

The OCSC logo is positioned in the upper left. The background features a large, semi-circular architectural line drawing of a city street scene, including buildings, a bridge, and a river, rendered in a light green color.

OCSC

O'CONNOR · SUTTON · CRONIN
MULTIDISCIPLINARY CONSULTING ENGINEERS

**G558: BALLINASLOE R446 BRIDGE ST. TO HARRIS RD. ACTIVE
TRAVEL SCHEME**

VOLUME 0 – BACKGROUND & ADDITIONAL INFORMATION

**For
Galway County Council**

25 August 2026

NOTICE

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DOCUMENT CONTROL & HISTORY

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C01	A1	Christo Crous	Luke Grainger	Brian O'Rourke	25/08/2026

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PRELIMINARY HEALTH & SAFETY PLAN

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1 INTRODUCTION

This preliminary Health and Safety Plan has been prepared by the Project Supervisor for the Design Stage in accordance with S.I. No. 291 Safety, Health, and Welfare at Work (Construction) Regulations 2013 and any amendment thereof.

It is a document, which will be developed by the Project Supervisor for Construction during the course of the construction phase. All those involved with the design phase have a statutory duty to comply with it and to provide the Project Supervisor for Design Process with any information they have, which he needs to keep the plan up to date.

It is the intention of the Client that the project be constructed in such a way that the risk to health and safety of all persons engaged in its construction, future use, and maintenance are eliminated or reduced to an acceptable level under current health and safety legislation.

COVID-19. Appendix A of this document contains guidance on standard operating procedures for the Construction Sector prepared by the Construction Industry Federation (CIF). This document has been developed by the CIF mindful of the best available guidance, nationally and internationally, and serves as a guide for the management of COVID-19 on a construction site for the duration of the pandemic. The Contractor must comply with Regulations that came into force with effect from 8 April 2020 (i.e. Health Act 1947 (Section 31a - Temporary Restrictions) (Covid-19) Regulations 2020) (the "Regulations"). The Contractor must comply with any subsequent regulations and extension of same and with all public health measures.

1.1 SUMMARY AND OBJECTIVES

The Health, Safety and Welfare at Work (Construction) Regulations 2013 place duties on clients, designers and contractors regarding their approach to health and safety to ensure that it is co-ordinated and managed effectively throughout the stages of a construction project.

The Project Supervisor for the Construction Stage is under a legal duty to administer, implement and update, as required by changes in design or circumstances, the Safety & Health Plan throughout the contract period.

1.2 ORGANISATIONAL STRUCTURE AND RESPONSIBILITIES

The parties responsible for the compilation and implementation of the Safety and Health Plan are as follows;

Project Supervisor for the Design Process:

The person appointed by the client to co-ordinate the health and safety aspects of the project's design and planning stages, including the preparation of the Preliminary Safety & Health Plan.

Project Supervisor for the Construction Stage:

The person appointed by the client in accordance with regulation 3(1) to manage the construction work, control, co-ordinate and implement the health and safety requirements during the construction phase.

Contractor / Sub-Contractor:

Any person engaged by the Main Contractor / Client to carry out construction works under the direction of the Main Contractor / Project Supervisor for the Construction Stage.

Designers:

Any person who carries on a trade, business, or other undertaking in connection with which he (a) prepares a design (b) arranges for any person under his control to prepare a design, relating to a structure to be erected by a competent contractor.

1.3 PROJECT SUPERVISOR FOR THE CONSTRUCTION STAGE – SAFETY & HEALTH PLAN

The Project Supervisor for the Construction Stage shall comply with the Safety, Health, and Welfare at Work (Construction) Regulations 2013.

It is the responsibility of the Project Supervisor for the Construction Stage to develop the Safety & Health Plan for the Construction Stage in compliance with the above regulations. This involves the implementation of the Safety & Health Plan, and any amendments required.

All Contractors must make available to the Project Supervisor for the Construction Stage any information that will have implications to the safe maintenance of the structure for inclusion in the Safety File, as the work progresses.

1.4 PROJECT TEAM

Below are the name and address of both the Employer and the Consultant.

Client Name: Galway County Council
Address: Áras an Chontae, Prospect Hill, Galway, H91 H6KX
Contact: Kasia Garvey
Email: kasgarvey@galwaycoco.ie

Project Manager: O'Connor Sutton Cronin & Associates Ltd
Address: 9 Prussia Street, Dublin 7
Contact: Luke Grainger
Email: luke.grainger@ocsc.ie

PSDP: O'Connor Sutton Cronin & Associates Ltd
Address: 9 Prussia Street, Dublin 7
Contact: Brian O'Rourke
Email: brian.orourke@ocsc.ie

1.5 CONSENTS, PLANNING AND OTHER CONSENTS OBTAINED OR TO BE OBTAINED BY THE CONTRACTOR

Below is a list of the consents, planning and other consents obtained or to be obtained by the Contractor in order to execute the works:

- Third Party Access Agreements
- Road Opening Licences
- Road Closures / Lane Restrictions
- Site / Compound Set-Up
- Consents and Licences in relation to Utility Diversions from relevant Utility Providers

1.6 ARRANGEMENT OF COMMUNICATIONS

All communication and liaison between the parties named above shall be via email to the nominated contact. The project is of such a scale and duration that written notice (Form AF1) of the PSDP appointment was sent to the Health and Safety Authority [HSA] by the Client before the Design Process began, as required by Regulation 10 of the Construction Regulations.

1.7 EXISTING RECORDS AND PLANS

Some existing drawings for designs and utilities are available and are included as additional information (Volume O). However, these drawings cannot be taken as reliable and therefore the Contractor is responsible for locating and identifying services on site.

2 GENERAL DESCRIPTION OF THE PROJECT

2.1 CLIENT

The client is Galway County Council.

2.2 SITE LOCATION

The site begins at Brackernagh, just before the junction with the L4604 Harris Rd, and continues down Dunlo Hill and Harbour Road before reaching the roundabout. The scheme continues to follow the R446 around the roundabout to Bridge Street, where it terminates. A small canal, associated with the marina, intersects the route approximately midway between the roundabout and Bridge Street.



2.3 MEANS OF ACCESS

The proposed access to the site is from the R446 which extends from both sides of the town.

2.4 BRIEF OUTLINE OF THE WORKS

The Ballinasloe R446 Bridge St. to Harris Rd. Active Travel Scheme aims to improve connectivity within Ballinasloe by linking key destinations around the town centre and strengthening connections to surrounding residential, employment and community areas. The scheme supports the objective of delivering a more accessible, attractive and permeable urban environment, in an attempt to prioritise walking, cycling and other means of active travel.

The works include, but are not limited to the following elements:

- Provision of new and upgraded cycle and pedestrian facilities along the R446;
- Road surfacing works;
- Drainage works;
- Provision of road markings;
- Provision of road signage;
- Installation of fencing and associated items;
- Installation of public street lighting;
- Landscaping and planting works.

3 DRAWINGS, SPECIFICATIONS, SCHEDULES, REPORTS, GENERAL ARRANGEMENTS, WORKING AND CONSTRUCTION DRAWINGS

3.1 PROJECT DRAWINGS

Refer to Volume A Part B for the Contract Drawings.

NOTE: Additional information drawings are supplied for information only and do not form part of the contract. No reference to them shall include them as a contract document.

3.2 SPECIFICATIONS

For the avoidance of doubt, the documents listed are those current at date of tender.

- TII Specification for Roadworks
- Works Requirements Volume A Part A, Volume A Part B
- BS-6187:2000 – Code of Practice for Demolition
- HSA Publication: Use of Machinery on Construction Sites
- HSA Publication: A guide to Safety in Excavations
- Guidelines on Working with Materials Containing Asbestos Cement
- Code of Practice for Avoiding Danger from Underground Services
- Code of Practice for Working in Confined Spaces
- Safety Behaviour in The Construction Industry
- Code of Practice on Access and Working Scaffold
- GNI Code of Practice Working in the Vicinity of the Transmission Network
- ESB Networks Safe Construction with Electricity
- ESB Guidance Docs
- ESB Networks – Avoidance of Electric Hazards when digging
- Manufacturers' Recommendations.

4 RESTRICTIONS AND OBLIGATIONS

4.1 RESTRICTIONS ON ACCESS

All access to third party land must be agreed in advance with Galway County Council and/or the Employer's Representative. The Contractor must liaise with all parties and reach agreement on conditions of entry prior to commencing any works.

The Contractor is to ensure that site restrictions and restrictions on access to premises are taken into account when carrying out the work. No restriction of any vehicular or pedestrian movement will be allowed unless agreed with in writing with the Employer's Representative.

The Contractor is to provide traffic management, and relevant method statements should works partially occupy routes or interfere in everyday activities and full agreement is to be sought from the client.

4.2 LIMITATION ON WORKING HOURS

The normal working hours within the site shall be Monday to Friday between 08.00 hours and 18.00 hours.

Mon to Friday	08:00 to 18:00
Saturday	Restricted Working
Sunday	Restricted Working

- Works outside of normal hours or during restricted period are subject to prior notice and agreement by the Employer and Stakeholders.
- Access and egress to all businesses/properties to be maintained during operating hours of each business/property. Access can only be restricted once the Contractor has obtained written agreement noting the duration and extents of each restriction.

A relaxation on the permitted working hours may be obtained from Galway County Council roadworks control division subject to the agreement from the statutory authority. It is anticipated that the relaxed working hours would additionally allow for:

- Saturday between 08.00 hours and 14.30 hours, with no working on Sundays or Public Holidays.

Exceptionally, the Employer's Representative's consent for work outside these hours may be given after any necessary consultation. Seven days' notice is required from the Contractor when seeking such any consent. Working hours are to be confirmed with Galway County Council prior to commencement.

5 INTENDED PROJECT TIMELINE

5.1 INTENDED PROJECT COMPLETION TIME

It is proposed that construction will commence in the October 2026 with a proposed construction programme of 12 months. An outline of the required construction works is described in Section 2 and the actual sequence, methodology and approach to construction will be agreed and confirmed following the appointment of the Contractor.

6 PARTICULAR RISKS

The following is a non-exhaustive list of work involving particular risks to the Health and Safety of persons as set out in the First Schedule of S.I. No. 291 of 2013, together with the opinion of the Project Supervisor for Design Stage on what elements, if any, of the work may fall within each particular category. It should be noted that many of the risks on the project arise out of working method which are at the discretion of the Contractor and as such cannot be determined by the Project Supervisor for the Design Stage.

Work which puts persons at work at risk of burial under earth falls, engulfment in swampland or falling from a height, where the risk is particularly aggravated by the nature of the work or process used or by the environment at the place of work or site.

Applicable to this project. Trench excavation and installation of drainage and ducting. Installation of public lighting columns and cabling from existing columns.

Work which puts persons at work at risk from chemical or biological substances constituting a particular danger to the safety and health of such persons or involving a legal requirement for health monitoring;

Applicable to this project. Working with cement and concrete dust from cutting.

Work with ionising radiation requiring the designation of controlled or supervised areas as defined in Article 20 of Directive 80/836/Euratom;

None known at drafting of Preliminary Health & Safety Plan (PHSP)

Work near high voltage power lines;

None known at drafting of Preliminary Safety & Health Plan. However, there are MV/LV power lines present at the site. It is recommended that the Project Supervisor and Contractor attend site to assess the impact of the lines on the method of works and suitable measures as described in the ESB guidelines for "Avoidance of Electrical Hazards when working near overhead electrical lines" be adopted.

Work exposing persons at work to the risk of drowning;

None known at drafting of Preliminary Health & Safety Plan (PHSP)

Work on wells, underground earthworks and tunnels;

None known at drafting of Preliminary Health & Safety Plan (PHSP)

Work carried out by divers at work having a system of air supply;

None known at drafting of Preliminary Health & Safety Plan (PHSP)

Work carried out in a caisson with a compressed air atmosphere;

None known at drafting of Preliminary Health & Safety Plan (PHSP)

Work involving the use of explosives;

None known at drafting of Preliminary Health & Safety Plan (PHSP)

Work involving the assembly or dismantling of heavy prefabricated components;

Applicable to this project. Prefabricated components include precast concrete manholes, pipes, gully pots and kerbs; ironwork including manhole covers and gully gratings; public lighting columns.

Work in confined spaces where there is a risk of entrapment or asphyxiation.

None known at drafting of Preliminary Health & Safety Plan (PHSP)

7 SPECIFIC RISKS

The following specific risks are noted in relation to the works:

- The Works are located an area of high pedestrian and recreational use.
- Ecology, biodiversity and habitat disturbance, including trees, hedgerows and riparian habitats.
- There are overhead utility services.
- The Works include working on or near existing live utility services which will require co-ordination with the relevant utility providers.
- The Contractor shall treat all services as live and contact the relevant utility companies prior to work progressing and shall ensure that all services are identified in the location of the works and accounted for prior to works.
- Noise, vibration, dust and general construction nuisance to sensitive receptors.
- The Works are weather dependent.

8 OTHER CONSIDERATIONS

The following is the non-exhaustive list of work involving considerations regarding Health and Safety of persons as set out in the Second Schedule of S.I. No. 291 of 2013, together with the opinion of the Project Supervisor for Design Stage on what elements.

- Liaison and agreement of access/egress with effected property owners.
- Keeping the construction site in good order and in a satisfactory state of cleanliness
- Providing safe routes of access across the site.
- Choosing the location of workstations bearing in mind how access to them is obtained, and
- Determining routes or areas for the passage and movement of equipment.
- The conditions under which various materials are handled.
- Technical maintenance, pre-commissioning checks and regular checks on installations and equipment with a view to correcting any faults which might affect the safety, health and welfare of persons at work.
- The demarcation and laying-out of areas for the storage of various materials, in particular where dangerous materials or substances are concerned.
- The conditions under which the dangerous materials used are removed.
- The storage and disposal or removal of waste and debris.
- The adaptation, based on progress made on the construction site, of the actual time to be allocated for the various types of work or work stages.
- Co-operation between employers and self-employed persons.
- Interaction with industrial activities at the place within which or in the vicinity of which the construction site is located.

The requirements under these Regulations for the issue of a valid safety awareness registration card are successful completion of any one of the following:

- the Solas Safe Pass training programme;
- an equivalent safety awareness scheme approved by Solas;
- an equivalent safety awareness scheme in another Member State of the European Communities approved by Solas.

A valid safety awareness registration card is one of the following:

- (a) the Solas Safe Pass registration card;
- (b) a registration card, with photographic identification, issued by such body as may be prescribed by the Minister, for the purpose of the issuing of safety awareness cards;
- (c) a registration card issued in association with a scheme referred to in paragraph 1(c).

Construction Skills Certification Scheme

(1) The requirement for the issue of a FETAC award under the Construction Skills Certification Scheme is successful completion of training under the scheme in any of the following tasks:

- Scaffolding-basics;
- Scaffolding-advanced;
- Scaffolding Mobile tower scaffold -where the employee has not been trained in the task referred to at subparagraphs (a) or (b);
- Tower crane operation;
- Self-erecting tower crane operation -where the employee has not been trained in the task referred to at subparagraph (d);
- Slings/signalling;
- Signing, lighting and guarding on roads;
- Locating under-ground services;
- Shot firing;
- Other construction related tasks as may be prescribed by the Minister.

(2) Where it is necessary to gain experience prior to undertaking a programme related to the tasks listed at paragraph (1) it is permissible for a person to undertake those tasks during the training period required by the programme if;

- The person concerned is at all times under the close personal supervision of a person who is in possession of a valid construction skills registration card relevant to the task concerned, and
- The person concerned is in possession of an appropriate identification identifying the person as a trainee in the relevant skills and an associated documented log-book recording experience gained in the skill in which the person is undergoing training.
- Construction of scaffolds that may require design or calculation, including any such scaffold as may be specified in a relevant code of practice;
- Such other tasks as may be prescribed by the Minister.

Procedure for Selection of Site Safety Representatives

The selection of a site safety representative shall proceed as follows:

- If a site safety representative is selected by the persons at work on a construction site at any time after commencement of activities on the site, that person shall be recognised as such by the project supervisor for the construction stage. The particulars listed at paragraph 6 shall be noted in writing by the project supervisor for the construction stage.
- If a safety representative has previously been selected under section 25 of the Act by the employees of any of the contractors on the construction site, the views of all persons at work on the site at the time must be taken into account when confirming that person as site safety representative.
- If, at the time the number of persons at work on the construction site normally exceeds 20 and there is no site safety representative the project supervisor for the construction stage shall invite all persons working on the site at that time to elect a site safety representative from amongst their number. If those working on the site are unwilling to organise a selection process themselves and request the project supervisor for the construction stage to do so the project supervisor shall organise the election.

-
- If a site safety representative is not selected under paragraph 3 the project supervisor for the construction stage shall invite persons working on the construction site or their representatives to nominate persons willing to undertake the role. If more than one name is put forward the project supervisor for the construction stage shall determine which candidate has the most support from all persons employed on the site. The person who has the most support shall be deemed selected.
 - If no site safety representative has been selected under paragraphs 1 to 4, the project supervisor for the construction stage shall nominate a provisional site safety representative. If subsequently a site safety representative is selected by a process involving more than 50 per cent of the persons working on the construction site at a particular time then that person shall be deemed to be the site safety representative.
 - The project supervisor for the construction stage shall take steps to inform all persons who are at work on the construction site at the time of the selection and subsequently of the name of the site safety representative. The project supervisor for the construction stage must keep available for inspection by an inspector a record of the name of the site safety representative and details of the selection process.

9 VALIDATION STATEMENT

The information contained in this Preliminary Health and Safety Plan has been prepared prior to the commencement of the works on site. It does not take account of any matters or information which may come to light after that time.



On Behalf of O'Connor Sutton Cronin
Project Supervisor Design Process

O'Connor Sutton Cronin & Associates





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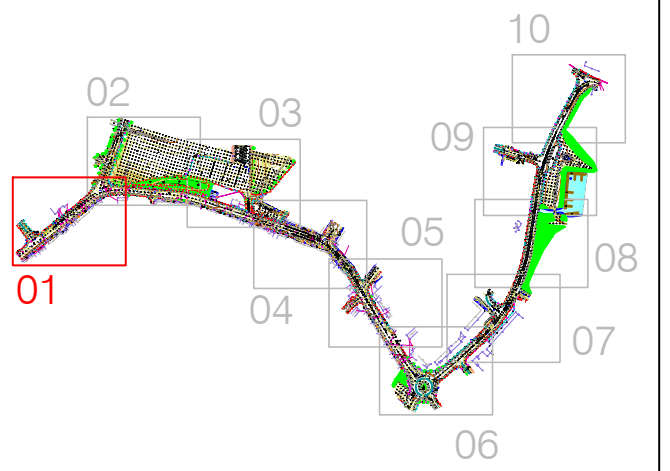
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Civil | Structural | Mechanical | Electrical | Sustainability | Environmental

