends that if the road had been subject to an appropriate EIA with respect to human health and population it would never have been proposed as a response to the transport issues. Professor Kerin stated that the WHO Guidelines are here for Galway too and we have to apply them. He concludes that the *“GCRR will not reduce exposure to pollution or increase the air quality in the city- the proposed GTS might do that. The GCRR project will sunder communities, destroy areas of tranquil fit for purpose living, increase psychological burden of disease and increase ischaemic heart disease, respiratory problems including asthma in children and pulmonary disease in adults...”* and that the proposal jeopardises Galway’s population health now and into the future.

11.6.60. I have referred to various points made by the Kerin family above and elsewhere. I am satisfied that there will be health improvements as a result of taking traffic out of the city and villages and, furthermore, enabling the GTS to proceed. As noted by Professor Kerin, the GTS may reduce exposure to pollution or increase air quality. The road is a key component of the GTS and I am persuaded that, without the road, it will be difficult to implement other projects outlined in the GTS which will lead to such improvements.

11.6.61. Addressing Professor Kerin’s comments regarding the EIA, I am satisfied that the project was subject to an appropriate EIA with respect to Health and that the relevant vectors were assessed. Sections 11.11 and 11.12, which comprehensively address noise and air, comprehensively conclude that there will not be exceedances of the TII Guidelines and criteria and, therefore, will not result in changes to health outcomes.

11.6.62. Concerns were also raised by the Nursing Home, Caiseal Gael Teoranta, in Castlegar with respect to noise and the impact on the health of the residents. It was considered that the impact on the residents of the Nursing Home had not been assessed within the EIAR. Mr Michael O’Donnell made a submission on their behalf about the impact of the construction works outside the Nursing Home and considered that the rerouting of the gas pipe and foul sewer had not been adequately assessed and in fact an assessment was “completely absent”. He queried the level of detail included in the drawings and in the description or the methodology to build the bridge near the Nursing Home and the assessment of the

likely significant effects on this facility contrary to the EIA Directive. He was of the opinion that, if the applicant was aware of the Nursing Home, this scheme relative to this facility would not have proceeded in the manner that it has and the Board cannot grant the scheme due to the fact that it does not comply with the EIA directive. I do not accept this and note that the applicant in response identified fully how and where impacts on the Nursing Home were assessed in the EIAR. This is addressed further below as well as in Section 11.17.

11.6.63. As noted elsewhere I am satisfied that due to the linear nature of the project, construction impacts will be temporary and will be mitigated as detailed in the CEMP, including restricted working hours, noise monitoring and the appointment of liaison officers.

11.6.64. As noted in section 11.12 below the applicant's noise consultant, Ms Jennifer Harmon, reiterated statements made in her submission regarding the purpose of the WHO Guidelines which used a range of population studies from around the world and which seek to prevent the majority of the population being highly annoyed and to prevent increased risk of heart disease. She contended that they align closely with TII guidelines but that it would take a further 80% reduction in traffic volumes on the mainline to achieve the values in WHO Guidelines. She contended that the criteria from the TII guidelines protect the majority of people from being highly annoyed and protect populations that may be exposed to more significant health effects.

11.6.65. I would, therefore, concur with the applicant that the WHO Guidelines, while useful in understanding the relationship between noise and health issues, are primarily of benefit at a macro or population scale, i.e. at a strategic and land use planning policy level, rather than in the case of specific road projects. I note in this regard that the TII Guidelines have been used in the assessment of all new national road projects in Ireland since their publication and that they are tried and tested in an Irish environment. I also consider it relevant that the TII design goal is comparable to that associated with the prevention of the more significant health effects of environmental noise such as cardiovascular effects as set out in the WHO guidelines.

11.6.66. I consider that the applicant has proposed a comprehensive and robust suite of mitigation measures, the majority of which are relatively standard for proposed road developments. I consider that these proposed mitigation measures will adequately

address construction phase noise and vibration which will in turn reduce residual health impacts to an acceptable level.

Health - Air

- 11.6.67. With respect to impacts on human health as a result of **air**, it is noted that concerns were raised, particularly the potential impact on the local schools, including pre-schools as well as residential dwellings. As noted for noise above, some observers appointed Consultants to review air in relation to the impact on human health including the Kerin Family and Castlegar Nursing Home. Much debate took place at the hearing between the applicant's air specialist, the applicant's health specialist and the consultants appointed by the above-mentioned parties, as well as other observers representing themselves.
- 11.6.68. In a similar manner to noise impacts during construction, I am satisfied that the potential impacts as a result of air and dust during construction will be mitigated in accordance with the CEMP. As also noted above due to the linear nature of the project potential impacts will be limited in duration. The applicant contended that the mitigation measures for dust control, including spraying of spoil, covering of trucks, dust screens etc. and air emission controls were suitable for reducing impacts on the sensitive environments. Monitoring during construction is identified as a mitigation measure. The monitoring will allow direct comparison with the PM₁₀ and PM_{2.5} air quality standards on a daily basis, which I consider to be appropriate given the health implications of exposure to these forms of particulate matter. The applicant has committed to particulate monitoring to be carried out at the nearest sensitive receptors upwind and downwind of the construction works where sensitive receptors have been identified within 25m of the works. The applicant has also outlined the procedures to be followed in the event of limit values approaching an exceedance or, in the event of a complaint due to elevated dust, and has incorporated this procedure into the Schedule of Environmental Commitments.
- 11.6.69. At the hearing there were debates about the guidelines used by the Kerin's family Air Specialist and the applicant. Different guidelines had been used by both parties – the Kerin's Consultant referred to USEPA AP-42 methodology while the applicant noted that the EIAR measures have been developed having regard to TII guidance, the British Research Establishment (BRE) document 'Controlling particles, vapour and

noise pollution from construction sites' and IAQM 'Guidance on the assessment of dust from demolition and construction', 2014. I am satisfied that these latter documents are the most appropriate guidance documents for assessing potential dust impacts in Ireland, are tried and tested and, having regard to the monitoring noted above, I am satisfied that there will not be an unacceptable impact as a result of dust and air emissions on health. This is detailed further in section 11.11. below.

11.6.70. As noted there was much debate about the impact of the road on human health in terms of noise and air. Dr Hogan stated at the hearing *"Given that air quality standards will not be exceeded, we can be confident that no new health conditions will occur"* (submission 24 Dr Hogan 20th February 2020). Debates ensued regarding levels of PM_{2.5} in particular. The applicant stated that *"the maximum increase in PM_{2.5} calculated at the nearest modelled receptor to the Kerin property is 1.9 µg/m₃. This results in a total concentration of 7.3 µg/m₃ which remains in comfortable compliance with the WHO guideline"*. Professor Kerin in response stated *"The project models for an increased PM_{2.5} concentration of 1.9ug/m₃ at the nearest receptor to our home. The evidence from Queensland suggests that there is an increased mortality rate of 2% for each 1 ug/m₃ increase in PM_{2.5} level and it is very likely that this will be reflected in upcoming WHO guidelines. There is no justification in suggesting that reducing peat use in Ard an locha or Aughnacurra is responsible for our PM_{2.5} levels and the concept that we should not take notice of increased PM_{2.5} concentrations from a project like this is negligent"* (submission 98C Professor Kerin response to applicant's response). I note the applicant concludes that *"the proposed road development will have negligible effects on PM_{2.5} levels"* and that *"Essentially, the Do-Nothing and Do-Something scenarios are the same"* (section 6.1.10 of the applicants response to the Kerin submission, submission 103). While I do not consider the 1.9ug/m₃ potential increase negligible, I am satisfied that 7.3 µg/m₃ is well below the WHO and the Air Quality Standards Regulations (AQS) 2011 (S.I. No. 180 of 2011 (see Table 16.1 of EIAR).

11.6.71. Castlegar Nursing Home made submissions to the hearing expressing concern with air emissions on their facility. A number of reports were read into the record of the hearing and concerns were expressed relating to works around the home including the amount of material to be excavated, the diversion of School Road, the overbridge to be constructed with associated diversion and reinstatement of a gas pipeline and

foul sewer, blasting, mobile rock crushing and length of construction of 18 months in the vicinity. Mr Michael O'Donnell referred to and summarised a Report prepared by *Care Comply* with respect to compliance with the Health Act 2007 and *National Standards for Residential Care Settings for Older People in Ireland (2016)* (submission 83C). The Nursing Home is concerned that during construction and operation it will fail to meet minimum standards. The *Care Comply* report answers a number of posed questions and concludes that the construction and operation of the road in close proximity to the home will have negative health and social care outcomes for residents and may result in compliance issues with HIQA standards.

11.6.72. In response to those concerns raised specifically in relation to the Nursing Home, the applicant at the hearing addressed the concerns for both noise and air. Ms Sinead Whyte for the applicant restated the mitigation measures and the additional measures being taken where construction takes place in proximity to sensitive receptors. Dr Hogan stated that the EIAR Chapter 18 refers to a Nursing Home and notes that it is the only Nursing Home in the study area so refutes the suggestion that it was not assessed in the EIAR. Dr Hogan stated that the objector's air specialist relied on a number of incorrect assumptions and, therefore, her conclusions were incorrect. Dr Hogan states that at all times the relevant standards will be met and he can be confident that there will be no issues in this regard.

11.6.73. Having considered the issues raised in the written and oral submissions, I conclude that dust and air quality emissions will arise during the construction phase and that this has the potential to impact upon sensitive receptors. However, I consider that the applicant has proposed a comprehensive and robust suite of mitigation measures, the majority of which are relatively standard for proposed road developments. I consider that these proposed mitigation measures will adequately address construction phase air pollution and thereby health impacts.

11.6.74. During the operation phase the air quality section of the EIAR states that no specific mitigation measures are proposed, on the basis that all air quality standards for the protection of human health and vegetation will be complied with.

11.6.75. Dr Imelda Shanahan, in her separate submissions to the oral hearing representing the Kerin family and Castlegar Nursing Home, stated that "*while it is unlikely based on the information provided in the EIAR that an exceedance of Air Quality Standards*

would occur, in my opinion there would be a noticeable impact on air quality during the operational phase”.

11.6.76. Having regard to the fact that during operation predicted concentrations are all well below air quality standards, although there are some exceedances of WHO PM_{2.5} guideline levels which is stated to be due to high background concentrations, I am persuaded that there will not be an unacceptable impact on health as a result of air or dust emissions during the operational phase.

11.6.77. No concerns were raised about the impact on health as a result of soil or water.

During construction, mitigation measures are described to prevent contamination of soils or water. I am satisfied that there will not be an impact on the Terryland Water Supply intake as detailed in section 10.9, 11.10 and 11.13 which could result in an impact on human health.

11.6.78. Other objectors such as Galway Athletics Board (Galway AAI) stated that that a health economics-bases study, cost benefit analysis and relevant studies are required. I am satisfied that the applicant carried out the necessary assessments to enable the Board to carry out an EIA in accordance with EU and Irish Legislation.

Conclusions on Health

11.6.79. As can be seen from the above there was substantial discussion in relation to the health impacts of the proposed project at the hearing. All of the parties remained entrenched in their opinions. The information provided by all parties who spoke or made submissions indicates that the WHO Guidelines with respect to noise cannot be met for all individuals but I am persuaded that the Guidelines are already exceeded in some cases and that they are to be considered at a population level rather than an individual level. Moreover, I am satisfied that the TII Guidelines have been used in the assessment of all new national road projects in Ireland since their publication and that they are tried and tested in an Irish environment. I also consider it relevant that the TII design goal is comparable to that associated with the prevention of the more significant health effects of environmental noise such as cardiovascular effects as set out in the WHO guidelines. With respect to air emissions, during construction I am satisfied that the mitigation measures proposed will reduce the impacts to below acceptable levels. During operation I concur with the applicant's Health Consultant Dr Martin Hogan who considered that there are no

adverse effects on human health predicted to arise from impacts to air quality because the Air Quality Standards will not be breached. As a result, I am persuaded that there will not be a seriously negative impact on human health.

Parkmore Link Road Proposed Modification

11.6.80. Having reviewed the information submitted by the applicant and having inspected the site, I do not consider that the proposed Parkmore Link Road modification would result in any additional or increased impacts on Population and Human Health.

Conclusion on Population and Human Health

- **Loss of dwellings:** There are 54 dwellings proposed for demolition or acquisition to make way for this project. This will result in a significant to profound permanent negative impact on homeowners. This impact will not be avoided, mitigated, or otherwise addressed by means of condition. There is no mitigation for this impact available within the EIA process.
- **Severance of Communities (including the Gaeltacht areas):** As a result of the loss of 54 dwellings with loss of clusters of dwellings in areas such as Na Forai Maola/Troscaigh, Castlegar, and Dangan, there will be a severance impact on remaining communities which will be a significant long-term negative impact that will not be avoided, mitigated or otherwise addressed by means of condition.

Where minor roads are closed (e.g. Ann Gibbons Road), diverted or re-routed severing communities, there will be a significant medium to long-term negative impact depending on density of development and extent of re-route. This will not be avoided, mitigated or otherwise addressed by means of condition.

There will be long-term positive impacts for some communities that are currently severed due to traffic volumes because traffic will reduce in villages, such as Bearnna and Castlegar, thereby resulting in easier access for pedestrians and cyclists and improved amenities for more vulnerable persons.

During construction there will be slight negative and short term severance issues caused by construction traffic which will be mitigated by measures outlined in the CEMP.

- **General Amenities:** There will be slight to moderate short-term negative impacts during construction on general amenities in areas such as Rosan Glas, Gort na Bro and Bushypark church and school as a result of construction traffic, noise and dust along haul routes. These will be mitigated by measures set out in the EIAR Schedule of Environmental Commitments as well as the CEMP. During operation there will be a slight negative impact on amenities.

During construction there will be significant negative impacts on the population using the **NUIG Sports campus** as a result of loss of pitches, modification to the sports pavilion as well as noise and visual impacts. These will be mitigated using standard construction practices as detailed in the EIAR Schedule of Environmental Commitments and the CEMP. During operation there will continue to be a long-term moderate impact on the general amenities of the sports campus that will be mitigated by the provision of the right of way and access to the lands under the viaduct as well as noise mitigation measures.

During construction there will be restricted access to the **riverside** in Dangan and there will be noise and visual impacts on both sides of the River Corrib. These will be mitigated using standard construction practices as detailed in the EIAR Schedule of Environmental Commitments and the CEMP. At no time will access to the riverside be completely restricted. Impacts during construction will be moderate negative and short-term. During operation mitigation measures include the retention of existing vegetation and noise barriers. Impacts will be long-term moderate to significant negative due to the general loss of amenity.

Construction impacts on **Galway Racecourse** can be avoided by measures including the provision of temporary stables and the cessation of works during festival seasons.

During the operation phase, a positive benefit will result for Galway Racecourse due to the mitigation measures including the construction of a permanent access off Parkmore Road and new state-of-the-art permanent stables.

- **Socio-Economic:** During construction there will be some negative short-term impacts for businesses as a result of noise and dust which will be mitigated by measures outlined in the CEMP. Where visibility to businesses is impacted, mitigation measures include the addition of signage. Demolition of some industrial and commercial properties will not be avoided, mitigated, or otherwise addressed by means of condition. During operation there will be significant positive impacts with respect to journey times, journey reliability and amenities.
- **Journey Characteristics:** During construction there will be some short-term temporary moderate negative impacts on journeys as a result of road closures or diversions which will be mitigated by the Traffic Management Plan. During operation the road will have significant permanent positive impacts in terms of improved journey times, journey times reliability and journey amenities. There will be improved connectivity across and beyond the city, releasing and freeing the existing city centre and inner suburbs from congestion.
- **Health:** During construction potential impacts on health arising from air, noise and water emissions will be mitigated using construction practices set out in the CEMP and commitments as set out in the EIAR Schedule of Environmental Commitments. During operation impacts will be avoided having regard to the project's compliance with air and noise standards set out in TII guidelines.

11.7. Biodiversity

- 11.7.1. The Board appointed consultant Ecologist, Mr Richard Arnold of Thomson Environmental Consultants to assist with the examination and assessment of this topic for the purposes of EIA. Mr Arnold's Ecological Impact Assessment Report (EcIA) is included as Appendix 4 of this report and should be read in-conjunction with the below.
- 11.7.2. Biodiversity is addressed in Chapter 8 of the EIAR which is 384 pages long and is supported by a substantial number of Figures and Appendices detailing the survey work and results carried out by the applicant. In total the initial application was accompanied by 24 sets of figures and 26 sets of appendices.

11.7.3. Following the request for Further Information additional relevant information was provided by the applicant as well as at the oral hearing. This includes:

- Request for Further Information Response Vols 1- 3, in particular the main reports pages 66 – 82, the “RFI response”;
- Statement of Evidence: Responses to EIA Biodiversity Objection/Submission dated 19th February 2020, the “Biodiversity Statement of Evidence” (101 pages);
- A Corrigenda dated 21st February 2020, and updated 11th March 2020, which corrects some details in previously submitted documents, the “Corrigenda”;
- Response to Queries raised in Module 2 [sic] of the N6 Galway City Ring Road Oral Hearing dated 10th March 2020, the “Module 1 response”;
- EIAR Cumulative Impact Assessment Addendum Update Report (Dealing with proposed and permitted projects and plans since publication of the EIAR) dated 10th March 2020, updated on 15th October 2020 and again on 3rd November 2020 and supplemented on 4th November 2020, with the last two forming the complete assessment, the “cumulative assessment update”; and
- The Schedule of Environmental Commitments which restates the mitigation measures committed to in the documents above, last updated 4th November 2020.

11.7.4. At the hearing the applicant addressed the submissions from the observers and objectors in the Biodiversity Statement of Evidence presented by Ms Aebhin Cawley of Scot Cawley (Submissions 10, 11 and 12) on 19th February 2020 in ‘Module 1’. Oral submissions from the prescribed bodies including the Department of Culture, Heritage and the Gaeltacht (NPWS), pertaining to ecology and hydrology/ hydrogeology were made on 21st February 2020. Module 1, which dealt specifically with ecology and hydrology/ hydrogeology, whereby observers and objectors made oral submissions and included questioning between parties, took place on 24th and 25th February 2020 and 10th and 11th March 2020. Module 1 was completed prior to the interruption to the oral hearing caused by the Covid-19 pandemic.

11.7.5. These documents together are taken to be the information provided by the applicant and the observers. Additional information is provided in other planning documents including the Natura Impact Statement Report, the “NIS” and the “Design Report” (submitted as part of the FIR response, Volume 4).

11.7.6. The information above has informed Mr Arnold’s examination and assessment. My assessment for the Board has had regard to Mr Arnold’s Ecological Impact Assessment report which has examined and assessed the biodiversity impacts of the proposed road project as well as the information provided by the applicant and observers.

11.7.7. Assessment

11.7.8. At the outset I draw the Board’s attention to the significant, substantial and detailed desk based and field-based studies and surveys carried out by the applicant in line with standard scientific methods that informed the baseline conditions. Moreover, I note that some of the most experienced experts in their fields have been involved with this project since its inception following the ruling on the 2006 GCOB.

11.7.9. I draw the Board’s attention to the different approaches taken by the applicant and Mr Arnold. The Zone of Influence of the Ecological Impact assessment has been extended in the assessment prepared by Mr Arnold to that originally presented by the applicant for terrestrial habitats, scarce habitats, plant species and local populations of bats and other mammals, and migratory birds. Mr Arnold has extended the zone of influence to include haul roads and other areas subject to heavy construction traffic. Cumulative impacts can also extend the zone of influence. The proposed road sits within a broader development plan for Galway City and Galway county, which includes new residential development, with anticipated population growth and measures to encourage tourism. The additional mobility created by the road in operation may encourage more visits by the increased population to sites of nature conservation importance in the locality, potentially causing damage by disturbance, trampling etc. Therefore, Mr Arnold proposes that such sites should also be considered in the zone of influence when considering cumulative impacts. I concur with Mr Arnold’s cautious approach and expanded suite of potential impacts to be assessed having regard to the potential for significant negative impacts that the road could cause.

- 11.7.10. Furthermore, I draw the Boards attention to the slightly differing approach of Mr Arnold's assessment to that of the applicant in the area of methods for evaluation and assessment of habitats and 'sites' nature conservation value. The applicant sets out the method for its evaluation of nature conservation value in the EIAR p377, which it says was in accordance with TII guidelines (NRA, 2009). Outside of designated sites, the applicant identifies *individual habitats* as Key Ecological Receptors. The TII guidelines offers guidance for site-based assessments rather than individual habitats. Mr Arnold acknowledges that this is not straight forward in the context of the area around Galway city where the concept of 'site' is perhaps harder to define.
- 11.7.11. The applicant evaluated these individual habitats primarily on the basis of the inclusion of a habitat on a list (Annex I, etc.), so any area of Annex I habitat outside of a designated site was assigned national value, for example. However, as noted by Mr Arnold, the higher value habitat parcels along the route corridor are generally small, clustered and intermixed, sometimes with apparently lower value habitats, forming a mosaic which together have a value potentially greater than each parcel individually. Therefore, he grouped these habitat parcels into 12 clusters (equivalent to sites), and evaluated each in accordance the TII guidance, as it was considered to give a better understanding of the biodiversity value of each area.
- 11.7.12. In his assessment, Mr Arnold considered that apart from areas which have been developed or agriculturally improved, which is the minority, the general vicinity is of international importance for nature conservation due to the prevalence of a wide variety of Annex I habitats, including six priority types; limestone pavement, active lowland bog, calcareous fens, calcareous springs, turlough and calcareous grassland. The total area of **high value semi-natural habitats**, mostly within the 12 clusters within the proposed road boundary is approximately 135ha, which is just under half of the total land within the proposed road boundary.
- 11.7.13. The applicant presented the total habitat losses for Annex I types in Amended Table 4.1 Corrigenda p13-p14 and the amount of each habitat type valued at local or higher value within the development boundary are provided in the Corrigenda Amended Table 2 p14- p16. In his assessment, Mr Arnold considered that the applicant took a reductionist approach in quantifying the losses of all the habitats individually. Acknowledging that this needed to be done, he points out that there are

a lot of different habitat types and these are present in intertwined and co-dependent patches, for example wet heath, dry heath, wet (Molinia) grassland, bracken and scrub are frequently recorded together with the collective value usually being greater than the individual parts, see paragraph 7.2.5. Table 3 of the Ecological Assessment Report provides the approximate losses of habitats by cluster which should be read in conjunction with the applicant's work.

11.7.14. In terms of potential construction impacts I draw the Board's attention to Chapter 8 of Mr Arnold's report which I concur with. The report examines and assesses the potential impacts on Designated Sites (see also Appropriate Assessment Section 12 below) as well as other ecological features. Details are presented in this chapter which includes: Table 3: Terrestrial Habitats directly lost during the construction stage; Table 4: Lengths of watercourse culverted and substantially re-routed; Table 5: Bat roosts directly or indirectly affected by the proposed road; Table 6: Breeding Bird Territories of conservation concern lost to the proposed road; and, Table 7: Wintering bird populations affected by the proposed road, as well as an assessment of other habitats and species not addressed in tabular format.

11.7.15. I am satisfied that Mr Arnold has examined and assessed the potential construction impacts and has taken a precautionary approach, including an assessment of the broader zone of influence to include haul roads and other areas subject to heavy construction traffic.

11.7.16. With respect to operation impacts of the PRD, I refer the Board to Chapter 9 of Mr Arnold's report which I concur with. The report examines and assesses the potential impact on Designated Sites as well as other ecological features. A summary of potential indirect effects during operation is also provided in this chapter including: Table 8: Sources of potential indirect effects on terrestrial habitats during operation, as well as an assessment of impacts on other habitats and species not presented in tabular format. Similar to the above, I am satisfied that Mr Arnold has taken a suitably comprehensive and precautionary approach to identifying potential operational impacts.

11.7.17. Chapter 10 of Mr Arnold's report examines and assesses the applicant's avoidance, mitigation and compensation measures with references to the applicant's relevant document for further details including the Schedule of Environmental Commitments.

Of note, in a few instances, Mr Arnold did not consider some aspects of the suite of mitigation measures likely to be effective in terms of ameliorating significant effects and this is highlighted as 'Discounted Mitigation'.

11.7.18. I draw the Board's attention in particular to *Discounted Mitigation* in respect of Breeding and wintering Birds whereby Mr Arnold points out that the planting of woodland, hedgerow and grassland habitats along road development can result in an increased mortality risk for birds with these areas potentially becoming a population sink. Therefore, the consideration of this measure in remediating or replacing such habitats lost to the PRD is not likely to result in replacement habitat of similar ecological value for those species. However, I am of the opinion that this planting serves other purposes also such as landscape screening. Another measure recommended to be *Discounted Mitigation* by Mr Arnold relates to two of the three habitat areas put forward as barn owl mitigation. Mr Arnold considers it will have the opposite effect to that intended and may result in increased barn owl mortality because the route that a barn owl might take to reach these areas is too perilous. The sites in question are receptor sites 6210.R1, 6210.R2, 4030.R18, 4030.R19, 4030.R20 and 4030.R21. These areas have a primary purpose of providing compensatory habitat for lost Annex 1 habitats, so they need to be implemented for that purpose.

Predicted Residual Impact:

11.7.19. In chapter 11 of the Ecological Impact Assessment report Mr Arnold refers to predicted residual impacts. Mr Arnold considers the mitigation measures proposed by the applicant to ensure that there is no significant negative effect on Moycullen Bogs NHA, otter, most wintering birds and fish species. The potential effects on Natura 2000 sites can also be reduced to insignificance with the mitigation measures proposed.

11.7.20. I draw the Board's attention to the fact that while the proposed mitigation measures have the effect of reducing the likelihood and/or severity of the impact on many of the key ecological receptors, there are others for which a likely significant impact remains. The applicant has acknowledged this in the EIAR and, subsequently, in the biodiversity evidence. For some features the applicant concludes significant effects

are unlikely whereas it is the considered opinion of Mr Arnold that significant effects are likely despite the implementation of the mitigation measures as proposed.

11.7.21. **Table 13** in chapter 10 in Mr Arnolds ecological impact assessment report attempts to quantify the potential residual impacts based on his revaluation of key ecological features. I have reproduced Table 13 below for the benefit of the Board.

Feature	Direct Loss	At Risk	Mitigated Risk	Value	Significant Impact
Moycullen Bogs NHA	-	-	-	National	No
Cluster 1 Forramoyle	14.3ha	7ha?	21ha?	County	Yes
Cluster 2 Troscaigh	6.7ha	7ha?	14ha?	National	Yes
Cluster 3 Cloughscoltia (partly within an unnamed LBA 1)	13.9ha	15ha?	30ha?	County	Yes
Cluster 4 Ballymoneen Road to Cappagh Road (part of the Cappagh – Ballymoneen LBA)	7.3ha	9ha?	16ha	County	Yes
Cluster 5 East of Ballymoonen Road (part within an unnamed LBA 2)	2.2ha	2ha?	4ha?	County	Yes
Cluster 6 Knocknabrona/ Knocknafrosca (included in the Ballagh – Barnacranny Hill LBA),	6.0ha	8ha?	14ha?	County	Yes
Cluster 7 Menlough (included in the Menlough LBA)	5.4ha	8ha?	14ha?	Inter-national	Yes
Cluster 8 Lackagh (included in unnamed LBA 3)	1.8ha	4ha	6ha?	County	Yes
Cluster 9 Ballindooley (included in the Ballindooley – Castlegar LBA)	1.0ha	1ha?	2ha?	National	Yes
Cluster 10 Castlegar (included in the Ballindooley – Castlegar LBA)	0ha	2ha?	2ha?	Inter-national	(No)

Feature	Direct Loss	At Risk	Mitigated Risk	Value	Significant Impact
Cluster 11 Briarhill (not included in an LBA)	4.0ha	2ha?	6ha?	Inter-national	Yes
Cluster 12 Arduan (not included in an LBA)	0.7ha	1ha?	2ha?	County	Yes
Sruthán na Libeirtí etc	255m	Down-stream to coast	170m	Local	Yes
Trusky Stream, etc	240m	To coast	175m	Local	Yes
Bearna Stream, etc	150m	To coast	150m	Local	Yes
Tonabrocky Stream	495m	To coast	245m	Local	Yes
Knocknacarra, etc	385m	To coast	385m	Local	Yes
Woodsy thyme moss <i>Plagiomnium cuspidatum</i>	1 locality	2 localities	3 localities	National	Yes
Lesser striated feather-moss <i>Plasteurhynchium striatulum</i>	1 locality	3 localities	4 localities	National	Yes
Imbricate bog-moss <i>Sphagnum affine</i>	1 locality	-	1 locality	National	Yes
Red bog-moss <i>Sphagnum capillifolium</i> s. <i>capillifolium</i>	1 locality	-	1 locality	National	Yes
Spring gentian <i>Gentiana verna</i> ,	-	3 localities	3 localities	Inter-national	(Yes)
Brown beak-sedge <i>Rhynchospora fusca</i>	-	1 locality	1 locality	National	(Yes)
Marsh Fritillary	4.7ha habitat	one 1km ²	one 1km ²	National	(Yes)
Marsh Whorl Snail	1 colony	3 colonies	1 colony	County	Yes
Lesser horseshoe bat	1 colony	2 colonies	3 colonies	County	Yes
Whiskered bat	-	1 colony	1 colony	National	(Yes)
Natterer's bat	-	1 colony	1 colony	National	(Yes)
Daubenton's bat	-	1 colony	1 colony	Local	(Yes)

Feature	Direct Loss	At Risk	Mitigated Risk	Value	Significant Impact
Leisler's bat	-	-	-	Local	No
Common Pipistrelle	1 colony?	1 colony	2 colonies	Local	(Yes)
Soprano Pipistrelle	2 colonies?	1 colony	2 colonies	Local	(Yes)
Nathusius' Pipistrelle		1 colony	1 colony	County	(Yes)
Brown long-eared bat	2 colonies	2 colonies	4 colonies	County	(Yes)
Irish hare	2 animals	Popn. South of road	Popn. South of road	Local	(Yes)
Pine Marten	1 (5ha habitat)	One population	One population	National	Yes
Red Squirrel	3-4 (5ha habitat)	One population	One population	County	Yes
Irish Stoat	In line with habitat	-	In line with habitat	Local	No
Badger	1 main sett	10 social groups	2 social groups	Local	(No)
Otter	-	3 or 4	-	Local	(No)
Other mammal populations	In line with habitat	-	In line with habitat	Negligible	No
Barn owl	-	One pair	One pair	National	(Yes)
Peregrine	-	One pair	One pair	National	(Yes)
Breeding Birds of Conservation Concern	88 territories	176 territories	264 territories	Local	Yes
Oystercatcher	-	1 flock ~30 birds	1 flock ~30 birds	Local	(Yes)
Other wintering birds	-	-	-	Various	(No)
Smooth newt	2 breed sites	2 popn.s	2 popn.s	Local	Yes
Common frog	10 breed sites	10 popn.s	10 popn.s	Local	Yes

Feature	Direct Loss	At Risk	Mitigated Risk	Value	Significant Impact
Common lizard	200 animals	200 animals	-	Local	No
European eel	-	5 colonies	-	Inter-national	(No)
Brown trout	-	2 colonies	-	Local	(No)
Sea trout	-	1 colony	-	Local	(No)
Atlantic salmon	-	1 colony	-	Local	(No)

direct loss= the area or populations directly impacted,

at risk = an estimate of the area or population which could be subject to indirect effects without mitigation

*mitigated risk = 'direct loss and 'at risk' added together adjusted for the proposed mitigation, if any
(Yes) = should the effect materialise it would be significant*

(No) = conclusion of no significant effect dependent on mitigation

Table 11.7.1 Quantifying the Residual Impacts

Source: Table 13 of Mr Richard Arnold's EclA

Cumulative Impact Assessment

11.7.22. The applicant provided an updated cumulative impact assessment at the oral hearing, 10th March 2020 and then again in November 2020. Proposed/consented developments are identified and examined in terms of the potential for cumulative effects on biodiversity with any residual effects of the PRD. Development Plans are also set out for the County and City.

11.7.23. The principal cumulative risk to biodiversity is degradation (or development) of the land of high biodiversity value that would be encapsulated in the urban environment by the proposed road and subject to increased urbanisation effects, for example, waste dumping, informal recreation, lack of traditional management, predation of wildlife by domestic cats, spread of non-native invasive species, together with the potential for more isolated populations of flora and fauna becoming more vulnerable to dying out. This risk applies to all of the features identified in Table 13 except Ballindooley Lough and Barn owl.

Additional Mitigation

11.7.24. In the event that the Board decide to approve the proposed road development, additional mitigation measures are identified in Chapter 13 of Mr Arnold's report. It is considered that these additional measures would lessen the severity/likelihood of the impact but not change the overall significance of effects set out in Table 13. I have listed the additional mitigation measures proposed below and addressed where they are feasible and, if not, explained why I am not recommending them having regard to Mr Arnold's comments that the additional measures will not change the overall significance of effects on biodiversity, and in my opinion may in fact have a negative effect on other areas. This is particularly the case with respect to landscape measures whereby certain habitats are required for landscaping/ screening purposes.

Additional Mitigation	Commentary
<i>Designated Areas</i>	
The non-native species Fuchsia Fuchsia sp., winter heliotrope Petasites fragrans, Sitka spruce Picea sitchensis, European larch Larix decidua, Lodgepole pine Pinus contorta and Scots pine Pinus Sylvestris shall be included in the invasive species management plan, as shall the native species bracken Pteridium aquilinum and soft rush Juncus effusus to limit their spread from where they currently occur	Accept – add to SoEC
The planting and sowing scheme should not include non-native tree species in proximity to Moycullen Bogs NHA	Accept – add to SoEC
<i>Terrestrial Habitats</i>	
Scots pine is an invasive non-native species in heathland and therefore this species shall not be used for screening planting in the western section beyond the River Corrib	Accept – add to SoEC (Note - this is not a 'non-native' species)
Screen planting to the west of the River Corrib should be minimised to make space for dry heath/acid grassland habitats to develop in the soft estate	Reject - Screen planting required for landscape and visual purposes
Submit further details on the grassland seeding which shall be suitable for the soil types avoiding species that are negative indicators of Annex I habitats where these are not already abundant locally, aiming for dry heath/acid grassland in the west and calcareous grassland in the east from natural regeneration rather than seed mixes wherever soil erosion is not a major risk	Accept – add to SoEC
Moycullen Bogs and the appropriate assessment report for additional species to be included in the invasive species management plan	Accept – add to SoEC

A clearer commitment to the management of peatland habitats and other translocated/created habitats within the soft estate, ideally in perpetuity for the lifetime of the project.	Accept – add to SoEC
<i>Flora</i>	
Identify and map the extent of the six red data book plant species, plus measures to both minimise the loss and safeguard the retained areas by use of fencing, signs and ensuring workforce are aware (toolbox talks, etc), including the plants of <i>Plasteurhynchium striatulum</i> at the Menlough mitigation area	Accept – add to SoEC
If the <i>Plagiomnium cuspidatum</i> and <i>Plasteurhynchium striatulum</i> plants directly impacted are growing on moveable substrates (rocks or logs) then these should be repositioned to retained vegetation, with precisely the same environmental conditions as where currently found, with follow-up monitoring to confirm success or failure	Accept – add to SoEC
Check the identification and native status of meadow oat-grass <i>Helictotrichion pratense</i> and marsh valerian <i>Valeriana dioica</i> and implement protection measures if appropriate	Accept – add to SoEC
<i>Invertebrates</i>	
the retained part of the marsh at Castlegar to be protected during construction and measures put in place to maintain the existing hydrological regime as suitable for marsh whorl snail	Accept – add to SoEC
the infiltration basins at Castlegar to be planted with suitable vegetation for marsh whorl snail with hydrology adjusted to suit whilst maintaining the function of the basins	Accept – add to SoEC
management of all translocation sites for marsh fritillary to include management of an area at least equivalent in area to lost habitat for this species (loss is 4.7ha, while the applicant proposes to manage c1ha which is all in proximity to the road) to ensure long-term suitability for this species	Reject – land not identified or assessed as part of this project
translocation of ant hills impacted by the road to a suitable receptor site within the soft estate	Accept – add to SoEC
provision of suitable habitat for nesting bees (patches of coarse grassland) within the soft estate	Accept – add to SoEC
<i>Bats</i>	
two bat boxes to be installed on trees as close to each felled tree with potential for a bat roost, as close as possible but away from the carriageway of the proposed road and before the end of July in the year of felling, bat boxes to be a mixture of hollow (for <i>Liesler's</i>) and crevice types (for <i>pipistrelles</i>) in accordance with the potential roost that is lost	Accept – add to SoEC
the land to the south of the Castlegar overbridge is earmarked for development in the Galway City development plan, which if implemented may render the overbridge	Reject - Future development to the south of Castlegar has not been assessed as part of this project

ineffective, possible solutions include (i) change the development zoning for this land to open space, amenity or similar, (ii) ensuring the design of the development on this land accounts for lesser horseshoe bats (and other wildlife), or (iii) moving the over-bridge to a location where it would provide connectivity between high quality habitats on each side of the proposed road	and if subject to development proposals by other parties in the future it will be subject to the requirements of the EIA and Habitats Directives
clear commitments to safeguarding the new bat roosts including bat boxes, with replacements and repairs carried out as necessary for a period of ten years post-development	Accept – add to SoEC
monitoring for ten years post construction	Accept – add to SoEC
<i>Mammals other than bats</i>	
the provision of safe passage through the construction site during the hours of darkness alongside all watercourses crossed by the proposed road, including during the installation of culverts	Accept – add to SoEC
ledges to be installed in all other hydraulic culverts with a width greater than 2m to account for future range expansion or occasional use by otter as listed in EIAR p975 to p976, Table 11.20 which would be an additional eight structures, and to provide safe passage for badger	Accept – add to SoEC
monitoring “of the effectiveness of environmental commitments” requires further definition, for example, in accordance with TII guideline for otter which state quarterly monitoring for at least one year to check on the condition and effectiveness of the ledges installed in culverts; given the scale of the project, the monitoring should continue for at least three years and the maintenance of the ledges should be incorporated into the general road maintenance programme	Accept – add to SoEC
<i>Breeding Birds</i>	
reduce screening planting width as much as possible and ideally screening on one side of the road only, to reduce likely mortality and the risk of creating a “population sink” along the road corridor, except in locations where planting is required to deter barn owls	Reject - Screen planting required for landscape and visual purposes
<i>Wintering Birds</i>	
It is recommended that the Biodiversity Network to be established under the Galway City Development Plan includes a wet grassland management plan to help ensure that numbers of wintering curlew and oystercatcher are maintained	Reject – Noted – but this is for Plan making purposes
<i>Amphibian and Reptiles</i>	
replace the ponds lost to the proposed road elsewhere in the soft estate, including at the barn owl/lesser horseshoe bat mitigation area at Menlo Castle	Accept – add to SoEC

structures which could be earth banks to guide amphibians towards the tunnels and culverts where these occur in proximity to ponds	Accept – add to SoEC
an alternative drainage solution without kerbs within minimum 100m of amphibian breeding ponds	Reject – not assessed as part of drainage

Table 11.7.2 Additional Mitigation measures recommended by Mr Arnold and Inspector's recommendation whether to accept or reject the recommendation

Source: Mr Richard Arnold's EclA Section 13, and Inspector's recommendation

11.7.25. Should the Board decide to approve the proposal, the additional mitigation measures recommended are included in Section 16 *Conditions* herein.

Conclusion on Biodiversity

11.7.26. For the benefit of the Board, I have repeated Mr Arnold's conclusion herein.

11.7.27. *"As acknowledged by the applicant, the road will have a significant effect on features, valued in accordance with TII guidelines, as being of international importance for nature conservation, including small areas of two types of irreplaceable habitats, wet heath and limestone pavement. The scale of the impact is generally greater in the western part, beyond the N59, however, impacts at Menlough are also significant.*

11.7.28. *Because the main impacts of habitat loss, fragmentation and isolation are only partially addressed, the mitigation and compensation are not enough to change the conclusions on impact significance. Notwithstanding, the mitigation and compensation measures do lessen the severity or likelihood of many of the identified impacts, and many of the measures such as the use of viaducts and tunnels, habitat creation and the provision of overpasses and underpasses are beneficial. The cumulative impacts work in the opposite direction and will also reduce the effectiveness of the mitigation measures for the proposed road, such as some of the artificial bat roosts and the wildlife overpass. Areas of habitat and species populations located between the proposed road and the City being most at risk.*

11.7.29. *It would be possible to achieve a better assessment through more ambitious commitment to the safeguarding and management of the retained parts of the local biodiversity areas and equivalent land of higher nature conservation interest in the city and the county, including areas at distance from the road. The loss of woodland at Menlough could also be addressed providing compensatory habitat elsewhere.*

11.7.30. *There is the point, made by the applicant, that the road causes small losses of habitats and species populations, which whilst internationally important, are abundant locally with plenty remaining after the road is constructed. This has some validity. However, the area through which the road would pass is unusual in several respects, firstly the twin geologies of the Galway area make it rich in plant species in a small area, secondly there are apparently five rare species present in the footprint of the road and others nearby and finally, the edge of the city may be more important for bats than elsewhere due to the availability of roost sites near to high quality foraging habitat. Moreover, in the context of Galway City, the loss of 100ha of higher value terrestrial habitats is equivalent to 5 to 10% of the total present in the city boundary”.*

11.7.31. Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the applicant, and the submissions from the prescribed bodies, objectors and observers in the course of the application, including submissions made to the oral hearing, it is considered that the main significant direct and indirect effects of the proposed development on Biodiversity are as follows:

- Significant residual effect on habitats as a result of the loss of priority Annex I habitat (outside of any European Site) comprising Limestone Pavement [*8240], active Blanket Bog [*7130], and a Petrifying Spring [*7220] which cannot be avoided, mitigated, or otherwise addressed by means of condition
- Significant residual effect on habitats as a result of the loss of Annex I habitat (outside of any European Site) including Annex I Wet Heath [4010], and other habitats of international to local value, including within areas designated as Local Biodiversity Areas, which cannot or will not be avoided, fully mitigated, or otherwise addressed by means of condition
- Significant residual effect as a result of the loss of, or damage to, four plant species and one invertebrate species included in the Irish red data books, which cannot be avoided, mitigated, or otherwise addressed by means of condition

- Significant residual effect on lesser horseshoe bat, red squirrel and pine marten which will not be avoided, fully mitigated, or otherwise addressed by means of condition

11.8. Land, Soil, Water, Air and Climate – Land and Soils

- 11.8.1. Land and Soils are addressed in **Chapter 9** of the EIAR, entitled 'Soils and Geology'. The series of Figures 9.1.001 to 9.7.115 contained in Volume 3 of the EIAR provide soil and geology mapping and details of the ground investigations undertaken, while Appendix A.9.1 contained in Volume 4 of the EIAR provides copies of the Ground Investigation Reports. The RFI response submitted by the applicant also contained additional information relating to soils and geology.
- 11.8.2. The Schedule of Environmental Commitments, which was updated at numerous stages over the course of the oral hearing, also sets out commitments in relation to soils and geology.
- 11.8.3. A submission responding to the soils and geology-related written submissions/ objections, was given at the Oral Hearing on 19th February 2020 by Juli Crowley of ARUP on behalf of the applicant (Ref. 17). A number of parties subsequently made further soils and geology-related submissions over the course of the oral hearing, including questioning of, and further submissions by Ms Crowley and other members of the applicant's team. These matters are addressed, where necessary, below.
- 11.8.4. A number of additional documents relating to soils and geology were also submitted at the oral hearing. This included a document entitled 'Response to Queries Raised in Module 1 of the N6 Galway City Ring Road Oral Hearing' (Ref. 65) and a document entitled 'Response to Queries raised in Module 2 of the N6 Galway City Ring Road in respect of Lackagh Quarry Material Deposition Areas (Ref. 76).
- 11.8.5. This section should be read in conjunction with the following hydrogeology section, where relevant, and with the Hydrogeology report prepared by the Board's consultant Hydrogeologist, James Dodd, which is attached at Appendix 5.

Methodology

- 11.8.6. In terms of **methodology** used, it is stated that the study area extends 250m beyond the proposed development boundary, which is in accordance with the TII Guidelines,

and extended as appropriate to include nearby geological features which may be impacted. Baseline data is obtained from desk studies, historic ground information, consultations as well as ground investigations and field surveys. Of interest is the extent of palaeokarst fill due to an unexpected buried valley feature which was encountered to the west of the Lackagh quarry. The impact evaluation methodology is stated as being in accordance with TII Guidelines. A list of potential likely significant impacts of the proposed development on soils and geology is identified and provided in Table 9.5 and mitigation measures and residual impacts are described and tabulated.

Receiving Environment

- 11.8.7. The **receiving environment** is described. A regional overview is provided in terms of the geomorphology, topography, soils and solid geology of the local area followed by sub sections identifying the feature importance ranking of the agricultural soils, superficial deposits, bedrock geology, soft and unstable ground, contaminated land, karst solution features, mineral and aggregate resources and geological heritage sites within the study area. The road is divided into four sections for analysis: 1. R336 to N59 Moycullen Road, 2. N59 to River Corrib, 3. River Corrib to N83 Tuam Road, and 4. N83 to the existing N6 at Coolagh.
- 11.8.8. It is noted that the general geomorphology of the western area consists of gently undulating to hummocky topography in areas overlying granite. The ground level is lowest at the shores of Lough Corrib and along the coast (10m OD) and rises to the high points at Gortacleva/Tonabrocky (111m OD), Derry Carih (96m OD) and Corcullen (90m OD). The area around River Corrib is relatively flat and rises to the east. The highest point is Coolough (65m OD) which is directly beside the disused Lackagh Quarry. Limestone Pavement is common throughout the study area east of the River Corrib and is both inside and outside the Lough Corrib SAC. The PRD intercepts several watercourses predominantly to the west of the River Corrib. To the east, due to the highly karstic nature of the terrain, there is a very sparse network of watercourse features. Lake features include Coolagh Lakes and Ballindooley Lough which are located east of the river. Blanket peat is widespread to the west of the river as well as some isolated areas of cutover peat on the east side. A summary of the agricultural soils present and their associated feature importance is provided in Table 9.7.

- 11.8.9. The underlying bedrock geology was determined based on GSI mapping and relevant ground investigation. Areas of Limestone pavement were uncovered and mapped in Sections 3 and 4. Limestone pavement which is underlain by limestone bedrock accounts for c.10% of the land cover. It occurs both within and outside the European designated sites. Most of the sections have a high crushed rock aggregate. Active and historic quarries are identified. Lackagh quarry is now disused and there is an active quarry at Twomileditch (Roadstone Quarry). A conceptual site model was developed based on the ground investigation data.
- 11.8.10. The **characteristics** and key design features of relevance to avoid or reduce impact to soils and geology features are considered to be the Lackagh Tunnel and western approach, the Menlough Viaduct and culvert, and reinforced/retained slopes.
- 11.8.11. Lackagh Tunnel is to be a drill and blast mined twin bore tunnel c.270m long beneath the Lough Corrib SAC including Limestone pavement. The potential geological impacts include: rock mass and slope instability resulting in potential encroachment onto Limestone pavement within the SAC; blasting activities resulting in potential impact on the structural integrity of the Limestone pavement; and collapse of tunnel and ground settlement from the tunnel bore resulting in potential impact on Limestone pavement. Measures are described to avoid these geological impacts including stabilisation works in advance of tunnelling works, a conservative design approach to the tunnel itself, rock mapping assessments, retaining systems and trial blasts.
- 11.8.12. The Menlough viaduct has a total length of c.320m over Limestone pavement and a Turlough and the PRD is on embankment on both approaches to it. This structure spans Limestone pavement surface outside of the SAC, avoiding the removal of this feature as well as a turlough.
- 11.8.13. A retaining wall in the Menlough area is located adjacent to the SAC. This is constructed to retain the embankment of the proposed road from encroaching on the Annex I habitat. It is stated that the construction of the retaining wall will be undertaken outside the areas of the Annex I habitat.
- 11.8.14. As well as the above, the Galway Racecourse tunnel is c.230m long and is a cut and cover type tunnel. In addition, the development requires a number of structures requiring pile foundations, embankment construction, excavation of cuts and earth

retaining structures (e.g. River Corrib bridge, culverts, underpasses, etc.). It is noted that no areas of contaminated ground were identified during investigations.

- 11.8.15. The road crosses numerous karst features from the N59 Moycullen Road to the existing N6. Furthermore, the ground investigation data suggests that groundwater will be encountered and dewatering will be required.

Potential Impacts

- 11.8.16. An appraisal of the **potential impacts** to geological features was undertaken. The potential construction phase impacts are described. Potential earthworks construction impacts are identified including compression of substrata, loss of agricultural land, loss of solid geology, and loss of future quarry reserves. Potential impacts of re-use and processing of site materials, importation, exportation and disposal of materials are identified.
- 11.8.17. The potential impacts of the construction of the two tunnels are outlined. This includes the potential impact on Limestone pavement (Lackagh only), loss of feature, and ground settlement. The construction of the other structures may impose impacts depending on the geology encountered.
- 11.8.18. The PRD traverses six locations of limestone pavement including passing under Lackagh Tunnel (within the SAC) and two locations under structures in Menlough (outside the SAC) and three other locations, all outside the SAC, and under the PRD. The road development results in the loss of small part of the Limestone pavement which is considered a significant/moderate impact.
- 11.8.19. During operation there is a neutral long-term impact on soils and geology along the route of the PRD.

Mitigation Measures

- 11.8.20. **Mitigation measures** during construction and operation are addressed. During earthworks construction, all excavated materials, excluding a small potential volume of hazardous material, will be re-used as construction fill and material deposition areas thereby minimising loss of the feature. Fill limitations will be incorporated to prevent impact to local peatland habitats. A drainage layer will be implemented for the construction of the embankment in areas prone to flooding to ensure hydraulic conductivity. Ground settlement, horizontal movement and vibration monitoring will

be implemented during construction activities to ensure that the construction does not exceed the design limitations particularly in relation to blasting.

11.8.21. During the construction of the Lackagh Tunnel the supported rock face of the quarry will be monitored as well as the vibrations at the surface. If vibration limits are exceeded blasting will cease until issue is understood.

11.8.22. Construction of the structures will be completed in accordance with the Construction and Environmental Management Plan (CEMP). Mitigation measures are proposed if contaminated ground or karst features are encountered.

11.8.23. During operation monitoring of the rock mass stability will continue.

Residual Impacts

11.8.24. In terms of **residual impacts**, it is stated that implementing the outlined mitigation measures will result in a number of significant residual negative impacts on the soil and geology at the construction stage. These impacts occur where the construction of the road development will result in the loss of Limestone pavement (all outside the European designated sites). Implementation of the outlined mitigation measures is considered to result in imperceptible residual negative impacts on the soil and geology at operation phase.

11.8.25. Table 9.19 and 9.20 outline the predicted **residual impacts** for geological features and activities during construction and operation. With respect to the Lackagh tunnel mitigation measures are listed including that the construction will be monitored, sufficient rock above the tunnel bore is maintained, a suitable pillar between the bores and tunnels to protect tunnels from collapse and suitable blasting sequences and where required stability measures will be implemented.

11.8.26. Table 9.19 also identifies the Karst Springs which will be lost as a result of construction.

11.8.27. **Cumulative residual construction and operational impacts** of the proposed development and the referred list of projects have been assessed. No other plans or projects are likely to result in a significant effect on soils and geology.

11.8.28. **Assessment**

11.8.29. I consider the potential significant impacts in terms of land and soil are:

- Loss of aggregates or resources.
- Soil contamination.
- Blasting and rock excavation.
- Loss of limestone pavement.
- Tunnelling works.
- Slope stability/earthworks.
- Material Deposition Areas.
- Land take justification.
- Proposed Parkmore Link Road Modification.

Loss of Aggregates or Resources

11.8.30. The owners of Lackagh Quarry made a number of submissions to the oral hearing which are primarily dealt with in Section 10.10 above and Section 13 below. With respect to the loss of aggregate resources, I note that the quarry has been inactive for a number of years, and that any future expansion of the quarry would likely to be constrained by the presence of a European designated site along the north and western boundaries. I agree with the applicant that the loss of a portion of future quarry reserves is a moderate impact and I am satisfied that the loss of potential aggregate resources due to the works within Lackagh Quarry is an acceptable impact. I further note that the proposal to re-use crushed rock in the construction process will result in a reduction in the impact on quarry reserves in the surrounding area.

11.8.31. The PRD will also result in a loss of agricultural soils where it traverses arable or agricultural land, as well as a loss of solid geology and potential resources where bedrock excavation is required. To mitigate the potential impacts during construction, almost all excavated material will be re-used as construction fill or placed in the proposed material deposition areas, offsetting construction material requirements for the PRD and the capacity of licensed facilities which would otherwise be required.

11.8.32. While negative residual impacts will arise from this loss, I do not consider that they will be significant impacts in terms of the soils and geology environment.

11.8.33. Geological Survey Ireland (GSI) made observations at application stage and following the RFI. They note that there are three County Geological Sites within 2km of the PRD but further note that there is no envisaged impact on the integrity of these sites. They sought, should any significant bedrock cuttings be created, that they be designed to remain visible as rock exposure rather than covered with soil and vegetated, as they consider this would improve geological knowledge and geoheritage. The applicant agreed, where safety requirements and engineering constraints permit, that significant bedrock cuttings will be designed to remain visible and where this cannot be done, photographic and/or visits from GSI will be facilitated. I consider this to be an acceptable approach to preservation of geological resources and knowledge.

Soil Contamination

11.8.34. Soil contamination concerns were raised, particularly in relation to the storage of hazardous materials.

11.8.35. The applicant stated that no areas of hazardous contamination were identified during the ground investigations and review of historical data. Potential impacts that could result in soil contamination are, therefore, considered to be associated with exposure of unknown contamination, seepage of concrete wash water or spillage of other construction related materials.

11.8.36. The applicant contends that the implementation of mitigation measures, including good housekeeping on the site, and the proper use, storage and disposal of substances and their containers that could cause contamination will prevent the generation of contaminated soil.

11.8.37. I note in this regard the provisions of the CEMP, and the Sediment, Erosion and Pollution Control Plan and Incident Response Plan, contained therein. I consider that the applicant has demonstrated a comprehensive understanding of potential soil contamination mechanisms and appropriate measures for minimising risk and mitigation measures for dealing with any contamination incident.

11.8.38. With regard to the potential for encountering existing unknown contamination, the applicant states that ground suspected of contamination will be tested during the detailed investigation and, where areas of contamination are encountered, the material will then be disposed of to a suitably licenced or permitted site.

11.8.39. I am satisfied that, subject to compliance with the identified mitigation measures and the CEMP, the PRD is not likely to result in any significant soil contamination impacts.

Blasting and Rock Excavation

11.8.40. A number of written and oral submissions raised concerns regarding potential impacts associated with blasting and/or rock excavation, particularly with regard to potential damage to properties and lands and noise, disturbance and health issues. Table 1 of Juli Crowley's submission to the oral hearing is a useful table listing each of the submissions and objections that raised concerns in relation to blasting, together with their proximity to the fenceline and the edge of the nearest cutting.

11.8.41. Noise and vibration issues associated with blasting and rock excavation are addressed in Section 11.12 below. With respect to geological impacts, the applicant provided information and clarifications at the hearing in relation to the methods of blasting, the pre-survey work and other mitigation measures proposed.

11.8.42. I note that blasting is only proposed in certain areas where it is deemed suitable based on ground investigations and depth of cut required (see Figures 7.201 and 7.202 of EIAR). In other areas, where blasting is not suitable, other extraction methods such as hydraulic breaking or splitting are proposed. In locations where it is suitable, I consider that blasting is generally the preferable solution for rock extraction, given that the impacts associated with it are momentary and that it is likely to allow the rock extraction phase to occur over a shorter time period than other extraction methods. I note in this regard that the frequency of blasting will be no greater than one blast per day in any one location.

11.8.43. As noted in the noise and vibration section of this report there will be noise and vibration limits put in place for rock excavation and blasting and blast design assessments and trial blasts will be undertaken in advance of blasting in any particular area. The applicant has committed to appointing a geotechnical expert who will be present to monitor blasting-related vibrations near sensitive receptors, including properties. In the event that the blast vibration limit is exceeded, the applicant's protocol will be to cease blasting until the basis for the increased vibration is understood and to recalibrate the blast design accordingly.

11.8.44. While I consider that the applicant's proposals for blasting, and the associated methodology and control measures, are acceptable and unlikely to result in any significant cosmetic or structural damage to property, the natural variation in ground conditions, particularly in areas of limestone bedrock and potential karst, make the applicant's commitments to undertake pre and post-construction condition surveys and carry out remedial works, if necessary, an extremely important mitigation and monitoring measure of the overall PRD. In the same vein, an effective communications and community liaison strategy will be an important means of giving local residents and businesses advance notice of blasting works and regular construction updates. I note that such a strategy is proposed, with nominated key contact persons to be appointed.

11.8.45. In conclusion, I do not consider that blasting associated with the construction of the PRD is likely to result in significant effects in terms of soils and geology.

Loss of Limestone Pavement

11.8.46. The loss of relatively small areas of limestone pavement as a result of the PRD is addressed in terms of its ecological impact in section 11.7 above and in section 12 below. With respect to the impact on soils and geology, I note that the main loss of small areas of limestone pavement outside of the designated sites is due to the land-take for the construction of the supports for the proposed Menlough Viaduct, which itself is being constructed to cross over and minimise the impact on the Annex I habitat. It is noted that there will be no loss of Annex I limestone pavement habitat within the SAC. The NPWS made a submission at the oral hearing whereby they stated, in response to specific questions posed by the Board's Consultant Ecologist, that they were of the view that while such habitat loss is undesirable and to be avoided, wherever possible, it is not inconsistent with the requirements of the Habitats Directive and the requirement of the EIA Directive should be applied to potential impacts to biodiversity including the assessment of impacts to Annex I habitats. As stated, this is addressed further in section 11.7.

11.8.47. The construction methodology for the Menlough Viaduct is detailed in Appendix A.7.2 of the EIAR. The applicant has identified three construction methods for the Viaduct and has devised a protection system to protect the limestone pavement areas during construction. These include the use of layers of geotextile, sand and

gravel and geogrids to spread the load from vehicles and prevent material entering grykes. A Karst Protocol is also contained within the CEMP, which sets out measures and protocols to be implemented where karst pathways are identified during construction. Given the inherent uncertainties associated with groundwater pathways in karst geology this protocol will be an extremely important tool for mitigating risk and it is appropriate that it forms part of the CEMP.

- 11.8.48. In my opinion the loss of these small areas of limestone pavement is a significant negative impact given the importance of this geology/habitat type. However, this must be weighed against the reason for the loss which is to facilitate the protection of a substantially larger area of limestone pavement by means of the proposed Viaduct.

Tunnelling Works

- 11.8.49. The proposed Lackagh Tunnel passes under an area of Annex I limestone pavement habitat to the west of Lackagh Quarry which is within the SAC. Concerns were raised about the potential impact of tunnelling on the limestone pavement above. A detailed Geotechnical and Hydrogeological Appraisal of Lackagh Tunnel was included in Appendix A.7.3 of the EIAR and the applicant considers the magnitude of risk to the limestone pavement to be negligible based on their tunnel feasibility assessment, design approach, construction methodology and mitigation measures. The assessment included a site specific ground investigation, with both horizontal and vertical boreholes and geophysical surveys.

- 11.8.50. The applicant considers their design approach to be conservative. I note, in this regard, the use of a twin-bore tunnel with a min. 7m wide separation pillar between the two bores and bedrock cover of 10 – 14.5m between the crown and the limestone pavement surface. This is substantially greater than the minimum requirement of 8m, which was based on the site-specific characteristics and which would have resulted in a 3mm settlement at the surface, according to the finite element analysis undertaken. The depth of bedrock cover and the separation pillar will allow a stable arch to develop around the tunnel and I am satisfied that there is not likely to be any material level of settlement or disturbance to the structural integrity of the limestone pavement at the surface.

- 11.8.51. The tunnel construction methodology and the various mitigation and monitoring proposals are set out in the Geotechnical and Hydrogeological Appraisal report

contained in Appendix A.7.3. In particular, I note that a geotechnical expert will be present to monitor the vibrations during blasting works for the construction of Lackagh Tunnel and that a more restrictive blast target vibration limit will be applied in this area. The geotechnical expert will also monitor the rock mass stability of the supported rock face of the tunnel and additional support measures have been identified, should any instability be identified. These include ground anchors, rock bolts, rock dowels, rock mesh, shotcrete. While I concur with the applicant's assessment that these additional support measures are unlikely to be required, I am satisfied that due consideration has been given to mitigating the risks associated with highly unlikely instability issues, which is an important consideration given the Annex I status of the limestone pavement and its location within the SAC. Monitoring of the tunnel will continue during the operational phase and the identified support measures will be implemented in the event that any future instability of the rock mass is identified.

11.8.52. I am satisfied that the applicant has demonstrated a full and comprehensive understanding of the receiving environment for the Lackagh Tunnel and that a suitably conservative design approach has been identified, modelled and assessed with a range of mitigation and monitoring measures proposed. I am satisfied that construction of the Lackagh Tunnel is not likely to result in significant impacts on the overlying limestone pavement. This matter is further discussed in Section 12 below, where an Appropriate Assessment is carried out on the potential impact on the SAC.

Slope Stability/Earthworks

11.8.53. Various queries were raised in relation to slope stability, earthworks details, embankment design and stability of cuts. The applicant's responses to these concerns were set out in Ms Crowley's submission to the oral hearing. With respect to embankment design and slope stability for planting purposes it was stated that the selected planting has considered a sloped surface and will not undermine the overall stability of the embankment. Planting provides additional surface support and will further reduce surface erosion.

11.8.54. With respect to rock slopes and stability of cuts the applicant stated that they have been designed based on knowledge and understanding of the underlying rock mass from ground investigation and baseline data and in turn the suitable stable slope

angles it can be constructed to. In response to a query from Galway Racecourse Committee regarding a contended discrepancy in rock slopes at the racecourse, the applicant stated that the permanent slope angles at that location have been designed to cut slope angles of 1V:1.5H and 1V:1H, and that the slope angles of temporary rock slopes may be stable at a steeper slope due to their temporary nature and reduced design life.

11.8.55. I do not consider that stability of cut slopes or general earthworks are likely to result in significant negative impacts on soils and geology.

Material Deposition Areas

11.8.56. A total of 32 No. Material Deposition Areas (MDAs) are proposed across the PRD.

The purpose of the MDAs is to provide locations where surplus excavated materials, which cannot be incorporated into the construction fill activities, can be placed at various points along the route of the PRD, in order to reduce the deposition of material off-site.

11.8.57. Approximately 366,000m³ of surplus material will be generated, comprising c. 76,000m³ of peat and c. 290,000m³ of what is referred to as 'U1 non-hazardous material'. This U1 material includes topsoil, made ground, unsuitable rock and clay, logs and stumps etc. The material equates to a total volume of excess materials of c. 476,000m³ when a bulking factor is applied.

11.8.58. The locations of the MDAs are illustrated in Figures 7.301 and 7.302, and they are listed in Table 11.27 of the EIAR, together with their area and approximate capacity. The Board should note that the EIAR incorrectly identifies 40 MDAs. A revised version of Table 11.27 was included in the Corrigenda presented at the oral hearing. The applicant clarified that 32 No. MDAs are proposed and the capacity of a number of the MDAs was altered. One of the MDAs was also omitted in error from Figure 7.301 and an updated version of this drawing was submitted with the Corrigenda.

11.8.59. Given the volume and nature of excess material arising, I consider it appropriate that it be placed in suitable locations along the route, in order to minimise off-site deposition and associated construction traffic, potential environmental impacts and in the interests of environmental sustainability.

11.8.60. I note that the theoretical total capacity of the MDAs is c. 806,700m³, reducing to 597,200m³, when the design requirements of each MDA are taken into account. This

result in c. 26% spare capacity in the MDAs and, therefore, they are unlikely to be fully utilised. The applicant contends that this level of spare capacity within the MDAs is appropriate based on their experience from previous construction projects. I agree that this is a reasonable level of 'headroom' given the scale of the project, without resulting in overprovision of MDAs.

11.8.61. The number, layout and composition of the proposed MDAs within Lackagh Quarry were the topic of much discussion at the oral hearing, with the design of the MDAs having been revised (refer to Appendix A.1.11 of RFI Response, corrigenda, and document submitted at oral hearing entitled 'Response to Queries raised in Module 2 of the N6 Galway City Ring Road in respect of Lackagh Quarry Material Deposition Areas'). This included submissions and questions by Dermot Flanagan SC and Senan Clandillon representing McHugh Property Holdings (19th October and 29th October 2020). As noted in Section 10.10, McHugh Property Holdings do not object to the PRD in principle, and the basis of their submissions was to seek to reduce the number/extent of MDAs in Lackagh Quarry so as to minimise the extent of land acquisition. Questions in relation to the MDAs in Lackagh Quarry were also put to the applicant by the Board's consultant Hydrogeologist and Ecologist.

11.8.62. Given the physical characteristics of Lackagh Quarry, i.e. a large steep-sided void, and its proposed use as the main construction site compound, I consider that it is, in principle, a suitable location for significant material deposition. I note in this regard that a secondary purpose of the MDAs within the quarry is to provide stability to the existing blast-damaged rock faces.

11.8.63. It is proposed to place approximately half of the total peat deposition material in Lackagh Quarry, with the remainder placed in certain other specified MDAs (see Table 3.1 in Appendix A.1.11). On foot of the remodelling exercise undertaken by the applicant following engagement with the quarry owners, MDAs DA24, DA27 and DA28 were reshaped, DA 25 was created and DA 23 (southernmost MDA) was removed. The applicant contends that DA 24 and DA 25 are critical MDAs for the purposes of the safe and sustainable deposition of materials arising and, in particular, the peat material. Of the 3 no. MDAs containing peat, the largest is DA24 where 37,000m³ is proposed to be deposited. In order to deposit that quantity of peat the applicant contends that 67,000m³ of U1 material is required to be placed in DA

24 so as to ensure upper shelf stability, to stabilise the quarry face; and to allow mixing/bunding of peat within DA 24.

11.8.64. Mr Flanagan stated that his client had no difficulty with DA28 (to the north of the PRD mainline) or the proposed attenuation ponds within the quarry but contended that the other MDAs within the quarry were excessive. There was much discussion at the oral hearing regarding the design of the MDAs within the quarry and Mr Clandillon, in his submission, set out alternative geometries for the MDAs. The applicant's response to which was that the size and design of the MDAs was driven by the peat placement and storage criteria.

11.8.65. Noting the multi-purpose nature of these MDAs, which provide a deposition site, a rock face stabilisation solution, and a basis upon which habitats can be created, I consider that the applicant has provided sufficient justification for the scale, location, design and capacity of the MDAs. Noting that a considerable volume of peat will be placed in the quarry, I consider the contained nature of the void to be suitable for such material and, given the characteristics of peat, it is appropriate that a degree of caution and a suitably conservative design is utilised rather than seeking to maximise the volume of peat in more constrained parts of the quarry.

11.8.66. Concerns were raised about the deposition of peat, particularly with regard to its mixing with other materials (U1 non-hazardous material), as well as the effects of dewatering on the peat and settlement over time. As the MDAs in the quarry are identified for dry calcareous grassland habitat creation, the likely success of creating this form of habitat on peat-containing MDAs was queried by both the NPWS and the Board's Consultant Ecologist. On foot of the discussion of these issues at the oral hearing, a number of additional commitments were added to the final SoEC by the applicant. These include:

- 9.22: Where an area of habitat planting has a requirement for a free draining layer beneath the surface and it corresponds with a proposed Material Deposition Area where peat may be placed, a free draining layer will be placed by the Contractor between the peat placement layer and the habitat to be created layer. The free drainage material will be contained within a filter separator layer (e.g. geotextile), above and below to prevent the migration of fines sediment, therefore ensuring the functionality of the layer.

For material deposition areas within Lackagh Quarry, where calcareous grassland is required, a contained drainage layer with a minimum depth of 350mm depth will be provided to ensure free drainage of surface water from the calcareous grassland. This layer will be provided between the calcareous grassland and the material deposition area.

- 9.23: Construction will adhere to all requirements outlined in Lackagh Quarry: Material Deposition Assessment Report (GCRR-4.0-03-4.23), in particular Section 6.4 Particular Commitments. This report is available in Appendix 1.11 of Volume 2 of the RFI Response Report.
- 9.25: The composition of the mixed peat in material deposition areas with calcareous grassland will ensure that the magnitude of immediate, primary and secondary consolidation will not exceed 250mm.

11.8.67. I consider that these additional commitments will assist in mitigating the impacts of the MDAs within the quarry and ensuring their effectiveness as both stable deposition areas and as a basis for habitat creation. I do not consider that significant impacts on land and soil will arise as a result of the proposed MDAs in Lackagh Quarry or elsewhere.

Land Take Justification

11.8.68. The land-take required for the construction of the PRD is due to the land required for the road itself, construction of embankments or cuts in areas of arable or agricultural land and will result in the loss of that land as a resource. The land required for the proposal is stated as being 280 Ha, although this has reduced slightly as the application has progressed. I accept that not all of the land is in use as agriculture or is a future resource and I am satisfied that the identified footprint of the development is required for the construction of the road and that significant excess or surplus lands are not being acquired. The proposed land acquisition is assessed in Section 13 below. However, from an EIA perspective, I consider that the applicant has justified the land take for the PRD and I consider the impact to be acceptable.

Proposed Parkmore Link Road Modification

11.8.69. The implications of the proposed Parkmore Link Road modification for the soils and geology assessment were briefly addressed by Ms Crowley in Section 3.11 of her

submission to the oral hearing. She stated that the proposed modification will have no effect on the soils and geology assessment results contained in the EIAR and RFI Response. Having regard to the nature and location of the proposed modification, I would concur with this assessment.

Conclusion on Land, Soil, Water, Air and Climate – Land and Soil

11.8.70. I have considered all of the written and oral submissions made in relation to Land and Soil, in addition to those specifically identified in this section of the report. I consider that there will be a significant negative impact on geology as a result of the loss of small areas of limestone pavement, which is an Annex I habitat, but which is outside of the Lough Corrib cSAC or any other Natura 2000 site. I note that this loss is associated with the construction of footings for a viaduct which will span over a larger area of limestone pavement. With regard to the other matters addressed in this section, I am satisfied that potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions.

11.8.71. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on land and soil.

11.9. Land, Soil, Water, Air and Climate – Hydrogeology

11.9.1. The Board appointed Mr James Dodds of Envireau Water to assist with the assessment of this topic. Mr. Dodds' report is included as Appendix 5 of this report and should be read in conjunction with the assessment below.

11.9.2. Hydrogeology is addressed in **Chapter 10** of the EIAR and a series of associated Figures are contained in Volume 3 of the EIAR, including bedrock aquifer classification and karst features, Groundwater bodies and vulnerability, recharge coefficients for the existing environment, groundwater receptors, hydrogeology plans and profiles, and a series of figures identifying the construction and operation zones of influence, respectively. Volume 4 of the EIAR includes a number of associated Appendices, including a Well Commissioning Report, Karst Survey Report, Water Level Monitoring Database, Groundwater Quality Monitoring Report, Aquifer Tests Report, Hydraulic Calculations and HD45 Assessment. The RFI response submitted by the applicant also contained additional information relating to hydrogeology,

particularly with regard to the interaction with groundwater dependent terrestrial ecosystems.

11.9.3. The Schedule of Environmental Commitments, which was updated at numerous stages over the course of the oral hearing, also sets out commitments in relation to hydrogeology. A Corrigendum (Ref. 29), correcting various errors and omissions in the EIAR, was also submitted at the oral hearing on 21st February 2020.

11.9.4. A submission responding to the hydrogeology-related written submissions/ objections, was given at the oral hearing on 20th February 2020 by Dr Leslie Brown of ARUP on behalf of the applicant (Ref. 15). A number of parties subsequently made further hydrogeology-related submissions over the course of the oral hearing, including questioning of, and further submissions by, Dr Brown. These matters are addressed, where necessary, below.

11.9.5. A number of additional documents relating to hydrogeology were also submitted at the oral hearing. This included a second Corrigendum (Ref. 65) relating solely to hydrogeology matters, a document entitled 'Response to Queries Raised in Module 1 of the N6 Galway City Ring Road Oral Hearing' and two Eco-Hydrogeology Summary Reports, relating to Lough Corrib SAC and Moycullen Bogs NHA, respectively (Ref. 65C and 65B).

Methodology

11.9.6. In terms of **methodology** the extent of the study area was taken as 250m from the PRD boundary for the western section (west of the N59 Moycullen road) where the aquifer is classified as being poorly productive. The eastern section (east of the N59) includes regionally important karstified aquifers, and the extent of the study area was taken as the extent of the groundwater catchments that the development traverses. The existing baseline ground conditions within the study area have been interpreted from desk studies, field studies and commissioned ground investigations. All investigation locations were sited based on the design of the road. Groundwater level, groundwater quality and aquifer testing were focussed on locations of cuttings, structures and receptors. It is stated that the rating of potential impacts from the PRD on the hydrogeological environment has been assessed by classifying the importance of the relevant attributes, quantifying the likely magnitude of any impact on these attributes and determining the resultant significance.

Receiving Environment

- 11.9.7. The **receiving environment** is described. The hydrogeological environment is presented in the regional context and in detail for the study area. The hydrogeological study area is divided into two main regions on the basis of contrasting aquifer properties for the two main geological rock types in the region: the poorly productive (P1), low recharge aquifer of the Galway Granite Batholith (western section) and the regionally important karstified, high recharge aquifer of the Viséan Undifferentiated Limestone (eastern section).
- 11.9.8. On the western section the two groundwater bodies (GWB) are: Spiddal GWB and Maam-Clonbur GWB. In the eastern section the GWBs are: GWDTE Lough Corrib Fen 1 (Menlough), GWDTE Lough Corrib Fen 2, GWDTE Lough Corrib Fen 3 & 4, Clarinbridge, Clare-Corrib, and Ross Lake.
- 11.9.9. In terms of local hydrogeology, the PRD has been divided into 4 sections for description and analysis. The ground investigations undertaken in each of the 4 sections were tailored to provide data that will allow hydrogeological assessment specific for the PRD in that section. The sections are divided as for the land and soils chapter, i.e. Section 1: R336 to N59, Section 2: N59 to River Corrib, Section 3: River Corrib to N83, and Section 4: N83 to N6. The information gathered forms the basis for a conceptual site model for the study area.
- 11.9.10. It is noted that there are a number of receptors within the study area which are connected to or dependent upon groundwater to maintain their hydrogeology. The types of receptors that could be affected are: Groundwater resources and abstractions; Groundwater dependent habitats; and Groundwater dependent surface water features. Based on the developed conceptual model a number of these will not be affected by the PRD and a full impact assessment will not be required. Those which do require an assessment are assessed in this chapter of the EIAR. The importance of these groundwater receptors is ranked in accordance with TII Guidelines.

Groundwater Resources

- 11.9.11. Private wells are identified. There is one major groundwater abstraction in the Galway Batholith at Knocknacarra (W50-1) which is a group water scheme as well

as one private supply and one spring supply. These are within 1km beyond the study area.

11.9.12. In the Visean Undifferentiated Limestone there are four large groundwater abstractions within the study area, comprising of one industrial supply for a commercial water bottling facility (W50-12) as well as wells serving the Galway Racecourse. Well W50-12 has an equivalent supply of up to 1,000 houses. Galway Racecourse wells (W50-13 & W50-14) provide 2,000m³/day of groundwater and has a cumulative abstraction of >2,500 houses. Well W50-15 is used for potable purpose and has an equivalent of 1,400 houses. Other private wells are identified.

Groundwater dependent Habitats

11.9.13. European sites and nationally designated sites are considered with respect to hydrogeology. European sites that are located in separate and distinct groundwater bodies or sub catchments are not considered further as there is no groundwater connection. Table 10.11 screens European sites and identifies that there are four European sites that are either located within or receiving groundwater from catchments that the proposal traverses: Lough Corrib SAC, Lough Corrib SPA, Galway Bay Complex cSAC and Inner Galway Bay SPA. The Biodiversity Chapter identifies that Ballindooly Lough supports wintering birds of the two SPAs and is included for assessment. Table 10.13 identifies the National Heritage Areas to be considered further. Table 10.15 lists Annex I water dependent habitats that are outside of the European site boundaries. On the Galway Granite Batholith, the Annex I habitats outside of European and National sites include wet heath, blanket bog and Molinia Meadows. On the Visean Undifferentiated Limestone the Annex I habitats outside of European and National sites include Turloughs, Limestone pavement, Petrifying springs. Three turloughs were identified, all located within different groundwater bodies. Limestone pavement, whilst not dependent on groundwater, does require the development of free draining upper zone in the limestone that rapidly drains rainfall into the aquifer so as not to cause ponding. It is considered as a hydrogeological receptor as it is susceptible to groundwater level rise and limestone pavement ecosystems are included as potential receptors. Lackagh Quarry includes 27 no. seepage points of which 6 are petrifying springs. Non-Annex I habitat dependent on water or hydrogeological characteristics are also identified.

Groundwater Dependent Surface Water Features

- 11.9.14. The conceptual site model identifies surface water features that are dependent on groundwater. These include the River Corrib, Ballindoooley Lough, Coolough Lakes, Turloughs and Terryland River.
- 11.9.15. Table 10.16 ranks the importance of all hydrogeological features within the project study area under the headings as described above.
- 11.9.16. **Characteristics** of the PRD that have the potential to change the groundwater regime are considered to be: dewatering of the bedrock aquifer for cuts or structures; accidental spillages of potentially polluting materials during construction; and discharge of road drainage or road cuts acting as barriers to flow during operation. Table 10.17 provides a summary of earthwork locations for the PRD and maximum groundwater drawdown (including the tunnels). It is noted that the construction schedules for Lackagh Tunnel and the Menlough Viaduct shall accommodate the seasonal groundwater fluctuation so that construction works always occur above the water table and dewatering in the bedrock aquifer is not required. It is stated that for this reason there will be no lowering in groundwater levels and drawdown is considered as '0m'. The drainage design is summarised.

Potential Impacts

- 11.9.17. Potential impacts during **construction** are listed as: the removal of the aquifer during excavations, changes in recharge characteristics, changes in groundwater levels and changes in water quality. Potential changes to the groundwater regime are considered and the interaction of these changes on receptors are considered for: groundwater resources, supplies, groundwater dependent habitats and groundwater contributions to surface water.
- 11.9.18. The potential impact on groundwater resources during construction phase considers the impact that the changes in the groundwater regime and quality have on the characteristics of the aquifers. Changing groundwater levels during construction activities may affect the aquifer characteristics. Eight locations have been highlighted where groundwater levels will be lowered locally during construction in the Galway Granite Batholith section. Suspended solids in site runoff is the prime concern with pollution from spillages but having regard to the overland flow this will not recharge

to ground – the low infiltration rate will promote runoff rather than infiltration. On this basis the risk is considered limited to the construction footprint.

- 11.9.19. The balance of rock excavated in cuttings and used for embankments and fill calculates a surplus of granite but a deficit of limestone. Due to the chemically inert nature of granite, if it is used in limestone areas there is no water quality concerns.
- 11.9.20. With respect to the Visean Undifferentiated Limestone the changing of recharge characteristics has the potential to impact the aquifer. The effect of an increased recharge in areas where vegetation has been removed may cause a groundwater rise. It is estimated that there will be a temporary rise in groundwater of up to 0.1m during construction.
- 11.9.21. Concrete is required as part of the construction of foundations for structures which poses a risk that it may enter the aquifer if karst is present, which could block pathways and modify flow paths to receptors. If limestone derived material is placed over granite bedrock, surface water runoff or groundwater movements have the potential to impact local areas of peatland habitat by changing the pH of the local groundwater.
- 11.9.22. If groundwater levels at wells are reduced or quality impacted, it could render the wells unusable. Table 10.18 provides the impact assessment of wells within the study area (pre-mitigation). The table highlights that five wells will be permanently impacted. It is stated that these wells will be removed as part of the PRD.
- 11.9.23. The potential impact to Groundwater Dependent Terrestrial Ecosystems (GWDTE) is assessed. These may be impacted due to accidental contamination of the groundwater which supports them, alteration of groundwater levels and/or reduction in the groundwater contribution to the ecosystem. It is stated that the chapter identifies the potential impacts to the hydrogeology that supports the ecological features and does not assess the magnitude and impact significance of the habitats themselves.
- 11.9.24. Based on the zone of influence for dewatering of the bedrock aquifer and the areas vulnerable to contamination, it is considered that there will be no impact either from drawdown or water quality on the Galway Granite Batholith to European sites. For the Visean Undifferentiated Limestone the drawdown zones of influence do not impact on any European sites or Ballindooley Lough.

- 11.9.25. Additional detail on the construction of the Lackagh tunnel is provided in the appendix A.7.3 'Lackagh Tunnel Geotechnical and Hydrogeological Appraisal'. Potential hydrogeological and geotechnical direct and indirect impacts for each of the three sections that the Lackagh Tunnel is split into are detailed.
- 11.9.26. Dewatering of the bedrock aquifer will not be permitted during construction so there is no reduction in groundwater flow transmitted by these pathways. By not dewatering, the boundary between the Clare-Corrib GWB and Lough Corrib Fen 1 (Menlough) will not be impacted. All construction works will remain above the groundwater table for the duration. It is stated that on this basis there will be no drawdown in the western approach to Lackagh Tunnel and the tunnel itself and, therefore, no impact to the groundwater divide between the GWBs or to Lough Corrib SAC. It is stated that if karst conduits are encountered during the excavation of structure foundations concrete poured in these may block conduits which may affect the hydrogeological regime. Mitigation measures are proposed.
- 11.9.27. The bridge over the River Corrib requires excavations on the east and west banks to install piers. These excavations will extend below the groundwater table and will require dewatering to enable dry working conditions. As the eastern excavations occur on the margins of the Lough Corrib Fen 1 (Menlough) GWB with the River Corrib there is no potential for impact to Western Coolagh Spring which is upgradient of the location and which feeds the Coolagh Lakes.
- 11.9.28. The potential impact on NHA's and Annex I habitats are addressed. The zone of influence for drawdown shows that impacts from groundwater lowering will occur to Annex I habitats in named townlands to the west of the River Corrib.
- 11.9.29. Table 10.19 summarises the potential hydrogeological impacts on GWDTE during the construction phase.
- 11.9.30. With respect to groundwater dependent surface water features it is noted that only the Terryland River is described under this heading.
- 11.9.31. Table 10.20 summarises the impact magnitude and significance for hydrogeological aspects of receptors at risk during construction including the loss of wells and the potential impact on Coolagh Lakes which can affect the Lough Corrib cSAC.
- 11.9.32. Potential impacts during **operation** are addressed and as with construction activities, the main impacts to groundwater arise from the potential to impact groundwater level

and groundwater quality. It is noted that operational impacts can alter the groundwater regime by lowering of groundwater level from operational dewatering, raising groundwater levels by impeding or impounding groundwater, or discharge of road runoff to ground.

11.9.33. The impact on groundwater resources is detailed. During the operation phase there are seven cuttings/tunnel in Visean Undifferentiated Limestone that have the potential to intersect the water table – including the two tunnels. Only three excavations have the potential to require operational dewatering of the bedrock aquifer. It is restated that 5 No. wells will be lost during construction and mitigation will be proposed for other wells during operation.

11.9.34. Potential impacts to GWDTE during operation derive from the interception of groundwater in cuttings and the deterioration of water quality.

11.9.35. With respect to surface water features, it is considered that there are no operational impacts on groundwater contribution to surface water features.

11.9.36. Table 10.25 provides a summary of impact magnitude and significance for hydrogeological aspects of receptors at risk during the operational phase.

Mitigation Measures

11.9.37. **Mitigation measures** during construction and operation are addressed. It is noted that, through the evolution of the design of the PRD, measures were included in the design to reduce or avoid specific impacts where possible. Following the evaluation of potential impacts as a result of the design, specific mitigation measures have been developed to avoid, prevent, reduce and if possible, remedy any significant adverse impacts on hydrogeology.

11.9.38. Measures are listed during construction including measures incorporated into the design, in addition to standard good construction practice mitigation measures.

11.9.39. A number of mitigation measures have been developed specifically for groundwater dependent receptors which are described for aquifers, supply wells and habitats.

11.9.40. The mitigation for the loss of 5 No. wells includes providing a replacement well, connecting to mains supply or financial compensation.

11.9.41. During the operational phase, inspection and maintenance will occur to ensure that infiltration basins will operate as intended for the design life.

Residual Impacts

11.9.42. Table 10.26 provides a summary of **residual impacts** to receptors during the construction phase while Table 10.27 provides a summary of residual impacts during the operational phase.

11.9.43. There are no significant residual hydrogeological impacts to European sites. However, profound residual hydrogeological impacts remain for groundwater level drawdown impacts below the location of five Annex I habitats (outside of the SAC) on the Galway Granite Batholith at the following locations:

- Na Foraí Maola Thiar (Ch. 0+650 to Ch. 0+750)
- Na Foraí Maola Thoir (Ch. 1+250 to Ch. 1+500)
- Troscaigh Thiar (Ch. 1+850 to Ch. 2+400)
- Aille (Ch. 3+300 to Ch. 3+900)
- Ballyburke (Ch. 4+800 to Ch. 5+900)

11.9.44. The **cumulative impact** with the developments listed in Section 10.7.1 is considered to be negligible.

11.9.45. **Assessment**

11.9.46. I consider the potential significant impacts in terms of hydrogeology are:

- Adequacy of investigations and conceptual model.
- Groundwater pollution.
- Impact on groundwater levels (dewatering and recharge).
- Potential Impact on water quality in Ballindooley Lough, Moycullen Bogs and other wet habitats.
- Hydrogeological impacts on groundwater dependent Natura 2000 sites.
- Impact on wells and wastewater treatment systems.
- Potential groundwater flooding at Lackagh Quarry.
- Structural instability due to groundwater drawdown.
- Proposed Parkmore Link Road modification.

11.9.47. It should be noted that there is overlap with other topics which are addressed in sections 11.8, 11.10 and 10.10.

11.9.48. As noted above, the Board appointed Mr James Dodds of Envireau Water to assist with the assessment of this topic for the purposes of EIA. Mr. Dodds' report is included as Appendix 5 of this report and, while the assessment below references and is informed by Mr Dodds assessment, his report should also be read in conjunction with this section. Mr Dodds' report also informed the Appropriate Assessment section of this report.

Adequacy of Investigations and Conceptual Model

11.9.49. As outlined above, and in Section 2 of Mr Dodds' report, the geological and hydrogeological environment in the area of the PRD is complex, sensitive and significantly varied across the route alignment. Given this complexity, the potential for impacts to arise as a result of inadequate investigations or an incomplete understanding of the hydrogeological environment as typified by the conceptual model warrants careful consideration.

11.9.50. The area to the west of the N59 Moycullen Road is underlain by granite, while the area to the east of the N59 Moycullen Road is underlain by limestone. These two bedrock strata have entirely different geological, geotechnical and hydrogeological properties.

11.9.51. Granite is characterised by its strength, resistance to weathering and very low permeability which results in its inability to store or transmit water, other than in isolated and infrequent fracture zones. Consequently, the quantity of groundwater flow is very small compared to the surface run-off. In contrast, limestone is susceptible to relatively rapid chemical and physical weathering leading to a very large variation in properties such as permeability and groundwater flow termed 'the karst continuum'. In karst areas, the proportion of groundwater flow is very large compared to surface run-off.

11.9.52. In both bedrock areas more recent geological materials associated with glaciation and post glacial processes sit on top of an ancient (palaeo) land surface. The granite area would have had an undulating bare rock surface while the limestone area would have been characterised by steep and deep valleys and gorges draining a higher plateau. These were subsequently filled in by clay deposition during glacial retreat.

- 11.9.53. The locations of the relevant groundwater bodies (GWBs) relative to the PRD are identified in the EIAR and were elaborated upon at the oral hearing in the initial submission by the applicant's Hydrogeologist, Dr Brown, and in response to questioning by Mr Dodds. The correct definition of the GWBs is clearly a fundamental part of assessing the impact of the PRD and Mr Dodds notes that the site investigation work undertaken by the applicant shows that the Clare-Corrib GWB should be further sub-divided, as a result of the identification of the abovementioned deep clay-filled palaeo valleys, which create hydraulic barriers to groundwater flow within the GWB.
- 11.9.54. Based on the data and interpretation presented, Mr Dodds states that he is satisfied that the deep buried valleys are present and that, due to them, the sub-division of the Clare-Corrib GWB into the Lough Corrib Fen 1 (Menlough) and Lough Corrib Fen 1 (Lackagh) is warranted.
- 11.9.55. Lough Corrib Fen 1 (Menlough) lies north of Coolagh Lakes and Lough Corrib Fen 1 (Lackagh) forms a small GWB ($<0.04\text{km}^2$) between Lough Corrib and Lackagh Quarry. Groundwater flows westwards within the Lough Corrib Fen 1 (Menlough) to the Coolagh Lakes and the River Corrib and supports Western Coolagh Spring (K25), a karst spring which provides groundwater flow to the upper lake of Coolagh Lakes.
- 11.9.56. The groundwater in Lough Corrib Fen 1 (Lackagh) is largely contained and disconnected from the Western Coolagh Spring (K25) due to the compartmentalisation by the deep buried valleys. Instead, groundwater flow from Lough Corrib Fen 1 (Lackagh) is likely to flow eastwards to Lackagh Quarry during peak groundwater levels, where it either evaporates or overflows into the Clare-Corrib (Ballindooley West) GWB. During periods of low groundwater levels, the groundwater in Lough Corrib Fen 1 (Lackagh) is likely to be effectively pooled and cannot move eastwards.
- 11.9.57. The functioning of Eastern Coolagh Spring (K45), which sits within Lough Corrib Fen 1 (Menlough), has been interpreted by the applicant as a discharge from superficial deposits and not a karst spring, due to the low permeability and thickness of the clayey subsoil. This is based on evidence from groundwater levels and measured flow rates which are not synchronous. Mr Dodds agrees that, if present, seepages

from the subsoil to the Eastern Coolagh Spring would represent a very small fraction of the groundwater contribution to Coolagh Lakes when compared to the karst inflow at Western Coolagh Spring and that the quantity and chemistry of the water in Coolagh Lakes is not materially affected by flows from the Eastern Coolagh Spring. I concur with Mr Dodds conclusion in this regard.

11.9.58. It should be noted that a number of further subdivisions of the Clare-Corrib GWB were also identified, generally resulting from the buried valleys.

11.9.59. With regard to the question of whether the applicant commissioned adequate investigations and undertook appropriate interpretation of the findings of these investigations, I note that these issues are addressed in Sections 3.2 to 3.12 of Mr Dodds report. Mr Dodds sets out details of the desk study, field investigations and baseline monitoring of groundwater level and chemistry undertaken by the applicant.

11.9.60. Groundwater monitoring was undertaken between February 2015 and April 2017. This included a total of 16 No. groundwater monitoring rounds. Measurements on individual wells were also taken during commissioning, well testing and spot checks. In total, 54 No. individual wells were regularly measured. While not all monitoring points were included in all monitoring rounds, the exceptionally high rainfall in the winter of 2015/16 resulted in high groundwater levels which were captured during the monitoring, allowing a groundwater high to be established in and around Lackagh Quarry.

11.9.61. Mr Dodds notes that all site specific investigation locations were sited based on the alignment and design of the PRD. In particular, groundwater level, groundwater quality and aquifer testing was focused on locations of cuttings, structures and receptors. With regard to the Natura 2000 related groundwater dependent receptors, these locations were investigated either by direct investigation, (e.g. water level monitoring), water sampling and analysis or by inference from the wider surveys (e.g. geophysics and groundwater level monitoring) to determine the hydrogeological regime relevant to them. Due to the ecologically sensitive nature of the Natura 2000 sites, the investigation methodologies selected were those that would not impact directly on the European sites.

11.9.62. Mr Dodds considers that the key data required in terms of undertaking the impact assessment and designing mitigation is the groundwater level, particularly high

groundwater levels, and aquifer permeability. He states that this data is fundamental to the definition of GWBs and the assessment of direct impacts as a result of dewatering. Mr Dodds concludes that, in his professional opinion, the applicant did commission and undertake appropriate investigations to adequately define the baseline hydrogeological conditions.

11.9.63. The results of these investigations were used by the applicant to develop a conceptual hydrogeological model. Mr Dodds challenged the conceptual model and its veracity during the course of the oral hearing, which resulted in several errata and correction documents being produced by the applicant, together with improved representation of the model. This did not materially change the conceptual model but provided a more robust baseline data set to support the model and made the understanding of the data easier.

11.9.64. Mr Dodds states that, in his professional opinion, appropriate interpretation of the findings of the investigations have been undertaken, enabling the applicant to develop a robust conceptual model which demonstrates a sufficient understanding of the hydrogeological environment. Having reviewed the information submitted by the applicant in the EIAR and at the oral hearing, I would concur with Mr Dodds that the applicant has demonstrated a clear and comprehensive understanding of the relatively complex and varied hydrogeological environment and I consider that this allows for the potential impacts of the PRD to be properly understood and assessed.

Groundwater Pollution

11.9.65. During construction and operation, there is a risk of groundwater pollution from hazards such as: concrete/grout pours; accidental spillages; fines (silt and clay) being washed from construction areas during storm events; accidents, fuel and other spills; run-off from the final pavement; and placement of geological materials with a different provenance from the specific locality.

11.9.66. Mr Dodds considers that these hazards pose a high risk to groundwater in the limestone areas, particularly where conduit pathways are present. The applicant seeks to mitigate these risks with the following measures:

- CEMP, including the Sediment, Erosion & Pollution Control Plan (SEPCP) and the Karst Protocol.

- The location, design and construction of wetland treatment and soakaway areas designed to the appropriate Standards.
- The drainage design, including the design of the infiltration basins, minimises the risk of a pollution event during operation affecting groundwater quality. In this regard, the risk of spillage is low (<0.5%) and any impacts that do accidentally occur will be temporary. The infiltration basin design also includes a containment area, hydrocarbon interceptor and a wetland treatment component and will promote settlement of fines and prevent entry of fines into the groundwater system.

11.9.67. The two bedrock types underlying the PRD have different chemical compositions, with the granite bedrock leading to base-poor, low pH water, while the limestone leads to base-enriched neutral or high pH water. Therefore, if limestone derived material is placed over granite bedrock, surface water run-off and/or groundwater from the placed limestone has the potential to locally impact local areas of peatland habitats by changing the pH of the run-off and/or groundwater. Mr Dodds considers that the consequence of such an impact on groundwater pH is likely to be imperceptible. Due to the largely chemically inert nature of granite, there are no water chemistry concerns in terms of hydrogeology where granite-derived materials are placed over limestone bedrock.

11.9.68. With regard to the CEMP, this summarises the overall environmental management strategy that will be adopted and implemented during the construction phase of the PRD and sets out the mechanism by which environmental protection is to be achieved. It has been prepared in accordance with industry best practice guidance including TII Guidelines and, as noted above, it includes the SEPCP which summarises the procedures and technical practices for implementing effective sediment, erosion and pollution control through a variety of delivery methods for the construction phase. The SEPCP demonstrates that run-off from the construction site can be controlled so as not to impact any receptors. The Karst Protocol, again contained within the CEMP, summarises the procedures and technical practices for the identification of karst conduits within the limestone during construction. Mr Dodds is satisfied that the full and proper implementation of the CEMP will ensure that any direct or indirect or ex-situ impacts on the non-Natura 2000 sites are avoided and on

that basis the mitigation proposals put forward by the applicant are justifiable and reasonable.

- 11.9.69. Within the western granite area, Mr Dodds states that, in his professional opinion, the residual risks are effectively zero. Within the eastern karst limestone area, he considers that residual risks remain due to the inherent, natural variation associated with the karst continuum. These residual risks relate solely to water quality as the design of the PRD maintains the water balance within each GWB and dewatering will not be undertaken in those GWBs with a direct link to Natura 2000 sites.
- 11.9.70. Mr Dodds considers that the residual risks associated with water quality are adequately mitigated by the CEMP and its associated SEPCP and Karst Protocol, as discussed above.
- 11.9.71. Given that the operational design of the scheme reduces the risk of contaminated water entering the ground by the provision of engineered treatment wetlands prior to soakaway areas and the incorporation of valves to hold back run-off from accidental spillages, Mr Dodds considers that the residual risks result from an incident or sequence of occurrences which overwhelm the system and/or poor maintenance of the mitigation. In the case of the former, this risk cannot be ever reduced to zero. However, the design of the systems is in line with relevant guidance and is robust. He notes that failure due to natural events will be associated with high rainfall and run-off and, therefore by definition, will be short-lived and associated with high volumes of dilution. In order to provide ongoing mitigation, he considers it important that that the drainage systems, treatment wetlands and soakaways are well maintained, in perpetuity.
- 11.9.72. Noting that risks of groundwater pollution are associated with all developments, Mr Dodds concludes that the measures proposed to mitigate the risks within the context of the PRD are concomitant with the nature and scale of the development and the level of the identified risks. Assuming that the CEMP is implemented in full and to a high standard, Mr Dodds states that it is his professional opinion that residual risk is very low and insufficient to undermine the conservation objectives for the River Corrib and associated lakes (or any other GWDTE in the SAC or surrounding area), and that, in the unlikely event that impacts occurred, they would be short-lived and insignificant. I agree with Mr Dodds' assessment and conclusion and consider that

the same conclusion can be drawn in respect of the residual water quality impacts on the wider hydrogeological environment. Finally, as I am satisfied that the water quality of the GWBs will not deteriorate due to the construction or operation of the PRD, I consider the PRD to be compliant with the requirements of the European Water Framework Directive.

Impact on Groundwater Levels (Dewatering and Recharge)

- 11.9.73. Mr Dodds notes that groundwater levels are a fundamental data set because they define: the location and extent of GWBs; the direction of groundwater flow; the requirement for dewatering of tunnels and cuttings; and together with permeability, the speed of groundwater flow. Clarification on groundwater levels and hydraulic gradients was requested as part of the Request for Further Information and was subsequently a strong theme of discussion between Mr Dodds and Dr Brown during the oral hearing and formed part of the corrigenda submitted during the hearing.
- 11.9.74. Based on the information submitted, the responses to questioning and the corrections submitted, Mr Dodds states that he is satisfied that the data collected and interpreted is sufficient to adequately understand the groundwater levels in and around the area, their seasonal variation, and their interaction with the PRD. I agree with Mr Dodds' conclusion on this matter.
- 11.9.75. The PRD has the potential to cause an impact on groundwater levels in the receiving environment as it will require the lowering of groundwater levels by dewatering of bedrock aquifers during construction and operation, in excavations which are deeper than the local groundwater level, at any particular time of the year. Dewatering of the bedrock aquifer will lower water levels locally which can have a direct impact on receptors which are within the Zone of Influence (Zol) of the dewatering and an indirect impact on receptors further away by diverting groundwater flows if the dewatered water is discharged outside the receptor's catchment area. In this case, the GWB is being taken as the catchment feeding a receptor, which Mr Dodds considers to be a reasonable conservative approach.
- 11.9.76. The extent of the Zol of any dewatering is dependent on the hydraulic conductivity and the drawdown imposed by the dewatering. The applicant has used what Mr Dodds considers to be a simple analytical method to calculate the Zol and he states that, in his experience, this method overestimates the value of Zol and, therefore,

gives a conservative estimate. I consider such a conservative approach to be appropriate given the nature of the receiving environment.

11.9.77. As the Zol calculation is sensitive to the value of permeability used, Mr Dodds questioned the applicant's representatives in some detail on the field testing and derived values of permeability and errata were consequently submitted during the oral hearing on this topic. The possible range of values of permeability for the granite area and the limestone area are very different and Mr Dodds considers that the methods that the applicant has used to measure permeability will produce a relatively narrow range of values. In the case of the granite area, Mr Dodds considers that the values obtained are an overestimate of the likely real values and, therefore, highly conservative in their assessment of the Zol. Mr Dodds considers that the applicant's approach may have overestimated the Zol by a factor of 10.

11.9.78. I note that the EIAR concludes that there will be profound residual hydrogeological impacts due to groundwater level drawdown impacts below the location of five Annex I habitats outside of the SAC, between chainages: Ch. 0+650 to Ch. 0+750; Ch. 1+250 to Ch. 1+500; Ch. 1+850 to Ch. 2+400; Ch. 3+300 to Ch. 3+900; and Ch. 4+800 to Ch. 5+900. Mr Dodds notes that the surface water ponding within wetland areas in the granite area is not derived from groundwater but rather is caused by ponding above rock head where the rainfall and runoff is perched and trapped by basins in the bedrock topography. Based on what Mr Dodds considers to be an overestimation of the Zol (as discussed above) his opinion is that, while dewatering of the cuttings in the granite area will remove water from the granite, based on the likely functioning of the bogs and the smaller Zol, there will be no material impact on the Annex I habitats. Where higher permeability fractures are encountered, the mitigation measures presented in the CEMP allow for the fractures to be grouted and sealed, thus preventing drainage.

11.9.79. While I generally agree with Mr Dodds assessment, which is from a purely hydrogeological perspective, I note that there will be direct impacts on portions of these habitat areas due to the fact that they are traversed by the proposed road alignment (refer to Figures 10.7.101 to 10.7.115). I consider, therefore, that there will be a profound impact on the portion of the habitats traversed by the PRD but that is due to the removal of the habitat rather than the hydrogeological impacts of drawdown. This issue is addressed in the Biodiversity section of this report.

11.9.80. In the limestone area, Mr Dodds notes that the values obtained represent one part of the karst continuum, which is recognised in the applicant's assessment and in the design of the road and construction mitigation. Mr Dodds considers that the values used in the Zol calculation and the way that the resulting numbers have been used and interpreted are reasonable and conservative. I agree with Mr Dodds' assessment of this issue.

11.9.81. Notwithstanding this, karst terrain, by its nature, is unpredictable at the construction scale and it is important that this uncertainty is managed through mitigation measures. Mr Dodds considers that the greatest risk with the PRD is the intersection of unknown and unknowable conduit flow systems, which could increase inflow to dewatering systems, greatly increase the Zol, and greatly increase the risk associated with contamination. Several design/mitigation measures have been incorporated into the scheme to protect the hydrogeological regime and minimise the risk to receptors, these include:

- No dewatering of the bedrock aquifer during construction at Menlough Viaduct or Lackagh Tunnel (and its approaches).
- During the winter groundwater high it may be necessary to limit the depth of works so that dewatering is not required in sensitive areas.
- Any groundwater intercepted will be collected and piped to the surface water receptor it would naturally have drained to within the granite area.
- In the limestone area intercepted groundwater will be controlled and infiltrated back to the same groundwater body from which it is abstracted.

11.9.82. I also note the provisions of the Karst Protocol contained within the CEMP.

11.9.83. There will be no active (pumped) dewatering required during the operation phase, but passive (gravity) dewatering of the bedrock aquifer will occur at a number of cutting locations along the alignment which will result in long-term lowering of the groundwater levels locally. Mr Dodds considers that this lowering has been assessed by the applicant in a conservative manner and that it will not impact directly on relevant receptors. In addition, all groundwater intercepted by the proposed road drainage system will be discharged back to the same GWB, thereby maintaining the overall recharge rate to the local aquifer.

- 11.9.84. Point discharges to groundwater from the infiltration basins will lead to local increases in the groundwater level. This, again, has been assessed conservatively and it has been found that it will not impact directly on sensitive receptors.
- 11.9.85. Mr Dodds conclusion, with which I agree, is that the risks associated with dewatering during the construction and operational phases have been approached and managed appropriately due to the conservative assessment of Zol in the granite area, the management of uncertainty in the limestone area and the design and mitigation measures put in place.
- 11.9.86. As well as the dewatering implications, the construction and operation of the PRD will change the manner and potential for groundwater recharge. As such, Mr Dodds considers that there is a small, but real risk of an impact to receptors. Aspects of the PRD which have the potential to affect recharge include:
- Vegetation and soil removal, leading to an increase in the quantity of rainfall reaching the bedrock surface. In the granite area this is most likely to increase run-off rather than recharge, while in the limestone area this is likely to increase recharge.
 - Pavement construction, which will lead to a loss of aquifer recharge area along the alignment of the road, and diversion of rainfall to run-off.
- 11.9.87. The CEMP provides for all run-off to be discharged either to the same surface water catchment in the granite area or the same GWB in the limestone area. As such, there will be minimal change to the quantity of water within the catchments although there will be small differences in the distribution of recharge/run-off at the small (local) scale. These changes will quickly dissipate at the medium scale and Mr Dodds states that, in his opinion, this does not pose a material risk at the catchment or GWB scale or on the cSAC/SPA scale. The exception to this is where the road pavement directly crosses the Lough Corrib cSAC, south of Menlough Castle. In this location the road pavement will prevent direct recharge to the underlying limestone. While the total quantity of groundwater reaching the cSAC will not change (due to the drainage arrangements), there will be a loss of rainfall reaching the bedrock surface directly under the pavement. This may have a negative impact on the flora below the elevated section of the pavement which is addressed in the Biodiversity and Appropriate Assessment sections of this report.

Potential Impact on Water Quality in Ballindoooley Lough, Moycullen Bogs and Other Wet Habitats

- 11.9.88. Mr Dodds states that there are two mechanisms by which the water quality at Ballindoooley Lough and/or Moycullen Bogs, or other wet habitats such as wet heath, could be affected by the PRD. The first is due to contaminated run-off during the construction or operation entering watercourses or groundwater and entering the lakes or other wet habitats. The other is a change in the provenance of water entering the lake or other wet habitats of such magnitude that it affects the chemistry of the water and the ecology that relies upon it.
- 11.9.89. I note that the then Department of Culture, Heritage and the Gaeltacht raised concerns regarding potential impacts to Moycullen Bogs NHA particularly with regard to potential high permeability pathways in the granite that may connect cuttings in the road alignment with the NHA. These issues were also discussed at the oral hearing.
- 11.9.90. Mr Dodds notes that all areas of the Moycullen Bogs NHA are in separate catchments or sub-catchments to road cuttings for the PRD. Based on assessment of each cutting, the maximum drawdown reach will remain with its own sub-catchment extent and, on this basis, the PRD will have no impact on the Moycullen Bogs NHA. As noted above, Mr Dodds considers the ZOI calculations in the granite area to be extremely conservative, and while high permeability fractures in the granite may occur, their extent and continuous permeability are highly likely to be restricted, and any transmission of ground water will as a result be very small in comparison to the overall water balance which is dominated by rainfall.
- 11.9.91. I note that an additional environmental commitment was added to the final Schedule of Environmental Commitments submitted at the oral hearing, which states that in the unlikely event of significant flow paths (fault or fracture zones) being encountered in the Galway Granite Batholith during construction, measures set out in the Karst Protocol included in the CEMP will be implemented (Item 10.20). I consider that this is a suitably conservative mitigation measure.
- 11.9.92. Mr Dodds considers that the technical assessments undertaken by the applicant, the design of the scheme and the mitigation that is proposed demonstrate that the risks to the wet habitats in the granite area (i.e. the western area) including Moycullen Bog

are effectively zero. In the limestone area (i.e. the eastern area), and in the area of Ballindoooley Lough (and Lough Corrib), Mr Dodds is satisfied that the applicant's technical assessment has shown that the lakes are effectively isolated from a significant groundwater flux, by virtue of thick underlying low permeability material. As such, he considers that any small effect on groundwater flow as a result of the PRD would have no material effect on the provenance and mix of the water chemistry. He also considers that the mitigation included in the design and management of the construction and operation of the PRD effectively reduces the risk of an impact on water quality in Ballindoooley Lough and/or Moycullen Bogs, or other wet habitats such as wet heath, to essentially zero.

11.9.93. Mr Dodds concludes that, in his professional opinion, the risk of an effect with respect to a groundwater pathway or vector, sufficient to impact on the bird populations using the Galway Bay and Lough Corrib SPAs, is effectively zero. This matter is addressed in the Appropriate Assessment section of this report.

Hydrogeological Impacts on Groundwater Dependent Natura 2000 Sites

11.9.94. As noted above, Mr Dodds considers that the conceptual model demonstrates that the hydrogeology in the granite area is reasonably predictable while in the limestone area there is always a degree of uncertainty due to the naturally highly variable nature of the ground. He also considers that the potential impacts in the granite area are well understood and that the analysis of the hydrogeological data within the context of the hydrogeological conceptual model and the PRD demonstrates that there is effectively zero risk derived from possible changes in water quantity or quality on the integrity/conservation objectives of Natura 2000 sites, beyond scientific doubt.

11.9.95. In the limestone area, it is acknowledged that residual risks remain due to the inherent uncertainty in the hydraulic properties in karst terranes. To this end, it is noted that the design of the PRD incorporates features which, from a water management and hydrogeological perspective, will prevent potential impacts from occurring.

11.9.96. While Lough Corrib SPA is generally upstream of the PRD, a single outfall (the proposed drainage outfall for the N59 Link Road North) eventually discharges to a part of the River Corrib which falls within the SPA designation. It is also recognised

that the PRD also crosses GWBs that support groundwater dependent wetland habitats within European sites and traverses a number of watercourses that lie within or drain to a European site.

