

17.0 MATERIAL ASSETS - SITE SERVICES (UTILITIES)

17.1 Introduction

This chapter of the EIAR comprises of an assessment of the Gas, ESB and Telecommunications services to serve the proposed residential development at the subject site located within Sandyford Business District. This document is in line with the site services drawing R478-OCSC-XX-XX-DR-ME-002-S8-P01 and will explain each of the aforementioned services highlighting relevant maps and designs for the development.

There will be no impact to existing ESB, Gas and Telecommunication networks during the construction and operational phases. Any diversions or new connections will be planned and accommodated by Utility providers with minimal disruption. Note that Surface Water Drainage, Foul Drainage and Water Supply are addressed in Chapter 10 (Water-Hydrology).

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17.2 Methodology

Assessment of the likely impacts of the proposed development on existing utility services in the vicinity of the site included a desktop review of the following information:

- Gas Networks Ireland Service Plans
- ESB Network Utility Plans
- EIR E-Maps

17.3 Description of Receiving Environment

17.3.1 Gas

A Gas connection runs parallel to the site on Carmanhall Road. Please refer to Figure 17.2 showing the existing Gas network around the proposed site. An existing Medium pressure distribution pipeline (125mm PE/4bar) is present in the local grid network.

17.3.2 ESB

There are two ESB substations located at the subject site as identified at Figure 17.8. The existing substation 1 at the Blackthorn drive side will remain, it comprises of a 25m x4m x3m (LxWxH) enclosure (front to back) - switch room – double sub – switch room – double sub - with a backup generator. There is not enough capacity to utilise this substation for the entire proposed development.

The existing single substation 2 at the Carmanhall Road end is to be decommissioned and removed with a new substation/switch rooms to be provided at level 1 with direct access to Carmanhall Road. ESB confirmed after inspection that this substation is live but feeds

nothing and is currently tail fed thus negating the need to connect both substations around the perimeter of the site, which would have been costly and disruptive.

17.3.3 Telecommunications

The existing comms cables running through the proposed site off Carmanhall Road to be re-directed.

17.4 Characteristics of the Proposed Development

17.4.1 Gas

Connection to the New Site:

A Gas connection will be taken from the grid network parallel to the site on Carmanhall Road. Please refer to Figure 3 showing the existing Gas network around the proposed site. As medium pressure gas is present in the local grid network, the gas connection must be converted from medium pressure to low pressure before entering the basement.

A District Regulating Installation (DRI), above ground pressure reducing station will convert medium pressure to low pressure. This DRI station is located indicatively external to the basement, as shown on the accompanying site services drawing. Please refer to Figure 17.1 showing the details of a typical DRI.

OCSC have reviewed the gas capacity for the development and will apply for a new connection through Gas Networks Ireland (GNI) accordingly. A Gas meter will be located in a naturally ventilated basement, in line with specific GNI rules and regulations, exact location in the basement is to be confirmed.