TOPOGRAPHIC SURVEY



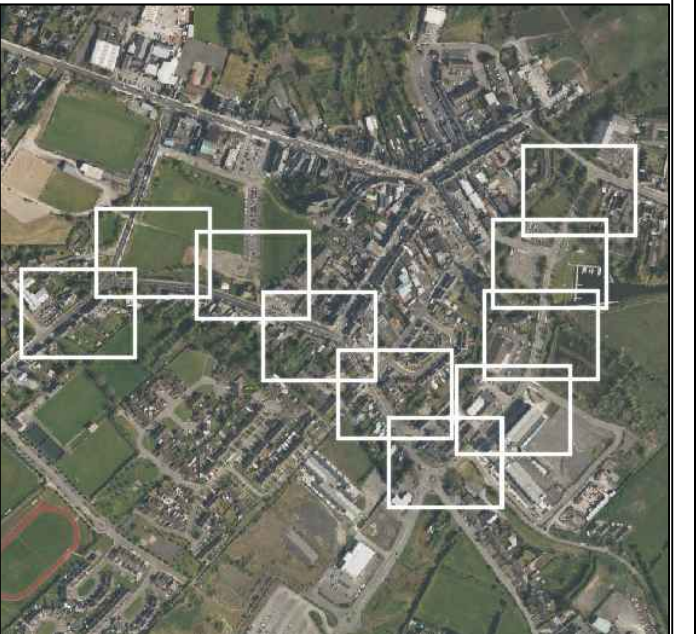
KEYMAP



LEGEND

- Street furniture & Services**
- Over Head Wires (LUAS) Sign
 - Pylon ESB
 - Flowerbed
 - Pipe
 - Light
 - Barrier
 - Pump
 - Trail Pit
 - Bus/Tram Shelter
 - Postbox
 - Valve - General
 - Water Valve
 - Unknown Valve
 - Foul Manhole
 - Surface Water MH
 - Manholes
 - Air Conditioning Vents
 - Services Inspection Cover
 - Traffic Inspection Cover
 - Cable TV Inspection Cover
 - ESAT Inspection Cover
 - NFL Inspection Cover
 - Encom Inspection Cover
 - Roofing Eye
 - Contour Lines
 - Surface Change
 - Land Drain
 - Bottom of Slope
 - Top of Slope
 - Ditch
 - Water Edge / Lake / Pond
 - Hedge / Trees Dip Line / Vegetation
 - Tree Coniferous
 - Tree Deciduous
 - Building
 - Edge of Road
 - Kerb Bottom
 - Kerb Top
 - Bridge Abutment
 - Bridge Deck
 - Bridge Parapet
 - Building Facade
 - Footpath / Platform Train & Tram
 - Damp Proof Course / Verge
 - Bridge Pier / Wall & Gate Pile / LUAS Trackbed
 - Cycleway / Private Landing Area
 - RS Road Sign
 - Gully
 - Bus Stop
 - Bollard
 - Beacon
 - Cablehole Cover
 - Bore Hole
 - Electricity Pole
 - Telegraph pole
 - OCS Pole
 - CCTV Camera Pole
 - Lamp Post
 - LUAS Technical Cabinet
 - Traffic Vending Machine
 - Water Meter Cover
 - Telecom Inspection Cover
 - Monument / Toilets
 - Tank Storage
 - Basement MH Cover & Pipe
 - Parking Meter
 - Plane Aerial Mark
 - Smart Card Validator
 - Roofing Eye
 - Water Level
 - Crown Level
 - Invert level
 - Bed Level
 - Spotheight
 - Water Level
 - Crown Level
 - Invert level
 - Bed Level
 - Spotheight
 - Fair Way
 - Green
 - Tree Box
 - Other
 - Floor Level
 - Apex Height
 - Eaves Height
 - Parapet Height
 - Soffit Elevation
 - Shop Level
 - Building Canopy / Roof / Overhang
 - Top of Wall
 - Top of Fence
 - Track
 - Concrete Pad
- Natural Features**
- Contour Lines
 - Surface Change
 - Land Drain
 - Bottom of Slope
 - Top of Slope
 - Ditch
 - Water Edge / Lake / Pond
 - Hedge / Trees Dip Line / Vegetation
 - Tree Coniferous
 - Tree Deciduous
- Built Features**
- Building
 - Edge of Road
 - Kerb Bottom
 - Kerb Top
 - Bridge Abutment
 - Bridge Deck
 - Bridge Parapet
 - Building Facade
 - Footpath / Platform Train & Tram
 - Damp Proof Course / Verge
 - Bridge Pier / Wall & Gate Pile / LUAS Trackbed
 - Cycleway / Private Landing Area
- Roads & Road Markings**
- Fence
 - Gate
 - Road Centreline
 - Hoarding
 - Property Line
 - Road Scar
 - Ramp
 - Wall / Retaining Wall
 - Railway / Tram Rail / Quai
 - Top of Wall
 - Top of Fence
 - Floor Level
 - Apex Height
 - Eaves Height
 - Parapet Height
 - Soffit Elevation
 - Shop Level
 - Building Canopy / Roof / Overhang
 - Top of Wall
 - Top of Fence
 - Track
 - Concrete Pad

OVERVIEW



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Client: Galway County Council

Project: Balinasloe R446 Bridge St to Harris Rd Active Travel Scheme

Description: Topographical Survey

Drawing No.: 1459D-24-002 01 of 10

Scale: 1:250 (on A1)

Enclosed with:

Surveyed by: GM

Drawn by: LM

Approved by: SD Date: 01-08-2024

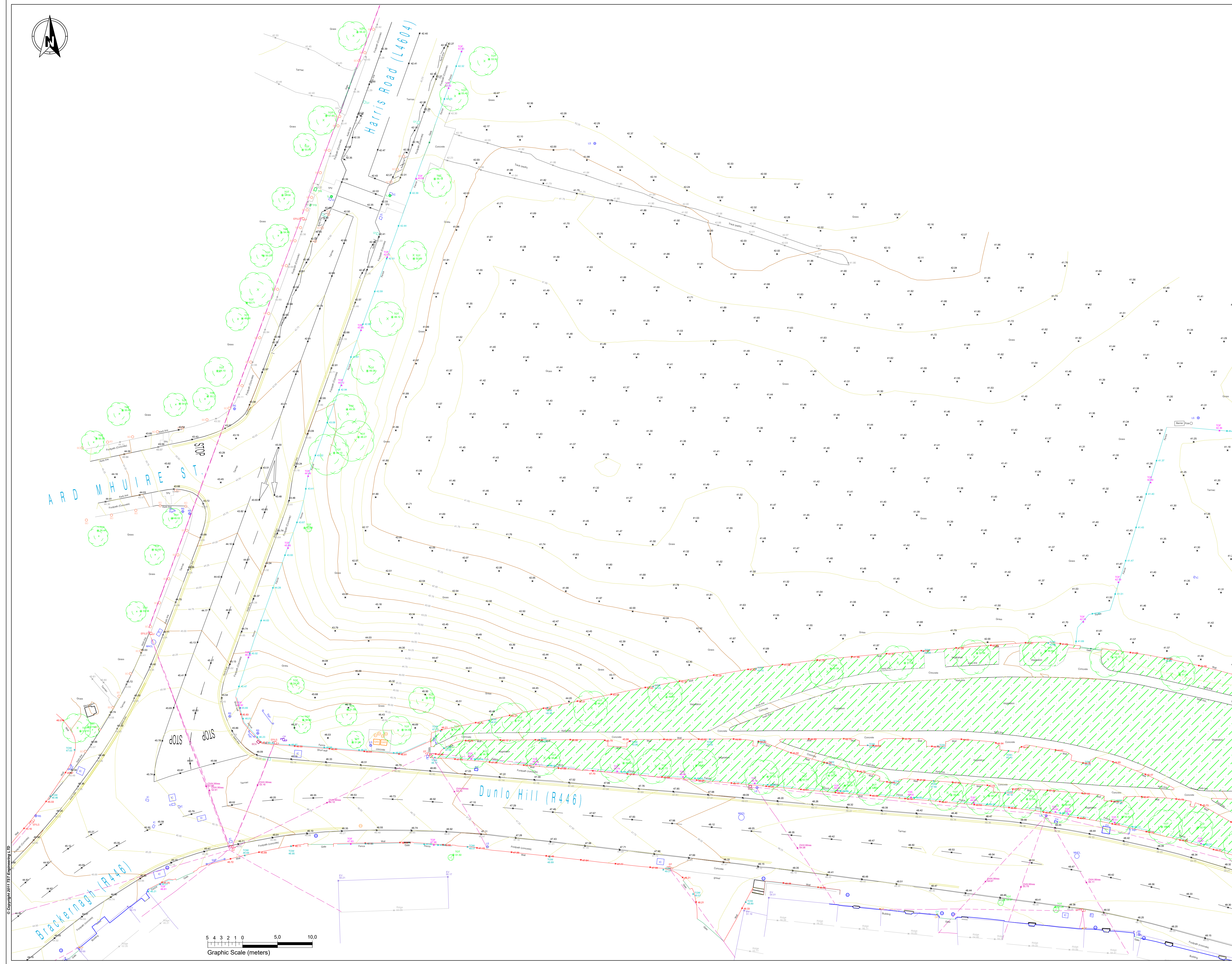
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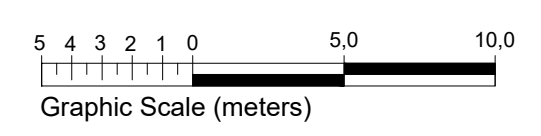
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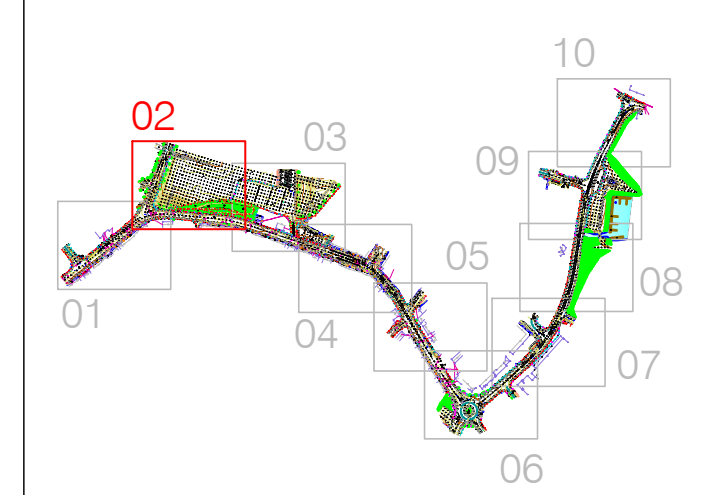
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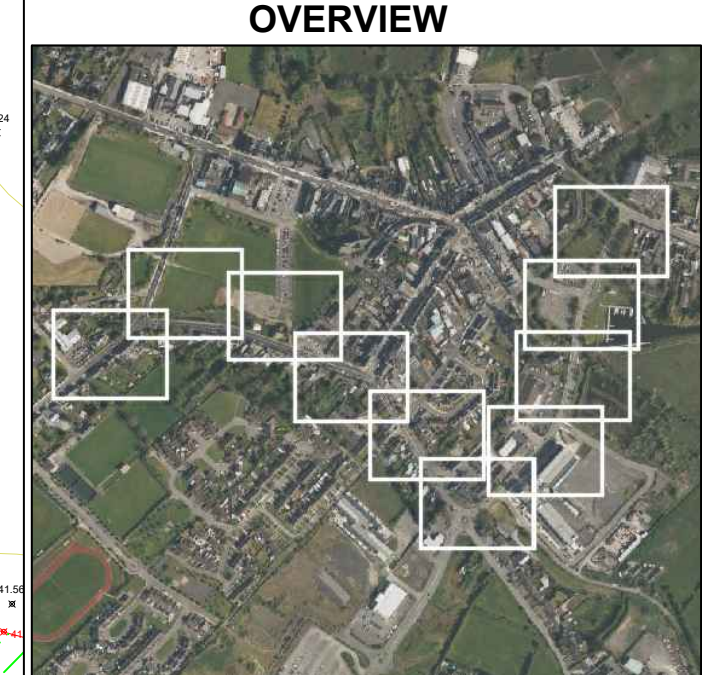


KEYMAP



LEGEND	
Street furniture & Services	
5.12 Over Head Wires (LWAS)	5.12 RS Road Sign
5.12 Pylon ESB	5.12 Bus Stop
5.12 Flowerbed	5.12 Bench
5.12 Pipe	5.12 Bench Seat
5.12 Light	5.12 UG Car Park Vent
5.12 Barrier	5.12 Waste Bin
5.12 Pump	5.12 Hydrant
5.12 Trial Pit	5.12 Fire Hydrant
5.12 Bus/Tram Shelter	5.12 ESB Box
5.12 Postbox	5.12 ESB Inspection Cover
5.12 Valve - General	5.12 CCTV Camera Pole
5.12 Water Valve	5.12 Traffic Control Box
5.12 Unknown Valve	5.12 LWS Technical Cable
5.12 Fuel Manhole	5.12 Sewer Valve
5.12 Surface Water MH	5.12 Air Valve
5.12 Manholes	5.12 Stop Cock
5.12 Air Conditioning Vents	5.12 Monument / Totals
5.12 Services Inspection Cover	5.12 Tank Storage
5.12 Traffic Inspection Cover	5.12 Basement MH, Cover & Pipe
5.12 Cable TV Inspection Cover	5.12 Parking Meter
5.12 ESAT Inspection Cover	5.12 Plane Aerial Mark
5.12 NTL Inspection Cover	5.12 Smart Card Validator
5.12 Ecom Inspection Cover	5.12 Roadlight
5.12 Contours Lines	5.12 Water Level
5.12 Surface Change	5.12 Crown Level
5.12 Land Drain	5.12 Invert level
5.12 Bottom of Slope	5.12 Bed Level
5.12 Top of Slope	5.12 Spot Height
5.12 Ditch	5.12 Fwy
5.12 Water Edge / Lake / Pond	5.12 Fair Way
5.12 Hedge / Trees Dip Line / Vegetation	5.12 Green
5.12 Tree Contourless	5.12 Tree Box
5.12 Tree Deciduous	5.12 Other
5.12 Tree Coniferous	5.12 Survey Station
5.12 Tree point	5.12 Photo point
5.12 Top of Tree	

Roads & Road Markings	
5.12 Building	5.12 Fence
5.12 Edge of Road	5.12 Gate
5.12 Kerb Bottom	5.12 Road Centreline
5.12 Kerb Top	5.12 Hoarding
5.12 Bridge Abutment	5.12 Property Line
5.12 Bridge Deck	5.12 Road Scar
5.12 Bridge Parapet	5.12 Ramp
5.12 Building Facade	5.12 Wall / Retaining Wall
5.12 Footpath / Platform Train & Tram	5.12 Railway / Tram Rail / Crossing
5.12 Damp Proof Course / Verge	5.12 Top of Wall
5.12 Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	5.12 Building Canopy / Roof / Overhang
5.12 Cycleway / Private Landing Area	5.12 Track
	5.12 Top of Fence
	5.12 Concrete Pad



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DRAWING IS IN (Irish Transverse Mercator) COORDINATE WITH QUOTE REFERRING TO Geoid model OSGM15

TST Engineering LTD
www.tstengineering.com
Unit F11,
Riverview Business Park,
Nangor Road
Dublin 12
Ireland
Tel: (+353) 1 5373905

Client: Galway County Council

Project: Balinasloe R446 Bridge St to Harris Rd Active Travel Scheme

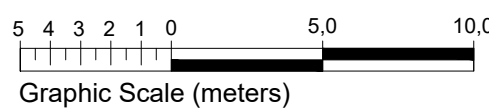
Description: Topographical Survey

Drawing No.: 1459D-24-002 02 of 10

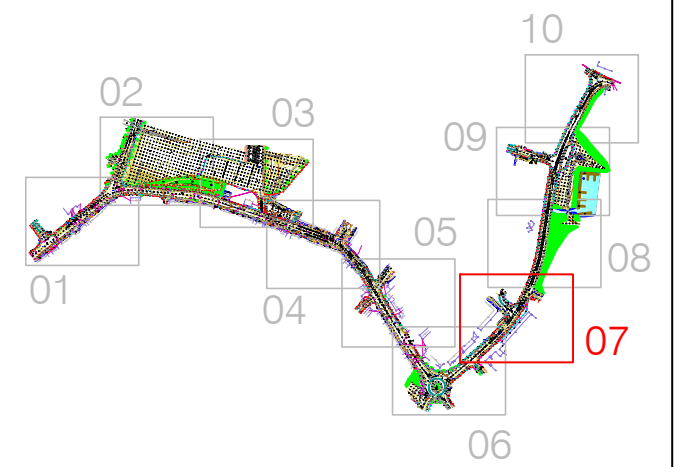
Scale: 1:250 (on A1)

Enclosed with:
Surveyed by: GM
Drawn by: LM
Approved by: SD Date: 01-08-2024

REVISIONS		
No.	Date	Description
0	01-08-2022	First version

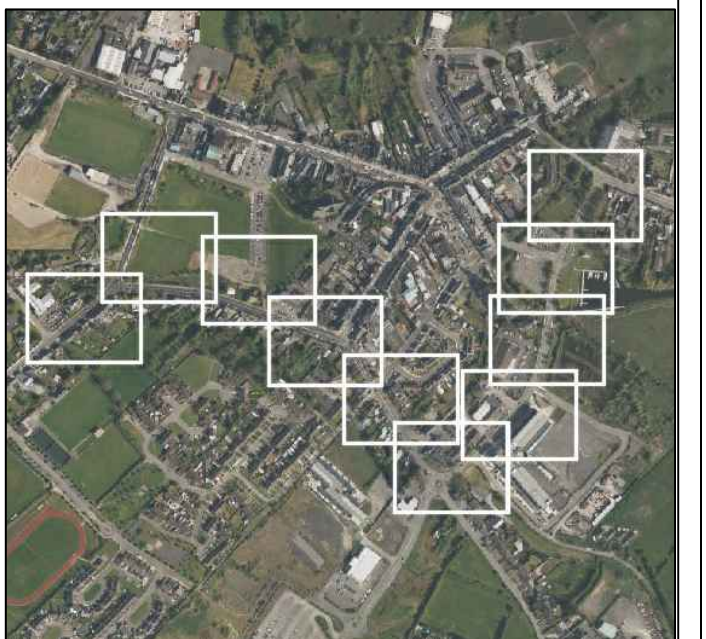


KEYMAP



LEGEND	
Street furniture & Services	
5.12 Over Head Wires (LWAB)	5.12 RS Road Sign
5.12 Pylon ESB	5.12 Bus Stop
5.12 Flowerbed	5.12 Bench
5.12 Pipe	5.12 Litter
5.12 Barrier	5.12 Gashole Cover
5.12 Pump	5.12 Bore Hole
5.12 Trial Pit	5.12 Electricity Pole
5.12 Bus/Tram Shelter	5.12 Telegraph pole
5.12 Postbox	5.12 CCTV Camera Pole
5.12 Valve - General	5.12 Lamp Post
5.12 Water Valve	5.12 LWS Technical Cabinet
5.12 Unknown Valve	5.12 Foul Manhole
5.12 Surface Water MH	5.12 Water Meter Cover
5.12 Air Conditioning Vents	5.12 Telecom Inspection Cover
5.12 Services Inspection Cover	5.12 Tank Storage
5.12 Traffic Inspection Cover	5.12 Basement MH, Cover & Pipe
5.12 Cable TV Inspection Cover	5.12 Parking Meter
5.12 ESAT Inspection Cover	5.12 Plane Aerial Mark
5.12 NTL Inspection Cover	5.12 Smart Card Validator
5.12 Encom Inspection Cover	5.12 Roadway Eye
Natural Features	
5.12 Contours Lines	5.12 Water Level
5.12 Surface Change	5.12 Crown Level
5.12 Land Drain	5.12 Invert Level
5.12 Bottom of Slope	5.12 Bed Level
5.12 Top of Slope	5.12 Spot Height
5.12 Ditch	5.12 Fair Way
5.12 Water Edge / Lake / Pond	5.12 Green
5.12 Hedge / Trees Dip Line / Vegetation	5.12 Tree Box
5.12 Tree Coniferous	5.12 Other
5.12 Tree Deciduous	5.12 Survey Station
5.12 Top of Tree	5.12 Photo point
Built Features	
Roads & Road Markings	
5.12 Building	5.12 Fence
5.12 Edge of Road	5.12 Gate
5.12 Kerb Bottom	5.12 Road Centreline
5.12 Kerb Top	5.12 Hoarding
5.12 Bridge Abutment	5.12 Property Line
5.12 Bridge Deck	5.12 Road Scar
5.12 Bridge Parapet	5.12 Ramp
5.12 Building Facade	5.12 Wall / Retaining Wall
5.12 Footpath / Platform Train & Tram	5.12 Railway / Tram Rail / Quai
5.12 Damp Proof Course / Verge	5.12 Top of Wall
5.12 Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	5.12 Building Canopy / Road / Overhang
5.12 Cycleway / Private Landing Area	5.12 Top of Fence
	5.12 Concrete Pad
	5.12 Floor Level
	5.12 Apex Height
	5.12 Eaves Height
	5.12 Parapet Height
	5.12 Soffit Elevation
	5.12 Shop Level
	5.12 Track
	5.12 Concrete Pad

OVERVIEW



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DRAWING IS IN (TM/Transverse Mercator) COORDINATE WITH QUOTE REFERRING TO Geoid model OSGM15

TST Engineering LTD
www.tstengineering.com
Unit F11,
Riverview Business Park,
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Dublin 12
Ireland
Tel. (+353) 1 5373905

Client: Galway County Council

Project: Balinasloe R446 Bridge St to Harris Rd Active Travel Scheme

Description: Topographical Survey

Drawing No.: 1459D-24-002 07 of 10

Scale: 1:250 (on A1)

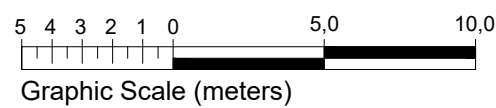
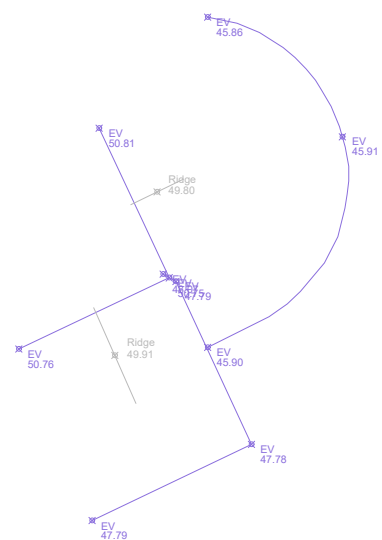
Enclosed with:

