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18 Material Assets-Land Use and Property

18.1 Introduction

This chapter describes the material assets in the form of utilities that could potentially be impacted by the Proposed Project.

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Material assets are defined in the EPA Draft Guidelines on Information to be contained in Environmental Impact Assessment Reports (EPA, 2017) as:

> *'The meaning of this factor is less clear than others. In Directive 2011/92/EU it included architectural and archaeological heritage. Directive 2014/52/EU includes those heritage aspects as components of cultural heritage. Material assets can now be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes road infrastructure. Sealing of agricultural land and effects on mining or quarrying potential come under the factors of land and soils.'*

The purpose of this section is to assess the impacts of the proposed utilities on the existing utility network which includes the following infrastructure;

- Electricity;
- Water;
- Drainage;
- Gas; and
- Telecommunications (including broadband) and TV.

Other material assets of human origin are addressed in Chapter 17 'Material Assets: Land Use and Property'.

Material assets of natural origin are addressed in other chapters of this EIAR namely, Chapter 11 'Archaeological, Architectural and Cultural Heritage', Chapter 13 'Land and Soils' and Chapter 15 'Resource and Waste Management'.

The Proposed Project is described in detail in Chapter 5, 'Description of the Proposed Scheme', and indicative construction methodology is also outlined in Chapter 5.

18.2 Assessment Methodology

18.2.1 Study Area

A description of the existing environment of the study area is given in Chapter 5 'Description of the Proposed Scheme'.

18.2.2 Identification of Utilities

FAC were commissioned by Dún Laoghaire-Rathdown County Council (DLRCC) to carry out a utilities investigation of the main proposed area of works.

The scope of the investigation consists of mapping underground infrastructures, by analysing utilities maps from all service providers in the area. A detailed underground utility and ground penetrating radar survey was also carried out along the proposed road route to verify mapped services and identify any unmapped services. Slit trenches were excavated along all roads intersected by the scheme to physically identify and survey utilities encountered.

18.2.3 Significance Criteria

Significance criteria for impacts on utilities are set out in Chapter 1 'Introduction'.

18.3 Baseline Environment

There is an extensive network of utilities of a variety of companies, which provide services to domestic, commercial and industrial customers across this relatively rural area. The majority of utilities are buried beneath public roads with numerous local connections branching from the main trunk services. There are also significant overhead utilities in the area.

The following sections describe the general utility network infrastructure in the area.

18.3.1 Electricity

There is both high voltage transmission lines and local distribution infrastructure in the area with a mix of overhead and underground cables. The following cables are located throughout the overall area with a smaller map provided below in Figure 18.1;

- Black-38KV and Higher Voltage Overhead Lines;
- Green-MV (10KV/20KV) Overhead Lines;
- Blue-LV (400V/230V) Overhead Lines;
- Cyan-38KV and Higher Voltage Underground Cable Routes; and
- Red-MV/LV (10KV/20KV/400V/230V) Underground Cable Routes.

High voltage overhead infrastructure consists of the Arklow – Carrickmines 220kV Double Circuit Route and the Carrickmines – Fassaroe 110 kV line.

In general distribution infrastructure follows existing roads and will therefore be affected primarily at the junctions with the proposed scheme.

