OUR REF: 24-116-250512-01RPA

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Report on the Proposed

Surface Water, Wastewater & Watermain Layout

For

Housing Development

At

St. Josephs Road
Portumna
Co. Galway

For

Galway County Council

12th May 2025

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Revision History

Revision	*Revision Date*	*Details*	*Name*	*Position*
A	20/05/2025	Dwg 300,301,306 Revised	B. Coyle	Director

Contents

Introduction

This Civil Engineering Drainage Report has been prepared as part of the planning application documentation for the proposed residential development at St. Joseph's Road, Portumna, Co. Galway. It presents the proposed drainage infrastructure in support of the planning submission and outlines the design approach for foul and surface water drainage, as well as water supply provisions, in accordance with the requirements of Galway County Council, Uisce Éireann, and relevant national standards. The drainage design is developed in line with best practice and includes the integration of Sustainable Urban Drainage Systems (SUDS) to manage runoff and improve water quality. This report has been prepared in close collaboration with Galway County Council and the broader design team to ensure a coordinated and integrated approach. It is informed by a detailed Hydrology Assessment and Geotechnical Site Investigation, which provide the basis for a drainage strategy responsive to the site's specific ground conditions and hydrological characteristics. This report forms a key component of the planning submission and should be read in conjunction with the architectural drawings, landscaping proposals, and the technical inputs of other design disciplines to ensure a holistic understanding of the proposed development.

Site Description

The proposed development site (circa 1.5 hectares) is situated at St. Josephs Road, Portumna, Co. Galway, occupying a greenfield area with a gradual slope. The site's natural topography presents an opportunity to integrate sustainable drainage solutions that complement the existing hydrological characteristics.

Extract from Google Maps

The existing public foul sewer network runs along St. Joseph's Road, located at the southwest boundary of the site, and has been identified as the most appropriate

connection point for wastewater discharge. An existing surface water drainage system is also present, offering a suitable outfall for surface water runoff. Additionally, a watermain runs along St. Joseph's Road and will provide the primary water supply to the development.

The proposed development comprises residential units, internal access roads, and landscaped green spaces. The stormwater management strategy focuses on the use of Sustainable Drainage Systems (SUDS) to manage runoff at source, enhance infiltration, and promote environmental sustainability, while controlling and limiting surface water discharge to the public network.

The preferred approach for the proposed development was to achieve a gravity foul water connection, which has been made possible by raising the site and house levels. Groundwater was encountered at shallow depths during the Geotechnical site investigation, and raising the ground levels not only supports the gravity flow for the foul water system but also provides an effective surface water drainage strategy. The elevation, along with insights from the Hydrology Assessment, helps to manage runoff more effectively and contributes to a more sustainable drainage solution for the site.

Proposed Surface Water Drainage Strategy

Allowance for Climate Change

Surface water runoff and attenuation calculations for the proposed development are based on regional rainfall data, with a 20% increase applied to account for the potential impacts of climate change. This allowance has been incorporated into the design in accordance with current best practice. The approach supports the development of a resilient drainage system, capable of accommodating increased rainfall intensities over its design life and helping to manage in so far as reasonable practicable surface water effectively during periods of heavy rainfall.

Controlled Discharge

The drainage strategy for the site, which extends to approximately 1.5 hectares, incorporates Sustainable Drainage Systems (SUDS), including a hybrid soakaway and attenuation zone. A controlled discharge rate of 2 l/s/hectare has been adopted in accordance with best practice, with the system designed to accommodate a 1:100 year storm event, including a 20% allowance for climate change.

Policy Context

The proposed Surface Water Drainage Strategy for the new development has been designed to align with the policy objectives of the *Galway County Development Plan*, supporting a sustainable and efficient approach to stormwater management. The strategy complies with Policy Objectives WW 7 (*Sustainable Drainage Systems*), WW 8 (*Storm*

Water Infrastructure), and WW 11 (*Surface Water Drainage*) by integrating best-practice Sustainable Drainage Systems (SuDS) to manage surface water runoff, improve water quality, and reduce the impact on existing drainage infrastructure.

Preferred SuDS Methods (as per GCC Guidance)

Galway County Council recognises the value of SuDS in effective surface water management and environmental protection. However, in this instance, permeable paving has been excluded from the proposed strategy following consultation with the Council, due to their opinion, of its high long-term maintenance requirements. As a result, alternative SuDS methods have been prioritised.

Preferred methods include:

- Filter drains
- Soakaways
- Rain gardens
- Redirecting runoff from hard surfaces into natural percolation areas, grassland or constructed wetlands

These options offer effective stormwater management with reduced maintenance demands, contributing to the Council's aims of developing resilient, sustainable, and cost-efficient drainage systems.

Proposed Surface Water Drainage Strategy

The site measures approximately 1.5 hectares, and the surface water drainage system has been designed to manage stormwater efficiently while preserving the site's natural characteristics. A hybrid approach incorporating both traditional infrastructure and SuDS features is proposed to manage runoff rates and enhance infiltration.

A controlled discharge rate of 2 l/s/hectare has been adopted, designed to accommodate a 1:100-year storm event, with a 20% allowance in rainfall intensity to account for climate change.

The surface water drainage system for the proposed residential development has been prepared in accordance with national and local standards, and best practice guidance. The following documents have been used to inform the design intent:

- Local Authority drainage design and development plan policies.
- BS EN 752 – *Drain and Sewer Systems Outside Buildings*, for general design principles and hydraulic performance targets
- Greater Dublin Regional Code of Practice GDRCP which outlines stormwater design standards for Irish residential developments.

- Greater Dublin Strategic Drainage Study (GDSDS). Technical Document on New Developments.
- BS EN 858-2 – *Separator Systems for Light Liquids*, ensuring oil interceptors are properly designed for environmental protection.

Design Performance Objectives

The surface water system has been prepared to meet the following minimum performance criteria:

- No surcharging of the pipe network shall occur during storm events with a return period of 1 in 5 years (20% AEP).
- No flooding anywhere on site, except where specifically designed and approved for exceedance events (e.g. detention basins or swales), shall occur during the 1 in 30-year (3.33% AEP) rainfall event.
- No internal property flooding shall occur during storms with a return period of 1 in 100 years (1% AEP).

Hydraulic Design Parameters

The design has been carried out using the following technical standards and input data:

- Pipe velocities: Minimum 1.0 m/s, maximum 3.0 m/s (self-cleansing criteria).
- Colebrook-White roughness value: k = 0.6 mm.
- Runoff Method: Time of Concentration of 5minutes with a Volumetric Runoff Coefficient of 0.75 for Summer and 0.840 for Winter with 100% Impervious surfaces for Roads, Roofs, Parking etc. The rainfall runoff falling directly over the soakaway is also taken as 100% impervious with a time of concentration exceeding two hours representing percolation through the soil over the soakaway before entering the soakaway.
- Time of entry: 5 minutes for Impervious Surfaces, representing average inlet delay. 139mins for rainfall falling on and percolating through soil over soakaway.
- Rainfall data source: Rainfall parameters can be estimated using the Met Éireann long-term data or using the Flood Studies Report (FSR). The FSR library data contained within the Info Drainage software is used as follows;
    - M5-60 rainfall intensity = 17.2 mm
    - Rainfall ratio (r) = 0.350

- Design return periods:
    - 30-year + CC 20% for pipe Sizing (normally taken as 5-year)
    - 30-year +CC 20% for overland and site-wide flooding checks
    - 100-year +CC 20% for site wide property flood check
- Climate change allowance: 20% increase in rainfall intensity has been adopted even though 10% is required in the GDSDS.
- Percolation Factor of Safety: A factor of Safety of 2.0 has been adopted in the design for reduced infiltration rate of the soil to account for silting up or poor maintenance. While this is normally a UK requirement nevertheless it has been adopted here as part of this analysis.

Drainage Infrastructure and Flow Management

The proposed drainage system combines conventional drainage infrastructure with Sustainable Drainage Systems (SuDS) to effectively manage surface water across the site. Silt trap gullies will be strategically located to capture sediment and debris before runoff enters the main drainage network. Runoff from areas such as car parks will pass through an oil and grit interceptor, which removes residual hydrocarbons, fine sediments, and other pollutants.

Surface water will be directed into three primary attenuation and soakaway areas, situated within landscaped green spaces. These features are designed to temporarily store runoff and allow gradual infiltration into the subsoil, mimicking the site's natural drainage patterns. The largest attenuation area includes a flow control device (e.g. an orifice plate), which restricts discharge to approximately 3 litres per second into the public drainage network. To manage extreme rainfall or potential blockages, all soakaways are equipped with emergency overflow routes that direct excess water to the public system.

The two smaller soakaways are positioned near the site entrance and are intended to handle runoff from building roofs, adjacent footpaths, and a short section of the access road.

The soakaways have been analysed and designed with a base level of 41.400. Although the proposed constructed base level is shown as 41.200 on the drawing thereby providing additional storage capacity. This benefit has been conservatively excluded from the analysis. Soakaway 1 has been assigned a voids ratio of 90%, while Soakaways 2 and 3 have been assigned a voids ratio of 50%. Rainfall events for the 1:30 and 1:100 storm return periods have been increased by 20% to account for the anticipated effects of climate change.

During the geotechnical site investigation, groundwater was encountered in trial holes at approximately 800mm below the lowest existing ground level of the site. It is assumed

that groundwater levels may rise further during more extreme events; therefore, the soakaway system has been designed on the basis that infiltration will occur predominantly through the sides of the soakaway and not the base.

To manage water levels effectively, a controlled discharge mechanism has been incorporated into the design. A minimum 80mm diameter orifice discharge pipe has been positioned midway up the side of Soakaway 1 to allow overflow into the main drainage network once water reaches this level.

Rainfall onto the grassed area above the soakaway has also been accounted for, as it is expected to infiltrate through the shallow soil layer and contribute to the soakaway's catchment volume. An entry time in excess of two hours has been adopted for this percolation, based on anticipated infiltration rates through the overburden soil.

All hardstanding areas are considered fully impervious, with a Volumetric Runoff Coefficient (Cv) of 0.75 applied for summer conditions and 0.85 for winter.

Based on the above design parameters, the maximum water levels have been calculated and are summarised in the table below. All finished floor levels are set at least 500mm above the calculated maximum water levels to safeguard against potential overland flow and surcharge from stormwater storage.

Finished Floor Level mAOD	*Structural Slab Level mAOD*	*1:30 Year Event +20% CC mAOD*	*1:100 Year Event + 20% CC mAOD*
43.250	*43.025*	*41.935*	*42.036*

Sustainable Urban Drainage Systems

NB-SUDS – Pedestrian Routes, Amenity Areas, Paths etc. (Filtration & Treatment through Sub-base and Rain Gardens)

Some of the pedestrian routes, patio areas, paths, etc., will consist of impermeable surfaces. All such surfaces will adopt a Nature-Based Sustainable Drainage solution as runoff into a rain garden or landscape green. Both methods are a source control Sustainable Urban Drainage System.

Example of Urban Rain Garden extract from NBS Best Practice Guidance Document (Government of Ireland Publication)

The above image is extracted from the publication titled '*Nature-Based Solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas.'* Such nature-based solutions will be adopted in this development and will be used to drain some of the impermeable surface areas.

NB-SUDS – Rain Garden

The utilisation of the proposed rain garden as a Nature-Based Sustainable Urban Drainage System (NB-SUDS) offers numerous benefits. Not only does it slow the rate of discharge and improve water quality, but it also promotes biodiversity and provides year-round seasonal interest and green spaces for recreational activities within the development. This site will be enhanced, landscaped, and planted with vegetation that can withstand occasional temporary inundation, serving as an attractive feature in the landscape. As a natural SuDS feature, the rain garden will facilitate filtration through the vegetation and soil media, contributing to improved water quality. The green areas will also promote natural percolation of surface water runoff, similar to pre-development conditions.

SUDS – Soakaways

The proposed soakaways are a sustainable drainage system designed to effectively manage surface water runoff from hard surface areas. The soakaways consist of a zone with natural permeable materials (e.g., clean stone with 50%-90% voids) surrounded with a geotextile. When water flows into the soakaway, it is stored in the voids where impurities biodegrade and water quality is improved before infiltrating into the ground, reducing the risk of surface flooding and helping to recharge groundwater supplies.

The soakaway aid groundwater recharge, mitigate pollution, and enhance water quality before it percolates and discharges. As a low-impact development solution, the proposed

soakaways integrate sustainable drainage practices into urban planning, reducing environmental impacts while bolstering resilience to climate-related challenges.

Requirement for Oil, Grit, and Silt Trap Interceptors

The necessity of oil and grit interceptors has been evaluated based on the expected contaminant loads within the surface water drainage system. The following factors have been considered:

Silt Trap Gullies as a Primary Filtration Measure

Silt trap gullies at inlet points to filter drains will limit the entry of coarse sediments, reducing maintenance demands and improving system efficiency.

Potential for Hydrocarbon Contamination

In low-traffic residential parking areas, the risk of significant hydrocarbon contamination is low, and microbial degradation within filter material is sufficient based on industry practice.

Interceptor Placement Before Attenuation Area

To reduce pollutants accumulating in the attenuation area, a interceptor is recommended at the final discharge point before stormwater enters the storage system. This interceptor is intended to remove residual oils, fine sediments, and other contaminants, ensuring compliance with environmental protection guidelines.

Maintenance Considerations

Regular inspection and periodic jet-washing of silt trap gullies, drains will be required to prevent clogging. As is normal practice, the proposed interceptor will be subject to scheduled maintenance to remove accumulated oils and grit, to maintain long-term system performance.

Uisce Eireann Confirmation - Foul & Water connection can be Facilitated

On the 27th of March 2025, Uisce Eireann provided a letter confirming that a foul and watermain connection to the Uisce Eireann networks can be facilitated without requirement for infrastructure upgrade. A copy of this letter is included in the Appendix A of this report.

Proposed Foul Sewer Drainage Strategy

A dedicated foul sewer network is proposed to collect wastewater from all residential units and convey it via gravity flow to the existing public foul sewer system. The existing

foul sewer manhole, located in the main road at the southeast end of the site, provides a suitable connection point with an adequate invert level to accommodate gravity drainage.

Alternative connection points, including the foul sewer network running east along St. Josephs Road, were assessed but deemed unsuitable due to insufficient depth.

It is intended that the proposed foul sewer network will be designed and constructed in accordance with Building Regulations and with Uisce Éireann's Code of Practice, ensuring compliance with pipeline gradients, minimum cover depths/protection, and access chamber requirements for ease of maintenance. Regularly spaced manholes and inspection chambers will be provided to facilitate cleaning and monitoring of the system.

Water Supply

The proposed development will be served by a new potable water supply network, connected to the existing Uisce Éireann infrastructure. Each dwelling will be provided with an individual metered connection. Adequate pipeline sizing and pressure management measures shall be implemented to maintain sufficient supply across the development. Fire hydrants shall be installed in strategic locations in compliance with safety regulations and emergency response requirements. The availability of firefighting water for this housing development is not part of the requirements of this submission and is subject to assessment and agreement at detailed design stage.

Conclusion

The proposed drainage and water services strategy for the residential development at St. Joseph's Road, Portumna, Co. Galway has been carefully developed to meet both regulatory requirements and the specific characteristics of the site. The proposed drainage solutions has been developed with reference to a Hydrological Assessment carried out by Hydro Environmental Ltd for this site. The drainage strategy complies with the Greater Dublin Regional Code of Practice for Drainage Works, IS EN 752:2008, Uisce Éireann standards, and the relevant policies of the Galway County Development Plan.

The surface water management approach prioritises the use of Sustainable Urban Drainage Systems (SuDS), incorporating nature-based solutions such as rain gardens, and soakaways. These systems manage runoff close to source, improve water quality, promote biodiversity, and reduce pressure on public infrastructure. The design has been informed by a hydrological assessment and geotechnical site investigation, both of which confirmed the site's suitability for infiltration-based systems. Surface water runoff has been designed to discharge at a controlled rate of 2 l/s/ha, with the system capable of accommodating a 1:100-year storm event plus a 20% allowance for climate change.

Hydraulic modelling has confirmed that the proposed surface water system will operate effectively during 1:100 rainfall events, with no anticipated flooding of properties or public areas under design conditions. As normal, it is acknowledged that the performance of these systems is based on ideal operational conditions, and routine inspection and maintenance will be essential to ensure ongoing functionality.

The foul drainage network will operate under gravity, discharging to the existing public sewer without the need for pumping. Uisce Éireann has confirmed that both the foul and potable water connections can be facilitated without requiring infrastructure upgrades. The potable water supply will connect to the public watermain along St. Joseph's Road, with adequate capacity to serve the proposed development, including the provision of individual metered connections and fire hydrants. Fire fighting water requirements are not part of this planning report.

In summary, the proposed drainage design represents a sustainable, technically robust, and policy-compliant solution that supports the long-term resilience of the development. It integrates environmental best practices with proven engineering design, ensuring that the development contributes positively to the surrounding area while meeting all relevant planning and infrastructure requirements.

Appendix 1 Uisce Eireann Confirmation that a connection can be Facilitated

CONFIRMATION OF FEASIBILITY

Brian Coyle & Alan Clancy

GFSC
Moneengeisha Road
Galway
H91P48P

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

Uisce Éireann
PO Box 448
South City
Delivery Office
Cork City

www.water.ie

27 March 2025

Our Ref: CDS24010307 Pre-Connection Enquiry
Site at, St Josephs Road, Portumna, Galway

Dear Applicant/Agent,

We have completed the review of the Pre-Connection Enquiry.

Uisce Éireann has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Housing Development of 55 unit(s) at Site at, St Josephs Road, Portumna, Galway, (the **Development)**.

Based upon the details provided we can advise the following regarding connecting to the networks;

- **Water Connection** - Feasible without infrastructure upgrade by Uisce Éireann
- **Wastewater Connection** - Feasible without infrastructure upgrade by Uisce Éireann

This letter does not constitute an offer, in whole or in part, to provide a connection to any Uisce Éireann infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted. The connection application is available at www.water.ie/connections/get-connected/

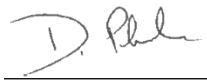
Where can you find more information?

- **Section A -** What is important to know?

This letter is issued to provide information about the current feasibility of the proposed connection(s) to Uisce Éireann's network(s). This is not a connection offer and capacity in Uisce Éireann's network(s) may only be secured by entering into a connection agreement with Uisce Éireann.

For any further information, visit **www.water.ie/connections, email newconnections@water.ie** or contact 1800 278 278**.**

Yours sincerely,



Dermot Phelan
Connections Delivery Manager

Section A - What is important to know?

What is important to know?	Why is this important?
Do you need a contract to connect?	• Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Uisce Éireann's network(s). • Before the Development can connect to Uisce Éireann's network(s), you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.
When should I submit a Connection Application?	• A connection application should only be submitted after planning permission has been granted.
Where can I find information on connection charges?	• Uisce Éireann connection charges can be found at: https://www.water.ie/connections/information/charges/
Who will carry out the connection work?	• All works to Uisce Éireann's network(s), including works in the public space, must be carried out by Uisce Éireann*. *Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works
Fire flow Requirements	• The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine. • **What to do?** - Contact the relevant Local Fire Authority
Plan for disposal of storm water	• The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters. • **What to do?** - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.
Where do I find details of Uisce Éireann's network(s)?	• Requests for maps showing Uisce Éireann's network(s) can be submitted to: datarequests@water.ie

What are the design requirements for the connection(s)?	• The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this Development shall comply with ***the Uisce Éireann Connections and Developer Services Standard Details and Codes of Practice,*** available at www.water.ie/connections
Trade Effluent Licensing	• Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended). • More information and an application form for a Trade Effluent License can be found at the following link: https://www.water.ie/business/trade-effluent/about/ **trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)

Appendix 2 Rainfall Analysis Simulation

GCC SOCIAL HOUSING,:	Date:		
ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	02/05/2025		
	Designed by:	Checked by:	Approved By:
	AC	BC	BC
Report Details: Type: Stormwater Controls Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

COYLE KENNEDY
Consulting Engineers

Soakaway 1

Type : Infiltration Trench

Dimensions

Exceedance Elevation (m)	42.250
Depth (m)	0.850
Base Elevation (m)	41.400
Freeboard (mm)	0
Porosity (%)	90
Length (m)	28.000
Long. Slope (1:x)	5000.00
Width (m)	26.000
Total Volume (m³)	556.920

Inlets

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	S5.003
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (2)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (26)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (3)

Inlet Type	Point Inflow
Incoming Item(s)	S1.002
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	S13.000
Outlet Type	Orifice

Diameter (m)	0.077
Coefficient of Discharge	0.600
Invert Elevation (m)	41.710

Advanced

Side Infiltration Rate (m/hr)	0.149
Safety Factor	2.0
Conductivity (m/hr)	900.0

Soakaway 2

Type : Infiltration Trench

Dimensions

Exceedance Elevation (m)	43.000
Depth (m)	1.600
Base Elevation (m)	41.400
Freeboard (mm)	0
Porosity (%)	50
Length (m)	37.000
Long. Slope (1:x)	5000.00
Width (m)	4.000
Total Volume (m³)	118.400

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S9.001
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Advanced

Side Infiltration Rate (m/hr)	0.0547
Safety Factor	2.0
Conductivity (m/hr)	400.0

Soakaway 3

Type : Infiltration Trench

Dimensions

Exceedance Elevation (m)	42.500
Depth (m)	1.100
Base Elevation (m)	41.400
Freeboard (mm)	0
Porosity (%)	50
Length (m)	13.000
Long. Slope (1:x)	5000.00
Width (m)	4.000
Total Volume (m³)	28.600

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S11.000
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	S12.000
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Advanced

Side Infiltration Rate (m/hr)	0.0547
Safety Factor	2.0
Conductivity (m/hr)	400.0

GCC SOCIAL HOUSING,:	Date:		
ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	02/05/2025		
	Designed by:	Checked by:	Approved By:
	AC	BC	BC
Report Details: Type: Network Design Criteria Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

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Consulting Engineers

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

FSR

Type: FSR

Return Period (years)	30.0
Region	Scotland and Ireland
M5-60 (mm)	17.5
Ratio R	0.350

Pipe Options

Lock Slope Options	None
Design Options	Minimize Excavation
Design Level	Level Crowns
Min. Slope (1:x)	500.00
Max. Slope (1:x)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐

GCC SOCIAL HOUSING,:	Date:		
ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	02/05/2025		
	Designed by:	Checked by:	Approved By:
	AC	BC	BC
Report Title:	COYLEKENNEDY CONSULTING ENGINEERS:		
Rainfall Analysis Criteria	GFSC MONEENAGEISHA ROAD, GALWAY		

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Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Use Catchment Values
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☑
Rainfall Depth (mm)	5.0
Run Time (mins)	1440

Rainfall

FSR

Type: FSR

Region	Scotland and Ireland
M5-60 (mm)	17.5
Ratio R	0.350
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
30.0	20.000
100.0	20.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640
5760	11520
7200	14400
8640	17280
10080	20160

GCC SOCIAL HOUSING,:	Date:		
ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	02/05/2025		
	Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Inflows Summary Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

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Consulting Engineers

FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 30 years: +20 %: 15 mins: Winter	0.04	14.1	6.545
Catchment Area (1)	FSR: 30 years: +20 %: 15 mins: Winter	0.03	11.1	5.166
Catchment Area (2)	FSR: 30 years: +20 %: 15 mins: Winter	0.02	8.4	3.898
Catchment Area (3)	FSR: 30 years: +20 %: 15 mins: Winter	0.03	9.2	4.291
Catchment Area (4)	FSR: 30 years: +20 %: 15 mins: Winter	0.03	12.1	5.620
Catchment Area (5)	FSR: 30 years: +20 %: 15 mins: Winter	0.04	12.3	5.713
Catchment Area (6)	FSR: 30 years: +20 %: 15 mins: Winter	0.02	7.8	3.636
Catchment Area (7)	FSR: 30 years: +20 %: 15 mins: Winter	0.02	5.9	2.762
Catchment Area (8)	FSR: 30 years: +20 %: 15 mins: Winter	0.03	9.0	4.168
Catchment Area (9)	FSR: 30 years: +20 %: 15 mins: Winter	0.02	6.1	2.816
Catchment Area (10)	FSR: 30 years: +20 %: 15 mins: Winter	0.05	18.7	8.673
Catchment Area (11)	FSR: 30 years: +20 %: 15 mins: Winter	0.02	7.6	3.519
Catchment Area (12)	FSR: 30 years: +20 %: 15 mins: Winter	0.01	5.1	2.368
Catchment Area (13)	FSR: 30 years: +20 %: 15 mins: Winter	0.04	13.8	6.389
Catchment Area (14)	FSR: 30 years: +20 %: 15 mins: Winter	0.03	9.0	4.192
Catchment Area (15)	FSR: 30 years: +20 %: 15 mins: Winter	0.02	5.7	2.633
Catchment Area (16)	FSR: 30 years: +20 %: 15 mins: Winter	0.05	17.6	8.189
Catchment Area (17)	FSR: 30 years: +20 %: 15 mins: Winter	0.03	11.0	5.115
Catchment Area (18)	FSR: 30 years: +20 %: 15 mins: Winter	0.03	12.1	5.635
Catchment Area (19)	FSR: 30 years: +20 %: 15 mins: Winter	0.04	13.9	6.443

Catchment Area (20)	FSR: 30 years: +20 %: 15 mins: Winter	0.02	8.2	3.811
Catchment Area (21)	FSR: 30 years: +20 %: 15 mins: Winter	0.02	6.9	3.183
Catchment Area (22)	FSR: 30 years: +20 %: 15 mins: Winter	0.03	10.7	4.947
Catchment Area (23)	FSR: 30 years: +20 %: 15 mins: Winter	0.03	9.8	4.532
Catchment Area (24)	FSR: 30 years: +20 %: 15 mins: Winter	0.02	5.8	2.678
Catchment Area (25)	FSR: 30 years: +20 %: 15 mins: Winter	0.01	3.4	1.599
Catchment Area (26)	FSR: 30 years: +20 %: 180 mins: Winter	0.09	3.6	32.465

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	Date: 02/05/2025		
	Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Inflows Summary Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

COYLE KENNEDY
Consulting Engineers

FSR: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 100 years: +20 %: 15 mins: Winter	0.04	18.3	8.521
Catchment Area (1)	FSR: 100 years: +20 %: 15 mins: Winter	0.03	14.4	6.729
Catchment Area (2)	FSR: 100 years: +20 %: 15 mins: Winter	0.02	10.9	5.072
Catchment Area (3)	FSR: 100 years: +20 %: 15 mins: Winter	0.03	12.0	5.586
Catchment Area (4)	FSR: 100 years: +20 %: 15 mins: Winter	0.03	15.7	7.321
Catchment Area (5)	FSR: 100 years: +20 %: 15 mins: Winter	0.04	16.0	7.439
Catchment Area (6)	FSR: 100 years: +20 %: 15 mins: Winter	0.02	10.2	4.730
Catchment Area (7)	FSR: 100 years: +20 %: 15 mins: Winter	0.02	7.7	3.593
Catchment Area (8)	FSR: 100 years: +20 %: 15 mins: Winter	0.03	11.7	5.427
Catchment Area (9)	FSR: 100 years: +20 %: 15 mins: Winter	0.02	7.9	3.665
Catchment Area (10)	FSR: 100 years: +20 %: 15 mins: Winter	0.05	24.2	11.290
Catchment Area (11)	FSR: 100 years: +20 %: 15 mins: Winter	0.02	9.8	4.582
Catchment Area (12)	FSR: 100 years: +20 %: 15 mins: Winter	0.01	6.6	3.079
Catchment Area (13)	FSR: 100 years: +20 %: 15 mins: Winter	0.04	17.9	8.317
Catchment Area (14)	FSR: 100 years: +20 %: 15 mins: Winter	0.03	11.7	5.460

Catchment Area (15)	FSR: 100 years: +20 %: 15 mins: Winter	0.02	7.4	3.431
Catchment Area (16)	FSR: 100 years: +20 %: 15 mins: Winter	0.05	22.9	10.665
Catchment Area (17)	FSR: 100 years: +20 %: 15 mins: Winter	0.03	14.3	6.663
Catchment Area (18)	FSR: 100 years: +20 %: 15 mins: Winter	0.03	15.8	7.339
Catchment Area (19)	FSR: 100 years: +20 %: 15 mins: Winter	0.04	18.0	8.398
Catchment Area (20)	FSR: 100 years: +20 %: 15 mins: Winter	0.02	10.6	4.961
Catchment Area (21)	FSR: 100 years: +20 %: 15 mins: Winter	0.02	8.9	4.143
Catchment Area (22)	FSR: 100 years: +20 %: 15 mins: Winter	0.03	13.8	6.443
Catchment Area (23)	FSR: 100 years: +20 %: 15 mins: Winter	0.03	12.7	5.896
Catchment Area (24)	FSR: 100 years: +20 %: 15 mins: Winter	0.02	7.5	3.488
Catchment Area (25)	FSR: 100 years: +20 %: 15 mins: Winter	0.01	4.5	2.081
Catchment Area (26)	FSR: 100 years: +20 %: 180 mins: Winter	0.09	4.6	41.596

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	Date: 02/05/2025		
	Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Junctions Summary Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

COYLE KENNEDY Consulting Engineers

FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Elevation (m)	Invert Elevation (m)	Max. Elevation (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FSR: 30 years: +20 %: 15 mins: Winter	42.950	42.000	42.128	0.128	25.2	0.145	0.000	24.3	11.708	OK
S2	FSR: 30 years: +20 %: 15 mins: Winter	42.950	42.110	42.165	0.055	9.2	0.062	0.000	9.0	4.292	OK
S3	FSR: 30 years: +20 %: 15 mins: Winter	42.950	41.815	41.987	0.172	41.7	0.195	0.000	38.5	19.890	OK
S4	FSR: 30 years: +20 %: 15 mins: Winter	42.950	41.950	42.093	0.143	28.7	0.162	0.000	27.6	13.300	OK
S5	FSR: 30 years: +20 %: 15 mins: Winter	42.950	41.950	42.081	0.131	26.0	0.148	0.000	25.1	12.076	OK
S6	FSR: 30 years: +20 %: 15 mins: Winter	42.950	41.800	42.001	0.201	52.7	0.227	0.000	49.4	25.373	OK
S7	FSR: 30 years: +20 %: 2160 mins: Winter	42.950	41.700	41.935	0.235	4.4	0.266	0.000	4.2	223.506	OK
S8	FSR: 30 years: +20 %: 15 mins: Winter	42.950	42.005	42.139	0.134	24.4	0.152	0.000	23.6	11.332	OK
S9	FSR: 30 years: +20 %: 15 mins: Winter	42.950	41.885	42.012	0.127	23.6	0.144	0.000	22.1	11.315	OK
S10	FSR: 30 years: +20 %: 15 mins: Winter	42.950	41.855	41.977	0.122	13.5	0.138	0.000	12.4	6.282	OK
S11	FSR: 30 years: +20 %: 15 mins: Winter	42.950	41.767	41.963	0.196	51.2	0.221	0.000	48.9	25.394	OK
S12	FSR: 30 years: +20 %: 15 mins: Winter	43.000	42.000	42.123	0.123	24.8	0.139	0.000	23.5	11.520	OK
S13	FSR: 30 years: +20 %: 15 mins: Winter	42.950	42.055	42.173	0.118	18.9	0.134	0.000	18.3	8.751	OK
S14	FSR: 30 years: +20 %: 15 mins: Winter	42.950	41.975	42.122	0.147	27.4	0.166	0.000	26.2	12.936	OK
S15	FSR: 30 years: +20 %: 15 mins: Winter	42.950	41.862	42.017	0.155	31.8	0.176	0.000	29.9	15.566	OK
S16	FSR: 30 years: +20 %: 2160 mins: Winter	42.950	41.700	41.935	0.235	4.4	0.266	0.000	4.2	223.534	OK
S22	FSR: 30 years: +20 %: 2160 mins: Winter	42.950	41.400	41.429	0.029	2.3	0.033	0.000	2.3	168.718	OK
S17	FSR: 30 years: +20 %: 15 mins: Winter	43.300	42.400	42.480	0.080	10.7	0.090	0.000	10.4	4.943	OK
S18	FSR: 30 years: +20 %: 15 mins: Winter	43.300	42.400	42.481	0.081	9.8	0.092	0.000	9.5	4.528	OK
S19	FSR: 30 years: +20 %: 15 mins: Winter	43.300	42.200	42.248	0.048	19.9	0.054	0.000	19.7	9.459	OK
S20	FSR: 30 years: +20 %: 15 mins: Winter	43.100	42.200	42.227	0.027	5.8	0.031	0.000	5.7	2.672	OK
S21	FSR: 30 years: +20 %: 15 mins: Winter	43.000	42.100	42.128	0.028	3.4	0.032	0.000	3.4	1.588	OK
S23	FSR: 30 years: +20 %: 2160 mins: Winter	43.000	41.000	41.028	0.028	2.3	0.032	0.000	2.3	168.717	OK
S24	FSR: 30 years: +20 %: 2160 mins: Winter	42.400	40.700	40.728	0.028	2.3	0.032	0.000	2.3	168.717	OK
S25	FSR: 30 years: +20 %: 2160 mins: Winter	42.100	40.500	40.526	0.026	2.3	0.029	0.000	2.3	168.716	OK
OUTFALL EXISTING SW	FSR: 30 years: +20 %: 2160 mins: Winter	41.710	40.150	40.176	0.026	2.3	0.000	0.000	2.3	168.716	OK