Surveyed by: GM

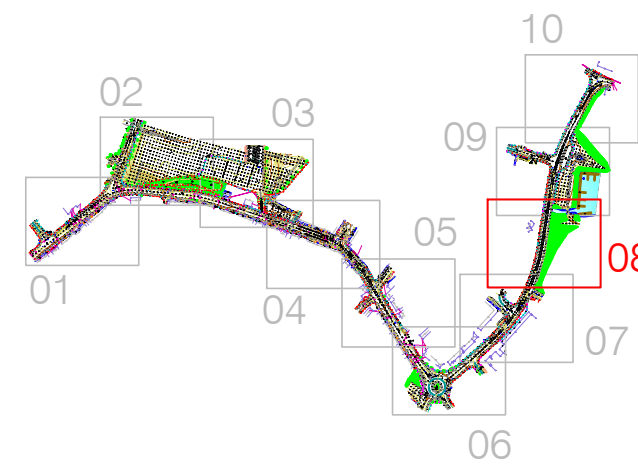
Drawn by: LM

Approved by: SD **Date: 01-08-2024**

REVISIONS		
No.	Date	Description
0	01-08-2022	First version



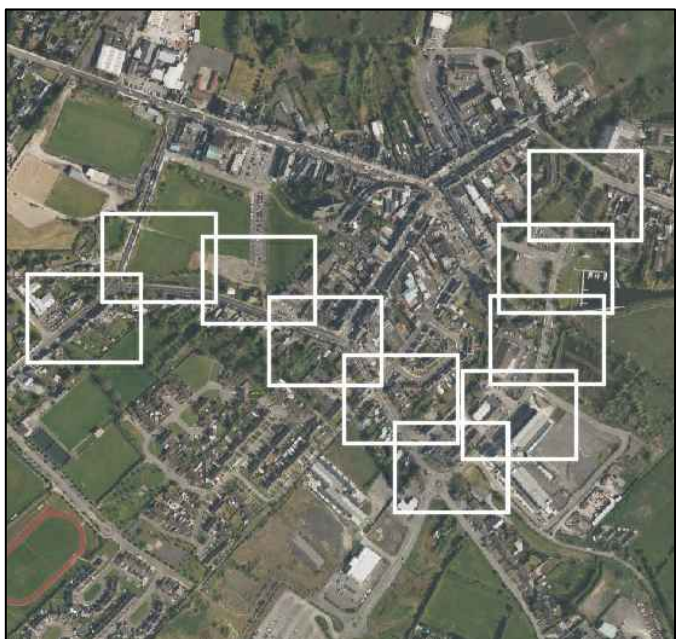
KEYMAP



LEGEND

Street furniture & Services	
5.12 Over Head Wires (LUAS)	5.12 Road Sign
5.12 Pylon ESB	5.12 Gully
5.12 Flowerbed	5.12 Bus Stop
5.12 Pipe	5.12 Bench
5.12 Lift	5.12 Beacon
5.12 Barrier	5.12 Gasholder Cover
5.12 Pump	5.12 Bore Hole
5.12 Trial Pit	5.12 Electricity Pole
5.12 Bus/Tram Shelter	5.12 Telegraph pole
5.12 Postbox	5.12 OCS Pole
5.12 Valve - General	5.12 CCTV Camera Pole
5.12 Water Valve	5.12 Lamp Post
5.12 Unknown Valve	5.12 LUAS Technical Cubicle
5.12 Fuel Manhole	5.12 Toilet Vending Machine
5.12 Surface Water MH	5.12 Water Meter Cover
5.12 Manholes	5.12 Telecom Inspection Cover
5.12 Air Conditioning Vents	5.12 Monument / Toilets
5.12 Services Inspection Cover	5.12 Tank Storage
5.12 Traffic Inspection Cover	5.12 Basement MH, Cover & Pipe
5.12 Cable TV Inspection Cover	5.12 Parking Meter
5.12 ESAT Inspection Cover	5.12 Plane Aerial Mark
5.12 NTL Inspection Cover	5.12 Smart Card Validator
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Natural Features	
5.12 Contour Lines	5.12 Water Level
5.12 Surface Change	5.12 Crown Level
5.12 Land Drain	5.12 Invert level
5.12 Bottom of Slope	5.12 Bed Level
5.12 Top of Slope	5.12 Spotheight
5.12 Ditch	5.12
5.12 Water Edge / Lake / Pond	5.12
5.12 Hedge / Trees Dip Line / Vegetation	5.12
5.12 Tree Coniferous	5.12 Tree Deciduous
Built Features	
Roads & Road Markings	
5.12 Building	5.12 Fence
5.12 Edge of Road	5.12 Gate
5.12 Kerb Bottom	5.12 Road Centreline
5.12 Kerb Top	5.12 Hoarding
5.12 Bridge Abutment	5.12 Property Line
5.12 Bridge Deck	5.12 Road Scar
5.12 Bridge Parapet	5.12 Ramp
5.12 Building Facade	5.12 Wall / Retaining Wall
5.12 Footpath / Platform Train & Tram	5.12 Railway / Train Rail / Quarry
5.12 Damp Proof Course / Verge	5.12 Top of Wall
5.12 Bridge Pier / Wall & Gate Pile / LUAS Trackbed	5.12 Top of Wall
5.12 Cycleway / Private Landing Area	5.12 Top of Fence
5.12 Floor Level	5.12 Apex Height
5.12 Eaves Height	5.12 Parapet Height
5.12 Scaff Elevation	5.12 Shop Level
5.12 Building Canopy / Roof / Overhang	5.12 Track
5.12 Concrete Pad	5.12

OVERVIEW



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TST Engineering LTD
www.tstengineering.com



Unit F11,
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Nangor Road
Dublin 12
Ireland
Tel. (+353) 1 5373905

Client: Galway County Council

Project: Balinasloe R446 Bridge St to Harris Rd Active Travel Scheme

Description: Topographical Survey

Drawing No.: 1459D-24-002 **08 of 10**

Scale: 1:250 (on A1)

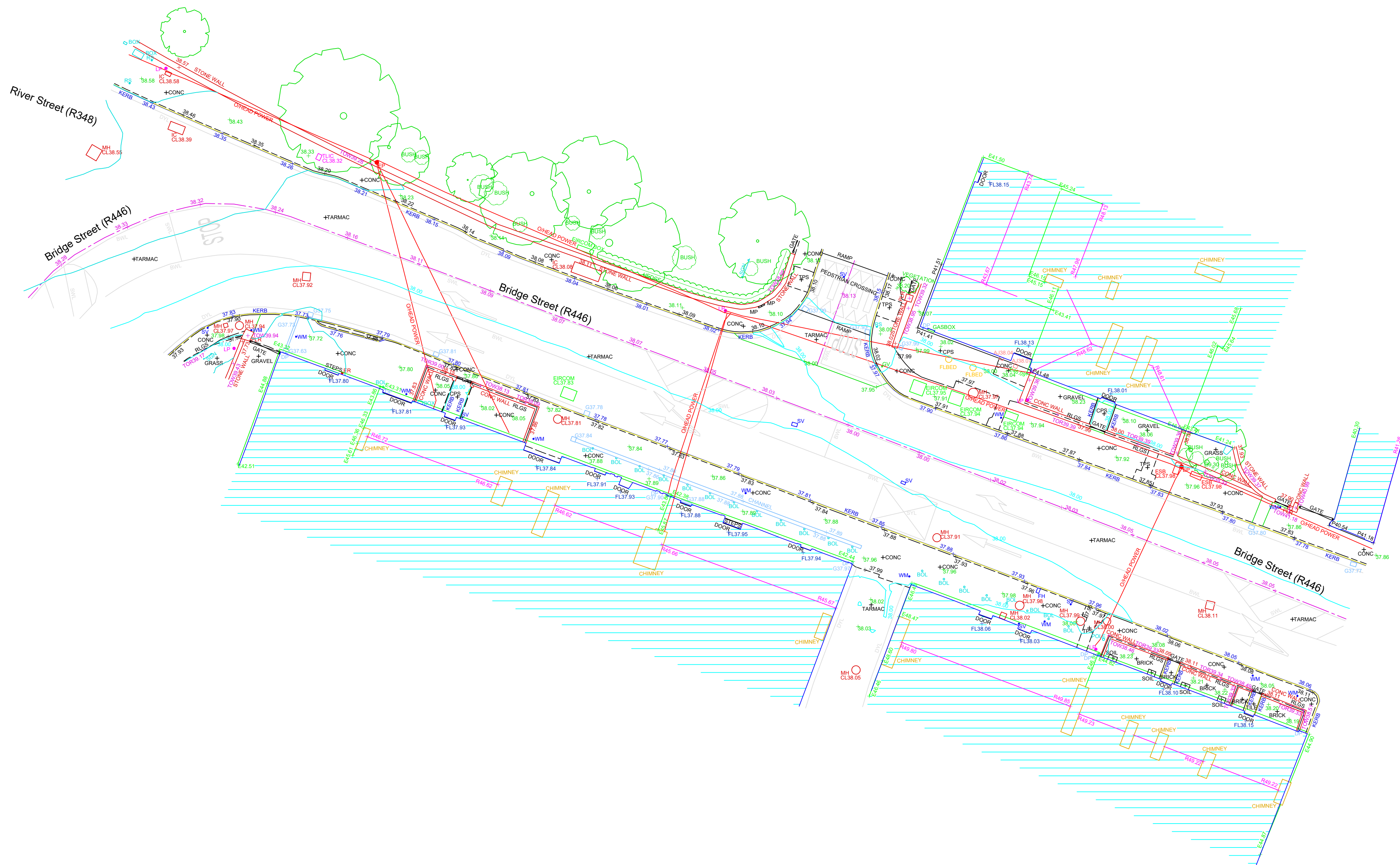
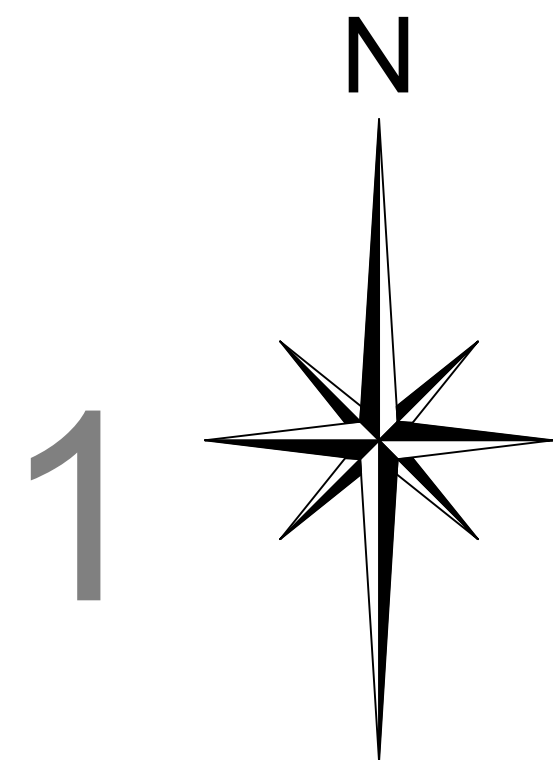
Enclosed with:

Surveyed by: GM

Drawn by: LM

Approved by: SD **Date: 01-08-2024**

REVISIONS		
No.	Date	Description
0	01-08-2022	First version



APEX
SURVEYS

www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

RURAL/NATURAL FEATURES :

BUSH
SAPLING
TREE
HEDGE
TROUGH
CATTLE GRID
LINEWORK:
EMBANKMENT TOP
DRAIN
BREAKLINE
BUILDING
KERB BOTTOM
WALL
PATH/CHANGE SURFACE
OHEAD ELECTRICITY
OHEAD TELECOM

STREET FURNITURE :

BOLLARDS
BORE HOLE
BUS STOP
CRASH BARRIER
ELECTRICITY POLE
EARTHING ROD
GATE
GROUND LIGHT
ILLUMINATED BOLLARD
LAMP POST
MARKER POST
POST
POST BOX
ROADSIGN
SIGN POST
TELEPHONE BOX
TELEPHONE POLE
TRAFFIC LIGHT
TRIAL PIT

SERVICES :

AIR VALVE
ARMSTRONG JUNCTION
CABLE TV IC
COVER LEVEL
EIRCOM COVER
EIRCOM JUNCTION BOX
ELECTRICAL CABLE PIT
ESAT COVER
ESB COVER
ESB JUNCTION BOX
FIRE HYDRANT
GAS VALVE
GULLY
INSPECTION COVER
MANHOLE
SEPTIC TANK
SLUICE VALVE
STOPCOCK

AV+
A1
CATV
CL
EIRCOM
EIRCOM BOX
ECP
ESAT
ESB
ESB BOX
FH
GV
IC
MH
SEPTIC
SV
ST

SERVICES :

SERVICE BOX (UNKNOWN)
TRAFFIC COVER
VENT
WATER METER
UNABLE TO LIFT

BOX
TLC
VENT
WM
UTO

SHEET LAYOUT :

PLAN PRODUCED BY:

APEX
SURVEYS

CONTACT INFORMATION:

Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Clandillon
Civil Consulting

GRID SYSTEM:

Irish Transverse Mercator
Datum: Malin Head (OSGM15)
Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	19/08/24	Original Drawing 6416 Utility Survey
002	29/10/24	Topo Survey R446 Bridge Street to Harris Road

PROJECT:

R446 Bridge Street to Harris Road
Additional
Ballinalsoe Co. Galway

SCALE : 1/200 A1

DATE : 29/10/2024

DRG No: 6687

DESCRIPTION : 2D Topographical

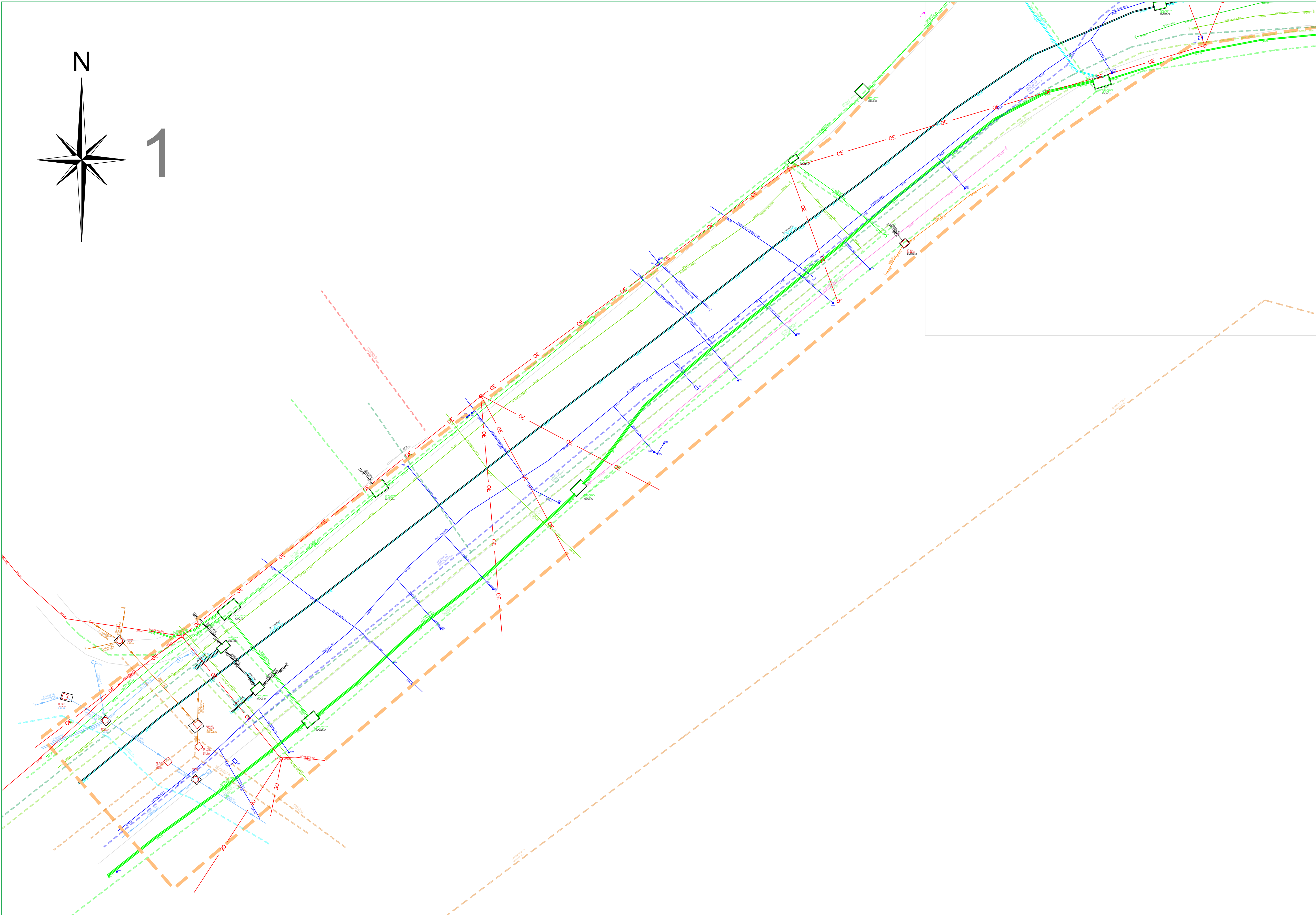
SHEET: 1 of 1

SURVEYED BY: P.T.

PROCESSED BY: A.N.

CHECKED BY: A.B.

GPR SURVEY



PAS 128: 2014 (Quality of Survey Level Outputs):	
DESKTOP UTILITY RECORDS SEARCH	
QL-D	Drafted from utility records
SITE RECONNAISSANCE	
QL-C	Location Demonstrated by visual reference to street furniture or evidence of previous streetworks, ie - reinstatement scars
DETECTION	
QL-B4	A segment of utility suspected to exist but has not been detected by a geophysical technique
QL-B3	Horizontal location only of the utility detected by one of the geophysical techniques used
QL-B2	Horizontal and vertical location of the utility detected by one of the geophysical techniques used
QL-B1	Horizontal and vertical location of the utility detected by multiple geophysical techniques
VERIFICATION	
QL-A	Horizontal and vertical location of the top and/or bottom of the utility

Apex Surveys Ltd. Disclaimer - Utility Survey

The interpretative nature and the non-intrusive, indirect and non-destructive survey methods must be taken into account when considering the results of the surveys. Therefore Apex Surveys, while using appropriate practice to execute, interpret and present the data, gives no guarantees that all underground utilities and underground structures will be located and mapped. Furthermore, Apex Surveys cannot guarantee the accuracy of the utility depths annotated on the survey drawings.

Apex Survey shall not be liable for any omissions or inaccuracies in the survey which arise due to the limitations of the service. No liability shall attach to Apex Surveys, in any circumstances, howsoever arising, in respect of any consequential loss or damages suffered by the Client.

The following is a non-exhaustive list of the limitations of utility surveys:

- The Survey aims to map existing utilities subsurface utilities and provide information with respect to pipe size, material type and drainage connectivity. However utility surveying is limited by the following guidelines and it may not be possible to accurately survey, define and locate all services and sub-surface features.
- Depth of Utility: The depth and size of a utility affect the signal response and the degree with which a utility can be located. Due to attenuation of the radar signal with depth, resolution is restricted, hence making identification of utilities more difficult with increasing depth.
- Size of Utility: The smaller the diameter of a utility the more difficult it is to locate. This difficulty increases with depth.
- Ground Conditions: The depth penetration and quality of the data depends on the ground conditions of the site. GPR Surveying works best within high resistivity material. Clay overburden can impair GPR Surveying. Poor data may be a result of areas with high conductivity.
- Utility Congestion: Where different utilities converge together into a service corridor or cross paths it becomes difficult to isolate a specific utility and to map its route. The reflected signal will display a single response to multiple utilities. Therefore multiple utilities may appear to be a single utility. Where similar services run on close proximity, separation may be impossible.
- Signal Jumping: Signal from surrounding services may 'jump' to a highly conductive line masking its true identity.
- Shadowing: (of deeper utilities by shallower objects) Shallow utilities will mask the existence of deeper utilities where they are in close proximity. Also, high reflective materials close to the surface i.e rebar may hide deeper anomalies.
- Surface Obstructions: The GPR system relies on a relatively flat and even surface on which to perform radar passes. If ground obstructions such as vehicles, organic material (long grass, scrub) or undulating ground surface are present then the acquired data will be of lower resolution and in some cases not viable.
- Loss of signal: It is not always possible to trace the entire length of each underground service.
- Connections between manholes: Connections between manhole chambers are assumed to be straight.
- Non-metallic objects: Non-metallic objects are amongst the most difficult to trace therefore successful tracing of non-metallic pipes/ utilities may be limited.
- Fiber Optic Cables: Fiber optic cables may not be possible to locate except where laid with a built in tracer wire or similar conductor system.
- Defective / flooded manholes or pipework: It may not be possible to establish connections between flooded or defective manholes or pipework.
- Acute bends in pipework: It may not be possible to trace a pipe past an acute bend.
- Accuracy estimates:
 - Locational accuracy is determined by referring to the manufacturers guidelines for the detector used.
 - In ideal conditions the spatial accuracies for the underground utilities may be +/- 5% for Radiodetection and +/- 10% of depth for the GPR to 2.5m deep. However variations within the subsurface, depth below the ground, close proximity of other services and local magnetic, atmospheric or ground conditions, bends, lateral service connections and any of the other limitations listed in this disclaimer may alter this estimated accuracy.
 - Plan accuracies of + or - 150mm may be achieved but this figure will depend on the depth of service below ground level. However variations within the subsurface subsurface, depth below the ground, close proximity of other services and local magnetic, atmospheric or ground conditions, bends, lateral service connections and any of the other limitations listed in this disclaimer may alter this estimated accuracy.
 - DP represents distance from the surface level to the top of the service/ target
 - Where technically possible, depth indications will be given. These along with plan positions should be used for guidance only and wherever critical accuracy is required these should be confirmed by the client by undertaking trial excavations or similar.

