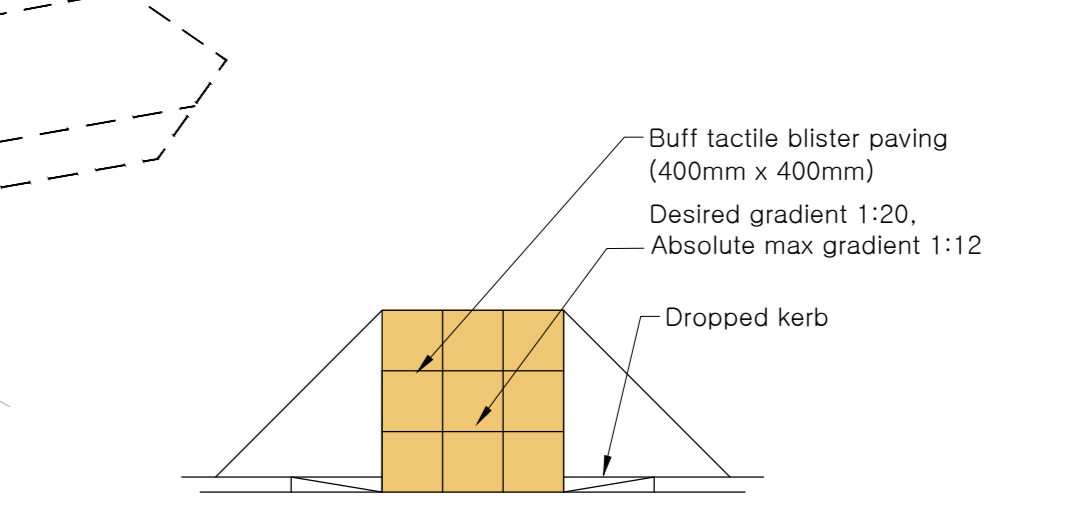


Raised Table - Section
Scale 1:50



Uncontrolled pedestrian crossing path/kerb
Scale 1:50

- Tactile Paving Note:**
1. Uncontrolled crossings in accordance with 'Traffic Management Guidelines' DOT, 2019. Configurations as shown in Layout.
 2. Module type B (400mm x 400mm) only is shown here and shall be used.
 3. Tactile blister paving shall be bedded on 25mm moist sand/cement mortar (3:1), joints filled with 4:1 mix to within 2mm of the paving surface.
 4. Dropped kerb shall have a maximum up-stand of 6mm.

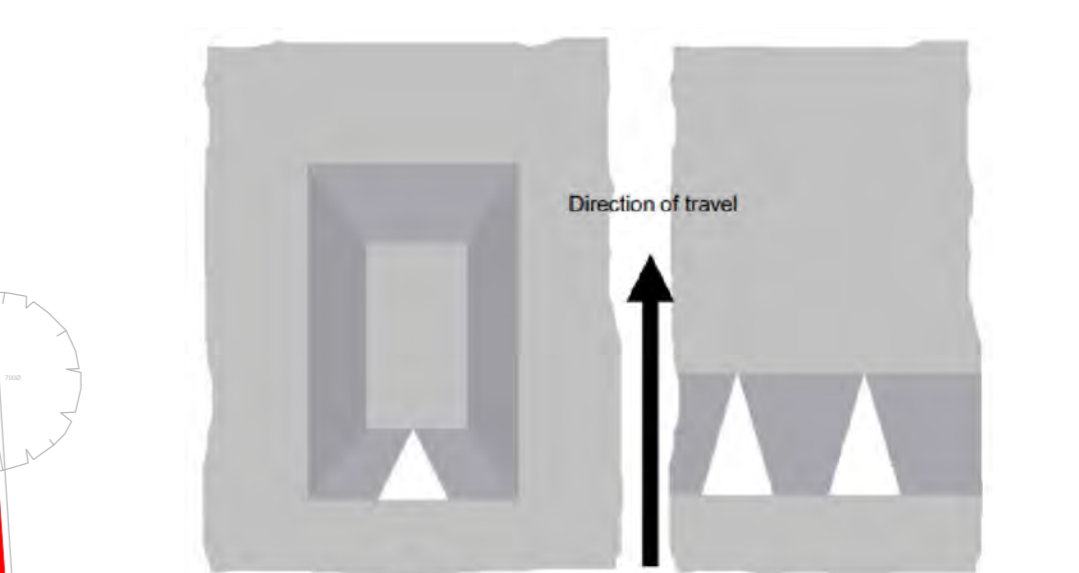
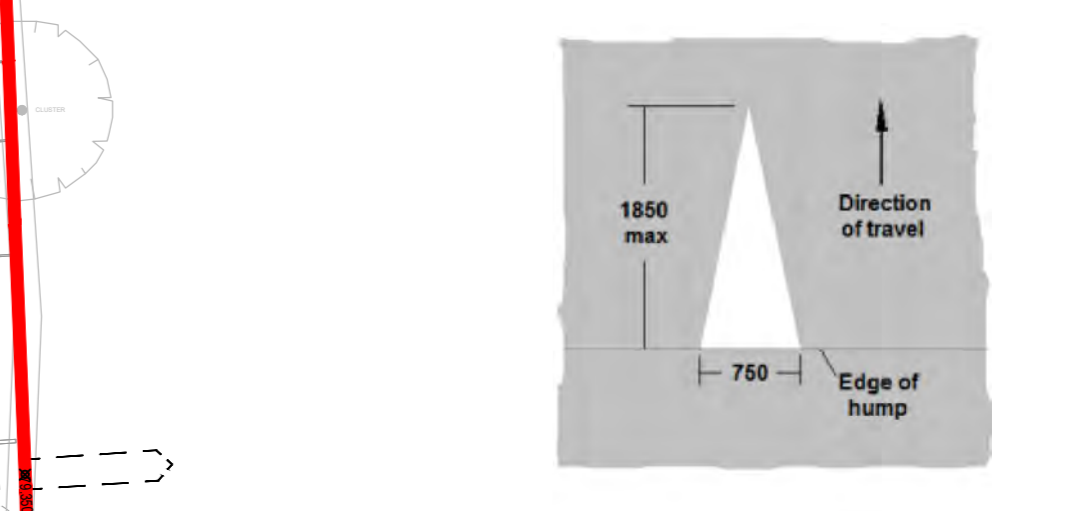


Figure 7.57: Traffic Calming Triangle on Speed Cushion and Speed Hump



M 112 Traffic Calming Triangle

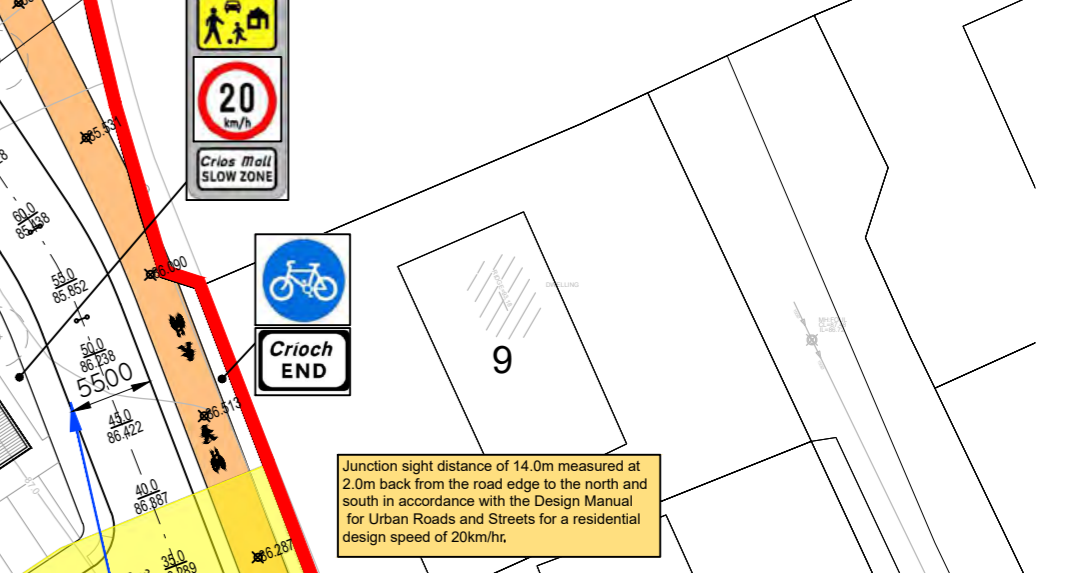
Raised tables and junctions to be surfaced with SMA or Dense Wearing Course Macadam with beige coloured chippings to differentiate these surfaces from the standard road surface. See WDG drawing no. 22054-XX-XX-XX-DR-WDG-CE-504 for road build-up details.

Standard Estate Road to be surfaced with standard black SMA or Dense Wearing Course Macadam. See WDG drawing no. 22054-XX-XX-XX-DR-WDG-CE-504 for road build-up details.