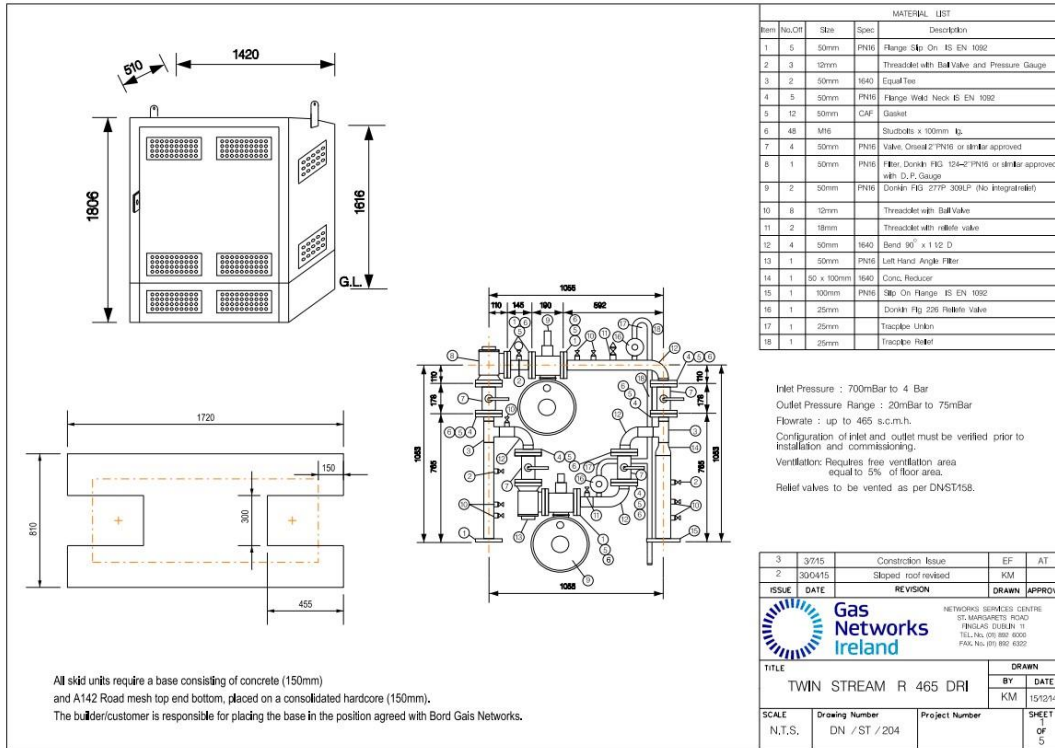


Figure 17.1: DRI Schematic Drawing.

Source: Gas Networks Ireland.