- Record Drawing Information
- Services which have been untraceable are shown from records where possible or available. These lines are annotated as "Taken From Records" or "From Records".
 - Existing record information showing underground services is often incomplete and with unknown accuracies therefore it should be regarded as indicative only.
 - Where Apex Surveys issue a utility drawing, this should be read in conjunction with all available public or private utility records.
 - Apex Surveys endeavor to add relevant Public Utility record information onto the final drawing. However, we would recommend that direct contact is made with the asset owner or statutory undertaker.
 - We shall not be held responsible for the accuracy, or otherwise, of the location of a service, as issued by the utility provider and therefore shown as "Taken from Records" on the drawing.

- The following have been excluded from the survey:
- Location of individual service feeds to properties or buildings as access would be required into each property to apply direct connections to inlet points and this would significantly increase the scope of works, survey cost and also cause possible disruption to occupants.
 - Pot ended or disconnected cables or terminated short lengths of pipe.
 - Internal building services.
 - Small diameter cables less than 20mm diameter or pipes less than 40mm diameter.
 - Above ground services unless specifically requested.
 - Lifting manholes which require longer than 10 minutes effort using standard heavy duty apparatus.

All works carried out by Apex Surveys conform to the guidelines set out by The Survey Association (TSA) and PAS:128 Standard for utility mapping

APEX
SURVEYS

www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

STREET FURNITURE :

BOLLARDS
BUS STOP
CRASH BARRIER
GATE
ELECTRICITY POLE
TELEPHONE POLE
EARTHING ROD
LAMP POST
MARKER POST
SIGN POST
TRAFFIC LIGHT
TELEPHONE BOX
POST
POST BOX
ROADSIGN
BORE HOLE
TRIAL PIT

SERVICES :

AIR VALVE
ARMSTRONG JUNCTION
CABLE TV IC
COVER LEVEL
EIRCOM JUNCTION BOX
ELECTRICAL CABLE PIT
ESAT COVER
ESS COVER
ESS JUNCTION BOX
FIRE HYDRANT
GAS VALVE
GULLY
INSPECTION COVER
MANHOLE
SEPTIC TANK
SLUICE VALVE

STOPCOCK
SERVICE BOX (UNKNOWN)
TRAFFIC COVER
VENT
WATER METER

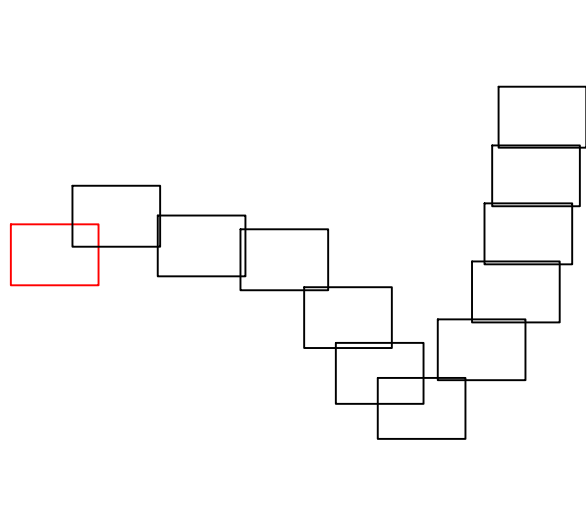
LEVELS :

BED LEVEL
FLOOR LEVEL
INVERT LEVEL
ROAD LEVEL
SOFFIT LEVEL
SPOT LEVEL
TOP OF WALL LEVEL
WATER LEVEL
SURVEY CONTROL STATION

UNDERGROUND LEGEND :

WATER MAIN
GAS MAIN
STORM DRAIN
FOUL SEWER
COMBINED SEWER
ELECTRIC CABLE
ELECTRIC LIGHTING
EIRCOM
FIBRE OPTIC CABLE
BROADBAND
CABLE TV
TRAFFIC AND SIGNAL CABLE
CCTV
IRRIGATION PIPE
EMPTY DUCT
GPR ANOMALY
UNKNOWN CABLE
O/HEAD ELECTRICITY
O/HEAD TELECOM

SHEET LAYOUT :



PLAN PRODUCED BY:

APEX
SURVEYS

CONTACT INFORMATION:

Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Clandillon
Civil Consulting

GRID SYSTEM:

DATUM: Irish Transverse Mercator
NOTES: Main Head (OSGM15)
Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing
002	29/09/25	Offsite Records Added

PROJECT:

Ballinasloe R446 Bridge Street to
Harris Road

SCALE : 1/200 A1

DATE : 19/08/2024

DRG No: 6416

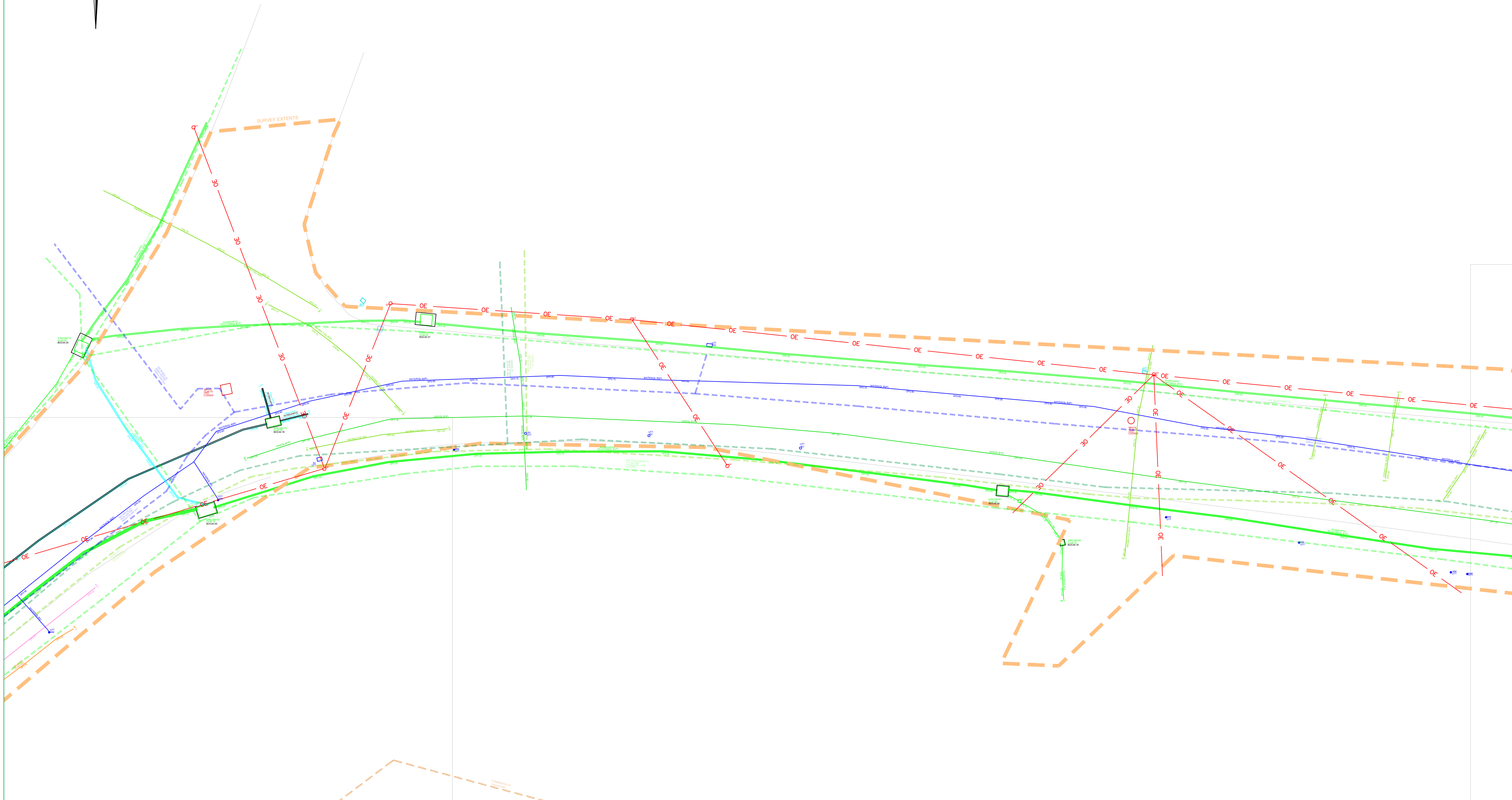
DESCRIPTION : 2D Utilities

SHEET: 1 of 12

SURVEYED BY : D.I.

PROCESSED BY : T.G.

CHECKED BY : A.B.



DESKTOP UTILITY RECORDS SEARCH	
QL-D	Drafted from utility records
SITE RECONNAISSANCE	
QL-C	Location Demonstrated by visual reference to street furniture or evidence of previous streetworks, ie - reinstatement scars
DETECTION	
QL-B4	A segment of utility suspected to exist but has not been detected by a geophysical technique
QL-B3	Horizontal location only of the utility detected by one of the geophysical techniques used
QL-B2	Horizontal and vertical location of the utility detected by one of the geophysical techniques used
QL-B1	Horizontal and vertical location of the utility detected by multiple geophysical techniques

The interpretative nature and the non-intrusive, indirect and non-destructive survey methods must be taken into account when considering the results of the surveys. Therefore Apex Surveys, while using appropriate practice to interpret, extend and present the data, gives no guarantees that all underground utilities and underground structures will be located and mapped. Furthermore, Apex Surveys cannot guarantee the accuracy of the utility depths annotated on the survey drawings.

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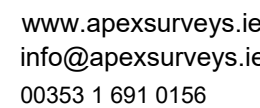
The Survey aims to map existing utilities subsurface utilities and provide information with respect to pipe size, material type and drainage connectivity. However utility surveying is limited by the following guidelines and it may not be possible to accurately survey, define and locate all services and sub-surface features.

- **Depth of Utility:** The depth and size of a utility affect the signal response and the degree with which a utility can be located.
 - **Due to attenuation of the radar signal with depth, resolution is restricted, hence, to enhance the identification of utilities more difficult with increasing depth.**
 - **Size of Utility:** The smaller the diameter of a utility the more difficult it is to locate. This difficulty increases with depth.
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 - **Signal Jumping:** Signal from surrounding services may 'jump' to a highly conductive line masking its true identity.
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 - **Surface Obstructions:** The GPR system can be run on a relatively flat and even surface on which to perform radar passes. If ground obstructions such as vehicles, organic material (long grass, scrub) or undulating ground surface are present then the acquired data will be of lower resolution and in some cases not viable.
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 - **Fiber Optic Cables:** Fiber optic cables may not be possible to locate except where laid with a built in tracer wire or similar conductor system.
 - **Defective / flooded manholes or pipework:** It may not be possible to establish connections between defective or defective manholes or pipework.
 - **Acute bends in pipework:** It may not be possible to trace a pipe past an acute bend
- Accuracy estimates:**
- Locational accuracy is determined by referring to the manufacturers guidelines for the detector used.
- In ideal conditions the spatial accuracies for the underground utilities may be as follows:
- 5% for radar detection of 100m depth for the GPR to 2.5m depth.
- However variations will be seen on the surface depth below the ground, close proximity of other services and local magnetic, atmospheric or ground conditions, bends, lateral service connections and any of the other limitations listed in this disclaimer may alter this estimated accuracy.
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PROJECT:	
Ballinasloe R446 Bridge Street to Harris Road	
SCALE : 1/200 A1	DATE : 19/08/2024
DRG No: 6416	DESCRIPTION : 2D Utilities
	SURVEYED BY : D.I.
SHEET: 2 of 12	PROCESSED BY : T.G.
	CHECKED BY : A.B.



BOLLARDS	BD +
BUS STOP	BS +
CRASH BARRIER	CB
GATE	←
ELECTRICITY POLE	EP +
TELEPHONE POLE	TP +
EARTHING ROD	ER +
LAMP POST	LP +
MARKER POST	MKR +
SIGN POST	SIGN →
TRAFFIC LIGHT	TL +
TELEPHONE BOX	TB
POST	POST +
POST BOX	POST BOX
ROADSIGN	RS: RS +
BORE HOLE	BH +
TRIAL PIT	TPIT +
BOTTOM OF CHAMBER	BOC
CAST-IRON	CI
CONCRETE	CONC
DIAMETER	DIA

AIR VALVE	AV
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CTV
COVER LEVEL	CL
EIRCOM CABLE COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRICAL CABLE PIT	ECP
ESAT COVER	ESAT
ESS COVER	ESS
ESS JUNCTION BOX	ESS BOX
FIRE HYDRANT	GH
GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUDGE VALVE	SV
DOWNPIPE	DP
EARTHWARE	N/T
NO FURTHER TRACE	Q/S
OFFSITE	Q/S

BED LEVEL	+BED101.50
FLOOR LEVEL	+FL101.50
INVERT LEVEL	+IL101.50
ROAD LEVEL	+101.50
SOFFIT LEVEL	+SL101.50
SPOT LEVEL	+101.50
TOP OF WALL LEVEL	+TOW101.50
WATER LEVEL	+WVL101.50
SURVEY CONTROL STATION	
START OF RUN	SOR
UNABLE TO OPEN	UTO
UNABLE TO TRACE	UTT

WATER MAIN
GAS MAIN
STORM DRAIN
FOUL SEWER
COMBINED SEWER
ELECTRIC CABLE
ELECTRIC LIGHTING
EIRCOM
FIBRE OPTIC CABLE
BROADBAND
CABLE TV
TRAFFIC AND SIGNAL CABLE
CCTV
IRRIGATION PIPE
EMPTY DUCT
GPR ANOMALY
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Clandillon
Civil Consulting

GRID SYSTEM: Irish Transverse Mercator
DATUM: Malin Head (OSGM15)
NOTES: Drawing Contains Scale Factor

No.	Date	Description
001	N/A	Original Drawing
002	29/09/25	Offsite Records Added

Ballinasloe R446 Bridge Street to Harris Road

SCALE : 1/200 A1

DRG No: 6416

SHEET: 2 of 12



DESKTOP UTILITY RECORDS SEARCH	
QL-D	Drafted from utility records
SITE RECONNAISSANCE	
QL-C	Location Demonstrated by visual reference to street furniture or evidence of previous streetworks, ie - reinstatement scars

DETECTION	
QL-B4	A segment of utility suspected to exist but has not been detected by a geophysical technique
QL-B3	Horizontal location only of the utility detected by one of the geophysical techniques used
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The Survey aims to map existing utilities subsurface utilities and provide information with respect to pipe size, material type and drainage connectivity. However utility surveying is limited by the following guidelines and it may not be possible to accurately survey, define and locate all services and sub-surface features.

- **Depth of Utility:** The depth and size of a utility affect the signal response and the depth with which a utility can be located.
- **Duty to attenuation of the radar signal with depth:** resolution is restricted, hence making identification of utilities more difficult with increasing depth.
- **Size of Utility:** The smaller the diameter of a utility the more difficult it is to locate. This difficulty increases with depth.
- **Ground Conditions:** The depth penetration and quality of the data depends on the ground conditions of the site. GPR Surveying works best within high resistivity material. Clay overburden can impair GPR Surveying. Poor data may be a result of water in the soil.
- **Utility Congestion:** Where different utilities converge together into a service corridor or cross paths it becomes difficult to isolate a specific utility and to map its route. The reflected signal will display a single response to multiple utilities. Therefore multiple utilities may appear to be a single utility. Where similar services run on close proximity, separation may be impossible.
- **Signal Jumping:** Signals from surrounding services may 'jump' to a highly conductive utility making identification difficult.
- **Shadowing:** (of deeper utilities by shallower objects) Shallow utilities may mask the existence of deeper utilities where they are in close proximity. Also, high reflective materials close to the surface i.e. rebar may hide deeper anomalies.
- **Surface Obstructions:** The GPR system relies on a relatively flat and even surface on which to perform radar scans. If ground obstructions such as vehicles, organic material (long grass, scrub) or underground ground surface are present then the acquired data will be of lower resolution and in some cases not viable.
- **Loss of signal:** It is not always possible to trace the entire length of each underground service.
- **Connections between manholes:** Connections between manhole chambers are assumed to be straight.
- **Non-metallic objects:** Nonmetallic objects are amongst the most difficult to trace therefore successful tracing of non-metallic pipes/ utilities may be limited.
- **Fiber Optic Cables:** Fiber optic cables may not be possible to locate except where laid with a built in tracer wire or similar conductor system.
- **Defective / flooded manholes or pipework:** It may not be possible to establish connections between flooded or defective manholes or pipework.
- **Acute bends in pipework:** It may not be possible to trace a pipe past an acute bend

- Locational accuracy is determined by referring to the manufacturers guidelines for the detector used.

- In ideal conditions the spatial accuracies for the underground utilities may be +/- 5% for Radiodetection and +/- 10% of depth for the GPR to 2.5m deep. However variations within the subsurface, depth below the ground, close proximity of other services and local magnetic, atmospheric or ground conditions, bends, lateral service connections and any of the other limitations listed in this disclaimer may affect this estimated accuracy.
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BOLLARDS	BD +
BUS STOP	BS +
CRASH BARRIER	CB
GATE	_____
ELECTRICITY POLE	EP +
TELEPHONE POLE	TP +
EARTHING ROD	ER +
LAMP POST	LP +
MARKER POST	MKR +
SIGN POST	SIGN _____
TRAFFIC LIGHT	TL +
TELEPHONE BOX	TB
POST	POST +
POST BOX	POST BOX
ROADSIGN	RS - RS +
BORE HOLE	BH +
TRIAL PIT	TPIT +

AIR VALVE	AV
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRICAL CABLE PIT	ECP
ESAT COVER	ESAT
ESB COVER	ESB
ESB JUNCTION BOX	ESB BOX
FIRE HYDRANT	FH
GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV

STOPCOCK
SERVICE BOX (UNKNOWN)
TRAFFIC COVER
VENT
WATER METER

LEVELS :

BED LEVEL
FLOOR LEVEL
INVERT LEVEL
ROAD LEVEL
SOFFIT LEVEL
SPOT LEVEL
TOP OF WALL LEVEL
WATER LEVEL
SURVEY CONTROL STATION

ST +
BOX 
TLIC 
VENT +
WM +

+BED101.50
+FL101.50
+IL101.50
+R101.50
+SL101.50
+101.50
+TOW101.50
+WL101.50



WATER MAIN
GAS MAIN
STORM DRAIN
FOUL SEWER
COMBINED SEWER
ELECTRIC CABLE
ELECTRIC LIGHTING
EIRCOM
FIBRE OPTIC CABLE
BROADBAND
CABLE TV
TRAFFIC AND SIGNAL CABLE
CCTV
IRRIGATION PIPE
EMPTY DUCT
GPR ANOMALY
UNKNOWN CABLE
O/HEAD ELECTRICITY
O/HEAD TELECOM

The diagram illustrates a sequence of overlapping rectangles. The second rectangle from the left is highlighted in red, representing the current window. The rectangles are arranged in a way that suggests a sliding window operation over a sequence of elements.

