ENGINEERING EXCELLENCE

UTILITY REPORT

Proposed Residential Development at

Boherboy, Saggart, Co. Dublin

For

Evara Developments Ltd
Kelland Homes Ltd

UTILITY REPORT

BOHERBOY, SAGGART

For

EVARA DEVELOPMENTS LTD

KELLAND HOMES LTD

Project Number: 3357

CURRENT ISSUE:			
Issue no:	02	Issue Date:	25-11-2025
Project Number:	3357	Checked by:	Michael Lannon
Completed by:	Kieran Morley	Project Stage:	Planning

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1. Introduction

This report was produced to accompany a planning application and outlines the potential strategies and considerations to be taken with regards to utility infrastructure requirements to adequately serve the proposed development. Evara Developments Ltd and Kelland Homes Ltd are applying for planning permission to develop a site within townlands of Boherboy, Saggart, Co. Dublin.

A preliminary investigation has been carried out in order to establish the availability of services in the vicinity of the proposed development as outlined in the following sections. Utility provider infrastructure shall typically connect into existing service provider infrastructure networks where available as necessary. Prior to any alterations taking place agreement will be sought from each of the relevant utility providers. Maps of existing infrastructure in the vicinity of the proposed development have been sought for each of the utility providers and provided in this report where available. Each utility provider will subsequently carry out a design including drawing upon receipt of a full application.

All utility provider service cables associated with the proposed development shall be located underground where possible. Ducting will be provided to facilitate the provision of broadband infrastructure. All underground chambers shall be suitably traffic rated for the location in which it is intended that they are installed.

2. ESB Networks

ESB networks are the sole operators responsible for the electricity distribution network. There is existing Electricity Supply Board Networks (ESBN) 38kV & 20kV infrastructure on the site, in the form of overhead 38kV & 20kV cables as highlighted on the ESBN map below. An application has been formally submitted to ESBN to divert the overhead lines on the site.

From preliminary investigation and consultation with ESBN it is envisaged that new electricity ducting will tie into an existing MV circuits on neighbouring sites to service the new development. It is anticipated that 8 new plinth mounted ESBN unit substations will be sufficient to service the proposed developments electricity demands. The ESB unit substations in turn will serve a network of minipillars and underground vaults strategically located around the development within footpaths where possible. Individual meters which will be housed in cabinets located on end gable walls of dwelling houses & duplexes where space permits, or on nib walls in terrace dwelling scenarios, will be fed from the minipillars. Apartments will have centralised metering housed within dedicated electrical cupboards located internally within the common area of each block, also served by the minipillar infrastructure.

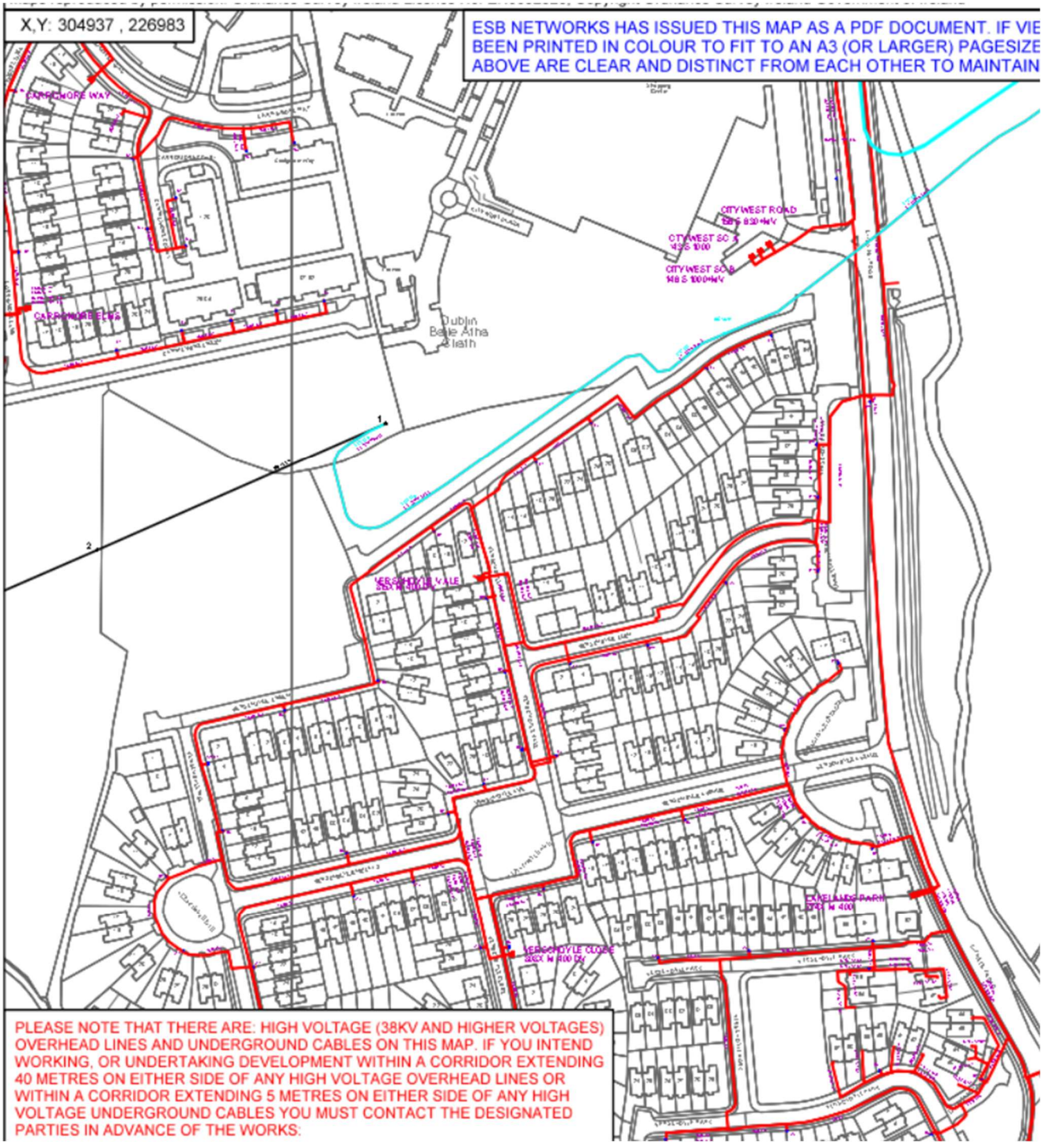


Figure 1 Existing ESB Services

Figure 2 – Existing 38kV Wooden Poles at site boundary view from Carrigmore Avenue

2.1 Cable Diversion Requirements:

It is proposed to divert all existing overhead ESB lines underground. A ducting route is highlighted in figure 3 & 4 below subject to agreement with ESB.