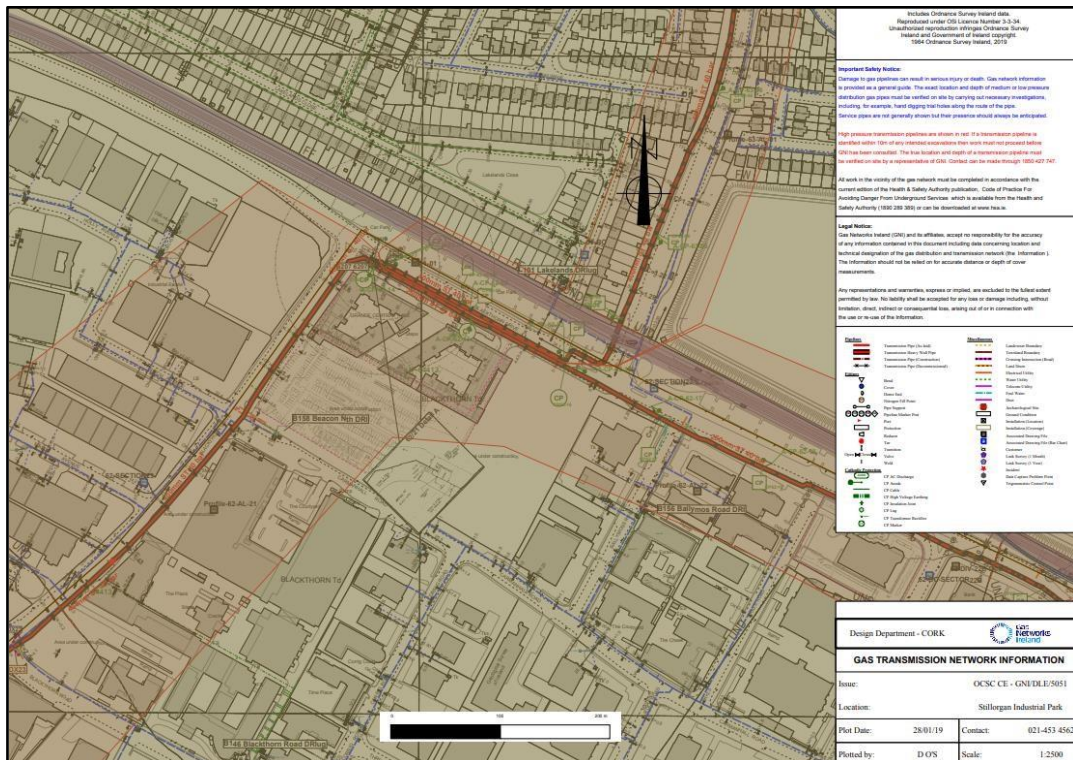


Figure 17.2: Aerial Image of Site and Existing Gas Network around Sandyford Business Park.

Source: Gas Networks Ireland.

DRI units - Examples of DN/ST/24 DRI Installation are provided below:



Figure 17.3: Ballgriffin Road DRI – Standard Installation.

Source: Gas Networks Ireland.



Figure 17.4: Wyckham Road DRI – Standard Installation – Landscaped.

Source: Gas Networks Ireland.



Figure 17.5: St. Stephens Green DRI – Custom Installation – Landscaped / GRP Enclosure.

Source: Gas Networks Ireland.

17.4.2 ESB

As stated above in Section 17.3.2, there are two ESB substations located at the subject site identified at Figure 17.8, at the Carmanhall Road and the Blackthorn Drive.

Depending on how we sequence the build there is potential to utilise substation 2 as the Temporary Builders Supply for most of the build which reduces the need for (3 phase) mobile diesel generators for the cranes, cabins, and mast climbs etc. When required the temporary generators can be situated in basement with acoustic baffles to reduced noise pollution.

Proposed Sub Station for New Site

We are proposing to have two double substations at each end of the site, it has been confirmed by ESB that this is acceptable. Both can be connected directly to cable infrastructure in pavement outside the site, therefore avoiding the need to connect both substations around the curtilage of our site.

The current estimated electrical loading for the completed development is circa 3.5kVA.