APEX
SURVEYS

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Clandillon
Civil Consulting

GRID SYSTEM: Irish Transverse Mercator
DATUM: Malin Head (OSGM15)
NOTES: Drawing Contains Scale Factor

Ballinasloe R446 Bridge Street to Harris Road

SCALE : 1/200 A1

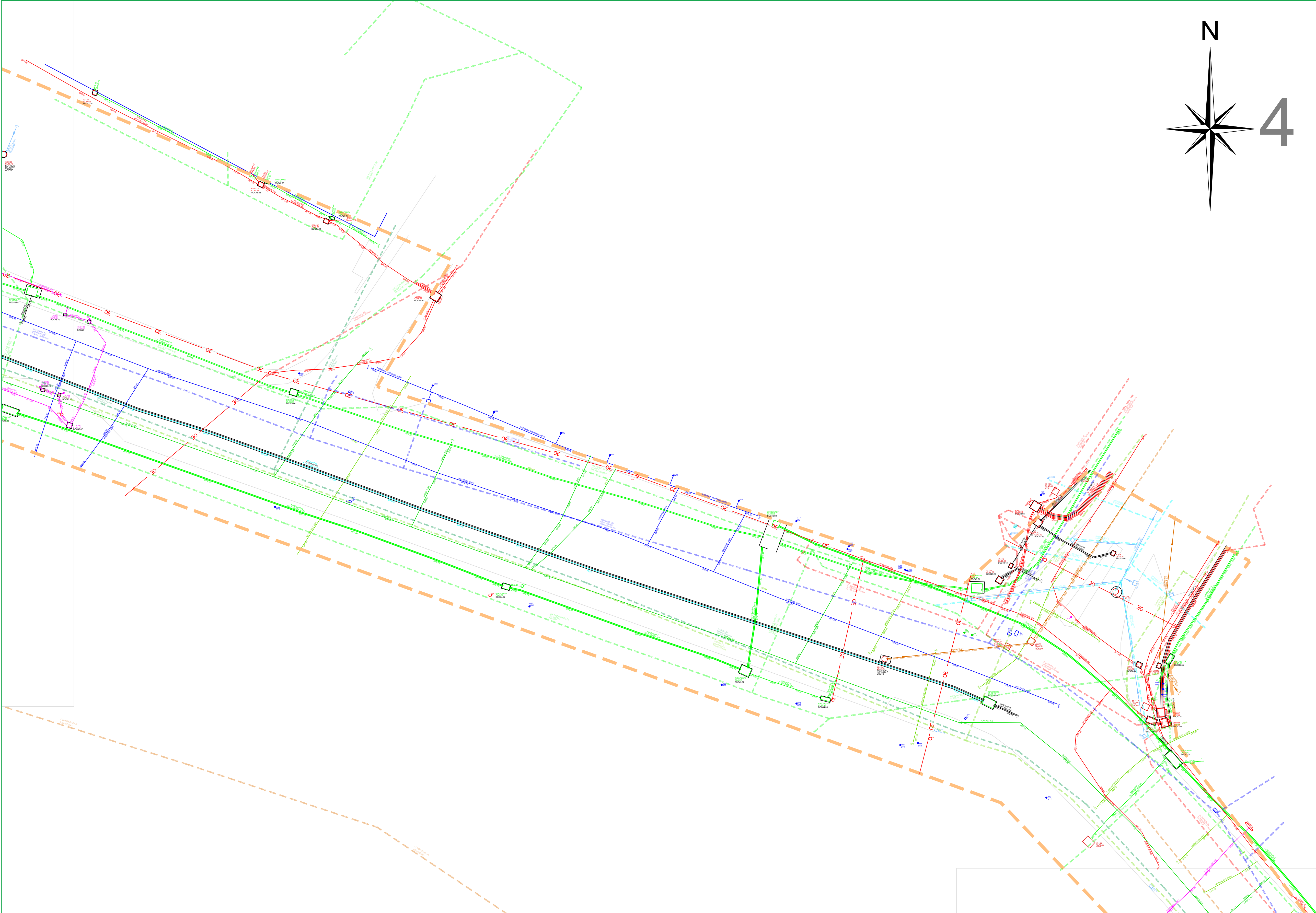
DATE : 19/08/2024

DRG No: 6416

DESCRIPTION	ZD Utilities

SHEET: 3 of 12

PROCESSED BY : T.G.



PAS 128: 2014 (Quality of Survey Level Outputs):	
DESKTOP UTILITY RECORDS SEARCH	
QL-D	Drafted from utility records
SITE RECONNAISSANCE	
QL-C	Location Demonstrated by visual reference to street furniture or evidence of previous streetworks, ie - reinstatement scars
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VERIFICATION	
QL-A	Horizontal and vertical location of the top and/or bottom of the utility

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- The Survey aims to map existing utilities subsurface utilities and provide information with respect to pipe size, material type and drainage connectivity. However utility surveying is limited by the following guidelines and it may not be possible to accurately survey, define and locate all services and sub-surface features.
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STREET FURNITURE :

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GATE
ELECTRICITY POLE
TELEPHONE POLE
EARTHING ROD
LAMP POST
MARKER POST
SIGN POST
TRAFFIC LIGHT
TELEPHONE BOX
POST
POST BOX
ROADSIGN
BORE HOLE
TRIAL PIT

SERVICES :

AIR VALVE
ARMSTRONG JUNCTION
CABLE TV IC
COVER LEVEL
EIRCOM JUNCTION BOX
ELECTRICAL CABLE PIT
ESAT COVER
ESS COVER
ESS JUNCTION BOX
FIRE HYDRANT
GAS VALVE
GULLY
INSPECTION COVER
MANHOLE
SEPTIC TANK
SLUICE VALVE

UNDERGROUND LEGEND :

WATER MAIN
GAS MAIN
STORM DRAIN
FOUL SEWER
COMBINED SEWER
ELECTRIC CABLE
ELECTRIC LIGHTING
EIRCOM
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TRAFFIC AND SIGNAL CABLE
CCTV
IRRIGATION PIPE
EMPTY DUCT
GPR ANOMALY
UNKNOWN CABLE
O/H EAD ELECTRICITY
O/H EAD TELECOM

SHEET LAYOUT :

PLAN PRODUCED BY:
APEX
SURVEYS

CONTACT INFORMATION:

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CLIENT:

Clandillon
Civil Consulting

GRID SYSTEM: Irish Transverse Mercator
DATUM: Malin Head (OSGM15)
NOTES: Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing
002	29/09/25	Offsite Records Added

PROJECT:

Ballinasloe R446 Bridge Street to
Harris Road

SCALE : 1/200 A1

DATE : 19/08/2024

DRG No: 6416

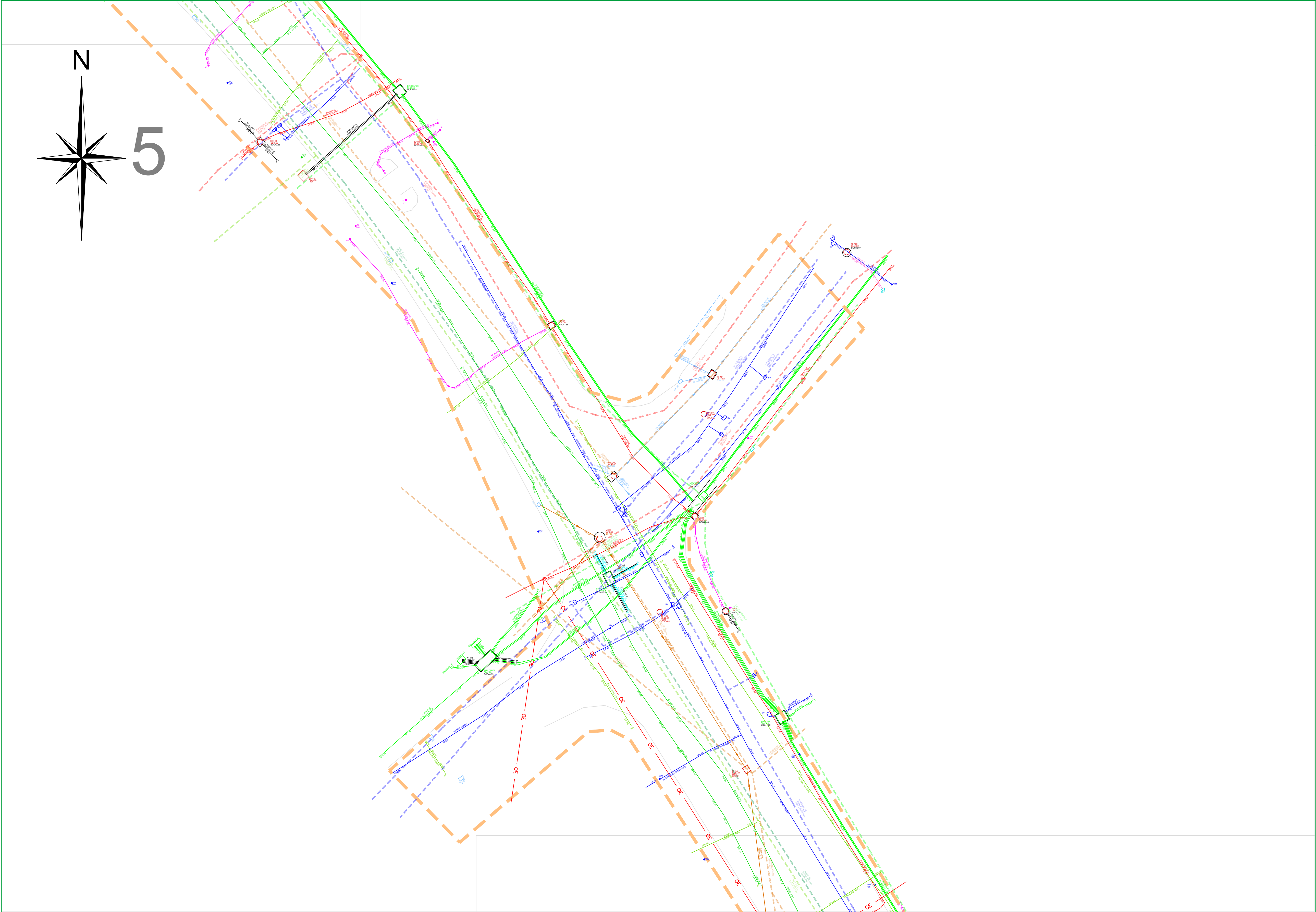
DESCRIPTION : 2D Utilities

SHEET: 4 of 12

SURVEYED BY : D.I.

PROCESSED BY : T.G.

CHECKED BY : A.B.



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STREET FURNITURE :

- | | |
|-------------------|----------|
| BOLLARDS | BD + |
| BUS STOP | BS - |
| CRASH BARRIER | CB |
| GATE | GP |
| ELECTRICITY POLE | EP + |
| TELEPHONE POLE | TP + |
| EARTHING ROD | ER + |
| LAMP POST | LP + |
| MARKER POST | MP + |
| SIGN POST | SIGN |
| TRAFFIC LIGHT | TL + |
| TELEPHONE BOX | TB |
| POST | POST |
| POST BOX | POST BOX |
| ROADSIGN | RS - RS |
| BORE HOLE | BH + |
| TRIAL PIT | TPIT + |
| BOTTOM OF CHAMBER | BOC |
| CAST-IRON | CI |
| CONCRETE | CONC |
| DIAMETER | DIA |

SERVICES :

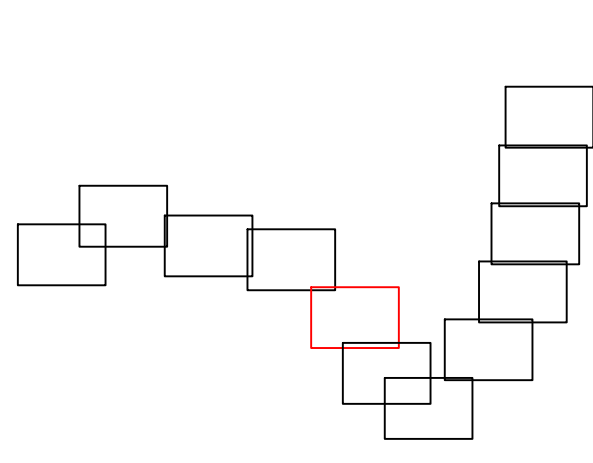
- | | |
|----------------------|------------|
| AIR VALVE | AV |
| ARMSTRONG JUNCTION | AJ |
| CABLE TV IC | CATV |
| COVER LEVEL | CL |
| EIRCOM COVER | EIRCOM |
| EIRCOM JUNCTION BOX | EIRCOM BOX |
| ELECTRICAL CABLE PIT | ECP |
| ESAT COVER | ESAT |
| ESS COVER | ESS |
| ESS JUNCTION BOX | ESS BOX |
| FIRE HYDRANT | FH |
| GAS VALVE | GV |
| GULLY | G |
| INSPECTION COVER | IC |
| MANHOLE | MH |
| SEPTIC TANK | ST |
| SLUICE VALVE | SV |
| DOWNSPIRE | DP |
| EARTHENWARE | EW |
| NO FURTHER TRACE | NFT |
| OFFSITE | OIS |

- | | |
|-------------------------|-------------|
| STOPCOCK | ST |
| SERVICE BOX (UNKNOWN) | BOX |
| TRAFFIC COVER | TLUC |
| VENT | VENT |
| WATER METER | WM |
| LEVELS : | |
| BED LEVEL | + BED101.50 |
| FLOOR LEVEL | + FL101.50 |
| INVERT LEVEL | + IL101.50 |
| ROAD LEVEL | + 101.50 |
| SOFFIT LEVEL | + SL101.50 |
| SPOT LEVEL | + 101.50 |
| TOP OF WALL LEVEL | + TOW101.50 |
| WATER LEVEL | + WL101.50 |
| SURVEY CONTROL STATION | SCS |
| START OF RUN | SOR |
| UNABLE TO OPEN | UTO |
| UNABLE TO TRACE | UTT |

UNDERGROUND LEGEND :

- | | |
|--------------------------|------------|
| WATER MAIN | WATER |
| GAS MAIN | GAS |
| STORM DRAIN | STORM |
| FOUL SEWER | FOUL |
| COMBINED SEWER | COMB |
| ELECTRIC CABLE | ELECTRIC |
| ELECTRIC LIGHTING | LIGHTING |
| EIRCOM | EIRCOM |
| FIBRE OPTIC CABLE | FIBRE |
| BROADBAND | BROADBAND |
| CABLE TV | TV |
| TRAFFIC AND SIGNAL CABLE | TRAFFIC |
| CTV | CTV |
| IRRIGATION PIPE | IRRIGATION |
| EMPTY DUCT | EMPTY |
| GPR ANOMALY | ANOMALY |
| UNKNOWN CABLE | CABLE |
| OHREAD ELECTRICITY | OH |
| OHREAD TELECOM | OT |

SHEET LAYOUT :



PLAN PRODUCED BY:



CONTACT INFORMATION:

Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Clandillon
Civil Consulting

GRID SYSTEM:

Irish Transverse Mercator
DATUM: Main Head (OSGM15)
NOTES: Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing
002	29/09/25	Offsite Records Added

PROJECT:

Ballinasloe R446 Bridge Street to
Harris Road

SCALE : 1/200 A1

DATE : 19/08/2024

DRG No: 6416

DESCRIPTION : 2D Utilities

SHEET: 5 of 12

SURVEYED BY : D.I.

PROCESSED BY : T.G.

CHECKED BY : A.B.

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Defective / flooded manholes or pipework: It may not be possible to establish connections between flooded or defective manholes or pipework.

Acute bends in pipework: It may not be possible to trace a pipe past an acute bend.

Accuracy estimates:

Locational accuracy is determined by referring to the manufacturers guidelines for the detector used.

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Plan accuracies of 3" or - 150mm may be achieved but this figure will depend on the depth of service below ground level. However variations within the subsurface subsurface, depth below the ground, close proximity of other services and local magnetic, atmospheric or ground conditions, bends, lateral service connections and any of the other limitations listed in this disclaimer may alter this estimated accuracy.

DP represents distance from the surface level to the top of the service/target. Where technically possible, depth indications will be given. These along with plan positions should be used for guidance only and wherever critical accuracy is required these should be confirmed by the client by undertaking trial excavations or similar.

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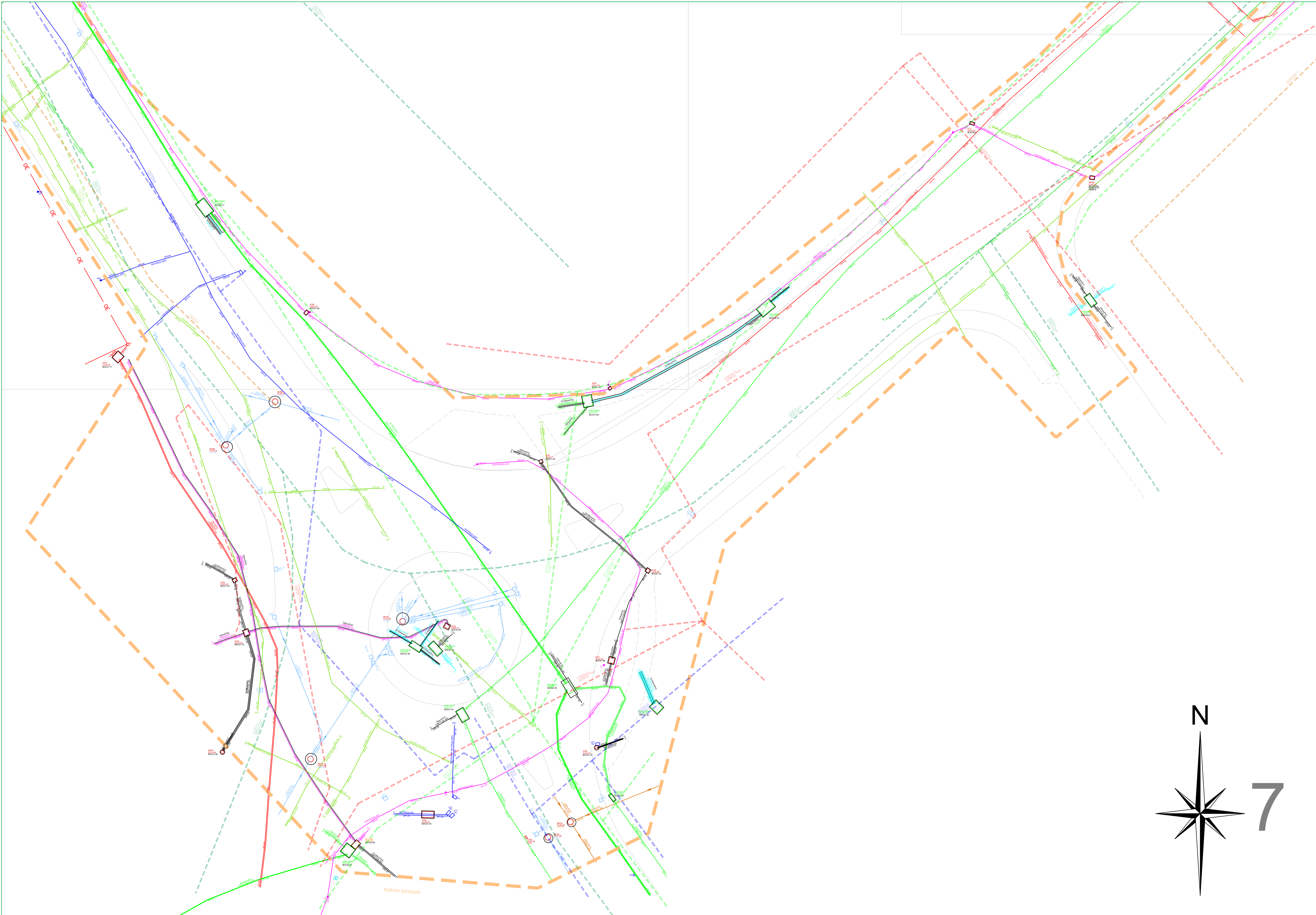
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[illegible]



PAS 128: 2014 (Quality of Survey Level Outputs):	
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QL-D	Drafted from utility records
SITE RECONNAISSANCE	
QL-C	Location Demonstrated by visual reference to street furniture or evidence of previous streetworks, ie - reinstatement scars
DETECTION	
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VERIFICATION	
QL-A	Horizontal and vertical location of the top and/or bottom of the utility

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APEX
SURVEYS

www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

STREET FURNITURE :

BOLLARDS
BUS STOP
CRASH BARRIER
GATE
ELECTRICITY POLE
TELEPHONE POLE
EARTHING ROD
LAMP POST
MARKER POST
SIGN POST
TRAFFIC LIGHT
TELEPHONE BOX
POST
POST BOX
ROADSIGN
BORE HOLE
TRIAL PIT

BOTTOM OF CHAMBER
CAST-IRON
CONCRETE
DIAMETER

SERVICES :

AIR VALVE
ARMSTRONG JUNCTION
CABLE TV IC
COVER LEVEL
EIRCOM COVER
EIRCOM JUNCTION BOX
ELECTRICAL CABLE PIT
ESAT COVER
ESS COVER
ESS JUNCTION BOX
FIRE HYDRANT
GAS VALVE
GULLY
INSPECTION COVER
MANHOLE
SEPTIC TANK
SLUICE VALVE

DOWNPIPE
EARTHENWARE
NO FURTHER TRACE
OFFSITE

STOPCOCK
SERVICE BOX (UNKNOWN)
TRAFFIC COVER
VENT
WATER METER

LEVELS :

BED LEVEL
FLOOR LEVEL
INVERT LEVEL
ROAD LEVEL
SOFFIT LEVEL
SPOT LEVEL
TOP OF WALL LEVEL
WATER LEVEL
SURVEY CONTROL STATION

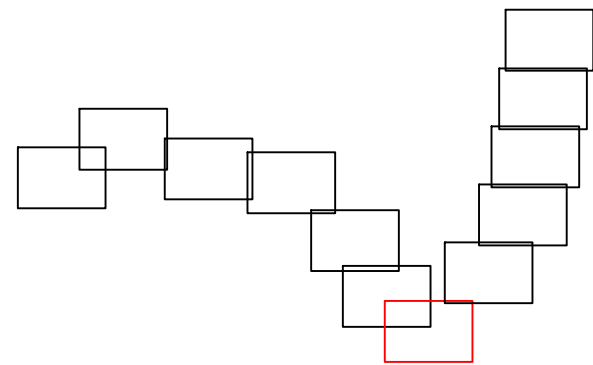
START OF RUN
UNABLE TO OPEN
UNABLE TO TRACE

UNDERGROUND LEGEND :

WATER MAIN
GAS MAIN
STORM DRAIN
FOUL SEWER
COMBINED SEWER
ELECTRIC CABLE
ELECTRIC LIGHTING
EIRCOM
FIBRE OPTIC CABLE
BROADBAND
CABLE TV
TRAFFIC AND SIGNAL CABLE
CCTV
IRRIGATION PIPE
EMPTY DUCT
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UNKNOWN CABLE
OHEAD ELECTRICITY
OHEAD TELECOM

WATER
GAS
STORM
FOUL
COMB
POWER
LIGHTING
EIRCOM
FIBRE
BROADBAND
TV
TRAFFIC
CCTV
IRRIGATION
EMPTY
ANOMALY
CABLE
OHEAD
OHEAD

SHEET LAYOUT :



PLAN PRODUCED BY:

APEX
SURVEYS

CONTACT INFORMATION:

Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Clandillon
Civil Consulting

PROJECT:

**Ballinasloe R446 Bridge Street to
Harris Road**

SCALE :

1/200 A1

DATE :

19/08/2024

DRG No:

6416

DESCRIPTION :

2D Utilities

SHEET:

7 of 12

SURVEYED BY :

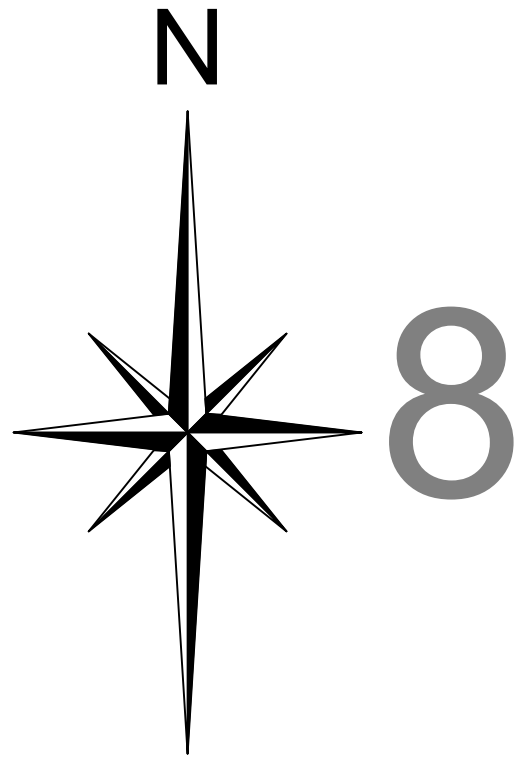
D.I.

