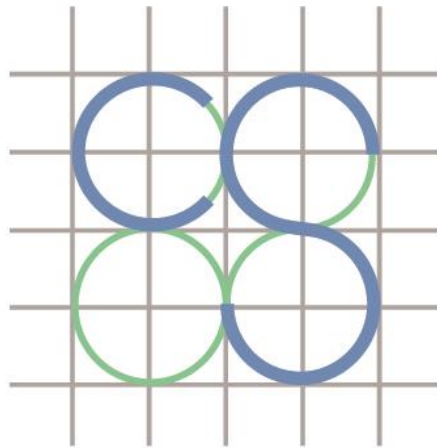




CS CONSULTING
GROUP

LIMERICK

LONDON

DUBLIN

Engineering Services Statement

Proposed Amendments to GA01 SHD Planning Permission

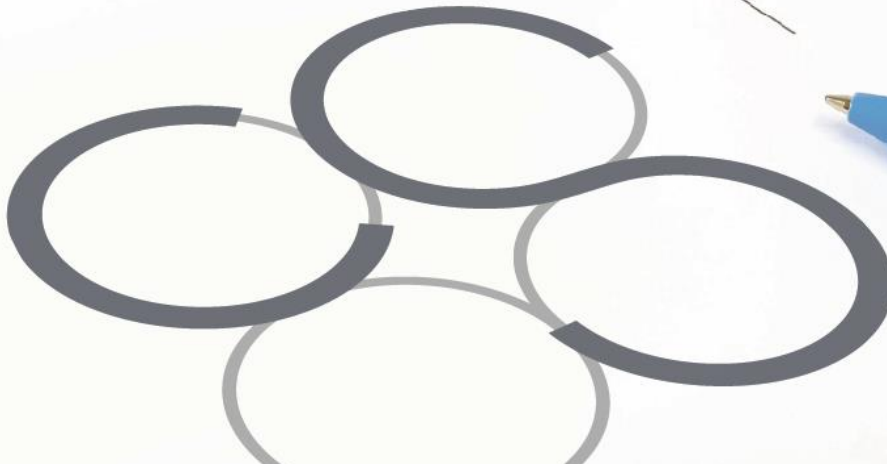
ABP Reg. Ref. 310418

Stapolin Growth Area 1, Baldoye, Dublin 13

Client: The Shoreline Partnership

Job No. R089

March 2023



ENGINEERING SERVICES STATEMENT

PROPOSED AMENDMENTS TO GA01 SHD PLANNING PERMISSION

ABP REG. REF. 310418

STAPOLIN GROWTH AREA 1, BALDOYLE, DUBLIN 13

CONTENTS

1.0	INTRODUCTION	1
2.0	SITE LOCATION AND PROPOSED DEVELOPMENT	2
3.0	STORM WATER INFRASTRUCTURE	6
4.0	FOUL WATER INFRASTRUCTURE	8
5.0	POTABLE WATER SUPPLY	12
6.0	INTERNAL ROAD LAYOUT AND PARKING PROVISION	15
7.0	FLOOD RISK	19
8.0	CONSTRUCTION MANAGEMENT	21
9.0	FEEDBACK RECEIVED FROM PLANNING AUTHORITY	22
10.0	CONCLUSION	25

Appendix A: Irish Water Confirmation of Feasibility
and Statement of Design Acceptance

Appendix B: Fingal Development Plan Flood Risk Mapping

Appendix C: OPW Past Flood Event Local Area Summary Report

This Report has been prepared by CS Consulting for the benefit of its Client only. The contents of this Report are shared with interested parties for information only and without any warranty or guarantee, express or implied, as to their accuracy, reliability or completeness. This Report cannot be relied on by any party other than the party who commissioned it.

File Location: Job-R089\B_Documents\C_Civil\A_CS Reports\C_GA1 SHD Amendment LRD Application

BS 1192 FIELD		BD-CSC-ZZ-XX-RP-C-0301-P7			
Job Ref.	Author	Reviewed By	Authorised By	Issue Date	Rev. No.
R089	GF	OS	OS	27.03.2023	P7
R089	GF	OS	OS	20.03.2023	P6
R089	GF	OS	OS	07.03.2023	P5
R089	GF	OS	OS	14.12.2022	P4
R089	GF	OS	OS	06.12.2022	P3
R089	GF	OS	OS	09.11.2022	P2
R089	GF	OS	OS	11.10.2022	P1
R089	GF	OS	OS	09.10.2022	P0

1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by The Shoreline Partnership to prepare an Engineering Services Statement to accompany a Large-scale Residential Development (LRD) application for amendments to a permitted Strategic Housing Development (SHD) on lands at Stapolin Growth Area 1, Baldoyle, Dublin 13 (ABP reg. ref. 310418).

In preparing this report, CS Consulting has made reference to the following:

- Fingal Development Plan 2017–2023
- Fingal Development Plan 2023-2029
(as adopted - to come into effect April 2023)
- Baldoyle-Stapolin Local Area Plan 2013 (as extended)
- Greater Dublin Regional Code of Practice for Drainage Works
- Local Authority Drainage Records
- Irish Water Code of Practice for Potable Water
- Irish Water Code of Practice for Wastewater
- Sustainable Urban Housing: Design Standards for New Apartments
(Guidelines for Planning Authorities), December 2022

The Engineering Services Statement is to be read in conjunction with all other documentation submitted by the project design team as part of this planning submission.

2.0 SITE LOCATION AND PROPOSED DEVELOPMENT

2.1 Site Location

The proposed development site is located at Stapolin Growth Area 1, Baldoyle, Dublin 13, in the administrative area of Fingal County Council. The site of the permitted SHD has a total area of c. 9.1ha and a development area of c. 8.89ha. The amendments proposed under the present application cover an area of 1.02ha within the permitted SHD site (ABP reg. ref. 310418).

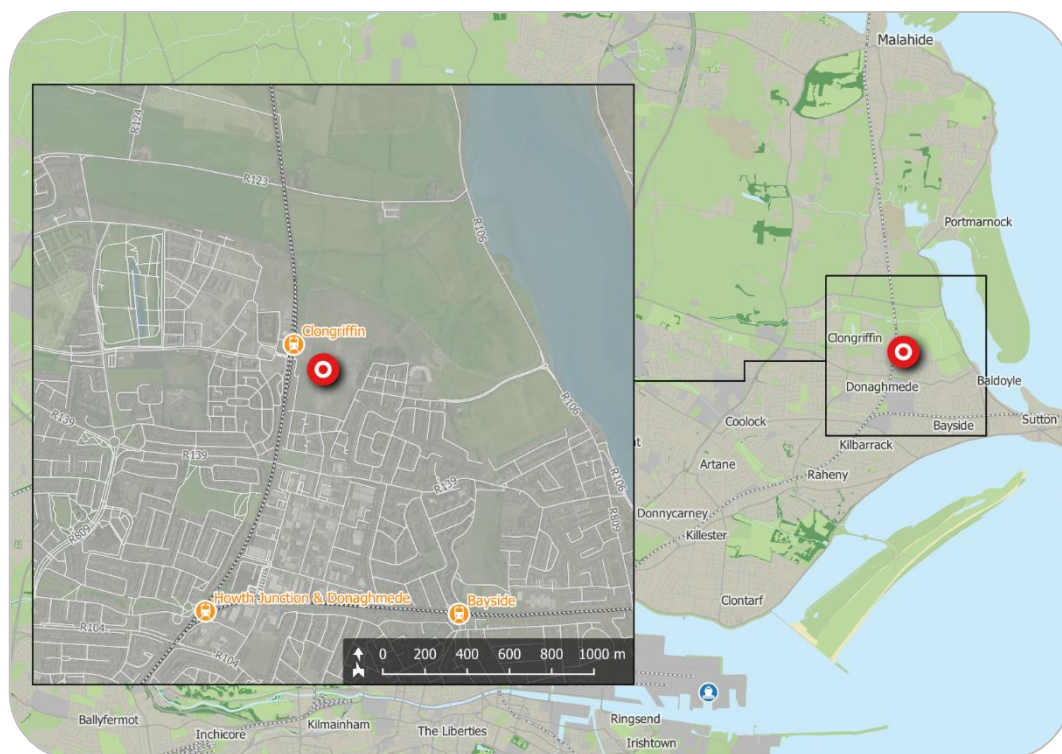


Figure 1 – Location of permitted SHD site
(map data & imagery: EPA, OSi, OSM Contributors, Google)

The location of the permitted SHD site is shown in **Figure 1** above; its extents and environs are shown in more detail in **Figure 2**, as are the extents of the area to which the present amendment application pertains.

The overall SHD site is bounded to the west by the Dublin-Belfast railway line, with Clongriffin DART Station located just to the north west of the applicant

lands, to the east by the Red Arches and Stapolin Lawns residential developments, to south by the Myrtle residential development. To the north, the applicant site is bounded by future development lands known as Growth Area 3 (GA3).

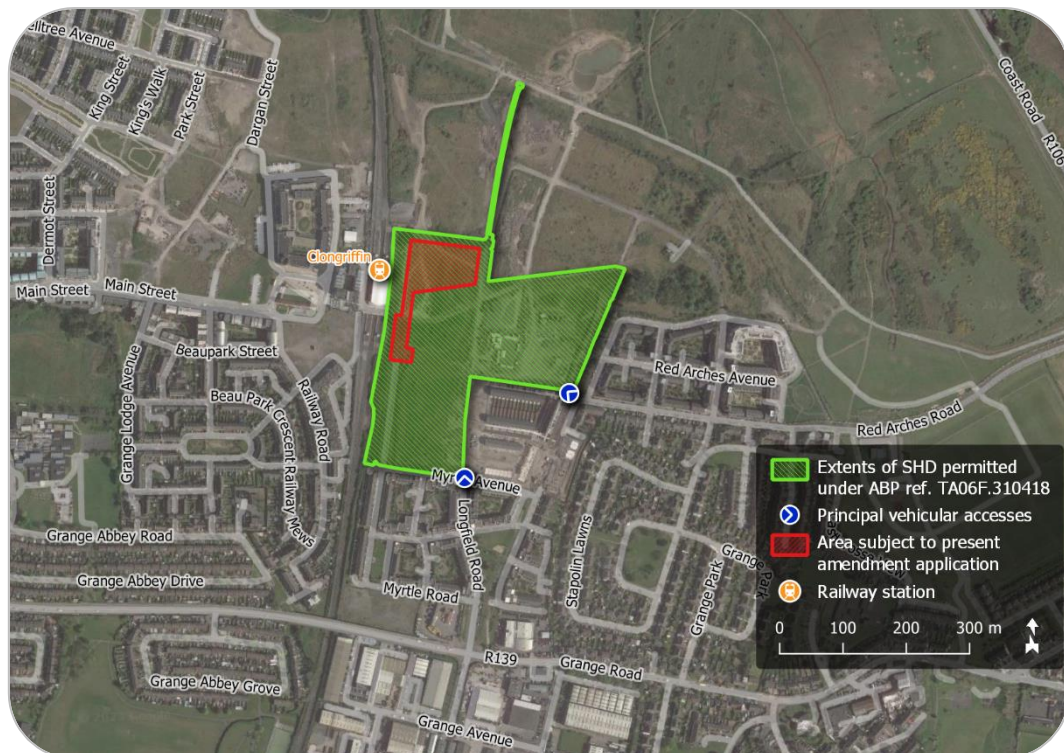


Figure 2 – Site extents and environs
(map data & imagery: NTA, OSi, OSM Contributors, Google)

2.2 Existing Land Use

The subject lands are currently undeveloped; however, works were carried out previously to install infrastructure. These works included removal of vegetation/topsoil, construction of a road network inter linked with partially prepared site areas and installation of underground services.

The existing infrastructure has been unmaintained for some years.

2.3 Permitted Strategic Housing Development

The development site benefits from an extant planning permission for a Strategic Housing Development (SHD), granted by An Bord Pleanála on the 22nd of September 2021 (ABP ref. 310418). The permitted SHD comprises the following elements:

- 247no. 1-bedroom apartments (including studios)
- 439no. 2-bedroom apartments
- 61no. 3-bedroom apartments
- 7no. 2-bedroom townhouses
- 96no. 3-bedroom townhouses
- 32no. 4-bedroom townhouses
- convenience retail units with a total gross floor area of 1,027m²
- a medical centre with a gross floor area of 462m²
- a pharmacy with a gross floor area of 268m²
- a crèche with a gross floor area of 539m²
- a restaurant/café with a gross floor area of 485m²
- a gym with a gross floor area of 411m²

The permitted development has a total car parking provision of 818no. spaces and also includes 1,542no. bicycle parking spaces.

2.4 Proposed Amendments to Permitted SHD

The proposed development consists of alterations to Blocks A1, D1, D2, and D3 of the permitted SHD development (ABP ref. 310418). The proposed development results in a reduction of 55no. units in the permitted overall scheme, from 882no. units to 827no. units, resulting in a total of 341no. units within Blocks A1, D1, D2, and D3.

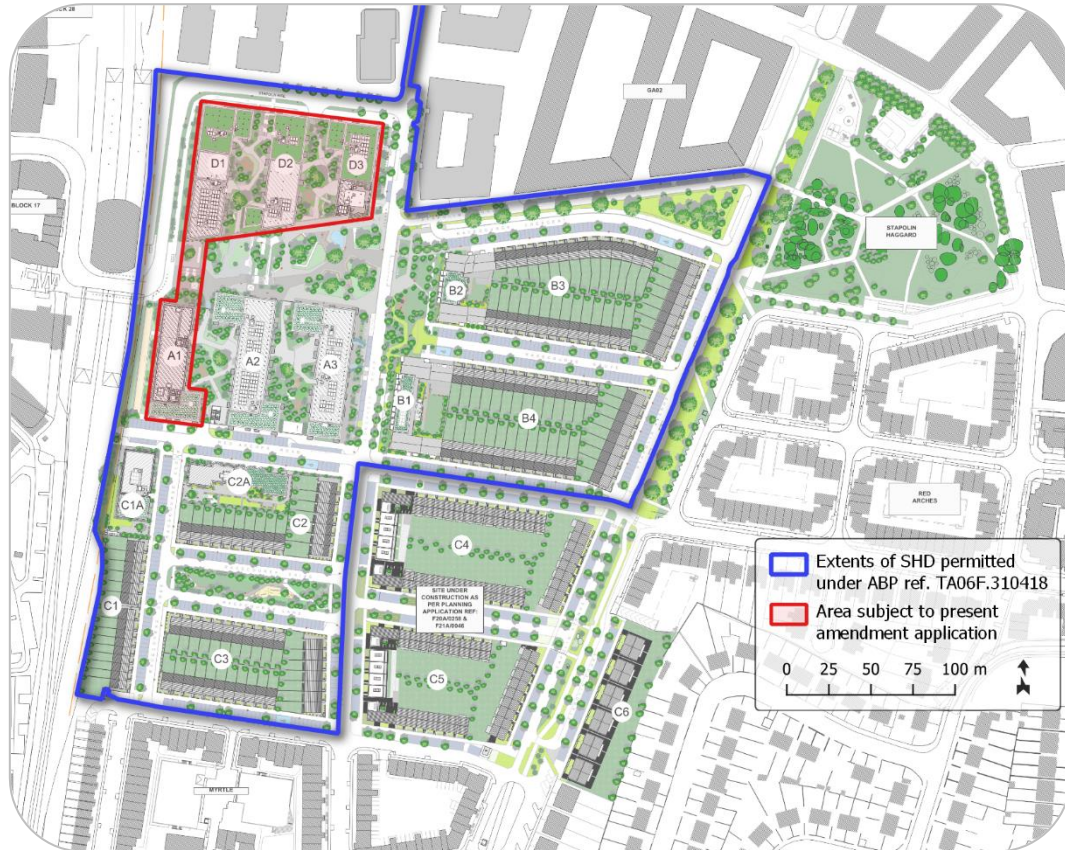


Figure 3 – Areas subject to amendment application
(background image: Henry J. Lyons Architects)

3.0 STORM WATER INFRASTRUCTURE

3.1 Existing Storm Water Infrastructure

An existing 1050mm diameter surface water sewer, constructed as permitted under reg. ref. F16A/0412, runs from south to north in Longfield Road, in proximity to the application site's eastern boundary. This discharges to a constructed wetland (also as permitted under reg. ref. F16A/0412) located to the north of the application site.

It is noted that there is some existing stormwater drainage infrastructure within the permitted SHD site. Due to its condition and levels, it is however not intended to make use of this existing infrastructure; this shall instead be removed and a new network constructed in its place as part of the permitted SHD development (ABP ref. 310418). These proposed works are unaffected by the present amendment application.

3.2 Storm Water Drainage Arrangements of Permitted SHD

The storm water drainage arrangements of the permitted SHD are described in full within the Engineering Services Report submitted under ABP ref. 310418. Briefly summarised, these involve:

- Discharge of all storm water to the constructed wetland located to the north of the application site, which provides attenuation storage, sediment settlement, and water treatment through organic processes.
- Bioretention areas and swales within the landscaping, to provide attenuation storage and initial storm water treatment.
- Green roofs atop Blocks A and D, to reduce stormwater runoff and provide initial treatment.
- Permeable paving at car parking spaces, to reduce stormwater runoff, provide attenuation storage and infiltration, and provide initial treatment.

3.3 Effect of Proposed Amendments on Permitted Storm Water Drainage

The proposed amendments to the permitted SHD (ABP ref. 310418) are confined to Blocks A1, D1, D2, and D3. These amendments shall not entail any significant change to building footprints or roof areas, and shall not require any change to the Sustainable Drainage Systems incorporated into the landscape design. In particular, it is noted that the proposed amendments shall not affect the green roofs to be implemented at the 6no. buildings within Blocks A and D as permitted under the SHD scheme.

It is consequently not necessary to revise the permitted storm water drainage design as part of this application.

4.0 FOUL WATER INFRASTRUCTURE

4.1 Existing Foul Infrastructure

There is an existing 375mm diameter foul sewer that runs in a northern direction along the eastern boundary of the site (Stapolin Avenue). This infrastructure was installed by previous developers to serve the entire LAP lands and extends upstream in a southerly direction serving the Myrtle development.

Downstream, this existing 375mm foul sewer discharges to an existing foul pump station located on the north side of Stapolin Haggard. The foul pumping station discharges via a 300mm rising main to the North Fringe Foul Sewer, which runs around the northern/north-eastern boundary of the site, approximately 150m from the pump station. The pump station currently serves the existing Myrtle and Red Arches Developments, as well as serving the adjacent developments permitted under FCC ref. 16A/0412 and ABP ref. ABP-248970 (as amended by subsequent permissions under FCC refs. F20A/0258, F21A/0046, F22A/0017, and LRD0007).

Following a meeting on site with Irish Water and Fingal County Council earlier in 2022, the applicant has undertaken internal and external maintenance works to the existing foul pumping station at Stapolin Haggard, as requested by Fingal Co. Co. and Irish Water. The requested upgrade works have been completed, with some minor works yet to be undertaken. In addition, at the request of Irish Water, the applicant and appointed design consultants have engaged with Irish Water to agree appropriate further design upgrade works to the existing pumping station. The design fundamentals of the provision of emergency storage have been agreed in principle with Irish Water. A separate planning application for works to accommodate this emergency storage is being finalised and will be lodged with the Planning Authority in 2023.

In addition to the 375mm foul sewer referred to above, there is already an existing foul drainage network located within the development lands. Due to its poor condition, it is however not intended to make use of this existing infrastructure; this shall instead be removed and a new network constructed in its place as part of the permitted SHD development (ABP ref. 310418). These proposed works are unaffected by the present amendment application.

4.2 Foul Drainage Arrangements of Permitted SHD

The foul drainage arrangements of the permitted SHD are described in full within the Engineering Services Report submitted under ABP ref. 310418. All foul effluent generated from the permitted development is collected in separate foul pipes and flows under gravity to the existing 375mm diameter foul sewer in the north-east corner of the development, via a new connection.

4.3 Foul Effluent Generation of Blocks A1, D1, D2, and D3 as Permitted

As currently permitted, Blocks A1, D1, D2, and D3 of the SHD comprise 396no. residential units. The Irish Water Code of Practice for Wastewater Infrastructure specifies an average foul effluent flow rate of 165 litres per person per day for domestic dwellings (150 litres per person per day, plus a 10% allowance for external infiltration) and an average occupancy of 2.7 persons per residential unit. The applicable design population of the permitted Blocks A1, D1, D2, and D3 is therefore 1,069 people (1,069 pe), and the maximum average effluent flow (dry weather flow or DWF) to be generated may be calculated as:

$$DWF = 1,069pe \times 165l/day/pe = 176,385l/day = 2.041l/s$$

The peak effluent flow (Design Flow) is calculated by applying a domestic peak factor (Pf_{DOM}) of 3 (applicable to developments with a population between 1,001 and 5,000):

$$Design\ Flow = DWF \times Pf_{DOM} = 2.041l/s \times 3 = 6.123l/s$$

4.4 Effect of Proposed Amendments on Permitted Foul Drainage Arrangements

As proposed under the present application, Blocks A1, D1, D2, and D3 shall comprise 341 no. residential units. Their design population shall therefore be 921 people (921 pe), and the maximum average effluent flow (dry weather flow or DWF) to be generated may be calculated as:

$$DWF = 921pe \times 165l/day/pe = 151,965l/day = 1.759l/s$$

The peak effluent flow (Design Flow) is calculated by applying a domestic peak factor (Pf_{DOM}) of 3 (applicable to developments with a population between 1,001 and 5,000):

$$Design\ Flow = DWF \times Pf_{DOM} = 1.759l/s \times 3 = 5.277l/s$$

The proposed amendments to the permitted SHD shall therefore result in:

- A reduction of **0.282 l/s** in the development's **average** effluent outflow rate.
- A reduction of **0.846 l/s** in the development's **peak** effluent outflow rate.

It is consequently not necessary to revise the permitted foul water drainage design as part of this application.

4.5 Irish Water Confirmation of Feasibility and Statement of Design Acceptance

Prior to submission of the initial application for the permitted SHD (ABP ref. 310418) in 2021, a Pre-Connection Enquiry (ref. CDS19008452) was submitted to Irish Water, based on the foul effluent generation for a 1,032-unit mixed-use development on the subject site. A Confirmation of Feasibility was subsequently received from Irish Water, indicating that a development of this scale could be accommodated by existing Irish Water foul drainage infrastructure without upgrade.

Proposed drainage design and water supply drawings were then submitted to Irish Water for review, and a Statement of Design Acceptance was issued by Irish Water in April 2021.

The Confirmation of Feasibility (CoF) and Statement of Design Acceptance (SoDA) issued by Irish Water under ref. CDS19008452 are attached as **Appendix A**.

5.0 POTABLE WATER SUPPLY

5.1 Existing Potable Water Infrastructure

Existing 300mm diameter public watermain infrastructure is in place in Red Arches Road, Longfield Road, Stapolin Avenue, and Myrtle Avenue. This infrastructure was installed to serve future development within the LAP.

It is noted that existing unused watermain infrastructure is already located within the SHD site. Due to its condition and the system layout, it is however not intended to make use of this existing infrastructure; this shall instead be removed and replaced, to current Irish Water specifications, as part of the permitted SHD development (ABP ref. 310418). These proposed works are unaffected by the present amendment application.

5.2 Potable Water Supply Arrangements of Permitted SHD

The potable water supply arrangements of the permitted SHD are described in full within the Engineering Services Report submitted under ABP ref. 310418. The permitted development is to be supplied via new connections to the existing 300mm watermain infrastructure on Longfield Road, Stapolin Avenue, and Myrtle Avenue.

5.3 Potable Water Demand of Blocks A1, D1, D2, and D3 as Permitted

As currently permitted, Blocks A1, D1, D2, and D3 of the SHD comprise 396no. residential units. The Irish Water Code of Practice for Water Infrastructure specifies an average potable water demand of 150 litres per person per day for domestic dwellings, and an average occupancy of 2.7 persons per residential unit. The applicable design population of the permitted Blocks A1, D1, D2, and D3 is therefore 1,069 people (1,069 pe), and the average potable water demand of the proposed development may be calculated as:

$$Avg. Demand = 1,069pe \times 150l/day/pe = 160,350l/day = 1.856l/s$$

The peak potable water demand is calculated by applying a domestic peak factor (Pf_{DOM}) of 5, in accordance with the Irish Water Code of Practice for Water Infrastructure:

$$Peak\ Demand = Avg.\ Demand \times Pf_{DOM} = 1.856l/s \times 5 = 9.280l/s$$

5.4 Effect of Proposed Amendments on Permitted Water Supply Arrangements

As proposed under the present application, Blocks A1, D1, D2, and D3 shall comprise 341no. residential units. Their design population shall therefore be 921 people (921 pe), and the average potable water demand may be calculated as:

$$Avg.\ Demand = 921pe \times 150l/day/pe = 138,150l/day = 1.599l/s$$

The peak potable water demand is calculated by applying a domestic peak factor (Pf_{DOM}) of 5, in accordance with the Irish Water Code of Practice for Water Infrastructure:

$$Peak\ Demand = Avg.\ Demand \times Pf_{DOM} = 1.599l/s \times 5 = 7.995l/s$$

The proposed amendments to the permitted SHD shall therefore result in:

- A reduction of **0.257 l/s** in the development's **average** water demand.
- A reduction of **1.285 l/s** in the development's **peak** water demand.

It is consequently not necessary to revise the permitted potable water supply design as part of this application.

5.5 Irish Water Confirmation of Feasibility and Statement of Design Acceptance

Prior to submission of the initial application for the permitted SHD (ABP ref. 310418) in 2021, a Pre-Connection Enquiry (ref. CDS19008452) was submitted to Irish Water, based on the potable water demand for a 1,032-unit mixed-use development on the subject site. A Confirmation of Feasibility was subsequently received from Irish Water, indicating that a development of this

scale could be accommodated by existing Irish Water supply infrastructure without upgrade.

Proposed drainage design and water supply drawings were then submitted to Irish Water for review, and a Statement of Design Acceptance was issued by Irish Water in April 2021.

The Confirmation of Feasibility (CoF) and Statement of Design Acceptance (SoDA) issued by Irish Water under ref. CDS19008452 are attached as **Appendix A**.

6.0 INTERNAL ROAD LAYOUT AND PARKING PROVISION

6.1 Permitted Internal Road Layout



Figure 4 – Permitted SHD road hierarchy
(extract of CS Consulting drawing BD-CSC-ZZ-XX-DR-C-0032)

The internal road network of the permitted SHD has been designed in compliance with the *Design Manual for Urban Roads and Streets* (DMURS) and is described in detail within the Traffic Impact Assessment report submitted under ABP ref. 310418. It comprises link roads along the north-south and east-west axes, allowing circulation into and through the development site, as well

as a network of connecting local streets that serve the individual blocks within the development.

The primary link road through the development is the continuation of Longfield Road, which shall extend northward through the site from its current termination at the site's southern boundary. The second link road is the westward continuation of Red Arches Road, which shall be extended to meet Longfield Road. The third link road is that which extends westward from Longfield Road, along the northern side of Stapolin Square (immediately within the northern boundary of the development site) and continues along the western side of Stapolin Square. All other internal roads within the development are classed as local streets and primarily serve a local access function.

6.2 Effects of Proposed Amendments on Internal Road Layout

The proposed amendments to the permitted SHD are confined to Blocks A1, D1, D2, and D3. These amendments shall not entail any significant change to building footprints, and shall not require any change to the internal road layout of the permitted development.

6.3 Permitted Car and Bicycle Parking Provisions

The proposed amendments to the permitted SHD are confined to Blocks A1, D1, D2, and D3. Car and bicycle parking provisions are however presented here in respect of all 'A' and 'D' blocks within the SHD (including those not included in the present amendment application), as they share parking facilities. These are: Blocks A1, A2, A3, D1, D2, and D3. As currently permitted, these 6no. blocks of the SHD comprise the following elements:

- 583no. apartment units
- convenience retail units with a total gross floor area of 1,027m²
- a medical centre with a gross floor area of 462m²
- a pharmacy with a gross floor area of 268m²

- a crèche with a gross floor area of 539m²
- a restaurant/café with a gross floor area of 485m²
- a gym with a gross floor area of 411m²

Within Blocks A1, A2, A3, D1, D2, and D3, the permitted SHD includes:

- 314no. residential car parking spaces (including 6no. car-share spaces)
- 107no. car parking spaces for non-residential elements

The permitted Blocks A1, A2, A3, D1, D2, and D3 also include:

- 1,056no. long-term apartment residents' bicycle parking spaces
- 146no. short-stay bicycle parking spaces for apartment visitors
- 32no. short-stay bicycle parking spaces to serve non-residential elements

6.4 Effects of Proposed Amendments on Car and Bicycle Parking Provisions

The proposed amendments to the permitted SHD are confined to residential elements within Blocks A1, D1, D2, and D3. No change is proposed to the design of any non-residential elements within the 'A' and 'D' blocks, nor is any change proposed to the car parking and bicycle parking provisions for the non-residential elements.