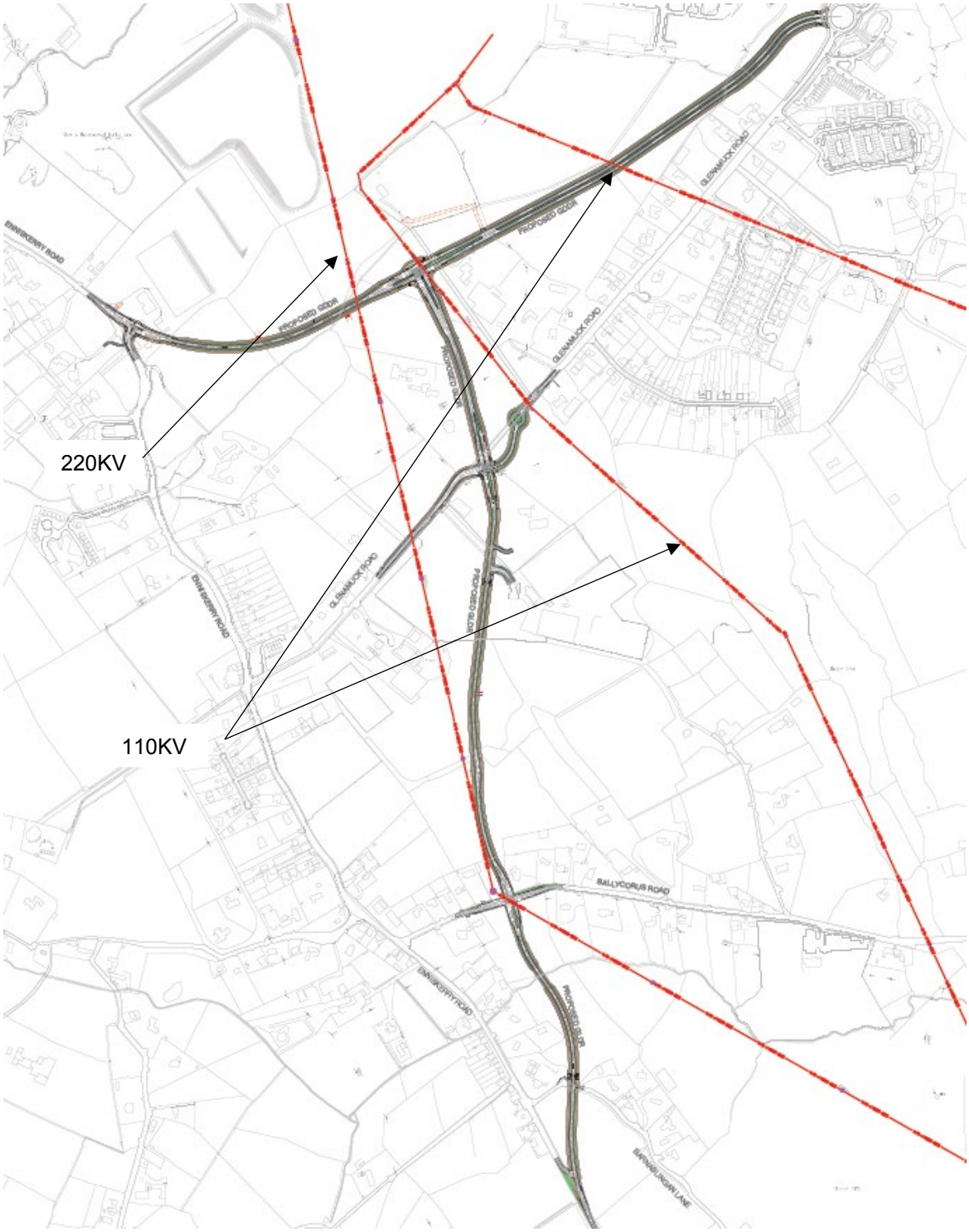

Figure 18-1 High Voltage ESB infrastructure in the vicinity of the GDRS

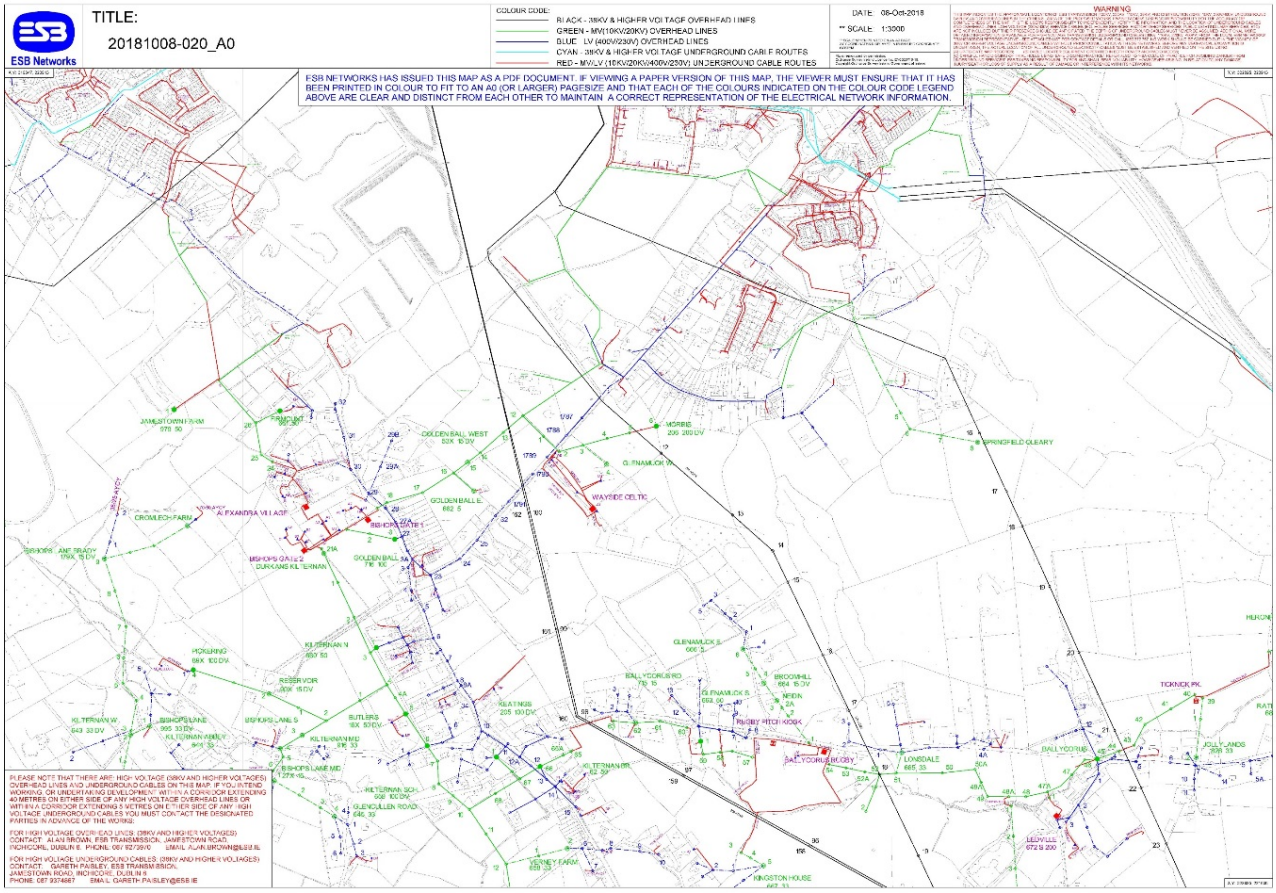

Figure 18-2 Overall ESB infrastructure in the vicinity of the GDRS
(Source: ESB Networks)

Objective EI13 of the LAP states a desire to underground high voltage transmission lines in the area. Eirgrid (Transmission System Operator) have confirmed that undergrounding of the 220KV line is technically infeasible and only overhead diversions would be considered.

Diversion of the 220KV line at Ballycorus Road was proposed as part of the original scope of the roads scheme. This would require the addition of at least two new 220KV angle plyons and would result in significant cost and visual impact as well as serious disruption to the regional electrical transmission network.

A solution has been developed which delivers the road while maintaining the existing pylons in place. This is subject to final agreement with Eirgrid (Transmission System Operator), ESBN (Transmission Asset Owner) and ESBI (Consultant to Eirgrid and ESBN) however it has been confirmed that the preliminary design is acceptable.

The feasibility of undergrounding 110KV in the vicinity of the scheme has been explored with relevant stakeholders. It has been confirmed that current policy is for undergrounding of 110KV infrastructure to commence or terminate at a substation. The closest substation is located on the Ballyogan Road approximately 1.2km west of the scheme extents. The lines cannot therefore be undergrounded as part of the current scheme. It is intended that DLRCC will lay underground ductwork along the scheme which would facilitate the future undergrounding of the line(s) along the route of the proposed roads.