3.0m wide shared cycle/footpath

1.0m high earth filled concrete planter bed on the creche side of the retaining wall

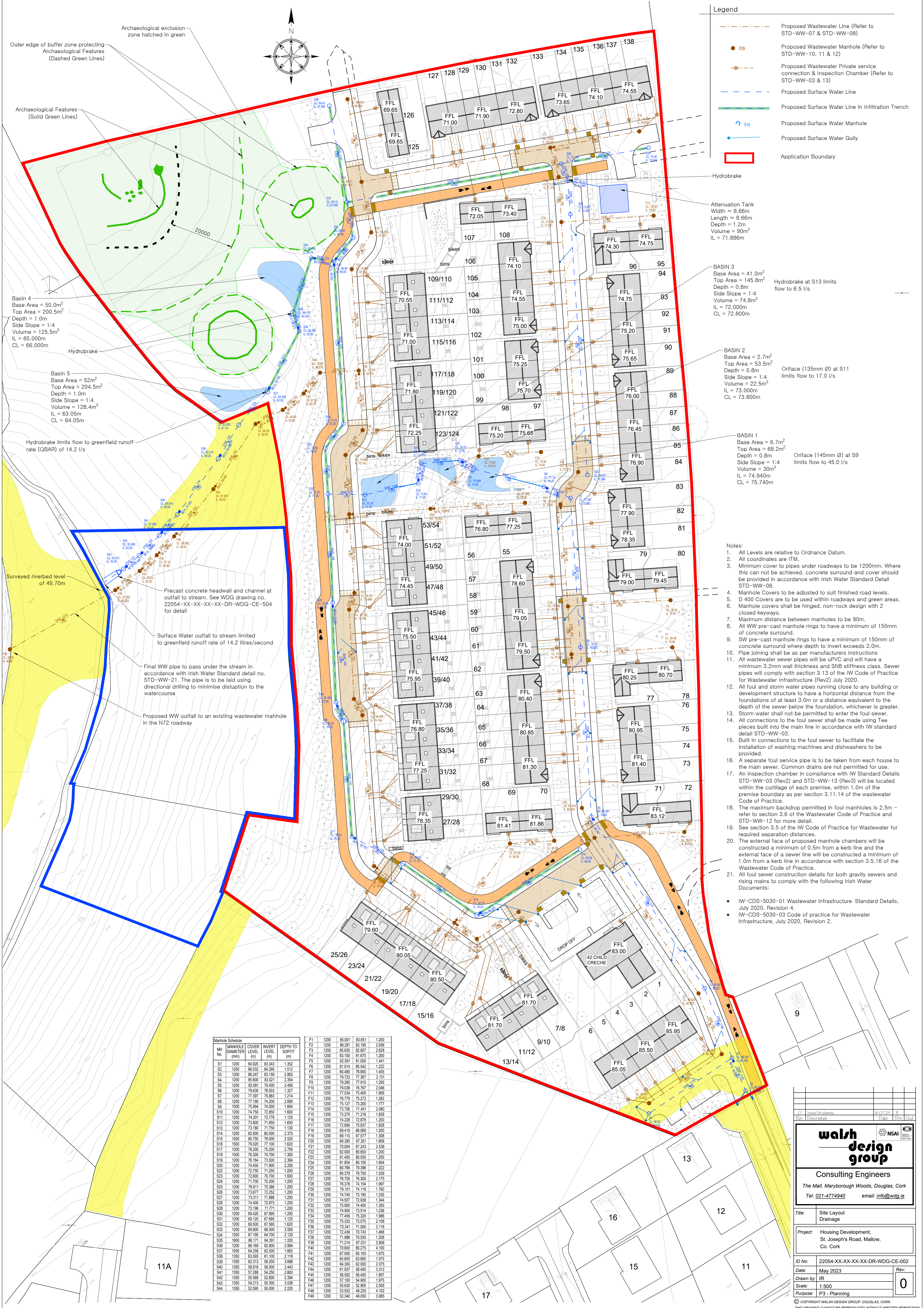
1.35m high retaining wall required under the boundary wall.



Junction sight distance of 14.0m measured at 2.0m back from the road edge to the north and south in accordance with the Design Manual for Urban Roads and Streets for a residential design speed of 20km/h.

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The Mall, Maryborough Woods, Douglas, Cork		
Tel: 021-4774940 email: info@wdg.ie		
Title:	Site Layout Roads & Levels	
Project:	Housing Development, St. Joseph's Road, Mallow, Co. Cork	
ID No:	22054-XX-XX-XX-DR-WDG-CE-001	Rev:
Date:	May 2023	0
Drawn by:	IR	
Scale:	1:500	
Purpose:	P3 - Planning	

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- Legend**
- Proposed Wastewater Line (Refer to STD-WW-07 & STD-WW-08)
 - F29 Proposed Wastewater Manhole (Refer to STD-WW-10, 11 & 12)
 - o- Proposed Wastewater Private service connection & Inspection Chamber (Refer to STD-WW-03 & 13)
 - Proposed Surface Water Line
 - Proposed Surface Water Line in Infiltration Trench
 - S16 Proposed Surface Water Manhole
 - Proposed Surface Water Gully
 - Application Boundary

- Hydrobrake**
- Attenuation Tank
Width = 8.66m
Length = 8.66m
Depth = 1.2m
Volume = 90m³
IL = 71.886m
 - BASIN 3
Base Area = 41.0m²
Top Area = 145.8m²
Depth = 0.8m
Side Slope = 1:4
Volume = 74.8m³
IL = 72.000m
CL = 72.800m
 - Hydrobrake at S13 limits flow to 6.5 l/s
 - BASIN 2
Base Area = 2.7m²
Top Area = 53.5m²
Depth = 0.8m
Side Slope = 1:4
Volume = 22.5m³
IL = 73.000m
CL = 73.800m
 - Orifice (135mm Ø) at S11 limits flow to 17.0 l/s
 - BASIN 1
Base Area = 6.7m²
Top Area = 68.2m²
Depth = 0.8m
Side Slope = 1:4
Volume = 30m³
IL = 74.940m
CL = 75.740m
 - Orifice (145mm Ø) at S9 limits flow to 45.0 l/s

- Notes:**
1. All Levels are relative to Ordnance Datum.
 2. All coordinates are ITM.
 3. Minimum cover to pipes under roadways to be 1200mm. Where this can not be achieved, concrete surround and cover should be provided in accordance with Irish Water Standard Detail STD-WW-08.
 4. Manhole Covers to be adjusted to suit finished road levels.
 5. D 400 Covers are to be used within roadways and green areas.
 6. Manhole covers shall be hinged, non-rock design with 2 closed keyways.
 7. Maximum distance between manholes to be 90m.
 8. All WW pre-cast manhole rings to have a minimum of 150mm of concrete surround.
 9. SW pre-cast manhole rings to have a minimum of 150mm of concrete surround where depth to invert exceeds 2.0m.
 10. Pipe joining shall be as per manufacturers instructions
 11. All wastewater sewer pipes will be uPVC and will have a minimum 3.2mm wall thickness and SN8 stiffness class. Sewer pipes will comply with section 3.13 of the IW Code of Practice for Wastewater Infrastructure (Rev2) July 2020.
 12. All foul and storm water pipes running close to any building or development structure to have a horizontal distance from the foundations of at least 3.0m or a distance equivalent to the depth of the sewer below the foundation, whichever is greater.
 13. Storm water shall not be permitted to enter the foul sewer.
 14. All connections to the foul sewer shall be made using steel pipe pieces built into the main line in accordance with IW standard detail STD-WW-03.
 15. Built in connections to the foul sewer to facilitate the installation of washing machines and dishwashers to be provided.
 16. A separate foul service pipe is to be taken from each house to the main sewer. Common drains are not permitted for use.
 17. An inspection chamber in compliance with IW Standard Details STD-WW-03 (Rev2) and STD-WW-13 (Rev3) will be located within the curtilage of each premise, within 1.0m of the premise boundary as per section 3.11.14 of the wastewater Code of Practice.
 18. The maximum backdrop permitted in foul manholes is 2.5m – refer to section 3.6 of the Wastewater Code of Practice and STD-WW-12 for more detail.
 19. See section 3.5 of the IW Code of Practice for Wastewater for required separation distances.
 20. The external face of proposed manhole chambers will be constructed a minimum of 0.5m from a kerb line and the external face of a sewer line will be constructed a minimum of 1.0m from a kerb line in accordance with section 3.5.16 of the Wastewater Code of Practice.
 21. All foul sewer construction details for both gravity sewers and rising mains to comply with the following Irish Water Documents:
 - IW-CDS-5030-01 Wastewater Infrastructure Standard Details, July 2020, Revision 4.
 - IW-CDS-5030-03 Code of practice for Wastewater Infrastructure, July 2020, Revision 2.