Site Services Map

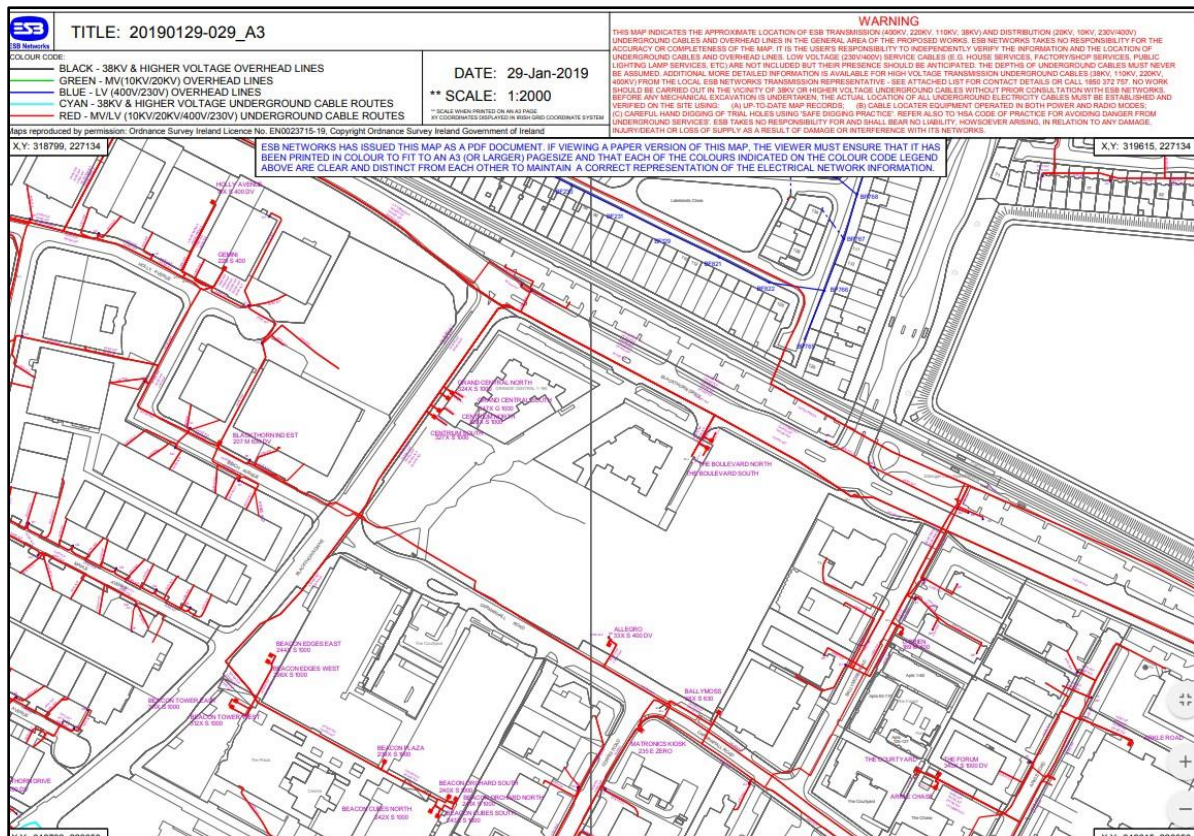


Figure 17.6: ESB Map of Existing Cables.

Source: ESB Networks.

ESB Existing Substations



Figure 17.7: Existing Substations on Proposed New Site.

Source: Google Maps.

17.4.3 Telecommunications

Connection to the New

Site:

A connection will be made via chambers along the main telecommunications ducts existing around the site. There will be a connection via a chamber at Blackthorn drive and at Carmanhall Road. Three ducts will be taken from each chamber for connection of telecommunication providers, these will go to each of the comms rooms. There are two comms rooms situated at each end of the proposed development, one at the Carmanhall Road side in the Basement, level -1 and one at Blackthorn drive in Level 0.