The permitted quanta of car and bicycle parking allocated to the residential units will not be altered, although a reduction of 55no. apartments is proposed. As shown in **Table 1** and **Table 2**, the proposed amendments therefore result in slight increases in the development's car and bicycle parking ratios.

Table 1 – Residential Car Parking Ratios

	Residential Quantum	Car Parking Spaces	Car Parking Ratio
'A' and 'D' Blocks as Permitted	583no. apartments	314	0.54 spaces/unit
'A' and 'D' Blocks as Proposed	528no. apartments	314	0.59 spaces/unit

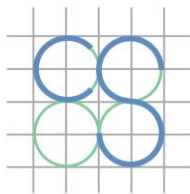


Table 2 – Residential Bicycle Parking Ratios

	Residential Quantum	Bicycle Parking Spaces	Bicycle Parking Ratio
Long-term residents' spaces			
'A' and 'D' Blocks as Permitted	583no. apartments	1,056	1.8 spaces/unit
'A' and 'D' Blocks as Proposed	528no. apartments	1,056	2.0 spaces/unit
Short-stay visitor spaces			
'A' and 'D' Blocks as Permitted	583no. apartments	146	1 space per 4.0 units
'A' and 'D' Blocks as Proposed	528no. apartments	146	1 space per 3.6 units

7.0 FLOOD RISK

A Site-Specific Flood Risk Assessment (SSFRA) was prepared at the time of the initial application for the permitted SHD (ABP ref. 310418), in accordance with OPW Flood Risk Management Guidelines. This SSFRA did not find any indicators of the development being at risk of fluvial, pluvial, or groundwater flooding. As illustrated in **Figure 5**, flood risk modelling undertaken as part of the Strategic Flood Risk Assessment that forms part of the *Fingal Development Plan 2017-2023* indicates that the overall SHD site is entirely within Flood Zone C. In this zone, the risk of fluvial or coastal flooding is less than 1 in 1,000 (0.1%) in any given year, and residential developments are considered appropriate without additional mitigation measures.

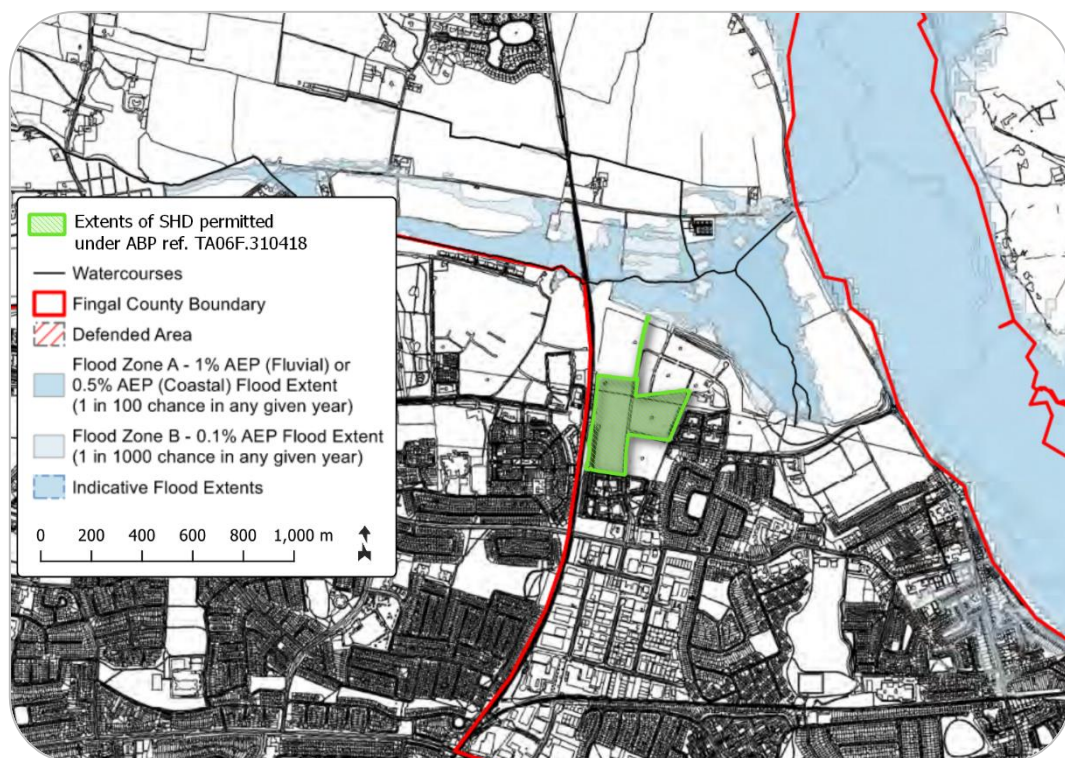
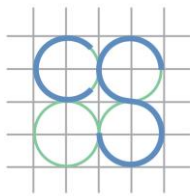


Figure 5 – Extract of Fingal Development Plan flood risk mapping
(background image: Fingal County Council)

The SSFRA also did not find any indicators that the development would give rise to flood risk elsewhere.



A review of the OPW's record of past flooding events does not indicate any recorded instances of flooding within the SHD site. Refer to the Past Flood Event Local Area Summary Report attached as **Appendix C**.

The proposed amendments to the permitted SHD shall not have any effect on the existing risk of fluvial, pluvial, or groundwater flooding at the development site. These amendments shall not entail any significant change to overall impermeable area within the development, and shall not require any change to the permitted storm water drainage design; they shall therefore not increase the risk of the development contributing to off-site flooding.

8.0 CONSTRUCTION MANAGEMENT

A preliminary Construction Management Plan (CMP) was prepared and submitted as part of the planning application for the permitted SHD. This gives an overview of the processes to be employed during construction of this project, addressing the following:

- Site management (including vehicular access to site)
- Environmental management
- Waste management
- Traffic management
- Sediment and water pollution control
- Compound facilities and parking
- Provisions for works in proximity to railway line
- Provisions for works in proximity to Dublin Airport

The proposed amendments to the permitted SHD scheme shall not require any significant change to the above construction management measures detailed in the CMP.

9.0 FEEDBACK RECEIVED FROM PLANNING AUTHORITY

Fingal County Council has reviewed the planning documentation submitted in respect of the current amendment proposals during the pre-application consultation phase of the LRD process (including a previous version of the present Engineering Services Statement). An LRD pre-application consultation meeting of the Council and the applicant's design team was held on the 17th of January 2023.

An LRD Opinion document was issued by Fingal County Council on the 13th of February 2023. This concluded that *"the documentation submitted within the consultation request under Section 32B of the [Planning and Development Act 2000] constitutes a reasonable basis on which to make an application for permission for the proposed Large-Scale Residential Development"*.

9.1 Specific Information to be Submitted with Application

The Council's Opinion document lists several items of specific information that should be submitted with any application for permission, among which is the stipulation that:

- *"Bicycle parking shall be provided in accordance with Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities, as amended."*

As previously noted, the present application proposes no change to the bicycle parking provision permitted under ABP ref. 310418. **Table 3** and **Table 4** compare the residential bicycle parking provisions of the 'A' and 'D' Blocks, as permitted and as proposed, against the recommendations of the 2022 Apartment Guidelines. The long-term residents' bicycle parking provision of the permitted development – as amended under the current proposals – exceeds these recommendations.

As described in the Traffic Impact Assessment report submitted under the parent SHD permission, a phased approach is taken to the provision of visitor bicycle parking to serve the development's apartment buildings. Publicly accessible short-stay visitor bicycle parking shall initially be provided at the rate of 1 space per 3.6 apartment units (55% of the Apartment Guidelines recommendation). Designated areas shall however be set aside for the future provision of additional visitor bicycle parking, up to the full quantum recommended by the Apartment Guidelines. The usage of visitor bicycle parking shall be monitored by the development's Residential Travel Plan Coordinator as part of the Residential Travel Plan for the permitted SHD (ABP ref. 310418), and additional visitor cycle parking facilities shall be installed in response to identified demand.

Table 3 – Long-Term Residential Bicycle Parking Provision – A & D Blocks

Apartment Guidelines Recommendation	Quantum	Recommended Provision	Proposed Provision
1 storage space per bedroom	As PERMITTED		1,056 spaces
	1,050 bedrooms	1,050 spaces	
	As PROPOSED		
	950 bedrooms	950 spaces	

Table 4 – Short-Stay Residential Bicycle Parking Provision – A & D Blocks

Apartment Guidelines Recommendation	Quantum	Recommended Provision	Proposed Provision
1 visitor parking space per 2 units	As PERMITTED		146 spaces
	583 units	292 spaces	
	As PROPOSED		
	528 units	264 spaces	

9.2 FCC Departmental Reports

Internal consultation reports from specific Fingal County Council departments were appended to the Opinion document. Among these are observations from the Transport Planning Section and the Water Services Department:

- The Transport Planning Section report notes that the proposed amendments *“would result in a slight positive uplift in both carparking and bike parking ratios, this is to be welcomed”* and that *“there would be no amendments to road infrastructure included within the proposed development”*. The internal report concludes that *“the Transport planning section would have no objections to the proposed development”*.
- The Water Services Department report summarises the flood risk assessment undertaken to date and concludes that *“the applicant has taken adequate mitigation measures [against] any potential flood risk & the level of flood risk is acceptable”*. The report also acknowledges that the current application involves no changes to the foul drainage system, storm water system, or potable water supply proposed under the parent SHD permission (ABP Ref: 310418) and stipulates that the conditions imposed under this ABP permission with regard to drainage and water supply shall continue to apply.

10.0 CONCLUSION

The proposed amendments to the permitted SHD scheme entail a net reduction of 55no. apartment units within Blocks A1, D1, D2, and D3. No changes are proposed to:

- any non-residential elements within the permitted SHD;
- the other permitted blocks within the scheme;
- the permitted landscaping and SuDS design;
- the permitted internal road layout; or
- the permitted car and bicycle parking provisions.

With regard to drainage, water supply, and parking provisions pertaining to Blocks A1, D1, D2, and D3, the proposed amendments shall result in:

- no significant change to storm water runoff;
- a minor decrease in foul effluent generation;
- a minor decrease in potable water demand; and
- minor increases in residential car and bicycle parking ratios.

It is consequently not necessary to revise the permitted storm water drainage design, the permitted foul drainage design, the permitted water supply arrangements, or the permitted car and bicycle parking provisions.

It is further noted that:

- The proposed amendments shall not have any effect on the permitted development's susceptibility to flooding or its potential to contribute to off-site flooding.
- The proposed amendments shall not require any significant change to the construction management measures previously set out for the permitted development.

Appendix A

Irish Water Confirmation of Feasibility and Statement of Design Acceptance

Sean McCallion
Embassy House
Ballsbridge,
Dublin 4
D04H6Y0

25 November 2020

Dear Sean McCallion,

**Re: Connection Reference No CDS19008452 pre-connection enquiry -
Subject to contract | Contract denied**

**Connection for Multi/Mixed Use Development of 1032 units at The Coast, Balboyle, Dublin
13, Co. Dublin.**

Irish Water has reviewed your pre-connection enquiry in relation to a water connection at The Coast, Balboyle, Dublin 13, Co. Dublin.

Based upon the details that you have provided with your pre-connection enquiry and on the capacity currently available in the network(s), as assessed by Irish Water, we wish to advise you that, subject to a valid connection agreement being put in place, your proposed connection to the Irish Water network(s) can be facilitated.

Water:

New connection to the existing network is feasible without upgrade.

The site has to connect to the existing 200mm MOPVC on the south side (with a 200mm connection main). Bulk meter to be installed on the connection main which will be connected to online telemetry. A secondary connection main of 200mm ID with a valve installed will be required from the 450mm DI to the north (valve will be closed during normal operation).

Wastewater:

New connection to the existing network (1600mm sewer) is feasible without upgrade.

Internal pipework has to be sized for the full development. Connection detail to the 1600mm sewer has to be submitted at Connection application stage. The 1600 sewer becomes surcharged at this location and the connection detail will need to withstand any surcharging affect to the internal network.

All infrastructure should be designed and installed in accordance with the Irish Water Codes of Practice and Standard Details. A design proposal for the water and/or wastewater infrastructure should be submitted to Irish Water for assessment. Prior to submitting your planning application, you are required to submit these detailed design proposals to Irish Water for review.

You are advised that this correspondence does not constitute an offer in whole or in part to provide a connection to any Irish Water infrastructure and is provided subject to a connection agreement being signed at a later date.

A connection agreement can be applied for by completing the connection application form available at **www.water.ie/connections**. Irish Water's current charges for water and wastewater connections are set out in the Water Charges Plan as approved by the Commission for Regulation of Utilities.

If you have any further questions, please contact Marko Komso from the design team on 022 54611 or email mkomso@water.ie. For further information, visit www.water.ie/connections.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'M O'Dwyer'.

Maria O'Dwyer

Connections and Developer Services

Sean McCallion
Embassy House
Ballsbridge, Dublin 4
Dublin D04H6Y0

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

Irish Water
PO Box 448,
South City
Delivery Office,
Cork City.

www.water.ie

16 April 2021

**Re: Design Submission for The Coast, Balboyle, Dublin 13, Co. Dublin (the
“Development”)
(the “Design Submission”) / Connection Reference No: CDS19008452**

Dear Sean McCallion,

Many thanks for your recent Design Submission.

We have reviewed your proposal for the connection(s) at the Development. Based on the information provided, which included the documents outlined in Appendix A to this letter, Irish Water has no objection to your proposals.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Irish Water infrastructure. Before you can connect to our network you must sign a connection agreement with Irish Water. This can be applied for by completing the connection application form at www.water.ie/connections. Irish Water's current charges for water and wastewater connections are set out in the Water Charges Plan as approved by the Commission for Regulation of Utilities (CRU) (https://www.cru.ie/document_group/irish-waters-water-charges-plan-2018/).

You the Customer (including any designers/contractors or other related parties appointed by you) is entirely responsible for the design and construction of all water and/or wastewater infrastructure within the Development which is necessary to facilitate connection(s) from the boundary of the Development to Irish Water's network(s) (the “**Self-Lay Works**”), as reflected in your Design Submission. Acceptance of the Design Submission by Irish Water does not, in any way, render Irish Water liable for any elements of the design and/or construction of the Self-Lay Works.

If you have any further questions, please contact your Irish Water representative:

Name: Alvaro Garcia

Email: agarcia@water.ie

Yours sincerely,



Yvonne Harris
Head of Customer Operations

Appendix A

Document Title & Revision

BD-CSC-ZZ-XX-DR-C-0003_Drainage Plan Layout-SHEET 1
BD-CSC-ZZ-XX-DR-C-0004_Drainage Plan Layout-SHEET 2
BD-CSC-ZZ-XX-DR-C-0005_Watermain layout
BD-CSC-ZZ-XX-DR-C-0006_Drainage Details Sheet 1 of 3
BD-CSC-ZZ-XX-DR-C-0007_Drainage Details Sheet 2 of 3
BD-CSC-ZZ-XX-DR-C-0008_Drainage Details Sheet 3 of 3
BD-CSC-ZZ-XX-DR-C-0010_Watermain Details Sheet 1 of 2
BD-CSC-ZZ-XX-DR-C-0011_Watermain Details Sheet 2 of 2
BD-CSC-ZZ-XX-DR-C-0039_Foul Long Sections-SHEET 1
BD-CSC-ZZ-XX-DR-C-0040_Foul Long Sections-SHEET 2

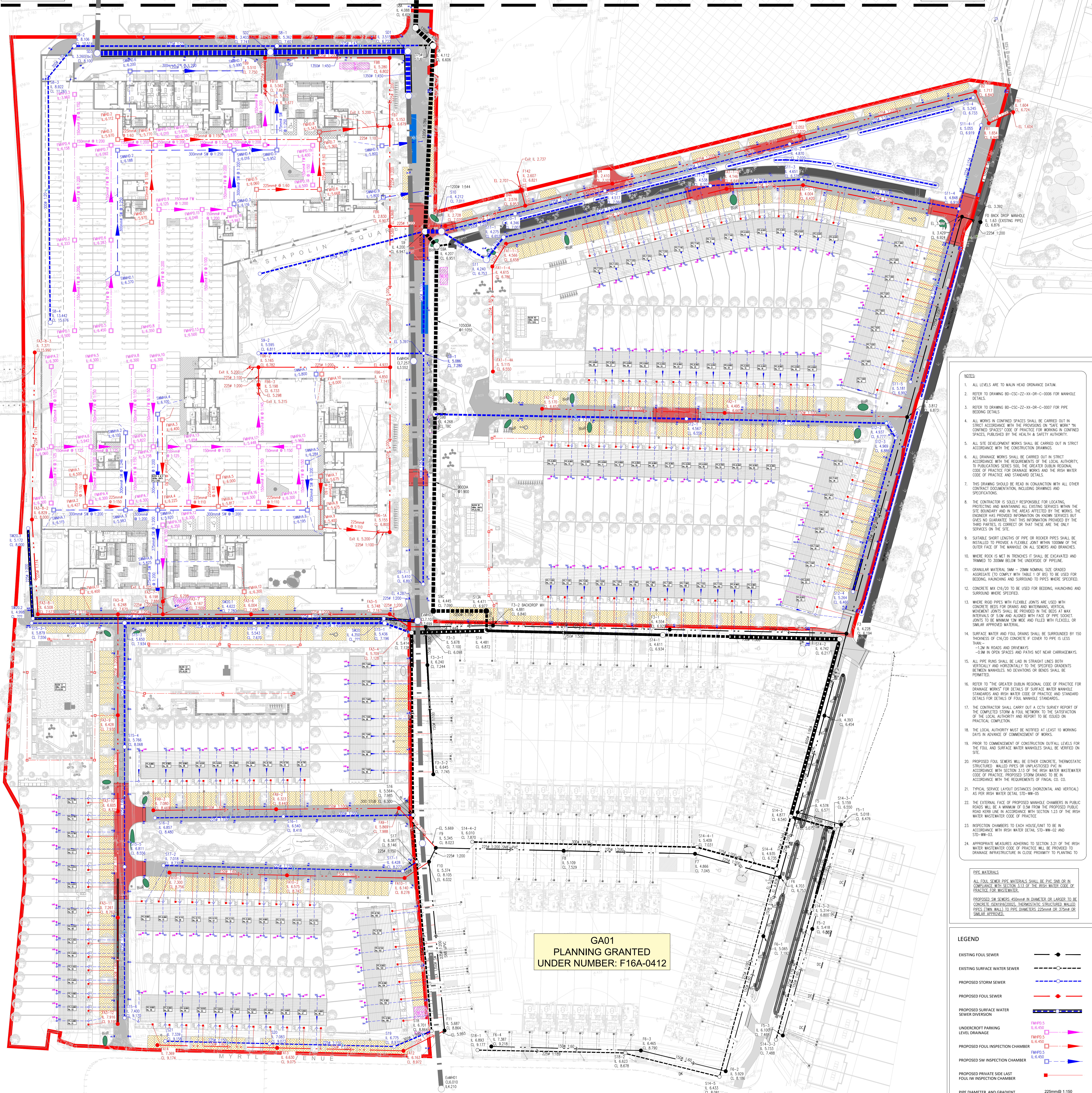
For further information, visit www.water.ie/connections

Notwithstanding any matters listed above, the Customer (including any appointed designers/contractors, etc.) is entirely responsible for the design and construction of the Self-Lay Works. Acceptance of the Design Submission by Irish Water will not, in any way, render Irish Water liable for any elements of the design and/or construction of the Self-Lay Works.

GA03
SUBJECT TO SEPARATE
PLANNING APPLICATION

MATCH LINE

MATCH LINE



GA01
PLANNING GRANTED
UNDER NUMBER: F16A-0412

- NOTES:
- ALL LEVELS ARE TO MAIN HEAD ORDNANCE DATUM.
 - REFER TO DRAWING BD-CSC-ZZ-XX-DR-C-0006 FOR MANHOLE DETAILS.
 - REFER TO DRAWING BD-CSC-ZZ-XX-DR-C-0007 FOR PIPE BEDDING DETAILS.
 - ALL WORKS IN CONFINED SPACES SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH THE PROVISIONS ON "SAFE WORK" IN CONFINED SPACES CODE OF PRACTICE FOR WORKING IN CONFINED SPACES, PUBLISHED BY THE HEALTH & SAFETY AUTHORITY.
 - ALL SITE DEVELOPMENT WORKS SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY.
 - IN PUBLICATIONS SERIES 500, THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND THE RISH WATER CODE OF PRACTICE AND STANDARD DETAILS.
 - THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTATION, INCLUDING DRAWINGS AND SPECIFICATIONS.
 - THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING ALL EXISTING SERVICES WITHIN THE SITE BOUNDARY AND IN THE AREAS AFFECTED BY THE WORKS. THE ENGINEER HAS PROVIDED INFORMATION ON KNOWN SERVICES BUT DOES NOT GUARANTEE THAT THIS INFORMATION PROVIDED BY THE THIRD PARTIES IS CORRECT OR THAT THESE ARE THE ONLY SERVICES ON THE SITE.
 - SUITABLE SHORT LENGTHS OF PIPE OR RIGID JOINT SHALL BE INSTALLED TO PROVIDE A FLEXIBLE JOINT WITHIN 100MM OF THE OUTER FACE OF THE MANHOLE OR ALL SEWERS AND BRANCHES.
 - WHERE RIGID IS MET IN TRENCHES IT SHALL BE EXCAVATED AND REINFORCED TO 300mm BELOW THE UNDERFACE OF PIPELINE.
 - CRANIAL MATERIAL SHALL BE 100mm NOMINAL SIZE GRADED AGGREGATE TO COMPLY WITH TABLE 1 OF BS 595 TO BE USED FOR BEDDING, HAUNCHING AND SURROUND TO PIPES WHERE SPECIFIED.
 - CONCRETE MAX C35/50 TO BE USED FOR BEDDING, HAUNCHING AND SURROUND WHERE SPECIFIED.
 - WHERE RIGID PIPES WITH FLEXIBLE JOINTS ARE USED WITH CONCRETE BEDS FOR DRAINS AND WATERMANS, VERTICAL MOVEMENT JOINTS SHALL BE PROVIDED IN THE BEDS AT MAX INTERVALS OF 50M AND ALIGNED WITH FACE OF PIPE SOCKET. JOINTS TO BE MINIMUM 100mm WIDE AND FILLED WITH FLEXIBLE OR SIMILAR APPROVED MATERIAL.
 - SURFACE WATER AND FOUL DRAINS SHALL BE SURROUNDED BY 150mm DEPTH OF CH20/20 CONCRETE OF OTHER TO PIPE IS LESS THAN 150mm IN ROADS AND DRIVEWAYS.
-50mm IN OPEN SPACES AND PATHS NOT NEAR CARRIAGEWAYS.
 - ALL PIPE RUNS SHALL BE Laid IN STRAIGHT LINES BOTH VERTICALLY AND HORIZONTALLY TO THE SPECIFIED GRADIENTS BETWEEN MANHOLES. NO DEVIATIONS OR BENDS SHALL BE PERMITTED.
 - REFER TO THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS FOR DETAILS OF SURFACE WATER MANHOLE STANDARDS AND RISH WATER CODE OF PRACTICE AND STANDARD DETAILS FOR DETAILS OF FOUL MANHOLE STANDARDS.
 - THE CONTRACTOR SHALL CARRY OUT A CITY SURVEY REPORT OF THE COMPLETED STORM & FOUL NETWORK TO THE SATISFACTION OF THE LOCAL AUTHORITY AND REPORT TO BE ISSUED ON PRACTICAL COMPLETION.
 - THE LOCAL AUTHORITY MUST BE NOTIFIED AT LEAST 10 WORKING DAYS IN ADVANCE OF COMMENCEMENT OF WORKS.
 - PRIOR TO COMMENCEMENT OF CONSTRUCTION OUTFALL LEVELS FOR THE FOUL AND SURFACE WATER MANHOLES SHALL BE VERIFIED ON SITE.
 - PROPOSED FOUL SEWERS WILL BE EITHER CONCRETE, THERMOSTATIC STRUCTURED WALLD PIPES OR UNREINFORCED PVC IN ACCORDANCE WITH SECTION 3.13 OF THE RISH WATER WASTEWATER CODE OF PRACTICE. PROPOSED STORM DRAINS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF FINGAL CO. CO.
 - TYPICAL SERVICE LAYOUT DISTANCES (HORIZONTAL AND VERTICAL) AS PER RISH WATER DETAIL STD-WM-05.
 - THE EXTERNAL FACE OF PROPOSED MANHOLE CHAMBERS IN PUBLIC ROADS WILL BE A MINIMUM OF 0.5M FROM THE PROPOSED PUBLIC ROAD ROAD LINE IN ACCORDANCE WITH SECTION 1.13 OF THE RISH WATER WASTEWATER CODE OF PRACTICE.
 - INSPECTION CHAMBERS TO EACH HOUSE/JUNT TO BE IN ACCORDANCE WITH RISH WATER DETAIL STD-WM-02 AND STD-WM-05.
 - APPROPRIATE MEASURES ADHERING TO SECTION 3.21 OF THE RISH WATER WASTEWATER CODE OF PRACTICE WILL BE PROVIDED TO DRAINAGE INFRASTRUCTURE IN CLOSE PROXIMITY TO PLANTING TO

PIPE MATERIALS
ALL FOUL SEWER PIPE MATERIALS SHALL BE PVC-SH OR IN ACCORDANCE WITH SECTION 3.13 OF THE RISH WATER CODE OF PRACTICE FOR UNREINFORCED PVC.
PROPOSED STORM DRAINS SHALL BE CONCRETE, THERMOSTATIC STRUCTURED WALLD PIPES (TWIN WALL) TO PIPE DIAMETERS 225mm OR 375mm OR SIMILAR APPROVED.

LEGEND

- EXISTING FOUL SEWER
- EXISTING SURFACE WATER SEWER
- PROPOSED STORM SEWER
- PROPOSED FOUL SEWER
- PROPOSED SURFACE WATER SEWER DIVERSION
- UNDERCROFT PARKING LEVEL DRAINAGE
- PROPOSED FOUL INSPECTION CHAMBER
- PROPOSED SW INSPECTION CHAMBER
- PROPOSED PRIVATE SIDE LIFT FOUL INSPECTION CHAMBER
- PIPE DIAMETER AND GRADIENT 225mm@ 1:150
- PROPOSED MANHOLE NUMBER, COVER AND INVERT LEVELS
- BACKDROP INVERT LEVEL
- PROPOSED SWALE
- PROPOSED BIO RETENTION
- KERB GULLY
- ROAD GULLY
- PROPOSED GREEN ROOF
- PROPOSED PERMEABLE PAVING
- PROPOSED 100L RAINWATER BUTTS
- PROPOSED TREE PIT
- SITE BOUNDARY EXTENTS
- NOTE: LOCATIONS AND LEVELS OF ALL EXISTING SERVICES ON SITE TO BE SURVEYED AND VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.