Thermal Sand shall be used to backfill around 38kV & 20kV cables and joints, usually in the following locations;

- 38kV & 20kV cable joint bays,
- 38kV & 20kV cables on approach to a cable mast and pull pits near substation basements.

The thermal sand shall meet the requirements set out in ESBN 38 kV Civil and Ducting standard Specification and ENA Technical Specification 97-1 (latest Revision) section 6.1.

There are 3 main criteria for the thermal sand;

1. It shall have no sharp stones or flints (may damage the cable sheath during compaction).
2. At least 95% shall pass a 4 mm sieve and 100% shall pass an 8 mm sieve.
3. The fully dried sample @ 0% moisture shall have a maximum thermal resistivity of 2.7 K.m/W.

This test shall be completed by an approved ESB Networks test laboratory by the thermal needle probe method as outlined in ASTM D5334. The thermal resistivity @ 2% moisture shall also be recorded.

The sand shall be manually compacted around the cable and joints. Full list of approved Thermal sand suppliers can be found in link below

https://www.esbnetworks.ie/docs/default-source/publications/approved-material-suppliers-for-lv-mv-38kv110kv-associated

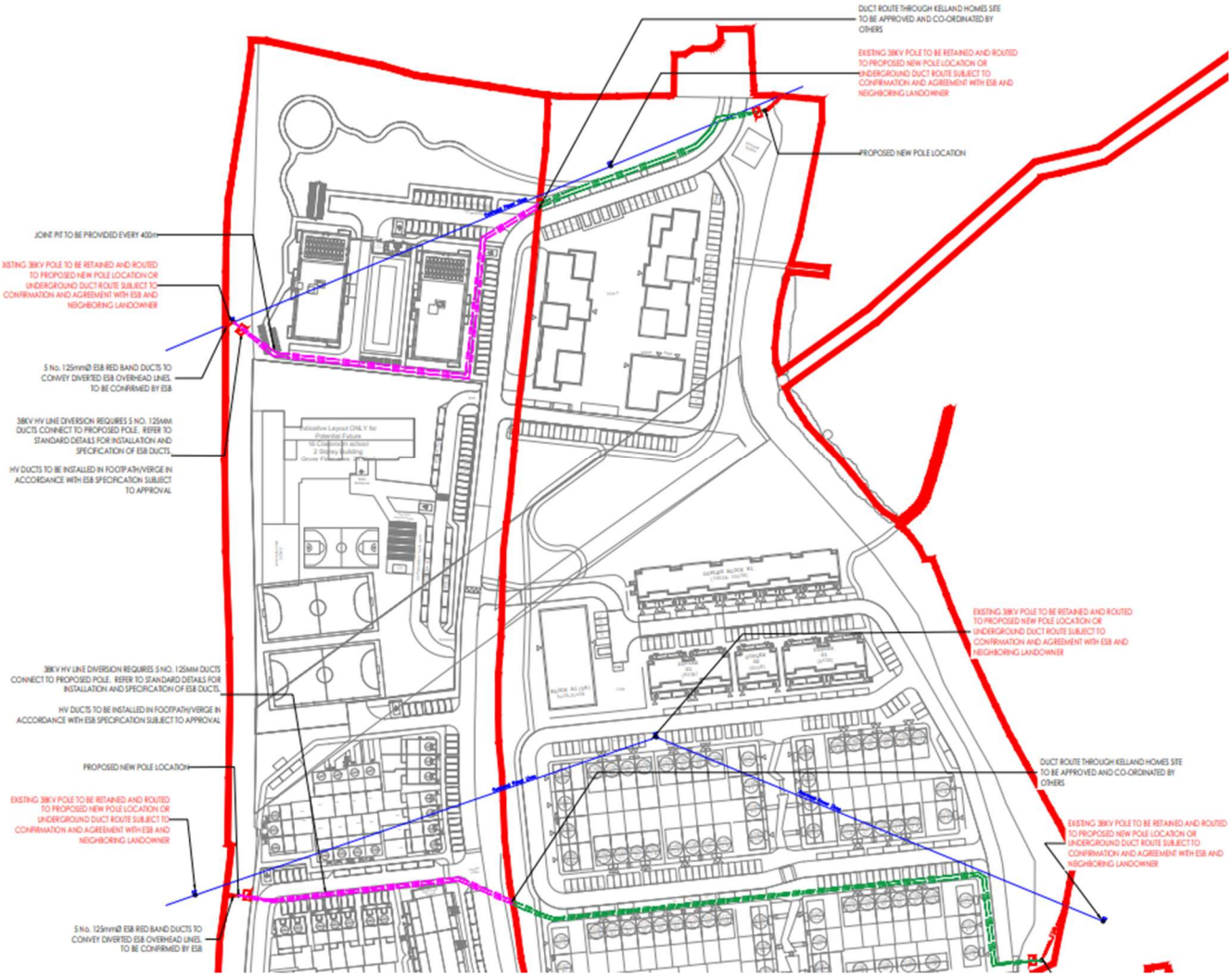


Figure 3 ESB 38KV Overhead Line Proposed Diversion ducting Route

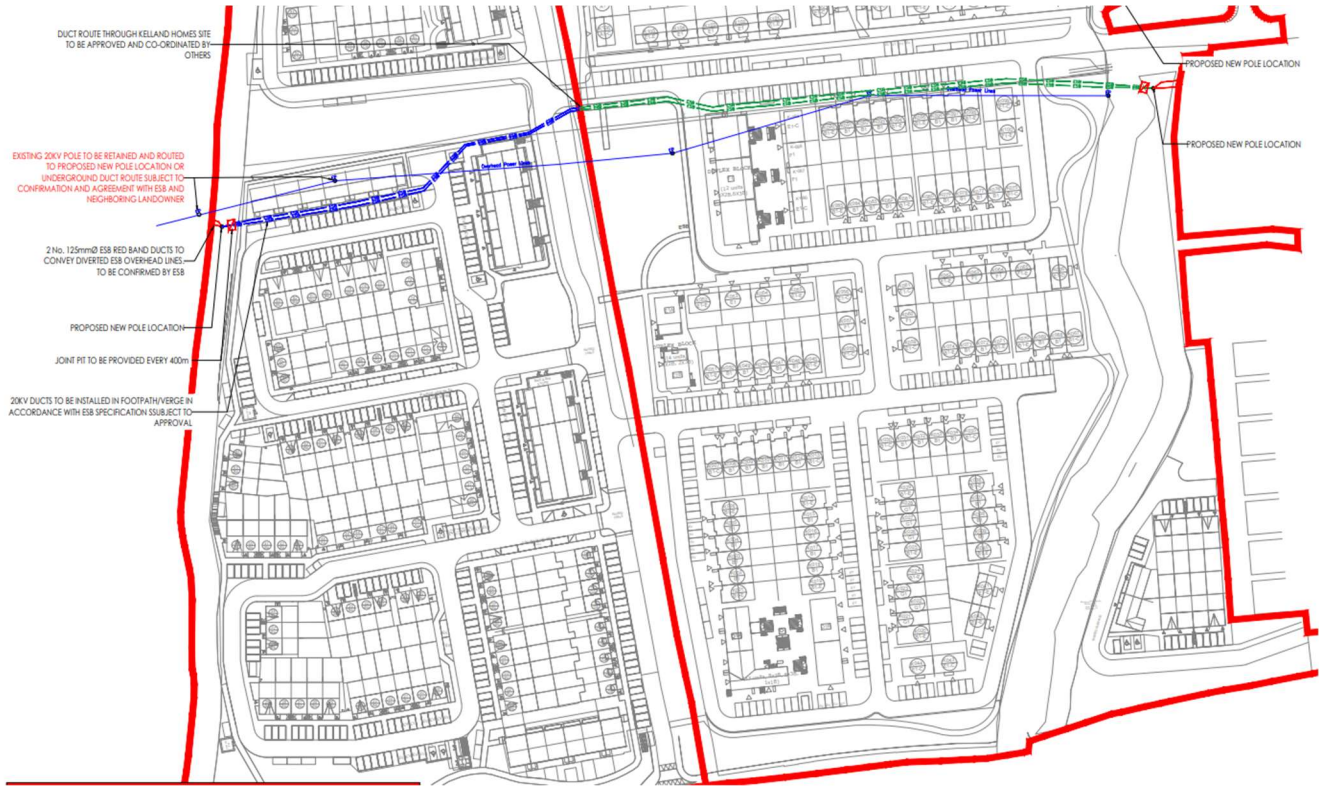
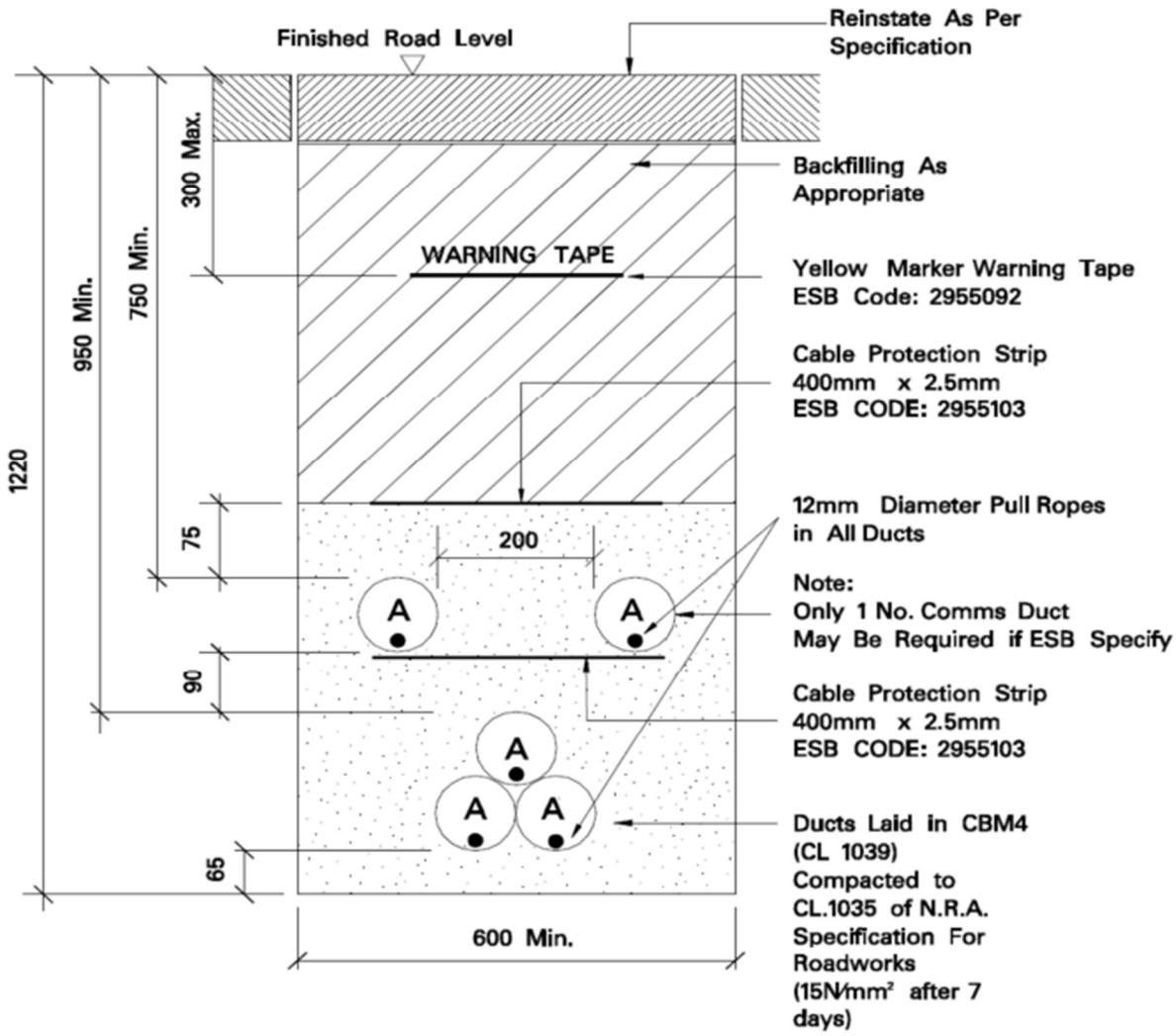
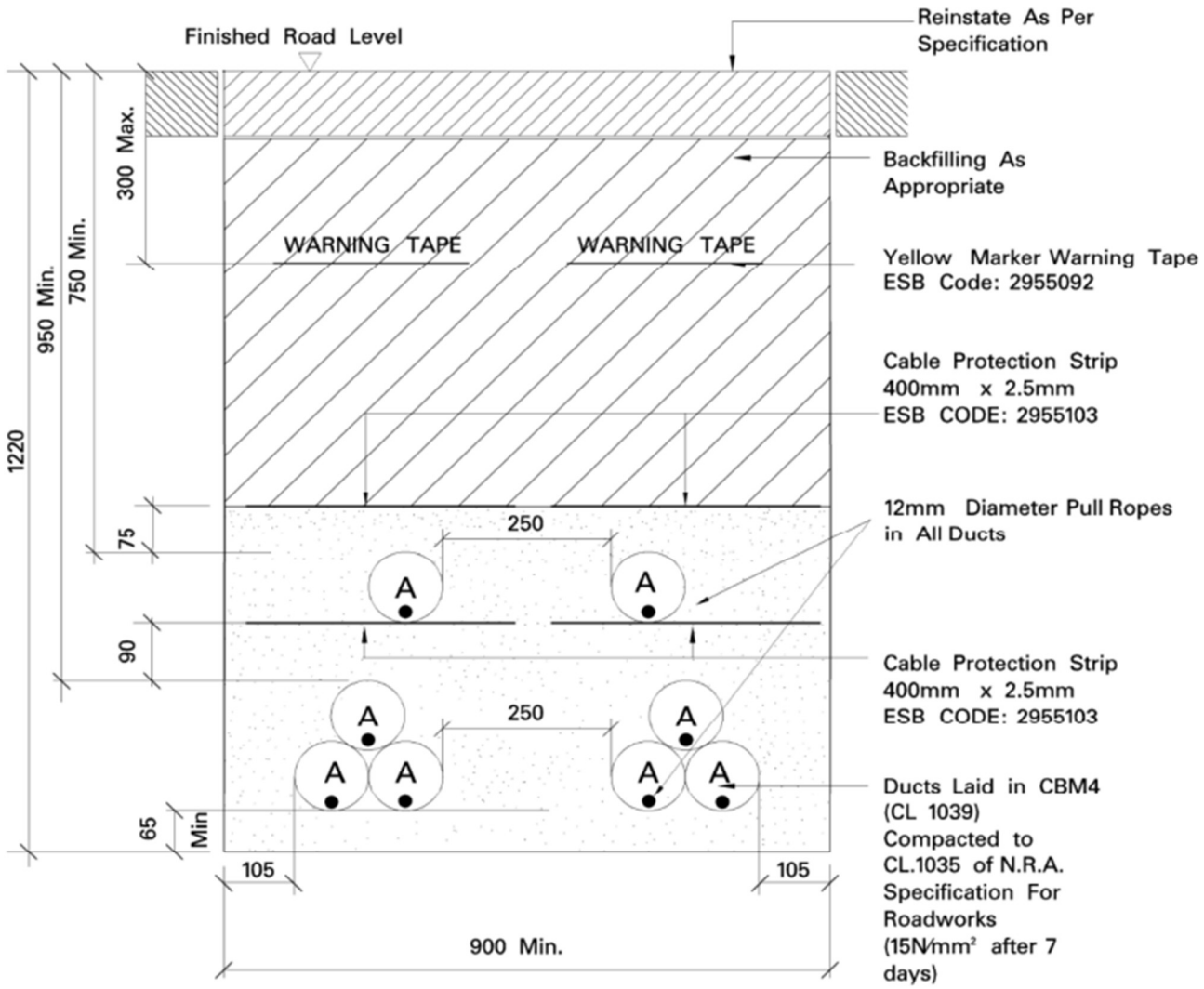