18.3.2 Water

There are a number of Irish Water watermains in the vicinity of the proposed scheme with an extract provided below. Watermain infrastructure potentially affected by the scheme include;

- Two watermains (200mm & 300mm) on Enniskerry Road North;
- 300mm watermain (laid as part of Serviced Land Initiative [SLI]) which roughly parallels the GDDR;
- Watermain infrastructure along the Glenamuck Road (size varies);
- 75mm Watermain along the Ballycorus Road; and
- 200mm watermain along the Enniskerry Road South.

Figure 18-3 Existing Watermain Infrastructure in the vicinity of the GDRS (North)
(Source: DLRCC)

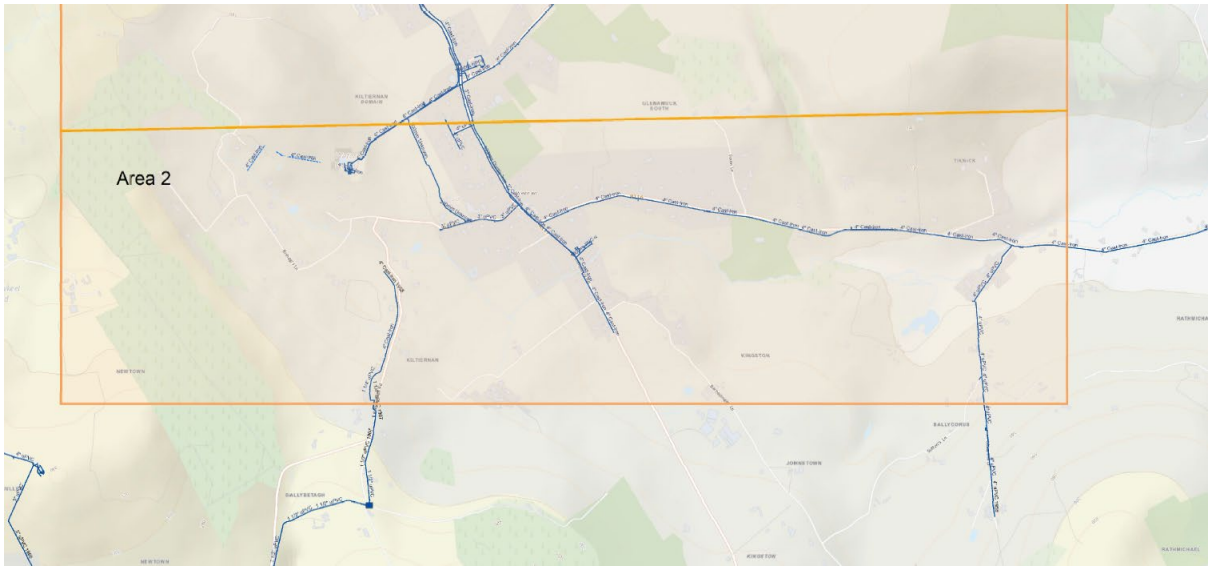

Figure 18-4 Existing Watermain Infrastructure in the vicinity of the GDRS (South)
(Source: DLRCC)

18.3.3 Storm Water Drainage

There are existing storm water networks in the vicinity of the proposed scheme with an extract provided below. It is noted that much of the local area is drained by existing watercourses, refer to Chapter 14 for details on local watercourses and hydrology. Storm Drainage infrastructure potentially affected by the scheme include;

- Existing piped and open roadside ditches on Glenamuck Road;
- Existing ditches and surface flow paths along other affected roads; and
- Existing unmapped agricultural drainage.