DRAFT

PLANNING DRAWING.
NOT FOR CONSTRUCTION.
ALL LEVELS GIVEN ARE
RELATIVE TO ORDNANCE DATUM.
THIS DRAWING HAS BEEN ISSUED FOR INFORMATION
PURPOSES ONLY AND MUST NOT BE USED
FOR CONSTRUCTION UNDER ANY CIRCUMSTANCES

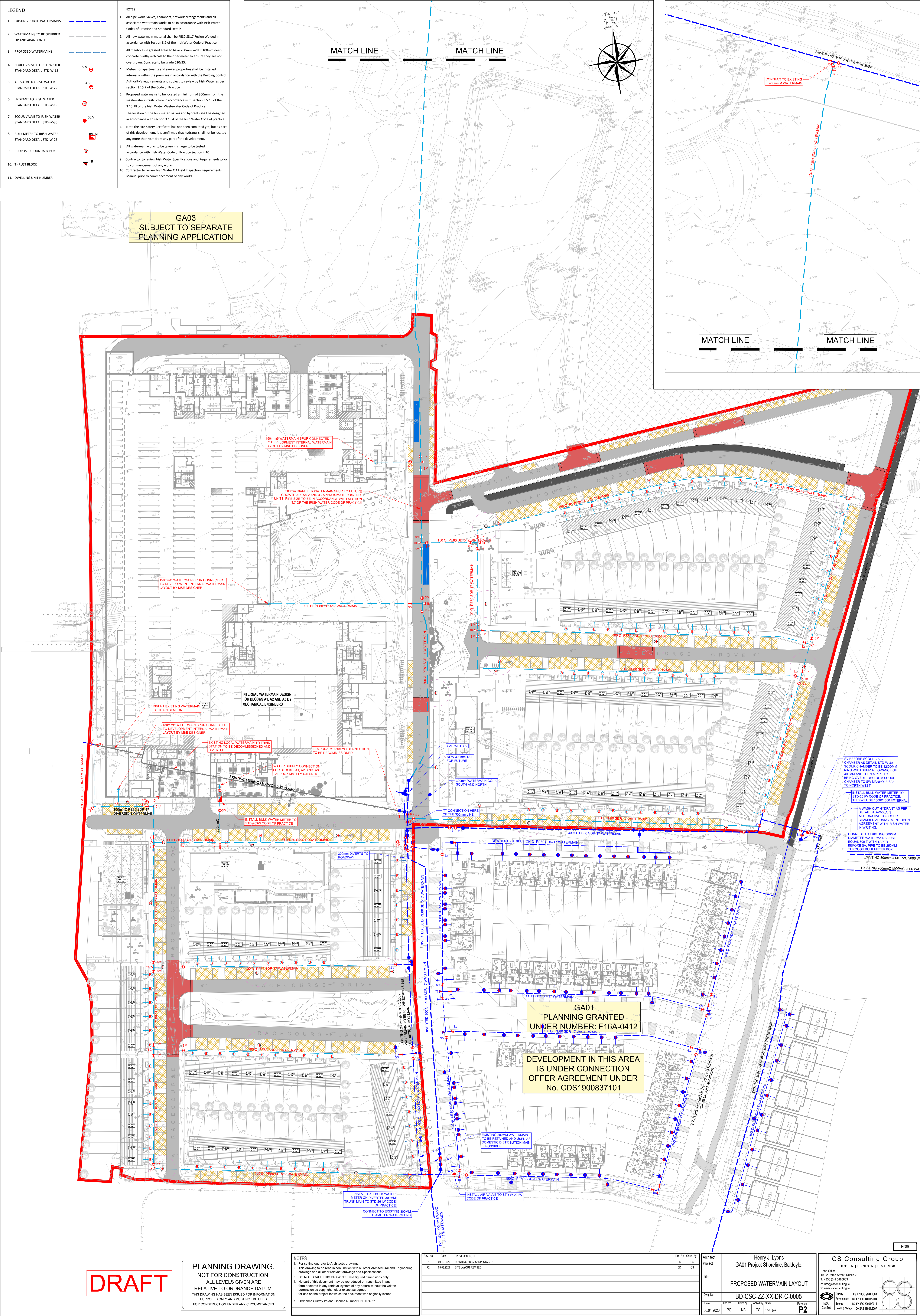
- NOTES
- For setting out refer to Architect's drawings.
 - This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
 - DO NOT SCALE THIS DRAWING. Use figured dimensions only.
 - No part of this document may be reproduced or transmitted in any form or stored in any retrieval system of any nature without the written permission as copyright holder except as agreed for use on the project for which the document was originally issued.
 - Ordnance Survey Ireland Licence Number EN 0074020

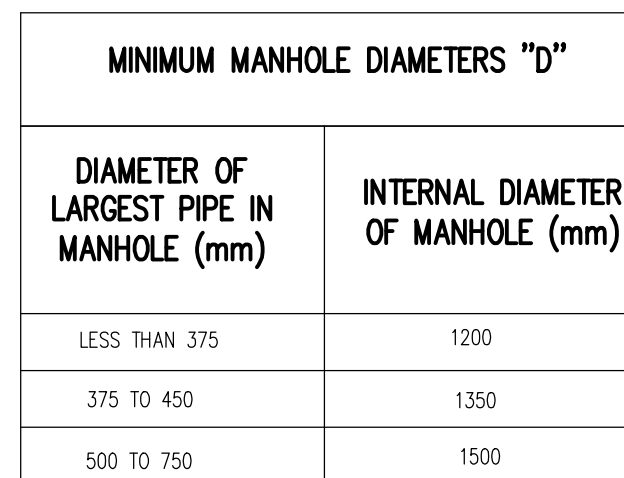
Rev No	Date	REVISION NOTE
P1	09.10.2020	PLANNING SUBMISSION STAGE 3

Drn By	CHE By	Architect
DO	OS	

Henry J. Lyons GA01 Project Shoreline, Baldoye.	CS Consulting Group DUBLIN LONDON LIMERICK
Title PROPOSED DRAINAGE LAYOUT SEET 1 OF 2	Head Office 19-23 Dame Street, Dublin 2 T: +353 (0)1 4008063 F: +353 (0)1 901 1955 e: info@csconsulting.ie w: www.csconsulting.ie
Dwg No. BD-CSC-ZZ-XX-DR-C-0003	Quoted IS EN ISO 9001:2015 NSAI Certified Energy Health & Safety ISO 45001:2018
Date 06.04.2020	By PC
Checked by NB	Approved by OS
Scale 1:500 (A4)	Revision P1

ROB





PLAN

PLANNING DRAWING.
NOT FOR CONSTRUCTION.
ALL LEVELS GIVEN ARE
RELATIVE TO ORDNANCE DATUM.
THIS DRAWING HAS BEEN ISSUED FOR INFORMATION
PURPOSES ONLY AND MUST NOT BE USED
FOR CONSTRUCTION UNDER ANY CIRCUMSTANCES

MANHOLE TYPE 4
150mm - 450mm (INCL) DROP GREATER THAN 900mm AND LESS THAN 1700mm.
500mm - 900mm (INCL) DROP GREATER THAN 1300mm AND LESS THAN 2300mm

MANHOLE TYPE 5
150mm - 450mm (INCL) DROP GREATER THAN 1700mm.
500mm - 900mm (INCL) DROP GREATER THAN 2300mm.

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. ROOFING EYE CHAMBER SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO BE S261 AND BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF IRISH WATER.
3. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. ALL ANTI FLOTATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO APPROVAL FROM IRISH WATER.
4. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
5. MANHOLE DETAILS TO BE IN ACCORDANCE WITH STD-WW-09, 10 AND 11.

FOUL BACKDROP MANHOLES
(STD-WW-12)
SCALE 1:20

NOTES:	
PRECAST CONCRETE MANHOLE (<450mm DIA)	SUBJECT TO IRISH WATER APPROVAL.
STD-WW-10	MANHOLE ROOFS SHOULD CONSENT OF RE-INFORCED CONCRETE SLAB OF IN-SITU CONCRETE, C30/37, WITH A MINIMUM THICKNESS OF 225mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS, ALTERNATIVELY APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER APPROVAL AND COMPLIANCE WITH BS 5911 PART 4, 2002.
1. ALL DIMENSIONS ARE IN MILLIMETERS (mm)	COVER AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO APPROVAL FROM IRISH WATER.
2. PRECAST MANHOLES UNITS, COMPLYING WITH REQUIREMENTS OF IS EN 1917 AND BS 5911-PART 3.	
3. THICKER MANHOLE BASE REQUIRED FOR SCENERS IN 8 EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE	
4. APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER APPROVAL, AND COMPLYING WITH BS 5911- PART 42002.	2. 200mm ALL AROUND, 100mm DEEP CONCRETE PLUNTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND CORNERS IN GREEN AREAS.
5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.	3. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBMITTED TO APPROVAL FROM IRISH WATER.
6. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE	4. ALL CONCRETE TO BE IN ACCORDANCE WITH EN 206: 2013.
	5. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER AND FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.
	6. NEW ROAD CONSTRUCTION AND SURFACE FINISH TO BE TO ROAD AUTHORITY'S REQUIREMENTS.
	7. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS" BY THE DEPT. OF TRANSPORT INFRASTRUCTURE, IRELAND
	8. REQUIREMENTS.
	9. IF DEPTH FROM ROAD TO PIPE SOFFIT IS GREATER THAN 6m DEEP, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.
	10. PROPRIETARY WATERTIGHT PCC MANHOLE RING SYSTEMS WITH A WALL THICKNESS>125mm, & A WATER TIGHT JOINT SEALING SYSTEM, MAY BE USED WITHOUT CONCRETE SURROUND, SUBJECT TO THE GROUNDWATER LEVEL, THE MANHOLE BEING LOW AND SUBJECT TO REVIEW BY IRISH WATER.

NOTES

1. For setting out refer to Architect's drawings.
2. This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
3. **DO NOT SCALE THIS DRAWING.** Use figured dimensions only.
4. No part of this document may be reproduced or transmitted in any form or stored in any retrieval system of any nature without the written permission as copyright holder except as agreed for use on the project for which the document was originally issued.
5. Ordnance Survey Ireland Licence Number EN 0074021

[illegible]

Architect	Henry J. Lyons				
Project	GA01 Project Shoreline, Baldoye.				
Title	DRAINAGE DETAILS SHEET 1 OF 3				
Dwg. No.	BD-CSC-ZX-XX-DR-C-0006				
Date	Dim by	Chkd by	Appr'd by, Scale		Revision
06.04.2020	JS	PC	OS	AS SHOWN @ A1	P1

CS Consulting Group

DUBLIN | LONDON | LIMERICK

Head Office

19-22 Dame Street, Dublin 2.

T: +353 (0)1 5480863

E: info@csconsulting.ie

W: www.csconsulting.ie



Quality
Environment
Energy
Health & Safety

I.S. EN ISO 9001:2008
 I.S. EN ISO 14001:2004
 I.S. EN ISO 50001:2011
 OHSAS 18001:2007

R089

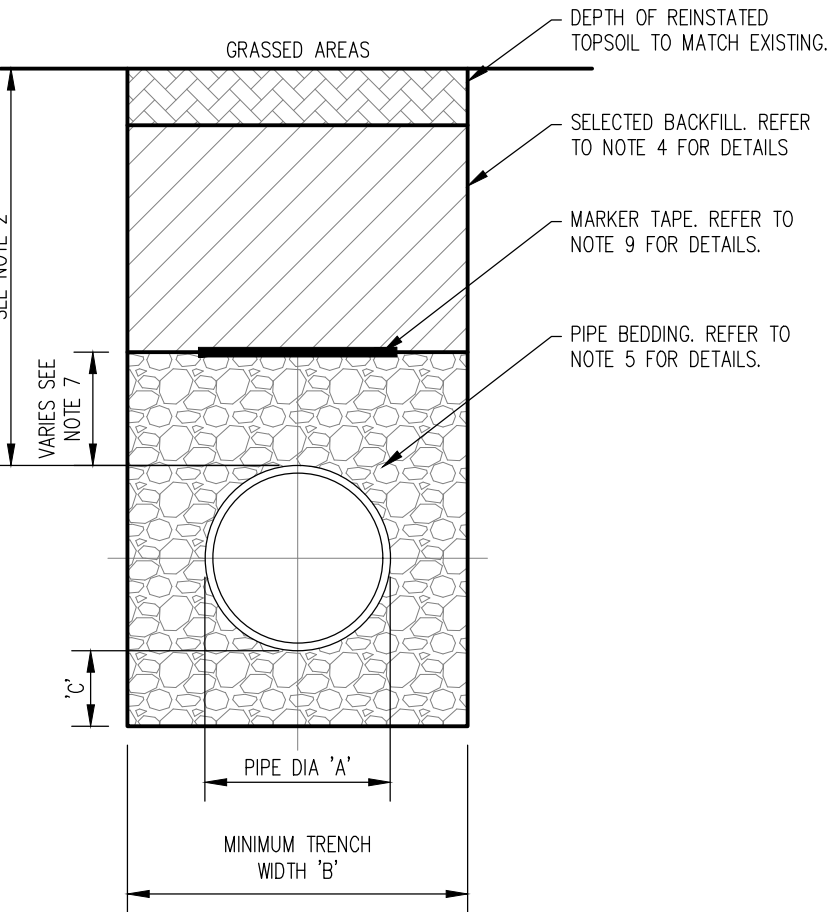
NOTES:

- 1 ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- 2 THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF GRAVITY PIPES WITHOUT PROTECTION SHOULD BE AS FOLLOWS:
- A. GARDENS AND PATHWAYS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS – DEPTH NOT LESS THAN 0.9M (THIS WOULD NORMALLY RELATE TO GRANS IN PRIVATE PROPERTY, SHALLOW PIPES OF THIS NATURE ARE UNDESIRABLE AND SHOULD BE INSTALLED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS).
- B. DRIVEWAYS, PARKING AREAS AND YARDS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES – DEPTH NOT LESS THAN 0.75m.
- C. DRIVEWAYS, PARKING AREAS AND NARROW STREETS WITHOUT FOOTWAYS (EG MEWS DEVELOPMENTS) WITH LIMITED ACCESS FOR VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES – DEPTH NOT LESS THAN 0.9m.
- D. DEPTHS OF SEWERS IN GATED ESTATES SHALL BE SIMILAR TO THAT OUTLINED ABOVE.
- E. AGRICULTURAL LAND AND PUBLIC OPEN SPACE – DEPTH NOT LESS THAN 0.9m.
- F. OTHER HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES – DEPTH NOT LESS THAN 1.2m.
- 3 CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE SEWER MAIN IS LOCATED IN ROADS, FOOTPATHS OR WHEN THE NEAREST PART OF THE TRENCH IS WITHIN 1M OF THE PAVED EDGE OF THE ROADWAY, CLAUSE 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS.
- 4 SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO THE APPROVAL OF IRISH WATER.
- 5 PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm GRADED AGGREGATE OR 10MM SINGLE SIZED AGGREGATE IS EN 13242, CONCRETE BED, HAUNCH & SURROUND, WHERE REQUIRED, SHALL BE TO STD-WW-08.

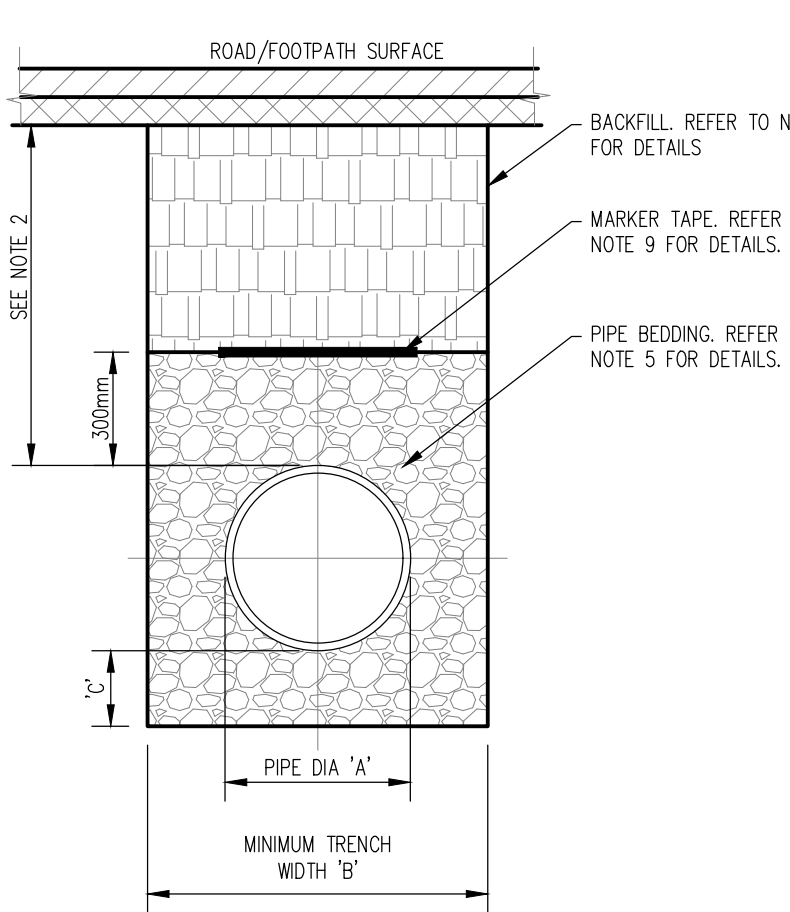
- 6 IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN GEO-TEXTILE WRAPPING, ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS, INCLUDING PILING ETC. MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE. SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORK.
- 7 IN GREEN FIELD AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL) WILL BE ALLOWED ABOVE THE SIDE HAUNCH GRANULAR MATERIAL IN THE CASE OF RIGID PIPES. A GRANULAR SURROUND OF A MINIMUM DEPTH OF 150mm ABOVE THE CROWN OF THE PIPE IS REQUIRED FOR FLEXIBLE PIPES, AND TYPE B MATERIAL MAY BE USED AS BACKFILL ABOVE THIS. ALL RISING MAINS IN GREENFIELD AREAS SHALL HAVE A MINIMUM COVER OF 300mm OF GRANULAR MATERIAL ABOVE THE EXTERNAL CROWN OF THE PIPE.
- 8 PIPES SHALL NOT BE SUPPORTED ON STONES, ROCKS OR ANY HARD OBJECTS AT ANY POINT ALONG THE TRENCH, ROCK SHALL BE EXCAVATED TO A DEPTH OF 150mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.
- 9 NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT TOP OF PIPE BEDDING LAYER. IN THE CASE OF NON-METAL PIPE MATERIAL, THE MARKER TAPE SHOULD INCORPORATE A TRACE WIRE WHICH IS LINKED TO FITTINGS AND TERMINATED AT THE WASTE WATER PUMPING STATION AND THE DISCHARGE MANHOLE.
- 10 TRENCH WIDTHS FOR PIPE SIZES ≤80mm MAY BE <500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
< 80 RISING MAIN	< SEE NOTE 10.
< 100	100
150 – 450	200

PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
< 80 RISING MAIN	< SEE NOTE 10.
100	500
150	600
200	600
250	750
300	750
350	750
400	900
450	900

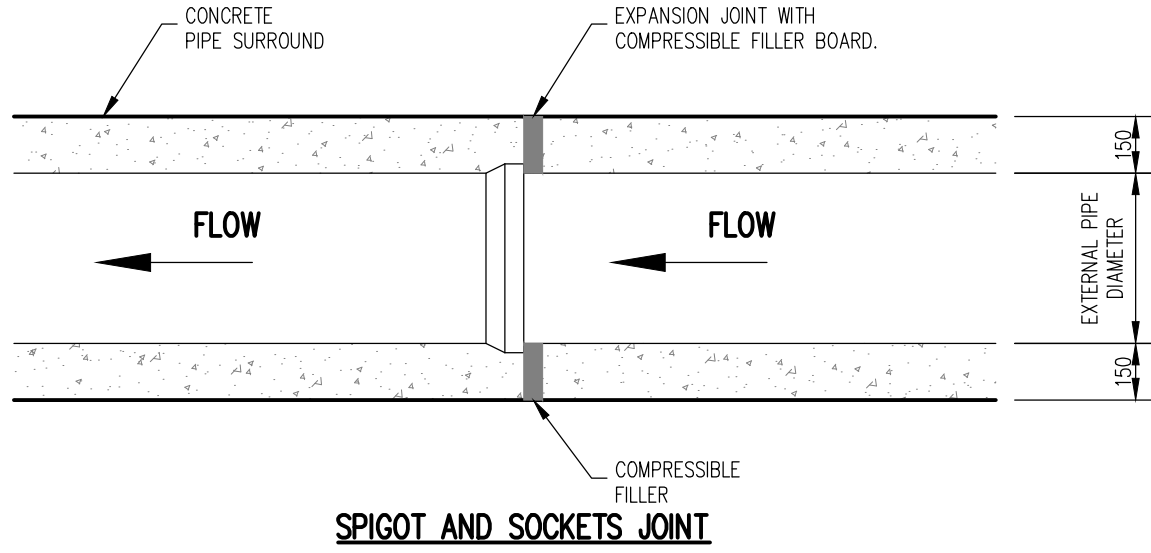
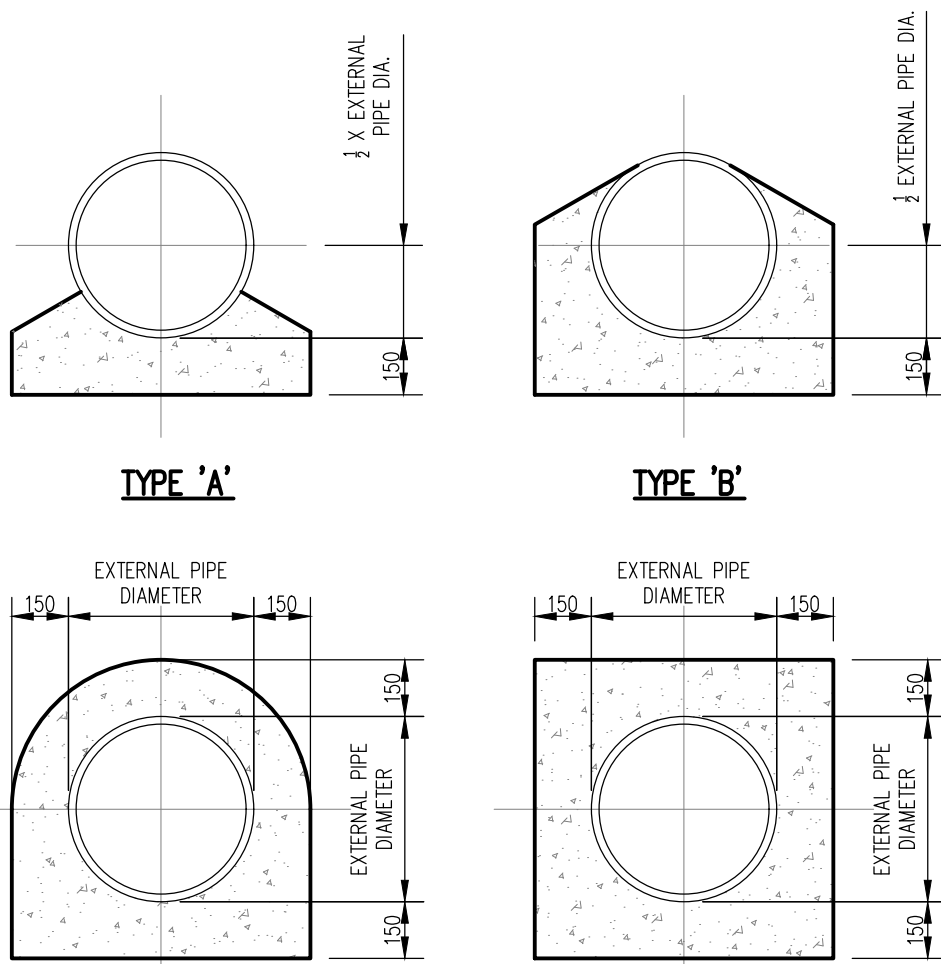


CROSS SECTION IN GRASSED AREAS



CROSS SECTION IN ROADS

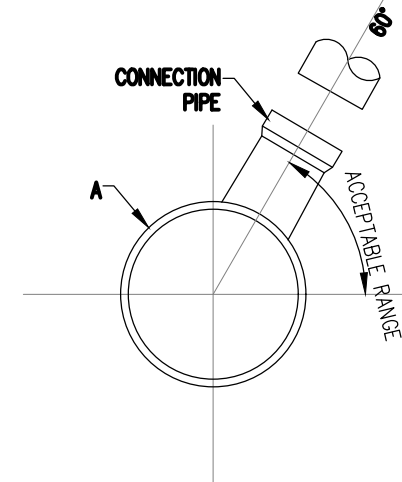
TRENCH BACKFILL AND BEDDING
(STD – WW – 07)
SCALE 1:20



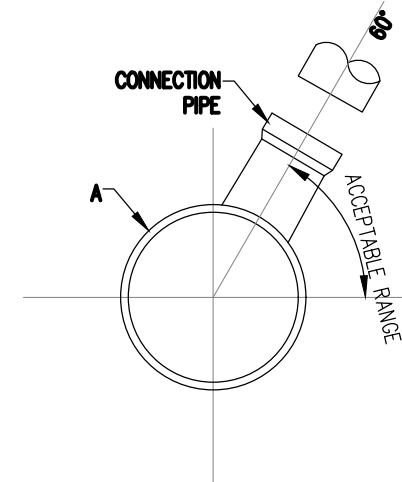
CONCRETE BED, HAUNCH AND SURROUND TO WASTEWATER PIPES.
(STD-WW-08)
SCALE 1:20

NOTES:

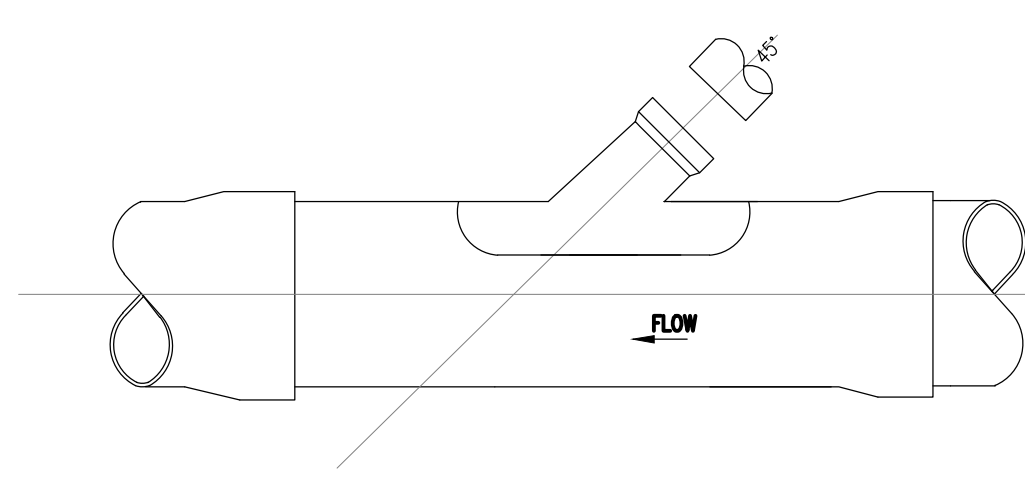
1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
2. CONCRETE PIPELINE BEDS AND HAUNCHES MAY BE REQUIRED TO ADDRESS MINIMUM COVER SITUATIONS AND SHALL BE SUBJECT TO SUBMISSION AND ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORKS.
3. CONCRETE PIPE BEDS AND HAUNCHES SHALL HAVE A MINIMUM THICKNESS OF 150mm WITH AN ABSOLUTE MINIM DEPTH OF COVER ABOVE THE EXTERNAL CROWN OF THE PIPE OF 750MM.
4. CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 AND TO BE CLASSED C16/20.
5. THE HAUNCHES AND SURROUNDINGS TO BE FORMED USING FORM WORK TO PROVIDE A ROUGH CAST FINISH.
6. EXPANSION JOINTS IN THE CONCRETE SHALL BE PROVIDED AT ALL PIPE JOINTS TO ALLOW FOR PIPE FLEXIBILITY, COMPRESSIBILITY FILLER BOARD TO BE IN ACCORDANCE WITH BS EN 622-1 AND BS EN 622-4, AND TO BE 18mm THICK.
7. POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPETITION WITH ACCORDANCE WITH BS6076 BEFORE BEING CAST INTO CONCRETE.
8. BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPES.