Manhole Schedule

MH No.	MANHOLE DIAMETER (mm)	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFT (m)
S1	1200	84.920	83.343	1.577
S2	1200	86.032	84.295	1.737
S3	1200	86.247	83.159	3.088
S4	1200	85.600	83.021	2.579
S5	1200	82.081	79.400	2.681
S6	1200	79.630	78.003	1.627
S7	1200	77.397	75.863	1.534
S8	1200	77.190	74.200	2.990
S9	1500	75.994	74.000	1.994
S10	1200	74.750	72.850	1.900
S11	1200	74.201	72.776	1.425
S12	1200	73.800	71.850	1.950
S13	1200	73.180	71.750	1.430
S14	1200	82.500	80.000	2.500
S15	1500	80.750	78.000	2.750
S16	1500	79.020	77.100	1.920
S17	1200	78.200	75.200	3.000
S18	1500	76.300	74.700	1.600
S19	1200	76.164	73.500	2.664
S20	1200	74.450	71.900	2.550
S21	1200	72.500	70.700	1.800
S22	1200	72.750	71.250	1.500
S23	1200	72.000	70.700	1.300
S24	1200	71.700	70.200	1.500
S25	1200	76.811	75.386	1.425
S26	1200	73.677	72.252	1.425
S27	1200	73.311	71.886	1.425
S28	1200	74.400	72.975	1.425
S29	1200	73.196	71.771	1.425
S30	1200	69.420	67.995	1.425
S31	1200	69.120	67.695	1.425
S32	1200	69.500	67.580	1.920
S33	1200	69.800	66.000	3.800
S34	1200	67.195	64.700	2.495
S35	1500	68.171	64.391	3.780
S36	1200	66.169	62.800	3.369
S37	1500	64.258	62.000	2.258
S38	1500	63.593	61.100	2.493
S39	1500	62.313	59.250	3.063
S40	1350	58.818	56.000	2.818
S41	1350	57.288	54.250	3.038
S42	1350	56.559	53.500	3.059
S43	1350	54.213	50.300	3.913
S44	1350	52.595	50.000	2.595
F1	1200	85.001	83.651	1.350
F2	1200	85.281	83.852	1.429
F3	1200	85.635	82.857	2.778
F4	1200	83.100	81.675	1.425
F5	1200	82.591	81.000	1.591
F6	1200	81.914	80.543	1.371
F7	1200	80.480	78.800	1.680
F8	1200	78.723	77.367	1.356
F9	1200	78.260	77.510	0.750
F10	1200	78.038	76.797	1.241
F11	1200	77.534	75.400	2.134
F12	1200	76.779	75.272	1.507
F13	1200	75.127	73.200	1.927
F14	1200	73.756	71.451	2.305
F15	1200	73.270	71.216	2.054
F16	1200	74.228	72.878	1.350
F17	1200	72.860	70.827	2.033
F18	1200	69.419	68.069	1.350
F19	1200	69.110	67.577	1.533
F20	1200	69.385	67.351	2.034
F21	1200	70.094	67.242	2.852
F22	1200	82.000	80.650	1.350
F23	1200	81.400	80.050	0.350
F24	1200	81.854	80.100	1.754
F25	1200	80.788	79.596	1.192
F26	1200	80.379	78.700	1.679
F27	1200	78.700	76.300	2.400
F28	1200	76.316	74.154	2.162
F29	1200	76.101	74.116	1.985
F30	1200	74.745	73.185	1.560
F31	1200	74.507	72.938	1.569
F32	1200	75.800	74.400	1.400
F33	1200	74.900	73.514	1.386
F34	1200	77.456	75.320	2.136
F35	1200	75.333	73.075	2.258
F36	1200	73.341	71.000	2.341
F37	1200	72.436	70.743	1.693
F38	1200	71.988	70.555	1.433
F39	1200	71.214	67.031	4.183
F40	1200	70.602	66.275	4.327
F41	1200	67.000	65.100	1.900
F42	1200	65.600	63.800	1.800
F43	1200	64.200	62.000	2.200
F44	1200	61.807	58.400	3.407
F45	1200	58.582	56.450	2.132
F46	1200	57.100	54.900	2.200
F47	1200	55.620	52.900	2.720
F48	1200	53.562	49.225	4.337
F49	1200	52.340	49.050	3.290

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NSAI
Member of the Institution of Professional Engineers of Ireland

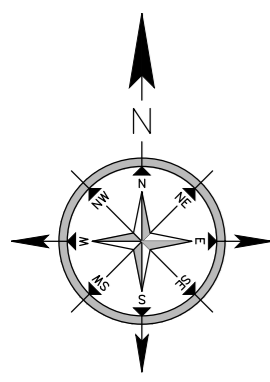
Project: Housing Development, St. Joseph's Road, Mallow, Co. Cork

Title: Site Layout Drainage

ID No: 22054-XX-XX-XX-DR-WDG-CE-002
Date: May 2023
Drawn by: IR
Scale: 1:500
Purpose: P3 - Planning

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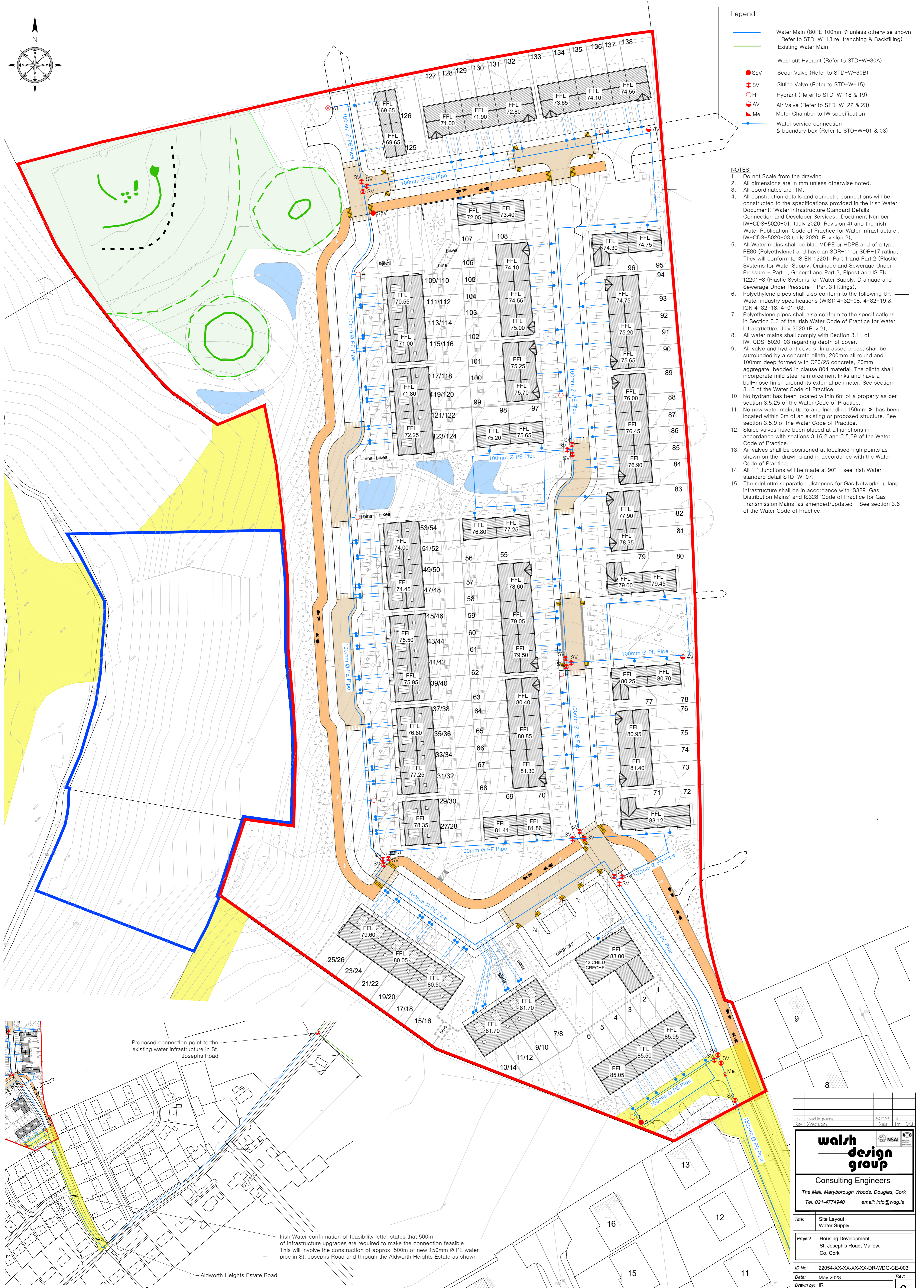


Legend

- Water Main (80PE 100mm Ø unless otherwise shown - Refer to STD-W-13 re. trenching & Backfilling)
- Existing Water Main
- Washout Hydrant (Refer to STD-W-30A)
- ScV Scour Valve (Refer to STD-W-30B)
- SV Sluice Valve (Refer to STD-W-15)
- Hydrant (Refer to STD-W-18 & 19)
- AV Air Valve (Refer to STD-W-22 & 23)
- Me Meter Chamber to IW specification
- Water service connection & boundary box (Refer to STD-W-01 & 03)