11.9.97. Therefore, the drainage of the scheme includes combined filter drains, carrier drains, surface water channels, narrow filter drains, cut-off and toe drains, attenuation ponds, grassed surface water channels, petrol and oil interceptors, wetlands and infiltration basins; in accordance with current TII Publications, guidance documents and industry best practice methods.

11.9.98. To maintain the existing water quality in receiving watercourses, flow control measures will be provided at all outfalls and discharge points along the length of the PRD mainline to ensure discharge does not cause any adverse effects on flow rates in the receiving watercourse or sewers and, where appropriate, to allow sufficient time for infiltration to discharge to the ground. As such, there will be 'no worsening' of flow rates outside of the site boundary up to the 1 in 100 year storm event.

11.9.99. Within the limestone area, a sealed drainage system is provided to protect the underlying sensitive aquifers, and the drainage design takes into account the distribution of groundwater bodies so that rainfall remains within the groundwater body to which it would naturally recharge.

11.9.100. Pollution control measures are provided on all networks on the PRD mainline prior to out-falling/discharging to ensure that receiving water bodies are not contaminated by run-off during the construction or operational phases.

11.9.101. To maintain the existing hydrogeological regime and minimise the risk of impacts to groundwater quality in receiving GWBs, there will be no groundwater lowering within groundwater bodies that support groundwater dependent habitats within a European site.

11.9.102. All infiltration basins include systems to remove floating hydrocarbons, dissolved metals in road run-off and suspended solids by incorporating a hydrocarbon interceptor and an engineered wetland, and include a containment area to provide an appropriate holding time to contain accidental spillages. The basins will be over excavated by 2m to accommodate the provision of a minimum of 2m thickness of appropriate subsoil (as per TII definition in HD45/15) to provide a further attenuating layer for dissolved or suspended contaminants in the road run-off.

11.9.103. As such, Mr Dodds considers that the combination of the engineered wetlands with the infiltration basins and associated features, provides an appropriate level of protection to prevent contamination of groundwater from the road run-off.

11.9.104. The area around the Lackagh Tunnel and the Menlough Viaduct is particularly sensitive due to the potential for an impact on the Lough Corrib GWB and in turn on the Lough Corrib SAC. Mr Dodds considers that the applicant has put considerable effort into understanding the hydrogeology in this area and the interactions between GWDTE, lakes, groundwater, and the PRD. As a result, the design of the PRD around Lackagh Quarry does not allow dewatering of the bedrock aquifer to be undertaken in association with Lackagh Tunnel and its western approach, and the Menlough Viaduct.

11.9.105. To avoid construction of the Lackagh Tunnel affecting QI Annex I habitats in Lough Corrib SAC or affecting the existing hydrogeological regime supporting wetland habitats in Lough Corrib SAC, a series of design and construction protocols are proposed, including:

- The Lackagh Tunnel is a mined (drill and blast) twin-bored tunnel located beneath the Lough Corrib SAC. Each bore maintains at least 8m clear rock above the crown of the tunnel to the top of the Lough Corrib SAC ground surface, and there is a 7m wide pillar separating the twin bores.
- Stabilisation of the western quarry face will be completed in advance of tunnelling works including a composite support system of rock bolts, rock dowels, steel mesh and sprayed concrete.
- Blast design and limitations are set out and include a conservative design approach and vibration limit. A monitored trial blast will be undertaken in the same bedrock formation and used to calibrate and refine the blast design to a site-specific design.
- The infiltration basin in Lackagh Quarry has been designed to retain the natural recharge pattern by maintaining recharge to the groundwater body below.

- In order to maintain recharge catchments, any inflows into the tunnel during construction will be managed by designing them to infiltrate to the floor of the tunnel until their inflow is sealed off.
- All construction works will remain above the local groundwater level for the duration of the works to ensure that the groundwater is not intercepted and dewatering of the bedrock aquifer is not required. The construction schedule will be tailored so that the excavation of the lower section will occur when the groundwater level is low and is below the construction level.
- The tunnel will be fully lined with concrete.
- On the western approach to Lackagh Tunnel a watertight seal will be installed on the underside of the road base and the cutting sides to protect against groundwater inflow and prevent contamination of groundwater.
- Retaining systems are included at pinch point locations to prevent encroachment on Annex I habitats.
- The retaining walls on the western approach will be watertight to a level of +17.7mOD to seal out any groundwater in the subsoil or bedrock and will prevent contamination of groundwater.

11.9.106. Mr Dodds considers that, while other parts of the PRD within the limestone area have the potential to impact on the groundwater system, they are not in direct contact with Natura 2000 sites and only have weak connections or pathways associated with the Inner Galway Bay SPA and Galway Bay Complex cSAC and do not pose a direct risk to either.

11.9.107. The then Department of Culture, Heritage and the Gaeltacht¹⁵ also raised a number of concerns regarding groundwater interaction between Lackagh Tunnel, Lough Corrib Fen 1 GWB and Lough Corrib SAC and whether groundwater flow paths would change post-construction.

11.9.108. In response to these concerns, Dr Brown provided further clarity and a comprehensive explanation describing the interaction between groundwater and

¹⁵ Now Dept. of Housing, Local Government and Heritage

surface water at the European sites, including the Lough Corrib SAC. These topics were also discussed at the oral hearing.

11.9.109. In summary, Coolagh Lakes are fed primarily from one significant groundwater spring, Western Coolagh Spring. The habitat around the periphery of Coolagh Lakes is identified as being water dependant and, as such, the habitats at Coolagh Lakes are GWDTE. Mr Dodds considers that robust mitigation measures have been designed so that flows to Western Coolagh Spring are not affected during any phase of the development. He is also satisfied that karst specific measures incorporated into the construction design will ensure that groundwater flow paths will not change post-construction.

11.9.110. I concur with Mr Dodds assessment of the applicant's response to the Department's queries and consider that all issues raised by the Department in relation to hydrogeology have been adequately addressed.

11.9.111. In conclusion, based on the conceptual model, the differences between the granite and limestone areas, and the design considerations of the PRD included to protect Natura 2000 sites, Mr Dodds' professional opinion is that the applicant has provided sufficient analysis to rule out any potential impacts derived from changes in groundwater quantity and quality on the integrity/conservation objectives of Natura 2000 sites, including the River Corrib, GWDTE and including consideration of any supporting aquatic habitats outside the Natura 2000 sites, such as Coolagh Lakes, beyond all reasonable scientific doubt. I agree with Mr Dodds conclusion on this matter in terms of hydrogeology, noting that these issues are also addressed in the Appropriate Assessment section of this report.

Impact on Wells and Wastewater Treatment Systems

11.9.112. A number of submissions contend that the PRD will impact on private domestic wells or commercial wells. The potential for such impacts is primarily related to lowering of groundwater levels, reducing the supply at the well or a deterioration in water quality. It is also contended in a number of further submissions that the PRD will negatively impact on wastewater treatment systems, due to groundwater level rises impeding the operation of percolation areas.

11.9.113. Dr Brown, in his submission to the oral hearing on 20th February 2020, responded to these submissions/objections and provided further information and

clarification on the assessments undertaken and put these in the specific context of the objections raised. Mr Dodds challenged aspects of Dr Brown's submission, resulting in erratum and additional clarification being submitted during the hearing. As part of this, four water supply wells that were not identified in the EIAR were assessed using the methods described in Chapter 10 of the EIAR. The assessment provides mitigation for impacts and, where necessary, identifies those wells that will need to be decommissioned and replaced.

11.9.114. Also of note is the proposed monitoring programme outlined in the EIAR, whereby all wells within 150m of the PRD boundary (or 50m from the calculated ZOI if greater) would be monitored to ensure that any changes that occur during construction are identified quickly and a replacement water supply established. This monitoring programme includes monitoring of water quality and level for a year prior to any construction occurring, continuing throughout the construction period and for a further year into the operation of the PRD. Where impacts are detected, the applicant has committed to arranging an alternative supply. I consider that the applicant has proposed a comprehensive system of monitoring and mitigation that will address potential impacts on private wells.

11.9.115. Two submissions were made in relation to a geothermal well at a dwelling on the Parkmore Road, Ballybrit. The geothermal well in question is located outside the zone of influence of the PRD and, therefore, I am satisfied that it will not be impacted.

11.9.116. The four commercial wells identified in the objections that will be impacted by the PRD relate to Clada Group Ltd. which operates a water bottling plant and Galway Racecourse. Clada Group Ltd. have withdrawn their objection and the applicant's proposed mitigation measure in respect of Galway Racecourse is to provide alternative replacement wells. The proposed replacement wells lie within the same limestone aquifer but beyond the extent of drawdown and water quality impacts of the PRD and will be subject to testing to confirm comparable groundwater quality prior to the current wells being decommissioned. I consider this to be an appropriate mitigation measure.

11.9.117. With regard to the potential impact of the PRD on private water treatment systems reliant on percolation areas for treated effluent, these are examined in

Section 4.6 of Dr Brown's submission. In summary, the locations in question are adjacent to cuttings where groundwater is likely to be lowered, rather than raised. For this reason, the percolation areas highlighted in the submissions/objections are not considered to be at risk from the PRD. I concur with this assessment.

Potential Groundwater Flooding at Lackagh Quarry

11.9.118. The concerns raised regarding the flooding of Lackagh Quarry primarily relate to the level that the water level will rise and the mobilisation of suspended solids. Patrick McDonagh also raised concerns regarding the nature of flooding in the quarry and the implications for nearby residents in his submission to the oral hearing on 24th February 2020. The hydrogeology of the Lackagh Quarry area has been studied in detail and the design of the PRD through all the phases takes account of the full range of seasonal groundwater levels, including peak conditions experienced in the winter of 2015/2016, to ensure that the design is robust and does not alter the current groundwater regime. I note that Dr Brown confirmed in response to Mr McDonagh's submission that the existing flooding that occurs within the quarry is due to groundwater ingress and that the quarry is not acting as a store for surface water, and hence the deposition of material in the quarry will not displace water. Mr Dodds concludes that the mitigation measures put forward with respect to the design, construction and vegetation of the material deposition areas (MDAs) will prevent fines from being mobilised into the groundwater system. Issues associated with the proposed MDAs in the quarry are addressed in Sections 10.10 and 11.8. However, I agree with Mr Dodds' assessment in respect of hydrogeological issues at the quarry.

Structural Instability due to Groundwater Drawdown

11.9.119. Gerard and Susan O'Dell, in their written objection, raised concerns regarding the structural stability of their house where groundwater levels are to be lowered due to its location adjacent to cuttings. This property is located at c. Ch. 1+200 and is on the edge of the zone of influence created by drainage from the cutting. Based on the information provided, Mr Dodds is of the opinion that groundwater levels at this particular location may be reduced, but only by a very small amount. He considers that the risk of settlement is very low, but notes that the applicant has agreed that a property condition survey will be undertaken.

11.9.120. While I agree with Mr Dodds and the applicant that the risk of drawdown related damage to properties is very low, and that the Zol calculations are conservative, I note that the commitment to undertake property condition surveys relates to properties within 50m of the PRD boundary, increasing to 150m in areas where blasting works are proposed (Item 17.19 in the SoEC). I recommend that this commitment be broadened to ensure that all buildings within 50m of the proposed development boundary or the zone of influence of dewatering (whichever is greater) are offered a property condition survey.

Proposed Parkmore Link Road Modification

11.9.121. The implications of the proposed Parkmore Link Road modification for the hydrogeology assessment were briefly addressed by Dr Brown in Section 3.12 of his submission to the oral hearing. He stated that the proposed modification will have no effect on the hydrogeology assessment results contained in the EIAR, NIS and RFI Response. Having regard to the nature and location of the proposed modification, I would concur with this assessment.

Conclusion on Land, Soil, Water, Air and Climate – Hydrogeology

11.9.122. I have considered all of the written and oral submissions made in relation to hydrogeology matters, in addition to those specifically identified in this section of the report.

11.9.123. I am satisfied that potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. With regard to the profound residual impacts on certain areas of Annex I habitat outside of the SAC, as identified by the applicant, I consider that these impacts are associated with the loss of habitat where it is traversed by the PRD rather than due to the hydrogeological impacts of drawdown, noting the overestimation by the applicant of the drawdown zone of influence in the granite area.

11.9.124. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on hydrogeology.

11.10. Land, Soil, Water, Air and Climate – Hydrology

11.10.1. Hydrology is addressed in **Chapter 11** of the EIAR and a series of associated Figures are contained in Volume 3 of the EIAR. Figures 11.1.001 and 11.1.002 identify the drainage catchments, while the series of Figures 11.2.101 – 11.2.115 and 11.3.001 – 11.4.115 relate to flood risk mapping. Figures 11.5.01 – 11.5.115 indicate the proposed drainage network, while Figure 11.6.001 relates to proposed flood relief measures on the N83 Tuam Road. Appendix A.11.1, contained in Volume 4 of the EIAR, is a Flood Risk Assessment Study and Appendix A.11.2 relates to water quality monitoring of selected surface waters. A Hydrology assessment is also contained in Appendix B of the NIS. The Schedule of Environmental Commitments, which was updated at numerous stages over the course of the oral hearing, also sets out commitments in relation to hydrology. A Corrigendum (Ref. 15), correcting various errors and omissions in the EIAR, was submitted at the oral hearing on 21st February 2020.

11.10.2. A submission responding to the hydrology-related written submissions/ objections, was given at the Oral Hearing on 20th February 2020 by Anthony Cawley of Hydro Environmental Ltd. on behalf of the applicant (Ref. 16). A number of parties subsequently made further hydrology-related submissions over the course of the oral hearing, including questioning of, and further submissions by, Mr Cawley. These matters are addressed, where necessary, below.

Methodology

11.10.3. In terms of **methodology**, the applicant states that they have followed the guidance contained in the NRA 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (TII Guidelines). They have also had regard to EPA guidance on EIA and the 'Flood Risk Management and the Planning System' guidance document.

11.10.4. The extent of the study area for the hydrology assessment is defined as the lands within a 250m buffer of the proposed development boundary and the associated upstream and downstream catchments. These catchments are illustrated in Figures 11.1.001 and 11.1.002 of the EIAR. Field surveys, walkovers and detailed stream surveys were undertaken where hydrological impacts were likely to occur without mitigation. All culvert and bridge crossing locations, proposed road drainage outfall

locations and ecologically sensitive areas were visited, and field measurements carried out along with reconnaissance of potential flood risk areas including site visits during the December 2015/January 2016 winter flood event. Surface water quality monitoring was carried out of all the main watercourses associated with the potential outfall receptors.

11.10.5. The key hydrological attributes identified include: European sites; Annex I dependent habitats; Surface drinking water supply abstraction source from River Corrib at Jordan's Island; Ecologically sensitive surface water features and catchment systems, fishery streams, fens, flushes etc.; and Flood Risk Areas.

11.10.6. It is stated that hydrological impacts fall into two broad categories of quantitative (i.e. changes to flows and levels) and qualitative impacts (i.e. water quality impacts).

Receiving Environment

11.10.7. With respect to the **receiving environment**, it is stated that one proposed road drainage outfall from the proposed N59 Link Road North discharges into the Lough Corrib SPA and SAC. All remaining outfalls are located downstream of the Lough Corrib SPA with two proposed discharging directly into the SAC. The NUIG pitches also indirectly discharge into the SAC. The PRD intercepts several watercourses, principally to the west of the River Corrib, which will require culverting to maintain existing hydraulic connectivity. To the east of the River Corrib, due to the highly karstic nature of the terrain, there is a very sparse network of surface water drainage channels, ditches and stream channels.

11.10.8. All of the rivers, streams, drains, lake features and groundwater bodies along the route of the PRD eventually outfall into Galway Bay via the River Corrib Estuary or directly and indirectly to coastal and transitional waters via the coastal watercourses or via groundwater flow through both diffuse and preferential karst conduit flow pathways. The study area falls within the Western River Basin District (WRBD), which has classified the transitional coastal waters as good status, the coastal waters as moderate status and Lough Corrib as moderate lake quality (previously classified as poor). The majority of the watercourses and lakes within the study area do not have their status assigned. The only watercourses that have been classified are the Terryland River which has a water quality status of poor, the River Corrib which has a status of good and the lower reach of the Bearna Stream which was

previously given a pass classification and is currently unassigned. The applicant states that the design approach to waterbodies is to maintain or improve the hydrological regime and that this aligns with the objectives of the Water Framework Directive and the Western River Basin Management Plan to achieve Good status for all of its surface watercourses.

11.10.9. There are five principal hydrological drainage catchments and their sub-catchments intercepted/potentially impacted by the proposal. These are: Sruthán Na Libeirtí Stream; Trusky Stream; Bearna Stream; Knocknacarra Stream; and the Corrib Catchment, including River Corrib, Coolagh Lakes, Terryland River and Ballindooley Lough System. Each catchment is described both in terms of catchment, ecological status, surface water quality and water supply source.

11.10.10. The Galway City Water Treatment Works at Terryland currently abstracts water from the River Corrib via an intake channel at Jordan's Island and supplies up to 55,000m³ per day. The regional Galway County Water Supply abstraction is from Lough Corrib at Luimnagh which is 15km upstream of the PRD and stated to be not within the zone of influence of the PRD.

11.10.11. Excluding the River Corrib, there are a total of 17 No. stream road crossing sites that will require culverting. 16 No. of these are in the western section and 1 No. is in the eastern section. Table 11.19 of the EIAR lists the proposed watercourse crossing locations and Table 11.20 sets out the sizes of the proposed culverts. It is stated that Section 50 approval has been obtained from the OPW for these culverts.

11.10.12. The River Corrib bridge is stated as being a cantilevered structure spanning over the river banks and provides a clear span between support piers of 153m. This clear span is sufficient to allow the support piers to be set back from the channel bank and thereby reduce encroachment of the river channel and its flood banks. This is stated to meet IFI Fisheries requirements.

11.10.13. All culverts and the River Corrib bridge are designed to prevent impact to watercourse morphology and to prevent impoundment or alteration of surface water flow hydrodynamics.

11.10.14. There are 16 proposed mainline surface water outfalls discharging directly to surface watercourses, located primarily in the western section. The remaining surface water outfalls will be discharged to groundwater or existing public storm and

foul sewer systems in the absence of surface water drainage features. The two tunnels will discharge to the public foul sewer via pumping, with impounding sumps provided for each tunnel to collect accidental spillages.

- 11.10.15. No major river realignment work will be necessary. Some minor stream and ditch realignment is required as listed in Table 11.25.
- 11.10.16. The proposed pollution control features are set out in Table 11.26 and include combined filter drains, detention ponds, grassed surface water channels, petrol and oil interceptors, wetlands and infiltration basins. The use of filter drains and grassed surface water channels are proposed in non-sensitive groundwater areas (granite bedrock areas west of N59 Moycullen Road) and closed (sealed) drainage systems are proposed in the highly vulnerable Karst Aquifer region east of the N59 Moycullen Road. A Treatment wetland will also be provided upstream or in combination with the attenuation pond at all proposed surface outfalls from the proposed mainline and new link road catchments and upstream of all infiltration basins to provide primary treatment of road runoff.
- 11.10.17. A total of 33¹⁶ site areas have been identified as potential Material Deposition Areas (MDAs) for the excess soft and unacceptable material along the route of the PRD. The locations of the MDAs and their capacity is set out in Table 11.27 (refer to corrected version submitted in the Corrigenda document at the oral hearing).

Potential Impacts

- 11.10.18. It is stated that the principal **potential hydrological impacts** are associated with the proposed crossing points and the potential for sediment loading and associated road drainage pollutants entering such watercourses during construction and operation. There is also potential for impacts to surface water hydrology from other sources. Table 11.28 provides an impact assessment of proposed watercourse culvert crossings at construction phase and operational stage. The River Corrib bridge construction avoids work within the river channel (with the exception of drainage outfalls 18A and 18B). Extensive earthworks will be associated with the development of the NUIG pitches at Dangan¹⁷ and the potential for partial flood

¹⁶ Incorrectly identified as 40 in the EIAR.

¹⁷ As noted earlier, during the Oral Hearing it was confirmed that this work is no longer being carried out as a mitigation measure.

inundation at the 100-year flood for construction runoff pollution exists. The construction of watercourse crossings will necessitate in some cases the localised diversion/realignment of existing watercourses. There are a number of potential impacts associated with this, particularly during construction phase with the potential for soil erosion and contamination. The operational impact of the realignments will be very localised to morphology changes in the stream channel during large floods which are noted as stabilising over time.

11.10.19. During operation the storm outfalls have a potential to adversely impact water quality in the receiving watercourse and groundwater. Water quality and ecological status are also potentially threatened by contamination arising from large liquid spillages.

11.10.20. Potential pollutants due to routine road runoff are considered in detail in Section 11.5.4.2. A Highways Agency Water Risk Assessment Tool (HAWRAT) assessment has been carried out for all mainline drainage outfalls directly discharging to surface watercourses. This assessment was undertaken in the absence of the proposed drainage design measures including petrol interceptors, water quality treatment ponds etc. and as such is stated to be a worst-case assessment.

11.10.21. Table 11.38 presents the Water Quality Impact Assessment.

11.10.22. Detailed assessments of the River Corrib, Coolagh Lakes and Ballindooley Lough are provided using the results of the HAWRAT assessment, including dispersion modelling of the discharges to the River Corrib.

11.10.23. With regard to the impact of routine road drainage run-off on the water quality of the Terryland water supply abstraction point, this is stated to be imperceptible. The outfall spillage risk assessment indicates very low potential for serious accidental spillage and by the provision of outfall control facilities, the potential impact from the operational impact is rated as slight. The construction impact is rated as a potential slight to moderate temporary impact. It is stated that a serious spillage has significant consequences and mitigation measures to prevent construction based activities polluting the River Corrib are necessary.

- 11.10.24. A **Flood Risk Assessment** (FRA) of the PRD was also carried out. The assessment investigated the potential flood risk to the road itself and the potential flood impact arising from the PRD.
- 11.10.25. The vertical alignment has been found to be sufficiently clear of flooding under both present day and future climate change scenarios. The River Corrib bridge is considered not to present a residual flood risk as the structure completely spans the floodplain width. There is minor encroachment by the embankment of the road near the Coolagh Lakes but this is considered to represent a very minor encroachment and will not result in a perceptible impact on flooding. The proposed redevelopment of the NUIG pitches at Dangan represent a slight encroachment of the River Corrib's 100 year and 1000-year flood zones but the potential loss of floodplain storage is considered miniscule in comparison to the available flood storage. A slight encroachment on the Ballindooley Lough flood zone by the embankment is predicted and the effect is assessed as minor and the impact as a slight permanent impact. The potential risk of flooding in the Lackagh quarry has been reduced to slight by design through raising the minimum road level at the tunnel portal entrance by 1m above the historical worst flooding event.
- 11.10.26. Near the N83 Tuam Road at Twomileditch a large pluvial flood risk area is encroached. The area has significant flood risk with up to seven dwellings and the carriageway of the N83 currently at high risk of flooding and it is stated that the Local Authority regularly deploy pumps to clear flooding. Without suitable mitigation the PRD has the potential to remove flood storage and worsen the flood risk at this location, resulting in a significant permanent impact on flood risk.
- 11.10.27. The potential impact on European sites and water dependent habitats outside of a European site are considered. Table 11.42 identifies the potential impacts on Lough Corrib SAC and SPA. It is noted that the River Corrib bridge crossing will not involve any in-stream works but piers are to be located on either bank which can give rise to site runoff entering the river during works. Two bank side drainage outfalls are to be constructed which given their proximity the river flow makes it difficult to prevent local disturbance of sediments. Good dilution significantly lessens the potential impact on receiving waters. During operation, as noted above there is encroachment of the floodplains. Table 11.43 identifies the potential impacts on Galway Bay Complex cSAC and Inner Galway Bay SPA.

Mitigation Measures

11.10.28. **Mitigation measures** are addressed in Section 11.6 of the EIAR where avoidance of the feature has not been possible. During the construction phase the CEMP will be implemented, including an Incident Response Plan, Sediment Erosion and Pollution Control Plan, obtaining necessary consents and consultation with IFI, NPWS and OPW. Various other measures derived from a series of identified guidance documents are also proposed. It is considered that the potential for construction phase impacts on receiving streams and lakes and the River Corrib has been reduced to slight and imperceptible as a result.

11.10.29. **Flood Risk mitigation** is addressed with respect to the operational phase. The flood risk area adjacent to the N83 at Twomileditch was identified as being significantly impacted. Flood relief measures are included, including flood compensation storage, provision of storm drainage on the N83 at this location and a pumping station to discharge to the existing storm sewer.

Residual Impacts

11.10.30. It is stated that the **residual hydrological impacts** associated with the proposal are related to: drainage and flood risk; water quality; channel morphology; and potential impacts on key ecological receptors. It is summarised that potential hydrological impacts from the proposal have been identified and assessed. Appropriate design and mitigation measures have been incorporated to remove any risk of significant hydrological impact on the receiving environment. It is concluded that there are no significant residual hydrological impacts due to the proposal. There are no significant **cumulative impacts** anticipated in combination with other specified projects.

11.10.31. **Assessment**

11.10.32. I consider the potential significant impacts in terms of hydrology relate to:

- Adequacy of drainage proposals.
- Water quality impacts.
- Risk of contamination of Terryland Water supply.
- Flood risk.

- Irish Water Requirements.
- Proposed Parkmore Link Road modification.

11.10.33. It should be noted that there is overlap between this section and other topics which are addressed in sections 11.8, 11.9 and 10.9.

Adequacy of Drainage Proposals

11.10.34. Many observers raised concerns about the drainage proposals and impacts on individual properties and retained lands (where affected by the CPO) and, in particular, that inadequate drainage details had been provided, such as details pertaining to realignments, drains that are severed, culvert details and outfall locations.

11.10.35. Mr Anthony Cawley, the applicant's hydrology specialist, provided a response to this issue in his submission to the oral hearing (Ref. 15). He stated that the drainage system is designed in accordance with TII current design standards and best practice guidance and that it includes climate change allowances and robust design to avoid any unacceptable impacts on flood risk, both to the PRD and to third party lands and to avoid any unacceptable pollution impact on receiving surface waters and groundwaters from the proposed road drainage discharges.

11.10.36. As detailed above, the PRD crosses two very distinct geological regions with different hydrological environments. The area to the west of the N59 Moycullen Road is underlain by granite bedrock and has high surface run-off characteristics and a relatively dense network of drains and watercourses. In contrast, the area to the east of the N59 Moycullen Road is underlain by karst permeable limestone bedrock with low surface run-off characteristics and an almost non-existent surface drain network. The applicant has consequently developed separate drainage proposals for these two discrete receiving environments, with the western section outfalling to watercourses via attenuation ponds and the eastern section requiring infiltration to groundwater via infiltration basins.

11.10.37. The proposed road pavement drainage network is described in detail in the EIAR and illustrated in Figures 11.5.01 – 11.5.02 and 11.5.101 – 11.5.115 as well as in the Design Report included in Appendix A.10.1 of the applicant's RFI Response. These figures show the road drainage network, culvert locations, attenuation ponds,

infiltration basins, outfalls and stream/drain diversions and I am satisfied that there is no substantive lack of clarity or ambiguity regarding the applicant's drainage proposals.

11.10.38. The proposed drainage system will capture rainfall runoff from the mainline carriageway, link roads and all new sections of local and regional roads and will direct it to attenuation ponds/infiltration basins as appropriate, preventing it from discharging directly to the receiving surface waters. The drainage system has been designed in accordance with TII current design standards and is responsive to the differing geology and groundwater vulnerability east and west of the N59 Moycullen Road, with a sealed system proposed on the eastern portion. Accordingly, I consider the proposed drainage system to be acceptable in principle. Potential pollution issues are addressed separately below.

11.10.39. I consider it to be notable that the drainage network for the PRD has been divided into a large number of relatively small drainage catchment areas, with a total of 54 No. outfalls. This relatively small drainage area for each outfall (average of 1.2 ha road pavement area) generally retains water within existing localised catchments and reduces the overall flood risk, in my opinion.

11.10.40. With regard to the proposed culverting of watercourses and drains I note that, under Section 50 of the Arterial Drainage Acts 1945 and 1995, culverting of streams by either new, upgraded or extended culverts/bridges requires approval from the OPW. The applicant has confirmed that Section 50 approval has been obtained from the OPW for these culverts¹⁸. While Inland Fisheries Ireland (IFI) did not make a submission, I note that the applicant consulted with them in the course of preparing the EIAR and has committed to ongoing liaison/consultation in the construction phase. It is stated that construction will comply with various guidance documents regarding fisheries protection, including the IFI 'Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters, 2016'. Various other fisheries protection measures are also outlined in the EIAR and the associated SoEC and are considered to be acceptable.

¹⁸ Copies of the section 50 applications and associated documentation, and the OPW approval are included as Appendices to the Flood Risk Assessment included in Appendix A.11.1 of the EIAR.

11.10.41. Mr Cawley stated that the flows in the watercourses to be culverted have been quantified and that crossings have been designed in accordance with the OPW and TII requirements for such works. All culverts have been designed so as to minimise impact on both upstream and downstream flood conditions and are designed for a flood with a return period of 1 in 100 years plus a climate change allowance and with a minimum of 300mm freeboard clearance. The applicant contends that the potential impact of the proposed culvert and bridge structures on flood water level and flood risk to properties is rated as imperceptible. Considering that the culverts have been designed to the appropriate standards and are correctly sized to provide adequate allowance for climate change, I am satisfied that there will not be any unacceptable impacts associated with this aspect of the project and I consider that adequate details have been provided.

11.10.42. Concerns regarding the proposed infiltration ponds/attenuation basins were raised by a number of parties, including the locations chosen and potential flood risk, as well as the details such as the fencing and screening proposed. The fencing and landscaping of ponds is dealt with in section 11.14, however, I note that all attenuation pond facilities will be securely fenced and planted with appropriate scrubs, hedgerows and/or screen planting to minimise any visual impacts.

11.10.43. At the oral hearing, the applicant stated that the attenuation ponds and flow control measures will restrict the outfall discharge to greenfield runoff rates, thereby avoiding potential significant impacts to channel morphology and flow regime at the local scale. With regard to the siting and sizing of the ponds, the applicant stated that the locations were selected and designed so that the road drainage runoff can gravitate to the ponds, and that they are of a sufficient size and volume to achieve the required attenuation for the 1 in 100-year return period storm event with additional freeboard to provide a factor of safety and an additional 20% allowance for climate change incorporated. The attenuation ponds also need to be sited reasonably close to the main surface water outfall locations to drain each area. With regard to the area to the east of the River Corrib, where discharge will be to ground via infiltration basins, as detailed in Section 11.9 above, the Board's consultant Hydrogeologist is satisfied that the applicant has demonstrated a comprehensive understanding of the underlying geological and hydrogeological characteristics of the study area.

11.10.44. A number of specific queries relating to individual properties and proximity to ponds were also addressed at the oral hearing. Ms Ruth Molloy, in her submission to the oral hearing on 25th February 2020 on behalf of Galway Athletics Board, queried the proposed location of attenuation ponds in the vicinity of the River Corrib and potential contamination of groundwater and the River Corrib. She also contended that freshwater mussels are present in the River at this location and would be affected by water pollution. This issue is addressed in the Biodiversity section of this report. Mr Cawley's response was that the PRD would not encroach on the River and he noted that many roads in the City currently discharge unattenuated and untreated run-off to surface water. In contrast, the design of the PRD will address these matters due to the attenuation and treatment ponds which will allow the primary pollutants (i.e. silt and sediment) to settle out. In response to further questions from Ms Molloy and the Board's consultant Hydrogeologist the applicant confirmed that dewatering of the River Corrib bridge piers during construction had been allowed for, with water discharged to settlement ponds prior to discharge.

11.10.45. Ms Maura O'Connell and Ms Audrey Dineen, in their joint submission to the oral hearing on 3rd March 2020, contended that the attenuation ponds in the vicinity of their houses in Troscaigh West, Bearna would result in flood risk, and queried who would be legally responsible if flooding occurred and queried the details of the maintenance programme for the ponds. Mr Cawley responded that the ponds were appropriately sized with regard to climate change and run-off and noted that an overflow spillway to a watercourse is proposed which, in the event of a blockage to the flow control outlet, will take excess water to control flood risk to nearby properties. He noted that residential developments often included similar attenuation ponds and stated that they are suitably engineered and will not change the flood risk status of the houses. With regard to maintenance, he stated that the Council would be responsible for the ponds. The objectors stated that the response given by Mr Cawley contradicted information previously given to them by the applicant. Notwithstanding this, I consider Mr Cawley's response to be consistent with the information contained in the EIAR and associated documentation.

11.10.46. Galway Property Management, in their written submission, sought that the proposed attenuation ponds at the S17A outfall (At N59 Link Road South and Ragoon Road Junction) be replaced with underground tanks to minimise the visual

impact at this location. Mr Cawley's response at the oral hearing was that the open ponds were sized to enable the capture of first-flush runoff and to provide the necessary attenuation storage to achieve greenfield runoff rates. The design approach of providing ponds as opposed to tanks is due to the need to provide a biological function for water quality improvement, for ease of inspection/maintenance and for timely identification of potential harmful hydrocarbon and chemical spillages. The use of ponds, rather than tanks, is typical for such roads, and subject to appropriate landscaping planting and fencing, as proposed, I consider the principle of providing ponds to be preferable from an environmental protection perspective.

11.10.47. With regard to land drainage, concerns regarding the drainage of retained lands were raised by many parties. This issue is also addressed in respect of agricultural lands in Section 11.16 of this report, which relates to Material Assets – Agriculture.

11.10.48. Detailed drawings of the proposed land drainage proposals are provided on Drawings GCOB-500-D-101 to GCOB-500-D-132, contained in the Design Report which was submitted as part of the RFI Response. This illustrates the proposed pre-earthworks drains/interceptor ditches which will intercept the overland flow from adjoining lands flowing towards the PRD, both during construction and the operational phases. The ditches have been sized to cater for a 1 in 75-year return period with climate change allowance. Cross-drains are proposed in certain locations to cross the PRD and maintain the existing flow paths of the surrounding surface water drainage.

11.10.49. Where drainage outfalls are temporarily altered or land drains blocked or damaged during the construction phase, adequate drainage outfalls will be maintained and land drains will be repaired. With the implementation of these mitigation measures, I am satisfied that the PRD will not have significant impacts on the drainage of adjacent lands.

11.10.50. Having regard to the information contained in the EIAR and the Design Report, and the design of the drainage system in compliance with TII and OPW requirements for drainage of national roads and culverting of watercourses, respectively, I am satisfied that adequate drainage details have been provided and

that the proposed drainage network is appropriate for the particular geological, hydrogeological and hydrological characteristics of the receiving environment.

Water Quality Impacts

- 11.10.51. A number of parties raised concerns in relation to general pollution of streams and watercourses during both construction and operation. Potential contaminants include hydrocarbons, tyre wear, heavy metals, chemicals and silt/soil.
- 11.10.52. As detailed in the EIAR and repeated in Mr Cawley's submission at the oral hearing, a Water Quality Impact analysis using HAWRAT as per TII Guidance was carried out on all proposed drainage outfalls to surface waters. The analysis confirmed that the pollution control measures proposed, upstream of the storm outfalls, are acceptable and ensure there would be no significant impact on any receiving watercourse.
- 11.10.53. Given the ecological sensitivity of the River Corrib and its role as a water supply source, the applicant undertook both HAWRAT analysis and 2-dimensional transport dispersion modelling. I have addressed the potential impacts on the water supply separately below, however, I am satisfied that the assessment undertaken has demonstrated that the high water quality status of the River Corrib will not be affected by the PRD drainage discharges.
- 11.10.54. In addition to routine drainage discharge, impacts to water quality could also arise from chemical spillages, such as from a road traffic accident involving a HGV transporting fuel or other chemicals. Risk analysis utilising TII methodology identified a low overall probability of a serious HGV spillage entering a watercourse (less than 1 in 1000 chance of an occurrence in any given year). For the specific outfalls to the River Corrib, the risk is rated as an extremely low probability event (1 in 2,380). Notwithstanding the predicted very low risk, Mr Cawley outlined the mitigation and containment measures for spillage control, including the provision of: 25 m³ spillage containment areas at all pollution control facilities upstream of the outfall, oil and petrol interceptors; and a shut-off penstock at each outfall.
- 11.10.55. Given the predicted very low risk of a serious spillage event occurring and the various proposed mitigation and containment measures, I am satisfied that there is not likely to be significant contamination of watercourses as a result of a serious road accident spillage event.

11.10.56. With regard to potential construction phase impacts on water quality, these would primarily be associated with potential release of sediments, due to disturbance of the channel bed/bank or uncontrolled site runoff. Mr Stephen Dowds, in his appearance at the oral hearing on 24th February 2020 on behalf of the Galway N6 Action Group, queried the potential for accidental diesel or other spillages from construction machinery to enter the Corrib and the impact this may have on the River. Mr Cawley noted the approach of avoidance, minimisation and protection, which would be followed and again drew attention to the mitigation measures contained in the CEMP and Incident Response Plan (IRP) to prevent discharges entering the Corrib or other watercourses. Mr Cawley stated that, in the unlikely event that fuel entered the Corrib, the flow rate of the River Corrib at low flow is c. 14 m³ per second of water and any small spillage during construction would not have major implications. He reiterated that there was no means of direct access for pollution to watercourses.

11.10.57. In my opinion, construction of the proposed River Corrib Bridge represents perhaps one of the greatest construction phase risks to water quality. The bridge is, however, a clear spanning structure with no piers located within the Corrib, and with its abutment setbacks in excess of 5m from the river's edges. These design features significantly reduce the potential for disturbance of sediments. I also note the River Corrib Constructability Examination Report contained in Appendix A.7.1 of the EIAR, which outlines the construction methodology and which for the main span over the River will be a balanced cantilever construction with travelling formwork and netting to prevent material falling into the River. Given the ecological sensitivity of the River Corrib and its role as a major source of drinking water for the City, robust construction site management and pollution control measures are clearly required.

11.10.58. Mr Cawley addressed these issues in Section 4.3 of his submission to the oral hearing with reference to the measures contained in the CEMP and its associated Sediment Erosion and Pollution Control Plan (SEPCP) and IRP. Having reviewed these documents, I consider them to be robust and comprehensive, I also note that they are intended to be working documents, which will be added to and updated prior to commencement of works on site.

11.10.59. With regard to the requirements of the Water Framework Directive in terms of maintaining, protecting and enhancing the water quality status of the receiving

watercourses and groundwater, I am satisfied that the design of the PRD satisfies these requirements through the provision of comprehensive and robust storm water collection and treatment measures, with controlled discharge at the proposed road drainage outfalls. The PRD is also likely to indirectly enhance water quality to a degree, due to removing road traffic from existing roads where uncontrolled road runoff enters adjacent watercourses and groundwater aquifers.

- 11.10.60. Having reviewed the information submitted and considered the submission of all parties, I am satisfied that the CEMP, and the associated SEPCP and IRP which document the environmental management and mitigation approach that will be adopted and implemented during the construction phase, is suitably robust and will avoid significant impacts on water quality during construction phase. In this regard I consider that the PRD complies with the Water Framework Directive and the River Management Plan Objectives.

Risk of Contamination of Terryland Water Supply

- 11.10.61. Irish Water (IW) made submissions at both application stage and following the receipt of further information. They state that they support the proposed development and have no objection in principle, subject to certain matters being addressed. IW noted the assessment contained in the EIAR for potential impacts on the existing water intake for Terryland Water Treatment Plant located at Jordan's Cut/Terryland. They stated that they were about to submit a planning application to relocate the water intake from this current location, which is somewhat off the main River Corrib, to a point to the south of the Quincentennial Bridge, which they consider to be at greater risk of contamination or spillages into the River Corrib. Because the PRD will cross the River Corrib upstream of both the existing and new intakes to Terryland WTP, IW contends that it poses a significant risk to the quality of intake water from chemical or other spillages into the River Corrib. The IW submission states that the operational stage measures to contain spillages are considered acceptable and that appropriate best practice measures should be employed during construction to mitigate/eliminate risks of spillages into the watercourse. IW also state that they should be consulted in the preparation of Incident Response Plans for both the construction and operational phases. IW's second submission reiterated their desire that the applicant engage in ongoing liaison and consultation with them. The Board should note that Irish Water did not appear at the oral hearing and that their planning

application for a new intake (Reg. Ref. 19/107) was subsequently granted by Galway City Council.

11.10.62. Potential impacts on the City water supply were also raised by other parties, including the submission of James and Cathleen Barrett on behalf of the Residents of Menlo-Coolough-Ballinfoile-Ballindooley and by Mr Patrick McDonagh at the oral hearing on 24th February 2020.

11.10.63. Mr Cawley responded to this issue in Section 4.3.1 of his submission to the oral hearing and, as noted above, both HAWRAT analysis and dispersion modelling was carried out on the storm discharges to the River Corrib system. The conclusion reached by the applicant is that the water quality impact of routine stormwater discharge from the PRD on the River Corrib, including first flush rainfall events (i.e. where the potential pollutant concentration is greatest) represents a slight impact local to the outfalls, reducing to imperceptible further downstream. This is due to the high dilution factor and assimilative capacity of the River. The dispersion analysis shows only trace pollutant concentrations reaching the existing Terryland water supply intake from the Jordan's Island channel and very low concentrations at the proposed new water supply intake downstream of Quincentenary Bridge.

11.10.64. The applicant subsequently submitted an updated Schedule of Environmental Commitments at the oral hearing which includes a number of additional commitments in relation to Irish Water, including:

- All construction works will be carried out in accordance with best practice construction guidance and as such will eliminate the risk of spillage to the River Corrib. (Item 11.1).
- Irish Water will be consulted in the updating of the CEMP and, specifically, the incident response plan (IRP) for construction and operation stages. (Item 11.1).
- Provision will be made for Irish Water Staff to visit the construction site if deemed necessary by Irish Water. (Item 11.1).
- Ongoing liaison with Irish Water will be provided at construction stage and procedures for regular project dates will be established during the construction stage in a timely manner so as to enable Irish Water to assess potential

increased risk to the water quality of their potable water supply source. (Item 11.1).

- Throughout the project construction and operation phases Galway County Council will continue to consult and inform Irish Water in respect to water quality and pollution risk to their potable water supply source. (Item 11.10).

11.10.65. Having regard to the design of the drainage system, including the various mitigation measures incorporated, the results of the HAWRAT analysis and dispersion modelling, and the additional commitments made at the oral hearing, I am satisfied that there is no significant risk of contamination to the existing or proposed drinking water supply intake locations due to drainage discharges from the PRD.

Flood Risk

11.10.66. A number of individual concerns were raised in relation to Flood Risk. I am satisfied that a detailed Flood Risk Assessment (FRA) has been carried out for the PRD which has informed the drainage design in terms of drainage requirements, attenuation pond sizes, permissible greenfield runoff rates, culvert and channel sizes, outfall locations, engineered infiltration basins for discharge to groundwater, land interceptor drains and specific flood mitigation measures and will not result in any unacceptable flood risk impact to third party lands and properties.

11.10.67. Flood risk at Lackagh Quarry was raised by McHugh Property Holdings and Mr Patrick McDonagh. The applicant responded stating that the quarry has a limited contributing catchment area of 17.4ha and is enclosed on all sides. It does not represent a flood risk to adjoining lands or dwelling houses. The quarry drains to groundwater only with no surface outflow. Flood levels in the quarry recede reasonably quickly through groundwater infiltration, as established through monitoring. In the flood analysis, the proposed infilling of the quarry has been accounted for in terms of loss of flood storage and design flood levels have been set accordingly. I am satisfied that the PRD will not result in any increase in flood risk at or in the vicinity of the quarry. Groundwater-related issues at the quarry are also addressed in the hydrogeology section of this report (Section 11.9).

11.10.68. The proposed flood mitigation measures in the vicinity of the proposed N83 Junction, where there is a recurring flooding issue, are shown on Figure 11.6.001 of the EIAR. Having reviewed the FRA and the proposed mitigation measures, I am of

the view that the applicant has satisfactorily dealt with this issue and that the existing flooding issue in this area, which results in several houses and the national road being flooded, will be addressed by the suite of mitigation measures proposed. I concur with the assessment that there will be a positive residual impact on flood risk at this location, which I would rate as moderate.

11.10.69. With regard to potential impacts on flood risk at the River Corrib, I note that the design of the River Corrib bridge incorporates mitigation through design, as it crosses the river in a single span, has a soffit to flood level clearance of over 10m and has its piers outside of the flood plains associated with the river. Drainage discharge to the river will also be at greenfield run-off rates, as detailed above. Section 50 approval has also been granted by the OPW, who are the competent authority in respect of flood risk management for such watercourses. I do not consider that the PRD will affect flood risk at the River Corrib.

11.10.70. The issue of existing recurring road flooding on Cappagh Road was also raised by Shane Kelly and Kevin Kelly in their written submissions and by their representative Peadar Ó Maolain BL at the oral hearing on a number of occasions, including a detailed submission on 3rd March 2020. This included photographs of the flooding. Mr Ó Maolain stated that the flooding would flow down Cappagh Road onto the PRD if not addressed. Mr Kevin Gill also raised the issue of flooding on Cappagh Road in his submission to the oral hearing, again on 3rd March 2020.

11.10.71. Mr Cawley's response in his initial submission at the oral hearing was that the source and location of this recurring local flooding is outside of the proposed works area and the PRD boundary area. He stated that the PRD, including its proposed drainage treatment, will not impact upon the existing flooding at this location nor will it alter the source of the flooding. In response to Mr Ó Maolain's oral submission, Mr Cawley stated that the flooding was associated with a localised dip in the road to which some local land drains. The section of realigned Cappagh Road within the PRD area would have drains with an interceptor drain on the PRD to capture water flowing towards it. He also stated that traffic levels on the Cappagh Road to the north of the PRD would be reduced as a result of the development, with less potential for pollution and that resolving the localised flooding at the Kelly property would require re-grading works to the Cappagh Road, outside of the PRD boundary, to remove the dip. With regard to proposed Access Road AR 4/05, which Mr Ó Maolain contended

could exacerbate flooding, I note that it will have an unbound surface and grass verges, and I do not consider that it will contribute to flooding in this area.

11.10.72. Having reviewed the information submitted by the Kelly family and the applicant, it is clear that portions of Cappagh Road are subject to flooding on occasion, which is understandably an issue of concern to the Kelly family. However, noting that the location where the flooding arises is outside of the PRD boundary and its drainage network and having reviewed the alignment and levels of the PRD in this area, I do not consider that the PRD is likely to increase the frequency, depth or extent of flooding at this location.

11.10.73. Concerns regarding flood issues were also raised at the oral hearing by Gerard O'Donnell on behalf of Padraig and Imelda Burke, the owners of Plot 135 on Foraí Maola Road. Mr O'Donnell queried whether there would be water storage on Plot 144, to the rear of his clients' property, which it is proposed to acquire, and whether a flood risk would consequently arise. Mr Cawley responded that the acquired lands were to be used for Dry Heath habitat formation, and as such would be free-draining with no associated flood risk. I would concur with this conclusion.

11.10.74. The Aughnacurra Residents Association also raised concern regarding flooding and impacts on septic tanks at the Aughnacurra Estate. The issue of septic tanks is addressed in the hydrogeology section of this report. With regard to flood risk, I note that road drainage runoff in this area will discharge to an existing drainage channel, at outfall S14B at greenfield runoff rates, and flow eastward to the River Corrib. Mr Cawley stated at the oral hearing that this receiving drainage channel has sufficient capacity to accommodate the discharge without causing flooding. Drainage runoff from the mainline immediately adjacent to the estate will be collected and conveyed north eastward, again discharging to the River Corrib at outfall S18A. I am satisfied that the proposed road drainage will not negatively impact the existing drainage in the estate or cause flooding.

Irish Water Requirements

11.10.75. In addition to the issue regarding the intake to Terryland Water Treatment Plant, Irish Water raised a number of additional issues, while asserting that they had no objection in principle to the PRD. These included the requirement for diversion/build over and connection agreements, future proofing sleeves at Ardaun

to be agreed and that works potentially impacting Irish Water assets should be carried out in accordance with their Standards and Specifications.

11.10.76. The applicant responded to the IW issues in Section 4.2.4.12 of Mr Cawley's submission to the oral hearing and committed to carrying out all works in accordance with IW Standards and Specifications, in line with standard processes and procedures for obtaining connection consent and build over agreements with the utility provider. Mr Cawley stated that future proofing sleeves in the vicinity of Ardaun can be easily accommodated and their location will be agreed with IW prior to commencement of construction. This was included as an additional commitment in the final Schedule of Environmental Commitments and is appropriate given the importance of the land bank at Ardaun to the future growth of Galway.

Proposed Parkmore Link Road modification.

11.10.77. The implications of the proposed Parkmore Link Road modification for the hydrology assessment were addressed by Mr Cawley in Section 3.17 of his submission to the oral hearing. He stated that Table 11.23 of the EIAR has been updated to reflect the drainage catchment areas associated with the proposed modification and that it will have no effect on the hydrology assessment results or conclusions contained in the EIAR, NIS and RFI response documents.

Conclusion on Land, Soil, Water, Air and Climate – Hydrology

11.10.78. I have considered all of the written and oral submissions made in relation to hydrology matters, in addition to those specifically identified in this section of the report. I am satisfied that potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on hydrology.

11.11. Land, Soil, Water, Air and Climate – Air Quality and Climate

11.11.1. Air Quality and Climate are addressed in Chapter 16 of the EIAR. The series of Figures 16.1.01 – 16.1.07 contained in Volume 3 of the EIAR indicate the locations of air quality receptors, while Appendix A.16.1 contained in Volume 4 of the EIAR provides information on the ambient air quality in Galway City in February – May

2017. The Schedule of Environmental Commitments, which was updated at numerous stages over the course of the oral hearing, also sets out commitments in relation to air quality and climate.

- 11.11.2. The changes to traffic forecasts as a result of the consideration of the National Transport Authority/Galway City and County Councils National Planning Framework scenarios for Galway ('NPF Scenarios'), as requested by the Board (see Section 4.7), has potential implications for air quality and climate. This is addressed in Section 8.2.2.5 of the RFI response report, and the associated Appendix A.8.3 'NPF Traffic Forecast – Air Sensitivity Analysis'.
- 11.11.3. Subsequently, at the oral hearing, the applicant submitted a 'Corrigendum' document (Ref. 15). Section 4.4 of the Corrigendum states that the data presented in Appendix A.8.3 of the RFI Response did not follow the same methodology as the EIAR as it took account of a potential improvement in air quality arising from an improvement in the vehicle fleet. In addition, additional receptors were included which did not meet the criteria of demonstrating an increase of 5% in AADT, an approach that was applied in the EIAR. The Corrigendum includes modelling results utilising the same approach as the EIAR, for the stated purpose of sensitivity testing the NPF scenario.
- 11.11.4. A submission responding to the air quality and climate-related written submissions/objections was given at the oral hearing on 20th February 2020 by Sinéad Whyte of Arup on behalf of the applicant. A number of parties subsequently made further air quality and climate-related submissions over the course of the oral hearing, including questioning of, and further submissions by, Ms Whyte. These matters are addressed, where necessary, below. The potential impacts of air quality on human and animal health are addressed separately in Sections 11.6 and 11.17, respectively.

Relevant Guidance

- 11.11.5. The applicant considers that the key relevant guidance documents are the 'Guidelines for the Treatment of Air Quality during the Planning and Construction of National Road Schemes' (TII; 2011) and the various EPA guidance documents relating to EIS/EIAR. The chapter is also stated to have utilised information gathered during the earlier constraints and route selection studies. The applicant states that the impact of the proposed road on air quality is assessed for both the construction

and operational phases by considering the pollutant background concentrations, emissions from road traffic and potential for construction dust and emissions from construction traffic. Predicted concentrations are compared to relevant limit values, while carbon emissions are considered in terms of Ireland's obligations to reduce its carbon emissions under the European Union (EU) Climate Change and Renewable Energy Package.

Air Quality

- 11.11.6. The Air Quality Standards Regulations (AQS) 2011 (S.I. No. 180 of 2011), which transposed EU Directive 2008/50/EC on ambient air quality and cleaner air for Europe (the Air Quality Directive) into Irish law, sets out limit values and alert thresholds for concentrations of certain pollutants, including NO₂, NO_x, PM₁₀, PM_{2.5}, CO and Benzene (see Table 16.1 of EIAR).
- 11.11.7. Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants also specifies national-level reductions for nitrogen oxides, particulate matter and non-methane Volatile Organic Compounds for the period from 2020 to 2019 and from 2030 onward, compared with 2005 levels (see Table 16.3 of EIAR).
- 11.11.8. Guideline limit values for various pollutants are also provided in the World Health Organisation (WHO) 'Air Quality Guidelines for Particulate Matter, Ozone, Nitrogen Dioxide and Sulphur Dioxide, Global update 2005'. While the WHO guidelines for NO₂ are the same as the AQS, the WHO guidelines for PM₁₀ and PM_{2.5} are substantially lower than the AQS (see Table 16.2 of EIAR). The EIAR notes that the AQS are the statutory limits that apply in Ireland, and that baseline and predicted values are therefore compared to these levels. Notwithstanding this, an assessment of compliance with the WHO guideline values is also included.
- 11.11.9. Sulphur dioxide is not considered in detail within the EIAR on the basis that the UK Design Manual for Roads and Bridges (DMRB, Volume 11, Section 3, Annex F, 2007) states that road transport represents a negligible source (less than 1%) of UK sulphur dioxide emissions. Elevated concentrations at heavily trafficked roadside locations in the past have been reduced due to the maximum permitted sulphur content of road fuels being periodically reduced.

- 11.11.10. Ultrafine particles (i.e. airborne particulate matter < 0.1 micrometres) are stated as likely to have adverse health effects, however, no air quality standard has been set, as yet. The WHO guidelines conclude that “while there is considerable toxicological evidence of potential detrimental effects of ultrafine particles on human health, the existing body of epidemiological evidence is insufficient to reach a conclusion on the exposure-response relationship to ultrafine particles”. No limit value for ultrafine particles is therefore provided in the WHO Guidelines.
- 11.11.11. With regard to dust deposition, there are no national or EU limits. The EIAR notes the German ‘Technical Instructions on Air Quality Control’ (TA Luft, 2002), which provides a guideline for the rate of dust deposition of 350 mg/m²/day averaged over one year. This value is also used by the EPA, although applied as a 30-day average, in its document ‘Environmental Management in the Extractive Industry (Non-Scheduled Minerals)’ (EPA, 2006).
- 11.11.12. Finally, the impact of nitrogen deposition on ecologically sensitive areas is considered in light of the TII Guidelines, which quote the United Nations Economic Commission for Europe (UNECE) Critical Loads for Nitrogen. The most stringent of these is for inland and surface water habitats (5-10kg(N)/ha/yr) and this is used in the EIAR assessment.
- 11.11.13. The study area utilised in the EIAR comprises properties located within 200m of the proposed road, which is in line with DMRB guidance. Three months of air quality monitoring was carried out and the TII Guidelines provide a methodology to calculate the annual mean from short-term monitoring. The DMRB Screening Method spreadsheet was also used, in accordance with the TII guidelines. This computes concentrations of pollutants at a local and regional level and was used to assess the potential local and regional air quality impacts and potential climate impacts.
- 11.11.14. Scenarios modelled include the ‘Do-Minimum’ (i.e. PRD is not constructed) and ‘Do-Something’ (i.e. PRD is constructed) with traffic scenarios for 2024 (Opening Year) and 2039 (Design Year). Potential air quality impacts at all sensitive receptors are considered as well as designated ecological areas.

11.11.15. The ADMS-Roads¹⁹ atmospheric dispersion model has also been used to predict the NO_x, PM₁₀ and PM_{2.5} concentrations. This modelling has been carried out with and without noise barriers to determine their potential to change air quality at the receptor. Worst-case receptors were selected as part of the DMRB and ADMS assessments, such as those close to junctions as well as at tunnel portals. In addition, concentrations of NO_x along four 200m transects near Lough Corrib SAC were modelled.

11.11.16. In terms of the receiving environment, the EPA carry out air quality monitoring at the Bodkin Junction where PM₁₀ and heavy metal levels were shown to comply with air quality standards in 2017. Galway is considered to be in Zone C under the Air Quality Standards (AQS) Regulations zoning system adopted in Ireland, and all current baseline concentrations are in compliance with the AQS.

Potential Impacts

11.11.17. The potential **construction phase impacts** on air quality are generally related to dust emissions from activities such as earthworks, windblow from stockpiles, handling and hauling of materials, demolitions, crushing, landscaping etc.

11.11.18. For analysis purposes the EIAR splits the road into six sections, all of which are considered to be locations where works of a 'major scale' will be undertaken. The number of sensitive receptors is identified for each section, being those located within 100m where there is potential for significant soiling effects and those within 25m where there is potential for significant PM₁₀ and vegetation effects. For the potential site compounds, the EIAR identifies sensitive receptors within 50m where there is potential for significant soiling effects and those within 15m where there is potential for significant PM₁₀ and vegetation effects. In terms of construction traffic, impacts are assessed when traffic generated of greater than 10% is predicted to occur. Only 3 No. links are predicted to generate traffic volumes greater than 10% during construction (R336 Bearna Moycullen Road, Cappagh Road and Menlough Road). Table 16.20 of the EIAR sets out the predicted pollutant concentrations at the worst-case receptor for each road link. The impact ratings for NO₂, PM₁₀ and PM_{2.5} are negligible.

¹⁹ Cambridge Environmental Research Consultants Air Dispersion Modelling Software.

- 11.11.19. The potential impacts on air quality for the Opening Year (2024) and Design Year (2039) were assessed using the DMRB model. For both scenarios the highest concentration of pollutants is predicted at Receptor R17 (located in Ard an Locha in the Upper Dangan area). However, all annual concentrations comply with Air Quality Standards limit values. Tables 16.21 and 16.22 of the EIAR sets out the predicted pollutant concentrations for the identified receptors in the Opening and Design Years, respectively, and the changes in concentrations of all pollutants are rated as negligible or imperceptible for all receptors with the exception of R16 (Castlegar) and R17 (Upper Dangan), where a slight adverse impact is predicted for NO₂. The predicted concentrations comply with the WHO PM₁₀ guideline values at all locations, however the WHO PM_{2.5} guideline value is exceeded at a number of receptors in both the 'Do Minimum' and 'Do Something' scenarios.
- 11.11.20. No significant air quality impacts are envisaged at the nearest sensitive receptors to the tunnel entrances due to the separation distances, which range from 80m to 480m.
- 11.11.21. Ecologically sensitive sites were assessed for potential pollution from nitrogen compounds, VOC, metals/dust and ammonia at Lough Corrib SAC, the River Corrib bridge, Menlough and Lackagh tunnel. The predicted concentrations of these pollutants remain in compliance with the AQS for the protection of vegetation.
- 11.11.22. Table 16.26 of the EIAR provides NO_x concentrations for the section of the proposed road between the N83 Tuam Road and the N84 Headford Road, as this section is predicted to have the highest traffic volumes. Annual average NO_x concentration at this location complies with the limit value, albeit it reaches 92% of the limit value in the 2039 Do-Something scenario. This is considered to be a slight adverse impact. It is stated that lesser concentration and deposition values would be expected at all other sections where lesser traffic volumes are predicted. It is further noted that the reduction in traffic on certain links as a result of the proposed development will result in localised improvements of air quality. These locations are set out in Table 16.28 of the EIAR.
- 11.11.23. As noted above, the ADMS model was also used to predict NO_x, PM₁₀ and PM_{2.5} at the various receptors for the Opening Year and Design Year, with and without noise barriers. The results for this assessment are set out in Tables 16.29 to

16.36 of the EIAR. As with the DMRB model, all pollutant concentrations comply with AQS limit values. The maximum predicted impact using the ADMS model was at receptor R16, followed by R17 and R20 (Letteragh), where a slight adverse impact is predicted for NO₂ in the 2039 Design Year. Negligible impacts are predicted for all other receptors and for PM₁₀ and PM_{2.5} and no significant adverse impacts are envisaged. While the AQS limit value for PM_{2.5} is complied with, the WHO PM_{2.5} guideline level is exceeded at all receptor points, excluding R05 and R26 in 2024 and R05 in 2039 which is stated to be due to the contribution of background concentrations.

11.11.24. The concentration of NO_x where the PRD crosses the Lough Corrib SAC have also been predicted with the ADMS model for the future years with and without noise barriers (see Tables 16.35 and 16.36). Predicted annual mean NO_x concentrations are all below the limit value with no significant effects predicted.

11.11.25. As noted above, the applicant, in responding to the Board's Request for Further Information, reassessed air quality impacts during the operational phase on the basis of the higher traffic forecasts for the NTA/GCC NPF Scenarios. This is set out in Appendix A.8.3 to the RFI Response, and in Section 8.2.2.5 of the RFI Response document, the applicant concluded that there are no adverse impacts on air quality as a result of the NTA/GCC NPF Scenarios, and that all air quality predictions are within the standards. On foot of the NPF Scenarios, Receptor R22 (located adjacent to proposed junction of N6 GCRR and Ballymoneen Road) becomes the receptor with the predicted highest concentration of pollutants, although they remain in compliance with the AQS limit values. Predicted PM_{2.5} concentrations, while compliant with AQS limit values, again exceed WHO guideline values at a number of receptors, with background concentrations alone being close to the recommended guideline value. As noted above, a Corrigendum document was submitted at the oral hearing which noted that the RFI Response data, unlike the EIAR, took account of potential improvements to air quality arising from an improvement in the vehicle fleet. The Corrigendum provides modelling results utilising the same approach as the EIAR and states that the conclusions of the air quality impact assessment remain as set out in the EIAR.

11.11.26. The potential for Nitrogen compound pollution, VOCs and metals/dust to affect the Lough Corrib SAC under the NTA/GCC NPF Scenarios was also

reassessed and stated to be in compliance with the AQS. Nitrogen deposition rates also remain in compliance with the lower boundary of the critical load limit values.

Mitigation Measures – Air Quality

11.11.27. Proposed **construction phase mitigation measures** are set out in Section 16.6.2.1 of the EIAR. The measures generally comprise good practise construction methods for controlling/suppressing dust and are derived from the TII Guidelines, the BRE publication 'Controlling particles, vapour and noise pollution from construction sites' and the Institute of Air Quality Management publication 'Guidance on the assessment of dust from demolition and construction'. Examples of mitigation measures include:

- Spraying of exposed earthwork activities and site haul roads during dry weather.
- Provision of wheel washes at exit points.
- Control of vehicle speeds and speed restrictions.
- Sweeping of hard surface roads.
- A public communication strategy and complaints register and employee training (as set out in Appendix A.7.5, CEMP).
- Control of exhaust emissions through regular servicing of machinery.
- Areas where materials will be handled and stockpiled will be positioned away from main site access roads. These areas will also be designed to minimise their exposure to wind, with stockpiles kept to the minimum practicable height with gentle slopes.
- No long-term stockpiling on site and minimising of storage time.
- Minimising material drop heights from plant to plant or from plant to stockpile.
- Water suppression during the demolition of buildings.
- Crushing and concrete batching plant will be located as far from sensitive receptors as is reasonably practicable.

11.11.28. Dust screens are proposed at locations where sensitive receptors are located within 100m of the works and in areas of overlap of the PRD and the Lough Corrib

SAC, and the area of the PRD adjacent to Moycullen Bogs NHA. Dust deposition monitoring will also be conducted at a number of locations in the vicinity of the PRD. The EIAR states that, at a minimum, monitoring will be carried out at the two nearest sensitive receptors at locations where works of a 'major' scale is proposed while works are taking place in proximity. However, as noted above, all sections of the road development are stated as entailing works of a 'major' scale. Where dust deposition exceeds TA Luft limits, or where complaints are received in relation to dust levels, it is proposed to implement additional mitigation measures, for example more regular spraying of water. In order to establish a baseline, at least one month of dust deposition monitoring will be carried out in advance of the commencement of works.

- 11.11.29. With regard to particulate matter, it is proposed to carry out PM₁₀ and PM_{2.5} monitoring at the nearest sensitive receptors upwind and downwind of the construction works where sensitive receptors have been identified within 25m of the works. This monitoring programme will take place when works likely to generate dust are being carried out and will allow direct comparison with the PM₁₀ and PM_{2.5} air quality standards on a daily basis.
- 11.11.30. Protocols for proactively addressing potential dust nuisance situations are also set out in the EIAR, which may entail alternative mitigation measures and/or modification of the construction works taking place.
- 11.11.31. No specific mitigation measures are proposed during the **operational phase**, on the basis that all air quality standards for the protection of human health and vegetation will be complied with. The EIAR also notes that improvements in air quality are likely at a National/European level over the next few years as a result of the on-going comprehensive vehicle inspection and maintenance program, fiscal measures to encourage the use of alternatively fuelled vehicles and the introduction of cleaner fuels.

Residual and Cumulative Impacts – Air Quality

- 11.11.32. No significant residual impacts on air quality are predicted during either the construction or operational phases.
- 11.11.33. With regard to potential cumulative impacts, the EIAR notes that the traffic data utilised considers identified development proposed for the Galway area and

incorporates the cumulative impacts of these projects into the 'Do-Minimum' traffic data. This includes the projects listed in the Galway Transport Strategy. No major construction works are envisaged to take place in such proximity to the PRD which would significantly impact on dust levels. No negative significant cumulative impacts on air quality are predicted.

Climate

11.11.34. During the **construction phase** of the PRD, the EIAR estimated that 150,000 tonnes per year of CO₂ will be generated, assuming a 36-month construction programme. The predicted total construction phase emissions constitute 0.39% of Ireland's 2020 CO₂ limit under the EU Climate Change and Renewable Energy Package.

11.11.35. The applicant's air quality and climate specialist, Sinead Whyte of Arup, presented revised and reduced figures for construction phase carbon emissions at the oral hearing on 20th February 2020. The reduction was stated to result from a re-evaluation utilising a 2019 update to the 'Inventory of Carbon and Energy Database' and the 'Civil Engineering Standard Method of Measurement Carbon and Price Book 2013'. The figures submitted in the EIAR and at the oral hearing are compared in the Table below. The reduction of c. 123,000 CO_{2e} tonnes is stated to primarily relate to the use of concrete with a lower emission factor and I note that a commitment to use low-emission concrete (<0.0949 kgCO_{2e}/kg) has been added to the revised Schedule of Environmental Commitments submitted at the oral hearing.

Scenario	<u>EIAR</u> Carbon Emissions (CO_{2e} tonnes)	<u>Oral Hearing</u> Carbon Emissions (CO_{2e} tonnes)
Year 1	150,000 worst case year	38,420
Year 2		52,254
Year 3		61,393
Total	275,000	152,067
Ireland's non-ETS CO₂ Commitment for 2020	38,000,000	38,000,000

Increase relative to CO₂ commitment per year	0.39%	0.16% (worst case year)

Table 11.11.1: Carbon Emissions for the construction phase of the PRD: EIAR and Oral Hearing versions.

Source: Data from EIAR Table 16.38 and S. Whyte submission to Oral Hearing, Table 4.

- 11.11.36. The EIAR predicts CO₂ produced as a result of the **operation** of the PRD for both Opening Year (2024) and Design Year (2039), based on traffic data for the PRD and the design speed for each existing and proposed road. The predicted changes in levels of CO₂ due to the PRD are compared to Ireland's non-ETS commitments under the EU Climate Change and Renewable Energy Package. The projected increase of CO₂ in 2039 is 0.094% of Ireland's non-ETS commitment.
- 11.11.37. As noted above, the applicant, in responding to the Board's Request for Further Information, reassessed air quality and climate impacts during the operational phase on the basis of the higher traffic forecasts for the NTA/GCC NPF Scenarios. This is set out in Appendix A.8.3 to the RFI Response, and in Section 8.2.2.5 of the RFI Response document.
- 11.11.38. Under this revised NTA/GCC NPF N6 GCRR 2039 Scenario, the predicted increase of CO₂ would be 55,783 tonnes per annum, representing 0.15% of Ireland's non-ETS commitment under the EU Climate Change and Renewable Energy Package, with a marginal reduction to 54,402 tonnes per annum (0.14%) when the other Galway Transport Strategy measures are incorporated.
- 11.11.39. Subsequently, in Ms Whyte's submission at the oral hearing, the applicant provided further revised figures for operational phase carbon emissions. These revised figures are stated to take account of the adoption of electric vehicles, noting that the Climate Action Plan 2019 proposes: a ban on the sale of new fossil fuel cars from 2030; to stop the granting of NCT certificates for fossil fuel cars from 2045; and includes a target of 840,000 electric vehicles (EV) on Irish roads by 2030. The revised figures assume 70% of the EV target is achieved, and that 83.5% of the electricity utilised to power EVs in 2039 would be from renewable sources and generate zero carbon (in line with the Eirgrid Group Strategy 2020 – 2025 and Climate Action Plan).

11.11.40. The applicant also noted that CO_{2e} emissions will be offset, to an extent, through the proposed planting of trees as part of the proposed development, which will sequester c. 94 tonnes of CO_{2e} per year, and that carbon emissions from cars are being continuously reduced at European level, with all new cars needing to achieve 95g of CO₂ per km by 2021, compared with 130g in 2015.

11.11.41. Table 11.11.2 below compares the three sets of carbon emission figures submitted by the applicant at EIAR, RFI (two scenarios) and oral hearing stages, respectively.

Scenario	<u>EIAR</u> DM – DS	<u>RFI Response</u> NTA NPF N6 GCRR (DM – DS)	<u>RFI Response</u> NTA NPF N6 GCRR + GTS (DM – DS)	<u>Oral Hearing</u> NPF + EVs
Total CO ₂ as a result of scheme 2039 (tonnes/yr)	35,776	55,783	54,402	33,435 – 37,124 ²⁰
Ireland's non-ETS CO ₂ Commitment limit for 2020 (tonnes/yr)	38,000,000	38,000,000	38,000,000	38,000,000
Change relative to Ireland's CO ₂ commitment	0.094%	0.15%	0.14%	0.09% - 0.1%

Table 11.11.2: Total CO₂ produced as a result of the operation of the PRD: EIAR, RFI and Oral Hearing versions.

Source: Data from EIAR Table 16.39; RFI Response, Appendix A.8.3, Table 5; and S. Whyte submission to Oral Hearing, Table 6

Mitigation Measures – Climate

11.11.42. The proposed mitigation measures to minimise CO₂ emissions during the **construction phase** include:

²⁰ The range depends on whether 22% or 32% of vehicles are EVs by 2030, i.e. whether the CAP target of 840,000 EVs by 2030 is fully achieved, or if 70% of the target is achieved.

- Local sourcing of construction materials where possible (e.g. crushing and re-use of rock).
- Implementation of CTMP to minimise congestion, encourage car sharing and the use of public transport.
- Efficient materials handling to minimise the waiting time for loading and unloading, thereby reducing potential emissions.
- Engines will be turned off when machinery is not in use and regular maintenance of plant and equipment will be carried out.
- Materials with a reduced environmental impact will be used where available, such as recycled steel and use of Ground Granulated Blast Furnace Slag and Pulverised Fly Ash as replacements for Portland cements²¹.
- Implementation of an Energy Management System to include: thermostatic heating controls in site buildings; insulated temporary building structures; low energy equipment and power saving functions on all computer systems; low flow tap fittings and showers; and solar/thermal power to heat water for the on-site welfare facilities.

11.11.43. The EIAR refers to the TIIs 'Environmental Impact Assessment of National Road Schemes – A Practical Guide' (2008) which states that climate change issues are largely outside the scope of an EIAR for individual road schemes as the issues and mitigation measures are the subject of specific policies and strategies set out by government.

11.11.44. In terms of mitigation, the EIAR contends that transferring existing and future traffic from the existing road network to the new road infrastructure will improve traffic congestion, benefit public transport and private vehicle users and allow for the reallocation of space for cyclists/pedestrians and reconfiguration and improvement of the public transport network resulting in a modal shift which will help to reduce carbon emissions, albeit that the reduction is difficult to quantify.

11.11.45. It is also contended that the provision of improved public transport, traffic management measures, cycling and walking facilities and the introduction of the

²¹ As noted above, the applicant added an additional Environmental Commitment at the oral hearing to use low-emission concrete with a specified emission factor.

‘Cross-City Link’ by the GTS will encourage a modal shift in line with the Smarter Travel Policy which has the potential to reduce greenhouse gas emissions associated with the PRD in the future. The EIAR also refers to EU legislation requiring reductions in CO₂ emissions for the average new car fleet and to measures set out in the National Mitigation Plan (which has since been quashed by the Supreme Court).

Residual and Cumulative Impacts – Climate

11.11.46. The EIAR concluded that potential carbon emissions generated by the PRD can be offset by measures outlined in the Galway Transport Strategy, removing congestion in Galway City and measures outlined in the National Mitigation Plan (since quashed). It states that no significant residual climate impacts are envisaged.

11.11.47. Subsequently, due to changes in policy and environmental commitments, Ms Whyte, the applicant’s air and climate specialist, stated in her submission to the oral hearing on 20th February 2020 that the proposed development would be likely to have a significant adverse impact on carbon emissions and climate.

11.11.48. The cumulative impact of the proposed development and other projects on climate, as opposed to air quality, was not explicitly addressed in the EIAR. However, in the ‘EIAR – Cumulative Impact Assessment Update Addendum Report’ submitted at the oral hearing (Issue 3, 3rd November 2020), the applicant states that the PRD and the various identified projects are likely to have significant cumulative impacts on climate.

11.11.49. **Assessment**

11.11.50. I consider that the potential significant impacts are as follows:

- Construction phase air pollution.
- Operational phase air pollution.
- Climate change.
- Paris Agreement and the Heathrow Runway decision.
- Parkmore Link Road proposed modification.

Construction Phase Air Pollution

- 11.11.51. A considerable number of observers/objectors raised concerns in relation to air pollution during the construction phase, including from construction traffic, dust generation and inadequate mitigation and monitoring measures.
- 11.11.52. Emissions to air during earthmoving and demolition/construction will occur, although the prevailing weather, the size of the site and its distance from sensitive receptors is predicted to assist in facilitating the management of any effects and the applicant has, therefore, focused their control procedures on reducing the generation of airborne material at source.
- 11.11.53. During movement of materials both on and off-site, it is proposed to cover trucks with tarpaulin at all times to minimise windblow effects. Before entrance onto public roads, trucks will be inspected to reduce the potential for dust emissions. It is also intended to provide wheelwashes and to sweep roads. Therefore, I consider that no significant air quality impacts are likely due to the hauling of construction material.
- 11.11.54. With regard to dust generation, I note that the applicant's assessment was undertaken in accordance with standard TII methodology with a programme of mitigation measures, as I have outlined above. This includes the provision of dust screens where sensitive receptors are located within 100m of the works and at the locations of the overlap of the PRD and the Lough Corrib SAC and the area of the PRD adjacent to Moycullen Bogs NHA. Water suppression will also be utilised during demolition works, and on roads and stockpiles during dry periods.
- 11.11.55. The applicant's assessment predicts that increases in pollutant concentrations during the construction phase due to the PRD will be negligible at worst-case receptors, with all projected pollutant concentrations within air quality standards.
- 11.11.56. Michael O'Donnell BL, accompanied by Professor Michael Kerin, Dr Annette Kerin, Dr Imelda Shanahan (TMS Environment Ltd.), Julian Keenan (Traffic Wise) and Karl Searson (Searson Associates) made submissions at the oral hearing on 30th October 2020 regarding various environmental topics on behalf of the Kerin family, who are residents of Ard an Locha, on the south side of the N59 Moycullen Road. The applicant subsequently submitted a document entitled 'Response to submission on behalf of Prof. Michael and Dr Annette Kerin' at the oral hearing on 3rd November 2020 (Ref. 103). The Kerins' and their consultants subsequently made

further submissions responding to the applicant's response, at the oral hearing on 4th November 2020 (Ref. 98+).

11.11.57. In relation to air quality, Dr Shanahan noted the proximity of the Kerins' property to the PRD mainline, and listed the various structures located within 900m of the property. I note, however, that TII guidance considers that potential dust deposition impacts can occur within 100m of construction works and that the UK DMRB concurs with this approach, stating that the risk from construction dust is low beyond 100m from the works. I would note that Dr Shanahan also states at Section 5.6.1 of her submission that air quality impacts are at their highest within 100m of the source of emissions. Having regard to this, I consider that the primary source of construction phase dust that has the potential to impact the Kerins' property is associated with the construction of the mainline, its associated embankments and retaining structure, the N59 underbridge (i.e. carrying the mainline over the N59) and construction traffic. Dr Shanahan contends that the Kerins family would be uniquely affected by the construction process. However, there are numerous dwellings in close proximity to major proposed structures and to the PRD mainline and MDAs and as such I do not consider that that they are uniquely affected. They are, however, representative of the sensitive receptors close to the PRD who have the greatest potential to be negatively affected by it (with the possible exception of those whose houses are to be acquired).

11.11.58. Dr Shanahan contended that the use of EPA Zone C data is not appropriate in this location, and that it results in a 50% overstatement of NO₂ and PM₁₀ concentrations. Referring to the property as a peaceful and tranquil location and as a rural location, Dr Shanahan contended that Zone D (rural/small town) should be applied. I note, however, that the Kerins' property is immediately adjacent to the N59 Moycullen Road, one of the main radial routes serving the City. The applicant's response was that EPA maps clearly demonstrate that the full extent of the PRD is included in Zone C and that the use of Zone C data allows a worst-case baseline to be accounted for, ensuring a robust comparison with air quality standards. I would concur with the applicant that their approach is suitably conservative and, if it overstates the baseline concentrations of NO₂ and PM₁₀, then this is of benefit in ensuring that air quality standards are not exceeded.

- 11.11.59. Further to this point, and with regard to the more problematic PM_{2.5}, I note the applicant's response to Professor Kerin that the measured level of PM_{2.5} at Ard an Locha over a period of 3 months was 5.4µg/m³, which is well below the WHO guideline of 10 µg/m³. The maximum increase in PM_{2.5} calculated at the nearest modelled receptor to the Kerin property is 1.9 µg/m³. This results in a total concentration of 7.3 µg/m³ which remains in comfortable compliance with the WHO guideline and well below the AQS.
- 11.11.60. The applicant also draws the Board's attention to the EPA Air Quality in Ireland 2019 report, which states that residential use of solid fuel such as coal, peat and wood is still the largest problem for air quality and health in Ireland and that the continued use of solid fuel burning for home heating remains the leading contributor to PM_{2.5} pollution across Ireland.
- 11.11.61. With regard to dust deposition, Dr Shanahan contended that the application of the TA Luft guidance over an annual averaging period is inappropriate and that it would not afford the required protection for sensitive receptors by ignoring overwhelmingly negative adverse impacts which may arise over shorter time periods. Section 16.2.2.1 of the EIAR refers to the TA Luft dust deposition limit of 350mg/m²/day and I note that this applies over an annual period and not over 28-30 days as stated in Section 5.3.6 of Dr Shanahan's submission. Notwithstanding this, the applicant proposes to apply the dust deposition limit as a 30-day average, in accordance with the EPA's Environmental Management in the Extractive Industry (Non-Scheduled Minerals), 2006, and as outlined in the EIAR and Schedule of Environmental Commitments.
- 11.11.62. Noting the 'semi-quantitative' assessment of construction dust contained in the EIAR, Dr Shanahan calculated that the total amount of dust generated from general construction activities across the section of the mainline construction within 100m of the Kerin property is c. 0.25 tonne/day or c. 42 tonnes total dust across a 6 month construction period, of which approximately 12 tonnes is PM₁₀. This is based on the methodology outlined in the US Environmental Protection Agency (US EPA) Guidance AP-42. The applicant, in response, noted that TII guidance states that "it is very difficult to accurately quantify dust emissions arising from construction activities. It is thus not possible to easily predict changes to dust soiling rates or PM₁₀ concentrations". The applicant contended that the assumptions underpinning the US

EPA guidance make it not applicable to Irish circumstances noting, by way of example, references to a “semiarid climate”, which would not include locations such as Galway. I would agree with the applicant that the use of US guidance is questionable in an Irish context, particularly when dust and air quality emissions associated with road construction are well understood and a suite of best practice monitoring and mitigation measures have been developed.

11.11.63. Dr Shanahan also contended that construction traffic would result in significant levels of dust, particulate matter and NO_x emissions that would impact on her Clients. I note that the assessment undertaken by the applicant utilised TII methodology, which considers both construction works and HGV movements. Dr Shanahan, Professor Kerin and Dr Kerin also raised health issues in relation to air emissions, particularly with regard to PM_{2.5} emissions. These health issues are addressed in Section 11.6 of this report.

11.11.64. Similar issues with regard to construction phase air quality impacts were also raised by Dr Shanahan in relation to Caiseal Geal Teoranta (Castlegar Nursing Home) at the oral hearing on 19th and 30th October 2020. The Nursing Home is located on School Road in Castlegar, to the south of the PRD mainline (approx. Ch. 13+250), which is in a deep cutting in this area and will pass under a new overbridge carrying School Road. The Nursing Home caters for residents with a medium to high dependency, as well as providing respite and palliative care and it is clearly a very sensitive receptor. It was contended that insufficient consideration had been given to the Nursing Home and what was stated to be its unique sensitivity. Dr Shanahan noted that the closest receptor to the Nursing Home for predicting air quality impacts was at R16, c. 300m away. She contended that this was not a comparable location, given the different topography, distance to the site boundary and the much greater need for removal of material in the vicinity of the Nursing Home. Dr Shanahan’s submission made similar points as she had been in relation to the Kerin property and contended that a terrace area to the north of the building, and rooms opening onto this area, would not be usable during the summer period due to dust and particulate matter and the risk of airborne bacteria and fungi, including aspergillus. Dr Shanahan also raised issues with regard to construction traffic, particularly that associated with rock removal, and associated dust and particulate emissions. She contended that the cumulative effect on the Nursing Home was such that it may be uninhabitable for

the duration of the construction phase. Mr O'Donnell reiterated these points, noting that the Nursing Home was required to comply with various HIQA requirements and may have to close if they cannot be complied with. Mr O'Donnell contended that the Board was obliged to refuse permission due to the failure to properly assess the impacts on the Nursing Home.

11.11.65. The applicant responded to these submissions at the oral hearing on 21st October 2020, outlining various sections of the EIAR where the Nursing Home had been considered. The applicant accepted the sensitivity of the Nursing Home and contended that the mitigation measures for dust control, including spraying of spoil, covering of trucks, dust screens etc. and air emission controls were suitable for reducing impacts on the Nursing Home. With regard to Receptor R16, Sinead Whyte, on behalf of the applicant, stated that it was included for the purposes of the operational assessment, not the construction phase assessment. Mr O'Donnell subsequently asked a number of questions of the applicant's team. Ms McCarthy, responding to a question, advised that construction traffic will use the PRD mainline, not School Road, for haulage of excavated materials with no rock processing at that location.

11.11.66. Having considered the issues raised in the written and oral submissions, I conclude that dust and air quality emissions will arise during the construction phase and that this has the potential to impact upon sensitive receptors. However, I consider that the applicant has proposed a comprehensive and robust suite of mitigation measures, the majority of which are relatively standard for proposed road developments and are derived from TII guidance as well as the BRE and IAQM guidance referenced above. I consider that these proposed mitigation measures will adequately address construction phase air pollution. However, I also consider that their success will be dependent on adequate monitoring and a pro-active communications/complaints system.

11.11.67. The applicant has outlined their dust deposition and particulate (PM₁₀ and PM_{2.5}) monitoring proposals in the Construction Environmental Management Plan (CEMP) and the Schedule of Environmental Commitments. At a minimum, monitoring will be carried out at the two nearest sensitive receptors at locations where works of a 'major' scale are proposed while works are taking place in their proximity. In addition, particulate monitoring will be carried out at the nearest

sensitive receptors upwind and downwind of the construction works where sensitive receptors have been identified within 25m of the works. The monitoring will allow direct comparison with the PM₁₀ and PM_{2.5} air quality standards on a daily basis, which I consider to be appropriate given the health implications of exposure to these forms of particulate matter. The applicant has also outlined the procedures to be followed in the event of limit values approaching an exceedance, or in the event of a complaint due to elevated dust, and has incorporated this procedure into the Schedule of Environmental Commitments.

- 11.11.68. While I consider the construction phase mitigation and monitoring proposals to be generally acceptable, having regard to the particular potential vulnerability of the residents of Castlegar Nursing Home and the proximity of the construction site, I consider it appropriate that a specific dust monitoring location be installed at or adjacent to this receptor for the duration of the construction phase. Should any issues with regard to dust emissions be identified, then in accordance with the CEMP, any identified issues can be addressed through additional mitigation or changes to work practices.

Operational Phase Air Pollution

- 11.11.69. A number of objections and submissions, both written and at the oral hearing, contend that the PRD will result in air pollution or negative impacts on air quality during the operational phase.

- 11.11.70. I consider that the assessment undertaken by the applicant, as outlined in the EIAR, RFI response and at the oral hearing, was robust, suitably conservative and in accordance with best practice for road development proposals. The assessment predicts the changes in air quality due to the PRD in the opening and design year and compares them to the relevant air quality standards (S.I. No. 180 of 2011). The DMRB spreadsheet methodology was utilised to predict future levels of pollution due to the PRD and validated using the ADMS model. Predicted concentrations are all well below air quality standards, although there are some exceedances of WHO PM_{2.5} guideline levels, which is stated to be due to high background concentrations. The greatest predicted impacts using the ADMS Model were at three locations (Castlegar (R16), Upper Dangan (R17) and Letteragh (R20)) where a slight adverse impact is predicted, with a negligible impact predicted at all other locations.

- 11.11.71. Dr Imelda Shanahan, in her separate submissions to the oral hearing representing the Kerin family and Castlegar Nursing Home, stated that “while it is unlikely based on the information provided in the EIAR that an exceedance of Air Quality Standards would occur, in my opinion there would be a noticeable impact on air quality during the operational phase”.
- 11.11.72. The applicant notes that pollution emissions from the national vehicle fleet are regulated as a result of European-led controls and that emissions of NO_x and PM₁₀ are reducing over time as more stringent standards are introduced. As noted by Mr Ciaran Ferrie at the oral hearing, however, PM₁₀ emissions also arise from tyre and brake pad wear, in addition to combustion emissions, and this element of air pollution will not reduce with the move to electric vehicles. Notwithstanding this, I consider that there is likely to be continuing improvement of air quality in future years. Rather than incorporating these likely improvements, I note that the applicant has applied the existing baseline air quality to future assessment years, which I consider to be an appropriately conservative assessment approach.
- 11.11.73. In the 2039 Design Year, I note that the highest concentration of pollutants at the worst-case receptor (R17, Upper Dangan) is predicted to be 37% of the AQS for NO₂ (of which the PRD contributes 14%), 48% of the AQS for PM₁₀ (of which the PRD contributes 5.7%) 54% of the proposed AQS for PM_{2.5} (of which the PRD contributes 6.4%). As no significant impacts are predicted to occur, no mitigation measures are required during the operational phase of the PRD.
- 11.11.74. The potential air quality impacts at Bushypark National School were raised in a written objection and by Mr Gerard Lawless at the oral hearing on 20th October 2020. Ms Whyte, in her submission to the oral hearing, provided a table setting out air quality predictions at the school. Air quality monitoring was carried out in the grounds of the School in 2017 with measured levels of NO₂ less than 10µg/m³, which is well below the annual limit of 40 µg/m³. For all pollutants, the PRD is predicted to result in a negligible impact on air quality at the School.
- 11.11.75. Galway City Harriers also contended that dust and other emissions to air would impact on people utilising the NUIG Sporting Campus. However, again I note that no exceedances of air quality standards are predicted.

11.11.76. While no significant negative impacts on air quality are predicted during the operational phase, I note that the changes to traffic flows as a result of the PRD will result in traffic reduction on parts of the local road network with associated air quality improvements. These areas are detailed in Table 16.28 of the EIAR and I note that on some routes, traffic volumes are predicted to decrease by over 70%. These areas are generally in close proximity to existing housing and this will result in localised air quality improvements.

Climate Change

11.11.77. A number of observers/objectors (e.g. An Taisce, Ciaran Ferrie, Brendan Mulligan, Catherine Connolly TD, Senator O'Reilly), contend that the PRD would undermine, or be contrary to, Ireland's climate obligations due to its carbon emissions.

11.11.78. Since the submission of the EIAR and RFI Response, there have been further changes to the climate legislation and policy framework, including the Climate Action Plan 2019, the publication of the Draft General Scheme of the Climate Action (Amendment) Bill 2019 and subsequently the Climate Action and Low Carbon Development (Amendment) Bill 2021, Ireland's declaration of a climate and biodiversity emergency in May 2019 and the European Parliament's approval of a resolution declaring a climate and environment emergency in Europe.

11.11.79. In December 2020, after the oral hearing concluded, the EU submitted an updated and enhanced Nationally Determined Contribution (NDC) under the Paris Agreement (see below), with the target to reduce emissions by at least 55% by 2030 from 1990 levels. The previous NDC was to reduce greenhouse gas emissions by at least 40% by 2030 compared to 1990. As before, Europe aims to become climate-neutral by 2050. The current EU Effort Sharing Regulation 2018/842 (ESR), which was referenced by the applicant at the oral hearing, sets out binding annual GHG emission targets for individual Member States for the period 2021–2030 inclusive. Ireland's target is a 30% reduction in emissions (compared to 2005 levels) by 2030. It should be noted that the ESR relates to the overall EU objective to reduce its emissions by 40% by 2030 compared to 1990 levels. However, as noted above, the EU has now committed to a more ambitious 55% reduction in its updated NDC. I note that the Commission is proposing to revise the ESR, however this had not

occurred at the time of writing. Other European level initiatives include the European Green Deal, 2030 Climate Target Plan and proposed European Climate Law.

11.11.80. While climate policy and legislation at national and European level is rapidly developing and evolving, it is clear that the ultimate end goal of achieving climate neutrality or net zero emissions by 2050 remains consistent.

11.11.81. In an Irish context, I also note the recent 'Programme for Government – Our Shared Future' ('PfG'), agreed in 2020. In relation to climate, there is a commitment to an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 (51% reduction over the decade) with an ultimate aim to achieve net zero emissions by 2050. Policies consistent with the National Development Plan and Climate Action Plan include the significant decarbonisation of road transport in addition to policies to ensure an "unprecedented modal shift in all areas by a reorientation of investment to walking, cycling and public transport". In this regard, the PfG states that "the Government is committed to a 2:1 ratio of expenditure between new public transport infrastructure and new roads over its lifetime". It also states that "we will develop and implement the existing strategies for our cities, such as...the Galway Transport Strategy...and other projects progressing through planning". Finally, I note the statement that "we will continue to invest in new roads infrastructure to ensure that all parts of Ireland are connected to each other".

11.11.82. In light of the developments in climate policy and the increased sensitivity of the baseline, the applicant, at the oral hearing, concluded that the proposed development is likely to have a significant adverse impact on carbon emissions and climate both individually and cumulatively with other projects, notwithstanding the predicted reduction in carbon emissions during both the construction and operational phases, compared to what was set out in the EIAR.

11.11.83. The applicant contends that applying the same methodology (i.e. EPA guidance on classification of impacts) to any significant construction project will result in a significant adverse impact on carbon emissions and climate, and that their conclusion must therefore be considered in context, and that it will create an environment conducive to the investment in more sustainable modes of transport, as set out in the GTS.

- 11.11.84. Having regard to the applicant's revised conclusion, i.e. that the proposed development is likely to have a significant adverse impact on carbon emissions and climate, it could be considered that there is consensus on this issue between the applicant and the objectors/observers who raised climate issues in their written and oral submissions. Where the parties differ is on the issue of whether the identified significant adverse impact is acceptable or not.
- 11.11.85. Mr Brendan Mulligan noted the need for drastic reductions in greenhouse gases and stated at the oral hearing on the 24th February 2020 that it is utterly unsustainable to undertake any project during the next decade which increases Ireland's greenhouse gas emissions. Hands Across the Corrib, noting the declared Climate emergency, quoted Greta Thunberg in their submission of 3rd March 2020: "*I want you to act as you would in a crisis. I want you to act as if our house is on fire. Because it is*".
- 11.11.86. Mr Ciaran Ferrie in his submission of 4th March 2020 noted that Ireland has been missing its targets to switch energy sources and to reduce emissions. He also noted that the Climate Action Plan seeks to make growth less transport intensive through better planning, remote and home-working and modal shift to public transport.
- 11.11.87. The applicant, in Section 7.5 of their 'Response to Queries raised in Module 2' document (Ref. 78) submitted at the oral hearing, provide a response to various goals of the CAP. They contend that the PRD, when considered in the wider context of the GTS, will reduce congestion, thereby reducing emissions, and facilitate planned improvements in public transport and active transport modes. They also contend that it will improve the city centre environment by attracting traffic and allow the city to densify in accordance with NPF forecasts. In response to queries from Mr Mulligan, the applicant also stated that the Cost Benefit Analysis for the scheme had been updated to reflect the carbon emissions and increased carbon tax rates as per the CAP. The results of this 'Cost of Carbon Sensitivity Test' are set out in Table 16 of the 'Response to Queries raised in Module 2' document.
- 11.11.88. Chapter 10 of the CAP, entitled 'Transport', notes that transport accounted for c. 20% of Ireland's greenhouse gases in 2017. However, the applicant, in their response document referenced above, draw attention to the EPA's July 2020 update

to Ireland's greenhouse gas emissions projections to 2040, which projects a 37.8% decrease in transport emissions over the period 2019 to 2030 in the 'with additional measures' scenario. This scenario assumes that the CAP measures are implemented and the EPA conclude that Ireland will meet its 2030 target under the ESR, as long as there is early and full implementation of the CAP measures (although, as noted above, a revised and more ambitious ESR may be forthcoming).

11.11.89. Having reviewed all relevant policy, I do not consider that there is an inherent contradiction in investing in new road infrastructure while at the same time seeking to work towards net zero emissions/climate neutrality by 2050. This can be seen in the TEN-T Policy, the CAP, the NPF, the NDP, the Programme for Government, and the proposed measures contained in the Climate Action and Low Carbon Development (Amendment) Bill 2021 which – while not yet enacted – include adoption of sectoral emissions ceilings, carbon budgets, Local Authority Climate Action Plans and strengthening of the role of the Climate Change Advisory Council. The NDP also, for example, has detailed both a continuation of the upgrading of the road network and a range of detailed measures to improve road transport GHG emissions. Thus, the NDP perceives that upgrading of the road network can be achieved in tandem with carbon reduction measures which suggests that improvements in road infrastructure are not necessarily a barrier to the 2050 target.

11.11.90. While I consider that the proposed development will have a significant adverse impact on climate, I also consider that this must be seen in the context of providing a piece of strategic infrastructure that will benefit the City, County, Region, State and European Union. The population of Galway is forecast to grow significantly, as set out in the NPF and, as detailed in Section 10.4, I consider that the current road network is under-developed. The development of a more integrated and higher quality road network, together with improvements to public transport and active travel modes as detailed in the GTS will assist in achieving more compact growth, facilitating the development of a denser, more efficient and more sustainable City. This is not to deny the clear need for a significant modal shift towards public transport, walking and cycling in Galway, but given the inter-relationship between the PRD and the other GTS measures, I consider that the modal share will be improved by the proposed development and the densification of the city, while the operational

phase carbon emissions from private car use will reduce over time as the national vehicle fleet becomes increasingly decarbonised.

11.11.91. In conclusion, while I concur that the PRD is likely to have a significant adverse impact on carbon emissions and climate, I do not consider that it would undermine, or be contrary to Ireland's climate obligations, given that climate action requires a broad sectoral and economy-wide approach. Ireland has committed to becoming climate neutral / zero emission by 2050, and carbon emissions associated with necessary infrastructural projects such as the PRD, which I note equates to c. 0.1% of Ireland's 2030 obligations, can be mitigated through reductions in other areas as mechanisms such as carbon tax and carbon budgets are developed.

Paris Agreement and Heathrow Airport

11.11.92. A number of objectors/observers (e.g. An Taisce, Mr Ciaran Ferrie, Mr Brendan Mulligan, Mr Frank McDonald) contended at the oral hearing that the proposed development is inconsistent with, or contrary to, Ireland's obligations under the Paris Agreement. In support of this position, a number of parties made reference to the February 2020 judgement of the UK Court of Appeal in the case of R (Friends of the Earth) v Secretary of State for Transport and Others, which related to a proposed third runway at Heathrow Airport.

11.11.93. The Paris Agreement is a legally binding international treaty on climate change which entered into force on 4th November 2016. Its goal is to limit global warming to below 2°C, and preferably to 1.5°C, above pre-industrial levels. To achieve this long-term temperature goal, countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century.

11.11.94. Mr Declan McGrath SC, on behalf of the applicant, submitted a summary of the UK Court's judgement in respect of Heathrow Airport at the oral hearing on 4th March 2020 (Ref. 51). He noted that it did not relate to a challenge to a consent, but instead related to a challenge to a policy document.

11.11.95. Having considered the matter, I would concur with the position put forward by the applicant. It is clear to me that the judgement was a narrow one, relating to a failure to take the Paris Agreement into account in the preparation of the UK's Airports National Policy Statement and to explain how it was taken into account, as

was required by law. The judgement does not relate to the acceptability or otherwise of a new runway from a climate change/Paris Agreement perspective. I note that the Justices would appear to have been aware of the potential for their judgement to be misinterpreted, as they state at paragraph 13 of their summary that:

“Our decision should be properly understood. We have not decided, and could not decide, that there will be no third runway at Heathrow. We have not found that a national policy statement supporting this project is necessarily incompatible with the United Kingdom’s commitment to reducing carbon emissions and mitigating climate change under the Paris Agreement, or with any other policy the Government may adopt or international obligation it may undertake.”

11.11.96. By way of comparison, Ms Sinead Whyte, on behalf of the applicant, noted at the oral hearing on 4th March 2020 that the Heathrow Airport expansion was predicted to generate 20 million tonnes of CO_{2e} per annum during the operation phase, equating to 7.5% of total UK emissions. In contrast, Ms Whyte stated that the PRD is predicted to c. 0.1% of Ireland’s non-ETS 2030 obligations.

11.11.97. The Paris Agreement seeks to limit global warming and achieve a climate neutral world by mid-century, however, it does not seek to prevent development from occurring. Europe and Ireland have adopted climate action legislation and policies which aim to fulfil their obligations under the Paris Agreement and, in particular, the achievement of climate neutrality or net zero emissions by 2050. The PRD will result in additional carbon emissions during both construction and operation and the applicant has accepted that this will have a significant adverse impact on climate. I do not consider that this, in itself, is evidence of the PRD being contrary to, or undermining the Paris Agreement obligations, as such obligations are set on a national level, which will require broader sectoral adaptation and I note in this regard the proposed implementation of economy-wide carbon budgets as envisioned in the Climate Action and Low Carbon Development (Amendment) Bill 2021 and proposed increases in carbon tax.

Parkmore Link Road Proposed Modification

11.11.98. Having reviewed the information submitted by the applicant and having inspected the site, I do not consider that the proposed Parkmore Link Road

modification would result in any additional or increased impacts on air quality and climate.

Conclusion on Air Quality and Climate

11.11.99. I have considered all of the written and oral submissions made in relation to air quality and climate matters, in addition to those specifically identified in this section of the report. I am satisfied that potential air quality impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. However, I consider that the PRD, individually and cumulatively with other identified projects, is likely to result in a significant negative impact on carbon emissions and climate that will not be fully mitigated. Notwithstanding the conclusion reached in respect of climate, it is considered that the residual impacts following mitigation would not justify a refusal, having regard to the overall benefits of the PRD including its identified strategic importance at European, National, Regional and local level, its role in alleviating congestion and underpinning the sustainable transport measures of the Galway Transport Strategy and its role in facilitating Galway to grow in a more compact manner, as identified in the National Planning Framework.

11.12. Land, Soil, Water, Air and Climate – Noise and Vibration

11.12.1. Noise and vibration are addressed in Chapter 17 of the EIAR. The series of Figures 17.1.01-17.1.15 contained in Volume 3 of the EIAR indicate the noise monitoring and mitigation locations. Volume 4 of the EIAR includes a number of associated Appendices: A.17.1 provides the baseline noise survey results; A.17.2 relates to construction noise & vibration mitigation; and A.17.3 sets out the calculated road traffic noise levels for the opening year (2024) and design year (2039) in the 'do-minimum' and 'do-something' scenarios. The Schedule of Environmental Commitments, which was updated at numerous stages over the course of the oral hearing, also sets out commitments in relation to noise management and mitigation. A Corrigendum, correcting various errors and omissions in the EIAR, was also submitted at the oral hearing on 21st February 2020.

11.12.2. The changes to traffic forecasts as a result of the consideration of the National Transport Authority/Galway City and County Councils National Planning Framework

scenarios for Galway ('NPF Scenarios'), as requested by the Board (see section 4.7), has potential implications for noise. These potential implications are addressed in Section 8.2.2.5 of the RFI response report, and the associated Appendix A.8.2 'NPF Traffic Forecast – Noise Sensitivity Analysis'.

11.12.3. A submission responding to the noise and vibration-related written submissions/objections, was given at the oral hearing on 20th February 2020 by Jennifer Harmon of AWN Consulting on behalf of the applicant. A number of parties subsequently made further noise and vibration-related submissions over the course of the oral hearing, including questioning of, and further submissions by, Ms Harmon. These matters are addressed, where necessary, below. The potential impacts of noise on human and animal health are addressed separately in Sections 11.6 and 11.16, respectively.

Relevant Guidance

11.12.4. The applicant considers that the key relevant guidance documents are the 'Guidelines for the Treatment of Noise and Vibration in National Road Schemes' (TII; 2004) and the 'Good Practice Guidelines for the Treatment of Noise during the Planning of National Road Schemes (TII; 2014). The chapter is also stated to have utilised information gathered during the earlier constraints and route selection studies.

11.12.5. Noise and vibration limits, in line with TII guidance, are set out in Section 17.2.2.1 of the EIAR. For the construction phase, this comprises maximum permissible noise levels at the façade of dwellings of **70dB L_{Aeq,1hr}** Monday to Friday 07:00 to 19:00, reducing to **60dB L_{Aeq,1hr}** during the hours 19:00 to 22:00, with **65dB L_{Aeq,1hr}** Saturdays 08:00 to 16:30 and **60dB L_{Aeq,1hr}** Sundays and Bank Holidays 08:00 to 16:30. A higher L_{ASmax} figure for each period is also provided. Night-time construction noise limit values are not included in the TII Guidance, and the applicant has therefore taken guidance from '*British Standard BS5228-1: 2009 + A1 2014 Code of practice for noise and vibration control on construction and open sites – Noise*'. This Standard provides guidance on setting appropriate limit values for construction based on existing ambient noise levels in the absence of construction noise. The noise thresholds under the Standard range from **45dB to 55dB**, depending on the ambient noise levels. Construction vibration limits, based on TII guidance, are set

out in Table 17.3. For blasting, air overpressure and Peak Particle Velocity (PPV) are considered. The frequency of blasting will be no greater than one blast per day in any one site, so the applicant proposes a PPV limit value of **12mm/s** in line with TII Guidelines and the EPA's guidance on Environmental Management in the extraction industry (2006). The potential need for site-specific vibration limits for particularly sensitive receptors is also addressed below.

11.12.6. With regard to operational phase noise, the applicant states that there are no statutory guidelines relating to noise from road schemes in Ireland. The TII 2004 and 2014 noise guidance documents both specify that an absolute noise design criterion for new national road schemes of **60dB L_{den}** is appropriate. This is a 24-hour noise rating level, which includes penalties for evening and night-time noise. Under the TII guidance there are 3 No. conditions that must be met for noise mitigation to be provided:

1. The combined expected maximum traffic noise level, i.e. the relevant noise level, from the PRD together with other traffic in the vicinity is greater than the design goal of 60dB L_{den}.
2. The relevant noise level is at least 1dB more than the expected traffic noise level without the PRD in place.
3. The contribution to the increase in the relevant noise level from the PRD is at least 1dB.

11.12.7. The Galway City Council and Galway County Council Noise Action Plans 2019 – 2023 (NAPs) relate to the management of environmental noise in accordance with the Environmental Noise Directive ('END'; 2002/49/EC) and supersede the 2013 – 2018 NAPs referenced in the EIAR. The purpose of the NAPs is to manage and reduce, where necessary, environmental noise through the adoption of the action plans. This process is informed by a strategic noise mapping exercise. Both NAPs state that there are no statutory limits in relation to environmental noise exposures at EU or national level and that the EPA recommends that the proposed onset levels for assessment of noise mitigation measures should be **70dB L_{den}** and **57dB L_{night}**. Both NAPs contain a series of proposed mitigation measures to manage noise. The Galway City Ring Road is specifically identified as one of a number of 'key strategic

projects' in the County Council NAP, while implementation of the GTS and the development of a 'strategic relief road' is referenced in the City Council NAP.

Baseline Noise and Vibration

- 11.12.8. Noise-sensitive locations within a study area of c. 300m from the centreline of the PRD were identified for the baseline noise study, with a mix of unattended and attended measurements undertaken. This surveying programme encompassed attended surveys at 73 locations and unattended surveys at 33 locations. Where access was not possible, proxy locations were utilised. The baseline noise monitoring locations are illustrated in Figures 17.1.01 to 17.1.15, with survey results set out in Appendix A.17.1. A calibration and validation exercise comparing measured baseline noise against modelled predictions found a strong correlation, with a variation of $\pm 1\text{dB } L_{\text{den}}$.
- 11.12.9. The results of the baseline noise survey indicate that the noise environment varies across the PRD depending on the surrounding noise sources. In general, properties facing directly onto existing roads are dominated by road traffic and experience noise levels in excess of 60dB L_{den} . Properties in more rural settings set back from road traffic experience noise levels typically in the range of 42 to 50dB L_{den} depending on local sources in the vicinity. These noise sources included animal noises, construction and gardening work and voices. The EIAR identifies a total of 270 noise sensitive buildings, resulting in a total of 299 modelled receiver locations (a number of properties have two or more receiver locations to assess noise levels at different facades). It should be noted that the applicant has also utilised single receiver locations to represent clusters of properties in many cases. These noise receiver locations are identified on Figures 17.1.01 to 17.1.15.
- 11.12.10. No baseline vibration survey was undertaken, on the basis that the applicant considers that traffic on existing roads would not be expected to result in vibration of a level to cause nuisance or damage to property.

Potential Impacts

- 11.12.11. The **construction phase** for the proposed development is expected to last 36 months, which will include up to 10 weeks of night-time working, primarily to facilitate bridge works over existing roads. The general direction of construction is envisaged

as east to west, either in two concurrent phases or a single overall contract. If two phases are utilised, these will be:

- **Phase 1:** N6 Coolagh to N59 Letteragh Junction (Incl. N59 Link Road North and South): 9.9km.
- **Phase 2:** N59 Letteragh Junction to R336 Coast Road: 7.5km.

11.12.12. Noise and vibration generating activities will include ground breaking, earthworks, earth haulage, drainage works, construction of ponds, bridges, overpasses and tunnels, surfacing works and movement of plant and materials. Blasting of bedrock will be required, and I note that 'proposed blasting' and 'possible blasting' locations are identified on Figures 7.201 and 7.202 of Volume 3 of the EIAR.

11.12.13. The EIAR notes that road building works, by their nature, are transient as the works progress along the length of the route. For the purposes of the EIAR, the applicant has assumed 15 No. individual construction sections, which may be combined or completed simultaneously. 12 No. site compound locations have also been identified and are listed in Table 17.10 of the EIAR.

11.12.14. The EIAR, referencing the TII Guidelines, notes that there is limited information available on specific construction methods, numbers and types of plant before the appointment of a Contractor, which will normally happen after a scheme has been approved. The TII Guidelines note that it is more appropriate to address the way in which potential construction impacts will be assessed and how they will be managed, including forms of mitigation and codes of practices that will be applied. In this regard, the TII Guidelines state that in the absence of an Irish or international standard relevant to construction noise, reference can be made to '*BS 5228-:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1 Noise and Part 2 Vibration*'. This standard sets out sound power levels for a range of plant items encountered on construction sites and includes recommended methodologies for calculating construction noise levels as well as setting out a range of best practice mitigation and management measures for the control of noise and vibration from construction sites.

11.12.15. The highest noise levels are anticipated to be associated with rock extraction and processing (i.e. breaking, drilling and crushing). For these activities a total

construction noise level of 93dB L_{Aeq} at 10m is used for calculations. For other higher noise activities, such as excavation, fills, bridge works etc. a construction noise level of 85dB L_{Aeq} at 10m is used. For construction compounds and activities with lower noise levels (e.g. landscaping, concreting), a total construction noise level of 78dB L_{Aeq} at 10m is used.

11.12.16. Table 17.9 of the EIAR sets out the calculated attenuation of the abovementioned construction noise levels with distance, in the absence of any other form of mitigation. This indicates that for construction activities with the highest noise levels, the daytime noise limit value (70dB $L_{Aeq,1hr}$) would be exceeded at distances of up to 100m from the works boundary while evening and weekend noise limit values (60dB $L_{Aeq,1hr}$ /65dB $L_{Aeq,1hr}$) would be exceeded at distances of up to 250m.