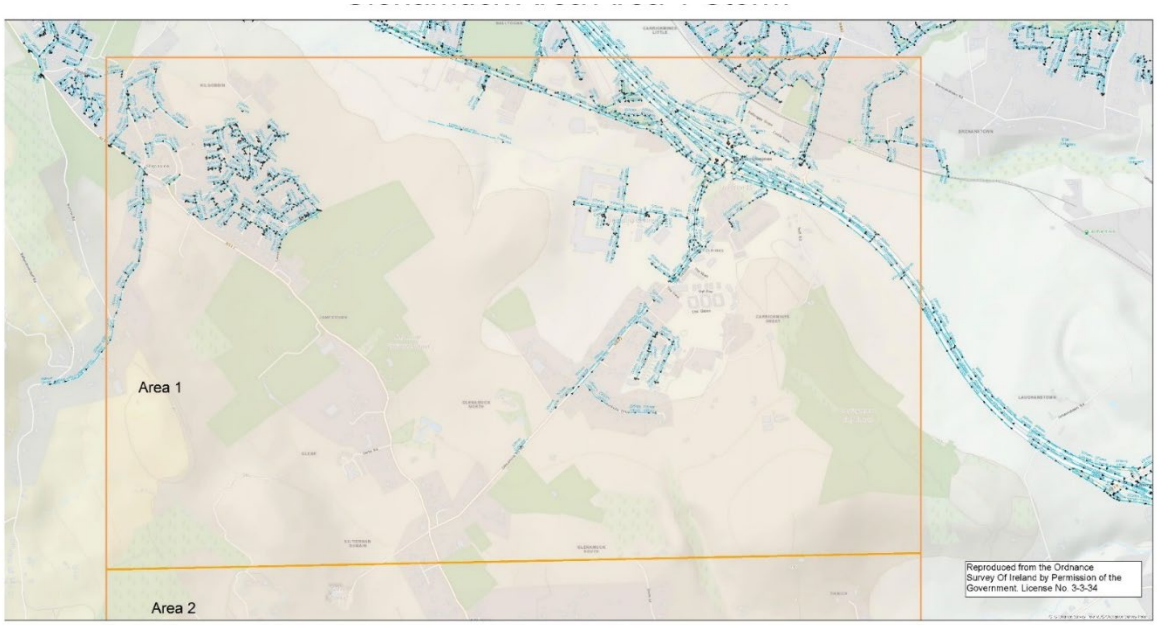

Figure 18-5 Existing Stormwater Infrastructure in the vicinity of the GDRS (North)
(Source: DLRCC)