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	Date: 02/05/2025 Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Junctions Summary Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

COYLE KENNEDY
Consulting Engineers

FSR: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Elevation (m)	Invert Elevation (m)	Max. Elevation (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FSR: 100 years: +20 %: 15 mins: Winter	42.950	42.000	42.156	0.156	32.7	0.177	0.000	31.4	15.257	OK
S2	FSR: 100 years: +20 %: 15 mins: Winter	42.950	42.110	42.173	0.063	12.0	0.071	0.000	11.8	5.591	OK
S3	FSR: 100 years: +20 %: 1440 mins: Winter	42.950	41.815	42.037	0.222	2.8	0.251	0.000	2.8	95.440	OK
S4	FSR: 100 years: +20 %: 15 mins: Winter	42.950	41.950	42.150	0.200	37.2	0.226	0.000	33.9	17.332	OK
S5	FSR: 100 years: +20 %: 15 mins: Winter	42.950	41.950	42.125	0.175	33.8	0.198	0.000	31.5	15.741	OK
S6	FSR: 100 years: +20 %: 15 mins: Winter	42.950	41.800	42.045	0.245	65.4	0.277	0.000	63.3	32.993	OK
S7	FSR: 100 years: +20 %: 1440 mins: Winter	42.950	41.700	42.037	0.337	7.2	0.381	0.000	7.0	250.463	OK
S8	FSR: 100 years: +20 %: 15 mins: Winter	42.950	42.005	42.169	0.164	31.7	0.185	0.000	30.7	14.746	OK
S9	FSR: 100 years: +20 %: 30 mins: Winter	42.950	41.885	42.078	0.193	21.5	0.218	0.000	19.3	19.476	OK
S10	FSR: 100 years: +20 %: 30 mins: Winter	42.950	41.855	42.064	0.209	11.7	0.236	0.000	10.7	10.797	OK
S11	FSR: 100 years: +20 %: 30 mins: Winter	42.950	41.767	42.055	0.288	44.4	0.326	0.000	42.4	43.552	OK
S12	FSR: 100 years: +20 %: 15 mins: Winter	43.000	42.000	42.147	0.147	32.1	0.166	0.000	30.6	14.871	OK
S13	FSR: 100 years: +20 %: 15 mins: Winter	42.950	42.055	42.200	0.145	24.5	0.164	0.000	23.7	11.386	OK
S14	FSR: 100 years: +20 %: 15 mins: Winter	42.950	41.975	42.157	0.182	35.5	0.206	0.000	33.4	16.829	OK
S15	FSR: 100 years: +20 %: 30 mins: Winter	42.950	41.862	42.100	0.238	27.5	0.269	0.000	26.1	26.747	Surcharged
S16	FSR: 100 years: +20 %: 60 mins: Winter	42.950	41.700	42.040	0.340	68.6	0.384	0.000	64.9	111.092	Surcharged
S22	FSR: 100 years: +20 %: 1440 mins: Winter	42.950	41.400	41.432	0.032	3.0	0.037	0.000	3.0	217.895	OK
S17	FSR: 100 years: +20 %: 15 mins: Winter	43.300	42.400	42.494	0.094	13.8	0.106	0.000	13.5	6.439	OK
S18	FSR: 100 years: +20 %: 15 mins: Winter	43.300	42.400	42.496	0.096	12.7	0.108	0.000	12.3	5.891	OK
S19	FSR: 100 years: +20 %: 15 mins: Winter	43.300	42.200	42.256	0.056	25.8	0.063	0.000	25.6	12.317	OK
S20	FSR: 100 years: +20 %: 15 mins: Winter	43.100	42.200	42.232	0.032	7.5	0.036	0.000	7.4	3.481	OK
S21	FSR: 100 years: +20 %: 15 mins: Winter	43.000	42.100	42.133	0.033	4.5	0.037	0.000	4.4	2.067	OK
S23	FSR: 100 years: +20 %: 1440 mins: Winter	43.000	41.000	41.032	0.032	3.0	0.036	0.000	3.0	217.888	OK
S24	FSR: 100 years: +20 %: 1440 mins: Winter	42.400	40.700	40.732	0.032	3.0	0.036	0.000	3.0	217.882	OK
S25	FSR: 100 years: +20 %: 1440 mins: Winter	42.100	40.500	40.529	0.029	3.0	0.033	0.000	3.0	217.877	OK
OUTFALL EXISTING SW	FSR: 100 years: +20 %: 1440 mins: Winter	41.710	40.150	40.179	0.029	3.0	0.000	0.000	3.0	217.877	OK

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	Date: 02/05/2025		
	Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

COYLE KENNEDY
Consulting Engineers

FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Elevation (m)	Max. DS Elevation (m)	Max. US Depth (m)	Max. DS	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentag	Status
Soakaway 1	FSR: 30 years: +20 %: 2160 mins: Winter	41.935	41.907	0.529	0.507	9.6	339.360	0.000	177.318	2.3	168.718	39.065	OK
Soakaway 2	FSR: 30 years: +20 %: 2160 mins: Winter	41.827	41.743	0.420	0.343	0.8	26.822	0.000	32.359	0.0	0.000	77.346	OK
Soakaway 3	FSR: 30 years: +20 %: 1440 mins: Winter	41.852	41.844	0.449	0.444	0.5	11.607	0.000	11.797	0.0	0.000	59.415	OK

GCC SOCIAL HOUSING,:	Date:		
ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	02/05/2025		
	Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

FSR: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Elevation (m)	Max. DS Elevation (m)	Max. US Depth (m)	Max. DS	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentag	Status
Soakaway 1	FSR: 100 years: +20 %: 1440 mins: Winter	42.036	42.007	0.631	0.607	15.7	404.986	0.000	146.443	3.0	217.904	27.281	OK
Soakaway 2	FSR: 100 years: +20 %: 1440 mins: Winter	41.935	41.829	0.528	0.429	1.3	33.185	0.000	29.942	0.0	0.000	71.972	OK
Soakaway 3	FSR: 100 years: +20 %: 1440 mins: Winter	41.961	41.954	0.559	0.554	0.6	14.458	0.000	14.755	0.0	0.000	49.447	OK

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	Date: 02/05/2025 Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Connections Summary Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

COYLE KENNEDY
Consulting Engineers

FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover	Max. US Water Elevation (m)	Max. Flow	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S1.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S1	S3	42.950	42.128	0.150	11.708	0.9	0.6	24.3	OK
S2.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S2	S3	42.950	42.165	0.114	4.292	0.4	0.14	9.0	OK
S1.001	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S3	S7	42.950	41.987	0.177	19.890	0.9	0.55	38.5	OK
S3.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S4	S6	42.950	42.093	0.172	13.300	0.8	0.67	27.6	OK
S4.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S5	S6	42.950	42.081	0.166	12.076	0.8	0.61	25.1	OK
S3.001	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S6	S7	42.950	42.001	0.191	25.373	1.0	0.7	49.4	OK
S5.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S8	S9	42.950	42.139	0.131	11.332	1.0	0.59	23.6	OK
S5.001	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S9	S11	42.950	42.012	0.162	11.315	0.7	0.55	22.1	OK
S6.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S10	S11	42.950	41.977	0.159	6.282	0.4	0.3	12.4	OK
S5.002	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S11	S16	42.950	41.963	0.197	25.394	1.0	0.57	48.9	OK
S7.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S12	S16	43.000	42.123	0.161	11.520	0.8	0.58	23.5	OK
S8.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S13	S14	42.950	42.173	0.133	8.751	0.8	0.45	18.3	OK
S8.001	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S14	S15	42.950	42.122	0.151	12.936	0.9	0.66	26.2	OK
S8.002	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S15	S16	42.950	42.017	0.177	15.566	0.9	0.75	29.9	OK
S5.003	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S16	Soakaway 1	42.950	41.899	0.300	52.018	2.5	0.6	96.5	OK
S13.000	FSR: 30 years: +20 %: 2160 mins: Winter	Pipe	Soakaway 1	S22	42.256	41.918	0.028	168.717	0.6	0.01	2.3	OK
S9.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S17	S19	43.300	42.480	0.064	4.943	1.5	0.48	10.4	OK
S10.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S18	S19	43.300	42.481	0.065	4.528	1.3	0.5	9.5	OK
S9.001	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S19	Soakaway 2	43.300	42.248	0.150	9.459	1.7	0.23	19.7	OK

S11.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S20	Soakaway 3	43.100	42.227	0.150	2.672	0.7	0.08	5.7	OK
S12.000	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S21	Soakaway 3	43.000	42.128	0.150	1.588	0.4	0.08	3.4	OK
S13.001	FSR: 30 years: +20 %: 2160 mins: Winter	Pipe	S22	S23	42.950	41.429	0.029	168.718	0.6	0.01	2.3	OK
S13.002	FSR: 30 years: +20 %: 2160 mins: Winter	Pipe	S23	S24	43.000	41.028	0.028	168.717	0.6	0.01	2.3	OK
S13.003	FSR: 30 years: +20 %: 2160 mins: Winter	Pipe	S24	S25	42.400	40.728	0.027	168.717	0.7	0.01	2.3	OK
S13.004	FSR: 30 years: +20 %: 2160 mins: Winter	Pipe	S25	OUTFALL EXISTING SW	42.100	40.526	0.026	168.716	0.7	0.01	2.3	OK
S1.002	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	S7	Soakaway 1	42.950	41.882	0.309	51.942	2.3	0.37	98.0	OK

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	Date: 02/05/2025		
	Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Connections Summary Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

COYLE KENNEDY
Consulting Engineers

FSR: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover	Max. US Water Elevation (m)	Max. Flow	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
S1.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S1	S3	42.950	42.156	0.182	15.257	0.9	0.77	31.4	OK
S2.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S2	S3	42.950	42.173	0.136	5.591	0.5	0.18	11.8	OK
S1.001	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S3	S7	42.950	42.023	0.216	25.883	0.9	0.72	50.2	OK
S3.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S4	S6	42.950	42.150	0.222	17.332	0.9	0.83	33.9	OK
S4.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S5	S6	42.950	42.125	0.210	15.741	0.8	0.76	31.5	OK
S3.001	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S6	S7	42.950	42.045	0.234	32.993	1.1	0.89	63.3	OK
S5.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S8	S9	42.950	42.169	0.168	14.746	1.0	0.77	30.7	OK
S5.001	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S9	S11	42.950	42.058	0.209	14.748	0.7	0.66	26.6	OK
S6.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S10	S11	42.950	42.026	0.207	8.178	0.4	0.4	16.2	OK
S5.002	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S11	S16	42.950	42.013	0.275	32.874	1.0	0.73	62.3	OK
S7.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S12	S16	43.000	42.147	0.199	14.871	0.8	0.75	30.6	OK
S8.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S13	S14	42.950	42.200	0.164	11.386	0.8	0.58	23.7	OK
S8.001	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S14	S15	42.950	42.157	0.205	16.829	0.9	0.84	33.4	OK
S8.002	FSR: 100 years: +20 %: 15 mins: Summer	Pipe	S15	S16	42.950	42.054	0.215	18.070	0.9	0.88	34.9	OK

S5.003	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S16	Soakaway 1	42.950	42.004	0.300	66.815	2.6	0.76	123.1	Surcharged
S13.000	FSR: 100 years: +20 %: 1440 mins: Winter	Pipe	Soakaway 1	S22	42.256	42.018	0.031	217.900	0.7	0.01	3.0	OK
S9.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S17	S19	43.300	42.494	0.075	6.439	1.5	0.62	13.5	OK
S10.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S18	S19	43.300	42.496	0.076	5.891	1.4	0.65	12.3	OK
S9.001	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S19	Soakaway 2	43.300	42.256	0.150	12.317	1.6	0.3	25.6	OK
S11.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S20	Soakaway 3	43.100	42.232	0.150	3.481	0.7	0.11	7.4	OK
S12.000	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S21	Soakaway 3	43.000	42.133	0.150	2.067	0.4	0.11	4.4	OK
S13.001	FSR: 100 years: +20 %: 1440 mins: Winter	Pipe	S22	S23	42.950	41.432	0.032	217.895	0.7	0.02	3.0	OK
S13.002	FSR: 100 years: +20 %: 1440 mins: Winter	Pipe	S23	S24	43.000	41.032	0.032	217.888	0.7	0.01	3.0	OK
S13.003	FSR: 100 years: +20 %: 1440 mins: Winter	Pipe	S24	S25	42.400	40.732	0.031	217.882	0.7	0.01	3.0	OK
S13.004	FSR: 100 years: +20 %: 1440 mins: Winter	Pipe	S25	OUTFALL EXISTING SW	42.100	40.529	0.029	217.877	0.8	0.01	3.0	OK
S1.002	FSR: 100 years: +20 %: 15 mins: Winter	Pipe	S7	Soakaway 1	42.950	41.963	0.375	66.900	2.4	0.47	126.4	OK

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	Date: 02/05/2025			COYLE KENNEDY Consulting Engineers
	Designed by: AC	Checked by: BC	Approved By: BC	
Report Details: Type: Phase Management Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY			

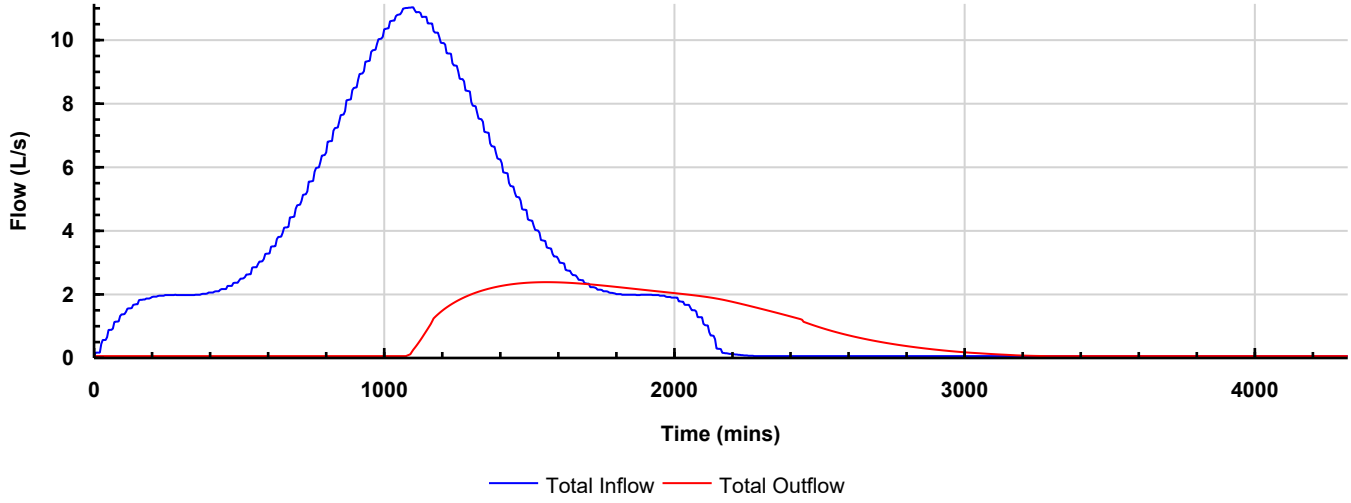
Phase
FSR: 30 years: Increase Rainfall (%): +20: 2160 mins: Winter

Tables

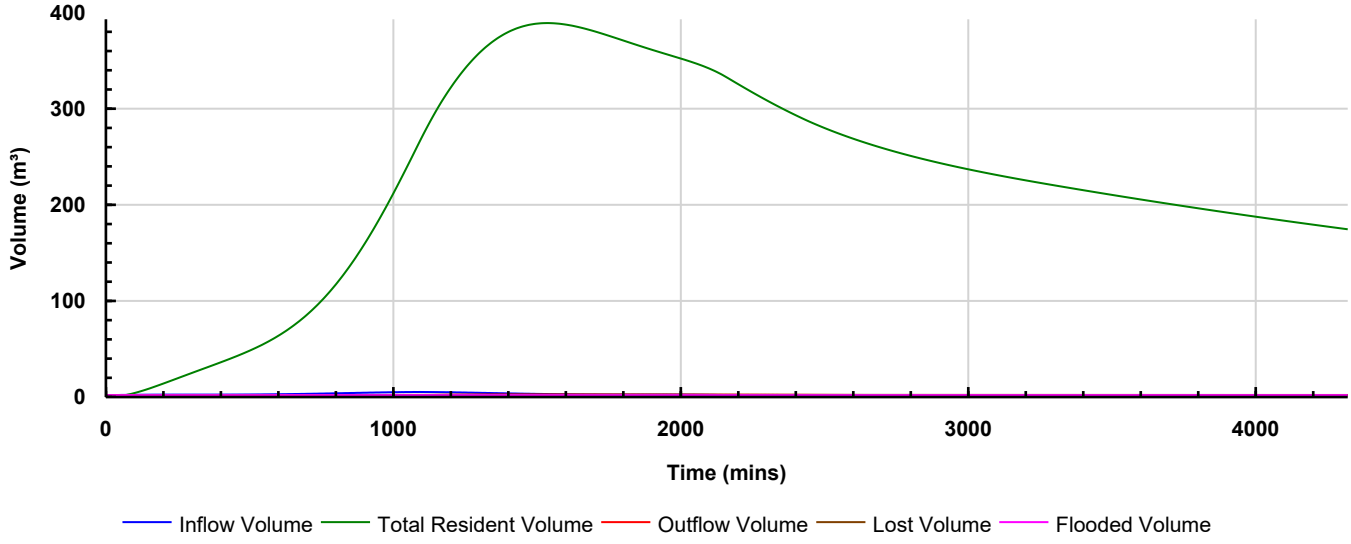
Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
OUTFALL EXISTING SW			2.3	168.716
TOTAL	11.0	567.049	2.3	168.716

Graphs

Flow Graph



Volume Graph



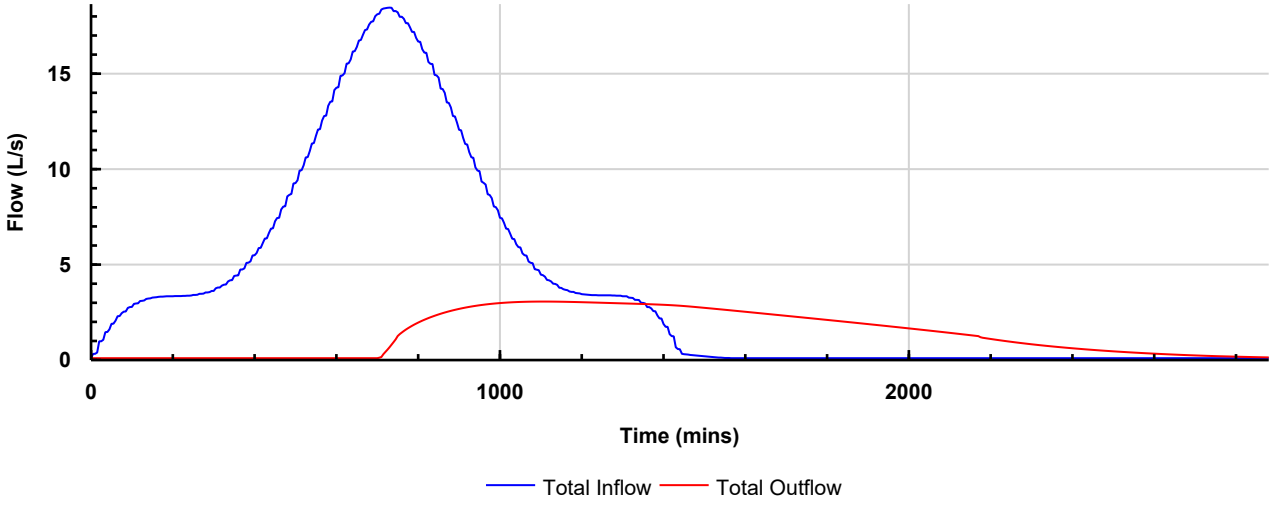
Phase
FSR: 100 years: Increase Rainfall (%): +20: 1440 mins: Winter

Tables

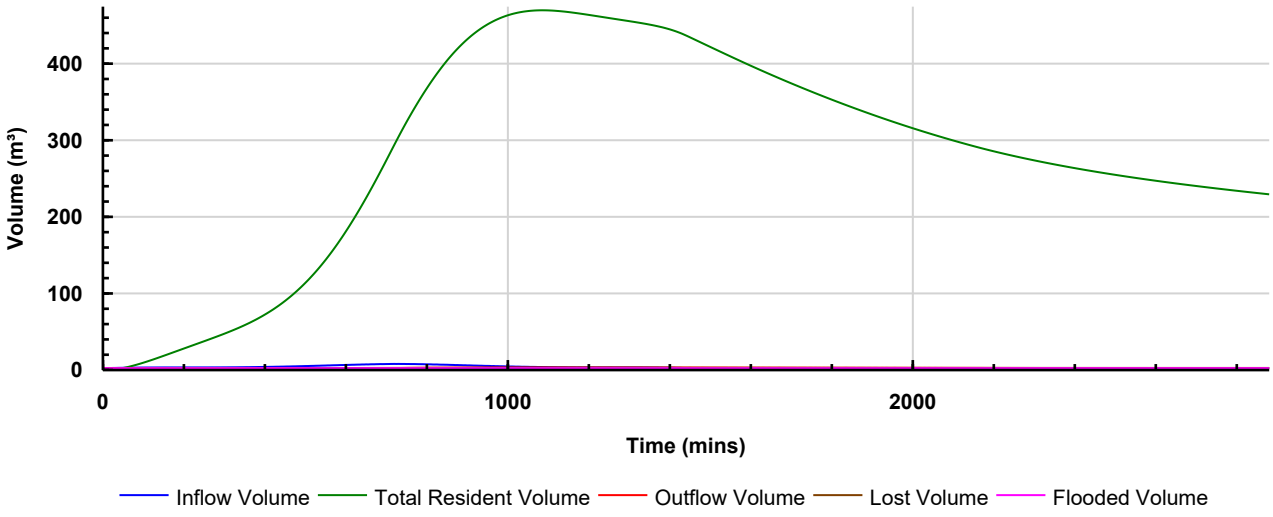
Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
OUTFALL EXISTING SW			3.0	217.877
TOTAL	18.5	636.914	3.0	217.877

Graphs

Flow Graph



Volume Graph



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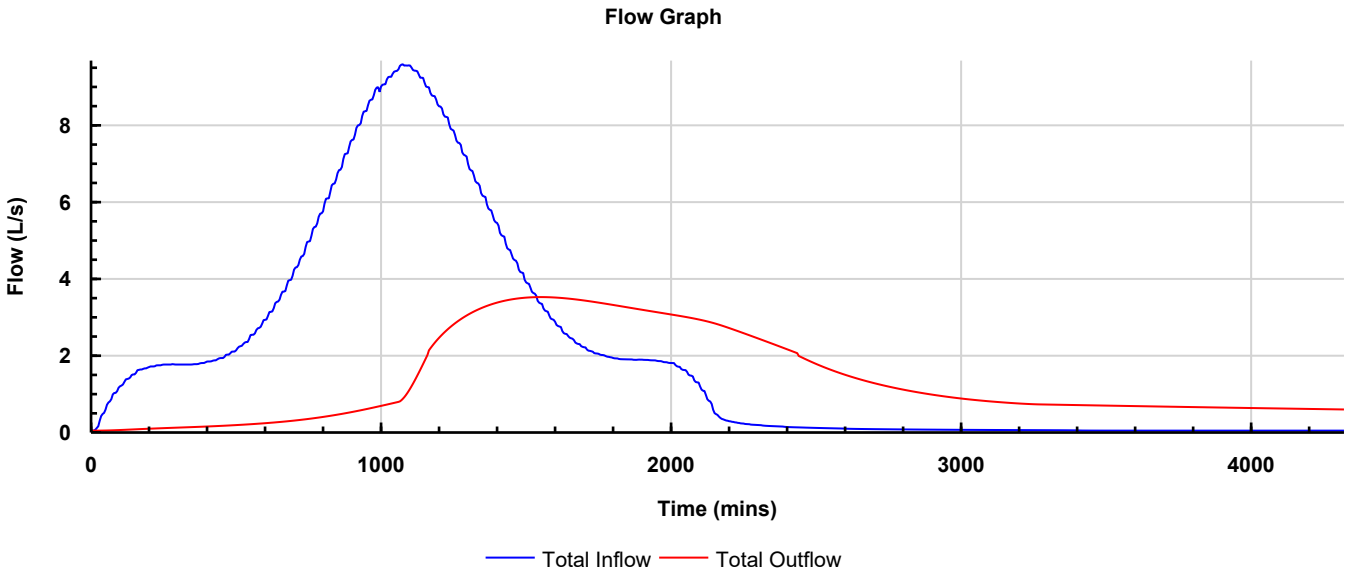
	Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Stormwater Control Results Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

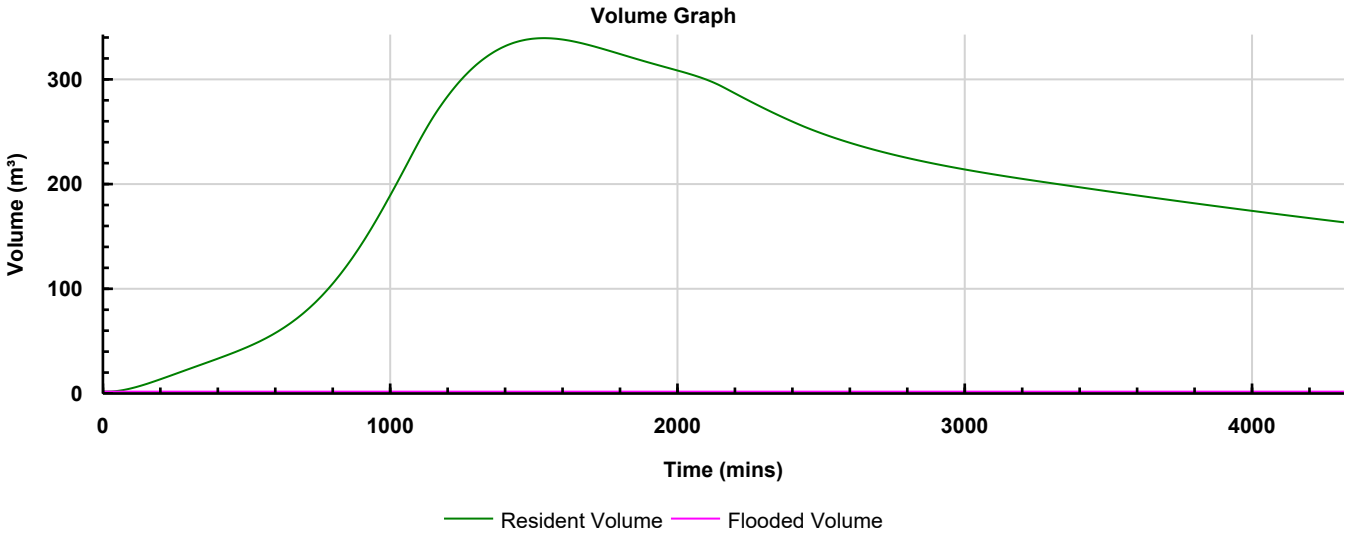
COYLE KENNEDY
Consulting Engineers

Soakaway 1
Critical by Return Period: FSR: 30 years: Increase Rainfall (%): +20: 2160 mins: Winter

Type : Infiltration Trench

Graphs





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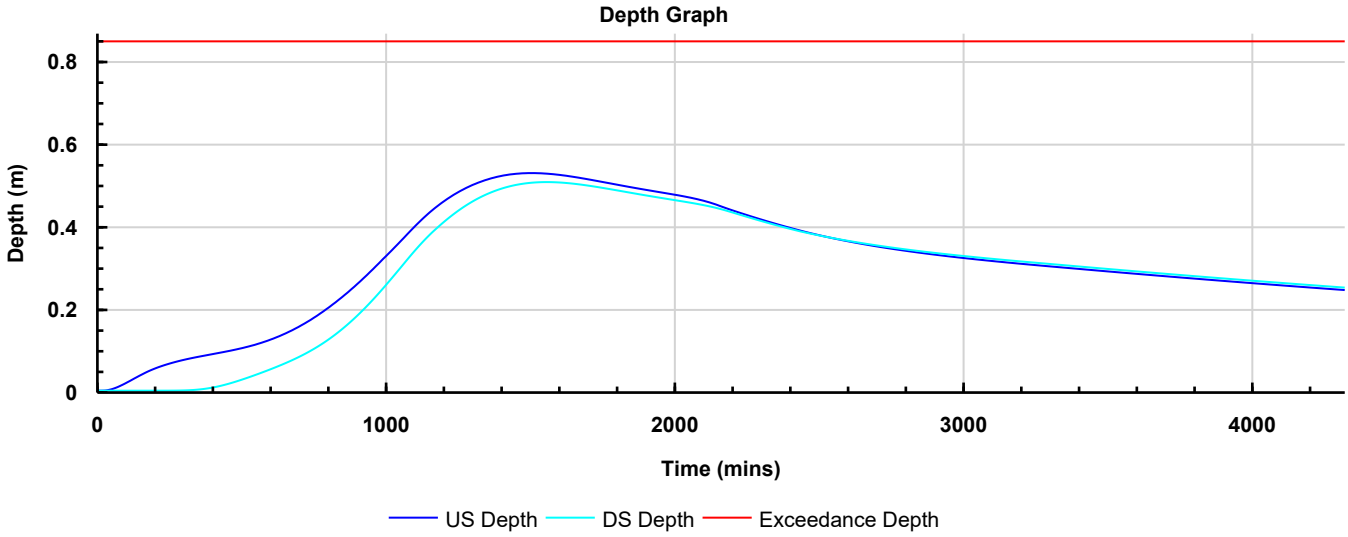
Consulting Engineers



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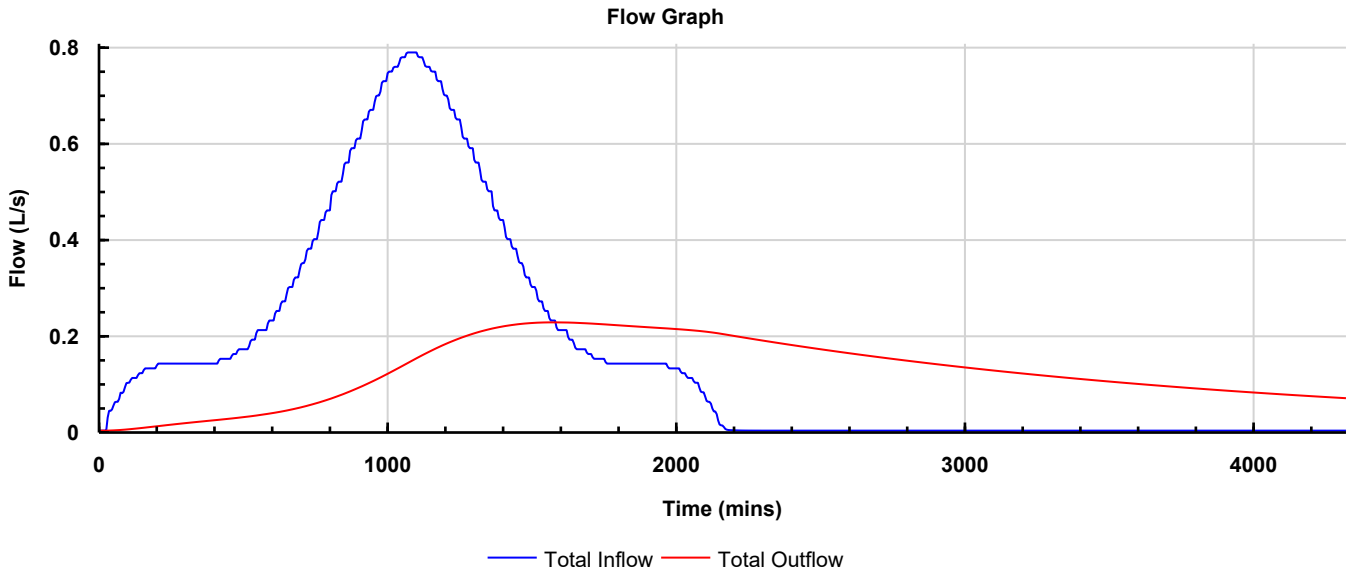
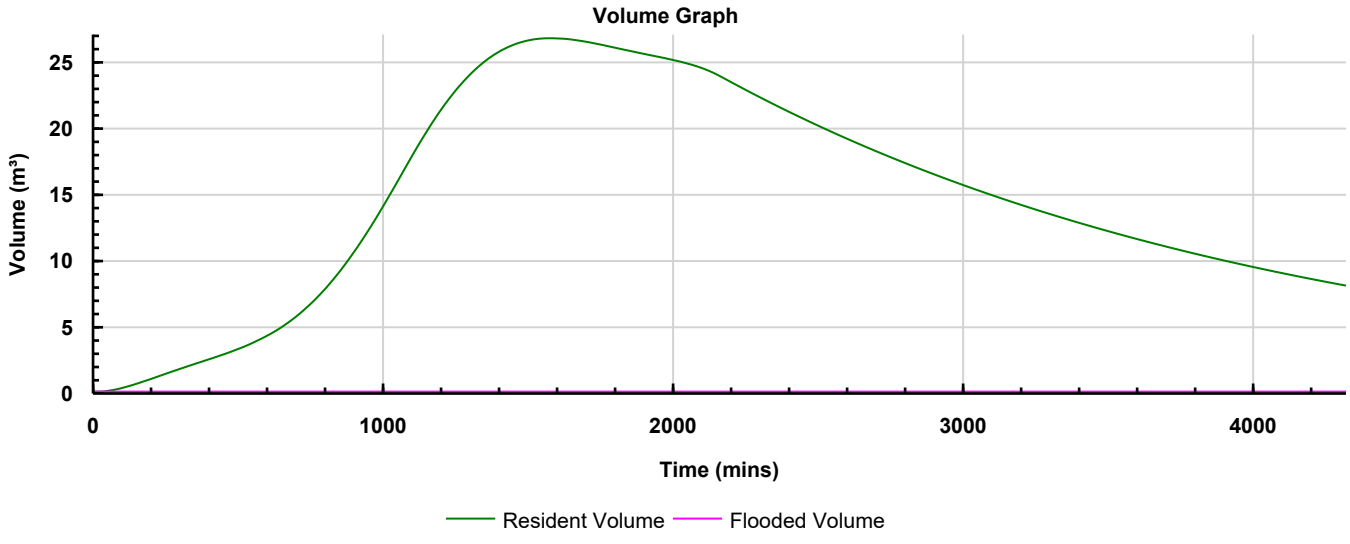
COYLE KENNEDY
Consulting Engineers