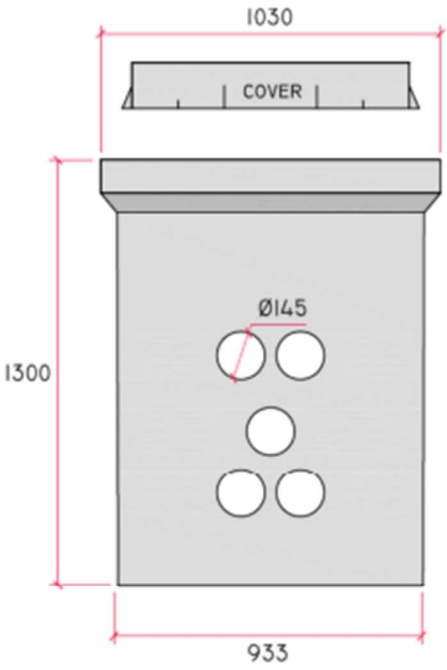
Figure 4 ESB 20KV Overhead Line Proposed Diversion ducting Route



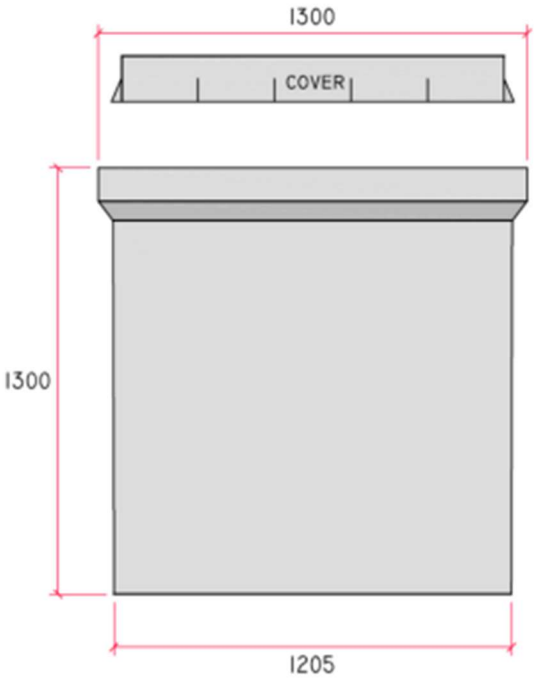
A = 110mm Outer Diameter HDPE Duct, SDR = 17.6
ESB CODE 9317556



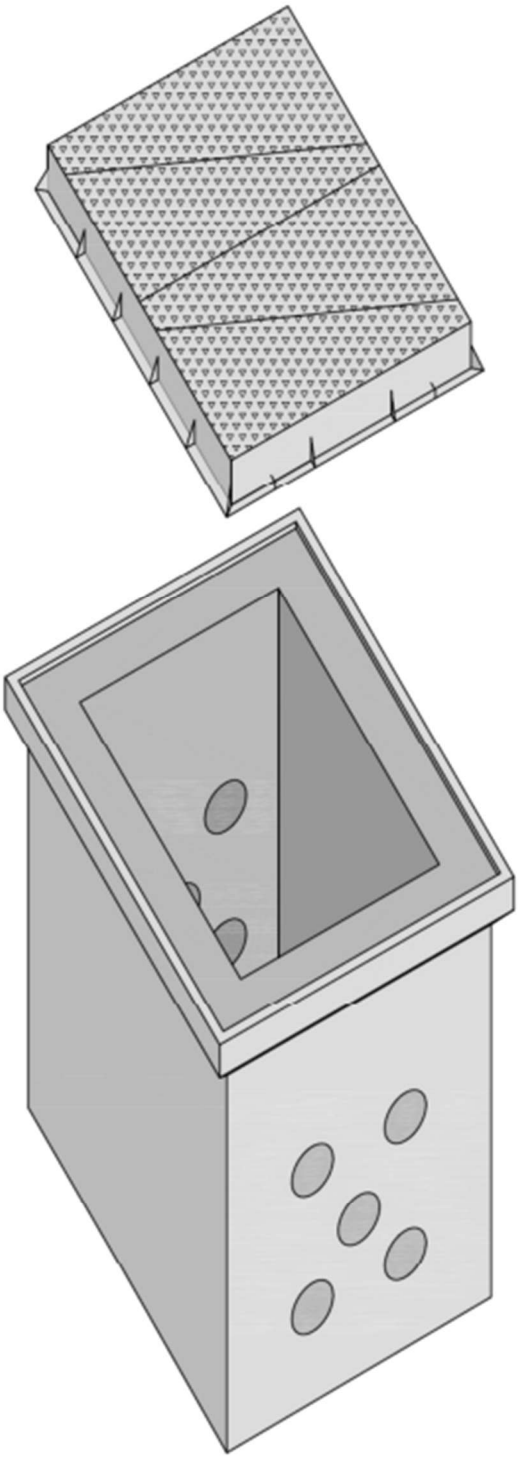
A = 110mm Outer Diameter HDPE Duct, SDR = 17.6