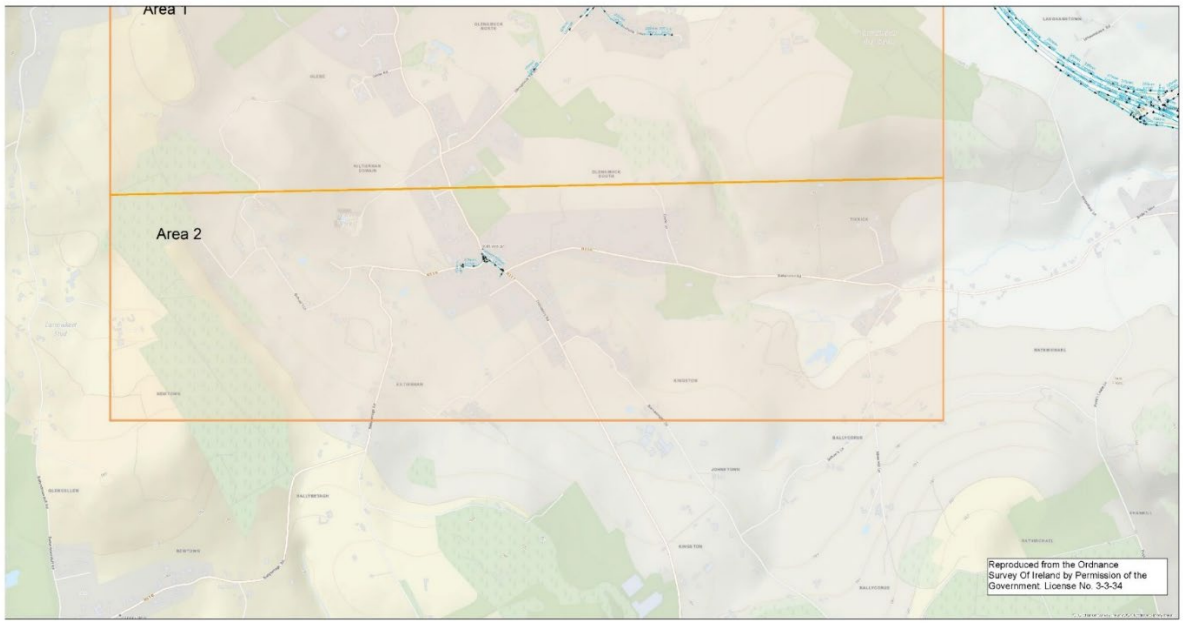

Figure 18-6 Existing Stormwater Infrastructure in the vicinity of the GDRS (South)
(Source: DLRCC)

18.3.4 Foul Sewers

There are a number of Irish Water foul sewers in the vicinity of the proposed scheme with an extract provided below. Foul Sewer infrastructure potentially affected by the scheme include;

- 375mm-525mm sewer (laid as part of Serviced Land Initiative (SLI)) which roughly runs in parallel to the GDDR;
- 300mm-375mm sewer along the Glenamuck Road;
- 225mm sewer at Golf Lane Roundabout; and
- 525mm sewer along the Enniskerry Road South.

Figure 18-7 Existing Foul Sewer Infrastructure in the vicinity of the GDRS (North)
(Source: DLRCC)

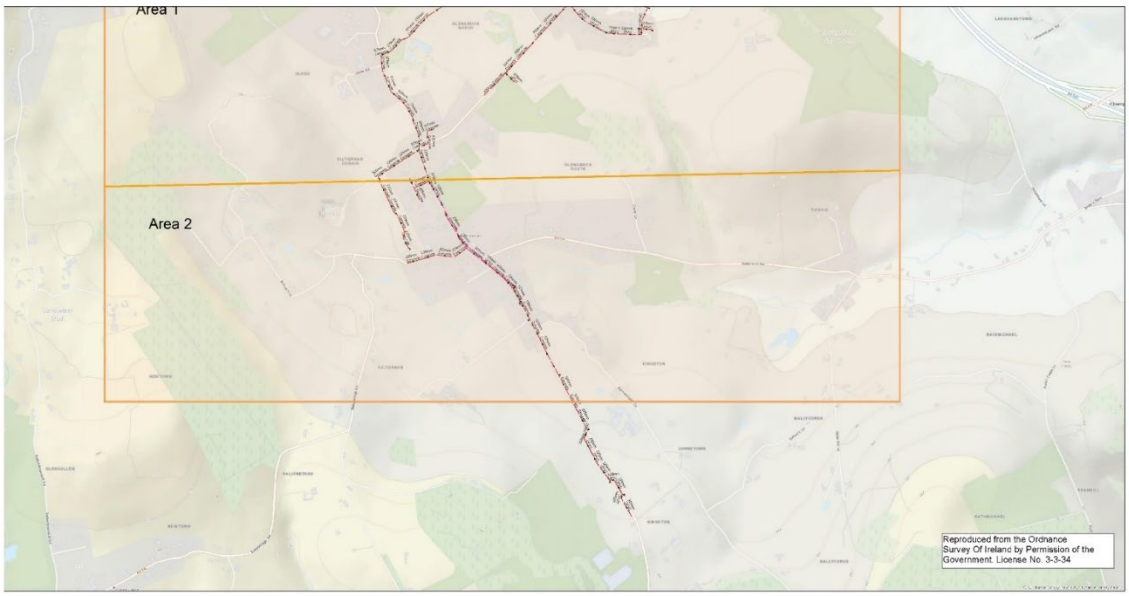

Figure 18-8 Existing Foul Sewer Infrastructure in the vicinity of the GDRS (South)
(Source: DLRCC)

18.3.5 Gas

According to the utilities map from Gas Networks Ireland, there is a medium pressure distribution pipe along the Glenamuck Road and Enniskerry Road South in addition to feeds to various local developments.