Soakaway 2
Critical by Return Period: FSR: 30 years: Increase Rainfall (%): +20: 2160 mins: Winter

Type : Infiltration Trench

Graphs





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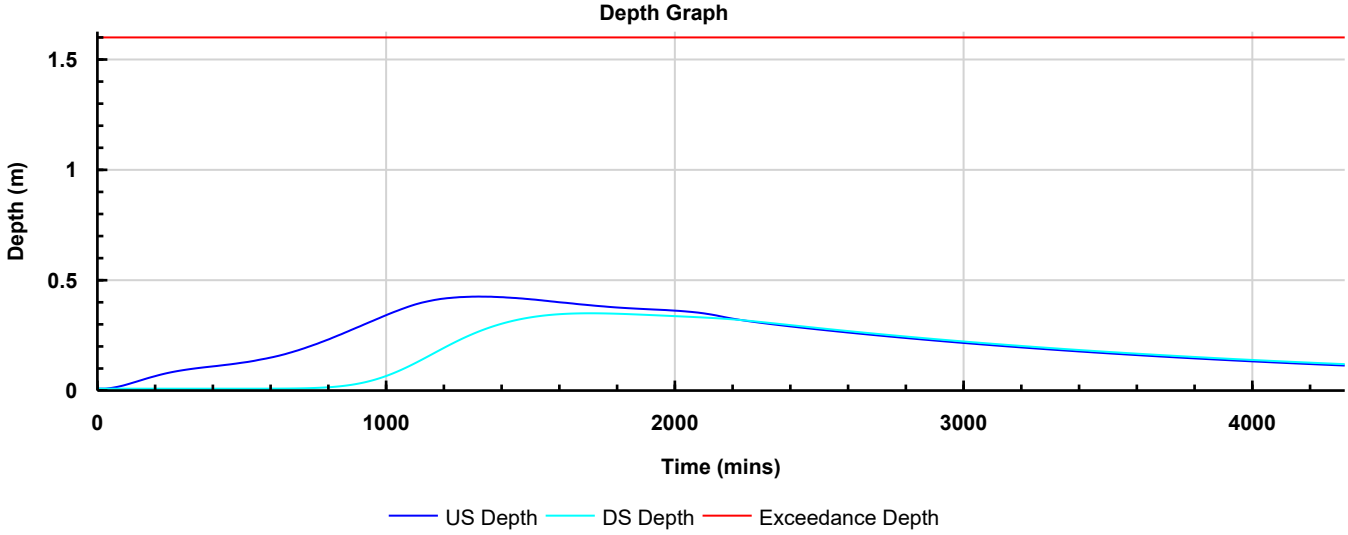

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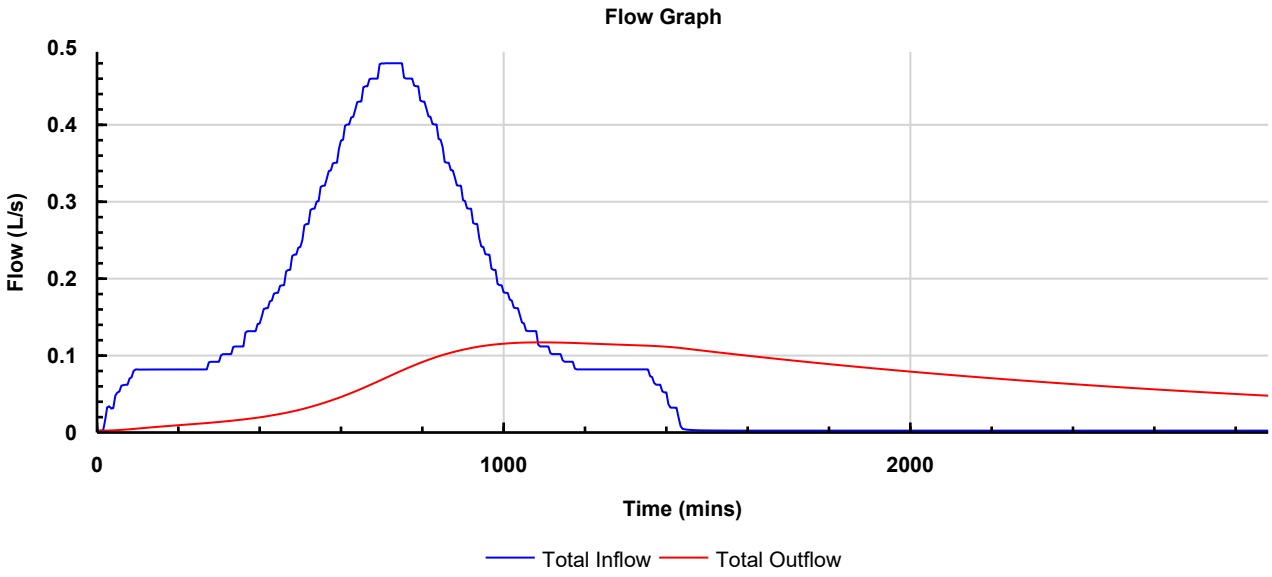
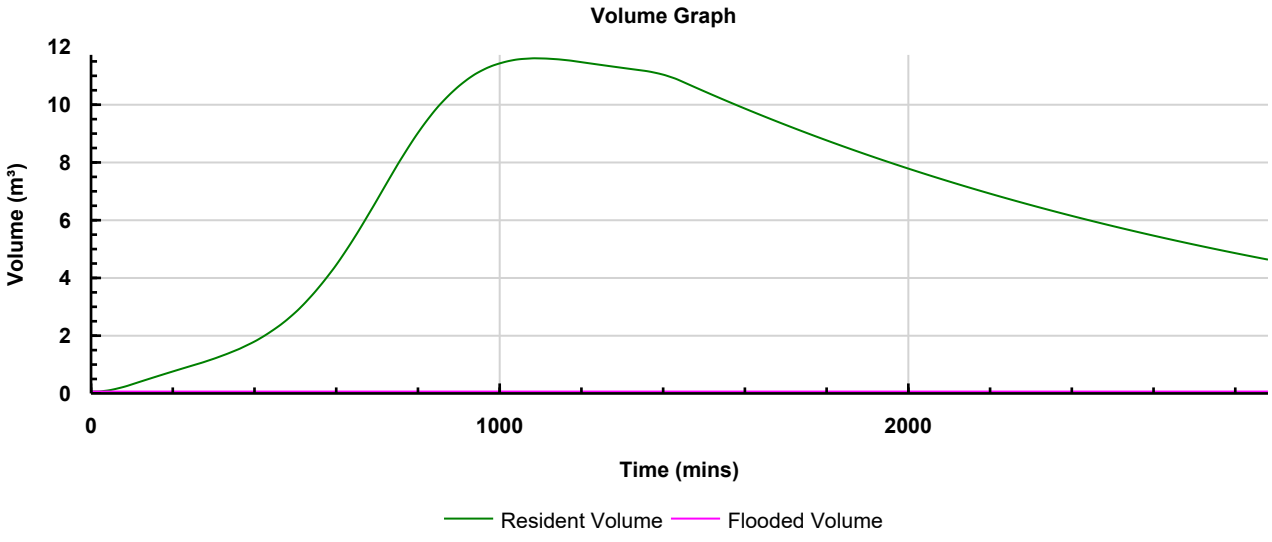
COYLE KENNEDY
Consulting Engineers

Soakaway 3
Critical by Return Period: FSR: 30 years: Increase Rainfall (%): +20: 1440 mins: Winter

Type : Infiltration Trench

Graphs





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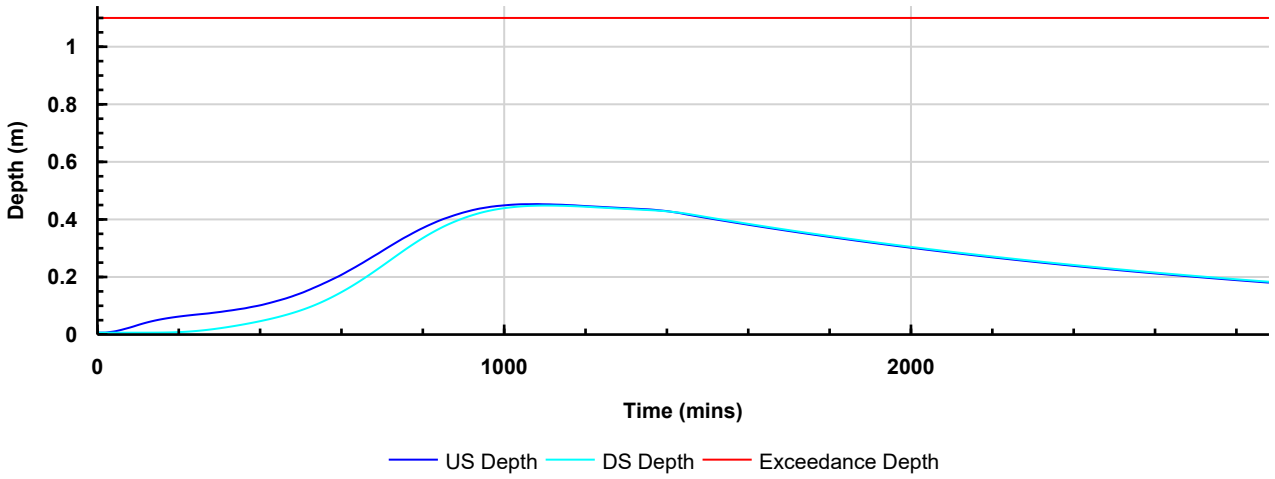
Consulting Engineers

Depth Graph



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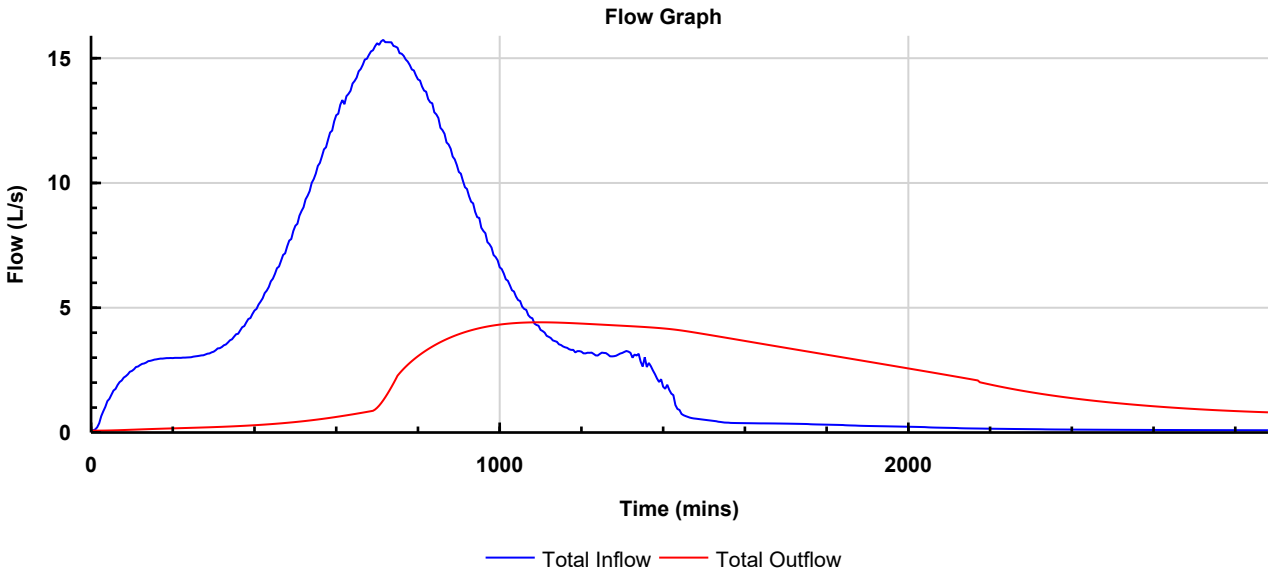
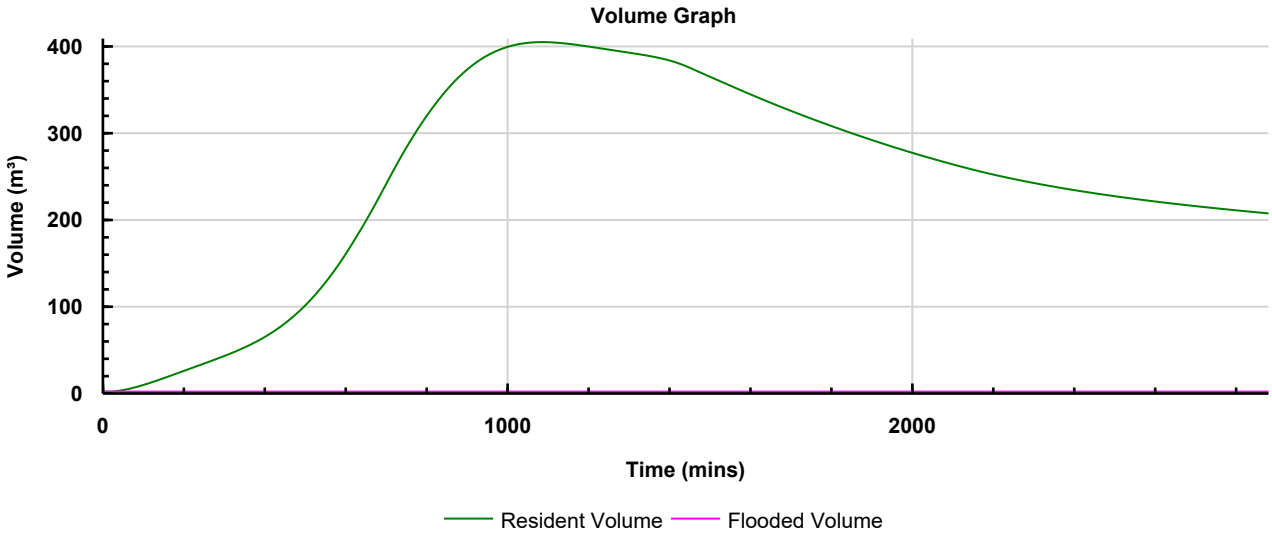
Consulting Engineers

Soakaway 1
Critical by Return Period: FSR: 100 years: Increase Rainfall (%): +20: 1440 mins: Winter

Type : Infiltration Trench

Graphs





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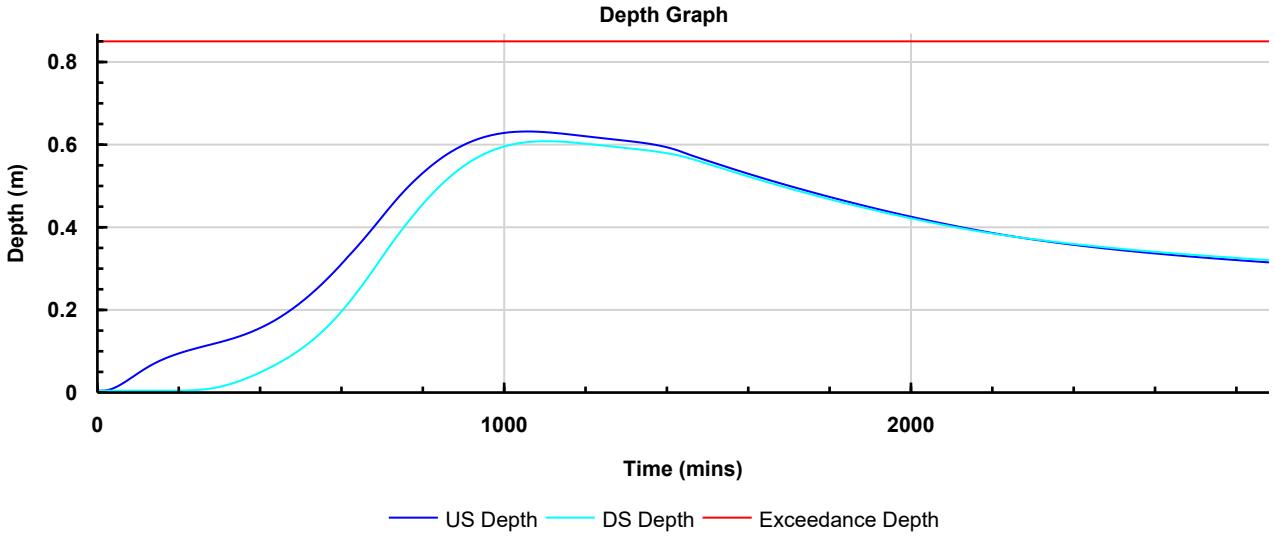

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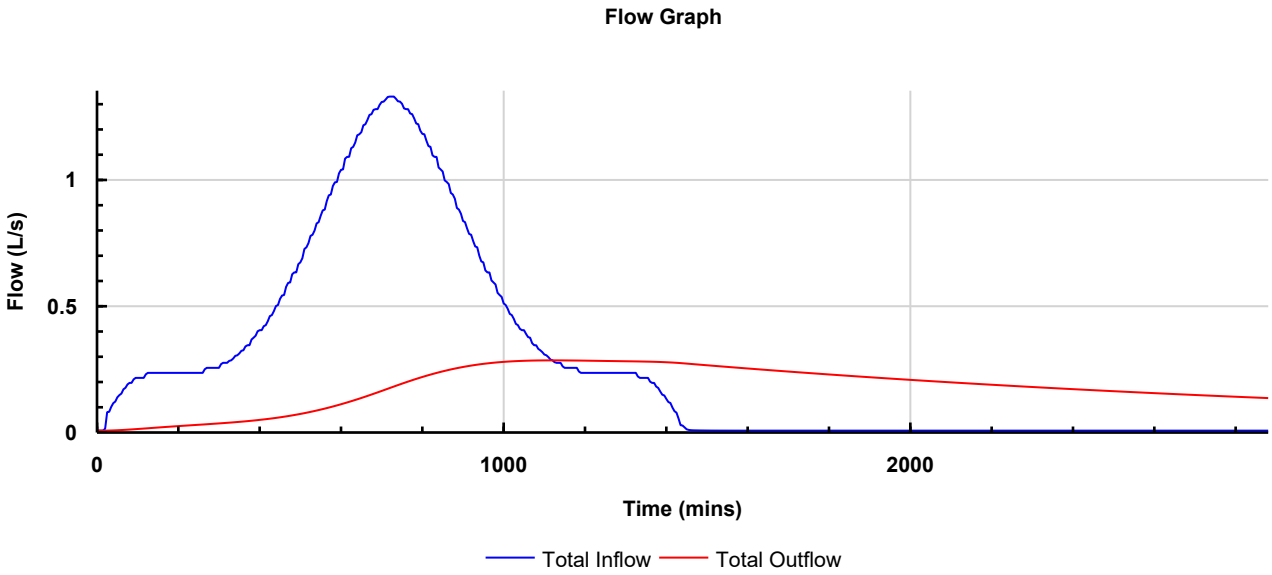
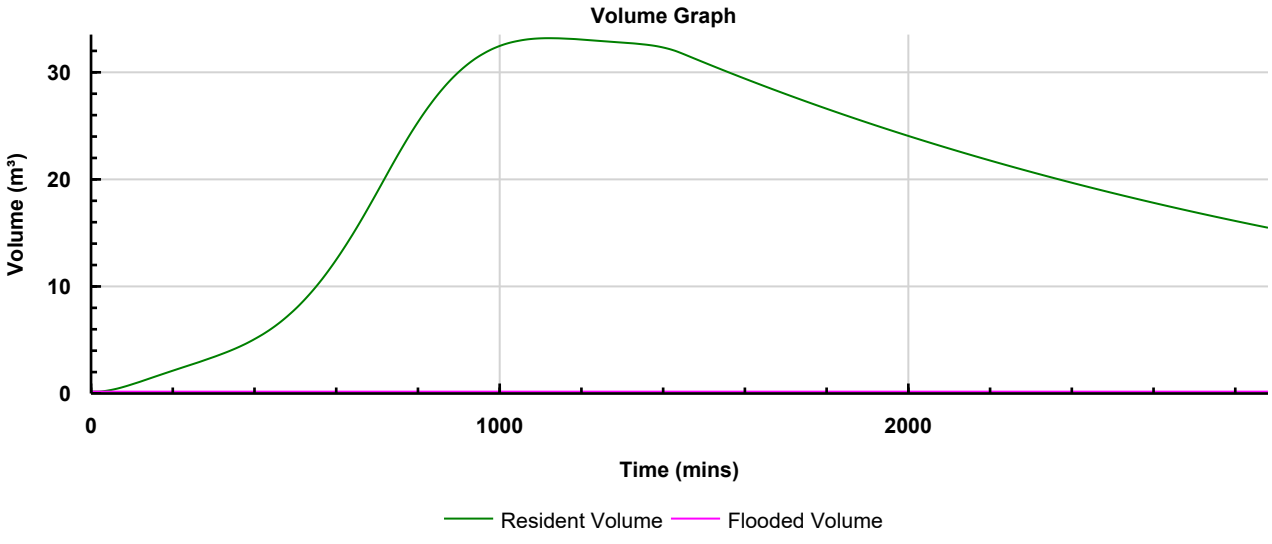
Consulting Engineers

Soakaway 2
Critical by Return Period: FSR: 100 years: Increase Rainfall (%): +20: 1440 mins: Winter

Type : Infiltration Trench

Graphs





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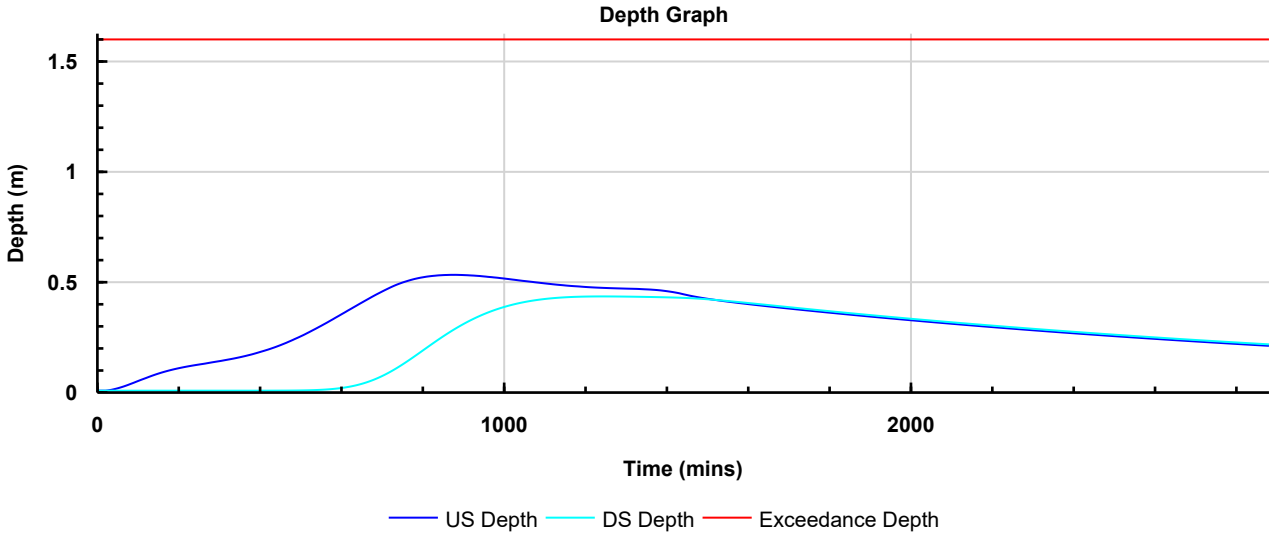

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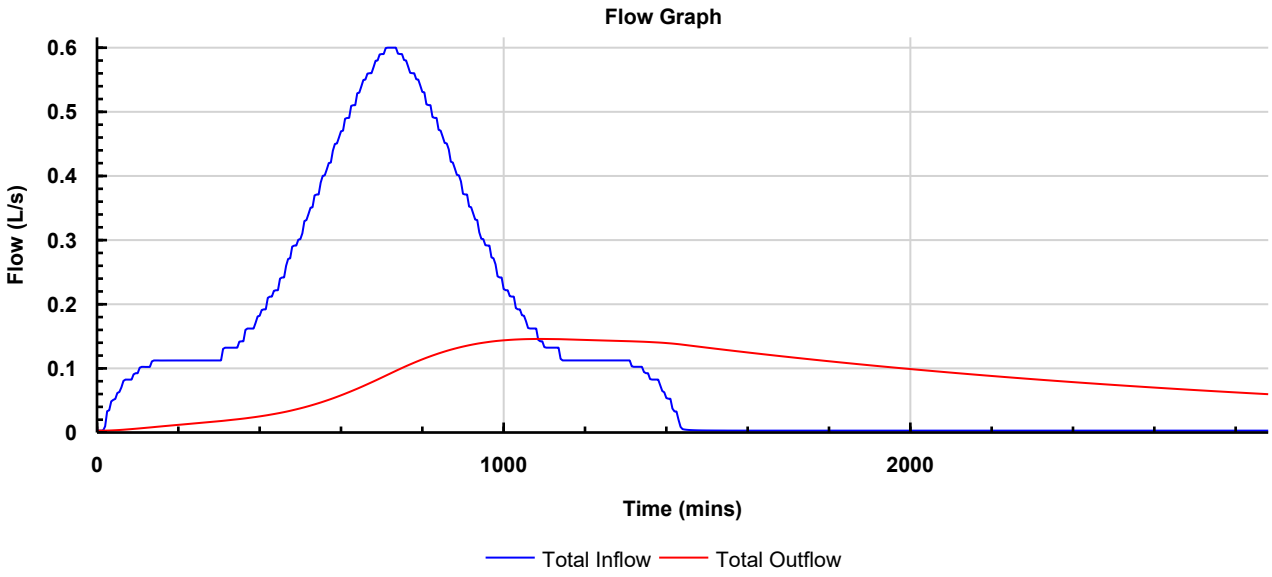
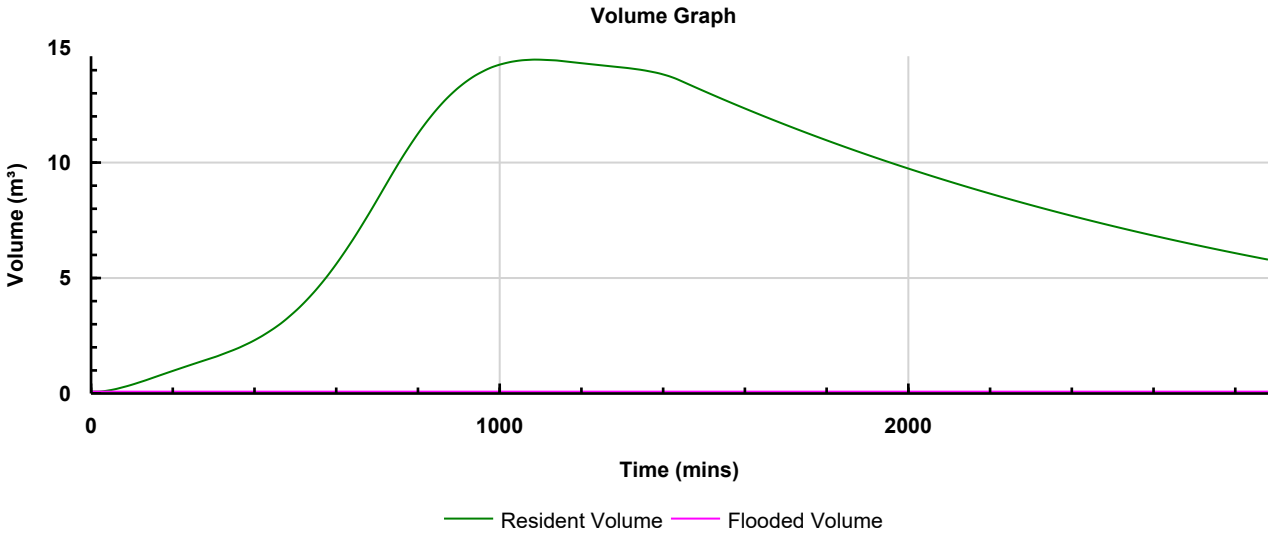
	Designed by: AC	Checked by: BC	Approved By: BC
Report Details: Type: Stormwater Control Results Storm Phase: Phase	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY		

Soakaway 3
Critical by Return Period: FSR: 100 years: Increase Rainfall (%): +20: 1440 mins: Winter

Type : Infiltration Trench

Graphs





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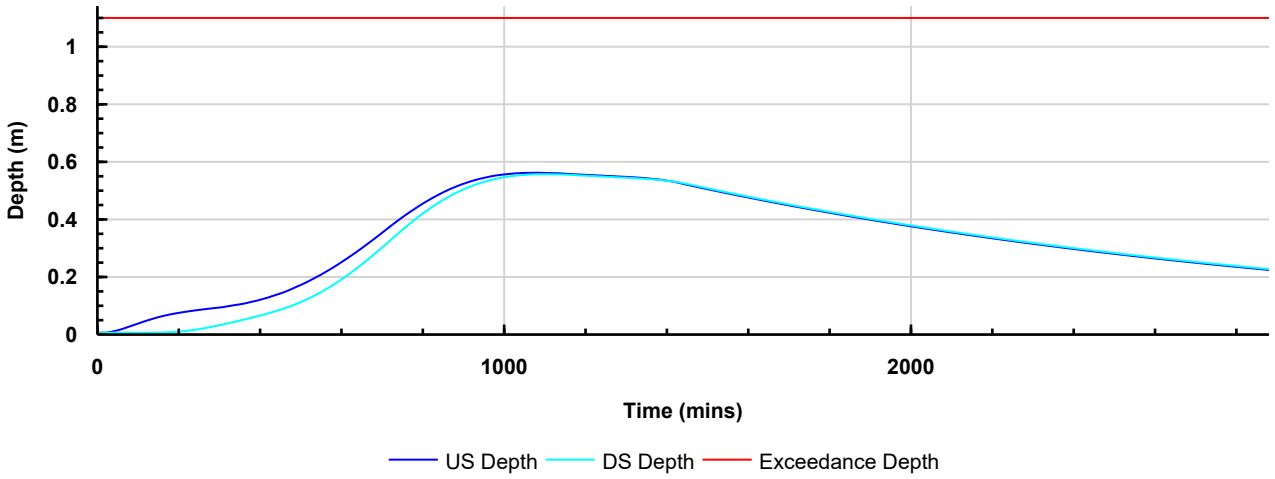
Consulting Engineers

Depth Graph



Appendix 3 Drawings, Details & Calculations

SERVICES LEGEND:

- PROPOSED FOUL SEWER
- PROPOSED FOUL MANHOLE
- PROPOSED STORM SEWER
- PROPOSED STORM MANHOLE
- PROPOSED STORM OUTFALL/OVER FLOW
- PROPOSED SURFACE WATER SOAKAWAY/ATTENUATION
- OIL/PETROL INTERCEPTOR
- RAIN GARDEN – PLANTING TO SPECIALIST LANDSCAPING DETAILS
- TREE PITS – TO SPECIALIST LANDSCAPING DETAILS