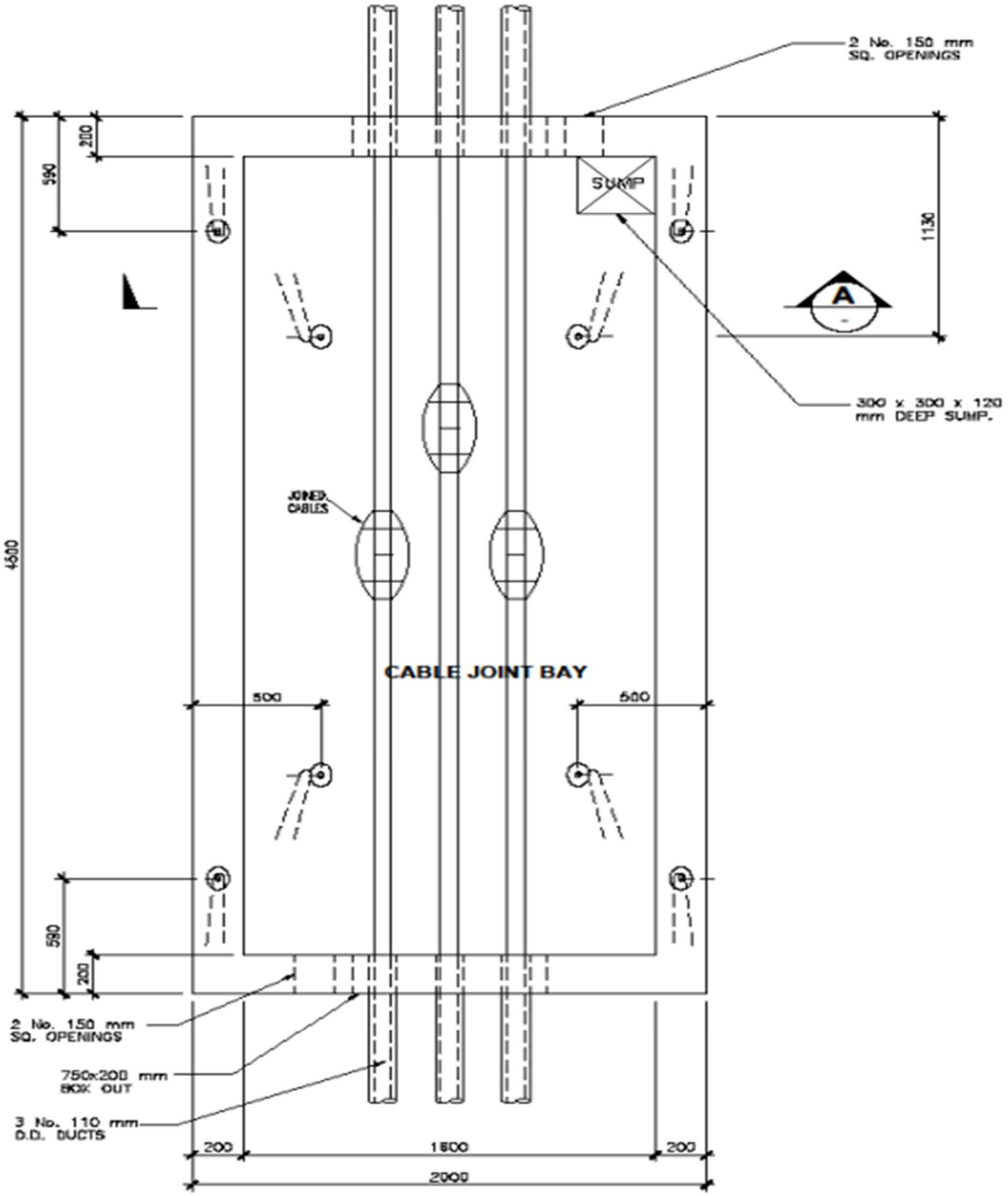
SIDE



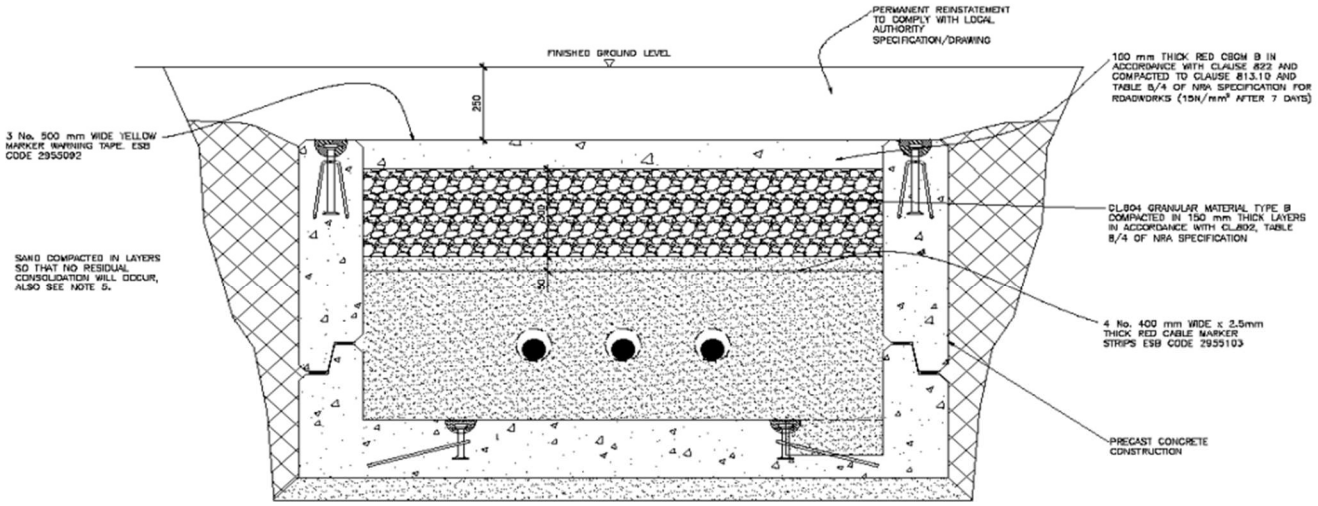
SIDE



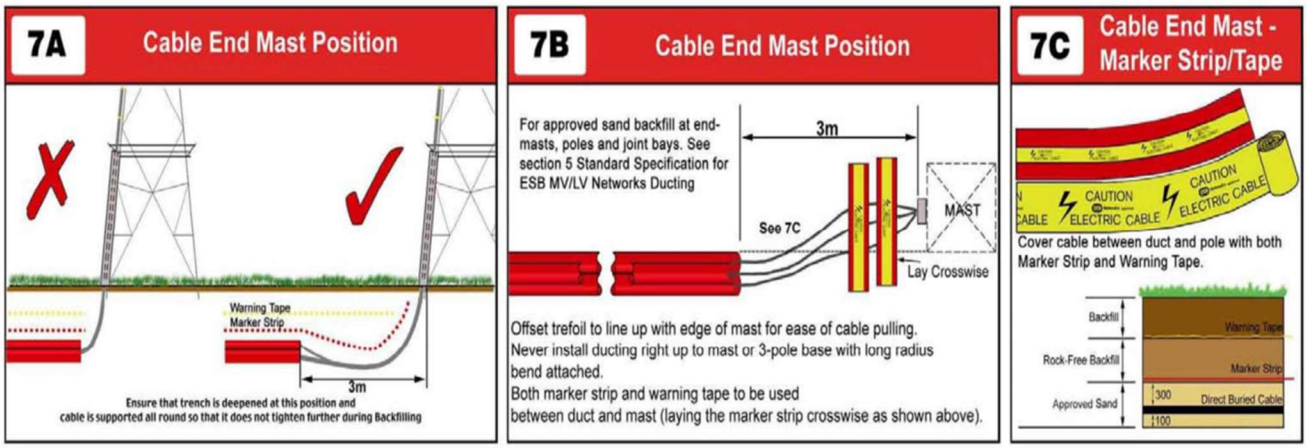
	Chamber Dimensions
Height	1300 mm
Width	933 mm
Length	1205 mm