EIR Site Map

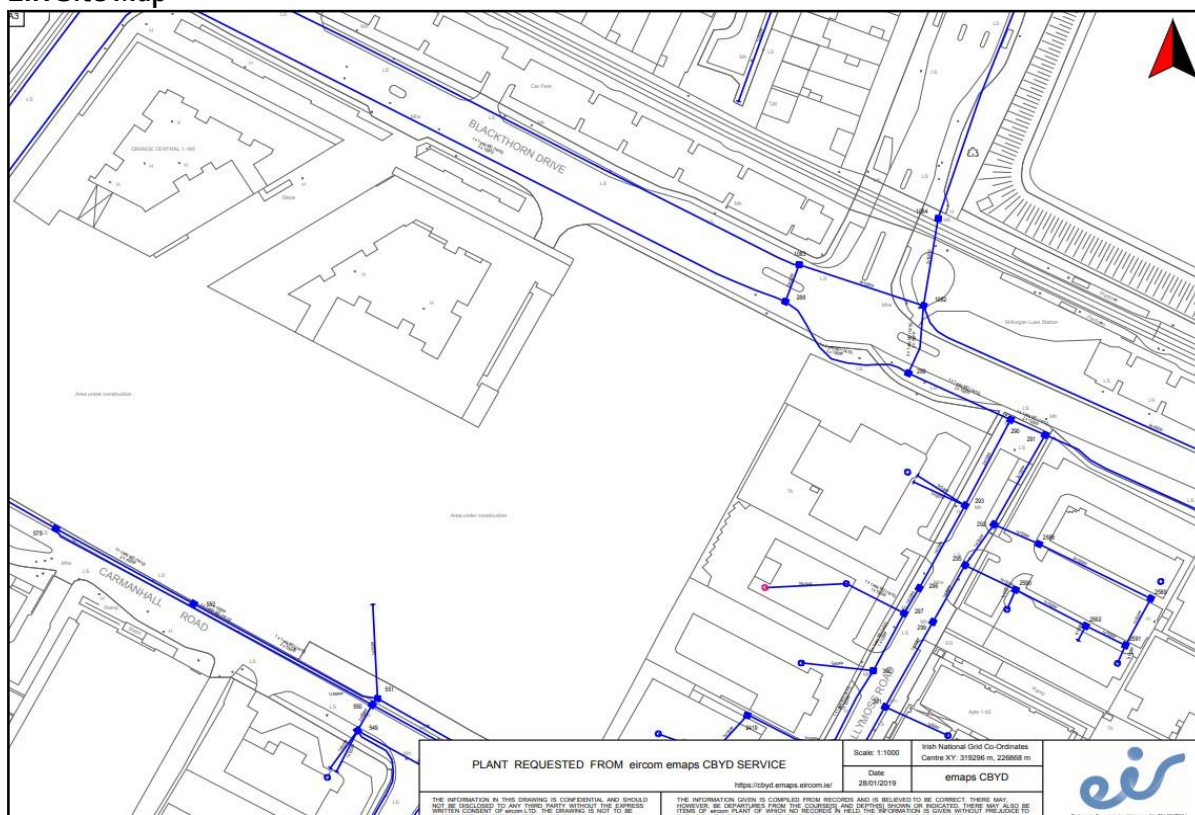


Figure 17.8: Utility Map of Existing Comms Services.

Source: EIR.

17.5 Potential Impact on the Proposed Development

17.5.1 Construction Phase

There will be no impact to existing ESB, Gas and Telecommunication networks during the construction and operational phases. Any diversions or new connections will be planned and accommodated by Utility providers with minimal disruption.

17.5.2 Operational Phase

On completion of the construction phase, there will be no further impact on electrical, gas or telecommunications supplies.

17.5.3 'Do Nothing' Scenario

There are no predicted impacts should the proposed development not proceed.

17.6 Ameliorative, Remedial or Reductive Measures

17.6.1 Construction Phase

Connections to the existing gas and telecommunications networks will be coordinated with the relevant utility provider and carried out by approved contractors.

A GPR utility survey (and slit trench investigation as required) will be carried out along Blackthorn drive and at Carmanhall Road in advance of commencing road works to confirm the location of the power and telecommunication infrastructure.

17.6.2 Operational Phase

On completion of the construction phase no further mitigation measures are proposed in relation to the electrical, gas and telecommunications infrastructure.

17.6.3 'Do Nothing' Scenario

No mitigation measures are proposed in relation the site services described in this chapter if the development does not proceed.

17.7 Predicted Impact of the Proposed Development

17.7.1 Construction Phase

Implementation of measures outlined in Section 17.6.1 will ensure that the potential impacts of the proposed development on site services do not occur during the construction phase and that any residual impacts will be short term.

17.7.2 Operational Phase

Demand from the proposed development during the operational phase is not predicted to impact on the existing power, gas and telecoms network.

17.7.3 'Do Nothing' Scenario

There are no predicted impacts should the proposed development not proceed.

17.8 Monitoring

No specific monitoring is proposed in relation to electrical, gas and telecommunications infrastructure.

17.9 Reinstatement

Reinstatement of any excavations, trenches etc. relating to the provision of electrical, and telecommunications connections is to be carried out in accordance with the relevant utility provider's requirements.

17.10 Interactions and Potential Cumulative Impacts**17.10.1 Interactions Soils and Geology**

Trench excavations to facilitate site service installation will result in exposure of subsoils to potential erosion and subsequent sediment generation. Mitigation measures are outlined in Chapter 9 Land & Soils (i.e. service trenches to be backfilled as soon as practicable to minimise potential erosion of subsoils).

17.10.2 Potential Cumulative Impacts

Other development in the vicinity of the site are likely to have similar impacts during the construction phase in relation to Material Assets – Site Services.

Should the construction phase of the developments noted above coincide with development of the site, potential cumulative impacts are not anticipated once similar ameliorative, remedial and reductive measures are implemented.