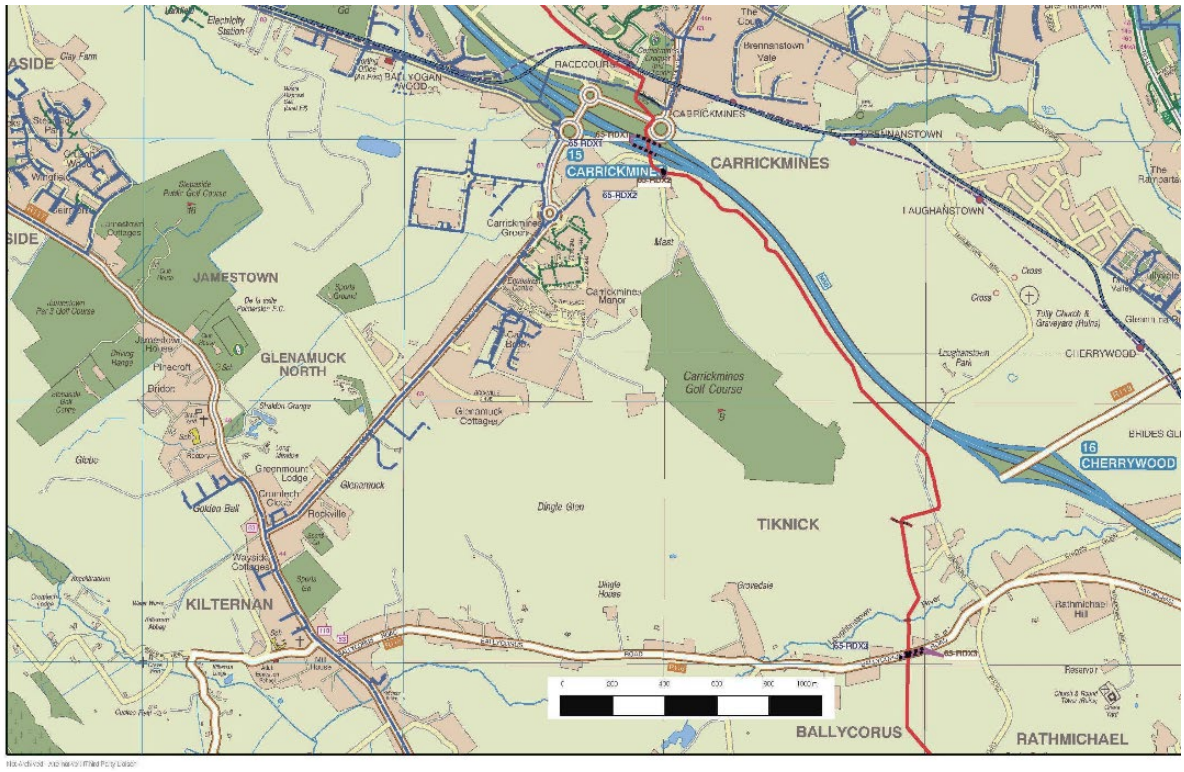

Figure 18-9 Existing Gas Infrastructure in the vicinity of the GDRS
(Source: Gas Networks Ireland)

18.3.6 Telecommunications

Eir and Virgin Media both have infrastructure in the vicinity of the scheme. There is significant infrastructure in the vicinity of the roundabout at Carrickmines and additional services along the existing Enniskerry Road, Glenamuck Road, Ballycorus Road and Barnaslingan Lane. Figure 18-7 and 18-8 below highlight infrastructure in the vicinity of the scheme.