CROSS-SECTIONAL VIEW OF SEWER

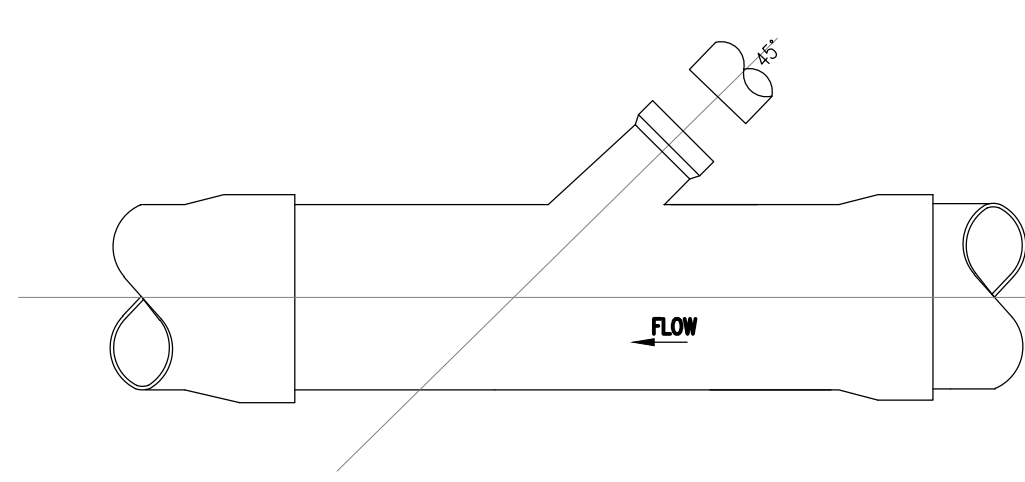


CROSS-SECTIONAL VIEW OF SEWER



VIEW IN DIRECTION OF ARROW A

APPROVED 45° SADDLE CONNECTION



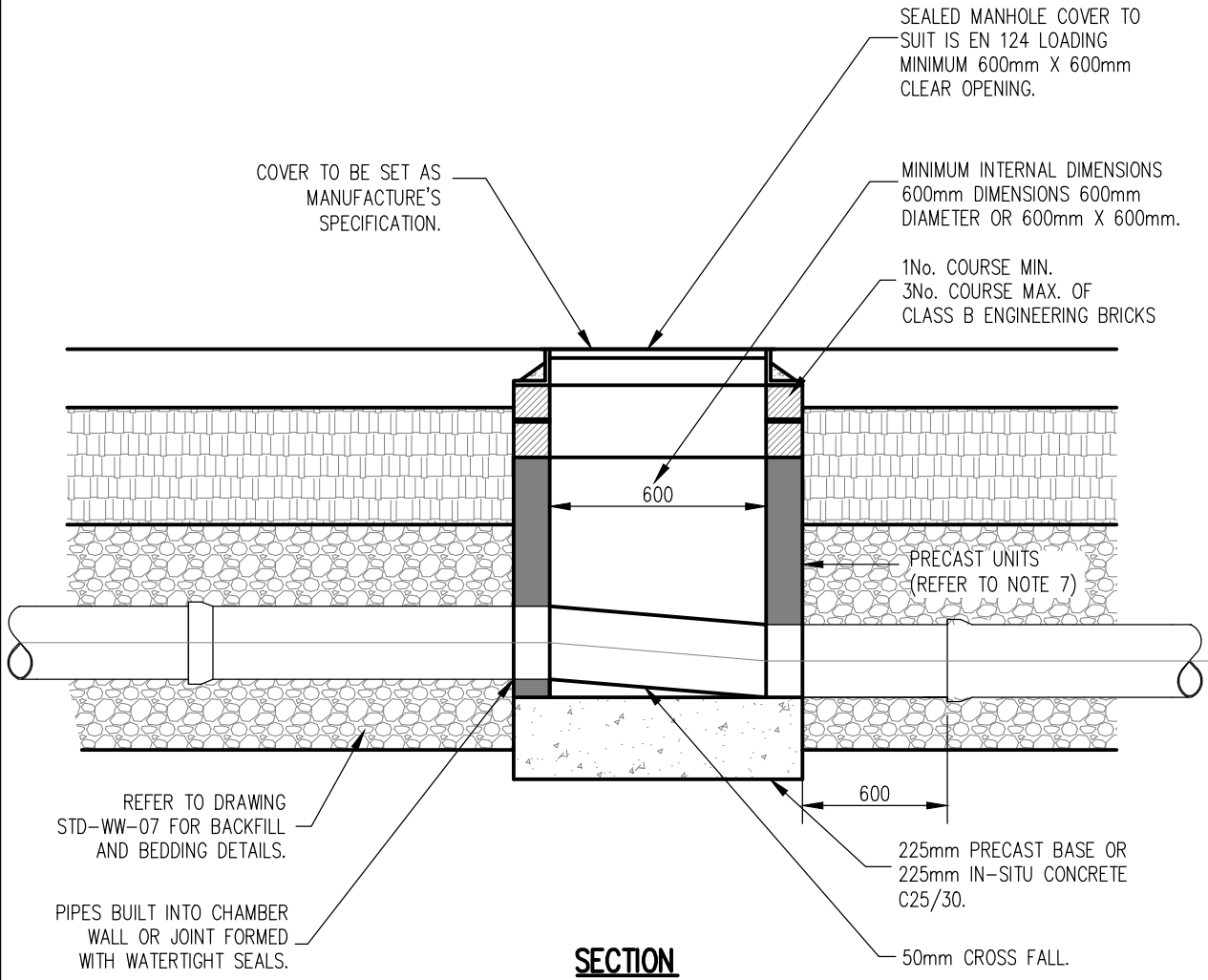
VIEW IN DIRECTION OF ARROW A

APPROVED 45° SADDLE CONNECTION

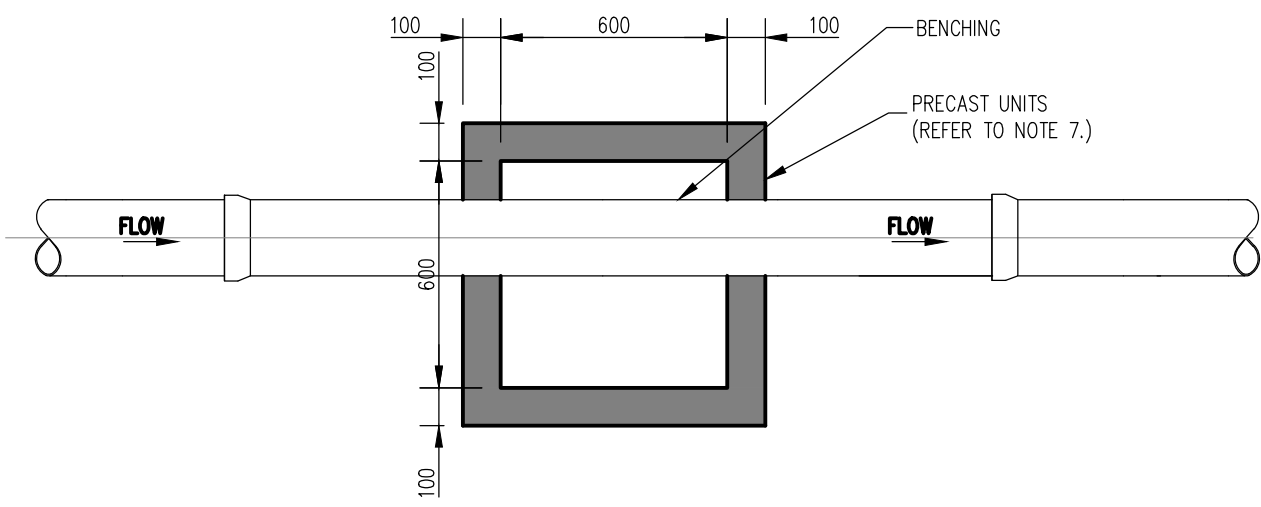
TYPICAL SEWER/SERVICE PIPE
(STD-WW-04)
SCALE 1:20

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
2. AS FAR AS PERFECTIBLE, JUNCTION AND SERVICE CONNECTION SHALL BE BUILT IN FOR ALL PLANNED USERS WHEN THE SEWER IS BEING CONSTRUCTED. WHETHER IT IS NECESSARY TO MAKE A POST-CONSTRUCTION CONNECTION THE DEVELOPER SHALL BRING THE SEWER TO THE INSPECTION CHAMBER, INSTALL THE INSPECTION CHAMBER AND SEAL THE UPSTREAM END UNTIL THE CONNECTION IS REQUIRED.
3. THE VERTICAL ANGLE BETWEEN THE SERVICE CONNECTING PIPE AND THE HORIZONTAL SHALL BE GREATER THAN 0° AND NOT MORE THAN 60°.
4. WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH A NORMAL INTERNAL DIAMETER OF 300mm DIAMETER OF LESS, CONNECTIONS SHALL BE MADE USING 45° ANGLE JUNCTION.
5. WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH NORMAL INTERNAL DIAMETER GREATER THAN 300mm:
- A) IF THE DIAMETER OF THE CONNECTION PIPE IS GREATER THAN HALF THE DIAMETER OF THE SEWER, AN ACCESS MANHOLE SHALL BE CONSTRUCTED TO FORM THE CONNECTION POINT; OR
- B) IF THE DIAMETER OF THE CONNECTION PIPE IS LESS THAN OR EQUAL TO HALF DIAMETER OF THE SEWER, THE CONNECTION SHALL BE MADE USING A PERFORMED SADDLE FITTING WITH A SLOW BEND BETWEEN THE SADDLE AND THE CONNECTION SEWER/DRAIN.
6. CONNECTIONS MADE WITH THE SADDLE FITTINGS SHALL BE MADE BY CUTTING AND SAFELY REMOVING A CORE FROM THE PIPE AND JOINING THE SADDLE FITTING TO THE PIPE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO ENSURE A WATER TIGHT JOINT. THE CONNECTING PIPE SHALL NOT PROTRUDE INTO THE SEWERS.



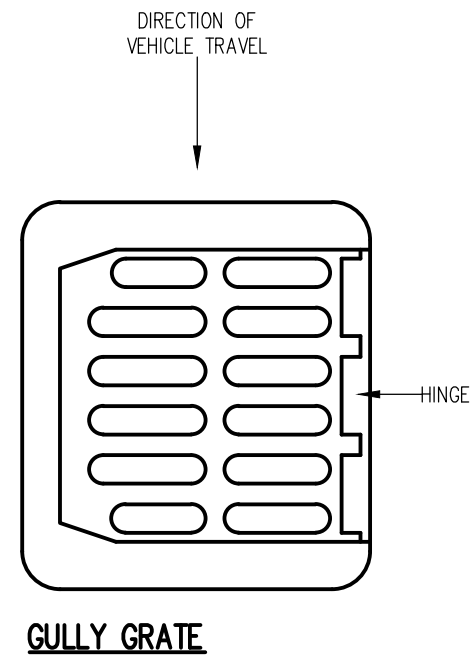
SECTION



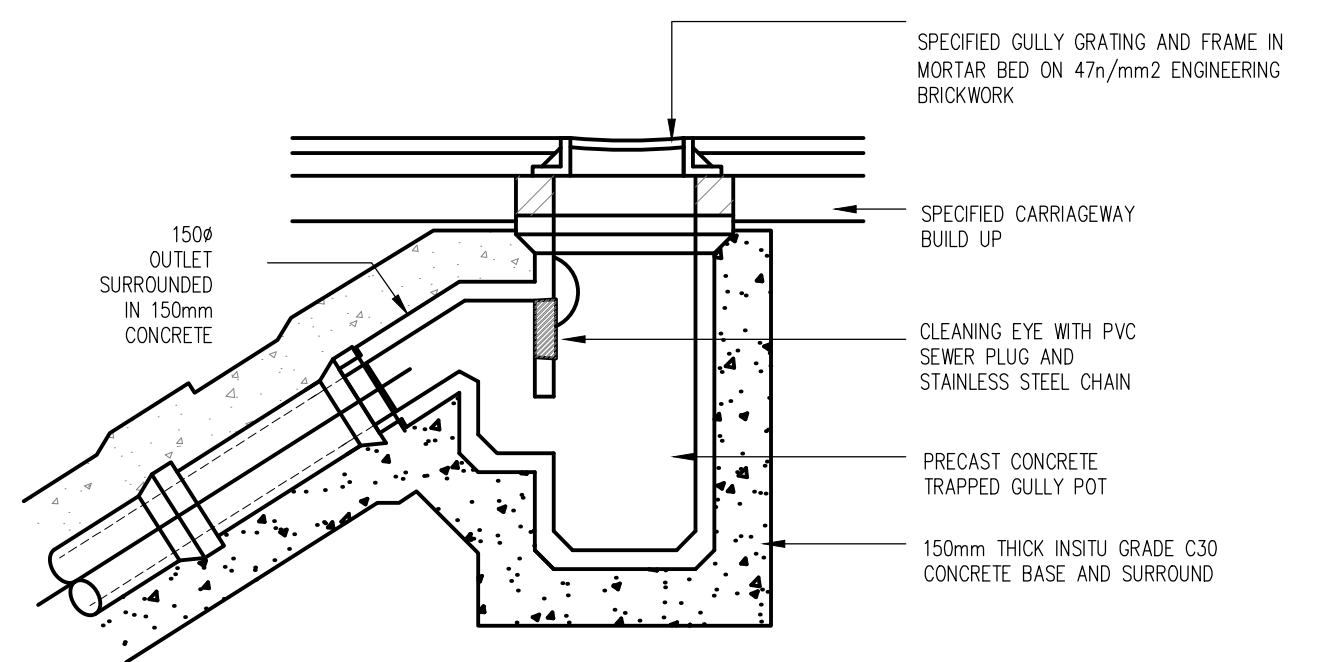
PLAN
INSPECTION CHAMBER
(PRECAST CONCRETE CONSTRUCTION)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
2. AN INSPECTION CHAMBER SHOULD BE LOCATED AT OR WITHIN 1m OF THE PROPERTY BOUNDARY AT THE UPSTREAM END OF EACH SERVICE CONNECTION ON THE PRIVATE SIDE OF THE CURTLAGE, IF PRACTICABLE.
3. ANY PIPE AND ASSOCIATED ACCESS UPSTREAM OF THE POINT OF CONNECTION TO A PUBLIC SEWER IS A PRIVATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE BUILDING REGULATIONS.
4. ACCESS POINTS SHOULD BE LOCATED SO THAT THEY ARE ACCESSIBLE AND APPARENT TO THE MAINTAINER AT ALL TIMES FOR USE. THEY SHOULD AVOID REAR GARDENS OR ENCLOSED LOCATIONS AND THEY SHOULD NEVER BE OVERLAIN WITH SURFACE DRESSING, TOPSOIL, ETC.
5. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO APPROVAL FROM IRISH WATER.
6. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVERS IN GREEN AREAS.
7. PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED SUBJECT TO APPROVAL FROM IRISH WATER.
8. CONCRETE CHAMBER SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 804 OR CLAUSE 808 MATERIAL AS PER STD-WW-07.



GULLY GRATE



PRECAST CONCRETE TRAPPED GULLY POT

DRAFT

PLANNING DRAWING.
NOT FOR CONSTRUCTION.
ALL LEVELS GIVEN ARE
RELATIVE TO ORDNANCE DATUM.
THIS DRAWING HAS BEEN ISSUED FOR INFORMATION PURPOSES ONLY AND MUST NOT BE USED FOR CONSTRUCTION UNDER ANY CIRCUMSTANCES

NOTES

1. For setting out refer to Architect's drawings.
2. This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
3. DO NOT SCALE THIS DRAWING. Use figured dimensions only.
4. No part of this document may be reproduced or transmitted in any form or stored in any retrieval system of any nature without the written permission as copyright holder except as agreed for use on the project for which the document was originally issued.
5. Ordnance Survey Ireland Licence Number EN 0074021

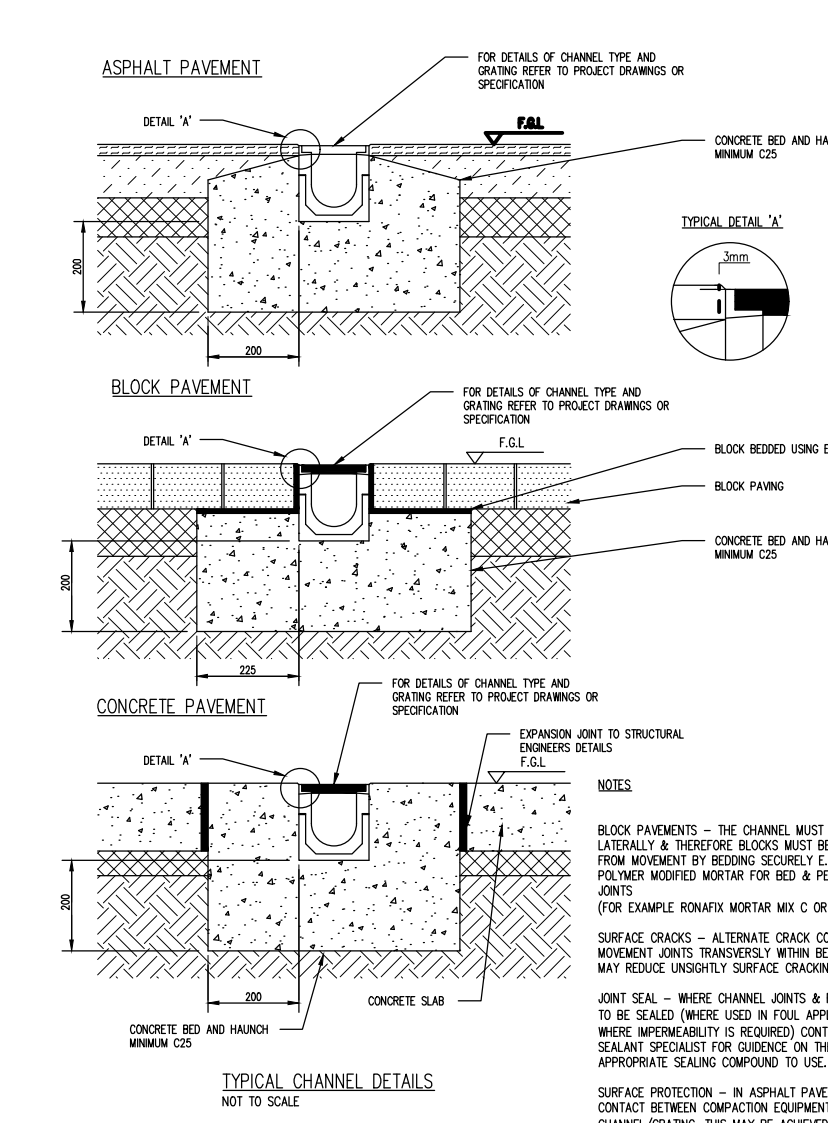
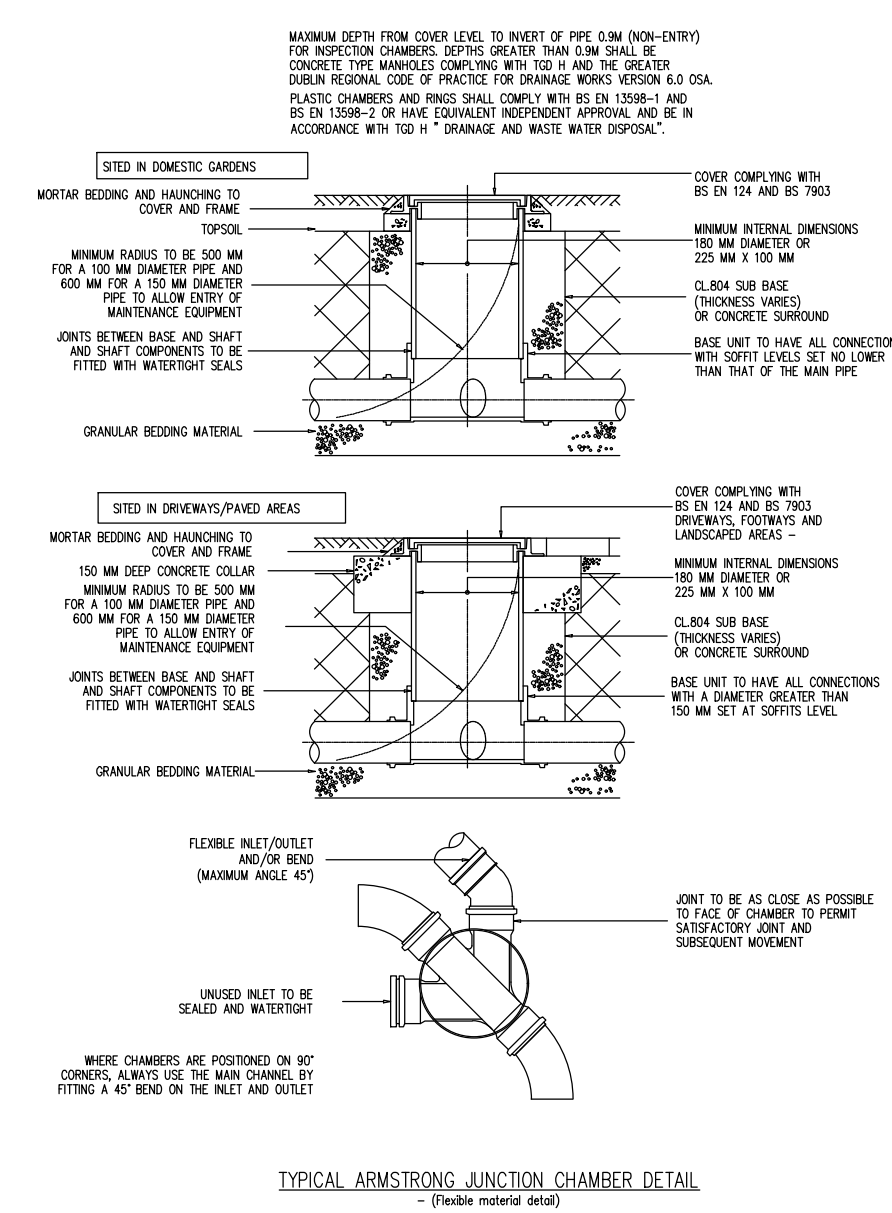
Rev No.	Date	REVISION NOTE	Dm By	Chkd By
P1	20.10.2020	PLANNING SUBMISSION STAGE 3	JS	OS

Architect	Henry J. Lyons	CS Consulting Group DUBLIN LONDON LIMERICK
Project	GA01 Project Shoreline, Baldoye.	
Title	DRAINAGE DETAILS SHEET 2 OF 3	
Dwg. No.	BD-CSC-ZZ-XX-DR-C-0007	
Date	Dm by	Chkd by
06.04.2020	JS	PC
	OS	AS SHOWN @ A1
		Revision
		P1

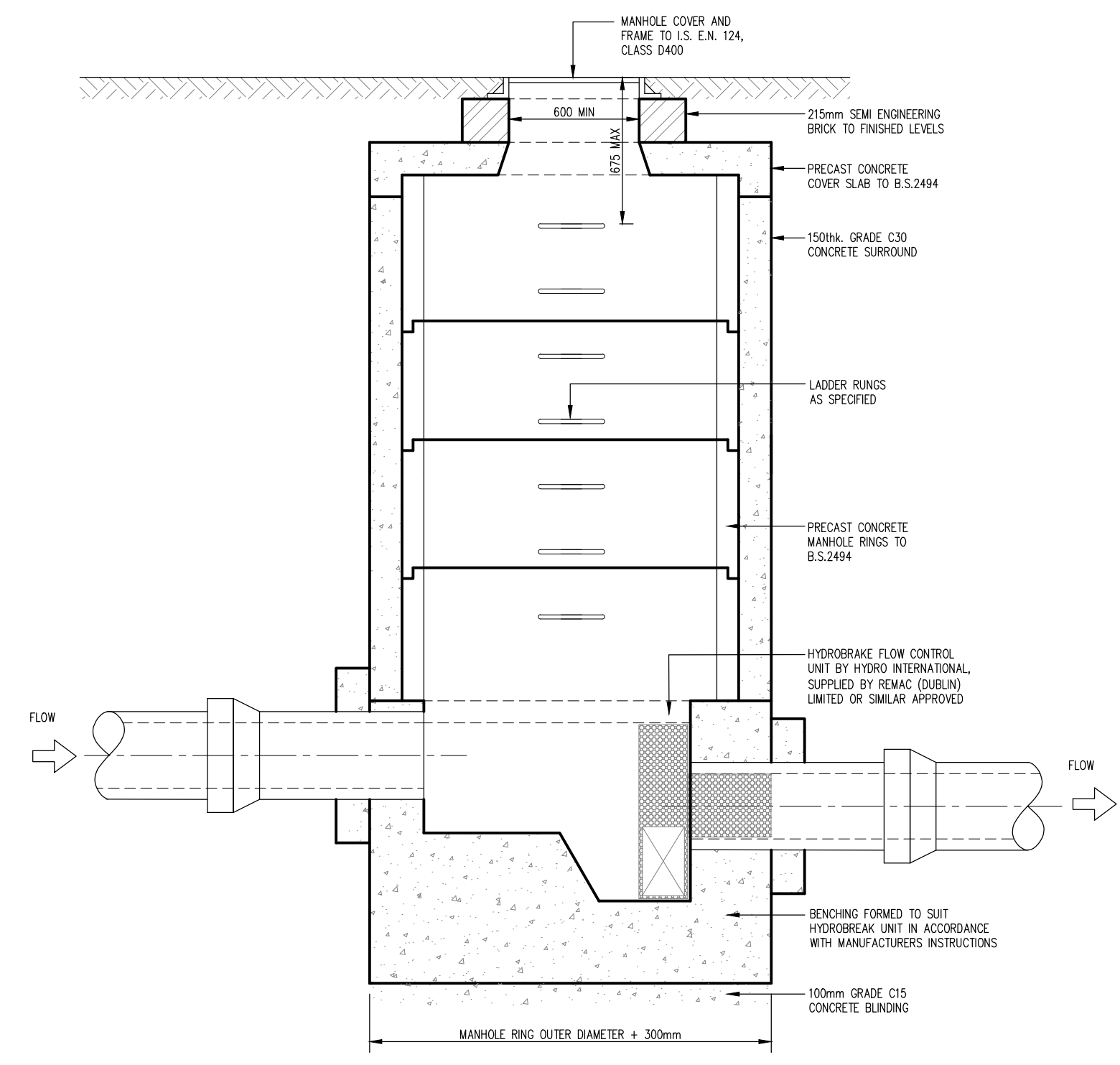
Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
w: www.csconsulting.ie

Quality
Environment
Energy
Health & Safety

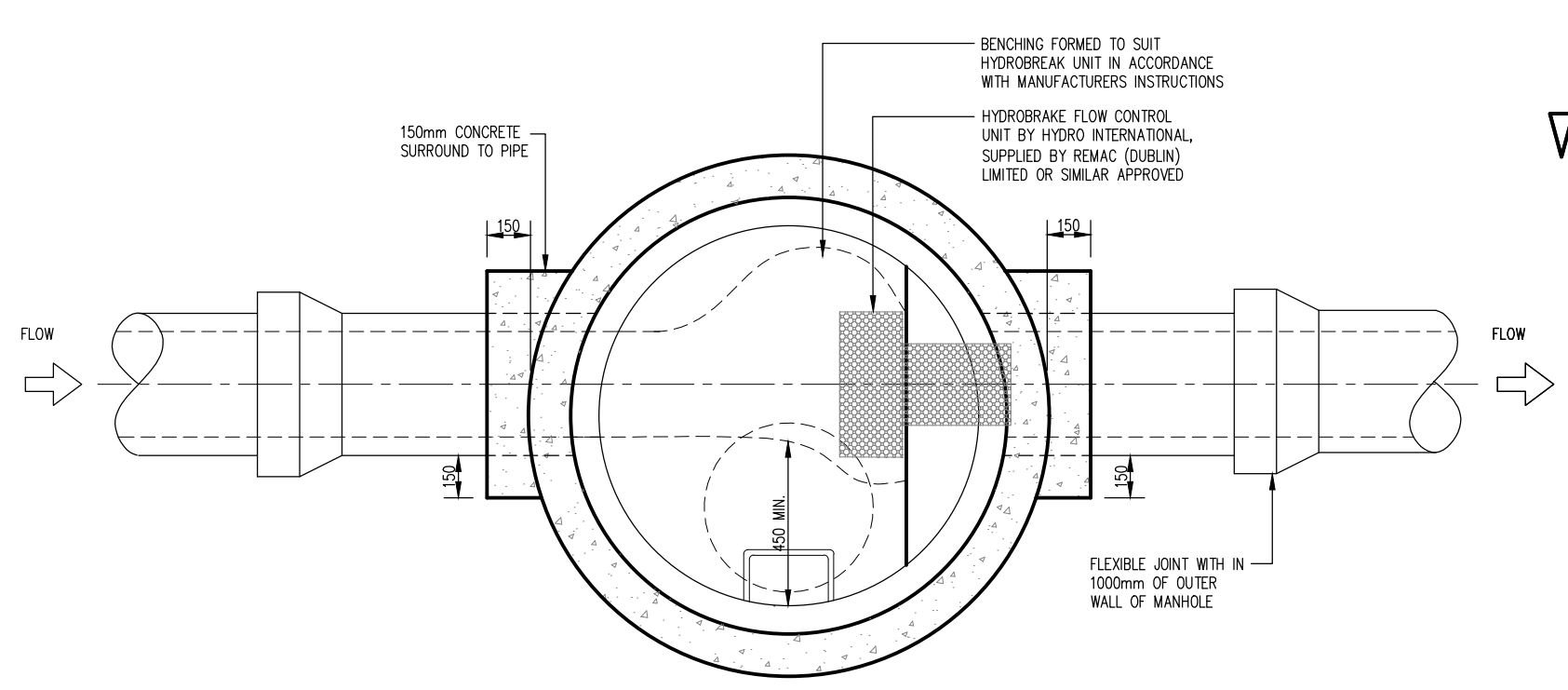
I.S. EN ISO 9001:2008
I.S. EN ISO 14001:2004
I.S. EN ISO 50001:2011
OHSAS 18001:2007