11.12.17. TII Guidelines recommend that areas of major earthworks, blasting and piling should be identified. Relevant areas in this regard, and the construction section ('CS') they are contained within, are: below the Aille Road L5384 (CS: S2); Letteragh Junction and approach roads (CS: S3 and S4); N59 Link Road North (CS: S5); N59 Letteragh Junction (CS: S6); embankment leading to Menlough Viaduct and cutting approaching Lackagh Tunnel (both CS: S10); Lackagh Tunnel construction (CS: S11); cutting on the eastern side of Lackagh Quarry and N84 Headford Road Junction construction (CS: S12); cutting east of School Road, N83 Junction construction and cutting approaching Racecourse Tunnel portal (all CS: S13); Racecourse Tunnel (CS: S14); excavation works east of Tunnel portal and Coolagh Junction construction (CS: S15). Potential noise impacts are also identified at a number of construction compounds.

11.12.18. The potential for noise impacts from construction traffic along public roads is also addressed. A total of 16 public roads are identified as haul routes and, whilst the overall construction period is forecast as three years, construction traffic movements are split over a 12 month period along haul roads accessing specific work zones and a two-year period for national and regional roads serving multiple work zones. This is stated to be for the purposes of allowing a robust assessment to be made. Other conservative assumptions include concentrated construction periods at working areas and that no delivery of materials will occur along the corridor of the PRD. In fact, as noted elsewhere, it is proposed to use the PRD corridor for construction delivery vehicles.

- 11.12.19. Noise levels associated with passing event such as road traffic are expressed in terms of its Sound Exposure Level (LAX). Table 17.11 of the EIAR presents a summary of the construction traffic noise assessment, including a comparison of the base (Do-Minimum) scenario and the Do-Something (i.e. base plus construction) scenario. This indicates that the increase in noise level along the majority of the haul routes is negligible (<1dB) due to the existing volume of traffic along these roads and the relatively low additional HGV and LGV traffic per day forecast. The greatest increase in noise levels is calculated along the Bearna to Moycullen Road (L1321) in Zone 1 (3dB increase), the Cappagh Road in Zone 2 (8dB increase) and along Bóthar Nua in Zone 4 (7dB increase). Having regard to the assumed 12-month duration, and the existing traffic volumes and noise environments, the increase along the Bearna to Moycullen Road (L1321) and the Cappagh Road are deemed to be moderate short-term impacts. The increase along Bóthar Nua is deemed to be a major short-term impact.
- 11.12.20. Construction phase vibration is stated to be typically associated with excavation works, rock-breaking and blasting operations. There is also potential for some vibration relating to piling operations, demolition works and lorry movements on uneven road surfaces.
- 11.12.21. With regard to piling, the applicant undertakes to utilise low vibration methods (bored or augured piles) rather than percussive type piling, where ground conditions permit. However, for the purposes of the assessment, vibration levels associated with driven piles are assumed. Referencing British Standard 'BS5228-2 2009+A1:2014: *Vibration*', the applicant states that the vibration magnitudes associated with sheet steel piling at distances beyond 20m are well below those associated with any form of cosmetic damage to buildings.
- 11.12.22. With regard to rock breaking, no data is provided in the BS 5228-2 standard, however it is stated that the applicant's noise and vibration consultant, AWN Consulting, has previously conducted vibration measurements under controlled conditions on a sample site where concrete slab breaking was carried out. Peak vibration levels recorded using a 3 tonne Breaker ranged from 0.48 to 0.25 PPV (mm/s) at distances of 10 to 50m respectively from the breaking activities, while a 6 tonne Breaker, result in between 1.49 to 0.24 PPV (mm/s) at distances of 10 to 50m

respectively. Vibration impacts due to demolition and construction works are deemed to be not significant and short term.

11.12.23. With regard to blasting, the applicant states that for the majority of identified locations a relatively shallow blast depth is required. However, there are a number of locations along the route of the PRD where a cut depth of greater than 10m will be required. This will result in intermittent high noise levels albeit of a significantly shorter time period compared to other extraction methods. It is stated that the use of drill and blast will enable extraction works to be undertaken at a significantly faster rate compared to traditional rock breaking techniques.

11.12.24. Potential blasting impacts relate to both air overpressure (AOP) and ground vibration. The applicant states that the intensity of AOP levels at a receiver location is highly dependent on meteorological conditions including temperature, cloud cover, humidity, wind speed and direction etc. Due to the large variability in these conditions, it is not possible to reliably calculate AOP and the control of its intensity is therefore undertaken at source through careful blast design. The applicant, again referencing BS 5228-2, notes that there is no known evidence of structural damage to structures from excessive air overpressure levels from quarry blasting in the UK.

11.12.25. With regard to ground vibration, the level of vibration at a receiver location depends predominately on the distance from the blast, the maximum instantaneous charge (MIC), sequencing of charges and ground conditions between the blast area and the receiver location. The applicant states that the most accurate methodology for determining vibration levels is through controlled trial blasts at specific sites and undertaking scaled distance regression analysis to determine maximum charge values in order to comply with set criteria. The closest sensitive properties to the identified likely blast sites are at distances of 30m to 50m and the potential blasting impacts are stated to be significant, momentary and localised.

11.12.26. During the **operational phase**, noise levels will be increased at the majority of noise sensitive locations along the length of the PRD. Table 17.13 of the EIAR sets out predicted noise levels for the Opening Year (2024) and Design Year (2039) for 299 receiver locations and compares these against the three TII conditions for determining if noise mitigation is required (as set out above). In the Opening Year, 92 of the 299 modelled locations satisfy the TII conditions for noise mitigation,

increasing to 106 in the Design Year. The number of properties determined to require noise mitigation excludes those that it is proposed to demolish but includes those that it is proposed to acquire.

Mitigation Measures

11.12.27. **Construction phase** noise and vibration mitigation measures are set out in Section 17.6.2 of the EIAR and in the associated Appendix A.17.2.

11.12.28. With regard to noise, it is stated that the contractor will be obliged to take specific noise abatement measures and comply with the recommendations of '*BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Noise*' and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001. The mitigation measures are generally standard for large construction projects, and include:

- Liaison with neighbours.
- Noise control audits.
- Controls on hours of work and scheduling of activities.
- Selection of quiet plant and regular maintenance.
- Control of noise sources.
- Screening of noisy plant.
- Best-practice controls for high-noise activities (e.g. piling, breaking, demolition and excavation).

11.12.29. Construction phase noise monitoring is also proposed at the nearest sensitive locations in accordance with the International Standard ISO 1996: Acoustics – Description, measurement and assessment of environmental noise Part 1 (2016) and Part 2 (2017). Noise control audits will be conducted at regular intervals throughout the construction programme in conjunction with noise monitoring to ensure that all appropriate steps are being taken to control construction noise emissions and to identify opportunities for improvement, where required.

11.12.30. Air overpressure from blasting will be controlled through blast design at source in accordance with the recommendations contained within BS 5228-2 in addition to experienced blast control techniques used by the contractor. These

techniques include restriction of hours within which blasting can be conducted, trial blasts, use of a sufficient amount of stemming and primer cord is used, and profiling after each blast in order to ensure the geometry of the rock face can be established. It is also stated that blasting within 150m of any existing structure shall require special considerations, including the use of pre and post-condition structural surveys. Ground vibration and AOP will be recorded simultaneously for each blast at the most sensitive locations. When blasting moves into a new area, an initial low level blast will be carried out and monitoring will be carried out simultaneously at a number of sensitive properties in different directions in order to generate specific scaled distance graphs. This will be used to determine the optimum charge for subsequent blasts area in order to control vibration and AOP.

11.12.31. A Public Communications Strategy will also be implemented by the contractor prior to the commencement of any blast works. This will include prior notification of blasting, firing of blasts at similar times to reduce the 'startle' effect, circulars to inform people of the progress of the blasting works, implementation of an onsite documented complaints procedure and use of independent monitoring for verification of results.

11.12.32. With regard to non-blasting related vibration, the EIAR concludes that the likely vibration levels associated with construction activities are not expected to give rise to vibration that is either significantly intrusive or capable of giving rise to structural or cosmetic damage to buildings. In the case of vibration levels giving rise to human discomfort, a number of measures are proposed, including a clear communication programme, use of alternative less intensive working methods and/or plant items, where feasible, vibration isolation, and monitoring at identified sensitive buildings, where proposed works have the potential to exceed the vibration limit values.

11.12.33. It is also proposed to offer pre and post-property condition surveys for all buildings within 50m of the proposed development boundary and, as noted above, those within 150m of proposed blasting works.

11.12.34. The EIAR notes that potentially vibration sensitive activities have been identified for a number of manufacturing facilities within the Parkmore and Racecourse Business Parks, close to where blasting will take place as part of the

proposed Racecourse Tunnel. It is proposed to mitigate this through on-going consultation, including baseline vibration monitoring and the use of trial blasts with simultaneous vibration measurements undertaken at the building. This information will be used to set agreed limits values at the facility in question, which will be monitored during subsequent blasts or other excavation methodologies. Where no safe limit is determined, the timing and scheduling of blasts will be undertaken in consultation with the facility when no sensitive operations are taking place.

- 11.12.35. The results of the EIAR modelling exercise during the **operation phase** identified that noise mitigation is required for 106 properties along the proposed route of the PRD for the 2039 Design Year. Mitigation measures include the use of a Low Noise Road Surface (LNRS) to reduce noise generated at source and the use of noise barriers to reduce noise levels along the propagation path between the source (PRD) and the specific receivers (houses, schools, churches etc.). As part of the assessment, therefore, the use of a LNRS providing a mean reduction in traffic noise level of -2.5dB compared to Hot Rolled Asphalt was modelled along the length of the PRD mainline and the main junction slip roads accessing the N59 Moycullen Road, N84 Headford Road, N83 Tuam Road and existing N6 in addition to the N59 Link Road North and South. Table 17.14 of the EIAR summarises the locations, extent and type of noise barriers proposed along the PRD and they are illustrated on Figures 17.1.01 to 17.1.15.

Residual Impacts

- 11.12.36. Once the mitigation measures are put in place and the limit values complied with, noise impacts associated with the **construction phase** are predicted to be of moderate to major, short term impact, with the highest noise impacts occurring during periods of excavation, particularly where hard rock is to be excavated. The EIAR considers that the use of standard construction activities can operate comfortably within the recommended vibration limits for standard residential and other light-framed buildings and that potential vibration impacts at the most sensitive premises can be adequately mitigated to within acceptable levels.
- 11.12.37. The residual noise levels during **operation phase** for the locations requiring noise mitigation are set out in Table 17.15 of the EIAR which indicates that noise levels at or below 60dB L_{den}, or that 'Do-Something' noise levels reduced to the

equivalent 'Do-Nothing' noise levels, can be achieved in the majority of cases. There are, however, a number of instances where a residual noise level of 1 to 2dB above the design goal remains. These locations are stated to primarily relate to properties which: are to be acquired; remain dominated by traffic along the local road network outside the PRD boundary; or where access onto the local road restricts physical additional mitigation. In relation to these locations, the applicant makes reference to the 2004 TII noise guidance document which states that "the Authority accepts that it may not always be sustainable to provide adequate mitigation in order to achieve the design goal. Therefore, a structured approach should be taken in order to ameliorate as far as practicable". Similarly, the 2014 TII noise guidance document notes that "in some cases the attainment of the design goal may not be possible by sustainable means". It goes on to note that caution should be exercised specifying substantial screening where small benefits (<3dB) are only achieved, given a change of 3dB(A) is the smallest change that would give a reliable difference in public response.

11.12.38. Table 17.16 summarises the number of properties categorised within each magnitude rating based on DMRB assessment tables. During the Opening Year (2024) 134 of the modelled receptors will experience a 'Major' short-term noise impact, with a further 31 locations experiencing a 'Moderate' noise impact. During the Design Year (2039), this reduces to 53 of the modelled receptors experiencing a 'Major' long-term noise impact and 90 locations experiencing a 'Moderate' noise impact. At the remaining locations, the impacts are categorised as 'No Change/Reduction' to 'Minor'.

11.12.39. Further analysis of properties assigned a 'Moderate' and 'Major' change in noise levels is also provided with regard to likely levels of annoyance, based on the EEA exposure-response studies for the Opening and Design Years, in Tables 17.17 – 17.20. The absolute noise levels associated with both 'Moderate' and 'Major' changes in noise levels are in the range of 48 to 62dB L_{den} . The percentage of the population typically 'highly annoyed' by road traffic noise in this range is 3 to 12% respectively. This is stated to represent a low percentage of the population likely to experience high levels of annoyance when exposed to the range of noise levels under consideration.

11.12.40. Whilst a higher number of locations are determined to experience a 'Major' change in noise levels during the opening year, the applicant contends that the

absolute noise level under consideration are below a level that would pose high levels of annoyance to the typical population in accordance with published data. During the Design Year, the number of properties determined to experience a 'Major' change in noise levels is significantly reduced due to the threshold values for impact ratings in the long-term period. The EIAR concludes that residual noise impacts across the full extent of the PRD are determined to be imperceptible to significant, with the majority of properties overall, experiencing an imperceptible to moderate impact

- 11.12.41. The EIAR also contends that that there will be a positive moderate to major noise impact on an extensive number of noise sensitive properties along a large portion of the existing road network due to the PRD reducing traffic volumes on the existing road network. These locations are identified in Table 17.21 of the EIAR.
- 11.12.42. The Noise Sensitivity Analysis submitted with the RFI response, which was based on the updated NPF Scenarios, included a noise assessment undertaken at the same locations as assessed within the EIAR, but with the traffic flows associated with the NPF Scenarios modelled, and with the EIAR mitigation measures provided where necessary. The results of this assessment are stated as indicating a negligible change in noise levels between those associated with the TII Central Case growth figures (i.e. as per the EIAR) and those associated with the NPF Scenarios. It is noted that 94% of the changes in noise levels as a result of the higher forecasts in the NPF Scenarios were 1dB(A) or less. A number of the remaining locations have a calculated increase of between 1.1 and 2.6dB, compared to the EIAR. These locations are mostly along the local road network outside of the PRD boundary, and a number of these locations experience an overall noise level reduction compared to the 'Do Minimum' scenario. Since a change of 3dB(A) is generally considered to be the smallest change in noise that is perceptible to the human ear, the applicant contends that it is reasonable to conclude that the difference between the traffic noise levels assessed under the EIAR and the NPF Scenarios for all assessment locations can be considered negligible.
- 11.12.43. There are 13 locations along the N6 GCRR where the operational noise level is increased above the design goal (i.e. 60dB L_{den}) by 1 dB L_{den} or increased by 1dB above the EIAR residual noise level. The applicant considers this calculated change to be negligible when compared to those assessed in the EIAR, and significant noise

mitigation measures, including barriers, are already proposed at these locations. The applicant does not consider it practicable to further increase barrier heights at these locations to achieve an imperceptible change in noise level, due to other engineering and environmental considerations, such as visual intrusion.

11.12.44. With regard to operational vibration, no significant residual impacts are anticipated, on the basis that ground vibrations produced by road traffic are unlikely to cause perceptible structural vibration in properties near to well-maintained and smooth road surfaces.

11.12.45. Finally, with regard to cumulative impacts, the traffic data used as part of the noise impact assessment is stated as having taken account of other committed and proposed road developments, which are listed in the EIAR and the cumulative road traffic noise impacts are stated to be incorporated into the calculated operational noise levels set out in the EIAR

11.12.46. In relation to cumulative construction impacts, other committed or proposed construction projects are stated as having been reviewed in the vicinity of Galway City and County. As a result of the separation distances from the PRD, no cumulative noise and vibration impacts are predicted.

11.12.47. **Assessment**

11.12.48. I consider that the potential significant impacts can be assessed under the following headings:

- Applicability of WHO Environmental Noise Guidelines 2018
- Construction phase noise and vibration.
- Blasting during construction.
- Operational phase noise.
- Additional/altered noise barriers.
- Parkmore Link Road proposed modification.

Applicability of WHO Environmental Noise Guidelines 2018

11.12.49. A number of parties, in their written submissions and at the oral hearing (e.g. Prof. and Dr Kerin, Mr Kevin Gill, Aughnacurra Residents Association, Galway City

Harriers, Ronan McDonagh), made reference to the World Health Organisation's Environmental Noise Guidelines for the European Region, published in 2018 and contended that they should be utilised in assessing the PRD. The Guidelines were also the subject of much discussion and questioning at the oral hearing, in relation to noise and human health.

11.12.50. These WHO Guidelines were published after the submission of the EIAR, and thus are not addressed in the EIAR. I note that Section 2.6.3 of the Guidelines states that they supersede the earlier WHO Community Noise Guidelines 1999, which are referred to in Chapter 18 of the EIAR. Given that the TII Guidance dates from 2004 and 2014, I consider that it is important to consider the 2018 WHO Guidelines in the context of developments in scientific knowledge and understanding.

11.12.51. The main purpose of the WHO Guidelines is stated to be the provision of recommendations for protecting human health from exposure to environmental noise originating from various sources, including transportation (road traffic, railway and aircraft) noise. The Guidelines are stated to provide robust public health advice underpinned by evidence, which is essential to drive policy action that will protect communities from the adverse effects of noise. They set out a series of specific recommendations for various noise sources and each recommendation is rated as either 'strong' or 'conditional'. In relation to 'strong' recommendations, the Guidelines state that these "can be adopted as policy in most situations. The guideline is based on the confidence that the desirable effects of adherence to the recommendation outweigh the undesirable consequences. The quality of evidence for a net benefit – combined with information about the values, preferences and resources – inform this recommendation, which should be implemented in most circumstances."

11.12.52. In relation to Road Traffic Noise, the following recommendations and strength ratings are set out in the Guidelines:

Recommendation	Strength
For average noise exposure , the Guideline Development Group ('GDG') strongly recommends reducing noise levels produced by road traffic below 53 dB L_{den} , as road traffic noise above this level is associated with adverse health effects.	Strong

For night noise exposure , the GDG strongly recommends reducing noise levels produced by road traffic during night time below 45 dB L_{night} , as night-time road traffic noise above this level is associated with adverse effects on sleep.	Strong
To reduce health effects, the GDG strongly recommends that policy-makers implement suitable measures to reduce noise exposure from road traffic in the population exposed to levels above the guideline values for average and night noise exposure. For specific interventions, the GDG recommends reducing noise both at the source and on the route between the source and the affected population by changes in infrastructure.	Strong

11.12.53. The applicant's noise consultant, Ms Jennifer Harmon, addressed the WHO Guidelines in Section 4.3 of her statement at the oral hearing on 20th February 2020. She noted that the WHO's recommended traffic noise level of 53dB L_{den} is based on a level at which 10% of the population are estimated to be 'highly annoyed' by road traffic noise. This level is 6dB below the noise level determined for increased risks relating to incidence of Ischaemic Heart Disease, i.e. 59dB L_{den}, which she notes is only 1dB below the TII noise design goal of 60dB L_{den}. Dr Martin Hogan, the applicant's human health consultant, also addressed the WHO Guidelines in his submission to the hearing, with similar conclusions to Ms Harmon. Human health issues are addressed in Section 11.6 of this report.

11.12.54. Ms Harmon's conclusion was that the WHO guidelines have not been adopted in any form in Ireland to date and that, whilst they provide a valuable peer review of potential health-based indicators, it is not appropriate to design or operate a new national road network to comply with the noise levels included within its recommendations. She stated that the recommendations are made primarily in the context of strategic policy-making, as opposed to EIA, and that the TII guidance remains the current best practice standard for road traffic noise in Ireland.

11.12.55. In support of this position, she noted that the Guidelines state, with regard to implementation, that:

“The WHO guideline values are evidence-based public health-oriented recommendations. As such, they are recommended to serve as the basis for a policy-making process in which policy options are considered. In the policy decisions on reference values, such as noise limits for a possible standard or legislation, additional considerations – such as feasibility, costs, preferences and so on – feature in and can influence the ultimate value chosen as a noise limit. WHO acknowledges that implementing the guideline recommendations will require coordinated effort from ministries, public and private sectors and nongovernmental organizations, as well as possible input from international development and finance organizations.” [emphasis added.]

11.12.56. The Aughnacurra Residents Association, on the 4th March 2020, queried compliance with WHO night-time noise levels, rather than L_{den} levels, stating that composite values were like average depth when crossing a river, they mean nothing as it's the deepest point that matters. Ms Harmon accepted that night-time levels were above the WHO Guidelines, but that this related to self-reported sleep disturbance for 3% of the population. She contended that the EIAR figures relate to 3% – 6% being sleep disturbed, which is a low percentage of the population.

11.12.57. The applicant was also asked by the Inspectors at the oral hearing, on the 21st October 2020, to comment on the applicability of the 2018 WHO Guidelines, with the Inspectors noting by way of comparison that the Draft Wind Energy Development Guidelines for Planning Authorities are stated to be consistent with the WHO Guidelines. Jarlath Fitzsimons SC stated that the applicant's position was that the Board should consider the WHO Guidelines, and all other relevant guidelines, but within their correct context. Ms Harmon reiterated statements made in her submission, regarding the purpose of the WHO Guidelines which used a range of population studies from around the world and which seek to prevent the majority of the population being highly annoyed and to prevent increased risk of heart disease. She contended that they align closely with TII guidelines but that it would take a further 80% reduction in traffic volumes on the mainline to achieve the values from WHO Guidelines. She contended that the criteria from the TII guidelines protect the majority of people from being highly annoyed and protect populations that may be exposed to more significant health effects. Dr Hogan outlined the methodology

underpinning the WHO Guidelines, broadly reiterating the position set out in his oral hearing submission of 20th February 2020.

11.12.58. The Inspectors also asked Mr Fitzsimons to comment on the implications or otherwise of favouring the 2004 TII Guidelines over 2018 WHO Guidelines, particularly in light of the Supreme Court judgement in the case of *Balz v An Bord Pleanála*. Mr Fitzsimons, noting that he had been involved in that case, responded that it is important for the Board to consider every submission made, and every material aspect or issue raised in those submissions. He stated that the WHO Guidelines are a relevant consideration for the Board, and it is a matter for the Board what weight to ascribe them, noting that Dr Hogan and Ms Harmon had offered a view as to the appropriate context within which they are to be considered, i.e. at the population level.

11.12.59. I note that the Environmental Noise Directive does not set noise limit values or target values. However, the European Commission's Environmental Noise website²² states that "Annex III will describe the methods for calculating the burden of disease caused by exposure to specific noise levels. The methods will include dose-effect relations for a set of health endpoints such as cardiovascular disease, annoyance and sleep disturbance". It goes on to state that "a revised Annex III is currently under development following the latest scientific review of the health effects of noise that is being performed by the WHO". It appears, therefore, that the WHO Guidelines will inform forthcoming European-level noise limit values or targets in relation to environmental noise. However, at this stage it is not clear whether the WHO recommendations will be adopted verbatim or whether other considerations will also influence any such limit value, as the WHO Guidelines themselves note.

11.12.60. The noise level recommendations set out in the WHO Guidelines are substantially lower than those set out in the TII Guidelines and in the Galway County and Galway City Noise Action Plans 2019-2023, which I note were adopted after the publication of the WHO Guidelines. It can be seen from the applicant's baseline noise survey that the WHO Guidelines recommendations would be difficult to achieve, with a considerable number of the baseline survey locations already exceeding the recommended noise levels. In a real-world scenario, where it is

²² https://ec.europa.eu/environment/noise/policy_dev_en.htm

proposed to retrofit a major road into the existing urban fabric, it is difficult to see how the WHO noise levels could be achieved without very extensive and intrusive noise screening measures (which, even if possible, may result in other issues around visual impact, severance, residential amenity issues etc.) or by very significant reductions in traffic volumes, as noted by Ms Harmon which would render the project effectively pointless. I would, therefore, concur with the applicant that the WHO Guidelines, while useful in understanding the relationship between noise and health issues, are primarily of benefit at a macro or population scale, i.e. at a strategic and land use planning policy level, rather than in the case of specific road projects. I note, in this regard, that the TII Guidelines have been used in the assessment of all new national road projects in Ireland since their publication, and that they are tried and tested in an Irish environment. The health implications of noise are addressed separately in Section 11.6 of this report, but I also consider it relevant that the TII design goal is comparable to that associated with the prevention of the more significant health effects of environmental noise such as cardiovascular effects as set out in the WHO guidelines. Finally, I also consider it to be relevance that the adopted NAPs for Galway City and County, which post-date the publication of the WHO Guidelines, did not incorporate its recommendations. In conclusion, I consider that the TII Guidelines are the appropriate guidelines to utilise in this instance.

Construction Phase Noise and Vibration

- 11.12.61. A common issue raised in many of the written objections and observations and raised by many parties at the oral hearing was construction phase noise and vibration impacts, related to both construction activity and construction traffic.
- 11.12.62. Having regard to the scale and nature of the PRD, and the receiving environment, it is clear that high levels of construction noise will be generated during the construction phase, and this has been accepted by the applicant. The greatest noise impacts will arise during excavation works, particularly where sections of hard rock have to be excavated through drill and blast methods, or conventional rock-breaking. However, given the generally linear nature of the works, the noise emissions associated with the construction phase will be of short-term impact at any one area as the works progress along the length of the PRD.

- 11.12.63. As detailed above, the EIAR has assessed construction phase noise assuming a range of typical plant items and has considered the potential for noise impacts associated with major earthworks, structures and site compounds. The locations and distances from construction works where noise mitigation is required has also been identified.
- 11.12.64. Notwithstanding the applicant's assessment, I consider that there is an inherent uncertainty with regard to construction phase noise due to the scale of the PRD, the range of activities and plant types, variable ground conditions etc. and, in this regard, I consider that the applicant has adopted an appropriate approach of setting limit values in accordance with TII Guidance and implementing a broad suite of mitigation measures and best-practice noise control/abatement measures in accordance with British Standard BS 5228-1:2009+A1:2014. These measures are incorporated into the Schedule of Environment Commitments and/or the CEMP. Monitoring, noise control audits and public liaison (including prior notification of noisy activities and complaints procedures) will also be implemented during the construction phase to ensure compliance with TII and BS guidance.
- 11.12.65. With regard to noise impacts associated with construction traffic and increased HGVs movements, I note the assessment contained in Section 17.5.3.2 of the EIAR. A total of 16 public roads have been identified as haul routes and are illustrated in Figures 7.001 and 7.002 of the EIAR. The mainline of the PRD will also be utilised as a haul route during the construction phase, although this was not included in the assessment undertaken, which is suitably conservative in my opinion.
- 11.12.66. Traffic noise levels at a distance of 10m from the haul roads was calculated and compared for the 'Do-Minimum' (base) and the 'Do-Something' (base + construction) scenarios. This assessment determined that the increase in noise level along the majority of the haul routes is negligible (<1dB), which is stated to be due to the existing volume of traffic along these roads and the relatively low additional HGV and LGV traffic per day forecast. Greater increases in noise levels were, however, calculated along the L1321 Bearnna to Moycullen Road (+3.4dB), the Cappagh Road (+8.4dB) and along Bóthar Nua (+6.8dB). The overall impact along the Bearnna to Moycullen Road and Cappagh Road is determined to be moderate short-term, given that the overall noise level remains low to moderate, while the impact on Bóthar Nua is considered to be major short-term. I note, however, that Bóthar Nua is a sparsely

populated road with a low number of sensitive receptors. Given the various 'worst case' conservative assumptions made by the applicant in their assessment, and in particular the assumption that the PRD mainline will not be used as a haul route which results in a worst-case construction traffic impact on public roads, I am satisfied that noise associated with construction traffic will not result in significant adverse impacts on sensitive receptors along the haul routes.

11.12.67. Given the linear, transient and highly variable nature of the construction activities, I consider the values utilised by the applicant to be suitably robust for assessing potential construction phase impacts.

11.12.68. With regard to construction phase vibration, I consider that the greatest potential for significant impacts is associated with the use of drill and blast techniques for rock excavation and I have addressed this issue separately below.

11.12.69. Michael O'Donnell BL, accompanied by Professor Michael Kerin, Dr Annette Kerin, Dr Imelda Shanahan (TMS Environment Ltd.), Julian Keenan (Traffic Wise) and Karl Searson (Searson Associates) made submissions at the oral hearing on 30th October 2020 regarding various environmental topics on behalf of the Kerin family, who are residents of Ard an Locha, on the south side of the N59 Moycullen Road (Ref. 98A - 98E). The applicant subsequently submitted a document entitled 'Response to submission on behalf of Prof. Michael and Dr Annette Kerin' at the oral hearing on 3rd November 2020 (Ref. 103). The Kerins' and their consultants subsequently made further submissions responding to the applicant's response, at the oral hearing on 4th November 2020 (Ref. 98F).

11.12.70. Baseline noise surveys undertaken by both the applicant and by Searson Associates indicate that the existing noise environment at the Kerins' property is dominated by the existing N59 Moycullen Road, which is adjacent to their property. Having regard to the particular circumstances of the family and the proximity to a number of major construction work areas, Dr Shanahan stated that they are a very sensitive receptor and contended that, due to the nature and duration of the works in the vicinity of the Kerins' property, lower noise limits should apply in line with EPA guidance for the extractive industry or those set out in Annex E.5 of BS 5228-1 (2009 + A1 2014). In support of this position, she noted the submission made to the oral

hearing by her colleague Mr Keenan, likening the construction works in this area to the operation of a large commercial quarry.

11.12.71. The applicant disagreed with the application of limit values associated with long-term operational activities associated with a quarry or surface mineral extraction to a temporary road construction project. The applicant noted that the construction noise limits values in the TII guidelines are set for the control of noise from national road project, which would often extend over a 9 month period. The applicant contended that the lower limit values proposed by Dr Shanahan of 55dB L_{Aeq} during daytime periods are not realistic as they would not permit any road construction, or other infrastructure project to be built. I concur with the applicant's position that the construction of the PRD is not directly comparable to an operational quarry, notwithstanding the similarities in rock excavation etc. due to the limited timeframe for the works and the transient nature of particular activities and construction processes. I consider the use of TII noise limits to be appropriate for the construction phase, noting that the higher level of noise allowed is not a permanent noise source, and that a balance is required between speed of construction (thus reducing duration of impacts) and control of noise. The TII limits have been applied to road construction projects across the Country, are achievable and once appropriate monitoring is in place, I consider that they will control noise emissions to a suitable level.

11.12.72. With regard to vibration limit values, Dr Shanahan contends that there are anomalies in the EIAR and that the TII limit values only deal with the potential for structural or cosmetic damage and not the significant nuisance effect on human occupants. I do not consider the human perception threshold to be a suitable vibration limit, as recommended by Dr Shanahan, given that perceiving that something is happening is not necessarily the same as being negatively affected by it. With regard to the anomaly referred to by Dr Shanahan, the applicant clarified that this relates to a specific section of the Lackagh Tunnel construction, while the limit values relating to blasting for all residential dwellings and other light framed structures is 12mm/s, as identified in the EIAR. The applicant confirmed that no piling works are proposed in the vicinity of the Kerins' home and, thus, I do not consider that piling-related vibration will be a significant issue in this location.

11.12.73. In terms of construction phase noise impacts, Dr Shanahan contended that there was a lack of detail on the construction programme and that noise levels associated with the various activities were lower than she would expect. She outlined the results of her calculations for construction noise levels at the Kerin property for the various construction activities, which were greater than predicted in the EIAR, and stated that the noise levels would be intolerable for the Kerin family and render their house uninhabitable during the construction phase. With regard to blasting-related vibration associated with attenuation pond construction, N59 Letteragh Junction and other sites, she contended that the blast noise and vibration would be perceptible at the Kerins' property, adding to disturbance and adverse impacts.

11.12.74. The applicant responded that the construction activities which will be undertaken closest to the Kerins' property will involve works to the access road at Ard an Locha, the construction of the earth embankment and the construction of the N59 underbridge. No piling is proposed in the vicinity and the construction of the earth embankment would involve earth moving and rolling equipment over a duration of 3 to 6 months which would not generate significant levels of noise due to the nature of the works involved. The applicant contended that the range of noise levels presented in the calculations were artificially high having regard to the nature of the works in the vicinity.

11.12.75. Mr Searson reiterated points made by Dr Shanahan and noted his clients' need for quiet indoor noise environment, both in the daytime and the night-time. Both Dr Shanahan and Mr Searson's submissions referred to an assessment of construction traffic and excavation quantities undertaken by Mr Keenan. This is addressed in Section 11.13. Dr Shanahan, Professor Kerin and Dr Kerin also raised health issues in relation to noise emissions, which are addressed in Section 11.6 of this report.

11.12.76. Having regard to the nature, extent and duration of the construction works in the vicinity of the Kerins' property, I have no reason to conclude that noise during the construction phase would not be capable of complying with the TII construction noise limits, following implementation of the identified mitigation measures. Comprehensive noise monitoring and management measures are proposed as part of the PRD and I am satisfied that this would provide an appropriate control

mechanism during the construction phase to ensure that the construction noise limits are not exceeded.

11.12.77. Finally, in relation to this property, I note that the applicant made a commitment at the oral hearing to pay for similar alternative accommodation for the Kerins' family to be rehoused during the 9 month duration of earthworks at the N59 (Item 1.33 in the Final Schedule of Environmental Commitments refers).

11.12.78. Similar issues with regard to noise impacts were also raised by Dr Shanahan in relation to Caiseal Geal Teoranta (Castlegar Nursing Home) at the oral hearing on 19th and 30th October 2020. The Nursing Home is located on School Road in Castlegar, to the south of the PRD mainline (approx. Ch. 13+250), which is in a deep cutting in this area and will pass under a new overbridge carrying School Road. The Nursing Home caters for residents with a medium to high dependency, as well as providing respite and palliative care and it is clearly a very sensitive receptor. It was contended that insufficient consideration had been given to the Nursing Home and what was stated to be its unique sensitivity. Dr Shanahan, again referring to an assessment of construction traffic and excavation quantities undertaken by Mr Keenan, contended that construction phase noise levels had been underestimated. She outlined the results of modelling she had undertaken, considering the impacts of activities such as rock breaking and processing. She contended that the level of noise was so high that it would not be possible to adequately mitigate it and that the nursing home would be unable to operate during the construction phase. Both she, and subsequently Mr O'Donnell, raised concerns regarding vibration from blasting, with Mr O'Donnell stating that the nursing home had a basement built directly on bedrock. Mr O'Donnell reiterated the points made by Dr Shanahan, noting that the Nursing Home was required to comply with various HIQA requirements and may have to close if they cannot be complied with. Mr O'Donnell contended that the Board was obliged to refuse permission due to the failure to properly assess the impacts on the Nursing Home.

11.12.79. The applicant responded to these submissions at the oral hearing on 21st October 2020, outlining various sections of the EIAR where the Nursing Home had been considered. The applicant accepted the sensitivity of the Nursing Home and contended that the mitigation measures for dust control, including spraying of spoil, covering of trucks, dust screens etc. and air emission controls were suitable for

reducing impacts on the Nursing Home. Mr O'Donnell subsequently asked a number of questions of the applicant's team. Ms McCarthy, responding to a question, advised that construction traffic will use the PRD mainline, not School Road, for haulage of excavated materials, while Ms Harmon stated that no rock processing would be undertaken in the vicinity of the nursing home.

11.12.80. Having considered the issues raised in the written and oral submissions, I conclude that noise and vibration emissions will arise during the construction phase and that this has the potential to impact upon sensitive residential receptors. However, I consider that the applicant has proposed a comprehensive and robust suite of mitigation measures, the majority of which are relatively standard for proposed road developments. I consider that these proposed mitigation measures will adequately address construction phase noise and vibration. However, I also consider that their success will be dependent on adequate monitoring and a proactive communications/complaints system as outlined in the EIAR, CEMP and the SoEC.

11.12.81. In addition to residential receptors, a number of commercial receptors raised noise issues. M&M Qualtech Ltd. which is located in Parkmore Business Park provides design and manufacturing services in various sectors including medical devices, automotive etc. and expressed concerns in their written submission and at the oral hearing on 4th March 2020 in relation to noise and vibration impacts on their operations and particularly on the very sensitive equipment they use in their operation.

11.12.82. While the applicant had already acknowledged the location of potentially vibration-sensitive activities in manufacturing facilities within the Parkmore and Racecourse Business Parks, they updated their Schedule of Environmental Commitments at the oral hearing to explicitly clarify that a property condition survey would be undertaken at this premises and that "M&M Qualtech will be included in the list of property owners to be consulted with as the design and construction of the PRD progresses, in particular in respect of the dates of rock breaking and blasting and the detailed traffic management plan for their area. Vibration monitoring will be undertaken at their property in Parkmore".

11.12.83. Subject to compliance with the CEMP, SoEC and appropriate monitoring, I do not consider that M&M Qualtech or other industrial/commercial enterprises are likely to experience significant noise or vibration-related impacts during the construction phase.

Blasting during Construction

11.12.84. A number of submissions and objections, both written and at the oral hearing, raised issues regarding construction phase blasting and the potential impacts on properties, including structural damage.

11.12.85. Blasting will be required at numerous locations along the route of the PRD, as identified in Figures 7.3.1 and 7.3.2 in Volume 3 of the EIAR. The extent of proposed blasting will vary, depending on rock type, depth below surface and the depth of the cutting involved. The applicant states that for the majority of identified locations, a relatively shallow blast depth is required, although there are a number of locations where a cut depth of greater than 10m will be required.

11.12.86. The applicant contends that the proposed use of drill and blast techniques will enable extraction works to be undertaken at a significantly faster rate compared to traditional rock breaking techniques, with noise and ground vibration levels being of momentary duration. In order to control any potential impacts to structures in proximity to blasting, the applicant undertakes to utilise specific blast control techniques in line with those prescribed within the relevant British Standard Code of Practice and best practice control measures as outlined above in order to ensure the relevant limit values for Air Over Pressure and Peak Particle Velocity are not exceeded.

11.12.87. The blast control measures include restricted hours, trial blasts in less sensitive areas, pre- and post-condition structural surveys, use of initial low-level blasts and monitoring in order to generate specific scaled distance graphs to control impacts on sensitive receptors, and a Public Communications Strategy to include prior notification of residents, complaints register, circulars etc.

11.12.88. The pre- and post-construction property condition surveys would be offered to all buildings within 50m of the proposed development boundary and those within 150m of proposed blasting works. While several observers located at greater distances have requested structural surveys, I consider that the 150m distance is

sufficient to ensure that controls are sufficient and that the blast design is appropriate.

11.12.89. While blasting will result in noise and vibration impacts, the impacts associated with each blasting event will be short in duration. I consider that the use of appropriately controlled blasting in accordance with a blasting programme that is communicated to local residents is preferable to extended periods of conventional rock breaking that would otherwise be required to achieve the cuttings in rock that are required to construct the PRD. I also note the linear nature of the development, and the construction phasing proposals, which will limit the duration during which sensitive receptors are close to blasting areas.

11.12.90. Finally, I note that the applicant made an additional commitment at the oral hearing to liaise with the operator for the nearby Twomileditch Quarry in relation to their respective blasting schedules to ensure that blasting between the School Road and N84 does not take place concurrently with blasting in Twomileditch Quarry. This measure has been added to the Schedule of Environmental Commitments and is appropriate in my opinion.

Operational Phase Noise

11.12.91. With regard to operational phase noise, I refer the Board to Appendix A.8.2 of the applicant's RFI Response, which compares the predicted noise levels under the EIAR growth scenario (i.e. TII Central Case) and the RFI growth scenario (i.e. NTA/GCC NPF) for the 2039 Design Year. It can be seen that, for the majority of receptors, there is a negligible difference between the two scenarios in terms of residual noise levels.

11.12.92. Unlike the construction phase noise impacts, the operational phase noise impacts are long-term and will result in a variety of changes to the noise environment, depending on the nature of the receiving environment. In rural and semi-rural areas, which are not currently exposed to high levels of traffic noise, properties close to the PRD will experience an increase in the noise environment, while in areas where the noise environment is already dominated by traffic noise, the effect will be less pronounced. It should also be noted that some areas would experience a reduction in noise levels, due to the diversion of traffic flows.

11.12.93. It can be seen from Appendix A.8.2 of the RFI Response that residual noise levels at a relatively small number of locations will remain above the TII 60dB L_{den} design goal by 1 to 2dB. The HSE submission sought that mitigation measures be applied to ensure compliance with the design goal for these properties. The applicant, in response, made reference to the 2004 TII Guidelines, which state that “the Authority accepts that it may not always be sustainable to provide adequate mitigation in order to achieve the design goal. Therefore, a structured approach should be taken in order to ameliorate as far as practicable.” The 2014 TII Guidelines were also referenced by the applicant, which note that caution should be exercised specifying substantial screening where small benefits (<3dB) are only achieved, given that a change of 3dB(A) is the smallest change that would give a reliable difference in public response.

11.12.94. The applicant’s approach to noise mitigation is based, to a significant degree, on the use of noise barriers. There is no evidence in the EIAR that other forms of interventions to noise pathways between the source and receptor were considered, such as a noise insulation scheme to provide triple glazing, acoustic vents, sound insulation etc. to relevant affected receptors. The Inspectors queried the proposed noise mitigation approach and asked the applicant if noise mitigation at receptor had been considered where noise mitigation at source or on the pathway was not possible or not effective. Ms Harmon stated that where noise mitigation at source or on the pathway was not feasible, noise mitigation at the receptor was not considered. She also noted that the 60 dB L_{den} noise criterion is a free field façade criterion and is not applicable to internal rooms.

11.12.95. I note that the Galway County Council Noise Action Plan states that Galway County Council will consider requiring a higher standard of façade and window insulation for all new multiple residential developments located beside major roads, potentially with a pre-completion sound insulation test required prior to habitation to ensure that recommended internal noise levels in line with BS 8233:2014 have been achieved. Galway County Council will consider requiring a higher standard of façade and window insulation for single one-off housing applications beside major roads in order to achieve the recommended internal noise levels within BS 8233:2014. It could be argued that the reverse should also apply and that, where a new major road is proposed close to existing houses, then sound insulation of the houses should be

provided. Notwithstanding this, there are substantial mitigation measures built into the PRD proposal, namely the noise attenuating barriers and the use of a Low-Noise Road Surface on the mainline and certain other links.

11.12.96. Given the need to balance the provision and scale of noise barriers against other considerations such as visual impact, I consider that the TII guidance on minor exceedances of the design goal should be followed in this instance.

11.12.97. The operational phase noise impacts on the NUIG Sporting Campus at Dangan was raised by a number of parties. Ms Michelle Van Kampen, on behalf of the Galway City Harriers, queried the potential noise impacts on sports, particularly with regard to interference with communications. She noted that other sports grounds identified in Table 4.7.2 of Ms Harmon's submission to the oral hearing are adjacent to existing roads, unlike the NUIG Sporting Campus.

11.12.98. Ms Harmon noted that the Section identified by Ms Van Kampen was a direct response to the acoustic report submitted with the NUIG objection (since withdrawn). She stated that the WHO Guidelines for Community Noise do not infer that speech communication would be interfered with at higher levels. Similarly, the purpose of the table was to demonstrate that there are high levels of noise at many other sports facilities in Galway that require speech communication and that speech communication would not be interfered with. Table 4.7.1 of Ms Harmon's submission to the oral hearing sets out the calculated noise levels at various locations within the Sporting Campus. It can be seen that the PRD, which is elevated in this area and includes noise mitigation measures including a 2m high noise barrier, achieves a residual noise level that is in compliance with the TII Design Goal. While there will be an increase in noise levels at the Sporting Campus, which has been accepted by the applicant, the noise levels will be relatively typical of a suburban environment, and I do not consider that the PRD will significantly impact on the sports and amenity activities at this location or result in any significant interference with speech communication during sporting activities.

11.12.99. Dr Shanahan, in her separate submissions to the oral hearing representing the Kerin family and Castlegar Nursing Home, stated that "operational phase noise impacts are likely to be noticeable on completion of the Scheme. The existing noise climate is relatively quiet and the change associated with the proposal is likely to be

noticeable. It is unlikely based on the information provided in the Scheme that the currently permissible noise levels will be exceeded during the operation phase but the change in noise levels would be noticeable at the home/nursing home”.

Operational phase noise impacts associated with a proposed electricity substation in the vicinity of the Kerin property were also raised by Mr Searson. Such substations are of a type typically found in urban and suburban locations and, once appropriately housed, are unlikely to be a major source of noise emissions, in my opinion. I note the proposed provision of 2m high walls and gate at this location and that this is not a low noise environment, with the noise environment both currently and post-construction of the PRD dominated by road traffic noise.

- 11.12.100. The applicant contended that baseline noise surveys and future calculated traffic noise levels at the Kerin property, in the absence of the proposed road development, are well in excess of the L_{den} and L_{night} values discussed within the 2018 WHO European noise guidance document, and that with the inclusion of the proposed noise mitigation measures, the residual noise impact from the operation of the PRD at the Kerins’ property is negligible. This is due to the minor contribution of road traffic noise from the proposed road development when added to the prevailing noise levels associated with the N59 Moycullen Road which bounds the property. Having considered the issues raised by the noise specialists on both sides, I would concur with the applicant that the residual noise impact on the Kerins’ property arising from the PRD would not be significant.

Additional/Altered Noise Barriers

- 11.12.101. A number of parties queried the type and extent of noise barriers proposed and/or sought additional noise barriers or alterations to noise barrier types.
- 11.12.102. Having regard to the results of the noise assessment, I consider the extent of noise barrier treatments, as proposed, to be broadly acceptable. There are potential visual and other impacts associated with excessive barriers and there is clearly a balance to be struck.
- 11.12.103. I note that the applicant has proposed extending noise barrier NB12/05 west to Chainage 12+550 to reduce noise levels at assessment location R188 below the TII design goal, on the basis of the RFI sensitivity analysis. This commitment has

been included in the final Schedule of Environmental Commitments submitted at the oral hearing.

- 11.12.104. A number of parties who consider that their lands may be suitable for future development have sought that noise barriers be provided. Any such development will require planning permission and it is uncertain when and if such development will take place and the requirement for noise barriers may depend on the form and layout of development proposed. I would, therefore, agree with the applicant that the appropriate time for considering noise mitigation of new development is during the planning process for said development. I do not consider that the presence of the PRD would preclude new development on adjacent suitably zoned lands.
- 11.12.105. Dermot Flanagan SC, on behalf of Connolly Motor Group, questioned the applicant at the oral hearing regarding the extent and type of noise barrier proposed adjacent to his client's car dealership (approx. Ch. 15+700). The barrier in question is identified as Noise Barrier NB 15/01, and is located on the northern side of the proposed mainline. Ms Harmon noted that it would be a reflective wooden barrier of specified height and length, which would have to comply with TII standards. Mr Flanagan sought that the portion of barrier in the vicinity of his client's lands be changed to a transparent noise barrier, rather than a solid barrier, in the interests of benefiting the retained lands and creating a more open environment.
- 11.12.106. Mr Thomas Burns, the applicant's landscape consultant, noted that there were also residential properties in the area, and that the barrier on this section of elevated road was providing visual screening in addition to noise mitigation. He contended that visibility of the Connolly Motors lands from the proposed GCRR would be limited, as the solid central median would block views for vehicles travelling west, while coming from the east, there would only be fleeting views due to vehicle speed, landscaping on the embankment and the c. 1m high embankment safety barrier.
- 11.12.107. Given that cars will be travelling at speed through this area, and that only fleeting glimpses of Connolly Motors will be available, I do not consider it necessary or appropriate to provide a transparent barrier at this location, which could also have the potential for distracting drivers. The purpose of the noise barrier is to attenuate noise, and to provide visual screening, and I consider the extent and type of barrier proposed at this location to be adequate.

11.12.108. Mr James Elwood on behalf of M&M Qualtech also sought additional noise barriers in the vicinity of their premises at the oral hearing. Ms Harmon responded that the PRD is in a retained cut in this area and, as a result is screened and would not require a noise barrier. I would concur with this assessment.

Parkmore Link Road Proposed Modification

11.12.109. Section 3.11 of Ms Jennifer Hamon's submission at the oral hearing relates to noise implications of the proposed modification of the Parkmore Link Road as it passes through Boston Scientific's lands. It states that "noise levels will be reduced at noise sensitive properties along Bóthar na Gréine with the proposed modification. The link road incorporates earth berms and noise barriers along the full extent of its eastern boundary. Noise levels calculated at Galway Racecourse with the proposed screening in place are below 60dB L_{den} and are comparable to those in the EIAR associated with the original design. The overall impact is neutral to positive".

11.12.110. Having reviewed the information submitted by the applicant and having inspected the site, I do not consider that the proposed Parkmore Link Road modification would result in any additional or increased impacts on noise and vibration.

Conclusion on Noise and Vibration

11.12.111. I have considered all of the written and oral submissions made in relation to noise and vibration matters, in addition to those specifically identified in this section of the report. I consider that noise and vibration impacts will arise during the construction phase, including from blasting operations, and that this has the potential to impact upon residential and other sensitive receptors. However, I am satisfied that these potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation and monitoring measures, through suitable conditions and noting the relatively short-term duration of the construction phase and the linear nature of the proposed development.

11.12.112. During the operational phase, the majority of noise sensitive receptors will be in compliance with the design goal set out in the TII Guidelines – which I consider to be the appropriate guidelines to utilise in this instance – once noise mitigation measures are incorporated, such as noise barriers and the low noise road surface. There will also be positive impacts on a large number of receptors on the existing

road network, due to reductions in traffic volumes on existing roads. A limited number of properties will, however, experience a residual noise impact marginally in excess of the TII Design Goal. Noting the provisions of the TII Guidelines for such a scenario, and also noting the need to balance the provision and scale of noise barriers against other consideration, such as visual impact, I am satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative noise and vibration impacts.

11.13. Material Assets – Traffic and Transportation

- 11.13.1. Chapter 6 of the EIAR is entitled ‘Traffic Assessment and Route Cross-Section’ and addresses the potential traffic and transport impacts that may arise from the PRD. Appendix A.6.1, included in Volume 4 of the EIAR, comprises the associated Traffic Modelling Report and also includes a series of sub-Appendices, including various modelling and calibration reports, a copy of the Galway Transport Strategy (GTS) and a junction strategy report. Chapter 5, entitled ‘Description of Proposed Road Development’ is also of relevance to the traffic assessment, as it addresses, inter alia, design standards, road type, cross-section and functionality.
- 11.13.2. The changes to traffic forecasts as a result of the consideration of the National Transport Authority/Galway City and County Councils National Planning Framework scenarios for Galway (‘NPF Scenarios’), as requested by the Board (see Section 4.7) are addressed in Section 8 of the RFI response report, and the associated Appendix A.8.1 ‘NPF Traffic Sensitivity Test’. The RFI response also included copies of the Route Selection Report (Appendix A.2.1) and the Design Report (Appendix A.10.1).
- 11.13.3. An initial submission responding to the traffic-related written submissions/objections, was made at the oral hearing on 18th February 2020 by Mr Andrew Archer and Mr David Conlon of SYSTRA Ltd. on behalf of the applicant. The submission made by Ms Eileen McCarthy (applicant’s Project Lead) on the same date entitled ‘Responses to Engineering, Need for the Project, Alternatives Considered and Material Assets Non-Agriculture’ is also of relevance. A number of parties subsequently made traffic and transportation-related submissions over the course of the oral hearing, including questioning of the applicant’s team. Further traffic-related submissions were subsequently made by members of the applicant’s team at the oral hearing on the 19th October 2020 and the 3rd November 2020, entitled ‘Response to Queries raised

in Module 2 of the N6 Galway City Ring Road in respect of Traffic and Climate’ and ‘Response to Submission on behalf of Prof. Michael and Dr Annette Kerin’, respectively.

Relevant Guidance

11.13.4. The applicant considers that the relevant guidance documents for the traffic and transportation assessment are the TII Project Appraisal Guidelines for National Roads 2016 (TII PAG), Spatial Planning and National Roads Guidelines for Planning Authorities (2012), NRA Traffic and Transport Assessment Guidelines (2007) and the various EPA guidance documents relating to EIA.

Baseline and Model Development

11.13.5. A baseline review of existing traffic conditions in Galway City and the surrounding area was undertaken, including consultation with Galway City and County Councils, TII, NTA etc. as well as site visits, traffic surveys and review of demographic and Census data. A traffic model was developed, based on the NTA’s West Regional Model (WRM), which is one of a number of Regional models in the NTA’s transport modelling system for Ireland. The WRM was adapted/refined in order to align with the TII PAG model criteria, and to provide models for each of the following time periods:

- AM Morning peak period: 07:00 – 10:00.
- Average morning Inter-peak period (IP1): 10:00 – 13:00.
- Average afternoon Inter-peak period (IP2): 13:00 – 16:00.
- PM Evening peak: 16:00 – 19:00.

11.13.6. These models are referred to as the ‘N6 GCRR Model’ and the stated objective for the model was to develop a traffic model that accurately reflects existing traffic conditions in the study area at a sufficient level of detail to allow for an accurate traffic assessment. The SATURN suite of modelling programs was used for the highway assignment element of the model.

11.13.7. The future year ‘Do-Minimum’ network include the 2012 (Base Year) network plus all schemes (road and public transport) that are already built, are committed to be built or likely to be built by 2024 (Opening Year) and 2039 (Design Year). The future year

'Do-Something' network includes the 'Do-Minimum' schemes plus the PRD. The GTS proposals are also included in a 2039 assessment as a sensitivity test. The forecast scenarios utilised in the EIAR included a Low Growth Scenario, Medium Growth Scenario and High Growth Scenario.

11.13.8. The existing road network, travel patterns and alternative modes of transport are described in Section 6.3 of the EIAR. Plate 6.3 illustrates the base year morning peak hour travel patterns.

Potential Impacts

11.13.9. **Construction** traffic impacts, and associated mitigation measures, are primarily considered in Chapter 7 of the EIAR (Construction Activities) and are addressed in Section 10.10 above.

11.13.10. It is stated that existing traffic movements on the local and regional road network will generally not be restricted and that existing cyclist and pedestrian movements will be facilitated throughout the construction period.

11.13.11. Three Key Performance Indicators (KPIs) were identified for assessing and evaluating the impact of the PRD during **operation phase** on peak period traffic. These KPIs and their purpose are as follows:

- Journey Times on Key Routes (to determine the traffic impact of the PRD on the strategic road network). The key routes are illustrated on Plate 6.7.
- Ratio of Flow to Capacity (RFC) at Key Junctions (to take account of local traffic impacts). The key junctions are illustrated on Plate 6.8.
- Network Statistics (to give an overall, general, assessment of the performance of the entire model network). These statistics include average speed, average delay, total network travel time and total vehicle distance travelled.

11.13.12. The predicted changes in journey times on the key routes for 2024 (Opening Year) and 2039 (Design Year) across the different time periods are set out in Tables 6.7-6.10 and 6.11-6.14, respectively. The GTS sensitivity test results for 2039 are set out in Tables 6.15-6.18.

11.13.13. It is stated that the PRD has a significant positive impact on the majority of journey time routes and that it is hugely beneficial for reducing traffic congestion and reducing journey times in the AM and PM peaks. The 2039 results show a similar

pattern to the 2024 results. A small number of routes show negligible or minor impacts with increases in some journey times of less than 120 seconds. These increases are stated to be caused by the addition of new signalised junctions (e.g. at the N59 Link Road junctions). The GTS sensitivity test also shows a similar pattern, with a positive impact for the majority of routes, although more negative impacts on journey times are identified under this scenario. The reason for this is stated to be GTS measures to increase active and public transport in the city centre, which limits vehicular capacity in those areas, adding delays to certain sections of the network.

11.13.14. The Network Statistics for 2024 and 2039 Scenarios for the various time periods are set out in Tables 6.19 to 6.22. The tables demonstrate that the Do-Something option (i.e. with the PRD) reduces the network delay considerably relative to the Do-Minimum and provides a higher average speed in all time periods. Analysis of the GTS scenario provided indicates an increased level of delay and slightly lower average speeds compared to the Do-Something scenario of the same year. Again, this increase is stated to be caused by the implementation of a number of active mode and public transport priority proposals under the GTS. It is, however, stated that the level of network delay is much lower than in the Do-Minimum scenario.

11.13.15. An evaluation of the RFCs for the key junctions is provided in Tables 6.23 to 6.26 for 2024 and 2039. It is stated that there is a large decrease in the number of links in the network which have an RFC of over 90%. In the PM peak period the number of over-capacity links, at key junctions along the N6/ R338 Corridor, reduces by over 70% in both 2024 and 2039. Similarly, the number of over-capacity links on the entire city network is reduced by 55% and 48% in 2024 and 2039, respectively, in the Do-Something scenario. Similar results are shown in GTS sensitivity test.

11.13.16. It is concluded that, in both 2024 and 2039, the PRD does not result in any traffic impacts of major negative significance. In terms of the three KPIs used, the impact of the PRD is rated as having a positive impact.

11.13.17. The impact of the PRD on forecast traffic flows is addressed in Section 6.8.3 of the EIAR, where it is stated that traffic in the city centre will be reduced as a result of the PRD, as evidenced by a 29% reduction in AADT on Quincentenary Bridge. The issue of induced traffic is also addressed in this section, and it is stated that the modelling takes account of induced travel demand to varying degrees. It is stated

that the models indicate that the proposed road will lead to an increase on the crossings of the River Corrib of c.19,000 AADT in 2039, which is stated to be primarily due to the redistribution of trips and the release of overcapacity demand caused by existing congestion. This reduces to 13,000 AADT in the GTS scenario. The mode share for the Base, Opening and Design Years and the GTS scenario is also addressed in this Section, where it is stated that the impact of the PRD on mode share is minimal, with Car Mode increasing by c. 1% in both 2024 and 2039 while the GTS test increases Public Transport Mode to 5%.

Mitigation Measures

- 11.13.18. It is stated that the Construction Environmental Management Plan will ensure that **construction** traffic impacts are minimised through the control of site access/egress routes and site access locations.
- 11.13.19. The traffic modelling indicates no traffic impacts of major significance in the **operation** or Opening or Design Years and, therefore, no mitigation measures are proposed.
- 11.13.20. However, as the PRD is a TEN-T route, it is stated that it will be important to protect its operating capacity and that demand management measures, such as the integration of transport and land use planning, are considered within the development of the GTS.

Cumulative and Residual Impacts

- 11.13.21. The Do-Minimum and Do-Something modelling scenarios are stated to have taken into account committed transport schemes for Galway City and its environs and those likely to be completed for the various years assessed. The GTS sensitivity test further analyses the cumulative impacts with the proposals contained within the GTS. The assessment also uses three different travel demand scenarios to allow for traffic growth in Galway over time resulting from increases in population and economic activity.
- 11.13.22. No significant residual negative traffic impacts are anticipated during either the construction or operational phases.

RFI Response

11.13.23. In response to the RFI, the applicant submitted a justification for the use of 2012 as the base year for the traffic assessment, addressed population and economic changes since 2012, and addressed the question of whether more recent traffic survey data was available. A summary of the applicant's response is as follows:

- **2012 Base year:** Traffic modelling began in 2013. At that time the Western Regional Model (WRM) was under development with a base year of 2012. The WRM is the most appropriate model for the appraisal of the road. The fact that 2012 is the base year is irrelevant to the forecast traffic flows as the forecast flows are determined based on land use, population forecasts and economic assumptions, as opposed to applying a growth factor to the base year flows as previously done.
- **Population and Economic Changes:** All population and economic changes which have occurred between 2012 and May 2019 have been accounted for in the forecasting undertaken.
- **Recent Traffic Survey Data:** Recent (2018) traffic survey data has been collated for Galway City. However, its incorporation into the WRM would not alter the future year demand forecasts which are determined using planning data/land use assumptions combined with the various calibrated travel behaviour parameters.

11.13.24. The implications of the NPF population growth forecasts on traffic forecasts used in the EIAR is also addressed in the RFI response, with a 'NPF Traffic Sensitivity Test' included as Appendix A.8.1 of RFI Response. Tables 8.4 and 8.5 of the RFI response compare population and employment forecasts under the TII Central Case Scenario (i.e. as per the EIAR) and the NPF Scenario. City population forecasts are significantly higher in the NPF scenario (55% NPF vs. 14% TII Central Growth). Similarly, the total jobs growth for the city and county in the NPF forecast is 51%, which is more than double the TII Central Forecast of 24%.

11.13.25. The NPF forecasts were inputted into the National Demand Forecasting Model and the WRM to determine the resultant traffic flows in the Design Year of 2039 with the PRD in place (the 2039 Do-Something NPF scenario) and this is compared against the TII Central Case presented in the EIAR. Both scenarios have

the same infrastructure assumed (PRD only) but differ in their planning and land use assumption.

11.13.26. The results show some increases in delay and congestion as a result of the differing demographic assumptions but these increases are stated to be relatively minor in the context of the increases in population and employment assumed to take place under the NPF assumptions.

11.13.27. A sensitivity test comparing the NPF with the PRD and the Galway Transport Strategy (GTS) measures with the TII Central case with the PRD and the GTS measures was carried out (i.e. the NPF + GTS Vs. TII + GTS). The results indicate that the GTS measures have a greater impact when combined with the NPF growth assumptions. Both vehicle distance and total network travel time show a reduction and average speed improves as a result of the GTS measures in the NPF scenario. Comparison of journey times indicates that the introduction of the GTS measures has a minimal impact on journey times under the NPF scenario whereas they result in further delays using the TII Central case.

11.13.28. The ratio of flow to capacity (RFC) at key junctions has been analysed including the GTS measures. It is stated that in the EIAR scenario there are minor benefits along key junctions but an increase in links experiencing an RFC >90% on a network wide basis. Under NPF assumptions, network performance improves at both key junctions and on a network wide basis because of the introduction of the GTS measures.

11.13.29. **Assessment**

11.13.30. I consider that the key issues in respect of traffic and transport are as follows:

- Existing traffic and need for a road-based solution.
- Modelling approach.
- Traffic Assessment.
- Mode share implications.
- Smarter Travel Policy.
- Pedestrian and cyclist infrastructure.

- Induced traffic.
- Demand management.
- Impact on local roads.
- Rosán Glas / Bothar Diarmuida area.
- Gort na Bró junction.
- Implementation of the Galway Transport Strategy.
- Proposed Parkmore Link Road modification.

Existing Traffic and Need for a Road-Based Solution

11.13.31. Existing traffic congestion in Galway is detailed in the EIAR, and to aid in understanding existing traffic patterns in Galway, I refer the Board to Plate 6.3 contained in the EIAR, which illustrates travel patterns in the morning peak hour in the base year. In particular, I note that, of the 35% of car trips that cross the River Corrib, only 3% of total trips are by-passing the city. This was highlighted by a number of parties, who contend that Galway does not need a bypass and instead needs localised road improvements and improvements to public transport and active travel infrastructure. In support of that argument, it can be noted from Plate 6.3 that 40% of trips are commencing in the City and are not crossing the River, while a further 20% are short cross-City journeys. The applicant accepts that both of these forms of trips are clear targets for a shift to public transport if an efficient system is available.

11.13.32. A number of observers/objectors also contend that Galway has a peak hour problem not a general traffic problem, with An Taisce contending that morning congestion is primarily due to school-related traffic. This is also addressed in Evaluation of Alternatives. I note that this peak hour problem, both in terms of congestion and unreliability of journey times, is acknowledged in the GTS.

11.13.33. Currently, most arrivals to Galway arrive at the N6 Coolagh Roundabout, which experiences significant congestion due to both the volume of traffic arriving at the junction and the lack of grade separation which hampers its dispersal to other routes. The existing congestion at this Roundabout and other key junctions such as the Briarhill Junction and the Deane Roundabout can be seen in the extracts from

drone footage of the AM Peak Period, which are included as Figures 2 – 5 in the applicant's 'Response to Queries raised in Module 2' document submitted at the oral hearing. These images demonstrate how buses get held up in congestion due to the lack of dedicated bus lanes, resulting in unreliable journey times which reduces their attractiveness for commuters. In my view the applicant's aerial images also, however, demonstrate the existing car dependency of the City, with very long lines of mostly single occupant vehicles impeding the movement of more efficient bus services. The Galway Transport Strategy (GTS) includes bus priority measures to address the efficiency of the bus network, such as the proposed Cross-City Link. However, the key junctions along the existing east-west spines, which are all at-grade junctions, are currently operating beyond capacity. These junctions include: Briarhill, Ballybane, Tuam Road, Kirwan Junction, Bodkin Junction, junctions from Martin Roundabout to Monenageisha Junction to Wolf Tone Bridge on the southern edge of the city, Newcastle Road, Browne Roundabout, Deane Roundabout and Kingston Road Junction.

11.13.34. The applicant undertook additional analysis of the impact of existing traffic congestion on bus services and included this in their 'Response to Queries raised in Module 2' document. This included surveys to compare scheduled journey times against recorded journey times, which demonstrates a significant variance and unreliability in bus journey times, which reduces the attractiveness of the bus mode and is indicative, in my opinion, of the need to reduce congestion and/or reallocate road space to prioritise public transport. Microsimulation of the area encompassing the N84 Headford Road to the N83 Tuam Road to Parkmore Road to the N6/M6 and onto the Martin Roundabout was also undertaken for the 2039 Design Year with the NPF traffic forecasts, but without the PRD in place (i.e. the Do-Minimum Scenario). Screenshots from the model were submitted at the oral hearing, and show extensive congestion in the AM peak hour, with queues of up to 5km at key junctions. Total congestion in the Galway City Administrative Boundary area during this AM peak hour is 135% higher in the 'Do-Minimum' scenario than the base year, and compared to the GTS scenario (i.e. incl. the PRD) would result in c. 2,000 hours of additional delay/queuing on the network.

11.13.35. A number of parties supporting the PRD, including some elected representatives, the Parkmore Traffic Action Group, IBEC and Galway Chamber of

Commerce raised issues regarding the impact of current traffic congestion on economic development in Galway. The Chamber of Commerce, in their submission at the oral hearing, outlined the results of a survey of their members, in which 80% of businesses considered that traffic congestion has a somewhat negative or very negative impact on business. They stated that the future development of the City requires additional road network capacity as well as significant improvement in sustainable transport infrastructure, and that the PRD is not just about the City Centre, but also the County and Region.

11.13.36. A number of parties contend that there are more suitable and more sustainable alternatives for resolving traffic and transport issues in Galway, such as improved public transport, light rail system, active travel improvements and/or localised improvements to roads. The issues of alternatives is primarily addressed in Section 10.6 and 11.3 of this report, where it is concluded that the PRD does not prohibit future development of light rail, for example, and that the GTS identifies the road as being a key component in addressing the transport issues.

11.13.37. While there was much discussion at the oral hearing regarding the need for improved public transport, active travel, and localised improvements in the City Centre, it should be noted that there are a number of strands to the stated purpose and functionality of the PRD, and that it has a wider County, Regional and National level function. Firstly, it will provide a key link on the European TEN-T Network and will connect a series of National Roads, serving a strategic role in developing the national road network and keeping bypassable trips out of the City Centre. Secondly, it will add a substantial new east-west spine to the road network, with interconnection to all of the key radial routes that converge on the City. This is an important consideration having regard to the very substantial population and economic growth forecast for Galway under the NPF and the currently underdeveloped road network that serves the City. The provision of additional road links and improved connectivity and permeability will assist in the compact and sustainable growth of the City. Thirdly, the additional road capacity will attract traffic from existing roads in the City Centre area, thereby improving journey times and reducing congestion, which will make public transport and active travel modes more reliable and attractive and will facilitate the reallocation of road space, as envisaged in the GTS.

11.13.38. These issues are addressed in more detail in the following Sections.

However, I consider that the applicant has adequately demonstrated the existing traffic congestion issues in the City and the need for improvements to the structure of the road network to improve Regional accessibility and to address the challenges that face Galway in growing in a compact manner as required by the NPF. This is also addressed in section 10.4 above.

Modelling Approach

11.13.39. The traffic and transport implications of the PRD were primarily assessed using a refined version of the NTA's West Regional Model (WRM). This is one of 5 No. Regional Models developed by the NTA for Ireland, and it comprises a strategic multi-modal transport model for Counties Galway, Mayo, Roscommon, Sligo, Leitrim and Donegal, with a focus on Galway City. Details of the model development, structure, methodology, calibration and validation are set out in Appendix A.6.1 of the EIAR, and were further elaborated upon by Mr Andrew Archer, the applicant's Traffic Consultant, in his Brief of Evidence at the oral hearing.

11.13.40. As noted above, the traffic modelling and assessment undertaken for the EIAR utilised 2012 as the base year, with relatively modest population and economic growth based on TII forecasts. The subsequent publication of the NPF had significant implications for Galway's future population and the applicant was asked by the Board to address these issues in the RFI.

11.13.41. The justification for the use of 2012 as a basis for forecasting future traffic was addressed in the RFI response and by Mr Archer in his Traffic submission at the oral hearing. The applicant's contention is that the base year is irrelevant to the forecast traffic flows. This is because, unlike traditional 'Incremental Highway Models' which apply growth factors to a calibrated base year traffic demand matrix (thus linking the forecast travel demand to the base year traffic flows), the WRM is an 'Absolute Model', in which the travel demand for each forecast year is based on the forecast land use assumptions (population, employment, etc.) combined with the base year calibrated travel behaviour parameters and trip rates contained in the WRM. This form of model generates and distributes demand based on future land use information, and because travel behaviour is relatively constant over the short to medium term, the base year traffic flows do not play an important part in forecasting

future year traffic flows. Instead, the key drivers of demand for the forecast years are the population, employment and other socio-economic factors assumed to be in place for the opening year (2024) and Design Year (2039). Since the values used for these key drivers are the up to date population, land use and economic forecasts, the actual growth which has occurred from 2012 to present is captured in the model, in addition to the anticipated growth up to the future assessment years. Changes to highway, public transport and active travel networks since 2012 are also captured in the model scenarios.

- 11.13.42. I note that the applicant's RFI response included results of a test to compare 2016 model outputs against observed 2016 traffic count data at a number of key locations. The results of this test are set out in Table 8.1 of the RFI Response, and it demonstrates a reasonably good match between modelled and observed traffic flows, particularly on the existing N6 and other national roads. A small number of locations, including the Salmon Weir Bridge and O'Brien's Bridge showed more of a discrepancy, with the modelled traffic flows being substantially greater than observed flows. The absolute volume of traffic in these areas, however, is relatively low compared to the national roads.
- 11.13.43. Having reviewed and considered the information submitted and the validation test undertaken, I am satisfied that the use of 2012 as a base year does not undermine or invalidate the model underpinning the traffic assessment.
- 11.13.44. The applicant's RFI Response and associated NPF Traffic Sensitivity Test outline how the NPF forecasts were incorporated into the model and the implications thereof. The results of this are assessed below.
- 11.13.45. With regard to the use of the model to forecast mode shares, further information regarding the model and the factors within it that influence mode choice was submitted at the oral hearing, in the applicant's 'Response to Queries raised in Module 2' document, in response to a query from an observer (Mr Brendan Mulligan). I have addressed the issue of mode share separately below, however I note that the model utilises a number of conservative modelling assumptions, including car availability not reducing in line with recent trends, the number of parking spaces at origins and destinations remaining the same, and no account is taken of likely behavioural changes regarding attitudes to carbon emissions and

sustainable travel. Mr Mulligan queried whether additional car parking provision at new development sites in the City had been incorporated into the model, and the applicant confirmed that they had.

11.13.46. The WRM splits the region into 15 No. sectors. A number of parties contended, and I would agree with them, that the 'City Centre' area utilised by the applicant for the mode share analysis set out in the EIAR is not fully representative of the actual City Centre. I note that, contrary to what was stated by the applicant, this sector is actually identified as 'Galway City Centre – East' in the WRM Zone System Development Report, not as 'Galway City Centre'. Other relevant sectors include 'Galway City Centre West', 'East of Galway Centre', 'North of Galway Centre' etc. The applicant, in their 'Response to Queries raised in Module 2' document, provided mode share results for the broader Galway City Council Administrative Area, which I consider to be a more appropriate zone, as addressed in the Mode Share assessment below.

11.13.47. Having considered the information submitted by the applicant regarding the modelling approach utilised and the WRM, including details of its development, methodology and calibration, I consider that it is a robust, well-considered and suitably conservative model, once the NPF forecasts are incorporated. Given the particular physical characteristics of the Western Region, with Lakes, mountains and the sea combining to create a funnel effect that forces traffic through Galway City, and the position of Galway at the economic heart of the region, I consider that the broad Regional nature of the model is beneficial in ensuring that the assessment is robust. The use of a common modelling framework for the country, underpinned by a National Demand Forecasting Model, is eminently suitable to the assessment of strategic projects such as the N6 GCRR, which in addition to seeking to address local traffic issues also have a wider regional impact.

Traffic Assessment

11.13.48. As noted above, the applicant identified 3 No. KPIs for assessing and evaluating the impact of the PRD on peak period traffic.

- Ratio of Flow to Capacity (RFC) at Key Junctions.
- Journey Times on Key Routes.

- Network Statistics.

11.13.49. I consider that these KPIs are suitable for a general assessment of the impact of the PRD on traffic flows and congestion. Other traffic-related issues, such as mode share and localised impacts, are addressed separately below.

11.13.50. In assessing the impact of the PRD on traffic under these KPIs, I refer the Board primarily to the applicant's RFI response, including the NPF Traffic Sensitivity Test, and the 'Response to Module 2 Queries' document submitted at the oral hearing, both of which take account of the population and employment growth forecasts for Galway under the NPF which are significantly greater than those forecast in the TII Scenarios utilised in the EIAR. Figures 2-1 and 2-2 within the NPF Traffic Sensitivity Test show the locations of this growth, and it can be seen that population growth is concentrated in Ardaun, the City Centre and in the west of the city, while employment growth is concentrated in the City Centre and the Parkmore/Ballybrit area.

RFC at Key Junctions

11.13.51. The applicant has identified a number of 'Key Junctions' on the existing N6/R338 corridor and assesses the impacts of the PRD on both these junctions and those across the entire network under the various scenarios. The measurement for congestion at junctions is the Ratio of Flow to Capacity, with congestion considered to occur when traffic flows are over 85% of the capacity of a priority junction or 90% of the capacity of a signalised junction.

11.13.52. The applicant has produced a considerable number of Tables at various stages of the planning process regarding this KPI and the Table below draws together this information to allow a comparison of the impacts in the AM peak in the 2039 Design Year. This includes the EIAR (TII Central Growth Case), RFI (NPF Scenarios) and the result of a sensitivity test presented at the oral hearing, under which the level of car ownership (as a proxy for car parking availability at trip origins) is reduced by 50% for all new developments within Galway City, in alignment with National Policy. In comparing the number of junctions operating at capacity, it should be noted that the NPF scenarios include population growth forecasts of 55% for Galway City, compared to 22% for the County area. This contrasts to a figure of 14% population growth under the TII Central Growth forecast used in the EIAR.

RFC >90%	TII Central Case (EIAR)	TII Central Case + GTS (EIAR)	NTA/GCC NPF 'Do Minimum' (RFI)	NTA/GCC NPF 'Do Something' N6 GCRR (RFI)	NTA/GCC NPF 'Do Something' N6 GCRR + GTS ²³ (RFI)	NTA/GCC NPF 'Do Something' N6 GCRR + GTS + Parking Management (Oral Hearing)
Key Junctions (N6/R338)	12	8	22	14	8	5
Entire Network	115	131	281	185	129	Not Stated

Table 11.13.1: Number of Junctions at or over capacity in the AM Peak

Source: EIAR, NPF Traffic Sensitivity Test, 'Response to Issues Raised in Module 2' document.

11.13.53. It can be seen that with the PRD in place, but without the other GTS measures, there is a substantial reduction in both the number of key junctions and the total number of junctions that are operating with an RFC > 90% when compared to the 'Do-Minimum' scenario. There is a further substantial reduction once the other GTS measures are implemented. However, it can be seen that there will still be 8 key junctions and 129 junctions across the network operating above 90% capacity in the AM Peak. This is still a notably high figure which demonstrates both the level of car dependency in the city, and that the PRD will not solve all traffic congestion in the city. However, given that the RFC figures relate to AM Peak only, I note that it would not be unusual for numerous junctions in any city to be operating at or close to capacity during this period. It can be seen from the EIAR that the number of junctions at capacity in the Inter Peak periods are substantially lower (albeit that the EIAR is based on the lower TII growth case). There is a balance to be struck between alleviating congestion and facilitating the freeflow of traffic and the appropriate design of the road network in a built-up area. The number of junctions that remain congested is indicative of the wider need to improve the mode share for active travel and public transport modes, in my view.

²³ There is a discrepancy between Table 4-7 and Table 7-5 in the NPF Traffic Sensitivity Test in respect of the number of junctions at capacity under the DS N6 GCRR + GTS scenario. Table 7-5 appears to have erroneously copied the figures from the PM peak table, so I have used the Table 4-7 figures. This would also be consistent with Table 9 of the 'Response to queries raised in Module 2' document.

11.13.54. In light of the NPF growth forecasts, the applicant also analysed the performance of the busiest junctions on the PRD using LINSIG software. The results of this analysis are set out in Appendix A of the NPF Traffic Sensitivity Test, submitted in response to the RFI, and I note that it demonstrates that the proposed junctions will continue to operate successfully in the 2039 design year, with some minor changes to signal timings and flare lane lengths.

11.13.55. In conclusion, given the large population and employment growth forecast for Galway under the NPF, I consider that the PRD will have a significant positive impact on junction congestion when compared to the 'Do Minimum' scenario.

Journey Times on Key Routes

11.13.56. The analysis of journey times on the key routes serving Galway is utilised as a means of quantifying the strategic traffic impact of the PRD. These routes are shown in Plate 6.7 of the EIAR and I am satisfied that the chosen routes are representative of the strategic routes in/out and through the City.

11.13.57. Tables 4-3 and 4-4 in the applicant's NPF Traffic Sensitivity Test compares the journey times for the various routes in the AM and PM peaks under the 'Do-Minimum' (i.e. no PRD) and the 'Do-Something' Scenarios for the 2039 Design Year. This takes account of NPF forecasts and, therefore, can be considered to supersede the EIAR assessment of journey times. It can be seen that the PRD has a significant positive effect on journey times on the majority of the routes.

11.13.58. When the other GTS measures are included in the assessment, the journey times show a similar pattern, with positive effects on the majority of routes. These are set out in Tables 4-5 and 4-6 of the NPF Traffic Sensitivity Test. I note, however, that Route 3 Outbound and Route 8 Outbound show a negative impact on journey times of 64% and 9% in the AM peak, respectively. The reason for this is stated to be the public transport priority measures and active mode measures in the city centre, which add delay and hence increased journey lengths in certain sections of the network.

11.13.59. Tables 6-3 and 6-4 provide a useful comparison of the TII Central Case (i.e. EIAR) and NPF (i.e. RFI response) scenarios in the absence of the other GTS measures. It can be seen that the NPF growth results in a negative impact on journey times across the city, with an average increase of 5.8% in the AM peak and

4.5% in the PM peak. Given the considerable increase in population under the NPF Scenario (an increase of 41% on the EIAR assumptions), I would concur with the applicant that this increase is not significant. Once the GTS measures are incorporated, the situation changes again. The GTS measures result in an average journey time increase of 5% for the EIAR Scenario in the AM peak, but no increase for the NPF Scenario. The reason for this is stated to be the reduction in vehicular capacity in the city centre due to reallocation of road space and the mode shift to more sustainable modes facilitated by more compact growth in areas more easily served by public transport under the NPF scenario.

11.13.60. The Table below, replicating Table 8 from Appendix A of the applicant's 'Response to Issues Raised in Module 2' document, compares the average journey times in the AM peak period across all of the routes for each scenario.

Scenario	Average Journey Time (Seconds)
Base Year (2012)	1,428
2039 -TII EIAR 'Do-Something' N6 GCRR + GTS	1,418
2039 -NPF 'Do-Something' N6 GCRR + GTS	1,430
2039 - NPF 'Do-Something' N6 GCRR + GTS + Parking Management	1,399

Table 11.13.2: Average Journey Times across All Routes

Source: Table 8 of applicant's 'Response to Issues Raised in Module 2' document.

11.13.61. While the applicant states in Section 2.3.4 of the 'Response to Issues Raised in Module 2' document, that the full implementation of the GTS will result in a reduction in the average journey times on the network, when compared to the base year, it can be seen from the Table above that this is not the case. The PRD in conjunction with the implementation of all other GTS measures will, in fact, result in a negligible increase in average journey times in the NPF Scenario, although the implementation of parking management measures will then slightly reduce average times below the base year level. However, while there will be little difference in average journey times compared to the base year, I would note that the network in the 2039 NPF Scenario will cater for significantly more trips and a c. 50% increase in the Galway City population compared to the base year.

In conclusion, I am satisfied that the PRD will result in improvements in journey times on the key routes into the City when compared to the 'Do Minimum' scenario, both alone and in combination with the other GTS measures. The implementation of demand management in the form of parking management measures in the city would further benefit average journey times.

Network Statistics

11.13.62. Table 4-1, included in the NPF Traffic Sensitivity Test submitted with the RFI response, compares the network statistics under the 'Do Minimum' scenario and the NPF (PRD) and NPF (PRD + GTS) scenarios. I have replicated the Table below for the Board's ease of reference.

Scenario	Total Vehicle Distance (pcu.Kms)	Total Network Travel Time (pcu.Hrs)	Total Network Delay (pcu.Hrs)	Average Vehicle Speed (kph)
2039 Do-Minimum	277,745	10,879	4,256	25.5
2039 Do-Something N6 GCRR	339,630	9,300	2,440	36.5
2039 Do-Something N6 GCRR + GTS	325,157	8,707	2,082	37.3

Table 11.13.3: Network Performance Indicators AM Peak Comparison

Source: Table 4-1 of NPF Traffic Sensitivity Test

11.13.63. A comparison of the scenarios indicates that the PRD will significantly reduce total network delay and increase average vehicle speeds when compared to the 'Do Minimum' scenario. When the other GTS measures are implemented, there is a further substantial reduction in delay and a marginal increase in vehicle speed. These two factors are indicative of the linking of land use and transport through the NPF and the GTS encouraging a shift towards more sustainable travel modes in the city centre where the majority of delay occurs.

11.13.64. When the PRD is compared to the EIAR scenarios (i.e. TII Central Case), there is a slight reduction of average vehicle speed (from 38.7 to 36.5 kph) and a more substantial increase in total network delay (from 1,738 to 2,440 pcu.Hrs). Once

the other GTS measures are implemented, there is less divergence between the scenarios, which is notable given the considerable population increased under the NPF scenarios, compared to the EIAR scenarios.

- 11.13.65. In conclusion, I am satisfied that the applicant has demonstrated that the PRD, both alone and together with the other GTS measures, will have positive impacts on the three KPIs when compared with the 'Do Minimum' scenario for the 2039 Design Year. While the PRD will not solve all traffic congestion issues in the city, it will lead to a significant reduction in the number of junctions at capacity and in delays experienced on the network. It will also add additional links on what is an underdeveloped road network, providing alternative routes and improved accessibility, which must be considered within the scenario of significant population and employment growth forecasts for the city.

Mode Share Implications

- 11.13.66. The implications of the PRD for the transport modal split for Galway was the subject of much discussion at the oral hearing, particularly with respect to the targets contained in the policy document 'Smarter Travel – A Sustainable Transport Future: A New Transport Policy for Ireland 2009-2020' and the low mode share for public transport. The Galway Cycling Campaign noted that Census data showed that most trips in Galway were less than 4km and that the growth of e-bikes was stretching ease of commuting distances.
- 11.13.67. Various mode share tables have been submitted by the applicant throughout the planning process to date, reflecting various scenarios and forecasts, and with errors which were corrected in the Corrigendum submitted at the oral hearing. This has resulted in a somewhat confusing situation and in order to provide clarity on the applicant's position, I refer the Board to Section 6 of the document entitled 'Response to Queries raised in Module 2 of the N6 Galway City Ring Road in respect of Traffic and Climate', and its associated Appendix A, which was presented by the applicant at the oral hearing on 19th October 2020.
- 11.13.68. Mr Brendan Mulligan, in his submission at the oral hearing, queried the definition of 'City Centre' used in the applicant's Mode Share tables. Figure 16 in the applicant's 'Response to Queries raised in Module 2' document illustrates the 'City Centre' sector, which comprises one of five sectors that Galway City was split into

during preparation of the NTA WRM Model. Hands Across the Corrib contended that this boundary was not reflective of the actual functional city centre. I would agree with the observers that the boundary appears to be somewhat arbitrary, and note that it doesn't include any areas west of the River Corrib, east of the N83 Tuam Road, and that while a large expanse of rural land to the north of Bothar na dTreabh is included in the city centre boundary, the large employment centres at Parkmore and Ballybrit Business Parks are excluded. While the 'City Centre' area may provide a useful basis for comparing mode share changes over time for different scenarios, it may not reflect the actual overall mode share for the city.

- 11.13.69. In response to the queries regarding the 'City Centre' zone, the applicant submitted mode share tables for the broader Galway City Administrative Boundary area in Appendix A to their 'Response to Queries raised in Module 2' document.
- 11.13.70. The table below compares the various mode share tables submitted by the applicant for the 'City Centre' as well as the results of a sensitivity test presented at the oral hearing, under which the level of car ownership (as a proxy for car parking availability at trip origins) is reduced by 50% for all new developments within Galway City, in alignment with National Policy. In comparing the mode shares under the various scenarios, I note that the NPF scenarios include population growth forecasts of 55% for Galway City, compared to 22% for the County area. This contrasts to a figure of 14% population growth under the TII Central Growth forecast used in the EIAR.
- 11.13.71. It can be seen that the car mode share in the 'City Centre' in the base year is 66.7%, with public transport only having a very low c. 4% mode share. In the Design Year (2039), with population growth in line with the NPF and with the PRD and other GTS measures in place, the car mode share drops to 56%, with corresponding increases in sustainable transport modes, including a 100% increase in the mode share for cycling. The sensitivity test for parking demand management shows a further reduction in the car mode share to 44.9%.
- 11.13.72. The final portion of the Table below shows the mode share for the broader Galway City administrative boundary area (i.e. incorporating suburban and rural areas on the outer fringes of the City). This indicates a car mode share of 65.6% in the Design Year, with the PRD and GTS measures in place. With the implementation

of parking demand management measures, the car mode share drops to c. 55%, with walking being the primary beneficiary of modal shift.

11.13.73. I have considered the Smarter Travel Policy separately below. However, I consider that these mode share results are illustrative of the interconnections between the provision of an adequate road network, provision of sustainable transport alternatives, implementation of demand management measures, and land use and density changes as envisaged by the NPF.

11.13.74. The Galway Cycling Campaign noted the low mode share for cycling. The applicant's response was that the mode shares were forecasts, not targets, and that they could be improved in future.

11.13.75. Galway has developed over a prolonged period into a linear city with a low population density and a large hinterland from which people commute to the city area for work and other purposes. As such, I would not expect the construction of a Ring Road, in itself, to improve mode share for public transport and active modes in such a receiving environment and, indeed, as Mr Brendan Mulligan noted in his submission, achieving a modal shift is not listed among the Project Objectives set out in the EIAR. As can be seen from the Table below, the PRD, when considered alone, would increase the car mode share, likely as a result of induced traffic. However, I do not consider that this is a reasonable conclusion to draw, as the PRD will facilitate the full implementation of the GTS measures to increase sustainable travel mode share. Ultimately, I consider that a holistic approach to addressing Galway's transport issues is required, and I consider that the GTS, the City and County Development Plans and national policy are the appropriate mechanisms for balancing the compact growth of Galway with a significant shift to more sustainable modes of transport.

11.13.76. I conclude that the PRD will have a positive impact on sustainable transport mode share when considered together with the other GTS measures that it will support.

Option	% Car	% Public Transport	% Walk	% Cycle
2012 Base Year	66.7%	3.9%	26.3%	3.1%

TII Central Growth Forecast (EIAR)				
2039 Do-Minimum	67.4%	4.3%	25.2%	3.1%
2039 Do-Something N6 GCRR	68.6%	4.1%	24.5%	2.8%
2039 Do-Something N6 GCRR + GTS	67.3%	5.0%	24.9%	2.8%
NTA/GCC NPF Scenario (RFI, corrected by Corrigendum)				
2039 Do-Minimum	61.2%	5.4%	29.3%	4.1%
2039 Do-Something N6 GCRR	64.1%	5.0%	27.6%	3.3%
2039 Do-Something N6 GCRR + GTS	56%	6.8%	31.2%	6.0%
NTA/GCC NPF Scenario with Demand Management (Oral Hearing)				
'City Centre' Zone				
2039 Do-Something N6 GCRR + GTS + Parking Management	44.9%	8.1%	41.6%	5.4%
NTA/GCC NPF Scenario with Demand Management (Oral Hearing)				
Galway City Administrative Boundary Area				
2039 Do-Something N6 GCRR + GTS	65.6%	7.0%	22.6%	4.8%
2039 Do-Something N6 GCRR + GTS + Parking Management	54.9%	8.4%	32.0%	4.7%

Table 11.13.4: Comparison of Mode Share tables submitted by applicant.

Smarter Travel Policy

11.13.77. A number of parties contend that the PRD is inconsistent with, or contrary to the mode share targets set out in Smarter Travel – A Sustainable Transport Future: A New Transport Policy for Ireland 2009-2020. I note that while this Policy document relates to the period 2009-2020, it had not been superseded by a new Policy at the

time of writing. Among the targets set out in the Smarter Travel Policy are the following:

- Work-related commuting by car will be reduced from a current modal share of 65% to 45%, which will mean that between 500,000 and 600,000 commuters will be encouraged to take means of transport other than car driver (of these 200,000 would be existing car drivers). Change in personal behaviour will also be necessary for other travel purposes as most travel relates to non-commuting.
- Car drivers will be accommodated on other modes such as walking, cycling, public transport and car sharing (to the extent that commuting by these modes will rise to 55% by 2020) or through other measures such as e-working.
- The total kilometres travelled by the car fleet in 2020 will not increase significantly from current total car kilometres.

11.13.78. The implications of the PRD for mode share generally are addressed above. As the applicant noted at the oral hearing, the mode share figures in the Smarter Travel policy are for 'work-related commuting', whereas the mode share figures above are over a 24-hour period. The mode share results for the AM Peak Period (i.e. the busiest commuter period) are provided in Appendix A to the applicant's 'Response to Queries raised in Module 2' document submitted at the oral hearing.

11.13.79. The mode share tables for the AM Peak Period contained in that document show that the N6 GCRR + GTS + parking demand management measures (as discussed above) results in a mode share for sustainable travel of 57.4% for the city centre and 47.9% for the broader Galway City Administrative Boundary area. The mode share for car is 42.6% and 52.1%, respectively.

11.13.80. While the PRD will not, by itself, shift commuters to more sustainable modes of transport, it forms a key part of the GTS, which seeks to do exactly this. As addressed above, the PRD will facilitate the implementation of the wide-ranging measures outlined in the GTS and as such will contribute to a shift to sustainable modes. As the city develops in line with the NPF targets in a more compact form, with reduced car parking provision in new developments, the modal shift will accelerate, as detailed in the mode share analysis undertaken by the applicant.

11.13.81. I note in this regard the applicant's response to Mr Mulligan's query regarding the forecast low sustainable transport mode share in 2039. They stated that currently 42% of all trips destined for Galway City originate within Galway County and that whilst future population growth will be more concentrated and easily served by public transport, the trips from the county area cannot be completed by walking or cycling due to distance, and cannot be viably served by public transport due to their dispersed nature.

11.13.82. Considering Galway's starting point as a low density, car-dependant city, I would concur with the applicant that the mode share results for the AM Peak Period are in broad alignment with the Smarter Travel Policy targets.

Pedestrian and Cyclist Infrastructure

11.13.83. A number of parties contended that the proposed provision of pedestrian and cycle facilities is inadequate. The HSE, noting community severance impacts, also recommended that pedestrian and cycle access be maintained or provided between any communities potentially divided.

11.13.84. With regard to the mainline of the PRD, pedestrian and cycle use is not prohibited on the portion of the road designated as a Protected Road (primarily single carriageway), but is prohibited on the Motorway designated section. No specific provision is made for pedestrian and cycle use of the Protected Road section (i.e. footpaths or cycle lanes). Given the generally rural nature of this section of the PRD and noting the strategic function of the road and the high traffic speeds, I consider that this is acceptable, noting that more direct routes are available which will, in many cases, see reductions in traffic as a result of the PRD and thus become more attractive alternative options. As noted elsewhere, the GTS also includes extensive proposals for improving cycle infrastructure throughout the City, which will precede the construction of the PRD, if approved.

11.13.85. The locations and details of all proposed pedestrian and cyclist crossing facilities within the PRD are described in Section 5.5.4.2 of the EIAR and illustrated on Figures 1.10.01 – 1.10.22 of Appendix A.1.13 of the RFI Response. As I have addressed above, it is proposed to provide dedicated pedestrian facilities at the junction locations where the PRD interfaces with the existing road network, with

cycle lanes also provided in some locations. Where overbridges/underbridges are proposed, they also include footpaths.

11.13.86. Along the proposed Link Roads (N59 Link Road North and South, Parkmore Link Road and City North Business Park Link Road) it is proposed to provide footpaths with a minimum width of 1.8m which will tie-in to existing footpaths. In the more built-up areas, such as the southern portion of the N59 Link Road South and the Parkmore Link Road, it is also proposed to provide cycle lanes.

11.13.87. I note that there are six houses located on the western side of the N83 Tuam Road, immediately north of the PRD mainline (Ch. 14+000). These houses are currently individually accessed from the Tuam Road, but it is proposed to provide an access road AR 13/06 parallel to the Tuam Road to serve these houses, which will include a footpath. A shared footpath/cycle lane and an inbound bus lane is proposed along the opposite (eastern) side of the Tuam Road. However, a concrete barrier is also proposed between Access Road AR 13/06 and the Tuam Road, which it appears will interfere with access from these houses to the crossing point at the signalised junction of the PRD diverge arm and the Tuam Road. In the interests of pedestrian and cyclist safety, I recommend, should the Board be minded to approve the PRD, that the applicant be required to provide pedestrian access from Access Road AR 13/06 to said crossing point.

11.13.88. The proposed Parkmore Link Road and City North Business Park Link will connect a number of the major industrial areas/employment centres of the city with new urban streets featuring dedicated cycleways and footpaths along their length. This will provide a more direct route for pedestrians and cyclists to access the industrial estates and will also facilitate improvements to public transport between the Ballybrit and Parkmore industrial estates, as per the GTS. I consider that these proposals in the Parkmore/Ballybrit area will have positive impacts on public transport and active travel access to this key employment centre, supporting a modal shift to more sustainable transport measures, particularly when other GTS measures are implemented.

11.13.89. Pedestrian and cycle infrastructure improvement are also proposed in the vicinity of the Gort na Bró junction and this issue is considered separately below.

11.13.90. A number of parties living in the vicinity of Lackagh Quarry, such as Ms Linda Rabbitte and Mr Patrick McDonagh expressed concern about pedestrian safety in the area and access to a local greenway/boithrín, due to construction traffic accessing Lackagh Quarry, and over-size vehicles using the access road in the operational phase. The applicant made an undertaking at the oral hearing to provide a pedestrian crossing at the entrance to Lackagh Quarry prior to the commencement of construction and to restrict speed on the access road to the site compound to 15km/hr. This is included as Item 18.15 in the final version of the Schedule of Environmental Commitments submitted at the oral hearing and I consider that it will improve pedestrian safety at what will be a busy access road during the construction phase.

11.13.91. Subject to the provision of access to the N83 pedestrian crossing as identified above, I consider that the PRD, including its interactions with the existing road network, makes adequate provision for pedestrian and cycle traffic, insofar as such movements would not conflict with the strategic function of the PRD to cater for vehicular traffic and noting the Motorway designation of part of the road which prohibits pedestrian/cycle access. As outlined elsewhere in this section, the PRD will remove vehicular traffic from City Centre streets, facilitating the reallocation of road space, and this, together with the measures incorporated within the PRD and the wider measures proposed in the GTS, will assist in significantly improving pedestrian and cyclist infrastructure in the City.

Induced Traffic

11.13.92. A number of parties at the oral hearing raised the issue of induced traffic or induced demand, with many contending that, rather than reducing congestion, the construction of the PDR would result in additional traffic, increasing congestion and encouraging urban sprawl and unsustainable travel patterns. Reference was made to the history of Dublin's M50 Motorway in this regard. Mr Frank McDonald, quoting Lewis Mumford, stated that "adding car lanes to deal with traffic congestion is like loosening your belt to cure obesity". Similarly, Mr Ciaran Ferrie referred to a fundamental law of highway congestion put forward in the 1960s by Anthony Downs, which states that "on urban commuter expressways, peak-hour traffic congestion rises to meet maximum capacity". The Galway Cycling Campaign contended that the

additional traffic crossing the River Corrib in the Do-Something scenario is an indication of induced traffic.

11.13.93. I note that induced traffic was addressed briefly in the EIAR in Section 6.8.3.2, entitled 'Trip Redistribution and Overcapacity Demand' and the applicant also responded to this issue in more detail at the oral hearing, primarily in the Traffic submission made by Mr Andrew Archer, but also in the 'Response to Queries raised in Module 2' document.

11.13.94. The applicant has accepted that the PRD will generate induced traffic and provided an outline of the various behavioural responses of users to new transport facilities/services which result in induced traffic. These include change to users' routes (Diverted Traffic), change to mode of travel, change of destination to one easily reachable using the new system, change of trip origin to one that results in a longer trip (urban sprawl), change of trip making frequency, and change of time of travel.

11.13.95. The applicant contended that the traffic model, as a variable demand model, has accounted for the majority of these types of generated traffic. I note that a number of aspects of induced traffic were not included in the model appraisal: additional trip making at peak hour, trip frequency increase and origin changes due to different land use patterns.

11.13.96. With regard to origin changes, this issue was raised by various parties, who contend that the PRD will lead to further urban sprawl, and development pressures along the route. In response to this, I would concur with the applicant that land use changes are governed by the relevant Development Plans, which must be consistent with the broader framework for compact growth set out in the NPF. While many earlier road projects frequently resulted in development pressures in peripheral areas, there is now a clear planning policy framework in place with a consistent hierarchy of plans in effect from national to local level and oversight by the Office of the Planning Regulator to ensure consistency in Plan-making. As set out in the Planning submission made on behalf of the applicant at the oral hearing, the projected growth in Galway City and suburbs will primarily be through consolidation of existing residential areas at Knocknacarra, Ragoon, Castlegar and Roscam, through development at Ardaun and in brownfield lands within the City. Given the

planning policy framework in place, and the sustainable transport measures outlined in the GTS for serving this growth, I do not believe that origin changes will result in significant induced demand.

11.13.97. With regard to trip frequency changes, the applicant contends that if all modes of travel (including walking and cycling) are included in a model then it is not necessary to include a trip frequency response because any increase in trips by one mode is usually the result of mode shift from alternative modes. While I consider this statement to be debatable, given the nature of the development, I would agree with the applicant's subsequent statement that peak hour trip frequency is insensitive to changes in the generalised cost of travel, as demand for travel is largely derived by activity at the end destination (e.g. trips to school or place of work) as opposed to the capacity of the transport network. The applicant contends that increased inter-peak trips for purposes such as tourism, leisure and business would have considerable economic benefits for the city and region. I consider this to be an important point, as while induced traffic is a recognised phenomenon with negative connotations, one of the elements that makes up induced traffic is the release of suppressed demand or what the EIAR refers to as overcapacity demand (the difference between desired trips and actual trips). While induced traffic is generally seen as a negative impact, the provision of new road links and lessened congestion can release suppressed demand and enable people to make trips that they would wish to take, but which are difficult or inconvenient in the current scenario, and which would become more difficult under the 'Do Minimum' scenario, due to increased congestion. There is an important socio-economic aspect to this, in my view, as the suppression of desired trips can limit people's access to employment opportunities, healthcare services, education, family/friends etc. Ideally the additional trips resulting from the release of suppressed demand would be public transport or active travel trips, rather than private car trips. The issue of mode share is addressed above, however I would note that the PRD will remove traffic from City Centre streets, facilitating shorter and more reliable journey times and enabling the effective implementation of other GTS measures.

11.13.98. With regard to time of travel changes, these would result in people who currently defer trips in the peak period due to congestion, thereby spreading the peak, instead making their trips at peak hour following the removal of congestion.

That is to say, these would not be new trips, but trips that are moved from one time period to another. While such changes would not alter the AADT forecasts for the PRD, which relate to 24-hour periods, they have the potential to cause peak hour traffic impacts.

11.13.99. The applicant stated that they undertook an analysis of historical traffic trends on Dublin's M50 Motorway, before and after it was widened, to determine the likely shift in traffic from outside the peak to the peak hour. This found a 20%-30% increase in the proportion of traffic travelling during the peak hour immediately following the upgrade of the M50. A sensitivity test for the PRD in the 2039 Design Year, with a similar change in peak hour factor, results in a c. 20% increase in total delay experienced on the network and a 3% increase in the average journey time through the city. This demonstrates a negative impact of induced demand. However, it is still a considerable improvement on the Do-Minimum Scenario and as noted above, results from reduced levels of congestion.

11.13.100. Related to this issue of induced and suppressed traffic was a discussion at the oral hearing regarding whether vehicular traffic flows behaved more like a liquid or a gas. The applicant contended that traffic flows would divert to alternative routes like a liquid, while Mr Ferrie contended that traffic behaves more like a gas, noting the phenomenon of traffic evaporation whereby – when vehicular traffic capacity is removed – a portion of the traffic doesn't divert and instead 'evaporates', either through a trip not being made or a modal shift occurring.

11.13.101. In my opinion traffic can behave somewhat like a gas, in that it may expand to fill all available road space and, conversely, may evaporate when road space is taken away. What is proposed in this instance, however, is not the addition of car lanes to an existing road as with the M50, but instead the construction of a new strategic road link. As outlined elsewhere in this report, the population of Galway is forecast to grow significantly, and it currently has an underdeveloped road network, particularly with regard to east-west connections, river crossings and transfer between the radial National Roads that lead into the City Centre.

11.13.102. The results of the 'Do Minimum' forecast demonstrate that failure to provide the PRD will result in a severe level of congestion for all transport modes, not just

private cars. This will suppress travel movements with resultant socio-economic and environmental consequences.

11.13.103. In conclusion, the principle of induced traffic is well-established and understood and I consider that the PRD will result in the generation of a level of induced traffic. However, I also consider that the applicant has appropriately considered and addressed this issue within their traffic model and assessment. Given that a portion of the induced traffic will result from the release of suppressed demand, and from a variety of other factors, I consider that there are both positive and negative impacts associated with this induced traffic. The PRD forms a key element of the GTS, which contains various measures to improve public transport and active travel infrastructure, and ultimately this form of holistic approach is required to reduce Galway's car dependency and reduce the private car mode share. Given the significant population growth forecast for Galway and the dual functionality of the PRD, which improves the structure of the underdeveloped road network, with a new east-west spine and linkages to the radial routes, and which provides additional road capacity which will remove trips from the City Centre, I do not consider that the generation of induced traffic would be a reasonable reason for refusing permission for the project.

Demand Management

11.13.104. A number of parties noted that Demand Management Studies for Galway and other cities had been commissioned by the Department of Transport (DoT) and contended that the PRD was premature pending the preparation of the Study.

11.13.105. An Taisce also compared the PRD to Dublin's M50 and the Limerick City Bypass and contended that the benefit of those projects has been undermined by failure to implement demand management measures and failure to implement investments in public transport.

11.13.106. Since the oral hearing concluded, the Department of Transport published the 'Five Cities Demand Management Study Recommendations Report' in March 2021. The Study was prepared on behalf of the Department by Systra, who also undertook the traffic assessment for the PRD in association with Arup. The Report constitutes Phase 1 of the Demand Management Study and examines various demand

management measures for each city, including parking prices, Slow Zones, car clubs, flexible working, School Streets, and variable speed limits.

11.13.107. The Department's website states that the Phase 2 Report, which will quantify and predict the impacts of a number of demand management measures, is expected to follow in Q2 2021 but is currently experiencing some unexpected delays due to issues with the quantitative analysis and regional transport models²⁴.

11.13.108. The existing congestion in Galway is referenced in the report, where it is stated that:

"Increased congestion also exacerbates emissions and air quality problems. A reduction in speeds due to congestion results in longer travel times and resultant increase in emissions per kilometre travelled. Congestion can also lead to a disruptive driving style. Driving with more accelerations, decelerations, stops and starts increases exhaust emissions and contributes to wear on brakes and tyres, which in turn produces more particulate emissions.

In some cases, providing additional road infrastructure in response to congestion is unlikely to solve the issue. There is limited space to provide significant extra road capacity, particularly in historic medieval cities such as Galway and Waterford. More importantly, there is the likelihood that additional road capacity will induce additional car-based travel, ultimately resulting in a further increase in emissions and a return to the congested road conditions, but with even greater environmental damage, due to the increased volume of road traffic.

To accommodate the future sustainable growth of the cities, it is vital that congestion is carefully managed and that growth in travel demand is as far as possible catered for sustainably, through increased public transport usage, walking and cycling." (Five Cities Demand Management Study Recommendations Report, Page 9.)

11.13.109. The Report has regard to, and frequently references, the provisions of the Galway Transport Strategy with regard to demand management measures such as

²⁴ <https://www.gov.ie/en/publication/63517-publication-of-five-cities-demand-management-study-phase-1-report-and-toolkits/>

implementing restrictions to vehicular traffic, reducing car parking provision, park-and-ride facilities etc. With regard to congestion charging, it states that opportunities may arise in Galway with the delivery of improved public transport and park and ride facilities as envisaged in the Galway Transport Strategy. However, congestion charging does not form part of the Study's recommendations.

11.13.110. With regard to the potential for ramp metering (i.e. an 'intelligent transport system' entailing traffic signals on Motorway ramps which control the flow of vehicles onto the main carriageway to improve flow and average speed), it is stated that "ramp metering is not part of the proposed Galway City Ring Road due to the road configuration". I note that the Report concludes that Ramp Metering should not form a key recommendation of the Study, due to its limited application outside the strategic road network and uncertain ease of delivery.

11.13.111. I note that Galway has been recommended in the Study as a pilot city for further examination and research with regard to a potential workplace parking levy.

11.13.112. While Phase 2 of the Demand Management Study had not been published at the time of writing this report, I do not consider that the PRD is premature pending its completion. There is an identified traffic congestion issue and a deficit in the structure of the road network that will hinder the compact growth of the city in line with NPF forecasts, and which will be addressed by the PRD. Construction of the PRD will not prevent demand management measures being introduced in the future, if such measures are considered appropriate following completion of Phase 2 of the Demand Management Study. Any such measures would be of benefit in protecting the strategic function of the PRD as a TEN-T route serving the city and wider region.

11.13.113. Also, as noted by the applicant in Section 6.4 of the 'Response to Queries raised in Module 2' document, the GTS already contains a number of demand management measures, including concentrating future development on brownfield sites (in line with the subsequent NPF), controlling the availability and cost of parking in the city centre, restricting traffic in certain areas, removing on-street car parking etc. As outlined below, the implementation of the GTS is underway, albeit slowly. The provisions of the GTS with regard to demand management are referenced in the Department's Phase 1 Report, as noted above, and I do not consider that any conflict between the two Strategies/Studies arises.

11.13.114. Also relevant to the issue of demand management is car parking provision at new development sites in the city, which was the subject of discussion at the oral hearing. A number of parties, including Mr Brendan Mulligan, Mr Frank McDonald and Galway N6 Action Group noted the extensive existing level of car parking provision in Galway, with Mr Mulligan quoting a figure of 13,000 spaces, which would increase to 15,000 with the development of Bonham Quay, Céannt Station and Crown Square.

11.13.115. Mr Uinseann Finn, on behalf of Galway City Council, stated that car parking provision at these new development sites was significantly below Development Plan ratios. By way of example, Table 7 contained in the 'Response to Module 2 Queries' document demonstrates that permitted car parking provision at two of the larger development sites, Bonham Quay and Céannt Station redevelopment, are 80% and 68%, respectively, below Development Plan ratios. Reference was also made by the applicant to the 'Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities', which sets out criteria for minimising or eliminating car parking provision in certain locations.

11.13.116. In conclusion, I consider that the need for the PRD has been justified and I do not consider that the PRD is premature pending the completion of Phase 2 of the Department of Transport's Five Cities Demand Management Study. In my opinion, any forthcoming demand management measures, such as a workplace parking levy, would have the potential to work in concert with the PRD and other GTS measures to improve the mode share for public transport and active travel modes and protect the strategic function of the PRD.

Impact on Local Roads

11.13.117. A number of parties (e.g. Galway Cycling Campaign, Mr Kevin Gill, Damien and Katherine Kelly) raised issues regarding the impact of the PRD on local roads, many of which are contended to be unsuited to large volumes of traffic. The roads identified included L5387 (in Troscaigh), Aille Road, Cappagh Road, Letteragh Road, N59 Moycullen Road, Circular Road, N83 Tuam Road and Parkmore Road. These roads are illustrated in Figure 6 of the applicant's Traffic submission at the oral hearing.