PROCESSED BY :

T.G.

CHECKED BY :

A.B.



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SURVEYS

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STREET FURNITURE :

BOLLARDS
BUS STOP
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TELEPHONE POLE
EARTHING ROD
LAMP POST
MARKER POST
SIGN POST
TRAFFIC LIGHT
TELEPHONE BOX
POST
POST BOX
ROADSIGN
BORE HOLE
TRIAL PIT

SERVICES :

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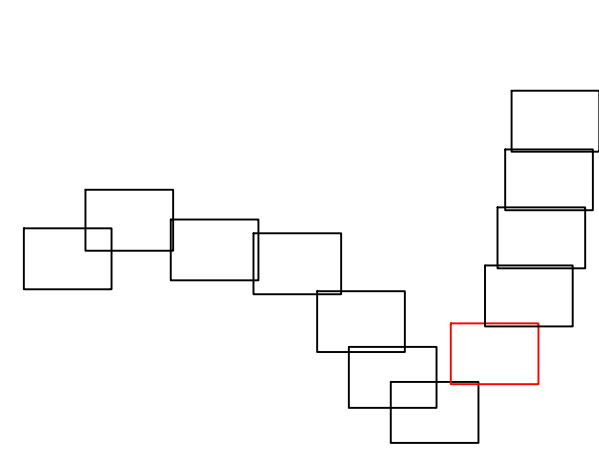
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EMPTY DUCT
GPR ANOMALY
UNKNOWN CABLE
O/H EAD ELECTRICITY
O/H EAD TELECOM

SHEET LAYOUT :



PLAN PRODUCED BY:

APEX
SURVEYS

CONTACT INFORMATION:

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Irish Transverse Mercator
DATUM: Malin Head (OSGM15)
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REVISIONS:

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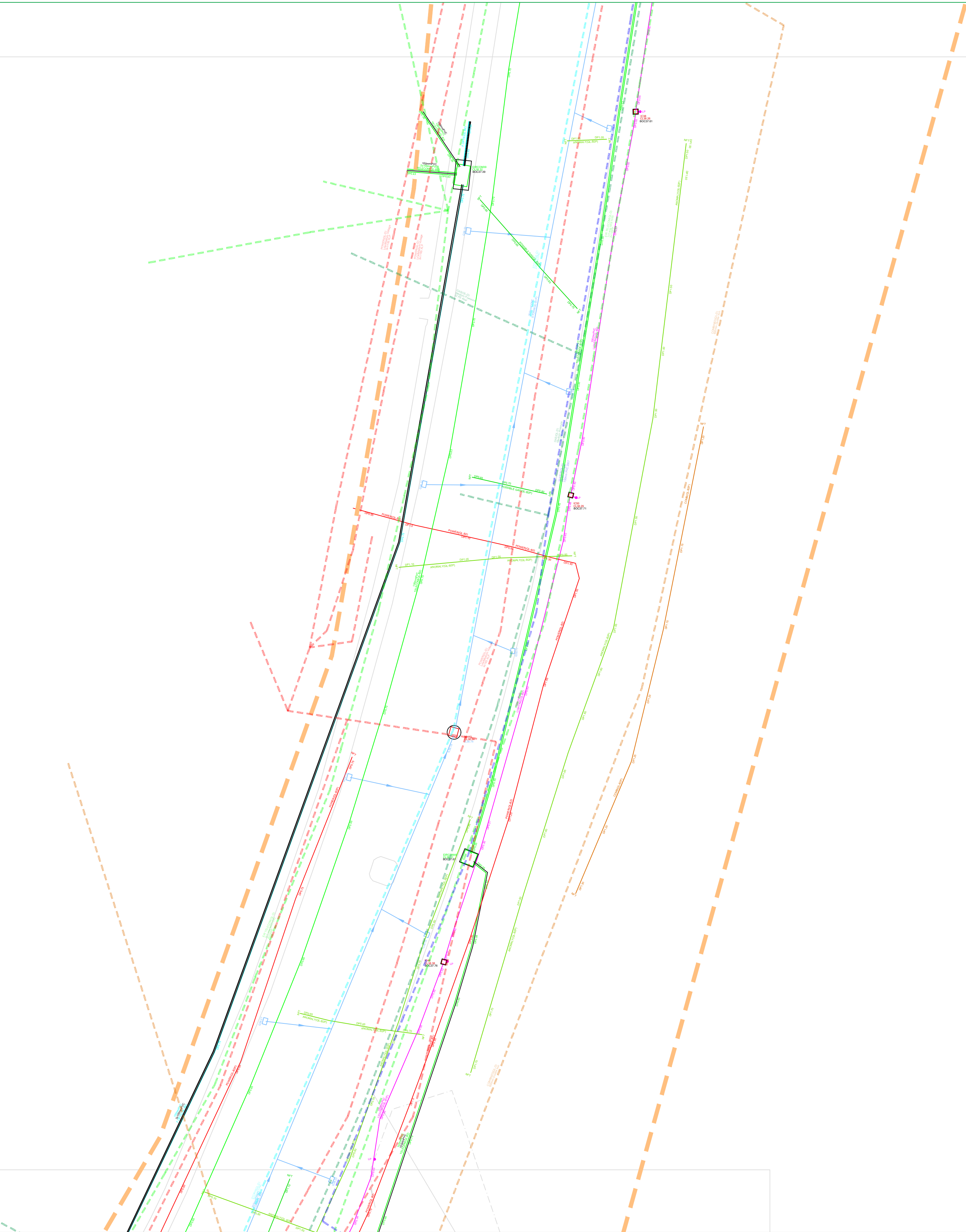
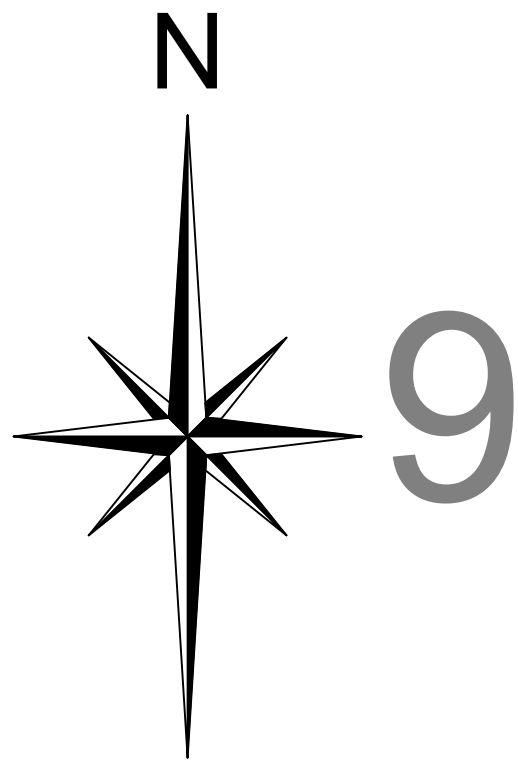
DESCRIPTION : 2D Utilities

SHEET: 8 of 12

SURVEYED BY : D.I.

PROCESSED BY : T.G.

CHECKED BY : A.B.



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STREET FURNITURE :

- BOLLARDS
- BUS STOP
- CRASH BARRIER
- GATE
- ELECTRICITY POLE
- TELEPHONE POLE
- EARTHING ROD
- LAMP POST
- MARKER POST
- SIGN POST
- TRAFFIC LIGHT
- TELEPHONE BOX
- POST
- POST BOX
- ROADSIGN
- BORE HOLE
- TRIAL PIT

SERVICES :

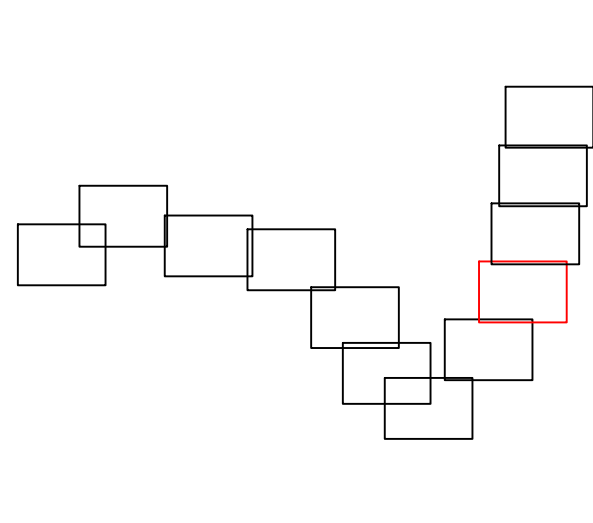
- AIR VALVE
- ARMSTRONG JUNCTION
- CABLE TV IC
- COVER LEVEL
- EIRCOM COVER
- EIRCOM JUNCTION BOX
- ELECTRICAL CABLE PIT
- ESAT COVER
- ESB COVER
- ESB JUNCTION BOX
- FIRE HYDRANT
- GAS VALVE
- GULLY
- INSPECTION COVER
- MANHOLE
- SEPTIC TANK
- SLUICE VALVE

- STOPCOCK
- SERVICE BOX (UNKNOWN)
- TRAFFIC COVER
- VENT
- WATER METER
- LEVELS :
- BED LEVEL
- FLOOR LEVEL
- INVERT LEVEL
- ROAD LEVEL
- SOFFIT LEVEL
- SPOT LEVEL
- TOP OF WALL LEVEL
- WATER LEVEL
- SURVEY CONTROL STATION

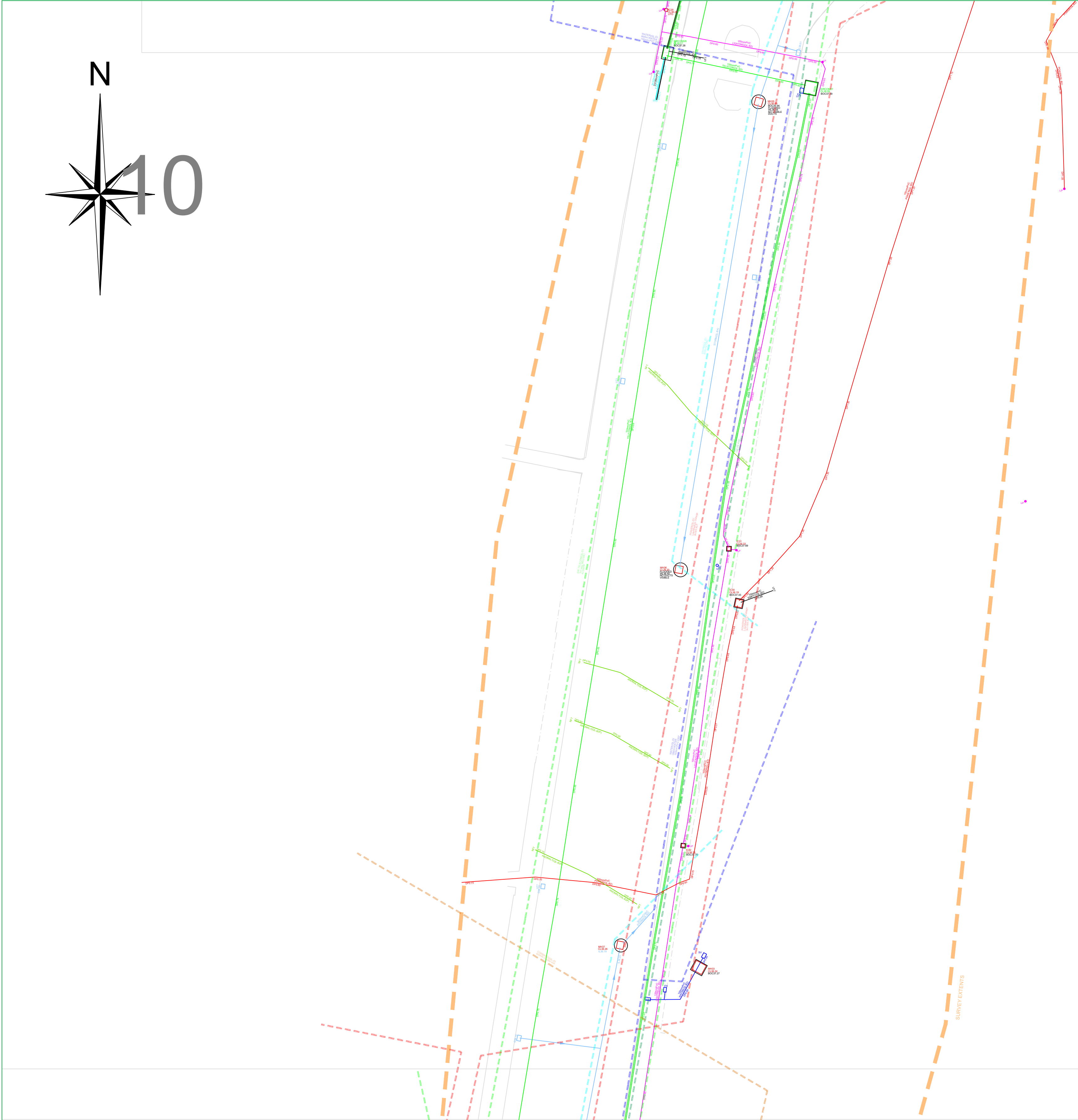
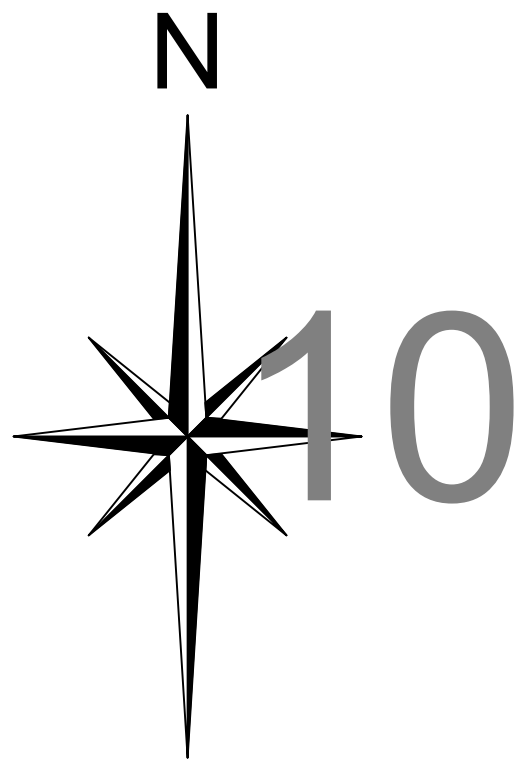
UNDERGROUND LEGEND :

- WATER MAIN
- GAS MAIN
- STORM DRAIN
- FOUL SEWER
- COMBINED SEWER
- ELECTRIC CABLE
- ELECTRIC LIGHTING
- EIRCOM
- FIBRE OPTIC CABLE
- BROADBAND
- CABLE TV
- TRAFFIC AND SIGNAL CABLE
- CCTV
- IRRIGATION PIPE
- EMPTY DUCT
- GPR ANOMALY
- UNKNOWN CABLE
- OH/HEAD ELECTRICITY
- OH/HEAD TELECOM

SHEET LAYOUT :



PLAN PRODUCED BY:		CLIENT:		PROJECT:	
APEX SURVEYS		Clandillon Civil Consulting		Ballinasloe R446 Bridge Street to Harris Road	
CONTACT INFORMATION:		GRID SYSTEM: Irish Transverse Mercator		SCALE : 1/200 A1	
Apex Surveys Unit 78 Dunboyne Business Park Dunboyne, Co. Meath, Ireland www.apexsurveys.ie info@apexsurveys.ie 00353 1 691 0156		DATUM: Malin Head (OSGM15)		DATE : 19/08/2024	
		NOTES: Drawing Contains Scale Factor		DESCRIPTION : 2D Utilities	
		REVISIONS:		SURVEYED BY : D.I.	
				DRG No: 6416	
				PROCESSED BY : T.G.	
				SHEET: 9 of 12	
				CHECKED BY : A.B.	



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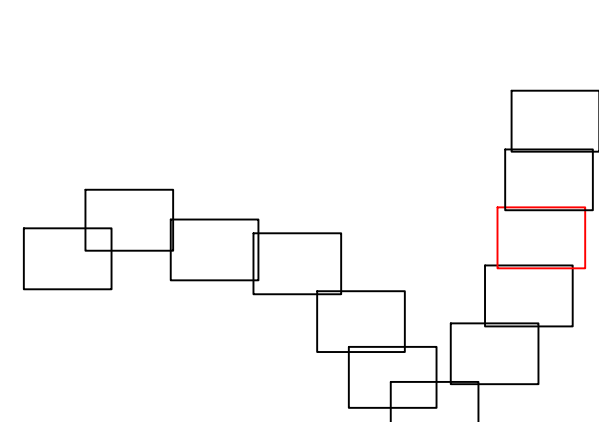
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FIRE HYDRANT
GAS VALVE
GULLY
INSPECTION COVER
MANHOLE
SEPTIC TANK
SLUICE VALVE

STOPCOCK
SERVICE BOX (UNKNOWN)
TRAFFIC COVER
VENT
WATER METER
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FLOOR LEVEL
INVERT LEVEL
ROAD LEVEL
SOFFIT LEVEL
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BROADBAND
CABLE TV
TRAFFIC AND SIGNAL CABLE
CCTV
IRRIGATION PIPE
EMPTY DUCT
GPR ANOMALY
UNKNOWN CABLE
O/H EAD ELECTRICITY
O/H EAD TELECOM

SHEET LAYOUT :



PLAN PRODUCED BY:

APEX
SURVEYS

CONTACT INFORMATION:

Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Clandillon
Civil Consulting

GRID SYSTEM:

Irish Transverse Mercator
DATUM: Malin Head (OSGM15)
NOTES: Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing
002	29/09/25	Offsite Records Added

PROJECT:

Ballinasloe R446 Bridge Street to
Harris Road

SCALE :

1/200 A1

DATE :

19/08/2024

DRG No:

6416

DESCRIPTION :

2D Utilities

SHEET:

10 of 12

SURVEYED BY :

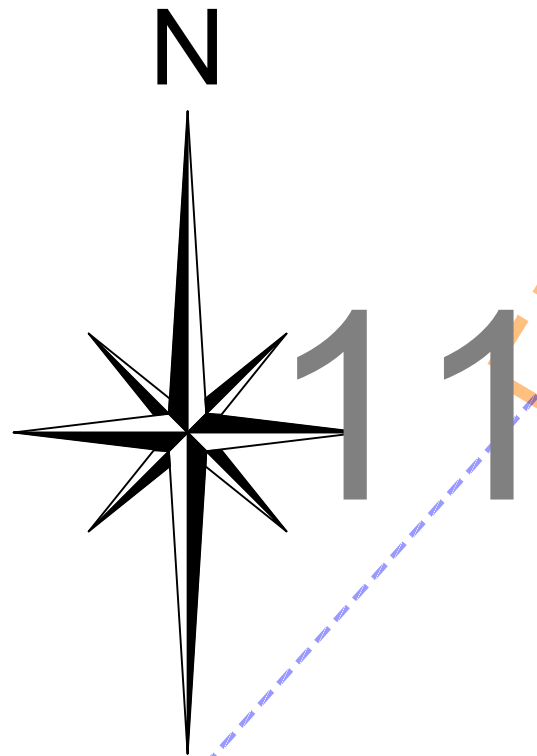
D.I.