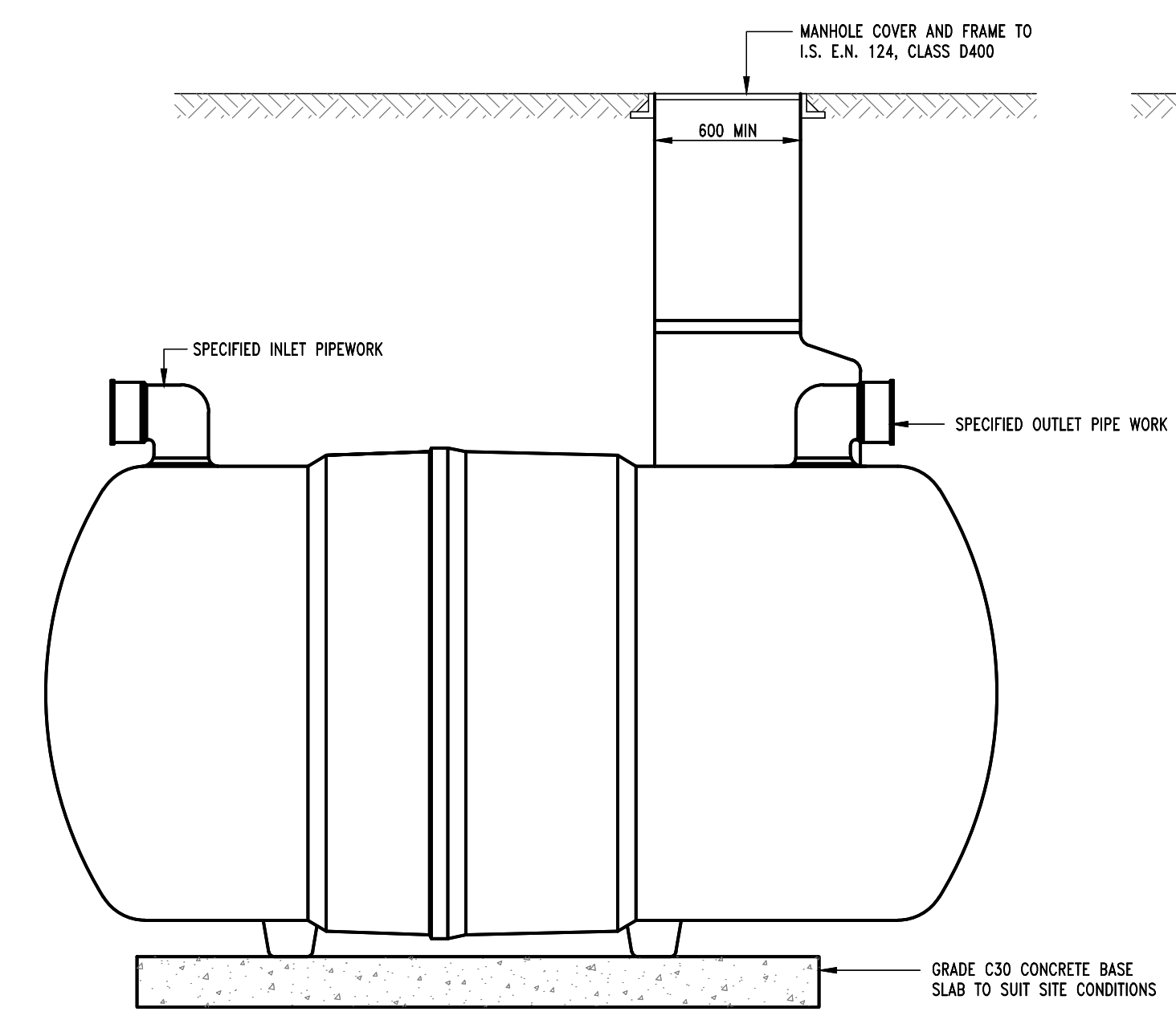
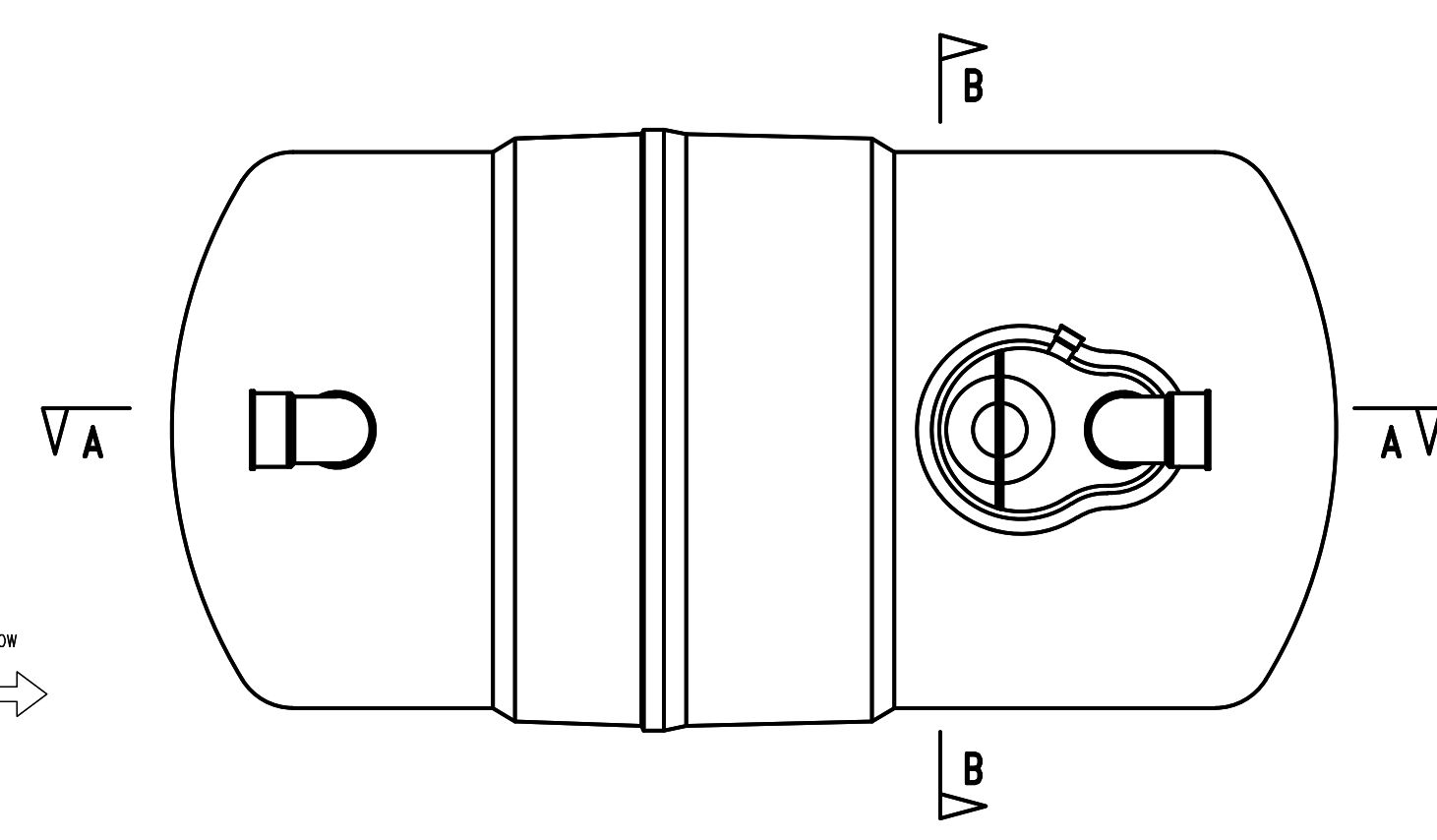
- NOTES :**
- DO NOT SCALE FROM THIS DRAWING USE STATED DIMENSIONS ONLY. IF IN DOUBT CONSULT THE ENGINEER.
 - LEVELS REFER TO O.S. DATUM MALIN HEAD.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ALL OF THE CONTRACT DOCUMENTS IN PARTICULAR THE ARCHITECT'S, LANDSCAPE ARCHITECT'S AND SERVICE ENGINEER'S SITE LAYOUT DRAWINGS.
 - ALL CIVIL WORKS SHALL BE COMPLETED IN ACCORDANCE WITH SPECIFICATIONS.
 - THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING ALL EXISTING SERVICES WITHIN THE SITE BOUNDARY. THE ENGINEER HAS SHOWN KNOW SERVICES ON THE DRAWINGS BUT GIVES NO GUARANTEE THAT THESE ARE THE ONLY SERVICES WITHIN THE SITE BOUNDARY. THE CONTRACTOR SHALL CONTACT THE RELEVANT STATUTORY AND PRIVATE UTILITY COMPANIES AND CONFIRM THE LOCATION OF THEIR PLANT FOR HIMSELF.
 - THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF THE NAME AND LOCATION OF ALL TIPS USED FOR THE DISPOSAL OF MATERIAL OFF SITE.
 - THE CONTRACTOR SHALL ENSURE THAT ADEQUATE PROVISIONS ARE IN PLACE TO PREVENT THE SPREAD OF DIRT, MUD AND SITE MATERIAL ON THE PUBLIC ROAD. THE CONTRACTOR SHALL ENSURE THAT THE PUBLIC ROADS AROUND THE SITE ARE CLEANED ON A REGULAR BASIS, OR AS DIRECTED BY THE ENGINEER, WITH A MECHANICAL SUCTION SWEEPER.
 - THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT NOISE AND DUST ARE MINIMISED.
 - BLINDING CONCRETE SHALL BE GRADE 15N20. BLINDING SHALL BE A MINIMUM OF 100MM THICK. ALL STRUCTURAL CONCRETE SHALL BE GRADE 30N20 UNLESS SPECIFIED OTHERWISE ELSEWHERE.
 - ALL EXPOSED CONCRETE FINISHES SHOULD BE FAIR FACED FINISHES UNLESS SPECIFIED OTHERWISE ELSEWHERE.
 - HANDRAILS SHALL BE GRADE 316 STAINLESS STEEL. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO MANUFACTURE.



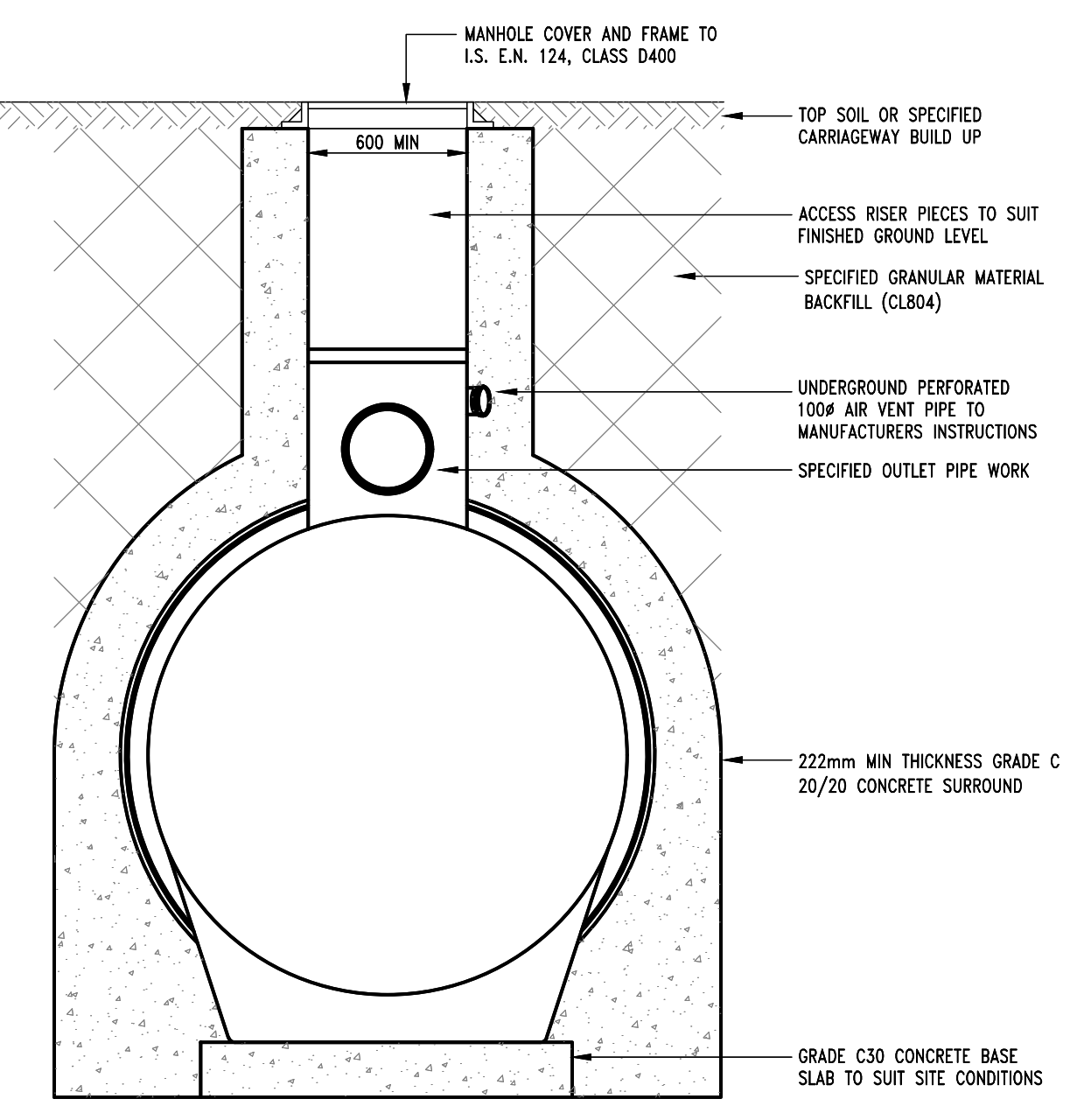
HYDROBRAKE CHAMBER
MAX. DEPTH G.L. TO I.L. - 3.0m
SCALE 1:25



PLAN ON HYDROBRAKE CHAMBER
MAX. DEPTH G.L. TO I.L. - 3.0m
SCALE 1:25



KLARGESTER CLASS 1 INTERCEPTOR (O.S.A.)
SECTION A-A
SCALE 1:25



KLARGESTER CLASS 1 INTERCEPTOR (O.S.A.)
SECTION B-B
SCALE 1:25

DRAFT

PLANNING DRAWING.
NOT FOR CONSTRUCTION.
ALL LEVELS GIVEN ARE
RELATIVE TO ORDNANCE DATUM.
THIS DRAWING HAS BEEN ISSUED FOR INFORMATION
PURPOSES ONLY AND MUST NOT BE USED
FOR CONSTRUCTION UNDER ANY CIRCUMSTANCES

- NOTES**
- For setting out refer to Architect's drawings.
 - This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
 - DO NOT SCALE THIS DRAWING. Use figured dimensions only.
 - No part of this document may be reproduced or transmitted in any form or stored in any retrieval system of any nature without the written permission as copyright holder except as agreed for use on the project for which the document was originally issued.
 - Ordnance Survey Ireland Licence Number EN 0074021

Rev. No.	Date	REVISION NOTE	Dn. By	Chkd. By
P1	20.10.2020	PLANNING SUBMISSION STAGE 3	JS	OS

Architect	Henry J. Lyons	CS Consulting Group DUBLIN LONDON LIMERICK
Project	GA01 Project Shoreline, Baldoye.	
Title	DRAINAGE DETAILS SHEET 3 OF 3	
Dwg. No.	BD-CSC-ZZ-XX-DR-C-0008	
Date	06.04.2020	
Drawn by	JS	
Checked by	PC	
Approved by	OS	
Scale	AS SHOWN @ A1	
Revision	P1	

Quality	I.S. EN ISO 9001:2008
Environment	I.S. EN ISO 14001:2004
Health & Safety	I.S. EN ISO 50001:2011
NSAI Certified	OHSAS 18001:2007

Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
w: www.csconsulting.ie

CS

ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.

2 THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE EXTERNAL CROWN OF THE PIPE SHALL BE 750mm FOR SERVICE CONNECTIONS, 900mm FOR WATER MAINS. GREATER DEPTHS OF COVER AND/OR PIPE STRENGTH AND/OR A HIGHER CLASS OF BEDDING MATERIAL MAY BE REQUIRED WHERE HIGH TRAFFIC LOADING IS ANTICIPATED. THE MAXIMUM COVER SHOULD NOT EXCEED 1.2M WHERE PRACTICABLE.

3 CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE WATER MAIN IS LOCATED IN ROADS, FOOTPATHS OR WHEN THE NEAREST PART OF THE TRENCH IS WITHIN 1M OF THE PAVED EDGE OF THE ROADWAY. CLAUSE 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS.

4 SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO THE APPROVAL OF IRISH WATER.

5 PIPE BEDDING SHALL COMPLY WITH WS 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm graded AGGREGATE OR 10mm SINGLE SIZED AGGREGATE IS IN 13242.

6 IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED OUT AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN GEO-TEXTILE WRAPPING, ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS, INCLUDING PILING ETC. MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE. SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORK.

7 PIPES SHALL NOT BE SUPPORTED ON STONES OR ROCKS, OR ANY HARD OBJECT AT ANY POINT ALONG THE TRENCH. ROCK SHALL BE VOID FILLED WITH CLAUSE 804 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.

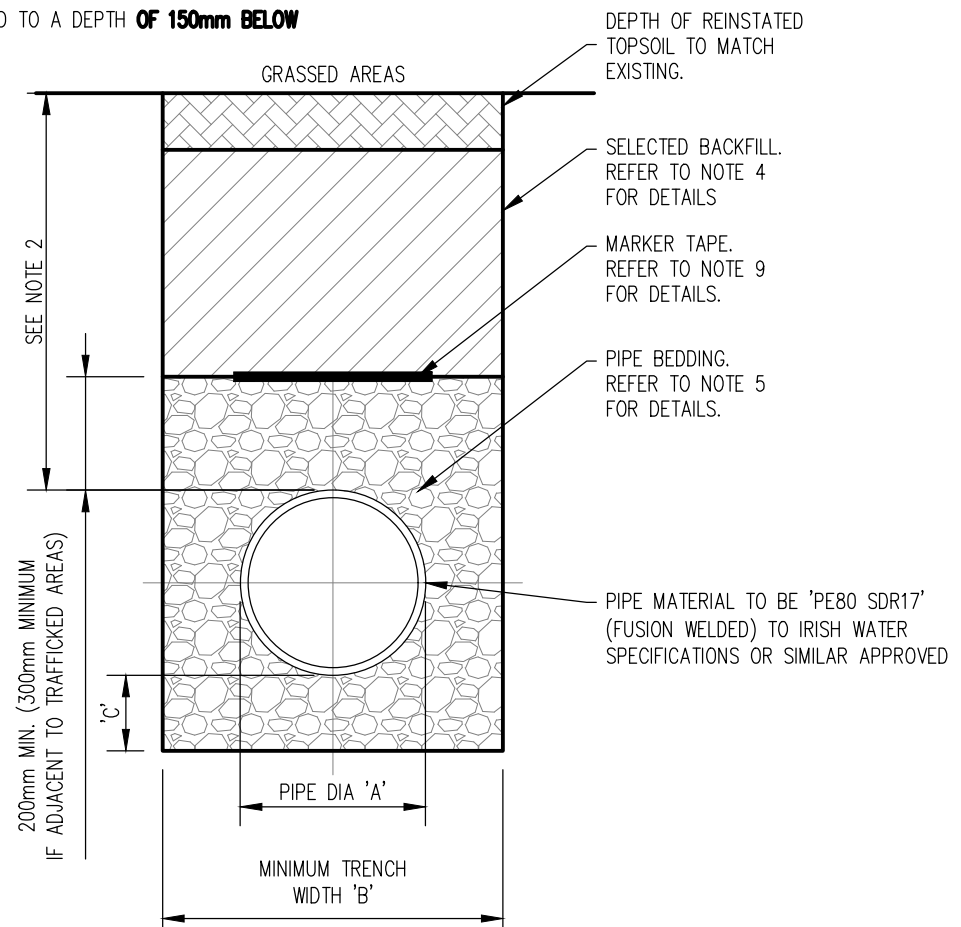
8 SHOULD MINIMUM COVER NOT BE ACHIEVABLE, CONCRETE GRADE C8/10 SHALL BE USED AS BACKFILL MATERIAL.

9 MARKER TAPE TO BE 400mm WIDE BLUE POLYETHYLENE MATERIAL IN ACCORDANCE WITH EN 12163, PLASTIC PIPES SHALL HAVE WARNING TAPE INCORPORATED A REINFORCED BAND BRACING WIRE. SERVICE PIPES SHALL HAVE 200mm WIDE MESH TAPE. MARKER TAPE TO BE LAID AT TOP OF PIPE BEDDING LAYER.

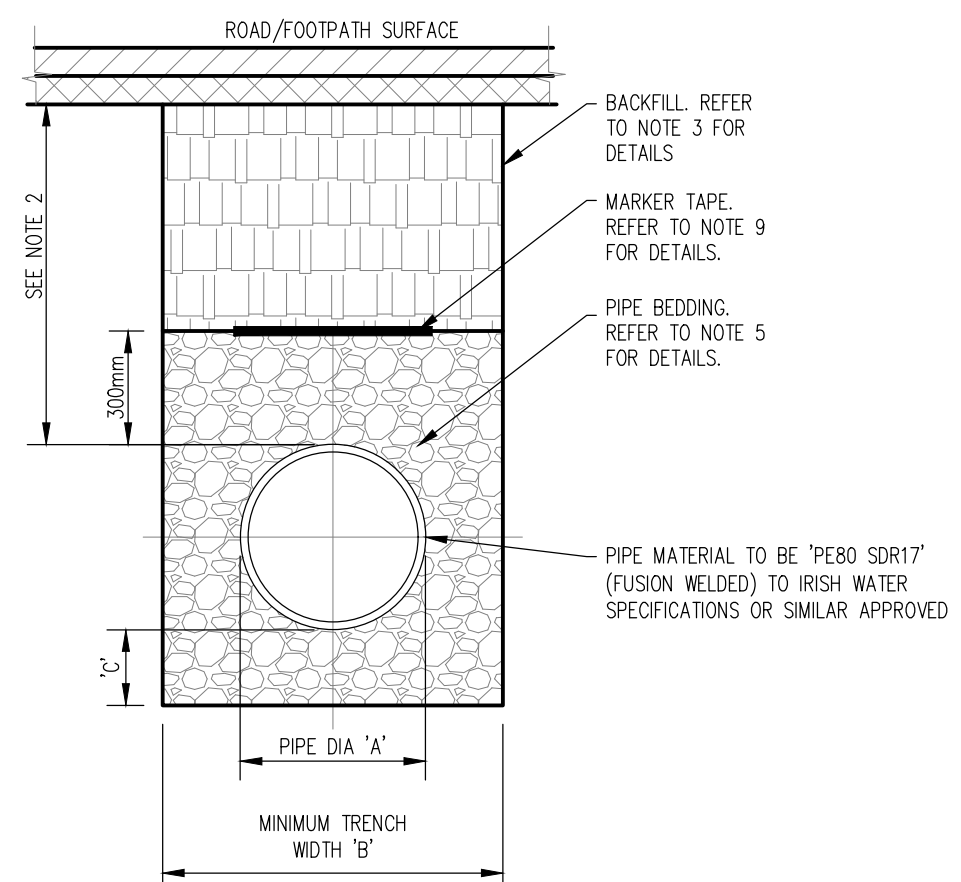
10 TRENCH WIDTHS FOR PIPE SIZES ≤800mm MAY BE ≤900mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
< 200	150
> 250	200
PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
< 80	< SEE NOTE 10.
100	
150	600
200	600
250	750
300	750
350	750
400	900
450	900

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
< 200	150
> 250	200
PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
< 80	< SEE NOTE 10.
100	500
150	600
200	600
250	750
300	750
350	750
400	900
450	900



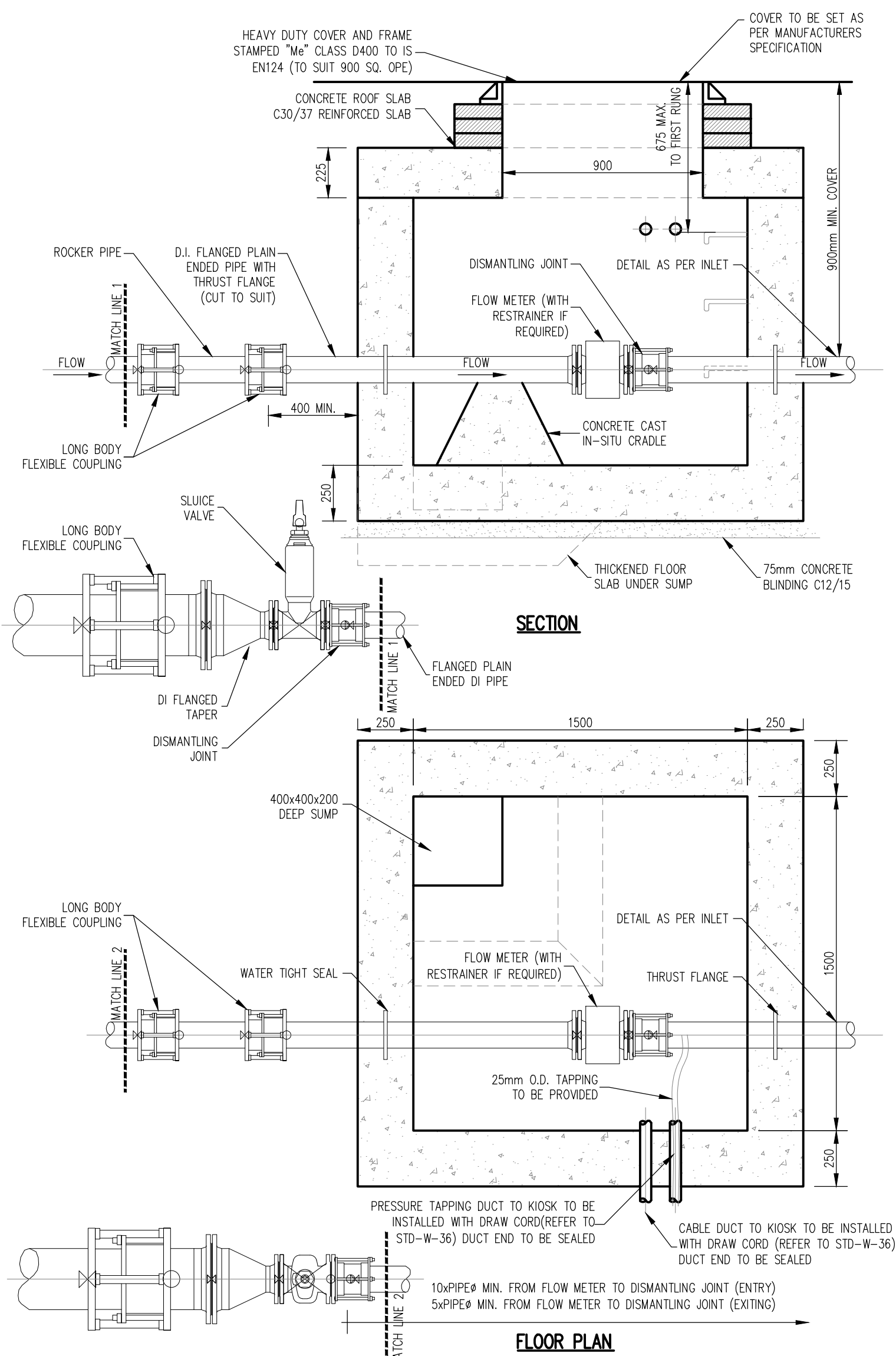
CROSS SECTION IN GRASSED AREAS



CROSS SECTION IN ROADS

TRENCH BACKFILL AND BEDDING
(STD - W - 13)
SCALE 1:20

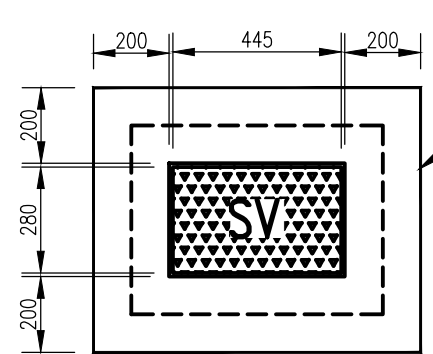
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.	SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF IRISH WATER.	CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO APPROVAL FROM IRISH WATER.
2. STRUCTURAL DESIGN AND REINFORCEMENT DETAIL TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.	6. 200mm ALL ROUND, 100mm DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVER IN GRASS AREAS.	10. PIPEWORK TO BE DOWNSIZED TO ACCOMMODATE THE REQUIRED RANGE OF THE FLOW METER. STRAIGHT PIPE LENGTHS UPSTREAM AND DOWNSTREAM OF THE METER TO BE PROVIDED. IF THE METER IS NOT CAPABLE OF ACCURATE NIGHT FLOW MEASUREMENTS, A BY-PASS FLOW METER SHALL BE PROVIDED WITH APPROPRIATE VALVES, FITTINGS AND PIPEWORK.
3. CONCRETE FOR FLOW METER CHAMBER TO BE C30/37	7. ANTI CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.	11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN206.
4. PRECAST METER CHAMBER(WITH CONCRETE SURROUND) MAY BE USED SUBJECT TO IRISH WATER APPROVAL.	8. DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN545. PE PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 12201:2001.	
5. METER CHAMBER SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO	9. ALL CHAMBERS TO BE CHECKED FOR UPLIFT	