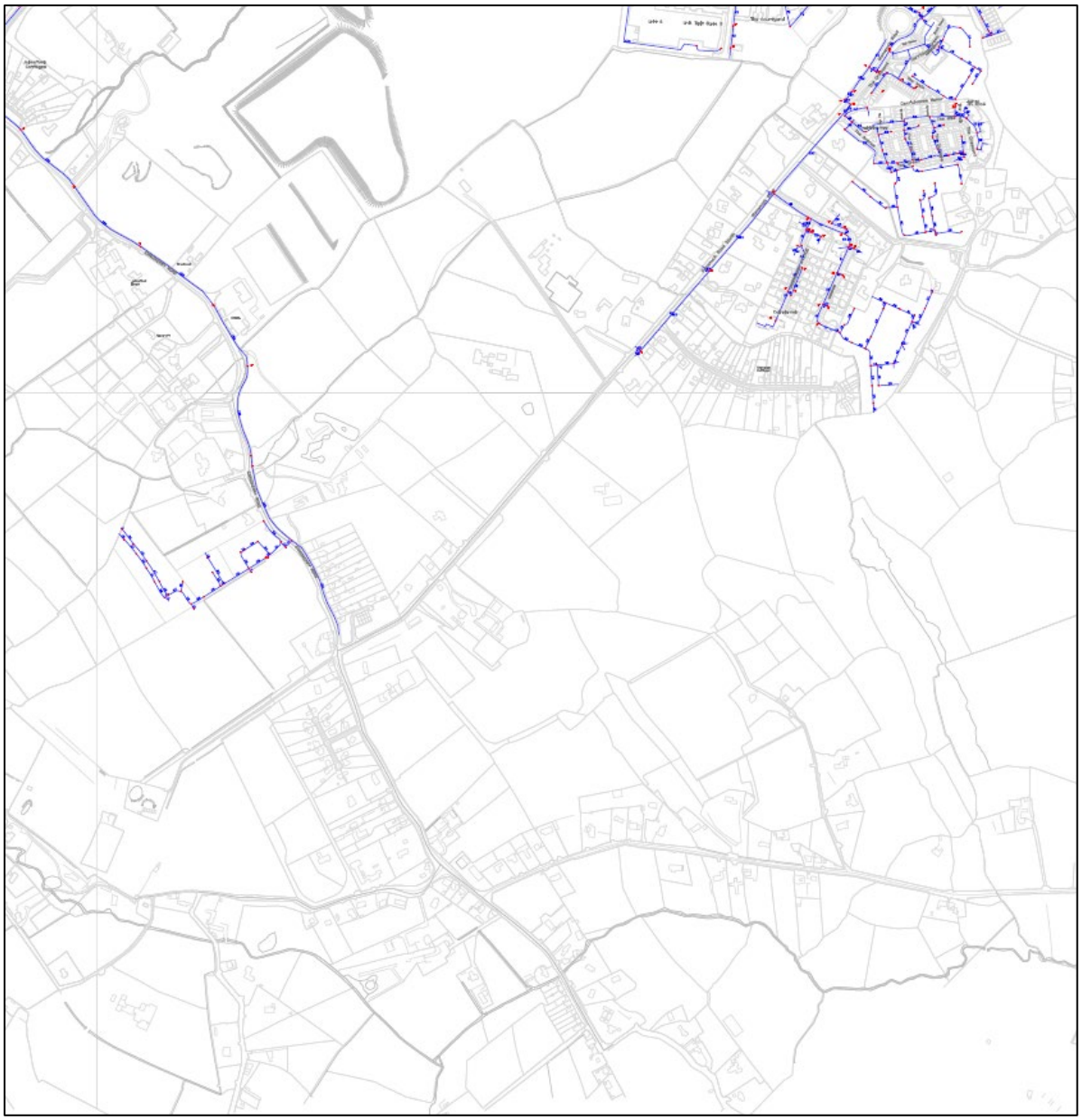

Figure 18-10 Virgin Media Infrastructure in the vicinity of the GDRS
(Source Virgin Media)

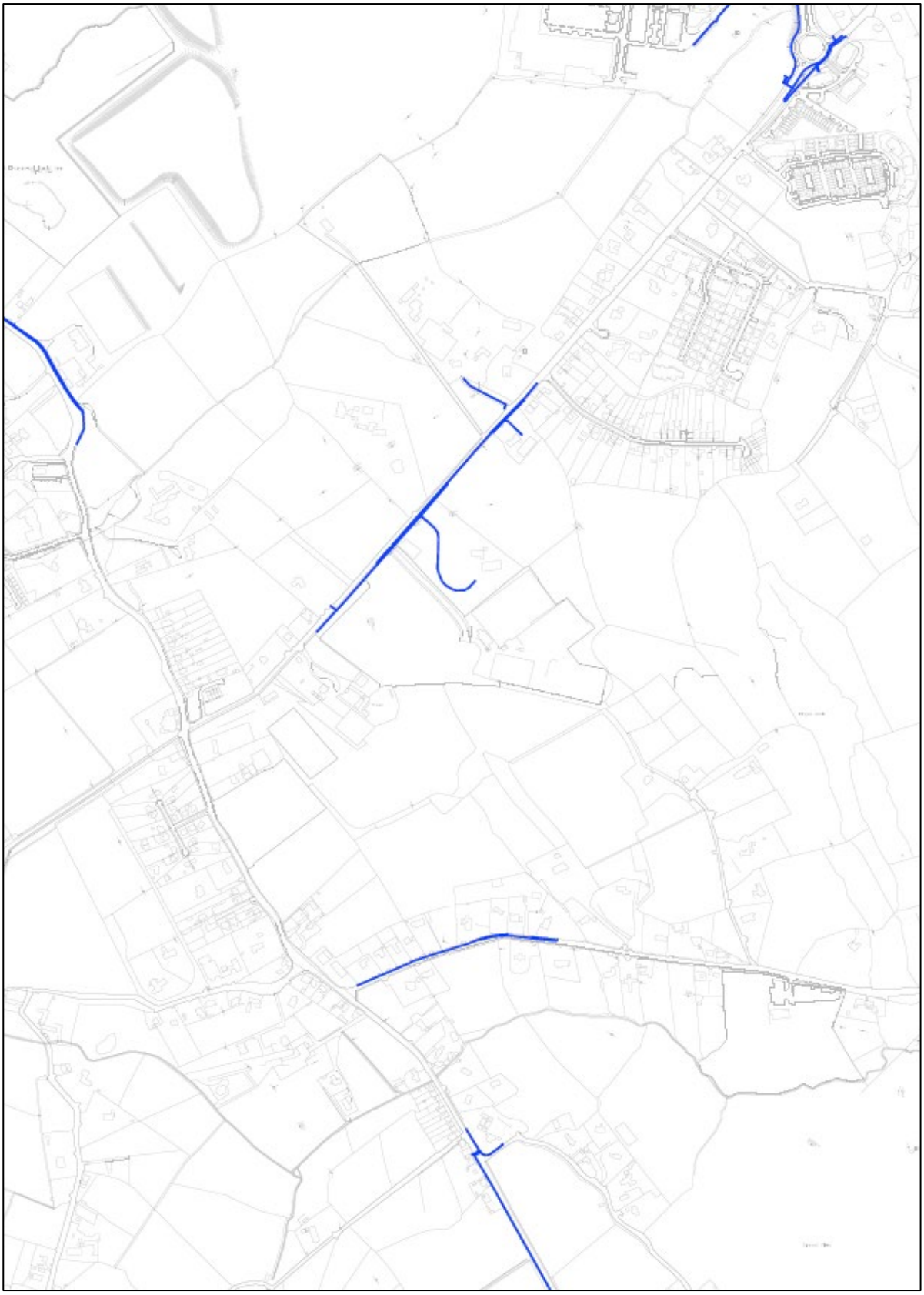

Figure 18-11 Eir Infrastructure in the vicinity of the GDRS
(Source Eir - Infrastructure only shown at Interface Points)