1...ALL MAIN DRAINAGE PIPES TO BE min. 150mm DIA. UPVC TO IS EN 1401 & AGREEMENT CERTIFIED U.N.O

2...ALL LOCAL STORM PIPES AROUND HOUSES TO BE MIN.100mm DIA. LAID AT MIN. 1:100 FALLS

3...ALL LOCAL FOUL PIPES AROUND HOUSES TO BE MIN.100mm DIA. LAID AT MIN. 1:60 FALLS

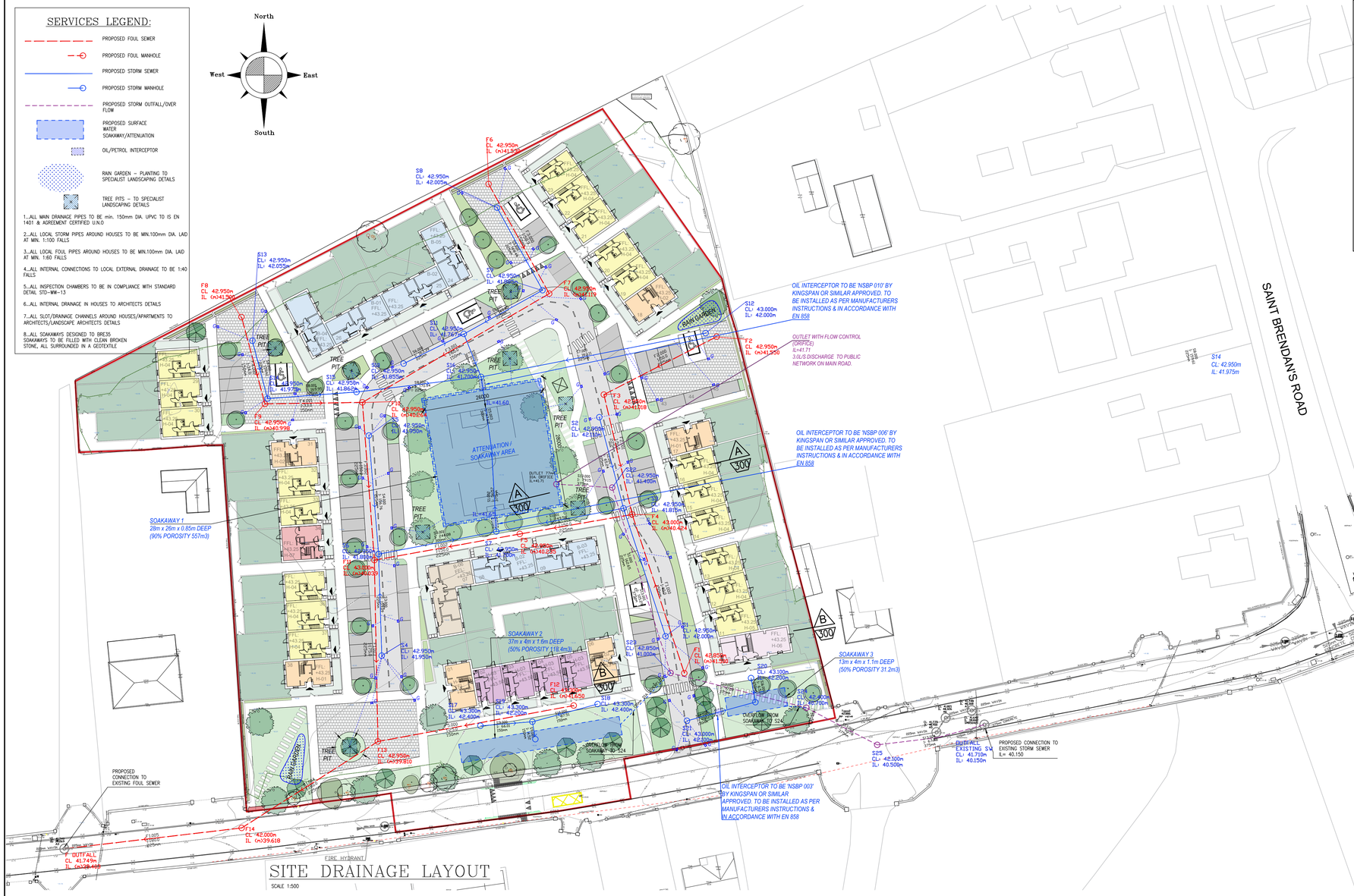
4...ALL INTERNAL CONNECTIONS TO LOCAL EXTERNAL DRAINAGE TO BE 1:40 FALLS

5...ALL INSPECTION CHAMBERS TO BE IN COMPLIANCE WITH STANDARD DETAIL STD–WW–13

6...ALL INTERNAL DRAINAGE IN HOUSES TO ARCHITECTS DETAILS

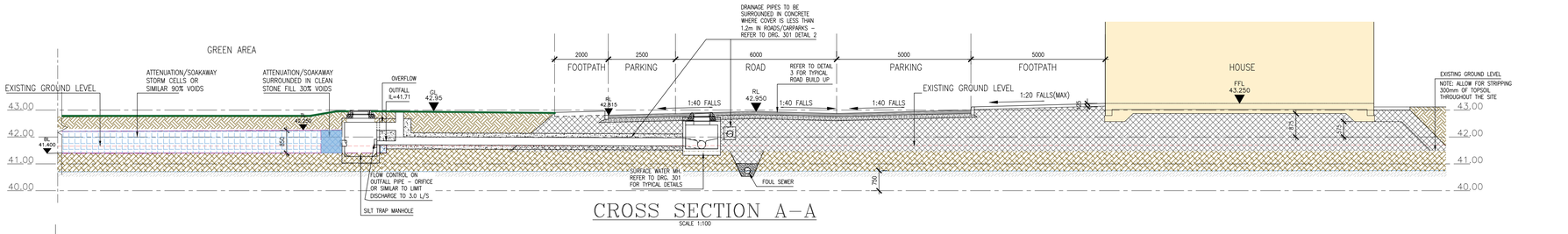
7...ALL SLOT/DRAINAGE CHANNELS AROUND HOUSES/APARTMENTS TO ARCHITECTS/LANDSCAPE ARCHITECTS DETAILS

8...ALL SOAKAWAYS DESIGNED TO BRE365 SOAKAWAYS TO BE FILLED WITH CLEAN BROKEN STONE, ALL SURROUNDED IN A GEOTEXTILE



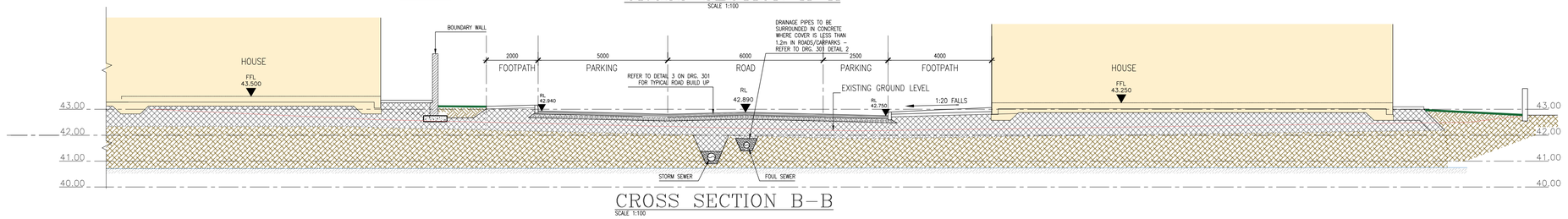
SITE DRAINAGE LAYOUT

SCALE 1:500



CROSS SECTION A–A

SCALE 1:100



CROSS SECTION B–B

SCALE 1:100

EXCAVATION AND FILL NOTES :

1...THE RESPONSIBLE AUTHORITIES SHOULD BE CONSULTED REGARDING THE GROUND TO BE EXCAVATED WITH REGARD TO THE POSITION AND TYPE OF UNDERGROUND SERVICES THAT ARE LIKELY TO BE ENCOUNTERED DURING EXCAVATION AND ANY POSSIBLE DIVERSIONS REQUIRED.

2...THE BEARING STRATA TO BE APPROVED AND AGREED BY THE CONSULTING ENGINEER.

3...TEMPORARY FILL OVER BEARING STRATA TO BE PROVIDED TO PROTECT THE AGREED BEARING STRATA AND REMOVED FROM SITE BEFORE BEGINNING PERMANENT CONSTRUCTION.

4...EXCAVATE TO THE DIMENSIONS, LEVELS, LINES AND PROFILES SHOWN ON THE RELEVANT DRAWINGS. LEVEL AND GRADE TO FALLS AND REMOVE ALL LOOSE MATERIAL. OBTAIN APPROVAL BEFORE ANY CONCRETING OR FILL WORK IS CARRIED OUT. IF ROCK OR OTHER NATURAL STRATA IS ENCOUNTERED NOTIFY THE ARCHITECT AND ENGINEER AND OBTAIN INSTRUCTIONS BEFORE EXCAVATION. BACK FILL UNAUTHORISED OR EXCESS EXCAVATIONS WITH APPROVED FILLING AT NO EXPENSE TO THE CLIENT.

5...WHEN ARCHAEOLOGICAL OBJECTS ARE DISCOVERED DURING EXCAVATION, STOP WORK IN THE IMMEDIATE VICINITY OF THE FIND AND INFORM THE ARCHITECT AND ENGINEER AT ONCE. THE OWNER OF MINERALS, SAND, GRAVEL OR ARCHAEOLOGICAL OBJECTS AND THE LIKE DISCOVERED IN THE COURSE OF THE EXCAVATIONS SHALL BE DEEMED TO BE THE PROPERTY OF THE CLIENT.

6...EXCAVATIONS IN POSITIONS ADJACENT TO EXISTING BUILDINGS, PATHWAYS OR THE LIKE SHALL BE CARRIED OUT IN SUCH A MANNER THAT SUCH EXISTING BUILDINGS, PATHWAYS OR THE LIKE ARE NOT ENDANGERED.

7...KEEP EXCAVATIONS FREE FROM WATER, AND KEEP WATER FROM EXCAVATIONS CLEAR OF OTHER CONSTRUCTION WORK. THE WATER LEVEL MAY BE SEASONAL AND/OR TIDAL. WHERE TEMPORARY SUMPS ARE REQUIRED CONSTRUCT THEM CLEAR OF EXCAVATIONS FOR PERMANENT WORK AND FILL THEM WITH SUITABLE FILLING WHEN NO LONGER REQUIRED.

8...DISPOSAL AREA FOR EXCAVATED MATERIAL TO BE AGREED WITH CLIENT AND OTHER RELEVANT AUTHORITIES.

9...UNLESS OTHERWISE AGREED ALL FILL MATERIAL WITHIN 1.0m OF BUILDINGS SHOULD BE 'GRANULAR FILL S.R. 21 :2014 ANNEX E' COMPACTED IN 200mm LAYERS USING 10 NUMBER PASSES OF A 3000kg PER METER WIDTH VIBRATING ROLLER. SEE COMPACTION SPECIFICATION TABLE

10...FILL MATERIAL MUST BE PROVIDED OVER THE FULL EXTENT OF THE ROADS AND EXTEND AT LEAST 300mm BEYOND KERB LINE. IT MUST THEN TAPER 45DEG DOWN TO BEARING STRATA.

Compaction Specification

Type of Compaction Plant	Catergory	Number of Passes for Layers not exceeding the following compacted thickness: 110mm	225mm	150mm
Smooth–wheeled Roller (or vibratory roller operating without vibration)	Mass per metre width of roll: Over 2700 Kg to 5400Kg	16	unsuitable	unsuitable
	Over 5400 Kg	18	16	unsuitable
Pneumatic–tyred Roller	Mass per metre width of vibrating roll: Over 4000 Kg up to 6000 Kg	12	unsuitable	unsuitable
	Over 6000 Kg up to 8000 Kg	12	unsuitable	unsuitable
	Over 8000 Kg up to 12000 Kg	10	16	unsuitable
	Over 12000 Kg	8	12	unsuitable
Vibratory Roller	Mass per metre width of vibrating roll: Over 700 Kg up to 1300 Kg	16	unsuitable	unsuitable
	Over 1300 Kg up to 1800 Kg	6	16	unsuitable
	Over 1800 Kg up to 2300 Kg	4	6	10
	Over 2300 Kg up to 2900 Kg	3	5	9
	Over 2900 Kg up to 3600 Kg	3	5	8
	Over 3600 Kg up to 4300 Kg	2	4	7
	Over 4300 Kg up to 5000 Kg	2	4	6
	Over 5000 Kg	2	3	5
Vibrating–plate Compactor	Mass per metre of base plate: Over 1400 Kg/m2 up to 1800 Kg/m2	8	unsuitable	unsuitable
	Over 1800 Kg/m2 up to 2100 Kg/m2	5	8	unsuitable
	Over 2100 Kg/m2	3	6	10
Vibro–tamper	Mass: Over 50 Kg up to 65 Kg	4	8	unsuitable
	Over 65 Kg up to 75 Kg	3	6	10
	Over 75 Kg	2	4	8
Power Rammer	Mass: 100 Kg – 500 Kg	5	8	unsuitable
	Over 500 Kg	5	8	12

NOTES

GENERAL NOTES :

1...ALL COYLE KENNEDY DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS DRAWINGS AND ALL OTHER RELEVANT DRAWINGS.

2...ALL SETTING OUT, INSULATION, DPC, TANKING / WATERPROOFING, SCREED AND RADON PROTECTION DETAILS BY ARCHITECT & SPECIALIST.

3...DETAILED SPECIFICATIONS (IF NOT ISSUED) ARE AVAILABLE AT ENGINEERS OFFICE FOR INSPECTION BY CONTRACTORS, BY APPOINTMENT.

4...REFER TO ARCHITECT FOR DAMP PROOF, TANKING AND GAS PROOFING MEMBRANE REQUIREMENTS. REQUIREMENTS OF SUBSTRUCTURE GAS/WATER PROOFING MEMBRANES TO BE BY A REPUTABLE, COMPETENT SPECIALIST WITH ADEQUATE PI.

5...THE CONTRACTOR SHALL BE DEEMED TO HAVE ALLOWED FOR, WITHIN HIS TENDER, EMPLOYING A CHARTERED STRUCTURAL ENGINEER WITH ADEQUATE PROFESSIONAL INDEMNITY INSURANCE TO ASSESS, DESIGN AND DETAIL SUCH TEMPORARY WORKS AS ARE NECESSARY TO OFFER SUPPORT TO EXISTING AND/OR CONSTRUCTED ELEMENTS DURING THE CONSTRUCTION PERIOD. THIS APPLIES TO ELEMENTS WITHIN THE SITE AND NEIGHBORING THE SITE.

6...THE CONTRACTOR IS DEEMED TO HAVE VISITED THE SITE AND CONSULTED WITH RELEVANT AUTHORITIES AND BE SATISFIED IN RELATION TO THE SITES SURROUNDINGS, EXISTING SERVICES, LEVELS, BOUNDARIES, GROUND CHARACTERISTICS AND ANY OTHER SITE CONSTRAINTS, INCLUDING DIVERSION OF SERVICES AS NECESSARY.

7...ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS.

8...WHERE LEANMIX IS SPECIFIED ALL LEANMIX TO BE GRADE C16/20 (GEN 3). UNLESS NOTED OTHERWISE.

9...ALL LEVELS ARE IN METRES ABOVE ORDINANCE DATUM (U.N.O.) INDICATING STRUCTURAL LEVEL (SSL)

10...DO NOT SCALE FROM DRAWINGS, USE FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES TO BE REPORTED TO THE STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORKS.

11...ALL WORKS SHALL BE CARRIED OUT IN A SAFE MANNER AND IN ACCORDANCE WITH THE HEALTH AND SAFETY REGULATIONS. METHOD STATEMENTS (WHERE REQUIRED) SHALL BE SUBMITTED TO THE ENGINEER OR OTHER APPOINTED PERSON(S).

12...THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AUTHORITY REQUIREMENTS INCLUDING PLANNING CONDITIONS, FIRE SAFETY CERTIFICATE CONDITIONS, LOCAL AUTHORITY DRAINAGE REQUIREMENTS etc.

13.PROJECT DRAWINGS AND SPECIFICATIONS REFERENCE TO BUILDING REGULATIONS, BRITISH, IRISH OR OTHER NATIONAL STANDARD OR CODES OF PRACTICE DO NOT GIVE THE YEAR OF ISSUE OR DATES OF AMENDMENTS. THE LATEST RELEVANT PUBLISHED VERSION INCLUDING ANY RELEVANT AMENDMENTS AND ADD END AT THE DATE OF INVITATION TO TENDER SHALL APPLY. WHERE A STANDARD OR CODE OF PRACTICE HAS BEEN SUPERSEDED, THE LATEST EDITION OF THE SUPERSEDING PUBLICATION SHALL APPLY.

14... ANY DISCREPANCIES DISCOVERED BETWEEN DESIGN TEAM DRAWINGS TO BE REPORTED IMMEDIATELY AND CLARIFICATION SOUGHT AND DISCREPANCY CORRECTED PRIOR TO CONSTRUCTION COMMENCING

DRAINAGE NOTES :

1...CONTRACTOR TO MAKE ALL NECESSARY ENQUIRIES REGARDING LOCATION OF EXISTING SEWERS, ELECTRICAL AND OTHER SERVICES ON SITE.

2...FOR DRAINAGE WORK LOCAL TO BUILDINGS, REFER TO ARCHITECT'S DRAWINGS.

3...ALL DRAINAGE WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT SPECIFICATION, PART H BUILDING REGULATIONS AND DEPT. OF ENVIRONMENT DOCUMENT "RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS", & WW: "SEWERS FOR ADOPTION 6th EDITION" A DESIGN & CONSTRUCTION GUIDE FOR DEVELOPERS AND UISCE ÉIREANN WASTEWATER CODE OF PRACTICE.

4...BEDDING MATERIAL TO BE 10mm SINGLE SIZED AGGREGATE COMPLYING WITH THE REQUIREMENTS OF AGGREGATES FOR CONCRETE', FOR RIGID PIPES THE GRANULAR MATERIAL SHOULD CONFORM TO BS EN 1610 ANNEX B TABLE B AND SHOULD BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5mm TO 10mm FOR 100mm PIPES; 14mm FOR 150mm PIPES; 20mm FOR 150mm – 600mm DIAMETER AND 40mm FOR PIPES MORE THAN 600mm DIAMETER.

5...THE PREPARED UNDERSIED OF THE TRENCH SHOULD CONSIST OF BEDDING MATERIAL FOR THE FULL WIDTH OF THE TRENCH AND LAID TO THE CORRECT GRADIENT.

6...THE MINIMUM THICKNESS OF BEDDING MATERIAL UNDER THE BARREL OF THE PIPE SHOULD BE 100MM

7...IMPORTED BEDDING MATERIAL AND BACKFILL USING 'AS DUG MATERIAL' MUST BE APPROVED BY ENGINEER.

8...ALL PVC–U PIPES AND FITTINGS USED FOR DRAIN AND SEWER MUST COMPLY WITH IS.424 " UNPLASTICISED POLYVINYL CHLORIDE (PVC–U)PIPES AND FITTINGS FOR BURIED DRAINAGE AND SEWAGE SYSTEMS "

9...ANY CONCRETE SURROUND TO MANHOLES OR PIPES SHALL BE DETAILED AND CONSTRUCTED SO AS NOT TO RESTRICT OR IMPEDE THE FLOW OF GROUNDWATER WITHIN THE GROUND OR DRAINAGE TRENCHES.

REFER TO DRAWINGS 301 & 302 FOR TYPICAL DETAILS AND TO DRGS, 303-305 FOR DRAINAGE NETWORK SECTIONS. DRAWINGS TO BE READ IN CONJUCTION WIT CK REPORT 24-116-250512-01RP AND ITS APPENDICES

F„ – 8/1

Rev.	Revision	Date
B	SITE LAYOUT UPDATED IN ACCORDANCE WITH REVISED ARCHITECTS DRAWINGS. RED LINE INCLUDED	20/05/2025
A	SITE LAYOUT UPDATED IN ACCORDANCE WITH REVISED ARCHITECTS DRAWINGS. SECTION B–B INTRODUCED	12/05/2025

DRAWING STATUS

	PRELIMINARY	A	APPROVAL	T	TENDER
	CONSTRUCTION	R	RECORD	I	INFORMATION

COYLE KENNEDY
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GFSC,
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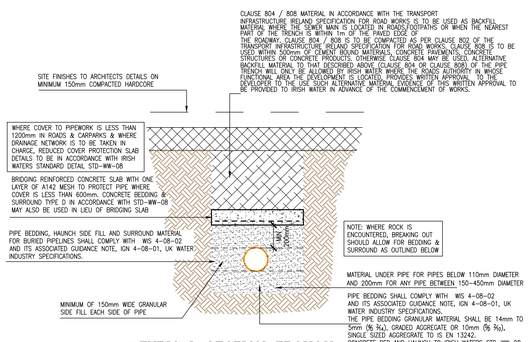
Fax: +353 (0)91 753000
Website: www.coylekennedy.com
email: mail@coylekennedy.com

PROJECT: GCC SOCIAL HOUSING, PORTUMNA, CO. GALWAY

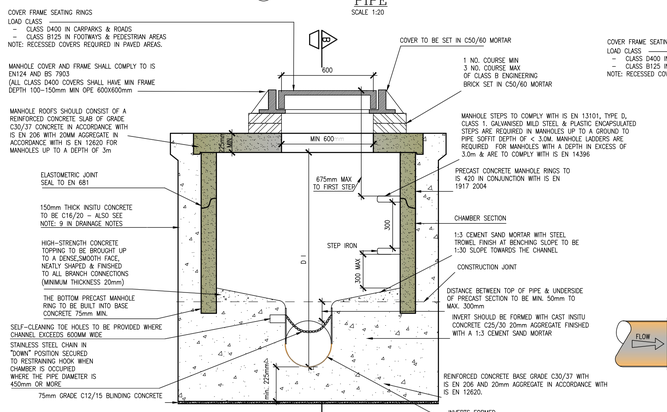
CLIENT: GALWAY COUNTY COUNCIL

TITLE: SITE DRAINAGE LAYOUT

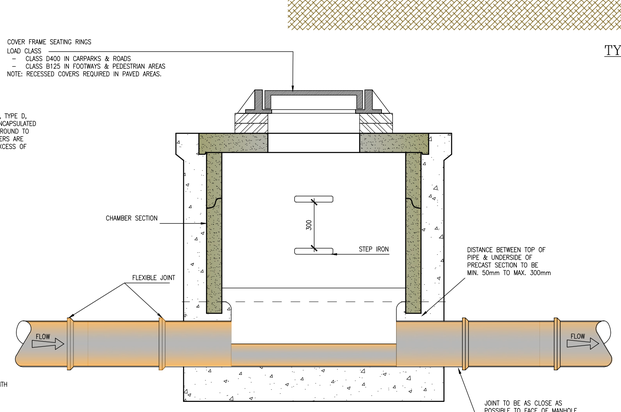
PROJECT No. 24–116	STATUS – SKETCH No. P-300
DATE MARCH 2025	DRAWING REV. B
SCALE 1:500,100 @ A1	BY AC / CHECKED BC



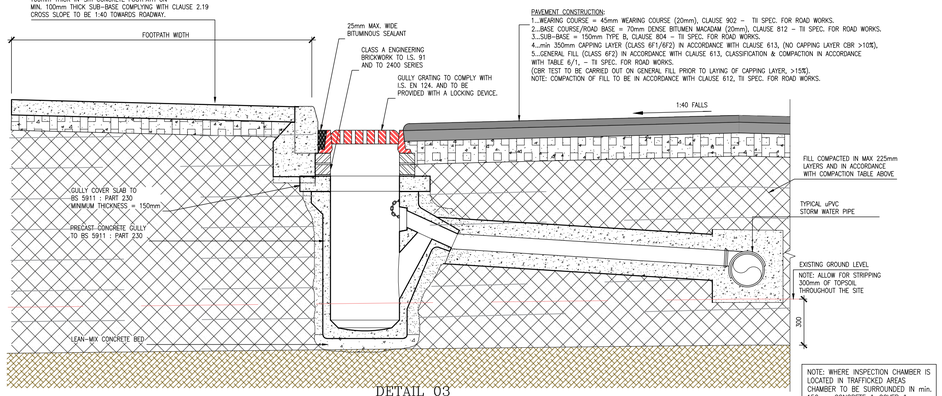
02 TYPICAL SECTION TROUGH PIPE
SCALE 1:20



04 SECTION A-A
TYPICAL PRE-CAST MANHOLE
SCALE 1:20



SECTION B-B
SCALE 1:20



DETAIL 03
TYPICAL SECTION THRU' ROAD & GULLY
SCALE 1:20

NOTE: WHERE INSPECTION CHAMBER IS LOCATED IN TRAFFICKED AREAS CHAMBER TO BE SURROUNDED IN min. 150mm CONCRETE & COVER & FRAME TO BE CLASS D400.

MINIMUM SIZE OF CAPPING SLABS

PIPE SIZE	WIDTH	DEPTH
(mm)	(mm)	(mm)
100	500	100
225	500	100
300	600	150
375	750	200
450	900	250
600	1200	300

MINIMUM INTERNAL DIMENSIONS OF MANHOLES

DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
LESS THEN 375mm	1200
375mm TO 450mm	1350
500mm TO 750mm	1500

BACKDROP MANHOLE NOTES

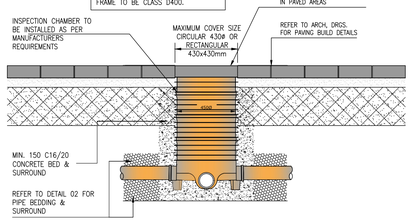
1... ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.

2... RODDING EYE CHAMBER SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 AND BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO APPROVAL FROM IRISH WATER.

3... ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO APPROVAL FROM IRISH WATER.

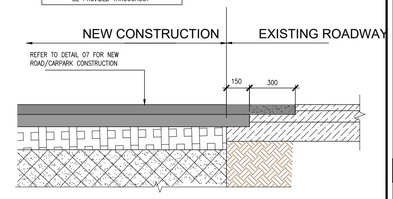
4... ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.

5... MANHOLE DETAILS TO BE IN ACCORDANCE WITH STO-VWV-09, 10 AND 11

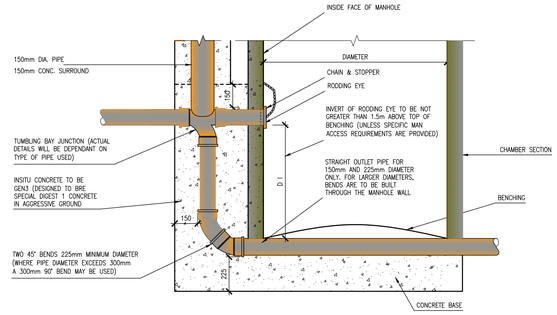


07 MEDIUM INSPECTION CHAMBER DETAIL
0.6m-1.0m
FOR PAVED/LANDSCAPED AREAS

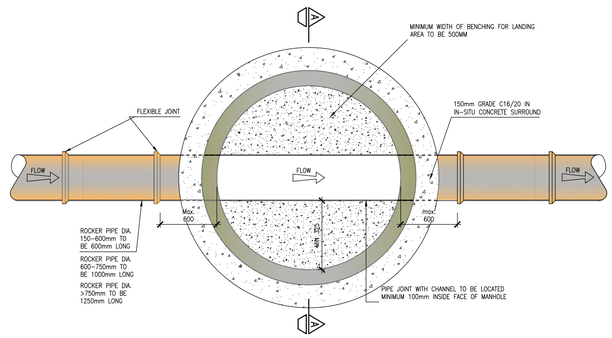
NOTE: CONTINUOUS LIQUID BITUMEN JOINT AT JUNCTION OF NEW & EXISTING SURFACES TO BE PROVIDED THROUGHOUT



08 TYPICAL ROAD/CARPARKING
TIE-IN DETAIL
SCALE 1:20

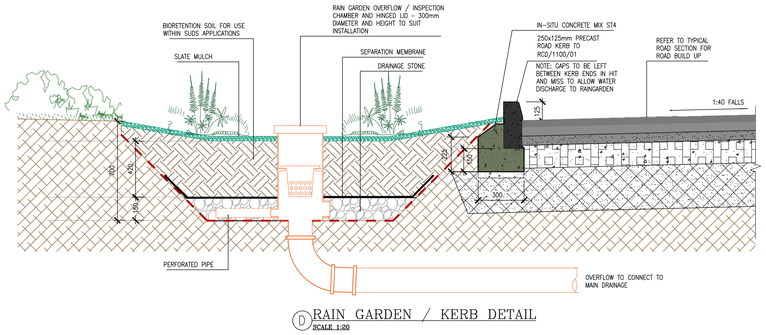


05 TYPICAL EXTERNAL VERTICAL BACKDROP
TYPE NO.1
150mm-450mm DIA.(INCL.) DROP GREATER THAN 1700mm
500mm-900mm DIA.(INCL.) DROP GREATER THAN 2000mm

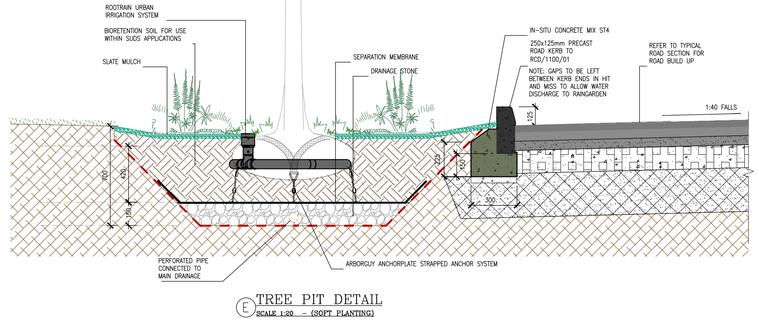


06 TYPICAL PRE-CAST MANHOLE PLAN
SCALE 1:20

Compaction Specification				
Type of Compaction Plant	Catergory	Number of Passes for Layers not exceeding the following compacted thickness: 110mm	150mm	225mm
Smooth-wheeled Roller (or vibratory roller operating without vibration)	Mass per metre width of roll: Over 2700 Kg to 5400Kg	16	unsuitable	unsuitable
	Over 5400 Kg	18	16	unsuitable
Pneumatic-tyred Roller	Mass per metre width of vibrating roll: Over 4000 Kg up to 6000 Kg	12	unsuitable	unsuitable
	Over 6000 Kg up to 8000 Kg	12	unsuitable	unsuitable
	Over 8000 Kg up to 12000 Kg	10	16	unsuitable
	Over 12000 Kg	8	12	unsuitable
Vibratory Roller	Mass per metre width of vibrating roll: Over 700 Kg up to 1300 Kg	16	unsuitable	unsuitable
	Over 1300 Kg up to 1800 Kg	6	16	unsuitable
	Over 1800 Kg up to 2300 Kg	4	6	10
	Over 2300 Kg up to 2900 Kg	3	5	9
	Over 2900 Kg up to 3600 Kg	3	5	8
	Over 3600 Kg up to 4300 Kg	2	4	7
	Over 4300 Kg up to 5000 Kg	2	4	6
	Over 5000 Kg	2	3	5
Vibrating-plate Compactor	Mass per metre of base plate: Over 1400 Kg/m2 up to 1800 Kg/m2	8	unsuitable	unsuitable
	Over 1800 Kg/m2 up to 2100 Kg/m2	5	8	unsuitable
	Over 2100 Kg/m2	3	6	10
Vibro-tamper	Mass: Over 50 Kg up to 65 Kg	4	8	unsuitable
	Over 65 Kg up to 75 Kg	3	6	10
	Over 75 Kg	2	4	8
Power Rammer	Mass: 100 Kg - 500 Kg	5	8	unsuitable
	Over 500 Kg	5	8	12



D RAIN GARDEN / KERB DETAIL
SCALE 1:20



E TREE PIT DETAIL
SCALE 1:20 - (SOFT PLANTING)

NOTES

GENERAL NOTES :

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7...ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS.

8...WHERE LEANMIX IS SPECIFIED ALL LEANMIX TO BE GRADE C16/20 (GEN 3). UNLESS NOTED OTHERWISE.

9...ALL LEVELS ARE IN METRES ABOVE ORDINANCE DATUM (U.N.G.) INDICATING STRUCTURAL LEVEL (SSL)

10...DO NOT SCALE FROM DRAWINGS, USE FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES TO BE REPORTED TO THE STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORKS.

11...ALL WORKS SHALL BE CARRIED OUT IN A SAFE MANNER AND IN ACCORDANCE WITH THE HEALTH AND SAFETY REGULATIONS. METHOD STATEMENTS (WHERE REQUIRED) SHALL BE SUBMITTED TO THE ENGINEER OR OTHER APPOINTED PERSON(S).

12...THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AUTHORITY REQUIREMENTS INCLUDING PLANNING CONDITIONS, FIRE SAFETY CERTIFICATE CONDITIONS, LOCAL AUTHORITY DRAINAGE REQUIREMENTS etc.

13...PROJECT DRAWINGS AND SPECIFICATIONS REFERENCE TO BUILDING REGULATIONS, BRITISH, IRISH OR OTHER NATIONAL STANDARD OR CODES OF PRACTICE DO NOT GIVE THE YEAR OF ISSUE OR DATES OF AMENDMENTS. THE LATEST RELEVANT PUBLISHED VERSION INCLUDING ANY RELEVANT AMENDMENTS AND ADD END AT THE DATE OF INVITATION TO TENDER SHALL APPLY. WHERE A STANDARD OR CODE OF PRACTICE HAS BEEN SUPERSEDED, THE LATEST EDITION OF THE SUPERSEDING PUBLICATION SHALL APPLY.

14... ANY DISCREPANCIES DISCOVERED BETWEEN DESIGN TEAM DRAWINGS TO BE REPORTED IMMEDIATELY AND CLARIFICATION SOUGHT AND DISCREPANCY CORRECTED PRIOR TO CONSTRUCTION COMMENCING

DRAINAGE NOTES :

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3...ALL DRAINAGE WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT SPECIFICATION, PART H BUILDING REGULATIONS AND DEPT. OF ENVIRONMENT DOCUMENT "RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS", & WRc "SEWERS FOR ADOPTION 6th EDITION" & DESIGN & CONSTRUCTION GUIDE FOR DEVELOPERS AND UISCE ÉIREANN WASTEWATER CODE OF PRACTICE.