- 11.13.118. Table 1 in the applicant's Traffic submission compares average annual daily traffic (AADT) levels at the abovementioned roads in the 2039 Design Year under the 'Do-Minimum' (i.e. without PRD) and 'Do-Something' (i.e. with PRD) scenarios. The table also details the forecast peak hour two-way traffic flow at these locations with the PRD in place.
- 11.13.119. In the majority of cases, the PRD results in either a decrease or a small increase in traffic volumes on these roads. However, in the case of the Letteragh Road, east of the N59 Link Road Junction, and the Cappagh Road, south of the PRD, the introduction of junctions with the PRD will result in a substantial increase on what are currently local roads. In the case of the Cappagh Road, the AADT increases from 539 to 6,857, while the Letteragh Road increases from 2,109 to 10,656. Both roads are within the urban street network, and the applicant contends that as per TA79/99 of the UK DMRB, these roads would be classified as "Urban All Purpose (UAP) 3; variable standard road carrying mixed traffic" with a capacity of 900 vehicles per hour in the busiest direction and a two-way capacity of 1,500 vehicles per hour. There appears to be no equivalent Irish guidance on this issue, however I consider the UK guidance to be of use in understanding road capacity.
- 11.13.120. The Letteragh Road east of the N59 Link Road has a forecast peak hour, two-way flow of approximately 1,050, while that for the Cappagh Road South of the PRD is 750. Both of these forecasts are comfortably within the guidance capacity and I do not consider that any capacity issues are likely to arise in respect of these local roads. Residential amenity issues with respect to changes to traffic volumes on the local road network are addressed elsewhere in this report.
- 11.13.121. In addition to these particular roads, Mr Ciaran Ferrie, noting Figure 7 of the applicant's Traffic submission at the oral hearing, which shows colour-coded flow differences on the road network, queried the increases in traffic on a large number of roads, including city centre roads. Similarly, Galway Cycling Campaign noted the traffic increases on some local roads with children, etc.
- 11.13.122. I note Section 7.6 of Appendix A.6.1 of the EIAR, where changes in traffic patterns are addressed. It would appear that these increases in traffic flows on some roads are due to the removal of bottlenecks (i.e. congestion at critical junctions) which improves accessibility, particularly from the east of the city, releasing

suppressed traffic but also inducing additional traffic due to this improved accessibility. I have addressed the issues of induced and suppressed traffic above. Having regard to the KPIs utilised to assess the impact of the PRD on the road network, it is clear that the PRD will improve traffic flows, reduce congestion and reduce the number of junctions with capacity issues across the network. While there may be localised increases in traffic on some roads, this is related to the removal of bottlenecks and the effect of the PRD on the network as a whole is positive.

Rosán Glas / Bothar Diarmuida Area

- 11.13.123. Rosán Glas is a housing estate to the north of the Ragoon Road, in Ragoon. Bóthar Diarmuida is a cul de sac road which runs along the west side of the estate and connects to Ragoon Road at its southern end. The proposed N59 Link Road South would run parallel to Bóthar Diarmuida in this area and connect to the Ragoon Road at the upgraded Ragoon Road Junction. Bóthar Diarmuida would be truncated by the PRD, with traffic from Rosán Glas instead joining the N59 Link Road South at the proposed Bóthar Diarmuida junction.
- 11.13.124. A number of residents of the Rosán Glas estate made submissions regarding the proposed closure of the junction of Bóthar Diarmuida/Ragoon Road which they contend will elongate journey times/distances for residents. They also contend that the signalised junction will impede traffic movements and that traffic from other areas will “rat-run” through residential roads to access the N59 Link Road.
- 11.13.125. This issue was addressed by the applicant in their Traffic submission at the oral hearing, and as illustrated in Figure 11 of the submission, the maximum increase in distance to reach the Ragoon Road would be c. 450m for vehicular traffic which I do not consider to be significant, while pedestrian and cyclist accessibility would be enhanced by the design of the proposed N59 Link Road South and the nearby Gort na Bró Link Road.
- 11.13.126. The results of the traffic modelling of the area indicate that both the N59 Link Road/Bóthar Diarmuida junction and the N59 Link road/Ragoon Road will operate within capacity in the 2039 peak period. I would, therefore, concur with the applicant that the closure of the Bóthar Diarmuida/Ragoon Road junction is not likely to lead to any traffic problems or congestion issues in the area.

11.13.127. The applicant also states that strategic modelling undertaken as part of the EIAR indicates that no traffic will use the Rosán Glas area as a rat-run and only traffic originating or destined for the estate will use its internal road network. Having visited the area and reviewed all available information and mapping, I do not consider that there will be a significant impact on Rosán Glas in terms of traffic and transportation and I do not consider that the PRD is likely to attract 'rat-running' traffic through Rosán Glas, once operational.

Gort na Bró Junction

11.13.128. Galway Cycle Bus made a submission at the oral hearing in which they outlined their successful initiative to encourage cycle travel to Gaelscoil Mhic Amhlaigh and Knocknacarra National School, with 10% of school children travelling by bicycle to the Gaelscoil, compared to a city-wide 2% figure. They queried the proposed road design in the vicinity of the Gort na Bró junction and the Western Distributor Road and the measures proposed to provide safe cyclist routes to the Gaelscoil.

11.13.129. The Galway Cycle Bus representative also contended that improvements to permeability between housing estates was required to facilitate active travel modes and enhance safety. Similar points were made by the Galway Cycling Campaign. While increased permeability for cycling/pedestrians is generally desirable, I consider that this is primarily a matter for the Local Authorities. The GTS contains measures to improve cycling and pedestrian infrastructure and the PRD would not prevent or hinder these or other permeability improvements.

11.13.130. The existing Gort na Bró junction is a roundabout with five arms, which is a sub-optimal arrangement for child cyclists, in my opinion. It is proposed to convert this to a signalised junction, with a new link road and entrance to the Gateway Retail Park to be constructed to replace the fifth arm of the existing roundabout. Localised widening of the Western Distributor Road is also proposed to allow for two-way bus lanes on approach to the junction, to allow for future public transport improvements. I consider that the reconfiguration of this junction and particularly removing the direct access to the Gateway Retail Park from the junction, will enhance safety and access provision at this location.

11.13.131. At the oral hearing, the applicant submitted a revised drawing for this area, indicating improved pedestrian and cycle facilities from the Gort na Bró junction to Gael Scoil Mhic Amhlaigh. This includes a segregated cycle track from the reconfigured Gort na Bró junction to the school and a two-way segregated cycle track on the eastern verge of Gort Na Bró Road from the junction, past the school, to Ragoon Road. Segregated cycle lanes are also proposed on the Western Distributor Road in the vicinity of the junction, tying into the existing on-road cycle paths at either side. These measures are included in the final version of the Schedule of Environmental Commitments submitted at the oral hearing (Items 1.23 and 1.24 and Appendix A.21.1 of the SoEC refer). I also note that both Gort na Bró Road and the Western Distributor Road are anticipated to have a reduction in vehicular traffic in the 2039 Design Year, which again will benefit pedestrians and cyclists.

11.13.132. I consider that these revised proposals represent a considerable improvement to the original proposal and will significantly enhance cyclist and pedestrian accessibility both to the school and the local area, more generally.

Implementation of the Galway Transport Strategy

11.13.133. Many of the submissions, particularly at the oral hearing, addressed the Galway Transport Strategy (GTS), particularly with regard to the adequacy of the measures contained therein and the speed at which it is being implemented, with a number of parties contending that there had been a lack of progress since its preparation in 2016. It was also contended that the GTS is being used as a crutch by the PRD, while another objector stated that the applicant has created a 'chicken and egg' situation, whereby the GTS measures to improve public transport can't progress until the ring road is delivered.

11.13.134. Compelling arguments were put forward by a number of parties, including An Taisce, Mr Brendan Mulligan, Galway Cycling Campaign, Mr Ciaran Ferrie and Galway Cycle Bus, regarding the need to improve public transport provision and active travel infrastructure in Galway. This included detailed critiques of the GTS measures and options for dedicated bus lanes etc. Ultimately, I consider that such critiques are better directed to the planning and transport policy arenas, as the GTS has been prepared by Galway City Council and Galway County Council and, as noted above in section 10, it is not before the Board for approval. I consider that the

GTS provides a coherent and holistic strategy for addressing transport issues in Galway and it includes the PRD as a key element of delivering upon its objectives. Whether the GTS objectives and measures are suitably ambitious in light of the NPF growth scenario for the city, which post-dates its publication, is not a matter for the Board to determine within the context of this application, in my opinion, given that the need for the PRD has been satisfactorily established.

11.13.135. An Taisce, in their submission at the oral hearing, identified a number of roads where bus lanes could be provided. As noted under Evaluation of Alternatives, section 10.6 above, I do not consider that the PRD would prevent such bus lanes from being provided in the future, should they be deemed appropriate, and the removal of traffic from the existing City Centre road network, as identified by the applicant, will likely be of assistance in any such reallocation of road space to more sustainable modes. Likewise, buses will be able to use the PRD, should services be expanded in the future. These are ultimately matters for the Planning Authority, NTA and the bus operators.

11.13.136. The applicant, at the oral hearing, and in Section 4 of their 'Response to Module 2 Queries' document, outlined the current status of the various GTS measures, and identified those GTS projects that are included in Galway City Council's approved and budgeted Annual Service Delivery Plan. These projects include the Salmon Weir cycling and pedestrian bridge, Galway Cross-City Link, replacement of roundabouts with signalised junctions and remodelling of the bus service (Bus Connects). It is clear to me that progress, albeit slow progress, is being made on implementation of the GTS and indeed a number of the projects are currently with the Board (e.g. Salmon Weir pedestrian bridge).

11.13.137. The applicant, in responding to An Taisce on this issue, noted that the PRD is part of the medium/long term measures included in the GTS, whereas the other measures identified, including the various public transport measures, are identified as short/medium term measures and will be implemented in advance of the PRD.

11.13.138. As I have stated above, many of the valid points raised by observers regarding the GTS and the need for measures to improve public transport and active travel infrastructure within the city would be more appropriately directed at a policy level, rather than to the PRD that is before the Board. Fundamentally, I do not

consider that Galway faces an ‘either/or’ situation with regard to the PRD and improved public transport/active transport. The existing road network in Galway is underdeveloped, particularly on the western side of the City, and the ecological and geographical constraints of the city have resulted in an elongated linear city, with low density residential development and ribbon development which makes it difficult to serve efficiently by public transport. The population of Galway is forecast to grow significantly over the coming decades, in line with the NPF, and it is necessary for the City to have an adequate road network to facilitate this expansion within a more compact footprint than would otherwise be the case.

- 11.13.139. Providing a new ring road will not prevent improved public transport from being delivered and will not prevent enhanced pedestrian and cyclist infrastructure from being provided. In this regard I note that the PRD itself includes measures to improve walking and cycling infrastructure within the development boundary. The current underdeveloped road network and limited number of River crossings results in vehicles having to travel into city centre areas in order to traverse the city, resulting in congestion. Removing this traffic will assist in reassigning road capacity for improvements to public transport and active travel, as envisaged by the GTS.

Proposed Parkmore Link Road Modification

- 11.13.140. As noted above, the applicant proposed a modification to the proposed Parkmore Link Road at the oral hearing. Section 3.2.11 of Andrew Archer’s traffic submission at the oral hearing addresses the proposed modification and states that:

“A modification to the Parkmore Link Road has been assessed using the micro-simulation model to test its impact. The detailed assessment found that the proposed modification will result in a similar network performance to the previous design and, in summary, there will be no operational issues on the mainline of the PRD or any of its associated junctions.”

No further details of the assessment were provided. However, I note that the modified Parkmore Link Road would still serve the same function in connecting the N6 GCRR via Parkmore Business Park and City North Business Park to Bóthar na dTreabh. The proposed modified alignment retains the cycle paths and footpaths of the original proposal and would run via a route to the east of the Boston Scientific campus, rather than to the west.

Having compared the two alignments for this portion for the proposed Parkmore Link road, I do not consider that any significant additional impacts on traffic are likely to arise as a result of the proposed modification.

Conclusion on Material Assets – Traffic and Transportation

11.13.141. In conclusion, I am satisfied that the PRD will remove a significant amount of traffic from city centre streets and thereby alleviate congestion, freeing up road space for reallocation and the implementation of the public transport and active travel measures set out in the GTS. It will also provide a missing element of strategic infrastructure, providing an additional river crossing and linking the various radial routes feeding into the city. It will support the significant growth and population increase that is forecast for the city and will fulfil a strategic function as a TEN-T route. However, it will not be a panacea for all of Galway's transport ills, as can be seen, for example, in the number of junctions that remain near or at capacity in the 2039 Design Year. Ultimately, in my opinion, the private car is not the solution to all of Galway's traffic issues and a large and sustained modal shift to more sustainable travel modes will be required. I consider that the PRD will provide a key piece of infrastructure that will assist in developing a denser, more compact city, in line with NPF targets, and that this increased density together with the removal of traffic from city centre areas will assist in facilitating this modal shift to more sustainable modes, as outlined in the GTS. I do not consider that the PRD and public transport/active travel modes are mutually exclusive, and instead consider that a holistic approach is required, as set out in the GTS.

11.13.142. I have considered all of the written and oral submissions made in relation to traffic matters, in addition to those specifically identified in this section of the report. I am satisfied that potential significant negative impacts would generally be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions.

11.14. Material Assets – Landscape and Visual

11.14.1. Landscape and visual aspects are addressed in Chapter 12 of the EIAR. The series of Figures 12.1.01-12.1.15, 12.2.01-12.2.02 and 12.3.01-12.3.02 contained in Volume 3 of the EIAR indicate potential impacts and mitigation measures, landscape

character, and landscape planning context, respectively. Appendices A.12.1 to A.12.3 contained in Volume 4 of the EIAR provides a Visual Impact Schedule and photomontages. The Schedule of Environmental Commitments, which was updated at numerous stages over the course of the oral hearing, also sets out commitments in relation to landscape and visual aspects.

- 11.14.2. A submission responding to the landscape and visual related written submissions/objections, was given at the Oral Hearing on 21st February 2020 by Mr Thomas Burns of Brady Shipman Martin on behalf of the applicant. A number of parties subsequently made further landscape and visual related submissions over the course of the Oral Hearing, including questioning of Mr Burns. Mr Burns also made further submissions. These matters are addressed, where necessary, below.
- 11.14.3. The EIAR notes that the landscape setting for the PRD covers a wide corridor comprising a part rural, part peri-urban and part suburban landscape. The baseline data collection involved reviewing statutory planning documents, landscape character assessments and other landscape and visual related publications/sources augmented by a series of survey visits, undertaken at different times during the year. This allowed for the identification of likely significant and sensitive landscape and visual receptors.
- 11.14.4. It is stated that views from properties are all considered on an equal basis without varying degrees of significance or sensitivity. All properties located within 200m of the centreline are considered, together with any property outside of 200m which for reasons of openness or otherwise, are considered to have potential for significant impact. Impact from other properties, such as schools and recreational amenities, are also included. The potential impacts are assessed at three stages: Construction, Pre-establishment (i.e. initial operation phase, when new landscape measures are unlikely to provide effective mitigation) and Post-establishment (i.e. after planting has established and is providing effective mitigation).
- 11.14.5. It is noted that the Landscape Character Assessment for County Galway (2003) sub-divides the county into 25 large landscape character areas (LCAs). Landscape values and sensitivity ratings have also been applied. Five of the LCAs pertain to the route of the PRD. The Lough Corrib LCA (11) is the most sensitive, with a sensitivity

rating of 'unique'. Table 12.2 identifies the Landscape Character Areas (LCAs) and Local Landscape Character Units (LLCUs) within each LCA.

- 11.14.6. The main landscape features in the receiving environment along the PRD include the diversity of ecological/landscape and cultural areas, the mosaic of open grassland, limestone pavement, marsh, wetland, river corridor/lake edge, scrub/and occasional tree plantings; the presence of significant recreational and sports grounds (including Galway Racecourse and NUIG Sports Campus) and other open spaces; and the overall high quality of the landscape – especially along the River Corrib corridor and east through to Ballindooley. These features are stated to add to overall diversity and interest of the landscape as well as to its sensitivity and significance.
- 11.14.7. The two Development Plans as well as the Ardaun LAP and the Bearna LAP and the Gaeltacht LAP are detailed along with green networks and protected views detailed therein. The main features of significance and sensitivity in the receiving landscape are detailed as well as the main features of visual significance and sensitivity.
- 11.14.8. The main characteristics of the construction phase of the PRD with the potential for landscape and visual impacts are listed in Section 12.4.1, and include: removal of properties, boundaries and amenities; significant earthworks; construction of the new road, link roads, noise barriers, lighting etc.; construction of new structures and demolition and modification of part of the NUIG Sports Pavilion and provision of sports pitches. During the operational phase, the main characteristics that have potential for landscape and visual impacts are the presence of traffic, prominence of embankments/cuttings, elevated structures and features such as noise barriers, roadside lighting etc.

Potential Impacts

- 11.14.9. With regard to potential **construction phase** impacts, potentially impacted features and landscape and visual impacts are described on a section-by-section basis, under the headings of properties, vegetation, landscape features, embankments, cuttings, visual impacts, landscape planning and landscape character. An assessment of the overall construction stage visual impact is also provided and is set out in detail in Appendix A.12.1 and summarised in Table 12.5 of the EIAR. It is

stated that some 407²⁵ No. locations have been assessed, of which 54 No. residential properties will be acquired. The remaining 353 properties and landscape locations have been assessed for visual impact during construction with the results summarised in the aforementioned Table 12.5. Of the 353 No. locations, 105 No. locations (c.30%) will have significant or very significant short-term visual impacts and 43 No. locations (c.11%) will experience profound temporary or short-term negative visual impacts.

11.14.10. The potential impact for the **operational phase** has also been described on a section-by-section basis, with an overall assessment of the operational phase. The details are set out in Appendix A.12.1 and in Table 12.6 of the EIAR. The applicant contends that, as landscape measures establish and mature, the level of visual impact will gradually recede so that in the post-establishment stage, some 33²⁶ will have significant or very significant medium-term visual impact (reduced from 86 at pre-establishment stage) and 23 will continue to experience profound medium and longer-term negative visual impact (reduced from 30 at pre-establishment stage).

11.14.11. A series of Photomontages²⁷ have been prepared of the River Corrib bridge and for other areas along the route and are included in Appendices A.12.2 and A.12.3 of the EIAR. A mixture of summer-time and/or winter-time views have been prepared. It is stated that the greatest impact is at the existing sports grounds of NUIG on the west bank of the River Corrib, where users of the sports facilities and the river-side amenities gain direct access to the underside of the proposed bridge.

11.14.12. Other construction related impacts, such as site compounds, construction traffic, and diversions of overhead lines will give rise to slight to moderate localised temporary impacts. Operational impact such as gantries, signs, lighting, noise and safety barriers will give rise to slight localised and short-term impacts. Taller noise barriers (>2.5m) on elevated sections of embankment near the N59 Moycullen Road crossing will further accentuate already significant visual impact for residential properties.

²⁵ The Corrigendum submitted at the oral hearing identified that one residential property at Ch. 2+850 (Property reference 195) had been omitted in error from the Visual Impact Schedule and EIAR Tables. This property is identified as having a potential profound impact at construction phase.

²⁶ Again, this figure was corrected in the Corrigendum submitted at the oral hearing.

²⁷ A number of the submitted photomontages contained errors, and corrected photomontages were submitted with the Corrigendum at the oral hearing.

Mitigation Measures

11.14.13. It is stated that although consideration was given to avoidance of significant landscape and visual impacts during the route corridor selection and design process, all road construction projects give rise to some degree of unavoidable landscape and visual impacts.

11.14.14. During the construction stage the CEMP, and the mitigation and monitoring measures contained therein, will be adhered to. Other specific measures include, inter alia:

- Storage areas located so as to avoid impacting further on existing residential and other property, woodlands, trees, hedgerows, drainage patterns, etc.
- Provision of solid site hoarding of min. 2.0m in height alongside construction works adjoining residential property or recreational amenities and along any side of proposed construction compounds, where they are located within 100m of residential properties.
- Decommissioning and reinstatement of construction compounds at the end of the construction contract.
- Seeding/planting at the earliest possible opportunity. Due to construction programming and seasonal restrictions, it is stated that it is likely that significant planting works will not be undertaken until the end of the major construction phase.

11.14.15. During the operational phase, both project-wide measures to be applied over the entire PRD (depending on the nature of the particular road section) and specific measures for particular areas are proposed. These are described in Tables 12.7 and 12.8, respectively and identified on Figures 12.1.01 to 12.1.15²⁸. The measures are stated to take account of the specific protection and mitigation measures detailed in the Biodiversity Chapter of the EIAR (Chapter 8).

Residual and Cumulative Impacts

11.14.16. The proposed mitigation measures are stated to have limited effect during the construction stage and, therefore, it is considered that the potential negative

²⁸ The Board should note that these Figures are incorrectly referenced throughout this chapter of the EIAR. See clarification contained in RFI Response, Section 9.3.

landscape and visual impacts will continue to arise, even with mitigation, during the construction phase.

11.14.17. During the initial operation stage, it is stated that landscape and visual impacts will continue to arise as the PRD will be a significant and prominent new element in the landscape, at least until such stage as landscape mitigation proposals establish and become increasingly effective. The significance and severity of landscape and visual impacts will gradually abate over time, although negative visual impacts will also continue to arise for residential and other properties located close to or adjoining the boundary of the PRD at post-establishment stage.

11.14.18. Significant residual visual impacts will also continue to arise for a number of properties, as set out in Appendix A.12.1 and identified in Figures 12.1.01 to 12.1.15. Significant residual landscape impacts will also continue to arise at a number of locations, which are again illustrated in Figures 12.1.01 to 12.1.15.

11.14.19. With regard to potential cumulative impacts, a number of planned or potential projects are identified. However, it is contended that there is limited potential for any significant cumulative impacts and that these will not further increase the adverse or negative impacts associated with the PRD.

11.14.20. **Assessment**

11.14.21. I consider the potential significant impacts are as follows:

- Impact on landscape character.
- Visual impacts on properties.
- Design of bridge and impact on River Corrib, NUIG Sports Campus and Menlo Castle.
- Landscaping proposals.
- Boundary treatments, including stone walls.
- Road lighting impacts.
- Proposed Parkmore Link Road Modification.

Impact on Landscape Character

11.14.22. The PRD will pass through a complex landscape, comprising a mix of rural, semi-rural/peri-urban and suburban areas, with the landscape characteristics, value and sensitivity varying significantly along the road. The 5 No. landscape character areas (LCAs) through which the PRD passes, together with their sensitivity, are illustrated in Plate 12.1 of the EIAR. The Lough Corrib LCA (11), which covers the central section of the PRD, is the most sensitive LCA, being described as “wide dramatic expanse of water including many islands supporting deciduous woodland. The land ...surrounding the southern section is flat, open grassland. The landscape of the Lough and its surrounds is highly scenic and includes many facilities for visitors”. Given the variation within LCAs, the applicant has further sub-divided them into Local Landscape Character Units (LLCUs), as illustrated in Figures 12.2.01 and 12.2.02 of the EIAR. I consider this to be a useful tool for understanding the distinctive landscape characteristics and sensitivity on a scale that is more appropriate to the PRD. These LLCUs and their characteristics are set out in Table 12.2. I also refer the Board to Figures 12.3.01 and 12.3.02, entitled ‘Landscape Planning Aspect’, which identify the various amenity, environmental management zones and scenic/protected views in the area.

11.14.23. The road and its associated engineering structures will be seen as a prominent new feature in the receiving environment and I would agree with the applicant that the impacts on landscape character will be most pronounced at construction and early operation stage. The applicant acknowledges, in Section 12.7.2 of the EIAR that the proposed mitigation measures will have limited effect during the construction stage. This stage is, however, temporary and relatively short-term in nature and the significance and severity of the landscape impacts will generally abate over time, as the proposed mitigation planting becomes established and begins to either screen views of the PRD and its structures within the landscape or provide a natural context which will serve to embed the PRD into the receiving landscape.

11.14.24. The landscaping proposals are addressed separately below, however, it can be seen by comparing the pre- and post-establishment photomontages included in Appendices A.12.2 and A.12.3 of the EIAR, which I consider to be suitably comprehensive and representative, that the extensive landscaping measures proposed form a very important role in mitigating the landscape impacts of the PRD.

11.14.25. Notwithstanding the mitigating effects of the proposed landscaping measures, significant residual landscape impacts are predicted in the following areas:

- Along the edge of Sruthán Na Libeirtí, Bearna.
- On the open elevated landscapes of Ballagh, Ragoon, Letteragh, Barnacranny and Dangan Upper.
- On the recreation sports and amenity landscape of NUIG Sports Campus.
- On the lowland landscape valley of the River Corrib, and the setting of Menlo Castle.
- On the limestone landscape of Menlough and Coolough.
- On the rolling landscape through Castlegar, south of Ballindoooley Lough.

11.14.26. These areas are illustrated as 'Areas of Notable Landscape Impact' on Figures 12.1.01 – 12.1.15 of the EIAR, and it can be seen that the areas generally incorporate the proposed grade-separated junctions and the major structures (e.g. River Corrib Bridge and NUIG viaduct, Menlough Viaduct, etc.) or are open or rolling landscape types, where wide views are available.

11.14.27. The impacts on the River Corrib valley and the adjacent NUIG Sports Campus and Menlo Castle are addressed separately below. With regard to the other areas where significant residual landscape impacts are predicted, having inspected the area on a number of occasions, having reviewed the information submitted by the applicant, including the photomontages contained in Appendices A.12.2 and A.12.3, and having reviewed the Development Plan designations, including the Landscape Character Areas, I would concur with the applicant's assessment of areas which will experience a significant residual landscape impact, as set out above.

Visual impacts on properties

11.14.28. The visual impact of the PRD on properties was raised in a considerable number of written and oral submissions. Potential visual issues associated with boundary treatments and road lighting are addressed separately below.

11.14.29. I note that a Visual Impact Schedule (VIS) was included in Appendix 12.1 of the EIAR. The VIS, which should be reviewed with reference to Figures 12.1.01 – 12.1.16, assesses the potential visual impact at each property or group of properties

along the length of the PRD during the construction stage, at pre-establishment stage (i.e. at opening, when planting is not mature), and at post-establishment stage, (i.e. when planting has matured). It can be seen from the VIS that the applicant considers that the effectiveness of the mitigation measures will be enhanced as planting matures in height and density, resulting in the significance of visual impact reducing over time in many cases. The applicant contends that this will require a period of 5 to 7 years.

11.14.30. The scale of the PRD and the nature of the receiving environment, including the number and distribution of dwellings along local and national roads in the area, is such that significant visual impacts on residential receptors would be difficult to avoid. The applicant has accepted this and, notwithstanding the extensive mitigation planting proposed (see below in relation to landscaping), the VIS identifies that in the post-establishment stage, some 33 will have significant or very significant medium-term visual impact (reduced from 86 at pre-establishment stage) and 23 will continue to experience profound medium and longer-term negative visual impact (reduced from 30 at pre-establishment stage).

11.14.31. The main visual impacts associated with the PRD relate both to the road itself, and its associated structures, including embankments, over and underbridges, viaducts, retaining walls, etc. Other visual impacts will be associated with the loss of mature trees and planting and in many cases the change in the visual amenities of the area, particularly in more rural areas or where extensive demolition is proposed.

11.14.32. Mr Burns, in his submission to the oral hearing, provided a response to each submission/objection that raised the issue of visual impacts on properties.

11.14.33. A number of submissions were received from residents of Rosán Glas and Árd Na Gaoithe, two suburban estates. Having regard to the characteristics and context of these estates, and their proximity to elements of the PRD, I do not consider that the PRD will give rise to significant visual impacts at these locations. I note, however, that the proposed screen planting will act as a visual separation and buffer between existing development and the PRD.

11.14.34. Mr Damien Kelly, a resident of Na Foraí Maola Thiar, raised issues in his submission at the oral hearing on 14th October 2020, regarding the visual impacts of the PRD on his property due to its elevation in this area. Mr Kelly's property is close

to the northern boundary of the PRD mainline (approx. Ch.1+050) which is on an embankment in this area. Mr Kelly, noting that the final design of the road had been dropped in other areas, queried why the road could not be dropped in this area to mitigate the visual impacts (see photographs included in submission). Mr Kelly's house would be c. 35m from the fenceline and 50m from the road edge. While the height of the road would be elevated c. 2.5m in this area, the extensive roadside planting proposed would be effective in substantially mitigating the visual impact at this distance. View 1 in Appendix A.12.3.1 is taken from a rear garden immediately east of Mr Kelly's house, but substantially closer to the PRD, and indicates the mitigating effects of the boundary planting. A moderate residual visual impact is predicted at this property, and I would concur with this assessment.

Aughnacurra and Ard an Locha

- 11.14.35. A number of submissions and objections were made by residents of the Aughnacurra estate, which is located on the eastern side of the N59 Moycullen Road, in the Dangan area. The estate comprises 14 No. detached houses arranged on large sites in an oval shape, with ornamental entrance gate, tree-lined avenue and extensive mature planting. It is proposed to acquire 6 No. houses within the estate (and to demolish 5 of these) to accommodate the PRD mainline, which will be elevated in this area, with a mix of retaining wall and embankment. It is also proposed to acquire the internal estate road.
- 11.14.36. The photomontages contained in Appendix A.12.3.3 of the EIAR provide four views of the PRD in the vicinity of Aughnacurra and are representative of the potential impacts in my opinion.
- 11.14.37. In addition to the submissions made by individual residents of Aughnacurra, I refer the Board to the submission made by Aughnacurra Residents Association at the oral hearing on 4th March 2020 (Ref. 48) which includes a number of useful photographs of the existing visual amenities of the estate, and requests various mitigation measures.
- 11.14.38. In response to the submissions by Aughnacurra residents, a number of additional commitments were made at the oral hearing and are included in the final SoEC (items 12.41 to 12.43 and 15.14 refer). These include:

- A grass verge with birch tree planting will be established to either side of the new entrance avenue into Aughnacurra Estate to match the character of the existing entrance.
- Except where the existing wall is retained, a new stone wall will be constructed to the front of properties 539 and 540 (west of proposed road development) along the side of the existing / realigned avenue within Aughnacurra Estate to match the character of existing stone walls within the estate.
- Ground levels within the residual lands at properties 539 and 540 shall be raised back towards the proposed road development and planted with 1000 no. trees of between 1.0 and 2.0m in height in accordance with the details set out on Figure GCRR-SK-OH-652 in Appendix A.21.2 [of SoEC]. The soil grading and planting shall not interfere with the proposed Bat Roost Structure in property 540.
- The existing decorative historic gates at the entrance to the Aughnacurra Estate will be removed, stored and erected at the front entrance upon completion, noting that they currently do not close and that they will not close and span the new entrance width.

11.14.39. These additional commitments are reflected in a revised planting plan for the Aughnacurra estate, which was submitted at the oral hearing and included as Appendix A.21.2 of the final SoEC.

11.14.40. Notwithstanding that these additional commitments generally provide the mitigation that they sought, the Aughnacurra Residents Association reiterated their resolute opposition to the PRD and the associated CPO prior to the close of the oral hearing.

11.14.41. These remaining residents of Aughnacurra will experience significant or profound residual visual impacts, arising from the PRD (depending on distance), due to the loss of visual amenity, visual character and the presence of the elevated mainline passing through the estate. I consider that the additional measures committed to by the applicant at the oral hearing will be of benefit in ameliorating the impacts associated with the insertion of the PRD into this mature residential setting and represent welcome additional mitigation. However, I do not consider that the

measures would reduce the significance or magnitude of the visual impacts, which will remain significant or profound. I note the submission made by Mr Michael Murphy, a resident of Aughnacurra at the oral hearing on 28th October 2020, in which he stated that the proposed planting would take 10 years to reach maturity, against which he noted the number of older people living in the estate, which he considered would increase the significance of the impacts. Given the design and alignment of the PRD, I do not consider that any additional mitigation imposed by the Board would feasibly reduce the significant/profound residual impacts on the remaining properties in Aughnacurra.

11.14.42. On the opposite side of the N59 Moycullen Road from Aughnacurra is the estate known as Ard an Locha. Again, this estate comprises detached houses with sizable grounds in some instances and a high level of residential amenity. It is proposed to acquire 3 No. houses within the estate, as well as undeveloped sites. The PRD will also be elevated on a sizable embankment and retaining structure as it passes through Ard an Locha, with an overbridge over the N59. The visual impacts associated with the PRD in this area were raised by a number of parties, including Galway N6 Action Group and Professor and Dr Kerin, who are residents of Ard an Locha.

11.14.43. Michael O'Donnell BL, accompanied by Professor Kerin, Dr Kerin and a number of technical experts made submissions at the oral hearing on 30th October 2020 regarding various environmental topics, including visual impacts (Ref. 98A – 98E). The applicant subsequently submitted a document entitled 'Response to submission on behalf of Prof. Michael and Dr Annette Kerin' at the oral hearing on 3rd November 2020 (Ref. 103). The Kerins' and their consultants subsequently made further submissions responding to the applicant's response, at the oral hearing on 4th November 2020 (Ref. 98F).

11.14.44. While Dr Kerin's submission contended that a moderate to significant negative visual impact represented a gross underestimation and misinterpretation of the impact on their family and property, the applicant clarified that, as per the EIAR, they acknowledge that there will a profound visual impact on the Kerins property at all stages, including post-establishment of the mitigation planting.

11.14.45. The visual amenities and character of Ard an Locha will be profoundly altered by the visual intrusion of the PRD, similar to the nearby Aughnacurra estate. The property will face a sizable embankment and overbridge with a noise barrier atop, and an electricity substation. View 4 in Appendix A.12.3.3 gives an indication of the visual impact. Mitigation measures in respect of this property include the provision of solid screen hoarding during construction, planting (12m depth) of the embankment, planting (6m depth) along the southern boundary of the access road to Ard an Locha, and planting to the front of retaining structure R08/02. The existing boundary walls, planting and gardens will be retained. Additional commitments were made at the oral hearing to locate the substation behind a 2m high limestone-faced boundary wall, with access via the gate proposed to the south of the Kerin property in order to ensure that the substation does not have a negative visual impact on the Kerin property. A further commitment was made to provide alternative accommodation for a 9 month period during construction.

11.14.46. Notwithstanding the proposed and additional mitigation, I consider that a profound negative residual visual impact will remain for this property.

11.14.47. With regard to other properties in the vicinity of the PRD, I generally concur with the assessment of the applicant as outlined in the VIS. While the PRD includes a suite of appropriate and comprehensive mitigation measures to avoid or reduce visual impacts, significant or profound residual visual impacts will continue to arise at post-establishment stage for a number of residential properties located close to the PRD.

Design of Bridge and Impact on River Corrib, NUIG Sports Campus and Menlo Castle

11.14.48. A number of parties raised issues regarding the visual impact of the PRD arising from the proposed River Corrib Bridge and on Menlo Castle and on views along the River Corrib. While the NUIG's objection was withdrawn, a number of other parties also contended that the PRD would have a negative impact on the visual amenities and character of the NUIG Sporting Campus and amenity walkways in the Dangan area.

11.14.49. With regard to Menlo Castle, the potential impact on the setting of the Castle and its demesne was raised at the oral hearing by various parties, including Mr

Stephen Dowds on behalf of the Galway N6 Action Group on the 20th October 2020 and Mr Ciaran Ferrie on 4th March 2020 and 21st October 2020. The Castle, which dates from c. 1550 and is in a ruinous state, is located on the eastern bank of the River Corrib, in a mixed agricultural and wooded landscape, which was formerly part of its demesne lands. Views of the Castle on its secluded riverside setting were referred to as one of the iconic views in Galway. The NUIG Sporting Campus is located on the opposite side of the River Corrib and there are currently unobstructed views of the Castle from the riverside walk within the NUIG lands. The NUIG Sporting Campus is a large publicly accessible amenity area, with numerous pitches, open areas, walks and a pavilion structure.

11.14.50. The proposed River Corrib Bridge will be located c. 140m to the south of Menlo Castle. The overall length of the proposed eight span bridge is c. 650m. The bridge crosses the River Corrib with a single span of c. 153m (i.e. there are no supports within the River), with one further short span to the east carrying the PRD onto a retained embankment, and the remaining spans to the west run through the NUIG Sporting Campus as a viaduct structure. The cross-section of the proposed bridge is T-shaped, with a single concrete box with variable depth (generally 3m, increasing to 7m at the main River span supports) and projecting 'wings' supported on inclined ribs at 4m centres. The superstructure will be supported on reinforced concrete piers, while 2m high transparent noise barriers are proposed on the bridge.

11.14.51. Detailed drawings of the bridge/viaduct structure were submitted in response to the RFI (Appendix A.1.1 and A.1.2 refer). Appendix A.12.2 of the EIAR also provides photomontages of the proposed bridge from a total of 22 viewpoints which I consider to be reflective of all main views from the surrounding area. I also note that a range of summer and winter photomontages are provided, which allows for a more comprehensive understanding of potential impacts.

11.14.52. Due to the scale of the bridge and viaduct structure it will, without doubt, impact on the fabric and structure of the landscape and visual amenities of the immediate area. Of particular assistance in understanding these localised impacts of the bridge and viaduct on Menlo Castle and the NUIG Sporting Campus are Views 5, 6, 7, 17 - 21.

11.14.53. From a design perspective, the proposed bridge is a relatively bland and functional structure, with its visual interest primarily arising from its scale and its positioning within the River Corrib valley. It could be argued that a more architecturally interesting or innovative bridge design should have been considered given the scale of the river crossing and the position close to Menlo Castle. The Inspectors queried this design approach at the oral hearing on 21st October 2020, and asked whether alternative architectural treatments had been considered. Mr Burns responded that consideration had been given to alternative designs, but it had been decided to keep the bridge as simple as possible, so that it would not detract from views when travelling north from the city along the River. Other approaches involving tied arches and suspension elements etc., had been considered but the applicant's view was that this resulted in visual clutter or dominance within the landscape. Having considered the design approach, I am of the view that the approach adopted by the applicant, comprising a visually simple and streamlined bridge, is the correct approach given the sensitivity of the landscape and visual amenity in this area and the natural and cultural heritage character of Menlo Castle and its demesne. While the structure does form a visual barrier across the river, separating Menlo Castle from the city, this is mitigated to an extent by the height of the bridge, the lack of a support within the river and the gentle arch of the soffit of the main span, which allows relatively open views from the riverside amenity areas through the bridge towards Menlo Castle, as can be seen in the photomontages. In this regard, the landmark prominence and visibility of Menlo Castle on the edge of the river bank will be retained to a considerable degree.

11.14.54. Notwithstanding this, from a landscape and visual impact perspective, I consider that the PRD will have a significant negative residual impact on Menlo Castle and its former demesne. The potential impact of the bridge structure on the architectural and cultural heritage of Menlo Castle and demesne is considered separately in Section 11.15.

11.14.55. The NUIG Sporting Campus is a valuable amenity and sporting facility, with an open expansive character belying its proximity to the city centre. The routing of the PRD through the campus on an elevated concrete viaduct will be visually intrusive and will have a negative impact on the visual and landscape character of the campus. While the viaduct structure will be visually intrusive, its raised nature will

avoid any significant visual or physical severance of the campus, and will allow for the continued use of the campus and access within and through the campus, including to the riverside amenity walkways. The proposed use of transparent noise barriers will assist in reducing noise levels and will slightly reduce the massing and apparent depth of the structure. However, it will remain a very substantial engineering structure with an appearance that is at odds with the existing character of this amenity area. The applicant considers that there will be a significant negative residual impact on the NUIG Sporting Campus and I would concur with this assessment. However, while there will be changes and negative impacts on the amenity of the area, the use of the facility will not be prohibited by the PRD and, having regard to its location in an increasingly urban area, I do not consider this a reason to refuse permission.

- 11.14.56. In terms of the impact on the wider area, the photomontages demonstrate that the undulating landscape, with the River Corrib being in a shallow valley, and the mature vegetation in the area are reasonably effective in reducing the impact of this very sizable structure on the visual amenities and landscape character of the area. The extensive additional landscaping proposals as part of the PRD will assist in further mitigating the impacts as planting becomes established. The nearest existing bridge on the River Corrib is the Quincentenary Bridge, c. 1.5km to the south, and View 1 demonstrates that the new bridge will be almost imperceptible from this existing bridge. Similarly, the photomontages from an elevated position on Coolagh Road (View 4, to the east of the bridge) and a similarly elevated position at Bushypark House (View 9, to the west of the bridge) illustrate the extent to which topography and vegetation mitigates the visual impact of the bridge/viaduct structure from the wider area. The bridge is somewhat more visible from elevated areas to the south west, as illustrated in the view from Circular Road (View 13). However, the location of the bridge within the River Corrib valley means that the bridge does not break the skyline, and I do not consider it to be unduly intrusive when seen from this area.

Landscaping Proposals

- 11.14.57. A considerable number of objections/submissions queried the landscaping proposals, with many contending either that the measures were inadequate or that insufficient detail had been provided by the applicant.

- 11.14.58. In response to this issue, I would refer the Board in the first instance to Section 12.6 of the EIAR, where details of the landscape mitigation measures and landscape proposals are set out, and the associated Figures 12.1.01 – 12.1.15. Additional landscaping commitments were also made at the oral hearing and are included in the final version of the Schedule of Environmental Commitments (SoEC) submitted at the hearing.
- 11.14.59. During the main construction phase, no significant landscaping-based screening is proposed, with the screening of construction works achieved through hoardings in the vicinity of dwellings and careful storage of materials. It is stated that side slopes and other landscape areas along the PRD will be prepared for soiling, and either seeded and/or planted at the earliest possible opportunity. This commitment is reflected in the SoEC, however I note that there is an inherent contradiction within Items 12.7 of the SoEC, and that Items 12.7 and 12.8 of the SoEC would also appear to contradict each other somewhat.
- 11.14.60. Item 12.7 states that: “Side slopes and other landscape areas along the proposed road development shall be prepared for soiling, and either seeded and/or planted at the earliest possible opportunity. As such, some scope may exist for undertaking significant areas of seeding and planting prior to the end of the construction works. **However, due to construction programming and seasonal restrictions, it is also likely that significant planting works will not be undertaken until the end of the major construction phase**” [emphasis added].
- 11.14.61. Item 12.8, however, states that: “All mitigation planting will take place at the earliest opportunity feasible during the construction stage so as to maximise establishment prior to road opening”.
- 11.14.62. It can be seen by comparing the pre- and post-establishment photomontages included in Appendices 12.2 and 12.3 of the EIAR that the landscaping forms a very important role in mitigating the visual and landscape impacts of the PRD, and as such, it would be appropriate to front-load seeding and planting works prior to the end of the construction works, where possible. The construction phase is predicted to last three years, with works occurring simultaneously on different sections, and while I understand why the applicant would wish to defer planting until the end of the construction phase, I do not accept their statement that construction programming or

seasonal restrictions would prevent such planting works from being undertaken. Should the Board decide to approve the PRD, I recommend that Item 12.7 of the SoEC be amended to omit the final sentence and clarify that early planting be undertaken where possible.

11.14.63. During the operational phase, both project-wide landscape measures and specific landscape measures are proposed, as detailed in Tables 12.7 and 12.8 of the EIAR, respectively. The measures are also identified, as appropriate, on Figures 12.1.01 to 12.1.15 of the EIAR. Mr Burns, in Section 4.2 of his submission to the oral hearing, also set out the landscaping measures and proposals in respect of each of the properties where objectors had contended that inadequate or insufficient detail had been provided. This is addressed in the CPO section of this report for each objector. However, I consider that full and clear details of landscaping proposals have been provided by the applicant and I do not consider that any uncertainty remains.

11.14.64. A dense network of deciduous and evergreen native planting is proposed to provide screening of the PRD and traffic utilising it and to assist it in assimilating into its wider landscape setting. The applicant accepts that the exposed nature of the landscape in certain areas (i.e. in Western areas) will have the effect of restricting the overall growth and height of proposed planting. Such restricted growth would be typical of planting in this area and contributes to the open character and views of the area. I consider that it will remain relatively effective in screening the road, which is a single carriageway in this area, with at grade junctions, and as such will be intrinsically less intrusive. The exposed nature of the area may, however, result in failure of planting in some instances and I note that Item 12.14 in the SoEC commits to replacing failed, dead or defective plants. This will be an important element of the maintenance and aftercare programme of the PRD, in my opinion.

11.14.65. In general, new hedgerow planting is proposed along the full extent of the fenceline boundary of the PRD and around attenuation ponds. The exception to this is at structure locations, such as bridges, tunnels etc. This hedgerow will comprise a double staggered hedgerow with tree planting, where locally appropriate, and will be a mix of blackthorn (in the western areas), hazel (in the eastern areas), hawthorn and holly, interspersed with elder, willow and other trees found in the local environment. In total, the applicant notes that this will result in the planting of over

68km of new hedgerow with c.275,000 hedgerow trees and shrubs, which includes over 2,700 half-standard sized trees.

- 11.14.66. Additional screen planting is proposed in many areas, where sufficient land is available within the development boundary, in planting belts that are a minimum of 3m or 6m wide, depending on location, as illustrated in Figures 12.1.01 to 12.1.15 of the EIAR. This depth of planting increases up to c. 18m on some of the embankments. This screening planting includes various quick growing native tree and shrub species, with a total of over 300,000 sq m of screen planting.
- 11.14.67. In total, the proposed landscaping measures will result in the establishment of over 500,000 sq m of new planting using approximately one million trees and shrubs.
- 11.14.68. While the construction of the PRD will require the removal of a large amount of existing hedgerows and planting and the insertion of civil engineering works within a rural or semi-rural area, the proposed landscaping works are extensive and comprehensive, and I consider that they will generally be successful in mitigating the landscape and visual impacts associated with the PRD to a considerable extent. This mitigating effect will increase over time as the planting becomes established, and the series of photomontages included in Appendix A.12.3 of the EIAR demonstrate the effectiveness of this planting, particularly in the post-establishment phase, in screening the PRD and embedding it within the receiving landscape.
- 11.14.69. In conclusion on this issue, I consider the proposed landscaping proposals to be unambiguous and sufficiently detailed and I further consider them to be of high quality and comprehensive, noting in particular the use of layers of native planting and the broad mix of species and deciduous/evergreen species. Notwithstanding this, while the landscaping will be generally successful in mitigating the landscape and visual impacts of the PRD to a considerable extent, there will remain adverse impacts, including significant and profound adverse impacts, for a number of receptors as outlined above.

Boundary Treatments, including Stone Walls

- 11.14.70. A number of parties contended that inadequate details of the proposed boundary treatments had been provided by the applicant or objected to the proposed removal of existing stone walls and the proposed use of timber fencing rather than replacement stone walls in various areas.

11.14.71. The applicant's approach to proposed boundary treatments is set out in Section 5.5.4.3 of the EIAR and was clarified in their RFI Response, Appendix A.1.9 of which includes boundary treatment detail drawings and Figures 1.6.01 to 1.6.30, which identify the locations of the various boundary treatments. An updated version of these boundary treatment drawings was included as an Appendix to the final SoEC submitted before the close of the oral hearing, to address additional commitments made in the course of the hearing.

11.14.72. The issues of stone walls were addressed in Section 4.4 of Mr Burns submission at the oral hearing. He noted that Chapter 11 of the Galway City Development Plan includes references to retention of stone walls "where possible" (section 11.2.8, pages 176-180); and "where feasible" (section 11.3.1 (a), page 185), and that the Galway County Development Plan contains similar references to retention and incorporation of features such as stone walls into development, "wherever possible" or "wherever feasible" (e.g. Objective NHB 11, page 162 and DM Standard 41, page 239).

11.14.73. Mr Burns contended that the existing stone wall field boundaries are often dilapidated and overgrown with scrub, and as such they are not – and never were – of a character or quality of the stone wall landscape of east Galway. He contended that, in most places these original field boundary features are fading into the background landscape, with their original prominence continually declining. The applicant's position is that these features are retained along the PRD, wherever possible, as illustrated in Figures 12.1.01-12.1.15 of the EIAR, and that existing stone walls along local roads and around residential properties will be retained or replaced where possible.

11.14.74. Mr Burns contended that it would be impractical and inappropriate to build new stone walls along the mainline of the PRD as, given the varied and understated nature of indigenous stone walls in the landscape, newly constructed stone walls along the mainline would in themselves be overbearing, out of character and visually incongruous in this landscape.

11.14.75. I note that Section 2.6 of the RFI response notes the ecological, cultural heritage, aesthetic, natural heritage and amenity value of dry-stone walling. However, the 'Typical Stone Wall' detail drawing (GCRR-SK-C-001) contained in

Appendix A1.9 of the RFI response shows a mortared wall. The Inspectors asked the applicant at the oral hearing on 21st October 2020 why dry stone walls were not being proposed instead of this more engineered approach. The applicant's response was that the proposed design was more resilient and robust. I consider this response to be acceptable, noting the need for secure boundaries in the interests of road safety and ease of maintenance.

11.14.76. The removal of large extents of stone walls is regrettable. However, stone walls are relatively common in the vicinity of the PRD, and I do not consider that constructing stone walls along the mainline boundary of the PRD would be an effective mitigation measure. The existing stone walls that it is proposed to remove are generally dry stone walls, and are extremely heterogenous with variations in height, construction and alignment. They typically bound small irregularly shaped fields. Any replacement walls along the PRD mainline would, by necessity, be homogenous, with more uniform structure and alignment and each section would be of considerable length. I would agree with the applicant's assertion that such walls would be visually incongruous and in my opinion would be relatively alien within the receiving environment, creating their own visual and landscape impacts. I consider that the proposed approach of timber fencing with dense boundary planting is a more appropriate solution along the PRD mainline from a landscape and visual perspective. With regard to local roads and boundaries to dwellings, I consider it appropriate to construct high quality stone walls as proposed, where there will be impacts on existing walls. I also note that the applicant has undertaken to make the dismantled stone from walls available to landowners, should they wish to re-erect walls on their side of the PRD boundary. This would be at the landowners' expense, and, therefore, may have limited uptake. However, it may be of interest to landowners who view stone walls as an important feature of their landholding.

11.14.77. Section 4.11 of the applicant's Main Brief of Evidence provides individual responses to the CPO objections which raised boundary treatment issues and these are addressed in the CPO Section of this report.

11.14.78. The proposed 1.3m high post and rail timber fencing, which is the main boundary treatment proposed, is a typical fencing design in accordance with TII Standards and is found on road schemes across the country. It is rendered mammal resistant with infill mesh along the majority of the mainline and, once reinforced with

native planting as is proposed, I consider that it strikes an appropriate balance between road safety and minimising visual impacts on the receiving environment. Where fencing is proposed along the boundaries of equine enterprises, a slightly different stud fencing is proposed, which does not result in any additional visual impacts.

11.14.79. A number of submissions also queried the boundary treatments around attenuation ponds or contended that the ponds would be unsightly. Mr Burns stated at the oral hearing that paladin security fencing is proposed, with landscaping planting around the ponds. This is also indicated on the boundary treatment drawings. I note, however, that the detail fencing drawing submitted by the applicant in Appendix A.1.9 (amended version included as an appendix to the final SoEC) is of a palisade fence, not a paladin fence. Palisade fences are a more visually intrusive and less transparent form of fence due to the heavy vertical bars, and in the interests of clarity I recommend that the Schedule of Environmental Commitments be amended to require all security fencing to be paladin type fencing. I consider a c. 2.4m high metal paladin fence to be appropriate around these ponds in the interests of health and safety, and I consider that the proposed planting will soften the visual impact of the metal fencing as it becomes established.

11.14.80. In conclusion, I consider that the proposed boundary treatments and the removal of stone walls is acceptable from a landscape and visual impact perspective, and that the mitigation measures proposed, including very substantial landscaping proposals, will assist in mitigating the impacts associated with the boundary treatments.

Road Lighting Impacts

11.14.81. A number of parties, primarily objectors/observers living close to the PRD, raised the issue of road lighting, particularly with regard to the impact of light spill, light pollution and associated impacts on residential amenity.

11.14.82. The proposed lighting column locations and lighting isolines are shown on Figures 5.4.01 to 5.4.15 of Volume 3 of the EIAR. I note that the full extent of the PRD mainline will not be lit, with road lighting generally limited to junctions and tunnel portals and their immediate approaches. The extent of the PRD mainline from the eastern portal of Lackagh Tunnel (Ch. 11+420) as far as the N83 Tuam Road

Junction (Ch. 14+000) would, however, be lit. Road lighting is also proposed along the proposed N59 Link Roads North and South, City North Business Park Link and Parkmore Link Road. It is also proposed on the extents of the N83 Tuam Road, N84 Headford Road, School Road, Racecourse Avenue, Ballybrit Crescent Junction, Briarhill Link and proposed Coolagh Junction where there are tie-ins to the existing road network, with road lighting generally already present through most of this area.

11.14.83. A variety of lantern types are proposed of various heights and light emissions, and all will be LED. Section 5.5.4.4 of the EIAR states that lighting will comply with TII Standards and DMRB requirements and that the use of LED fittings with well-defined, controlled light beam distribution will significantly reduce light spill compared to traditional discharge lamps. Lanterns will include cut-off fittings, which prevents light emission to the sky and minimises light spill off the PRD.

11.14.84. It can be seen from the lighting isolines on Figures 5.4.01 to 5.4.15 that the lighting design approach will ensure that lanterns are generally effective in limiting light spill beyond the PRD boundary. This is assisted in some instances by the location of the PRD in cutting, which shields nearby properties from light spill. I consider the extent of lighting to be reasonable and appropriate to the receiving environment, with that proposed in the more rural areas west of the N59 limited to junctions and their approaches, which will meet the required road safety function of lighting, while minimising the visual impact associated with the introduction of this new feature in the landscape. More extensive lighting is proposed east of the N59. This section of the PRD is Motorway, with associated large-scale grade-separated junctions, which must be lit. The receiving environment in this area is generally more built-up and suburban in nature, and many of the roads in the vicinity of the PRD are already lit. I, therefore, consider that lighting is an existing feature of the landscape in this area and the impact of the additional lighting will not be as significant.

11.14.85. The landscape planting measures proposed along the mainline, as outlined above, as well as the noise barriers in certain locations, will also be of benefit in mitigating the landscape and visual impact of lighting, both from the lanterns but more particularly from vehicles using the PRD.

11.14.86. In conclusion, I consider that the nature and extent of road lighting proposed is sensitive to the receiving environment, and I do not consider that it is excessive,

with lighting generally only provided where required for road safety reasons, or where urban roads are being provided. While some rural areas currently removed from public roads will be exposed to additional light emissions, I do not consider that the levels of light spill or light pollution that will arise from the PRD will significantly impact on the landscape or visual amenities of the area.

Proposed Parkmore Link Road Modification

11.14.87. Mr Burns addressed the potential landscape and visual impacts of the proposed modification of the Parkmore Link Road in Section 3.1.10 of his Brief of Evidence to the oral hearing. The modification includes for berms and associated 3m wide screen planting to mitigate any potential visual impact on Galway Racecourse and the applicant contends that the proposed modification will not have any significant landscape or visual impact either locally or in the wider setting and does not alter the EIAR assessment.

11.14.88. The location of the modified extent of the Parkmore Link Road is a marginal piece of land to the rear of the Boston Scientific industrial site, close to the boundary with Galway Racecourse. Having inspected the site I do not consider that this area is sensitive from a landscape or visual impact perspective, and I would concur with the applicant that no significant additional landscape or visual impacts are likely to occur as a result of the proposed modification.

Conclusion on Landscape and Visual Impact

11.14.89. I have considered all of the written and oral submissions made in relation to landscape and visual impact matters, in addition to those specifically identified in this section of the report. It is considered that the assessment of the landscape and visual impact conducted by the applicant together with the information provided during the course of the application, including at the oral hearing, is adequate to enable a full and comprehensive assessment of the issues.

11.14.90. The construction phase of the PRD will result in a range of landscape and visual impacts on certain landscapes and receptors, including significant and profound impacts. The mitigation measures proposed during this phase will have limited effect due to the scale and nature of the development, and it is considered that the negative landscape and visual impacts will continue during the construction

phase. Having regard to the limited duration of construction, and the linear nature of the development, I do not consider that these impacts would be unacceptable.

11.14.91. During the initial operation stage, landscape and visual impacts will continue, but the significance and severity of these impacts will generally abate over time as the proposed landscape mitigation proposals become established and increasingly effective at screening the PRD and/or incorporating it into the landscape. However, significant and profound negative residual visual impacts will continue to arise for numerous residential properties located close to or adjoining the boundary of the PRD, and particularly in the vicinity of major engineering structures at post-establishment stage. Significant residual impacts on landscape character will also continue to arise at a number of locations. The proposed mitigation measures, and particularly the extensive and comprehensive landscaping planting proposals, will not fully mitigate significant or profound impacts. However, they will ameliorate the impacts to a certain extent and this will increase over time as planting matures.

11.14.92. Significant residual visual impacts will also occur in the River Corrib valley at Menlo Castle and the NUIG Sporting Campus, primarily due to the visual intrusion associated with the proposed River Corrib Bridge and associated viaduct. These structures do not result in significant visual impacts in the wider area, due to topography and existing/proposed vegetation.

11.14.93. With regard to potential cumulative impacts, I do not consider that significant cumulative visual and landscape impacts beyond those associated with the PRD are likely to occur.

11.15. Material Assets – Archaeological, Architectural and Cultural Heritage

11.15.1. Archaeological, Architecture and Cultural Heritage is addressed in Chapter 13 of the EIAR. The series of Figures 13.1.01 to 13.1.15, contained in Volume 3 of the EIAR identify the relevant features, sites and areas described below, while the series of Appendices A.13.1 to A.13.12 contain supporting information on the receiving environment, the legislative framework, impact assessment methodology and mitigation measures. A submission responding to the heritage-related written submissions/objections, was given at the oral hearing on 20th February 2020 by Faith Bailey of IAC Archaeology on behalf of the applicant. The Schedule of

Environmental Commitments, which was updated at numerous stages over the course of the oral hearing, also sets out commitments in relation to archaeological, architectural and cultural heritage.

- 11.15.2. The assessment undertaken for the purposes of the EIAR included desk and field-based research, as well as information gathered during the constraints and route selection studies.

Receiving Environment

- 11.15.3. The receiving environment is defined in the EIAR as an area measuring c.250m from the edge of the PRD. Having regard to the linear nature of the proposed development and the construction methodology outlined in the EIAR, I consider this to be a suitably conservative definition. I also note that it is significantly wider than the recommended 50m from centreline measurement recommended in the *Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes* published by the then National Roads Authority in 2005.

- 11.15.4. A total of 41 No. Archaeological Heritage Sites (AH sites) are recorded within the receiving environment, however, the EIAR notes that 17 No. of these AH sites are due to be removed from the records by the Department of Culture, Heritage and the Gaeltacht for various reasons (e.g. non-archaeological, removed by quarrying/modern development etc.). Seven of the AH sites are recorded within the footprint of the road development, of which 6 No. are dismissed for reasons including already removed by quarrying etc. No trace of the seventh, which is a bullaun stone (Ref. AH2), has been found.

- 11.15.5. A total of 27 No. Protected Structures (BH sites) are recorded within the receiving environment, 9 No. of which are also AH sites. 1 No. Protected Structure is located within the footprint of the road – a single storey thatched cottage within the townland of An Caislean Gearr (Ref. BH12). 13 No. structures included in the National Inventory of Architectural Heritage (NIAH) are located within the receiving environment, and in a number of cases these again overlap with Protected Structures and recorded monuments.

- 11.15.6. There are no Architectural Conservation Areas located within the receiving environment, with the closest being Bearna village, which is c. 940m to the south-east of the road. A total of 9 No. designed landscapes (DL sites) have been identified

within the receiving environment, 4 No. of which are associated with a Protected Structure (Bearna House, Ragoon House, Bushypark House, Menlo Castle).

11.15.7. 72 No. previously unrecorded sites and structures of archaeological and architectural heritage merit (CH sites) have been identified during the course of the appraisal and are described in Table 13.9 of the EIAR. In addition, 12 No. areas of archaeological potential (AAP sites) have been identified and are described in Table 13.10 of the EIAR. I also note that the PRD traverses 33 No. townlands.

Potential Impacts

11.15.8. With respect to potential impacts, the EIAR notes that ground disturbances associated with the **construction** of the road have the potential to directly and negatively impact on a number of sites. These are listed in Tables 13.3 to 13.16, and I note the following sites that may experience significant or profound direct impacts:

- **Profound impacts:**
 - AH2: Bullaun stone.
 - BH12: Thatched cottage.
- **Significant impacts:**
 - DL8: Menlo Castle Demesne.
 - CH2: Site of vernacular buildings.
 - CH18: Vernacular cottage.
 - CH26: Vernacular cottage.
 - CH29: Site of vernacular buildings.
 - CH34: Site of vernacular building.
 - CH38: Possible square enclosure.
 - CH49: Possible prehistoric tomb.
 - CH52: Site of vernacular buildings.
 - CH55: Site of vernacular buildings.
 - CH56: Site of vernacular buildings.

- CH57: Possible mass path.
- CH58: Site of vernacular buildings.

11.15.9. The EIAR also notes the potential for moderate to profound negative impacts to occur on as yet undiscovered subsurface archaeological features, deposits or artefacts that have the potential to survive beneath designated AAPs or in places where there is no surface expression. Potential negative impacts on townland boundaries are also identified.

11.15.10. No indirect impacts arising from vibration or dust associated with the construction activities are anticipated.

11.15.11. During the **operational phase**, the proposed development has the potential to indirectly and negatively impact on a number of sites. These are listed in Tables 13.17 to 13.20, and I note the following sites that may experience significant indirect impacts:

- **Significant impacts:**
 - AH15: Summer house.
 - AH16: Menlo Castle.
 - BH9: Summer house.
 - BH10: Menlo Castle.
 - DL8: Menlo Castle demesne.
 - CH20: Vernacular buildings.
 - CH23: Vernacular cottage.

Mitigation Measures

11.15.12. Mitigation measures are described in Section 13.6 and in Appendix A.13.11 of the EIAR. The proposed construction phase mitigation measures include:

- Test trenching within the footprint of the PRD prior to construction. Provision for excavation where appropriate.
- Full measured, written and photographic survey of the thatched cottage (BH12) prior to demolition.

- Excavation of all previously recorded archaeological sites, where these fall, in whole or in part, within the footprint of the development.
- Detailed photographic and written record of the demesne landscape associated with Menlo Castle (DL8), at Dangan Lower (DL7) and at Bushypark House (DL4) prior to the construction of the PRD.
- Detailed written and photographic survey (to include test trenching where appropriate) of all Cultural Heritage (CH) sites listed in Table 13.17 of the EIAR that include built heritage remains. Provision for excavation where appropriate.
- Archaeological wade or underwater assessments will be carried out at any natural water courses (AAPs) to be impacted upon by the PRD by disturbance to their banks or beds. Provision for excavation where appropriate.
- Detailed written and photographic survey (to include test trenching where appropriate) of any section of Townland Boundary to be impacted upon. Provision for excavation where appropriate.

11.15.13. The proposed operational phase mitigation measures to address indirect impacts are to undertake a detailed photographic and written landscape record of the following sites to preserve their current setting prior to the construction and operation of the PRD (i.e. these mitigation measures will be carried out during or prior to the construction phase):

- AH 15, 16, 29, 11, 12, 23 and 26.
- BH 1, 7, 9, 10 and 17.
- CH 20, 23, 8, 25, 30, 35, 42 and 54.

Residual and Cumulative Impacts

11.15.14. The EIAR predicts no residual impacts during the construction phase, once the recommended mitigation measures have been applied.

11.15.15. During the operational phase, it is stated that the proposed mitigation measures will not fully remove the residual impact of the PRD on the setting of Menlo Castle (AH 16/ BH 10) and the Summer House at Dangan Lower (AH 15/ BH

9)²⁹ and that an indirect moderate negative impact on the castle and Summer House will remain.

11.15.16. Potential cumulative impacts are addressed with a range of projects and plans listed in Section 13.7.4 of the EIAR, and in the various iterations of the Cumulative Impact Assessment Update Addendum Report that deals with approved and pending applications since publication of the EIAR. No proposed developments are identified that will result in a significant negative cumulative impact upon the archaeological, architectural and cultural heritage resource.

11.15.17. Tables 13.21 to 13.26 of the EIAR provide a comprehensive summary of the sites, the potential impacts and the proposed mitigation measures.

11.15.18. **Assessment**

11.15.19. I consider that the potential significant impacts are as follows:

- Recorded Monument and Protected Structure to be demolished.
- Menlo Castle.
- Archaeological features in Coolagh/Menlo area.
- Stone walls.
- Impact on Gaeltacht cultural heritage.
- Parkmore Link Road Proposed Modification.

Recorded Monument and Protected Structure to be Demolished

11.15.20. As noted above, potential profound direct impacts have been identified for 1 No. recorded monument and 1 No. protected structure. The recorded monument is listed as a Bullaun Stone (AH2). However, it was not found during a site inspection by the applicant, or during an earlier survey by the Archaeological Survey of Ireland. It would appear, therefore, that the feature is either no longer extant or that it has been moved.

11.15.21. The protected structure that it is proposed to demolish is located along the proposed PRD mainline at approx. chainage 12+875, in the townland of An Caislean

²⁹ Section 13.7.3 of the EIAR, dealing with residual operational impacts, uses incorrect reference numbers for these two structures.

Gearr/Castlegar. The structure in question is a single storey thatched cottage (Ref. BH12) and is identified in the National Inventory of Architectural Heritage (NIAH) as being of 'Regional' interest, under the 'architectural' and 'technical' categories. It is described as follows:

“Detached four-bay single-storey thatched house, built c.1800. Pitched reed thatched roof having smooth rendered low chimneystack. Painted smooth rendered walls. Square-headed window and door openings having painted render surrounds, painted sills, replacement timber windows and replacement timber panelled door. Smooth rendered wall and hedgerow to boundary.”

11.15.22. The NIAH Appraisal states that “the low elevation, thick walls, and small openings are typical of the vernacular tradition in Ireland. Once common throughout the countryside and small villages, thatched buildings have become increasingly rare. This example retains its original form and notable features such as its low chimneystack, and is pleasantly presented with painted details”.

11.15.23. While this is an application under the Roads Act 1993, as amended, I note that under section 57(10)(b) of the Planning and Development Act 2000, as amended, a planning authority, or the Board on appeal, shall not grant permission for the demolition of a protected structure or proposed protected structure, save in exceptional circumstances.

11.15.24. The proposed mitigation measure is a full measured, written and photographic survey of the structure, prior to demolition. While the EIAR considers that no residual impacts remain I do not accept that the creation of a 'record of the past' (as it is described in the NRA 'Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes') will mitigate the profound impact arising from the demolition and removal of a protected structure. I consider that there will be a profound direct residual impact on the protected structure.

11.15.25. Notwithstanding this, I consider that there are exceptional circumstances associated with the need and purpose of the PRD and the positive impacts it will have in other areas which, when balanced against the demolition of the thatched cottage, would support its demolition. While the pre-demolition survey would not fully alter the magnitude of the predicted impact, it is a reasonable compromise in my opinion.

Menlo Castle

- 11.15.26. The potential impact on the setting of Menlo Castle and its demesne was raised in a number of submissions, and raised at the oral hearing by a number of parties, including Mr Stephen Dowds on behalf of the Galway N6 Action Group on the 20th October 2020 and Mr Ciaran Ferrie on 4th March 2020 and 21st October 2020.
- 11.15.27. Menlo Castle which dates from c. 1550, is currently in a roofless and ruinous state and covered in ivy, having been gutted by fire in 1910. It is included within the Record of Monuments and Places, is a Protected Structure (AH 16/ BH 10) and is included on the NIAH. However, it is not a National Monument. It is located on the eastern bank of the River Corrib, in a mixed agricultural and wooded landscape, which was formerly part of its demesne lands. The NUIG sports campus at Dangan is located on the opposite side of the River Corrib, and there are unobstructed views of the Castle from the riverside walk within the NUIG lands. A small ruined stone structure, identified as a Summer House (AH 15/ BH 9) is located on the western bank of the River Corrib and appears to have been historically associated with the Castle (described as a possible tea house for residents of Menlo Castle).
- 11.15.28. Menlo Castle is located c. 140m northwest of the proposed River Corrib Bridge and the bridge will run between the Castle and the Summer House. The applicant considers that there is the potential for an indirect significant negative impact upon both the Castle and Summer House as archaeological and built heritage sites, which they propose to mitigate with a detailed photographic and written record of the current setting, resulting in an indirect moderate negative residual impact on both structures during the operational phase
- 11.15.29. With regards to the post-medieval demesne landscape (DL 8) associated with the 18th and 19th century use of the Castle, the predicted impact is a direct, significant negative impact, again to be mitigated with a detailed record. Ms Bailey, in her submission at the oral hearing, stated that the former demesne now exists in a denuded state and that sections have been subject to modern development. She stated that, considering the poor state of preservation of the designed landscape, it cannot be considered as representing the full curtilage associated with the protected structure.

11.15.30. Mr Ciaran Ferrie, in his oral hearing submissions, contended that the proposed development would significantly impact the curtilage and attendant grounds of Menlo Castle, and damage its unique character and setting, isolated on the banks of the River Corrib. He also contended that there was a contradiction between Ms Bailey's evidence at the hearing that there would be a significant impact on setting and Mr Burns' evidence that this would not be the case. I note, however, that Ms Bailey and Mr Burns were addressing cultural heritage and landscape and visual impacts, respectively, and while there is obviously an interconnection between the two disciplines in respect of Menlo Castle, I do not consider that there was any substantive contradiction in the submissions made.

11.15.31. In order to understand the nature and magnitude of the indirect impact on Menlo Castle and the Summer House, I refer the Board to the photomontages included in Appendix A.12.2 of the EIAR. These show the proposed River Corrib Bridge from a wide variety of viewpoints, and viewpoints 5, 6, 7, 19, 20, 21, 22 are instructive in this regard. I consider that the existing planting to be retained, combined with the simple open design of the proposed bridge, which crosses the River Corrib with a single span (i.e no pier within the River) and the separation distances involved, are sufficient to mitigate the residual impact on the Castle and Summer House to an acceptable level, noting also that a detailed photographic and written record of the existing structures and their setting is to be made prior to construction.

11.15.32. From a cultural heritage perspective, I would concur with the applicant that the PRD will have an indirect moderate negative residual impact on Menlo Castle and the Summer House. The potential landscape and visual impacts on Menlo Castle and its setting are also addressed in Section 11.14 of this report.

Archaeological Features in Coolagh /Menlo Area

11.15.33. A number of parties, including Ms Linda Rabbitte (Ob_584; oral submission 3rd March 2020) and James and Cathleen Barrett/Menlo-Ballindooley Residents (S_074; oral submission by Patrick McDonagh on 6th March 2020) raised concerns in their written and oral submissions regarding the potential impacts on architectural archaeological heritage features in the Coolough and Menlo area. These include a famine village settlement, thatched cottage (Protected Structure), Menlo castle and

its associated gate lodge, burial ground, Sean Bothar, which is stated to have been the route used by Oliver Cromwell's Army to enter Galway, and various unrecorded features which were not identified in the EIAR.

11.15.34. Ms Bailey responded to the issues in her initial submission to the hearing, and in responding to the oral submissions made and questions asked of her. In response to Ms Rabbitte, she confirmed that as per the EIAR, the entirety of the development would be subject to archaeological testing and mitigation, in consultation with the National Monuments Service. The thatched cottage at Coolough is identified as BH11, and is located 63m north west of the existing access to Lackagh Quarry. The PRD will be c. 314m north of the cottage. The EIAR considers the impact on BH11 to be neutral, and given the separation distances I would concur with this assessment.

11.15.35. In relation to Ms Rabbitte's queries regarding the impacts on construction traffic on Menlo castle gate lodge, Ms McCarthy, on behalf of the applicant, noted that the proposed haul route terminates on Bothar Nua at the crossing of the new road, and that construction traffic will not pass Menlo National School (Scoil Brighde) or access the site via the gate lodge.

11.15.36. With regard to the additional unrecorded archaeological features referenced by Mr McDonagh at the oral hearing on the 6th March 2020, the applicant noted their difficulty responding to the issues raised without knowing the location of the features in question. Mr McDonagh agreed to attend a joint archaeological field inspection with Ms Bailey where he would identify the locations of the features. This field inspection was undertaken on the 29th September 2020, and I note that a representative of TII also took part in the inspection. The results of this field inspection were submitted at the oral hearing on 14th October 2020 ('Archaeological Field Inspection, Coolagh Townland, Galway'; Ref. 79). It states that all of the 5 No. sites identified by Mr McDonagh are located outside of the footprint of the proposed N6 GCRR and that none of the sites are visible within historic mapping or have previously been recorded as archaeological or architectural sites. Ms Bailey contends that the sites may relate to animal husbandry use, and are likely to be post-medieval or relatively modern in date.

11.15.37. Mr McDonagh did not re-appear at the oral hearing following the submission of Ms Bailey's field inspection report, so it is uncertain whether or not he accepts Ms

Bailey's conclusions. Notwithstanding this, having reviewed the field inspection report, including mapping and photographs of the features, I am satisfied that there will be no direct impact on these features and that no significant indirect impacts are likely to occur that would warrant additional mitigation measures, given the nature of the features and the significant distances from the PRD.

Stone Walls

11.15.38. A number of parties raised the issue of the proposed removal of stone walls to facilitate construction of the PRD. While the potential impacts of removing such walls is generally a landscape and visual (and potentially biodiversity) impact, and as such are addressed elsewhere in this report, some of the walls have cultural heritage value. Section 4.2.3 of Ms Bailey's submission to the oral hearing referred to Mr Burns submission to the hearing on landscape and visual matters, but also noted that a number of stone walls that will be impacted upon were included in her assessment, as laid out in Table 13.9 of the EIAR (including CH 8, 33, 36, 48, 71 and 72). The sections of these walls to be removed will be subject to a full written and photographic record prior to the commencement of construction works. I consider this to be an adequate mitigation measure, noting that there is no specific protection afforded to these walls, although the Development Plans generally seek that stone walls be retained where feasible.

Impact on Gaeltacht Cultural Heritage

11.15.39. Part of the PRD will be located within a designated Gaeltacht area and, therefore, I consider it appropriate to consider the potential impacts on the cultural heritage of the Gaeltacht, and more particularly the Irish language. This issue was not addressed in Chapter 13 of the EIAR and was instead addressed in Chapter 18, 'Human Beings, Population and Human Health', and in the submission made by Mr John Cronin of John Cronin & Associates on behalf of the applicant at the oral hearing on 20th February 2020 (Ref. 20). This issue is also assessed in Section 11.6 of this report.

11.15.40. Mr Cronin stated that the PRD will not have any significant impact on the use of Irish into the future. However, he also noted that an improved road network will facilitate Irish speakers to commute more easily, lessening the need to re-locate for economic reasons. With regard to the potential for migration to Gaeltacht areas, and

associated 'dilution' of the Gaeltacht, Mr Cronin stated that it will be the responsibility of Galway County Council, Galway City Council and Údarás na Gaeltachta among others to ensure that the use of the Irish language is promoted and encouraged among new residents.

11.15.41. I note that Údarás na Gaeltachta is supportive of the PRD and considers that it will bring economic development benefits to the Gaeltacht area which will enable Irish-speakers to remain in the area.

11.15.42. The applicant considers that the PRD will have a Moderate Positive Impact on the status of Irish as a community language within the Gaeltacht area, and I consider that it will, likewise, have a moderate positive impact on the cultural heritage of the Gaeltacht area by improving access and facilitating economic development which can help sustain the Irish-speaking community.

Parkmore Link Road Proposed Modification

11.15.43. Having reviewed the information submitted by the applicant and having inspected the site, I do not consider that the proposed Parkmore Link Road modification would result in any additional or increased impacts on known features of architectural, archaeological or cultural heritage.

Conclusion on Archaeological, Architectural and Cultural Heritage

11.15.44. I have considered all of the written and oral submissions made in relation to archaeological, architectural and cultural heritage matters, in addition to those specifically identified in this section of the report. I am satisfied that potential significant impacts would generally be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. These proposed measures will, however, fail to fully mitigate the impact of the PRD on a protected structure (Ref. BH12) which it is proposed to demolish. Nevertheless, it is considered that the residual impacts following mitigation, would not justify a refusal, having regard to the overall benefits of the PRD. I am, therefore, satisfied that the proposed road development would not have any unacceptable direct, indirect or cumulative effects on archaeological, architectural and cultural heritage matters.

11.16. Material Assets – Agriculture

11.16.1. The issue of material assets – agriculture is addressed in Chapter 14 of the EIAR.

The series of Figures 14.1.01 to 14.1.15, contained in Volume 3 of the EIAR identify the plots of land affected by the proposed development, and indicate the location of proposed field entrances to retained lands. Appendix A.14.1, contained in Volume 4 of the EIAR, contains a summary of individual farm impacts. A submission responding to the agriculture-related written submissions/objections, was given at the oral hearing on 19th February 2020 by Mr Con Curtin of Curtin Agricultural Consultants Ltd. on behalf of the applicant. A submission by Mr Michael Sadlier on the same date, which responded to equine-related written submissions/objections, is also of relevance to this section.

Methodology

11.16.2. The assessment undertaken for the purposes of the EIAR is stated as having utilised information gathered during the constraints and route selection studies. It is stated that the author was able to engage directly with landowners in relation to 145 (74%) of the 195 No. agricultural land holdings directly affected by the road development. Where landowners could not be reached, roadside vantage points, aerial photography and other desk information sources were used. The applicant considers that the available data was sufficient for the agricultural impact appraisal.

11.16.3. The study area comprises 195 No. agricultural land parcels that are directly affected by the PRD (a total area of 1,096 ha). These are illustrated in Figures 14.1.01 – 14.1.15 of the EIAR. It is stated that proximity to an expanding city has resulted in many smaller, fragmented holdings and that this, combined with poor land quality (particularly west of the Corrib), means that the sensitivity of agriculture is low (48% of land parcels are considered to be low or very low sensitivity).

11.16.4. The methodology utilised to assess the agricultural impacts included evaluation of the baseline environment (i.e. types of farms and their sensitivity) and evaluation of the nature and magnitude of the effects on each farm and the effects on farming collectively along the entire route and within County Galway. Having considered the sensitivity of the baseline and the magnitude of effects, the impact significance is predicted for each land parcel affected, agriculture collectively along the PRD and agriculture within County Galway.

11.16.5. The Census of Agriculture 2010 statistics show that the average size of farms in County Galway is 25.8 ha compared to the national average size of 32.7 ha. In contrast, the average size of land parcels along the route is c. 6 ha. Approximately 21% of land parcels are less than 1 ha in size and accordingly have limited agricultural use. Beef farming is the main enterprise along the route and compared to the national average the number of small equine enterprises is high. However, as noted below, it is stated that these horses are mainly kept for leisure purposes.

11.16.6. It is stated that while the sensitivity of the beef and sheep farm enterprises range from very low to medium, there is one high sensitivity beef enterprise (cattle trader – PRO4 701) and two high sensitivity dairy enterprises (PRO 239 & PRO 241). The Galway Racecourse (MO6 691) is classified as very high sensitivity due to the equine enterprise and regional importance. There are two very high sensitivity equine land parcels (MO 751 & MO 760) and the remaining equine enterprises are medium, low or very low sensitivity enterprises where horses and donkeys are kept mainly for leisure purposes.

Potential Impacts

11.16.7. **Construction phase** impacts arising from noise, vibration and dust are not considered to be significant. Activities such as rock breaking/blasting and piling may result in a flight response in livestock but the applicant contends that this rarely causes a significant impact. The landtake will result in the acquisition of farm buildings on 17 No. land parcels, which is considered to result in temporary impacts because these facilities can be replaced with new buildings on the retained lands. Potential impacts arising from temporary disruption to power and water supplies and land drainage are also identified.

11.16.8. The reduction in land area once boundary fencing is erected is a permanent impact and the range of impact due to loss of land ranges from not significant to profound. The PRD will cross 62 No. land parcels causing separation of part of the farm, separating approximately 163 ha of land and creating 87 No. new land parcels. This land separation will also be a permanent impact and the range of impact is not significant to significant adverse.

11.16.9. With regard to potential **operational impacts**, the land loss impact which commences with the fencing off of the acquired land during the construction phase is

a permanent residual impact that continues in the operational phase. This impact cannot be mitigated except through compensation. Similarly, the separation/severance of parts of farms is a permanent impact but can be mitigated to an extent by providing access roads to the separated land parcel. This will result in additional travel distances and additional fixed costs on a farm and the range of impact is considered to be not significant to significant adverse. Impacts on drainage and the permanent disturbance impact caused by traffic, noise, air emissions and lighting are generally considered to be not significant.

11.16.10. The potential pre-mitigation impacts on land parcels are summarised in Table 14.6 of the EIAR. 68 No. land parcels are predicted to have a pre-mitigation impact which is significant adverse or greater (35% of all affected land parcels). These are broken down as follows:

- 13 profound impacts.
- 7 very significant adverse.
- 48 significant adverse.

Mitigation Measures

11.16.11. Mitigation of potential impacts takes place under two headings:

- General mitigation measures for the construction and operational phases.
- Compensation under the Compulsory Purchase System.

11.16.12. The general mitigation measures during the construction phase include: maintenance of access to separated lands; provision of alternative water or electricity supplies where interruption occurs; provision of boundary fencing; communication via a key contact person; and prior notification of noisy activities such as rock breaking/blasting; repair of land drains where required; and implementation of water quality and dust control mitigation measures detailed elsewhere in the EIAR.

11.16.13. With regard to the operational phase, the EIAR notes that the loss of agricultural land due to the construction of the PRD is a permanent loss which cannot be mitigated except through financial compensation. Similarly, landowners who lose buildings to the PRD will be compensated. It is stated that all separated land parcels will be accessible either via the local road network or via

accommodation access roads and tracks. Where existing water and electricity supplies to fields or farm yards are severed, the supply will be reinstated by provision of ducting where possible with compensation payments to enable farmers to replace these power and water supplies, or the provision of a permanent alternative water source or electricity supply. Any required re-organisation of fields, additional farm facilities required on separated lands, or other disruption and injury impacts will again be addressed in the compensation settlements. Finally, it is stated that landscaping along the PRD will minimise the visual impact on farms along the route and improve shelter in affected farms over time.

Residual and Cumulative Impacts

- 11.16.14. The residual impacts during the construction phase generally result from noise, dust and disturbance from construction traffic and construction activities. No significant residual impacts during this phase are anticipated. Operational phase residual impacts such as the loss of land and the separation/severance of land are permanent and, therefore, more significant than the temporary impacts that occur during the construction phase. No significant residual impacts on the drainage of affected farms is anticipated. Table 14.7 in the EIAR identifies the number of land parcels that will experience residual impacts, and identifies the nature of these farms i.e. dairy, beef/sheep and hay/silage, other (incl. equine) and not farmed.
- 11.16.15. 51 No. land parcels are predicted to have a residual impact which is significant adverse or greater (26% of all affected land parcels). These are broken down as follows:
- 4 profound impacts (2% of land parcels along the route of the PRD).
 - 9 very significant adverse (5% of land parcels along the route of the PRD).
 - 38 significant adverse (19% of land parcels along the route of the PRD).
- 11.16.16. With regard to the wider agricultural study area, which consists of the area of all land parcels directly affected (i.e. c.1,096 ha), c. 219 ha will be acquired which represents c. 20% of the study area. Land separation will affect 62 land parcels and 172 ha of land will be separated. However, this will be mitigated through the provision of access to the separated lands. The overall residual impact on agriculture along the PRD is considered to be moderate adverse.

11.16.17. The cumulative impact on regional agriculture is appraised by assessing the impact on agriculture in County Galway due to the landtake for the PRD in combination with other recently constructed and planned roads. Combined, these projects will require <1% of the agricultural area of County Galway which is not considered to be significant.

11.16.18. **Assessment**

11.16.19. I consider that the potential significant impacts are as follows:

- Impacts on retained lands and farm viability.
- Access during construction and operation.
- Noise, vibration, dust and air emissions.
- Impacts on services.
- Impact on land drainage and flood risk.
- Farm security and privacy issues.
- Boundary treatments and landscaping.
- Impacts on equine enterprises.
- Parkmore Link Road Proposed Modification

Impact on Retained Lands and Farm Viability

11.16.20. The PRD will result in the permanent loss of a substantial amount of farmland and the severance of numerous farm enterprises. Approximately 219 ha will be acquired (slightly reduced on foot of modifications to the CPO), representing c. 20% of the study area. Land separation will affect 62 land parcels and 172 ha of land will be separated/severed. The overall residual impact on agriculture along the PRD is considered by the applicant to be moderate adverse. In terms of the study area, I would agree with this assessment.

11.16.21. With regard to individual landholdings, I note that 51 No. land parcels are predicted to have a residual impact which is significant adverse or greater (26% of all affected land parcels). The loss of land cannot be mitigated other than through compensation as part of the CPO process. With regard to severance, the applicant has undertaken to provide alternative access arrangements and provision of

services, as detailed below. The agricultural enterprises that are significantly or profoundly adversely affected are likely to require major changes to their operations, management and scale and this is ultimately a compensation matter.

Access During Construction and Operation

11.16.22. A considerable number of submissions/objections raised concerns regarding access to retained lands during both the construction and operational phases.

11.16.23. During the construction phase, the landholdings which are severed by the PRD are the most likely to experience temporary severance or interruption of access. Section 14.6.2 of the EIAR states that adequate access across the PRD will be maintained for these land parcels during construction by providing temporary crossing points for livestock and machinery until the permanent access accommodation works are in place, and that where temporary disruptions to access occurs landowners will be notified in advance. A key contact person will also be appointed to liaise with landowners and ensure that access requirements are communicated to the contractor and facilitated. These commitments are included as Item 14.1 of the SoEC. Landholdings which are not severed by the PRD may potentially experience temporary disruption due to construction activity and traffic. It is again proposed to address this through liaison and communications.

11.16.24. Having regard to the commitment to provide access and to liaise with affected parties and the limited duration of the construction phase, I would concur with the applicant that impacts associated with access during the construction phase are not likely to be significant.

11.16.25. During the operational phase, access will be provided to all retained lands via new access roads and/or access gates to standard TII design. Mr Curtin addressed access arrangements to each objector's lands individually in his submission, and these are assessed in detail in the CPO section of this report. It should be noted that the proposed agricultural access arrangements for Plots 504 and 506 run through a residential estate known as The Heath, and the majority of the residents are strongly opposed to this proposal. This is again addressed in the CPO section. Noting that all separated land parcels will be accessible either via the local road network or via new access roads, I do not consider that access arrangements in the operational phase are likely to result in significant impacts.

Noise, Vibration, Dust and Air Emissions

- 11.16.26. The issues of noise, vibration, dust and air emissions are addressed comprehensively in Sections 11.11 and 11.12 of this report. However, I consider it appropriate to address the potential impacts of these issues on livestock health and welfare.
- 11.16.27. Section 14.5.3 of the EIAR states that general construction noise and vibration will have no significant impacts on livestock. Mr Curtin, in his submission to the oral hearing, stated that this was because livestock very quickly adapt to construction machinery noises, vibrations and movements and will graze land adjoining new roads during the construction and operational phases. However, during the construction phase, livestock may react in an unpredictable manner where there are sudden changes in the grazing environment due to activities such as rock breaking or blasting, there is the potential for injury due to the flight response.
- 11.16.28. With regard to blasting, Mr Curtin noted the instantaneous nature of blasts, and stated that while blasts are accompanied with air and ground vibrations there is no visual stimuli which is usually required to cause a sustained flight response in livestock. He stated that it was recommended to temporarily remove livestock from the direct vicinity of blasting or rock breaking sites, and to reintroduce the livestock as they become accustomed to blasting / breaking. I consider this to be a reasonable and proportionate approach which will minimise the risk to livestock health and wellbeing. I also consider that good communications and liaison with affected landowners will be an important mitigation measure. I note in this regard the following commitments included in the SoEC:
- 14.4: A key contact person will be appointed during the construction phase to facilitate communications between affected landowners and to facilitate the re-organisation of farm enterprises by farmers during critical times.
 - 14.5: Landowners with lands adjoining sites where either rock breaking, blasting or piling takes place will be notified in advance of these activities.
- 11.16.29. In conclusion, I do not consider that noise and vibration is likely to result in significant impact on agricultural practices or on livestock,

11.16.30. With regard to potential dust impacts on livestock, Mr Curtin stated, in his submission to the oral hearing, that dust will not have a significant impact on grazing livestock, due to their high tolerance to elevated clay/soil content in grass and their lack of sensitivity to air dust particles in outdoor situations. He stated that dust from construction sites does not cause eye irritation or respiratory problems for grazing livestock in the vicinity. Mr Curtin noted that there are no statutory regulations or quality guidance documents in relation to meat or milk produced from farms beside motorways, which he contended was because there are no known significant effects. As identified in Chapter 16 of the EIAR, the predicted maximum annual Nitrogen deposition rate is 1.27 kgs/ha/yr on land adjoining the PRD, and it is not considered that this will significantly affect grass growth or quality.

11.16.31. Dust will principally be a temporary impact during the construction phase, and as noted in Section 11.11 of this report, I consider that a comprehensive range of mitigation measures has been included in the EIAR and the CEMP to control dust emissions and a dust monitoring regime is proposed during the construction phase. On this basis, and having regard to the limited Nitrogen deposition rate, I do not consider that dust or air emissions are likely to result in significant impacts on agricultural practices or on livestock.

Impacts on Services

11.16.32. Arising from the severing of landholdings, several objectors contended that the PRD would impact on services including electrical supplies, wells or the provision of a water supply to severed portions of land. The EIAR states that there may be temporary disruption to water supplies and commits to monitoring of all wells within 150m of the proposed development boundary (or 50m from the calculated drawdown Zol if greater) on a monthly basis for 12 months before construction, during construction, and for 12 months after construction. If the monitoring indicates that the PRD has impacted on the well, then the applicant states that mitigation will be applied, comprising either an alternative water source or supply.

11.16.33. Where existing water and electricity supplies to fields or farm yards are severed, it is stated that the supply will be reinstated by provision of ducting where possible. Alternatively, where ducting is not feasible a permanent alternative water

source or electricity supply will be made available, and compensation payments will enable farmers to replace power and water supplies.

- 11.16.34. Given that services can generally be reinstated or alternative services provided, I do not consider it likely that significant residual impacts will arise as a result of this issue.

Impact on Land Drainage and Flood Risk

- 11.16.35. Many landowners raised the issues of drainage of retained lands and flood risk arising from the PRD. Drainage proposals and flood risk issues are addressed in Section 11.10 of this report, however the potential agriculture impacts will be addressed in this section.

- 11.16.36. The potential impact on land drainage is acknowledged in Section 14.5.3 of the EIAR, and mitigation measures are proposed in Section 14.6.2, and more comprehensively in Section 11.6.2 of the EIAR, to address the potential impacts.

- 11.16.37. Mr Curtin, in his submission at the oral hearing, stated that, during construction, where drainage outfalls are temporarily altered or land drains blocked or damaged, an adequate drainage outfall will be maintained and land drains will be repaired. During both the construction and operational phases of the PRD the surface water run-off will be diverted to a series of treatment ponds before discharging and he stated that the drainage design is adequate to maintain the existing land drainage. With the implementation of these mitigation measures, he contended that the residual impact is not significant.

- 11.16.38. As I have concluded in Section 11.10, the proposed drainage design is considered to be suitably designed and adequate to drain the PRD without significantly impacting on the drainage of adjacent agricultural lands or increasing flood risk to such lands. Existing agricultural drainage outfalls will generally be retained or reinstated and, following the implementation of the mitigation measures, I do not consider the PRD will result in any significant adverse residual impacts on land drainage or flood risk.

Farm Security and Privacy Issues

- 11.16.39. Concerns were expressed by a number of parties that the PRD would encourage: trespass on farmlands; anti-social behaviour due to increased

accessibility; and illegal dumping, particularly on proposed access roads. A loss of privacy was also raised by a number of agricultural landowners.

11.16.40. Mr Curtin, in his submission to the oral hearing, contended that incidents of disturbance to livestock due to stray dogs or human trespass are most likely to occur near urban centres where agricultural land adjoins housing estates and as such is an impact that pre-exists the PRD. He contended that there are no significant effects from increased security risk adjoining new road developments and that the theft of machinery and livestock generally occurs in more rurally isolated areas where there is direct access to land from the public road network. As there will be no direct access from the PRD to adjacent lands, he considered that the potential impact from increased security risk is not significant. I would agree with this in respect of the mainline, but note that the PRD also includes link roads, access roads and works to existing roads. Notwithstanding this, appropriate agricultural boundary treatments, landscaping and gates are proposed and I do not consider that any significant impacts associated with trespass or anti-social behaviour are likely to arise.

11.16.41. Mr Curtin, referring to Section 14.6.3 of the EIAR, noted that this potential disturbance impact had been considered in respect of each affected land parcel, as outlined in Appendix A.14.1 of the EIAR, with the conclusion that because it will not have a significant impact on agricultural productivity, the impact is not deemed significant.

11.16.42. With regard to loss of privacy, it is accepted by the applicant that this will occur in respect of certain land parcels, but they contend that it will not have a significant impact on agricultural productivity. In the majority of situations, as the landscape mitigation along the PRD boundary becomes established, privacy will be restored to affected lands and I do not consider that any residual loss of privacy would be unacceptable.

Boundary Treatments and Landscaping

11.16.43. A considerable number of parties, including many agricultural landowners, queried the proposed boundary treatment and landscaping measures. This issue is addressed in detail in the Material Assets – Landscape and Visual section of this report (Section 11.14) and is addressed with regard to the landholding of each specific CPO objector in the CPO Section of the report.

11.16.44. It was contended in a number of submissions that inadequate details of the proposed boundary treatments had been provided by the applicant. Having reviewed the drawings submitted by the applicant, and in particular the series of Boundary Treatment Details Plan Layouts and the detail drawings (refer to versions included in Final Schedule of Environmental Commitments) I consider that there is no ambiguity or lack of detail regarding proposed boundary treatments. The general post and rail timber fence proposed for agricultural lands bounding the PRD are of a standard TII detail, are preservative treated, and are utilised on National Road schemes across the country. I consider that they are a suitable agricultural boundary treatment, and that they will provide adequate security to prevent livestock accessing the PRD. In many areas the post and rail fencing is made mammal-resistant with mesh infill. The accompanying landscaping planting will improve screening of agricultural lands and provide shelter as it matures. Standard agricultural steel or timber gates are proposed at field entrances.

11.16.45. Where equine enterprises are located adjacent to, or are severed by the PRD, it is proposed to provide stud fencing, as addressed in the equine section below.

11.16.46. A number of landowners have sought that stone boundary walls be provided, or have objected to the removal of drystone walls. This is again addressed in Section 11.14 of this report, and in the CPO section where relevant, but I would concur with the applicant's Agricultural consultant that stock-proof fencing is more appropriate where the PRD interfaces with agricultural lands. Drystone walling requires more upkeep and maintenance, as can be seen from the tumble-down appearance of many existing field boundaries, and given the high speed of traffic on the PRD mainline, I consider that the provision of secure and easily maintained stock-proof fencing is preferable from a human and animal welfare perspective.

Impacts on Equine Enterprises

11.16.47. A number of submissions contended that the PRD would impact on equine enterprises.

11.16.48. Mr Michael Sadlier, a veterinary and equine consultant, made a submission at the oral hearing on behalf of the applicant on 19th February 2020. Mr Sadlier noted that equine enterprise is present in 46 land parcels or 24% of land parcels along the PRD, with it being the main enterprise in roughly two thirds of these parcels. Mr

Sadlier contended that the high number of equine enterprises is primarily due to many of the small land parcels being used only to keep ponies and horses for leisure purposes.

11.16.49. Mr Sadlier stated that the only very high sensitivity equine enterprise is Galway Racecourse (Plot 691), while two equine enterprises, comprising typical stud farms, were considered to be of high sensitivity (Plots 751 and 760). The remaining equine enterprises were considered to be of medium or low sensitivity.

11.16.50. Mr Sadlier noted that construction of the PRD has the potential to create a significant amount of abnormal noise and visual stimuli that may be quite intrusive to horses in the immediate vicinity. He stated that when horses are confronted with an exposure to unfamiliar stimuli such as noise, movement, sights etc. a 'fight or flight' reaction can occur which may result in horses running away blindly from the stimuli (potentially injuring themselves or people) or remaining unperturbed. During the operational phase, he stated that horses are normally very adaptive to environmental changes and become very quickly receptive to the aural and visual stimuli associated with normal traffic flow. While Mr Sadlier's assessment is based on his own professional experience, rather than any stated guidance or published research, I note that it is not uncommon to see horses grazing adjacent to busy roads without any apparent distress or disturbance.

11.16.51. The results of the equine assessments, as per Appendix A.14.1 of the EIAR, are that 1 No. holding is profoundly affected, 1 No. holding very significantly affected and 9 No. holdings significantly affected, with the remainder being affected to a lesser extent or not at all. The impacts are generally related to the percentage loss and separation of land, and loss of water supplies. Mr Sadlier contended that these impacts are typical of other major road infrastructural projects and are acceptable when the wider societal benefits are taken into account. The profoundly affected holding (Plot 751) is due to the level of loss and separation/severance of the holding.

11.16.52. A submission was made at the oral hearing on 13th October 2020 on behalf of Mr Tom Burke, the owner of Plot 751, by Mr Kevin Miller. Mr Miller stated that Mr Burke operated an Irish draught horse breeding enterprise. He expressed concern that horses would chew timber fences, and that the wire mesh would be dangerous for horses. He considered that the existing stone wall was important to stop stock

straying, and also raised concerns regarding noise impacts on horses, seeking that a noise barrier be provided.

11.16.53. Mr Sadlier acknowledged that some horses chew fences, but said it was relatively uncommon. Ms McCarthy outlined two fencing options. The first was a double layer of fencing and 2m of planting (with the planting and fence on the landowners side). The alternative option is a tensioned post and mesh fencing. Mr Miller, noting the extent of acquisition contended that the planting and second fence should be located on the road-side, not the field-side. Mr Fitzsimons responding, stated that this is an accommodation works discussion to occur outside of the planning/CPO process.

11.16.54. I consider the proposed timber stud fencing proposal to be suitable for a stud farm enterprise and, should the objector ultimately prefer the double-fence option, I consider that this is a matter for discussion/agreement between the parties as part of the accommodation works. With regard to the request for a replacement stone wall, I have addressed this above and do not consider that it is justified. I do not consider that noise barriers are necessary at this location, noting that horses will adapt to the new noise environment during the operational phase.

11.16.55. The potential impact of the PRD on Galway Racecourse is addressed in various sections of this report, where appropriate, including Sections 10.7 and 10.8. However, purely with regard to equine matters, it is noted that the existing stables would be removed to facilitate construction of the Racecourse Tunnel and replaced with temporary stables, with permanent stables to be constructed, as detailed in Appendix A.15.2 of the EIAR. Having reviewed the replacement stables proposals, it is clear that they are of a very high standard both in terms of design and materials and in terms of equine welfare. The sequencing of construction works will ensure that there is no impact on race meetings.

11.16.56. The SoEC was updated in the course of the oral hearing to include the following items:

- 14.14: The design and construction of the temporary stables and permanent stables proposed for Galway Racecourse will be carried out in consultation with the Irish Horseracing Regulatory Board (Horse Racing Ireland HRI). The

British Horse Racing Association guidelines will be used as a benchmark in the design in the absence of any future specific HRI guidelines.

- 14.15: Galway County Council will continue to liaise with Galway Race Committee in relation to the implementation of any approval granted in so far as it relates to Galway Racecourse.

11.16.57. Mr Dermot Flanagan SC, who represented the Racecourse at the oral hearing, made a number of submissions focussing on the need for certainty and clarity with regard to construction works, phasing, mitigation and monitoring. While the racecourse will be negatively affected through the loss of land, the loss of existing stable, and the routing of a tunnel through its lands, I consider that the high-quality replacement stables will significantly benefit the racecourse and that the commitment made by the applicant to liaise with the Racecourse and ensure that there is no disruption of race meetings will be sufficient to mitigate the impact on the racecourse to an acceptable level. The developer will be bound by the conditions attached to any grant by the Board, and Mr Jarlath Fitzsimons, representing the applicant, provided a response to Mr Flanagan outlining how they would be bound by the commitments made.

11.16.58. Given the level of equine enterprises across the PRD area, the applicant also made an additional commitment at the oral hearing to employ an equine expert or veterinary practitioner for the duration of the construction contract (item 14.13 in final SoEC). Given the percentage of land parcels with an equine enterprise element, I consider that this additional construction phase oversight and monitoring role will be beneficial given the extent of the PRD, and to also address potential impacts in relation to Galway Racecourse.

11.16.59. Having reviewed the equine assessment, I would concur with the applicant's assessment that there will be profound or significant residual effects on a number of equine enterprises due primarily to land loss and land severance which cannot be mitigated, and which will instead be addressed through the compensation process.

Parkmore Link Road Proposed Modification

11.16.60. Having reviewed the information submitted by the applicant and having inspected the site, I do not consider that the proposed Parkmore Link Road

modification would result in any additional or increased impacts with regard to Material Assets - Agriculture.

- 11.16.61. More particularly, with regard to the potential impact of the modification on the adjacent Galway Racecourse, I would concur with Mr Sadlier's assessment that the proposed noise barrier and the continuous bunding will provide adequate visual and auditory shielding for the racing horses and is not likely to impact on animal health, welfare or performance.

Conclusion on Material Assets – Agriculture

- 11.16.62. I have considered all of the written and oral submissions made in relation to Material Assets – Agriculture matters, in addition to those specifically identified in this section of the report. Significant or profound residual impacts on retained lands and farm viability will arise in respect of 51 No. land parcels. The loss of land will not be avoided, mitigated or otherwise addressed by means of condition. There is no mitigation for this impact within the EIA process. Impacts due to land severance are mitigated to a degree through the proposed provision of alternative access arrangements and services. However, the agricultural enterprises that are significantly or profoundly adversely affected are likely to require major changes to their operations, management and scale and there is no mitigation for this impact within the EIA process.

- 11.16.63. There will also be significant to profound negative residual impacts on a number of equine enterprises due to land loss and severance which will not be avoided, mitigated or otherwise addressed by means of condition.

- 11.16.64. With regard to the other potential impacts assessed under this environmental heading, I am satisfied that significant potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions.

11.17. Material Assets – Non-Agriculture

- 11.17.1. Material Assets – Non-Agriculture is addressed in **Chapter 15**. Volume 3 of the EIAR contains the figures: Figures 15.1.1 to 15.1.15 illustrate the electrical utilities; Figures 15.2.1 to 15.2.5 illustrate the gas network; Figures 15.3.1 to 15.3.15 illustrate the Demolitions and Acquisitions; and Figures 15.4.01 and 15.4.02 illustrate the Land

Use zonings. Volume 4 of the EIAR contains the Appendices: A.15.1 NUIG Sports Facilities Mitigation Proposals; A.15.2 Galway Racecourse Stables Mitigation Proposals; and, A.15.3 110kV Diversion Details. It is stated that this chapter addresses: Land Use and ownership (non-agricultural properties including residential, commercial and industrial properties); Utilities; and, Land use zonings and planning permissions.

11.17.2. At the oral hearing the applicant made a submission responding to the Material Assets – Non-agriculture related written submissions/objections. This was presented by the Project Lead Ms Eileen McCarthy on the 18th February 2020. Corrigendum to the EIAR presented to the hearing included an amendment to chapter 15 relating to the description of land-take. A number of parties made further Material Asset – Non-agriculture related submissions over the course of the hearing, including questioning of the applicant’s consultants. The Schedule of Additional Environmental Commitments was updated during the hearing and included additional commitments relevant to this chapter which were included in the final Chapter 21 Schedule of Environmental Commitments issued on the 4th November 2020. These matters are addressed in the assessment section below.

Methodology and Receiving Environment

11.17.3. The **methodology** and assessment are based on a desk study and on information gathered during consultations. A number of site walkovers and visits were also conducted. The extent of the study area is defined as the lands within the proposed development boundary. There are 313 non-agricultural properties including dwellings, industrial and commercial properties, NUIG Sporting Campus, Galway Racecourse and zoned lands that are directly affected. A total area of 184Ha including agricultural land zoned for future development will be included within the development boundary.

11.17.4. The **receiving environment** is described by chainage from west to east. The land use and zoning, as well as the density of dwellings and where planning permissions exist are described. The existing services are described including the power lines and underground circuits, telecommunications, water and waste, and gas supply. Table 15.3 identifies locations where the PRD traverses existing 110kV and 38kV lines.

Potential Impacts

- 11.17.5. The evaluation of **potential impacts** states that the road 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, there will be a number of property acquisitions and demolitions. Section 15.5.2.1 – 15.5.2.6 details the direct impacts on non-agricultural properties including the demolition of 44 residential properties, 2 industrial properties (one property includes four buildings) and two commercial buildings. In addition, 10 residential properties, one commercial property and one landholding that has a full residential planning permission require full acquisition. Table 15.4 lists the residential, commercial or industrial properties to be fully acquired or demolished.
- 11.17.6. Table 15.5 identifies the partial land acquisitions. This involves the partial acquisition of lands such as gardens and paved areas and roadbed areas outside of dwelling boundaries or land holdings zoned for residential development. There are 76 such acquisitions. There are 58 residential properties where roadbed only acquisitions are required. Table 15.6 lists partial land acquisition from 12 commercial or industrial enterprises and partial land take from 5 landholdings zoned for commercial or industrial development. The remaining 107 landholdings are made up of the acquisition of isolated road beds from 24 properties, the acquisition of river bed from two properties and the partial acquisition of land from Galway County Council, NUIG Sporting Campus, Castlegar National School, Church at Bushypark, Church at Coolagh, Galway racecourse and disused railway tracks. There is also acquisition of 74 parcels of zoned land. It is noted that NUIG Sporting Campus will be severely affected during construction. The proposal will require the acquisition of lands from five properties upon which there is full planning permission for residential or commercial development. Electricity services, gas services, telecommunication services, water supply and foul water services will each be affected by the proposed road development as detailed in Tables 15.9, 15.10, and 15.11.
- 11.17.7. During the operational phase it is stated that all properties with the exception of NUIG Sports Pavilion will have access and utilities, and 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 road. Through traffic on the Parkmore Link Road will introduce a delay to the movement of product

and people within the Boston Scientific campus. At the start of the oral hearing the road was modified as detailed throughout this report.

Mitigation Measures

11.17.8. **Mitigation measures** during construction are detailed in individual accommodation works agreements such as boundary treatment, domestic entrances, property condition surveys, provision of ducting to facilitate services, maintenance of access etc. which will remove impacts relating to partial land-take. Compensatory measures for the loss of land, buildings and other injurious issues will form part of the process and are dealt with outside of the EIA process. 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. 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 the EIAR. 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. 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.

11.17.9. During the operation phase, the proposed development will result in a 20% reduction of the NUIG Sporting Campus due to encumbrance caused by the viaduct support structures. This will result in the removal of two grass based GAA sized playing pitches. The sporting campus will require a new Sporting Campus Plan and Strategy.

11.17.10. The current cul-de-sac road which provides access to Hewlett Packard and Boston Scientific will no longer become a through road as per the revised plan presented at the oral hearing. The stable yard and associated facilities for the Galway Racecourse will be relocated. Noise barriers where required will be provided across the length of the proposed road development to mitigate potential increase in noise.

Residual Impacts

11.17.11. In terms of the **residual impacts**, it is stated that the very significant/significant impacts on the 54 residential properties, 8 commercial properties, and 1 planning permission will remain as there are **no mitigation options**. 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 **Landscape and Visual** chapter. There will be no residual impacts on services or services infrastructure. The residual impacts on NUI Galway remain as very significant in the absence of a new University Sports Masterplan. It is considered that with an appropriate level of masterplanning and implementation, the residual impact would be reduced to moderate. It is considered that 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 new stable yard.

11.17.12. **Cumulative Impacts** are assessed with the list of projects previously referred to as well as the SHD developments which were introduced at the oral hearing. It is considered that there will not be a significant cumulative impact as a result of the proposal.

11.17.13. **Assessment**

11.17.14. I consider the potential significant impacts in terms of **Material Assets - Non-agriculture** are:

- Demolition/Acquisition of dwellings
- Demolition/Acquisition of commercial/industrial properties
- Public facilities – churches, schools etc.
- Planning applications
- Impacts on utilities

11.17.15. There is substantial overlap between this topic, **Alternatives and Population and Human Health** having particular regard to the level of demolition/acquisition of residential properties. While I address commercial/industrial demolitions below, there is no doubt that the substantial numbers of dwellings to be demolished is a significant impact on the families therein, and on the rest of the community left behind. This is particularly the case where clusters of dwellings are being demolished or acquired, such as Aughnacurra, Ard an Locha, Castlegar and the cluster on the N84. Table 15.4 of the EIAR distinguishes between properties being demolished as a 'significant' or 'very significant' impact, and properties being acquired as a 'moderate' impact. Where families have to unwillingly move out of their homes, I consider this to be a very significant impact for all concerned.