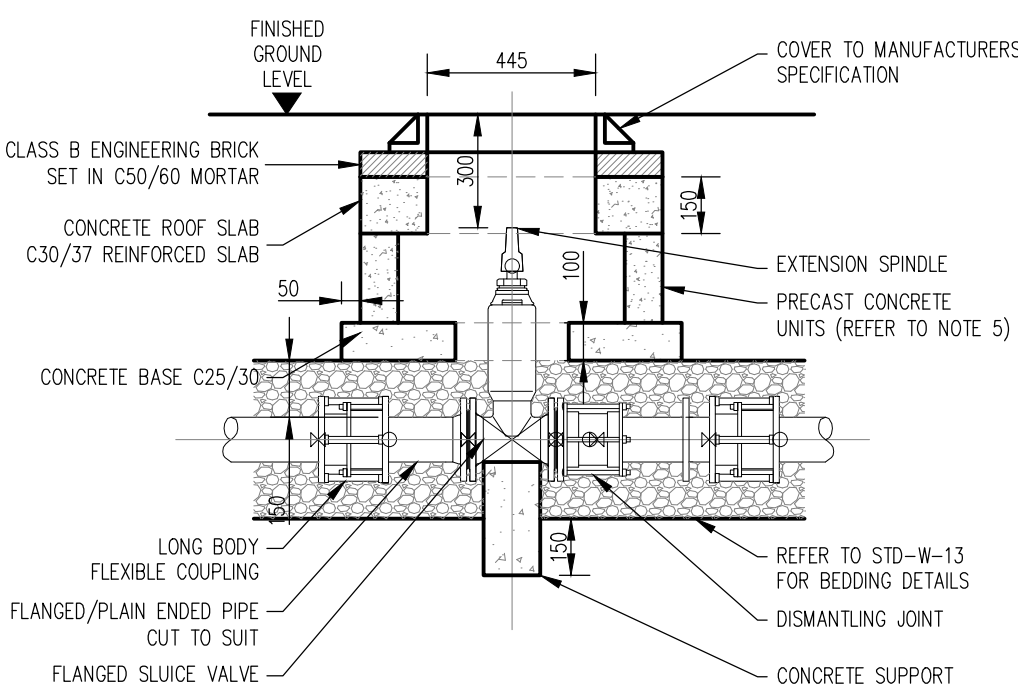
METER CHAMBER (<300mmØ)
(STD - W - 26)
SCALE 1:20

ROOF PLAN

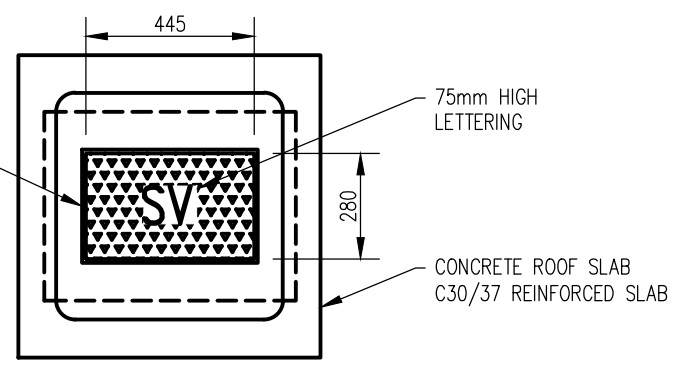
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. SUICIDE VALVE CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 OR BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF IRISH WATER
3. SUICIDE VALVES SHALL BE RESILIENT SEATED AND SHALL COMPLY WITH BS 5163-1, BS 5163-2, IS EN 1074-1, IS EN 1074-2, OR EQUIVALENT QC SPECIFICATIONS.
4. ALL SUICIDE VALVES SHALL BE ANTI-CLOCKWISE CLOSING.
5. VALVE CHAMBER TO BE CONSTRUCTED OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVELY PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED SUBJECT TO APPROVAL FROM IRISH WATER.
6. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLASS 8/8 MATERIAL AS PER STD-W-13.
7. ACCORDANCE WITH IS EN 545.
8. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH WITH PROTECTIVE STEEL METAL BAND AROUND COVER IN GREEN AREAS.
9. THRUST BLOCKS (NOT SHOWN ON DRAWING) TO BE PROVIDED AS PER STANDARD DRAWING STD-W-28 AT ALL TEES AND BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
10. ANTICORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206
12. ALL THRUST FLANGES TO BE ADEQUATELY RESTRAINED BY THRUST BLOCKS AS PER DRAWING No. STD-W-28. THRUST BLOCKS NOT SHOWN FOR CLARITY



PLINTH IN GRASSED AREAS



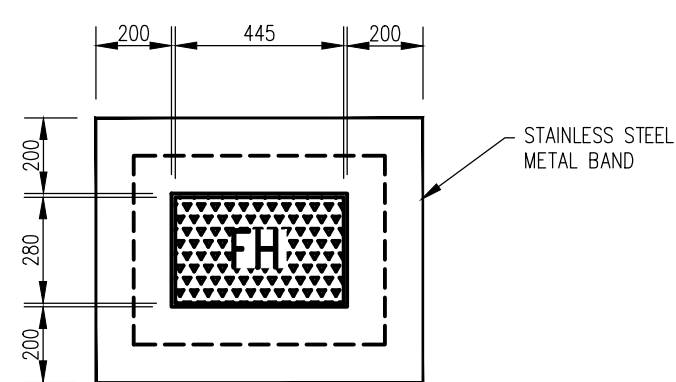
SECTION



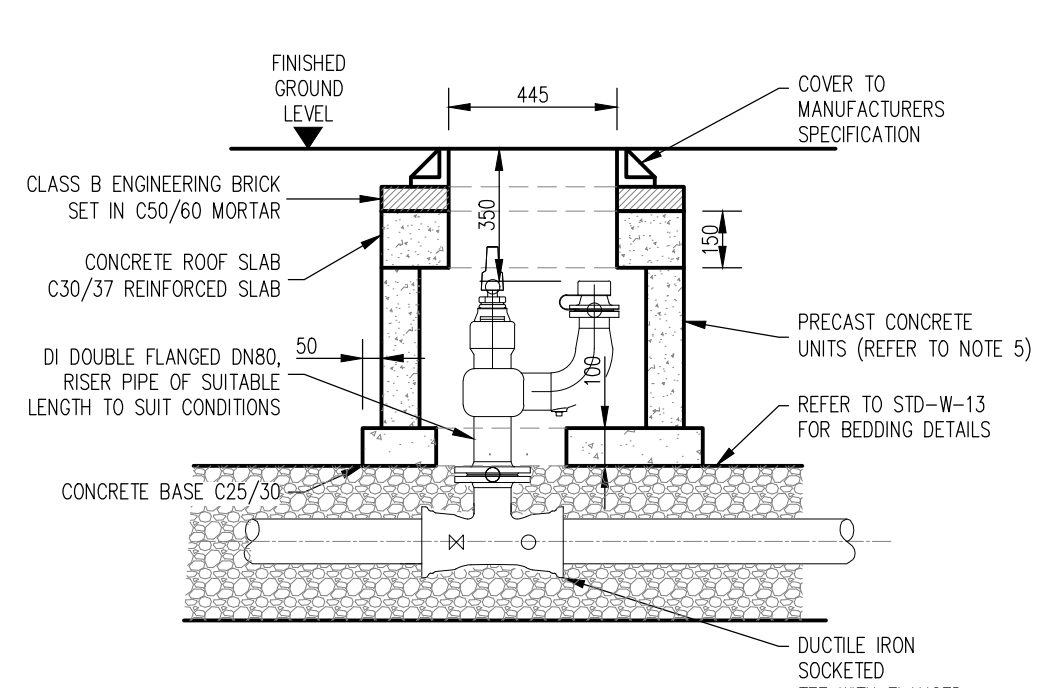
ROOF PLAN

SLUICE VALVE CHAMBER
(PRECAST CONCRETE CONSTRUCTION)
(STD - W - 14)
SCALE 1:20

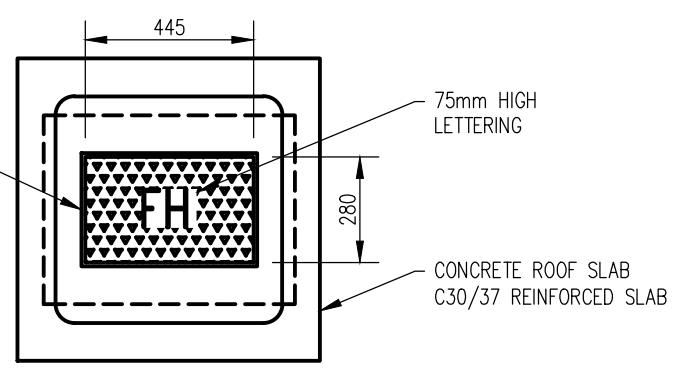
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.	SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 808 MATERIAL AS PER STD-W-13.
2. HYDRANT CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 OR BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF IRISH WATER.	7. DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 545.
3. ALL HYDRANTS, SURFACE BOX FRAMES AND COVERS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF IS EN 14339, IS EN 1074-6 & BS 750. FIRE HYDRANT SHALL BE TYPE 2. THE HYDRANT INLET SHALL BE 80mm DIAMETER WITH PN16.	8. 200mm ALGROUND, 100mm DEEP CONCRETE PLUMB WITH PROTECTIVE STEEL METAL BAND AROUND COVER IN GREEN AREAS.
4. ALL HYDRANTS SHALL BE CLOCKWISE CLOSING.	9. THRUST BLOCKS (NOT SHOWN ON DRAWING) TO BE PROVIDED AS PER STANDARD DRAWING STD-W-28 AT ALL TEES AND BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
5. VALVE CHAMBER TO BE CONSTRUCTED OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVELY PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED SUBJECT TO APPROVAL FROM IRISH WATER.	10. ANTICORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
	11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206



PLINTH IN GRASSED AREAS



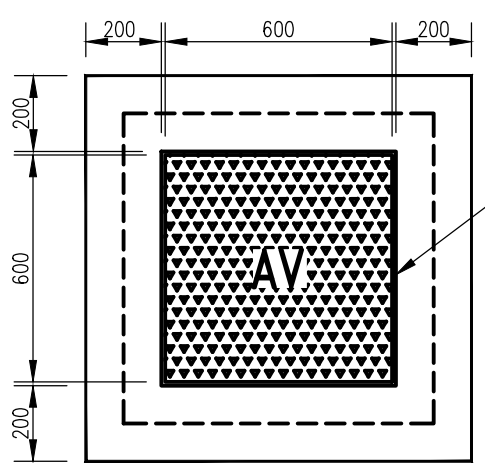
SECTION



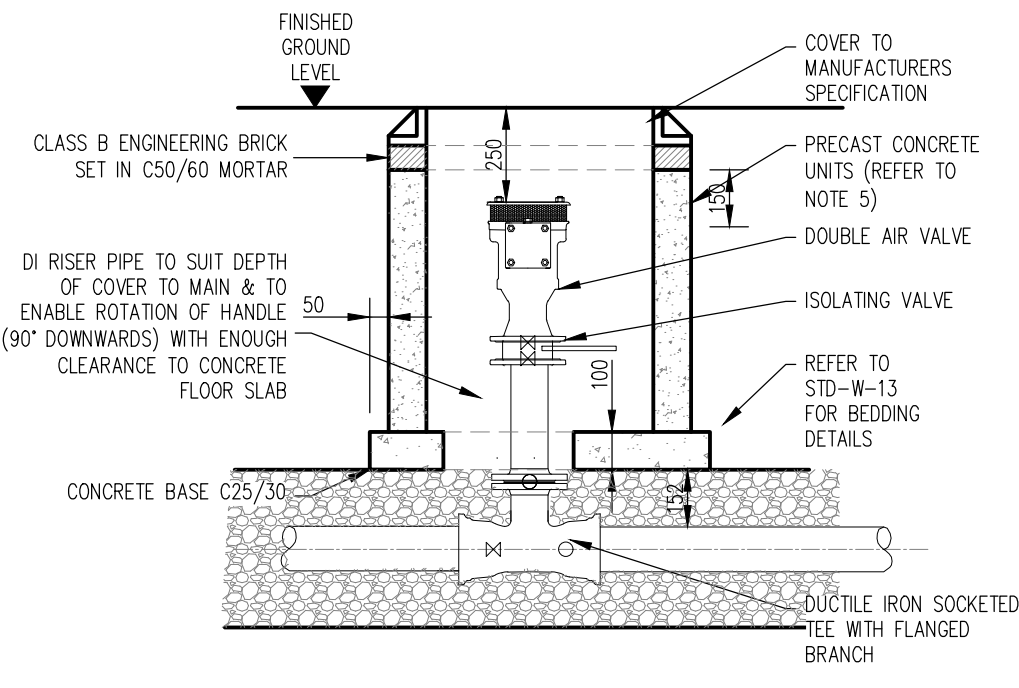
ROOF PLAN

FIRE HYDRANT CHAMBER
(PRECAST CONCRETE CONSTRUCTION)
(STD - W - 16)
SCALE 1:20

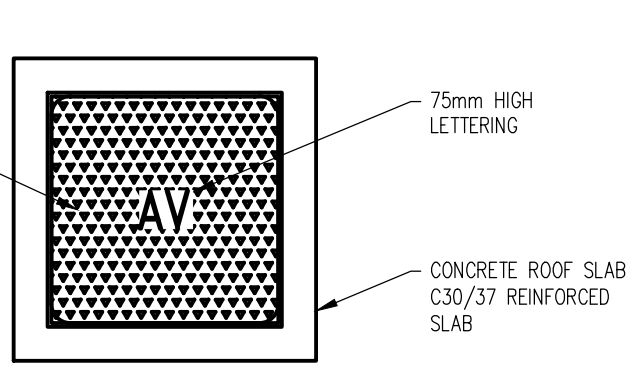
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.	PREFABRICATED CHAMBER UNITS MAY ALSO BE USED, SUBJECT TO APPROVAL FROM IRISH WATER.
2. AIR VALVE CHAMBERS SHALL BE COVERED WITH APPROVED VENTILATED HEAVY DUTY METAL COVERS TO IS EN 124 RATING D400. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF IRISH WATER.	7. PRECAST CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 808 MATERIAL AS PER STD-WM-13.
3. AIR VALVES SHALL COMPLY WITH THE REQUIREMENTS OF IS EN 1074-4. AIR VALVES SHALL BE DOUBLE ORIFICE TYPE AND SHALL INCLUDE AN ISOLATING VALVE. THE ISOLATING VALVE SHALL BE A GATE VALVE CONFORMING TO IS EN 1074-2 AND SHALL BE OF A BOLLTLESS BONNET DESIGN	8. DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 545.
4. THE AIR VALVES SHALL OF BODIES AND COVERS OF CAST IRON TO BS EN 1563 WITH FLANGES DRILLED TO PN 16 IN ACCORDANCE WITH BS EN 1092. EACH VALVE SHALL HAVE A LARGE AND A SMALL AIR ESCAPE ORIFICE WITH AN ISOLATING VALVE.	9. 200mm ALL AROUND, 100mm DEEP CONCRETE CURB WITH PROTECTIVE STEEL METAL BAND AROUND COVER GREEN AREAS.
5. SERVICE CONNECTIONS SHALL NOT BE PROVIDED WITHIN 2m OF THE AIR VALVE LOCATION.	10. THRUST BLOCKS (NOT SHOWN ON DRAWING) TO BE PROVIDED AS PER STANDARD DRAWING STD-W-28 AT ALL TEES AND BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
6. AIR VALVE CHAMBERS SHALL BE OF PRECAST CONCRETE UNITS OR HIGH DENSITY.	11. ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
	12. THE LOCATION OF THE AIR VALVE SHALL BE THE SUBJECT OF PARTICULAR AGREEMENT WITH IRISH WATER TO ENSURE THAT THE RISK OF CONTAMINATION DURING THE VALVE IS ELIMINATED.
	13. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206



PLINTH IN GRASSED AREAS



SECTION



ROOF PLAN

AIR VALVE CHAMBER
(PRECAST CONCRETE CONSTRUCTION)
(STD - W - 20)
SCALE 1:20

PLANNING DRAWING.
NOT FOR CONSTRUCTION.
ALL LEVELS GIVEN ARE
RELATIVE TO ORDNANCE DATUM.
THIS DRAWING HAS BEEN ISSUED FOR INFORMATION
PURPOSES ONLY AND MUST NOT BE USED
FOR CONSTRUCTION UNDER ANY CIRCUMSTANCES

1. For setting out refer to Architect's drawings.
2. This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
3. **DO NOT SCALE THIS DRAWING.** Use figured dimensions only.
4. No part of this document may be reproduced or transmitted in any form or stored in any retrieval system of any nature without the written permission as copyright holder except as agreed for use on the project for which the document was originally issued.
5. Ordnance Survey Ireland Licence Number EN 0074021

[illegible][illegible]

Architect	Henry J. Lyons				
Project	GA01 Project Shoreline, Baldoyle.				
Title	WATERMAIN DETAILS SHEET 1 OF 2				
Dwg. No.	BD-CSC-ZX-XX-DR-C-0010				
Date	Drn by	Chkd by	Apprd by, Scale		Revision
06.04.2020	JS	NB	OS	AS SHOWN @ A1	P1

CS Consulting Group

DUBLIN | LONDON | LIMERICK

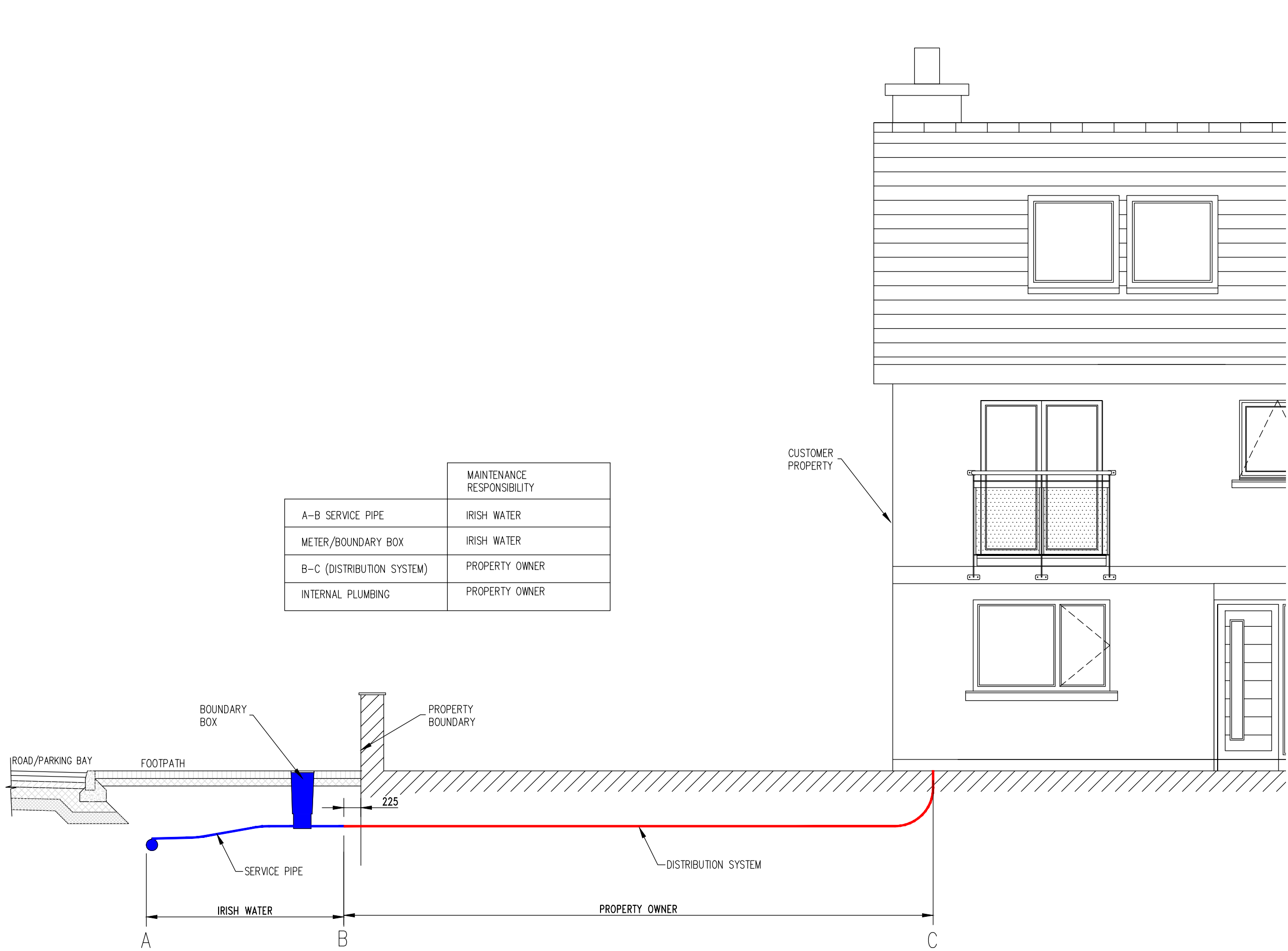
Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
w: www.csconsulting.ie



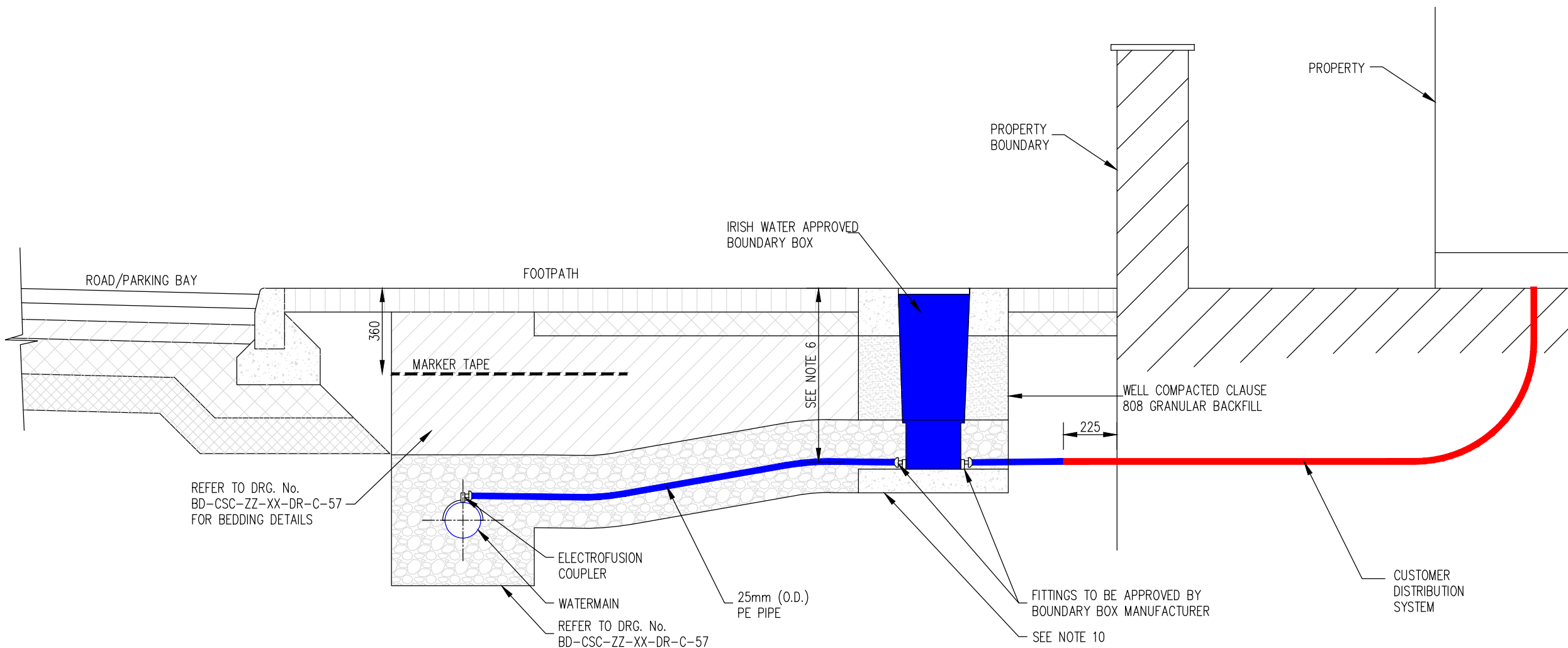
NSAI
Certified

Quality	ISO 9001:2008
Environment	ISO 14001:2004
Energy	ISO 50001:2011
Health & Safety	OHSAS 18001:2007

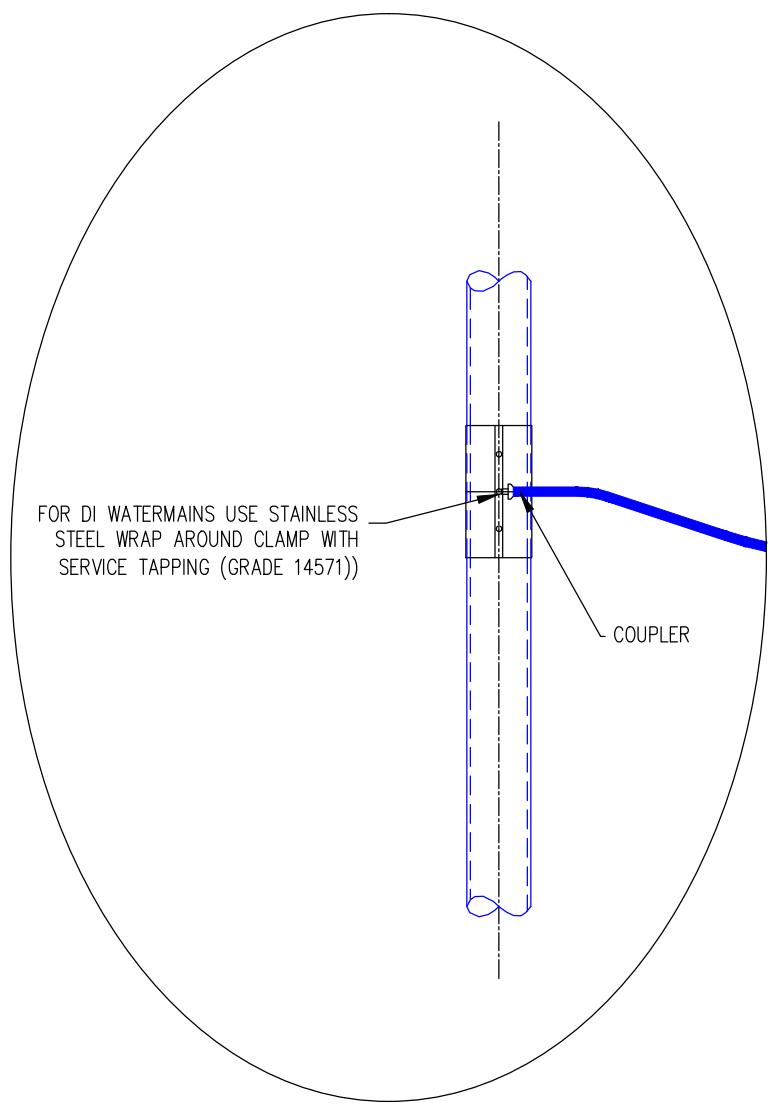




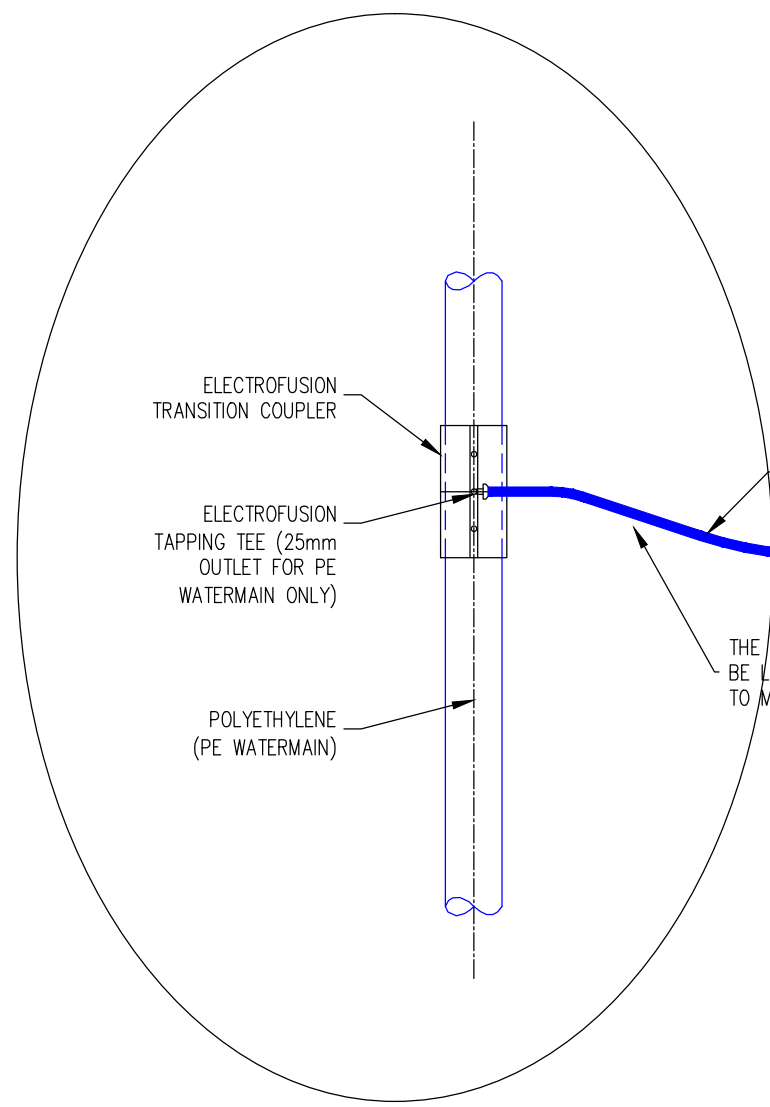
WATER SERVICE CONNECTION RESPONSIBILITY
SCALE 1:50