4...BEDDING MATERIAL TO BE 10mm SINGLE SIZED AGGREGATE COMPLYING WITH THE REQUIREMENTS OF "AGGREGATES FOR CONCRETE". FOR RIGID PIPES THE GRANULAR MATERIAL SHOULD CONFORM TO BS EN 1610 ANNEX B TABLE B AND SHOULD BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5mm TO 10mm FOR 100mm PIPES; 14mm FOR 150mm PIPES; 20mm FOR 150mm - 600mm DIAMETER AND 40mm FOR PIPES MORE THAN 600mm DIAMETER.

5...THE PREPARED UNDERBED OF THE TRENCH SHOULD CONSIST OF BEDDING MATERIAL FOR THE FULL WIDTH OF THE TRENCH AND LAID TO THE CORRECT GRADIENT.

6...THE MINIMUM THICKNESS OF BEDDING MATERIAL UNDER THE BARREL OF THE PIPE SHOULD BE 100MM

7...IMPORTED BEDDING MATERIAL AND BACKFILL USING 'AS DUG MATERIAL' MUST BE APPROVED BY ENGINEER.

8...ALL PVC-U PIPES AND FITTINGS USED FOR DRAIN AND SEWER MUST COMPLY WITH IS.424 " UNPLASTICISED POLYVINYL CHLORIDE (PVC-U)PIPES AND FITTINGS FOR BURIED DRAINAGE AND SEWAGE SYSTEMS "

9...ANY CONCRETE SURROUND TO MANHOLES OR PIPES SHALL BE DETAILED AND CONSTRUCTED SO AS NOT TO RESTRICT OR IMPEDE THE FLOW OF GROUNDWATER WITHIN THE GROUND OR DRAINAGE TRENCHES.

F_n - 6/1

Rev.	Revision	Date
B	NOTE ADDED TO DRAINAGE NOTES	20/05/2025
A	SECTION B-B REMOVED AND SECTIONS 2 & 3 ADDED	12/05/2025

DRAWING STATUS

P	PRELIMINARY	A	APPROVAL	T	TENDER
C	CONSTRUCTION	R	RECORD	I	INFORMATION

COYLE KENNEDY
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Moneenageisha Rd,
Galway.
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Fax: +353 (0)91 753000
Website: www.coylekennedy.com
email: mail@coylekennedy.com

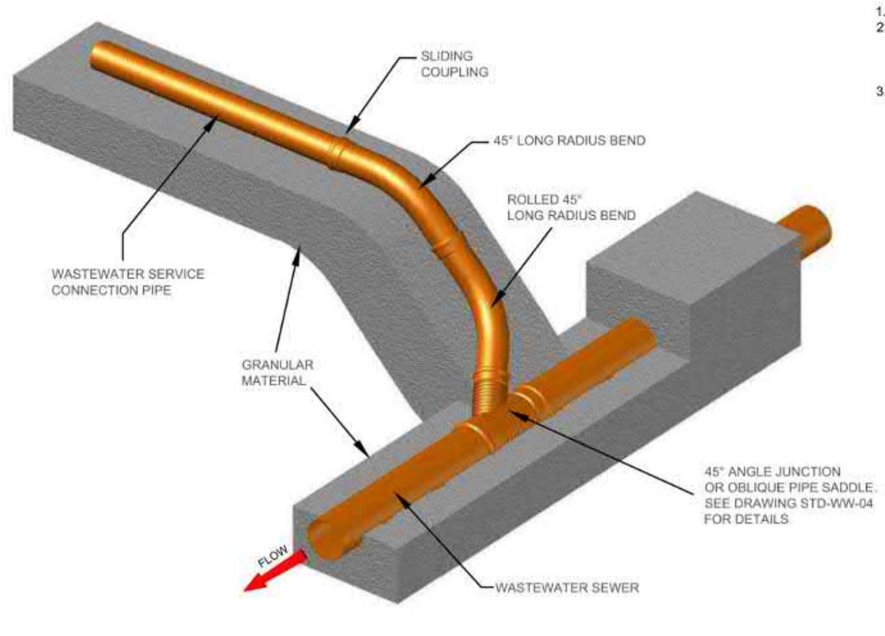
PROJECT
GCC SOCIAL HOUSING PORTUMNA

CLIENT
GALWAY COUNTY COUNCIL

TITLE
TYPICAL DRAINAGE/CIVILS DETAILS -SHEET 1

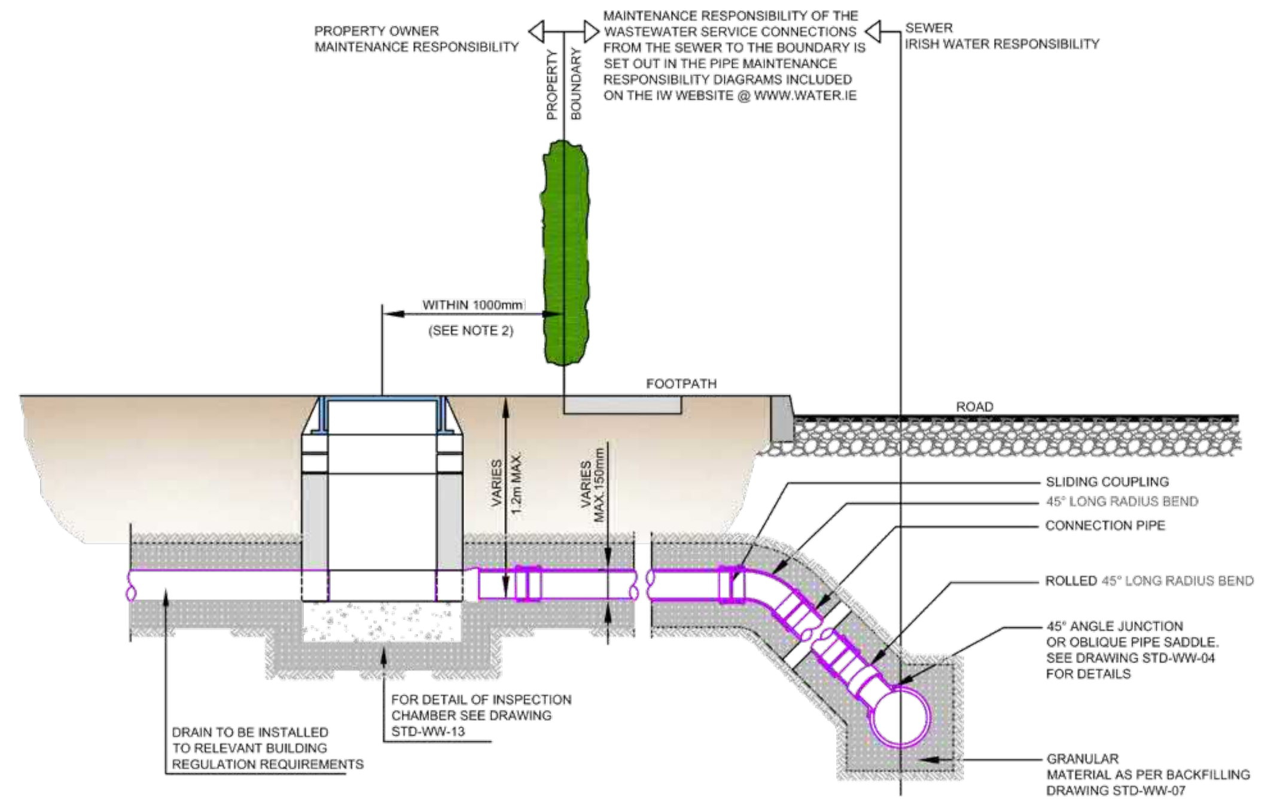
PROJECT No.	STATUS - DRAWING No.
24-116	P-301
DATE: MARCH 2025	DRAWING REV.
SCALE: 1:100,1:50,1:20 @ A1 / BY: AC / CHECKED: TK	B

SCALE 1:20 0 0.2 0.4 0.6 0.8 1m | SCALE 1:50 0 0.5 1 1.5 2 2.5 3 3.5 4m 4.5 5m | SCALE 1:100 0 1 2 3 4 5 6 7 8 9 10m | SCALE 1:200 0 1 2 4 6 8 10 12 14 16 18 20 | SCALE 1:250 0 1 2 3 4 5 10 15 20M | SCALE 1:500 0 5 10 20 30M



3D VIEW SHOWING SERVICE CONNECTION PIPEWORK

1. ALL DIMENSIONS ARE IN MILLIMETRES (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 CURTILAGE, IF PRACTICABLE, CONSULT WITH IRISH WATER ON ALTERNATIVE LOCATIONS.
3. ANY PIPE AND ASSOCIATED ACCESS UPSTREAM OF THE POINT OF CONNECTION TO A PUBLIC SEWER WITHIN THE CONFINES OF A PRIVATE BOUNDARY IS A PRIVATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH BUILDING REGULATIONS.

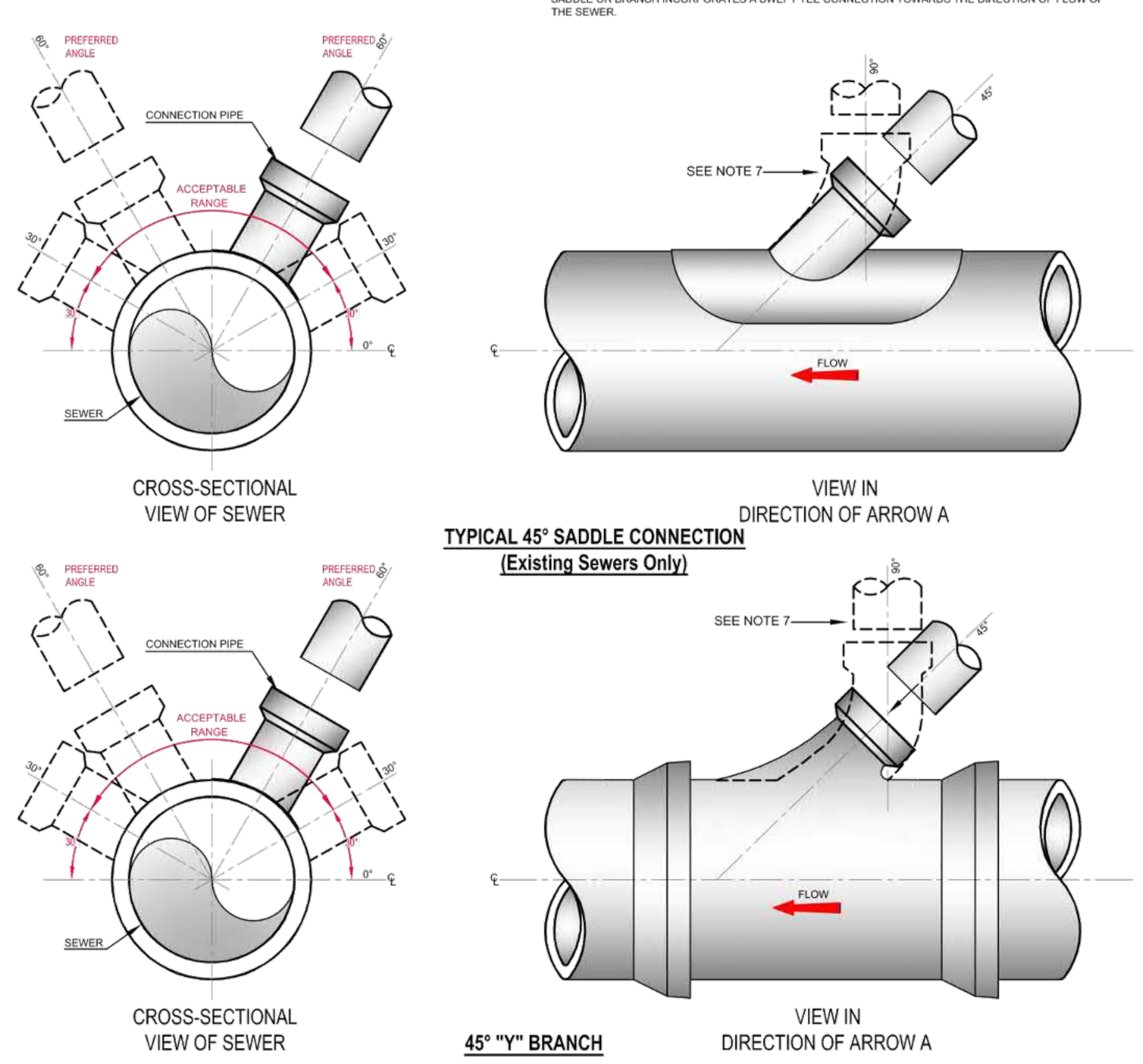


SECTION SHOWING DRAIN AND SERVICE CONNECTION PIPEWORK

PIPE SIZE (mm)	GRADIENT
100	1:40 - 1:80

DRAIN & SERVICE CONNECTION PIPEWORK
EXTRACT FROM UISCE ÉIREANN'S
STD-WW-03

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. AS FAR AS PRACTICABLE, JUNCTIONS AND SERVICE CONNECTIONS SHALL BE BUILT IN FOR ALL PLANNED USERS WHEN THE SEWER IS BEING CONSTRUCTED. WHERE IT IS NECESSARY TO MAKE A POST-CONSTRUCTION CONNECTION THE DEVELOPER SHALL BRING THE SERVICE CONNECTION 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 WITHIN THE ACCEPTABLE RANGE OF 30° to 90°.
4. WHERE THE SERVICE PIPE CONNECTION WITHIN THE FOOTPRINT OF THE SELF LAY AGREEMENT IS BEING MADE TO A SEWER WITH A NOMINAL INTERNAL DIAMETER OF 300mm DIAMETER OR LESS, CONNECTIONS SHALL BE MADE USING 45° ANGLE JUNCTIONS.
5. WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH A NOMINAL INTERNAL DIAMETER GREATER THAN 300mm, THE FOLLOWING SHALL APPLY :
A. WHERE THE DIAMETER OF THE CONNECTING PIPE IS GREATER THAN HALF THE DIAMETER OF THE SEWER, AN ACCESS MANHOLE SHALL BE CONSTRUCTED TO FORM THE CONNECTION POINT; OR,
B. WHERE THE DIAMETER OF THE CONNECTION PIPE IS LESS THAN OR EQUAL TO HALF THE DIAMETER OF THE SEWER, THEN THE CONNECTION SHALL BE MADE USING A PREFORMED Y-BRANCH FITTING WITH A 45 DEG. SLOW BEND TO FORM THE CONNECTION TO THE WORKS.
6. CONNECTION USING SADDLES MAY ONLY BE USED IN EXCEPTIONAL CIRCUMSTANCES AND ONLY TO WHERE THE CONNECTION IS TO AN EXISTING SEWER. CONNECTIONS MADE WITH SADDLE FITTINGS SHALL BE MADE BY CUTTING AND SAFELY REMOVING A CORE FROM THE PIPE AND JOINTING THE SADDLE FITTING TO THE PIPE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO ENSURE A WATERTIGHT JOINT. THE CONNECTING PIPE SHALL NOT PROTRUDE INTO THE SEWERS
7. THE USE OF 90° "Y"-BRANCH OR SADDLE CONNECTIONS TO THE SEWER MAY BE ALLOWED, PROVIDED THE SADDLE OR BRANCH INCORPORATES A SWEPT TEE CONNECTION TOWARDS THE DIRECTION OF FLOW OF THE SEWER.



TYPICAL 45° SADDLE CONNECTION (Existing Sewers Only)

45° "Y" BRANCH

TYPICAL SEWER/SERVICE PIPE CONNECTION
EXTRACT FROM UISCE ÉIREANN'S
STD-WW-04

1. SEPARATION DISTANCES BETWEEN SEWERS ASSOCIATED WITH THE WORKS FROM OTHER UTILITY PIPES AND ACCESSORIES SHALL BE IN ACCORDANCE WITH SECTION 3.5.9 TO 3.5.21 OF THE CODE OF PRACTICE. SEPARATION DISTANCES FOR ALL NEW INSTALLATIONS FROM EXISTING IRISH WATER PIPES SHALL BE AS OUTLINED IN SECTION 3.20 OF THE CODE OF PRACTICE.
2. SPECIFIC SEPARATION CLEARANCE DISTANCES IN EXCESS OF THESE MINIMA SHALL BE PROVIDED FOR SERVICES SUCH AS GAS, ELECTRICITY, FIBRE-OPTIC OR OIL FILLED CABLES AS THE CASE MAY BE. THE PARTICULAR UTILITY PROVIDERS SHALL BE CONSULTED TO DETERMINE THESE MINIMUM SEPARATION DISTANCES AND EVIDENCE OF THIS CONSULTATION, WITH THE SPECIFIED SEPARATION DISTANCES, SHALL BE PROVIDED TO IRISH WATER AT DESIGN STAGE.
3. NOTIFICATION IN WRITING IS REQUIRED SHOULD WORKS BE WITHIN THE FOLLOWING DISTANCES FROM AN EXISTING WATER MAIN OR WASTEWATER RISING MAIN WHERE THE DEPTH OF THE EXISTING INFRASTRUCTURE DOES NOT EXCEED 1.5m:-

HORIZONTAL
1m AT EITHER SIDE OF AN EXISTING PIPE LESS THAN 200mm IN DIAMETER.
2m AT EITHER SIDE OF AN EXISTING PIPE OF 200mm TO 350mm IN DIAMETER.
5m AT EITHER SIDE OF AN EXISTING PIPE OF 350mm OR GREATER IN DIAMETER.

WHERE DUCTS OR PIPES ARE TO BE LAID CLOSE TO AN EXISTING WATERMAIN OR SEWER IN THE OWNERSHIP OF IRISH WATER. NOTIFICATION IN WRITING SHALL BE PROVIDED A MINIMUM OF 10 DAYS AHEAD OF ADVANCEMENT OF THE WORK. THIS ALSO APPLIES WHERE THE DEPTH OF THE IRISH WATER WATERMAIN OR SEWER EXCEEDS 1.5m. IN ALL OF THESE INSTANCES, SPECIFIC WRITTEN APPROVAL WILL BE REQUIRED FROM IRISH WATER BEFORE PROCEEDING WITH THE WORK

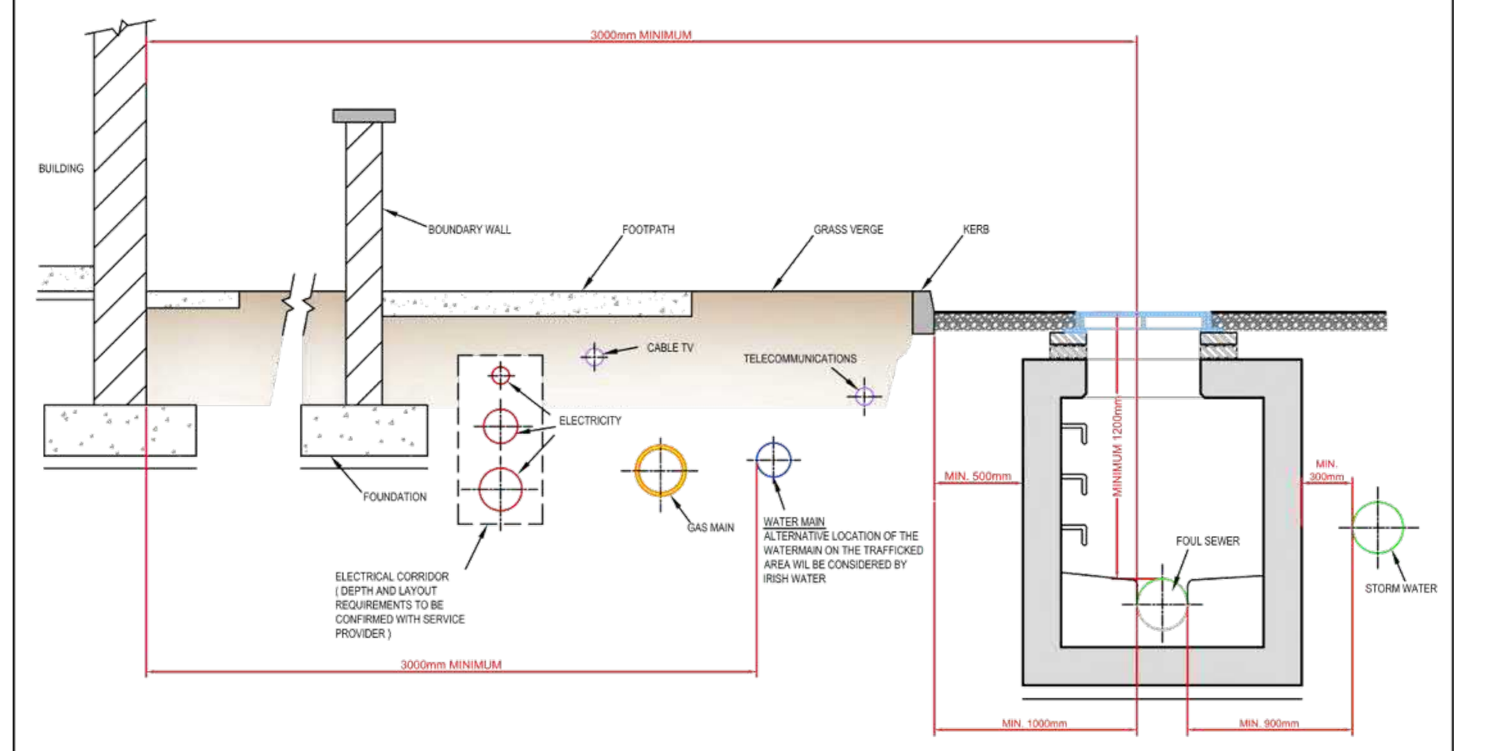
NOTIFICATION IN WRITING IS REQUIRED SHOULD WORKS BE WITHIN 1.5m DISTANCE OF A WASTEWATER SEWER.

REQUIREMENTS SHALL ALSO APPLY TO TRIAL HOLES OR SLIT TRENCHES TO LOCATE THE MAIN OR GAIN GROUND INFO DATA.

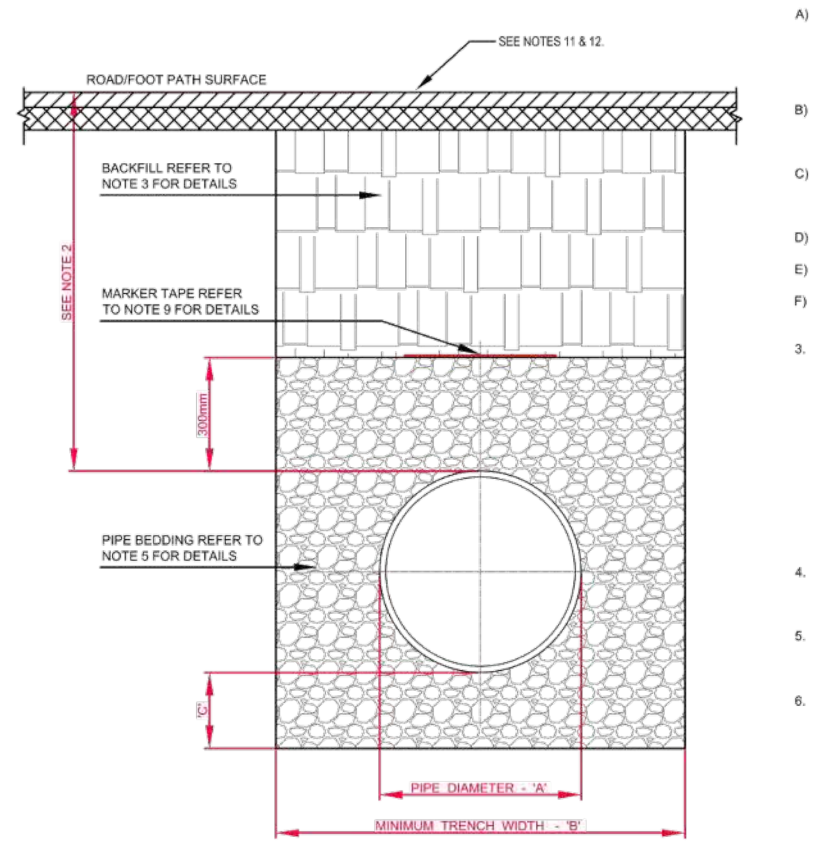
LARGER DIAMETERS >350mm DISTRIBUTION AND TRUNK MAINS, IRISH WATER MUST BE NOTIFIED AT LEAST 1 MONTH IN ADVANCE.

DEVELOPERS SHALL ALSO COMPLY WITH ANY NOTIFICATION REQUIREMENTS OF OTHER UTILITY PROVIDERS (ESB, GAS MAIN, TELECOMMUNICATION ETC.).

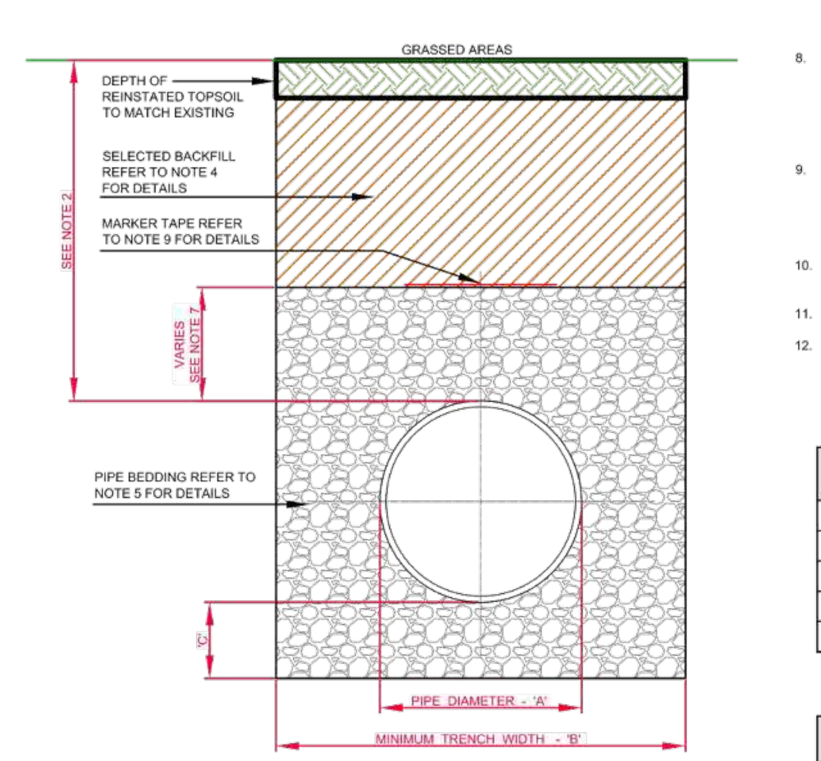
4. DETAILED PROPOSALS, INCLUDING WORK METHOD STATEMENTS, INSURANCE CONFIRMATION AND DETAILS OF WORK COMPLETED OF A SIMILAR NATURE MUST BE SUBMITTED TO IRISH WATER FOR ITS CONSIDERATION BEFORE AGREEMENT WILL ISSUE. ALL SUCH WORKS IN THE VICINITY OF ARTERIAL WATER MAINS AND SEWERS (MAINS GREATER THAN 400mm) SHALL BE SUBJECT TO WRITTEN AGREEMENT WITH IRISH WATER BEFORE CONSTRUCTION COMMENCES ON SITE. THIS AGREEMENT SHALL ALSO INCLUDE ANY NECESSARY PROTECTION FOR WATER MAINS.
5. ANY DAMAGE SHALL BE NOTIFIED IMMEDIATELY TO IRISH WATER. THE PERSON WHO CAUSES THE DAMAGE TO A SEWER MAIN OR FITTING WILL BE DEEMED TO HAVE COMMITTED AN OFFENCE UNDER SECTION 45 OF THE WATER SERVICES ACT 2007.
6. UNDER NO CIRCUMSTANCES WILL IRISH WATER ACCEPT SEWER MAIN INSTALLATIONS UNDER STRUCTURES, EXISTING OR PROPOSED, OR IN CLOSE PROXIMITY TO ANY EXISTING STRUCTURES OR FEATURES THAT WILL INHIBIT ACCESS FOR POST INSTALLATION MAINTENANCE AND ACCESS.
7. THE MINIMUM CLEAR HORIZONTAL DISTANCES SHOWN BELOW WILL BE INCREASED IF THE DEPTH OF THE SEWER EXCEEDS 3M OR IF THE DIAMETER IS GREATER THAN 375mm. THE MINIMUM CLEAR DISTANCES FOR PIPE DIAMETERS OF 450mm AND GREATER OR FOR DEPTHS EXCEEDING 4.0m SHALL BE BASED ON SPECIFIC CONSULTATION WITH IRISH WATER. THESE SEPARATION DISTANCES SHALL ALSO APPLY TO SEPARATION FROM EXISTING STRUCTURES, INCLUDING ATTENUATION TANKS AND SWALES.
8. THE EXTERNAL FACES OF MANHOLES SHALL BE AT LEAST 0.5m FROM THE EXTERNAL FACE OF THE KERB LINE.
9. THE EXTERNAL WALL OF THE SEWER IS TO BE AT LEAST 1.0m FROM THE EXTERNAL FACE OF THE KERB LINE.
10. WHERE DESIGN DEVIATES FROM TYPICAL DETAILS, THE LAYOUT SHALL BE SUBMITTED TO IRISH WATER FOR REVIEW AND AGREEMENT, WHICH IS TO BE OBTAINED IN WRITING BEFORE WORK COMMENCES ..



TYPICAL SERVICE LAYOUT INDICATING SEPARATION DISTANCES
EXTRACT FROM UISCE ÉIREANN'S
STD-WW-05



CROSS SECTION IN ROADS



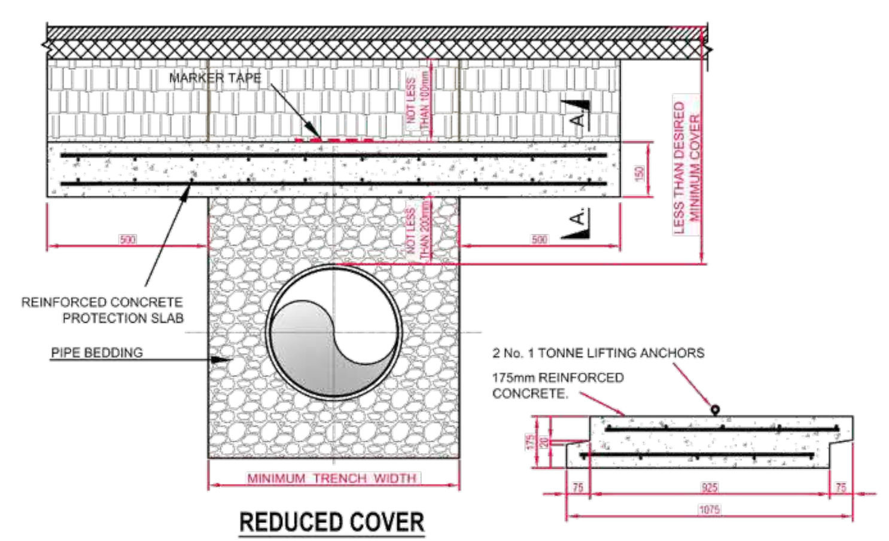
CROSS SECTION IN GRASSED AREAS

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 0.5 M. (THIS WOULD NORMALLY RELATE TO DRAINS IN PRIVATE PROPERTY, SHALLOW PIPES OF THIS NATURE ARE UNDESIRABLE AND SHOULD BE INSTALLED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS).
B) DRIVEWAYS, FOOTWAYS, 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 0.75 M.
C) DRIVEWAYS, FOOTWAYS, PARKING AREAS AND NARROW STREETS WITHOUT FOOTWAYS (E.G. MEWS DEVELOPMENTS) WITH LIMITED ACCESS FOR VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.9 M.
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 0.9 M.
F) OTHER ROADWAYS, 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 804 / 808 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND 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 804 / 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS. CLAUSE 808 IS TO BE USED WITHIN 500mm OF CEMENT BOUND MATERIALS, CONCRETE PAVEMENTS, CONCRETE STRUCTURES OR CONCRETE PRODUCTS. OTHERWISE CLAUSE 804 MAY BE USED. ALTERNATIVE BACKFILL MATERIAL TO THAT DESCRIBED ABOVE (CLAUSE 804 OR CLAUSE 808) OF THE PIPE TRENCH WILL ONLY BE ALLOWED BY IRISH WATER WHERE THE ROADS AUTHORITY IN WHOSE FUNCTIONAL AREA THE DEVELOPMENT IS LOCATED, PROVIDES **WRITTEN APPROVAL** TO THE DEVELOPER TO THE USE SUCH ALTERNATIVE MATERIAL EVIDENCE OF THIS WRITTEN APPROVAL TO BE PROVIDED TO IRISH WATER IN ADVANCE OF THE COMMENCEMENT OF WORKS.
4. SELECTED EXCAVATED MATERIAL COMPLYING WITH THE REQUIREMENTS OF "ACCEPTABLE MATERIAL" AS OUTLINED ON CLAUSE 601 OF THE TII SPECIFICATION FOR ROADWORKS, TABLE 6/1,CLASS 8,CLASS 2. MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER.
5. PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01. THE PIPE BEDDING GRANULAR MATERIAL SHALL BE 14mm TO 5mm (14/5) GRADED AGGREGATE OR 10mm (10/6) SINGLE SIZED AGGREGATE TO 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 804 / 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. IN GREEN FIELD AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL COMPLYING WITH THE REQUIREMENTS OF "ACCEPTABLE MATERIAL" AS OUTLINED ON CLAUSE 601 OF THE TII SPECIFICATION FOR ROADWORKS, TABLE 6/1,CLASS 8,CLASS 2.) 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 804 / 808 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.
9. NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT THE TOP OF PIPE BEDDING LAYER FOR SEWERS AND RISING MAINS. IT SHOULD RUN CONTINUOUSLY AROUND MANHOLES. 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 (IF PROVIDED) 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.
11. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
12. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.

PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
≤ 80 RISING MAIN	SEE NOTE 10.
100	500
150 - 200	600
>200 - 350	750
>350 - 450	900

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
≤100	100
150 - 450	200

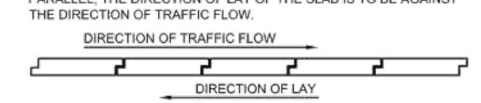
TRENCH BACKFILL & BEDDING
EXTRACT FROM UISCE ÉIREANN'S
STD-WW-07



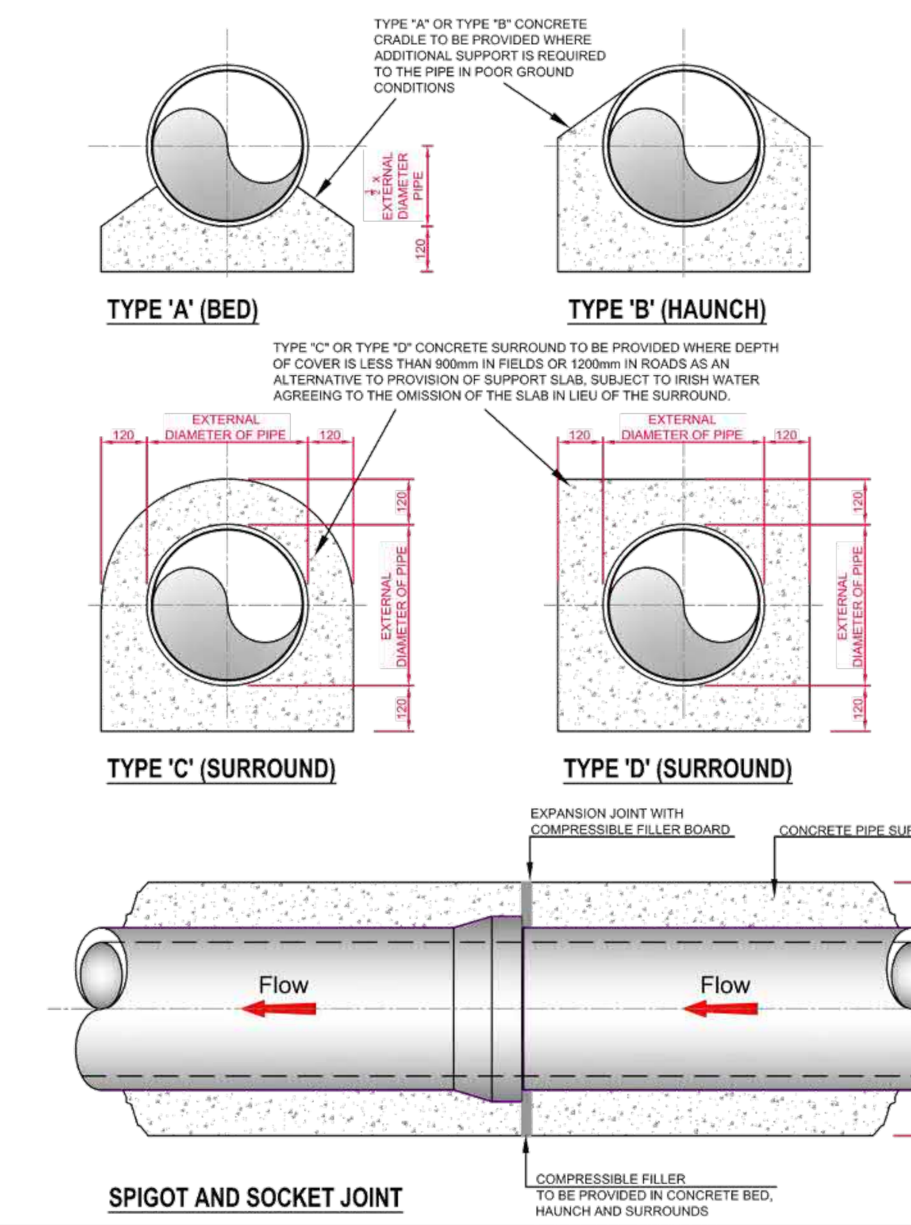
REDUCED COVER PROTECTION SLAB DETAIL

SECTION A-A

1. FOR ANY SLABBING WORKS TO BE CARRIED OUT WITHIN THE VICINITY OF THE PIPELINE, A METHOD STATEMENT IS TO BE SUBMITTED FOR REVIEW BY IRISH WATER.
2. MARKER TAPE TO BE PLACED ABOVE THE SLAB AND ALONG THE DIRECTION OF THE PIPELINE
3. CONCRETE TO BE GRADE C30/35
4. MINIMUM COVER TO STEEL REINFORCEMENT =40mm
5. SLABS TO BE DESIGNED FOR USE UNDER A HB25 LOAD IN ACCORDANCE WITH BS5400-2. DESIGN TO BE SUBMITTED TO IRISH WATER FOR ASSESSMENT PRIOR TO INSTALLATION.
6. THE SOIL ON WHICH THE SLAB RESTS MUST HAVE A CBR OF 4% OR GREATER.WHERE THE CBR IS LESS THAN 4% THE MATERIAL SHALL BE REMOVED AND REPLACED WITH IMPORTED GRANULAR MATERIAL AS APPROVED BY IRISH WATER.
7. IF DIRECTION OF PIPELINE AND DIRECTION OF TRAFFIC FLOW ARE PARALLEL, THE DIRECTION OF LAY OF THE SLAB IS TO BE AGAINST THE DIRECTION OF TRAFFIC FLOW.

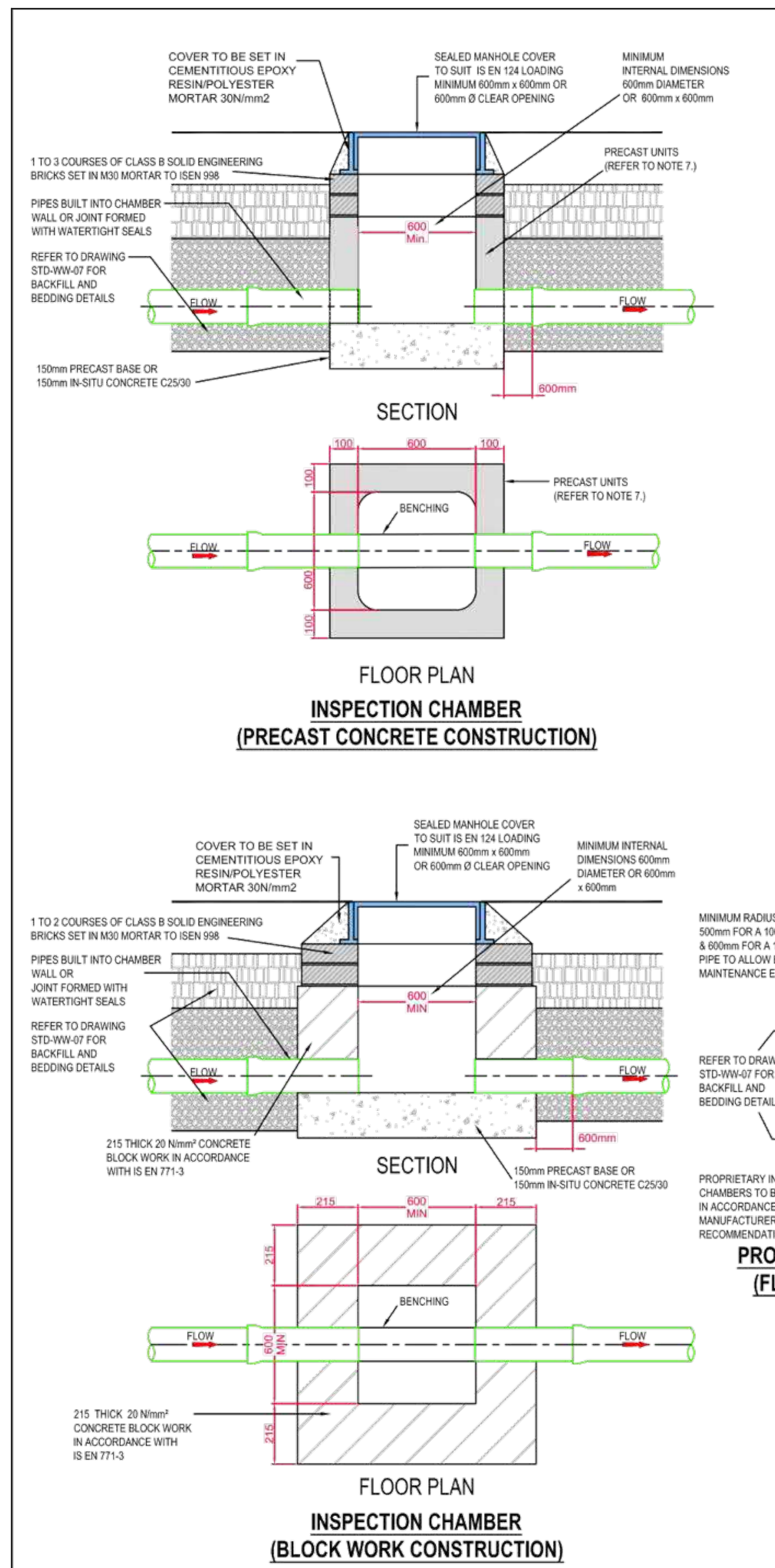


8. IF PIPELINE PROTECTION SLAB IS TO BE USED SOLELY FOR IMPACT PROTECTION & OVERALL DEPTH OF COVER IS GREATER THAN 1.2m, THE DISTANCE BETWEEN UNDERSIDE OF SLAB & TOP OF PIPE MAY BE INCREASED AFTER CONSULTATION WITH IRISH WATER.

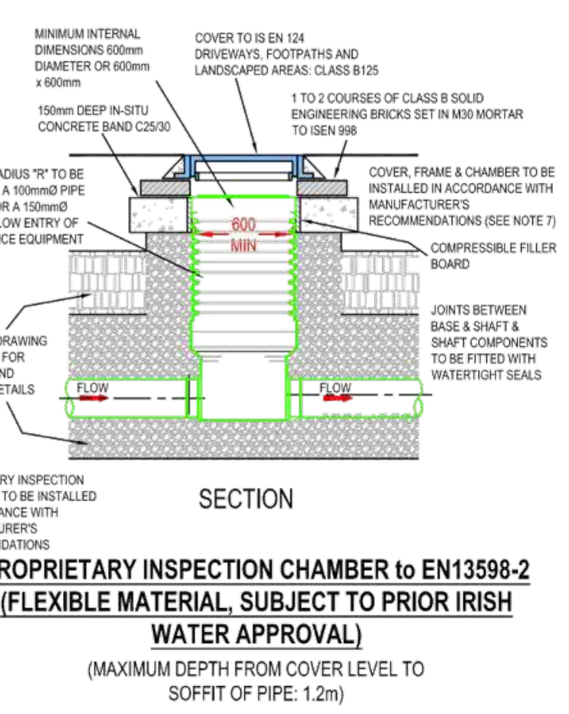


9. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
10. CONCRETE BED AND HAUNCHES MAY BE REQUIRED TO PROVIDE ADDITIONAL SUPPORT IN POOR GROUND CONDITIONS. PROPOSALS TO BE PROVIDED TO IRISH WATER WITH GEOTECHNICAL REPORT SUPPORTING THEIR USE.
11. CONCRETE SURROUNDS SHALL HAVE A MINIMUM THICKNESS OF 150mm WITH AN ABSOLUTE MINIMUM DEPTH OF COVER ABOVE THE EXTERNAL CROWN OF THE PIPE OF 750mm.
12. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 AND TO BE GRADE C16/20 TO IS EN206
13. THE HAUNCHES AND SURROUNDS TO BE FORMED USING FORM WORK TO PROVIDE A ROUGH CAST FINISH.
14. EXPANSION JOINTS IN THE CONCRETE SHALL BE PROVIDED AT ALL PIPE JOINTS TO ALLOW FOR PIPE FLEXIBILITY. COMPRESSIBLE FILLER BOARD TO BE IN ACCORDANCE WITH BS EN 622-1 AND BS EN 622-4, AND TO BE 18mm THICK.
15. POLYETHYLENE AND uPVC PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE.
16. BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPES.

CONCRETE PROTECTION SLAB, BED, HAUNCH AND SURROUND TO PIPES
EXTRACT FROM UISCE ÉIREANN'S
STD-WW-08



1. ALL DIMENSIONS ARE IN MILLIMETRES (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 CURTILAGE, IF PRACTICABLE, CONSULT WITH IRISH WATER ON ALTERNATIVE LOCATIONS.
3. SERVICE CONNECTION FROM PUBLIC SEWER TO PROPERTY BOUNDARY IS A PUBLIC ASSET. PIPE UPSTREAM OF THE PROPERTY BOUNDARY IS A PRIVATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE BUILDING.
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 SHOULD NEVER BE OVERLAIN WITH SURFACE DRESSING, TOPSOIL, ETC.
5. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.
6. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.
7. PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED, SUBJECT TO REVIEW BY IRISH WATER - SEE DETAIL BELOW.
8. CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 804 OR CLAUSE 808 MATERIAL AS PER STD-WW-07.
9. MAXIMUM DEPTH FROM COVER LEVEL TO INVERT OF PIPE = 1.2m. INTERNAL DIMENSIONS GREATER THAN 600 x 600mm OR 600mm Ø REQUIRED WHERE DEPTH EXCEEDS 1.2m - CONSULT WITH IRISH WATER.
10. SMALLER INSPECTION CHAMBERS WITH INTERNAL DIMENSIONS OF 450mm Ø OR 450 X 450mm MAY BE PERMITTED SUBJECT TO APPROVAL BY IRISH WATER WHERE CONFINED PHYSICAL CONDITIONS EXIST.
11. PREFABRICATED UNITS SHOULD HAVE WATER TIGHT JOINTS AND SHOULD BE INTERLOCKING TO PREVENT LATERAL MOVEMENT OF INDIVIDUAL SECTIONS OF THE UNIT



PROPRIETARY INSPECTION CHAMBER to EN13598-2 (FLEXIBLE MATERIAL, SUBJECT TO PRIOR IRISH WATER APPROVAL)
(MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE: 1.2m)

PRIVATE SIDE INSPECTION CHAMBER
EXTRACT FROM UISCE ÉIREANN'S
STD-WW-05

NOTES

GENERAL NOTES :

1...ALL COYLE KENNEDY DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS DRAWINGS AND ALL OTHER RELEVANT DRAWINGS.

2...ALL SETTING OUT, INSULATION, DPC, TANKING / WATERPROOFING, SCREED AND RADON PROTECTION DETAILS BY ARCHITECT & SPECIALIST.

3...DETAILED SPECIFICATIONS (IF NOT ISSUED) ARE AVAILABLE AT ENGINEERS OFFICE FOR INSPECTION BY CONTRACTORS, BY APPOINTMENT.

4...REFER TO ARCHITECT FOR DAMP PROOF, TANKING AND GAS PROOFING MEMBRANE REQUIREMENTS. REQUIREMENTS OF SUBSTRUCTURE GAS/WATER PROOFING MEMBRANES TO BE BY A REPUTABLE, COMPETENT SPECIALIST WITH ADEQUATE PI.

5...THE CONTRACTOR SHALL BE DEEMED TO HAVE ALLOWED FOR, WITHIN HIS TENDER, EMPLOYING A CHARTERED STRUCTURAL ENGINEER WITH ADEQUATE PROFESSIONAL INDEMNITY INSURANCE TO ASSESS, DESIGN AND DETAIL SUCH TEMPORARY WORKS AS ARE NECESSARY TO OFFER SUPPORT TO EXISTING AND/OR CONSTRUCTED ELEMENTS DURING THE CONSTRUCTION PERIOD. THIS APPLIES TO ELEMENTS WITHIN THE SITE AND NEIGHBORING THE SITE.

6...THE CONTRACTOR IS DEEMED TO HAVE VISITED THE SITE AND CONSULTED WITH RELEVANT AUTHORITIES AND BE SATISFIED IN RELATION TO THE SITES SURROUNDINGS, EXISTING SERVICES, LEVELS, BOUNDARIES, GROUND CHARACTERISTICS AND ANY OTHER SITE CONSTRAINTS, INCLUDING DIVERSION OF SERVICES AS NECESSARY.

7...ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS.

8...WHERE LEANMIX IS SPECIFIED ALL LEANMIX TO BE GRADE C16/20 (GEN 3). UNLESS NOTED OTHERWISE.

9...ALL LEVELS ARE IN METRES ABOVE ORDINANCE DATUM (U.N.O.) INDICATING STRUCTURAL LEVEL (SSL)

10...DO NOT SCALE FROM DRAWINGS, USE FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES TO BE REPORTED TO THE STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORKS.

11...ALL WORKS SHALL BE CARRIED OUT IN A SAFE MANNER AND IN ACCORDANCE WITH THE HEALTH AND SAFETY REGULATIONS. METHOD STATEMENTS (WHERE REQUIRED) SHALL BE SUBMITTED TO THE ENGINEER OR OTHER APPOINTED PERSON(S).

12...THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AUTHORITY REQUIREMENTS INCLUDING PLANNING CONDITIONS, FIRE SAFETY CERTIFICATE CONDITIONS, LOCAL AUTHORITY DRAINAGE REQUIREMENTS etc.

13..PROJECT DRAWINGS AND SPECIFICATIONS REFERENCE TO BUILDING REGULATIONS, BRITISH, IRISH OR OTHER NATIONAL STANDARD OR CODES OF PRACTICE DO NOT GIVE THE YEAR OF ISSUE OR DATES OF AMENDMENTS. THE LATEST RELEVANT PUBLISHED VERSION INCLUDING ANY RELEVANT AMENDMENTS AND ADD END AT THE DATE OF INVITATION TO TENDER SHALL APPLY. WHERE A STANDARD OR CODE OF PRACTICE HAS BEEN SUPERSEDED, THE LATEST EDITION OF THE SUPERSEDING PUBLICATION SHALL APPLY.

14.. ANY DISCREPANCIES DISCOVERED BETWEEN DESIGN TEAM DRAWINGS TO BE REPORTED IMMEDIATELY AND CLARIFICATION SOUGHT AND DISCREPANCY CORRECTED PRIOR TO CONSTRUCTION COMMENCING

DRAINAGE NOTES :

1...CONTRACTOR TO MAKE ALL NECESSARY ENQUIRIES REGARDING LOCATION OF EXISTING SEWERS, ELECTRICAL AND OTHER SERVICES ON SITE.

2...FOR DRAINAGE WORK LOCAL TO BUILDINGS, REFER TO ARCHITECT'S DRAWINGS.

3...ALL DRAINAGE WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT SPECIFICATION, PART H BUILDING REGULATIONS AND DEPT. OF ENVIRONMENT DOCUMENT "RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS', & WRc 'SEWERS FOR ADOPTION 6th EDITION' A DESIGN & CONSTRUCTION GUIDE FOR DEVELOPERS AND UISCE ÉIREANN WASTEWATER CODE OF PRACTICE.

4...BEDDING MATERIAL TO BE 10mm SINGLE SIZED AGGREGATE COMPLYING WITH THE REQUIREMENTS OF AGGREGATES FOR CONCRETE'. FOR RIGID PIPES THE GRANULAR MATERIAL SHOULD CONFORM TO BS EN 1610 ANNEX B TABLE B AND SHOULD BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5mm TO 10mm FOR 100mm PIPES; 14mm FOR 150mm PIPES; 20mm FOR 150mm – 600mm DIAMETER AND 40mm FOR PIPES MORE THAN 600mm DIAMETER.

5...THE PREPARED UNDERBED OF THE TRENCH SHOULD CONSIST OF BEDDING MATERIAL FOR THE FULL WIDTH OF THE TRENCH AND LAID TO THE CORRECT GRADIENT.

6...THE MINIMUM THICKNESS OF BEDDING MATERIAL UNDER THE BARREL OF THE PIPE SHOULD BE 100MM

7...IMPORTED BEDDING MATERIAL AND BACKFILL USING 'AS DUG MATERIAL' MUST BE APPROVED BY ENGINEER.

8...ALL PVC-U PIPES AND FITTINGS USED FOR DRAIN AND SEWER MUST COMPLY WITH IS.424 " UNPLASTICISED POLYVINYL CHLORIDE (PVC-U)PIPES AND FITTINGS FOR BURIED DRAINAGE AND SEWAGE SYSTEMS "

REFER TO DRAWING 300 FOR PLAN LAYOUT OF SEWERS

Fₐ – 8/1

Rev.	Revision	Date

DRAWING STATUS					
P	PRELIMINARY	A	APPROVAL	T	TENDER
C	CONSTRUCTION	R	RECORD	I	INFORMATION

COYLE KENNEDY
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email: mail@coylekennedy.com

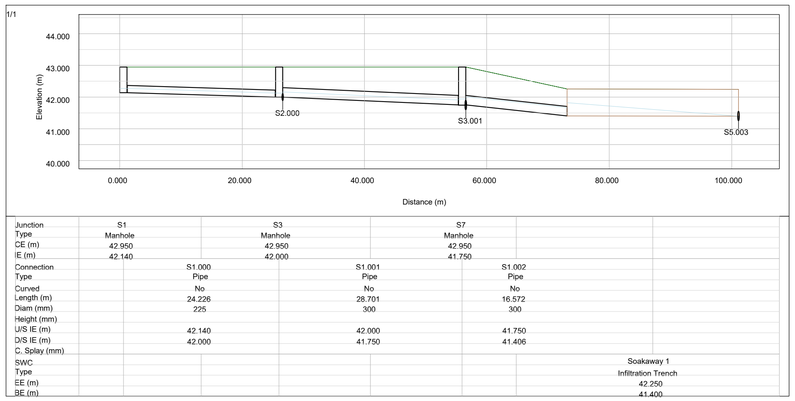
PROJECT
GCC SOCIAL HOUSING, PORTUMNA, CO. GALWAY

CLIENT
GALWAY COUNTY COUNCIL

TITLE
TYPICAL DRAINAGE/CIVILS DETAILS –SHEET 2

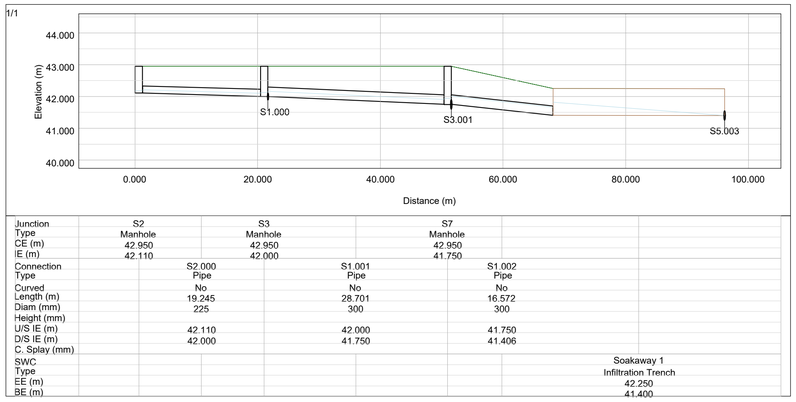
PROJECT No.			STATUS – DRAWING No.
24–116			P-302
DATE: MARCH 2025			DRAWING REV.
SCALE: N.T.S @ A1	BY: AC	CHECKED: BC	–

		Page 1
GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY	
Modified date 02/05/2025 File 21-116-INFODRAINAGE.iddx	Designed by AC Checked by BC	
	InfoDrainage 2025.5	
Profile - Flow Path1	Horizontal Scale 1:500, Vertical Scale 1:100	



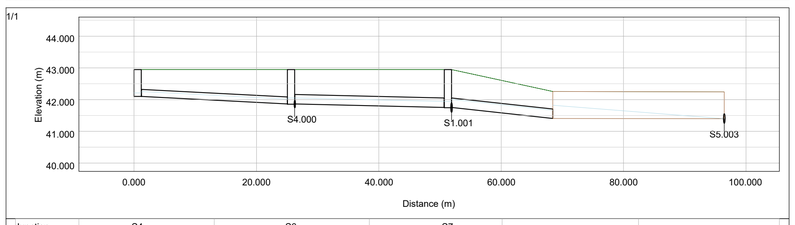
Junction	S1	S3	S7
Type	Manhole	Manhole	Manhole
CE (m)	42.950	42.950	42.950
IE (m)	42.140	42.000	41.750
Connection	S1.000	S1.001	S1.002
Type	Pipe	Pipe	Pipe
Curved	No	No	No
Length (m)	24.226	28.701	16.572
Diam (mm)	225	300	300
Height (mm)			
U/S IE (m)	42.140	42.000	41.750
D/S IE (m)	42.000	41.750	41.406
C. Splay (mm)			
SWC			Soakaway 1
Type			Infiltration Trench
EE (m)			42.250
BE (m)			41.400

		Page 2
GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY	
Modified date 02/05/2025 File 21-116-INFODRAINAGE.iddx	Designed by AC Checked by BC	
	InfoDrainage 2025.5	
Profile - Flow Path2	Horizontal Scale 1:500, Vertical Scale 1:100	



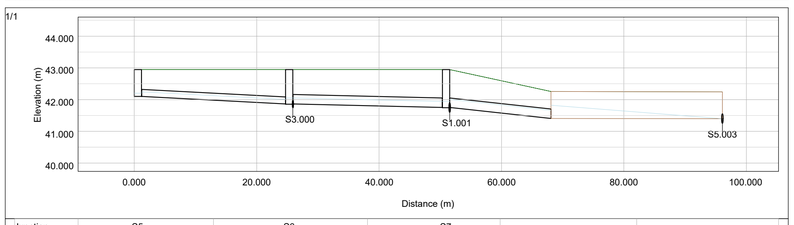
Junction	S2	S3	S7
Type	Manhole	Manhole	Manhole
CE (m)	42.950	42.950	42.950
IE (m)	42.110	42.000	41.750
Connection	S2.000	S1.001	S1.002
Type	Pipe	Pipe	Pipe
Curved	No	No	No
Length (m)	19.245	28.701	16.572
Diam (mm)	225	300	300
Height (mm)			
U/S IE (m)	42.110	42.000	41.750
D/S IE (m)	42.000	41.750	41.406
C. Splay (mm)			
SWC			Soakaway 1
Type			Infiltration Trench
EE (m)			42.250
BE (m)			41.400

		Page 3
GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY	
Modified date 02/05/2025 File 21-116-INFODRAINAGE.iddx	Designed by AC Checked by BC	
	InfoDrainage 2025.5	
Profile - Flow Path3	Horizontal Scale 1:500, Vertical Scale 1:100	



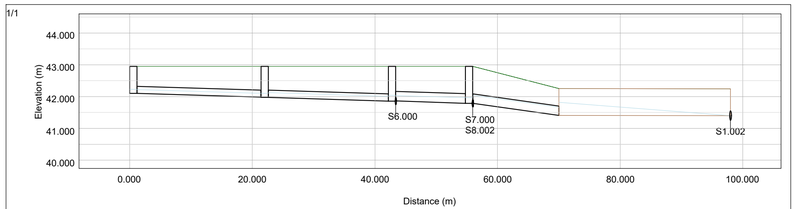
Junction	S4	S6	S7
Type	Manhole	Manhole	Manhole
CE (m)	42.950	42.950	42.950
IE (m)	42.100	41.860	41.750
Connection	S3.000	S3.001	S1.002
Type	Pipe	Pipe	Pipe
Curved	No	No	No
Length (m)	23.863	24.408	16.572
Diam (mm)	225	300	300
Height (mm)			
U/S IE (m)	42.100	41.860	41.750
D/S IE (m)	41.860	41.750	41.406
C. Splay (mm)			
SWC			Soakaway 1
Type			Infiltration Trench
EE (m)			42.250
BE (m)			41.400

		Page 4
GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY	
Modified date 02/05/2025 File 21-116-INFODRAINAGE.iddx	Designed by AC Checked by BC	
	InfoDrainage 2025.5	
Profile - Flow Path4	Horizontal Scale 1:500, Vertical Scale 1:100	



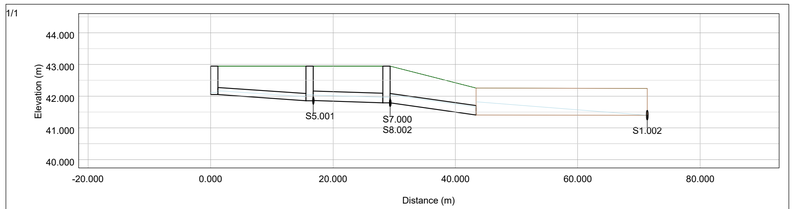
Junction	S5	S6	S7
Type	Manhole	Manhole	Manhole
CE (m)	42.950	42.950	42.950
IE (m)	42.100	41.860	41.750
Connection	S4.000	S3.001	S1.002
Type	Pipe	Pipe	Pipe
Curved	No	No	No
Length (m)	23.514	24.408	16.572
Diam (mm)	225	300	300
Height (mm)			
U/S IE (m)	42.100	41.860	41.750
D/S IE (m)	41.860	41.750	41.406
C. Splay (mm)			
SWC			Soakaway 1
Type			Infiltration Trench
EE (m)			42.250
BE (m)			41.400

		Page 5
GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY	
Modified date 02/05/2025 File 21-116-INFODRAINAGE.iddx	Designed by AC Checked by BC	
	InfoDrainage 2025.5	
Profile - Flow Path5	Horizontal Scale 1:500, Vertical Scale 1:100	



Junction	S8	S9	S11	S16
Type	Manhole	Manhole	Manhole	Manhole
CE (m)	42.950	42.950	42.950	42.950
IE (m)	42.100	41.980	41.860	41.790
Connection	S5.000	S5.001	S5.002	S5.003
Type	Pipe	Pipe	Pipe	Pipe
Curved	No	No	No	No
Length (m)	20.217	19.570	11.368	14.019
Diam (mm)	225	225	300	300
Height (mm)				
U/S IE (m)	42.100	41.980	41.860	41.790
D/S IE (m)	41.980	41.860	41.790	41.406
C. Splay (mm)				
SWC				Soakaway 1
Type				Infiltration Trench
EE (m)				42.250
BE (m)				41.400

		Page 6
GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD PORTUMNA, CO. GALWAY	COYLEKENNEDY CONSULTING ENGINEERS: GFSC MONEENAGEISHA ROAD, GALWAY	
Modified date 02/05/2025 File 21-116-INFODRAINAGE.iddx	Designed by AC Checked by BC	
	InfoDrainage 2025.5	
Profile - Flow Path6	Horizontal Scale 1:500, Vertical Scale 1:100	



Junction	S10	S11	S16
Type	Manhole	Manhole	Manhole
CE (m)	42.950	42.950	42.950
IE (m)	42.050	41.860	41.790
Connection	S6.000	S5.002	S5.003
Type	Pipe	Pipe	Pipe
Curved	No	No	No
Length (m)	14.379	11.368	14.019
Diam (mm)	225	300	300
Height (mm)			
U/S IE (m)	42.050	41.860	41.790
D/S IE (m)	41.860	41.790	41.406
C. Splay (mm)			
SWC			Soakaway 1
Type			Infiltration Trench
EE (m)			42.250
BE (m)			41.400

NOTES

GENERAL NOTES :

1...ALL COYLE KENNEDY DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS DRAWINGS AND ALL OTHER RELEVANT DRAWINGS.

2...ALL SETTING OUT, INSULATION, DPC, TANKING / WATERPROOFING, SCREED AND RADON PROTECTION DETAILS BY ARCHITECT & SPECIALIST.

3...DETAILED SPECIFICATIONS (IF NOT ISSUED) ARE AVAILABLE AT ENGINEERS OFFICE FOR INSPECTION BY CONTRACTORS, BY APPOINTMENT.

4...REFER TO ARCHITECT FOR DAMP PROOF, TANKING AND GAS PROOFING MEMBRANE REQUIREMENTS. REQUIREMENTS OF SUBSTRUCTURE GAS/WATER PROOFING MEMBRANES TO BE BY A REPUTABLE, COMPETENT SPECIALIST WITH ADEQUATE PI.

5...THE CONTRACTOR SHALL BE DEEMED TO HAVE ALLOWED FOR, WITHIN HIS TENDER, EMPLOYING A CHARTERED STRUCTURAL ENGINEER WITH ADEQUATE PROFESSIONAL INDEMNITY INSURANCE TO ASSESS, DESIGN AND DETAIL SUCH TEMPORARY WORKS AS ARE NECESSARY TO OFFER SUPPORT TO EXISTING AND/OR CONSTRUCTED ELEMENTS DURING THE CONSTRUCTION PERIOD. THIS APPLIES TO ELEMENTS WITHIN THE SITE AND NEIGHBORING THE SITE.