11.17.16. Other acquisitions in respect of parts of gardens, roadbed and riverbed are in my opinion of moderate, slight to imperceptible impact. I am satisfied that Table 15.5 of the EIAR has adequately assessed these impacts. The specific details are dealt with in the CPO section 13 of this Report whereby further commitments were made and are detailed.

Loss of Dwellings

11.17.17. This subject is addressed throughout this report in section 10.6, 10.8, 11.3, and 11.6. The applicant acknowledges that there are minimal mitigation options for those residents that will lose their homes. The applicant has sought to make funds available within a short period of time to the owners of dwellings, if the proposal is approved by the Board. However, as made very clear by affected parties who spoke at the oral hearing, many consider that this in no way mitigates their losses. Many of the residents made very articulate submissions to the hearing about the effect of losing their home and their community. Other submissions were made by members of the community 'left behind'. In my opinion the demolition/acquisition of dwellings is one of the most significant negative permanent impacts arising from the construction of this road.

11.17.18. I am of the view that the Board must be satisfied that the 'need' for this road and the 'greater good' this road will serve outweighs the impact on the immediately affected residents and the communities left behind. Notwithstanding this, it is considered that the residual impacts following mitigation would not justify a refusal,

having regard to the overall benefits of the PRD including its identified strategic importance at European, National, Regional and local level, its role in alleviating congestion and underpinning the sustainable transport measures of the Galway Transport Strategy and its role in facilitating Galway to grow in a more compact manner, as identified in the National Planning Framework.

Commercial and Industrial properties

- 11.17.19. With respect to commercial and industrial properties, the EIAR identifies that the proposal will require the partial acquisition of lands such as green open spaces or paved surfaces for car parking. Land take from other non-agricultural properties and the impact therein are listed in Tables 15.6 and 15.7 which I consider gives a fair and accurate assessment of the impact. The proposal will also require the acquisition of lands from five properties upon which there is currently full planning permission for residential or commercial development. At the oral hearing a number of issues relating to such properties were resolved between parties. These are set out in detail in section 13 below.
- 11.17.20. As stated above in the Planning Assessment, the Parkmore Link Road was re-routed to avoid severance of Boston Scientific lands. The original proposal to effectively sever, interfere and hamper large scale manufacturing operations was not acceptable, in my opinion, where there was an obvious alternative. As noted earlier this was revised at the hearing and discussed therein. I am satisfied that this proposed re-routing will mitigate the impact satisfactorily and recommend that should the Board consider approving the proposal that this amendment is included as a condition.
- 11.17.21. The loss of NUIG lands has been addressed in section 10.8 and 11.6 under the heading of amenities. As previously noted, NUIG withdrew their objection to the project and are proceeding with their own redevelopment of sports pitches. Thus, I am satisfied that the impact on the amenities is addressed elsewhere in this report.
- 11.17.22. At the hearing the loss of Brooks Timber and Building Supplies Ltd (Brooks) was discussed. This was subject of much debate and no resolution was forthcoming at the hearing. Brooks are the tenants and while the landowner withdrew their objection the tenant did not. Brooks were of the opinion that the CPO of land to serve a non-road related development for a third party was contrary to law. They were of

the opinion that lands for purposes other than for road related purposes and for the replacement stables for Galway Racecourse was not in accordance with the law. The applicant responded stating that the construction of the Galway Racecourse tunnel resulted in the need to demolish their building regardless of the stables and that the placement of the stables was simply an opportunity following the tunnel construction. As noted in section 10.2 the legal team on behalf of Brooks advised the Board to seek their own legal advice on this matter. However, following lengthy arguments at the hearing, I am persuaded that the buildings occupied by Brooks will need to be demolished for purposes of building the tunnel and that this is the reason for the demolition. I am satisfied that the applicant made use of the fact that this land had to be cleared and, following construction of the tunnel, could be used for purposes such as replacement stables. This is dealt with further in Section 13.

11.17.23. At the hearing the impact on Connolly's Car Dealership was discussed. The extent and purpose of the land to be acquired was discussed and concerns addressed. A request to install transparent noise barriers where the road crosses near the dealership was made as the dealership is a focal point in the area. However, having regard to the likely speed of cars at this point, I do not consider that transparent noise barriers are warranted. It is unlikely that the business will be visible to passers-by at this point.

11.17.24. While there are other demolitions and acquisitions of commercial developments, issues were either resolved before the application was lodged or before the end of the oral hearing with the exception of Brooks discussed above. No other businesses subject to the CPO process raised concerns about the project not addressed above or in section 13 below.

11.17.25. Galway Racecourse will be getting new stables as a result of the road. I am of the opinion that the mitigation measures for the Racecourse will more than adequately address the temporary impacts during construction. In addition, there will be enhanced access and egress from the racecourse. I am satisfied that there will be a positive impact on the racecourse as a result of the proposal.

11.17.26. Between the lodgement of the planning application and the oral hearing the ownership of the quarry changed hands. Dermot Flanagan represented McHugh Properties at the oral hearing and this is dealt with in detail in section 10.10, and

11.8. There was no objection in principle to the CPO of the lands and changes were made to temporarily acquire part of the quarry lands.

Public and Community Facilities

11.17.27. Public facilities such as St. James' National School in Bushypark, Bushypark and Coolagh Churches, Castlegar school, Castlegar Nursing Home and a disused railway track will be affected by partial acquisition of lands or roadbeds. As noted above land take from other non-agricultural properties and the impact therein are listed in Tables 15.6 and 15.7 which I consider gives a fair and accurate assessment of the impact. I am satisfied that there will not be a significant impact on these public facilities (with the exception of NUIG lands which are addressed separately in this Report).

11.17.28. At the hearing, the owner and operator of the aforementioned Nursing Home expressed significant concerns about the impact of construction activities on the operation of his nursing home facility. In particular, discussions were held about the rerouting of the foul sewer and gas main that runs along the road in front of the facility (School Road), and the distance the rear garden areas would be from the road during operation stage.

11.17.29. As noted in Section 10.2 the Nursing Home's legal representative Mr Michael O'Donnell contended that the Nursing Home was omitted from assessment within the EIAR and stated that the EIAR was, therefore, deficient and did not comply with the EIA Directive. The applicant totally refuted this claim and at the hearing provided a list of locations within the EIAR whereby the impact on the Nursing Home was assessed. Having regard to the information in the EIAR and the specific locations of that information as identified by the applicant, I am satisfied that the Nursing Home was considered and the Board can carry out an adequate EIA.

11.17.30. In terms of the impact during construction the Nursing Home was represented by the aforementioned Mr Michael O'Donnell as well as by Air and Noise specialists at the hearing. There was much debate between the various specialists and neither side concurred with the other. This is addressed in section 11.6, 11.11 and 11.12 above. However, in terms of the material asset, to gain an understanding of the proximity of the works to the Nursing Home and to understand the partial landtake which is discussed further in Section 13, I draw the Board's attention to the Deposit

Map Drawing N6-DM-1004 Sheet 4 of 14. I concur with the applicant whereby the landtake impact is imperceptible (Table 15.6). In my opinion this drawing assists in understanding the proximity of the overall works and where the boundary fence will be once construction commences. This drawing may assist as well as Figure 5.1.9 which illustrates the road in this location upon completion and Figure 7.109 which illustrates that the temporary road diversion is away from the Nursing Home during the construction works. While the mainline will of necessity become a haul route (HR13/01) I am satisfied that noise and air emissions can be managed in accordance with the CEMP.

11.17.31. As can be seen the Nursing Home itself is set back from School Road and will be subject to mitigation measures by virtue of distance as well as those measures detailed in the CEMP. I accept there will be some residual impacts and nuisance during construction activities at certain times, but having regard to the duration, the mitigation measures and the distances, I do not consider that there will be an unacceptable significant impact. I am also satisfied that the additional condition recommended in relation to noise and air monitoring above should assist to mitigate potential impacts on the Nursing Home.

11.17.32. During operation the mainline road near the Nursing Home will be in cut. I draw the Board's attention to the landscape drawings, in particular Figure 12.1.09 which indicates significant screen planting as mitigation but acknowledges that it is in an area of Notable Visual Impact. Notwithstanding this the impact is considered to be 'slight'. Concerns were raised about use of the gardens during operation and construction having regard to the vulnerable people staying in the home. While this is detailed further in Section 11.11 and 11.12, from a material assets perspective I am satisfied that the impact on the business will not be significant.

Planning Applications

11.17.33. A number of extant planning permissions have to be revoked or modified. I am satisfied that there will not be a significant impact as a result, and I note this is also addressed in section 13. Concerns were raised for future developments, mostly with respect to dwellings for children of current homeowners. However, this can only be dealt with at the time of seeking permission or as part of the CPO process.

Utilities

11.17.34. In terms of utilities and infrastructure supplies, electricity, gas, telecommunications, water and waste are considered. A number of alterations to the supplies are proposed and while there may be temporary interruptions, I am satisfied that these have been kept to a minimum. Irish Water made submissions requesting a diversion/build over agreement be put in place prior to works commencing. In their submission on the RFI they advise that an application for planning permission has been made to relocate the intake of the Terryland Water supply at Jordan's Island which they consider has not been addressed by the applicant in the EIAR. At the oral hearing this was addressed by the applicant who stated that the water quality at the proposed new intake will not be impacted by the proposed road drainage discharges.

11.17.35. I am satisfied that with appropriate conditions requiring liaison with Irish Water there will not be a significant impact on their infrastructure. I am satisfied that the mitigation measures proposed for the other utilities and the engagement to date with the relevant utility providers will ensure disruptions are kept to a minimum and there will not be a significant impact on services.

Cumulative Impacts

11.17.36. Having regard to the developments listed in section 15.7.1, as updated at the oral hearing including the Strategic Housing Developments, I am satisfied that an assessment of the major planning permissions and developments as detailed in the County and City Development plans that an adequate assessment of the cumulative impacts has been carried out and I concur with the applicant that there will not be significant negative cumulative impacts.

Parkmore Link Road Proposed Modification

11.17.37. Having reviewed the information submitted by the applicant and having inspected the site, I do not consider that the proposed Parkmore Link Road modification would result in any additional or increased impacts on Material Assets and is in fact an improvement on the initial proposal with respect to the commercial facilities in this area.

Conclusion on Material Assets – Non-Agriculture

- **Loss of dwellings:** There are 54 dwellings proposed for demolition or acquisition to make way for this project. This will result in a significant to

profound permanent negative impact on homeowners. This impact will not be avoided, mitigated, or otherwise addressed by means of condition. There is no mitigation for this impact within the EIA process.

- **Commercial and Industrial buildings:** There is no mitigation for the loss of commercial and industrial buildings within the EIA process. This will result in a moderate to significant impact. This impact will not be avoided, mitigated, or otherwise addressed by means of condition. There will be construction impacts on some businesses which will be mitigated using standard construction practices as detailed in the EIAR Schedule of Environmental Commitments and the CEMP.
- **Public and Community buildings:** I am satisfied that during construction noise and air emissions can be mitigated using standard construction practices as detailed in the EIAR Schedule of Environmental Commitments and the CEMP and by way of condition. I am satisfied that during operation there will be positive impacts on Galway Racecourse by way of state-of-the-art stables and a permanent access from Parkmore Link Road.
- **Utilities:** The project will result in some relocation of utilities. This impact can be mitigated using standard construction practices as detailed in the EIAR Schedule of Environmental Commitments and the CEMP and by way of condition.

11.17.38. I have considered all of the written and oral submissions made in relation to Material Assets – non-agriculture, in addition to those specifically identified in this section of the report. With respect to the demolition or acquisition of dwellings and commercial buildings and as accepted by the applicant, there are no mitigation measures. I am satisfied that these would not be avoided, managed or mitigated.

11.18. Interactions and Cumulative Impacts

11.18.1. Chapter 19 of the EIAR presents an assessment of Major Accidents, Inter-relationships, Interactions and Cumulative Impacts. Major accidents has been addressed under section 11.4 above.

11.18.2. During the oral hearing each of the applicant's specialists provided an update on cumulative impacts with respect to recent extant permissions and developments that

had occurred since the lodgement of the application in October 2019. These have been addressed under each heading above also.

- 11.18.3. Article 3(1) of the EIA Directive as amended requires that an “EIA *shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors: (a) population and human health; (b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape; (e) the interaction between the factors referred to in points (a) to (d).*”
- 11.18.4. The EIAR states that the interaction of effects within the proposed road development in respect of each of the environmental factors have been identified and addressed in detail in the respective chapters of the EIAR and a summary is presented within Chapter 19 of the EIAR.
- 11.18.5. The **methodology** used to assess interactions and cumulative impacts states that it has been prepared in accordance with various guidance. It is noted that potential impacts were included in the scope and addressed in the baseline and impact assessment studies for each of the relevant environmental factors and were also addressed in the design of the PRD. The interaction of impacts within the design of the proposed road development and the mitigation measures relative to those interactions in respect of each of the environmental factors were identified and addressed in detail in the respective chapters dealing with each environmental factor. It is stated that no additional mitigation is proposed.
- 11.18.6. Likewise, cumulative impacts arising from the interaction between the proposed road development and other projects in respect of each of the environmental factors were identified and addressed in detail in the respective chapters dealing with each environmental factor in the EIAR. Chapter 19 presents a summary of these individual cumulative assessments with other projects and considers the cumulative effect of the entirety of the project as a whole with other projects. No additional mitigation measures are proposed in this chapter. As noted above this was updated at the hearing.
- 11.18.7. It is stated that the interactions between the identified environmental impacts were considered and assessed within the individual chapters of the EIAR. There were

numerous discussions and communications including workshops and meetings between the environmental specialists and the design team throughout the design process which helped to identify and minimise the potential for significant interaction of impacts. Measures to minimise impacts have been incorporated into the design and were also included in all of the assessments and the residual impacts were assessed.

11.18.8. Table 19.2 in the EIAR presents the potential interactions between the environmental factors in a matrix format. The paragraphs following Table 19.2 present an assessment of the potential interactions of impacts, mitigation measures and residual impacts. The assessment was based on information contained within the EIAR and the outcome of discussions and interactions between the environmental specialists and the design team. As noted, during the oral hearing this was updated and amended.

11.18.9. It is stated that the **potential impacts** arising from the potential interactions were identified at a very early stage in the design process and in the EIAR preparation. They were therefore addressed in the design of the proposed road development and in the environmental baseline and impact assessment studies. As a result, the potential impacts were either avoided altogether through design measures or they were addressed through specific mitigation measures. This early identification process helped to identify and minimise the potential for significant interactions of impacts arising. The potential impacts are described for construction and operational phase including *Interactions of*:

- Traffic with Air Quality and Climate
- Traffic with Noise and Vibration
- Traffic with Biodiversity
- Traffic with Soil, Water Quality and Resource and Waste Management
- Traffic with Material Assets
- Traffic with Human Beings, Population and Human Health
- Traffic with Risks of Major Accidents and/or Disaster
- Air Emissions with Human Beings

- Air Emissions with Biodiversity
- Noise and Vibration Emissions with Human Beings
- Vibration Emissions with Soil
- Noise and Vibration Emissions with Biodiversity
- Biodiversity with Human Beings
- Archaeology, Architectural and Cultural Heritage with Biodiversity
- Archaeology, Architectural and Cultural Heritage with Human Beings
- Landscape and Visual with Material Assets and Human Beings, Population and Human Health
- Landscape and Visual and Biodiversity
- Landscape and Visual with Archaeology, Architectural and Cultural Heritage
- Soil and Water Quality with Human Beings, Population and Human Health and Material Assets
- Soil and Water Quality with Biodiversity
- Water Quantity with Human Beings, Population, and Human Health and Material Assets
- Water Quantity with Biodiversity
- Resource and Waste Management with Human Beings
- Material Assets with Human Beings
- Risks of Major Accident and/or Disaster and Human Beings, Population and Human Health
- Risks of Major Accident and/or Disaster and Air Emissions, Noise and Vibration Emissions
- Risks of Major Accident and/or Disaster with Soil, Water and Biodiversity
- Risks of Major Accident and/or Disaster with Material Assets

11.18.10. It is summarised that all of the potential impacts arising from the potential interactions were identified at an early stage in the design process and were

addressed in the design of the PRD and in the baseline and impact assessment studies. It is concluded that the potential impacts were either avoided altogether through design measures or they were addressed through specific mitigation measures. The early identification process helped to identify and minimise the potential for significant interactions of impacts arising. The assessment presented in the EIAR of the interactions of the potential impacts did not identify the need for any additional mitigation measures.

11.18.11. I have considered the interrelationships and interactions between factors and whether this might as a whole affect the environment, even though the effects may be acceptable when considered on an individual basis. I am satisfied that the assessment of interactions did not identify the need for any additional mitigation measures.

11.18.12. Cumulative Impacts are addressed and the projects and plans considered to have potential for cumulative impacts are considered to be:

- The planning registers for Galway City and County Council
- M17 Galway to Tuam Road Project (operational)
- N18 Oranmore to Gort Road Project (operational)
- N17 Tuam Bypass (operational)
- M6 Motorway (operational)
- M6 (M17/M18) Motorway Service Area (pre-planning)
- N59 Maam Cross to Oughterard Road Project (consented and pre-construction)
- N59 Maigh Cuilinn (Moycullen) Bypass Road Project (consented and pre-construction)
- Galway Harbour Port Extension (planning stage)
- Galway Transport Strategy (GTS), which includes the following:
 - Investigation of 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
- Bearna Local Area Plan 2007–2017
- Gaeltacht Local Area Plan 2008–2018
- Údarás na Gaeltachta’s Strategic Plan 2014–2017
- Ardaun Local Area Plan 2018–2024

11.18.13. In addition to the above list, certain projects are identified which have potential cumulative impacts under one heading such as Coastal Protection Scheme and Works are considered under the heading of Biodiversity.

11.18.14. Furthermore, at the hearing this chapter was updated to take account of other projects that had occurred since lodgement (submission 66, 101 & 117 [Burkeway Bearna SHD]). More recent projects are listed in Table 1 therein. The likely significant direct, indirect and cumulative impact assessment of live or approved projects listed in Table 1 in combination with the PRD are listed in Table 2 therein. Table 3 of submission 101 considers the extension to the Twomileditch quarry and Table 4 identifies the likely significant direct, indirect and cumulative impact assessment of the likely significant direct, indirect and cumulative impact assessment of the PRD in combination with all of the projects and plans considered in Section 19.5 of the EIAR together with all of the projects listed in Tables 1 and 3.

11.18.15. The conclusion of the assessment presented by the applicant is that there are no likely significant cumulative impacts arising from an assessment of the projects listed in Table 1 save in relation to climate which I concur with. I am also satisfied that cumulative impacts have been addressed throughout this report under the relevant headings.

11.19. Reasoned Conclusion

11.19.1. Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the developer,

and the submissions from the prescribed bodies, objectors and observers in the course of the application, including submissions made to the oral hearing, it is considered that the main significant direct and indirect effects of the proposed development on the environment are, and will be mitigated as follows:

Population and Human Health

- **Loss of dwellings:** There are 54 dwellings proposed for demolition or acquisition to make way for this project. This will result in a significant to profound permanent negative impact on homeowners. This impact will not be avoided, mitigated, or otherwise addressed by means of condition.
- **Severance of Communities (including the Gaeltacht areas):** As a result of the loss of 54 dwellings with loss of clusters of dwellings in areas such as Na Forai Maola/Troscaigh, Castlegar, and Dangan, there will be a severance impact on remaining communities which will be a significant long-term negative impact that will not be avoided, mitigated or otherwise addressed by means of condition.

There will be long-term positive impacts for some communities that are currently severed due to traffic volumes because traffic will reduce in villages, such as Bearna and Castlegar, thereby resulting in easier access for pedestrians and cyclists and improved amenities for more vulnerable persons.

Where minor roads are closed (e.g. Ann Gibbons Road), diverted or re-routed severing communities, there will be a significant medium to long-term negative impact depending on density of development and extent of re-route. This will not be avoided, mitigated or otherwise addressed by means of condition.

During construction there will be slight negative and short term severance issues caused by construction traffic which will be mitigated by measures outlined in the Construction Environmental Management Plan (CEMP) and the Schedule of Environmental Commitments.

- **General Amenities:** There will be slight to moderate short-term negative impacts during construction on general amenities in areas such as Rosan Glas, Gort na Bro and Bushypark church and school as a result of

construction traffic, noise and dust along haul routes. These will be mitigated by measures set out in the Schedule of Environmental Commitments as well as the CEMP. During operation there will be a slight negative impact on amenities.

During construction there will be significant negative impacts on the population using the **NUIG Sports campus** as a result of loss of pitches, modification to the sports pavilion as well as noise and visual impacts. These will be mitigated using standard construction practices as detailed in the Schedule of Environmental Commitments and the CEMP. During operation there will continue to be a long-term moderate impact on the general amenities of the sports campus that will be mitigated by the provision of the right of way and access to the lands under the viaduct as well as noise mitigation measures.

During construction there will be restricted access to the **riverside** in Dangan and there will be noise and visual impacts on both sides of the River Corrib. These will be mitigated using standard construction practices as detailed in the Schedule of Environmental Commitments and the CEMP. At no time will access to the riverside be completely restricted. Impacts during construction will be moderate negative and short-term. During operation mitigation measures include the retention of existing vegetation and noise barriers. Impacts will be long-term moderate to significant negative due to the general loss of amenity.

Construction impacts on **Galway Racecourse** can be avoided by measures including the provision of temporary stables and the cessation of works during festival seasons.

During the operation phase, a positive benefit will result for Galway Racecourse due to the mitigation measures including the construction of a permanent access off Parkmore Road and new state-of-the-art permanent stables.

- **Socio-Economic:** During construction there will be some negative short-term impacts for businesses as a result of noise and dust which will be mitigated by measures outlined in the CEMP. Where visibility to businesses is impacted,

mitigation measures includes additional signage. Demolition of some industrial and commercial properties will not be avoided, mitigated, or otherwise addressed by means of condition. During operation there will be significant positive impacts with respect to journey times, journey reliability and amenities.

- **Journey Characteristics:** During construction there will be some short-term temporary moderate negative impacts on journeys as a result of road closures or diversions which will be mitigated by the Traffic Management Plan. During operation the road will have significant permanent positive impacts in terms of improved journey times, journey times reliability and journey amenities. There will be improved connectivity across and beyond the city, releasing and freeing the existing city centre and inner suburbs from congestion.
- **Health:** During construction potential impacts on health arising from air, noise and water emissions will be mitigated using construction practices set out in the CEMP and commitments as set out in the Schedule of Environmental Commitments. During operation impacts will be avoided having regard to the project's compliance with air and noise standards set out in TII guidelines.

Biodiversity

- Significant residual effect on habitats as a result of the loss of priority Annex I habitat (outside of any European Site) comprising Limestone Pavement [*8240], active Blanket Bog [*7130], and a Petrifying Spring [*7220] which cannot be avoided, mitigated, or otherwise addressed by means of condition
- Significant residual effect on habitats as a result of the loss of Annex I habitat (outside of any European Site) including Annex I Wet Heath [4010], and other habitats of international to local value, including within areas designated as Local Biodiversity Areas, which cannot or will not be avoided, fully mitigated, or otherwise addressed by means of condition
- Significant residual effect as a result of the loss of, or damage to, a population of each of four plant species and one invertebrate species included in the Irish red data books, which will not be avoided, mitigated, or otherwise addressed by means of condition.

- Significant residual effect on lesser horseshoe bat, red squirrel and pine marten which will not be avoided, fully mitigated, or otherwise addressed by means of condition.

Land, Soil, Water, Air and Climate

- **Land and Soils:** There will be a significant negative impact on geology as a result of the loss of small areas of limestone pavement (Annex I habitat) outside of the Lough Corrib cSAC or any other Natura 2000 site. This impact will not be avoided, mitigated or otherwise addressed by means of condition. This loss is primarily associated with the construction of footings for a viaduct which will span over a larger area of limestone pavement.

There will be impacts associated with the loss of soil along the route and the use of natural resources, including aggregates, to construct the PRD. This will be mitigated by the re-use of excavated materials in the construction process and in the formation of material deposition areas for excess/unsuitable material and habitat creation. Other construction phase impacts including soil contamination, blasting impacts, tunnelling works, slope stability and earthworks impacts will be avoided, managed and/or mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures including the CEMP and Schedule of Environmental Commitments.

- **Hydrogeology:** There will be impacts on a number of existing wells which will be lost as a result of the proposed development. This will be mitigated by the provision of replacement wells, alternative water sources or compensation, as appropriate. Impacts on groundwater quality will be mitigated through the implementation of the CEMP, including the associated Karst Protocol and Sediment, Erosion & Pollution Control Plan during the construction phase, and in the operational phase through the design of the drainage system, which includes water attenuation and treatment ponds, wetlands and controlled discharge. Impacts on groundwater levels due to dewatering and recharge will arise but will be mitigated through the retention of run-off within the same water catchment area or groundwater body and in areas such as the Lackagh Tunnel, through the timing of construction works to avoid the need for dewatering. Structural impacts on properties in the vicinity of areas

where groundwater levels will be lowered will be mitigated and monitored with property condition surveys. Impacts on groundwater dependent habitats will be avoided through the alignment and design of the road development or mitigated through measures such as flow control and pollution control measures. There will be no groundwater lowering within groundwater bodies that support groundwater dependent habitats within a European site.

- **Hydrology:** Water quality impacts during the construction phase will be mitigated by the implementation of the CEMP, including the Incident Response Plan and Sediment Erosion and Pollution Control Plan as well as through obtaining necessary consents and consultation with prescribed bodies. Impacts on the water supply to the Terryland Water Treatment Plan will be avoided and mitigated through implementation of the CEMP, consultation and ongoing liaison with Irish Water and the carrying out of works in accordance with best practice construction methods and guidance.

During the operational phase, water quality impacts arising from road runoff or accidental spillages will be mitigated through the design of the drainage system for the PRD which is responsive to the differing geologies in the area, and in particular the use of attenuation ponds, settlement ponds, reed beds, infiltration basins, flow control mechanisms etc. Flood risk impacts near the N83 Tuam Road at Twomileditch will be mitigated by flood compensation storage, provision of storm drainage on the N83 at this location and a pumping station to discharge to the existing storm sewer.

- **Noise and Vibration:** Noise and vibration impacts will arise during the construction phase, including from blasting operations which has the potential to impact upon residential and other sensitive receptors. However, it is considered that these potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation and monitoring measures, through suitable conditions and noting the relatively short-term duration of the construction phase and the linear nature of the proposed development.

During the operational phase, the majority of noise sensitive receptors will be in compliance with the design goal set out in the TII Guidelines once noise

mitigation measures are incorporated, such as noise barriers and the low noise road surface. There will also be positive impacts on a large number of receptors on the existing road network, due to reductions in traffic volumes on existing roads. A limited number of properties will, however, experience a residual noise impact marginally in excess of the TII Design Goal. Noting the provisions of the TII Guidelines for such a scenario, and also noting the need to balance the provision and scale of noise barriers against other consideration, such as visual impact, I am satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative noise and vibration impacts.

- **Air Quality and Climate:** Potential air quality impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures such as the CEMP and the commitments set out in the Schedule of Environmental Commitments and through suitable conditions. The PRD, individually and cumulatively with other identified projects, is likely to result in a significant negative impact on carbon emissions and climate that will not be fully mitigated.

Material Assets – Traffic and Transportation

- Potential impacts associated with construction traffic will be avoided or mitigated by the Construction Environmental Management Plan, including the Construction Traffic Management Plan.

During the operational phase, the PRD will have positive impacts on traffic congestion, journey times on key routes, network statistics and the ratio of flow to capacity at key junctions. It will also facilitate the implementation of various measures contained within the Galway Transport Strategy (GTS) to increase active travel and public transport provision in the city and will have a positive impact on sustainable transport mode share when considered together with the other GTS measures that it will support. The PRD will assist in enabling the significant population and employment growth forecast for the city by adding additional links to the road network, including a new river crossing and linkages between various radial routes serving the city, thereby

improving accessibility and providing a basis for the compact growth of the city

Material Assets – Landscape and Visual

- The construction phase of the PRD will result in a range of landscape and visual impacts on certain landscapes and receptors, including significant and profound impacts. The mitigation measures proposed during this phase will have limited effect due to the scale and nature of the development, and negative landscape and visual impacts will continue during the construction phase.

During the initial operation stage, landscape and visual impacts will continue, but the significance and severity of these impacts will generally abate over time as the proposed landscape mitigation proposals become established and increasingly effective at screening the PRD and/or incorporating it into the landscape. However, significant and profound negative residual visual impacts will continue to arise for numerous residential properties located close to or adjoining the boundary of the PRD, and particularly in the vicinity of major engineering structures at post-establishment stage. Significant residual impacts on landscape character will also continue to arise at a number of locations. The proposed mitigation measures, and particularly the extensive and comprehensive landscaping planting proposals will not fully mitigate these significant or profound impacts, however they will ameliorate the impacts to a certain extent and this will increase over time as planting matures.

Significant residual visual impacts will also occur in the River Corrib valley at Menlo Castle and the NUIG Sporting Campus, primarily due to the visual intrusion associated with the proposed River Corrib Bridge and associated viaduct.

Material Assets – Archaeological, Architectural and Cultural Heritage

- There will be significant negative direct and indirect impacts on a number of archaeological and built heritage sites which will be mitigated by the undertaking of detailed photographic and written records prior to construction and the use of test trenching and monitoring. Potential impacts on unknown

archaeological features will be mitigated or avoided through monitoring of construction works by an archaeologist and excavation where appropriate. There will also be a profound impact on a protected structure (thatched cottage; BH12) which it is proposed to demolish and which will not be fully mitigated by the preparation of a record.

Material Assets – Agriculture

- The acquisition of the land required to construct the PRD will have a range of negative impacts, including significant and profound impacts on landowners. There will be significant or profound negative impacts on a number of farm enterprises and equine enterprises, due to issues such as severance, impacts on farm viability, disruption and impacts on the availability of services. The loss of land will not be avoided, mitigated or otherwise addressed by means of condition. There is no mitigation for this impact within the EIA process. Impacts due to land severance are mitigated to a degree through the proposed provision of alternative access arrangements and services, however the agricultural enterprises that are significantly or profoundly adversely affected are likely to require major changes to their operations, management and scale and there is no mitigation for this impact within the EIA process.

Material Assets – Non-Agriculture

- **Loss of dwellings:** There are 54 dwellings proposed for demolition or acquisition to make way for this project. This will result in a significant to profound permanent negative impact on homeowners. This impact will not be avoided, mitigated, or otherwise addressed by means of condition. There is no mitigation for this impact within the EIA process.
- **Commercial and Industrial buildings:** There is no mitigation for the loss of commercial and industrial buildings within the EIA process. This will result in a moderate to significant impact. This impact will not be avoided, mitigated, or otherwise addressed by means of condition. There will be construction impacts on some businesses which will be mitigated using standard construction practices as detailed in the EIAR Schedule of Environmental Commitments and the CEMP.

- **Public and Community buildings:** During construction noise and air emissions can be mitigated using standard construction practices as detailed in the EIAR Schedule of Environmental Commitments and the CEMP and by way of condition. During operation there will be positive impacts on Galway Racecourse by way of state-of-the-art stables and a permanent access from Parkmore Link Road.
- **Utilities:** The project will result in some relocation of utilities. This impact will be mitigated using standard construction practices as detailed in the EIAR Schedule of Environmental Commitments and the CEMP and by way of condition.

11.19.2. Notwithstanding the conclusion reached in respect of the inability of the proposed measures to fully mitigate the significant negative residual impacts in respect of various environmental matters as set out above, it is considered that these environmental impacts would not justify a refusal, having regard to the overall benefits of the PRD including its identified strategic importance at European, National, Regional and local level, its role in alleviating congestion and underpinning the sustainable transport measures of the Galway Transport Strategy and its role in facilitating Galway to grow in a more compact manner, as identified in the National Planning Framework.

With regard to the significant adverse impact on carbon emissions and climate, it is noted that this arises due to the sensitivity of the receiving environment. Noting the role of the PRD in facilitating the implementation of active travel and public transport measures as set out in the GTS and its role in supporting the compact and more sustainable development of the city, it is not considered that the PRD would undermine, or be contrary to Ireland's climate obligations, given that climate action requires a broad sectoral and economy-wide approach. Ireland has committed to becoming climate neutral / zero emission by 2050, and carbon emissions associated with necessary infrastructural projects such as the PRD, which equates to c. 0.1% of Ireland's 2030 obligations, can be mitigated through reductions in other areas as mechanisms such as carbon tax and carbon budgets are developed and will be increasingly mitigated in the operational phase as electric vehicles are adopted.

12.0 Appropriate Assessment

12.1. Introduction

- 12.1.1. The requirements of Article 6(3) of the EU Habitats Directive as related to Appropriate Assessment of a project under part XAB, sections 177U and 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section. The areas addressed in this section are as follows:
- Screening the need for appropriate assessment
 - Appropriate assessment of implications of the proposed development on the integrity of those European sites where likely significant effects are identified or could not be excluded.
- 12.1.2. As outlined in Section 9.5, the Board engaged a specialist ecologist to support the EIA and the Appropriate Assessment.
- 12.1.3. A complete and independent assessment of the N6 Galway City Ring Road (PRD) under the requirements of Article 6(3) of the Habitats Directive, both Screening and Appropriate Assessment stages, has been undertaken by Consultant Ecologist Mr Richard Arnold of Thomson Environmental Consultants to facilitate the final appropriate assessment determination by the Board.
- 12.1.4. The full Appropriate Assessment Report (the AA Report) has been prepared by Mr Richard Arnold of Thomson Environmental Consultants and is set out in Appendix 6 of this report. I concur with the conclusions in respect of both screening and the Appropriate Assessment which now forms part of this report. I have summarised the main findings of the Appropriate Assessment report for the convenience of the Board and highlighted differences with the applicant's Natura Impact Statement (and other supporting documents) as appropriate.
- 12.1.5. For the avoidance of any doubt the following matters have been taken into account in carrying out the appropriate assessment:
- The Screening Report and Natura Impact Statement (NIS) prepared by the Applicant:

- Provision of Information for Appropriate Assessment Screening for N6 Galway City Ring Road, Scott Cawley 2nd June 2017, the “Screening Report”; and
- N6 Galway City Ring Road Natura Impact Statement Vol. 2 Main Report, Arup September 2018, the “NIS”.

All supplemental information furnished in relation to the NIS including further information sought by the Board and responded to by the applicant in relation to the Natura Impact Statement and during the oral hearing;

- Request for Further Information Response Vols 1- 3 in particular, responses to items 3a through to 3o, 4a to 4c and 5a to 5b, the “RFI response”;
- Statement of Evidence: Responses to Appropriate Assessment Objection/Submissions dated 19th February 2020, the “AA Statement of Evidence”;
- Statement of Evidence: Responses to Hydrogeology Objection/Submissions dated 19th February 2020, the “Hydrogeology Statement of Evidence”;
- A Corrigenda dated 21st February 2020, and updated 11th March 2020, which corrects some details in previously submitted documents, the “Corrigenda”;
- Response to Queries raised in Module 2 [sic] of the N6 Galway City Ring Road Oral Hearing dated 10th March 2020, the “Module 1 response”;
- AA – In-combination Assessment Addendum Update Report (Dealing with proposed and permitted projects and plans since publication of the Natura Impact Statement) dated 10th March 2020, updated on 15th October 2020 and again on 3rd November 2020 and supplemented on 4th November, with the last two forming the complete assessment, the “in-combination assessment update”; and
- Additional Polygon 1.f Data submitted as (i) 2017 Field Notes relating to Polygon 1f together with map and photograph; (ii) Soil Depth measurements of various transects in Polygon 1.f, dated 10th March 2020 and (iii) Composite Map of all Relevé Locations in Polygon 1.f, the “Area 1.f update”.

Written submissions and observations made to the Board in relation to the application for consent for proposed development;

Oral submissions related to Appropriate Assessment made during the oral hearing,

The full and detailed Appropriate Assessment Report prepared by Mr Richard Arnold, Thomson Environmental Consultants (Appendix 6)

- 12.1.6. The introduction of the AA Report, prepared by Mr Arnold, sets out the proposed development, the legislative background, lists the information provided by the applicant including the Screening Report, the Natura Impact Statement (NIS), as well as information provided in response to the request for Further Information and the information provided at the oral hearing (as outlined above), the EIAR and site visits undertaken as well as the submissions and objections.
- 12.1.7. For the convenience of the Board, I have provided the location of various sections of the AA Report in brackets. The Board will note that Mr Arnold takes a more expansive approach in carrying out the AA than included in the applicant's NIS. Mr Arnold has considered additional potential impacts from the PRD and has screened in additional European sites to take forward for Appropriate Assessment than the applicant having regard to 'in-combination' effects. I concur with Mr Arnold's approach which I consider is in accordance with the precautionary principle.

12.2. Screening the need for Appropriate Assessment

- 12.2.1. The proposed road development is not directly connected with or necessary for the management of any European site and is, therefore, subject to the provisions of Article 6(3).
- 12.2.2. The AA Report includes the first test for Appropriate Assessment; screening the proposal for likely significant effects on European Sites. The Screening Assessment acknowledges the applicant's screening conclusion that *"it is not possible to rule out the possibility of significant effects on four European sites; Lough Corrib cSAC, Lough Corrib SPA, Galway Bay Complex cSAC and Inner Galway Bay SPA"* and, therefore, the proposed road requires an Appropriate Assessment (AA) under the Habitats Directive (section 3.1.1).

12.2.3. The screening assessment methodology followed by Mr Arnold in the AA Report is described, including detailing the characteristics of the Natura 2000 sites, which are listed in Table 1. (Note, the AA Report uses the term Natura 2000 site throughout, this term has the same meaning and is interchangeable with the term European Site). The AA Report notes the applicant's use of a 15km buffer but states that the applicant did not consider the potential for the PRD to act in combination with other plans and projects to boost tourism and recreation in Connemara where there are two further Natura 2000 sites beyond 15km. This is a wider consideration of potential impacts of the PRD than considered by the applicant and I am satisfied that this is an appropriate and precautionary addition to the consideration of likely effects.

12.2.4. The potential for impact on these sites is described. The AA Report summarises potential impact mechanisms (or pathways) on the Natura 2000 sites including those that were not explicitly identified by the applicant in its screening report (section 3.6.2). The potential impact pathways are summarised below – those in *italics* were not explicitly identified by the applicant in its screening report or were discounted:

- Habitat loss directly within the footprint of the proposed development
- Habitat loss indirectly through changes in hydrology/hydrogeology (water supply);
- Habitat fragmentation with larger habitat parcels divided in two by the proposed development;
- *Habitat isolation of habitat parcels to the north and south of the proposed development;*
- Habitat degradation as a result of chemical pollution, *noise*, dust, *light*, shading, spread of invasive species *including from construction traffic and site workers travelling to/from the construction site* and changes in hydrology/hydrogeology (water supply);
- Mortality, disturbance, displacement and habitat loss for species of flora and fauna, resulting in declines or local extinction;
- Disruption of migration, commuting routes or loss of seasonally occupied habitats for species with large home ranges or which are migratory;

- *Loss or decline of supporting populations of flora and fauna within habitats lost or degrading with knock on effects on habitats and populations that are retained; and*
- *Increase in recreational pressure resulting in damage to habitats and disturbance of wildlife if improvements to the road network bring in additional tourists or indirectly increase the resident population.*

12.2.5. The AA Report proceeds to assess the possible significance of those impacts as well as in-combination effects. It is noted that there is broad agreement from all parties that the project should be subject to appropriate assessment and that the assessment should include consideration of the effects on Lough Corrib cSAC SPA, Galway Bay Complex cSAC and Inner Galway Bay SPA. Mr Arnold states that considering the additional pathways and the potential for in combination effects, some further consideration should be given to all the other Natura 2000 sites identified in Table 1. A summary of the screening assessment is presented in Table 2 and states that *'It is now not permissible to consider mitigation measures at the screening stage if mitigation is required specifically in relation to Natura 2000 sites. Therefore, any Natura 2000 site for which mitigation is proposed or could be required, must be screened in for appropriate assessment. This results in longer list of sites being screened in for assessment than might historically have been the case'*. (section 3.9.4).

12.2.6. Table 2 identifies the following list of sites whereby likely significant effects cannot be ruled out and must be taken forward for Appropriate Assessment:

- Lough Corrib cSAC;
- Galway Bay Complex cSAC;
- Lough Corrib SPA; and,
- Inner Galway Bay SPA.

12.2.7. The AA Report has identified uncertainty regarding possible effects on the following sites which are additional to those identified by the Applicant:

- Gregganna Marsh SPA;
- Connemara Bog Complex cSAC;

- Connemara Bog Complex SPA;
- Lough Fingall Complex cSAC;
- Ross Lake and Woods cSAC;
- Black Head Poulsallagh cSAC;
- Rahasane Turlough cSAC;
- Rahasane Turlough SPA;
- Kiltiernan Turlough cSAC;
- Castletaylor Complex cSAC;
- Gortnandarragh Limestone Pavement cSAC;
- Ardrahan Grassland cSAC;
- Moneen Mountain cSAC;
- East Burren Complex cSAC;
- Maumturn Mountains cSAC; and
- Twelve Bens/Garraun Complex cSAC.

12.2.8. I concur with the AA Report's conclusion that the likelihood that the project could have a significant effect on these European sites in view of their Conservation Objectives cannot be ruled out in the absence of further analysis or the application of mitigation measures. As such the project should be subject to a Stage 2 Appropriate Assessment.

Screening Statement

12.2.9. The proposed development has been considered in light of the requirements of Section 177U of the Planning and Development Act 2000 as amended. Having carried out Screening for Appropriate Assessment of the project, it has been concluded that the project individually could result in significant effects on European Sites Lough Corrib cSAC; Galway Bay Complex cSAC; Lough Corrib SPA; Inner Galway Bay SPA; in view of those site's Conservation Objectives, and Appropriate Assessment is therefore required.

12.2.10. In addition, it has been concluded that the project in combination with other plans or projects could give rise to significant effects or effects are uncertain for the following European Sites and these are also included for more detailed assessment as part of the Appropriate Assessment:

- Gregganna Marsh SPA;
- Connemara Bog Complex cSAC;
- Connemara Bog Complex SPA;
- Lough Fingall Complex cSAC;
- Ross Lake and Woods cSAC;
- Black Head Poulsallagh cSAC;
- Rahasane Turlough cSAC;
- Rahasane Turlough SPA;
- Kiltiernan Turlough cSAC;
- Castletaylor Complex cSAC;
- Gortnandarragh Limestone Pavement cSAC;
- Ardrahan Grassland cSAC;
- Moneen Mountain cSAC;
- East Burren Complex cSAC;
- Maumturn Mountains cSAC; and
- Twelve Bens/Garraun Complex cSAC.

12.3. Stage 2 Appropriate Assessment

12.3.1. The AA Report (Section 4) states the following: In the NIS, the applicant completed a detailed assessment of the potential for the proposed road to undermine the conservation objectives for Lough Corrib and (Inner) Galway Bay Natura 2000 sites, covering nearly 400 pages in the main document, with associated mapping (16 Figures) and 15 appendices (mainly survey reports). The applicant concluded that, considering avoidance and mitigation measures, the proposed road, either alone or

in combination, will not undermine the conservation objectives of any Natura 2000 site and, therefore, poses no risk to the integrity of any Natura 2000 site. (section 4.1.1). The AA Report goes on to state that information presented at Further Information stage and during the oral hearing did not change the applicant's conclusion.

- 12.3.2. The Appropriate Assessment methodology relied upon the same guidance used in the screening assessment. Detailed information on the conservation objectives and qualifying features of the Natura 2000 sites is provided in Table 3 (Lough Corrib cSAC and SPA) and Table 4 (Galway Bay Complex cSAC and Inner Galway Bay SPA). Other Natura 2000 sites are briefly described along with their qualifying interests as per Table 1 and in Appendix 3 of the AA Report.

12.4. Potential for adverse effects

- 12.4.1. The potential for adverse effects on the Natura 2000 sites in view of their Conservation Objectives are described (section 4.4). The AA Report considers the impact of the PRD 'Alone' and states:

"What follows is a re-examination, analysis and evaluation of the potential impacts of the proposed road on the qualifying interest features of the identified Natura 2000 sites, using the data provided by the applicant and informed by two site visits and information presented by others in written submissions and at the oral hearing. The objective is to independently identify, in the light of the best scientific knowledge in the field, all aspects of the development project which could adversely affect any Natura 2000 site in light of its Conservation Objectives. Any uncertainty in the assessment is also expressed (as a level of risk), to ensure that the conclusion is sound." (section 4.5.2).

- 12.4.2. The AA Report proceeds to consider the potential impact on the qualifying interest features for each of the Natura 2000 sites at both construction and operation stage.

Lough Corrib cSAC 000297 and Lough Corrib SPA 004042

- 12.4.3. During construction stage habitat loss directly within the Natura 2000 sites is considered and assessed. Direct loss of habitat is detailed and it is stated that the applicant's assessment is that there would be no loss of qualifying interest Annex I habitat within the Lough Corrib cSAC. The four main areas where the development

boundary overlaps with the cSAC (but not the SPA) are detailed. Within these four areas where overlap occurs the applicant has set out which polygons overlap (areas of land attributed to a particular habitat by the applicant). There are 27 polygons in total although 15 merely touch the road boundary or are included in mitigation areas. The remaining 12 polygons have a greater degree of overlap and are, therefore, considered further. The AA Report states that of the 12 polygons they only part overlap with the road boundary. Table 5 assesses the seven which appear to be directly impacted as it is considered critical to know if any of these seven areas are Annex I habitats or could have been when the site was designated.

12.4.4. At the hearing Area 1.f was subject to much discussion as to whether this limestone outcrop constitutes the Annex I priority habitat of limestone pavement. The area comprises beech woodland with limestone outcropping. It is located to the east of the River Corrib and where the bridge supports are to be placed. The AA Report details that, at the hearing, both the applicant and the NPWS were in agreement that the limestone outcrop in Area 1.f does not constitute limestone pavement (section 4.5.12). Following this discussion Mr Arnold states in the AA Report that it can be concluded that the seven areas where direct habitat loss occurs are not Annex I habitat.

12.4.5. The AA Report proceeds to consider whether any of the areas subject to direct impacts were Annex I habitats at the time that the site was initially designated as a cSAC. Mr Arnold states this relates to specifically Annex I habitats for which the relevant objective is to restore favourable conservation condition. From examination of aerial imagery from 1995 to 2000 there are two areas where a change in the habitat type was evident or likely. The first is Mr Arnold's Area B1 (applicant's 1e). Mr Arnold concludes that the aerial imagery indicates that this may have been unimproved grassland and therefore potentially Annex I type 6210 in 1995 but had been agriculturally improved, so in its current condition, by 2000. Despite this, the published conservation objectives for Lough Corrib indicate the objective is to maintain rather than restore this habitat which indicates there is no imperative to restore this area of grassland to the Annex I type 6210. The second area where a change in habitat type was evident is in Area M/4.a where an increase in scrub or tree cover has occurred replacing an unknown grassland type. This is the area of the disused railway embankment and therefore most unlikely to have supported any

Annex I grassland type at the time the cSAC was designated. It is noted that the PRD does not overlap any part of the Lough Corrib SPA and therefore no habitat loss would occur within the SPA.

- 12.4.6. Indirect habitat loss in the sites through changes in hydrology/hydrogeology are assessed. In the AA Report Mr Arnold refers to the work carried out by Mr James Dodds Consultant Hydrogeologist appointed by the Board (see Appendix 5) to assist with the assessment. With respect to habitat fragmentation and possible effects on the conservation objectives it is stated that the PRD would divide just one land parcel within the cSAC – the area known as Area 1.f. It is noted that the road includes five culverts at this point which may partially mitigate the effects of habitat fragmentation. The PRD does not fragment any part of the SPA.
- 12.4.7. The AA Report addresses possible habitat isolation and the effects that may arise to qualifying interest habitats should habitat isolation occur. Mr Arnold considers that the provision of the Lackagh tunnel avoids this potential issue between the Menlough/Ballindooley and Menlough/Coolagh areas of the cSAC at this location and the Menlough viaduct maintains ecological connections also. Despite the retained connections described above, the Menlough/Coolagh element of the cSAC would experience some additional degree of isolation. The road development does not isolate any part of the Lough Corrib SPA.
- 12.4.8. Habitat degradation is considered and assessed in terms of chemical pollution, noise, dust, light and spread of invasive species including from construction traffic and site workers travelling to/from the site. The AA Report addresses each of these topics from site run-off to the potential effect of dust from construction activities and processing of rock (section 4.5.31).
- 12.4.9. Mortality, disturbance, displacement and habitat loss for species of flora and fauna which form part of the qualifying interest populations of Natura 2000 sites are addressed and assessed. Qualifying interest Annex II species (SAC) and Annex I birds (SPA) are described in detail.
- 12.4.10. The possible disruption of migration, commuting routes or loss of seasonally occupied habitats for species with large home ranges or which are migratory and form part of the qualifying interest populations of the Natura sites are examined and assessed. In addition, the loss or decline of any supporting populations of flora and

fauna (not part of the qualifying interest population) within areas of habitats loss or degradation, and any knock-on effects on the qualifying interest habitats and populations of Natura 2000 sites are also examined and assessed. It is considered and reasonable to assume that there would be no increase in recreational pressure during the construction stage.

12.4.11. The same suite of potential impacts are addressed and assessed for the operational stage (section 4.5.77) in view of the qualifying interests and conservation objectives of the SAC. Of note, it is considered that the air quality would improve during the short term with cars spending less time in queuing traffic. However, it would bring cars closer to the cSAC but it is noted that vehicle emissions associated with the proposed road would not be sufficient to cause an appreciable change in the vegetation within the cSAC. With respect to chemical water pollution it is noted that the design for the proposed road includes the treatment for road run-off prior to discharge into the ground and surface water, to meet the standards set by Transport Infrastructure Ireland (TII). Noise and vibration are addressed and assessed followed by light, and shading of habitats. Mortality, disturbance, displacement and habitat loss for species of flora and fauna which form part of the qualifying interest populations, resulting in declines or local extinction are addressed, as is disruption of migration, commuting routes or loss of seasonally occupied habitats for species with large home ranges or which are migratory and form part of the qualifying interest populations of Natura 2000 sites. The potential for loss or decline of supporting populations of flora and fauna (not part of the qualifying interest population) within habitats lost or degrading with knock on effects on the qualifying interest habitats and populations are as for the construction phase. It is further stated that the road may serve to increase the accessibility of Lough Corrib as a recreational destination; boating and fishing being popular activities at the Lough. The Lough condition is currently unfavourable due to mainly agricultural activities in the lake catchment, however boating development is also cited as a current threat.

Galway Bay Complex cSAC 000268 and Inner Galway Bay SPA 004031

12.4.12. During the construction stage there will be no direct impacts on the cSAC or the SPA. Indirect impacts are addressed and assessed under the headings as summarised below (section 4.5.111). The AA Report states that there will be no indirect habitat loss through changes in hydrology/hydrogeology and refers to Mr

Dodds' report. Habitat isolation and habitat degradation are also addressed. It is noted that, as with Lough Corrib cSAC, there is a risk of potential pollution of watercourses during the construction phase, both chemical and, more likely, suspended solids due to site run-off entering the watercourses which feed into the Bay.

- 12.4.13. The AA Report states that there is no risk of mortality, disturbance, displacement or habitat loss during construction for typical/positive indicator species on Annex I habitats. The risk to the Annex II species is limited to otter when ranging outside of the Galway Bay Complex cSAC and potentially reaching the construction site at the watercourse crossings. The potential for impacts on Annex I qualifying interest bird species are also detailed (section 4.5.121).
- 12.4.14. Potential disruption of migration, commuting routes or loss of seasonally occupied habitats for species with large home ranges or which are migratory and form part of the qualifying interest populations of Natura 2000 sites are described as are loss or decline of supporting populations of flora and fauna (not part of the qualifying interest population) within habitats lost or degrading with knock on effects on the qualifying interest habitats and populations of Natura 2000 sites.
- 12.4.15. Potential indirect impacts at the operation stage are described. With respect to habitat isolation it is stated that, as for construction stage, there would be no appreciable effect on qualifying interest Annex I habitats within Galway Bay Complex cSAC arising from habitat isolation. In terms of habitat isolation Galway Bay is too distant from the proposed road to experience negative effects from chemical air pollution, noise, dust, light, spread of invasive species during the operation of the road. However, there is the potential for road run-off containing chemical pollutants from vehicles to make its way into Galway Bay via the watercourses crossed by the PRD.
- 12.4.16. Potential disruption of migration, commuting routes or loss of seasonally occupied habitats for species with large home ranges or which are migratory and form part of the qualifying interest populations of Natura 2000 sites are detailed. The potential for loss or decline of supporting populations of flora and fauna is addressed. As for construction stage, the conclusion is that there would be no appreciable effect on qualifying interest habitats and populations of (Inner) Galway Bays (Complex) cSAC

or SPA arising from loss of supporting populations. The new road could result in increased recreational pressure if improvements to the road network brings in additional tourists and facilitates an increase resident population.

Other Natura 2000 sites

12.4.17. The other Natura 2000 sites included in Appropriate Assessment are addressed from section 4.5.136 onwards. The potential indirect impacts of the construction stage are addressed under the same headings – Habitat Degradation, and loss or decline of supporting populations of flora and fauna. The potential indirect impacts identified in the AA Report during the operation phase are a potential increase in recreational pressure on Natura 2000 sites if improvements to the road network bring in additional tourists and increase local resident population.

12.4.18. Following the assessment of the project ‘alone’ the AA Report turns to consider the impact prediction ‘in combination’ with other plans and projects (section 4.6). In the Report, Mr Arnold notes that the applicant’s assessment was updated in the light of new projects during the oral hearing, with an updated assessment provided in the AA – In combination assessment addendum update report, dated 10th March 2020, was then replaced on 3rd November 2020 with a supplement to this covering Burkeway Bearna on 4th November 2020. These last two form the “2020 in-combination update”. This included seven new or updated plans and sixteen new projects, as set out in Table 1 and Table 2, respectively, plus the supplement. The applicant’s conclusion remains unchanged despite the new information. The AA Report describes the plans and projects and states *‘For all of these, it is possible to reduce the potential impact through mitigation measures at the project level and it is expected that this will be done in line with the policies set out in the relevant Plan. However, these measures are unlikely to have eliminated the potential impact completely and there remains, without broader mitigation measures or environmental improvements, a risk that incremental losses or worsening of environmental conditions would eventually combine to either hinder restoration or have a significant impact on qualifying interest features of a cSAC or SPA’.* (section 4.6.20).

12.5. Conservation Objectives

- 12.5.1. Section 4.7 of the AA Report assesses the identified potential impact pathways, along with consideration of the risks that conservation objectives (COs) would be undermined both for the proposed road alone and in combination with other plans and projects. Tables 6 to 9 of the report detail the risks of undermining the conservation objectives of the Lough Corrib and Galway Bay cSAC and SPAs in the absence of mitigation. With respect to the other Natura sites, it is considered that *‘Three potential pathways have been identified for impacts on other Natura 2000 sites, these are (i) effects on qualifying interest Annex I habitats arising from recreational activities potentially affecting Ross Lake and Woods, the Maumturk Mountains, the Twelve Bens/Garraum Complex cSAC, and Connemara Bog Complex cSAC SPA; (ii) spillage/leakage of fluids and materials from construction vehicles travelling in proximity to Natura 2000 sites; and (iii) losses of supporting populations of Annex II species such as marsh fritillary and lesser horseshoe bat. These pose a very low risk to the conservation objectives to these sites when the road is considered alone. However, the risk is elevated but still low when the road is considered in combination with other plans and projects, especially those leading to population growth and additional construction’.* (Section 4.7.3). Specific risks to the conservation objectives are identified in section 4.7.4.

12.6. Mitigation Measures

- 12.6.1. Mitigation measures are addressed in section 4.8 of the AA Report. The report states that ‘the applicant describes the relevant design requirements and mitigation measures in the NIS p278 to p302, which is supported by the Construction Environmental Management Plan, provided in Appendix C of the NIS, and the Schedule of Environmental Commitments (SoEC) originally submitted with the EIAR, as Chapter 21, and then added to, the additions being last updated in November 2020. The relevant measures are summarised below, with references to further detail’. (section 4.8.1).
- 12.6.2. *Avoidance and mitigation measures included in the applicant’s design:* In the AA Report Mr Arnold identifies *designed in* measures as well as those included in the design but not itemised by the applicant in the NIS.

12.6.3. *Mitigation at the project level:* Of note, the AA Report refers to the applicant's mitigation measures and identifies some further mitigation measures which Mr Arnold considers are required at the project level to reduce impacts on Natura 2000 sites to a non-significant level in light of their conservation objectives (section 4.8.3). The *additional mitigation* measures are clearly highlighted in the report and for the avoidance of doubt are repeated herein under the relevant heading.

Habitat loss directly within the Natura 2000 Sites:

Additional mitigation: the area fenced off from construction to include the River Corrib and its fringing vegetation, as this may also be Annex I habitat, with the fringing vegetation maintained.

Habitat degradation within Natura 2000 sites as a result of chemical pollution, noise, dust, light, shading and spread of invasive species including from construction traffic and site workers travelling to/from the construction site:

Additional mitigation: The mitigation area 6210 R1 should be restored by management, using the existing seed bank, rather than topsoil stripping or translocation of turves to reduce the risk of suspended solid pollution of the River Corrib from this location;

Additional mitigation: install the highest standard of treatment facilities specified in the TII guidelines, suitable for discharge directly into an SAC watercourse, for road run-off during the operation of the road, with regular maintenance of silt traps, including dredging and removal of trapped silt for disposal in sealed landfill;

Additional mitigation: ensuring mud is not allowed to build up on haul roads and public roads where it could wash in to the cSAC including the River Corrib;

Additional mitigation: dust control during blasting events and dust monitoring within the cSAC during construction, especially following blasting events, and with revisions to working methods/frequency of blasting if required;

Additional mitigation: reduction of lighting on the western approach to the Lackagh tunnel to the absolute legal minimum to maintain existing light levels within the Lough Corrib cSAC;

Additional mitigation: the scope of the NISMP must be broadened to include species which are a potential threat to limestone pavement and other Annex I habitats, including, cotoneaster (all species), buddleia, red valerian and wild clematis;

Additional mitigation: the seed/planting mix not to include negative indicator species for limestone pavement or calcareous grassland within 250m of the cSAC including perennial rye grass, white clover, sycamore, beech and conifers, plus control of other negative indicator species within 100m of the cSAC as listed by Wilson and Fernandez (2013), such as creeping thistle and ragwort, while the vegetation is establishing on the soft estate (for two years post-seeding);

Additional mitigation: monitoring and management of non-native invasive species along the route corridor in proximity to Lough Corrib cSAC between Ch. 9+100 and Ch. 11+400 during the operation of the road, including the additional species listed above;

Additional mitigation: construction traffic travelling to/from Galway to primarily use recently constructed roads with a modern drainage design (pollution control) or avoiding the R458, N67 and N84 where these pass Natura 2000 sites;

Mortality, disturbance, displacement and habitat loss for species of flora and fauna which form part of the qualifying interest populations of Natura 2000, resulting in declines or local extinction

Additional mitigation: add a pond within the barn owl/lesser horseshoe bat habitat enhancement area in proximity to Menlo Castle which will be suitable for breeding coot.

Additional mitigation: ensure that safe passage exists for otters along all watercourses bisected by the proposed road during construction, to include mammal ledges within the culvert or two dry 600mm culverts parallel to the watercourse, one each side.

Loss or decline of supporting populations of flora and fauna (not part of the qualifying interest) within habitats lost or degrading with knock on effects on the qualifying interest habitats and populations of Natura 2000 sites

Additional mitigation: the population of *Rhynchospira fusca* should be identified, mapped and protected during the construction phase.

12.6.4. *Mitigation at the Plan Level:* The AA Report acknowledges that the PRD is a major and integrated component of both the Galway City Development Plan and the Galway County Development Plan which have been subject to AA and include mitigation measures in their policies to enable the conclusion of no adverse effect on the integrity of any Natura 2000 site. The AA Report identifies the relevant policies and objectives (section 4.8.5 and 4.8.6). Of particular importance among the mitigation measures included in the Plans are: Preparation and implementation of an Integrated Management Plans for Lough Corrib cSAC, Ross Lake and Woods cSAC, (Inner) Galway Bay (Complex) cSAC SPA (especially Rusheen Bay and Lough Atalia), the Twelve Bens/Garraun Complex and Maumturk Mountains cSAC; The development of an ecological network within Galway City, to include the protection of and the implementation of measures to control of non-native invasive species within the City; and Improvements in air and water quality, including water quality at Lough Atalia.

12.6.5. I have considered the mitigation measures identified in the applicant's NIS as well as the additional mitigation measures as proposed by Mr Arnold in the AA Report. Taking into consideration the information presented, which I consider the best scientific information available, the measures detailed will be effective and reliable in avoiding and reducing any effects to a non-significant level. The timing of the application of measures has been considered and will be applied as detailed. The integration of all these measures including the additional measures (see conditions) into the CEMP and the ecological supervision of the project will ensure that they will be delivered as designed and achieve their objectives which is to ensure no adverse effects on the site integrity of the suite of European Sites as detailed below

12.7. Conclusions on Site Integrity

12.7.1. The AA Report prepared by Mr Arnold concludes as follows (section 9):

Without mitigation, there is a risk but not a certainty that the conservation objectives for several Natura 2000 sites would be undermined, with the highest risk being for Lough Corrib cSAC and (Inner) Galway Bay (Complex) cSAC and SPA, both during construction and operation of the proposed road. Through proper implementation of the mitigation at the project level, undermining of the conservation objectives can be avoided for the project 'alone'.

Despite the mitigation at the project level, the proposed road would still result in the loss of biodiversity, light pollution, noise pollution, emissions to air and release of other materials from vehicles into the environment in proximity to Lough Corrib cSAC and with potential for the last two to reach (Inner) Galway Bay (Complex) cSAC. These could combine with the effects from other proposed developments and associated population growth, to create a further risk that the conservation objectives would be undermined. Added to this would be the increased mobility of the enlarged population, which expose parts of the same and other Natura 2000 sites in the vicinity of Galway City to the risk of unintentional damage from recreational activities. The risk of undermining the conservation objectives is heightened because some of the Annex I habitats exposed to risk are in unfavourable condition.

The risks of undermining the conservation objectives through in combination effects can also be fully mitigated, as provisionally indicated in the appropriate assessment for the two most relevant development plans. With the implementation of the Project and Plan level mitigation, a conclusion of no adverse effect on the integrity of any Natura 2000 site can be reached with respect to the proposed road, both alone and in combination with other plans and projects.

12.8. Response to submissions

- 12.8.1. Appendix 2 of the AA Report addresses the third-party submissions. Mr Arnold addresses all the issues raised by the various parties, including the National Parks and Wildlife Service (NPWS), both in written format and as raised at the oral hearing. Mr Arnold succinctly addresses those issues and, where relevant, points to his response as addressed in the AA Report. Other issues raised that have not been specifically addressed within the report are fully responded to in the table presented. I am satisfied that all submissions and concerns raised have been adequately addressed in the AA Report and that these can be adopted in full by the Board in its Appropriate Assessment.

12.9. Conclusion and Appropriate Assessment Determination in relation to Site Integrity

- 12.9.1. Having regard to the AA Report, prepared by Mr Richard Arnold of Thomson Environmental Consultants (on the request of the Board), I accept and concur with the report's conclusion. I am satisfied that the proposed development has been considered in light of the requirements of Sections 177U and 177V of the Planning and Development Act 2000 as amended. I consider that the Board can be confident that the information and assessment before them is complete, precise and definitive for the purpose of Appropriate Assessment.
- 12.9.2. Having carried out screening for Appropriate Assessment of the proposed development, it was concluded that it would be likely to have a significant effect on:
- Lough Corrib cSAC;
 - Galway Bay Complex cSAC;
 - Lough Corrib SPA;
- 12.9.3. In addition, the proposed development in combination with other plans or projects could give rise to significant effects or effects were considered uncertain for the following European Sites:
- Inner Galway Bay SPA;
 - Gregganna Marsh SPA;
 - Connemara Bog Complex cSAC;
 - Connemara Bog Complex SPA;
 - Lough Fingall Complex cSAC;
 - Ross Lake and Woods cSAC;
 - Black Head Poulsallagh cSAC;
 - Rahasane Turlough cSAC;
 - Rahasane Turlough SPA;
 - Kiltiernan Turlough cSAC;
 - Castletaylor Complex cSAC;

- Gortnandarragh Limestone Pavement cSAC;
- Ardrahan Grassland cSAC;
- Moneen Mountain cSAC;
- East Burren Complex cSAC;
- Maumturn Mountains cSAC; and
- Twelve Bens/Garraun Complex cSAC.

12.9.4. Consequently, an Appropriate Assessment was required of the implications of the project on the qualifying features of those sites in light of their conservation objectives.

12.9.5. Following an Appropriate Assessment, informed by a Natura Impact Statement, all supplementary reports, information gathered at the oral hearing, submissions and observations and including the full application of mitigation measures it has been determined that the N6 Galway City Ring Road, individually or in combination with other plans or projects, would not adversely affect the integrity of the Lough Corrib cSAC; Galway Bay Complex cSAC; Lough Corrib SPA or Inner Galway Bay SPA in view of the Conservation Objective of those sites.

12.9.6. Further, any possibility of adverse effects on the integrity of other European sites in the wider area due to in- combination effects has been firmly excluded with the application of mitigation measures specific to the proposed road development and those measures already set out and committed to in the Galway City Development Plan and the Galway County Development Plan. The relevant European sites are:

- Gregganna Marsh SPA;
- Connemara Bog Complex cSAC;
- Connemara Bog Complex SPA;
- Lough Fingall Complex cSAC;
- Ross Lake and Woods cSAC;
- Black Head Poulsallagh cSAC;
- Rahasane Turlough cSAC;

- Rahasane Turlough SPA;
- Kiltiernan Turlough cSAC;
- Castletaylor Complex cSAC;
- Gortnandarragh Limestone Pavement cSAC;
- Ardrahan Grassland cSAC;
- Moneen Mountain cSAC;
- East Burren Complex cSAC;
- Maumturn Mountains cSAC; and
- Twelve Bens/Garraun Complex cSAC.

12.9.7. This conclusion is based on a complete assessment of all aspects of the proposed road project including consideration of the following against the full catalogue of qualifying interest habitats and species of the European Sites considered in the assessment:

- Direct loss and damage of habitats, reduction in groundwater quality and quantity, reduction in surface water quality, smothering of vegetation by dust, disruption of otter movements, disturbance of birds from rock blasting and direct mortality of certain qualifying species during construction and operation, habitat isolation, habitat degradation due to noise and light. Additional impact pathways assessed included emissions from construction traffic travelling along older roads immediately adjacent to Natura 2000 sites; the possible loss and decline of populations of certain species outside the Natura 2000 network reducing the resilience of populations of species inside the Natura 2000 network; and increasing recreational pressure on certain Natura 2000 sites due to increased mobility of an expanding human population.
- It has been scientifically proven through detailed survey and analysis that there will be no loss of Annex I priority habitat that conforms to *Limestone Pavement* [8240] where the road intersects with the Lough Corrib cSAC directly and no loss of supporting habitats and species required to maintain the functioning of this habitat or other Annex I habitats that form the qualifying interests of that site or other European Sites.

- The N6 Galway City Ring Road will, through the design and application of mitigation measures, ensure the preservation of the favourable conservation status of habitats characterised as being in favourable status and ensure that habitat characterised as being in unfavourable status will not be further harmed or rendered difficult to restore to favourable status.
- The N6 Galway City Ring Road will, through the design and application of mitigation measures as detailed and conditioned ensure the lasting preservation of the essential components and characteristics of European Sites.
- The mitigation measures which follow the mitigation hierarchy of avoidance, design and direct measures to reduce impacts have been assessed as effective and fully implementable.

Therefore, the appropriate assessment has demonstrated beyond reasonable doubt that there will be no adverse effects on the integrity of any European Site.

13.0 CPO

13.1. Format of CPO and Schedule

- 13.1.1. The PRD comprises two Schemes, a Protected Road Scheme and a Motorway Scheme. The Protected Road Scheme incorporates the single carriageway portion of the GCRR from the Bearna West roundabout (R336) to Ballymoneen Road junction, and the dual carriageway portion from Ballymoneen Road to the proposed N59 Junction. The Motorway Scheme comprises the dual carriageway portion of the GCRR from the proposed N59 Junction to the existing N6 at Coolagh.
- 13.1.2. The format of both Schemes is the same. It is proposed to:
- (a) compulsorily acquire the land or substratum of land described in **Schedule 1**,
 - (b) compulsorily acquire the rights in relation to land described in **Schedule 2**,
 - (c) extinguish over the land referred to in subparagraphs (a) and (b)–
 - (i) the public rights of way described in **Part 1 of Schedule 3**, and
 - (ii) the private rights of way described in **Part 2 of Schedule 3**,
 - (d) prohibit, close, stop up, remove, alter, divert or restrict a means of direct access to or from the proposed protected road, in respect of the land described in **Schedule 4**,
 - (e) prohibit, close, stop up, remove, alter, divert or restrict a means of direct access to or from the proposed protected road, in respect of land used for a specified purpose described in **Schedule 5 (Not Applicable)**,
 - (f) prohibit or restrict the use of the proposed protected road or a particular part thereof by the types of traffic or the classes of vehicles specified in **Schedule 6 (Not Applicable)**,
 - (g) revoke the planning permissions for the development of land described in **Part 1 of Schedule 7**, and
 - (h) modify the planning permissions for the development of land described in **Part 2 of Schedule 7** to the extent specified in that Part.

- 13.1.3. The land or substratum of land described in Schedules 1, 2, 4 and 7 and the rights of way described in Schedule 3 are individually numbered and identified on the Deposit Maps for the two Schemes.
- 13.1.4. Numerous alterations were made to the CPO Schedules in the course of the oral hearing, for example to address changes/additions to owners/occupiers, to clarify certain matters with regard to rights of way etc. and to remove certain plots of land. I note, in this regard, the proposed modification relating to the realignment of the proposed Parkmore Link Road.
- 13.1.5. The Board is referred to the revised final versions of the Schedules and Deposit Maps associated with the Motorway and Protected Road Schemes which were submitted by the applicant on the final day of the oral hearing. These are referred to as 'Issue 3' and are dated 4th November 2020. Copies of the final Schedules with tracked changes were also submitted by the applicant for ease of reference.

13.2. Overview of Objections

- 13.2.1. A total of 211 No. written objections were received by the Board. Of these, 54 No. were withdrawn before or during the course of the oral hearing and are listed in Table 13.1 below. The remaining objectors are listed in Appendix 2 and are addressed individually below. It should be noted that a number of parties submitted two or more objections in respect of the same plot and these have been grouped in the assessment below. It should also be noted that a number of parties affected by the proposed CPO paid the appropriate fee to make a submission, and are therefore included in the list of observers, rather than the list of objectors. The issues raised in those submissions in relation to land acquisition and other CPO matters are addressed below, as appropriate.
- 13.2.2. The following new objectors (i.e. who had not previously made a written objection) appeared at the oral hearing and are included in the list of objectors in Appendix 2:
- Ross Tobin (Plot 504).
 - Richard Keane/Caiseal Geal Teoranta/Castlegar Nursing Home (Plot 656).
 - Vantage Towers Ltd. (Plot 226).
 - Tuam Road Developments Ltd. (Plot 766).

13.2.3. The 'objection reference' numbering system was utilised at the oral hearing by the applicant in responding to the issues raised. It generally runs from west to east and is in the format 'Ob_Plot number'. I will utilise the same numbering system in this section in the interests of clarity and for the Board's ease of reference.

Name	Objection Reference	Name	Objection Reference
Thomas Barrett	Ob_249_467	Oliver T. Hernan	Ob_102.2
Boston Scientific Limited	Ob_695.1, Ob_695.2	Oliver Hernon	Ob_102.1
Rita Burke	Ob_492	Michael Higgins	Ob_575
Larry and Concepta Carter and Others	Ob_563.01	John Hynes	Ob_632
Clada Group Limited	Ob_602_698_699_704.1, Ob_602_698_699_704.2	Edward Kelly	Ob_620_624
Patricia Clancy	Ob_251	Jarlath and Mary Kemple	Ob_589
Mary Cloherty	Ob_211	John Kenny	Ob_208
Martin G. Concannon	Ob_207	Kenny Galway Ltd.	Ob_668
Oliver Concannon	Ob_205	John King	Ob_754
Michael P. Conneely	Ob_167	Mike Lawless	Ob_553_561
Sean and Mary Conneely	Ob_108_125	Eamonn Mahoney	Ob_105
Gerald Connell		Thomas McDonagh and Sons	Ob_452
Donnacha Coyne	Ob_230	Michael McGuire	Ob_468_501
Winifred Cuddy	Ob_493	Eamonn Naughton	Ob_217
Larry Curran	Ob_168	NUI Galway	Ob_528_541_543_557
Jimmy Donohoe	Ob_255_256	Bernadette O'Connor	Ob_156
Paddy and Nora Dooley	Ob_561_562	Denis and Margaret O'Neil	Ob_663.01, Ob_663.02
Patrick Duggan	Ob_570	Tommy Reardon	Ob_233_234_235

Martin Feeney	Ob_688	Mary Regan	Ob_523
Mary Francis	Ob_571_579_592_600	Emer Ryan and Paddy Cunningham	Ob_641
Peter Gill	Ob_212	William Silke	Ob_716
Goodbody Stockbrokers Nominees Ltd and Padraic McHale	Ob_713	Anita Sullivan	Ob_607
Kathleen Greaney	Ob_729	Rita Trayers	Ob_187
Bartley Griffin	Ob_254	Margaret Walsh	Ob_147
Angela Griffin	Ob_259_463	Michael Walsh	Ob_115
Thomas Heffernan	Ob_499	Kevin and Marion Watters	Ob_131_132
Joseph and Eileen Hernon	Ob_103	Gerard and Ann Winters	Ob_666.1

Table 13.1: Objectors who withdrew prior to or during the oral hearing.

13.3. Assessment

13.3.1. For the Board to confirm the subject CPO, it must be satisfied that Galway County Council has demonstrated that the CPO “is clearly justified by the common good”³⁰. Legal commentators³¹ have stated that this phrase requires the following minimum criteria to be satisfied:

- There is a community need that is to be met by the acquisition of the lands in question,
- The particular lands are suitable to meet that community need,

³⁰ Para. [52] of judgement of Geoghegan J in Clinton v An Bord Pleanála (No. 2) [2007] 4 IR 701.

³¹ Pg. 127 of Compulsory Purchase and Compensation in Ireland: Law and Practice, Second Edition, by James Macken, Eamon Galligan, and Michael McGrath and published by Bloomsbury Professional (West Sussex and Dublin, 2013).

- Any alternative methods of meeting the community needs have been considered but are not demonstrably preferable (taking into account environmental effects, where appropriate), and
- The works to be carried out should accord with or at least not be in material contravention of the provisions of the statutory development plan.

13.3.2. I will address each of these criteria in turn below, along with other issues arising from the objections. The Board will note that the criteria have also been addressed in preceding sections of this report and, therefore, this Section should be read in conjunction with same, where relevant.

13.4. **Community Need**

- 13.4.1. As detailed in Section 10.4 and 11.13 above, it is considered that the need and justification for the PRD has been adequately established. The need for the PRD arises from the necessity to address the very serious transport issues facing Galway City and its environs, and the PRD is considered to form an essential part of the transport solution, which will also facilitate the full implementation of the GTS measures to improve public transport and active travel infrastructure.
- 13.4.2. It is considered that the current road network in Galway is under-developed along its northern half which results in Galway lacking the connected road network which would facilitate more direct travel. As a result of this missing link all traffic has to come into the city to access the spine road before it then moves around the city or bypasses the city. The PRD provides the required outer edge route developing the road network of the northern half of the city which will facilitate more direct journeys and divert through traffic away from the central spine, allowing for the reallocation of road space to more sustainable modes of transport and facilitating the compact growth of Galway in line with the significant population and economic growth forecast under the NPF.
- 13.4.3. It is considered, therefore, that the PRD will benefit the community as a whole. While there will be impacts, including significant and profound impacts, for individual landowners, businesses and people whose houses are to be acquired, it is considered that the CPO can be justified by the exigencies of the common good. I conclude, therefore, that the community need for the scheme has been established.

13.5. Suitability of the Lands

- 13.5.1. I refer to Section 10.5 of this assessment and to the conclusions that the proposed road design, specification, cross-section and junction strategy are appropriate. The extent of land that would be acquired under the compulsory purchase order is determined by the specifications for same, with additional lands also required for various purposes in connection with the PRD (e.g. biodiversity mitigation, attenuation ponds, material deposition areas etc.). It is considered reasonable to conclude that, having regard to the development of the route as proposed, the lands proposed to be acquired are necessary to facilitate the provision of the PRD. It is, therefore, accepted that there is a requirement for all of the lands included in the CPO, excluding those proposed by the applicant to be removed/adjusted (refer to final version of the Motorway and Protected Road Scheme Schedules submitted at the oral hearing on 4th November 2020). Many of the objections contend that the extent of proposed acquisition is excessive. These individual objections will be considered below and a number of changes to the Schedules are recommended. Other than these modifications, however, it is considered that all other lands identified in the CPO are required in connection with the PRD and that they are suitable for such use.
- 13.5.2. With regard to the proposed Parkmore Link Road modification, which was presented at the oral hearing, the Board will note that the proposed modification results in a reduction in the extent of land to be compulsorily acquired, with lands for the revised alignment instead to be acquired by agreement with Boston Scientific Ltd. Boston Scientific Ltd. withdrew their objection following the submission of the proposed modification.

13.6. Accordance with Planning Policy

- 13.6.1. As detailed in Section 10.3 above, the PRD has support in principle at European, national, regional and local policy levels, with the proposal being fully in accordance with those plans.
- 13.6.2. At a European level, the PRD forms part of the Ten-T Comprehensive Network, which seeks to provide high quality transportation links across the Continent. At a national level, the PRD is identified as a key growth enabler for Galway in the

National Planning Framework, and it is explicitly referenced in National Strategic Outcome 2, which relates to enhancing regional accessibility and supporting compact growth. The National Development Plan 2018 – 2027 seeks the delivery of major national infrastructure projects in the interest of regional connectivity and the PRD is one such project.

13.6.3. At a Regional level the Regional Spatial and Economic Strategy, under the heading of ‘Connected City’, states that it is an objective to improve the road network around the city and in particular to support the delivery of the Galway Transport Strategy (GTS) including the PRD. The road is identified as a main transportation component of the Metropolitan Area Strategic Plan (MASP). The road is further identified in policy objective 6.6 which lists projects to be delivered in the short term and before 2027.

13.6.4. At a local level, the route corridor for the PRD is referred to in written statements and identified on maps in both the Galway City and Galway County Development Plans, as well as the Ardaun Local Area Plan. With regard to potential conflicts with other land use zonings and objectives, the over-arching comment contained in Section 11.2 of the City Development Plan is noted:

“Priority will be given to the reservation of the N6 GCRR Preferred Route Corridor and the associated land requirements over other land use zonings and specific objectives.”

13.6.5. I am satisfied, having regard to this clear statement in the Development Plan, that the land required for the PRD takes precedence over other land use zonings and specific objectives.

13.6.6. The PRD is a key component of the GTS which was adopted as part of the Development Plans for the City and County.

13.6.7. On the basis of the above, and the more comprehensive assessment of planning policy contained in Section 10.3 above, I am satisfied that the PRD is consistent with all applicable planning policy and, more particularly, is supported by and in accordance with the objectives of the Galway County Development Plan and the Galway City Development Plan.

13.7. Use of Alternative Methods

- 13.7.1. The consideration of alternatives was addressed in Chapter 4 of the EIAR and is assessed in Sections 10.6 and 11.3 above. These include an evaluation of Do-Nothing and Do-Minimum scenarios; Do-Something road based alternatives; Light rail alternative; other alternatives to a road; alternative route options; and optimisation alternatives within the preferred route corridor.
- 13.7.2. There was much opposition to both the principle of the PRD and the route selected and the matter was debated at length during the oral hearing, as detailed in the abovementioned sections of this report. However, it is considered that the process undertaken by the applicant has been a robust assessment of alternative options having regard to environmental considerations and the stated Project Objectives, which are considered to be reasonable. I agree that the route chosen is the one which best meets these objectives. I also accept that the consideration of options within the selected route corridor and the strategy for key junctions was a rigorous process, which had regard to environmental considerations and to the Project Objectives. I generally concur with the reasons for choosing the preferred alternatives as presented in the EIAR and revised during the oral hearing.

13.8. CPO Issues Common to Multiple Objectors

- 13.8.1. Objections submitted by landowners, occupiers and residents have identified potential impacts on properties and lands, as well as planning and environmental issues including impacts on human health, noise, air, climate, visual impacts and on biodiversity. The planning and environmental issues have been addressed in detail in the preceding sections of this report. It is acknowledged that the PRD will result in significant or profound impacts on many residential property owners, as well as agricultural operations and a lesser number of commercial operations. These impacts will, in many cases, be permanent impacts notwithstanding the mitigation measures proposed. Issues relating to severance and loss of lands arising are primarily matters to be addressed by way of compensation.

Acquisition of Dwellings

- 13.8.2. Of the 54 No. dwellings that it is proposed to acquire (of which 44 are to be demolished), a total of 24 No. objections remain, representing 26 No. dwellings. The

applicant's Project Lead, Ms McCarthy, in response to a question from Mr Kevin Gill, stated at the oral hearing on 4th March 2020 that there were 123 people in the 54 homes to be acquired.

- 13.8.3. While I am satisfied that the applicant has demonstrated that the CPO "is clearly justified by the exigencies of the common good" and has satisfied the minimum criteria as outlined above, the number of dwellings that it is proposed to acquire is notable and would appear to be unparalleled in recent times. It, therefore, warrants very careful consideration given the constitutional protection afforded to property rights, and the principle of proportionality must be considered.
- 13.8.4. The Board will note the legal submission made by Jarlath Fitzsimons SC on behalf of the applicant at the oral hearing on 21st February 2020 (Ref. 31), which sets out the applicant's legal response to the objections against acquisition and the issues of the common good and the proportionality test.
- 13.8.5. To some degree I consider that the number of dwellings affected is a function of the extensive ribbon development and one-off housing development that has occurred on the rural fringes of Galway City over a prolonged period. This low density and scattered development, combined with the geographical and natural heritage constraints of the city, renders it extremely difficult to design a route which meets project objectives without impacting on individual dwellings, as can be seen from the route option analysis undertaken by the applicant.
- 13.8.6. In a number of instances, such as to the north of Bearna (7 No. homes to be acquired), at the N59 Moycullen Road crossing (9 No. homes to be acquired) and in the vicinity of the N83 to N84 (14 No. homes to be acquired on the N84, 6 No. at School Road and 3 No. at the N83), clusters of houses forming parts of long-established communities are to be acquired. At the oral hearing a number of objectors noted the stress and anxiety they were experiencing due to the proposed acquisition, the uncertainties associated with same, and whether they would be able to find a similar house in the locality, with a number noting that they may not qualify under 'local needs' requirements in the county area or that the number of people seeking alternative houses in the local area would inflate property prices. A number of objectors also unfavourably contrasted the proposed provision of replacement stables at Galway Racecourse and the rehousing of bats etc. with the failure to

similarly mitigate the impact on persons whose dwellings are to be acquired. Comparison was also made with famine-era evictions due to the number of houses that it is proposed to acquire.

- 13.8.7. In responding to the objections at the oral hearing, the applicant's position is that the home owners will be suitably compensated and that they will seek to agree compensation at an early stage. Given that c. 50% of dwelling owners have either not objected, or have withdrawn their objections, it would appear that the proposed compensation approach may be acceptable to some parties.
- 13.8.8. Notwithstanding the above, it is considered that, as assessed in Section 10.4, the applicant has demonstrated a need that will advance the common good and which will be met by the PRD and facilitated by its associated CPO. It is further considered that the acquisition of the identified dwellings³² is necessary to deliver the PRD, that the extent of acquisition is proportionate to the identified need and that a thorough consideration of alternatives, including alternative route alignments has taken place over a prolonged period. While the acquisition will have significant and profound impacts on individual properties and the people residing therein, the delivery of the PRD will be of strategic importance at a local, regional, national and European level, and will be of significant benefit to the common good of the population and economy of Galway and the Western Region in terms of traffic management, economic development and facilitating the considerable level of compact growth forecast for the city under the NPF.
- 13.8.9. With regard to the comparison to famine-era evictions, I would note that all affected parties will receive compensation and that the applicant has entered into negotiations with homeowners with a view to agreeing compensation amounts at an early stage in order to reduce stress and uncertainties for affected parties. While matters relating to compensation are not within the remit of the Board, I note the statement made by the applicant at the oral hearing that 51 of the 54 No. homeowners have engaged with this on-going process to date.
- 13.8.10. This is not to discount the significant and profound negative impacts on affected homeowners, where they arise and, particularly, where multiple houses within long-

³² As addressed in Section 13.9.10 below, it is recommended that the proposed acquisition of 1 No. dwelling on Plot 123 be removed from the CPO Scheme.

established communities are to be acquired and demolished and where remaining homeowners will also experience a loss of community. This is a difficult case for the Board to determine. Ultimately, however, I consider that the significant benefits of the PRD for the common good of the city, county and region outweigh the profound impacts on affected homeowners and, on that basis, I consider the proposed acquisition of dwellings to be generally acceptable.

Noise, Dust, Light and Air Pollution, Drainage

13.8.11. Many of the objections raised issues in relation to noise, dust, air and light pollution, drainage and other planning and environmental issues. These issues are addressed in detail in the preceding sections of this report, and to avoid undue repetition, the assessment of these matters is not repeated in this section, other than where necessary. The objectors who raised these issues are, however, identified, to aid the Board.

Inadequate Consultation

13.8.12. Many of the written objections and the submissions to the oral hearing contended that there had been insufficient consultation with property owners, that the consultation undertaken was inadequate or perfunctory or that the applicant had not taken sufficient account of issues raised. Related to this issue was the contention in many objections that insufficient details had been provided by the applicant in relation to various topics that affected them, such as road levels, drainage, boundary treatments etc. These issues are addressed in the Planning and EIA sections above, where it is concluded that the applicant has generally provided comprehensive and clear information regarding these issues.

13.8.13. The applicant responded to this issue in Section 4.9 of the Main Brief of Evidence. They note that the HSE commended the level of consultation undertaken during the course of the project and requested that good consultation is maintained during the construction stage.

13.8.14. Details of the public consultation phases and periods are outlined in Chapter 4 of the EIAR. In addition to these public information sessions, the applicant noted that over 950 meetings with landowners have taken place since May 2014. A project website was also created, and a project office, located in Ballybrit, was set up for consultation

purposes, with a dedicated land liaison officer in place to answer queries or concerns.

13.8.15. The applicant stated that all property owners identified as owning lands to be acquired to facilitate the construction of the PRD received written correspondence in October 2016 with a copy of the design with respect to their property. As part of the final non-statutory consultation process, written communication was issued to all property owners again in May 2018 with a copy of the final design with respect to their property and an explanation of the next steps. The statutory consultation process then followed, after the publication of the EIAR.

13.8.16. It is clear from the applicant's response, from the EIAR, the Design Report, and from submissions made at the oral hearing by both the applicant and objectors that there has been a very extensive and comprehensive consultation process over a prolonged period, both in terms of 'macro' scale issues such as route alignment and road design issues as well as 'micro' scale issues such as boundary treatments and landscaping at particular properties. While many objectors are of the view that the consultation was inadequate, I do not concur, and I consider that the consultation process was adequate and proportionate to the scale of acquisition proposed and the associated impacts on landowners and occupiers.

Proposed Access to Agricultural Lands Through The Heath Estate

13.8.17. A number of residents in The Heath estate object to the proposed acquisition of their internal estate road and the extension of this road via proposed private Access Road AR 07/10. The estate road is currently privately owned, with the residents having rights of access over it.

13.8.18. Proposed Access Road AR 07/10 would be constructed on lands acquired from Plot 504 (Ross Tobin lands) and would provide access to Plot 504 and to lands in Plot 506, which would be severed by the PRD. Both Plots 504 and 506 are currently zoned agricultural, and the severed portion of Plot 506 that would be served by the Access Road extends to c. 1.14 ha.

13.8.19. The objectors contend that the internal estate road is in no way suitable for agricultural traffic, that it was designed only for light traffic loading for a small number of dwellings and that safety issues would arise from its use by agricultural machinery and livestock. They contend that an alternative means of access should be provided

to Plot 506, or that it should be acquired in its entirety, given its small size relative to the extent of acquisition required to provide access to it. Gerald Lawless, in his submission to the oral hearing on 28th October 2020, suggested that the land be acquired and planted with trees in the interests of ecology and visual screening.

13.8.20. The applicant, in their Main Brief of Evidence note that the existing internal estate road already serves agricultural zoned lands, namely Plot 504 which extends to c. 3.09 ha, and the western part of Plot 510 (Gerald and Neasa Lawless), which extends to c. 0.41 ha. As the portion of additional agricultural lands which will be accessed via the internal estate road is only 1.14 ha, the applicant contends that the internal estate road will have the capacity to cater for it and that this is the correct access point for the severed lands, due to its proximity, rather than rerouting it via the neighbouring serviced roadway to the south.

13.8.21. As the severed portion of Plot 506 is not necessary for the construction or operation of the PRD, the applicant contends that its acquisition is not justified. In any event, I would note that it is not open to the Board to direct the acquisition of additional lands beyond those identified in the CPO Schedules and maps.

13.8.22. One of the objectors contends that the proposal will disproportionately benefit the owners of Plots 504 and 506 by providing a basis for the further development of the plots. I note in this regard that the owner of Plot 506 also objects to the proposed access road arrangement, on the basis that it would not be suitable for the future development of the Plot. The proposed Access Road AR 07/10 has been designed to TII standard Construction Details and includes a 4.0m wide road with a 1.0m wide grass verge either side, and the applicant states that it has been designed to facilitate the existing use and zoning of these lands (Agricultural) and not for potential future development, noting that any future development of these lands will be subject to a planning permission. I consider the width and alignment of AR 07/10 to be suitable for agricultural use and do not consider it necessary or appropriate to provide a road that would cater for development of Plot 506, given its zoning. Any future development of Plot 506 would be a matter for the planning process.

13.8.23. Plot 506 will be significantly impacted by the PRD mainline, with residual portions left to the north and south of the mainline. In the absence of an access road, the severed portion to the south of the mainline would be landlocked.

- 13.8.24. Mr Tobin, the owner of Plot 504 and the estate road, appeared at the oral hearing on 27th October 2020, at which he stated that he was not opposed to the PRD, or the acquisition of the north western edge of Plot 504 for the mainline, but that he was opposed to the acquisition of the estate road and the lands for AR 07/10 on the basis that it was not for the greater good or for the construction of the road. He stated that the response given at the oral hearing by the applicant was incorrect, as the access to his lands in Plot 504 is from an access road to the south west, and not through The Heath, and he stated that while there is a right of way through The Heath, this is specifically not for livestock and is not an agricultural right of way.
- 13.8.25. Mr Tobin stated that his intent was to build a family home for himself on the southern portion of Plot 504, accessed from The Heath and adjacent to his parents home, with any future development on the remaining lands to be accessed from the south west.
- 13.8.26. Mr Tobin stated that he had approached the applicant and offered additional lands to the rear of Plot 504 in order to extend Access Road 07/08 as an alternative means of access to Plot 506, but that this had been refused. He noted that the total acquisition from him (estate road + AR 07/10 area) was greater than the extent of land that would be served by the proposed access road.
- 13.8.27. Mr Tobin also raised issues regarding a waste of public funds and that the value of his lands to be acquired greatly exceeded the value of the agricultural lands to be serviced. I would note that these are compensation matters, which are not in the remit of the Board.
- 13.8.28. Mr Fitzsimons SC, on behalf of the applicant, stated that no-one was getting special treatment, while Ms McCarthy stated that Mr Tobin's proposal had been considered, but that Access Road 07/08, which is accessed from the N59 Link Road South, immediately to the south of the proposed N59 Letteragh Junction is intended to solely serve a planting area with access only by the Council for maintenance approximately twice a year. She stated that would be an undesirable location to allow access.
- 13.8.29. I would agree with the applicant that providing additional agricultural access from what will be a heavily utilised N59 Link Road South, very close to a major grade-separated junction, would not be appropriate in the interests of traffic safety and preserving the strategic function of the Link Road.

- 13.8.30. The Inspectors queried whether access to Plot 506 could alternatively be provided from the south, via the boithrín serving Plot 457 (where two houses are to be acquired, with one to be demolished). Ms McCarthy stated that this had been considered but had been discounted as the boithrín was very narrow and would require upgrading, with impacts on additional parties and additional acquisition required.
- 13.8.31. With regard to the issue of proportionality, the Inspectors asked the applicant if they agreed with Mr Tobin's contention that the extent of the land to be acquired from him exceeded the area of the land to be served by the proposed access road. Ms McCarthy stated that the applicant was attempting to treat all parties fairly and equally and that the owner of Plot 506 wanted to get their retained lands back and to get access to them.
- 13.8.32. Mr Fitzsimons, in responding to the submission of Gerald Lawless, made reference to land folio GY35183F which relates to the access road, and over which access through The Heath is achieved. This is subject to a right of way for vehicles but with a restriction for livestock on foot. He stated that there will be no change to the current rights of access. The applicant will acquire the plot and grant rights of way to the houses in The Heath and there will be no diminution of access for residents.
- 13.8.33. It appears that the only feasible means of providing access to Plot 506 is either via the access road proposed by the applicant, from the boithrín to the south, or via an extension to AR 07/08 onto the N59 Link Road South. I consider that the applicant has provided adequate justification for discounting these alternative options.
- 13.8.34. I consider the applicant's approach of limiting acquisition to lands required for the PRD and providing alternative access to severed lands to be the appropriate approach for such an intrusive project. While Mr Tobin may access Plot 504 from the south west, as he stated, I note that there is also access to these lands from The Heath currently, and as noted by the applicant agricultural traffic, but not livestock on foot, can utilise the estate road currently. Having regard to the fact that agricultural lands can already be accessed through The Heath, I consider that the very limited extent of additional agricultural lands that will be accessed via the estate road (i.e. 1.14 ha) is such that any additional agricultural traffic is likely to be negligible. I, therefore, consider the proposed acquisition to be reasonable and appropriate, and

that the alternative of leaving the residual lands at Plot 506 landlocked would not be appropriate. With regard to Mr Tobin's stated desire to develop Plot 504, I note that it is agriculturally zoned, and any future development proposals will have to proceed through the planning process.

13.8.35. I note that the final version of the Schedule of Environmental Commitments submitted at the oral hearing (Ref. 112A) includes the following at Items 1.29 and 1.30, respectively:

- A right of way will be provided over The Heath's existing access road (excluding the newly constructed access road AR 07/10) by Galway County Council in favour of the properties at the Heath.
- An agricultural right of way (to pass and repass with or without vehicles but without livestock on foot) will be provided over The Heath's existing access road and the newly constructed access road AR 07/10 by Galway County Council in favour of the landowners of Plots 504 and 506.

13.8.36. A number of the objectors in The Heath also expressed concern regarding the use of the estate road by construction traffic. The applicant confirmed at the oral hearing that there will be no access via this road to the mainline construction site and that the only construction traffic will be the traffic required to construct the Access Road AR 07/10 (stated to be c. 250 truck movements over a 4-week period). Given the short duration of the works, I do not consider that any significant issues arise from this limited level of construction traffic.

Aughnacurra Estate

13.8.37. Aughnacurra is a mature estate of 14 No. detached houses arranged around an oval, with extensive mature tree planting which benefit from a high level of residential and visual amenity currently. It is proposed to acquire 6 No. houses within the estate, of which 5 No. are to be demolished. The purpose of the acquisition is to accommodate the PRD mainline and associated embankments, attenuation ponds etc.

13.8.38. Objections were received from a number of individual residents of Aughnacurra, as well as from Aughnacurra Residents Association (ARA). There is also some overlap between membership of the ARA and the Galway N6 Action Group.

13.8.39. The proposed acquisition of dwellings is addressed separately above.

13.8.40. The houses remaining within the estate will experience negative impacts, particularly landscape and visual impacts and residential amenity impacts, arising from the changes to the character of the estate due to the demolition of numerous houses and the insertion of the PRD on an embankment through the area. These impacts are addressed elsewhere in this report.

13.8.41. The proposed acquisition that affects the remaining houses within the Aughnacurra estate relates to the internal estate road (Plot 531), which is a private road in the ownership of the residents. It is proposed to acquire this road, and to construct a new Access Road 08/03, to move the access point from the estate road further north along the N59 Moycullen Road, as the existing entrance will be severed by the PRD mainline.

13.8.42. A number of additional commitments were made by the applicant at the oral hearing in relation to Aughnacurra and are included in the final Schedule of Environmental Commitments (Ref. 112A). I also note Appendix A.21.2 of the final SoEC which includes details of the revised planting plan for Aughnacurra, taking account of the additional commitments. These commitments include:

- 15.14: The existing decorative historic gates at the entrance to the Aughnacurra Estate will be removed, stored and erected at the front entrance upon completion, noting that they currently do not close and that they will not close and span the new entrance width.
- 15.16: The residual lands at property 539 and 540 will be sloped from the rear of the retained existing estate wall up to the embankment of the proposed road development.
- 12.41: A grass verge with birch tree planting will be established to either side of the new entrance avenue into Aughnacurra Estate to match the character of the existing entrance.
- 12.42: Except where the existing wall is retained, a new stone wall will be constructed to the front of properties 539 and 540 (west of proposed road development) along the side of the existing / realigned avenue within

Aughnacurra Estate to match the character of existing stone walls within the estate.

- 12.43: Ground levels within the residual lands at properties 539 and 540 shall be raised back towards the proposed road development and planted with 1000 no. trees of between 1.0 and 2.0m in height in accordance with the details set out on Figure GCRR-SK-OH-652 in Appendix A.21.2.

13.8.43. Further commitments were made in relation to rights of access over the acquired road and the new Access Road AR 08/03:

- 1.31: A right of way will be provided over Aughnacurra's newly constructed access road AR 08/03 by Galway County Council in favour of the properties at Aughnacurra.
- 1.32: A right of way will be provided over Aughnacurra's existing retained access road by Galway County Council in favour of the properties at Aughnacurra.

13.8.44. These additional commitments are reflected in the updated version of Table 9.3 'Private Access Roads' included in the final SoEC. The Table lists the plot numbers/folio numbers of the properties in Aughnacurra which will have rights of way over both the new access road AR 08/03 and the remaining portion of the loop road which will tie into this.

13.8.45. In his submission at the CPO hearing on 28th October 2020 on behalf of the Aughnacurra Residents Association, Stephen Meagher queried whether an undeveloped piece of overgrown open space land in the centre of the estate was included in the CPO. Ms McCarthy confirmed that it was not included. Mr Meagher stated that most of the residents questions with regard to the acquisition of the internal road had been dealt with and that they were withdrawing their objection to the acquisition of the road. However, a letter was subsequently received from the Residents Association on the final day of the hearing, reiterating that they remain resolutely opposed to the PRD and associated CPO.

13.8.46. Michael Murphy, another resident of Aughnacurra, also made a submission at the CPO hearing on 28th October 2020, in which he contended that limited regard had been had to Aughnacurra in the EIAR, and queried landscaping and visual impacts

on the estate. In response Ms McCarthy, the applicant's project lead, and Mr Burns, the applicant's landscape consultant, outlined how Aughnacurra had been considered in the EIAR and the landscaping proposed. This issue is addressed elsewhere in this report. Mr Murphy queried if the applicant had considered acquiring the remaining homes in Aughnacurra. Ms McCarthy confirmed that consideration had been given, but that the separation of the remaining homes from the PRD was adequate and sufficient screening was available or proposed with the result that acquisition of the homes was not justified. Ms McCarthy and Mr Burns presented the photomontages of Aughnacurra in support of their position.

13.8.47. I consider that the applicant has provided adequate justification for the acquisition of the estate road in Aughnacurra, and that the commitments made with regard to provision of rights of ways, retention of gates, replacement tree planting, stone walls etc. will mitigate the impacts of the acquisition to an acceptable degree. There will, nevertheless, be significant negative impacts on the remaining homes in Aughnacurra, as addressed elsewhere in this report. However, the level of impact would not be so significant as to warrant the acquisition of the remaining homes within the estate, in my opinion.

Joyce Mackie Loughheed Clients

13.8.48. A total of 14 No. of the remaining objections, relating to 11 No. objectors³³, were submitted on behalf of the objectors by Joyce Mackie Loughheed (JML). Mr Owen Kennedy of JML appeared at the oral hearing on 28th October 2020 where, instead of making site-specific submissions, he made a general submission in relation to the scheme as a whole. The issues he raised were as follows:

- He expressed dissatisfaction with the remote format of the hearing.
- This would be the largest eviction in Irish history. No mention is made of what will happen to these people, or what has been done by the applicant to facilitate these people.

³³ Two objections were submitted in respect of each of the following objectors: Catherine Dolly (Plot 686), Patrick & Helena Francis (Plot 457) and John & Kathleen McCarthy (Plot 511).

- Applicant has dealt with flora and fauna in great detail and provided tunnels etc. to minimise effects on nature but has not addressed the people affected in any detail.
- GCOB required less houses to be demolished.
- No-one has asked questions about the people affected. The Board should not make the same mistakes as made in previous cases.
- Galway County Council should have put in place mechanism at an early stage whereby people who would lose their house could seek and get planning permission for a replacement house. People cannot move a short distance as they do not have close ties as required for rural housing under the Development Plan.
- Time period from the date that notice to treat is served should be limited to two years.
- No information on the number of people within the houses affected.
- The Board should include a requirement that the applicant should not enter into any private property unless they have purchased it.

Jarlath Fitzsimons SC, on behalf of the applicant, responded that legal matters with respect to what would happen if the CPO was confirmed had been addressed in his legal submission and that exhaustive consideration had been given the matters raised by Mr Kennedy.

The proposed acquisition of dwellings is addressed separately above.

I do not consider it appropriate that the Board would seek to impose time restrictions or other requirements on aspects of the CPO process beyond the planning process, as sought by Mr Kennedy.

I do not consider that any further matters arise from Mr Kennedy's submission.

13.9. Site-Specific CPO Issues

- 13.9.1. As noted previously, a total of 211 No. written objections were received by the Board, with a further 4 No. new objectors, who had not previously made a written

objection, appearing at the oral hearing. At the time of completion of this report, a total of 161 No. objections remain, with the remainder having been withdrawn.

- 13.9.2. Each of the remaining objections, and the issues arising, will be considered in this Section. For the Board's ease of reference I will generally use the same numbering system for objectors as utilised by the applicant at the oral hearing in their responses to the issues raised. It should be noted that this numbering system generally runs from west to east and is in the format 'Ob_Plot number'.
- 13.9.3. It should be noted that a number of parties submitted several objections. This is identified where relevant and I have amalgamated the issues raised. Similarly, where more than one party has raised objections in respect of the same lands (for example where several members of a family have made objections), I have amalgamated the issues raised in my assessment. I have also identified the objections which relate to the proposed acquisition of a house or commercial premises within the relevant headings.
- 13.9.4. The following sections relate to site-specific objections to the acquisition of particular lands or rights over lands. As noted previously, many of the objections raise broader planning and environmental issues, such as noise, air and light pollution, traffic issues etc. These issues are considered in detail in the preceding sections of this report.

13.9.5. Mary Costelloe (Ob_106)

A written objection was submitted on behalf of the objector by JML. No particular issues were identified in the objection, other than a reference to the loss of a considerable proportion of her lands. Mr Owen Kennedy of JML made a general submission at the oral hearing on 28th October 2020 (see Section 13.8) but did not raise any specific issues relating to this plot.

Plot 106 is a roughly rectangular plot, located immediately to the west of the PRD's proposed roundabout junction with the R336. I note that proposed Access Road AR 0/02 will provide access to the retained lands and to the proposed attenuation ponds which will be partly located on this plot. It is clear to me that the applicant is proposing to acquire these lands to facilitate the proposed R336/N6 GCRR junction,

and the provision of attenuation ponds and an access road to serve the ponds and lands severed by the PRD.

In the absence of any specific objections to the proposed acquisition, it is not possible to discuss this objection any further.

13.9.6. Pat Duane & Joy Bolster (Ob_111)

An objection was submitted on behalf of the objectors by JML. Issues raised include road is too close to city centre; inadequate engagement and consultation; uncertainties with regard to construction timing and mitigation measures; light, dust and noise pollution; security concerns; structural damage from blasting; if the proposed development is approved, the objectors' home should also be acquired due to severe effects. Mr Owen Kennedy of JML made a general submission at the oral hearing on 28th October 2020 (see Section 13.8) but did not raise any specific issues relating to this plot.

Plot 111 is a roughly L-shaped plot located to the north of the PRD's proposed roundabout junction with the R336 and it is proposed to acquire part of the plot for the PRD mainline.

With regard to engagement and consultation, the applicant stated in Section 4.9.11 of their Main Brief of Evidence that, during the consultation process, four meetings were held with these objectors, two of which were at their home, in addition to communication by telecom, email and letters.

The applicant contends that the potential impacts on this dwelling do not meet the requirements for its inclusion within the proposed land acquisition, as the PRD is located c. 100m west of the home and at an elevation 2m lower than the home, with a landscape berm provided to mitigate the visual impact. Having reviewed the relevant drawings and assessment contained in the EIAR I agree that the acquisition of the dwelling would not be warranted.

The other issues raised in this objection are addressed elsewhere in this report and I consider that no further issues arise in respect of this objection.

13.9.7. Peter and Michelle Connolly (Ob_116.1 and Ob_116.2)

Written objections were submitted by Mr and Mrs. Connolly at application stage and following the RFI response and elaborated upon at the CPO hearing on 27th October 2020, with earlier submissions having been made in Modules 1 and 2 on the 24th February 2020 and 6th March 2020, respectively. Issues raised included: alternative route should have been chosen or GCOB route; prioritisation of nature over people; severing impact in Barna; loss of stone walls; loss of half of land and stream; loss of sites for children; security and privacy concerns; sustainable transport option should be pursued.

Plot 116 is an agricultural plot located in Furrymelia West/Forramoyle West, Barna. It is proposed to acquire the western portion of the plot, which is bounded by the Sruthán na Líberirtí stream, for the PRD mainline and a compensatory habitat area.

With regard to boundary treatments and screening, I note that a mammal resistant fence (timber post and rail fence with wire mesh) is proposed on the boundary between the PRD and the rear of the property, with screen planting at a minimum width of 3.0m provided between the fenceline and the PRD. As addressed elsewhere in this report, I consider that timber post and rail fencing with landscaping planting is a suitable boundary treatment for agricultural lands, and is commonly used on national roads projects throughout the country. With regard to security and privacy impacts, the proposed screening will prevent views into the objectors' home from the PRD, and no access to the property will be provided from the PRD mainline.

There will, however, be a significant impact on these objectors and their property due to the extent of acquisition proposed and the loss of access to the stream. Having regard to the design of the PRD and the characteristics of this plot, I do not consider that excessive land is being acquired. With regard to the stated loss of sites, I note that these are agricultural lands, and any future development potential would be a matter for zoning or a planning application. Ultimately, given that the need and justification for the PRD and the associated CPO has been established, I consider that the loss of land within this plot is a matter that can only be addressed by way of compensation.

The other issues raised in this objection are addressed elsewhere in this report and I consider that no further issues arise in respect of this objection.

13.9.8. Dermot & Patricia Curran (Ob_117)

An objection was submitted on behalf of the objectors by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: severance of landholding; loss of residential sites for their children; noise and visual mitigation; availability of water on severed lands; drainage; uncertainty regarding boundary treatments and access arrangements; access and services must be maintained at all times.

Plot 117 is an agricultural plot located in Furrymelia West, which will be severed by the PRD mainline, with additional land acquisition for an attenuation pond, access roads and a compensatory habitat area.

With regard to boundary treatments, the applicant responded that a mammal resistant fence (timber post and rail fence with wire mesh) will be provided on the boundary of the PRD, and that a Paladin security fence is proposed around the ponds on the west side of the PRD mainline. The access arrangements to the retained lands are addressed in Section 4.14.10 of the applicants Main Brief of Evidence, which states that the retained lands to the west of the PRD will be accessed via access road AR 0/04, a private road with a private right of way provided to specified parties. A field access and a single field gate will be provided from Access Road AR 0/02 at the location shown on Figure 4.1.01 in Appendix A.9.1 to the RFI Response. An additional Access Road AR 0/03 located on the plot provides access to the proposed attenuation pond from the mainline. However, no access will be provided to the retained lands from this access road, which I consider to be appropriate in the interests of traffic safety. The applicant has committed to maintain access to all properties at all times during construction and to reinstate all services, with advance notification to be given of any disruption.