PROCESSED BY :

T.G.

CHECKED BY :

A.B.



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[illegible]



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ELECTRICITY POLE
TELEPHONE POLE
EARTHING ROD
LAMP POST
MARKER POST
SIGN POST
TRAFFIC LIGHT
TELEPHONE BOX
POST
POST BOX
ROADSIGN
BORE HOLE
TRIAL PIT

SERVICES :

AIR VALVE
ARMSTRONG JUNCTION
CABLE TV IC
COVER LEVEL
EIRCOM JUNCTION BOX
ELECTRICAL CABLE PIT
ESAT COVER
ESS COVER
ESS JUNCTION BOX
FIRE HYDRANT
GAS VALVE
GULLY
INSPECTION COVER
MANHOLE
SEPTIC TANK
SLUICE VALVE

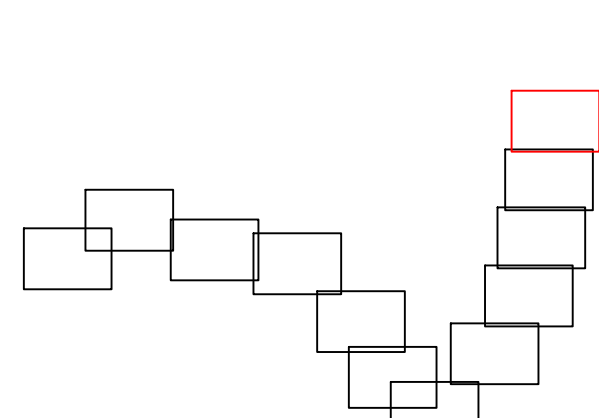
LEVELS :

STOPCOCK
SERVICE BOX (UNKNOWN)
TRAFFIC COVER
VENT
WATER METER

UNDERGROUND LEGEND :

WATER MAIN
GAS MAIN
STORM DRAIN
FOUL SEWER
COMBINED SEWER
ELECTRIC CABLE
ELECTRIC LIGHTING
EIRCOM
FIBRE OPTIC CABLE
BROADBAND
CABLE TV
TRAFFIC AND SIGNAL CABLE
CCTV
IRRIGATION PIPE
EMPTY DUCT
GPR ANOMALY
UNKNOWN CABLE
O/H ELEC TRICITY
O/H ELEC TELECOM

SHEET LAYOUT :



PLAN PRODUCED BY:

APEX
SURVEYS

CONTACT INFORMATION:

Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Clandillon
Civil Consulting

GRID SYSTEM:

Irish Transverse Mercator
Datum: Malin Head (OSGM15)
Notes: Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing
002	29/09/25	Offsite Records Added

PROJECT:

Ballinasloe R446 Bridge Street to
Harris Road

SCALE : 1/200 A1

DATE : 19/08/2024

DRG No: 6416

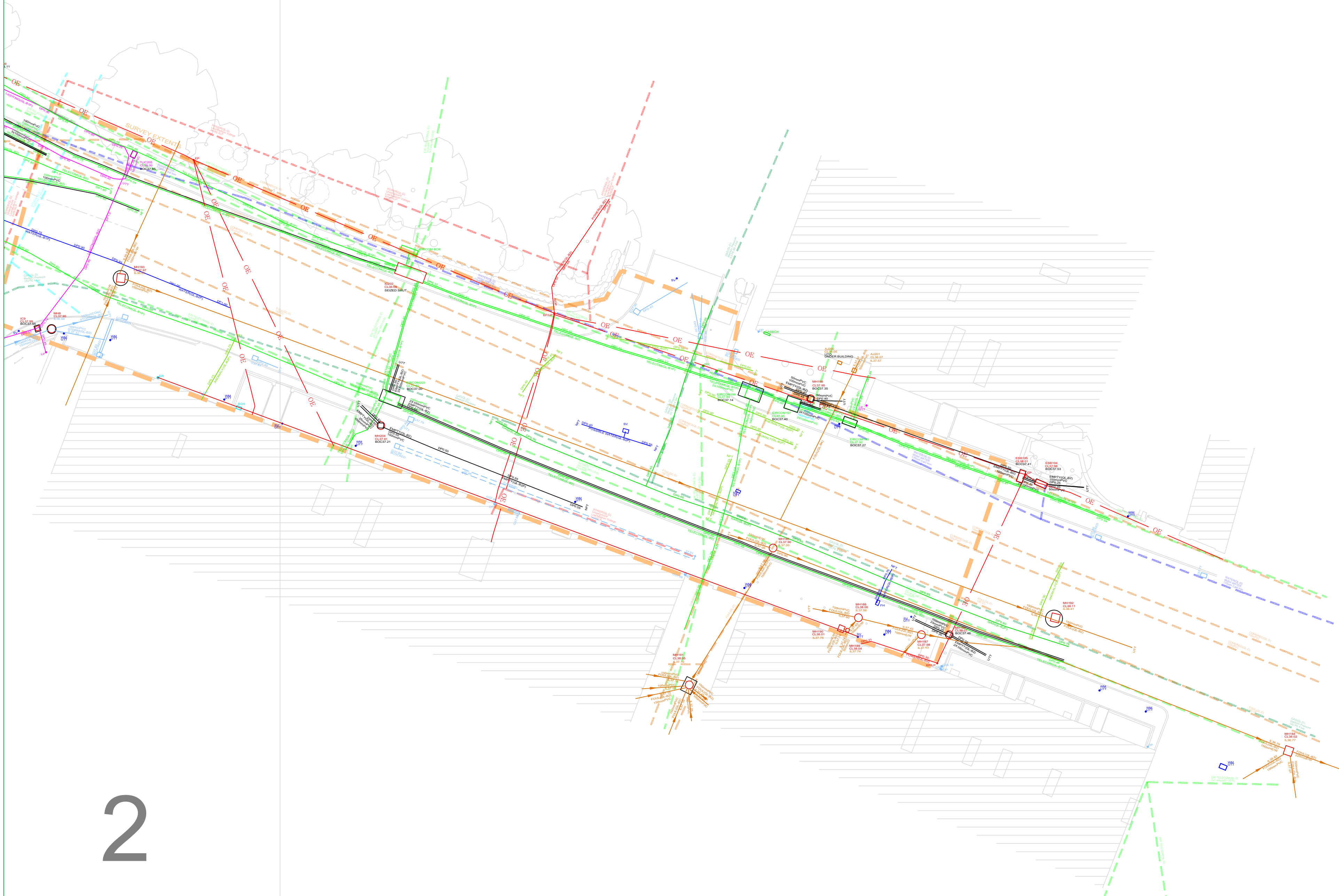
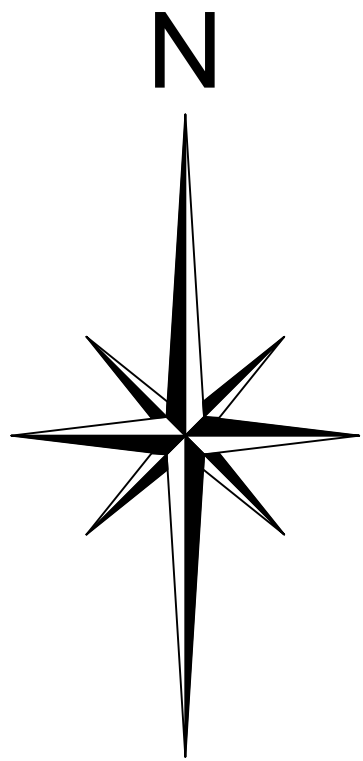
DESCRIPTION : 2D Utilities

SHEET: 12 of 12

SURVEYED BY : D.I.

PROCESSED BY : T.G.

CHECKED BY : A.B.



PAS 128: 2014 (Quality of Survey Level Outputs):

DESKTOP UTILITY RECORDS SEARCH	
QL-D	Drafted from utility records
SITE RECONNAISSANCE	
QL-C	Location Demonstrated by visual reference to street furniture or evidence of previous streetworks, ie - reinstatement scars
DETECTION	
QL-B4	A segment of utility suspected to exist but has not been detected by a geophysical technique
QL-B3	Horizontal location only of the utility detected by one of the geophysical techniques used
QL-B2	Horizontal and vertical location of the utility detected by one of the geophysical techniques used
QL-B1	Horizontal and vertical location of the utility detected by multiple geophysical techniques
VERIFICATION	
QL-A	Horizontal and vertical location of the top and/or bottom of the utility

Apex Surveys Ltd. Disclaimer - Utility Survey

The interpretative nature and the non-intrusive, indirect and non-destructive survey methods must be taken into account when considering the results of the surveys. Therefore Apex Surveys, while using appropriate practice to execute, interpret and present the data, gives no guarantees that all underground utilities and underground structures will be located and mapped. Furthermore, Apex Surveys cannot guarantee the accuracy of the utility depths annotated on the survey drawings. Apex Survey shall not be liable for any omissions or inaccuracies in the survey which arise due to the limitations of the service. No liability shall attach to Apex Surveys, in any circumstances, howsoever arising, in respect of any consequential loss or damages suffered by the Client.

The following is a non-exhaustive list of the limitations of utility surveys:

- The Survey aims to map existing utilities subsurface utilities and provide information with respect to pipe size, material type and drainage connectivity. However utility surveying is limited by the following guidelines and it may not be possible to accurately survey, define and locate all services and sub-surface features.
- Depth of Utility: The depth and size of a utility affect the signal response and the degree with which a utility can be located.
- Due to attenuation of the radar signal with depth, resolution is restricted, hence making identification of utilities more difficult with increasing depth.
- Size of Utility: The smaller the diameter of a utility the more difficult it is to locate. This difficulty increases with depth.
- Ground Conditions: The depth penetration and quality of the data depends on the ground conditions of the site. GPR Surveying works best within high resistivity material. Clay overburden can impair GPR Surveying. Poor data may be a result of areas with high conductivity.
- Utility Congestion: Where different utilities converge together into a service corridor or cross paths it becomes difficult to isolate a specific utility and to map its route. The reflected signal will display a single response to multiple utilities. Therefore multiple utilities may appear to be a single utility. Where similar services run on close proximity, separation may be impossible.
- Signal Jumping: Signal from surrounding services may 'jump' to a highly conductive line masking its true identity.
- Shadowing: (of deeper utilities by shallower objects) Shallow utilities will mask the existence of deeper utilities where they are in close proximity. Also, high reflective materials close to the surface i.e rebar may hide deeper anomalies.
- Surface Obstructions: The GPR system relies on a relatively flat and even surface on which to perform radar passes. If ground obstructions such as vehicles, organic material (long grass, scrub) or undulating ground surface are present then the acquired data will be of lower resolution and in some cases not viable.
- Loss of signal: It is not always possible to trace the entire length of each underground service.
- Connections between manholes: Connections between manhole chambers are assumed to be straight.
- Non-metallic objects: Nonmetallic objects are amongst the most difficult to trace therefore successful tracing of non-metallic pipes/ utilities may be limited.
- Fiber Optic Cables: Fiber optic cables may not be possible to locate except where laid with a built in tracer wire or similar conductor system.
- Defective / flooded manholes or pipework: It may not be possible to establish connections between flooded or defective manholes or pipework.
- Acute bends in pipework: It may not be possible to trace a pipe past an acute bend.

- Accuracy estimates:
- Locational accuracy is determined by referring to the manufacturers guidelines for the detector used.
 - In ideal conditions the spatial accuracies for the underground utilities may be +/- 5% for Radiodetection and +/- 10% of depth for the GPR to 2.5m deep. However variations within the subsurface, depth below the ground, close proximity of other services and local magnetic, atmospheric or ground conditions, bends, lateral service connections and any of the other limitations listed in this disclaimer may alter this estimated accuracy.
 - Plan accuracies of + or - 150mm may be achieved but this figure will depend on the depth of service below ground level. However variations within the subsurface, depth below the ground, close proximity of other services and local magnetic, atmospheric or ground conditions, bends, lateral service connections and any of the other limitations listed in this disclaimer may alter this estimated accuracy.
 - DP represents distance from the surface level to the top of the service/ target
 - Where technically possible, depth indications will be given. These along with plan positions should be used for guidance only and wherever critical accuracy is required these should be confirmed by the client by undertaking trial excavations or similar.

Record Drawing Information

- Services which have been untraceable are shown from records where possible or available. These lines are annotated as "Taken From Records" or "From Records".
- Existing record information showing underground services is often incomplete and with unknown accuracies therefore it should be regarded as indicative only.
- Where Apex Surveys issue a utility drawing, this should be read in conjunction with all available public or private utility records.
- Apex Surveys endeavor to add relevant Public Utility record information onto the final drawing. However, we would recommend that direct contact is made with the asset owner or statutory undertaker.
- We shall not be held responsible for the accuracy, or otherwise, of the location of a service, as issued by the utility provider and therefore shown as "Taken from Records" on the drawing.

The following have been excluded from the survey:

- Location of individual service feeds to properties or buildings as access would be required into each property to apply direct connections to inlet points and this would significantly increase the scope of works, survey cost and also cause possible disruption to occupants.
- Pot ended or disconnected cables or terminated short lengths of pipe.
- Internal building services.
- Small diameter cables less than 20mm diameter or pipes less than 40mm diameter.
- Above ground services unless specifically requested.
- Lifting manholes which require longer than 10 minutes effort using standard heavy duty apparatus.

All works carried out be Apex Surveys conforms to the guidelines set out by The Survey Association (TSA) and PAS:128 Standard for utility mapping

APEX
SURVEYS

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info@apexsurveys.ie
00353 1 691 0156

STREET FURNITURE :

BOLLARDS	BD +
BUS STOP	BS +
CRASH BARRIER	CB
GATE	
ELECTRICITY POLE	EP +
TELEPHONE POLE	TP +
EARTHING ROD	ER +
LAMP POST	LP +
MARKER POST	MKR +
SIGN POST	SIGN +
TRAFFIC LIGHT	TL +
TELEPHONE BOX	TB
POST	POST +
POST BOX	RS-RS
MANHOLE	BH +
BORE HOLE	TPIT +
TRIAL PIT	
BOTTOM OF CHAMBER	BOC
CAST-IRON	CI
CONCRETE	CONC
DIAMETER	DIA

SERVICES :

AIR VALVE	AV
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRIC CABLE PIT	ECP
ESAT COVER	ESAT
ESB COVER	ESB
ESB JUNCTION BOX	ESB BOX
FIRE HYDRANT	FH
GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV
DOWNPIPE	DP
EARTHENWARE	EW
NO FURTHER TRACE	NFT
OFFSITE	O/S

STOPCOCK	ST
SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT
WATER METER	WM
LEVELS :	
BED LEVEL	+ BED101.50
FLOOR LEVEL	+ FL101.50
INVERT LEVEL	+ IL101.50
ROAD LEVEL	+ 101.50
SOFFIT LEVEL	+ SL101.50
SPOT LEVEL	+ 101.50
TOP OF WALL LEVEL	+ TOW101.50
WATER LEVEL	+ WL101.50
SURVEY CONTROL STATION	
START OF RUN	SOR
UNABLE TO OPEN	UTO
UNABLE TO TRACE	UTT

UNDERGROUND LEGEND :

WATER MAIN	WATER
GAS MAIN	GAS
STORM DRAIN	STORM
POUL SEWER	POUL
COMBINED SEWER	COMB
ELECTRIC CABLE	POWER
ELECTRIC LIGHTING	LIGHTING
EIRCOM	EIRCOM
FIBRE OPTIC CABLE	F.OPTIC
BROADBAND	BROADBAND
CABLE TV	TV
TRAFFIC AND SIGNAL CABLE	TRAFFIC
CCTV	CCTV
IRRIGATION PIPE	IRRIGATION
EMPTY DUCT	EMPTY
GPR ANOMALY	ANOMALY
UNKNOWN CABLE	CABLE
OHEAD ELECTRICITY	OE
OHEAD TELECOM	OT

SHEET LAYOUT :



PLAN PRODUCED BY:

APEX
SURVEYS

CONTACT INFORMATION:

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Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Clandillon
Civil Consulting

GRID SYSTEM:

DATUM: Irish Transverse Mercator
NOTES: Malin Head (OSGM15)
Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

PROJECT:

**Ballinasloe R446 Bridge Street to
Harris Road additional**

SCALE : 1/200 A1

DATE : 07/11/2024

DRG No: 6687

DESCRIPTION : 2D Utilities

SURVEYED BY : G.F.

SHEET: 2 of 2

PROCESSED BY : J.P.

CHECKED BY : A.B.

EXISTING SERVICES DRAWINGS



Scale:
1:1000

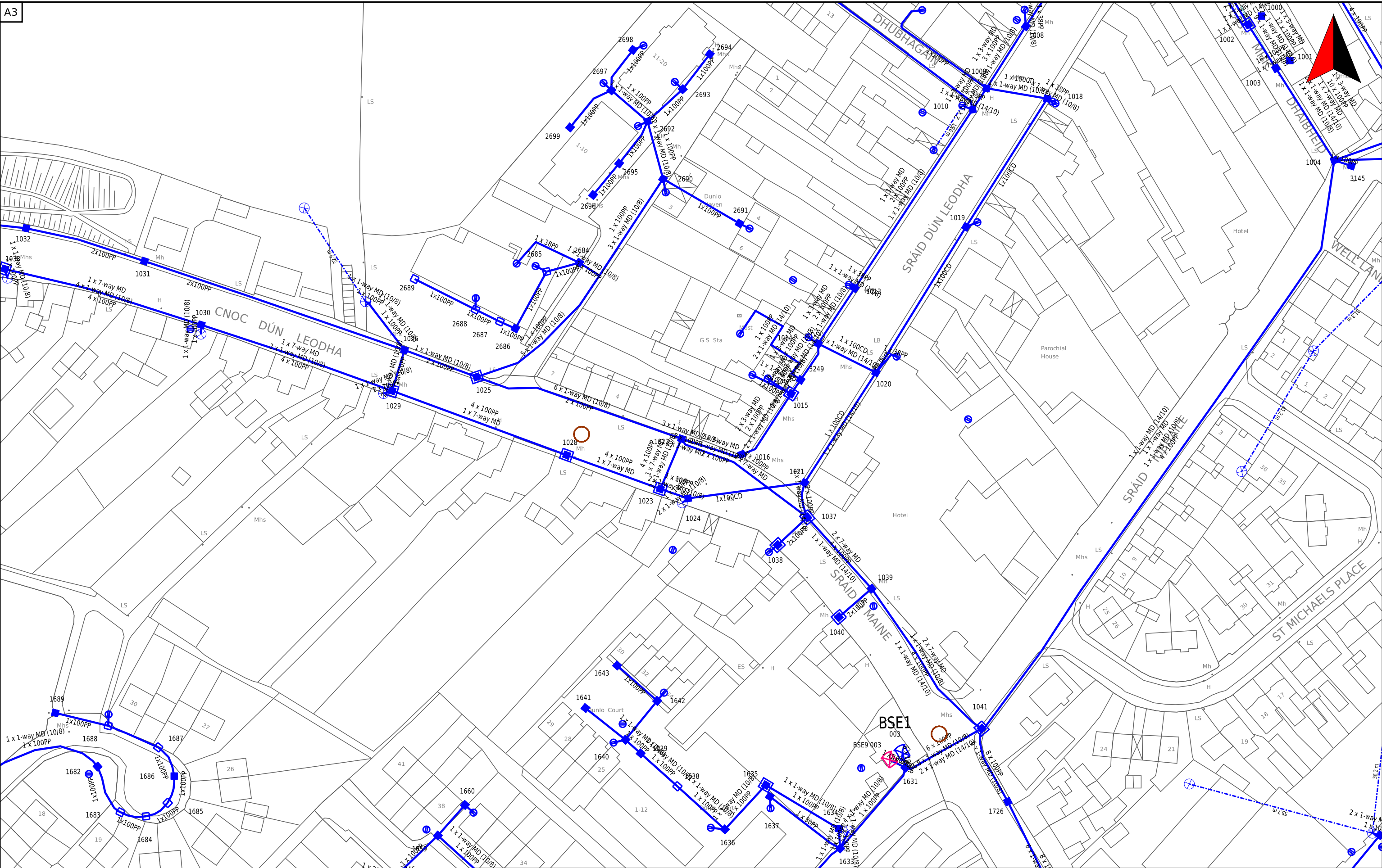
Irish National Grid
Co-Ordinates
Centre XY: 584834 m,
730924 m