TYPICAL PLAN OF JOINT BAY
SCALE 1:20



SECTION A-A PERMANENT REINSTATEMENT
SCALE 1:10



3. SIRO

SIRO are a telecommunications company joint venture between Vodafone and the ESB that provide broadband through fibre-optic cables which run alongside existing electricity services, all the way to a building to provide a fibre-to-the-home service. The images below show the typical installation to the dwelling ETU.

There is SIRO infrastructure adjacent to the site, which will be brought onto site to supply all parts of the development. All works will be carried out in accordance with SIRO engineering standards and relevant health, safety, and environmental regulations. The purpose of this connection is to ensure seamless integration of services, provide continuous network coverage, and enable the extension of high-speed fibre broadband to the Boherboy, Saggart area. SIRO is delivered for the most part through the ESB networks infrastructure all to way to the ESB minipillars and underground vaults. Individual external termination units would be located on end gable walls of dwelling houses where space permits, or on nib walls in terrace dwelling scenarios, which would be fed via designated service ducts from the ESB minipillars. Apartments would have centralised incoming services and equipment as required housed within dedicated communications cupboards located internally within the common area of each block, also served via designated service ducts from the ESB minipillar infrastructure.

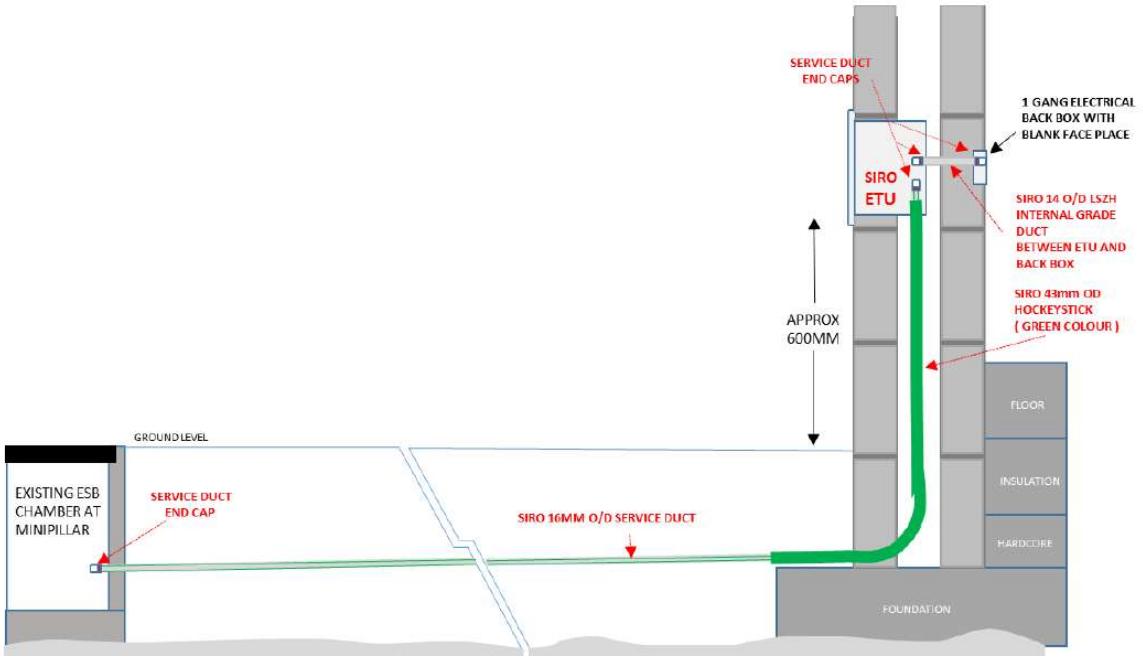


Figure 5 Typical installation to the dwelling ETU

A double electrical socket is required at the rear of the ETU to power fibre equipment. It is possible to locate the fibre equipment in an internal comms location with prior agreement with Siro.