With regard to the stated loss of residential sites for the objectors' children, I would agree with the applicant's position that the future development potential of any site is a matter for zoning under the Development Plan and/or a planning application to the planning authority. The issues of noise, drainage and visual impacts are addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.9. Ursula and Kevin McDonagh (Ob_119)

A written objection was submitted on behalf of the objectors by Rooney Property Consultants, and the issues raised were reiterated and elaborated upon by Ronan Rooney at the oral hearing on 13th October 2020.

The objection states that, on foot of a separation arrangement, a Circuit Court Order requires the house to be sold in 2023. It is contended that the CPO process will render such a sale impossible or that its value will be adversely affected by the timing of the forced sale. The objectors, therefore, consider this to be an exceptional situation and seek that the entire property be included in the CPO, with the house to be acquired by the applicant and resold following road construction.

The applicant considers that the potential impacts on the dwelling do not meet the requirements for its inclusion within the CPO, as the N6 GCRR would be c. 50m west of the home, would not block southerly views and that only a small amount of land is to be acquired from the plot. Mr Fitzsimons SC, acting for the applicant, stated at the hearing that this is not a matter for the Board, and that it will instead be the subject of a separate legal process, and that impacts on value are a compensation matter, not within the Board's remit.

I concur with the applicant that the issues raised in the objection relate to matters of compensation and other matters more properly dealt with by a property arbitrator, should the Board confirm the CPO. I therefore recommend no change to the CPO Schedule.

13.9.10. Se Greenan and Marian Cunningham (Ob_123) – Proposed House Acquisition

The issues raised in this objection and elaborated upon by Mr Greenan at the CPO hearing on 27th October 2020, included a request that the road design revert to the GCOB proposal and a request that only the triangular portion of land (Ref. 123.a.101) be acquired, with the objectors allowed to retain ownership of the remainder of the plot, including their house.

The applicant's written response was that "the potential impacts on the dwelling, particularly during construction, are deemed significant and the entire property is included within the proposed land acquisition. Photomontage taken from the front garden/patio area presented in Figures 1.1.1 to 1.1.3 of Appendix A.12.3 of the EIAR

show the proximity of the road to the home". At the oral hearing, Ms McCarthy stated that the applicant, following a meeting with the objectors, had sought to keep the road as far back as possible, but that the construction phase impacts and post-construction impacts warranted the acquisition of the entire property. Mr Burns, the applicant's landscape consultant, reiterated these points with reference to the photomontages, stating that the residual visual impacts could not be adequately mitigated. Mr Greenan responded that he only wished that the minimum area of land required to construct the road be acquired. He stated that the visual impact would be mitigated as planting matured and that he would undertake additional screening planting on his side of the boundary.

I note that the applicant is proposing to acquire the objector's house, but not demolish it, indicating that it will ultimately be re-used as a dwelling when the PRD is operational.

As can be seen from the Protected Road Scheme deposit maps, only a small triangular portion of the objectors' rear garden is required for the protected road. The remainder of the plot, incorporating the objectors house, comprises lands proposed to be acquired not forming part of the protected road.

The PRD in the vicinity of this plot comprises a single carriageway road on a c. 1.5 - 3m high embankment and it is not in close proximity to any major junction works, construction compound or other large-scale engineering works. While the house will be very close to the working area, such works will be transient in nature, due to the linear nature of the proposed development. I do, however, note that Figure 7.201 indicates possible blasting along this portion of the mainline. The plot is adjacent to Construction Section S1, and Table 7.1 of the EIAR estimates a 6 – 9 month construction time for this section, although the mainline will also be used as a haul route.

With regard to operational phase noise, I note from Table 1 of Appendix A.8.2 of the RFI Response that the predicted residual noise level at this location in the 2039 Design Year is 59dB L_{den}, which is below the TII design goal.

I note that this property is located within an area identified by the applicant as an 'area of notable visual impact'. Two belts of 3m deep screen planting are proposed at this location, in addition to the noise barrier. Although the applicant has not

assigned a significance rating to the visual impact, due to it being a property they seek to acquire, I consider that there would be a significant negative residual visual impact at this property. Given that the applicant is not proposing to demolish this house, once acquired, it would appear that the impacts in the operational phase would not be so significant as to prevent the residential occupation of the property.

Given the constitutional protections afforded to private property and the onerous imposition on such rights that the acquisition of a dwellinghouse represents, I do not consider that the applicant has satisfactorily demonstrated the need to acquire the entirety of this plot on a permanent basis.

I note that the applicant, at the oral hearing, offered to provide alternative accommodation for the Kerin family for the 9 month duration of earthworks adjacent to their dwelling and included this within the final Schedule of Environmental Commitments (Item 1.33 refers). Given the likely construction phase impacts, I consider that a similar commitment should be imposed on the applicant in relation to these objectors.

In conclusion, I do not consider that the acquisition of the entirety of this plot has been adequately justified. I recommend that the portion of the plot which incorporates the objectors' house and entrance (Plots 123a.202 and 123b.201) should be omitted from the CPO Schedule, with only the triangular portion of land (Plot 123.a.101) to the rear (south) of the plot, which is required to provide the protected road, included in the Schedule.

I also recommend that an additional commitment be added to the Schedule of Environmental Commitments, stating that:

“Galway County Council will offer to provide or pay for similar alternative accommodation for the occupants of plot 123 for the duration of earthworks in Construction Section S1.”

13.9.11. Gerard and Susan O'Dell (Ob_134)

A written objection was submitted on behalf of the objectors by Patrick J. Newell Engineers. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: loss of 58% of lands will seriously injure value and enjoyment of property; loss of potential site; no measures proposed to address

'significant' visual impact; proposed fence rather than stone wall is out of character; screening planting will block views over Galway Bay; impact of elevated link road on property; safety issues with proposed open drainage channel; noise impacts; dead end of Na Forái Maola Road will attract antisocial behaviour/camping; dewatering impact on foundations; impact on wastewater treatment system; impact on existing gully at south western corner of property; maintenance of compensatory habitat area.

The loss of a potential site was addressed by the applicant in Section 4.21.3 of the Main Brief of Evidence, where it is stated that the future development potential of any site is a matter for zoning under the Development Plan and an application to the planning authority for planning permission. I agree with this position, noting also that the planning permission referenced by the objectors is expired.

Thomas Burns, the applicant's Landscape consultant, addressed landscaping measures at this plot in his submission, noting that a 3m wide mixed screen planting belt is proposed along the property side of the PRD. Mr Burns notes that this planting will have some impact on longer views south from the property but that the design approach for the planting is to provide dense low level screening of the PRD. It is also proposed to provide a 6m wide mixed screen planting belt along the embankments on Na Forái Maola to Troscaigh Link Road and a new tree-lined boundary hedgerow along the fenceline of the PRD. The PRD is close to the objectors' dwelling and I consider that the screening of the road is of more importance to the protection of residential amenity than the preservation of long-range views. The landscaping proposed is extensive and will screen the PRD reasonably effectively once established, albeit that a significant residual visual impact will remain as noted by the objectors.

The elevated Na Forái Maola to Troscaigh Overbridge Link Road will be located to the south of the objectors' dwelling, on the opposite side of the PRD mainline, while the objector's dwelling faces west. As a result, the principal views from the dwelling will not be towards the link road, and the separation distances are considered to be adequate.

With regard to boundary treatments, I note that the existing front boundary along Na Forái Maola Road will be retained. As addressed elsewhere in this report, I consider

that a mammal resistant timber post and rail fence along the boundary of the PRD, with screening planting as outlined above, is an appropriate secure boundary for a national road.

Anthony Cawley, the applicant's Hydrologist, addressed the open drain adjacent to the objectors' property in Section 4.2.4.6 of his submission to the oral hearing. He noted that this is a pre-earthwork drain, and that open drains are standard construction practice for land drainage. The open drain will be located inside the PRD boundary, is relatively shallow, will convey overland flow, and that it should not represent a significant health and safety risk as it will be located inside the PRD boundary and will be secured by fencing. I consider this open drain arrangement to be a typical construction detail and do not consider that any particular health and safety issues arise due to the use of fencing.

The 'dead-end' segment of Na Foráí Maola Road was addressed in Section 4.14.10 of the applicant's Main Brief of Evidence, where it is stated that it will perform as the turning head for any large delivery vehicles accessing the homes in the cul-de-sac road to the west of this junction and that any excess space will be planted, landscaped and fenced off to prevent unauthorised access and to prevent these areas becoming an unauthorised dump. There are a number of houses in the vicinity of the 'dead-end', and I do not consider that it is particularly high risk in terms of anti-social behaviour or dumping.

The potential impact on the objector's wastewater treatment system was addressed in Section 4.6.8 of the applicant's Hydrogeology submission to the oral hearing, where it was stated that the location of the percolation area is within granite and will likely partially lie within a zone of groundwater drawdown. As the groundwater table will be lower in the area, the applicant contends that the operation of the percolation area will not be impacted. I agree with this assessment, noting that an increased unsaturated zone would be beneficial to the operation of the percolation area.

With regard to the potential impact of groundwater drawdown on the structural stability of the property, the applicant, in section 4.9 of their Hydrogeology submission, stated that while it is unlikely groundwater levels may drop beneath this property to cause instability, a property condition survey will be undertaken to ensure that any changes that may occur can be identified and repaired if necessary. This

commitment was added to the final SoEC submitted at the oral hearing (Item 17.19 refers). I note that the Board's consultant Hydrogeologist, James Dodds, agreed that the risk of settlement is very low at this property. I consider that the proposed property condition survey is an appropriate and proportionate commitment.

This property will be negatively affected by the PRD, due to the loss of a stated 58% of the land. The impact of this loss on the value of the property is ultimately a matter for arbitration and compensation outside of the planning process.

The other issues raised in this objection are addressed elsewhere in this report. Noting the additional commitment to undertake a property condition survey, I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.12. Padraig & Imelda Burke (Ob_135)

An objection was submitted on behalf of the objectors by O'Donnell Waters Solicitors, and a submission was subsequently made by Gerard O'Donnell on behalf of the objectors in Module 2 on 3rd March 2020.

The issues raised included: land to rear of property will be used to deal with surface water resulting in flood risk to property and undermining of foundations; community severance/detour to reach Barna village; noise impacts; increased traffic passing the home; landscape impacts.

Plot 135 is located on the eastern side of Na Foraí Maola Road, a short distance to the north of the PRD mainline. The proposed acquisition at this plot relates to the road bed only and the existing boundary wall and access will remain unaffected.

At the oral hearing Mr O'Donnell queried whether there would be water storage on Plot 144, to the rear of his clients' property, which it is proposed to acquire, and whether a flood risk would consequently arise. Mr Cawley responded that the acquired lands were to be used for Dry Heath habitat formation, and as such would be free-draining with no associated flood risk. I would concur with this conclusion.

With regard to the detour to reach Barna village, this will be an additional c. 1.0km, due to the location of the Na Foraí Maola to Troscaigh Link Road North to the north of this home. The applicant contends that this is a balanced compromise with the priority being to limit further demolitions and impacts on homes at the PRD crossing

point of Na Foraí Maola Road. While this will inconvenience the objectors, I consider it a reasonable compromise in the interests of minimising what is a substantial amount of land acquisition, and noting that the Link Road will be of a high quality.

With regard to traffic, I note that contrary to what is stated in the objection, there will be a reduction in traffic passing the home, since Na Foraí Maola Road will become a cul-de-sac to the south of this property, therefore reducing passing traffic.

The other issues raised in this objection are addressed elsewhere in this report. Given that the proposed acquisition relates to the road bed only, I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.13. Barbara Flaherty (Ob_136)

A written submission was submitted by this party. (No submission was made at the CPO hearing by or on behalf of the objector). I note that while this party is a person affected by the CPO, they paid the appropriate fee to become an observer. I will nevertheless address CPO issues in this section. Issues raised included: health impacts; traffic pollution; climate change; impact of blasting on property; visual impact; devaluation of property; closure of local road and loss of access; safety and security concerns; CPO will landlock the objector; impact of CPO on ability to sell the property; road is not needed and will not address traffic issues.

Plot 136 is located on the eastern side of Na Foraí Maola Road, a short distance to the north of the PRD mainline. The proposed acquisition at this plot relates to the road bed only and the existing boundary wall and access will remain unaffected.

The applicant notes, in Section 4.13.5 of their Main Brief of Evidence that, whilst the roadbed to the front of the property is to be acquired, there are no construction works proposed on this land and access will be maintained at all times during the works. I am satisfied that the property will not be landlocked by the PRD.

With regard to the detour to reach Barna village, this will be an additional c. 1.0km, due to the location of the Na Foraí Maola to Troscaigh Link Road North to the north of this home. The applicant contends that this is a balanced compromise with the priority being to limit further demolitions and impacts on homes at the PRD crossing point of Na Foraí Maola Road. While this will inconvenience the objector, I consider it

a reasonable compromise in the interests of minimising what is a substantial amount of land acquisition and noting that the Link Road will be of a high quality.

The other issues raised in this objection are addressed elsewhere in this report. Given that the proposed acquisition relates to the road bed only, I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.14. John Dempsey (Ob_139)

A written objection was submitted on behalf of the objector by Vincent Costello. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised were: aesthetics; construction impacts (noise, dirt, inconvenience, safety and access); uncertainties with regard to road level; and inadequate landscaping.

Plot 139 is located on the western side of Na Foráí Maola Road, some distance to the north of the PRD mainline.

The proposed acquisition at this plot relates to the road bed only and the existing boundary wall and access will remain unaffected. The plot is located on the portion of Na Foráí Maola Road which will become a cul-de-sac as a result of being severed by the PRD mainline. Consequently, there will be a significant reduction in traffic on this portion of the road and an improvement to safety and access. Given the distance of the objector's property from the PRD mainline, I do not consider that any significant construction-related impacts will arise.

The Na Foráí Maola to Troscaigh Overbridge Link will be elevated c. 7m above the PRD, however, the objector will be located at a considerable distance from the elevated portions of the link road and I do not consider that there is any uncertainty with regard to road levels or landscaping.

Given that the proposed acquisition relates to the road bed only and that there will be no direct impact on the objector's dwelling, boundary treatments or access, I consider that no further issues arise in respect of this objection.

13.9.15. Angela Silke & Raymond Skelton (Ob_141.1, Ob_141.2, Ob_141.3)

An objection was submitted on behalf of the objectors by Vincent Costello and two additional objections were submitted by the objectors. The issues raised in the Vincent Costello objection were: the impact on the garden; construction impacts (noise, dirt, inconvenience, safety and access); uncertainties with regard to road level; and inadequate landscaping. The issues raised in the other two objections were: the loss of the existing stone wall and hedging which are of sentimental value to her; impact on property value; privacy impacts; loss of views and tranquil setting; noise and light pollution; additional traffic adjacent to house.

Plot 141 is located on the eastern side of Na Foraí Maola Road, immediately north of the junction with the proposed Na Foraí Maola to Troscaigh Overbridge Link Road.

The existing access to this property will be unaffected by the PRD. The portion of the existing front boundary to the south of the existing entrance will be removed, and the applicant states that the stones will be retained and the wall reconstructed to match existing. The stated purpose of the wall set-back is to provide safe sight lines to the proposed priority junction to the south.

With regard to landscaping proposals at this property and on the PRD, Mr Burns stated, in Section 4.2.21 of his submission to the oral hearing, that this would include a 3m wide mixed screen planting belt along both sides of the PRD and Na Foraí Maola to Troscaigh Link Road North, a 6m wide mixed screen planting belt along the embankments on Na Foraí Maola to Troscaigh Link Road, as well as a new tree-lined boundary hedgerow along the fenceline of the PRD.

The extent of acquisition at this property is minimal and relates to the road bed/setback and 12 sq m of the front garden. The impacts are primarily related to the loss of a portion of stone wall and hedging which are of personal and sentimental value, impacts associated with the proximity of the proposed Na Foraí Maola to Troscaigh Overbridge Link Road and changes to the setting of the property.

I consider the proposed landscaping arrangements and the commitment to retain the stone and rebuild the wall to match the existing wall to be acceptable in terms of mitigating the impacts to some degree. However, the setting and character of the dwelling will be unavoidably changed to some degree by the PRD, and more particularly, the proximity of the Na Foraí Maola to Troscaigh Overbridge Link Road. Given that the community need and justification for the PRD has been established,

and that the examination of alternatives has been robustly assessed, these negative impacts are regrettable. However, they are not considered to be unacceptable given that the property will continue to enjoy a high level of residential amenity. The issues of noise and light pollution are addressed elsewhere in this report. Residual impacts on the property are a matter for arbitration/compensation as appropriate.

Finally, with regard to Mr Costello's objection, I do not consider that there is any uncertainty concerning proposed road levels in this area.

I consider that the applicant has adequately addressed the issues raised in these objections and that no further issues arise.

13.9.16. Frank Carter (Ob_145.1)

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: surplus land acquisition; drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

The lands to be acquired are primarily for the construction of the PRD mainline and the Na Foráí Maola to Troscaigh Link Road. Having reviewed the drawings and details submitted by the applicant, I do not consider that any surplus land acquisition is proposed in respect of this plot.

Section 4.14.10 of the applicant's Main Brief of Evidence outlines access arrangements. Access to the home will be retained as per the existing, access to the retained lands to the north of the PRD will be via a proposed field gate, and access to the retained lands to the south of the PRD will be via access road AR 1/03.

Boundary treatment and landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include a 3m wide mixed screen planting belt along both sides of the PRD and Na Foráí Maola to Troscaigh Link Road, 6m wide mixed screen planting belt along the embankments on Na Foráí Maola to Troscaigh Link Road, a new tree-lined boundary hedgerow along the fenceline of the PRD and reconstruction of any impacted section of the residential property boundary wall.

The issue of noise is addressed elsewhere in this report. With regard to drainage of retained lands, no specific details of the objector's concerns have been provided. As addressed in Section 11.10 of this report, the applicant's drainage proposals across the PRD are considered to be acceptable.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.17. Genevieve Carter (Ob_145.2/Ob_145.3)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: lack of detail regarding access; drainage concerns; inadequate noise mitigation detail; planning and environmental concerns (unspecified).

This objection relates to the same plot as addressed in Section 13.9.16 above (Frank Carter), and generally raises the same issues. Therefore my assessment in respect of that objection also applies in this instance and no further issues arise.

13.9.18. Maura & Dermot O'Connell (Ob_151)

A written objection was submitted by the objectors, and Ms O'Connell made a joint submission in Module 2 of the oral hearing on 3rd March 2020 with Audrey Dineen (Ob_152). Issues raised include: community severance due to new slip road and hemming in of house by embankments and drainage ponds; visual impacts and health and safety issues with ponds; flood risk due to ponds; light pollution from traffic due to elevated orientation of slip road facing objectors' property; overlooking from traffic; noise and air pollution.

Plot 151 is located on the eastern side of Troscaigh Road (L5387), a short distance to the south of the PRD mainline. The proposed acquisition at this plot relates to the road bed and setback. The drawings indicate that the existing boundary wall and entrance will remain unaffected.

With regard to community severance and the walking route used by local residents, the applicant contends that the objectors will be able to continue their daily 4km walking circuit, albeit it will be approximately 1km longer due to the need to walk

to/from Na Foráí Maola to Troscaigh Overbridge Link to cross the PRD, and that this connection will enable residents to continue to engage with their community.

Access to this plot will be via Access Road AR 1/06 which connects the cul-de-sac to the realigned Troscaigh Road. AR 1/06 will be a private road, in the ownership of Galway County Council, with a private right of way provided to a number of parties, including the objectors.

With regard to landscaping proposals at this property, Mr Burns stated in Section 4.2.21 of his submission to the oral hearing that this would include 6m wide mixed screen planting belt along both sides of the PRD and Na Foráí Maola to Troscaigh Link Road South, 3m wide mixed screen planting belt along both sides of the Link Road where it ties into the existing road and around the side of the proposed attenuation pond facing the property, a new tree-lined boundary hedgerow along the fenceline of the PRD and that any impacted section of the residential property boundary wall will be reconstructed to match existing. With regard to lighting impacts, I note that no road lighting is provided in the vicinity of this property. I consider that the significant planting proposed will be effective in mitigating lighting or glare from road traffic on the property.

Issues with regard to the proposed attenuation ponds to the west of this plot were discussed at the oral hearing on 3rd March 2020. The applicant's Hydrologist, responding to the objectors, stated that the ponds were appropriately sized with regard to climate change and run-off and noted that an overflow spillway to a watercourse is proposed which, in the event of a blockage to the flow control outlet, will take excess water to control flood risk to nearby properties. With regard to maintenance, he stated that the Council would be responsible for the ponds. I note that the ponds will be securely fenced with paladin security fencing and will be extensively landscaped. As such I do not consider that they present any unacceptable health and safety or visually intrusive impacts on this property.

The other issues raised in this objection, such as noise and air pollution are addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.19. Sean and Audrey Dineen (Ob_152)

A written objection was submitted by the objectors, and Ms Dineen made a joint submission in Module 2 of the oral hearing on 3rd March 2020 with Maura O'Connell (Ob_151). Issues raised include: impact on walking route; quality of life impacts; natural spring well in grounds of property will be destroyed or damaged; run-off pollutant and vermin due to proposed retention ponds; flooding due to elevated PRD; visual and noise impacts; devaluation of property.

Plot 152 is located on the eastern side of Troscaigh Road (L5387), immediately to the south of the PRD mainline. The proposed acquisition at this plot relates to the road bed and setback. The drawings indicate that the existing front boundary wall and access will remain unaffected, while a timber fence will be erected along the northern boundary.

The issues raised in this objection, the applicant's position and my assessment are generally the same as set out in respect of the adjacent Plot 151 above.

The issue of the spring was addressed in Section 4.3.10 of the applicant's Hydrogeology submission at the oral hearing. It was stated that the spring/well (identified as W50-16) lies within the footprint of a side road and will need to be decommissioned as part of the PRD. The applicant states that where wells are removed as part of the PRD then an alternative equivalent supply will be provided such as a replacement well.

The extent of acquisition in respect of this property is limited, and any impact on property value is a matter for the property arbitrator, should the CPO be confirmed.

The other issues raised in this objection, such as noise and water pollution are addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.20. Finbar McCarthy (Ob_155)

A written objection was submitted by the objector and a submission was made at the oral hearing on 5th March 2020. Issues raised include: alternative routes are

available; fumes and noise; removal of part of front garden; right of way to access septic tank will be commandeered.

Plot 155 is located on the eastern side of Troscaigh Road (L5387), to the north of the PRD mainline.

The applicant, in Section 4.12.22 of their Main Brief of Evidence state that the acquisition of this portion of garden is to provide forward visibility on the realigned Troscaigh Road, as currently there is sub-standard visibility around this bend which forms the front boundary of this plot. I note that a replacement stone/block boundary wall is proposed.

In relation to the septic tank, the applicant states at Section 4.19.3 that it is accessed via a narrow track (unregistered land, plot 182) immediately adjacent to the northern boundary of this property. It is proposed to terminate all public and private rights of way on this access track between OB1 and OB2, as the proposed realigned Troscaigh Road will be constructed on these plots (182a.201 and 182b.201). Post-completion of construction, access to the septic tank via the retained portion of the access track will be as per the existing situation.

The issues of noise, fumes and alternatives are addressed elsewhere within this report.

I consider that the applicant has provided a reasonable justification for the proposed acquisition, and that issues with regard to access to the septic tank have been properly considered. I consider that no further issues arise in respect of this objection.

13.9.21. Niamh Dooley and Damian King (Ob_158)

A written objection was submitted on behalf of the objectors by John Mooney & Co. Engineers. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: air emissions, health impacts, community severance, traffic hazard, impact on visual and residential amenities, inadequate details of accommodation works.

Plot 158 is located on the western side of Troscaigh Road (L5387), to the north of the PRD mainline. It is proposed acquire the road bed and set back and a portion of the objectors' front garden.

With regard to community severance and the walking route used by local residents, the applicant contends that the objectors will be able to continue their daily 4km walking circuit, albeit it will be approximately 1km longer due to the need to walk to/from Na Foráí Maola to Troscaigh Overbridge Link to cross the PRD, and that this connection will enable residents to continue to engage with their community.

With regard to accommodation works, it is proposed to remove the existing front boundary wall and construct a 1.2m high stonework wall in a setback location and a standard domestic entrance. The need for this acquisition is related to the proposed realignment of Troscaigh Road, due to its severance by the PRD, and is reasonable and not excessive, in my opinion. A high quality replacement stone wall and entrance will be constructed, which is an appropriate mitigation measure, in my opinion.

The applicant, in Section 4.14.10 of their Main Brief of Evidence, states that junction visibility at the proposed new entrance will be in accordance with relevant TII standards, and notes that the property immediately to the south is being acquired as the widening to provide the requisite forward visibility around this bend encroaches significantly on their property. Having reviewed the information submitted, I am satisfied that no significant traffic hazard arises at the new entrance.

The other issues raised in this objection, in relation to health impacts, air quality, alternatives etc. are addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.22. Mark McDonagh (Ob_159)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: privacy concerns; drainage concerns; blasting and noise; and increased traffic impacts on the L5387 Troscaigh Road.

Plot 159 is located on the western side of Troscaigh Road (L5387), to the north of the PRD mainline. It is proposed to acquire the road bed and set back and a portion of the objector's front garden.

With regard to privacy, a 1.2m high stonework wall is proposed along the front boundary on Troscaigh Road. Section 4.11.8 of the Main Brief of Evidence states that this will prevent overlooking of passing traffic into the dwelling. A domestic entrance will also be constructed in accordance with the standard detail drawing. The need for this acquisition is related to the proposed realignment of Troscaigh Road, due to its severance by the PRD, and is reasonable and not excessive, in my opinion. A high quality replacement stone wall and entrance will be constructed, which is an appropriate mitigation measure in my opinion.

The issues of drainage, noise, blasting and traffic are addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.23. Estate of Eileen Jennings (Ob_170)

A written objection was submitted on behalf of the objector by Gaynor Miller which states that the estate has written to the Council and Arup to advise them that the estate may be the registered owner of the lands but they do not have any interest in them due to occupation by a third party.

The applicant, in section 4.17.20 of their Main Brief of Evidence state that no further correspondence in respect of this plot will be issued to the individual identified on the folio.

I consider that no further issues arise in respect of this objection.

13.9.24. Mary Conneely (Ob_177)

A written objection was submitted on behalf of the objector by Vincent Costello. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised were the impact on the remaining lands, construction impacts (noise, dirt, inconvenience, safety and access), uncertainties with regard to road level and inadequate landscaping.

Plot 177 is a agricultural plot on the eastern side of Ann Gibbons Road (L13215) in Truskey West. It is proposed to acquire a number of portions of the plot, comprising the road bed on the L13215, and a triangular area at the northernmost part of the

plot for the PRD mainline and an Access Road 2/01, which will be an extension of the severed L13215 to provide access to the severed portion of adjacent plot 176.

I note that access to this plot will remain unchanged and will continue to be off the L13215. With regard to road levels, I note that there is no change to the existing level of the L13215 in the vicinity of this plot and that the levels of the PRD mainline in this area are clearly identified on the submitted geometry drawings. I, therefore, do not consider that there are any uncertainties with regard to road levels.

With regard to the impact on the remaining lands, I note that there will be no severance and that the areas to be acquired are c. 2% of the overall area (Ref. Appendix A.14.1 of EIAR). I do not consider that there will be a significant impact on the agricultural or other use of the remaining lands. Noise, dust etc. are addressed elsewhere in this report.

I consider that no further issues arise in respect of this objection.

13.9.25. Fintan Monahan and Therese Joyce (Ob_179)

A written objection was submitted on behalf of the objectors by Desmond Fitzgerald & Co. Solicitors. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: the development will result in the Ann Gibbons Road (L13215) beyond their house becoming a cul de sac which may attract overnight campers and unauthorised users. It is requested that an overhead bar be placed on the road to limit access.

The applicant's response in Section 4.14.10 of the Main Brief of Evidence was that the issue of unauthorised parking/overnight camping will be monitored by the residents living along it, with reporting back to Galway County Council in the future should an issue arise. I consider that this is a local authority operational issue that does not relate to the proposed CPO. No further issues arise in respect of this objection.

13.9.26. Máirtín Ó Curraoin (Ob_194)

A written objection was submitted by the objector in Irish. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: not opposed to the road project in general; roundabout has been shifted further south

and as a result has taken more of his land than previously; this change is not reasonable without notification to him as an affected landowner and it should be reverted back to its previous position; satisfied for the land to be made available for purchase, subject to conditions being met. These include: no other land should be taken and the roundabout should be moved back to the position that it was in previously; entire boundary ditches and walls should be put back as traditional dry stonewall ditches; land should be drained appropriately without flooding of lands; it should be confirmed that there would not be any ditch, trench or gully or a level change between the new road and retained land; a legal right of way in the observer's name and his successors should remain, in order to ensure access to each part of the land, as is currently the case; PRD should not restrict an opening licence to the land in future or restrict new development on the lands for detached housing or more in the future.

This is an agricultural landholding, on the eastern side of the Bearna to Moycullen Road (L1321), to the south of the PRD mainline. It is proposed to acquire part of the landholding and roadbed for the purposes of constructing the Bearna East Roundabout and the associated realignment of the L1321.

The objector wishes the proposed Bearna East Roundabout to be moved further north. This would reduce the impact on the objector but would increase the impact on other landowners. I consider the proposed location to be adequate, having regard to topography, horizontal alignment and the tie-in with the L1321.

With regard to the development potential of the lands, the applicant's response was that the impact on any future planning applications will be a matter for the planning process and that there is no evidence that such development is possible at this location as it is not currently zoned residential. I concur with this assessment, and do not consider that the PRD would necessarily prevent the lands from being developed in the future, should such development be deemed appropriate.

With regard to the right of way, the applicant stated that a search of land registry and folios shows no registered right of way as indicated on this objection. They note that the remaining lands can be accessed through the existing Boithrín located south east of the proposed Roundabout. As the objector did not appear at the oral hearing,

the basis for his contention that a right of way exists is unclear. I am satisfied that the retained lands would remain accessible and would not be landlocked by the PRD.

With regard to boundary treatments, a mammal-resistant timber fence is proposed, and I consider this form of boundary treatment to be acceptable and appropriate for the existing use of the lands.

The other issues raised in this objection are addressed elsewhere in this report.

I consider that the matters raised in this objection have been adequately addressed and no further matters arise.

13.9.27. James & Tracy Gavin (Ob_195)

A written objection was submitted on behalf of the objectors by Gaynor Miller and elaborated upon by Kevin Miller at the CPO hearing on 13th October 2020. Issues raised included: privacy and security impacts; residential amenity impacts; loss of part of front garden; loss of sites for children; insufficient detail on boundary treatment, road levels, landscaping and drainage; object to permanent acquisition of plot 195a.202 and want it to be taken as temporary acquisition; additional works outside of CPO boundary may be required as part of accommodation works; proximity of proposed new entrance to new roundabout junction; noise and lighting impacts; and access and services to maintained at all times. At the oral hearing Mr Miller read a short personal statement from the objectors regarding their family history in the area and the impact of the PRD on their property and their lives.

This plot is located on the eastern side of the Bearna to Moycullen Road (L1321), immediately north of the proposed Bearna East Roundabout junction (Ch. 2+800). Lands are being acquired from the objectors for the purposes of constructing the roundabout, part of the mainline and the realigned L1321, all of which will be on embankments. The objectors' house is recently built.

With regard to the loss of part of their front garden and existing entrance, this is regrettable. However, I consider that the need and justification for the PRD has been established and the loss of land will, therefore, be a compensation matter. As the applicant has noted with respect to loss of sites/development potential, the future development potential of any site is a matter for zoning and an application for planning permission.

With regard to boundary treatments, a new 1.2m high stonework wall is proposed along the front boundary on the Bearna to Moycullen Road L1321 with a domestic entrance. The applicant contends that this wall will restore a level of privacy to the property. I consider this boundary treatment to be acceptable.

Ms McCarthy confirmed to Mr Miller at the oral hearing that the proposed new entrance would be located at a safe distance from the roundabout from a traffic engineering and TII compliance perspective. She stated in her Main Brief of Evidence that the proposed landtake in Plot 195a.202 is required to regrade the entrance to this property and that, in circumstances where this plot cannot be returned to the landowner in the condition in which it was acquired, it is necessary to acquire it on a permanent basis. At the oral hearing she acknowledged that the proposed new entrance could be better tied in to the driveway that is now in place and stated that this would be done as accommodation works or by compensation.

With regard to road levels at this location, the applicant stated in their Main Brief of Evidence that the Bearna East Roundabout is located on fill of c. 2.5m on the western boundary of this property. While the objectors are concerned that levels may change during detailed design, the applicant's response was that the design presented in the EIAR is the design for which they are seeking planning permission. They noted that the roundabout was moved further south to reduce impacts on the planning permission for this dwelling and that this arose from discussions with the property owners as the house was not constructed at that time. As a result, the distance between the fill embankment and home was increased. Ms McCarthy outlined the contact that the applicant had with the objectors over the process to date, with 66 interactions with them over the years, including 5 meetings.

Lighting is proposed at the Bearna East Roundabout for safety reasons. The assessment indicates that the property is outside the light spill area and the applicant considers that the light level at this property will be less than 1 lux (moonlight from a full moon).

Thomas Burns, in his submission to the oral hearing outlined landscaping at this location and, noting the lighting control and significant planting (up to 6m deep) proposals, acknowledged that the impact of the PRD on the setting of this property is significant. He reiterated this conclusion at the oral hearing in response to Mr Miller's

submission. He also stated to Mr Miller that the density of vegetation is more important than its height and acknowledged that there would be residual impacts on views. In response to a request from Mr Miller, the applicant agreed to liaise with the objectors regarding planting species and layout at their boundary, and I note that an additional commitment was added to the SoEC, agreeing “to consult with the owners of Plot 195 in relation to the planting proposals to be established along their property boundary”. Given the significant impact on this property, I consider this to a welcome additional commitment, although I do not consider that it will change the significance of the impact.

Noise and drainage issues are addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.28. Martin Concannon (Ob_197.1 and Ob_197.2)

Two objections were received in relation to this plot, submitted by Gaynor Miller (Ob_197.1) and JML (Ob_197.2), respectively.

Gaynor Miller (Ob_197.1)

Issues raised included: stone wall sought rather than timber fence; objection to closure of right of way on bóithrín (see annotated map included in objection); incorrect CPO notification was received; drainage of retained lands; lack of information regarding access arrangements, visual mitigation and landscaping; access must be fully maintained. (No submission was made at the CPO hearing on behalf of the objector.)

With regard to the CPO notification, the applicant responded to this in Section 4.17.22 of the Main Brief of Evidence. They stated that certain lands that had been transferred to Martin Concannon (Jnr), were included in the schedules and maps served on Mr Concannon (Snr) which suggested that he was still the owner of those particular lands. The plots in question are 197a.204, 197b.203 and 197d.201. Part of four other plots, (i) Plot 197a.102, (ii) Plot 197b.101, (iii) Plot 197c.101, (iv) Plot 197c.202, shown in the server map served on Mr Concannon (Snr) were also transferred to Martin Concannon (Jnr), with parts of those plots remaining in Mr Concannon (Snr)’s ownership. The applicant stated that amended schedule extracts

from, Schedule I Part 1, Schedule 1 Part 2 and Schedule Part 4 of the Protected Road Scheme and server map N6-SM-197.1_I2 have been issued to Mr Concannon (Snr) showing all of the lands in Mr Concannon ownership including those parts of the four plots mentioned above that have remained in his ownership, which are now depicted with the following plot references (i) Plot 197y.101, (ii) Plot 197x.101, (iii) Plot 197w.101 and (iv) Plot 197w.202. The errata for the Protected Road Scheme submitted at the Oral Hearing noted these amendments. I consider that this matter has been adequately addressed by the applicant.

With regard to what the objector contends is a right of way, the applicant's response was that a search of land registry and folios shows no registered right of way as indicated on this objection. They note that there is no existing field gate, existing entrance or existing access currently visible or evident on the existing Bearna to Moycullen Road L1321 at the point at which this right of way intersects it. The applicant states that the right of way, if it is proven, will remain as it currently is to the point at which it reaches the L1321 and that the closure of the right of way will be a matter for compensation, if proven. I consider that the applicant's approach is reasonable and appropriate, based on the information before the Board.

The proposed provision of timber fencing on agricultural lands are addressed elsewhere in this report, but are considered to be generally acceptable. The applicant states that where stone walls are removed on Mr Concannon's property, the stone will be retained and made available for re-use by Mr Concannon for the construction of a new stone wall on his side of the proposed development boundary if he wishes. The proposed boundary landscaping has been clearly identified and includes 3m screen planting and a tree-lined boundary hedgerow along the PRD. Drainage issues are addressed elsewhere in this report.

With regard to maintenance of access, the applicant has given an undertaking in the EIAR, repeated at the oral hearing on numerous occasions, that access to properties will be maintained at all times. This is included in the Schedule of Environmental Commitments and I consider this commitment to be adequate.

I consider that no further issues arise in respect of this objection.

JML (Ob 197.2)

The JML objection did not identify any particular issues, simply stating that the objector would be seriously impacted upon by the loss of a portion of the land.

Mr Owen Kennedy of JML made a general submission at the oral hearing on 28th October 2020 (see Section 13.8) but did not raise any specific issues relating to this plot. As there are no specific details in the objection, it is not possible to discuss this objection any further.

13.9.29. John Concannon (Deceased) (Ob_198)

A written objection was submitted on behalf of the objector by JML. The objection did not identify any particular issues, simply stating that the objector would be seriously impacted upon by the loss of a portion of the land.

Mr Owen Kennedy of JML made a general submission at the oral hearing on 28th October 2020 (see Section 13.8) but did not raise any specific issues relating to this plot. As there are no specific details in the objection, it is not possible to discuss this objection any further.

13.9.30. Thomas Concannon (Ob_199)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: it was the objector's intention to build a house on this plot in order to retire in Galway, however the residual lands will be less than the minimum standard area of 0.5 acres for a one-off house; impact on property value; lack of information regarding noise mitigation and landscaping; noise, light and air pollution; lack of clarity on boundary treatments; surplus lands in adjacent plots 198a.203 and 203a.201 may be used for unauthorised purposes; ecological impacts; community severance; services and access must be fully maintained.

Plot 199 is located on the western side of An Chloch Scoilte, to the north of the PRD mainline, close to the realigned junction with Aille Road (L5384).

The applicant, in Section 4.11.8 of their Main Brief of Evidence, state that the land acquisition is limited to roadbed and that the existing boundary to the front and the southern boundary of the property will be maintained, and there will be no interference with the existing stone walls. The lands which are acquired from Plot

198 to the south of this property will be fenced off with a timber post and rail fence in addition to the existing boundary provision along this shared boundary.

In response to the query regarding the lands included in plot 198a.203 and 203a.201, the applicant states that they are required to facilitate the construction and operation/maintenance of the PRD and have been identified as material deposition area MDA DA-09, which is required to facilitate the creation of ecological habitat.

Impacts on development potential and property values are compensation matters, where appropriate, and are not within the Board's remit. Noise, light and air pollution impacts are addressed elsewhere in this report.

I consider that no further issues arise in respect of this objection.

13.9.31. Martina Concannon & Alan Giblin (Ob_201)

A written objection was submitted on behalf of the objectors by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised include: road is in wrong location; climate change impacts; impact on curlews; blasting and rock breaking impacts on property; planting to south should not interfere with views of the sea and the Burren; planting should be evergreen and increased in height and depth; noise pollution; light pollution from cars at realigned An Chloch Scoilte junction; property devaluation; uncertainty with regard to use of adjoining lands to be acquired in Plots 203a.201, 168a.210 and 198a.203 and what measures will be taken to prevent unauthorised use and disrepair.

This plot is located to the north of the proposed An Chloch Scoilte Junction (c. Ch. 3+350) and the proposed acquisition relates to road bed only.

With regard to proposed landscaping provision, Mr Burns, on behalf of the applicant, noted the proposed provision of between 3m and 6m wide mixed screen planting belt along the PRD and the realigned section of An Chloch Scoilte junction and the proposed tree-lined boundary hedgerow to be established along the fenceline of the PRD. He noted that the proposals include for a range of native species and plant sizes which seek to provide an adaptable quick establishing mix and which includes for 35% of evergreen species and 10% of trees at up to 3.0m in height at planting. The applicant accepts that the planting will have some impact on longer views south from the property but contends that the design approach for the planting is to provide

dense low level screening of the PRD. I agree with the applicant that the provision of dense and suitable screening planting of this large new piece of infrastructure is of greater importance to the protection of residential and visual amenities than the preservation of long-range views.

In response to the query regarding the lands included in plot 168a.210, 198a.203 and 203a.201, the applicant states that they are required to facilitate the construction and operation/maintenance of the PRD and have been identified as material deposition areas (MDAs) DA-08 and DA-09, respectively, which are required to facilitate the creation of ecological habitat. I consider the creation of such habitat areas to be an important biodiversity mitigation measure, as addressed elsewhere in this report, and I do not consider that excessive or surplus acquisition is sought at these locations.

Impacts on development potential and property values are compensation matters, where appropriate, and are not within the Board's remit. I note that the proposed acquisition in respect of this property relates to road bed only. The other issues raised, such as alternatives, climate change, impacts on curlews, noise, light and air pollution impacts are all addressed elsewhere in this report.

I consider that no further issues arise in respect of this objection.

13.9.32. Leo & Jo-Anne O'Hara (Ob_204)

A written objection was submitted on behalf of the objectors by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised include: lack of information regarding boundary treatments; loss of high quality stone wall; impact on percolation area; will adjoining land be sold by Council to objectors or if not, will it be planted with conifers; GCOB route was preferable; public transport system is required; planting should be evergreen, not deciduous; taller planting is required; noise pollution; adjacent house being acquired on Plot 203a.201 should be maintained or demolished; objectors do not want unauthorised parking or halting on Plots 203a.201 and 198a.203; services and access must be maintained at all times.

This plot is a residential plot on the western side of Aille Road (L5384), a short distance to the north of the proposed An Chloch Scoilte Junction (c. Ch. 3+350). The lands included in plot 204b.201 are road bed and set-back

With regard to the boundary issue, the applicant stated in their Main Brief of Evidence that the existing boundary wall along the front of the property will be retained over the extent of the front garden and a new 1.2m high stone wall will be constructed at the front boundary of their additional plot of land to the south of the garden, to tie-in with the existing garden stone wall. The existing boundary on the southern side of the property will be maintained and a new timber post and rail fence will be constructed on the proposed road side of the boundary.

In response to the objectors' query regarding the purpose of lands included in the nearby Plots 198a.203 and 203a.201, the applicant responded that the lands in Plot 198a.203 are identified as material deposition area DA-09, required to facilitate the creation of ecological habitat. With regard to Plot 203a.201, the dwelling is to be acquired due to construction impacts but not demolished. Following completion of the construction the applicant stated that the dwelling will be disposed of by Galway County Council in accordance with the requirements of the Local Government Act. The applicant also stated that there will be no redundant portion of public road remaining on An Cloch Scoilte Road that may attract parking or antisocial behaviour, as a gate will be positioned off access road AR 3/01 restricting access.

The applicant advised that the sale of the adjoining land to be acquired to the objectors would not be possible due to the creation of the proposed MDA.

Mr Burns, in his Landscape and Visual submission to the oral hearing, outlined the landscaping in the vicinity of this property. He stated that it included: retention of the existing southern boundary, 6m wide mixed screen planting belt along the PRD, 3m wide mixed screen planting belt along the realigned section of An Chloch Scoilte junction and the tree-lined boundary hedgerow along the fenceline of the PRD. I consider the landscaping proposals to be acceptable in this area, noting that the PRD mainline is in a cut in this area, and will be well screened.

With regard to the potential impact on the percolation area serving the objectors house, I note that the acquisition in respect of this property relates to the road bed

and set back only, and therefore I do not anticipate that any impact on the percolation area is likely to arise.

The other issues raised in these objections are addressed elsewhere in this report and I consider that no further issues arise.

13.9.33. Maura Conneely (Ob_209)

A written objection was submitted on behalf of the objectors by MKO. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: impact of PRD on development potential of lands, uncertainty regarding access to retained lands to east of PRD, landscape and visual impacts on retained lands, uncertainty regarding stages when night-time works will be undertaken.

The objector's lands comprise an elongated plot accessed from Aille Road L5384, to the north of Barna. It is proposed to acquire a portion of land for the PRD mainline, which will sever the landholding east and west of the PRD.

With regard to access to the retained lands to the east of the PRD, no access from the mainline will be provided, with access instead provided from Aille Road via access road AR 3/02 which runs parallel to the PRD mainline and which is designed to provide agricultural access. Access to lands to the west of the PRD will be retained from Aille Road as per existing.

Impacts on development potential are compensation matters which are not within the Board's remit. The lands are currently agricultural and I consider the proposed access arrangements to be suitable.

With regard to landscaping and visual impacts, I noted that the mainline is in cutting through this Plot, and that a new tree-lined boundary hedgerow is proposed along the fenceline of the PRD. I consider these proposals to be acceptable.

Night-time works have been identified as being necessary at certain stages and are addressed elsewhere in this report.

I consider that no further issues arise in respect of this objection.

13.9.34. Michael Conneely (Ob_213)

A written objection was submitted on behalf of the objector by Mulroy & Company Solicitors. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: objects to loss of 6 acres, as opposed to 4 acres under the previous proposal; uncertainty regarding boundary fencing and noise barriers; drainage; lack of information regarding set back for development access on feeder roads; closure of Boleybeg Boithrín will prevent access to land on the north side of the PRD; overbridge sought as walking animals on Cappagh Road cannot be done safely; uncertainty regarding changes of levels on Cappagh Road; opposed to street lighting; all services and access to be maintained at all times.

This plot is a roughly rectangular plot on the western side of Cappagh Road. It is proposed to acquire land along the northern part of the plot to accommodate the PRD mainline, parts of two attenuation ponds and an access road AR 4/02. Having reviewed the development proposals, I do not consider that any surplus land acquisition is proposed.

With regard to boundary treatments, it is proposed that the current boundary wall at the front of the dwelling will be partially removed and a new 1.2m high stone wall will be constructed to tie into the existing wall. It is also proposed to provide a new domestic entrance, while the existing boundary on the southern portion of the plot will be maintained. A mammal resistant timber post and rail fence is proposed along the boundary between the PRD mainline and the retained lands. I consider these boundary treatments to be appropriate.

Noise barriers and drainage are addressed elsewhere in this report, while no significant light spill is anticipated at this location. Figure 5.3.03 of the EIAR presents the existing and proposed road levels of the Cappagh Road and indicates that the level change will be minimal at this location.

Access to the severed Boleybeg Boithrín will be provided via access road AR 4/05, located to the north of the proposed Cappagh Road Junction. This arrangement represents a negative impact on the objector, given the need to cross the Cappagh Road Junction. However, impacts on farm management practices (e.g. transport of animals by trailer rather than by foot), are matters for the property arbitrator and the compensation process, where appropriate.

I consider that no further issues arise in respect of this objection.

13.9.35. Michael and Geraldine Flaherty (Ob_215)

A written objection was submitted by Rooney Property Consultants and elaborated upon by Ronan Rooney in a submission at the oral hearing on 13th October 2020. The objection states that the house was originally to be acquired but it is not now proposed to acquire it due to a design change at the proposed Cappagh Road Junction from a roundabout to a signalised junction. The objectors request that the house be acquired due to the damage that would be caused and there is minimal difference between the two junction designs.

Mr Fitzsimons SC, on behalf of the applicant, stated that the objector's argument is predicated on the false premise that there is minimal difference when there is actually a substantial difference. Ms McCarthy outlined the design evolution and noted that an original elevated overbridge proposed over Cappagh Road had been dropped to an at-grade junction, which was originally a roundabout, then reduced to a signalised junction. The extent of acquisition would be greater for the roundabout option, due to difficulty providing access to objector's dwelling. The change to a DMURS signalised junction changed the impacts, and allows for landscaping, footpaths etc.

This position is reiterated in Section 4.18.3 of the applicant's Main Brief of Evidence, which states that the impacts of the current design on the property are considerably less and as such it is not necessary for the entire property to be included in the land acquisition. It states that the front boundary of the property is 28m from the edge of the proposed carriageway, with landscaping provided in this area. The home is then a further 11m from their southern boundary.

Having reviewed the proposed junction design, landscaping proposals, the photomontages of Cappagh Road Junction and the environmental assessments undertaken, I concur with the applicant that the acquisition of the objector's house would not be justified. I consider that no further issues arise in respect of this objection.

13.9.36. Shane Kelly (Ob_216)

A written objection was submitted by Mr Kelly and elaborated upon by Peadar Ó Maolain BL at the CPO hearing on 29th October 2020, with earlier submissions

having been made in Modules 1 and 2 on the 24th February 2020 and 3rd March 2020, respectively. Issues raised included: loss of right of way access to cottage to rear of objector's dwelling; proposed access road should not be a public right of way; loss of stone walls; impact of PRD on planning permission for objector's house and query whether modification of permission required; recurring flooding on Cappagh Road; destruction of elements of mature garden; impact on horse breeding and agricultural operations; visual and landscape impacts; noise and pollution impacts; antisocial behaviour on access road, which should be limited to landowners; lighting impacts; TB risk to livestock due to disturbance of badgers; additional access gates required on AR 4/05; loss of land held for generations; impacts on drains; inadequate landscaping; loss of development potential; lack of accommodation works details.

This plot is located on the eastern side of Cappagh Road, a short distance to the north of the proposed Cappagh Road Junction of the PRD, and comprises two houses, outbuildings and agricultural lands. It is proposed to acquire a strip of land along the southern part of the plot to facilitate construction of Access Road AR 4/05, which provides access to the severed portion of Boleybeg Bóithrín. It is also proposed to acquire road bed and part of the front garden area to facilitate the connection of the Access Road to Cappagh Road.

With regard to boundary treatments and the loss of stone walls, the applicant, in Section 4.11.8 of their Main Brief of Evidence, stated that a 1.2m high stonework wall shall be provided to the property boundary with Access Road AR 4/05, that the existing entrance to the dormer dwelling shall be retained and that a new domestic entrance shall be provided to the cottage dwelling to the rear of the property. They clarified that it is not proposed to create a public right of way, and I note that Table 9.3 'private access roads' sets out the landowners who will have access rights to Access Road AR 4/015. This includes the objector and other parties whose current access via Boleybeg Bóithrín is severed by the PRD. I also note that an additional commitment was added to the final SoEC, that "an additional field entrance gate will be provided from AR4/05 to service the farm yard in plot 216" (Item 15.25). I consider the proposed access arrangements and boundary treatments to be acceptable.

With regard to the potential impact on the development potential of the lands, the applicant contends that there is no evidence that such development is possible at

this location as it is not currently zoned residential. I would agree with this assessment and note that any diminution of property value would be a matter for the property arbitrator. I consider the width of Access Road AR 4/05 to be appropriate to its agricultural use by the objector and other owners of lands on Boleybeg Bóithrín.

The objector queried whether his property, which is served by a septic tank, may require a connection to the public system given the reduction in site size. The applicant's response at the oral hearing was that the Site Layout Plan provided with the planning application for this home indicated the septic tank and percolation area to the north of the dwellings on the site. As proposed access road AR 4/05 is not located in or near the percolation area or septic tank utilised by the dwellings at the property, the applicant contends that it will not alter or interfere with them. I agree that the PRD is not likely to impact on the existing wastewater treatment arrangements for the objector's house. I do not consider that the proposed land acquisition would require any modification of the objector's long-implemented planning permission.

With regard to the shed to the rear of the house, Mr Con Curtin, the applicant's agricultural advisor, confirmed in his submission to the oral hearing that it will not be demolished, and that Access Road AR 4/05 will be located approximately 15m from the shed.

The other issues raised in this objection, and particularly the issue of flooding which was raised by the objector's representative on a number of occasions, are addressed elsewhere in this report. I consider that the applicant has adequately addressed the issues raised in this objection and that the extent of the proposed acquisition is proportionate to the identified need and that no excess lands are to be acquired. I consider that no further matters arise in respect of this objection.

13.9.37. Tom and Yvonne Gill (Ob_219)

A written objection was submitted on behalf of the objectors by Sheehan & Co. Solicitors. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised include: vacant farmland on the opposite side of the road should have been acquired which would not impact on their property; loss of mature trees, stone boundary wall and entrance gates; no provision for connection of objectors' property to sewer; disturbance.

This plot is located on the eastern side of Cappagh Road, a short distance to the north of the proposed Cappagh Road Junction and comprises a house and gardens.

With regard to the widening of Cappagh Road, the applicant states at Section 4.12.30 of the Main Brief of Evidence that the existing Cappagh Road geometry is sub-standard to facilitate the proposed junction to the south of the property, that the cross-section is constrained due to the existing property boundaries and that it is, therefore, proposed to widen both sides of the road.

Construction-related impacts that may result in disturbance are addressed elsewhere in this report but I note the applicant's statement that construction in the area will last for a period of 6-9 months.

With regard to the loss of trees and boundary wall, Mr Burns, the applicant's landscape consultant, outlined the specific landscape measures in the vicinity of this property, which include: reconstruction/replacement of the impacted sections of the residential property boundary to match existing; provision of 3m wide mixed screen planting belt along the PRD south of the property; and a tree-lined boundary hedgerow to be established along the fenceline of the PRD.

I consider that the applicant has justified the proposed acquisition of this plot, with regard to providing an improved road alignment on Cappagh Road and that suitable accommodation works and landscaping proposals have been identified to address the direct impacts on the objectors. I consider that no further issues arise in respect of this objection.

13.9.38. Kevin Gill (Ob_220)

A written objection was submitted by Mr Gill and family and elaborated upon at the CPO hearing on 30th October 2020, with earlier submissions having been made in Modules 1 and 2 on the 24th February 2020 and 3rd March 2020, respectively. The objector is also a member of the Galway N6 Action Group, represented at the hearing by Stephen Dowds.

This plot is located on the eastern side of Cappagh Road, a short distance to the north of the proposed Cappagh Road Junction and comprises a house and gardens.

I note that the proposed acquisition affecting the objector relates to the road bed and set back only. The existing boundary and entrance to the objector's property will be maintained.

The issues raised by this objector generally related to broader planning and environmental matters rather than matters associated with the proposed acquisition of lands and are addressed elsewhere in this report, where appropriate.

I consider that no further matters relating to proposed land acquisition arise from this objection.

13.9.39. Patrick & Ann Farrell (Ob_222)

A written objection was submitted on behalf of the objectors by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised include: loss of privacy and security; impact on mature trees; insufficient detail on boundary treatments and entrance; object to acquisition of Plot 222a.201, as the existing wall serves as a retaining wall; object to acquisition of Plot 222b.201 as it is part of their driveway, not part of the public road, and should be omitted; object to changes in road levels on Cappagh Road; noise impacts and mitigation measures; light pollution; acquisition reduces the area of their property below one house to the acre, which was a condition of planning. A letter of comfort is sought that the property is still in compliance with planning; services and access must be maintained at all times.

This plot is a residential plot located on the eastern side of Cappagh Road, a short distance to the south of the proposed Cappagh Road Junction (c. Ch. 4+450). It is proposed to acquire road bed and set-back and a small part of the objectors garden.

With regard to boundary treatments, the applicant stated in their Main Brief of Evidence at the oral hearing that the existing wall along the front of the property will be demolished and a new 2.5m high stonework wall will be constructed, with a retaining wall (identified as R04/01) at the northern section of the front boundary. This will replace the existing retaining boundary wall. I consider this to be a suitable replacement boundary treatment.

With regard to Plot 222b.201, the applicant stated that the Protected Road Scheme Schedule described the plot as part of public road and set back to take cognisance

that the portion of lands within the setback are part the property entrance. The plot is required for the regrading of the entrance to tie-into the realigned Cappagh Road while the existing pedestrian access will be reinstated, using the existing pedestrian gate with the access steps to be rebuilt.

The existing and proposed road levels are indicated on Figure 5.2.04 and 5.3.03 of the EIAR and I am satisfied that there is no lack of clarity with regard to levels.

With regard to the impact of the land acquisition on the existing planning permission for the objectors' dwelling, the applicant stated at the oral hearing that approval of the PRD will not compromise the planning permission. Given that the permission has been implemented, I would concur with the applicant's position.

Lighting is proposed at Cappagh Road for reasons of safety, and the predicted light level at the edge of the objectors' dwelling is between 1 and 2 lux (1 lux being the equivalent of moonlight from a full moon).

The other issues raised in this objection are addressed elsewhere in this report. I consider that the applicant has adequately addressed the issues raised in this objection and I consider that no further matters arise.

13.9.40. Galway City Council (Ob_223)

A statement was submitted by Galway City Council, recognising the strategic importance of the PRD and stating that they do not object to the CPO.

In light of this statement, no issues arise in relation to this submission.

13.9.41. Mary Feeney (Ob_226)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: no reasoning given for acquisition of plot 226a.205 (location of mobile phone mast); lack of detail on fencing and access road widths; drainage of retained lands; access and services must be maintained at all times.

Section 4.12.58 of the Main Brief of Evidence states that Plot reference 226a.205 is required as part of the decommissioning of the mast structure. Once this mast has been decommissioned and the concrete foundation removed these lands will be re-

grassed and returned to the landowner (refer also to Section 13.9.163, which assesses the objection of Vantage Towers Ltd.).

With regard to boundary treatments, Section 4.11.8 states that the existing boundary will be maintained as much as practicable with a replacement 1.2m high stonework wall constructed in front of the property. The proposed boundary along the mainline of the PRD will be a Mammal Resistant Fence (timber post and rail fence with wire mesh) in accordance with TII Standards. Maintenance of the existing boundary and new stonework wall will be the responsibility of the landowner, whereas the maintenance of the mammal resistant fencing will be the responsibility of the local authority or their agents

Sections 4.13.5 and 4.20.6 confirm that access to all properties will be maintained at all times during construction and that all services will be reinstated, with advance notification to be given of any disruption. Post-construction, access to retained lands to the north and south of the proposed N6 GCRR will be provided through AR4/05 and AR4/06 respectively. Both access roads are designed to TII standards and include a 4.0m wide road, with a 1.0m wide grass verge either side.

I consider that the applicant has adequately addressed the issues raised by the objector, that the extent of the proposed acquisition is justified and that the proposed accommodation works are adequate. No further issues arise in respect of this objection.

13.9.42. Bartley and Marguerite Keane (Ob_228_229_540) – Proposed House Acquisition

A written objection was submitted by John Mooney & Co. Consulting Engineers on behalf of the objectors. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised include: loss of community within Aughnacurra; alternative route should have been chosen that would not affect family homes; impact on NUIG sports grounds; difficulty finding an alternative site with similar amenities; lands at Ballinahowen East/Ballyburke are zoned recreational and amenity and their amenity value will be diminished; land value, should it be rezoned for development, will be diminished.

This objection relates to lands at Ballinahowen East/Ballyburke and a dwelling house located within the Aughnacurra estate, off the N59 Moycullen Road. It is proposed to acquire and demolish the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

With regard to the impact on land value or rezoning and development potential, the applicant states that there is no evidence that such development is possible at this location as it is not currently zoned residential. I agree with this assessment and consider that potential impacts on land values or future development of lands are matters for the property arbitrator.

The impact on the NUIG sports campus are addressed elsewhere in this report.

I consider that no further issues arise in respect of this objection.

13.9.43. NAMA/Statutory Receivers c/o GVA Donal O'Buachalla (Ob_229)

A written objection was submitted by MKO on behalf of NAMA c/o GVA Donal O'Buachalla and a submission was made by Pamela Harty of MKO at the CPO hearing on 27th October 2020. Ms Harty had previously made a submission in Module 2 on 3rd March 2020.

Ms Harty stated that her clients support the PRD and noted that it would bisect her client's lands. She drew the Board's attention to the Strategic Housing Development permission granted under ABP-304762-19 in October 2019 for 238 units on the southern portion of the lands and advised that a planning application for 58 units on the northern portion of the lands would be submitted in the coming weeks.

Ms Harty stated that the objector was seeking clarification on the treatment of surplus lands, and whether they would be returned. She also queried the

landscaping and maintenance of this area, and whether additional planting and buffering could be provided in this area which would be of benefit to the housing development.

Thomas Burns, on behalf of the applicant, responded that there was no objection to additional planting in this area, other than that maintenance access would be required. Subsequently, an additional environmental commitment (Ref. 12.45) was added to the final Schedule of Environmental Commitments, stating that “In accordance with measures provided for under Section 12.6.3.1 Project-wide Landscape Measures and associated Table 12.7 of Chapter 12 of the EIAR, any post-construction remnant areas within acquired portions of Plot 229 will be planted to locally appropriate native woodland species”.

Given that Plot 229 will be the subject of substantial residential development, I consider that this additional landscaping commitment will have a positive impact in terms of mitigating the visual impact of the road as it passes through this plot. I consider that no further issues arise in respect of this objection.

13.9.44. Tom and Clare Cunningham (Ob_236)

A written objection was submitted on behalf of the objectors by Rooney Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objectors). The issues raised related to the potential loss of a house site that the objectors had intended for their children due to the reduction in road frontage, which would reduce development potential of retained lands.

The applicant, in Section 4.21.3 of the Main Brief of Evidence, stated that the proposed Access road AR 0/04 overlays one of the two existing entrances currently located along the road frontage of the curtilage of this plot. AR 0/04 is a private access road to access severed lands with a right of way for property owners of plots 114 and 117, as per Table 9.3 of Section 9.4 of the RFI Response. The applicant has undertaken to also provide a right of way on this access road to the objectors, to replace the existing entrance lost and to avoid any impacts on the remaining road frontage.

I note that the updated Table 9.3 included in the final Schedule of Environmental Commitments submitted prior to the close of the oral hearing includes Plot 236 as

one of the plots to be provided with a right of way over Access Road 0/04. I consider the applicant's proposal to be acceptable in terms of maintaining existing levels of access to the objectors' lands.

With regard to the development potential of the site, I would agree with the applicant that this is a matter for zoning under the Development Plan and an application to the planning authority for planning permission.

I consider that no further issues arise in respect of this objection.

13.9.45. John Concannon (Ob_238)

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: surplus land acquisition; drainage of retained lands; lack of detail on access, noise mitigation, boundary treatments and landscaping; planning and environmental concerns (unspecified).

The lands to be acquired are primarily for the construction of the PRD mainline which is on an embankment in this area, and an attenuation pond. Having reviewed the drawings and details submitted by the applicant, I do not consider that any surplus land acquisition is proposed in respect of this plot.

Section 4.14.10 of the applicant's Main Brief of Evidence outlines access arrangements and states that the existing access to plot 238 from the Clybaun Road will be maintained as per existing and will provide access to all retained lands.

A Mammal Resistant Fence (timber post and rail fence with wire mesh) in accordance with TII Standards is proposed along the property boundary adjacent to the PRD.

Boundary treatment and landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include a 6-12m wide mixed screen planting belt along the south side of the PRD, 3-12m wide mixed screen planting belt along Ballymoneen Road and a new tree-lined boundary hedgerow along the fenceline of the PRD.

The issue of noise is addressed elsewhere in this report. With regard to drainage of retained lands, no specific details of the objector's concerns have been provided. As

addressed in Section 11.10 of this report, the applicant's drainage proposals across the PRD are considered to be acceptable.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.46. Ann Codyre (Ob_239)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: severance of landholding and access to retained lands; road will be elevated and views will be of embankment rather than Galway Bay; privacy and security concerns; lack of commitment in relation to condition/structural surveys; impact on well; query provision of service ducts under PRD to enable future development of her lands; drainage issues; lack of detail regarding boundary wall replacement; uncertainty regarding noise and landscape mitigation measures; access and services must be maintained at all times.

This plot comprises a dwelling and a number of discrete areas of agricultural lands located in the Ragoon area. The largest area is on the southern side of the Ragoon Road, which will be severed by the PRD mainline, which will be elevated on an embankment as it crosses the lands (c. Ch. 6+000 – 6+300). A further area to the north east will also be severed by the PRD mainline (c. Ch. 6+700 – 6+800).

While the PRD splits the landholding at two locations, access will be provided to all retained lands. Access to plot 239b.409 is proposed through access road AR 06/03 while access to the remainder of the plot, 239b.410, will be retained as existing.

With regard to services, two 150mm diameter service ducts are to be provided beneath the PRD connecting the landowner's retained lands to the east and west.

With regard to boundary treatments, the applicant states that the existing boundary wall will be retained as much as practicable. A mammal resistant timber fence is proposed along the PRD mainline as it crosses the lands. Such fences are commonly used on national roads across the Country, and I consider it to be a suitably secure and adequate boundary treatment.

Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include

retention of existing boundaries where possible, mixed screen planting belts, and a new tree-lined boundary hedgerow along the fenceline of the PRD. The embankments will also be landscaped.

The remaining issues raised in this objection are addressed elsewhere in this report. I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.47. Pat Codyre (Ob_241_245)

An objection was submitted on behalf of the objector by John M. Gallagher, Consulting Engineer and Town Planner, and elaborated upon at the CPO hearing on 28th October 2020. Issues raised included: alternative routes available; new road will become planning boundary for development to west of Galway City and limits future development potential; objector's lands, while zoned for agriculture, are suitable for rezoning to residential in the short to medium term and development potential deferred or eliminated by PRD; severance impacts; north west part of objector's lands are isolated by PRD, with no access provided from realigned Clybaun Road and curve on this road and its low level make it difficult or impossible to achieve sight lines for residential development.

Plots 241 and 245 are agricultural lands located in the Ragoon area. It is proposed to acquire a number of pieces of land to construct the PRD mainline and its embankments, access roads and attenuation ponds.

The applicant's response, as set out in their Main Brief of Evidence, was that Plot 241a.209 is a full acquisition to facilitate the construction of access road AR 06/03 which provides access to retained lands north of the mainline and, therefore, that plot will not be isolated. Existing access to the retained lands west of the PRD will be retained. The proposed level of the realigned Clybaun Road is approximately 1.5m below the ground level of the landowner's Plot 241 along the boundary of the realigned Clybaun Road. There is no direct access proposed for this section of land to the Clybaun Road.

With regard to future development potential, the applicant responded that the development potential of any site is a matter for zoning under the Development Plan and an application to the planning authority for planning permission. They stated that

there is no evidence that such development is possible at this location as it is not currently zoned residential.

Mr Gallagher, in his subsequent submission to the oral hearing, reiterated the issues raised. He also presented what he contended to be a viable alternative route, further to the north. The issue of alternatives is addressed elsewhere in this report.

Mr Gallagher queried the width of Access Road AR 06/03 which is intended to provide access to the severed portions of Plots 241 and 245 to the north of the PRD mainline and queried whether development would be permitted on this road in the future. Mr Fizzsimons, on behalf of the applicant, stated that it was not appropriate for the acquiring authority to comment on development potential or rezoning potential of lands.

Ms McCarthy confirmed that AR 06/03 was a 4m wide access track with a 1m verge on each side, and that Mr Codyre would have a right of way over it. Mr Gallagher queried whether this was wide enough to cater for future residential development on the lands to the north, in response to which Ms McCarthy stated that the width was based on the existing agricultural use.

I consider that the applicant has justified the need and extent of acquisition sought and I do not consider that surplus or excessive lands are sought to be acquired. The applicant has proposed alternative access arrangements to all of the objector's retained lands, which will reduce the severance impact and I consider the proposed access arrangements to be suitable to the existing agricultural use and zoning of the lands. Should the lands be rezoned in the future, then access arrangements would be a matter to be considered in any subsequent development proposal.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.48. Nora Codyre (Ob_243)

An objection was submitted on behalf of the objector by John M. Gallagher, Consulting Engineer and Town Planner, and elaborated upon at the CPO hearing on 28th October 2020. Issues raised included: alternative routes available; new road will become planning boundary for development to west of Galway City and limits future development potential; objector's lands, while zoned for agriculture, are suitable for

rezoning to residential in the short to medium term and development potential together with Pat Codyre's lands has been deferred or eliminated by PRD; majority of lands will be acquired for PRD or will be outside of the PRD and will lose their development potential.

The issues raised in this objection are generally the same as raised on behalf of Pat Codyre in respect of the adjacent Plots 241 and 245. The same assessment applies to this objection, and I consider the proposed acquisition to be acceptable.

13.9.49. Matthew and Mary Burke (Ob_246)

A written objection was submitted on behalf of the objectors by Gaynor Miller and elaborated upon by Paul Gaynor at the CPO hearing on 4th November 2020. Issues raised included: objection to the acquisition of Plot 246a.203 for construction of an attenuation pond. The pond should run parallel with the ring road, rather than perpendicular to reduce its impact; inadequate drainage details; flood risk; stone walls should be replaced on a like-for-like basis, rather than timber fences; uncertainty regarding fencing and landscaping of attenuation pond; services and access must be maintained at all times.

Mr Gaynor made a joint submission and questions at the oral hearing on behalf of these objectors and Matthew and Eileen Burke (Ob_311). This primarily related to the attenuation ponds, drainage outfall and the associated acquisition of Plot 246a.203 as well as construction phase noise impacts.

Plot 246 is an agricultural landholding in the Ragoon area, and it is proposed to acquire the northern portion of the plot to accommodate the PRD mainline and its embankments, an access road AR 06/03, attenuation ponds and an outfall.

With regard to boundary treatments for the retained lands, I note that a mammal resistant timber post and rail fence is proposed along the northern boundary of the retained lands with the PRD. The applicant does not propose to reconstruct the stone walls to be removed at this boundary but has undertaken to make the stone available for re-use for the construction of a new stone wall on the objectors side of the proposed boundary if they wish. As addressed elsewhere in this report, I consider that timber post and rail fencing with landscaping planting is a suitable and secure boundary treatment for agricultural lands and such boundary treatments are

commonly used on national roads projects throughout the country. With regard to security and privacy impacts, the proposed landscaping screening will generally prevent views into the objectors' lands from the PRD, and no access to the property will be provided from the PRD mainline.

As noted elsewhere, paladin security fencing is proposed around all attenuation ponds with dense screening planting, which I am satisfied will be generally successful in screening these elements of the PRD. At the hearing, Mr Gaynor queried access arrangements to the ponds, and whether this would require access through the objectors lands. Ms McCarthy confirmed that access to the ponds would be from the mainline only, and not through the objectors' lands. I note the pond access gate indicated at c. Ch. 6+800.

Mr Gaynor queried what would happen with the stream in this area which passes through the objectors' lands and whether it would present a flood risk. He also queried the nature of the outfall from the attenuation ponds, and whether it would be an open drain or piped. If piped, he contended that it should be installed by means of a wayleave agreement rather than through acquisition.

Anthony Cawley, the applicant's Hydrologist, stated that a culvert would carry water from north of the PRD mainline to south, but that the PRD drainage would be isolated from this. He stated that the culvert under the PRD was appropriately sized to reflect the capacity of the stream, and no flood risk would arise. With regard to Mr Gaynor's query regarding the number of ponds and their orientation, Mr Cawley stated that the reason for the 3 No. Ponds was to provide a spillage containment facility, with flow then into a wetland pond to achieve settlement of silts/pollutants and flow then into an attenuation pond to achieve greenfield run off rates. He stated that the ponds were appropriately sized to allow for climate change and a suitable freeboard allowance and that no flood risk arose. The reason the ponds are perpendicular rather than parallel to the mainline was stated to be due to the outfall location to the south, and Mr Cawley confirmed that the outfall would be piped, not an open channel.

With regard to why the permanent acquisition of the piped outfall area was sought, rather than a wayleave agreement, Ms McCarthy stated that it was necessary to permanently acquire the lands in order to construct the PRD as the lands would be in

a changed state post-construction. She stated that there may be an opportunity to put a wayleave in place and return this piece of land in the future but that it had to be acquired by the applicant in the first instance in order to construct the PRD. She stated that this situation existed across the scheme area.

I consider that the design and layout of the attenuation ponds on this Plot have been adequately justified by the applicant and that the extent of land acquisition is proportionate to the drainage need and that no excess lands are being acquired. I note in this regard the statement that the area within which the outfall pipeline is located may be returned post-construction with a wayleave agreement in place.

Issues regarding construction phase noise, air pollution etc. are addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in this objection and that no further issues arise.

13.9.50. Helena Duffy (Ob_250_466)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: proposed access road does not extend far enough, leaving objector land-locked; width of access road is inadequate for future development; inadequate drainage details; access and services must be maintained at all times.

The applicant, in Section 4.14.10 of their Main Brief of Evidence, states that the access road AR 07/04 has been designed to provide a safe agricultural access to the severed lands on this property and will extend over the stream diversion, with the stream diversion piped beneath the access road. Having reviewed the accommodation works drawings included in Appendix A.9.1 of the RFI Response, it is clear that access to the retained lands is provided as outlined by the applicant.

The access road is designed to TII standards and includes a 4.0m wide road with a 1.0m wide grass verge either side. I consider this width to be sufficient for the existing agricultural use and zoning of these lands. Any future development of the retained lands will be subject to a planning permission from the local authority and upgrading of access arrangements could be addressed at that stage.

Drainage issues are addressed elsewhere in this report. With regard to maintenance of access and services, the applicant has given an undertaking in the EIAR, repeated at the oral hearing on numerous occasions, that access to properties will be maintained at all times. While services may be interrupted at points during the construction works, the applicant has undertaken to reinstate all services and to notify service users in advance of temporary disruption/outages. These measures are included in the Schedule of Environmental Commitments and I consider them to be adequate.

I consider that no further issues arise in respect of this objection.

13.9.51. Nora Clancy (Ob_252)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: proximity of CPO boundary to house; house should be acquired; lack of commitment regarding condition surveys; no commitment to return lands after construction; no detail on boundary treatment or noise mitigation; drainage; access and services must be maintained at all times.

This plot is located on the western side of the Letteragh Road (L1323) in the Ragoon area, to the south of the PRD mainline. It is proposed to acquire a small area of agricultural land and road bed to facilitate realignment of the Letteragh Road.

In response to the objector's request that her house be acquired, the applicant's response, as given in Section 4.18 of their Main Brief of Evidence, is that the extent of lands required are to facilitate the reconstruction of the boundary wall after the Letteragh Road is realigned. The applicant considers that there is no requirement to demolish the dwelling. Having regard to the separation distance of the dwelling from the PRD mainline, I concur with the applicant.

With regard to the boundary treatment, the applicant, in section 4.11.8 of their Main Brief of Evidence note that the existing boundary wall at the front of the property to Letteragh Road will be removed and a new 1.2m high stonework wall will be set back and constructed. A new domestic entrance will be provided, as will a field access and a single field access gate at the south east corner. I consider these proposals to

provide a suitably high quality boundary treatment for a residential property and to maintain the existing level of agricultural access.

With regard to the return of lands, section 4.12.34 of the Brief of Evidence states that once the new boundary wall is constructed there is a process post-completion of construction whereby the lands inside the wall can be returned to the landowner. In circumstances where this plot cannot be returned to the landowner in the condition in which it was acquired, it is necessary to acquire it on a permanent basis. Having reviewed the CPO maps, I note that a thin sliver of roadside land is to be acquired to facilitate realignment works to Letteragh Road and I do not consider the extent to be excessive.

With regard to condition surveys, there is a commitment in the Schedule of Environmental Commitments to offer property condition surveys for all buildings within 50m of the PRD boundary and those within 150m of proposed blasting works, which I consider to be appropriate.

With regard to maintenance of access and services, the applicant has given an undertaking in the EIAR, repeated at the oral hearing on numerous occasions, that access to properties will be maintained at all times. While services may be interrupted at points during the construction works, the applicant has undertaken to reinstate all services and to notify service users in advance of temporary disruption/outages. These measures are included in the Schedule of Environmental Commitments and I consider them to be adequate.

Noise and drainage issues are addressed elsewhere in this report.

I consider that no further issues arise in respect of this objection.

13.9.52. Anne Griffin (Ob_258_464)

An objection was submitted on behalf of the objector by JML. The objection did not identify any particular issues, stating that there had been limited communications from the acquiring authority and that the poor quality maps made it virtually impossible to determine how it would affect the objector's property.

Mr Owen Kennedy of JML made a general submission at the oral hearing on 28th October 2020 (see Section 13.8) but did not raise any specific issues relating to this plot.

Plots 258 and 464 comprises a number of discrete pieces of land affected by the proposed acquisition. Having reviewed the information submitted by the applicant, and in particular the Deposit Maps and Schedules and the Landowner Accommodation Works Details drawings, the extent of the proposed acquisition and the proposals for providing access to the retained lands has been clearly identified. The applicant, in Section 4.9.7 and 4.9.8 of their main Brief of Evidence, outlines the consultation process undertaken, which I consider to have been adequate.

In the absence of any more detailed objection, it is not possible to discuss this objection any further.

13.9.53. Cummann Luthcleas Gael Bother na Tra (Ob_260)

A written objection was submitted on behalf of the objector by Sean Dockry & Associates. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised relate to the proposed access arrangements to the objector's lands, which are stated to be suitable for amenity use and outdoor sports facilities. The objector requests that the access be upgraded to facilitate further development of the lands.

Section 4.21.3 of the applicant's Main Brief of Evidence states that proposed access to Plot 260 is via access road AR 06/02 which is designed to the appropriate TII standards to facilitate the existing use of these lands. I consider the proposed access arrangements and, in particular, the junction of AR 06/02 and the Clybaun Road to be adequate. Should the objector seek to develop sporting facilities on this site at a later date, further upgrades of access arrangements can be addressed through the planning process, if necessary.

I consider that no further issues arise in respect of this objection.

13.9.54. Cairn Homes Property Limited (Ob_261)

An objection was submitted on behalf of the objector by MKO. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: objector is currently preparing an SHD planning application for these lands; underpass link sought to connect to severed residentially zoned lands to north of PRD mainline; details of proposed access road AR 05/01 which is intended to serve

these lands are unclear and should be DMURS compliant; objector seeks that attenuation areas for their SHD residential proposal be located under the PRD mainline to optimise the density of the retained lands; impacts on residential amenity of future residents; noise and visual mitigation sought; small triangular area of land to south of PRD mainline at c. Ch. 5+500 will be landlocked and objector seeks that it be acquired also; satisfactory site access is required to service the objector's proposed SHD scheme and applicant is asked to confirm that safe access from Ballymoneen Road will be provided.

This objection relates to Plots 223 and 261. These plots comprise a number of discrete areas of land located between Cappagh Road and Ragoon Road that will be affected by the PRD. Parts of Plot 261, to the west of Ballymoneen Road are zoned for residential development and will be severed by the PRD.

With regard to proposed Access Road AR 05/01, this road will be 6m wide and will provide access to the northern lands via a junction with Ballymoneen Road. Access will be provided to the southern lands via a direct road access at a field gate entrance from the Ballymoneen Road. The applicant has confirmed that adequate sightlines and visibility splays are provided at both entrances.

The applicant contends that it is unnecessary to provide an underpass to connect the sites as both the northern and southern sites are in close proximity to Ballymoneen Road Junction and can easily access each other, if required. They contend that, as the road is in cut at this location, an underpass would not be practical or desirable from a pedestrian usage perspective. Having regard to the fact that both sites will have safe access to Ballymoneen Road, and noting the scale of the sites, I do not consider that an underpass or overbridge would be justified at this location.

With regard to the small triangular area of land which the objector contends will be landlocked and should be acquired, the applicant states that it will not be landlocked and is accessed via a 7.3m wide strip of land connected to adjacent lands owned by landowner (Folio GY88233F). They state that it is not a 'small' parcel of land (954.9m²) and that it is not necessary for the construction of the PRD. I agree, and do not consider that there is any reason why this area should be acquired.

With regard to the future development of the residentially zoned lands, the applicant states that future connection to public water mains and sewers is a matter to be

discussed and agreed with Irish Water and Galway City Council separately and that ducting across the PRD is a matter for accommodation works agreements. They also state that any future development on the lands will take cognisance of the current application for approval for the PRD including, inter alia, the provision of visual screening, fencing, appropriate drainage infrastructure, etc. I note that no SHD application or request for pre-application consultation has yet taken place in respect of these undeveloped lands. As such, it would be appropriate for matters such as servicing and landscaping/screening to be addressed within the design and planning of any such future development in my opinion.

With regard to the objector's proposal that attenuation areas for their future residential development be placed under the PRD, I do not consider that this would be appropriate or advisable.

I consider that the applicant has adequately responded to the issues raised in this objection and no further matters for consideration arise from this objection.

13.9.55. Patrick John McGrath (Ob_272_462)

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: surplus land acquisition; drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

The lands to be acquired are in the vicinity of the proposed N59 Letteragh Junction, and are primarily for the construction of the PRD mainline on an embankment, junction access lanes, attenuation pond, and the N59 Link Roads. Having reviewed the drawings and details submitted by the applicant, I do not consider that any surplus land acquisition is proposed in respect of this plot.

Section 4.14.10 of the applicant's Main Brief of Evidence outlines access arrangements, noting that the plot is split in three by the PRD. The retained lands to the north of the PRD will be accessed from Letteragh Road via Access Road AR 07/05, while the retained agricultural lands to the south of the PRD and west of the N59 Link Road South will be accessed from Letteragh Road via two single field access gates. A domestic entrance with 1.2m high stonework wall will provide

access to the dwelling house. The retained lands to the east of the proposed N59 Link Road South will be accessed via Access Road AR 07/07. I note that, at the oral hearing, the applicant made an additional commitment to gate and lock this access road at the request of an adjoining landowner (Ob_486). Keys will be provided to the two property owners. I consider this to be acceptable in the interests of security and health and safety.

With regard to boundary details, a Mammal Resistant Fence (timber post and rail fence with wire mesh) in accordance with TII Standards is proposed along the property boundary adjacent to the mainline of the PRD and the N59 Link Road South. It is proposed that the current boundary wall at the front of the dwelling along the Letteragh Road will be removed and a new stonework wall 1.2m high above ground level will be constructed.

Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include a 6m wide mixed screen planting belt along both sides of the PRD and junction access lanes through these plots, 3m wide mixed screen planting belt along the N59 Link Road North and South and long sections of Letteragh Road through these plots.

The issue of noise is addressed elsewhere in this report. With regard to drainage of retained lands, no specific details of the objector's concerns have been provided. As addressed in Section 11.10 of this report, the applicant's drainage proposals across the PRD are considered to be acceptable.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.56. Pascal Codyre (Ob_273_461)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: impact on landholding due to severing of lands and future access restrictions/difficulties which may impact on future development; inadequate drainage detail; flooding from attenuation ponds; lack of details regarding boundary treatment; inadequate detail regarding access to retained lands; lack of noise mitigation; access and services must be maintained at all times.

This plot is located on the Letteragh Road L1323, close to the proposed N59 Letteragh Junction. The proposed acquisition is for the purposes of constructing the mainline of the PRD and junction slip roads, as well as an attenuation pond, and access road AR 07/05. As noted by the objector, this would result in the retained lands being severed, north and south of the PRD mainline.

With regard to access, the applicant states, at Section 4.14.10 of their Main Brief of Evidence, that access to the lands north and south of the PRD will be via separate field accesses and field gates on the Letteragh Road. With regard to impact of these changed access arrangements on future development, the applicant contends that there is no evidence that such development is possible at this location as it is not currently zoned residential. I consider that good quality access arrangements will be provided for the retained lands. I would concur with the applicant's position regarding future access, and should the lands be brought forward for development in the future, any issues with regard to access can be addressed through the planning process. The applicant acknowledges a significant adverse impact on this farm enterprise as a result of severance and loss of land and the mitigation of this impact is ultimately a compensation matter.

With regard to boundary treatments, the applicant stated at Section 4.11.8 of the Brief of Evidence that the existing boundary wall at the front of the property to Letteragh Road will be replaced with a new 1.2m high stonework wall. Mammal Resistant Fences in accordance with TII Standards are proposed north and south of the mainline respectively. A further timber post and rail fence is proposed on the boundary to the north of the PRD to separate the drainage ditch from this plot. The applicant states that where stone walls are removed at the northern boundary, the stone will be retained and made available for re-use by the property owner for the construction of a new stone wall on their side of the proposed development boundary if they wish. I consider the boundary treatments to be clearly identified and appropriate for the plot in question.

The issues of noise mitigation, drainage and flood risk are addressed elsewhere in this report.

With regard to maintenance of access and services, the applicant has given an undertaking in the EIAR, repeated at the oral hearing on numerous occasions, that

access to properties will be maintained at all times. While services may be interrupted at points during the construction works, the applicant has undertaken to reinstate all services and to notify service users in advance of temporary disruption/outages. These measures are included in the Schedule of Environmental Commitments and I consider them to be adequate.

I consider that no further issues arise in respect of this objection.

13.9.57. Peter and Bridie Wallace (Ob_296)

A written objection was submitted on behalf of the objectors by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised include: objectors were unaware that part of front garden was being acquired until some weeks after the CPO was published; lack of details regarding boundary treatment and entrance; drainage; acquisition of Plot 296a.201 is unnecessary and excessive; object to any street lights outside their property; access and services must be maintained at all times.

The applicant, in Section 4.17.24 of the Main Brief of Evidence state that this property is unregistered on the Land Registry and that title for these lands was unavailable despite research to try and identify the property owner. They apologise for any upset caused. I note that the objectors are listed as owners in the PRS Schedule, and given that they have made an objection, I do not consider that any procedural issues arise.

With regard to the boundary treatment, the applicant stated that the existing boundary wall at the front of the property, to Letteragh Road, will be removed and 2 No. new domestic entrances with 1.2m high stonework wall will be constructed. I consider this to be a suitably high quality boundary treatment and access arrangement for a residential property.

With regard to the extent of land acquisition, Section 4.12.36 of the Brief of Evidence states that it is proposed to alter the vertical alignment of the Letteragh Road to achieve safe sight distance along its length, as there are currently hidden dips on it. The acquisition of lands within front gardens in the area includes earthworks for the realigned Letteragh Road which is stated to be necessary on safety grounds. Noting the need for building up of ground levels on Letteragh Road, and the works to

provide a new boundary wall and entrances, I do not consider the extent of acquisition to be excessive and, more particularly, I consider that the acquisition of Plot 296a.201 has been justified.

With regard to maintenance of access and services, the applicant has given an undertaking in the EIAR, repeated at the oral hearing on numerous occasions, that access to properties will be maintained at all times. While services may be interrupted at points during the construction works, the applicant has undertaken to reinstate all services and to notify service users in advance of temporary disruption/outages. These measures are included in the Schedule of Environmental Commitments and I consider them to be adequate.

Finally, I note that there is no proposed street lighting immediately outside or adjacent to the property.

I consider that no further issues arise in respect of this objection.

13.9.58. Tony O'Halloran and Peggy McConnell (Ob_298)

A written objection was submitted on behalf of the objectors by MKO. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised include: increased traffic on Letteragh Road, noise and blasting, light pollution, property devaluation, uncertainty regarding new boundary and entrance, landscape and visual impact due to tree removal, impact on heritage value of Leitriff House, loss of rental income during the construction phase.

This plot is located on Letteragh Road and is occupied by a period dwelling known as Leitriff House with an associated holiday letting business in converted outbuildings. It is proposed to acquire a strip of roadside land, comprising the boundary wall and a portion of the objector's front gardens, in order to facilitate widening and vertical alignment works to the Letteragh Road.

With regard to boundary and entrance treatment, the applicant stated in Section 4.11.8 of the Main Brief of Evidence that the existing boundary wall at the front of the property will be demolished and a new domestic entrance with 1.2m high stonework wall will be set-back and constructed in its place. Such a wall would be consistent with the existing boundary wall, which is shown in photographs included in the

objection, and would be acceptable from a heritage and visual impact perspective in my opinion.

The issues of traffic, noise and blasting are addressed elsewhere in this report. Lighting is also addressed elsewhere. However, I would note that the property is located c.150 west of the nearest proposed road lighting at the N59 Link Road South/N59 Letteragh Junction. Given the distance and intervening planting and noting that the N59 Link Road will be in cut in this area, I do not consider that the property will be adversely impacted by road lighting.

Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include replacement of the impacted section of the property boundary as noted above, provision of 6m wide mixed screen planting belts along both sides of the PRD and junction access lanes, provision of 3m wide mixed screen planting belt along the N59 Link Road South and along sections of the Letteragh Road, a new tree-lined boundary hedgerow along the fenceline of the PRD.

With regard to the impact of the construction phase on the holiday letting business undertaken by the objectors, the applicant has acknowledged in Section 4.5.3 of their Main Brief of Evidence that some inconvenience may be experienced during the construction phase, which will be addressed through the measures contained in the CEMP while access to this property will be maintained at all stages of construction. The applicant contends that loss of income is a compensation matter, and I would agree. Similarly, I consider potential property devaluation to be a compensation matter.

I consider that no further issues arise in respect of this objection.

13.9.59. Anne Kelly (Ob_300)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised include loss of development potential for a further house on her lands and increased travel distance to reach Barna village.

The applicant, in section 4.21.3 of their Main Brief of Evidence note that this plot is not directly affected by the PRD. It is a Schedule 4 plot, the purpose of which is to

notify the landowner that no access from the plot to the PRD will be permitted. Noting the lack of a direct impact, I would also agree with the statement of the applicant that the future development potential of any site is a matter for zoning under the Development Plan and an application to the planning authority for planning permission.

With regard to the increased travel distance, this is a community severance issue, addressed in Section 10.8 above.

I consider that no further issues arise in respect of this objection.

13.9.60. Matthew and Eileen Burke (Ob_311)

A written objection was submitted on behalf of the objectors by Gaynor Miller and elaborated upon by Paul Gaynor at the CPO hearing on 4th November 2020. Issues raised included: impact on residential amenity; loss of privacy and security; air, noise, water pollution, loss of light, light pollution, carbon emissions; lack of noise mitigation measures; impacts on wildlife and archaeology; inadequate drainage details and flood risk associated with attenuation ponds; stone walls should be replaced on a like-for-like basis, rather than timber fences; uncertainty regarding fencing and landscaping of attenuation pond; services and access must be maintained at all times.

Mr Gaynor made a joint submission and put questions at the oral hearing on behalf of these objectors and Matthew and Mary Burke (Ob_246). This primarily related to the attenuation ponds, drainage outfall and the associated acquisition of Plot 246a.203 as well as construction phase noise impacts.

Plot 311 is located in the Ragoon area, and it is proposed to acquire the northern portion of the plot to accommodate the PRD mainline and its embankments at c. Ch. 7+000.

With regard to the proposed attenuation ponds, which are located on Plot 246 to the west of this Plot, I refer to the assessment above in respect of Plot 246.

With regard to boundary treatments for the retained lands, I note that a mammal resistant timber post and rail fence is proposed along the northern boundary of the retained lands with the PRD. The applicant does not propose to reconstruct the stone walls to be removed at this boundary but has undertaken to make the stone

available for re-use for the construction of a new stone wall on the objectors' side of the proposed boundary if they wish. As addressed elsewhere in this report, I consider that timber post and rail fencing with landscaping planting is a suitable and secure boundary treatment for agricultural lands and such boundary treatments are commonly used on national roads projects throughout the country. With regard to security and privacy impacts, the proposed landscaping screening will generally prevent views into the objectors' lands from the PRD, and no access to the property will be provided from the PRD mainline. I note that no lighting is proposed in this area and hence no significant light pollution is likely to arise.

Issues regarding construction phase noise, air pollution, archaeology, wildlife, carbon emissions etc. are addressed elsewhere in this report.

I consider the extent of acquisition in respect of this property to be proportionate to the need and I do not consider that any excessive or unnecessary lands are to be acquired. Furthermore, I consider that the applicant has adequately addressed the issues raised in this objection and that no further issues arise.

13.9.61. Peter O'Halloran (Ob_312)

An objection was submitted on behalf of the objector by John M. Gallagher, Consulting Engineer and Town Planner, and elaborated upon at the CPO hearing on 28th October 2020. Issues raised included: alternative routes available; new road will become planning boundary for development to west of Galway City and limits future development potential; objector's lands, while zoned for agriculture, are suitable for rezoning to residential in the short to medium term and development potential deferred or eliminated by PRD; access road is at a lower level than remainder of objector's lands, house and farm buildings; no access provided from new access road into lands to the south of the residence and farm buildings; curve and low level of access road make it difficult to achieve sightlines at such an access; proposed access arrangements inconvenience objector; elevated PRD mainline will have impacts on residential amenity, views and noise pollution; objector wants assurances that his right of access for agricultural purposes over plots 312a.203 and 312a.204 will be maintained.

This Plot is located on the western side of the Clybaun Road, to the north of the PRD mainline. It is proposed to acquire land for the construction of the PRD mainline and

embankments, to facilitate the realignment of the Clybaun Road and to construct an access road.

The applicant, in their Main Brief of Evidence, outlined the access arrangements to the retained lands. The retained lands to the south of the residence and farm buildings will be accessed off the realigned Clybaun Road through a proposed field access and gate, while the residence and retained lands to the north will be accessed from proposed Access Road AR 06/02, with the existing dwelling entrance retained and a new field gate. The applicant also confirmed that adequate sight lines of 70m are provided as per TII requirements.

With regard to the development potential of the lands, the applicant's response was that there is no evidence that such development is possible at this location as it is not currently zoned residential. I agree with this position. Any future development of these lands would be dependent on rezoning and/or a planning application. I do not consider that the PRD would preclude the future development of these lands in the future, should they be deemed suitable for development, and I consider the proposed access arrangements to be proportionate to the current agricultural use of the lands.

Issues with regard to inconvenience or disruption to farming practices are ultimately a matter for the property arbitrator, in my opinion, given that the acquisition is otherwise considered to be justified.

With regard to the objector's query regarding right of access over Plots 312a.203 and 312.204, the applicant responded that Plot 312a.204 has been split into two parcels and renumbered to plots 244x.201 and 312x.204 and that all relevant schedules have been updated accordingly. With regard to Plot 312a.203, this is acquired for the construction of Access Road AR 06/02 and the applicant confirmed that, as per Table 9.3 of the RFI Response, the objector is identified as having a right of way on it.

Mr Gallagher, in his subsequent submission to the oral hearing, reiterated the issues raised. He also presented what he contended to be a viable alternative route, further to the north. The issue of alternatives is addressed elsewhere in this report.

The other issues raised in this objection, such as noise pollution, residential amenity, impacts on views etc. are also addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.62. James Clancy (Ob_313)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: surplus land acquisition; uncertainty regarding boundary treatments; drainage; access and services must be maintained at all times.

With regard to the boundary treatment, the applicant, in section 4.11.8 of their Main Brief of Evidence note that the existing boundary wall at the front of the property to Letteragh Road will be removed and a new 1.2m high stonework wall will be set back and constructed in accordance with GCRR-SK-C-001, as shown on Figure 4.1.10 of Appendix A.9.1 of the RFI Response. I consider this to be a suitably high quality boundary treatment for a residential property.

With regard to the extent of land acquisition, section 4.12.34 of the Brief of Evidence states that once the new boundary wall is constructed there is a process post-completion of construction whereby the lands inside the wall can be returned to the landowner. In circumstances where this plot cannot be returned to the landowner in the condition in which it was acquired, it is necessary to acquire it on a permanent basis. Having reviewed the CPO maps, I note that a thin sliver of roadside land is to be acquired to facilitate works to Letteragh Road and I do not consider the extent to be excessive.

With regard to maintenance of access and services, the applicant has given an undertaking in the EIAR, repeated at the oral hearing on numerous occasions, that access to properties will be maintained at all times. While services may be interrupted at points during the construction works, the applicant has undertaken to reinstate all services and to notify service users in advance of temporary disruption/outages. These measures are included in the Schedule of Environmental Commitments and I consider them to be adequate.

I consider that no further issues arise in respect of this objection.

13.9.63. Mary Nestor (Ob_451_489)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). The only issue raised in the objection is that the application does not comply with the Habitats Directive.

Compliance with the Habitats Directive is addressed in Section 12 of this report, and in the accompanying Appropriate Assessment Report prepared by the Board's Consultant Ecologist. In the absence of any more detailed objection to the proposed land acquisition, it is not possible to discuss this objection any further.

13.9.64. Pat and Helena Francis / Patrick and Lena Francis (Ob_457.1 and Ob_457.2) – Proposed House Acquisition x 2

Two objections were submitted on behalf of the objectors by JML. Although the names differ slightly on the objections, they appear to relate to the same plot. Mr Owen Kennedy of JML made a general submission at the oral hearing on 28th October 2020 (see Section 13.8) but did not raise any specific issues relating to this plot. Issues raised in the written objections included: acquisition of lands and two houses will leave the objectors without a place to reside and no other land to construct a new house; inadequate consultation; no discussion of rehousing; health issues arising from anxiety about the CPO; likely difficulty getting planning permission for a replacement house in the County area due to local needs issues; impacts on retained lands, including loss of development potential; and that the proposed road is too close to the city centre.

Plot 457 is located at the proposed N59 Letteragh Junction (approx. Chainage 7+650) and would accommodate the eastern half of the grade-separated junction, and portions of the proposed N59 Link Road North and South. The plot is primarily agricultural but includes 2 No. houses, both of which it is proposed to acquire, with one to be demolished.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the two houses owned by the objectors is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to

the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

13.9.65. Targeted Investment Opportunities (Ob_469)

A written objection was submitted on behalf of the objector by MKO. The issues raised included: PRD supported in principle; objector will be seeking permission to develop the eastern portion of their lands, and uncertain timing of PRD may sterilise development of the objector's lands. Objector could deliver link road at an earlier date as part of their planning application; excessive land acquisition – two small areas of cut that encroach into landholding are not required.

The applicant's response in Section 4.6.5 of their Main Brief of Evidence was that a Strategic Housing Development (SHD) Application for 332 apartments was made to ABP on 21st November 2019 on the lands within plot 469 post the application for approval for the N6 GCRR. Consequently, their development took cognisance of the PRD including, inter alia, the alignment of AR 06/04. The applicant states that there is no conflict between the PRD and the current SHD application reference 305982. I note that permission was subsequently refused for the SHD development.

I consider that no further issues arise in respect of this objection.

13.9.66. Department of Education (Ob_473)

A written objection was submitted by the Department of Education regarding proposed acquisition at Gaelscoil Mhic Amhlaigh. It states that the applicant appears to have been unaware of the public footpath that runs along the southern boundary of the school, which is not shown on their drawing. Acquisition could be problematic due to ground levels and impacts on services.

The applicant, in section 4.5.6 of their Main Brief of Evidence state that a detailed topographic survey has been undertaken on the completed construction of the boundary of Gaelscoil Mhic Amhlaigh and Gort na Bró Road and that an amendment to the Gort Na Bró alignment has been made to complete the tie-in at the southern boundary of the school. The applicant, therefore, states that there are no works proposed on the Gaelscoil Mhic Amhlaigh landscaped areas and that Plot 473a.201 is consequently removed from the Motorway Order.

The removal of this plot was included in the revised CPO deposit maps and schedules submitted at the oral hearing. Since acquisition is no longer proposed, no further issues arise in respect of this objection.

13.9.67. Aldi Stores (Ireland) (Ob_476_719)

A written objection was submitted on behalf of the objector by Cushman & Wakefield. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised included: acquisition will have a detrimental impact on the value and saleability of the property and has the potential to render it non-compliant with existing planning permission; removal of gated pedestrian access will render the property non-compliant with planning permission.

In response, the applicant notes Figure 1.6.26 of Appendix A.1.9 of the RFI Response, which shows that land acquisition is confined to a small portion of land at the most easterly end where it is set-back over a length of 6m approximately to accommodate the proposed signalised junction to replace the Gort na Bró Roundabout. There will be no impact to the existing pedestrian entrance, and I consider that no further issues arise in respect of this objection.

13.9.68. John Feeney (Ob_480)

A written objection was submitted on behalf of the objector by Gaynor Miller. Paul Gaynor of Gaynor Miller made an oral submission at the CPO hearing on 4th November 2020. Issues raised included: lack of information regarding access to retained lands; acquisition of recessed area is unclear and appears to be surplus to requirements; commitment sought regarding availability of services; objection to attenuation ponds on the prime site on the property; stone wall should be built instead of fence; inadequate drainage details; services and access to be maintained at all times.

This plot comprises a dwelling and industrially zoned undeveloped lands on the western side of the proposed N59 Link Road South in the Ragoon area. It is proposed to acquire the eastern edge of the plot to facilitate construction of the N59 Link Road South and attenuation ponds. It is also proposed to acquire road bed to facilitate the proposed Ragoon Road Junction. I note that the plot was split following

the publication of the Scheme and that ownership of the residual plot 480 has passed from the Reps of John Feeney to Helen Feeney.

Mr Gaynor, in his submission to the oral hearing, queried whether access would be provided from Access Road AR 07/01 to the retained lands. He noted that originally no gate was indicated on the relevant drawings. Ms McCarthy responded that a gate would be provided from the access road and that the updated drawings submitted to the hearing included the gate.

With regard to the availability of services, the applicant stated in their Main Brief of Evidence that future connection to public water mains and sewers is a matter to be discussed and agreed with Irish Water and Galway City Council separately and does not form part of the PRD. They also stated that ducting across the PRD is a matter for accommodation works agreements. I would agree that this is a matter best addressed as part of the property arbitration process.

With regard to boundary treatments, a new domestic entrance and 1.2m high stonework wall is proposed to the dwelling from Ragoon Road and a mammal resistant timber post and rail fence is proposed along the boundary with the N59 Link Road South. I consider these boundary treatments to be acceptable and appropriate for the existing use of the lands.

With regard to the location of the proposed attenuation ponds within the plot, this is driven to a large extent by gradients and topography, and I consider the proposed location to be acceptable, noting that secure fencing and extensive screening planting will be provided.

I consider that the matters raised in this objection have been adequately addressed and no further matters arise.

13.9.69. Nora Keane (Ob_481)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: commitment sought that existing services along the road will be maintained and made available to objector; stone wall sought rather than post and rail fence; inadequate drainage details; access and services must be maintained at all times.

The applicant, in Section 4.20.11 of their Main Brief of Evidence, contend that future connection to public water mains and sewers is a matter to be discussed and agreed with Irish Water and Galway City Council separately and is not part of the PRD. They go on to state that ducting across the PRD is a matter for accommodation works agreements. I would concur with this view and consider that such matters would typically be dealt with as part of the agreement/arbitration process.

With regard to the boundary treatment, the retained lands are undeveloped, but are zoned 'Industrial'. Mammal resistant timber post and rail fencing is proposed along the boundary with the N59 Link Road South. I consider this to be a suitable boundary treatment given the current nature and use of the lands.

Drainage issues are addressed elsewhere in this report. With regard to maintenance of access and services, the applicant has given an undertaking in the EIAR, repeated at the oral hearing on numerous occasions, that access to properties will be maintained at all times. While services may be interrupted at points during the construction works, the applicant has undertaken to reinstate all services and to notify service users in advance of temporary disruption/outages. These measures are included in the Schedule of Environmental Commitments and I consider them to be adequate.

I consider that no further issues arise in respect of this objection.

13.9.70. Cairn Homes Property Limited (Ob_484)

An objection was submitted on behalf of the objector by MKO, however no submission at the CPO hearing by or on behalf of the objector. Issues raised included: objector is currently preparing an SHD planning application for these lands; confirmation sought that the N59 Link Road South can accommodate separate DMURS compliant accesses into the two severed parts of the plot, east and west of the Link Road; impacts on residential amenity and earthworks impacts; noise and visual mitigation sought; in order to optimise residential density of retained lands, objector seeks that attenuation pond C07/01B be relocated further west on agricultural zoned lands.

Plot 484 is located in the Ragoon area, to the south of Letteragh Road (L1323) and has a mix of agriculture and residential zoning. It will be severed by the proposed

N59 Link Road South, and it is also proposed to acquire lands for attenuation ponds, on the western side of the Link Road.

The objector entered into consultation with the Board for a SHD development of 144 No. units, creche and associated site works on the eastern side of the Link Road in May 2020 (Ref. ABP-306599-20). The Board decided that it required further consideration/amendment.

With regard to access arrangements, the applicant stated that access to the western lands will be provided via the N59 Link Road South and to the eastern lands via Letteragh Road. A field access and field gate suitable for the existing land use is proposed.

With regard to the future development of the residentially zoned lands, the applicant states that future connection to public water mains and sewers is a matter to be discussed and agreed with Irish Water and Galway City Council separately and that ducting across the PRD is a matter for accommodation works agreements. They also state that any future development on the lands will take cognisance of the current application for approval for the PRD including, inter alia, the provision of visual screening, fencing, appropriate drainage infrastructure, etc.

As noted above, SHD pre-application consultation has taken place in respect of these undeveloped eastern lands and were deemed to require further consideration/amendment. I consider that it would be appropriate for matters such as servicing and landscaping/screening to be addressed within the design and planning of any such forthcoming SHD application.

With regard to the objector's proposal to relocate the proposed attenuation ponds further west onto agriculturally zoned lands, Mr Cawley, the applicant's Hydrologist response was that the proposed attenuation pond was selected at its optimum point in respect to drainage runs and its proximity to the proposed storm outfall with the receiving watercourse. The location is influenced by the vertical alignment of the road, ensuring gravity drainage into the pond and gravity drainage from the pond to the water course via its storm outfall. The applicant's position is that the relocation of the ponds cannot be facilitated. Having reviewed the drainage drawings, I agree with the applicant's position regarding the location of the ponds.

I consider that the applicant has adequately responded to the issues raised in this objection and no further matters for consideration arise from this objection.

13.9.71. Martina Higgins (Ob_485)

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: surplus land acquisition; drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

The lands to be acquired are primarily for the construction of the N59 Link Road South and Letteragh Road Junction. Having reviewed the drawings and details submitted by the applicant, I do not consider that any surplus land acquisition is proposed in respect of this plot.

The entirety of this plot is to be acquired, and the applicant, in Section 4.14.10 of their Main Brief of Evidence, state that as these lands are to be fully acquired to facilitate the construction and operation of the PRD, no access is required or provided. Likewise, as the entirety of the plot is to be acquired, and as the extent and justification for the acquisition is considered to be reasonable, the other issues raised, such as boundary treatment, landscaping, drainage and noise do not require further consideration in this section.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.72. Thomas McGrath (Ob_486)

A written objection was submitted on behalf of the objector by John M. Gallagher, Consulting Engineer and Town Planner, and elaborated upon at the CPO hearing on 28th October 2020. Issues raised included: reduction in size of front garden and increase in noise due to proximity of N59 Link Road South and increased traffic on Letteragh Road; alternative alignment of N59 Link Road South would increase separation distance; requests that the extent of lands within Plot 486a.210 [sic] that is not required for the widening of Letteragh Road be acquired on a temporary basis and returned after the access road to his house is constructed; impact on

development potential, and request for confirmation that access can be provided to future development from Letteragh Road or N59 Link Road South; risk of dumping/unauthorised occupation on land between his lands and the edge of the N59 Link Road South; requests that new access to his lands from the N59 Link Road South be acquired temporarily and that the access road be gated to prevent undesirable use.

This plot, comprising a house and agricultural lands, is located on the Letteragh Road (L1323), close to the proposed junction of the Letteragh Road and the proposed N59 Link Road South. It was proposed to acquire a relatively large portion of the objector's front garden to provide an alternative driveway access (AR 07/06), and to provide access to the objector's lands to the rear of his house from the N59 Link Road South, via proposed Access Road 07/07, which also serves Plots 272/462.

Mr Gallagher reiterated the issues made in his written objection at the CPO hearing.

With regard to the concerns regarding antisocial behaviour or dumping on Access Road 07/07, Ms McCarthy, on behalf of the applicant, advised that the access road only served two landowners, and that the applicant had no objection to it being gated and locked, subject to the agreement of the other affected landowner. Mr Gallagher welcomed this, and I note that the final SoEC submitted at the oral hearing includes a commitment that Access Road AR 07/07 will be gated and locked, with a key provided for property owners 486 and 272_462 (Item 15.36 refers).

With regard to the acquisition of part of the front garden, Mr Fitzsimons, on behalf of the applicant, stated that there was a statutory process to return lands and that the acquired lands may be returned on that basis. He stated that the applicant would not be amending the CPO schedule.

Mr Gallagher subsequently returned to the hearing on 4th November 2020 to query correspondence he had received from a representative of the applicant, which he considered to contradict the oral response he had received from Mr Fitzsimons. In response, Mr Fitzsimons confirmed that the CPO Schedule would be amended so that the plot in question would be subject to temporary acquisition, rather than permanent acquisition. I note that this change is reflected in the updated Motorway

Scheme Schedule and maps, with Plot 486a.201 deleted and split into two plots 486x.201 and 486y.201, the latter of which is a temporary acquisition.

I consider this change to be an improvement that will reduce the impacts of the PRD on the objector without compromising the design or functionality of the PRD.

With regard to the impact of the PRD on the development potential of the land, I would agree with the applicant's position that there is no evidence that such development is possible at this location as it is not currently zoned residential. In any event, I do not consider that the PRD would be likely to preclude development of the site should it be deemed acceptable.