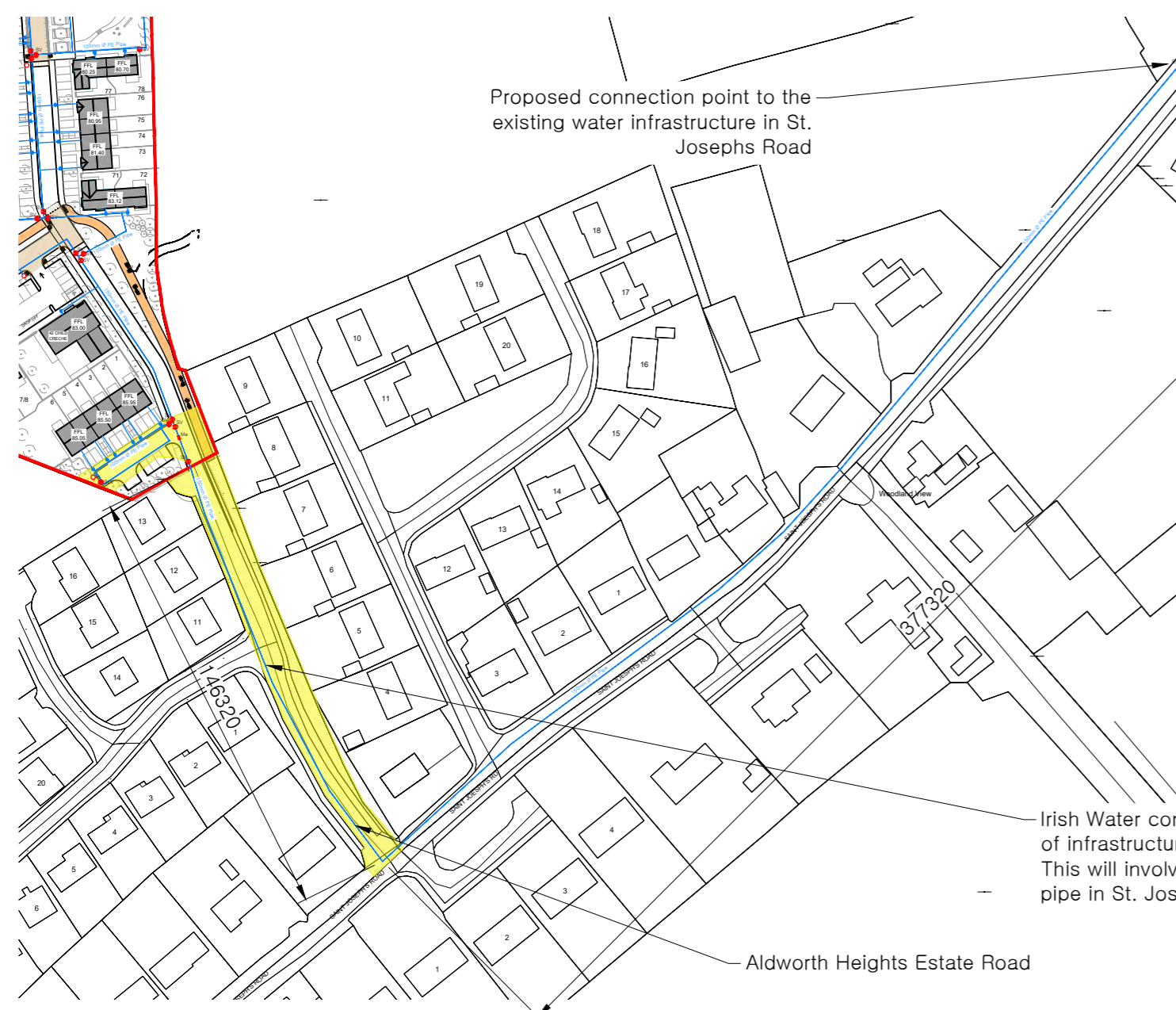
NOTES:

1. Do not Scale from the drawing.
2. All dimensions are in mm unless otherwise noted.
3. All coordinates are ITM.
4. All construction details and domestic connections will be constructed to the specifications provided in the Irish Water Document: 'Water Infrastructure Standard Details - Connection and Developer Services, Document Number IW-CDS-5020-01, (July 2020, Revision 4) and the Irish Water Publication 'Code of Practice for Water Infrastructure', IW-CDS-5020-03 (July 2020, Revision 2).
5. All Water mains shall be blue MDPE or HDPE and of a type PE80 (Polyethylene) and have an SDR-11 or SDR-17 rating. They will conform to IS EN 12201: Part 1 and Part 2 (Plastic Systems for Water Supply, Drainage and Sewerage Under Pressure - Part 1, General and Part 2, Pipes) and IS EN 12201-3 (Plastic Systems for Water Supply, Drainage and Sewerage Under Pressure - Part 3: Fittings).
6. Polyethylene pipes shall also conform to the following UK Water industry specifications (WIS): 4-32-08, 4-32-19 & IGH 4-32-18, 4-01-03.
7. Polyethylene pipes shall also conform to the specifications in Section 3.3 of the Irish Water Code of Practice for Water Infrastructure, July 2020 (Rev 2).
8. All water mains shall comply with Section 3.11 of IW-CDS-5020-03 regarding depth of cover.
9. Air valve and hydrant covers, in grassed areas, shall be surrounded by a concrete plinth, 200mm all round and 100mm deep formed with C20/25 concrete, 20mm aggregate, bedded in clause 804 material. The plinth shall incorporate mild steel reinforcement links and have a bull-nose finish around its external perimeter. See section 3.18 of the Water Code of Practice.
10. No hydrant has been located within 6m of a property as per section 3.5.25 of the Water Code of Practice.
11. No new water main, up to and including 150mm Ø, has been located within 3m of an existing or proposed structure. See section 3.5.9 of the Water Code of Practice.
12. Sluice valves have been placed at all junctions in accordance with sections 3.16.2 and 3.5.39 of the Water Code of Practice.
13. Air valves shall be positioned at localised high points as shown on the drawing and in accordance with the Water Code of Practice.
14. All 'T' Junctions will be made at 90° - see Irish Water standard detail STD-W-07.
15. The minimum separation distances for Gas Networks Ireland Infrastructure shall be in accordance with IS329 'Gas Distribution Mains' and IS328 'Code of Practice for Gas Transmission Mains' as amended/updated - See section 3.6 of the Water Code of Practice.



Proposed connection point to the existing water infrastructure in St. Josephs Road

Irish Water confirmation of feasibility letter states that 500m of infrastructure upgrades are required to make the connection feasible. This will involve the construction of approx. 500m of new 150mm Ø PE water pipe in St. Josephs Road and through the Aldworth Heights Estate as shown