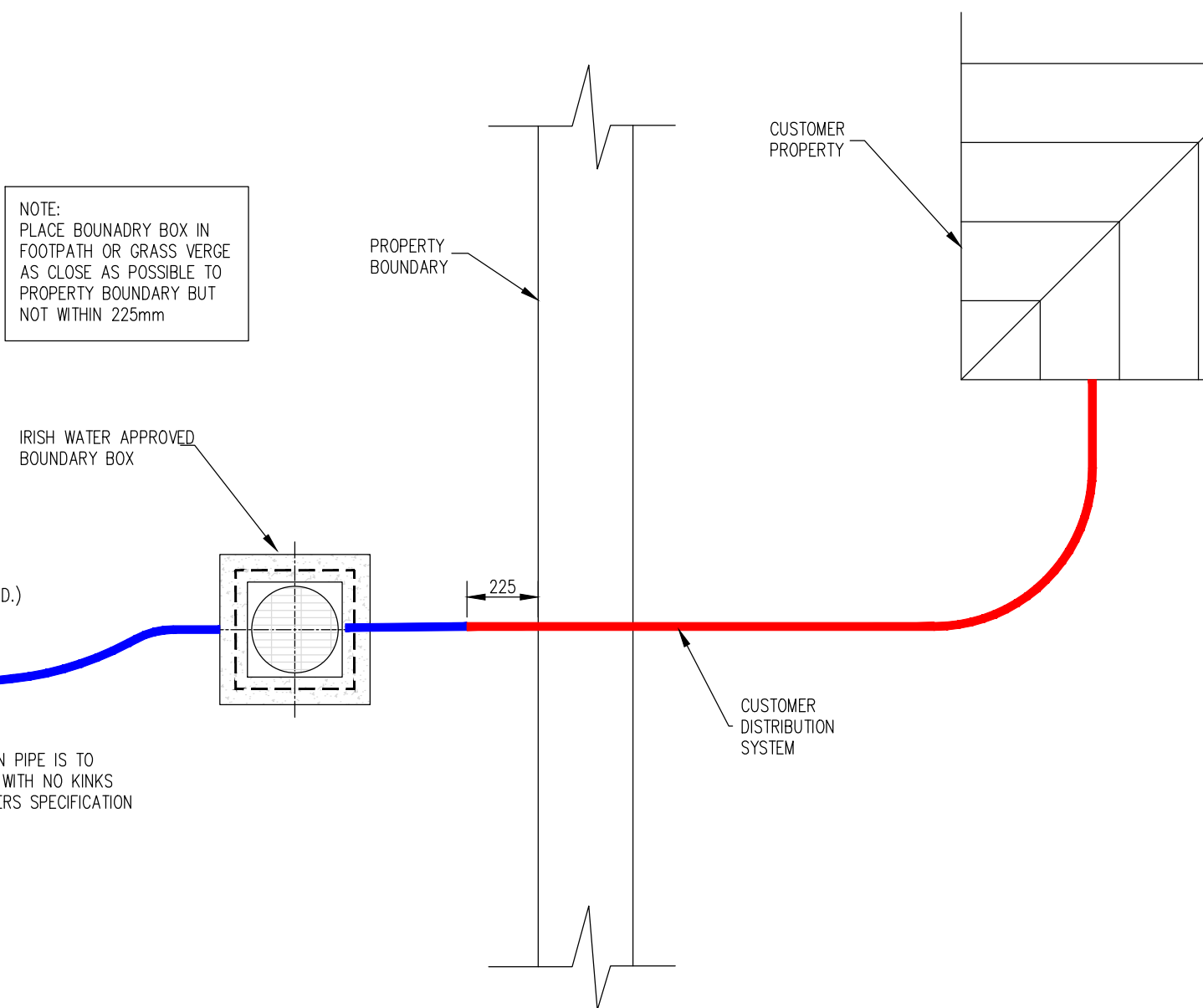
SECTION (CUSTOMER CONNECTION AND BOUNDARY BOX)
SCALE 1:20



FOR DUCTILE IRON (DI) WATERMAIN ONLY
SCALE 1:20



FOR POLYETHYLENE (PE) WATERMAIN ONLY
SCALE 1:20



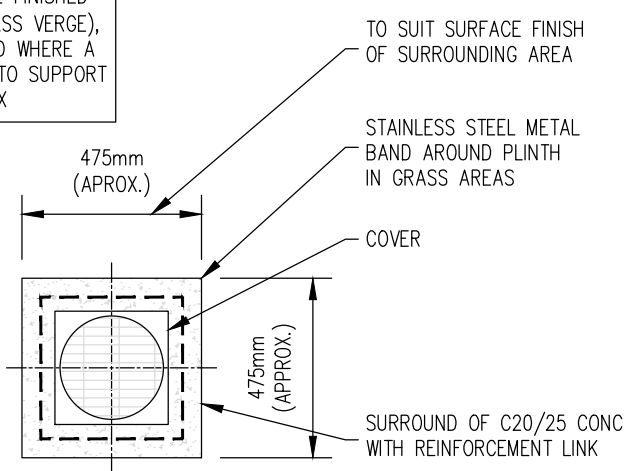
PLAN (CUSTOMER CONNECTION AND BOUNDARY BOX)
SCALE 1:20

GENERAL NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
- FOR CONNECTION TO AN EXISTING MAIN THE CONNECTION SHALL BE AS PER THE PIPE MANUFACTURERS SPECIFICATION.
- ELECTROFUSION COUPLING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN206.
- THE BOUNDARY BOX TO BE IN ACCORDANCE WITH THE IRISH WATER SPECIFICATION, INCORPORATING A G1.5 MANFOLD, STOP-TAP, FROST PULIC AND NON RETURN VALVE.
- THE BOUNDARY BOX SHALL BE POSITIONED IN PUBLIC SPACE AND AS CLOSE AS POSSIBLE TO THE PROPERTY BOUNDARY BUT NO PART OR FITTING TO BE WITHIN 225mm OF THE PROPERTY LINE.
- THE BOUNDARY BOX SHALL BE LOCATED WHERE IT IS SAFE TO OPEN THE COVER AND ACCESS THE STOP TAP OR VISUALLY READ THE METER, i.e. ON A FOOTPATH OR VERGE AND NOT IN A CARRIAGEWAY.
- THE SURFACE BOX COVER ON THE BOUNDARY BOX SHOULD BE NOT LESS THAN GRADE C (BS 5834:2-2011); AND THE BOUNDARY BOX SHOULD BE LOCATED SUCH THAT HEAVIER GRADES OF COVER WOULD NOT BE REQUIRED.
- THE SHAFT OF THE BOUNDARY BOX SHOULD BE INSTALLED VERTICALLY AND THE SURFACE BOX/COVER INCINED TO MATCH THE SURFACE GRADIENT.
- THE BOUNDARY BOX IS TO BE INSTALLED AT A MINIMUM DEPTH OF 600mm (+/-25mm) TO THE CROWN OF THE INLET AND THE OUTLET FITTINGS ON THE OUTSIDE OF THE BOX.
- THE SERVICE CONNECTION PIPE SHALL NOT BE WRAPPED AROUND THE SHAFT OF THE BOUNDARY BOX OR BENT IN ANY RADIUS LESS THAN THAT APPROVED BY THE MANUFACTURER.
- THE PIPE FITTINGS TO THE BOUNDARY BOX SHALL BE APPROVED BY THE BOUNDARY BOX MANUFACTURER.
- THE BOUNDARY BOX SHALL BE INSTALLED HYGIENICALLY AND LEFT CLEAN AND FREE OF CONSTRUCTION WASTE OR DIRT FOR LATER METER INSTALLATION BY IRISH WATER.
- BOX TO BE FOUNDED ON 100mm DEPTH OF C12/15 CONCRETE AND SURROUNDED WITH CLAUSE 808 GRANULAR MATERIAL.
- THE DESIRABLE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF A SERVICE CONNECTION SHALL BE 750mm WITH AN ABSOLUTE MINIMUM DEPTH OF 600mm FOR SHORT DISTANCES (SUBJECT TO IRISH WATER AGREEMENT).

NOTE:

THIS DETAIL APPLIES WHERE THE FINISHED SURFACE (EITHER UNBOUND (GRASS VERGE), BRICK PAVING OR MACADAM AND WHERE A CONCRETE PLINTH IS REQUIRED TO SUPPORT THE TOP OF THE BOUNDARY BOX



PLAN (CONCRETE SURROUND TO BOUNDARY BOX)
SCALE 1:20

DRAFT

PLANNING DRAWING.
NOT FOR CONSTRUCTION.
ALL LEVELS GIVEN ARE
RELATIVE TO ORDNANCE DATUM.
THIS DRAWING HAS BEEN ISSUED FOR INFORMATION
PURPOSES ONLY AND MUST NOT BE USED
FOR CONSTRUCTION UNDER ANY CIRCUMSTANCES

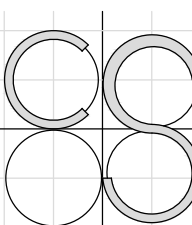
NOTES

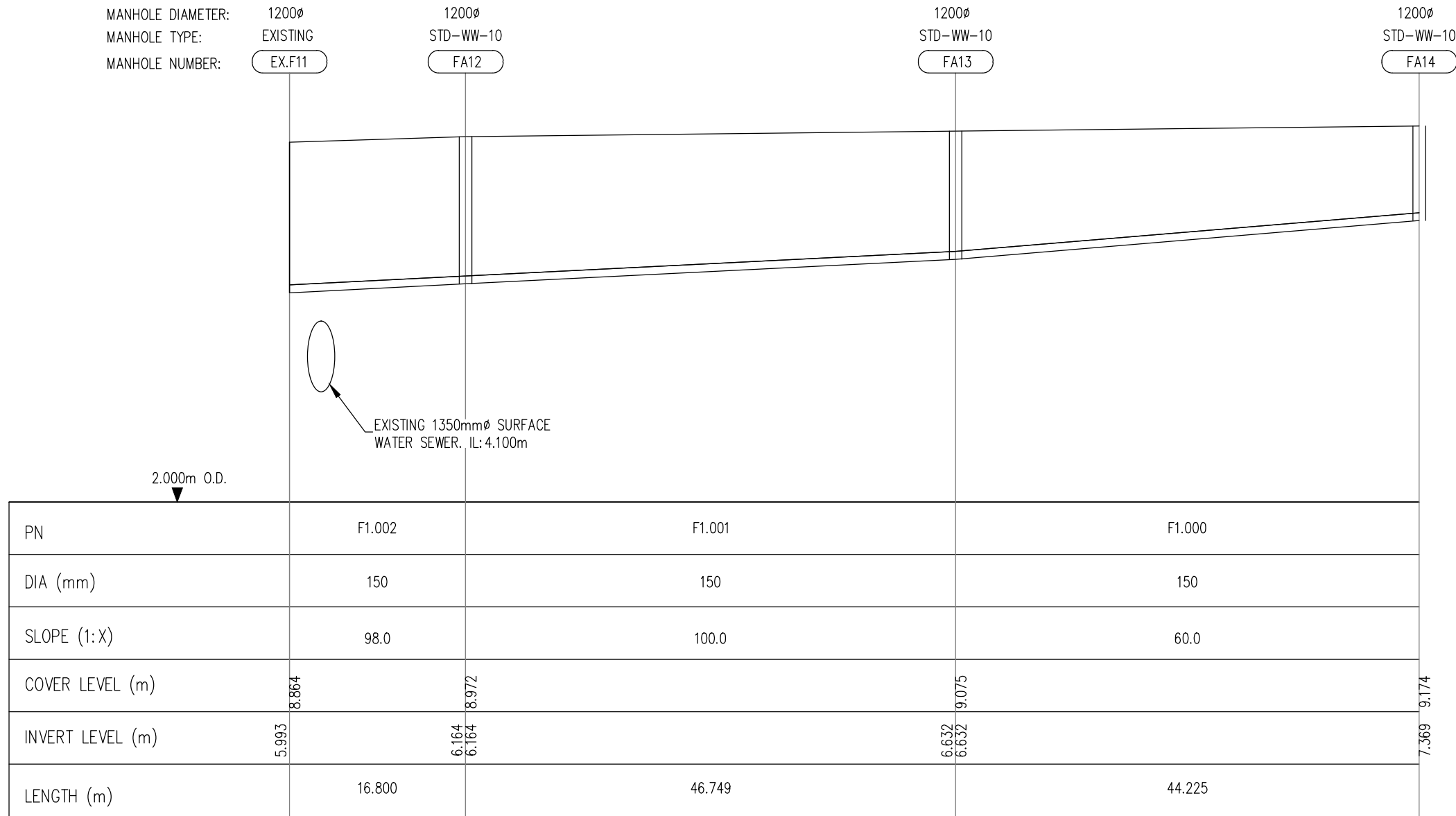
- For setting out refer to Architect's drawings.
- This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
- DO NOT SCALE THIS DRAWING. Use figured dimensions only.
- No part of this document may be reproduced or transmitted in any form or stored in any retrieval system of any nature without the written permission as copyright holder except as agreed for use on the project for which the document was originally issued.
- Ordnance Survey Ireland Licence Number EN 0074021

Rev. No.	Date	REVISION NOTE	Dm. By	Chkd. By
P1	20.10.2020	PLANNING SUBMISSION STAGE 3	JS	OS

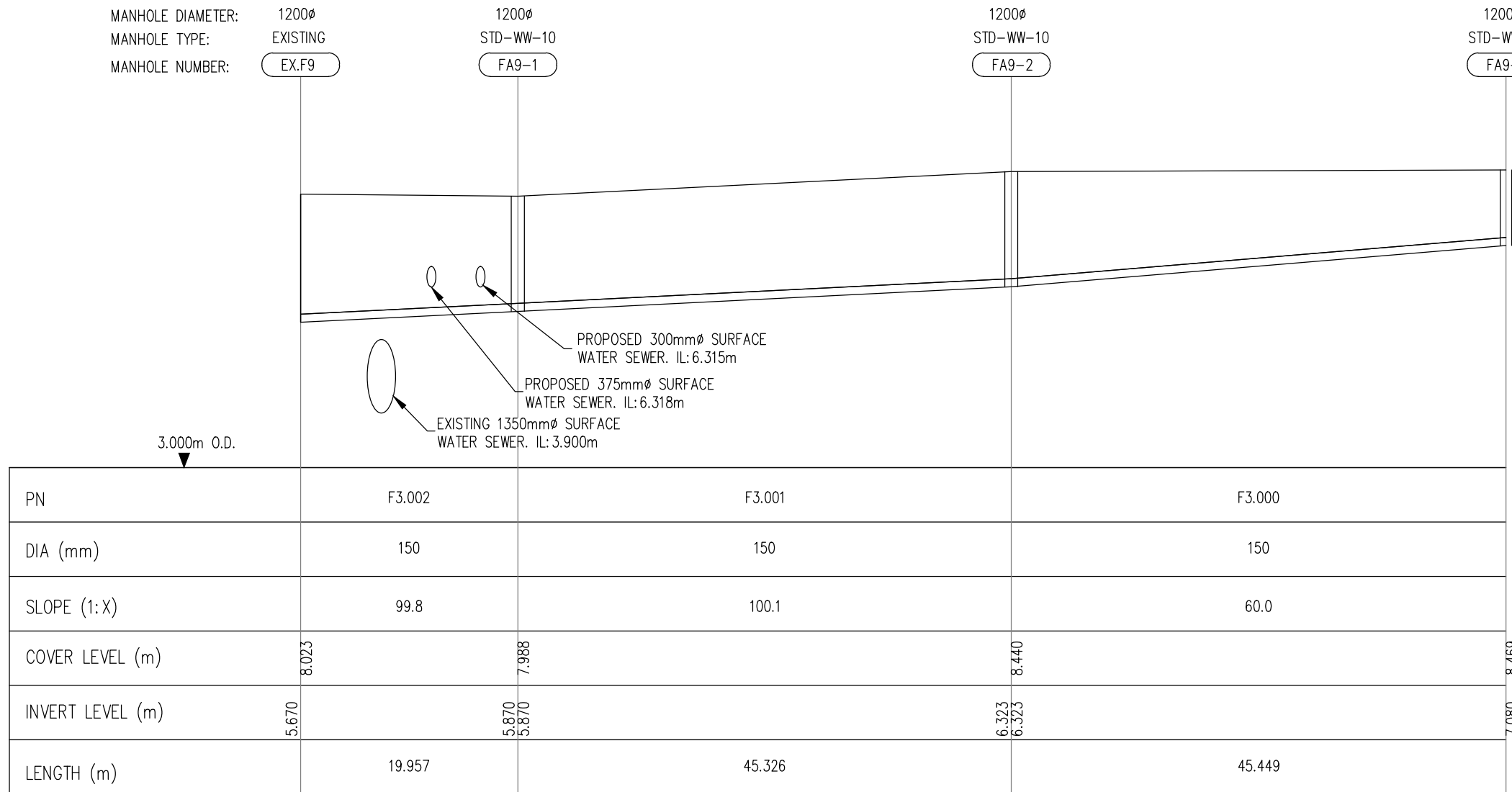
Architect	Henry J. Lyons
Project	GA01 Project Shoreline, Baldoye.
Title	WATERMAIN DETAILS SHEET 2 OF 2
Dwg. No.	BD-CSC-ZZ-XX-DR-C-0011
Date	06.04.2020
Dm by	JS
Chkd by	NB
Appvd by	OS
Scale	AS SHOWN @ A1
Revision	P1

CS Consulting Group	
DUBLIN LONDON LIMERICK	
Head Office	19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863	
e: info@csconsulting.ie	
w: www.csconsulting.ie	
Quality	ISO 9001:2008
Environment	ISO 14001:2004
Energy	ISO 50001:2011
Health & Safety	OHSAS 18001:2007

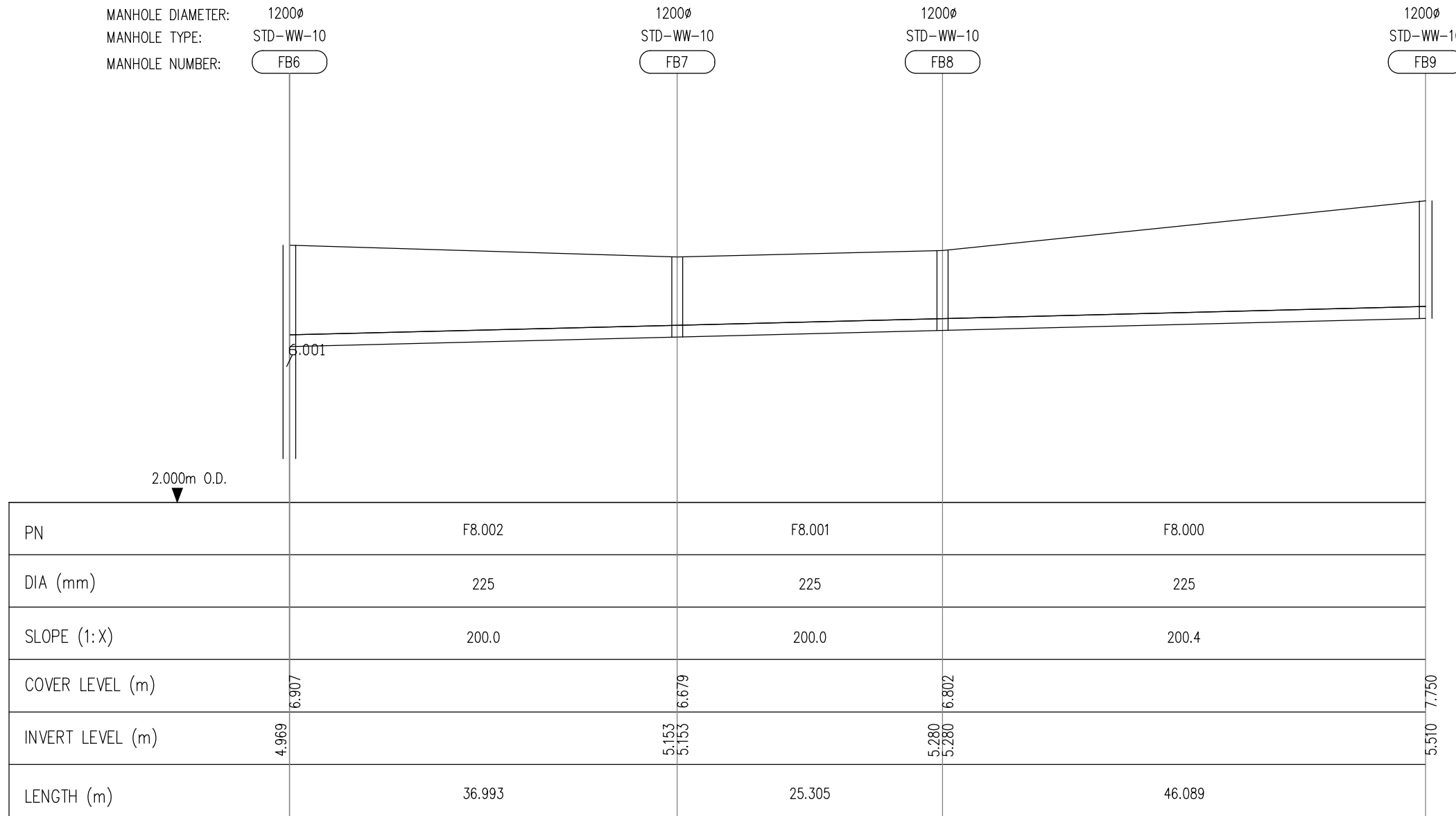




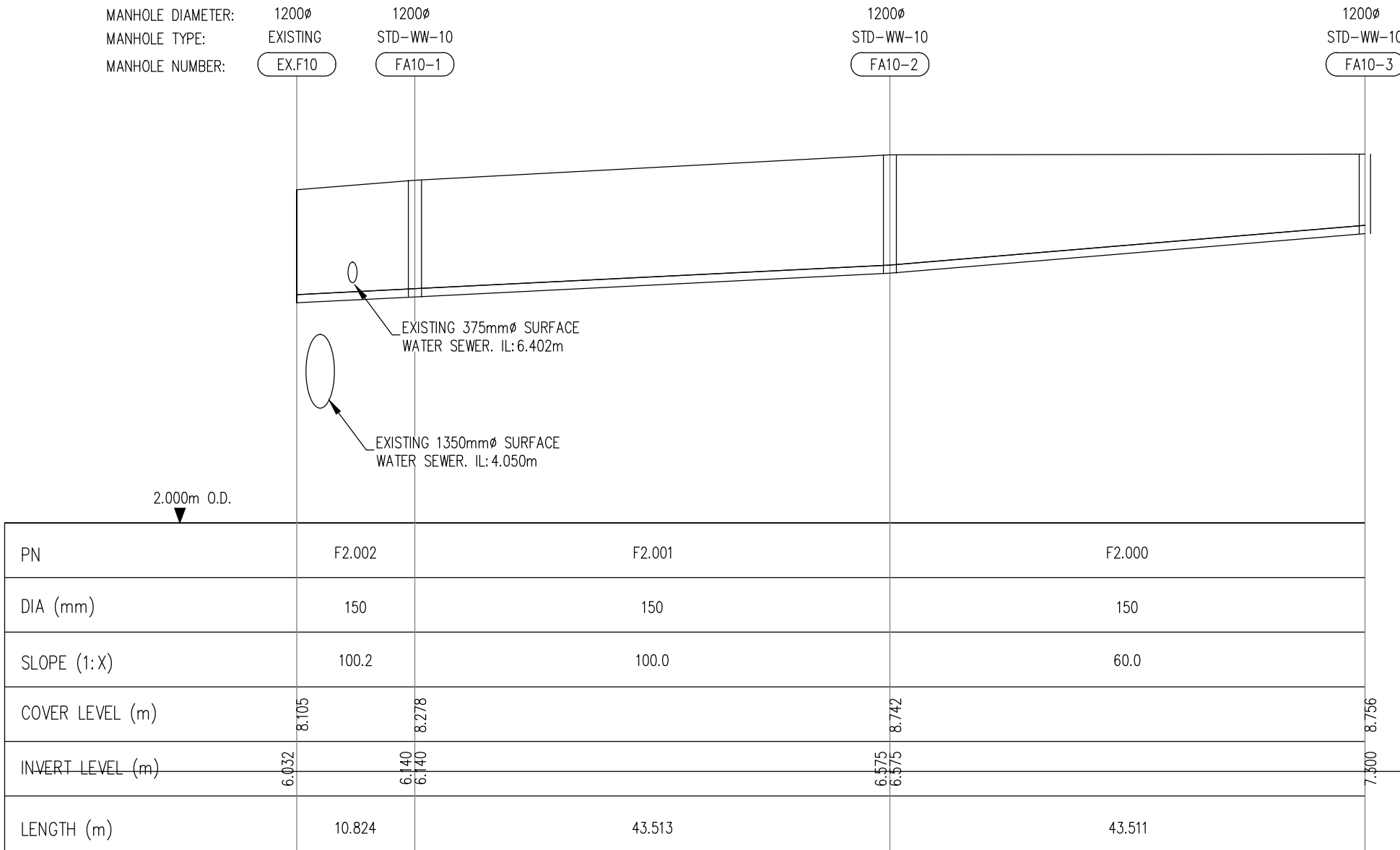
FOUL SEWER FROM FA14 TO EXISTING MANHOLE (EXF11 UNDER CONSTRUCTION)
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



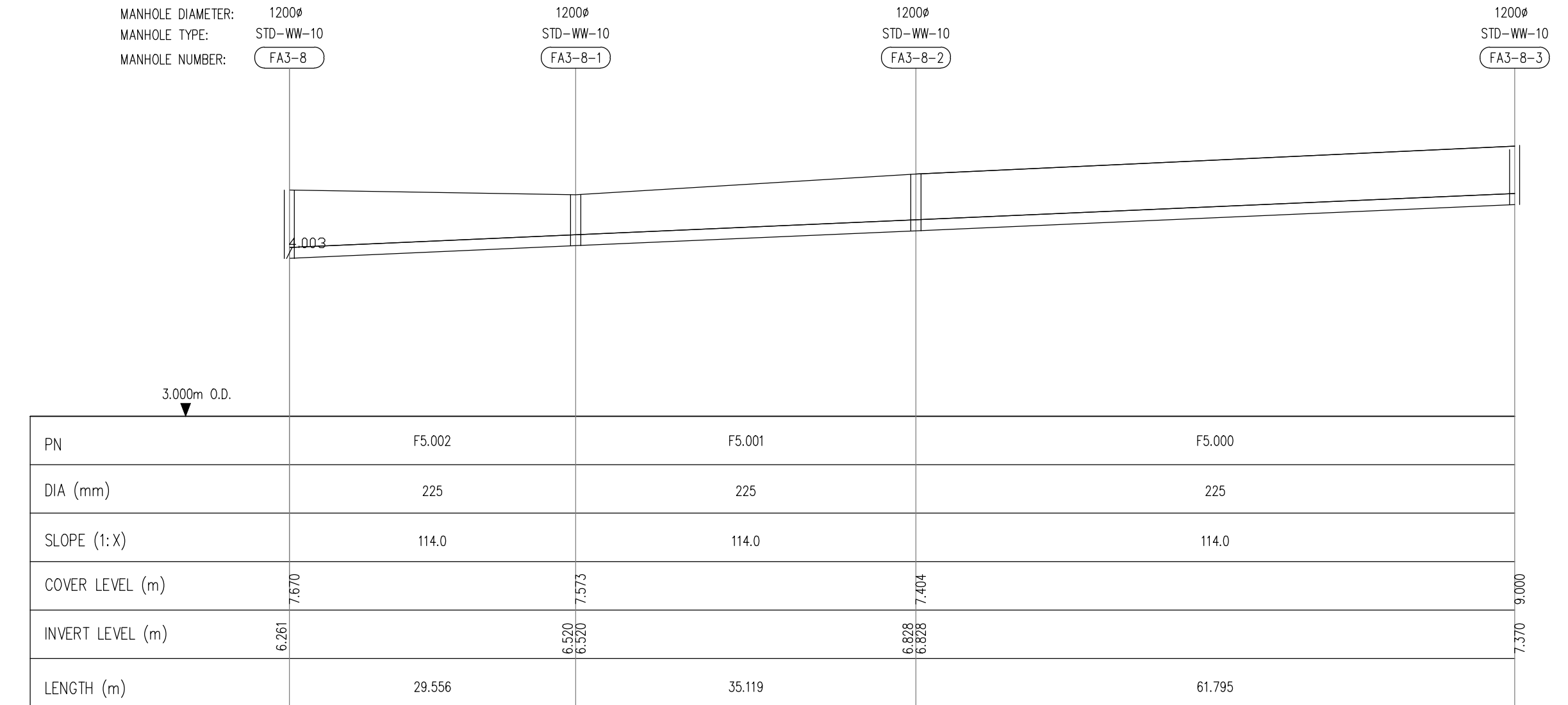
FOUL SEWER FROM FA9-3 TO EXISTING MANHOLE (EXF9 UNDER CONSTRUCTION)
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