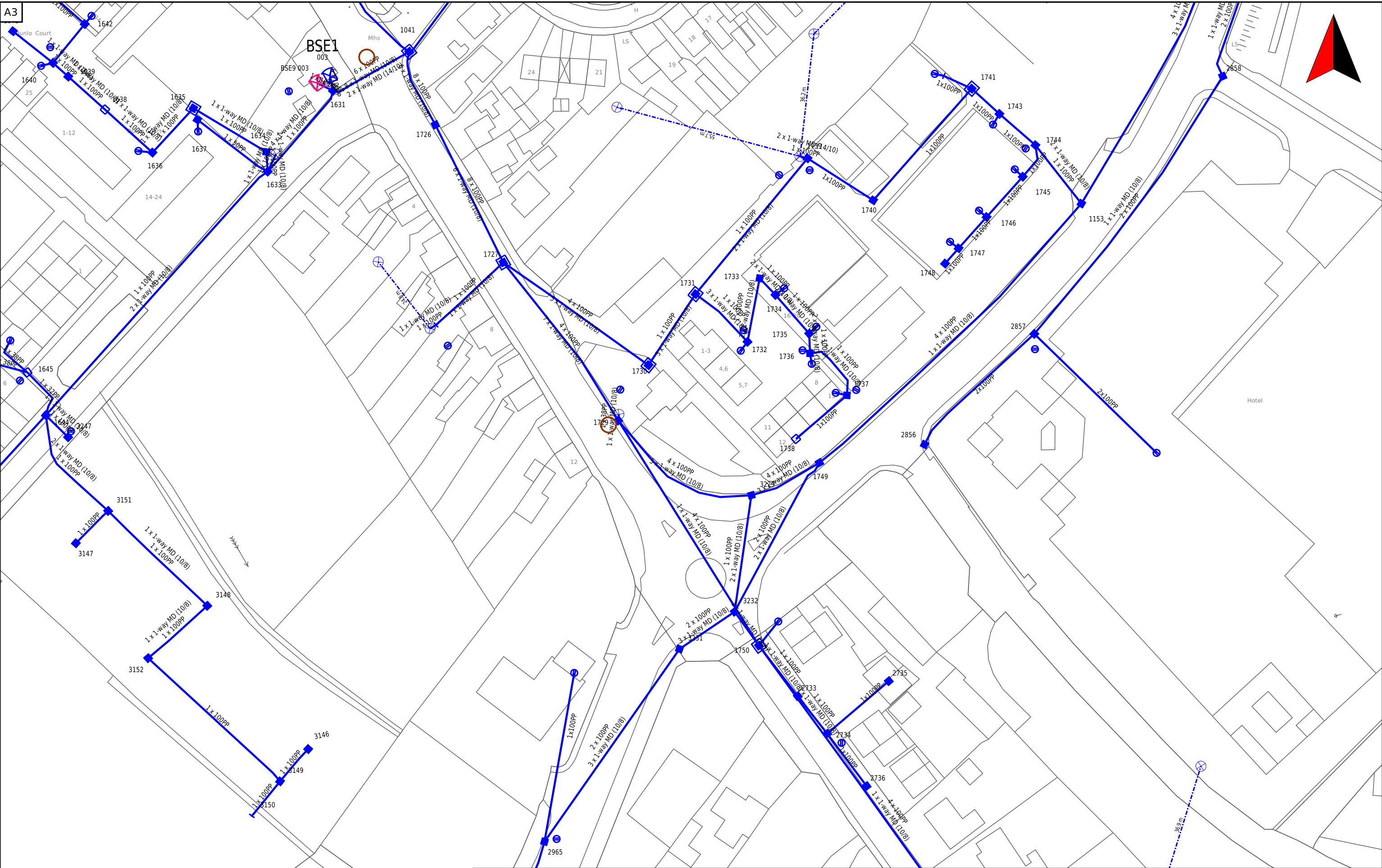


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open air INFRASTRUCTURE OF WHICH NO RECORDS IS HELD. THE INFORMATION IS GIVEN WITHOUT PREJUDICE TO THE LEGAL RIGHTS OF one air TO COMPENSATION SHOULD one air INFRASTRUCTURE BE DAMAGED.

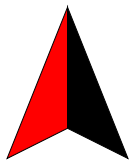




open eir Civil Engineering Infrastructure Service		Scale: 1:1000	Irish National Grid Centre X Y: 585248 m, 730702 m
		Date 17/08/2026	Smallworld Powered by GE
THE INFORMATION IN THIS DRAWING IS CONFIDENTIAL AND SHOULD NOT BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE EXPRESS WRITTEN CONSENT OF open eir. THE DRAWING MAY NOT BE PHOTOCOPIED OR REPRODUCED IN ANY WAY.		THE INFORMATION GIVEN IS COMPILED FROM PASSIVE ACCESS RECORDS AND IS BELIEVED TO BE CORRECT. THERE MAY, HOWEVER, BE DEPARTURES FROM THE COURSE[S] AND DEPTH[S] SHOWN OR INDICATED. THERE MAY ALSO BE ITEMS OF open eir INFRASTRUCTURE OF WHICH NO RECORDS IS HELD. THE INFORMATION IS GIVEN WITHOUT PREJUDICE TO THE LEGAL RIGHTS OF open eir TO COMPENSATION SHOULD open eir INFRASTRUCTURE BE DAMAGED.	



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TITLE:

20260814-018_A0

COLOUR CODE:

- BLACK - 38KV & HIGHER VOLTAGE OVERHEAD LINES
- GREEN - MV(10KV/20KV) OVERHEAD LINES
- BLUE - LV (400V/230V) OVERHEAD LINES
- CYAN - 38KV & HIGHER VOLTAGE UNDERGROUND CABLE ROUTES
- RED - MV/LV (10KV/20KV/400V/230V) UNDERGROUND CABLE ROUTES

DATE: 14-Aug-2026

** SCALE: 1:1000

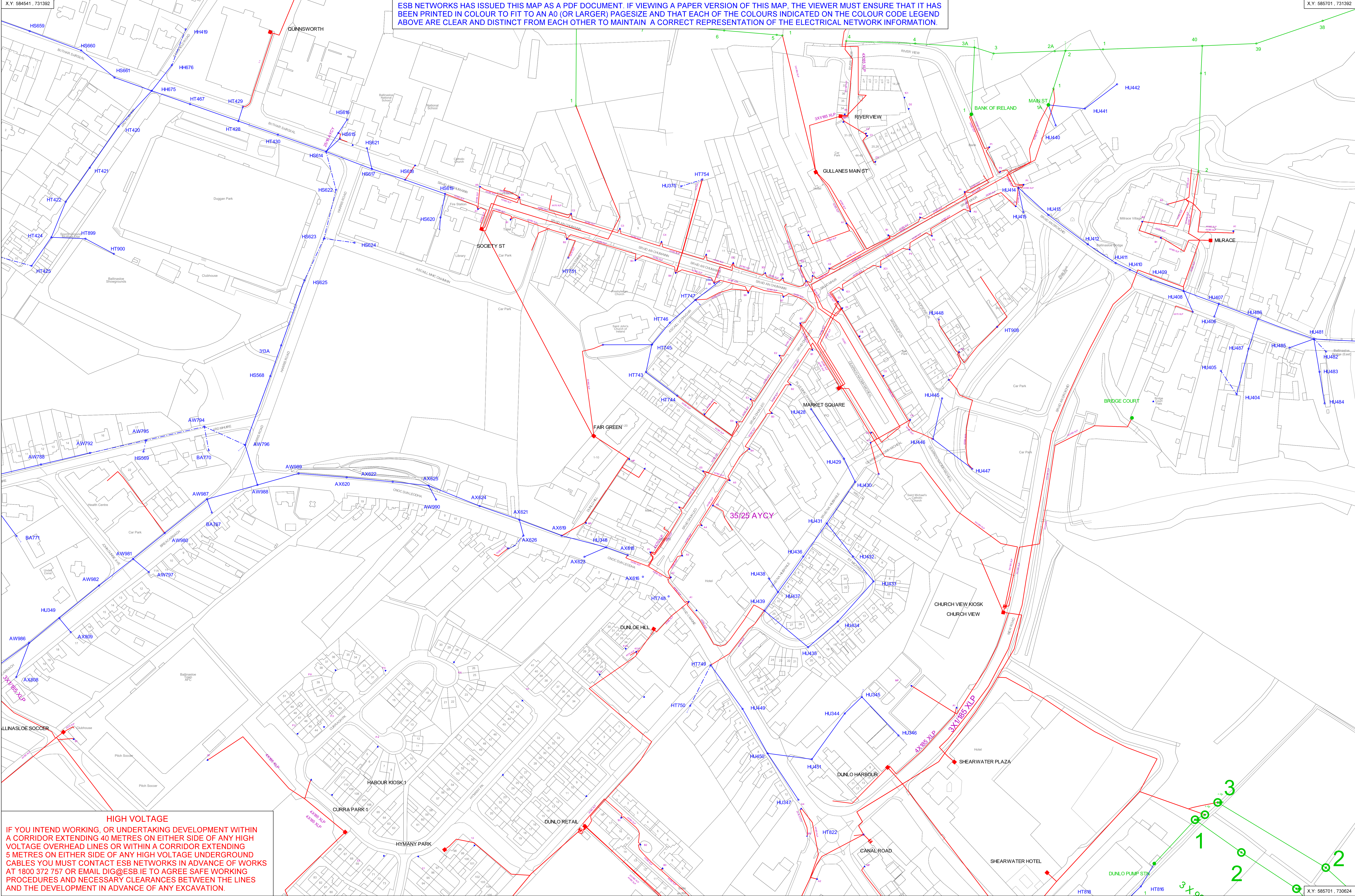
** SCALE WHEN PRINTED ON AN A0 PAGE
XY COORDINATES DISPLAYED IN IRISH GRID COORDINATE SYSTEM

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WARNING

THIS MAP INDICATES THE APPROXIMATE LOCATION OF ESB TRANSMISSION (400KV, 220KV, 110KV, 38KV) AND DISTRIBUTION (20KV, 10KV, 230V/400V) UNDERGROUND CABLES AND OVERHEAD LINES IN THE GENERAL AREA OF THE PROPOSED WORKS. ESB NETWORKS TAKES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE MAP. IT IS THE USER'S RESPONSIBILITY TO INDEPENDENTLY VERIFY THE INFORMATION AND THE LOCATION OF UNDERGROUND CABLES AND OVERHEAD LINES. LOW VOLTAGE (230V/400V) SERVICE CABLES (E.G. HOUSE SERVICES, FACTORY/SHOP SERVICES, PUBLIC LIGHTING LAMP SERVICES, ETC.) ARE NOT INCLUDED BUT THEIR PRESENCE SHOULD BE ANTICIPATED. THE DEPTHS OF UNDERGROUND CABLES MUST NEVER BE ASSUMED BEFORE ANY MECHANICAL EXCAVATION IS UNDERTAKEN. THE ACTUAL LOCATION OF ALL UNDERGROUND ELECTRICITY CABLES MUST BE ESTABLISHED AND VERIFIED ON THE SITE USING:
(A) UP-TO-DATE MAP RECORDS;
(B) CABLE LOCATOR EQUIPMENT OPERATED IN BOTH POWER AND RADIO MODES;
(C) CAREFUL HAND DIGGING OF TRIAL HOLES USING 'SAFE DIGGING PRACTICE'.
REFER ALSO TO HSA CODE OF PRACTICE FOR AVOIDING DANGER FROM UNDERGROUND SERVICES.
ESB TAKES NO RESPONSIBILITY FOR AND SHALL BEAR NO LIABILITY, HOWSOEVER ARISING, IN RELATION TO ANY DAMAGE, INJURY/DEATH OR LOSS OF SUPPLY AS A RESULT OF DAMAGE OR INTERFERENCE WITH ITS NETWORKS.

ESB NETWORKS HAS ISSUED THIS MAP AS A PDF DOCUMENT. IF VIEWING A PAPER VERSION OF THIS MAP, THE VIEWER MUST ENSURE THAT IT HAS BEEN PRINTED IN COLOUR TO FIT TO AN A0 (OR LARGER) PAGESIZE AND THAT EACH OF THE COLOURS INDICATED ON THE COLOUR CODE LEGEND ABOVE ARE CLEAR AND DISTINCT FROM EACH OTHER TO MAINTAIN A CORRECT REPRESENTATION OF THE ELECTRICAL NETWORK INFORMATION.



HIGH VOLTAGE

IF YOU INTEND WORKING, OR UNDERTAKING DEVELOPMENT WITHIN A CORRIDOR EXTENDING 40 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE OVERHEAD LINES OR WITHIN A CORRIDOR EXTENDING 5 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE UNDERGROUND CABLES YOU MUST CONTACT ESB NETWORKS IN ADVANCE OF WORKS AT 1800 372 757 OR EMAIL DIG@ESB.IE TO AGREE SAFE WORKING PROCEDURES AND NECESSARY CLEARANCES BETWEEN THE LINES AND THE DEVELOPMENT IN ADVANCE OF ANY EXCAVATION.

X,Y: 585701, 730624



Important Safety Notice:

Damage to gas pipelines can result in serious injury or death. Gas network information is provided as a general guide. The exact location and depth of medium or low pressure distribution gas pipes must be verified on site by carrying out necessary investigations, including, for example, hand digging trial holes along the route of the pipe. Service pipes are not generally shown but their presence should always be anticipated.

High pressure transmission pipelines are shown in red. If a transmission pipeline is identified within 10m of any intended excavations then work must not proceed before GNI has been consulted. The true location and depth of a transmission pipeline must be verified on site by a representative of GNI. Contact can be made through 1800 427 747.

All work in the vicinity of the gas network must be completed in accordance with the current edition of the Health & Safety Authority publication, Code of Practice For Avoiding Danger From Underground Services which is available from the Health and Safety Authority (01 614 7000) or can be downloaded at www.hsa.ie.

Legal Notice:

Gas Networks Ireland (GNI) and its affiliates, accept no responsibility for the accuracy of any information contained in this document including data concerning location and technical designation of the gas distribution and transmission network (the Information). The Information should not be relied on for accurate distance or depth of cover measurements.

Any representations and warranties, express or implied, are excluded to the fullest extent permitted by law. No liability shall be accepted for any loss or damage including, without limitation, direct, indirect or consequential loss, arising out of or in connection with the use or re-use of the Information.

	Aurora Telecom Fibre Optic Cable
	Aurora Telecom Duct
	Aurora Telecom Sub-duct
	Aurora Telecom Inserted Gas Pipe

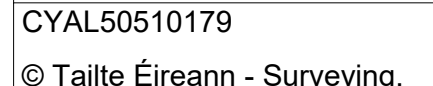
Contact Aurora Telecom on 1800-427-399 or (01)203-0120.

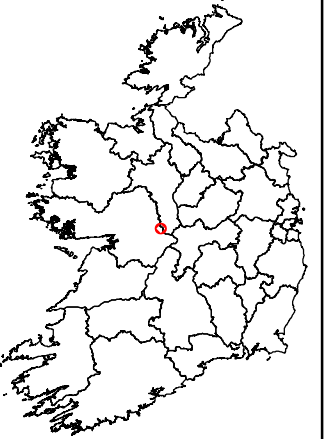
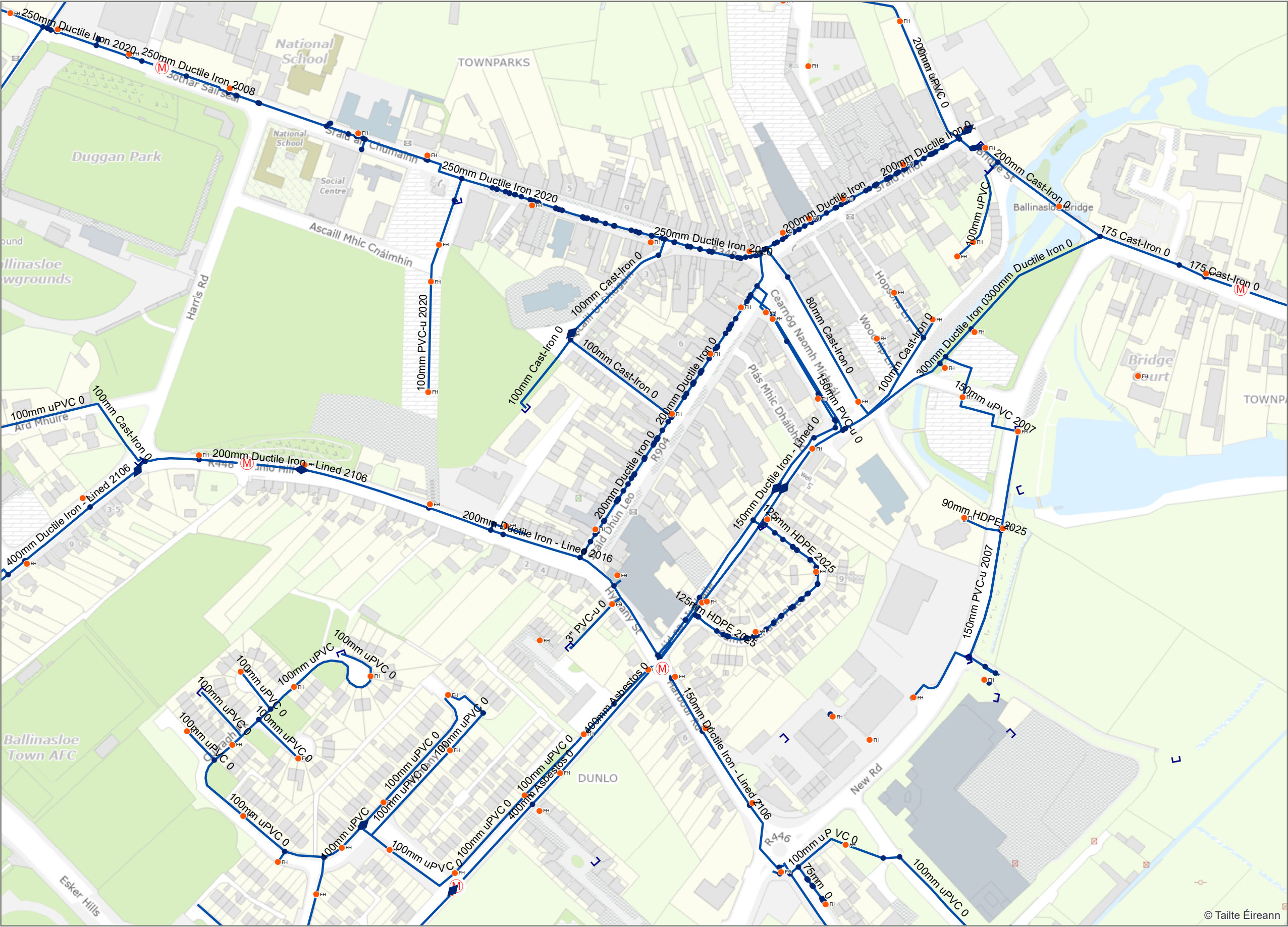
	Transmission Pipe (High Pressure)
	Transmission Pipe (Construction Issue)
	Distribution Pipe (Medium Pressure)
	Distribution Pipe (Low Pressure)
	Service Pipe (Medium Pressure)
	Service Pipe (Low Pressure)
	Strategic Pipe (Medium Pressure)
	Strategic Pipe (Low Pressure)
	Inserted Pipe (Medium Pressure)
	Inserted Pipe (Low Pressure)
	Distribution Pipe (Abandoned)

	Cover (depth in meters)
	CP Test Point
	End Cap
	Hot Tap
	Installation
	Valve
	Mains Verification **
	Pressure Monitor
	Protection (Sleeve)
	Protection (Slabbing)
	Reducer
	Service Terminator
	Tee
	Transition

** Please contact GNI on 1800-427747 for specific information.

Design Department - DUBLIN			
GAS NETWORK INFORMATION			
Issue:	OCSC		
Location:	Ballinasloe Co Gateway		
Plot Date:	14/08/2026	Contact:	O Fox
Plotted by:	KOC	Scale:	1:1000





Legend

Air Control Valves

- Air Control Valves

Boundary Meter

- District (Boundary Meter)

Water Hydrants

- Fire Hydrant

Water Fittings

- Cap
- Other Fitting

Water Mains(Irish Water Owned)

- Potable Water

ING XY Map Centre

185,191.85 230,950.67

0 20 40 80
m

Coordinate System: TM65 Irish Grid
Projection: Transverse Mercator

Scale @ A3: 1:3,000

Drawing No.: IW-AGG-2018-000

Drawn By: LM

Drawn Date: 14/08/2026

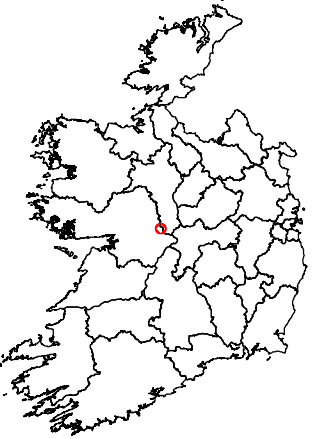


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