6...THE CONTRACTOR IS DEEMED TO HAVE VISITED THE SITE AND CONSULTED WITH RELEVANT AUTHORITIES AND BE SATISFIED IN RELATION TO THE SITES SURROUNDINGS, EXISTING SERVICES, LEVELS, BOUNDARIES, GROUND CHARACTERISTICS AND ANY OTHER SITE CONSTRAINTS, INCLUDING DIVERSION OF SERVICES AS NECESSARY.

7...ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS.

8...WHERE LEANMIX IS SPECIFIED ALL LEANMIX TO BE GRADE C16/20 (GEN 3). UNLESS NOTED OTHERWISE.

9...ALL LEVELS ARE IN METRES ABOVE ORDINANCE DATUM (U.N.O.) INDICATING STRUCTURAL LEVEL (SSL)

10...DO NOT SCALE FROM DRAWINGS, USE FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES TO BE REPORTED TO THE STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORKS.

11...ALL WORKS SHALL BE CARRIED OUT IN A SAFE MANNER AND IN ACCORDANCE WITH THE HEALTH AND SAFETY REGULATIONS. METHOD STATEMENTS (WHERE REQUIRED) SHALL BE SUBMITTED TO THE ENGINEER OR OTHER APPOINTED PERSON(S).

12...THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AUTHORITY REQUIREMENTS INCLUDING PLANNING CONDITIONS, FIRE SAFETY CERTIFICATE CONDITIONS, LOCAL AUTHORITY DRAINAGE REQUIREMENTS etc.

13..PROJECT DRAWINGS AND SPECIFICATIONS REFERENCE TO BUILDING REGULATIONS, BRITISH, IRISH OR OTHER NATIONAL STANDARD OR CODES OF PRACTICE DO NOT GIVE THE YEAR OF ISSUE OR DATES OF AMENDMENTS. THE LATEST RELEVANT PUBLISHED VERSION INCLUDING ANY RELEVANT AMENDMENTS AND ADD END AT THE DATE OF INVITATION TO TENDER SHALL APPLY. WHERE A STANDARD OR CODE OF PRACTICE HAS BEEN SUPERSEDED, THE LATEST EDITION OF THE SUPERSEDING PUBLICATION SHALL APPLY.

14... ANY DISCREPANCIES DISCOVERED BETWEEN DESIGN TEAM DRAWINGS TO BE REPORTED IMMEDIATELY AND CLARIFICATION SOUGHT AND DISCREPANCY CORRECTED PRIOR TO CONSTRUCTION COMMENCING

DRAINAGE NOTES :

1...CONTRACTOR TO MAKE ALL NECESSARY ENQUIRIES REGARDING LOCATION OF EXISTING SEWERS, ELECTRICAL AND OTHER SERVICES ON SITE.

2...FOR DRAINAGE WORK LOCAL TO BUILDINGS, REFER TO ARCHITECT'S DRAWINGS.

3...ALL DRAINAGE WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT SPECIFICATION, PART H BUILDING REGULATIONS AND DEPT. OF ENVIRONMENT DOCUMENT "RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS", & WW- "SEWERS FOR ADOPTION 6th EDITION" A DESIGN & CONSTRUCTION GUIDE FOR DEVELOPERS AND UISCE ÉIREANN WASTEWATER CODE OF PRACTICE.

4...BEDDING MATERIAL TO BE 10mm SINGLE SIZED AGGREGATE COMPLYING WITH THE REQUIREMENTS OF AGGREGATES FOR CONCRETE'. FOR RIGID PIPES THE GRANULAR MATERIAL SHOULD CONFORM TO BS EN 1610 ANNEX B TABLE B AND SHOULD BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5mm TO 10mm FOR 100mm PIPES; 14mm FOR 150mm PIPES; 20mm FOR 150mm – 600mm DIAMETER AND 40mm FOR PIPES MORE THAN 600mm DIAMETER.

5...THE PREPARED UNDERBED OF THE TRENCH SHOULD CONSIST OF BEDDING MATERIAL FOR THE FULL WIDTH OF THE TRENCH AND LAID TO THE CORRECT GRADIENT.

6...THE MINIMUM THICKNESS OF BEDDING MATERIAL UNDER THE BARREL OF THE PIPE SHOULD BE 100MM

7...IMPORTED BEDDING MATERIAL AND BACKFILL USING "AS DUG MATERIAL" MUST BE APPROVED BY ENGINEER.

8...ALL PVC-U PIPES AND FITTINGS USED FOR DRAIN AND SEWER MUST COMPLY WITH IS.424 " UNPLASTICISED POLYVINYL CHLORIDE (PVC-U)PIPES AND FITTINGS FOR BURIED DRAINAGE AND SEWAGE SYSTEMS "

REFER TO CK DRAWING 300 FOR PLAN LAYOUT OF DRAINAGE NETWORK

F_n – 8/0

Rev.	Revision	Date

DRAWING STATUS					
P	PRELIMINARY	A	APPROVAL	T	TENDER
C	CONSTRUCTION	R	RECORD	I	INFORMATION

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email: mail@coylekennedy.com

PROJECT
GCC SOCIAL HOUSING, PORTUMNA, CO. GALWAY

CLIENT
GALWAY COUNTY COUNCIL

TITLE
STORM DRAINAGE SECTIONS – SHEET 1

PROJECT No.	STATUS – DRAWING No.
24–116	P-303
DATE: MAY 2025	DRAWING REV.
SCALE: 1:500,100,@ A1 / BY: AC / CHECKED: BC	

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD
PORTUMNA,
CO. GALWAY

COYLEKENNEDY CONSULTING ENGINEERS: GFSC
MONEENAGEISHA ROAD,
GALWAY

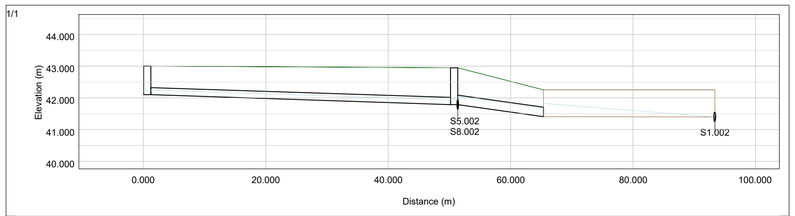
Modified date 02/05/2025
File 21-116-INFODRAINAGE.iddx

Designed by AC
Checked by BC

InfoDrainage 2025.5

Profile - Flow Path7

Horizontal Scale 1:500, Vertical Scale 1:100



Junction	S12	S16	
Type	Manhole	Manhole	
CE (m)	43.000	42.950	
IE (m)	42.100	41.790	
Connection		S7.000	S5.003
Type		Pipe	Pipe
Curved		No	No
Length (m)		48.933	14.019
Diam (mm)		225	300
Height (mm)			
U/S IE (m)		42.100	41.790
D/S IE (m)		41.790	41.406
C. Splay (mm)			
SWC			Soakaway 1
Type			Infiltration Trench
EE (m)			42.250
BE (m)			41.400

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD
PORTUMNA,
CO. GALWAY

COYLEKENNEDY CONSULTING ENGINEERS: GFSC
MONEENAGEISHA ROAD,
GALWAY

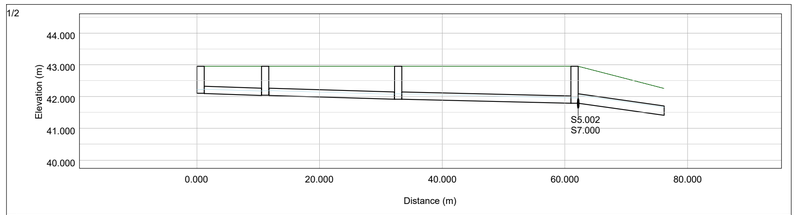
Modified date 02/05/2025
File 21-116-INFODRAINAGE.iddx

Designed by AC
Checked by BC

InfoDrainage 2025.5

Profile - Flow Path8

Horizontal Scale 1:500, Vertical Scale 1:100



Junction	S13	S14	S15	S16	
Type	Manhole	Manhole	Manhole	Manhole	
CE (m)	42.950	42.950	42.950	42.950	
IE (m)	42.100	42.040	41.920	41.790	
Connection		S8.000	S8.001	S8.002	S5.003
Type		Pipe	Pipe	Pipe	Pipe
Curved		No	No	No	No
Length (m)		9.363	20.453	27.573	14.019
Diam (mm)		225	225	225	300
Height (mm)					
U/S IE (m)		42.100	42.040	41.920	41.790
D/S IE (m)		42.040	41.920	41.790	41.406
C. Splay (mm)					
SWC					
Type					
EE (m)					
BE (m)					

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD
PORTUMNA,
CO. GALWAY

COYLEKENNEDY CONSULTING ENGINEERS: GFSC
MONEENAGEISHA ROAD,
GALWAY

Modified date 02/05/2025
File 21-116-INFODRAINAGE.iddx

Designed by AC
Checked by BC

InfoDrainage 2025.5

Profile - Flow Path8

Horizontal Scale 1:500, Vertical Scale 1:100

Junction			
Type			
CE (m)			
IE (m)			
Connection	S5.003		
Type	Pipe		
Curved	No		
Length (m)	14.019		
Diam (mm)	300		
Height (mm)			
U/S IE (m)	41.790		
D/S IE (m)	41.406		
C. Splay (mm)			
SWC		Soakaway 1	
Type		Infiltration Trench	
EE (m)		42.250	
BE (m)		41.400	

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD
PORTUMNA,
CO. GALWAY

COYLEKENNEDY CONSULTING ENGINEERS: GFSC
MONEENAGEISHA ROAD,
GALWAY

Modified date 02/05/2025
File 21-116-INFODRAINAGE.iddx

Designed by AC
Checked by BC

InfoDrainage 2025.5

Profile - Flow Path 13

Horizontal Scale 1:500, Vertical Scale 1:100

Junction			S22	S23
Type			Manhole	Manhole
CE (m)			42.950	43.000
IE (m)			41.600	41.400
Connection		S13.000	S13.001	
Type		Pipe	Pipe	
Curved		No	No	
Length (m)		24.537	42.116	
Diam (mm)		300	300	
Height (mm)				
U/S IE (m)		41.710	41.600	
D/S IE (m)		41.600	41.400	
C. Splay (mm)				
SWC	Soakaway 1			
Type	Infiltration Trench			
EE (m)	42.250			
BE (m)	41.400			

GCC SOCIAL HOUSING,: ST. JOSEPHS ROAD
PORTUMNA,
CO. GALWAY

COYLEKENNEDY CONSULTING ENGINEERS: GFSC
MONEENAGEISHA ROAD,
GALWAY

Modified date 02/05/2025
File 21-116-INFODRAINAGE.iddx

Designed by AC
Checked by BC

InfoDrainage 2025.5

Profile - Flow Path 13

Horizontal Scale 1:500, Vertical Scale 1:100

Junction	S23	S24	S25	OUTFALL EXISTING SW
Type	Manhole	Manhole	Manhole	Manhole
CE (m)	43.000	42.400	42.100	41.710
IE (m)	41.400	40.700	40.500	40.150
Connection	S13.002	S13.003	S13.004	
Type	Pipe	Pipe	Pipe	
Curved	No	No	No	
Length (m)	29.101	18.556	23.617	
Diam (mm)	300	300	300	
Height (mm)				
U/S IE (m)	41.400	40.700	40.500	
D/S IE (m)	40.700	40.500	40.150	
C. Splay (mm)				
SWC				
Type				
EE (m)				
BE (m)				

NOTES

GENERAL NOTES :

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12...THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AUTHORITY REQUIREMENTS INCLUDING PLANNING CONDITIONS, FIRE SAFETY CERTIFICATE CONDITIONS, LOCAL AUTHORITY DRAINAGE REQUIREMENTS etc.

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DRAINAGE NOTES :

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4...BEDDING MATERIAL TO BE 10mm SINGLE SIZED AGGREGATE COMPLYING WITH THE REQUIREMENTS OF AGGREGATES FOR CONCRETE'. FOR RIGID PIPES THE GRANULAR MATERIAL SHOULD CONFORM TO BS EN 1610 ANNEX B TABLE B AND SHOULD BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5mm TO 10mm FOR 100mm PIPES; 14mm FOR 150mm PIPES; 20mm FOR 150mm – 600mm DIAMETER AND 40mm FOR PIPES MORE THAN 600mm DIAMETER.

5...THE PREPARED UNDERBED OF THE TRENCH SHOULD CONSIST OF BEDDING MATERIAL FOR THE FULL WIDTH OF THE TRENCH AND LAID TO THE CORRECT GRADIENT.

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REFER TO CK DRAWING 300 FOR PLAN LAYOUT OF DRAINAGE NETWORK

F.. – 8/0

Rev.	Revision	Date

DRAWING STATUS

P	PRELIMINARY	A	APPROVAL	T	TENDER
C	CONSTRUCTION	R	RECORD	I	INFORMATION

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Website: www.coylekennedy.com
email: mail@coylekennedy.com

PROJECT
GCC SOCIAL HOUSING, PORTUMNA, CO. GALWAY

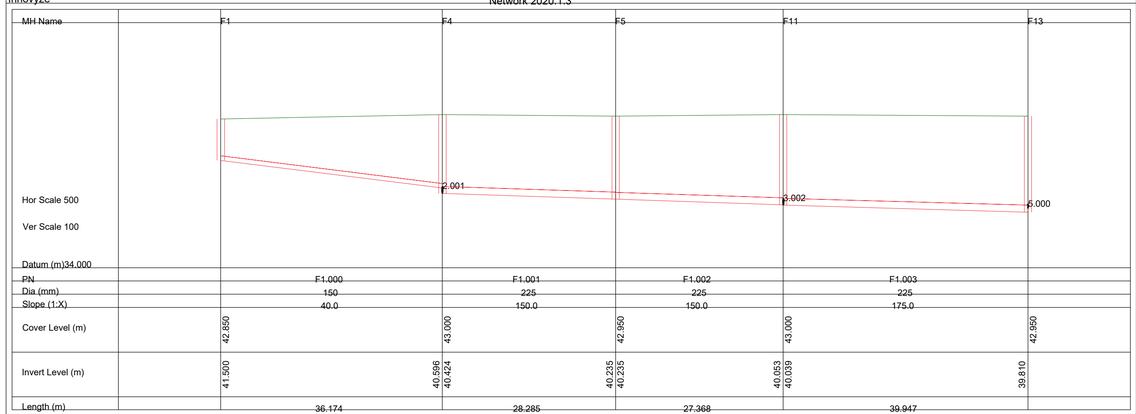
CLIENT
GALWAY COUNTY COUNCIL

TITLE
STORM DRAINAGE SECTIONS – SHEET 2

PROJECT No.	STATUS – DRAWING No.
24–116	P-304
DATE: MAY 2025	DRAWING REV.
SCALE: 1:500,100,@ A1 / BY: AC / CHECKED: BC	

Coyle Kennedy
Consulting Civil & Structural Engineers
email: mail@coylekennedy.com
Website: www.coylekennedy.com
Date 12/05/2025 14:21
File 24-116-FOUL Drainage .MDX
Innovyze

GCC SOCIAL HOUSING,
PORTUMNA
CO. GALWAY
Designed by AC
Checked by BC
Network 2020.1.3



MH Name		F1	F4	F5	F11	F13
PN		F1.000	F1.001	F1.002	F1.003	
Dia (mm)		150	225	225	225	
Slope (1:X)		40.0	150.0	150.0	175.0	
Cover Level (m)		42.850	43.000	42.950	43.000	42.950
Invert Level (m)		41.500	40.596 40.424	40.235 40.235	40.053 40.039	39.810
Length (m)		36.174		28.285	27.368	39.947

Coyle Kennedy
Consulting Civil & Structural Engineers
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Website: www.coylekennedy.com
Date 12/05/2025 14:21
File 24-116-FOUL Drainage .MDX
Innovyze

GCC SOCIAL HOUSING,
PORTUMNA
CO. GALWAY
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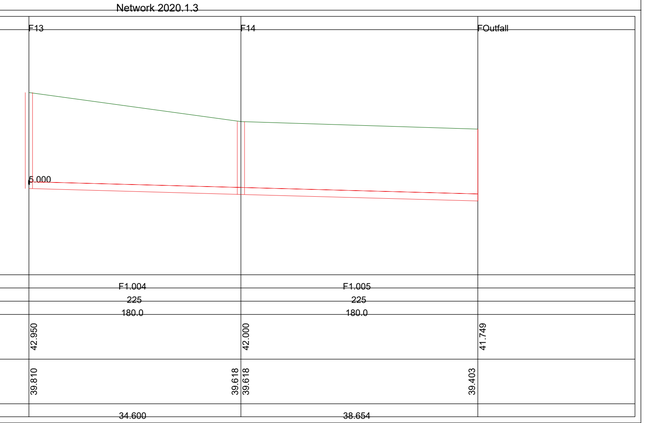
Checked by BC
Network 2020.1.3



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PN		F1.004	F1.005	
Dia (mm)		225	225	
Slope (1:X)		180.0	180.0	
Cover Level (m)		42.950	42.000	41.749
Invert Level (m)		39.810	39.618 39.618	39.403
Length (m)		34.600	38.654	

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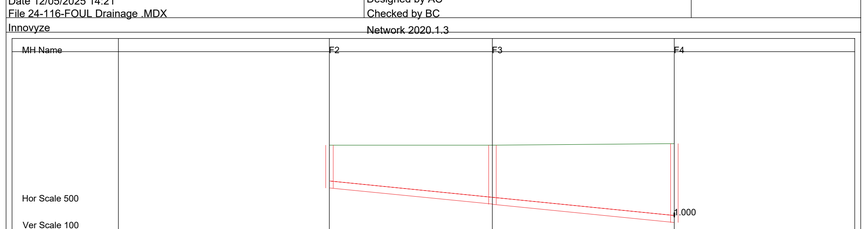

MH Name		F2	F3	F4
PN		F2.000	F2.001	
Dia (mm)		225	225	
Slope (1:X)		50.0	50.0	
Cover Level (m)	42.950	42.950	43.000	
Invert Level (m)	41.550	41.018 41.018	40.424	
Length (m)		26.612	29.691	

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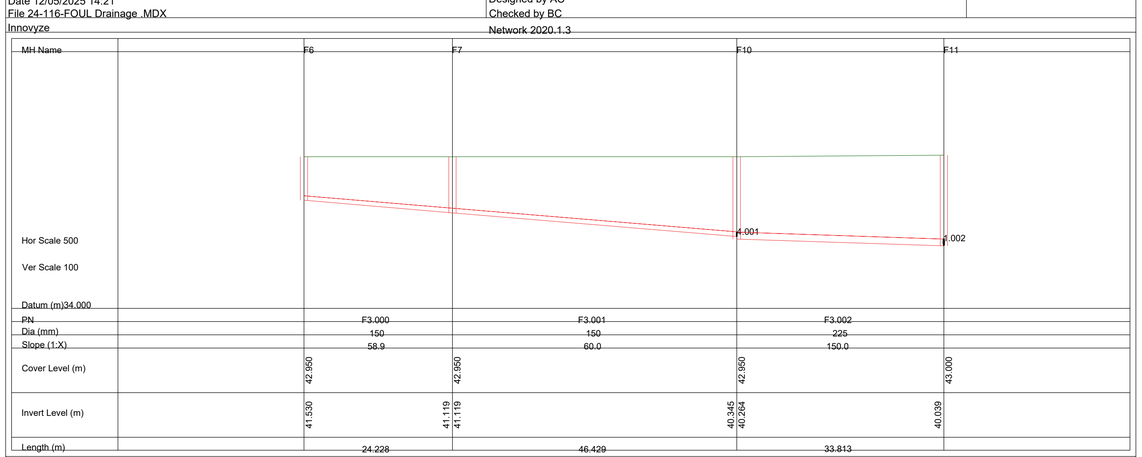

MH Name		F6	F7	F10	F11
PN		F3.000	F3.001	F3.002	
Dia (mm)		150	150	225	
Slope (1:X)		58.9	60.0	150.0	
Cover Level (m)		42.950	42.950	42.950	43.000
Invert Level (m)		41.530	41.119 41.119	40.345 40.264	40.039
Length (m)		24.228	46.429	33.813	

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GCC SOCIAL HOUSING,
PORTUMNA
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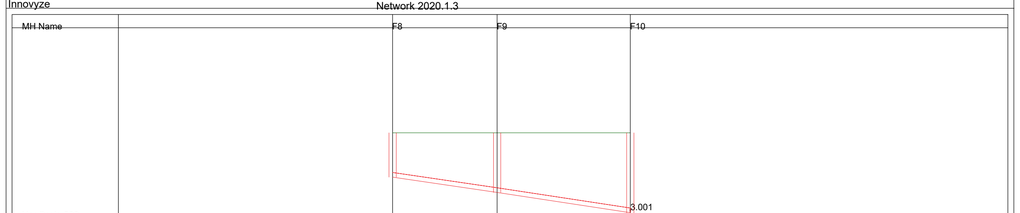

MH Name		F8	F9	F10
PN		F4.000	F4.001	
Dia (mm)		150	150	
Slope (1:X)		34.0	33.0	
Cover Level (m)		42.950	42.950	42.950
Invert Level (m)		41.500	40.998 40.998	40.339
Length (m)		17.077	21.745	

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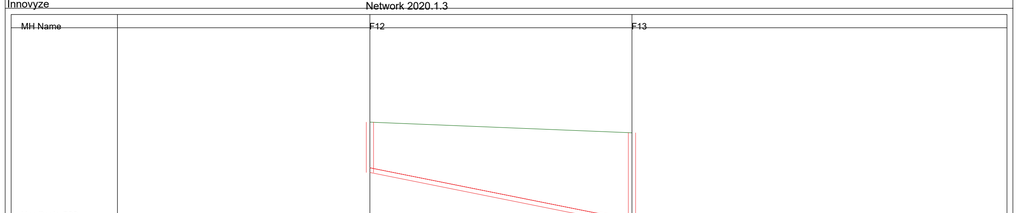

MH Name		F12	F13
PN		F5.000	
Dia (mm)		150	
Slope (1:X)		25.0	
Cover Level (m)		43.300	42.950
Invert Level (m)		41.650	39.938
Length (m)		42.788	

NOTES

GENERAL NOTES :

1...ALL COYLE KENNEDY DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS DRAWINGS AND ALL OTHER RELEVANT DRAWINGS.

2...ALL SETTING OUT, INSULATION, DPC, TANKING / WATERPROOFING, SCREED AND RADON PROTECTION DETAILS BY ARCHITECT & SPECIALIST.

3...DETAILED SPECIFICATIONS (IF NOT ISSUED) ARE AVAILABLE AT ENGINEERS OFFICE FOR INSPECTION BY CONTRACTORS, BY APPOINTMENT.

4...REFER TO ARCHITECT FOR DAMP PROOF, TANKING AND GAS PROOFING MEMBRANE REQUIREMENTS. REQUIREMENTS OF SUBSTRUCTURE GAS/WATER PROOFING MEMBRANES TO BE BY A REPUTABLE, COMPETENT SPECIALIST WITH ADEQUATE PI.

5...THE CONTRACTOR SHALL BE DEEMED TO HAVE ALLOWED FOR, WITHIN HIS TENDER, EMPLOYING A CHARTERED STRUCTURAL ENGINEER WITH ADEQUATE PROFESSIONAL INDEMNITY INSURANCE TO ASSESS, DESIGN AND DETAIL SUCH TEMPORARY WORKS AS ARE NECESSARY TO OFFER SUPPORT TO EXISTING AND/OR CONSTRUCTED ELEMENTS DURING THE CONSTRUCTION PERIOD. THIS APPLIES TO ELEMENTS WITHIN THE SITE AND NEIGHBORING THE SITE.

6...THE CONTRACTOR IS DEEMED TO HAVE VISITED THE SITE AND CONSULTED WITH RELEVANT AUTHORITIES AND BE SATISFIED IN RELATION TO THE SITES SURROUNDINGS, EXISTING SERVICES, LEVELS, BOUNDARIES, GROUND CHARACTERISTICS AND ANY OTHER SITE CONSTRAINTS, INCLUDING DIVERSION OF SERVICES AS NECESSARY.

7...ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS.

8...WHERE LEANMIX IS SPECIFIED ALL LEANMIX TO BE GRADE C16/20 (GEN 3). UNLESS NOTED OTHERWISE.

9...ALL LEVELS ARE IN METRES ABOVE ORDINANCE DATUM (U.N.O.) INDICATING STRUCTURAL LEVEL (SSL)

10...DO NOT SCALE FROM DRAWINGS, USE FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES TO BE REPORTED TO THE STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORKS.

11...ALL WORKS SHALL BE CARRIED OUT IN A SAFE MANNER AND IN ACCORDANCE WITH THE HEALTH AND SAFETY REGULATIONS. METHOD STATEMENTS (WHERE REQUIRED) SHALL BE SUBMITTED TO THE ENGINEER OR OTHER APPOINTED PERSON(S).

12...THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AUTHORITY REQUIREMENTS INCLUDING PLANNING CONDITIONS, FIRE SAFETY CERTIFICATE CONDITIONS, LOCAL AUTHORITY DRAINAGE REQUIREMENTS etc.

13..PROJECT DRAWINGS AND SPECIFICATIONS REFERENCE TO BUILDING REGULATIONS, BRITISH, IRISH OR OTHER NATIONAL STANDARD OR CODES OF PRACTICE DO NOT GIVE THE YEAR OF ISSUE OR DATES OF AMENDMENTS. THE LATEST RELEVANT PUBLISHED VERSION INCLUDING ANY RELEVANT AMENDMENTS AND ADD END AT THE DATE OF INVITATION TO TENDER SHALL APPLY. WHERE A STANDARD OR CODE OF PRACTICE HAS BEEN SUPERSEDED, THE LATEST EDITION OF THE SUPERSEDING PUBLICATION SHALL APPLY.

14... ANY DISCREPANCIES DISCOVERED BETWEEN DESIGN TEAM DRAWINGS TO BE REPORTED IMMEDIATELY AND CLARIFICATION SOUGHT AND DISCREPANCY CORRECTED PRIOR TO CONSTRUCTION COMMENCING

DRAINAGE NOTES :

1...CONTRACTOR TO MAKE ALL NECESSARY ENQUIRIES REGARDING LOCATION OF EXISTING SEWERS, ELECTRICAL AND OTHER SERVICES ON SITE.

2...FOR DRAINAGE WORK LOCAL TO BUILDINGS, REFER TO ARCHITECT'S DRAWINGS.

3...ALL DRAINAGE WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT SPECIFICATION, PART H BUILDING REGULATIONS AND DEPT. OF ENVIRONMENT DOCUMENT "RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS", & WW- "SEWERS FOR ADOPTION 6th EDITION" & DESIGN & CONSTRUCTION GUIDE FOR DEVELOPERS AND UISCE ÉIREANN WASTEWATER CODE OF PRACTICE.

4...BEDDING MATERIAL TO BE 10mm SINGLE SIZED AGGREGATE COMPLYING WITH THE REQUIREMENTS OF AGGREGATES FOR CONCRETE', FOR RIGID PIPES THE GRANULAR MATERIAL SHOULD CONFORM TO BS EN 1610 ANNEX B TABLE B AND SHOULD BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5mm TO 10mm FOR 100mm PIPES; 14mm FOR 150mm PIPES; 20mm FOR 150mm – 600mm DIAMETER AND 40mm FOR PIPES MORE THAN 600mm DIAMETER.

5...THE PREPARED UNDERBED OF THE TRENCH SHOULD CONSIST OF BEDDING MATERIAL FOR THE FULL WIDTH OF THE TRENCH AND LAID TO THE CORRECT GRADIENT.

6...THE MINIMUM THICKNESS OF BEDDING MATERIAL UNDER THE BARREL OF THE PIPE SHOULD BE 100MM

7...IMPORTED BEDDING MATERIAL AND BACKFILL USING "AS DUG MATERIAL" MUST BE APPROVED BY ENGINEER.

8...ALL PVC-U PIPES AND FITTINGS USED FOR DRAIN AND SEWER MUST COMPLY WITH IS.424 " UNPLASTICISED POLYVINYL CHLORIDE (PVC-U)PIPES AND FITTINGS FOR BURIED DRAINAGE AND SEWAGE SYSTEMS "

REFER TO CK DRAWING 300 FOR PLAN LAYOUT OF DRAINAGE NETWORK

F.. – 8/0

Rev.	Revision	Date

DRAWING STATUS

P	PRELIMINARY	A	APPROVAL	T	TENDER
C	CONSTRUCTION	R	RECORD	I	INFORMATION

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PROJECT
GCC SOCIAL HOUSING, PORTUMNA, CO. GALWAY

CLIENT
GALWAY COUNTY COUNCIL

TITLE
FOUL DRAINAGE SECTIONS

PROJECT No. 24–116
STATUS – DRAWING No. P-305
DATE MAY 2025
DRAWING REV.
SCALE 1:500,100,@ A1
BY AC
CHECKED BC

SERVICES LEGEND:

- EXISTING WATERMAIN
- PROPOSED WATERMAIN 100mm DIA.
- DOMESTIC WATERMAIN FEED
- AV — AIR VALVE
- SV — SLUICE VALVE
- SCV — SCOUR VALVE
- HYD — FIRE HYDRANT
- M — WATER METER
- BM — BULK METER

ACCEPTABLE WATERMAIN PIPE TYPES:
- HDPE OF TYPE PE-100 & HAVE AN SDR-17 RATING.
- MDPE OF TYPE PE-80 & HAVE AN SDR-11 RATING

NOTE:
SLUICE VALVE COMPLYING WITH THE REQUIREMENTS OF BS 5163.
DEPTH OF SLUICE VALVE SPINDLE CAP SHOULD NOT EXCEED 300MM

THE QUANTITY, PRESSURE & DURATION OF WATER SUPPLY REQUIREMENTS IN THE EVENT OF AN EMERGENCY TO BE DETERMINED & AGREED WITH FIRE OFFICER & LOCAL AUTHORITY

ALL METERS TO BE INSTALLED AS PER UISCE ÉIREANN REQUIREMENTS

SITE WATERMAIN LAYOUT

SCALE 1:500

EXCAVATION AND FILL NOTES :

1...THE RESPONSIBLE AUTHORITIES SHOULD BE CONSULTED REGARDING THE GROUND TO BE EXCAVATED WITH REGARD TO THE POSITION AND TYPE OF UNDERGROUND SERVICES THAT ARE LIKELY TO BE ENCOUNTERED DURING EXCAVATION AND ANY POSSIBLE DIVERSIONS REQUIRED.

2...THE BEARING STRATA TO BE APPROVED AND AGREED BY THE CONSULTING ENGINEER.

3...TEMPORARY FILL OVER BEARING STRATA TO BE PROVIDED TO PROTECT THE AGREED BEARING STRATA AND REMOVED FROM SITE BEFORE BEGINNING PERMANENT CONSTRUCTION.

4...EXCAVATE TO THE DIMENSIONS, LEVELS, LINES AND PROFILES SHOWN ON THE RELEVANT DRAWINGS. LEVEL AND GRADE TO FALLS AND REMOVE ALL LOOSE MATERIAL. OBTAIN APPROVAL BEFORE ANY CONCRETING OR FILL WORK IS CARRIED OUT. IF ROCK OR OTHER NATURAL STRATA IS ENCOUNTERED NOTIFY THE ARCHITECT AND ENGINEER AND OBTAIN INSTRUCTIONS BEFORE EXCAVATION. BACK FILL UNAUTHORISED OR EXCESS EXCAVATIONS WITH APPROVED FILLING AT NO EXPENSE TO THE CLIENT.

5...WHEN ARCHAEOLOGICAL OBJECTS ARE DISCOVERED DURING EXCAVATION, STOP WORK IN THE IMMEDIATE VICINITY OF THE FIND AND INFORM THE ARCHITECT AND ENGINEER AT ONCE. THE OWNER OF MINERALS, SAND, GRAVEL OR ARCHAEOLOGICAL OBJECTS AND THE LIKE DISCOVERED IN THE COURSE OF THE EXCAVATIONS SHALL BE DEEMED TO BE THE PROPERTY OF THE CLIENT.

6...EXCAVATIONS IN POSITIONS ADJACENT TO EXISTING BUILDINGS, PATHWAYS OR THE LIKE SHALL BE CARRIED OUT IN SUCH A MANNER THAT SUCH EXISTING BUILDINGS, PATHWAYS OR THE LIKE ARE NOT ENDANGERED.

7...KEEP EXCAVATIONS FREE FROM WATER, AND KEEP WATER FROM EXCAVATIONS CLEAR OF OTHER CONSTRUCTION WORK. THE WATER LEVEL MAY BE SEASONAL AND/OR TIDAL. WHERE TEMPORARY SUMPS ARE REQUIRED CONSTRUCT THEM CLEAR OF EXCAVATIONS FOR PERMANENT WORK AND FILL THEM WITH SUITABLE FILLING WHEN NO LONGER REQUIRED.

8...DISPOSAL AREA FOR EXCAVATED MATERIAL TO BE AGREED WITH CLIENT AND OTHER RELEVANT AUTHORITIES.