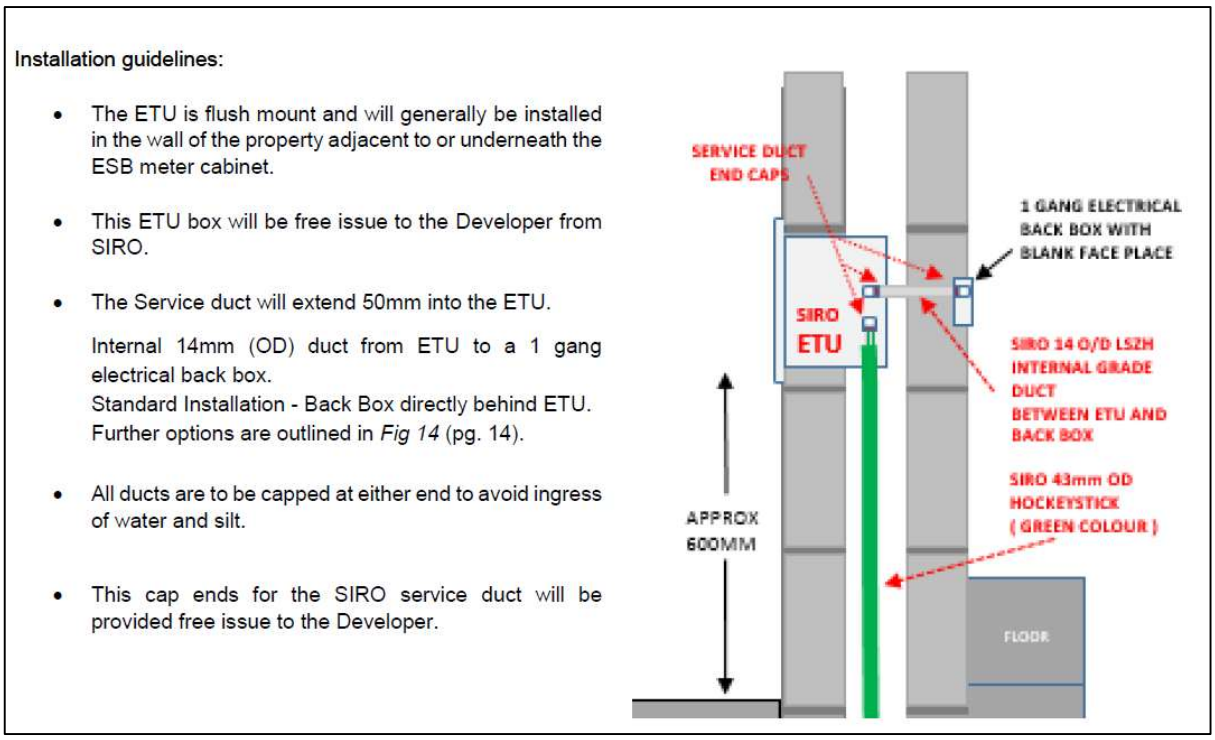


Figure 6 Typical installation to the dwelling ETU

4. Gas Networks Ireland

Gas Networks Ireland are responsible for the delivery of the natural gas network.

There is existing natural gas infrastructure on the site in the form of a undergound (UG) medium pressure Gas Networks Ireland (GNI) gas main. Refer to Figure 7 below.

A preliminary consultation with GNI has established that a natural gas service is currently available in the locality. The development does not require a supply of natural gas for any of the proposed buildings. No new supply will be taken onto the site as part of the development.

An application has been formally submitted to GNI to divert the natural gas on the site.

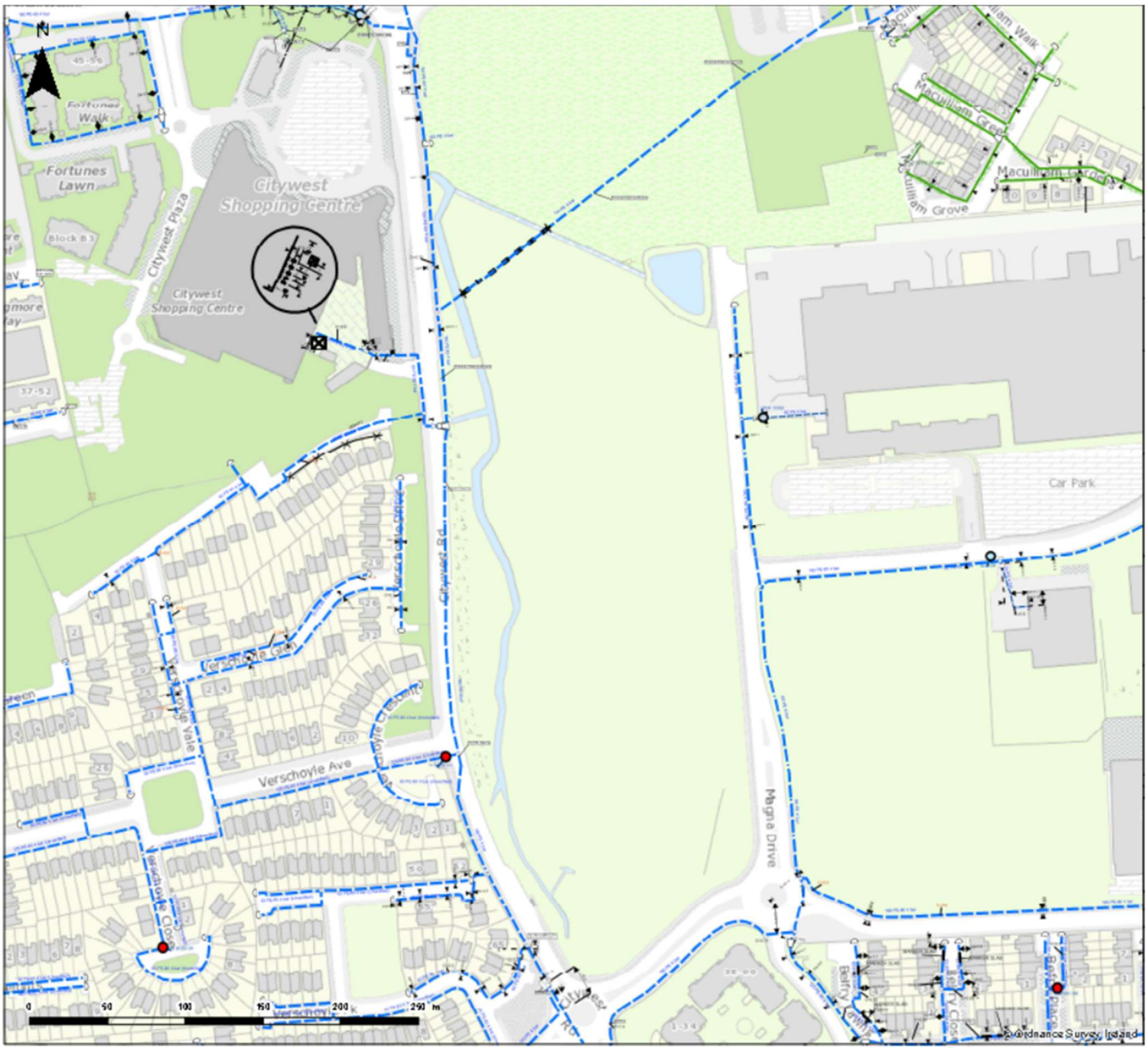


Figure 7 Existing Gas Services