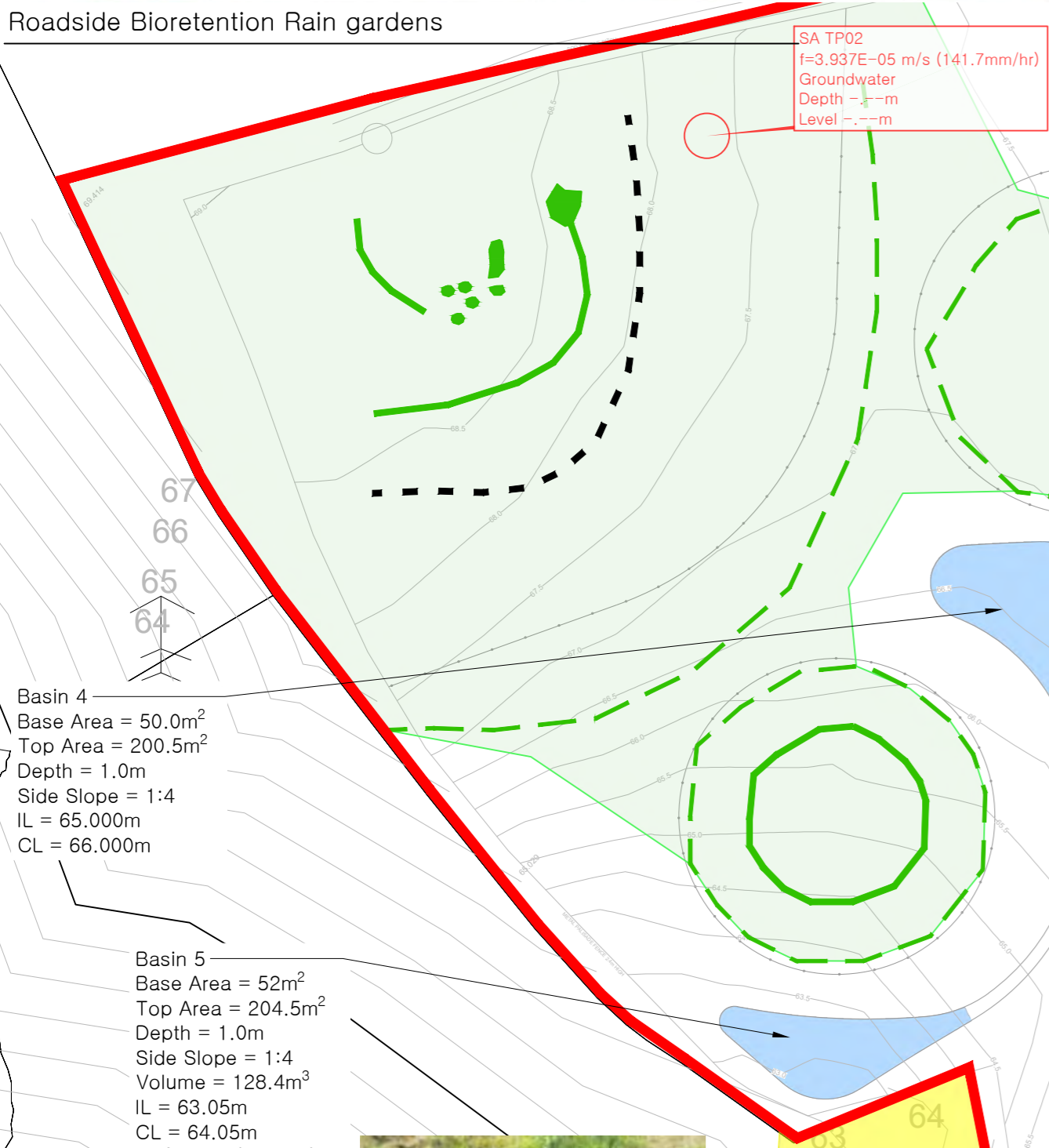
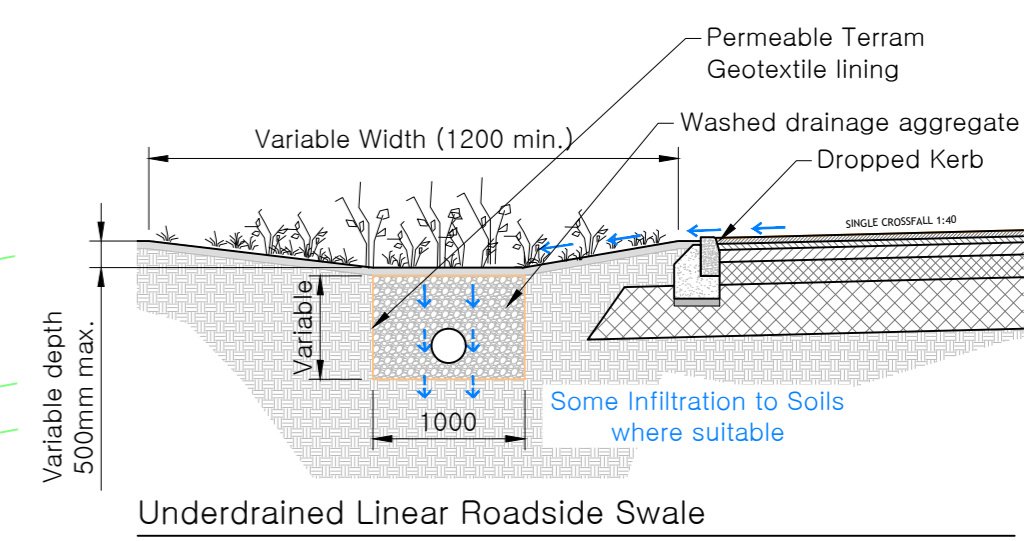
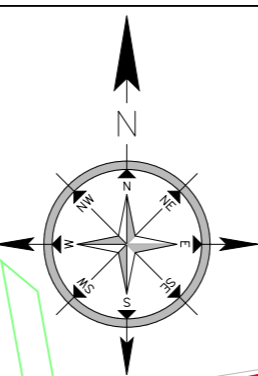
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walsh design group			
Consulting Engineers			
The Mall, Maryborough Woods, Douglas, Cork			
Tel: 021-4774940 email: info@wdg.ie			
Title:	Site Layout Water Supply		
Project:	Housing Development, St. Joseph's Road, Mallow, Co. Cork		
ID No:	22054-XX-XX-XX-DR-WDG-CE-003		
Date:	May 2023		
Scale:	1:500		
Purpose:	P3 - Planning		
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Roadside Bioretention Rain gardens

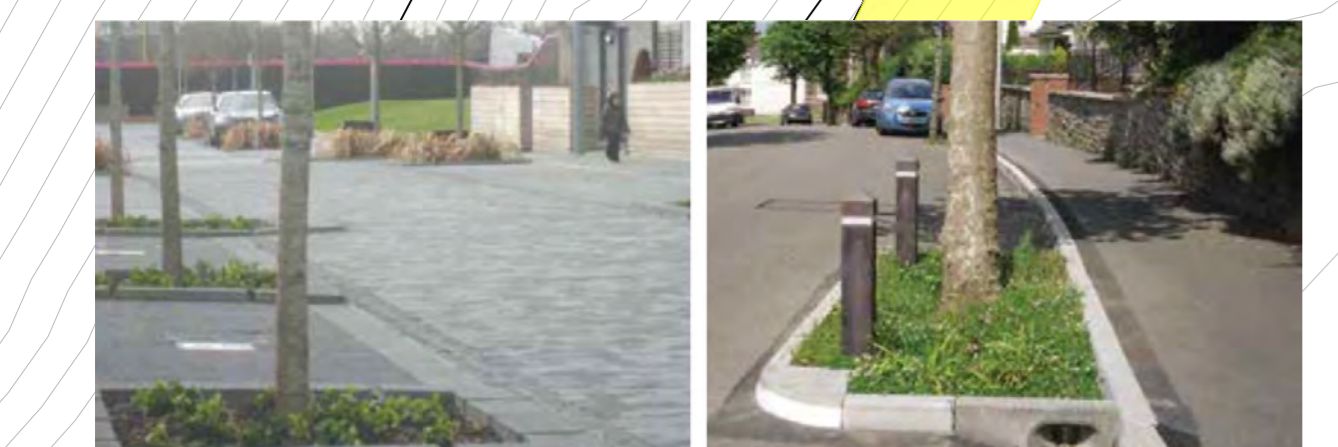
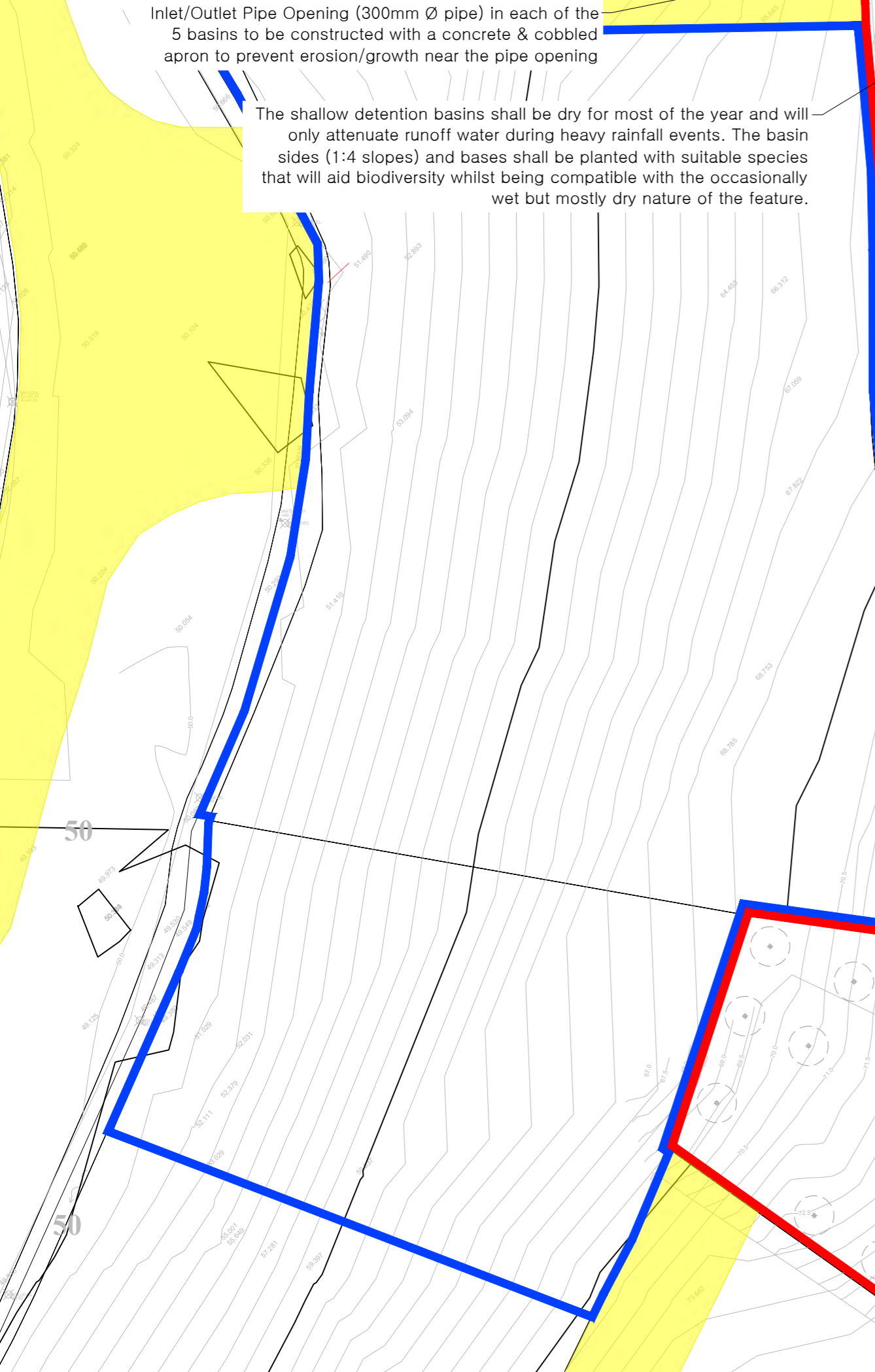