I am satisfied that the applicant has adequately addressed the issues raised in this objection, noting the additional commitment and change to the CPO schedule on foot of Mr Gallagher's submission at the CPO hearing.

13.9.73. Michelle Nestor (Ob_488)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: Flood risk from pipe or holding ponds; a portion of the objector's lands are deemed agricultural rather than residential on the map provided to her. This will have an impact on compensation considerations.

This plot is located off Chestnut Lane in the Dangan area, and it is proposed to acquire land from the objector for the purposes of constructing Access Road AR 08/05 and a drainage pipe to outfall S15.

The applicant, in Section 4.17.25 of their Main Brief of Evidence, acknowledge the error identified by the objector and have corrected it in the amended CPO Schedules submitted at the oral hearing. The issue of flood risk from the proposed development is addressed in Section 11.10 above.

I consider that no further issues arise in respect of this objection.

13.9.74. Mary Codyre (Ob_495)

A written objection was submitted on behalf of the objectors by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues

raised include: objection to acquisition of entire landholding; surplus land acquisition either side of the N59 Link Road North which she would like to retain post-completion; lack of access to the surplus lands.

In response, the applicant state at Section 4.12.39 of their Main Brief of Evidence that the entirety of plot 495 is required to facilitate the construction and operation / maintenance of the PRD, in particular the Bushypark Junction and Material Deposition Area DA-18 (as shown on Figure 7.301 of the EIAR). MDA DA-18 is required to facilitate the creation of ecological habitat and, therefore, repurchasing the land post-construction by the objector will not be possible due to the proposed MDA/ecological habitat.

Having regard to the need for material deposition areas, and the importance of creating ecological habitats as outlined in the Biodiversity section of this report, I consider the extent of acquisition to be justified and reasonable. I consider that no further issues arise in respect of this objection.

13.9.75. Michael Mullins (Ob_496)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: objection to acquisition of plot 496a.201 which is not necessary for the road construction. He understands that a watermain is to be diverted through this area and this could be done via a wayleave rather than permanent acquisition; uncertainty regarding boundary treatments; lack of commitment to undertake property condition surveys; drainage and flooding concerns; traffic safety due to proximity of N59 Link Road North/N59 Junction; objection to any change in road level on the N59 in front of objector's property; impact on well; access and services must be maintained at all times.

This plot is accessed from the N59 Moycullen Road, a short distance to the north of the proposed junction of the N59 Link Road North and the N59. It is proposed to acquire roadbed, a portion of the front garden to the house and agricultural lands. The acquisition is to enable the realignment of a portion of the N59 and to facilitate construction of the N59 Link Road North and the diversion of a watermain.

With regard to the proposed acquisition of plot 496a.201, comprising agricultural lands to the rear of the house, the applicant, in Section 4.12.40 of their Main Brief of Evidence state that details the measures undertaken for the connection and diversion of Irish Water public watermain to facilitate the PRD are set out in the submitted Design Report, and detailed in Figure GCOB-2700-D-417 of the Design Report. The acquisition of plot 496a.201 is stated to be necessary to carry out this diversion, and the applicant contends that, in circumstances where this plot cannot be returned to the landowner in the condition in which it was acquired, it is necessary to acquire it on a permanent basis. I note that the majority of plot 496a.201 is being acquired for the construction of the N59 Link Road North. The severed portion of land to the south of the Link Road is proposed to be used as an ecological compensatory habitat area. As detailed in the Biodiversity section of this report, these habitat areas are considered to be warranted. I do not consider that any excessive land acquisition is proposed in respect of this plot.

With regard to boundary treatments, the existing boundary wall at the front of the property to the N59 will be removed. A new domestic entrance with 1.2m high stonework wall will be constructed to the south of the existing entrance, while a retaining wall (R08/09) will be constructed to the north of the existing entrance. The existing boundary to the neighbouring plot 495 to the south will be retained and timber stud fencing will be constructed along the boundary with the N59 Link Road North. I consider these proposed boundary treatments to be clear and suitable for the site context.

With regard to the proximity to the proposed N59 Link Road North junction, the access to the property is located c. 70m from the signalised junction. The applicant stated in Section 4.22.15 of their Main Brief of Evidence that the horizontal and vertical visibility splay from the entrance exceeds the desirable minimum for the design speed along the proposed realigned N59 and that the proposed geometry therefore minimises the dangers of exiting/entering the property. Having reviewed the drawings submitted, I would concur with this assessment.

The existing and proposed road levels on the N59 in this area are shown on Figure 5.3.07 of the EIAR, it can be seen that the change in level is marginal and unlikely to result in any significant impacts in respect of this property.

With regard to the potential impact on the objector's well, this was addressed in Section 4.3.13 of the applicant's Hydrogeology submission to the oral hearing. The applicant states that the well is located in granite and is at the margins of the zones for drawdown impacts and, hence, will need to be decommissioned as part of the PRD. Where wells are removed as part of the proposed road development then an alternative equivalent supply will be provided, such as a replacement well.

Drainage and flood risk issues are addressed elsewhere in this report. With regard to maintenance of access and services, the applicant has given an undertaking in the EIAR, repeated at the oral hearing on numerous occasions, that access to properties will be maintained at all times. While services may be interrupted at points during the construction works, the applicant has undertaken to reinstate all services and to notify service users in advance of temporary disruption/outages. These measures are included in the Schedule of Environmental Commitments and I consider them to be adequate.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.76. Nora and Michael Pearce (Ob_497) – Proposed House Acquisition

A brief written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objectors). The objection states that they object most strongly to losing their family home and that this is a tragedy for their family.

This plot is located within the Bushypark area, south of the N59 Moycullen Road, and immediately west of the proposed N59 Link Road North which would be in cut in this area. It is proposed to acquire and demolish the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being

pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

13.9.77. Mary and Padraic Lydon (Ob_498) – Proposed House Acquisition

A written objection was submitted on behalf of the objectors by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

This plot is located within the Bushypark area, south of the N59 Moycullen Road, and immediately west of the proposed N59 Link Road North which would be in cut in this area. It includes a dwelling house and agricultural lands. It is proposed to acquire (but not demolish) the dwelling.

I note that the issues raised in the written objection do not relate to the proposed acquisition of the dwelling, and instead appear to relate solely to the retained lands within Plot 498. Notwithstanding this, the acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

With regard to access, the applicant stated in Section 4.14.10 of their Main Brief of Evidence that the existing access off local road L5007 will provide access to the retained lands, as all lands are on the west side of the proposed N59 Link Road North. I consider this to be acceptable.

With regard to boundary treatments, a mammal resistant timber fence is proposed along the property boundary adjacent to the N59 Link Road North. Such fences are commonly used on national roads across the Country, and I consider it to be a

suitably secure and adequate boundary treatment. The existing boundary will be maintained around the existing dwelling to be acquired.

Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include retention of existing boundaries where possible, 3-6m wide mixed screen planting belt along the top of the cut slopes on the west side of the Link road and a new tree-lined boundary hedgerow along the fenceline of the PRD.

The issues of noise and drainage are addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.78. Patrick Kearns (Ob_503)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: concern that his laneway, which is currently utilised by the Francis family property (Plot 457, which is to be acquired) will be used as a short cut by construction workers during the construction phase and as a 'rat run' during the operational phase. He asks that the right of way be extinguished on the laneway.

The applicant confirmed at the oral hearing that Construction traffic will not use Kearns Lane, as construction haul routes are restricted from such laneways. They also noted Figure 4.1.10 of Appendix A.9.1 of the RFI Response which indicates a timber post and rail fence through Plot 457, approximately around the boundary of the existing dwellings, thus eliminating the possibility of a rat-run route off the Circular Road laneway through the plot and onto the N59 Link Road South. I consider that the issues raised by the objector have been adequately addressed by the applicant and that no further issues arise in respect of this objection.

13.9.79. Michael Nestor (Ob_505)

A written objection was submitted on behalf of the objector by Martin & Rea Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: fence is insufficient; agricultural assessment is inadequate; objectors should be advised of any changes to the final design; EIAR is

deficient; loss of natural drinking water; noise and air pollution; requirement for safety barriers; agreement sought on accommodation works.

This agricultural plot is located to the east of the proposed N59 Letteragh junction and it is proposed to acquire the southern portion of the plot to accommodate the PRD mainline, eastbound merge lanes and the associated cutting within which the PRD is located in this location.

The proposed fence along the PRD boundary is a Mammal Resistant Fence (timber post and rail fence with wire mesh) in accordance with TII standard details. Such fences are commonly used on national roads across the Country, and I consider it to be a suitably secure and adequate boundary treatment.

The objector contends that the agricultural assessment is inadequate but has not provided any information regarding this matter. I consider the agricultural assessment to be adequate. Similarly, the objector contends that the EIAR is deficient, but has not provided any information in support of this position.

With regard to the loss of water, the applicant has undertaken to provide alternative water sources where interference or disruption is caused by the PRD.

Issues regarding air and noise impacts are addressed elsewhere in this report.

I consider that the issues raised by the objector have been adequately addressed by the applicant and that no further issues arise in respect of this objection.

13.9.80. Bridie O'Halloran (Ob_506)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: proposed access road is seriously restrictive in width, has six right angle bends and will not be suitable for future development of plot 506a.407; set-back from motorway for future development is unclear; post and rail fence is unsafe as proposed road is in a deep cut; access and services must be maintained at all times.

I note that Plot 506 comprises agriculturally zoned lands that will be severed by the PRD. It is proposed to provide access to a c. 1.14ha area of severed lands via the internal estate road through The Heath estate, which it is also proposed to acquire,

and extend via proposed Access Road 07/10. A number of residents of The Heath and an adjacent landowner have objected to this proposed access arrangement and I have addressed the principle of providing access to Plot 506 via The Heath in Section 13.8 above.

With regard to the width and alignment of the access road, Section 4.14.10 of the applicant's Main Brief of Evidence states that Access road AR 07/10 has been designed to TII standard Construction Details and includes a 4.0m wide road with a 1.0m wide grass verge either side. The access is stated as having been designed to facilitate the existing use and zoning of these lands (Agricultural) and not for potential future development, noting that any future development of these lands will be subject to a planning permission.

With regard to fencing proposals and health and safety, Section 4.11.8 of the applicant's Main Brief of Evidence states that a mammal resistant timber post and rail fencing will be constructed in accordance with TII Standard Details. Section 4.11.3 of the Material Assets - Agriculture Brief of Evidence states that there is a moderate slope of approximately 15% on the north side of the PRD. This slope runs parallel rather than towards the PRD and the risk of anything rolling on to the PRD is negligible in this land parcel. It goes on to state that steep slopes adjoining farm land are part of the natural farming landscape throughout Ireland and this permanent disturbance can be managed effectively by farmers without the requirement for additional safety fencing. The incidence of vehicles entering onto agricultural land is very low due to the high standards of safety on newly designed roads. Therefore, the safety of livestock and farming personnel will not be significantly affected by the PRD.

With regard to maintenance of access and services, the applicant has given an undertaking in the EIAR, repeated at the oral hearing on numerous occasions, that access to properties will be maintained at all times. While services may be interrupted at points during the construction works, the applicant has undertaken to reinstate all services and to notify service users in advance of temporary disruption/outages. These measures are included in the Schedule of Environmental Commitments and I consider them to be adequate.

I consider that no further issues arise in respect of this objection.

13.9.81. Christina Nestor (Ob_507)

A written objection was submitted on behalf of the objector by Martin & Rea Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: fence is insufficient; agricultural assessment is inadequate; objectors should be advised of any changes to the final design; EIAR is deficient; loss of natural drinking water; noise and air pollution; requirement for safety barriers; agreement sought on accommodation works.

This L-shaped agricultural plot is located to the east of the proposed N59 Letteragh junction and it is proposed to acquire the southern corner of the plot to accommodate the eastbound merge lanes and the associated cutting within which the PRD is located in this location.

The proposed fence along the PRD boundary is a Mammal Resistant Fence (timber post and rail fence with wire mesh) in accordance with TII standard details. Such fences are commonly used on national roads across the Country, and I consider it to be a suitably secure and adequate boundary treatment.

The objector contends that the agricultural assessment is inadequate but has not provided any information regarding this matter. I consider the agricultural assessment to be adequate. Similarly, the objector contends that the EIAR is deficient, but has not provided any information in support of this position.

With regard to the loss of water, the applicant has undertaken to provide alternative water sources where interference or disruption is caused by the PRD.

Issues regarding air and noise impacts are addressed elsewhere in this report.

I consider that the issues raised by the objector have been adequately addressed by the applicant, and that no further issues arise in respect of this objection.

13.9.82. Ross Tobin (Plot 504)

Mr Tobin, who had not previously made a written objection, appeared at the CPO hearing on 27th October 2020 and made a submission. He stated that he was not opposed to the PRD, or the proposed acquisition of lands at the north western edge of Plot 504 to accommodate the PRD mainline, but that he was opposed to the proposed acquisition of the estate road through The Heath and the acquisition of

lands within Plot 504 to construct Access Road AR 07/10 to provide access to Plot 506.

This issue is addressed in Section 13.8 above.

13.9.83. Gerald and Neasa Lawless (Ob_510)

A written submission was submitted by Mr and Mrs Lawless and elaborated upon at the CPO hearing on 28th October 2020, following an earlier submission in Module 2 on 20th October 2020. The objectors are also members of the Galway N6 Action Group, represented at the hearing by Stephen Dowds. I note that while Mr and Mrs Lawless are affected by the CPO, they paid the appropriate fee to become observers. I will nevertheless address CPO issues in this section.

The issues raised by Mr Lawless at the CPO hearing related to the Heath estate road, and this issue is addressed in Section 13.8 above.

13.9.84. David & Imelda Hickey (Ob_O_511.05)

A written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: lack of detail on noise mitigation during construction phase; object to the acquisition of the Heath estate road for accessing agricultural lands. The landowner should instead be compensated or provided with alternative access.

The issue of the Heath estate road is addressed in Section 13.8 above. Potential noise impacts are addressed elsewhere in this report.

13.9.85. Prof. Gerard Lyons (Ob_O_511.06)

A written submission was submitted by Prof. Lyons. (No submission was made at the CPO hearing by or on behalf of the objector). I note that while this party is a person affected by the CPO, they paid the appropriate fee to become an observer. I will nevertheless address CPO issues in this section. Issues raised included: PRD is not sustainable development; PRD will not resolve Galway's traffic issues; climate change; failure to notify the observer/objector of the CPO and extinguishment of rights of way; access road through The Heath estate; height of Letteragh Junction;

noise impacts; impacts on NUIG Sports Campus; impacts on Bushy Park National School.

The issue of the Heath estate road is addressed in Section 13.8 above.

With regard to the notification of the objector, the applicant's response in their Main Brief of Evidence was that the property owner was included as occupiers on plot 511 (the internal estate road at The Heath) at the time of publication, at the address as per their current folio. The registered notices were returned in the post. A public notice was erected at the front of the estate for the duration of the public display with the appropriate schedules attached and the property owners listed. The applicant went on to state that the schedules and server maps relating to this property owner have been amended to also include their addresses in The Heath, and Notice was subsequently issued to the property owner. I consider this response to be adequate.

The other issues raised are addressed, where relevant, elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.86. Paschal & Áine Tummon (Ob_O_511.07)

A written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: use of the Heath estate road by construction traffic, opposition to acquisition of the green verges; noise and air pollution.

This issue is addressed in Section 13.8 above.

13.9.87. Desmond and Mary Bluett (Ob_O_511.16)

A written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: use of the Heath estate road by construction traffic and for accessing agricultural lands and associated safety and residential amenity impacts.

This issue is addressed in Section 13.8 above.

13.9.88. Emily and James O'Donnell (Ob_O_511.18)

A written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: objection to the extinguishment of the right of way, and acquisition of the Heath estate road for accessing agricultural lands and an area of public open space; agricultural landowner should instead be compensated; CPO is unreasonable and unjustifiable; CPO, if confirmed, should not include grass verges or public open space; noise, air and light pollution.

The issue of the Heath estate road is addressed in Section 13.8 above. Potential noise, air and light impacts are addressed elsewhere in this report.

13.9.89. Monica and Frank McAnena (Ob_O_511.25)

A written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised were concerns over the use of heavy machinery on the road through the Heath estate, as there are no footpaths, and the safety issues of traffic and disruption on their son who has special needs.

This issue is addressed in Section 13.8 above.

13.9.90. John and Kathleen McCarthy (Ob_512.1 and Ob_512.2)

Two objections were submitted on behalf of the objectors by JML. Issues raised included: lack of consultation; use of the Heath estate road as a through road and resultant security, privacy and traffic safety issues; light, dust, noise and air pollution; security concerns; blasting-related damage; home should be acquired if the scheme is approved by the Board.

The issues of consultation and the Heath estate road are addressed in Section 13.8 above.

Issues regarding air, dust, noise, light impacts are addressed elsewhere in this report. The acquisition of the objectors' house is not required for the construction of the PRD and I do not consider that the impacts on this property would be so significant as to warrant its acquisition.

I consider that the issues raised by the objector have been adequately addressed by the applicant, and that no further issues arise in respect of this objection.

13.9.91. Suzanne Butler (Ob_O_517.05)

A written objection was submitted on behalf of the objector by Planning Consultancy Services. (No submission was made at the CPO hearing by or on behalf of the objector) Issues raised included visual and light pollution impacts, air and noise impacts, and impact on access to the objector's site.

The issues of air, noise, visual impacts etc. are addressed elsewhere in this report. With regard to access, I note that the objector's site comprises a residentially zoned undeveloped site within the Ard an Locha estate. It is not proposed to acquire any of the residentially zoned site, and the acquisition affecting the objector instead relates to the access road within Ard an Locha. Access to the site is via an existing entrance within the Ard an Locha cul de sac and there will be no change to this as a result of the PRD.

I consider that no further matters for consideration arise from this objection.

13.9.92. Katie Hughes (Ob_O_517.11_1) and Lauren Hughes (Ob_O_517.11_2)

Separate written objections were submitted by Katie and Lauren Hughes, residents of the Ard an Locha estate, off the N59 Moycullen Road. Issues raised included: lack of consultation; excessive acquisition of dwellings; impact on NUIG; prioritising of ecology over people and communities; alternatives are available; health and safety issues.

John Hughes (S_037), a member of the same family, made a submission in Module 2 on 3rd March 2020 in which he raised similar issues. Mr Hughes is also a member of the Galway N6 Action Group, represented at the hearing by Stephen Dowds.

The issue of consultation is addressed in Section 13.8 above, while the issue of alternatives is addressed in Section 13.7, and in more detail in Section 10.6. The remaining issues raised by the objectors relate to broader planning and environmental matters and are addressed elsewhere in this report.

The acquisition affecting these objectors relates to the access road within Ard na Locha, and I note that access arrangements to the remaining dwellings within the Ard na Locha estate will be maintained, which I consider to be adequate.

I consider that no further matters for consideration arise from this objection.

13.9.93. **Colm and Marie O'hEocha (Ob_519) – Proposed House Acquisition**

A written objection was submitted by the objectors and a submission was made by Ms O'hEocha during Module 2 on 4th March 2020. The objectors are also members of the Galway N6 Action Group, represented at the hearing by Stephen Dowds. Issues raised included: consultation regarding timing of planning permission and notice of CPO; GCOB route is preferable; prioritising of animal and plant habitats over humans; existing traffic issues are overstated; PRD is not required, as small-scale local road solutions could be used; GTS is being subverted by the PRD.

This plot is located within the Ard an Locha estate, off the N59 Moycullen Road, and it is proposed to acquire and demolish the dwelling which would be located within the PRD mainline.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

The remaining issues raised by the objectors relate to broader planning and environmental matters and are addressed elsewhere in this report.

13.9.94. **Annette and Michael Kerin (Ob_521_O_517.14_01, Ob_521_O_517.14_02, Ob_521.3, Ob_521_O_517.14_04, Ob_521_O_517.14_05)**

A total of 5 No. written objections were made on behalf of the objectors at application and RFI stages by Paula M. Murphy Architects, Searson Associates and Ciarán Sudway & Associates. Michael O'Donnell BL appeared at the CPO hearing on 30th October 2020 and made a submission on behalf of the objectors. Further submissions were made by Professor and Dr Kerin, Dr Imelda Shanahan (TMS Environment), Karl Searson (Searson Associates) and Julian Keenan (Traffic Wise) (Refs. 98, 98A, 98B, 98C, 98D).

The applicant submitted a response to the issues raised by the Kerin family and their representatives on 4th November 2020 (Ref. 103), followed by further submissions from Mr O'Donnell and his team (Ref. 98F) and questioning of the applicant's team. I note that the objectors are also members of the Galway N6 Action Group, represented at the hearing by Stephen Dowds.

The principal issues raised on behalf of the objectors related to air, noise and vibration impacts, health impacts, landscape and visual impacts and issues related to construction traffic and construction activities. Other issues raised included community severance, the need for the PRD and traffic issues. These issues are addressed in detail in the relevant sections of this report.

With regard to the proposed acquisition of land, it is proposed to acquire the Ard an Locha access road, over which the objectors have rights (Plot 517a.101 and 517a.202), and an undeveloped residentially zoned site (Plot 521a.101 and 521a.202) to the east of the objectors' dwelling, which will be traversed by the PRD mainline, its associated embankments and upon which it is proposed to locate a substation. The objectors state that they had intended to construct a house on this plot for their son, who has special needs, to enable him to live independently while also allowing them to care for him.

There will be significant impacts on these objectors as a result of the construction and operation of the PRD which will be elevated on an embankment in this area. This has been accepted by the applicant and is addressed in the relevant sections of this report. I note in this regard the additional commitment contained in the final SoEC that: "Galway County Council will pay for similar alternative accommodation for the Kerin's family (Ard na Locha) to be rehoused during the duration of the 9 months earthworks period at the N59" (Item 1.33).

With regard to the proposed land acquisition, I note that the objectors' house, gardens, boundary walls and entrance will be unaffected. While the Ard an Locha access road is to be acquired, the objectors' access to their dwelling will be unaffected. With regard to the adjacent site (Plot 521) owned by the objectors, it is proposed to acquire the entirety of the plot to accommodate the PRD mainline and its associated embankment and retaining wall, as well as a proposed substation. I note that the applicant included an additional commitment in the final SoEC that: "the

stonewall along the boundary of plot 521 adjacent to access road AR 08/01 [i.e. the Ard an Locha access road] will be 2.0m high" (Item 15.35).

The acquisition of Plot 521 is regrettable given the objectors' intended use of the site to accommodate their son. Notwithstanding this, however, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of Plots 517 and 521 and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

I conclude that the impacts on the objectors arising from the construction of the PRD and the loss of the land to be acquired are matters for the property arbitrator and for compensation, where appropriate.

13.9.95. George and Phyllis Ryder (Ob_531_537) – Proposed House Acquisition

A written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objectors). They are, however, members of the Galway N6 Action Group. Issues raised in the objection include: objectors are being forced out of their home of 33 years for the construction of a road that will not address the traffic congestion in Galway; road proposal is outdate and an efficient public transport system should be put in place instead.

This plot is located within the Aughnacurra estate, off the N59 Moycullen Road, and it is proposed to acquire and demolish the dwelling to accommodate the PRD mainline and attenuation ponds.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being

pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

Issues with regard to the impact of the PRD on traffic congestion in Galway and the examination of alternatives are addressed elsewhere in this report.

13.9.96. James McLoone (Ob_531.01)

A written objection was submitted and the objector and Stephen Meagher, on behalf of Aughnacurra Residents Association (ARA), made a submission during Module 2 on 4th March 2020. A further submission, by Mr Meagher on behalf of the ARA, was made at the CPO hearing on 28th October 2020. I note that the objector is also a member of the Galway N6 Action Group.

Issues raised in the written objection included: human health impacts; IROPI alternative; loop layout in Aughnacurra should be retained; relocated entrance should be reconstructed as-is, including heritage gates; devaluation of property; impact on living conditions; safety and security concerns with regard to acquired houses adjacent to objector and potential antisocial behaviour or maintenance of grounds and boundary walls.

This objector resides in the Aughnacurra estate and is affected by the proposed acquisition of the internal estate road. Issues associated with the proposed acquisition of lands at Aughnacurra are addressed in Section 13.8 above.

The remaining issues raised by the objector relate to broader planning and environmental matters and are addressed elsewhere in this report.

I consider that no further matters for consideration arise from this objection.

13.9.97. Donal & Elizabeth Courtney (Ob_531.02)

A written submission was submitted by Mr and Mrs Courtney, however no submission was made at the oral hearing. They are also members of the Galway N6 Action Group, represented at the hearing by Stephen Dowds, and Aughnacurra Residents Association.

I note that while Mr and Mrs Courtney are affected by the CPO, they paid the appropriate fee to become observers. I will nevertheless address CPO issues in this

section. Issues raised included: impact on character of Aughnacurra and the whole Dangan area; impact on NUIG sporting grounds; health and safety issues; noise pollution; air pollution; public transport alternatives; prioritisation of ecology over humans; devaluation of property.

These objectors reside in the Aughnacurra estate and are affected by the proposed acquisition of the internal estate road. Issues associated with the proposed acquisition of lands at Aughnacurra are addressed in Section 13.8 above.

The remaining issues raised by the objectors relate to broader planning and environmental matters and are addressed elsewhere in this report.

I consider that no further matters for consideration arise from this objection.

13.9.98. Ray and Helen McLoughlin (Ob.532) – Proposed House Acquisition

An objection was submitted on behalf of the objectors by MKO. (No submission was made at the CPO hearing by or on behalf of the objectors). The objection states that the objectors would prefer if an alternative route had been chosen but that they support the inclusion of their dwelling house within the CPO, due to the significant negative impact which the PRD would have on their property. They ask that an early buy-out option be made available.

This plot is located within the Aughnacurra estate, off the N59 Moycullen Road, and it is proposed to acquire (but not demolish) the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. Having regard to the fact that the objectors wish their dwelling to be acquired, I consider that no further matters for consideration arise from this objection.

13.9.99. Paddy & Marina O'Malley (Ob_534)

A written submission was submitted by Mr and Mrs O'Malley. (No submission was made at the CPO hearing by or on behalf of the objector). They are also members of the Galway N6 Action Group, represented at the hearing by Stephen Dowds, and Aughnacurra Residents Association.

I note that while Mr and Mrs O'Malley are affected by the CPO, they paid the appropriate fee to become observers. I will nevertheless address CPO issues in this

section. Issues raised included: route selection is flawed; PRD is not in accordance with proper planning; examination of alternatives is inadequate; health and safety issues; prioritisation of ecology over humans.

These objectors reside in the Aughnacurra estate and are affected by the proposed acquisition of the internal estate road. Issues associated with the proposed acquisition of lands at Aughnacurra are addressed in Section 13.8 above.

The issue of alternatives is addressed in Section 13.7, and in more detail in Section 10.6. The remaining issues raised by the objectors relate to broader planning and environmental matters and are addressed elsewhere in this report.

I consider that no further matters for consideration arise from this objection.

13.9.100. John (Reps of) Maloney (Ob_545_565)

An objection was submitted on behalf of the objector by Vincent Costello. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised were the impact on the remaining lands, construction impacts (noise, dirt, inconvenience, safety and access), uncertainties with regard to road level and inadequate landscaping.

I note that it is proposed to acquire the entirety of these plots, which relate to river bed within the River Corrib and lands at Menlo, immediately north of the proposed River Corrib Bridge. The applicant, in Section 4.24.10 of their Main Brief of Evidence, state that as the entirety of these plots are acquired, the matters raised in the objection are not applicable.

Having regard to the need and justification for the PRD and the associated acquisition as outlined above, it is considered that no further matters for consideration arise from this objection.

13.9.101. Noreen McNamara (Ob_563.02)

An objection was submitted on behalf of the objector by JML. No specific issues were identified in the objection, other than the maps being of poor quality and a lack of proper communication as to how the objector's lands will be affected. Mr Owen Kennedy of JML made a general submission at the oral hearing on 28th October 2020 (see Section 13.8), but did not elaborate on the written objection.

Plot 563 comprises a number of discrete pieces of land affected by the proposed acquisition. Having reviewed the information submitted by the applicant, and in particular the Motorway Scheme Deposit Maps and Schedule and the Landowner Accommodation Works Details drawings, the extent of the proposed acquisition in respect of each piece of Plot 563 and the proposals for providing access to the retained lands has been clearly identified. The applicant, in Section 4.14.10 of their main Brief of Evidence, explains how access to the retained portions of Plot 563 either side of the proposed N6 GCRR at Bóthar Nua will be provided.

In the absence of any specific objections to the proposed acquisition, it is not possible to discuss this objection any further.

13.9.102. Sylvester Christopher Patrick McDonagh (Ob_566_598)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: surplus land acquisition at plot 598a.201; other lands in the vicinity would be more suitable for bats; objector's right of way over Plot 765c.201 has not been listed on the Schedule; uncertainty with regard to reinstatement of right of way on Menlo Castle Boithrín.

Section 4.12.42 of the applicant's Main Brief of Evidence states that the lands chosen to provide for the protected bat species have been selected by an ecologist as part of the draft Bat Derogation Licence Application included in Appendix A.8.25 of the EIAR. Further information on why these lands in plot 598a.201 were selected for bat mitigation is provided in Sections 4.14.7-4.14.22 of Aebhin Cawley's submission to the oral hearing regarding Biodiversity and the explanation is considered to be satisfactory.

Section 4.19.3 states that the objector's rights of way on the Menlo Castle Bóithrín will remain unaffected. Section 4.17.29 states that the right of way over Plot 765c.201 is not a registered right of way and, therefore, there was no way to ascertain that a possible interest may exist. The records have now been updated to amend this omission.

I consider that the clarifications provided by the applicant adequately address the issues raised, and I consider that no further issues arise from this objection.

13.9.103. James Callaghan (Ob_567) – Proposed House Acquisition

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised include: lack of real engagement with the objector; uncertainty and distress; difficulty with finding a suitable alternative in Menlo or Galway City limits.

This plot is located on the western side of Bóthar Nua, in the Menlo area, within the mainline of the proposed PRD. It is proposed to acquire and demolish the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

13.9.104. Brian and Mary Kenny (Ob_568) – Proposed House Acquisition

A written objection was submitted on behalf of the objectors by MKO. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised include: loss of family home; lack of meaningful engagement by the applicant; with no alternatives available, the family will likely have to leave Menlo area and community; it will not be possible to replace or replicate the unique family home and environment.

This plot is located on the western side of Bóthar Nua, in the Menlo area, within the mainline of the proposed PRD. It is proposed to acquire and demolish the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I

consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

13.9.105. Paul and Anne Mulhern (Ob_569)

A written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objectors). The issues raised include: prioritisation of biodiversity over people; visual impacts associated with overpass and viaduct; alternative routes available; mature trees in adjoining property should be retained for screening; noise, dust and health impacts; overshadowing from embankment; objectors property should be acquired; CPO map and schedule is incorrect with regard to plot 569a.201, which forms part of garden not public road.

This residential plot is located on the western side of Bóthar Nua, in the Menlo area, to the north of the PRD mainline and the western embankment of the proposed Menlough Viaduct. It is proposed to acquire road bed and a small area of front garden to facilitate the realignment of Bóthar Nua at its interface with the PRD mainline.

The objectors' property is not required for the construction or operation of the PRD and while the objectors are likely to experience negative impacts from the construction and operation of the PRD, particularly with regard to the visibility of the Viaduct and its embankments, I do not consider that the impacts would be so significant as to warrant the acquisition of the dwelling.

With regard to the existing trees in Plot 567, which is between the objectors' property and the PRD, the applicant confirmed that there is no requirement to remove these trees and that, as shown on Figure 12.1.07 of the EIAR, the trees will remain post completion of construction. Mr Burns, on behalf of the applicant, also noted the provision of 6m wide mixed screen planting on the embankment slopes, tree planting at the top of the embankment (from Ch. 9+600 to 10+100) and the proposed tree-lined boundary hedgerow will be established along the fenceline of the PRD.

The applicant has accepted the CPO error identified by the objectors, and the revised schedule submitted at the oral hearing has been updated with the plot now described as "House Garden". I consider this to be acceptable.

The other issues raised in this objection, such as noise, dust health etc. are addressed elsewhere in this report.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.106. John Glynn (Ob_572_574_591)

A written objection was submitted on behalf of the objector by Rooney Property Consultants, and elaborated upon by Mr Glynn and Mr Rooney at the hearing on the 13th October 2020. Issues raised included: loss of road frontage and development potential for 5 No. sites for family members; impact on equine farming operation; unfair that disturbance to objector is to accommodate other property owners.

Jarlath Fitzsimons SC, on behalf of the applicant, responded that given the zoning of the lands, it was not accepted that that number of sites was available. Even if there was, it was not accepted that the scheme would impact on them to the extent suggested. Mr Fitzsimons stated that these were matters for the property arbitrator to consider and for compensation, as appropriate.

Mr Rooney accepted this was a compensation matter but noted the impossibility of acquiring replacement sites in the area due to scarcity. While I understand the objector's desire to provide sites for his family members and accept his point regarding the difficulty of acquiring residential sites in the area, I note that the lands in question are not residentially zoned. I consider that the impact on the development potential, if any, of the lands to be acquired is ultimately a matter for the property arbitrator.

With regard to the impact on the equine enterprise, this was not raised at the oral hearing, although I note Mr Sadlier's response to the written objection in which he describes the nature of the equine operation in Section 4.3.4 and states that, in his opinion, the impact of the PRD on this equine enterprise is significant due to the amount of land loss and land separation. I consider that this impact can be appropriately addressed through accommodation works and the compensation process, as appropriate.

I consider that no further matters for consideration arise from this objection.

13.9.107. James Moloney - Reps of (Ob-580_581_599)

A written objection was submitted on behalf of the objector by Gaynor Miller. Kevin Miller of Gaynor Miller subsequently made submissions in respect of this plot at the hearing on 13th October 2020 and 4th November 2020. Issues raised included: no access to the lands in Plots 580 and 581 north of the PRD is provided as access road AR 10/02 stops 70m short of the farm track which provides access; additional lands under Folio GY80326F will have no access; water supply will be severed; legal right of way over Plot 765c.201 has not been listed; lack of detail on how legal right of way on Menlo Castle Boithrín will be reinstated; lack of detail on underpass dimensions.

With regard to AR 10/02, Mr Miller stated at the oral hearing that the landowner would need to extend the track across outcropping rock and that such an extension would be within the SAC boundary and would be illegal. This issue was raised again by Mr Miller in his second submission at the oral hearing on 4th November, and the applicant's agricultural advisor Con Curtin stated that the limestone pavement nature of the lands reduced their livestock carrying capacity and that only a small number of cattle could be farmed on the land and that could continue in the future. Mr Miller disputed this assessment.

Ms McCarthy stated that access to the lands north of the PRD would be made available by access road AR 10/02, which allows vehicular traffic as far as the boundary of Plot 581, with foot access beyond this and that the farmer could let his livestock off from this point. She noted the SAC boundary and stated that the applicant did not propose to link AR 10/02 to the farm track and that this would be a compensation matter. Mr Miller responded that foot access was unsuitable given the deep crevices in the limestone pavement which could injure livestock and that failure to provide a proper level of access to severed lands was unprecedented in his experience.

There will clearly be a diminution in the level of access to the retained lands north of the PRD due to the failure to link the access road AR 10/02 to the farm track. However, given the extremely sensitive and valuable habitat that could be impacted upon by any such road/track, I consider that the provision of vehicular access to the western edge of the Plot, and foot access beyond this, is a reasonable compromise.

The impacts on access and farming operations will, thereafter, be a compensation matter.

With regard to the loss of water services to the retained lands, Ms McCarthy stated that the elevation of the western portal renders it infeasible to provide services under it, and that this would again be a compensation matter. Noting the characteristics and topography of the area, the ecological sensitivity and the design of the PRD, I would agree with this assessment of the matter.

The right of way referenced by Mr Miller was stated to be unregistered and Ms McCarthy stated that the applicant's reasonable enquiries undertaken did not identify it. I note that the updated Schedule submitted at the oral hearing includes this right of way.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.108. McHugh Property Holdings/ Tuam Road Developments Ltd. (Ob_583, Plot 766)

A written objection on behalf of McHugh Property Holdings (also referred to as McHugh Property Group) was submitted by MKO. Dermot Flanagan SC, accompanied by Senan Clandillon (Engineer), subsequently made submissions to the CPO hearing on 29th October 2020, having previously made substantive submissions in Modules 1 and 2 on the 25th February 2020 and the 19th October 2020, respectively, along with interjections/comments at various stages throughout the hearing.

The McHugh Property Holdings objection relates to Lackagh Quarry (Plot 583), while the Tuam Road Developments Ltd. objection relates to a plot to the east of the Tuam Road (Plot 766). Both companies appear to be part of the overall McHugh Group.

Mr Flanagan made a legal submission (Ref. 82) regarding the lands owned by McHugh Property Holdings/Tuam Road Developments Ltd. Mr Clandillon made a submission outlining potential alternative arrangements for the Material Deposition Areas (MDAs) within the quarry. This was followed by questioning between the objector and the applicant, and the Board should note that the applicant also

submitted a response submission relating to Lackagh Quarry during Module 2 (Ref. 84).

In summary, the objector is not opposed to the PRD in principle but considers that the applicant is seeking to compulsorily acquire excessive land at Lackagh Quarry, particularly in relation to Plot 583a.210, and that alternatives exist that would meet the community need with a reduced land take.

As detailed elsewhere in this report, I consider Lackagh Quarry to be a suitable location for the main construction compound and for use for material deposition areas with associated habitat creation. I also consider the quarry to be a suitable location for the tunnel operation building, being adjacent to the eastern tunnel portal, and for use for the emergency over-height vehicle exit road.

I note that the MDAs within the quarry have been re-designed in order to reduce the land acquisition impacts on the objector, and I consider that the final layout is a reasonable compromise between minimising land acquisition and meeting the requirements for the PRD. I have addressed these issues in Sections 10.10 and 11.8 of this report.

With regard to the reduction in land acquisition, I note Item 1.25, added to the final SoEC submitted at the oral hearing.

“Galway County Council propose that plots 583a.209, 583c.201, 583c.202; 583c.203 and 583a.208 are temporary plots, required only for the duration of the construction period for use as a part of the overall construction compound and to enable construction of the proposed road development. A right of way will be provided over Access Road AR 11/01 in favour of McHugh Properties to provide access to these lands.”

These proposed changes to temporary acquisition are included within the revised version of the Motorway Scheme Schedule submitted prior to the close of the oral hearing.

Having regard to the characteristics of the quarry, including potentially unstable rock faces, and the intended use of the lands to be acquired and the nature of the material to be deposited, I consider the acquisition to be proportionate to the identified need and I do not consider that excessive land acquisition is proposed. I

am satisfied that all lands to be acquired are required for purposes in connection with the PRD.

With regard to the Tuam Road Developments Ltd. lands, the McHugh Property Group was added to the revised version of the Motorway Scheme Schedule submitted prior to the close of the oral hearing in respect of Plot 766 (previously Plot 690). The Deposit Maps were also updated accordingly.

I consider that no further matters for consideration arise from this objection.

13.9.109. Martin Cronin (Ob_O_583.01)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised include: health and safety concerns regarding the use of the Lackagh Quarry road (which is used to access his house) by construction traffic; requirement for safe egress onto Coolough Road; potential anti-social behaviour; construction phase disturbance.

The objector is listed in the Motorway Scheme schedule as an occupier on the Lackagh Quarry access road.

Proposed Access Road AR 11/01 (existing Lackagh Quarry access road) is an emergency exit for over-height vehicles before entering Lackagh Tunnel. The applicant confirmed that this access road will not provide access to the PRD. It will also provide access to the attenuation ponds, tunnel services building and the ecological habitat areas. The applicant confirmed that it will be a public road and that access to the objector's home will be retained.

The other issues raised in this submission are addressed elsewhere in this report.

Noting that the proposed acquisition relates solely to the access road and that access to the objector's property will be retained, I consider that the applicant has adequately addressed the issues raised and that no further matters arise.

13.9.110. Linda Rabbitte (Ob_584.2)

A written submission was submitted by Ms Rabbitte, with a submission made during Module 2 of the oral hearing on 3rd March 2020. I note that while Ms Rabbitte is a person affected by the CPO, she paid the appropriate fee to become an observer. I

will nevertheless address CPO issues in this section. Issues raised included: opposed to use of Lackagh Quarry as construction compound; HGV traffic; flooding in Quarry; noise, air and dust, vibration impacts; Quarry access road should be kept in good condition as it is used to access her house; objects to right of way being extinguished; invalid CPO procedures due to short notice; impact on limestone pavement; zoning issues; impact on architectural and archaeological heritage; alternatives available; climate change.

This plot is located adjacent to Lackagh Quarry and is accessed from the road leading into the quarry. The extent of proposed acquisition affecting this property is the access road.

Proposed Access Road AR 11/01 (existing Lackagh Quarry access road) is an emergency exit for over-height vehicles before entering Lackagh Tunnel. The applicant confirmed that this access road will not provide access to the PRD. It will also provide access to the attenuation ponds, tunnel services building and the ecological habitat areas. The applicant confirmed that it will be a public road and that access to the objector's home will be retained.

The other issues raised in this submission are addressed elsewhere in this report.

Noting that the proposed acquisition relates solely to the access road, and that access to the objector's property will be retained, I consider that the applicant has adequately addressed the issues raised and that no further matters arise.

13.9.111. Thomas Fallon (Ob_603)

A written objection was submitted on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: No details provided to demonstrate that bóithrín is a public road and no details on legal access of Access Road 11/02; Plots 603 and 8231 are identified in two separate lots but are one continuous landholding; no commitment to undertake condition survey; landscaping proposals are inadequate; it has not been confirmed that access will be available at the western end of Access Road AR 11/02 back onto the old bóithrín; there is a field gate off the bóithrín into the field beside 603a.201 and it has not been confirmed if this will be affected; no details on how water services will be maintained through Plot 603a.202; no details regarding what

the proposed structure at Ch 12+020 crossing Access Road AR 11/02 is; dust, mud, noise and vibration impacts; no commitment to maintain services and access at all times; Plot 587a.202 is beside the objector's property but no details have been provided regarding its purpose.

This plot is located on the western side of the N84 Headford Road in Ballindooley, immediately north of the proposed N84 Headford Road Junction of the PRD. The lands to be acquired primarily relate to the proposed construction of Access Road AR 11/02 to serve this property and a number of other plots.

The majority of the issues raised in this objection were addressed in the applicant's Main Brief of Evidence submitted at the oral hearing. With regard to proposed Access Road AR 11/02, it was stated that this will be a public access road and will provide access to the existing Ballindooley Bóithrín as current access is severed by the PRD. The applicant also confirmed that the existing access into the field associated with plot 603a.201 will be retained. I consider these access proposals to be acceptable, noting that a yellow box is to be provided on the N84 southbound traffic lane to provide an opportunity for vehicles from the Ballindooley Bóithrín, including the objectors' farm traffic, to access onto the N84. The structure crossing AR 11/02 at c. Ch. 12+020 appears to be a drainage ditch and culvert.

With regard to the separate listings of Plots 603 and 8231, the applicant stated that a search of the land registry shows the two plots registered as separate plots with separate folio numbers, which was why they are assigned different numbers. The applicant acknowledged that the entire holding is held as one continuous holding. I do not consider that this has any bearing on CPO matters.

With regard to landscaping proposals, Mr Burns, on behalf of the applicant, noted the proposed provision of multiple layers of 3m to 6m wide mixed screen planting belts on the embankment slopes and on AR 11/02 and the proposed tree-lined boundary hedgerow to be established along the fenceline of the PRD. I consider that the proposed landscaping is adequate, although the property will experience adverse visual impacts due to its proximity to a major grade-separated junction.

It is not clear what structure the objector is referring to as crossing AR 11/02, and as he did not make a submission at the oral hearing, it is not possible to comment further on this.

With regard to the objector's query regarding the purpose of the acquisition of the adjacent Plot 587a.202, the applicant advised that this plot is being acquired to provide additional habitat and will be a receptor site for dry calcareous and neutral grassland. As detailed elsewhere in this report, the creation of additional habitats is considered to be an important biodiversity mitigation measure.

The other issues raised in this objection are addressed elsewhere in this report. I consider that the applicant has adequately responded to the issues raised in this objection and no further issues arise.

13.9.112. Deirdre Goggin and Michael Kenny (Ob_610) – Proposed House Acquisition

A written objection was submitted on behalf of the objectors by Corr Property Consultants. Ms Goggin made an oral submission at the CPO hearing on 27th October 2020 (having previously made submissions in Modules 1 and 2 on 24th February 2020 and 3rd March 2020, respectively). Issues raised included: a route more to the north should have been chosen; inadequate mitigation measures for material assets of very significant impact; no empirical evidence in respect of quality of life statements or health impact assessment; over-reliance on GTS and a chicken-and-egg scenario with the PRD and GTS; impacts on Gaeltacht; community severance; human rights eroded. Additional issues raised at the oral hearing included psychological impacts, duration of project to date, proposed acquisition is disproportionate to the common good.

This plot is located on the eastern side of the N84 Headford Road, in the Ballindooley area. It is proposed to acquire and demolish the dwelling to facilitate the proposed junction of the PRD with the N84.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being

pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

The other issues raised in this objection are addressed, as appropriate, in the relevant sections of this report.

13.9.113. Joseph Greaney (Ob_611) – Proposed House Acquisition

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: alternative route should have been chosen; planning and environmental concerns (unspecified).

The issue of alternatives is addressed in Section 13.7 above and in more detail in Section 10.6. No details of the objector's concerns in relation to planning and environmental matters have been submitted.

This plot is located on the eastern side of the N84 Headford Road, in the Ballindooley area. It is proposed to acquire and demolish the dwelling to facilitate the proposed junction of the PRD with the N84 and associated attenuation ponds.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objector's dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

13.9.114. Loretta Needham and Tom Rea (Ob_612) – Proposed House Acquisition

A written objection was submitted by Ms Needham and Mr Rea and elaborated upon at the CPO hearing on 28th October 2020, following an earlier submission in Module 2 on 5th March 2020. Issues raised included: Outer bypass is needed, not this ring road; biggest mass eviction in modern times; flora and fauna prioritised over families; GCOB route should have been pursued under IROPI; shortage of alternative

comparable housing in the area; Councils should provide sites for close-knit communities who wish to remain near each other; difficulties with getting planning permission in County area, due to local needs and inability to get mortgage or bridging loans due to age; several practical, less disruptive, more humane and less expensive alternatives exist; mental health impacts and stress.

This plot is located on the eastern side of the N84 Headford Road, in the Ballindooley area. It is proposed to acquire and demolish the dwelling to facilitate the proposed junction of the PRD with the N84.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

The other issues raised in this objection are addressed, as appropriate, in the relevant sections of this report.

13.9.115. Sharon Morris & Edward O'Reilly (Ob_613_657) – Proposed House Acquisition x 2

A written submission was submitted by Ms Morris and Mr O'Reilly and elaborated upon at the CPO hearing on 28th October 2020. I note that while Ms Morris and Mr O'Reilly are affected by the CPO, they paid the appropriate fee to become an observer. I will nevertheless address CPO issues in this section. Issues raised included: impact on family due to loss of home, a second house and a site; loss of community; difficulty in finding replacement houses; stress and health issues associated with CPO; prioritisation of bats over people; no interest or engagement to plan solutions for affected homeowners, unlike for NUIG, Racecourse and bats.

These plots are located on the eastern side of the N84 Headford Road, in the Ballindooley area. It is proposed to acquire and demolish 2 No. dwellings to facilitate the proposed junction of the PRD with the N84.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling and second house is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

The other issues raised in this objection are addressed, as appropriate, in the relevant sections of this report.

13.9.116. Anne Murphy (Ob_615) – Proposed House Acquisition

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). The objection is brief and states that she strongly objects to the PRD as she has no wish to see her home demolished and being forced to relocate to a new location.

This plot is located on the eastern side of the N84 Headford Road, in the Ballindooley area. It is proposed to acquire and demolish the dwelling to facilitate the proposed junction of the PRD with the N84.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objector's dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or

surplus lands. In the absence of any specific objections to the proposed acquisition, it is not possible to discuss this objection any further.

13.9.117. James and Ann Kerrigan (Ob_621) – Proposed House Acquisition

A written objection was submitted on behalf of the objectors by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: alternative route should have been chosen; planning and environmental concerns (unspecified).

This plot is located on the eastern side of the N84 Headford Road, in the Ballindooley area. It is proposed to acquire and demolish the dwelling to facilitate the proposed junction of the PRD with the N84.

The issue of alternatives is addressed in Section 13.7 above and in more detail in Section 10.6. No details of the objector's concerns in relation to planning and environmental matters have been submitted.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands. In the absence of any specific objections to the proposed acquisition, it is not possible to discuss this objection any further.

13.9.118. Gerard Flynn (Ob_626)

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: surplus land acquisition; drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

The lands to be acquired are to the east of the proposed N84 Headford Road Junction and are primarily for the construction of the PRD mainline in a cut and an Access Road AR 12/04. The acquisition will sever the plot and having reviewed the drawings and details submitted by the applicant, I do not consider that any surplus land acquisition is proposed in respect of this plot.

Section 4.14.10 of the applicant's Main Brief of Evidence outlines that access arrangements to the retained lands to the south of the PRD will be via the existing access from Bóthar An Chóiste, and that access to the retained lands to the north of the PRD will be via Access Road AR 12/04, which will connect to School Road.

With regard to boundary details, a Mammal Resistant Fence (timber post and rail fence with wire mesh) in accordance with TII Standards is proposed along the PRD boundary, with a standard timber fence at the eastern end of the boundary to facilitate mammal passage.

Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include multiple layers of 3-6m wide mixed screen planting belts on embankment and cut slopes and a new tree-lined boundary hedgerow along the fenceline of the PRD.

The issue of noise is addressed elsewhere in this report. With regard to drainage of retained lands, no specific details of the objector's concerns have been provided. As addressed in Section 11.10 of this report, the applicant's drainage proposals across the PRD are considered to be acceptable.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.119. James Fahy (Ob_627.02_630.02_631.03_632.03_633_8033)

An objection was submitted on behalf of the objector by Kennedy Fitzgerald Solicitors stating that the PRD would adversely affect or completely cut off access to his lands. A submission was subsequently made by Mike Lydon on behalf of the objector at the CPO hearing on 28th October 2020 (Ref. 96).

Mr Lydon stated that Mr Fahy owned land in the Ballindooley area identified as Folio GY51237 (refer to Landowner Accommodation Works Details Sheet 16 and 17 of 30), which he farmed, and which is accessed at the south eastern corner from Hynes

Bóithrín, with a second historic access laneway to the south west corner of his lands. He stated that Mr Fahy did not object in principle but wanted access to his lands to the same standard as Access Road AR 12/04. In this regard he is seeking a short extension to Access Road AR 12/04 at approx. Ch 12+550 or 12+800 to service his lands. I note that this would require additional land acquisition from Plots 627 or 631.

In response, Ms McCarthy stated on behalf of the applicant that access to Mr Fahy's lands would be from Access Road AR 12/04 off School Road in Castlegar, with access at the bend on AR 12/04 onto the existing Hynes Bóithrín. She contended that there was no justification to acquire additional lands to improve access to Mr Fahy's lands.

Hynes Bóithrín will be severed by the PRD mainline, which is in a cut in this area. Lands to the north of the PRD, which are currently accessed via the Bóithrín, will instead be accessed via the proposed Access Road AR 12/04, a 4m wide road.

I consider that adequate provision has been made for access to the objector's lands. They are currently accessed from Hynes Bóithrín, and this will remain the situation, albeit that traffic will be diverted onto Access Road AR 12/04 and onto School Road, via a suitable and safe access point. I do not consider that the improvement of individual agricultural laneways outside of the scheme boundary are justified or necessary, given that the acquisition of additional lands from other parties would be required.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.120. Brendan & Valerie Flynn (Ob_628_702)

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

The lands to be acquired are located at the rear of the objectors' dwelling and are being acquired primarily for the construction of the PRD mainline in a cut and the proposed wildlife overpass bridge. Having reviewed the drawings and details

submitted by the applicant, I do not consider that any surplus land acquisition is proposed in respect of this plot.

Section 4.14.10 of the applicant's Main Brief of Evidence outlines that the existing access off Bóthar An Chóiste will be maintained and will provide access to the retained lands.

With regard to boundary details, the boundary along the PRD at the rear of the property will be a new 1.2m high stonework wall. Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include layers of 3-6m wide mixed screen planting belts on embankment and cut slopes, the planted wildlife overpass bridge and a new tree-lined boundary hedgerow along the fenceline of the PRD.

The issue of noise is addressed elsewhere in this report. With regard to drainage of retained lands, no specific details of the objector's concerns have been provided. As addressed in Section 11.10 of this report, the applicant's drainage proposals across the PRD are considered to be acceptable.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.121. Marie Flynn (Ob_629)

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: surplus land acquisition; drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

The lands to be acquired are located at the rear of the objectors' dwelling and are being acquired primarily for the construction of the PRD mainline. Having reviewed the drawings and details submitted by the applicant, I do not consider that any surplus land acquisition is proposed in respect of this plot.

Section 4.14.10 of the applicant's Main Brief of Evidence outlines that the existing access off Bóthar An Chóiste will be maintained and will provide access to the retained lands.

With regard to boundary details, the boundary along the PRD at the rear of the property will be a new 1.2m high stonework wall. Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include layers of 3-6m wide mixed screen planting belts on embankment and cut slopes, the planted wildlife overpass bridge and a new tree-lined boundary hedgerow along the fenceline of the PRD.

The issue of noise is addressed elsewhere in this report. With regard to drainage of retained lands, no specific details of the objector's concerns have been provided. As addressed in Section 11.10 of this report, the applicant's drainage proposals across the PRD are considered to be acceptable.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.122. Geraldine Boyle (Ob_630)

A written objection was submitted. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: impact on Castlegar area, which is identified in the Development Plan as a settlement with a historic pattern of development and opportunities for sensitive infill development; environmental and biodiversity impacts; public transport alternative would be preferable.

The issues raised in this objection relate solely to broader planning and environmental issues and are addressed where appropriate elsewhere in this report. No specific objections are made to the proposed acquisition and, therefore, it is not possible to discuss this objection any further.

13.9.123. Michael Tully (Ob_631) – Proposed House Acquisition

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: surplus land acquisition; drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

This landholding represented by this plot number comprises a number of discrete pieces of land in the Castlegar area, includes a dwelling house located on the

western side of School Road in the Castlegar area to the south of the PRD, two small areas to the south west of the house, and residentially zoned lands in agricultural use to the north of the PRD. It is proposed to acquire (but not demolish) the dwelling, and to construct Access Road AR 13/01 on part of the plot and also to acquire part of the agricultural lands to construct Access Road 12/04 which will serve various plots severed by the PRD, as well as attenuation ponds. Areas of road bed are also proposed to be acquired.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objector's dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

With regard to proposed boundary treatments, the applicant, in their Main Brief of Evidence, noted that the boundary along the southern side of the retained lands to the north of PRD and along AR 13/01 will be timber post and rail fence, while the existing boundary on the retained lands on Spellman's Bóithrín to the south of the PRD will be maintained. I consider these boundary treatments to be adequate for the use of the lands.

With regard to access arrangements to retained lands, the applicant stated that the existing access to the retained land north of the PRD will be maintained, and that access to the retained lands on Spellman's Bóithrín to the south of the PRD will also be maintained, with Spellman's Bóithrín connecting to School Road via access road AR 13/01. I consider that adequate access arrangements are proposed for the objector's retained lands.

While the objector contended that surplus lands were being acquired, they did not elaborate on what lands they considered to be surplus. Having reviewed the information submitted by the applicant, I do not consider that any surplus lands are

being acquired. The remaining issues raised in this objection are addressed elsewhere in this report and I consider that no further matters arise.

13.9.124. Sean and Kathleen Martyn (Ob_633) – Proposed House Acquisition

A written objection was submitted on behalf of the objectors by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objectors). The issues raised included: uncertainty and blight created by the delays associated with the design and planning processes; no thought given to how the local property market will be affected when people are compensated, given the number of houses to be acquired; broadening/relaxing of 'local needs' planning status is required; emphasis on dispossessed homeowners looks inadequate compared to rehousing of bats.

This plot is located to the north of Bóthar an Chóiste in the Castlegar area and is accessed from Hynes Bóithrín. It is proposed to acquire and demolish the dwelling to construct the PRD mainline.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

13.9.125. Dermot & Sarah Harney (Ob_634)

A written objection was submitted on behalf of the objectors by Corr Property Consultants. Mr Corr made an oral submission at the CPO hearing on 4th November 2020 (having previously made a submission in Module 1 on 24th February 2020).

Issues raised included: surplus land acquisition; drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

This plot comprises a house and gardens, located on the northern side of Bóthar an Chóiste in the Castlegar area. The proposed acquisition in respect of this plot relates to a small triangular area at the end of their back garden, which is to be acquired for the purposes of constructing the PRD mainline. Having regard to the minimal extent of land to be acquired, I do not consider that any surplus land acquisition is proposed.

The existing access to this property off Bóthar An Chóiste will remain unchanged, as will the existing boundaries, with the exception of the north east corner where a short section of new 1.2m high blockwork wall is proposed to bound the acquired area of land. I consider these access and boundary arrangements to be acceptable, noting that extensive landscaping is also proposed along the PRD. Issues with regard to noise and drainage are addressed elsewhere.

At the CPO hearing, Mr Corr raised the issue of planning blight, noting the uncertainties that had been created for people and the effects this was having on peoples lives. He also raised issues with regard to the proximity of the proposed bat house to be located on the adjoining plot 633, where it is proposed to retain the garage of an acquired property for such use. Dermot Harney also made a short submission regarding the proposed bat house and health risks associated the viruses carried by bats.

Mr Arnold, the Board's Consultant Ecologist, noted in his report that it will be a legal requirement to replace the bat roost somewhere in the vicinity of that being lost and he agreed with the points made by the applicant's ecologist at the oral hearing that the presence of the bats in the replacement roost will not be noticeable and that it will not attract predators or scavengers.

I agree with Mr Arnold's conclusions. While the objectors are understandably concerned about bat-borne viruses in light of the Covid-19 Pandemic, there is no scientific basis to believe that significant risk exists in an Irish context. In any event, there are already bats in the area and I do not consider that moving the bat house would be warranted.

I consider that no further matters arise from this objection.

13.9.126. **Deirdre Tully (Ob_O_635)**

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: lack of detail regarding access, as objector's house is accessed via laneway included in the CPO; drainage of retained lands; noise; planning and environmental concerns (unspecified).

Section 4.14.10 of the applicant's Main Brief of Evidence states that access from Spellman's Bóithrín to Bóthar an Chóiste will be retained and a new public access road AR 13/01 will be provided to connect Spellman's Bóithrín to School Road. The existing access to this home from Spellman's Bóithrín shall be maintained as per existing.

The issue of noise is addressed elsewhere in this report. With regard to drainage of retained lands, no specific details of the objector's concerns have been provided. As addressed in Section 11.10 of this report, the applicant's drainage proposals across the PRD are considered to be acceptable.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.127. Marie O'Donovan and Patrick Scully (Ob-636_637) – Proposed House Acquisition

A written objection was submitted on behalf of the objectors by Corr Property Consultants. Mr Corr and Ms O'Donovan made oral submissions at the CPO hearing on 4th November 2020. Issues raised in the objection included: alternative route should have been chosen; planning and environmental concerns (unspecified).

This objection relates to a dwelling house located on the western side of School Road in the Castlegar area, to the north of the PRD (c. Ch. 13+100) which will be in a deep cut in this area. It is proposed to acquire (but not demolish) the dwelling.

Mr Corr, in his submission to the hearing (Ref. 107), outlined the impact that the duration of the planning and design phase was having on affected property owners, contending that the level of acquisition is unprecedented, and that the applicant should have put a voluntary scheme in place to acquire properties at an early stage in order to alleviate stress and uncertainties for affected parties. He noted the difficulties in sourcing replacement properties in the area, the likelihood that people

will have to leave their communities and the issue of local needs where people living within the Galway City Council boundary wish to relocate to the County Council area.

Ms O'Donovan, in her submission to the hearing, raised issues of health impacts, contending that a Health Impact Assessment should have been carried out. She also outlined the impact of the acquisition on her and other homeowners, contended that there had been a lack of consultation, and noted that solutions had been found for other parties but not the affected homeowners.

Mr Fitzsimons, responding on behalf of the applicant, noted that 'blight notices' are not part of the Irish system and contended that there was no legislative basis for acquiring properties on this basis.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

13.9.128. Helen Bell (Ob_639)

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: surplus land acquisition; drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

The lands to be acquired relate to a portion of School Road and c. 2 sq m of garden. Having reviewed the drawings and details submitted by the applicant, I do not consider that any surplus land acquisition is proposed in respect of this plot.

Section 4.14.10 of the applicant's Main Brief of Evidence outlines that the existing access to this property on School Road will be maintained as per existing and it is

stated that the existing front boundary wall on School Road will also be maintained as per existing. A timber post and rail fence is proposed to the rear of this property.

Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include retention of large areas of existing planting, 6m wide mixed screen planting belt at western rear boundary of property, layers of 6-12m wide mixed screen planting belts on embankment and cut slopes along the PRD and a new tree-lined boundary hedgerow along the fenceline of the PRD.

The issue of noise is addressed elsewhere in this report. With regard to drainage of retained lands, no specific details of the objector's concerns have been provided. As addressed in Section 11.10 of this report, the applicant's drainage proposals across the PRD are considered to be acceptable.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.129. Pat Waldron (Ob_642) – Proposed House Acquisition

A written objection was submitted on behalf of the objector by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: alternative route should have been chosen; planning and environmental concerns (unspecified).

The issue of alternatives is addressed in Section 13.7 above and in more detail in Section 10.6. No details of the objector's concerns in relation to planning and environmental matters have been submitted.

This objection relates to a dwelling house located on the western side of School Road in the Castlegar area, within the proposed PRD mainline. It is proposed to acquire and demolish the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objector's dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I

consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands. In the absence of any specific objections to the proposed acquisition, it is not possible to discuss this objection any further.

13.9.130. Gwendoline Ryan (Ob_643) – Proposed House Acquisition

A written objection was submitted on behalf of the objector by Vincent Costello. (No submission was made at the CPO hearing by or on behalf of the objector). The objection did not identify any particular issues, with the exception of inadequate landscaping, stating that they would be elaborated upon at the oral hearing.

This objection relates to a dwelling house located on the western side of School Road in the Castlegar area, within the proposed PRD mainline. It is proposed to acquire and demolish the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objector's dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands. In the absence of any specific objections to the proposed acquisition, it is not possible to discuss this objection any further.

13.9.131. Michael Lally (Ob_644) – Proposed House Acquisition

An objection was submitted on behalf of the objector by Vincent Costello. (No submission was made at the CPO hearing by or on behalf of the objector). The objection did not identify any particular issues, instead stating that they would be elaborated upon at the oral hearing.

This objection relates to a dwelling house located on the western side of School Road in the Castlegar area, within a proposed cut area adjacent to the PRD mainline. It is proposed to acquire and demolish the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objector's dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands. In the absence of any specific objections to the proposed acquisition, it is not possible to discuss this objection any further.

13.9.132. Mary Flattery (Ob_648)

The issues raised in this objection, and elaborated upon by Ms Flattery at the CPO hearing on 27th October 2020, related to the proposed acquisition of these lands for the purposes of protecting bats. She considers that the High Amenity zoning and the SAC more than adequately protect the environment for bats.

The applicant's written response in their Main Brief of Evidence, and their oral response to the objector, is that the lands are being acquired to provide mitigation for bats in the form of foraging habitat and to enhance this existing foraging habitat. Having regard to Aebhin Cawley's Statement of Evidence on Biodiversity for the EIA, in which the scientific rationale for the acquisition of this plot (identified as part of area A1) is set out, I am satisfied that the applicant has provided adequate justification for the acquisition of these lands to provide bat habitat enhancement in the Menlough area. Bat mitigation measures are addressed in more detail in the Biodiversity section of this report.

The impact on the objector's farm is addressed in Chapter 14 of the EIAR, where a significant adverse residual impact was identified, due to the loss of 52% of the farm and the severance of the land parcel. I note that an accommodation road is proposed to serve the separated lands.

Given that the purpose and extent of acquisition is considered to have been adequately justified by the applicant, I consider that the significant impact on this objector's landholding ultimately a compensation matter that is outside the remit of the Board.

13.9.133. Rose Ward (Ob_649)

A written objection was submitted by Rose and Jimmy Ward. (No submission was made at the CPO hearing by or on behalf of the objectors). The objectors state that the lands to be acquired are not necessary for the PRD and their acquisition will have a devastating impact on the family farm. They state that there has been inadequate justification and that the route selection process and examination of alternatives did not take the profound negative impact on their property rights into consideration.

In response to this objection, the applicant states at Section 4.12.49 of their Main Brief of Evidence that the lands have been selected to provide mitigation for bats. The timeline from the selection of the Emerging Preferred Route Corridor is also set out, with the lands in question identified relatively late in the process, once the need for bat mitigation measures was fully considered. Having regard to Aebhin Cawley's Statement of Evidence on Biodiversity for the EIA, in which the scientific rationale for the acquisition of this plot (identified as part of area A1) is set out, I am satisfied that the applicant has provided adequate justification for the acquisition of these lands to provide bat habitat enhancement in the Menlough area. Bat mitigation measures are addressed in more detail in the Biodiversity section of this report, as are the examination of alternatives.

The impact on the family farm is stated as having been provided in Mr Curtin's Statement of Evidence on Agriculture. However, this plot was not explicitly addressed in Mr Curtin's submission to the oral hearing. Nevertheless, it is addressed in Chapter 14 of the EIAR, where a significant adverse residual impact was identified, due to the loss of 39% of the farm and the severance of the land parcel. I note that an accommodation road is proposed to serve the separated lands.

Given that the purpose and extent of acquisition is considered to have been adequately justified by the applicant, I consider that the significant impact on this objector's family farm is ultimately a compensation matter that is outside the remit of the Board.

13.9.134. Peter Broughan (Ob_651)

An objection was submitted on behalf of the objector by Emerson & Conway Solicitors and John M. Gallagher, Consulting Engineer and Town Planner. Mr Gallagher made a submission on behalf of the objector at the CPO hearing on 28th October 2020 (Ref. 92C). Issues raised include: alternative routes available; new road will limit the potential of Galway City to expand to the north; objector's lands, while zoned for agriculture, are suitable for rezoning to residential in the short to medium term and development potential is virtually eliminated by PRD; development potential of retained lands will be eliminated by proximity of deep cutting at Castlegar.

This plot is located on the eastern side of School Road in Castlegar. It is proposed to acquire the majority of the plot for the purposes of constructing the PRD mainline, cuttings, and access road AR 13/02. A small triangular area of retained lands will be accessed from AR 13/02, with a branch of the access road running diagonally across the plot to provide access to the severed portion of adjacent Plot 705 which is in separate ownership.

There is already a bóithrín which runs along the northern boundary of Plot 651 and Mr Gallagher contended that the access road serving Plot 705 should run along the bóithrín, reducing the extent of his client's plot that needs to be acquired. He stated that the diagonal road destroys any usefulness of the remaining lands.

The applicant's response was that the diagonal access road is required to provide Plot 705 with an equivalent level of access to which it currently has, noting that it is a sizable piece of land. The Inspectors queried why access could not be provided to the north western corner of Plot 705, by continuing the access road along the alignment of the existing bóithrín, thereby avoiding the need for the diagonal road. In response the applicant reiterated their points about providing access to Plot 705.

I did not find the applicant's response persuasive and consider that the severed portion of Plot 705 could be provided with adequate access from the alignment of the existing bóithrín, rather than by the proposed diagonal access road across the objector's lands. It is also not clear why the area between the access road and the PRD fence line is proposed to be acquired, as it does not appear to be required for the construction of the PRD, or for use as a MDA or ecological compensation area, or landscaping area.

In my opinion the extent of acquisition proposed in respect of this plot is excessive and I do not consider that it has been adequately justified by the applicant. I recommend that Plot 651a.202 be reduced in area, so as to include only those lands required for the construction of the northern portion of Access Road 13/02 along the alignment of the existing bóithrín.

With regard to future development potential of the objector's lands, the applicant response was that the development potential of any site is a matter for zoning under the Development Plan and an application to the planning authority for planning permission. They stated that there is no evidence that such development is possible at this location as it is not currently zoned residential. I agree with this position.

The issue of alternatives is addressed elsewhere in this report.

Subject to the reduction in area of Plot 651a.202, I consider that no further issues arise from this objection.

13.9.135. Sean & Orna Tully (Ob_O_651.1)

A written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: surplus land acquisition; drainage of retained lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

It appears from the Motorway Scheme Schedules that the objectors are occupiers in respect of access on Plot 651 which is owned by Peter Broughan (Ob_651). I refer to the assessment of Mr Broughan's objection above.

13.9.136. Peter and Christine Glennon (Ob_654)

A written objection was submitted by the objectors. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: incorrect address on correspondence; acquisition of part of front garden to provide access road for otherwise landlocked lands; noise and vibration; community impacts; alternatives.

The applicant states that the address they used for correspondence is the address listed on the registered folio for the property.

With regard to the objector's front garden, the applicant at Section 4.12.50 of their Main Brief of Evidence state that plot 654b.201 which is to be acquired to the front of the property is part of the existing access road only and that it is not proposed to acquire any land within the boundary wall. There will, therefore, be no impact to the front garden, as shown on Figure 4.1.17 in Appendix A.9.1 to the RFI Response.

Issues with regard to noise and vibration, community impacts and alternatives are addressed elsewhere in this report. I consider that no further matters for consideration arise from this objection.

13.9.137. Kinport Construction (Ob_665)

A written objection was submitted on behalf of the objector by Planning Consultancy Services. The issues raised relate to access provision to the plot, a residentially zoned undeveloped site located on the eastern side of the N83 Tuam Road, close to the proposed City North Business Park Junction. The objection notes the existing field entrance onto the N83 and expresses concern that this will be removed.

The applicant did not respond to this objection in their submissions to the oral hearing. However, I note that a proposed field entrance from the N83 Tuam Road is shown in the north western corner of plot 665 on Figure 1.6.29 of Appendix A.1.9, and on Figure 4.1.29 of Appendix A.9.1, both contained within the RFI Response.

I consider that adequate access provision has been made to these lands and that no further issues arise.

13.9.138. John & Kathleen Coughlan (Ob_O_666.01 and Ob_O_666.02)

Two objections were submitted, by the objectors and on their behalf by Vincent Costello respectively. (No submission was made at the CPO hearing by or on behalf of the objectors).

The issues raised in the Vincent Costello objection were the impact on the garden, construction impacts (noise, dirt, inconvenience, safety and access), uncertainties with regard to road level and inadequate landscaping. The issues raised by the objectors included: safety issues with access; noise, dust and air emissions; and devaluation of property.

This plot is located on the eastern side of the N83 Tuam Road, a short distance to the south of the proposed City North Business Park Link. The objectors are listed as being occupiers of this site in respect of access. The owners of this plot (Gerard and Ann Winters) withdrew their objection.

The applicant, in Section 4.12.51 of their Main Brief of Evidence, state that the objectors are listed as occupiers as they have a right of way to access their lands to the rear. They also state that there is no proposed landtake which impacts on this occupier.

In Section 1.06 of their Addendum to the Main Brief of Evidence, the applicant goes on to state that adequate sightlines to allow safe access and egress from the property onto N83 Tuam Road are provided.

The other issues raised in these objections are addressed elsewhere in this report and I consider that no further issues arise.

13.9.139. Bernadette Finn Murphy (Ob_671) – Proposed House Acquisition

A written objection was submitted however no reason is stated for the objection, other than that the proposal has contributed to financial loss for the objector and will continue to do so for the indefinite future. (No submission was made at the CPO hearing by or on behalf of the objector).

This objection relates to a dwelling house and associated agricultural lands located on the western side of N83 Tuam Road, in the vicinity of the proposed Tuam Road Junction. It is proposed to acquire and demolish the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objector's dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

13.9.140. James McMahon Ltd (Ob_673)

A written objection was submitted by the objectors who trade as McMahons Builders Providers. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: support PRD in principle; business and jobs will be at risk from the PRD; closing this branch will leave a void in their branch network; objector suggested alternatives to the applicant which would have less impact on their business, but these did not receive due consideration; efforts to find an alternative site have been unsuccessful to date; a move to an alternative site will be extremely costly.

The objection was accompanied by a report prepared by NRB Consulting Engineers. This outlines communications with the applicant to date, the impact of the PRD on the business, and it sets out an alternative proposal for the N83 Tuam Road Junction. It also contends that the proposed Access Road AR 13/06 is not adequate for HGV traffic, that sightlines are inadequate and that Autotrack demonstrates manoeuvring difficulties for HGVs.

This plot, which operates as a builders providers, is located on the western side of the N83 Tuam Road, immediately to the north of the PRD mainline, and it is proposed to acquire the majority of the plot, including a number of buildings, to facilitate construction of a slip road and Access Road AR 13/06.

The applicant's response, as per the Main Brief of Evidence, was that it is unfortunate the PRD will have an impact on this warehouse, showroom and business. The applicant contends that the loss of the main showroom due to the construction of the PRD is a permanent loss which cannot be mitigated except through financial compensation.

With regard to access arrangements to the retained lands, I note that Access Road AR 13/06 does provide access to the retained lands. The applicant states that this access has been provided to accommodate HGVs, and that the kerb alignment on the junction with the N83 has been widened within the development boundary to allow for HGV's movements.

The loss of the main showroom building and a stores building is regrettable and will clearly have a significant impact on the objector's business. However, it is considered that the need and justification for the PRD, including the junction design

and the associated land acquisition, has been adequately demonstrated. Therefore, the loss of land and buildings and the associated impact on the objector's business is ultimately a matter for the property arbitrator and compensation, as appropriate. I consider that adequate access to the retained lands has been provided, albeit that the business will be less prominent from the N83, due to the need to access it from AR 13/06.

I consider that the issues raised in this objection have been adequately addressed by the applicant, and no further matters arise.

13.9.141. Anne Marie Farrington on behalf of John Farrington (Ob_677)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: changes to N83 Tuam Road will increase traffic and make access more difficult; property is within Galway County Council area but proposed occupier is stated as Galway City Council; design of access road is unsafe and inadequate; no turning facilities are provided on access road for emergency vehicles or HGVs; blasting impacts; objection to site compound and haul routes due to safety, air and noise, light pollution; visual impact; lack of noise barriers; light pollution; noise and vibration; community impacts.

This property, which comprises a dwelling, is located on the western side of the N83 Tuam Road to the north of the PRD mainline. The proposed acquisition relates to road bed and set back only and the existing boundary and entrance will be maintained.

With regard to the listing of Galway City Council, rather than Galway County Council, as occupier in the Motorway Scheme Schedule, this was corrected in the errata submitted at the Oral Hearing.

The proposed site compound located opposite these homes is SC 14/01, while the N83 is identified as a potential haul route for construction traffic. Construction activities are addressed elsewhere in this report. However, I note that a Construction Traffic Management Plan will be put in place and will address issues such as site access & egress, speed limits, traffic management signage etc.

This property, together with neighbouring properties, is currently directly accessed from the N83, and it is proposed to replace these individual accesses with a new Access road AR 13/06, which will provide a single access point onto the N83. The proposed segregated access road will have footpaths and I consider that it represents an improvement on the existing situation in terms of road safety for both the owners of the affected properties and general road traffic.

While the objector contends that the junction of AR 13/06 and the N83 should be a signalised junction, the applicant's response at the oral hearing was that the reconfigured N83 will have one lane traveling northbound and one lane travelling southbound along with a bus lane travelling southbound, which means that traffic exiting from AR 13/06 only need to cross the northbound traffic lane in order to commute in the direction of Galway City, which is the existing situation at these homes. In relation to HGV usage of AR 13/06, the applicant refers to Figure 1.10.17 in Appendix A.1.13 of the RFI Response for proposed layout of junction which is designed wide enough to accommodate turning movements for vehicles such as HGVs and emergency vehicles.

The remaining issues in this objection are addressed elsewhere in this report and, noting that the proposed acquisition relates solely to road bed and setback, I consider that the applicant has adequately addressed the issues raised and that no further matters arise.

13.9.142. Maureen (Mary) Cawley (Ob_678)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector).

This property, which comprises a dwelling, is located on the western side of the N83 Tuam Road to the north of the PRD mainline. It is immediately adjacent to the property of Anne Marie/John Farrington (Ob_677), which is addressed above. The extent of acquisition, the issues raised by the objector and the responses thereto are generally the same as with the Farrington property. The same assessment, therefore, applies to this objection also.

Noting that the proposed acquisition relates solely to road bed and setback, I consider that the applicant has adequately addressed the issues raised and that no further matters arise.

13.9.143. Paul Lynn (Ob_679)

A written objection was submitted by the objector. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: the proposed access road will make his house inaccessible from the main road; changes to N83 Tuam Road will increase traffic and make access more difficult; prioritising of Galway Racecourse and business community over local families and communities.

This property, which comprises a dwelling, is located on the western side of the N83 Tuam Road to the north of the PRD mainline. The proposed acquisition relates to part of the public road and set back.

Access to this property, and neighbouring properties along the N83 will be provided by access road AR 13/06, which is a 6m wide road with footpath, running parallel to, and accessed from, the N83 Tuam Road. The existing boundary wall and entrance of the property will be retained.

I consider this proposed access arrangement to be preferable from a road safety and residential amenity perspective to the existing situation, where each house has direct access onto a National Road. As noted, the proposed access road includes a footpath and a stone wall is proposed between the access road and the N83, which will physically separate the property from this busy National Road. I consider that the PRD will enhance ease and safety of access to this property, and that the extent of acquisition is reasonable.

The consideration given to Galway Racecourse and businesses compared to individual property owners is addressed elsewhere in this report.

I consider that no further matters for consideration arise from this objection.

13.9.144. Mary & Ann O'Connell (Ob_684)

A written objection was submitted on behalf of the objectors by Corr Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: surplus land acquisition; drainage of retained

lands; noise; lack of detail regarding access; inadequate boundary treatment and landscaping details; planning and environmental concerns (unspecified).

The lands to be acquired are located along the roadside of the N83 Tuam Road, outside of the property boundary. The land is being acquired primarily for works associated with the tie-in of the proposed Tuam Road Junction with the existing N83. Having reviewed the drawings and details submitted by the applicant, I do not consider that any surplus land acquisition is proposed in respect of this plot.

Section 4.14.10 of the applicant's Main Brief of Evidence outlines that the existing access on the N83 Tuam Road will be maintained. It is also stated that the existing boundary on the N83 will be maintained. Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns Landscape and Visual Aspects submission to the oral hearing. They include 6-18m wide mixed screen planting belts on embankment and cut slopes, 3m wide mixed screen planting belt along the N83 Tuam Road and a new tree-lined boundary hedgerow along the fenceline of the PRD.

The issue of noise is addressed elsewhere in this report. With regard to drainage of retained lands, no specific details of the objector's concerns have been provided. As addressed in Section 11.10 of this report, the applicant's drainage proposals across the PRD are considered to be acceptable.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.145. Roadstone Limited (Ob_685)

A written objection was submitted on behalf of the objector by SLR Consulting. (No submission was made at the CPO hearing by or on behalf of the objector). The objection seeks to ensure that there are no adverse effects on access to/egress from the Twomileditch Quarry, no adverse changes to the existing quarry entrance and that the proposed road design and traffic management does not interfere with HGVs accessing/egressing the quarry during the operational phase.

The applicant, in Section 4.14.10 of their Main Brief of Evidence state that the land which is proposed to be acquired (plots 685a.201, 685a.202 and 685b.201) is road

bed only (Part of Public Road). They confirm that there will be no change to the current access/egress at the entrance to the quarry.

I consider that no further matters for consideration arise from this objection.

13.9.146. Catherine Dolly, Seamus Dolly, Brian Dolly, Sheila Hernandez (Ob_686.1 and Ob_686.2)

Two objections were submitted on behalf of the objectors by JML. One objection was on behalf of Catherine Dolly, while the other was on behalf of the Dolly Family. The issues raised were a lack of communication as to how the objector's lands will be affected due to the poor quality of the maps and that the extinguishment of a right of way may leave the objectors landlocked. Mr Owen Kennedy of JML made a general submission at the oral hearing on 28th October 2020 (see Section 13.8) but did not elaborate on the written objections.

The applicant, in Section 4.9.17 of their Main Brief of Evidence, note that the land which is proposed to be acquired is road bed only and that there will be no change to the current access, boundary wall or lands within the boundary wall.

I consider that no further matters for consideration arise from this objection.

13.9.147. Galway Race Committee (Ob_691)

A written objection was made on behalf of the objector by MacDermot & Allen Solicitors. Issues raised included: applicant has not adequately considered the impact on the objector, including on the Summer Festival and non-race related uses of the racecourse; racecourse makes a large contribution to the local tourism industry, economy and culture; uncertainties with regard to geology, hydrogeology and drainage; construction traffic management; loss of wells; risk of flooding; visual impacts; construction phase impacts including dust, air and noise emissions; majority of lands that are to be permanently acquired should instead be temporarily acquired; Board does not have sufficient information, clarity or assurance from the applicant; GRC requires enforceable commitments and mitigation measures.

Dermot Flanagan SC subsequently made a submission at the CPO hearing on the 4th November 2020, having previously made a submission in Module 2 on the 14th October 2020. Submissions on behalf of the objector were also made on the 14th

October 2020 by Peter Kingston (Indecon), Pamela Harty (MKO), Senan Clandillon (Engineer) (document Refs. 75, 75A, 75B, 75C).

Plot 691 comprises the Galway Racecourse landholding. The proposed acquisition of lands within the plot is primarily for the purposes of constructing the cut-and-cover Galway Racecourse Tunnel, portions of the PRD mainline, portions of the Parkmore Link Road and various Access Roads.

On foot of discussion between the applicant and the objector outside of the oral hearing, a number of alterations were proposed by the applicant to the Motorway Scheme Schedules in respect of this landholding. These changes relate to a number of plots over the proposed tunnel (691d.101, 691e.101, 691d.203, 691d.204, 691e.206, 691e.207) where it is proposed to temporarily acquire the plots to a depth of 1.5m below ground level and to permanently acquire the plots at depths beyond 1.5m below ground level. The proposed acquisition of numerous other plots was also changed to a temporary acquisition (691c.202, 691d.202, 691d.205, 691e.204, 691e.205, 691f.203, 691f.204, 691f.205, 691f.206, 691g.203, 691g.204, 691h.205). The revised Schedules submitted prior to the close of the oral hearing incorporate these proposed alterations.

I consider these alterations to be acceptable, noting that they reduce the extent and duration of land acquisition in respect of this objector, and the associated impacts, without impacting on the functionality or design of the PRD and its ancillary elements. I note that the objector is supportive of the proposed alterations.

The racecourse will lose their current stables as a result of the PRD. However, temporary, and subsequently permanent, stables will be provided as part of the development. It can be seen from the architectural drawings submitted by the applicant that the replacement stables will be of a particularly high quality and I note the various commitments made by the applicant, including the following additional commitments made at the oral hearing:

- Galway County Council will employ an equine expert or veterinary practitioner for the duration of the construction contract (Item 14.13).
- The design and construction of the temporary stables and permanent stables proposed for Galway Racecourse will be carried out in consultation with the Irish Horseracing Regulatory Board (Horse Racing Ireland HRI). The British

Horse Racing Association guidelines will be used as a benchmark in the design in the absence of any future specific HRI guidelines (Item 14.14)

- Galway County Council will continue to liaise with Galway Race Committee in relation to the implementation of any approval granted in so far as it relates to Galway Racecourse (14.15)

The other issues raised in respect of the racecourse generally relate to the potential construction phase impacts on the operation of the racecourse, the objector's desire that there be no impact on, or interruption to, the Summer Festival and other events held at the racecourse, and the need for certainty and clarity with regard to construction matters including phasing and methodologies. I note the various commitments made by the applicant in this regard and advise the Board that these issues are addressed in the relevant sections of this report, where appropriate.

In conclusion, I am satisfied that the applicant is seeking to acquire the lands in question for a legitimate purpose, that the acquisition of the lands is necessary for that purpose and that the extent of acquisition is proportionate to the identified purpose, noting in this regard that the applicant is proposing to reduce the extent of lands to be permanently acquired.

13.9.148. Brooks Timber and Building Supplies Limited (Ob_691_713)

A written objection on behalf of Brooks Timber and Building Supplies Limited ('Brooks') was made by Orpen Franks Solicitors and elaborated upon by Eamon Galligan SC at the hearing on 20th October 2020 and 30th October 2020. Mr Galligan made a further submission at the hearing on 4th November 2020 with further submissions by Callum Bain of Colliers International Estate Agents and Michael Conmy of Bury Architects.

The issues raised in the initial objection were as follows: lands are being acquired for an improper purpose as they are not required for the provision of the Motorway Scheme and would appear to be an attempt to mitigate a compensation claim by Galway Racecourse; acquisition of lands is unnecessary and disproportionate; it is incumbent on the applicant to demonstrate how its preferred route satisfies the principle of proportionality test set out in the Ballyedmond Case and the Clinton

Case; examination of alternatives was inadequate with reference to land-take; form of notice was not in compliance with regulations.

The building and lands in question are located immediately north of Galway Racecourse and are accessed from Racecourse Avenue. Brooks are tenants of the property and I note that the landowner has withdrawn their objection to the CPO. The applicant stated that Brooks had 7 years left to run on their lease.

Dermot Flanagan SC, representing Galway Race Committee (GRC), stated in his legal submission on 14th October 2020 (Ref. 75C), that the GRC adopts and agrees with the applicant's legal submission regarding the compulsory acquisition of the Brooks site. Noting that the landowner's objection had been withdrawn, he contended, with reference to S. 261 of the PDA, that the remaining objection of the objector, "relates exclusively to matters which can be dealt with by a property arbitrator".

Mr Galligan contended that it would not be appropriate to acquire lands from one party for the benefit of another party and that this raised legal issues with regard to constitutional rights etc. He stated that the Board should not rely on legal submissions made to the oral hearing and requested that the matter be referred to the High Court for clarification, as provided for by section 50 of the PDA³⁴.

Declan McGrath SC, on behalf of the applicant, made a legal submission on 30th October 2020 (Ref. 99), referring to the objector's submissions as being based on "an erroneous factual premise" and an "incorrect analysis of the provisions of the Roads Act". Mr McGrath contended that the proposed acquisition complies with the general principles established in various cases relating to compulsory acquisition. Mr McGrath contended that a referral to the High Court would not be appropriate, because the question of law identified by the objector does not arise.

Legal issues with regard to the use of CPO powers are addressed in Section 10.2 above, and the Brooks property is also addressed in Section 11.17. In my opinion, and based on the assessment below, no question of law arises that would necessitate a referral to the High Court.

³⁴ "Where a question of law arises on any matter with which the Board is concerned, the Board may refer the question to the High Court for decision."

The applicant submitted a document entitled 'Design Development of Galway Racecourse Tunnel' (Ref. 100) and an associated presentation at the oral hearing on 30th October 2020. This provided detail on the design development of the tunnel, and the rationale for demolishing the building within which Brooks are located. While these documents focus on the impact of the tunnel on the southern portion of the Brooks site, the proposed realignment of Racecourse Avenue into a 'U-shaped' arrangement (AR 15/01) also impinges on the northern portion of the Brooks site and building. As noted in Table 9.4 of the RFI Response report, this road provides access to commercial premises, tunnel services building, ESB substation and relocated telecommunications mast and also connects to AR 14/09, the exit point for eastbound over-height vehicles before they enter the Galway Racecourse Tunnel.

Mr Galligan argued that the rationale for the acquisition and demolition set out by the applicant at the hearing was revisionist and differed from the rationale given previously, contending that the applicant was changing their position and that the property was actually being acquired to mitigate the impact on Galway Racecourse.

Mr Conmy, in his submission on behalf of the objector (Ref. 106B), outlined the structural design of the Brooks building and contended that a portion of the building could be demolished to accommodate the construction of the tunnel with the remainder of the building safely retained and its use maintained. Mr Conmy noted that the residual site would be comparable to the size of other Brooks premises in Sandyford and Tullamore which operate in a highly efficient manner. Mr Conmy submitted a number of drawings to demonstrate the impact on Brooks and how continued use of the site could be achieved.

Mr Bain, in his submission on behalf of the objector (Ref. 106A), proposed an alternative location for the replacement stables, compared the arrangement of Galway Racecourse to other Irish racecourses, and also proposed an alternative for the proposed 'U-shaped' road (i.e. the realigned Racecourse Avenue) to the south of the tunnel.

Subsequent to the close of the oral hearing, the objector's solicitors wrote to the Board seeking that the oral hearing be reconvened to allow a further right of response on what they contended was new evidence in the applicant's response to their submissions on 4th November 2020. I do not consider that this is warranted. I

consider that the information referred to by the objector's solicitors was not new, but rather was a clarification or elaboration upon previous statements made and related to matters which would be readily apparent from a review of the drawings and documents submitted with the application, including the RFI response. I consider that both the objector and the applicant were given adequate opportunities within the oral hearing to respond to the submissions made and the issues arising.

As noted above, Brooks are a tenant of the property, with the applicant stating that there is 7 years to run on their lease. Construction of the tunnel in this plot was also stated to require a period of 3 years. The proposed acquisition of the property leased by the objectors, and from which they run a business, is regrettable, and it is reasonable that they are aggrieved by the proposed future use of part of the plot for replacement facilities for the adjacent Galway Racecourse. However, I am satisfied that the applicant has demonstrated the need and justification for the PRD, and in respect of this particular plot, they have adequately demonstrated the engineering and construction issues which dictated the need to acquire the entirety of the plot for the purposes of constructing the tunnel and the realigned Racecourse Avenue.

I am satisfied that the applicant is not seeking to acquire this plot to facilitate the construction of the replacement stables, thereby benefiting a third party to the detriment of the objector. Rather, they are seeking to acquire the property due to the design of the PRD which significantly impinges on the plot, particularly during the construction phase when large-scale excavations will be required. Once acquired, and following completion of the tunnel, the plot will subsequently be utilised for the relocation of the stables. Since the purpose of the proposed acquisition is for the construction of the PRD, and not for the provision of replacement stables, I do not consider that discussion on various alternative stable locations and arrangements are relevant to the issue of CPO. With regard to the objector's suggestion that Racecourse Avenue be realigned to the south of the tunnel, I note that this would prevent its use as an exit point for eastbound over-height vehicles, which is an important road safety element of the PRD design.

In conclusion, I am satisfied that the applicant is seeking to acquire the lands in question for a legitimate purpose, that the acquisition of the lands is necessary for that purpose, and that the extent of acquisition is proportionate to the identified purpose. While it is proposed to utilise the lands for the provision of replacement

stables for Galway Racecourse, I do not accept that this is the reason for their acquisition, and instead consider it to be similar to the use of other acquired lands for habitat creation following construction.

Noting that the objector is a lessee of the site, and that the landowner has withdrawn their objection, I am satisfied that the issues arising from this objection and the impacts on the objector's business as a result of the acquisition are ultimately compensation matters which can be dealt with through the property arbitration process.

13.9.149. Bio-Medical Research Ltd (Ob_O_696.13_14)

A written objection was made by Bio-Medical Research Ltd. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised were: interruption and disruption to business; loss of access to car parking; traffic impacts associated with new junction next to their premises; assurances sought from the applicant.

The applicant, in their Main Brief of Evidence confirmed that there will be no impact to the existing car parking spaces at the facility. The land that will be permanently lost inside the landholding is to facilitate the construction of a new boundary wall and is currently utilised as a planting area.

The proposed works at this location involves the construction of the Parkmore Industrial Estate Junction at the north end of the Parkmore Link Road. The construction of the T-junction with Parkmore West Industrial Estate Road will impact on the low front boundary as it is set back approximately 2.5m at the western boundary and tapering to tie into existing at the eastern boundary. The applicant states that construction work will be completed over a period of 4 weeks, with the existing parking at the front boundary wall temporarily unavailable for this period. The low stone wall to the front of the property will be reconstructed upon completion.

I consider that the applicant has adequately addressed the issues raised in the objection and that no further issues arise.

13.9.150. M&M Qualtech Ltd (Ob_O_696.21)

A written submission was submitted by M&M Qualtech and elaborated upon at the hearing on 4th March 2020. I note that while M&M Qualtech are affected by the CPO, they paid the appropriate fee to become observers. Issues raised included: construction phase impacts due to blasting, dust, noise, vibration on the business. These issues relate to potential construction phase impacts and are addressed elsewhere in this report. No objection to the CPO was made and I consider that no further matters for consideration arise.

13.9.151. Michael and Ann Connor (Ob_701) – Proposed House Acquisition

A written objection was submitted on behalf of the objectors by Nagle Agricultural Consultants. (No submission was made at the CPO hearing by or on behalf of the objectors). Issues raised included: inadequate schedule of accommodation works agreed; incorrect description of land proposed to be acquired; and impact on retained lands.

This objection relates to a number of discrete pieces of land, including a dwelling house located on the southern side of Racecourse Avenue, close to the proposed Galway Racecourse Tunnel portal. It is proposed to acquire and demolish the dwelling.

The acquisition of dwellings is addressed in Section 13.8 above. While the acquisition of the objectors' dwelling is regrettable, I consider that the applicant has adequately demonstrated the need and justification for the PRD, that alternative means of meeting the identified need have been adequately examined, and that the lands in question are suitable and are required to construct the PRD. Having regard to the particular characteristics of the lands and the design of the PRD in this area, I consider that the extent of acquisition is proportionate to the legitimate aim being pursued and I do not consider that the applicant is seeking to acquire any excess or surplus lands.

The objectors contend that there is incorrect description of land proposed to be acquired, but have not elaborated on why they believe it to be incorrect. In response, the applicant in Section 4.17.16 of their Main Brief of Evidence state that the lands proposed to be acquired are described in the schedules as they are zoned in the Galway City Development Plan.

Section 4.14.10 of the applicant's Main Brief of Evidence states that access to the retained plot on Parkmore Road will be retained as existing while access to the severed plot on Parkmore Road will be provided via AR 15/02. Access to the severed plot to the west of Galway Racecourse will be provided via AR 14/04.

The objectors have not provided any further details regarding the perceived inadequacies with the schedule of accommodation works, nor have they elaborated on the impacts they contend will arise in respect of the retained lands.

The PRD will have a significant impact on these objectors, due to the extent of land acquisition and, in particular, the acquisition of the house. Since it is considered that the need and justification for the PRD and the associated acquisition has been adequately demonstrated, this will ultimately be a matter for the property arbitrator, and for compensation as appropriate, should the acquisition be confirmed.

13.9.152. Tom Hosty (Ob_705)

A written objection was made on behalf of the objector by Gaynor Miller. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised included: access to retained lands north of the PRD and to dwelling house; objection to livestock buildings being acquired; accommodation road AR 13/02 needs to be extended; reinstatement of services; noise mitigation and screening is inadequate; acquisition of surplus lands; conditional survey of all structures required.

In Section 4.12.54 of their Main Brief of Evidence, the applicant states that the farm building will be demolished to facilitate the construction of the PRD and that compensation is payable for the loss of the asset. The purpose of acquiring Plots 705c.202 and 705b.204 is to construct access road AR 13/03 in order to provide the objector and adjacent landowners access to retained lands south of the PRD. I consider these responses to be reasonable, and I do not consider that any excessive land acquisition is proposed in respect of this plot.

The applicant has undertaken to maintain access to all land parcels during construction, with the exception of temporary disruption while the livestock building is being demolished. The applicant undertakes to notify the objector in advance of such works. Access to the retained severed lands north of the PRD will be provided via

access road AR13/02 (refer to Section 13.9.134, where this access road is discussed in relation to Plot 651). With regard to access to the objector's dwelling house, the applicant states at Section 4.19.3 of their BoE that AR 13/03 will be a private access road providing access to the dwelling house and that the property owner's right of way on the roadway will remain unaffected. Other issues regarding noise mitigation, screening, services are addressed elsewhere in this report.

I consider that no further matters for consideration arise from this objection.

13.9.153. Mary Dooley (Ob_708_709)

A written objection was submitted on behalf of the objector by Rooney Property Consultants. (No submission was made at the CPO hearing by or on behalf of the objector). The issues raised include: the proposed acquisition and demolition of Racecourse Technology Park has come about to favour Galway Racecourse and is discriminatory; the alignment is a departure from all previously published alignments; there is already a shortage of office accommodation in Galway; adjacent undeveloped lands are available; road is over-designed; principle of equivalence will be impossible to comply with due to the lack of alternative property.

Plots 708 and 709 are located to the north of Galway Racecourse, west of the Brooks Timber and Building Supplies Ltd. site and currently accommodate 4 No. unfinished industrial buildings. It is proposed to acquire the plots to accommodate the proposed Galway Racecourse Tunnel, over-height vehicle emergency exit road, PRD mainline and tunnel maintenance building.

It is not clear what adjacent undeveloped lands the objector is referring to. The applicant, in Section 4.5.11 of their Main Brief of Evidence contends that the acquisition of the lands is necessary and justified as they required to facilitate the construction and operation / maintenance of the PRD including the maintenance building, emergency exit for over-height vehicles etc. The applicant also acknowledges that design development of the tunnel resulted in a more significant impact than was originally envisaged at publication of the emerging preferred route corridor. The changes were to facilitate the shortening of the Tunnel.

The principal CPO issues raised in this objection are similar to those raised in the objection of Brooks which are discussed in detail at Section 13.9.148 above. My

assessment and conclusion in respect of this objection is the same as the Brooks sites. While the loss of the four industrial buildings on these plots is regrettable, I am satisfied that the applicant is seeking to acquire the lands in question for a legitimate purpose, that the acquisition of the lands is necessary for that purpose, and that the extent of acquisition is proportionate to the identified purpose.

I am satisfied that the issues arising from this objection are ultimately compensation matters which can be dealt with through the property arbitration process.

13.9.154. Connolly Group (Ob_717_720_721)

A written objection was submitted by the Connolly Group, with an oral submission made at the CPO hearing on 4th November 2020 by Dermot Flanagan SC, following earlier submissions in Module 2 on the 4th March 2020 and 20th October 2020, respectively. Issues raised included: no notice served in relation to Plots 720 and 721; effects on the Connolly Group not properly considered; objector seeks to ensure that commitments proposed are delivered to safeguard their business; reassurances and confirmation sought regarding construction phase impacts on the business.

The objectors operate a number of car sales franchises. Audi Galway is located on Plot 717, Mercedes is located on Plot 720 and Volkswagen is located on Plot 721, all within Briarhill Business Park, to the east of Galway Racecourse.

Mr Flanagan, at the oral hearing, outlined the importance of his client's businesses in terms of employment and investment and stated that his client supported the scheme, noting that an amendment would be submitted by the applicant.

A proposed alteration was presented by the applicant at the oral hearing on 4th March 2020 (Ref. 47). This related to a strip of land to the west of the Audi car dealership which it was proposed to split, with Plot 717a.201 to be omitted from the CPO Schedule, and a small adjacent piece of land (Plot 717a.202) changed to a temporary acquisition. This was reflected in the final Schedules, Deposit Maps and in Item 1.27 in the final SoEC, all submitted at the end of the oral hearing. The reason for seeking to acquire the plot was to facilitate the lowering of a foul sewer, with the temporary acquisition required at the tie-in point.

I consider this alteration to be acceptable, noting that it reduces the extent and duration of land acquisition in respect of this objector, without impacting on the functionality of the PRD or its drainage system.

Subsequently, in Mr Flanagan's brief submission to the CPO hearing on 4th November 2020, he stated that CPO aspects had been agreed with the applicant and that Connolly Group supported the scheme.

The remaining issues raised in this objector's written objection, and raised at the oral hearing (e.g. request for a transparent barrier rather than a solid barrier), are addressed in the relevant sections of this report.

13.9.155. Tesco Ireland Ltd (Ob_724)

An objection was submitted on behalf of Tesco Ireland Ltd. by GVA Planning/Avison Young, and elaborated upon by Robert McLoughlin of Avison Young at the Oral Hearing on 29th October 2020.

Tesco owns a 3.96 ha site at Ardaun, at the junction of the N6 and the Monivea Road (R339). The site is occupied by a boarded up house, with the remainder undeveloped. The PRD would pass from north to south across the Tesco lands and, due to its overpass over the Monivea Road, it would be elevated on an embankment in this area. In addition to the proposed acquisition for the road and its embankment, a small triangular piece of the Tesco lands to the east of the PRD (Ref. 724c.206) would also be acquired due to being severed and the difficulties in providing safe access to it, due to the proximity to the Parkmore Road junction. The residual lands, which would extend to c. 1.4 ha (Ref. 724c.407), would form a coherent and roughly rectangular plot, with access from a new access road (AR 16/01), off the Briarhill Link (i.e. what is currently the N6). This access road would also be constructed on lands acquired from Tesco.

Tesco's written objection raised a number of issues, including the potential negative impact of the PRD on the future development of the Ardaun LAP lands, due its severance of the lands from the existing settlement area and the associated barrier effect. This issue is addressed elsewhere in this report. They also proposed an alternative alignment for the Briarhill portion of the PRD, bringing it closer to Galway

Airport to avoid the Ardaun LAP lands. The issue of alternatives is addressed elsewhere in this report also.

At the Oral Hearing, it was stated that Tesco is not opposed to the PRD. Their purpose in acquiring the site was to develop a large retail store and associated development and they are seeking that the entirety of their site be acquired, should the PRD proceed, as the remainder would not be viable to Tesco for their development purposes.

The applicant's rationale for acquiring certain portions of the objector's lands are clear, as is the fact that they have sought to limit the extent of acquisition insofar as it is possible with respect to the PRD alignment. The residual lands (724c.407) are not required for the purposes of constructing the PRD, and having regard to their size, land use zoning, and the proposed provision of alternative access arrangements, I would concur with the applicant that their acquisition is not justified, and I consider that any remaining matters with regard to the impact on their development potential is a compensation matter that is not within the remit of the Board.

13.9.156. Patrick Griffin (Ob_750)

A written objection was submitted on behalf of the objector by Vincent Costello and elaborated upon at the CPO hearing on 4th November 2020. The issues raised were the lack of sound abatement structures, construction impacts (noise, dirt, inconvenience, safety and access), uncertainties with regard to road level and inadequate landscaping.

This plot is located in the Coolagh area and is crossed by the PRD at approx. Ch. 16+150 to 16+325.

Construction mitigation measures in relation to noise, dust etc. are addressed elsewhere in this report. I note that there will be no change to the existing access arrangements to the retained lands.

With regard to road levels, I note that Figures 5.2.11, 5.3.20 and 5.3.21 of the EIAR indicate levels of the PRD in relation to the existing ground levels relevant to this property. I do not consider that there are any uncertainties regarding levels in this area.

Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns' Landscape and Visual Aspects submission to the oral hearing. They include layers of 6m wide mixed screen planting belts on cut slopes along the PRD and between link roads in the Coolagh Junction, 3m wide mixed screen planting belt along the boundary of the PRD, and a new tree-lined boundary hedgerow along the fenceline of the PRD. Mr Burns, responding to Mr Costello's submission to the oral hearing noted that the objector's house is c.180m from the mainline and c. 145m from the slip road. Noting the distance of the objector's house from the PRD, I consider the landscaping provisions at this plot to be acceptable.

Mr Costello, in his submission to the oral hearing, sought a noise barrier along the PRD boundary at this plot, noting that the lands were zoned for development. Jennifer Harmon, the applicant's noise consultant, stated that noise levels at the objector's house did not meet the threshold for noise barriers to be provided, and that noise levels assessed in the EIAR did not take account of potential future development of adjacent lands, as noise mitigation or screening could be addressed in the planning process for these lands. I consider this to be a reasonable approach, given the uncertainties regarding when, or if, the lands will be brought forward for development.

I consider that the applicant has adequately responded to the issues raised in this objection and no further matters for consideration arise from this objection.

13.9.157. Tom Burke (Ob_751)

A written objection was submitted on behalf of the objector by Gaynor Miller and elaborated upon at the oral hearing on 13th October 2020. Issues raised include: extent of acquisition removes viability of property as a standalone unit; surplus land acquisition (plot 751a.202); owner operates a stud farm and suitable fencing will be required; noise mitigation proposals are insufficient for dwelling and equine enterprise; landscaping is insufficient; drainage of retained lands; light pollution; adverse effects on the environment.

With regard to the extent and purpose of the proposed acquisition of Plot 751a.202, the applicant stated at Section 4.12.56 of their Main Brief of Evidence that this piece of land is being acquired to facilitate the diversion of high voltage power lines, the accommodation of two large infiltration trenches and their associated pre-earthworks

drainage ditch infrastructure, landscape and visual mitigation measures, as well as a working area to allow for maintenance of the PRD. Having reviewed the drawings and detailed development proposals, I do not consider that surplus lands are being acquired at this location.

With regard to fencing, the applicant at Section 4.11.8 of their Main Brief of Evidence states that Stud Fencing Type B, in accordance with TII Standards, is proposed along the mainline of the PRD to the south of the property. There was discussion and questioning at the oral hearing in relation to the nature of the boundary treatment, including a possible double fence with planting strip and Mr Burke's desire that stone walls be provided. I consider the proposed timber stud fencing proposal to be suitable for a stud farm enterprise, and should the objector ultimately prefer the double-fence option, I consider that this is a matter for discussion/agreement between the parties as part of the accommodation works.

With regard to lighting, Section 4.16.17 of the Main Brief of Evidence notes that public lighting will be provided at Coolagh Junction and associated slip roads for reasons of safety. The road lighting column heights and locations along with the potential light spill are shown for this property on Figures 5.4.11 of the EIAR and I note that light spill does not extend beyond the proposed development boundary.

With regard to the impact on the stud farm operation, Michael Sadlier made a submission on behalf of the applicant responding to equine issues on the 19th February 2020. In relation to this objection, Mr Sadlier stated that he had visited the stud farm and met the owner and that, in his opinion, the impact of the PRD on this equine enterprise was profound, due primarily to the degree of land loss (c.69% of the land).

I consider that the applicant has provided sufficient detail to demonstrate that the proposed CPO is reasonable and necessary and has justified the requirement for the acquisition of the objector's lands. The impacts on the equine enterprise are acknowledged by the applicant to be profound. This is ultimately a matter for arbitration/agreement and compensation, as appropriate.

13.9.158. **Tom Keane (Ob_752)**

A written objection was submitted on behalf of the objector by JML. No specific issues were identified in the objection, other than that the objector would be seriously impacted upon by the loss of a portion of his land. Mr Owen Kennedy of JML made a general submission at the oral hearing on 28th October 2020 (see Section 13.8) but did not elaborate on this written objection.

As there are no specific details of the objection, it is not possible to discuss this any further.

13.9.159. Eamonn Molloy (Ob_757)

A written objection was submitted by Mr Molloy. (No submission was made at the CPO hearing by or on behalf of the objector). Issues raised included: concerns regarding construction mitigation measures; access arrangements during construction; security of site to prevent access by children; request for roadside tree planting and erection of fencing to prevent access to lands.

Construction mitigation measures in relation to noise, dust etc. are addressed elsewhere in this report.

The applicant, in Section 4.22.10 of their Main Brief of Evidence, states that some inconvenience may be experienced by this landowner during the construction phase and notes the requirement in the Construction Traffic Management Plan for the construction management team to liaise with neighbours and the general community during the construction phase to ensure that any disturbance is kept to a minimum. They also state that construction traffic will not pass through Coolagh Village and that the construction sites will be secured at all times and subject to continuous maintenance and upkeep.

Landscaping details in respect of this plot were outlined in Section 4.2.21 of Thomas Burns' Landscape and Visual Aspects submission to the oral hearing. They include layers of 6m wide mixed screen planting belts on cut slopes along the PRD and between link roads in the Coolagh Junction, 3m wide mixed screen planting belt along the boundary of the PRD, and a new tree-lined boundary hedgerow along the fenceline of the PRD. I consider the landscaping provisions in the vicinity of this plot to be acceptable,

The objector also states that the process of planning the route has delayed his planning for two years, resulting in substantial costs being incurred. This is a matter for the property arbitrator, should the CPO be confirmed, not the Board.

I consider that no further matters for consideration arise from this objection.

13.9.160. Garran Ard Estate (Ob_761)

A written objection was submitted by Gerard Hanniffy, Consultant Civil Engineer, on behalf of the Garran Ard Property Management Co. Ltd. (No submission was made at the CPO hearing by or on behalf of the objector). It was stated that the company is prepared to recommend to its members that no objection be made if a noise barrier is erected along the perimeter of the Garran Ard Estate with Bóthar na dTreabh, if a laurel hedge along the proposed wall is provided and if compensation due to the management company is applied towards these measures.

The applicant, in Section 4.11.8 of their Main Brief of Evidence, stated that the current boundary wall of Garran Ard Estate will be replaced with a new stonework wall in accordance with drawing GCRR-SK-C-001 of Appendix A.1.9 of the RFI Response, along the extent shown on Figure 4.1.21 of Appendix A.9.1 of the RFI Response.