18.4 Predicted Impacts

18.4.1 Electricity

Some local diversions may be required to power supplies to accommodate the construction works which may require temporary outages. This is anticipated to result in a slight, negative and short-term impact.

Power will be required for the construction activities, for temporary lighting and temporary signals required during construction works. The power demands during the construction phase on the existing electricity network are considered to be a slight, negative and short-term impact.

Power will be required to provide public lighting, information displays, traffic signals etc. for the operational phase of the road. The power demands during the operational phase on the existing electricity network are considered to be imperceptible.

The scheme will facilitate utility providers installing new and upgraded infrastructure within the scheme corridor which will provide a moderate positive impact to the local utility network.

18.4.2 Water

Some local diversions may be required to water supplies to accommodate the construction works which may require temporary outages. This is anticipated to result in a slight, negative and short-term impact.

The Contractor will require a separate water supply connection for the construction activities. The water demands during the construction phase on the existing water supply network are considered to be slight, negative and short-term impact.

The scheme will facilitate Irish Water installing new and upgraded infrastructure within the scheme corridor which will provide a moderate positive impact to the local network.

18.4.3 Foul Sewers

Existing networks may require local works to accommodate the construction of the scheme. The Contractors operations have the potential to result in the generation of effluent and sanitary waste from facilities provided for the workforce on site. This is anticipated to result in a slight, negative and short-term impact.

The scheme will facilitate Irish Water installing new and upgraded infrastructure within the scheme corridor which will provide a moderate positive impact to the local network.

18.4.4 Surface Water Drainage

Existing networks may require local works to accommodate the construction of the scheme. This is anticipated to result in a slight, negative and short-term impact. Construction impact on the overall surface water environment is addressed in Chapter 14.

The scheme will provide new and upgraded infrastructure with regional attenuation measures within the scheme corridor which will provide a moderate positive impact to the local network.

18.4.5 Gas

Some local diversions may be required to gas supplies to accommodate the construction works which may require temporary outages. This is anticipated to result in a slight, negative and short-term impact.

No new gas mains or additional gas supply is required during the construction phase of the Proposed Project.

The scheme will facilitate utility providers installing new and upgraded infrastructure within the scheme corridor which will provide a moderate positive impact to the local utility network.

18.4.6 Telecommunications

Some local diversions may be required to telecommunication supplies to accommodate the construction works which may require temporary outages. New telecommunications services will be required for the construction phase and operational phase (for traffic signals etc). This is anticipated to result in a slight, negative and short-term impact.

The scheme will facilitate utility providers installing new and upgraded infrastructure within the scheme corridor which will provide a moderate positive impact to the local utility network.

18.5 Mitigation Measures

The Contractor will be obliged to put measures in place during the construction phase to ensure that there are no interruptions to existing services and all services and utilities are maintained unless this has been agreed in advance with the relevant service provider and local authority. All works in the vicinity of utilities infrastructure will be carried out in ongoing consultation with the relevant utility company and/or local authority and will be in compliance with any requirements or guidelines they may have.

All relevant utility providers will be contacted and offered the opportunity to incorporate new strategic infrastructure into the new road construction. The majority of major utility providers have already been notified of the proposed scheme. Where new services are required, the Contractor will apply to the relevant utility company for a connection permit where appropriate and will adhere to their requirements.

Due to the measures already incorporated in the design, no mitigation measures for utilities will be necessary during the operational phase.

18.6 Residual Impacts

Following implementation of mitigation measures outlined in Section 18.5, the residual impact on utility services is considered to be imperceptible.

18.7 Difficulties Encountered

There were no significant difficulties encountered with the exception of local access issues detailed elsewhere in this report.

18.8 References

- EPA (2017) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, Draft August 2017. Johnstown Castle estate, Wexford, Ireland;
- ESB (2018) ESB Networks Utilities Map. Dublin Ireland;
- Gas Networks Ireland (2018) Gas Networks Ireland Utilities Map. Dublin, Ireland;
- Irish Water (2018) Irish Water (Dún Laoghaire-Rathdown County Council) Utilities Maps-Water, Drainage and Foul Sewer. Cork/Dublin, Ireland;
- Eir (2018) Eircom/Eir Utilities Map in relation to Broadband. Dublin, Ireland;
- Virgin Media (2018) Utilities Map in relation to Broadband. Dublin, Ireland.