Roadside Bioretention Tree Pits

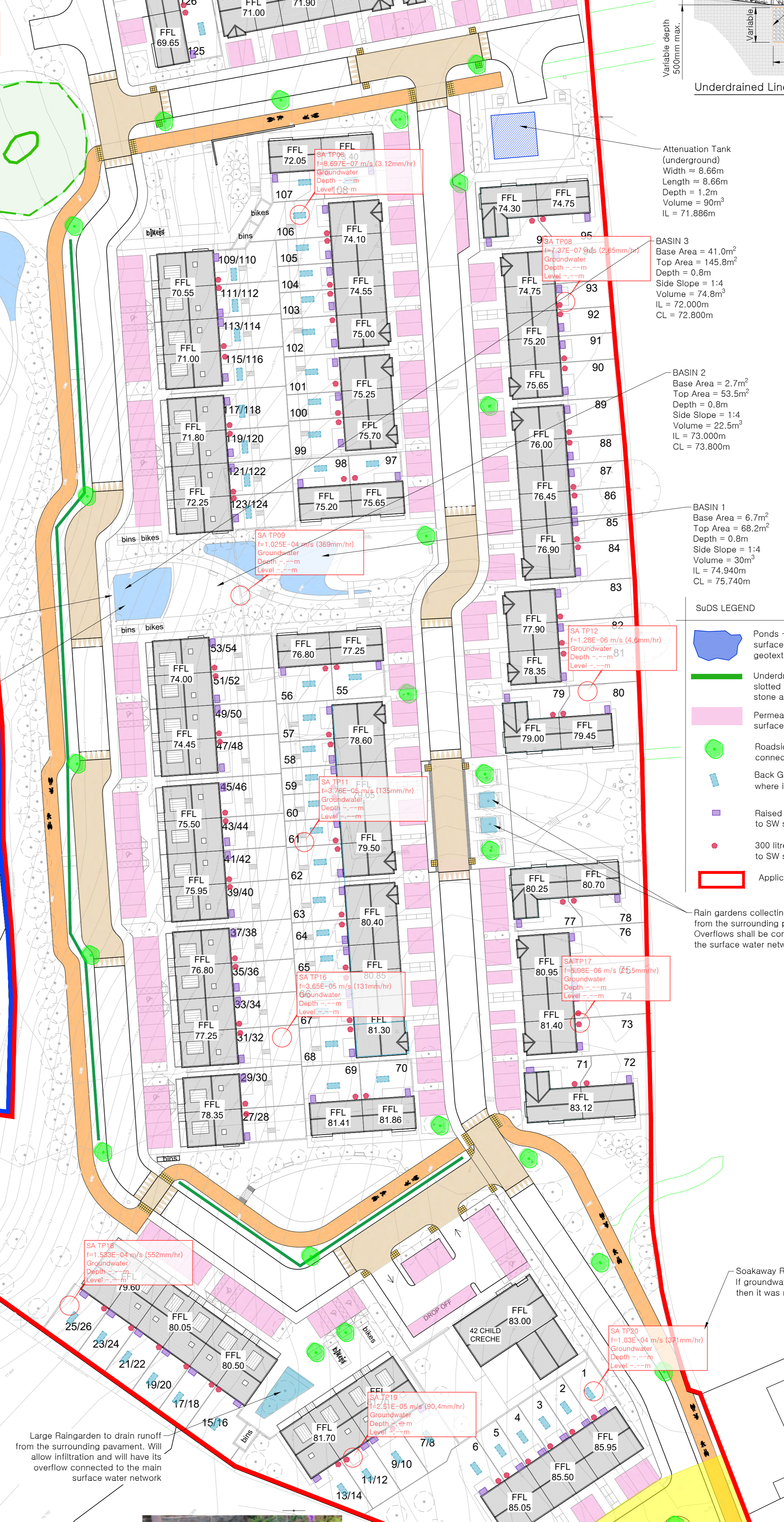


Inlet/Outlet Pipe Opening (300mm Ø pipe) in each of the 5 basins to be constructed with a concrete & cobbled apron to prevent erosion/growth near the pipe opening

The shallow detention basins shall be dry for most of the year and will only attenuate runoff water during heavy rainfall events. The basin sides (1:4 slopes) and bases shall be planted with suitable species that will aid biodiversity whilst being compatible with the occasionally wet but mostly dry nature of the feature.



Roadside Bioretention Tree Pits



Attenuation Tank (underground)
Width = 8.66m
Length = 8.66m
Depth = 1.2m
Volume = 90m³
IL = 71.886m

BASIN 3
Base Area = 41.0m²
Top Area = 145.8m²
Depth = 0.8m
Side Slope = 1:4
Volume = 74.8m³
IL = 72.000m
CL = 72.800m

BASIN 2
Base Area = 2.7m²
Top Area = 53.5m²
Depth = 0.8m
Side Slope = 1:4
Volume = 22.5m³
IL = 73.000m
CL = 73.800m

BASIN 1
Base Area = 6.7m²
Top Area = 68.2m²
Depth = 0.8m
Side Slope = 1:4
Volume = 30m³
IL = 74.940m
CL = 75.740m

- SUDS LEGEND
- Ponds - Constructed in series as part of the main surface water network. Lined with permeable geotextile to allow infiltration to groundwater.
 - Underdrained Linear Roadside Swales (225mm Ø slotted uPVC pipes surrounded in washed drainage stone and terram geotextile)
 - Permeable Paving - overflows connected to the main surface water network
 - Roadside Bioretention Tree Pits - overflows connected to the main surface water network
 - Back Garden - Rain Garden Soakaways (only located where infiltration test results allow)
 - Raised Planters (Back gardens) - overflows connected to SW sewer or soakaways if soil conditions allow
 - 300 litre water butts (Back gardens) - overflows connected to SW sewer or soakaways if soil conditions allow
 - Application Boundary

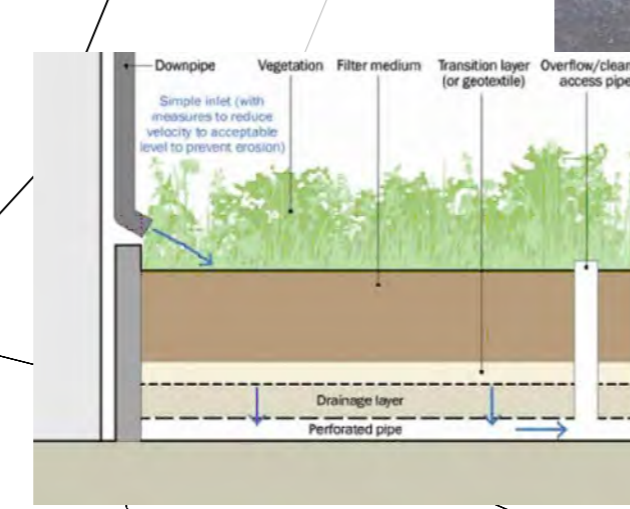
Rain gardens collecting runoff from the surrounding paving. Overflows shall be connected to the surface water network.