I consider the proposed boundary treatment to be of a high quality and appropriate for the boundary of this residential estate. It will also have a noise mitigating impact, although no significant noise impacts are predicted in this area. Matters relating to compensation are not within the Board's remit.

I consider that no further matters for consideration arise from this objection.

13.9.161. Martin and Moyra King (Ob_O_761.30)

A written objection was submitted by Mr and Mrs King. (No submission was made at the CPO hearing by or on behalf of the objectors). The objectors state that they are opposed to the acquisition of their house at Garran Ard which was bought as an investment and pension asset. Its value includes rental income over time, not just market value. Objectors are not in a position to buy another property as close to amenities.

The objectors in this instance appear to be under the mistaken belief that the acquisition of their house is proposed. The applicant, in Section 4.24.16 of their Main Brief of Evidence, confirms that Notice was served to this person as he is listed as an occupier of Plot 761.201. This land consists of the existing planting along Bóthar na dTreabh, where screen planting is to be reinstated post-construction. It is not proposed to acquire the objectors' home.

I consider that no further matters for consideration arise from this objection.

13.9.162. Strategic Land Investments Ltd. (S_076; Plot 670)

A written submission was submitted by MKO on behalf of Strategic Land Investments Ltd. following the applicant's response to the RFI. I note that while this party is affected by the CPO, they paid the appropriate fee to become an observer. I will nevertheless address CPO issues in this section. A brief submission was made on behalf of the objector by Colm Ryan of MKO at the CPO hearing on 27th October 2020. Mr Ryan noted the proposed acquisition of a strip of land along the Tuam Road within his client's ownership.

Mr Ryan stated that a planning application (Reg. Ref. 20261) had been made for a large-scale mixed-use residential and commercial development. He stated that his client was not opposed to the PRD and welcomes its introduction which will be positive for the city. He wished it to be noted that his client is the owner of a considerable block of land and stated that he had no questions or issues requiring clarification.

Mr Fitzsimons SC, on behalf of the applicant, noted that the objector's planning application was recent, and that it would be included in the updated cumulative impact assessment to be submitted before the hearing concluded.

At the time of completing this report, the planning application had not been decided, with a response to a Request for Further Information having been submitted on 26th May 2021.

Noting that Mr Ryan did not raise any particular issues with regard to the proposed acquisition, I consider that no further matters for consideration arise from this objection.

13.9.163. Vantage Towers Ltd. (Plot 226)

John Corridan of Charterhouse Consultants appeared at the CPO hearing on 27th October 2020 and made a submission on behalf of Vantage Towers Ltd. No previous written objection had been received from this objector.

Mr Corridan stated that Vantage Towers Ltd. are the operators of Vodafone's Irish mobile phone mast network, including a 24m high monopole mast located on Plot 226, just off the Cappagh Road. He stated that the mast covers a significant area and is shared with the Eir and Three networks. Loss of the mast would have a significant impact on the objector. He noted that only a portion of the compound is impacted, but that the entirety of the compound is within the CPO. The objector is seeking a solution that allows the tower to remain in position. Mr Corridan confirmed that the objector is a lessee of the land in question.

Mr O'Malley, on behalf of the applicant, noted that retention permission for the mast was granted in July 2019 under Reg. Ref. 18/173. Condition 2 states that the grant is for a period of 2 years, following which it is to be removed, unless a further grant of permission is obtained. The reason for the condition is to allow the development to be re-assessed given its location adjacent to the emerging preferred route corridor of the N6 GCRR.

Ms McCarthy, on behalf of the applicant, advised that updates to the CPO Schedule had been notified to Mr Corridan and that the mast owners were to be added as a lessee on this plot. This would be reflected in the final Schedule submitted to the Board. She also stated that a detailed survey of the base of the mast had been undertaken, and that the corner of foundation is within the works area. She stated that it was not possible to build the road and retain the mast.

Ms McCarthy drew the Board's attention to pages 45, 59 and 66 of her Main Brief of Evidence, where this plot is addressed. I note that the rationale for the acquisition of plot 226a.205 is set out in Section 4.12.58 (p. 59), which it is stated that it is required as part of the decommissioning of the mast structure. Once this mast has been decommissioned and the concrete foundation removed these lands will be re-grassed and returned to the landowner.

A discussion followed, regarding the extent of the compound and foundations to be located within the road boundary, and whether engineering mitigation measures

such as retaining walls could retain the tower, allowing the compound to be extended away from the road. Ms McCarthy stated that detailed consideration had been given but it was not possible to retain the mast in its current location.

Mr Corridan concluded by asking that it be noted that the loss of the mast would have a significant effect on his client and that he would leave it with the applicant to see if the landtake could be mitigated to retain the tower.

I consider the extent of the landtake in respect of this plot to be reasonable and proportionate, noting that the excess land will be returned to the landowner once the mast is removed. Having regard to the two year duration of the planning permission for the mast, for the clearly stated reason that it conflicts with the preferred route of the N6 GCRR, I do not consider that any modification to the scheme or CPO is necessary.

I consider that no further matters for consideration arise from this objection.

13.9.164. Aughnacurra Residents Association (Plot 531)

A submission was submitted by Aughnacurra Residents Association and elaborated upon at the CPO hearing on 28th October 2020 by Stephen Meagher, following an earlier submission by Mr Meagher and James McLoone during Module 2 on 4th March 2020. I note that while the member of the Residents Association are affected by the CPO, they paid the appropriate fee to become an observer. I will nevertheless address CPO issues in this section. Issues raised included: construction phase impacts; drainage and water supply; flood risk; severance; landscape and visual impact; diminution in value; traffic congestion; noise and air pollution; hydrological impacts.

This plot relates to the private road within the Aughnacurra estate which it is proposed to acquire.

Issues associated with the proposed acquisition of lands at Aughnacurra are addressed in Section 13.8 above.

The other issues raised are addressed elsewhere in this report.

13.9.165. Michael Murphy (Plot 531)

A submission was submitted by Michael and Trisha Murphy, residents of Aughnacurra, and elaborated upon at the CPO hearing on 28th October 2020, following an earlier submission during Module 2 on 4th March 2020. Mr Murphy is also a member of Aughnacurra Residents Association. I note that while this party is affected by the CPO, they paid the appropriate fee to become an observer. I will nevertheless address CPO issues in this section. Issues raised included: need for PRD; inadequate examination of alternatives; unfair procedures in route selection; health and safety issues; prioritisation of ecology over humans.

This plot relates to the private road within the Aughnacurra estate which it is proposed to acquire.

Issues associated with the proposed acquisition of lands at Aughnacurra are addressed in Section 13.8 above.

The other issues raised are addressed elsewhere in this report.

13.9.166. Richard Keane/Caiseal Geal Teoranta (Plot 656)

Michael O'Donnell BL appeared at the CPO hearing on 30th October 2020 and made a submission on behalf of Caiseal Geal Teoranta, having previously made a submission at the hearing on 19th October 2020. The applicant responded to issues raised by this objector at the hearing on 21st October 2020, which was followed by a number of questions by Mr O'Donnell. Submissions were also made on behalf of the objector by Dr Imelda Shanahan (TMS Environment), Julian Keenan (Traffic Wise) and Raymond Gohery.

This plot relates to a nursing home located on the eastern side of School Road in the Castlegar area, to the south of the proposed PRD mainline which would be located in cut in this area.

The issues raised by the objector primarily related to the potential impact of the PRD on the operation of the nursing home in terms of air quality, dust, noise, vibration and other construction phase impacts, rather than the proposed land acquisition. These issues are addressed in the corresponding sections of this report.

With regard to the proposed land acquisition affecting this objector, I note that it relates to the road bed and set back on School Road and the access road to the

south of the nursing home. The existing boundaries to the nursing home will be unaffected.

I consider that the applicant has adequately demonstrated the need and justification for the PRD, including its route alignment and the associated acquisition in this area. The nursing home is clearly a very sensitive receptor and will be located relatively close to the PRD mainline, which will require extensive excavation in this area. There will be potential for impacts on this property, primarily during the construction phase, and these are addressed elsewhere in this report. Noting the limited extent of acquisition proposed in respect of this plot, and the retention of existing boundaries, I consider the acquisition to be proportionate to the identified need (i.e. the realignment of School Road to facilitate the PRD mainline and works to the access road), and I do not consider that any surplus or excessive acquisition is proposed.

I consider that no further matters arise from this objection in respect of land acquisition.

13.9.167. Galway N6 Action Group

A written submission was submitted on behalf of the Galway N6 Action Group by Stephen Dowds Associates. Mr Dowds made an oral submission at the CPO hearing on 4th November 2020 (Ref. 105), having previously made submissions in Modules 1 and 2 on the 24th February 2020 and the 20th October 2020, respectively. While the Galway N6 Action Group Ltd. is not itself an entity affected by the proposed CPO, the Inspectors facilitated them to make an oral submission at the CPO hearing on the basis that the members of the group are generally residents of the Dangan area who are individually affected by the proposed CPO.

The matters raised by Mr Dowds included need for the project, route selection, health impacts, transportation issues, air and noise impacts, IROPI alternative and climate change. These issues were generally addressed in Module 2 of the oral hearing and are assessed throughout this report.

Mr Dowds contended that the extent of residential demolition is unprecedented in Irish planning and has never before been countenanced by the Board. He stated that the previous Inspector for the 2006 GCOB rejected an alternative route involving 18 homes as an unacceptable number of homes to be demolished.

Mr Dowds contended that the scale of the CPO is such that home owners will be placed in a situation that they may very well be unable to secure a replacement home, due to the unavailability of neighbouring zoned land or the inability to secure a mortgage due to their age profile. He also stated that the applicant had demonstrated bias in the selection of homes for acquisition and not demolition.

Mr Dowds stated that case law already provides for neighbouring landowners for damage or encroachment on their land arising from a CPO, with reference to the case of *Kelly v Dublin County Council*³⁵ where the High Court made the following observation:

“No evidence was put before the Court to show that the Council had no alternative or no reasonable alternative but to use this particular site for these purposes, or to suggest that the Council would have been involved in quite unreasonable difficulty and/or expense in procuring an alternative site.”

Mr Dowds stated that it was his contention that all reasonable alternatives to the PRD have not been examined that there is probable cause for adjoining property owners to seek injurious damages.

Declan McGrath SC, on behalf of the applicant, responded that the proposed acquisition is based on objective factors, and that there is no basis to Mr Dowd’s assertion of bias. With reference to the *Kelly* case, Mr McGrath stated that it is not a case that relates to compulsory acquisition at all and that it is not of relevance.

The proposed acquisition of dwellings is addressed in Section 13.8 above.

I consider that no further matters for consideration arise from this submission.

13.10. Conclusions on CPO

- 13.10.1. With the exception of the plots set out below, and noting the revised schedules and deposit maps submitted by the applicant at the oral hearing on the 4th November 2020, it is considered that the proposed extent of land acquisition is reasonable and proportional to the stated purpose of the PRD. The Board is satisfied that the process and procedures undertaken by the applicant have been fair and reasonable and it has demonstrated the need for the lands and that all the lands being acquired

³⁵ High Court, 21 February 1986, followed in *Convery v Dublin County Council* [1996] 3 IR 153

are both necessary and suitable. The Board considers that the proposed acquisition of the lands would be justified by the exigencies of the common good and would be consistent with National, regional and county level planning policies and objectives.

13.10.2.I recommend the following changes to the compulsory purchase order:

- (i) Plots 123a.202 and 123b.201 shall be removed (see Section 13.9.10 above).
- (ii) Plot 651a.202 shall be reduced in area, so as to include only those lands required for the construction of the northern portion of Access Road 13/02 along the alignment of the existing bóithrín (see Section 13.9.134 above).

14.0 Recommendation

Recommendation

On the basis of the above assessment, I recommend as follows:

14.1. The Compulsory Purchase Order

It is considered that the land take is reasonable and proportional to the stated purpose of the N6 Galway City Ring Road development. The Board is satisfied that the process and procedures undertaken by Galway County Council have been fair and reasonable and it has demonstrated the need for the lands and that all the lands being acquired, subject to the modifications set out in the Schedule, are both necessary and suitable. The Board considers that the proposed acquisition of the lands would be in the public interest and the common good and would be consistent with the policies and objectives of the National Planning Framework, the Regional Spatial and Economic Strategy for the north and western region 2020, the Galway County Development Plan 2015 and the Galway City Development Plan 2017.

DECISION

CONFIRM the compulsory purchase order for the reasons and considerations set out below subject to the modifications set out in the Schedule.

REASONS AND CONSIDERATIONS

Having considered the objections made to the compulsory purchase order, the report of the person who conducted the oral hearing into the objections, the purpose of the compulsory purchase order and also having regard to:

- (a) The need to provide a road that is designed and constructed in accordance with current design standards with a consistent cross section with full stopping sight distances along its length and appropriate junction and accesses with visibility in accordance with current design standards,

- (b) the community need, and public interest served and overall benefits, including benefits to a range of road users to be achieved from use of the acquired lands, and
- (c) the provisions of the National Planning Framework and Galway County Development Plan and Galway City Development Plan and the policies and objectives stated therein, which specifically identify the proposed road development
- (d) the proportionate design response to the identified need,
- (e) the submissions and observations made at the oral hearing, and
- (f) the report and recommendation of the Inspector,

it is considered that, subject to the modifications to the order as set out in the Schedule below, the acquisition by the local authority of the lands in question, and the extinguishment of public rights of way, as set out in the compulsory purchase order and on the deposited maps, are necessary for the purpose stated, and that the objections cannot be sustained having regard to the said necessity.

SCHEDULE

The compulsory purchase order associated with the N6 Galway City Ring Road Protected Road Scheme 2018 and the N6 Galway City Ring Road Motorway Scheme 2018 shall be modified in accordance with the revised schedules and associated deposit maps submitted by the applicant to the Board at the Oral Hearing on the 4th day of November 2020, except as follows:

- (i) Plots 123a.202 and 123b.201 shall be removed.
- (ii) Plot 651a.202 shall be reduced in area, so as to include only those lands required for the construction of the northern portion of Access Road 13/02 along the alignment of the existing bóithrín.

Reason: To take account of updated information in respect of land ownership and commitments made in the course of the oral hearing, and to reduce the extent of

acquisition in respect of two landholdings, where it is considered that lands surplus to the identified purpose were sought to be acquired.

14.2. Application for Approval of Proposed Road Development

APPROVE the above proposed road development in accordance with the said documentation based on the following reasons and considerations and subject to the conditions set out below.

REASONS AND CONSIDERATIONS

In coming to its decision, the Board had regard to the following:

- (a) The European, national and regional transport policies including Trans European Networks (TEN-T)
- (b) The relevant provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU (EIA Directive) on the assessment of the effects of certain public and private projects on the environment, Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directives) which set the requirements for Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union
- (c) the national, regional and local strategic road policies and objectives, inclusive of those set out in Project Ireland 2040 - encompassing the National Planning Framework and the National Development Plan, Climate Action Plan 2019, Smarter Travel – A Sustainable Transport Future, the Regional Spatial and Economic Strategy for the Northern and Western Region 2020, and the Galway County Development Plan, the Galway City Development Plan and the Ardaun Local Area Plan
- (d) the scheme constituting a key transportation element for the Galway Transport Strategy
- (e) the design, layout and alignment of the proposed road development,

- (f) the range of proposed mitigation measures set out in the submitted Environmental Impact Assessment Report, Natura Impact Statement, and Schedule of Environmental Commitments, and
- (g) the submissions made in relation to the application and the report and recommendation of the Inspector including the report of its appointed consultant ecologist and hydrogeologist.

Proper Planning and Sustainable Development

It is considered that the proposed road development would accord with European, national, regional and local planning and that it is acceptable in respect of its likely effects on the environment and its likely consequences for the proper planning and sustainable development of the area.

Appropriate Assessment Stage 1:

The Board noted that the proposed development is not directly connected with or necessary for the management of a European Site.

The Board agreed with the screening assessment and conclusion carried out in the Inspector's report that the following sites are the European sites for which there is a likelihood of significant effects: Lough Corrib cSAC; Galway Bay Complex cSAC; Lough Corrib SPA; Inner Galway Bay SPA; Gregganna Marsh SPA; Connemara Bog Complex cSAC; Connemara Bog Complex SPA; Lough Fingall Complex cSAC; Ross Lake and Woods cSAC; Black Head Poulsallagh cSAC; Rahasane Turlough cSAC; Rahasane Turlough SPA; Kiltiernan Turlough cSAC; Castletaylor Complex cSAC; Gortnandarragh Limestone Pavement cSAC; Ardahan Grassland cSAC; Moneen Mountain cSAC; East Burren Complex cSAC; Maumturn Mountains cSAC; and, the Twelve Bens/Garraun Complex cSAC.

Appropriate Assessment Stage 2:

The Board considered the Natura Impact Statement and associated documentation submitted with the application for permission, the mitigation measures contained therein, the submissions and observations on file including further information and submissions made to the oral hearing and carried out an appropriate assessment of the implications of the proposed development for European Sites in view of the conservation objectives for the sites. The Board considered that the information

before it was adequate to allow the carrying out of an Appropriate Assessment and to allow them reach complete, precise and definitive conclusions for appropriate assessment.

In completing the assessment, the Board considered, in particular, the likely direct and indirect impacts arising from the proposed development, both individually or in combination with other plans or projects, the mitigation measures which are included as part of the current proposal and the conservation objectives for the European sites. In completing the Appropriate Assessment, the Board accepted and adopted the Appropriate Assessment carried out in the Inspector's report of the potential effects of the proposed development on the aforementioned European sites, having regard to the sites' conservation objectives. In overall conclusion, the Board was satisfied that the proposed development would not adversely affect the integrity of European Sites in view of the sites' conservation objectives.

Environmental Impact Assessment

The Board completed an environmental impact assessment of the proposed development taking account of:

- (a) the nature, scale, location and extent of the proposed development,
- (b) the Environmental Impact Assessment Report and associated documentation submitted in support of the planning application, including further information,
- (c) the submissions received during the course of the application and at the oral hearing,
- (d) its appointed Ecologist and Hydrogeologist Consultants' assessments, and
- (e) the Inspector's report.

The Board considered that the Environmental Impact Assessment Report, supported by the documentation submitted by the applicant, adequately considers alternatives to the proposed development and identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment. The Board agreed with the examination, set out in the Inspector's report, of the information contained in the Environmental Impact Assessment Report

and associated documentation submitted by the applicant and submissions made in the course of the planning application.

Reasoned Conclusions on the Significant Effects

The Board considered that the Environmental Impact Assessment Report, supported by the documentation submitted by the applicant during the course of the application, provided information which is reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account current knowledge and methods of assessment. The Board is satisfied that the information contained in the Environmental Impact Assessment Report is up to date and complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU. The Board considered that the main significant direct and indirect effects of the proposed development on the environment are those arising from the impacts listed below.

Population and Human Health

Loss of dwellings: There are 54 dwellings proposed for demolition or acquisition to make way for this project. This will result in a significant to profound permanent negative impact on homeowners. This impact will not be avoided, mitigated, or otherwise addressed by means of condition.

Severance of Communities (including the Gaeltacht areas): As a result of the loss of 54 dwellings with loss of clusters of dwellings in areas such as Na Forai Maola/Troscaigh, Castlegar, and Dangan, there will be a severance impact on remaining communities which will be a significant long-term negative impact that will not be avoided, mitigated or otherwise addressed by means of condition.

There will be long-term positive impacts for some communities that are currently severed due to traffic volumes because traffic will reduce in villages, such as Bearna and Castlegar, thereby resulting in easier access for pedestrians and cyclists and improved amenities for more vulnerable persons.

Where minor roads are closed (e.g. Ann Gibbons Road), diverted or re-routed severing communities, there will be a significant medium to long-term negative impact depending on density of development and extent of re-route. This will not be avoided, mitigated or otherwise addressed by means of condition.

During construction there will be slight negative and short term severance issues caused by construction traffic which will be mitigated by measures outlined in the CEMP.

General Amenities: There will be slight to moderate short-term negative impacts during construction on general amenities in areas such as Rosan Glas, Gort na Bro and Bushypark church and school as a result of construction traffic, noise and dust along haul routes. These will be mitigated by measures set out in the Schedule of Environmental Commitments as well as the CEMP. During operation there will be a slight negative impact on amenities.

During construction there will be significant negative impacts on the population using the **NUIG Sports campus** as a result of loss of pitches, modification to the sports pavilion as well as noise and visual impacts. These will be mitigated using standard construction practices as detailed in the Schedule of Environmental Commitments and the CEMP. During operation there will continue to be a long-term moderate impact on the general amenities of the sports campus that will be mitigated by the provision of the right of way and access to the lands under the viaduct as well as noise mitigation measures.

During construction there will be restricted access to the **riverside** in Dangan and there will be noise and visual impacts on both sides of the River Corrib. These will be mitigated using standard construction practices as detailed in the Schedule of Environmental Commitments and the CEMP. At no time will access to the riverside be completely restricted. Impacts during construction will be moderate negative and short-term. During operation mitigation measures include the retention of existing vegetation and noise barriers. Impacts will be long-term moderate to significant negative due to the general loss of amenity.

Construction impacts on **Galway Racecourse** can be avoided by measures including the provision of temporary stables and the cessation of works during festival seasons.

During the operation phase, a positive benefit will result for Galway Racecourse due to the mitigation measures including the construction of a permanent access off Parkmore Road and new state-of-the-art permanent stables.

Socio-Economic: During construction there will be some negative short-term impacts for businesses as a result of noise and dust which will be mitigated by measures outlined in the CEMP. Where visibility to businesses is impacted, mitigation measures include the addition of signage. Demolition of some industrial and commercial properties will not be avoided, mitigated, or otherwise addressed by means of condition. During operation there will be significant positive impacts with respect to journey times, journey reliability and amenities.

Journey Characteristics: During construction there will be some short-term temporary moderate negative impacts on journeys as a result of road closures or diversions which will be mitigated by the Traffic Management Plan. During operation the road will have significant permanent positive impacts in terms of improved journey times, journey times reliability and journey amenities. There will be improved connectivity across and beyond the city, releasing and freeing the existing city centre and inner suburbs from congestion.

Health: During construction potential impacts on health arising from air, noise and water emissions will be mitigated using construction practices set out in the CEMP and commitments as set out in the Schedule of Environmental Commitments. During operation impacts will be avoided having regard to the project's compliance with air and noise standards set out in TII guidelines.

Biodiversity

Significant residual effect on habitats as a result of the **loss of priority Annex I habitat** (outside of any European Site) comprising Limestone Pavement [*8240], active Blanket Bog [*7130], and a Petrifying Spring [*7220] which cannot be avoided, mitigated, or otherwise addressed by means of condition

Significant residual effect on habitats as a result of the **loss of Annex I habitat** (outside of any European Site) including Annex I Wet Heath [4010], and other habitats of international to local value, including within areas designated as Local Biodiversity Areas, which cannot be avoided, fully mitigated, or otherwise addressed by means of condition

Significant residual effect as a result of the loss of, or damage to, four plant species and one invertebrate species included in the **Irish red data books**, which cannot be avoided, mitigated, or otherwise addressed by means of condition

Significant residual effect on **lesser horseshoe bat, red squirrel and pine marten** which cannot be avoided, fully mitigated, or otherwise addressed by means of condition

Land, Soil, Water, Air and Climate

Land and Soils: There will be a significant negative impact on geology as a result of the loss of small areas of limestone pavement (Annex I habitat) outside of the Lough Corrib cSAC or any other Natura 2000 site. This impact will not be avoided, mitigated or otherwise addressed by means of condition. This loss is primarily associated with the construction of footings for a viaduct which will span over a larger area of limestone pavement.

There will be impacts associated with the loss of soil along the route and the use of natural resources, including aggregates, to construct the PRD. This will be mitigated by the re-use of excavated materials in the construction process and in the formation of material deposition areas for excess/unsuitable material and habitat creation. Other construction phase impacts including soil contamination, blasting impacts, tunnelling works, slope stability and earthworks impacts will be avoided, managed and/or mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures (including the CEMP and Schedule of Environmental Commitments).

Hydrogeology: There will be impacts on a number of existing wells which will be lost as a result of the proposed development. This will be mitigated by the provision of replacement wells, alternative water sources or compensation, as appropriate. Impacts on groundwater quality will be mitigated through the implementation of the CEMP, including the associated Karst Protocol and Sediment, Erosion & Pollution Control Plan during the construction phase, and in the operational phase through the design of the drainage system, which includes water attenuation and treatment ponds, wetlands and controlled discharge. Impacts on groundwater levels due to dewatering and recharge will arise but will be mitigated through the retention of run-off within the same water catchment area or groundwater body and in areas such as the Lackagh Tunnel, through the timing of construction works to avoid the need for dewatering. Structural impacts on properties in the vicinity of areas where groundwater levels will be lowered will be mitigated and monitored with property

condition surveys. Impacts on groundwater dependent habitats will be avoided through the alignment and design of the road development or mitigated through measures such as flow control and pollution control measures. There will be no groundwater lowering within groundwater bodies that support groundwater dependent habitats within a European site.

Hydrology: Water quality impacts during the construction phase will be mitigated by the implementation of the CEMP, including the Incident Response Plan and Sediment Erosion and Pollution Control Plan as well as through obtaining necessary consents and consultation with prescribed bodies. Impacts on the water supply to the Terryland Water Treatment Plant will be avoided and mitigated through implementation of the CEMP, consultation and ongoing liaison with Irish Water and the carrying out of works in accordance with best practice construction methods and guidance.

During the operational phase, water quality impacts arising from road runoff or accidental spillages will be mitigated through the design of the drainage system for the PRD which is responsive to the differing geologies in the area, and in particular the use of attenuation ponds, settlement ponds, reed beds, infiltration basins, flow control mechanisms etc. Flood risk impacts near the N83 Tuam Road at Twomileditch will be mitigated by flood compensation storage, provision of storm drainage on the N83 at this location and a pumping station to discharge to the existing storm sewer.

Noise and Vibration: Noise and vibration impacts will arise during the construction phase, including from blasting operations with the potential to impact upon residential and other sensitive receptors. These potential impacts will be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation and monitoring measures, through suitable conditions and the relatively short-term duration of the construction phase and the linear nature of the proposed development.

During the operational phase, the majority of noise sensitive receptors will be in compliance with the design goal set out in the TII Guidelines once noise mitigation measures are incorporated, such as noise barriers and the low noise road surface. There will also be positive impacts on a large number of receptors on the existing

road network, due to reductions in traffic volumes on existing roads. A limited number of properties will experience a residual noise impact marginally in excess of the TII Design Goal. Noting the provisions of the TII Guidelines for such a scenario, and the need to balance the provision and scale of noise barriers against other considerations, such as visual impact, the proposed development would not have any unacceptable direct, indirect or cumulative noise and vibration impacts.

Air Quality and Climate: Potential air quality impacts will be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures such as the CEMP and the commitments set out in the Schedule of Environmental Commitments and through suitable conditions. The PRD, individually and cumulatively with other identified projects, is likely to result in a significant negative impact on carbon emissions and climate that will not be fully mitigated.

Material Assets

Traffic and Transportation: Potential impacts associated with construction traffic will be avoided or mitigated by the CEMP, including the Construction Traffic Management Plan.

During the operational phase, the PRD will have positive impacts on traffic congestion, journey times on key routes, network statistics and the ratio of flow to capacity at key junctions. It will also facilitate the implementation of various measures contained within the Galway Transport Strategy (GTS) to increase active travel and public transport provision in the city and will have a positive impact on sustainable transport mode share when considered together with the other GTS measures that it will support. The PRD will assist in enabling the significant population and employment growth forecast for the city by adding additional links to the road network, including a new river crossing and linkages between various radial routes serving the city, thereby improving accessibility and providing a basis for the compact growth of the city.

Landscape and Visual: The construction phase of the PRD will result in a range of landscape and visual impacts on certain landscapes and receptors, including significant and profound impacts. The mitigation measures proposed during this

phase will have limited effect due to the scale and nature of the development, and negative landscape and visual impacts will continue during the construction phase.

During the initial operation stage, landscape and visual impacts will continue, but the significance and severity of these impacts will generally abate over time as the proposed landscape mitigation proposals become established and increasingly effective at screening the PRD and/or incorporating it into the landscape. However, significant and profound negative residual visual impacts will continue to arise for numerous residential properties located close to or adjoining the boundary of the PRD, and particularly in the vicinity of major engineering structures at post-establishment stage. Significant residual impacts on landscape character will also continue to arise at a number of locations. The proposed mitigation measures, and particularly the extensive and comprehensive landscaping planting proposals will not fully mitigate these significant or profound impacts, however they will ameliorate the impacts to a certain extent and this will increase over time as planting matures.

Significant residual visual impacts will also occur in the River Corrib valley at Menlo Castle and the NUIG Sporting Campus, primarily due to the visual intrusion associated with the proposed River Corrib Bridge and associated viaduct.

Archaeological, Architectural and Cultural Heritage: There will be significant negative direct and indirect impacts on a number of archaeological and built heritage sites which will be mitigated by the undertaking of detailed photographic and written records prior to construction and the use of test trenching and monitoring. Potential impacts on unknown archaeological features will be mitigated or avoided through monitoring of construction works by an archaeologist and excavation where appropriate. There will also be a profound impact on a protected structure (thatched cottage; BH12) which it is proposed to demolish and which will not be fully mitigated by the preparation of a record.

Agricultural Assets: The acquisition of the land required to construct the PRD will have a range of negative impacts, including significant and profound impacts on landowners. There will be significant or profound negative impacts on a number of farm enterprises and equine enterprises, due to issues such as severance, impacts on farm viability, disruption and impacts on the availability of services. The loss of land will not be avoided, mitigated or otherwise addressed by means of condition.

Impacts due to land severance are mitigated to a degree through the proposed provision of alternative access arrangements and services, however the agricultural enterprises that are significantly or profoundly adversely affected are likely to require major changes to their operations, management and scale and there is no mitigation for this impact within the EIA process.

Non-Agricultural Assets:

Loss of dwellings: There are 54 dwellings proposed for demolition or acquisition to make way for this project. This will result in a significant to profound permanent negative impact on homeowners. This impact will not be avoided, mitigated, or otherwise addressed by means of condition.

Commercial and Industrial buildings: There is no mitigation for the loss of commercial and industrial buildings within the EIA process. This will result in a moderate to significant impact. This impact will not be avoided, mitigated, or otherwise addressed by means of condition. There will be construction impacts on some businesses which will be mitigated using standard construction practices as detailed in the Schedule of Environmental Commitments and the CEMP.

Public and Community buildings: During construction noise and air emissions can be mitigated using standard construction practices as detailed in the Schedule of Environmental Commitments and the CEMP and by way of condition. During operation there will be positive impacts on Galway Racecourse by way of state-of-the-art stables and a permanent access from Parkmore Link Road.

Utilities: The project will result in some relocation of utilities. This impact can be mitigated using standard construction practices as detailed in the Schedule of Environmental Commitments and the CEMP and by way of condition.

Notwithstanding the significant negative residual impacts in respect of various environmental matters as set out above, it is considered that these environmental impacts would not justify a refusal, having regard to the overall benefits of the PRD including its identified strategic importance at European, National, Regional and local level, its role in alleviating congestion and underpinning the sustainable transport measures of the Galway Transport Strategy and its role in facilitating Galway to grow in a more compact manner, as identified in the National Planning Framework.

With regard to the significant adverse impact on carbon emissions and climate, it is noted that this arises due to the sensitivity of the receiving environment. Noting the role of the PRD in facilitating the implementation of active travel and public transport measures as set out in the GTS and its role in supporting the compact and more sustainable development of the city, it is not considered that the PRD would undermine, or be contrary to Ireland's climate obligations, given that climate action requires a broad sectoral and economy-wide approach. Ireland has committed to becoming climate neutral / zero emission by 2050, and carbon emissions associated with necessary infrastructural projects such as the PRD, which equates to c. 0.1% of Ireland's 2030 obligations, can be mitigated through reductions in other areas as mechanisms such as carbon tax and carbon budgets are developed and will be increasingly mitigated in the operational phase as electric vehicles are adopted.

15.0 Conditions

1. The proposal, mitigation measures and commitments set out in the Environmental Impact Assessment Report, Further Information received on the 31st day of August 2019 and as further stated and clarified in the Schedule of Environmental Commitments submitted by the applicant to the Oral Hearing on the 4th day of November 2020, shall be implemented as part of the proposed development.

Reason: In the interest of clarity, to mitigate the environmental effects of the development, and to protect the amenities of properties in the vicinity.

2. The proposed development shall be amended to incorporate the revised design at the Parkmore Link Road in accordance with the details submitted by the applicant to the Oral Hearing on 18th day of February 2020 on drawing *Proposed Road Development Plan City East Junction Sheet 14 of 15, Drawing No. 5.1.14 Issue 12* dated 17th February 2020.

Reason: In the interest of road safety and the amenity of the area

3. The Schedule of Environmental Commitments shall be updated to incorporate the additional mitigation as set out in Table 11.7.2 of the

Inspector's Report with the exception of the measures clearly rejected therein.

Reason: In the interest of mitigating ecological damage associated with the development.

4. The mitigation measures contained in the Natura Impact Statement which was submitted with the application shall be implemented in full.

Reason: In the interest of clarity and the proper planning and sustainable development of the area and to ensure the protection of the European sites.

5. The Schedule of Environmental Commitments shall be updated to incorporate the additional mitigation in Section 12.6.3 of the Inspectors Report.

Reason: In the interest of clarity and the proper planning and sustainable development of the area and to ensure the protection of the European sites.

6. The Schedule of Environmental Commitments shall be updated to incorporate the following additional commitments:

- (a) Item 17.19 shall be amended to state that property condition surveys will be offered for all buildings within 50m of the proposed development boundary or the zone of influence of dewatering (whichever is greater) and those within 150m of proposed blasting works along the proposed road development.
- (b) An additional dust monitoring location shall be installed at or adjacent to Castlegar Nursing Home for the duration of the construction phase and shall be included in the dust monitoring regime.
- (c) A pedestrian access route shall be provided from Access Road AR 13/06 to the proposed pedestrian crossing point on the N83 Tuam Road.
- (d) Item 12.7 shall be amended to omit the final sentence and clarify that early planting be undertaken where possible.

- (e) All security fencing around proposed attenuation ponds shall be 2.4m high paladin-type fencing.
- (f) Galway County Council will offer to provide or pay for similar alternative accommodation for the occupants of plot 123 for the duration of earthworks in Construction Section S1.

Reason: In the interests of clarity, control of construction phase environmental impacts, pedestrian safety, residential and visual amenity.

Ciara Kellett

Inspectorate

22nd June 2021

16.0 Appendix 1: Overview of Observations

16.1. Observations

- 16.1.1. 86 observations were submitted originally in respect of the application for approval of the proposed road scheme from a combination of individuals, community groups, umbrella groups and elected representatives³⁶. Another 211 submissions related specifically to objections to the Compulsory Purchase Order. A list of all observers³⁷ to the proposed project is set out below in Part 1 of this Appendix.
- 16.1.2. It is evident from the submissions made that there is considerable overlap in terms of the issues raised in relation to the proposed project. In order to avoid undue repetition, the issues are summarised below thematically for the information of the Board and details of where they are addressed in the assessment are provided. A high-level non-exhaustive summary of issues raised by each observer is documented in Part 2. Part 2 is included to provide the Board an overview of the nature of concerns of individuals/groups etc. and is not a full summary of issues raised by each observer. However, the full observation has been read and addressed throughout this report.
- 16.1.3. Of importance, this is a list of issues raised in written submissions. Some objectors and observers elaborated on their submissions at the oral hearing and these oral submissions are addressed in the assessment of the project above.
- 16.1.4. Appendix 3 provides an overview of observations submitted at the Further Information Stage.
- 16.1.5. A list of all objectors to the CPO, outstanding at the time of the completion of this report, is set out in Appendix 2. Of note is the fact that some of the objectors made comments about the overall project as part of their CPO objection. These issues are captured in a thematic manner in Part 1 and assessed throughout this report. They are not individually listed below as per the observers in Part 2.

³⁶ 7 are from Prescribed Bodies and are addressed in Section 6.2 of this report

³⁷ With exception of Prescribed Bodies

16.2. Observers Part 1

List of Observers to Project 302848 & 302885

(Note: Prescribed Bodies addressed in Section 6.2 above)

Submissions in Support of the Proposal

1. American Chamber of Commerce Ireland
2. Coach Tourism and Transport Council of Ireland
3. Galway Chamber of Commerce
4. Galway City Business Association Ltd.
5. IBEC
6. IDA Ireland
7. Irish Hotels Federation
8. Parkmore Traffic Action Group
9. Michael O'Connor Salthill Village Community
10. Sean O'Neachtain
11. The Gluas Project Committee (albeit with concerns noted)
12. McDonagh Capital Investments Ltd.

Submissions objecting to the Proposal

1. Alan Curran on behalf of Bus Rothaíochta na Gaillimhe
2. Allan Cavanagh & Courtney Darby
3. Ann Rabbitt
4. Anne Kelly
5. Aughnacurra Residents Association
6. Barbara Flaherty
7. Brendan Mulligan
8. Brian Bruton
9. Brian Walsh
10. Catherine Connolly TD
11. Ciaran Ferrie
12. Damien and Katherine Kelly
13. Dangan House Nurseries & Garden Centre
14. David and Imelda Hickey
15. Derrick Hambleton

16. Desmond & Mary Bluett
17. Donal & Elizabeth Courtney
18. Dunnes Stores
19. Eamonn Smyth & Others
20. Environmental Linkage Group – Galway City Community Network
21. Eve Daly & Laura Kennedy
22. Friends of the Irish Environment
23. Galway AAI County Board
24. Galway City Harriers
25. Galway Cycling Campaign
26. Galway Property Management
27. Genevieve Carter
28. Gerald & Neasa Lawless
29. Gerald L Lyons
30. Gwen Cantwell & Oliver Ryan
31. Hands Across the Corrib
32. James and Cathleen Barrett and others
33. John & Margaret Hughes
34. John & Patricia Connor & Others
35. Joseph Greaney
36. Joseph Hynes
37. Karen McGuire & John Newell
38. Kevin Kelly
39. Linda Rabbitte
40. Louise McNamara
41. M&M Qualtech
42. Maeve Mitchell & David Small
43. Mary Loughnan
44. Mary Silke
45. Menlo Residents Association
46. Michael & Trisha Murphy
47. Miriam Duggan & Seamus Sheridan
48. Monica & Frank McAnena
49. Olive & Vincent O'Connor
50. Paddy & Marina O'Malley

51. Paul & Mary Mahoney
52. Paul & sarah Hogan
53. Paula Lynch & Bernard Carrick
54. Peter Sweetman & Others
55. Residents of Ard Na Gaoithe
56. Richard Donovan & Caroline Carrick
57. Ronan McDonagh
58. Sarah Patricia Silke
59. Sarah Silke
60. Shane Durcan
61. Sharon Morris & Edward O'Reilly
62. Siobhan Silke
63. Stephen & Debbie Meagher
64. The Atlantic Greenway Project
65. The N6 Galway Action Group
66. Thomas & Mary Kilgarraiff
67. Tom & Catherine O'Halloran

16.3. Observers Part 2

List of observers and high-level summary of submission

Observer	Issues	Main References (Not Exhaustive)
American Chamber of Commerce Ireland Coach Tourism and Transport Council of Ireland Galway Chamber of Commerce Galway City Business Association Ltd. IBEC IDA Ireland Irish Hotels Federation Parkmore Traffic Action Group Michael O'Connor Salthill Village Community Sean O'Neachtain The Gluas Project Committee (albeit with concerns noted) McDonagh Capital Investments Ltd.	Supported road development Improve access to the city Increase journey time reliability Provide a more attractive place to visit and live Improve journey characteristics Improve tourism opportunities	Throughout
Alan Curran on behalf of Bus Rothaíochta na Gaillimhe	Refers to Children's Cycle Bus Concerned that applicant did not fully consider the impact of the N59 South Link Road on Gaelscoil Mhic Amhlaigh in terms of safety Road will impact other children travelling to school	10.8 11.13 11.13
Allan Cavanagh & Courtney Darby	Access to Rosan Glas, Drainage reservoirs, Increased traffic, noise, pollution, risk of injury or death Increase in traffic near Gaelscoil Mhic Amhlaigh Inadequate public transport & cycle lanes Inadequate maps and communication Loss of NUIG Amenity lands Impact on Human Health Loss of Homes Costs of road is a greater cost to society	10.8, 11.13 10.8, 11.10 11.4, 11.11, 11.12 10.8, 11.13 10.3, 10.5, 11.3 10.11, 11.2 10.8, 11.6 11.6 10.6, 10.8, 11.3, 11.6, 11.17

Ann Rabbitt	Health Concerns	11.6
Anne Kelly	Concerned about future house for family member Access to Bearnna	10.3, 11.17 10.6, 10.8, 11.3
Aughnacurra Residents Association	Rely on N6 Action Group Submission Roadway cannot be constructed without impact on critical life support systems Damage to drainage systems must be resolved Traffic issues in relation to access road & congestion gaining access on to N59; pedestrian safety Landscape & Visual where road crosses the estate/loss of trees Boundary treatment/Loss of screening Powerlines to be relocated Property values Residential amenities Extent of land acquisition is excessive Diminution of privacy Noise mitigation measures inadequate Air pollution Run off from construction compound and impact on hydrology	Noted 10.9, 11.8, 11.9, 11.10, 11.11, 11.12 10.8, 11.10 11.13 11.14 11.14 10.9 10.8 10.8 13 10.8 11.12 11.11 11.10
Barbara Flaherty	Health concerns Residential Amenities, Construction impact on dwelling, views, property value Traffic pollution Impact on flora and fauna Carbon emissions Access to Bearnna and Galway City/ severance Safety and security CPO of lands Consultations Route of road Planning policy – low density development – green policies	11.6 10.8, 10.10, 11.6, 11.14 11.11, 11.12 11.7, 12 11.11 10.8 10.8 13 10.11, 11.2 10.6, 11.3 10.3
Brendan Mulligan	Speeches and reports referred to in relation to climate change “Engineering the West” IEI Road is unsustainable More investment in pedestrian/cycling/bus/rail facilities needed Ardaun LAP – severance	10.3, 11.11 10.3 10.4, 11.13 10.3, 10.4, 10.5, 10.6, 11.3 10.3, 10.7, 10.8

	Health and wellbeing/Noise and Air	11.6, 11.10, 11.11
Brian Bruton	Object to routing through NUIG Sports Campus and through vital sports and recreation facilities/impact on numerous events in NUIG sports lands Not in accordance with land zoning Bridge impacts on beauty and amenity of river & on Menlo Castle Impact on human health not considered Should have been considered with public transport & GTS should be prepared in full Impact on Annex I habitat, bats & peregrine falcon Case 461/17 referred 2006 route must be revisited and a tunnel under Corrib	10.8, 11.6 10.3 11.15 11.6 10.3, 11.3 11.7, 12 10.2 10.6, 11.3
Brian Walsh	Rosan Glas resident – impact of N59 Link Road south on his access to the roads and services Traffic pollution Sustainable development	10.6, 10.8, 11.3, 11.13 11.11, 11.12 10.3
Catherine Connolly TD	Management have consistently adhered to policy of further road as only solution to detriment of other sustainable solutions Park and Ride objective remains unfulfilled No comprehensive school transport Public transport - failure to increase rail and bus services – city not cyclist or pedestrian friendly Road based on outdated and flawed logic Contrary to NPF, Climate Change legislation	10.3 10.3 10.3 10.3, 10.6, 11.3 10.3, 10.4, 11.13, 13 10.3, 11.11
Ciaran Ferrie	Necessity for road not demonstrated Assumptions that modal shift can only be achieved after ring road Impact on Menlo Castle – national monument Ireland's commitment to the reduction of GHG Poor planning of Galway over decades – low density development – references Transport studies over the years Bridge further downstream linking Coolough Road to the N59 would build on existing infrastructure	10.4 10.3, 10.4, 11.13 11.15 11.11 10.3 10.6, 11.3
Damien and Katherine Kelly	Route selection concerns/Alternatives/confusing to public/no real public debate about alternatives Level of traffic will increase – not sustainable Noise will increase dramatically – mitigation not suitable	10.6, 10.10, 11.3 11.13 11.12

	Bus transport is solution with light rail in the longer term, Park & Ride, planning for more roads is not sustainable Carbon footprint Population growth on west side – should concentrate in Oranmore Object with €50 fee to make a submission	10.6, 11.3 11.11 10.3 Noted
Dangan House Nurseries & Garden Centre	Who named this route as emerging favoured Demolition of homes Restored Dangan House – no consideration of house or Dangan area and River Corrib CO2 emissions Lack of bus services	10.3, 10.6, 11.3 10.6, 10.8, 11.3, 11.6 10.8, 11.17 11.11 10.3, 10.6, 11.3
David and Imelda Hickey	Object to CPO of their land for another's access Noise	13 11.12
Derrick Hambleton	Future proof development with policies, plans and processes Vulnerable Road Users concerns Other more sustainable options must be considered inc. e.g. Light Rail /Feeder buses / Park & Ride/ HGV management strategy/Modal shift Concern for families made homeless Impact on communities and habitats Building road contravenes legislation Council has failed to build high density development, Refers to Buchanan Report ABP to apply the EIA Directive & mitigation measures GHG are rising, air pollution, mounting legal actions Proposal contravenes Smarter Travel policy /perpetuate unsustainable levels of traffic Impacts on air Polluting surface drainage Poor value for money	10.3 10.4, 10.5 10.6, 11.3 10.8, 11.6, 11.17 10.8, 11.7, 12, 13 10.3 10.3 10.3 11 11.11, 10.2 10.3, 11.13 11.11 11.9 10.7
Desmond & Mary Bluett	Object to road in The Heath serving agriculture land	10.8, 13
Donal & Elizabeth Courtney	Change character of Aughnacurra Flora & Fauna more important than Humans Better public transport Property Value	10.8 11.7, 13 10.3, 10.6, 11.3 10.8
Dunnes Stores	Anchor tenant of Briarhill Shopping Centre – access to be maintained but require clarification on	10.7, 11.17

	detail of access junctions and impact on shopping centre	
Eamonn Smyth & Others	Residents of The Heath – CPO not explained and opposed Use of access during construction Noise	13 10.10 11.12
Galway City Community Network (Environmental Linkage Group of Galway City Community Network)	Goals and policies of group listed Has enough been done to address policy documents which may reduce the need for the road or reduce the scale of the road while still achieving the goals of the project – light rail, HGV management, roundabouts, data, induced traffic Other more sustainable options must be considered – Climate Action Will undermine efforts to promote alternative transport modes Other strategies to be considered including light rail, 30kph, HGV strategy, induced traffic. Urban sprawl, more green belts Safe Travel & Home zones Refer to European Charter of Pedestrian Rights and the Road Danger Reduction Charter, National Cycle Policy Framework, DMURS, NTA Best Practice Guide	Noted 10.3, 10.6, 11.3 10.3, 11.11 10.6 10.6, 11.3 10.3 10.5, 11.13 10.3 as applicable
Eve Daly and Laura Kennedy	Too close to city Route through Dangan Area – benefits of green and blue space for mental health Road planning should be future proofed – population growth Contrary to image of Galway named as European Green Leaf City in 2018 Ch 18 admits that there will be a long term impact – a study should be undertaken Options to improve traffic must be considered but not at expense of human health	10.6, 11.3 10.3, 10.6, 11.3, 11.6 10.3, 11.13 10.3 11.6 11.6
Friends of the Irish Environment	Lack of consideration of alternatives Non compliance with National Policy Non compliance with EIA Directive Analysis of GHG is cursory and consideration of the carbon emissions is missing or inadequately assessed in the EIAR. Basic details are missing Non compliance with international, EU and Irish Law around Climate Change – refer to Paris Agreement and Climate Action & Low Carbon Development Act 2015	10.6, 11.3 10.2, 10.3, 11 10.2, 10.3, 11 11.11 10.3, 11.11

	ABP is required to have regard to National Mitigation Plans, National Transition Objective and mitigating GHG and Climate Change	10.3, 11.11
Galway Athletics County Board County Board (Galway AAI)	Impact on beauty and amenity of Dangan area and NUIG Sports Campus Note other proposals impacting on recreation and amenity land Impact during construction and longer term due to loss of pitches Impact on human health as a result of loss of amenity lands Community severance Health economics-based study, cost benefit analysis and relevant studies required	10.8 Cumulative effects throughout section 11 10.8, 11.6, 11.17 11.6 10.8, 11.6 10.3
Galway City Harriers Athletic Club	<i>Similar issues raised to Galway AAI above</i> Route will severely impact on sports facilities and amenities at Dangan Loss of vital recreation & amenity lands and impact of bridge Impact on Sports Clubs in medium-term construction phase and long term due to lost facilities Human Health impact 2000 signatures object	10.8, 11.6 10.8, 11.12 10.8, 11.6 11.6 Noted
Galway Cycling Campaign	Alternatives: Query if new road is correct response to car dependency Vulnerable Road User concerns Unclear how design is consistent with stated purpose of ring road Road junction and geometry concerns Induced traffic More should be done to support walking and cycling Human impacts and community severance Road is designed to support urban sprawl	10.3, 10.4, 10.6, 11.3 10.5 10.4, 11.13 10.5, 11.13 11.13 10.3, 10.6 10.8, 11.6 10.3
Galway Property Management	Impacts on Rosan Glas residents, in particular the move of the link road road from Bothar Stiofan to Bothar Diarmuida: Access/Traffic Residential Amenity inc. lighting, air and noise Attenuation/Drainage Visual Impacts on Rosan Glas	10.6, 11.13 11.13 10.8, 11.11, 11.12 10.9, 11.10 10.8, 11.14
Genevieve Carter	Access to roadway and house	10.5, 10.8

	Drainage Noise Environmental & Planning Matters Information is incomplete	10.8, 11.9 11.12 10, 11 11.1
Gerald and Neasa Lawless	Road will not resolve serious traffic problems – limited access points on and off ring road – result in commuter traffic continuing in and out of city Bus and rail needed Limestone pavement still under threat Impact of bridge on Menlo Castle Removal of NUIG pitches Traffic light junction should be created where link road meets the N59 instead of flyover west of Circular Road Link road will create traffic on Circular Road Route passes too close to school – source of pollution Question route Possible savings with alternate suggested Object to CPO – The Heath is a residential development and not suited for agricultural traffic	10.4, 10.5, 10.6. 11.3, 11.6, 11.13 10.6, 11.3 11.7, 12 11.15 10.8, 11.6 10.5, 11.13 11.13 11.11 10.6. 11.3 Noted 13
Gerald L Lyons	<i>Submission split into two sections – strategic and individual:</i> Sustainable Development Policy – scheme violates all policy and principles of sustainable development Profound impact on shape, fabric and culture of the city More rational planning approach would be to subsume transport strategy within a long-term vision for sustainable development Applicant relies on outmoded planning ideas about automotive-centric development with implications for air and noise pollution Climate Change Modal shift Transport and Land Use planning – decades of poor planning Failure to provide meaningful public transport Poor design of major intersections Development will reinforce planning mistakes Based on outmoded concept of industrial formation Scale of investment is very large and close to Dublin Metro North Population demographics – modest growth	 10.3 10.3 10.3 10.3, 11.11, 11.12 11.11 10.3, 11.3, 11.13 10.3 10.6, 11.3 10.5, 11.13 10.3 10.3 10.3 10.4, 11.13

	Cost benefit analysis Is road fit for purpose – sustainable, meet objectives Radial/axial traffic error School traffic impact on traffic Individual impact on The Heath as noted by other persons above Issues with CPO process Height of Letteragh Junction – visual, noise and amenities Impact on schools	10.4 10.3 10.4 11.13 11.13 As per The Heath 13 11.14, 11.12, 11.6, 10.8 10.8
Gwen Cantwell & Oliver Ryan	Rosan Glas concerns as noted above	As above
Hands Across the Corrib	Counter to climate change commitments Road will generate increased traffic Light rail usage statistics erroneous Parkmore traffic can be solved by a standalone solution Evictions from family homes Object to principle of fee	11.11 11.13 10.6, 11.3. 11.13 10.5, 11.13 10.6, 11.3, 11.6. 11.17 Noted
James Barrett and others	Family and others use network of safe boreens and network of rights-of-way in the Menlo-Coolough-Ballinfoile-Ballindoooley area (Gaeltacht area) cycling and walking reducing their carbon footprint Right of ways will be curtailed during construction – Sean Bothar/Bothar Nua/Menlo castle boreen/quarry – request alternative arrangements Historical significance of area Plan to use quarry compound permanently post construction/ tunnel maintenance bldg Area will be used as rat runs during construction when roads are closed Concerns with quarrying and tunnelling Ringfort in quarry/declassification of national monuments & protected structures/unidentified famine settlement Flooding in area/Structural defects from quarrying Social exclusion – Consultations inadequate Natural heritage of the area – removal of swathes of hedgerow/nesting season/flora and fauna of area/loss of Annex I is irreplaceable	10.10, 13 10.10, 10.8 11.15 10.10, 13 10.10, 11.13 10.10, 11.7, 11.8, 11.15 10.10, 11.10 10.11 11.7, 12

John & Margaret Hughes	Irresponsible of the Applicant to drive a road through Ard an Locha, hopes shattered by plans Cannot understand how the 2006 GCOB has been abandoned because of Bog Cotton and limestone pavement in favour of the current scheme removing families and damaging countless other homes European Law has enabled such schemes to savage the human environment in favour of the natural environment. Concerned about themselves and neighbours Suffer impacts on visual intrusion, noise, air, loss of light, loss of amenity, disturbance and economic loss – not possible to mitigate	10.6, 11.3 10.3, 11, 12 10.2, 10.8 10.8, 11.11. 11.12. 11.14
John & Patricia Connor and other residents of Racecourse Avenue/ Ballybrit area	Too close to the city destroying 54 homes Devastating for families in area Construction impacts Any structure within 250m of the motorway should require special consideration and not 150m as stated on page 1430 of the EIAR. Object to acquisition of Racecourse Avenue and use for construction traffic. Design of motorway behind the Racecourse at the mobile phone mast has gone outside the original 150m corridor Impact on health Access to Lisheen Cemetery is inadequate	10.6, 11.3 10.8 11 11 13 10.5 11.6 10.8
Joseph Greaney	Height of the motorway 50m from boundary property No access to original family home Noise Land is rezoned for future development and serviced Property value	10.5 10.5 10.5, 13 11.12 10.3 10.8
Joseph Hynes	The northern link road will transform home, farmland and commonage into a spaghetti junction Dangan and riverside amenities are an irreplaceable asset	10.5, 10.6. 11.3 10.8
Karen McGuire & John Newell	Note land at boundary is being CPO'd in order to protect rare bats – anxious that this land may be used for other reasons which may cause pollution and affect health Dust and air impacts on health Public Transport Marsh Fritillary Butterfly	10.3, 11.7. 13 11.6, 11.11 10.6, 11.3 11.7
Kevin Kelly	Reoccurring flooding	11.9, 13

	Change of landscape around Cappagh Road Noise, and pollution Public Lighting	11.14 10.8, 11.11, 11.12 10.8
Linda Rabbitte	Live adjacent to quarry and use same access as quarry, concerned with condition of road Concerned about hazardous waste and construction compound in quarry Level of flooding in quarry underestimated Concerned with structural damage to house Impact on health due to noise, dust and air Object to ROW being extinguished Quarry zoned agricultural – to use it for compound is to change the use – material contravention Risk of instability to rock mass due to drilling and blasting – impact on species Impact on protected structures in Menlo area and Coolough village All public ROWs must be maintained Alternatives must be revisited Public transport/climate change	10.8, 13 10.10 11.9 13 11.11, 11.12 13 10.3 12 11.15 13 10.6, 11.3 10.6, 11.3, 11.11
Louise McNamara	Rosan Glas concerns Access and impact on shop	As above As above
M and M Qualtech Ltd.	Query if assessment carried out on impacts to their business	11
Maeve Mitchell & David Small	Rosan Glas concerns	As above
Mary Loughman	NUIG Sports grounds/ Impact on amenities	10.8
Mary Silke	Parkmore traffic chaos Living in traffic island with cars backed up Parkmore Road and motorway to the rear Closure of road during Galway Race festivals Construction traffic Noise, vibration, dust during construction Loss of wildlife	10.5, 10.6, 11.13 11.13 10.7, 10.8 10.10 11.11, 11.12 11.7
Menlo Residents Association	Object to CPO of traditional farmland in Menlo area Pollution Menlo/River Corrib as an amenity is under threat Diminish view of Menlo Castle Menlo is unique as an SAC providing access to nature	13 11.11, 11.12 10.8 11.14, 11.15 12
Michael & Trisha Murphy	Case for development is insufficient and not in accordance with PPSP	10.3

	Routing through Dangan does not accord with planning policy Alternatives assessment is inadequate and brief never included alternatives to a road Not in the best interest of people and communities Health and safety risk in schools, homes and businesses Human habitat grossly misunderstood in comparison to ecology – critical city amenities are being destroyed, NUIG, Letteragh Lands, Cappagh/Ballymoneen NHA, Corrib riverside Construction highly intrusive due to elevated tracts of road Queries how ARUP were selected Destruction of homes is unprecedented Destruction of communities No reason why if the ring road used GEAR rationale that houses and businesses would be destroyed Road is the single most damaging public project in recent history There are alternatives – EIAR investigation of alternatives was inadequate Procedures used in selection of route were unfair Development of GTS was flawed Nothing in documentation to justify acquisition of Aughnacurra road Proposed solutions proffered to the Board 2006 road excluded prior to GTS on ecological grounds Public participation inadequate Lack of alternatives is contrary to EIA Directive Use of GTS as a justification for the road is flawed and contrary to EIA Directive Proposal breaches adopted Plans	10.3, 10.6, 11.3 10.3, 10.6, 11.3 11.6 11.6 11, 12 10.5, 10.8, 11.14 Not applicable for the Board 10.3, 10.6, 11.3, 11.17 10.8 10.3, 10.5, 10.6, 11.3 10.3, 10.6, 11.3, 11.17 10.6, 11.3 10.6, 11.3 Not applicable for the Board 13 10.6, 11.3 10.6, 11.3 10.11, 11.2 10.6, 11.3 10.3 10.3
Miriam Duggan & Seamus Sheridan	Rosan Glas concerns No opportunity for consultation	As above 10.11, 11.2
Monica & Frank McAnena	Use of The Heath road for heavy machinery Safety issues	10.10 10.10
Olive & Vincent O'Connor	Proximity of road to dwelling Noise Visual Impact Destruction of homes and impact on community	10.5 11.12 11.14 11.17

Paddy & Marina O'Malley	Route selection process is flawed and imbalanced – alternative route blue & green routes results in destruction of 2 houses Not in accordance with PPSD Investigation of alternatives is inadequate Health & Safety risks Human habitat is ignored to avoid impacting ecology Planning irregularities with route option chosen in relation to timing of GTS and design of road	10.6, 11.3 10.3 10.6, 11.3 11.6 11.7 10.6, 11.3 albeit no specific legal irregularities are proffered
Paul & Mary Mahoney	Too close to city Not a ring road – splits Castlegar in two Should be further east similar to 2006 GCOB Construction impacts drilling, blasting rock breaking Dust and debris Impact on health Structural damage to house Noise, air pollution Houses to be demolished with many left in close proximity Moved outside the original 150m corridor Oppose acquisition of Racecourse Avenue	10.5, 10.6, 11.3 10.8 10.6, 11.3 10.10, 11.11. 11.12 11.11 11.6 13 11.11, 11.12 11.17 10.6, 11.3 13
Paul and Sarah Hogan	Rosan Glas concerns – blocking access, noise, attenuation ponds, visual impact, air	See above
Paula Lynch & Bernard Carrick	Rosan Glas – as above	See above
Peter Sweetman and others	Ref to C258/11, C164/17, C461/17	10.2
Residents of Ard Na Gaoithe	Residential Amenity inc. noise (query monitoring locations) & lighting Access/Traffic onto Clybaun Road Drainage Visual Impacts and Landscaping Construction Phase concerns	10.8, 11.12 11.13 10.9, 11.9 11.14 10, 11, 12
Richard Donovan & Caroline Carrick	Rosan Glas as above	See above
Ronan McDonagh	Noise, vibration Land is zoned for development	11.12 10.3, 10.8
Sarah Patricia Silke	Dust, Blasting damage	11.11

	Construction Traffic	11.13
	Garden wildlife	11.7
	Water table & treatment systems	10.9, 11.9
	Utilities	10.9
	Access to property	10.10
Sarah Silke	As per Sarah Patricia Silke	As above
Shane Durcan	Rosán Glas as above	See above for RG
Sharon Morris & Edward O'Reilly	Losing home and second house and second site	13
	Stress on children and community	11.6
	Health and well-being cause by stress	11.6
	Bat specialist visited 3 times but no such concerns for their family	10.8, 10.11, 11.7
	Impact on community	10.8
	No solution for community – to offer sites	13
	Fear for sourcing site in an area in the city boundary	10.8
Siobhan Silke	As per Sarah Patricia Silke	As above
Stephen & Debbie Meagher	Home is less than 30m from Motorway	10.5, 10.6, 10.8, 11.6
	Estate will be severed (Aughnacurra)	11.12, 11.14
	Noise & visual mitigation	
	Maintenance of existing boundary wall to 9 Aughnacurra	13
	Planting Plan	11.14
The Atlantic Greenway Project	Not objecting but concerned with location of some sections	10.6, 11.3
	Provides overview of alternative routes	10.6, 11.3
The Galway N6 Action Group	Entire scheme is misconceived	10, 11, 12, 13
	Analysis on which EIAR is based is flawed in terms of alternatives, prioritising flora & fauna over humans, purpose of road is confused, mitigation measures such as tunnelling have not been considered, scale of project is excessive and not justified, devastating impact on residential communities, proposal to thread a motorway through an urban area is misguided	11
	Decision to build road predates the GTS - entire GTS was predicated on a road	10.3, 10.6, 11.3
	Public Participation inadequate	10.11, 11.2
	Unsustainable solution	10.3
	2006 option was discounted before the GTS	10.6, 11.3
	Proposal does nothing for Public Transport	10.3
	Lack of integrated planning	10.3
	Concern with 'motorway' design – no clear indication of consideration of alternative 'lesser'	10.5, 10.6, 11.13,

	options or 'need' for a motorway – no analysis of whether a more modest road would achieve the objectives Flawed route selection process Threading motorways through urban areas went out of favour in the 1960s. Route selection report reviewed Nothing in EIA Directive to suggest Biodiversity is the prime consideration – however other issues such as Human Beings were relegated to second place Slightly modified 2006 route could achieve similar solution with less impact on human environment. If tunnelling can solve the problem of the SAC at Lackagh why was it not considered for the original 2006 route Residential areas not considered a constraint Health impacts Impact on Ard na Locha and Aughnacurra Query CPO process – why some houses and not others Tunnel – other tunnels proposed – why not at Dangan Noise issues Impact on N59 Profound impact on Menlo Castle as well as the Protected Structure BH12 to be demolished Proposal will increase carbon footprint	10.6, 11.3 10.3 10.5, 10.6, 11.13 11 10.6, 11.3 10.6, 11.3 10.6, 11.3 11.6 10.8 13 10.5, 10.6, 11.3, 11.12 11.13 11.15 11.11
Thomas and Mary Kilgariff	Concerns about the access road from The Heath Development Plan is a contract Road designations have legal implications Application is invalid having regard to its description – CPO process Human environment was ignored at the expense of ecology It is over-designed and over-engineered Lack of interaction between transport policy appraisal and evaluation Destruction of 44 houses represents 0.162% of the housing Induced traffic – traffic figures are underestimated having an impact on environmental issues Focussed on the blue route Noise WHO figures Absence of integrated transport strategy	13 10.3 10.2, 11.13 10.2, 13 11 11.13 10.3, 10.5 10.6, 10.8, 11.3, 11.17 11.13 11.3 11.12 10.3

	Absence of Alternatives	10.6, 11.3
	Induced traffic	11.13
	Climate Change	11.11
	EIAR has not fully dealt with topics	11
	Tunnel under racecourse emphasises lack of priority and empathy to homeowners	10.5, 11
	Health issues	10.5, 10.8, 10.6, 11.3, 11.6
		11.6
Tom & Catherine O'Halloran	Noise	11.12
	Light	10.8

16.4. Thematic Summary of submissions

Where the issue has been addressed and assessed in this report is highlighted in brackets.

16.4.1. Support for the project

- Road is a vital component in developing the city as a regional centre of scale for the west. (10.3, 10.4, 10.7, 11.6, 11.16)
- The road is part of the European Commission's Trans-European Transport Network (TenT) comprehensive scheme which aims to close gaps, improve cohesion, remove bottlenecks and eliminate technical barriers that exist within EU transport networks. (10.3)
- The development of Galway as envisioned in the NPF will be restrained without the provision of key infrastructure. (10.3, 10.7, 11.6)
- A key aspect of the delivery of the GTS is the delivery of the N6 Galway City Ring Road. (10.3, 10.4, 10.7, 11.3)
- Delivery will have a positive impact on the quality of life for workers and citizens. (10.3, 10.4, 10.7, 11.6)
- Dedicated bus corridors would improve efficiency of public passenger transport thereby encouraging a modal shift and result in a reduction in traffic congestion and journey times. (10.3, 10.4, 10.7, 11.6)
- There is overwhelming policy support for the proposal. (10.3)
- Galway city and county's 100 hotel and guesthouses are heavily reliant on having an effective transportation infrastructure in place to remain competitive and attract visitors. (10.3, 10.7)
- Roadway is needed to provide access to the Gaeltacht areas and encourage economic development west of the city in the Gaeltacht areas. (10.3, 10.7, 11.6)
- The development of Galway as laid out in the NPF will be significantly restrained without this road. (10.3)

- The road will allow easier access to Salthill as a tourist destination and midway point along the Wild Atlantic Way. (10.3, 11.6)

16.4.2. Need for the development

- Need for a road is being pursued to the detriment of other more sustainable public transport solutions. (10.4)
- The €650 million project represents very poor value for money and is not a solution to Galway City's traffic gridlock. (10.7)
- Applicants have failed to adequately demonstrate the necessity of the road. There is no certainty that a ring road will make any appreciable difference on the traffic congestion. Only 3% of the total trips in and around Galway City are actually bypassing the city. It has not been demonstrated how a ring road can improve the situation for people commuting into the city on a daily basis. (10.4, 11.13)
- The project will have a profound and permanent impact on the shape, fabric and culture of the city – it needs to be considered carefully within the broad context and objectives for the longer-term sustainable development. (10.3, 10.4)
- Fundamental error with the scheme is the traffic problems are assumed to be radial versus axial. If radial, ring road would make sense, but they are axial and only solution is modal shift. (10.3, 10.4, 11.13)
- The purpose of the road is confused – is it a bypass, an urban distributor road or a ring road. (10.4, 10.5, 11.13)
- The scale of the road – full motorway for its entire length is excessive and has not been justified. (10.4, 10.5, 11.13)
- Only 3% of the traffic is bypassable – Galway is at the end of a motorway and it may be asked where is this motorway going – to the east it links to all the major population centres but to the west there is Connemara which is a thinly populated area with no large towns – such a destination does not justify a motorway. (10.3, 10.4, 10.6, 10.7, 11.3, 11.13)

- Failure of the 2006 GCOB provides an opportunity to step back and re-evaluate the problems in the city – numerous transport plans referred to - but the road consistently seen as the ‘silver bullet’ to solve the complex planning and transportation problems (10.3, 10.4, 10.6, 11.3)
- It has not been demonstrated how a ring road can improve the situation for 20,560 people commuting into the city on a daily basis. There is an enormous potential for Galway to switch from its reliance on cars to a multi-modal system that prioritises public transport and active travel. The applicants assume that modal shift can only be achieved after the road is built. (11.3, 11.13)

16.4.3. Policies and objectives of statutory plans and other policies

- Road would undermine Smarter Travel Policy and would be contrary to Planning Policy Guidelines 2015. (10.3)
- Copies of speeches, sections of various reports from international to national and citizen assembly information submitted. Road considered to be unsustainable development. Engineering the West team’s submission to Galway City Council in relation to Ardaun submitted. (10.3, 10.6, 10.7, 11.6, 11.13)
- The proposal is based on outdated and flawed logic and is in conflict with the NPF which is committed to sustainable development. Will contribute to urban sprawl. (10.3)
- The emission of Greenhouse Gases does not meet the requirements of the EIA Directive. (10.3, 11.11)
- Non-compliance with international, EU and Irish Law as regards climate change. (10.3, 11.11)
- There will be an impact on the Ardaun lands – the 2009 M6 effectively split the Ardaun corridor and the N6 GCRR has negative implications for the lands and will increase the severance between Ardaun South and Doughiska. (10.3)
- The findings of the ABTA for Ardaun need to be taken into account by the Board. (10.3)

- The proposed routing of a motorway through Dangan Lower does not accord with the planning policy context. (10.3)
- The GTS is written into the new Galway City Development Plan 2017 – 2023 to give certainty to land use development as well as place it on a statutory footing. (10.3)
- The GTS should be lodged at the same time as the road. (10.2, 10.3)
- Dangan/NUIG sports campus is zoned for recreational purposes – not for a road. (10.3)
- The quarry is on lands zoned for agriculture not for a road or a construction compound. (10.3)

16.4.4. Legal and procedural matters

- The designations as a Motorway/Dual Carriageway and ring road have legal implications. The proposal is imprecise in its description and designation and the application cannot be valid. (10.2)
- It is not possible to grant permission due to CJEU cases C-258/11, C-164/17 and C-461/17. (10.2)
- A Social Impact Assessment has not been submitted. (11.1, 11.6)
- Article 6(4) should have been pursued with the original route. (10.2)

16.4.5. Public consultation.

- Inadequate maps and communication have been provided. (10.11, 11.2)
- Insufficient communication with residents directly affected. (10.11, 11.2)
- Public participation process has left much to be desired. (10.11, 11.2)
- Frustration with whole process. (10.11)
- Dealt with by the Council with a degree of contempt. (10.11)

16.4.6. Alternatives considered.

- Park and Ride facilities on both the east and west sides of the city was a specific objective of the City Development Plan. (10.6, 11.3)
- Failure to look at provision of increased rail services and vastly improved bus services. (10.6, 11.3)
- No comprehensive school transport system to lift traffic off the roads. (10.6, 11.3, 11.13)
- There is room further north that, with the inevitable continued residential development in the future, would ensure this bridge would not become another city crossing but would be truly a ring road. (10.6, 11.3)
- The section on Alternatives gives no credible consideration to alternatives involving a significant shift of trips to walking, cycling and public transport. (10.6, 11.3)
- The route selection process was unfair and not in the best interests of the public. The route selection process was excessively concerned with impacts on flora and fauna to the detriment of impacts on humans. (10.6, 11.3, 11.6, 11.7, 12)
- A hybrid of the original blue & green routes results in the destruction of only 2 homes. (10.6, 11.3)
- Bus lanes should have been included. (10.6, 11.3)
- Out-of-city options between the city and Lough Corrib were pretty much ignored. Entire process seems to have been heavily guided by a desire to avoid ecological impacts at all costs – anything to avoid the use of Article 6(4). This is done at the expense of the human population. (10.6, 11.3, 11.7, 12)
- Go back to the original 2006 GCOB route – less impact on dwellings. (10.6, 11.3, 11.7, 12)
- No other public transport improvements included in this application. (10.3)
- Asked to provide feedback on 12 routes which was confusing. (10.6, 11.3)

16.4.7. Severance of communities/loss of dwellings

- Aughnacurra estate of 13 houses of which 5 are being CPO'd. Estate is a private estate and no person has the right to traverse the road. Access is compromised and there may be a decrease in width of internal road. Proposed access is not of an acceptable design. Ownership of internal private road should be retained by remaining residents. (10.6, 11.3, 13)
- 54 houses to be demolished or acquired is devastating for the families and communities left behind. (10.8, 11.6, 11.17, 13)
- Families will be made homeless. There isn't the housing stock in Galway to rehouse these people. (10.8, 11.6, 11.17, 13)
- People on the edge of the city boundary will not get planning permission to replace their dwelling in the county administrative area. (10.8, 11.6)
- Communities being split apart. (10.8, 11.6)
- Site was bought initially with the intention to build second home for children – road will stop that. (10.8, 11.6, 13)

16.4.8. Impact on amenities of the area particularly the Sports Campus of NUIG and the River Corrib.

- Route would severely impact the sports facilities at Dangan NUIG campus. Lands are made available to the public and are widely used. (10.8, 11.6)
- The loss of any recreation and amenity land in the city is unacceptable – lands are the finest amenity lands in the city thanks to the good work over 50 years of NUIG. (10.8, 11.6)
- Impact during construction would be in the order of 2-3 years and in the long-term due to the lost footprint of pitches, running and walking trails and lack of provision of replacement of same. (10.8, 11.6)
- Teams will be left homeless and without vital training and meeting facilities. (10.8, 11.6)

16.4.9. Impact on pedestrians, cyclists and school children.

- Gaelscoil Mhic Amhlaigh is served by a bike convoy of up to 20 school children – this will have to be cancelled due to safety concerns. “Bus Rothaiochta na Gaillimhe” involves adult volunteers accompanying children by bicycle to school along a set route and has been running since September 2018. This was not fully considered by applicants with respect to the N59 Link Road South. This will attract higher numbers of traffic. Much of the morning traffic consists of parents driving their children to school – better, safer infrastructure for cycling and walking would alleviate car congestion. (10.8, 13)
- Increased traffic on local roads will impact children travelling to school on cycle or by foot. (10.8, 10.5)
- Require assurances that sufficient consideration has been given to vulnerable road users where traffic will be directed to other roads. (10.5, 11.13)
- Serious impact on Bushypark school. (10.5, 11.13)
- Design of junctions is hostile to vulnerable road users. (10.5, 11.13)

16.4.10. Impacts on health and quality of life and general amenity.

- There will be an impact on individual dwelling privacy and privacy of estates. (10.8)
- Mental health already impacted due to scheme – already fraught with worry, stress and concerns. (11.6)
- Quality of life will be severely affected due to motorway running through the area. (11.6)
- No account of health impact due to loss of amenity lands at Dangan has been taken. No account of impact on mental health taken. (11.6)
- Scheme will cause overshadowing, injure visual amenity and reduce daylight. (10.8)
- Object to location of attenuation ponds near to housing estates. Numerous submissions were made from various residents’ groups and individuals raising health and safety concerns relating to attenuation pond locations. (10.8)

- Object to lighting proposed – lights will shine into dwellings where there was previously none. (10.8)
- Provided with no assurance regarding the nature or adequacy of access that will be available to homes. (10.8, 13)
- Inadequate drainage details have been provided. (10.9)
- Health will be impacted with noise and air pollution. (11.6, 11.11, 11.12)
- Increased risk to pedestrians using roads including Bothar Diarmuida and Rahoon Road. (10.5, 10.6)
- Roadway will destroy the character of the Dangan area. (10.8, 11.14)
- Unclear how construction of a motorway can be realised without impacting amenities such as utilities supply, noise, hazardous emissions, road traffic safety, drainage systems (including septic tanks). (10.9, 11.11, 11.12)
- This road will only serve to open up more lands for developers further out from the city. (10.3)
- Object to use of quarry site as the largest site compound. (10.10)
- Access to Lisheen Graveyard compromised. (13)
- The construction activities will result in structural impacts on adjacent dwellings. (10.10, 11)
- Object to Racecourse Avenue being used for construction traffic. (10.10, 11.13)
- Building more roads results in greater cost to society than the road user. (10.3)
- Object to road's proximity to dwelling and impact on individual's health. (10.6, 11.3, 11.6)
- Query schemes impact on protection of ground water and public health. (11.6, 11.9)
- Open up areas to crime. (10.8, 13)

16.4.11. Strategic traffic matters, public transport and impact on local road network.

- Application has failed to assess long-term traffic generation associated with the road. (11.13)
- Application has only considered next 5 years – should be considering the next 100 years. (11.13)
- Reference made to the M50 and how its expansion induced more traffic and congestion remains. (11.13)
- The induced traffic aspect has not received due consideration; thus the traffic figures are greatly underestimated. (11.13)
- Logic to justify road is fundamentally flawed – if extra roads were needed to be built before bus lanes could be implemented, there would be no bus lanes in cities. The provision of the road without any legally binding public transport/demand management conditions could not be considered a 'long term' solution. (10.3, 11.13)
- Public transport should have been prioritised – bus services are not frequent and this road will only encourage more people to use their cars. (10.3, 10.6, 11.3, 11.13)
- Cost of road – money better spent on improving public transport, cycling and pedestrian facilities. A significant investment should be made in greenways and a passing loop at Garraun Railway Station would facilitate more trains. (10.3, 10.6, 11.3)
- There will be increased traffic congestion on local roads as commuters try to get onto the new road. (10.8, 11.13)
- Residents will be unable to leave their housing estates due to the location of the new road and new accesses onto it. (11.13)
- Rosan Glas housing estate: numerous objections from residents within this estate objecting to the positioning of N59 Link Road South as it will impede access to and from estate, increase local journey times and add to traffic congestion as they will meet increased traffic on this link road. Query why link

road was not located closer to Bothar Stiofan. Consider that the road will not have a positive impact on the residents of Rosan Glas. Opportunity to provide for a green area separating the zoned enterprise lands and the residential area – road should be moved further west. (10.6, 10.8, 11.3)

- Further clarification required on the detail of both the Coolagh and Ballybrit Crescent junctions in terms of how they will impact on the multi-directional access to Briarhill Shopping Centre – proposed road is complex and extensive in nature – it is unclear how new junctions will impact on traffic movements. (11.13)
- Galway has inadequate public transport and cycle lanes – if these were properly implemented and incentivised much of the traffic problems would be alleviated. (10.6, 11.3)
- Concerned that the proposal will direct arterial traffic along roads with a residential and school function. (10.7, 10.8)
- Impact on current right of ways. (13)
- The Heath residents have a legitimate expectation that the roadway would at all times operate in a manner consistent with the Development Plan in place at the time of development – the internal road is not suitable for agriculture or to serve more than 12 dwellings or any intensification of use. (13)
- Must travel further to get to Bearna village. (10.6)
- New circuitous routes being proposed for residents in the Forai Maola/Truskey area. (10.6)
- Road is unsuitable for a rural area. (10.6)
- More traffic from Carraroe and Spiddal will utilise this road as more houses are planned for this area but employment is in the east. (10.3)

16.4.12. **Noise and vibration impacts.**

- Noise levels will be in excess of 60dB. Screening effectiveness is queried. Strong evidence to indicate that traffic noise levels in excess of 53dB L_{den} have known adverse health effects. (11.6, 11.12)

- Extent of proposed noise mitigation measures are inadequate. (11.12)
- There is inadequate information in relation to the visual appearance of the noise barriers. (11.12, 11.14)
- There will be noise pollution as a result of this road affecting well-being. (11.6, 11.12)
- Controlled blasting – will it impact on the structural integrity of dwellings. (11.11, 11.12)
- Concerns with impact during construction of rock breaking/blasting on businesses. (10.10, 13)
- It is not apparent that the impact of noise on lands zoned for residential development in Ardaun has been assessed. (10.3)
- Query location of noise monitors, e.g. at Rosan Glas there is no noise and there will now be an increase that is not ‘negligible’. It is difficult to accept that there will be no impacts on air or noise during operation and construction with the construction of a new distributor road. (11.11, 11.12)
- No noise mitigation measures for the residents of The Heath have been included in the EIAR. (11.11)

16.4.13. **Air and climate impacts.**

- Planning decisions have failed to mitigate continuing climate emissions, air pollution and congestion. The Board have a legally binding obligation to ensure that the decision satisfies the Climate Action and Low Carbon Development Act. (10.3, 11.12)
- Road breaches Ireland’s legally binding commitment to reduce greenhouse gas emissions and its commitments under the Paris Agreement. (10.3, 11.11)
- Impact on air pollution and health. Increase in pollution will impact health. (10.3, 11.6, 11.11)
- Harmful CO₂ emissions. (11.6, 11.11)
- Motorway will cause an increase in Carbon emissions. (11.6, 11.11)

- Ireland is a ‘laggard’ in responding to climate change and the road will make no contribution to limiting global warming. (10.3, 11.6, 11.11)
- EIAR failed to provide any mitigation measures regarding traffic generation and climate emissions. (11.11, 11.13)
- During construction air and dust will be a major nuisance. (11.11)
- Have the grossly understated car emissions been used in the assessment. (11.11)
- Road is utterly in conflict with our commitments under climate change legislation. Project fails to recognise that we cannot continue ‘as is’ rolling out more roads with the concomitant increase in cars. (10.3, 11.11)

16.4.14. Landscape and visual impacts.

- Aughnacurra: Road will be higher than houses within the estate – more details are required with respect to the embankment and landscaping and screening. (10.8, 11.14)
- Clarification of boundary treatment raised in numerous submissions. (10.8, 11.14, 13)
- The grim nature of the Quincentenary bridge is an example of what could seriously injure the beautiful amenity of the area. (11.14)
- Motorway will be elevated thereby blocking scenic views currently being enjoyed by residents. (11.14)
- The road will forever change the character of the area. (11.14)
- The view of Menlo Castle from the riverside will be altered dramatically. (11.14)

16.4.15. Impacts on flora and fauna / Ecology prioritised over all other matters

- Appears that the impact on flora and fauna was a more important issue than the disturbances to the human habitat. (11.7, 12)
- Impossible to understand how the original 1999 scheme could be abandoned because of its impact on inanimate and arguably unimportant items such as

bog cotton and limestone pavement in favour of the current scheme which sees no difficulty removing families from their homes. (11.7, 12)

- The Marsh Fritillary Butterfly must be protected. (11.7)
- Land must be farmed in order to maintain the rich biodiversity of karst areas. (11.7, 12)
- Tunnel could still pose a threat to the Limestone Pavement. (12)
- Project will have to go down the Article 6(4) route anyway. (12)
- Traffic will impact on flora and fauna, motorway will impact on trees and plants. (11.7)

16.4.16. Water quality and flooding impacts.

- A recurring flood occurs on the public road at Cappagh Road. This new road will present a significant safety concern. (11.10)
- Water table levels will be affected. (11.9)

16.4.17. Traffic modelling.

- Concerned with traffic volumes measured and predicted, and with the traffic distribution predicted. (11.13)
- No analysis as to whether a more modest road might achieve the objective. (11.13)
- Difference in Population figures in NPF vs. TII (11.13)

16.4.18. Material assets including socio-economic impacts and future development plans for lands.

- No details provided as to need to acquire lands in The Heath housing estate to provide access to lands currently zoned agriculture. Are there plans for future development of these lands? (13)
- The Councils have failed to build the amount of appropriate high-density housing in city suburbs to keep pace with housing demand thereby encouraging long commutes. (10.3)

- Land zoned for residential development may be impacted. (10.3)
- Concerned that residents losing homes within the city boundary will not be recognised as having a housing need within the county boundary. (13)
- Purpose of CPO of lands at The Heath are not explained in the documentation. (13)
- Many properties that remain, but in close proximity to the road, will be devalued. (10.8, 13)
- Design and location of road will lead to further urban sprawl. Developers already building houses due to location of the new road. Property developers west of Galway have been favoured. (10.3)
- Some dwellings will lose land previously earmarked for another dwelling for a child. (10.3, 13)
- Poor planning of Galway by the Councils has resulted in sprawl. (10.3)
- Land take at Ardaun will have huge implications for the sustainable development of the area. (10.3)

16.4.19. **Cultural heritage impacts**

- Impact on the setting of Menlo Castle – bridge will utterly diminish the view of the castle and irreparably damage the setting. (11.15)
- Dangan House was built in 1841 and has been painstakingly restored. Impact of road - no regard has been shown for homes, historical or otherwise. (10.7)
- Removal of stone wall and replacement with timber fences is contrary to the Development Plan policies. (13)

16.4.20. **EIAR / NIS Deficient**

- There will be a significant negative impact on sites and species namely the Annex I Habitat. Refer to ECJ Case C-461-17. (10.2)
- The Board must assess the direct and indirect impact of the project and the adequacy of the mitigation measures proposed on: Smarter Travel policy, Traffic Generation, Traffic congestion, Air pollution, Greenhouse gas

emissions, cumulative impact with a general rise in traffic. If adverse impacts cannot be mitigated then consent cannot be granted. The Board has failed to attach traffic management conditions to new roads. These considerations form the basis of a Judicial Review on any consent granted without adverse impacts being addressed or mitigated. (10, 11, 12)

- EIAR does not describe the forecasting method for CO2 emissions contrary to the EIA requirements. (11.11)
- The Board needs to satisfy itself that the mitigation measures will mitigate environmental impacts, are clearly identified and quantified, and are subject to clear conditions. (11)

16.4.21. **Property values (also addressed in CPO)**

- Proposal will undermine property values and sales in the area. (13)
- Scheme will result in an elevated structure in front of dwellings (Aughnacurra) which will reduce values. (10.8)
- Land being acquired is excessive and is questioned. (13)
- Not possible to sell house with CPO possibility. (11.6, 13)
- Road will impact on future development potential for another family home on lands. (10.3)

17.0 Appendix 2: List of Objectors to CPO, outstanding at time of completion of report

Aldi Stores (Ireland)

Bell, Helen

Bio-Medical Research Ltd.

Bolster and Duane, Joy and Pat

Boyle, Geraldine

Brooks Timber and Building Supplies Ltd.

Broughan, Peter

Burke, Pádraig and Imelda

Burke, Matthew and Eileen

Burke, Matthew and Mary

Burke, Tom

Butler, Suzanne

Cairn Homes Properties Ltd.

Cairn Homes Properties Ltd.

Caiseal Geal Teoranta (Castlegar Nursing Home)

Callaghan, James

Carter, Genevieve

Carter, Frank

Cawley, Maureen

Clancy, James

Clancy, Nora

Codyre, Ann

Codyre, Pat

Codyre, Mary

Codyre, Pascal

Codyre (Reps of), Nora

Concannon, Martin

Concannon, Martin

Concannon, John

Concannon, Thomas

Concannon (Deceased), John

Concannon and Giblin, Martina and Alan

Conneely, Maura

Conneely, Michael

Conneely, Mary

Connolly, Peter and Michelle

Connolly Group,

Connor, Michael and Ann

Costelloe, Mary

Coughlan, John and Kathleen

Coughlan - Agent, John and Kathleen

Cronin, Martin

Cumann Luthcleas Gael Bóther na Tra,

Cunningham, Tom and Clare

Curran, Dermot and Patricia

Dempsey, John
Dineen, Sean and Audrey
Dolly, Catherine
Dolly and Fernandes, Catherine, Seamus, Brian, Sheila
Dooley, Mary
Dooley and King, Niamh and Damian
Doyle (Dept. of Education), Brian
Duffy, Helena
Fahy, James
Fallon, Thomas
Farrell, Patrick and Ann
Farrington, Anne Marie on behalf of John
Feeney, John
Feeney, Mary
Feeney, Martin
Finn Murphy, Bernadette
Flaherty, Michael and Geraldine
Flattery, Mary
Flynn, Brendan and Valerie
Flynn, Gerard
Flynn, Marie
Francis, Patrick and Lena
Francis, Pat and Helena
Galway City Council,
Galway Race Committee,
Garran Ard Property Management Co. Ltd.
Gavin, James and Tracy
Gill, Tom and Yvonne
Gill and Others, Kevin
Glennon, Peter and Christine
Glynn, John
Goggin and Kenny, Deirdre and Michael
Greaney, Joseph
Greenan and Cunningham, Se and Marion
Griffin, Anne
Griffin, Patrick
Harney, Dermot and Sarah
Higgins, Martina
Hosty, Tom
Hughes, Katie
Hughes, Lauren
Jennings (Estate of), Eileen
Keane, Tom
Keane, Bartley and Marguerite
Keane (Reps of), Nora
Kearns, Patrick
Kelly, Shane
Kenny, Brian and Mary
Kerin, Michael and Annette
Kerin, Annette and Michael

Kerin , Family
Kerrigan, James and Ann
King, Martin and Moyra
Kinport Construction,
Lally, Michael
Lydon, Mary and Padraic
Lynn, Paul
Maloney (Reps of), John
Martyn, Sean and Kathleen
McCarthy, Finbarr
McCarthy, John and Kathleen
McCarthy, John and Kathleen
McDonagh, Mark
McDonagh, Ursula and Kevin
McDonagh, Sylvester Christopher Patrick
McGrath, Thomas
Mcgrath, Patrick John
McHugh Property Holdings
McLoone, James
McLoughlin, Ray and Helen
McMahon Ltd, James
McNamara, Noreen
Molloy, Eamonn
Moloney (Reps of), James
Monahan and Joyce, Fintan and Therese
Mulhern, Paul and Anne
Mullins, Michael
Murphy, Anne
NAMA/GVA Donal O'Buachalla,
Needham and Rea, Loretta and Tom
Nestor, Mary
Nestor, Michael
Nestor, Michelle
Nestor, Christina
O Connell, Maura and Dermot
O' Connell, Mary and Ann
Ó Curraoin, Máirtín
O' Dell, Gerard and Susan
O' Dell, Gerard and Susan
O' Dell, Gerard and Susan
O' Donnell, Emily and James
O' Donovan and Scully, Marie and Patrick
O Halloran, Peter
O' Halloran, Bridie
O' Hanlon and McConnell, Tony and Peggy
O' Hara, Leo and Jo-Anne
O' hEocha, Colm and Marie
Pearce, Nora and Michael
Roadstone Limited
Ryan, Gwendoline

Ryder, George and Phyllis
Silke, Angela
Silke and Skelton, Angela and Raymond
Silke and Skelton, Angela and Raymond
Targeted Investment Opportunities
Tesco Ireland Ltd.
Tobin, Ross
Tuam Road Developments Ltd.
Tully, Deirdre
Tully, Sean and Orna
Tully, Michael
Tummon, Paschal and Aine
Vantage Towers Ltd.
Waldron, Pat
Wallace, Peter and Bridie
Ward, Rose

18.0 Appendix 3: Observers at Further Information Stage

18.1. List of observers at Further Information Stage

1. Darren Frehill
2. Annette and Michael Kerin (x 2 submissions)
3. Peter and Michelle Connolly
4. Michael and Trisha Murphy
5. Linda Rabbitte
6. Clada Group
7. Boston Scientific Ltd
8. Galway N6 Action Group Co. Ltd.
9. Kerry Quinlan and Juan Sotoparra
10. Strategic Land Investments Ltd.
11. Geological Survey of Ireland
12. An Taisce
13. Irish Water
14. Udaras na Gaeltachta
15. Development Application Unit
16. HSE

18.2. Summary of Observations

A number of points made were a repeat of issues previously raised and are not repeated here in the interest of brevity.

18.2.1. Route Selection

- Submission gives an inaccurate description of the route selection process undertaken – this was pre-determined to a significant extent. (10.6, 11.3)
- Route selection was skewed to prioritise ecology over other matters most particularly Human Beings. (11.7, 12)

- The road will do little to address the reasons for the traffic congestion – fact that 80% of all journeys are destined for the city will not be alleviated by building a bypass (10.4, 11.13)

18.2.2. Noise

- Query location of baseline noise monitors, particularly at Ard Na Gaoithe, and are of opinion that results will actually be higher at locations on the northern side of the estate. (11.12)
- Refer to EPA daytime limit of 55dBA and expected 58dBA at Ard Na Gaoithe and express concerns with noise monitoring location to monitor impacts. (11.12)
- Barriers proposed for boundary of Kerin's residence will not provide protection for upstairs noise-sensitive rooms – suggest specialist silenced acoustic air vents. (11.12, 13)
- Further request that the Board seek more recent traffic analysis for projections and noise impact studies and query use of Electric Vehicles in analysis. (10.4, 11.3)
- Concerns with location of substation and noise in no.11 Ard an Locha. Request visual screening and relocated to less visually prominent location. (11.14, 13)

18.2.3. Landscaping

- Request improvements to landscaping in Ard an Locha. (11.14)
- It is noted that only 1000m of stone walls in the Barna area are being replaced despite in excess of 3000m being removed. Post and rail fences provide no shelter for animals or crops. There is little respect for the county's heritage. (11.14)

18.2.4. Parkmore Link Road – Resolved at Hearing

- Alignment of Parkmore Link Road will adversely affect Boston Scientific lands to a disproportionate extent. Original concerns not addressed as it still severs lands restricting future expansion for a major national employer and FDI.

- Alternative options have not been given due regard contrary to the 2014 EIA Directive.

18.2.5. Gort Na Bro Roundabout

- Concerned with omission of access to retail park from existing roundabout and replacement with four-arm junction opposite current access road to Gort Na Bro – this will divert a lot of traffic nearer to the Gort Na Bro housing estate. The current layout provides a green buffer between the retail park and the housing estate. (10.8, 10.5)

18.3. Alternatives

- Lack of coherent public transport solution as an alternative is in serious contravention with regard to national obligations to reduce carbon emissions. (10.6, 11.3)

18.4. Drawings

- Welcome the additional drawings but query the lack of mammal underpasses in Barna. (11.7, 12)
- The application should include drawings and details of all family homes and work premises due to be demolished as would be required in other planning applications. (13)
- The details of cycling and pedestrian crossings in the Barna section do not improve facilities. (10.8, 11.13)

18.5. Other issues

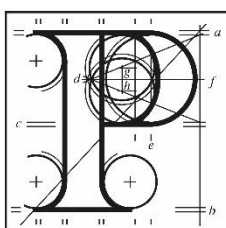
- Specific submission relating to lands south of An Post on the Tuam Road – request access. (13)
- Consider adequate and meaningful consultations have taken place (10.11, 11.2)

19.0 Appendix 4: Ecological Impact Assessment, prepared by Richard Arnold of Thomson Environmental Consultants

20.0 Appendix 5: Hydrogeology report, prepared by James Dodd of Envireau Water

21.0 Appendix 6: Appropriate Assessment Report, prepared by Richard Arnold of Thomson Environmental Consultants

22.0 Appendix 7: List of Documents Submitted at Oral Hearing



An
Bord
Pleanála

ABP-302848-18 and ABP-302885-18 Documents received at Oral Hearing

Case Description	N6 Galway City Ring Road, Galway
Date	18 th February 2020 and on Various Dates until 4 th November 2020
Location	G Hotel Galway and The Offices of An Bord Pleanála

Documents received at Oral Hearing

No.	Submitted by	Presenter	Topic
1.	Galway County Council	Jarlath Fitzsimons SC	List of Submissions and Objections for reference purposes.
2.	Galway County Council	Mike Evans	Brief Summary of Proposed Development
3.	Galway County Council	Eileen McCarthy	Statement of Evidence – Responses to Engineering, Need for Project.
4.	Galway County Council	Eileen McCarthy	List of Drawings relevant to NUI Galway Sporting Campus and Parkmore Link Road.
5.	Galway County Council	Jarlath Fitzsimons SC	NUI Galway – Withdrawal Letter
6.	Galway County Council	Jarlath Fitzsimons SC	List of Plots to be withdrawn - Result of Parkmore Link Road Modification
7.	Galway County Council	John O'Malley & Others	Response to Planning & Policy - Objections/ Submissions

No.	Submitted by	Presenter	Topic
8.	Boston Scientific	Gavin Lawlor of Tom Phillips & Associates	Boston Scientific – Withdrawal Letter
9.	Galway County Council	Andrew Archer	Statement of Evidence – Response to Traffic and Transport
10.	Galway County Council	Aebhin Cawley	Statement of Evidence – Responses to EIA Biodiversity
11	Galway County Council	Aebhin Cawley	Statement of Evidence – Responses to EIA Biodiversity – Addendum
12.	Galway County Council	Aebhin Cawley	Statement of Evidence – Responses to Appropriate Assessment
13.	Galway County Council	Con Curtin	Statement of Evidence – Responses to Material Assets Agriculture
14.	Galway County Council	Michael Sadlier	Statement of Evidence – Response to Equine Issues
15.	Galway County Council	Dr Leslie Brown	Statement of Evidence – Responses to Hydrogeology
16.	Galway County Council	Anthony Cawley	Statement of Evidence – Responses to Hydrology
17.	Galway County Council	Juli Crowley	Statement of Evidence – Responses to Soils and Geology
18.	Galway County Council	Gareth Maguire	Statement of Evidence – Responses to NUIG Sports Masterplan

No.	Submitted by	Presenter	Topic
19.	Galway County Council	Craig Bullock	Statement of Evidence – Responses to Population (Human Beings/Socio Economics)
20.	Galway County Council	John Cronin	Statement of Evidence – Responses to Language Impact Assessment
21.	Galway County Council	Faith Bailey	Statement of Evidence – Responses to Archaeology, Architectural & Cultural Heritage
22.	Galway County Council	Jennifer Harmon	Statement of Evidence – Responses to Noise and Vibration
23.	Galway County Council	Sinead Whyte	Statement of Evidence – Responses to Air Quality and Carbon Emissions
24.	Galway County Council	Dr Martin Hogan	Statement of Evidence – Responses to Human Health
25.	Galway County Council	Jarlath Fitzsimons SC	Drainage Systems for National Roads Booklet
26.	Galway County Council	Thomas Burns	Statement of Evidence – Responses to Landscape and Visual Aspects
27.	Galway County Council	Eileen McCarthy	Statement of Evidence – Addendum to Responses to Engineering, Need for Project
28.	Galway County Council	Declan McGrath SC	Statement of Evidence – Addendum – Schedule of Additional Environmental Commitments

No.	Submitted by	Presenter	Topic
29.	Galway County Council	Jarlath Fitzsimons SC	Corrigendum Booklet
30.	Galway County Council	Jarlath Fitzsimons SC	Schedule of Environmental Commitments Booklet
30A.	Galway County Council		Maps
31.	Galway County Council	Jarlath Fitzsimons SC	Responding to Legal Issues raised in Objections
32.	Galway County Council	Jarlath Fitzsimons SC	Index of Expert Witness for Galway County Council
33.	National Parks and Wildlife Service	Gerry Clabby	Statement of Evidence for NPWS
34.	An Taisce	Peter Butler	Statement of Evidence (Folder) for An Taisce
35.	Brendan Mulligan	Brendan Mulligan	Ecology and Hydrogeology
36.	Patrick Mc Donagh	Patrick McDonagh	Lackagh Quarry Material Deposition
37.	Patrick Mc Donagh	Patrick McDonagh	Site Notice of Further Info on Galway City Council – Planning Application – 19/107
38.	Patrick Mc Donagh	Patrick McDonagh	Vibrograph Report – Ref: 716/92
39.	Patrick Mc Donagh	Patrick McDonagh	Arial Photograph of Lackagh Quarry
40.	N6 Action Group	Stephen Dowds	Option Development Zones
41.	Galway County Council	Declan McGrath SC	Cumulative Rainfall Plot – Hydro Year – Oct-Sept
42.	Shane and Kevin Kelly	Shane and Kevin Kelly	Booklet of Exhibits – Photographs

No.	Submitted by	Presenter	Topic
43.	Linda Rabitte	Linda Rabitte	Brief of Evidence – Photograph & Drawings
44.	Linda Rabitte	Linda Rabitte	Photograph – Quarry Speed Limit Sign
45.	Linda Rabitte	Linda Rabitte	Historical Map & Heritage Group Mission Statement
46.	Hands Across The Corrib	Donal Honan	Brief of Evidence
47.	Galway County Council		Server Map – Connolly Bros – Car Sales (Galway) Ltd
48.	Stephen Meagher	Stephen Meagher	Brief of Evidence
49.	Derrick Hambleton	Derrick Hambleton	Brief of Evidence
50.	Brendan Mulligan	Brendan Mulligan	Brief of Evidence – Developer Led Planning
51.	Galway County Council	Declan McGrath SC	Legal Judgement – Friends of the Earth v Secretary of State for Transport & Others
52.	Michael Murphy	Michael Murphy	Brief of Evidence
53.	John O’Carroll	John O’Carroll	Brief of Evidence
54.	Tom Rea	Tom Rea	Brief of Evidence – Human Health Issues
55.	Galway Cycle Bus	Neasa Bheilbigh	Brief of Evidence – Cycling Issues
56.	Galway City Harriers	Niall Murphy	Brief of Evidence – Impact on the Running Community
57.	Patrick Mc Donagh	Galway Community Development Alliance	Copy of email received from Galway Road Project Engineer

No.	Submitted by	Presenter	Topic
58.	Patrick Mc Donagh	Patrick McDonagh	Political Leaflet from Cllr Frank Fahy
59.	Patrick Mc Donagh	Patrick McDonagh	Copy of Site Notice for SHD Project by Montane Developments
60.	Mc Hugh Property Group		Solicitors Letter on Temporary Acquisition of Plot 583
61.	Galway Cycling Group	Neil O'Leary & Shane Foran	Brief of Evidence – Cycling Issues
62.	Galway Cycling Campaign	Shane Foran	Submission on Sustainable Mobility Policy Review
63.	Galway Cycling Campaign	Shane Foran	Pre – Budget 2016 Discussion Document
64.	An Taisce – Galway Association	Frank McDonald	Brief of Evidence
65.	Galway County Council	Various Presenters	Response to Queries raised in Module 1
65A.	Galway County Council	Various Presenters	Appendix A – Mammal Passage Facilities Appendix B – Guidance Documents for Otters & Badgers Appendix C – Dry Heath Creation Appendix D – Groundwater Monitoring Appendix E - Hydrographs
65B.	Galway County Council	Various Presenters	Eco – Hydrogeology Summary Report for Moycullen Bogs
65C.	Galway County Council		Eco – Hydrogeology Summary Report for Lough Corrib SAC

No.	Submitted by	Presenter	Topic
66A.	Galway County Council		EIAR – Cumulative Impact Assessment
66B.	Galway County Council		AA – In combination Assessment
67.	Galway County Council		Map – Proposed Landscape & Restoration Plan
68.	Galway County Council		EIAR – Appendix A 10.4 Groundwater Quality Monitoring Report
69.	Galway County Council	Aebhin Cawley	Limestone Pavement Details and Map
69A.	Galway County Council	Aebhin Cawley	Drawing showing locations of transects for soil depth measurements
70.	Galway County Council	Aebhin Cawley	Barn Owl Habitat Sheet
71.	Galway County Council	Aebhin Cawley	Composite Map of all relevés undertaken 1f 2014-2019
72.	Galway Chamber of Commerce		Brief of Evidence – Power Point Presentation
73.	John Martin	John Martin	Brief of Evidence – Power Point Presentation
74.	Damien Kelly	Damien Kelly	Brief of Evidence – Power Point Presentation
75.	Galway Race Committee	Peter Kingston	Economic Impact Assessment of Galway Races Summer Festival
75A.	Galway Race Committee	Pamela Harty	Galway Racecourse Planning Policy Submission

No.	Submitted by	Presenter	Topic
75B.	Galway Race Committee	Senan Clandillon	Brief of Evidence
75C.	Galway Race Committee	Dermot Flanagan SC	Legal Submission – Decision making process – EIA & CPO
76.	Galway County Council	Eileen McCarthy	Response to Queries raised in Module 2
77.	Galway County Council	Eileen McCarthy	EIAR – Cumulative Impact Assessment – Addendum Report
78.	Galway County Council	Various Presenters	Response to Queries raised in Module 2 – Traffic and Climate
79.	Galway County Council		Archaeological Field Inspection
80.	Galway County Council		AA – In combination Assessment – Addendum Update Report - NIS
81.	Galway County Council	Various Presenters	Response to Queries raised in Module 2 – Traffic and Climate
82.	Mc Hugh Property Group	Dermot Flanagan SC	Legal Submission – Decision making process – EIA & CPO
82A.	Mc Hugh Property Group	Senan Clandillon	Lackagh Quarry Material Deposition Area
82B.	Mc Hugh Property Group	Dermot Flanagan SC	Various Maps
83.	Caiseal Geal Teoranta	Julian Keenan	Brief of Evidence
83A	Caiseal Geal Teoranta	Dr Imelda Shanahan	Brief of Evidence
83B.	Caiseal Geal Teoranta	Raymond Gohery	Anticipated Impact on Mechanical and Electrical Services

No.	Submitted by	Presenter	Topic
83C.	Caiseal Geal Teoranta		Report
84.	Galway County Council	Various Presenters	Brief of Evidence – Lackagh Quarry Material Deposition Areas
85.	Brendan Mulligan	Brendan Mulligan	Questions to Applicant
86.	An Taisce	Peter Butler	Questions to Applicant
87.	Galway Cycling Campaign	Shane Foran	Brief of Evidence
88.	Gerald Lawless	Gerald Lawless	Brief of Evidence
89.	N6 Action Group	Stephen Dowds	Brief of Evidence
89A.	N6 Action Group	Stephen Dowds	Power Point Presentation
90.	Ross Tobin	Ross Tobin	Brief of Evidence
91.	John Gallagher for Thomas Mc Grath	John Gallagher	Brief of Evidence & Map
92.	John Gallagher for Various Clients	John Gallagher	Brief of Evidence and Maps
92A.	John Gallagher	John Gallagher	Maps for Nora Codyre Lands
92B.	John Gallagher	John Gallagher	Maps for Peter O'Halloran Lands
92C.	John Gallagher	John Gallagher	Maps for Peter Broughan Lands
93.	Galway County Council	Jarlath Fitzsimons SC	Folio 86696F and Map
94.	Tesco	Avison Young	Brief of Evidence
95.	Shane Kelly	Shane Kelly	Brief of Evidence & Maps
96.	James Fahy	Michael Lydon	Brief of Evidence
97.	Galway County Council	Jarlath Fitzsimons SC	Folio 35183F and Map
98.	Michael Kerin and Annette Kerin	Julian Keenan	Brief of Evidence

No.	Submitted by	Presenter	Topic
98A.	Michael Kerin and Annette Kerin	Imelda Shanahan	Brief of Evidence
98B.	Michael Kerin and Annette Kerin	Karl Searson	Brief of Evidence – Audio Report
98C.	Michael Kerin and Annette Kerin	Prof. Michael Kerin	Brief of Evidence
98D.	Michael Kerin and Annette Kerin	Dr Annette Kerin	Brief of Evidence
98E.	Michael Kerin and Annette Kerin	Karl Searson	Audio Level email
99.	Galway County Council	Declan McGrath SC	Legal Submission on Brooks Timer and Building Supplies Ltd
100.	Galway County Council		Galway Racecourse Tunnel
101.	Galway County Council	Eileen McCarthy	EIAR – Cumulative Impact Assessment
102.	Galway County Council	Eileen McCarthy	AA – In Combination Assessment – Addendum Update Report
103.	Galway County Council	Various Presenters	Response to Submission on behalf of Michael & Annette Kerin
104.	Dermot & Sarah Harney	Tom Corr	Brief of Evidence
105.	Galway N6 Action Group	Stephen Dowds	Statement of Evidence
106.	Brooks Timber and Building Supplies Ltd	Various Presenters	Response to Galway County Council

No.	Submitted by	Presenter	Topic
106A.	Brooks Timber and Building Supplies Ltd	Callum Bain	Response to Galway County Council – Land Acquisition
106B.	Brooks Timber and Building Supplies Ltd	Michael Conmy	Response to Galway County Council - Engineering
106C.	Brooks Timber and Building Supplies Ltd	Various Presenters	Various Maps
107.	Marie O'Donovan	Tom Corr	Brief of Evidence
98F	Michael Kerin and Annette Kerin	Various	Further responses to applicant's response submission.
108.	Galway County Council		Drone Video Footage
109.	Galway County Council		Motorway Scheme 2018 – Schedule 1 - Volume 1 of 2
109A.	Galway County Council		Motorway Scheme 2018 – Schedule 2- Schedule 7 - Volume 2 of 2
110.	Galway County Council		Motorway Scheme 2018 – Schedule 1 (With Tracked Changes) - Volume 1 of 2
110A.	Galway County Council		Motorway Scheme 2018 – Schedule 2 – Schedule 7 (With Tracked Changes) Volume 2 of 2
111.	Galway County Council		Schedule of Additional Environmental Commitments updated 20 th October 2020

No.	Submitted by	Presenter	Topic
111A.	Galway County Council		Schedule of Additional Environmental Commitments updated 20 th October 2020 plus Maps
112.	Galway County Council		Consolidated Version of Schedule of Environmental Commitments
112A.	Galway County Council		Consolidated Version of Schedule of Environmental Commitments with tracked changes
113.	Galway County Council		Motorway Scheme 2018 Schedule with Tracked Changes
114.	Galway County Council		Protected Road Scheme 2018 Schedule
114A.	Galway County Council		Protected Road Scheme 2018 Schedule with Tracked Changes
115.	Galway County Council		Motorway Scheme – Deposit Maps
115A.	Galway County Council		Motorway Scheme – Deposit Maps – With Tracked Changes
116.	Galway County Council		Protected Road Scheme – Deposit Maps
116A.	Galway County Council		Protected Road Scheme – Deposit Maps – With Tracked Changes
117.	Galway County Council		EIAR – Cumulative Impact Assessment of Burkeway Bearna SHD
118.	Galway County Council		AA – In combination Assessment of Burkeway Bearna SHD