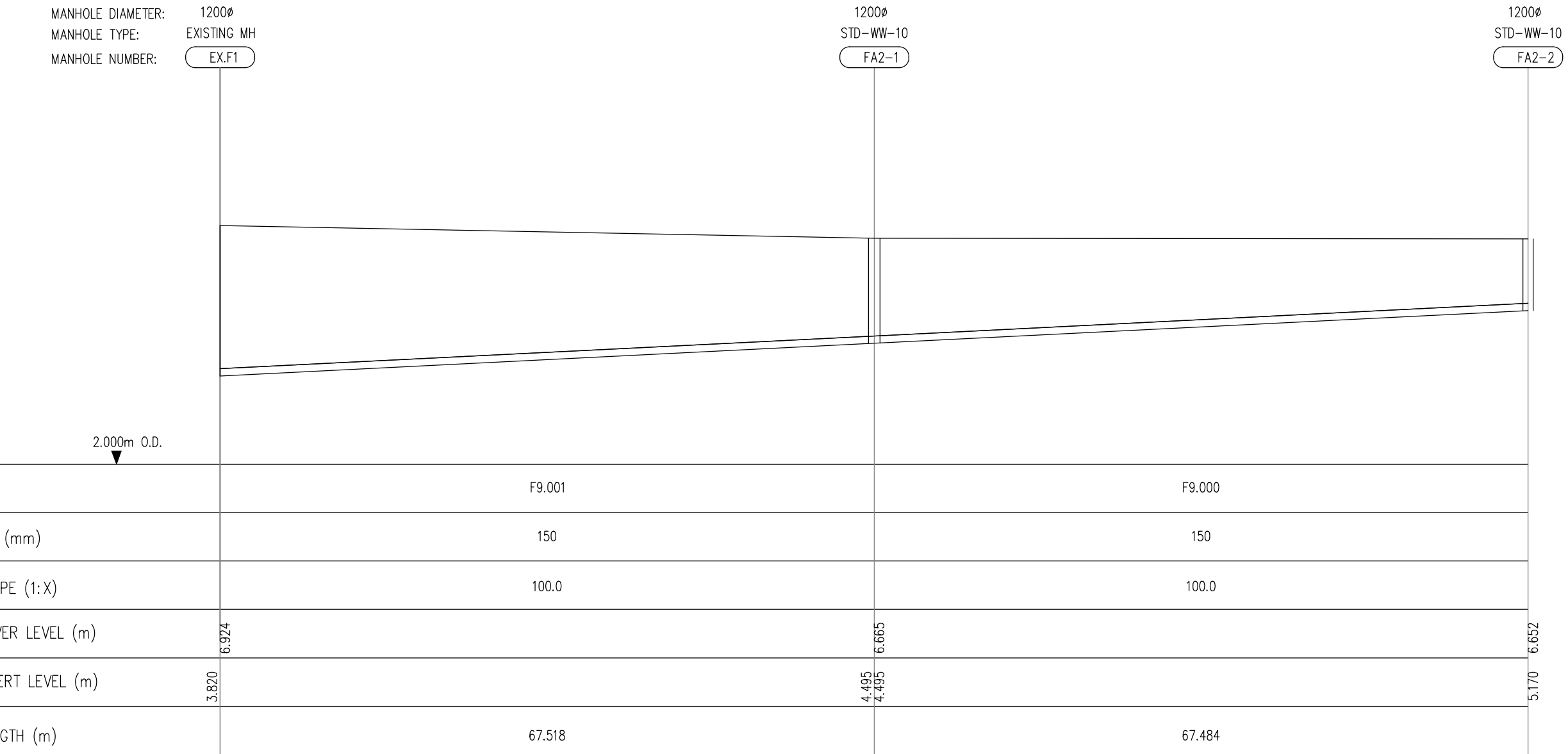
FOUL SEWER FROM FB9 TO EXISTING MANHOLE FB6
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



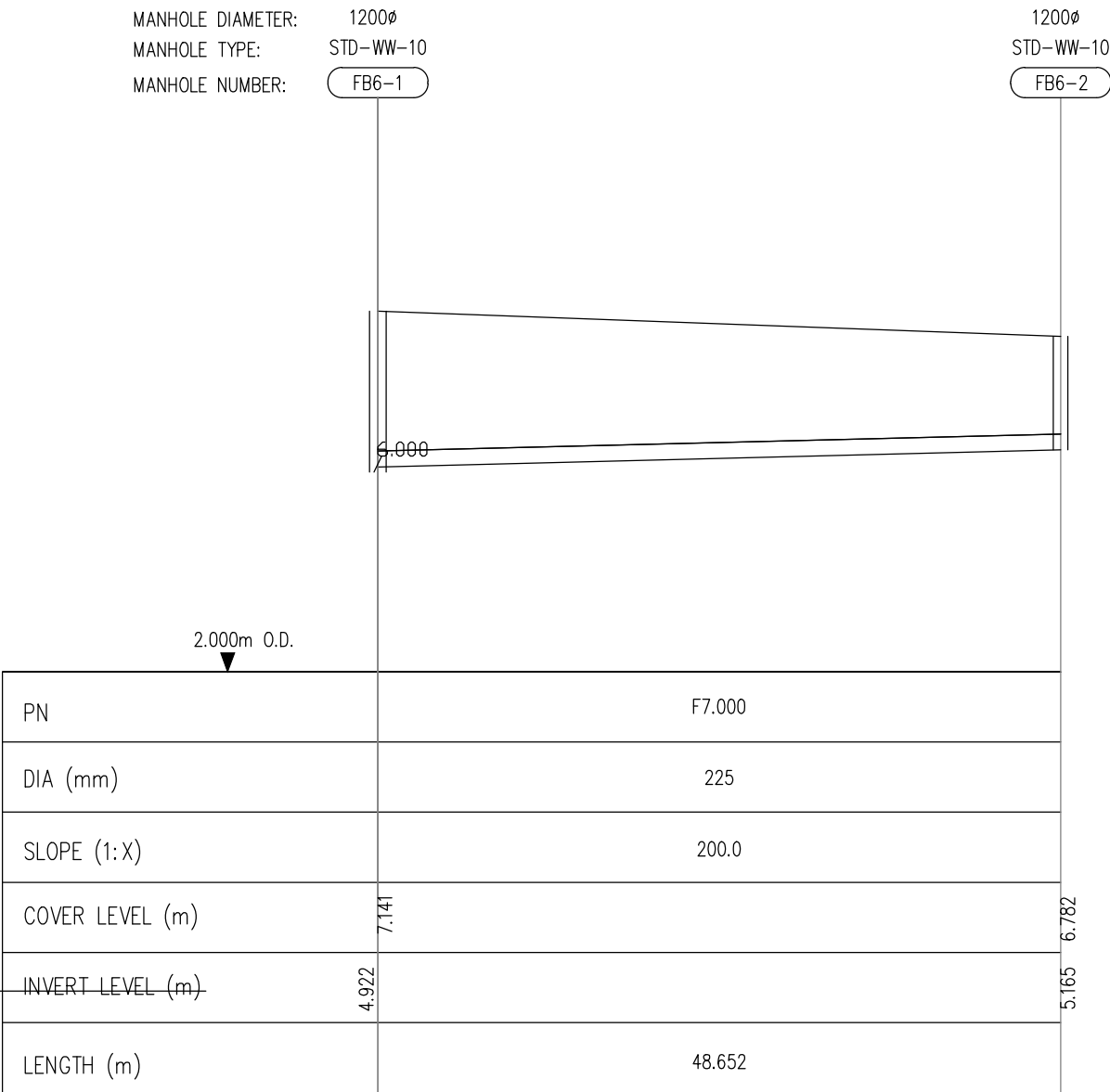
FOUL SEWER FROM FA10-3 TO EXISTING MANHOLE (EXF10 UNDER CONSTRUCTION)
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



FOUL SEWER FROM FA3-8-3 TO FA3-8
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



FOUL SEWER FROM FA2-2 TO EXISTING MANHOLE F1
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



FOUL SEWER FROM FB2 TO EXISTING MANHOLE FB6-1
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

DRAFT

PLANNING DRAWING.
NOT FOR CONSTRUCTION.
ALL LEVELS GIVEN ARE
RELATIVE TO ORDNANCE DATUM.
THIS DRAWING HAS BEEN ISSUED FOR INFORMATION
PURPOSES ONLY AND MUST NOT BE USED
FOR CONSTRUCTION UNDER ANY CIRCUMSTANCES

NOTES

- For setting out refer to Architect's drawings.
- This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
- DO NOT SCALE THIS DRAWING. Use figured dimensions only.
- No part of this document may be reproduced or transmitted in any form or stored in any retrieval system of any nature without the written permission as copyright holder except as agreed for use on the project for which the document was originally issued.
- Ordnance Survey Ireland Licence Number EN 0074021

Rev. No.	Date	REVISION NOTE	Dm. By	Chkd. By
P1	20.10.2020	PLANNING SUBMISSION STAGE 3	JS	GS

Architect	Henry J. Lyons				
Project	GA01 Project Shoreline, Baldoyle.				
Title	FOUL LONGITUDINAL SECTIONS SHEET 1 OF 2				
Dwg. No.	BD-CSC-ZZ-XX-DR-C-0039				
Date	Dm by	Chkd by	Apvrd by	Scale	Revision
06.04.2020	JS	PC	OS	AS SHOWN @ A1	P1

CS Consulting Group

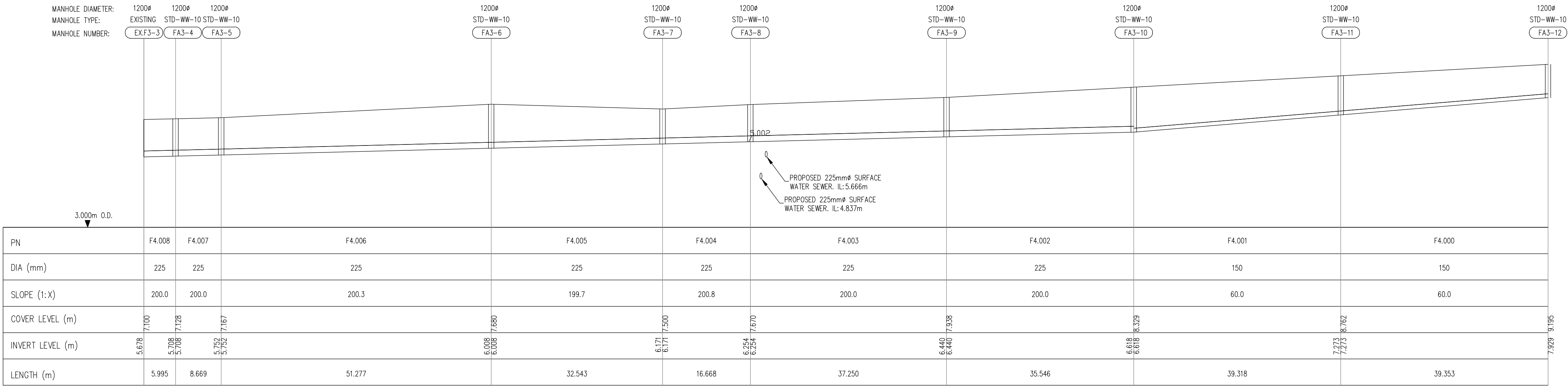
DUBLIN | LONDON | LIMERICK

Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
w: www.csconsulting.ie

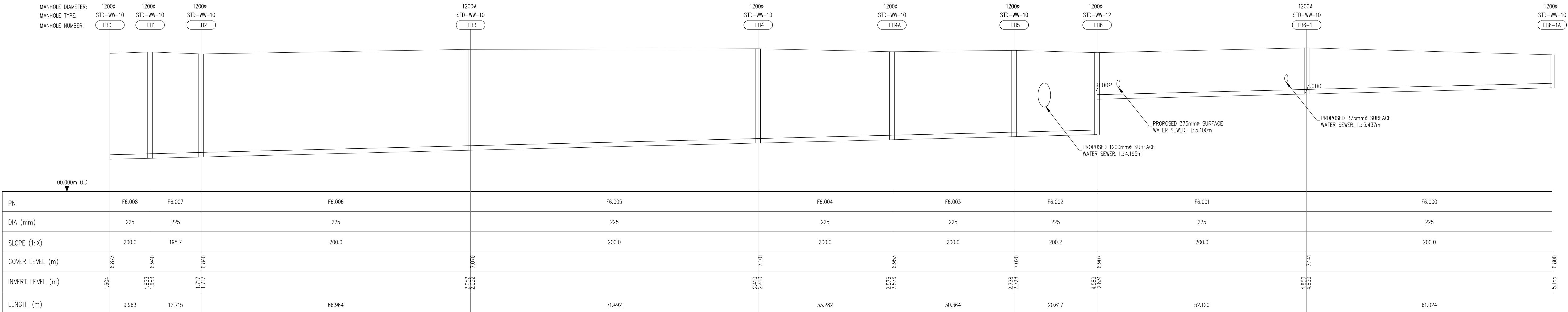
Quality
Environment
Energy
Health & Safety

I.S. EN ISO 9001:2008
I.S. EN ISO 14001:2004
I.S. EN ISO 50001:2011
OHSAS 18001:2007

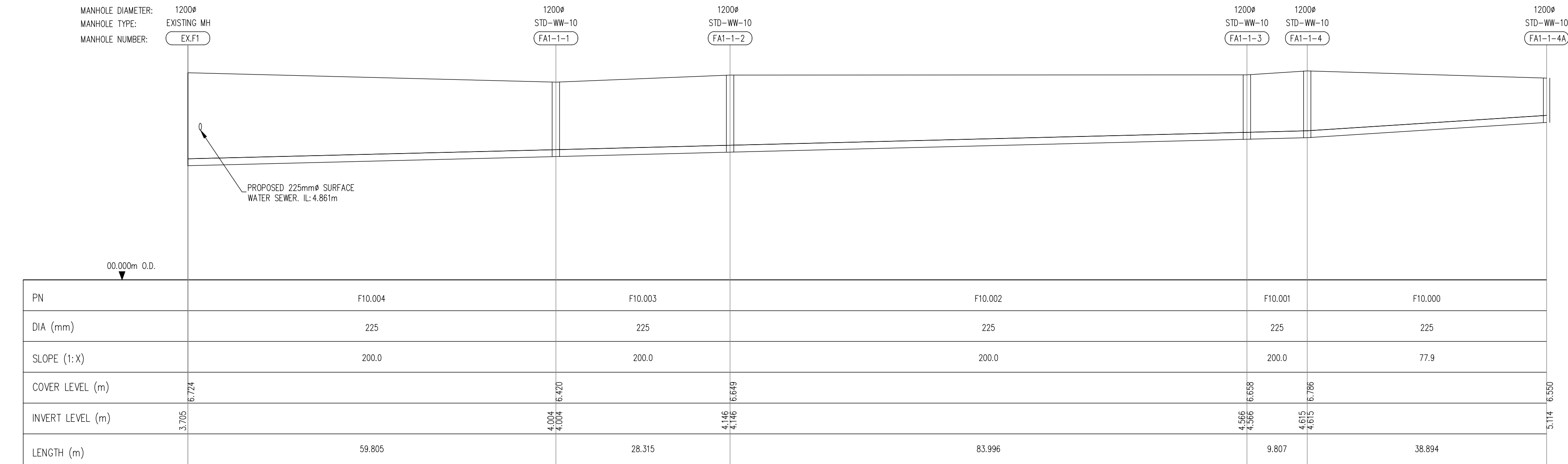
CC



FOUL SEWER FROM FA3-12 TO EXISTING MANHOLE (EXF3-3 UNDER CONSTRUCTION)
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



FOUL SEWER FROM FB6-1A TO EXISTING MANHOLE FB0
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



FOUL SEWER FROM FA1-1-4A TO EXISTING MANHOLE (EX.F1 UNDER CONSTRUCTION)
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

R089

DRAFT

PLANNING DRAWING.
NOT FOR CONSTRUCTION.
ALL LEVELS GIVEN ARE
RELATIVE TO ORDNANCE DATUM.
THIS DRAWING HAS BEEN ISSUED FOR INFORMATION
PURPOSES ONLY AND MUST NOT BE USED
FOR CONSTRUCTION UNDER ANY CIRCUMSTANCES

- NOTES
- For setting out refer to Architect's drawings.
 - This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
 - DO NOT SCALE THIS DRAWING. Use figured dimensions only.
 - No part of this document may be reproduced or transmitted in any form or stored in any retrieval system of any nature without the written permission as copyright holder except as agreed for use on the project for which the document was originally issued.
 - Ordnance Survey Ireland Licence Number EN 0074021

Rev. No.	Date	REVISION NOTE	Dm. By	Chkd. By
P1	20.10.2020	PLANNING SUBMISSION STAGE 3	JS	GS

Architect	Henry J. Lyons				
Project	GA01 Project Shoreline, Baldoyle.				
Title	FOUL LONGITUDINAL SECTIONS SHEET 2 OF 2				
Dwg. No.	BD-CSC-ZZ-XX-DR-C-0040				
Date	Dm by	Chkd by	Aprvd by	Scale	Revision
06.04.2020	JS	PC	OS	AS SHOWN @ A1	P1

CS Consulting Group
DUBLIN | LONDON | LIMERICK

Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
w: www.csconsulting.ie

NSAI
Certified

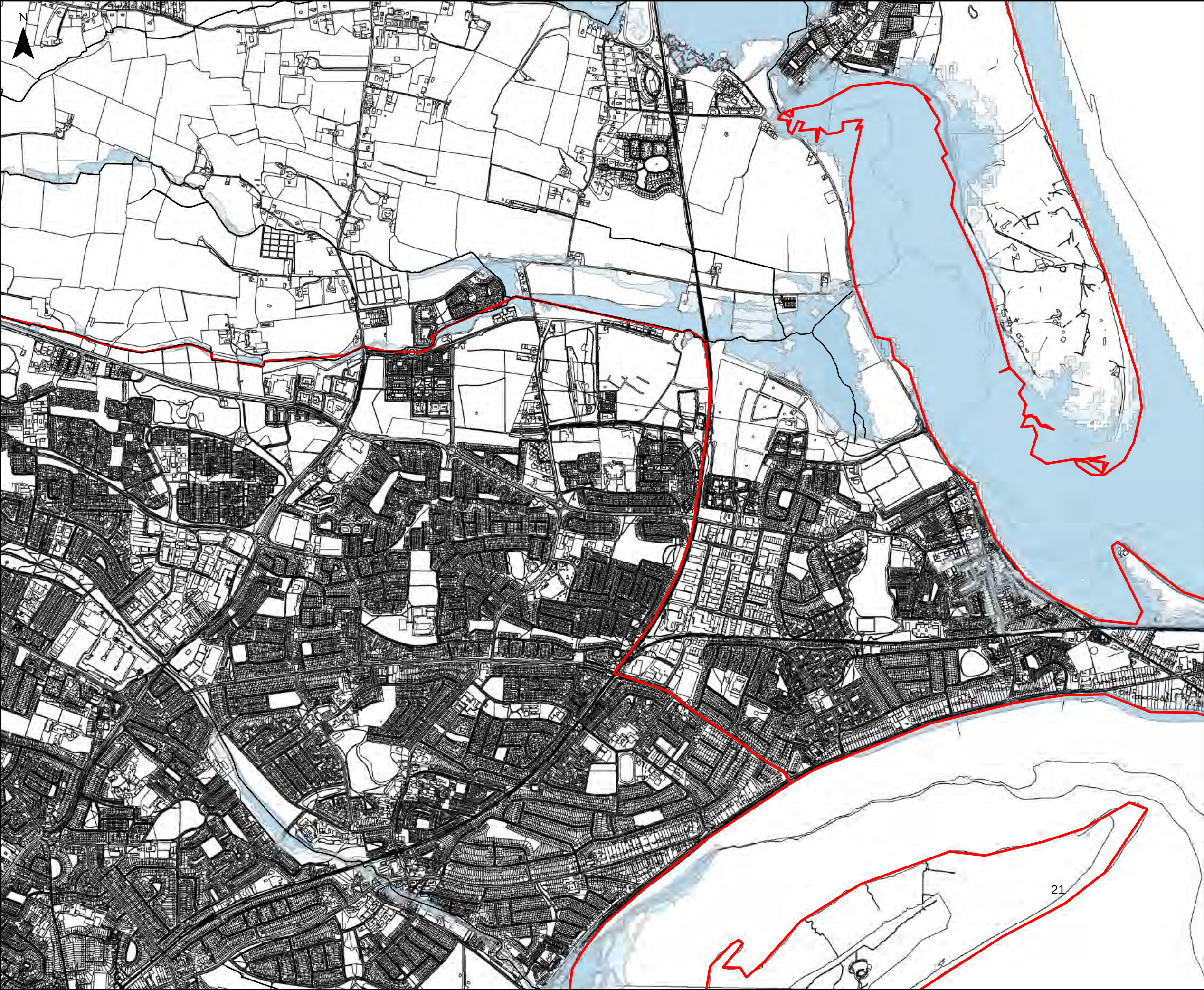
Quality
Environment
Energy
Health & Safety

I.S. EN ISO 9001:2008
I.S. EN ISO 14001:2004
I.S. EN ISO 50001:2011
OHSAS 18001:2007

CC

Appendix B

Fingal Development Plan Flood Risk Mapping



Legend

- Watercourses
- Fingal County Boundary
- Defended Area
- Flood Zone A - 1% AEP (Fluvial) or 0.5% AEP (Coastal) Flood Extent (1 in 100 chance in any given year)
- Flood Zone B - 0.1% AEP Flood Extent (1 in 1000 chance in any given year)
- Indicative Flood Extents

Client

Fingal County Council

Project

Strategic Flood Risk Assessment

Title

Flood Zone Mapping

Figure

Map 21 of 24

West Pier Business Campus,
Dun Laoghaire,
Co Dublin,
Ireland.

Tel: +353 (0) 1 4882900
Fax: +353 (0) 1 2835676
Email: ireland@rpsgroup.com
Web Page: rpsgroup.com/ireland

Issue Details			
Drawn By:	BT	Project No.	MDW0716
Checked By:	BC	File Ref:	MDW0716arc0001D03
Approved By:	PM	Drawing No.	Rev:
Scale:	1: 20,000 @ A3	Arc0001	A01
Date:	08/03/2017		

NOTE: 1. This drawing is the property of RPS Group Ltd. It is a confidential document and must not be copied, used, or its contents divulged without prior written consent.
2. All levels are referred to Ordnance Datum, Mean Head.
3. Ordnance Survey Ireland Licence No. EH 0005017
© Ordnance Survey Ireland/Government of Ireland

Appendix C

OPW Past Flood Event Local Area Summary Report

Past Flood Event Local Area Summary Report

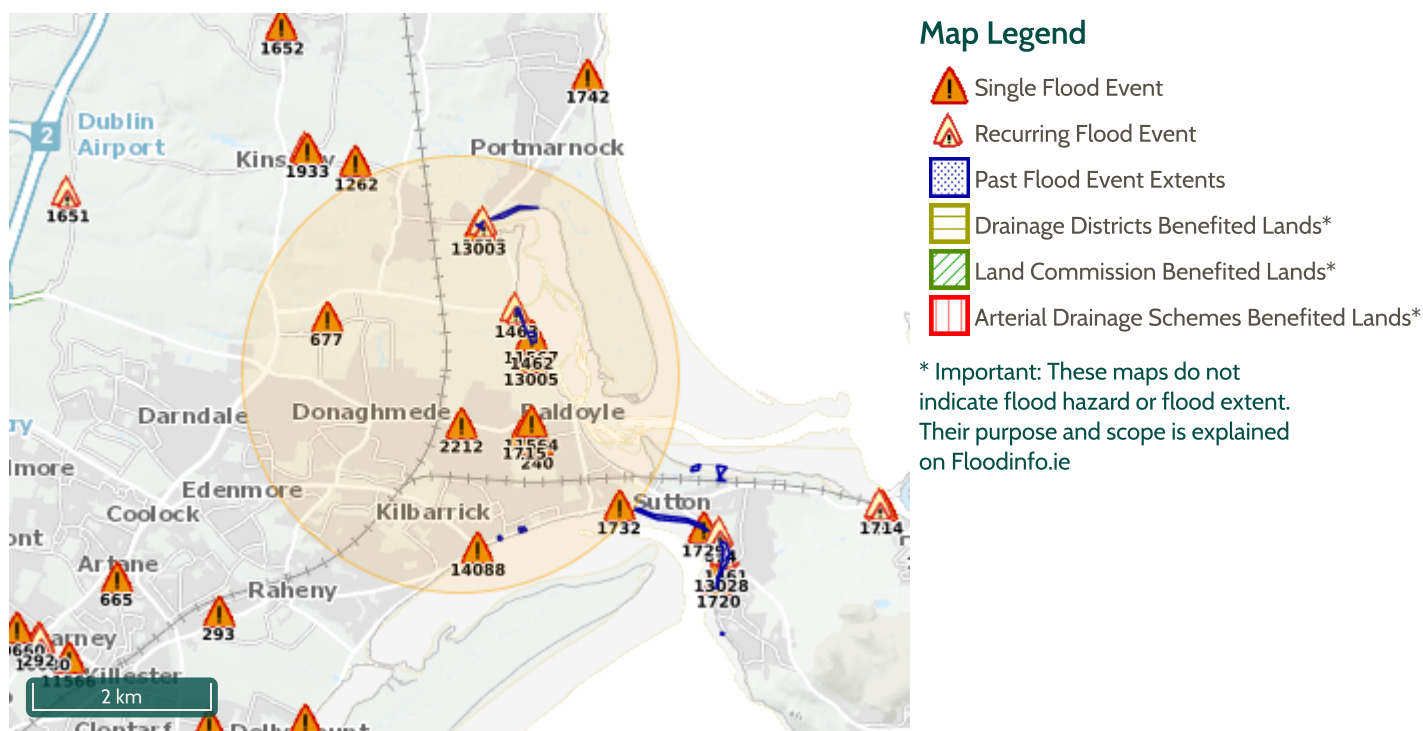


OPW Oifig na nOibreacha Poiblí
Office of Public Works

Report Produced: 11/10/2022 13:55

This Past Flood Event Summary Report summarises all past flood events within 2.5 kilometres of the map centre.

This report has been downloaded from www.floodinfo.ie (the "Website"). The users should take account of the restrictions and limitations relating to the content and use of the Website that are explained in the Terms and Conditions. It is a condition of use of the Website that you agree to be bound by the disclaimer and other terms and conditions set out on the Website and to the privacy policy on the Website.



14 Results

Name (Flood_ID)	Start Date	Event Location
1. The Grange Road Baldoy Oct 2002 (ID-1715) Additional Information: Reports (1) Press Archive (0)	19/10/2002	Exact Point
2. Dublin Road Sutton Feb 2002 (ID-1732) Additional Information: Reports (1) Press Archive (0)	01/02/2002	Approximate Point
3. Grange Road Donaghmede Nov 1982 (ID-2212) Additional Information: Reports (1) Press Archive (0)	07/11/1982	Approximate Point
4. Flooding at Portmarnock on 03/01/2014 (ID-13003) Additional Information: Reports (0) Press Archive (0)	03/01/2014	Approximate Point
5. Flooding at Baldoy on 03/01/2014 (ID-13005) Additional Information: Reports (0) Press Archive (0)	03/01/2014	Approximate Point
6. Grange Stream Baldoy Dec 1954 (ID-240) Additional Information: Reports (1) Press Archive (0)	08/12/1954	Exact Point

	Name (Flood_ID)	Start Date	Event Location
7.	 Sluice River Strand Road Portmarnock Recurring (ID-1613) Additional Information: Reports (5) Press Archive (0)	n/a	Exact Point
8.	 Mayne Balgriffin Park June 1993 (ID-677) Additional Information: Reports (1) Press Archive (0)	10/06/1993	Approximate Point
9.	 Baldoyle Coastal Recurring (ID-1462) Additional Information: Reports (5) Press Archive (0)	n/a	Approximate Point
10.	 Mayne River Bridge Baldoyle Recurring (ID-1463) Additional Information: Reports (4) Press Archive (0)	n/a	Exact Point
11.	 Flooding at Kilbarrack on 02/12/2021 (ID-14088) Additional Information: Reports (0) Press Archive (0)	02/12/2021	Approximate Point
12.	 Dublin City Tidal Feb 2002 (ID-456) Additional Information: Reports (45) Press Archive (27)	01/02/2002	Area
13.	 Flooding at Brookstone Road, Baldoyle, Dublin 13 on 24th Oct 2011 (ID-11564) Additional Information: Reports (1) Press Archive (0)	23/10/2011	Approximate Point
14.	 Flooding at Coast Road, Baldoyle, Dublin 13 on 24th Oct 2011 (ID-11567) Additional Information: Reports (1) Press Archive (0)	23/10/2011	Approximate Point