Soakaway Results
If groundwater level/depth is left blank then it was not encountered in the trial pit

Large Raingarden to drain runoff from the surrounding pavement. Will allow infiltration and will have its overflow connected to the main surface water network



300 litre water butt with overflow to be installed to the rear of all dwellings in private back gardens



Back Garden - Rain garden Soakaways



W	Drawn for planning	16/07/24	IR
E	Drawn for planning	16/07/24	IR
walsh design group			
Consulting Engineers			
The Mall, Maryborough Woods, Douglas, Cork			
Tel: 021-4774940 email: info@wdg.ie			
Title:	Site Layout Proposed SuDS Measures		
Project:	Housing Development, St. Joseph's Road, Mallow, Co. Cork		
ID No:	22054-XX-XX-XX-DR-WDG-CE-004		
Date:	Sept 2023		
Drawn by:	IR		
Scale:	1:500		
Purpose:	P3 - Planning		
Rev:	0		

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1 Vehicle Tracking - Fire Tender

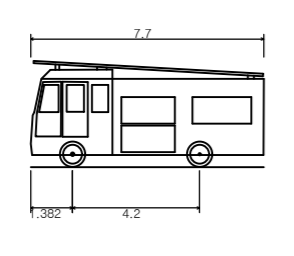
2 Vehicle Tracking - Refuse Vehicle

Scale: 1:500

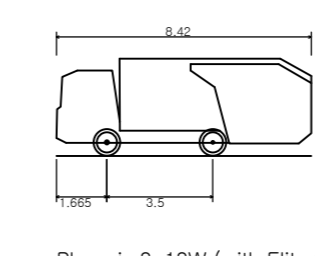
Scale: 1:500

Legend

- Swept Path Forward Gear
- Swept Path Reverse Gear



Dennis Sabre Fire Tender (LWB)
 Overall Length 7.700m
 Overall Width 2.430m
 Overall Body Height 2.530m
 Min Body Ground Clearance 0.390m
 Track Width 2.380m
 Lock to lock time 5.00s
 Kerb to Kerb Turning Radius 7.400m

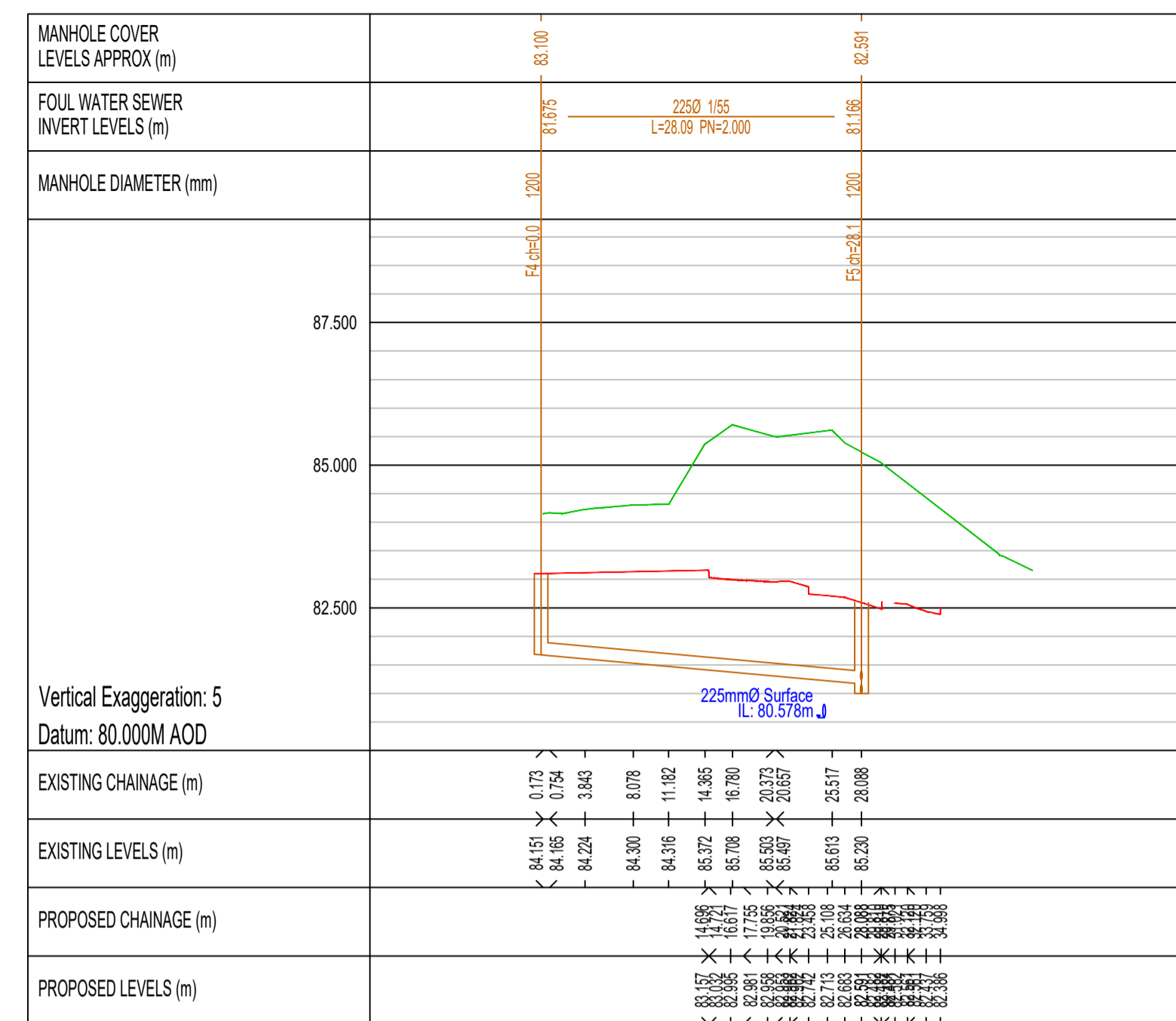
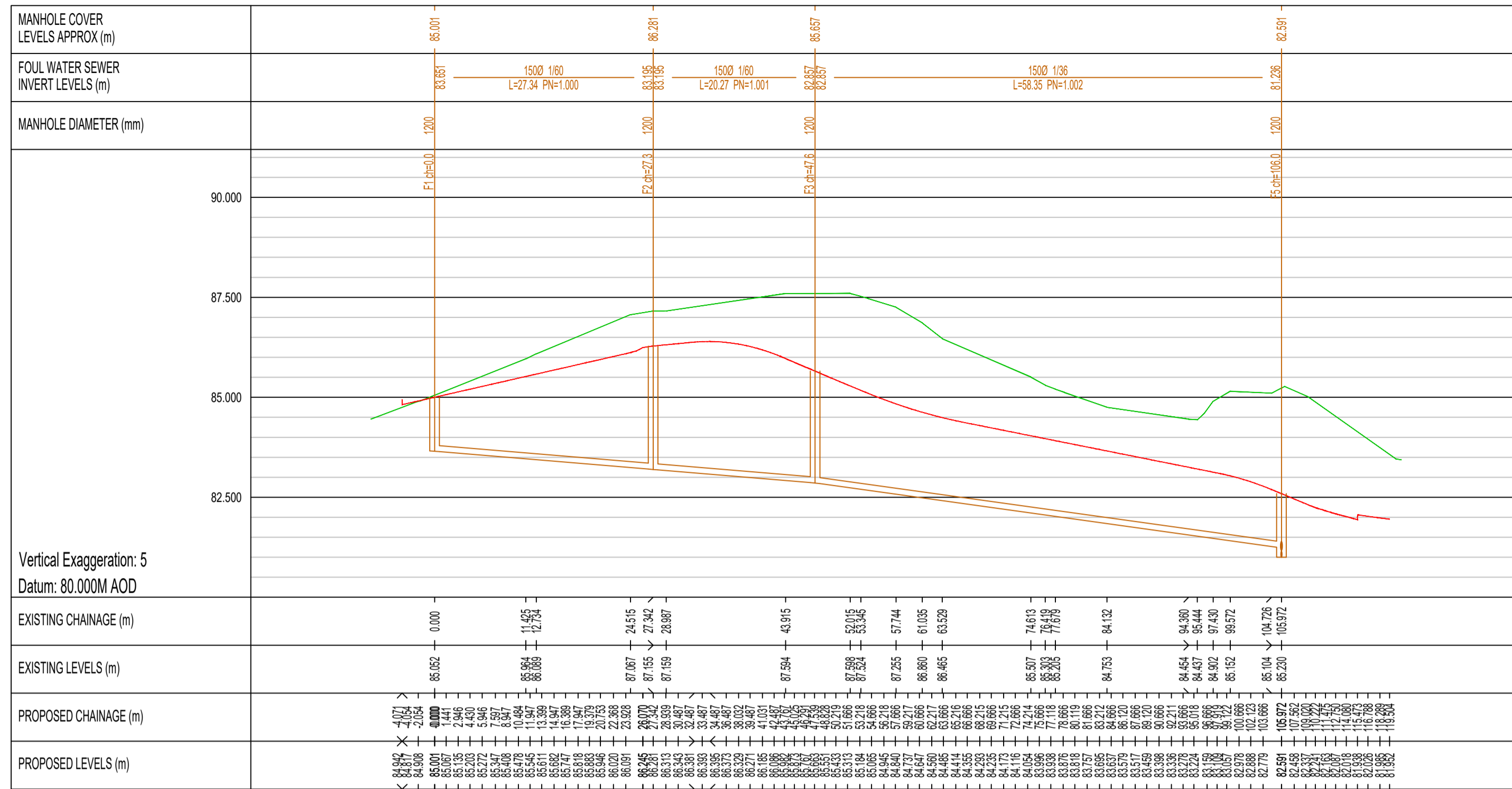