9...UNLESS OTHERWISE AGREED ALL FILL MATERIAL WITHIN 1.0m OF BUILDINGS SHOULD BE 'GRANULAR FILL S.R. 21 :2014 ANNEX E' COMPACTED IN 200mm LAYERS USING 10 NUMBER PASSES OF A 3000kg PER METER WIDTH VIBRATING ROLLER. SEE COMPACTION SPECIFICATION TABLE

10...FILL MATERIAL MUST BE PROVIDED OVER THE FULL EXTENT OF THE ROADS AND EXTEND AT LEAST 300mm BEYOND KERB LINE. IT MUST THEN TAPER 45DEG DOWN TO BEARING STRATA.

NOTES

GENERAL NOTES :

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7...ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS.

8...WHERE LEANMIX IS SPECIFIED ALL LEANMIX TO BE GRADE C16/20 (GEN 3). UNLESS NOTED OTHERWISE.

9...ALL LEVELS ARE IN METRES ABOVE ORDINANCE DATUM (U.N.O.) INDICATING STRUCTURAL LEVEL (SSL)

10...DO NOT SCALE FROM DRAWINGS, USE FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES TO BE REPORTED TO THE STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORKS.

11...ALL WORKS SHALL BE CARRIED OUT IN A SAFE MANNER AND IN ACCORDANCE WITH THE HEALTH AND SAFETY REGULATIONS. METHOD STATEMENTS (WHERE REQUIRED) SHALL BE SUBMITTED TO THE ENGINEER OR OTHER APPOINTED PERSON(S).

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14... ANY DISCREPANCIES DISCOVERED BETWEEN DESIGN TEAM DRAWINGS TO BE REPORTED IMMEDIATELY AND CLARIFICATION SOUGHT AND DISCREPANCY CORRECTED PRIOR TO CONSTRUCTION COMMENCING

WATERMAIN NOTES :

1...WATER MAINS SHOULD HAVE A MINIMUM NOMINAL PRESSURE CLASSIFICATION OF 9 BAR. THE FOLLOWING PIPES MAY BE USED:

(A) PIPE TYPE AND MATERIAL SPECIFICATION SHOULD BE IN ACCORDANCE WITH SECTION 3.9 OF THE WATER CODE OF PRACTICE.

(B) DUCTILE IRON PIPES TYPE AND MATERIAL SPECIFICATION SHOULD BE IN ACCORDANCE WITH SECTION 3.9.1 OF THE WATER CODE OF PRACTICE.

(C) POLYETHYLENE PIPES TYPE AND MATERIAL SPECIFICATION SHOULD BE IN ACCORDANCE WITH SECTION 3.9.2 AND 3.9.3 OF THE WATER CODE OF PRACTICE.

2...SERVICE PIPES SHOULD HAVE AN INTERNAL DIAMETER OF 25mm AND SHOULD COMPLY WITH WATER CODE OF PRACTICE SECTIONS 3.8 & 3.9 AND STANDARD DETAIL STD-W-03.

3...CLASS OF PIPE TO UISCE ÉIREANN CODE OF PRACTICE

4...CONCRETE ANCHOR BLOCKS TO COMPLY WITH STANDARD DETAIL STD-W-28.

5...THE DEPTH OF THE SLUICE VALVE SPINDLE CAP BELOW FINISHED GROUND LEVEL SHOULD NOT EXCEED 300mm

6...DEPTH OF HYDRANT FROM FINISHED GROUND LEVEL SHOULD BE A MAXIMUM OF 250mm. HYDRANTS TO COMPLY WITH UISCE ÉIREANN STANDARD DETAILS STD-W-16 TO STD-W-19.

7...AIR VALVES TO BE IN COMPLIANCE WITH THE REQUIREMENTS LISTED IN UISCE ÉIREANN STANDARD DETAIL STD-W-21.

8...THE BOUNDARY BOX IS TO TO COMPLY WITH UISCE ÉIREANN STANDARD DETAIL STD-W-03.

9...ALL FITTINGS, INCLUDING SLUICE VALVES, BUTTERFLY VALVES, SCOUR VALVES, HYDRANTS, AIR VALVES AND METERS TO COMPLY WITH WATER CODE OF PRACTICE 3.16.

10...NO PIPE, CABLE, CONDUIT OR OTHER SERVICE PIPE SHOULD BE LAID LONGITUDINALLY OVER THE LINE OF A WATERMAIN.

11...TRENCH BACKFILL AND BEDDING TO COMPLY WITH UISCE ÉIREANN STANDARD DETAIL STD-W-13.

12...ALL NEW TREES/SHRUBS PLANTING ADJACENT TO WATER MAINS TO COMPLY WITH UISCE ÉIREANN STANDARD DETAIL STD-W-12A.

13...REFER TO STD-W-5 FOR ARRANGEMENT OF FITTINGS/PIPEWORK FOR TEMPORARY STOP ENDS OR PROVISION FOR FOR FUTURE DEVELOPMENT

REFER TO DRAWING 307 FOR SECTION & TYPICAL DETAILS
DRAWINGS TO BE READ IN CONJUCTION WIT CK REPORT 24-116-250512-01RP AND ITS APPENDICES

F„ – 8/1

Rev.	Revision	Date
A	SITE LAYOUT UPDATED IN ACCORDANCE WITH REVISED ARCHITECTS DRAWINGS	20/05/2025

DRAWING STATUS

	PRELIMINARY	A	APPROVAL	T	TENDER
	CONSTRUCTION	R	RECORD	I	INFORMATION

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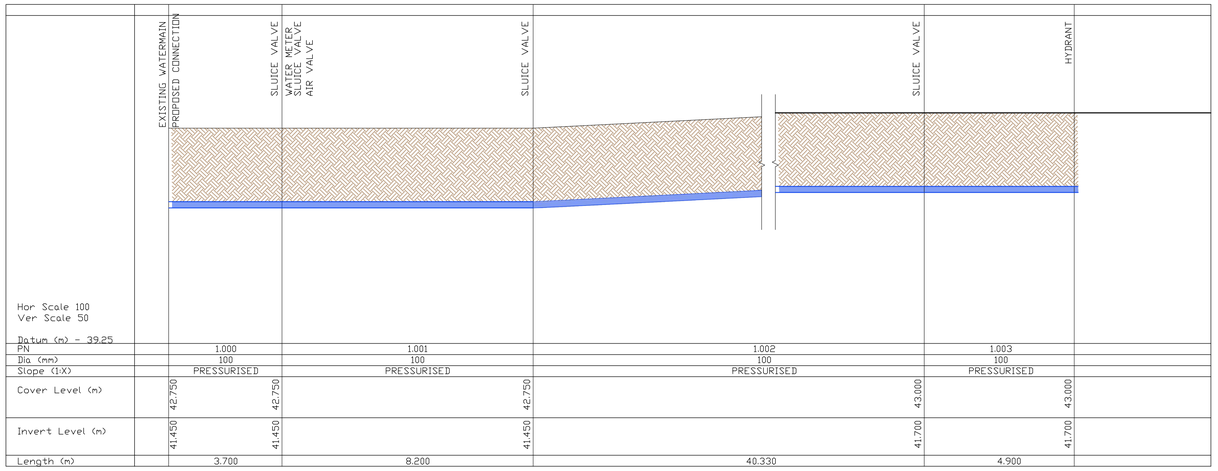
PROJECT
GCC SOCIAL HOUSING, PORTUMNA, CO. GALWAY

CLIENT
GALWAY COUNTY COUNCIL

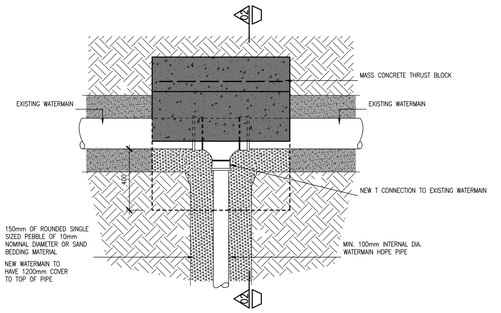
TITLE
SITE DRAINAGE LAYOUT

PROJECT No.	STATUS – SKETCH No.
24–116	**P-306**
DATE: MAY 2025	DRAWING REV.
SCALE: 1:500 @ A1 / BY: AC / CHECKED: BC	**A**



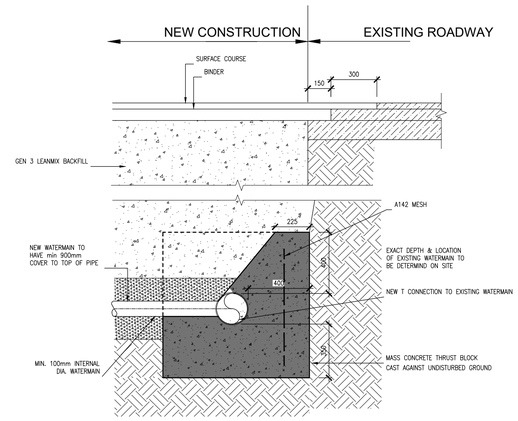
WATERMAIN SECTION – at CONNECTION POINT to HYDRANT

SCALE = AS NOTED ABOVE



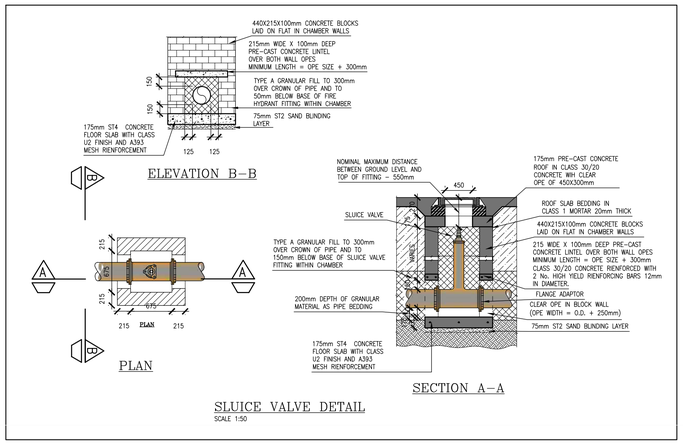
PLAN – THRUST BLOCK 'T' CONNECTION TO EXISTING WATERMAIN

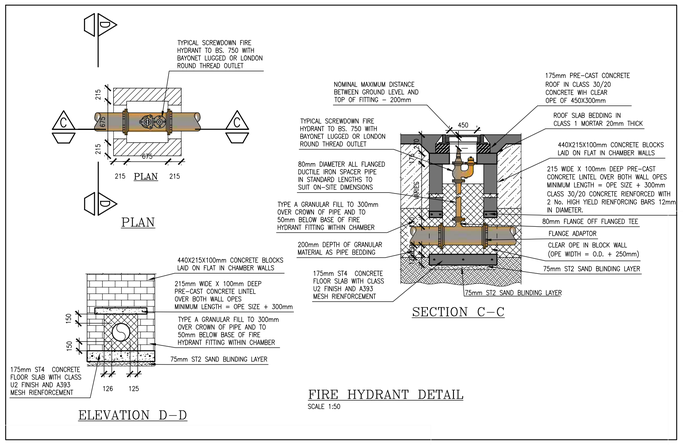
SCALE 1:20



SECTION 2–2

SCALE 1:20





WATERMAIN NOTES :

1...WATER MAINS SHOULD HAVE A MINIMUM NOMINAL PRESSURE CLASSIFICATION OF 9 BAR. THE FOLLOWING PIPES MAY BE USED:

(A) PIPE TYPE AND MATERIAL SPECIFICATION SHOULD BE IN ACCORDANCE WITH SECTION 3.9 OF THE WATER CODE OF PRACTICE.

(B) DUCTILE IRON PIPES TYPE AND MATERIAL SPECIFICATION SHOULD BE IN ACCORDANCE WITH SECTION 3.9.1 OF THE WATER CODE OF PRACTICE.

(C) POLYETHYLENE PIPES TYPE AND MATERIAL SPECIFICATION SHOULD BE IN ACCORDANCE WITH SECTION 3.9.2 AND 3.9.3 OF THE WATER CODE OF PRACTICE.

2...SERVICE PIPES SHOULD HAVE AN INTERNAL DIAMETER OF 25mm AND SHOULD COMPLY WITH WATER CODE OF PRACTICE 3.9 AND UISCE ÉIREANN STANDARD DETAIL STD–W–03.

3...CLASS OF PIPE TO UISCE ÉIREANN CODE OF PRACTICE

4...CONCRETE ANCHOR BLOCKS TO COMPLY WITH UISCE ÉIREANN STANDARD DETAIL STD–W–28.

5...THE DEPTH OF THE SLUICE VALVE SPINDLE CAP BELOW FINISHED GROUND LEVEL SHOULD NOT EXCEED 300mm

6...DEPTH OF HYDRANT FROM FINISHED GROUND LEVEL SHOULD BE A MAXIMUM OF 250mm. HYDRANTS TO COMPLY WITH UISCE ÉIREANN STANDARD DETAILS STD–W–16 TO STD–W–19.

7...AIR VALVES TO BE IN COMPLIANCE WITH THE REQUIREMENTS LISTED IN UISCE ÉIREANN STANDARD DETAIL STD–W–21.

8...THE BOUNDARY BOX IS TO TO COMPLY WITH UISCE ÉIREANN STANDARD DETAIL STD–W–03.

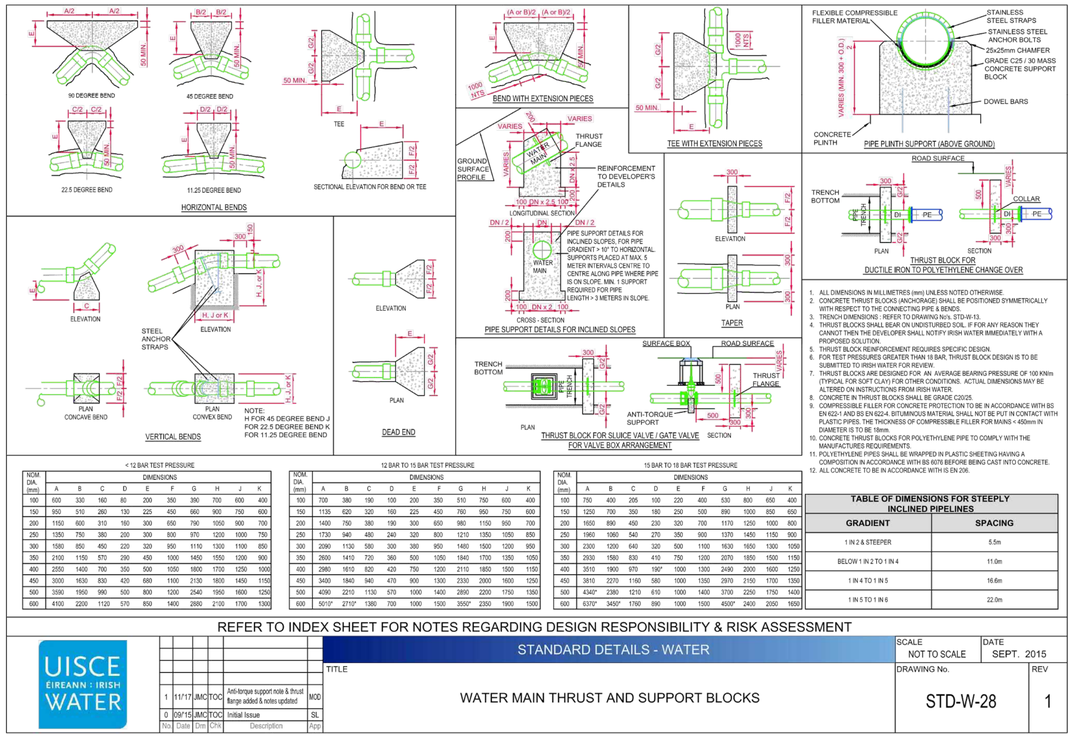
9...ALL FITTINGS, INCLUDING SLUICE VALVES, BUTTERFLY VALVES, SCOUR VALVES, HYDRANTS, AIR VALVES AND METERS TO COMPLY WITH WATER CODE OF PRACTICE 3.16.

10...NO PIPE, CABLE, CONDUIT OR OTHER SERVICE PIPE SHOULD BE LAID LONGITUDINALLY OVER THE LINE OF A WATERMAIN.

11...TRENCH BACKFILL AND BEDDING TO COMPLY WITH UISCE ÉIREANN STANDARD DETAIL STD–W–13.

12...ALL NEW TREES/SHRUBS PLANTING ADJACENT TO WATER MAINS TO COMPLY WITH UISCE ÉIREANN STANDARD DETAIL STD–W–12A.

REFER TO DRAWING 306 FOR PLAN LAYOUT



1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. CONCRETE THRUST BLOCKS (ANCHORAGE) SHALL BE POSITIONED SYMMETRICALLY WITH RESPECT TO THE CONNECTING PIPE & BENDS.
3. TRENCH DIMENSIONS : REFER TO DRAWING No's. STD-W-13.
4. THRUST BLOCKS SHALL BEAR ON UNDISTURBED SOIL. IF FOR ANY REASON THEY CANNOT THEN THE DEVELOPER SHALL NOTIFY IRISH WATER IMMEDIATELY WITH A PROPOSED SOLUTION.
5. THRUST BLOCK REINFORCEMENT REQUIRES SPECIFIC DESIGN.
6. FOR TEST PRESSURES GREATER THAN 18 BAR, THRUST BLOCK DESIGN IS TO BE SUBMITTED TO IRISH WATER FOR REVIEW.
7. THRUST BLOCKS ARE DESIGNED FOR AN AVERAGE BEARING PRESSURE OF 100 KN/m (TYPICAL FOR SOFT CLAY) FOR OTHER CONDITIONS. ACTUAL DIMENSIONS MAY BE ALTERED ON INSTRUCTIONS FROM IRISH WATER.
8. CONCRETE IN THRUST BLOCKS SHALL BE GRADE C20/25.
9. COMPRESSIBLE FILLER FOR CONCRETE PROTECTION TO BE IN ACCORDANCE WITH BS EN 622-1 AND BS EN 622-4. BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PLASTIC PIPES. THE THICKNESS OF COMPRESSIBLE FILLER FOR MAINS < 450mm IN DIAMETER IS TO BE 18mm.
10. CONCRETE THRUST BLOCKS FOR POLYETHYLENE PIPE TO COMPLY WITH THE MANUFACTURES REQUIREMENTS.
11. POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE.
12. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.

< 12 BAR TEST PRESSURE

NOM. DIA. (mm)	DIMENSIONS A	B	C	D	E	F	G	H	J	K
100	600	330	160	80	200	350	390	700	600	400
150	950	510	260	130	225	450	660	900	750	600
200	1150	600	310	160	300	650	790	1050	900	700
250	1350	750	380	200	300	800	970	1200	1000	750
300	1580	850	450	220	320	950	1110	1300	1100	850
350	2100	1150	570	290	450	1000	1450	1550	1200	900
400	2550	1400	700	350	500	1050	1800	1700	1250	1000
450	3000	1630	830	420	680	1100	2130	1800	1450	1150
500	3590	1950	990	500	800	1200	2540	1950	1600	1250
600	4100	2200	1120	570	850	1400	2680	2100	1700	1300

12 BAR TO 15 BAR TEST PRESSURE

NOM. DIA. (mm)	DIMENSIONS A	B	C	D	E	F	G	H	J	K
100	700	380	190	100	200	350	510	750	600	400
150	1135	620	320	160	225	450	760	950	750	600
200	1400	750	380	190	300	650	980	1150	950	700
250	1730	940	480	240	320	800	1210	1350	1050	850
300	2090	1130	580	300	380	950	1460	1500	1200	950
350	2600	1410	720	360	500	1050	1840	1700	1350	1050
400	2980	1610	820	420	750	1200	2110	1850	1500	1150
450	3400	1840	940	470	900	1300	2330	2000	1600	1250
500	4090	2210	1130	570	1000	1400	2890	2200	1750	1350
600	5010*	2710*	1380	700	1000	1500	3550*	2350	1900	1500

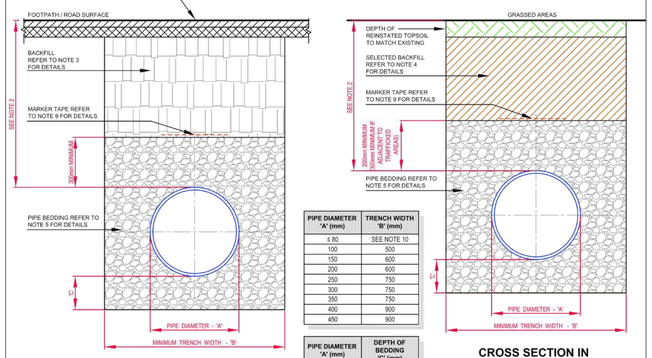
15 BAR TO 18 BAR TEST PRESSURE

NOM. DIA. (mm)	DIMENSIONS A	B	C	D	E	F	G	H	J	K
100	750	400	205	100	220	400	530	800	650	400
150	1250	700	350	180	250	500	890	1000	850	650
200	1650	890	450	230	320	700	1170	1250	1000	800
250	1960	1060	540	270	350	900	1370	1450	1150	900
300	2300	1200	640	320	500	1100	1630	1650	1300	1050
350	2630	1580	830	410	750	1200	2070	1850	1500	1150
400	3510	1900	970	190*	1000	1300	2490	2000	1600	1250
450	3810	2270	1160	580	1000	1350	2970	2150	1700	1350
500	4340*	2380	1210	610	1000	1400	3700	2250	1750	1400
600	6370*	3450*	1760	890	1000	1500	4500*	2400	2050	1650

TABLE OF DIMENSIONS FOR STEEPLY INCLINED PIPELINES

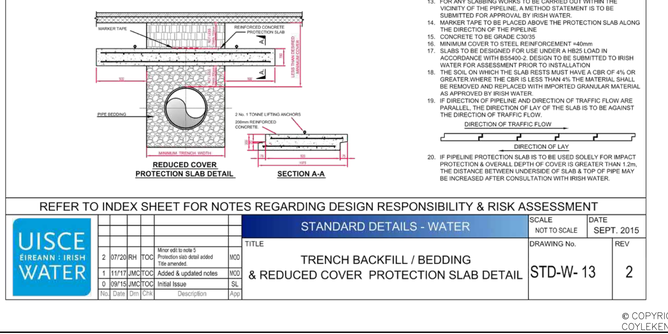
GRADIENT	SPACING
1 IN 2 & STEEPER	5.5m
BELOW 1 IN 2 TO 1 IN 4	11.0m
1 IN 4 TO 1 IN 5	16.6m
1 IN 5 TO 1 IN 6	22.0m

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF THE PIPE SHALL BE 900mm WHERE THE PIPE IS TO BE LOCATED IN HOUSING ESTATE ROADS. 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 DESIRABLE COVER FOR A WATERMAIN SHOULD BE 1200mm, WHERE PRACTICABLE & SHOULD NOT EXCEED 3.0m.
3. CLAUSE 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY 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 804 / 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. CLAUSE 808 IS TO BE USED WITHIN 500mm OF CEMENT BOUND MATERIALS, CONCRETE PAVEMENTS, CONCRETE STRUCTURES OR CONCRETE PRODUCTS. OTHERWISE CLAUSE 804 MAY BE USED. ALTERNATIVE BACKFILL MATERIAL TO THAT DESCRIBED ABOVE (CLAUSE 804 OR CLAUSE 808) OF THE PIPE TRENCH WILL ONLY BE ALLOWED BY IRISH WATER WHERE THE ROADS AUTHORITY IN WHOSE FUNCTIONAL AREA THE DEVELOPMENT IS LOCATED, PROVIDES **WRITTEN APPROVAL** TO THE DEVELOPER TO THE USE SUCH ALTERNATIVE MATERIAL.
4. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER.
5. PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm (3/8 3/16) GRADED AGGREGATE OR 10mm (6.3/3.) SINGLE SIZED AGGREGATE TO IS EN 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 804 / 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. PIPES SHALL NOT BE SUPPORTED ON STONES OR ROCKS, OR ANY HARD OBJECT 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 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY 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 450mm 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 ≤80mm MAY BE <500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.
11. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
12. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.



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

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
≤ 200	150
≥ 250	200



13. FOR ANY SLABBING WORKS TO BE CARRIED OUT WITHIN THE VICINITY OF THE PIPELINE, A METHOD STATEMENT IS TO BE SUBMITTED FOR APPROVAL BY IRISH WATER.
14. MARKER TAPE TO BE PLACED ABOVE THE PROTECTION SLAB ALONG THE DIRECTION OF THE PIPELINE
15. CONCRETE TO BE GRADE C30/35
16. MINIMUM COVER TO STEEL REINFORCEMENT =40mm
17. SLABS TO BE DESIGNED FOR USE UNDER A HB25 LOAD IN ACCORDANCE WITH BS5400-2. DESIGN TO BE SUBMITTED TO IRISH WATER FOR ASSESSMENT PRIOR TO INSTALLATION
18. THE SOIL ON WHICH THE SLAB RESTS MUST HAVE A CBR OF 4% OR GREATER WHERE THE CBR IS LESS THAN 4% THE MATERIAL SHALL BE REMOVED AND REPLACED WITH IMPORTED GRANULAR MATERIAL AS APPROVED BY IRISH WATER.
19. IF DIRECTION OF PIPELINE AND DIRECTION OF TRAFFIC FLOW ARE PARALLEL, THE DIRECTION OF LAY OF THE SLAB IS TO BE AGAINST THE DIRECTION OF TRAFFIC FLOW.
20. IF PIPELINE PROTECTION SLAB IS TO BE USED SOLELY FOR IMPACT PROTECTION & OVERALL DEPTH OF COVER IS GREATER THAN 1.2m, THE DISTANCE BETWEEN UNDERSIDE OF SLAB & TOP OF PIPE MAY BE INCREASED AFTER CONSULTATION WITH IRISH WATER.

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

UISCE ÉIREANN : IRISH WATER

Rev.	Date	Drn	Chk	Description	App
1	11/17	JMC	TOC	Anti-torque support note & thrust flange added & notes updated	MOD
0	09/15	JMC	TOC	Initial Issue	SL

STANDARD DETAILS - WATER

TITLE: WATER MAIN THRUST AND SUPPORT BLOCKS

SCALE: NOT TO SCALE | DATE: SEPT. 2015 | DRAWING No.: STD-W-28 | REV: 1

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

UISCE ÉIREANN : IRISH WATER

Rev.	Date	Drn	Chk	Description	App
2	07/20	RH	TOC	Minor edit to note 5 Protection slab detail added Title amended.	MOD
1	11/17	JMC	TOC	Added & updated notes	MOD
0	09/15	JMC	TOC	Initial Issue	SL

STANDARD DETAILS - WATER

TITLE: TRENCH BACKFILL / BEDDING & REDUCED COVER PROTECTION SLAB DETAIL

SCALE: NOT TO SCALE | DATE: SEPT. 2015 | DRAWING No.: STD-W- 13 | REV: 2

Rev.	Revision	Date

DRAWING STATUS

P	PRELIMINARY	A	APPROVAL	T	TENDER
C	CONSTRUCTION	R	RECORD	I	INFORMATION

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PROJECT: GCC SOCIAL HOUSING PORTUMNA

CLIENT: GALWAY COUNTY COUNCIL

TITLE: WATERMAIN SECTIONS & TYPICAL DETAILS

PROJECT No.	STATUS – DRAWING No.
24–116	P-307
DATE: MAY 2025	DRAWING REV. -
SCALE: 1:200,1:100,1:50 & 1:20 @ A1	BY: AC / CHECKED: BC

FOUL SEWERAGE DESIGN

Design Criteria for Foul - Main

Pipe Sizes STANDARD Manhole Sizes STANDARD

Industrial Flow (l/s/ha)	0.00	Add Flow / Climate Change (%)	0
Industrial Peak Flow Factor	0.00	Minimum Backdrop Height (m)	0.200
Flow Per Person (l/per/day)	150.00	Maximum Backdrop Height (m)	1.500
Persons per House	3.00	Min Design Depth for Optimisation (m)	1.200
Domestic (l/s/ha)	0.00	Min Vel for Auto Design only (m/s)	0.75
Domestic Peak Flow Factor	6.00	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Foul - Main

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
F1.000	36.174	0.904	40.0	0.000	6	0.0	1.500	o	150	Pipe/Conduit
F2.000	26.612	0.532	50.0	0.000	2	0.0	1.500	o	225	Pipe/Conduit
F2.001	29.691	0.594	50.0	0.000	2	0.0	1.500	o	225	Pipe/Conduit
F1.001	28.285	0.189	150.0	0.000	1	0.0	1.500	o	225	Pipe/Conduit
F1.002	27.368	0.182	150.0	0.000	1	0.0	1.500	o	225	Pipe/Conduit
F3.000	24.228	0.411	58.9	0.000	6	0.0	1.500	o	150	Pipe/Conduit
F3.001	46.429	0.774	60.0	0.000	2	0.0	1.500	o	150	Pipe/Conduit
F4.000	17.077	0.502	34.0	0.000	4	0.0	1.500	o	150	Pipe/Conduit
F4.001	21.745	0.659	33.0	0.000	1	0.0	1.500	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
F1.000	41.500	0.000	0.0	6	0.0	10	0.39	1.39	24.5	0.2
F2.000	41.550	0.000	0.0	2	0.0	6	0.23	1.63	64.6	0.1
F2.001	41.018	0.000	0.0	4	0.0	8	0.30	1.63	64.6	0.1
F1.001	40.424	0.000	0.0	11	0.0	16	0.28	0.94	37.2	0.3
F1.002	40.235	0.000	0.0	12	0.0	16	0.29	0.94	37.2	0.4
F3.000	41.530	0.000	0.0	6	0.0	11	0.34	1.14	20.2	0.2
F3.001	41.119	0.000	0.0	8	0.0	12	0.37	1.13	20.0	0.3
F4.000	41.500	0.000	0.0	4	0.0	8	0.36	1.51	26.6	0.1
F4.001	40.998	0.000	0.0	5	0.0	9	0.39	1.53	27.0	0.2

Network Design Table for Foul - Main

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
F3.002	33.813	0.225	150.0	0.000	3	0.0	1.500	o	225	Pipe/Conduit
F1.003	39.947	0.228	175.0	0.000	4	0.0	1.500	o	225	Pipe/Conduit
F5.000	42.788	1.712	25.0	0.000	5	0.0	1.500	o	150	Pipe/Conduit
F1.004	34.600	0.192	180.0	0.000	0	0.0	1.500	o	225	Pipe/Conduit
F1.005	38.654	0.215	180.0	0.000	0	0.0	1.500	o	225	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
F3.002	40.264	0.000	0.0	16	0.0	18	0.32	0.94	37.2	0.5
F1.003	40.039	0.000	0.0	32	0.0	27	0.38	0.87	34.5	1.0
F5.000	41.650	0.000	0.0	5	0.0	8	0.43	1.76	31.1	0.2
F1.004	39.810	0.000	0.0	37	0.0	29	0.39	0.85	34.0	1.2
F1.005	39.618	0.000	0.0	37	0.0	29	0.39	0.85	34.0	1.2

PIPELINE SCHEDULES for Foul - Main

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F1.000	o	150	F1	42.850	41.500	1.200	Open Manhole	1200
F2.000	o	225	F2	42.950	41.550	1.175	Open Manhole	1200
F2.001	o	225	F3	42.950	41.018	1.707	Open Manhole	1200
F1.001	o	225	F4	43.000	40.424	2.351	Open Manhole	1200
F1.002	o	225	F5	42.950	40.235	2.490	Open Manhole	1200
F3.000	o	150	F6	42.950	41.530	1.270	Open Manhole	1200
F3.001	o	150	F7	42.950	41.119	1.681	Open Manhole	1200
F4.000	o	150	F8	42.950	41.500	1.300	Open Manhole	1200
F4.001	o	150	F9	42.950	40.998	1.802	Open Manhole	1200
F3.002	o	225	F10	42.950	40.264	2.461	Open Manhole	1200
F1.003	o	225	F11	43.000	40.039	2.736	Open Manhole	1200
F5.000	o	150	F12	43.300	41.650	1.500	Open Manhole	1200
F1.004	o	225	F13	42.950	39.810	2.915	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F1.000	36.174	40.0	F4	43.000	40.596	2.254	Open Manhole	1200
F2.000	26.612	50.0	F3	42.950	41.018	1.707	Open Manhole	1200
F2.001	29.691	50.0	F4	43.000	40.424	2.351	Open Manhole	1200
F1.001	28.285	150.0	F5	42.950	40.235	2.490	Open Manhole	1200
F1.002	27.368	150.0	F11	43.000	40.053	2.722	Open Manhole	1200
F3.000	24.228	58.9	F7	42.950	41.119	1.681	Open Manhole	1200
F3.001	46.429	60.0	F10	42.950	40.345	2.455	Open Manhole	1200
F4.000	17.077	34.0	F9	42.950	40.998	1.802	Open Manhole	1200
F4.001	21.745	33.0	F10	42.950	40.339	2.461	Open Manhole	1200
F3.002	33.813	150.0	F11	43.000	40.039	2.736	Open Manhole	1200
F1.003	39.947	175.0	F13	42.950	39.810	2.915	Open Manhole	1200
F5.000	42.788	25.0	F13	42.950	39.938	2.862	Open Manhole	1200
F1.004	34.600	180.0	F14	42.000	39.618	2.157	Open Manhole	1200

PIPELINE SCHEDULES for Foul - Main

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F1.005	o	225	F14	42.000	39.618	2.157	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F1.005	38.654	180.0	FOutfall	41.749	39.403	2.121	Open Manhole	0