Phoenix 2-12W (with Elite 2 4x2 chassis)
 Overall Length 8.420m
 Overall Width 2.530m
 Overall Body Height 2.211m
 Min Body Ground Clearance 0.416m
 Track Width 2.550m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 6.750m

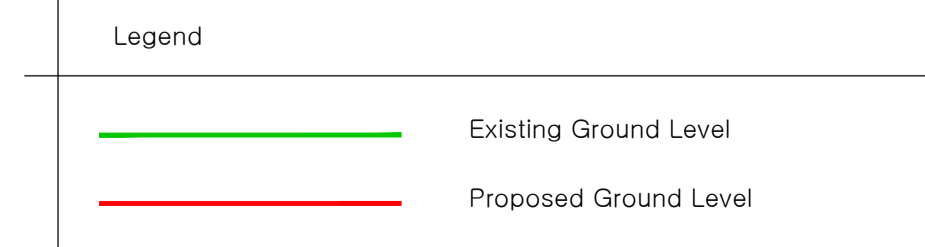
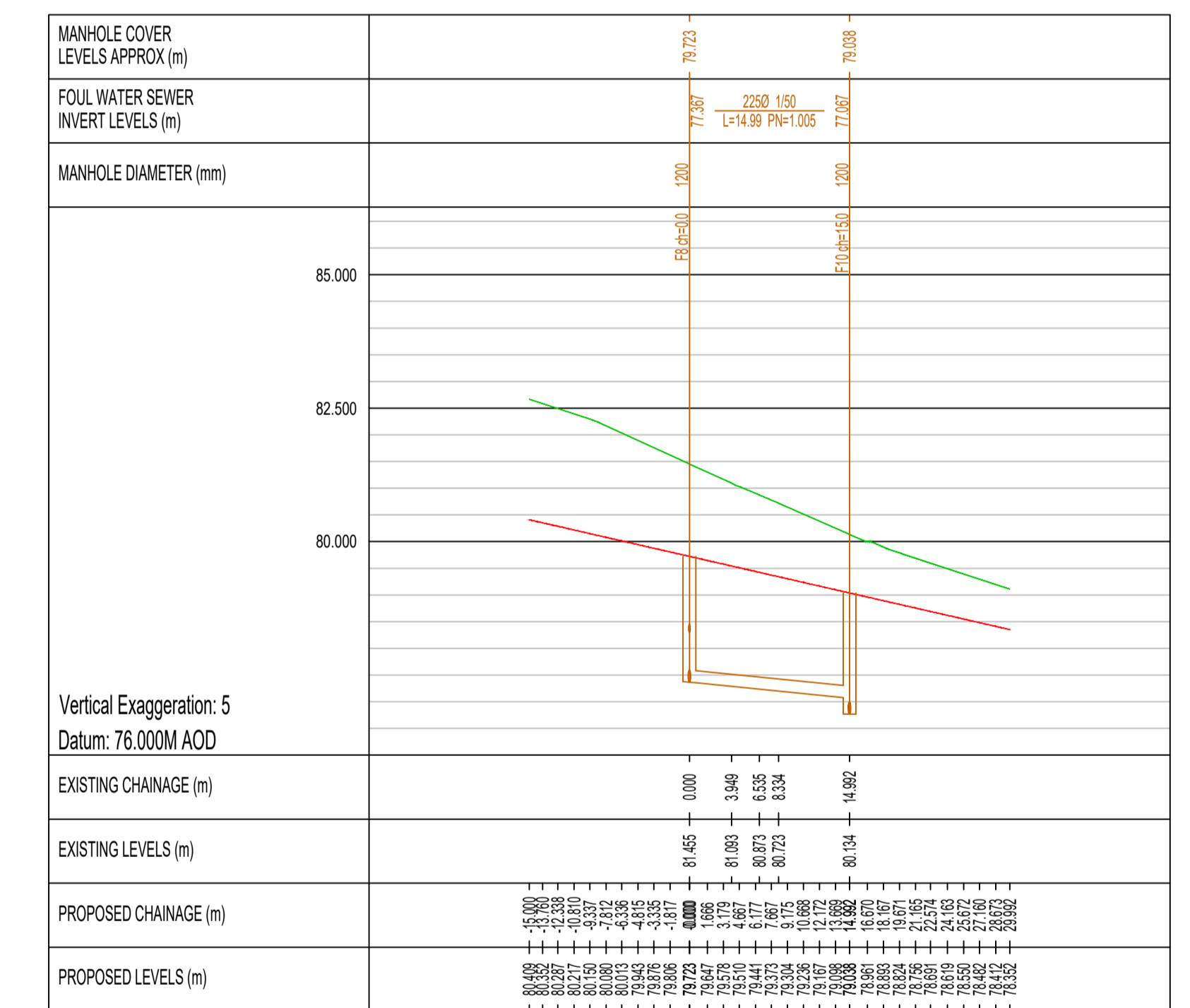
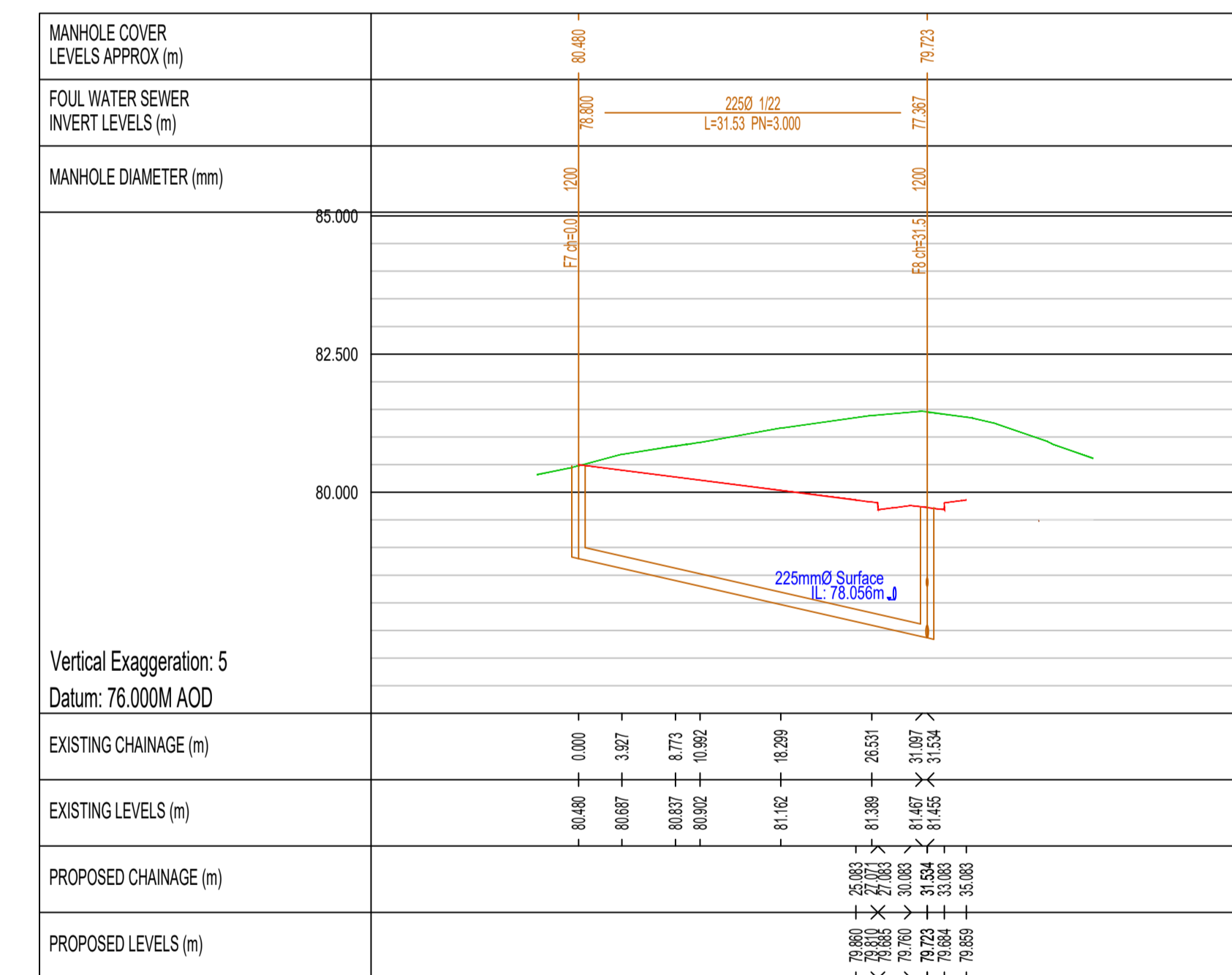
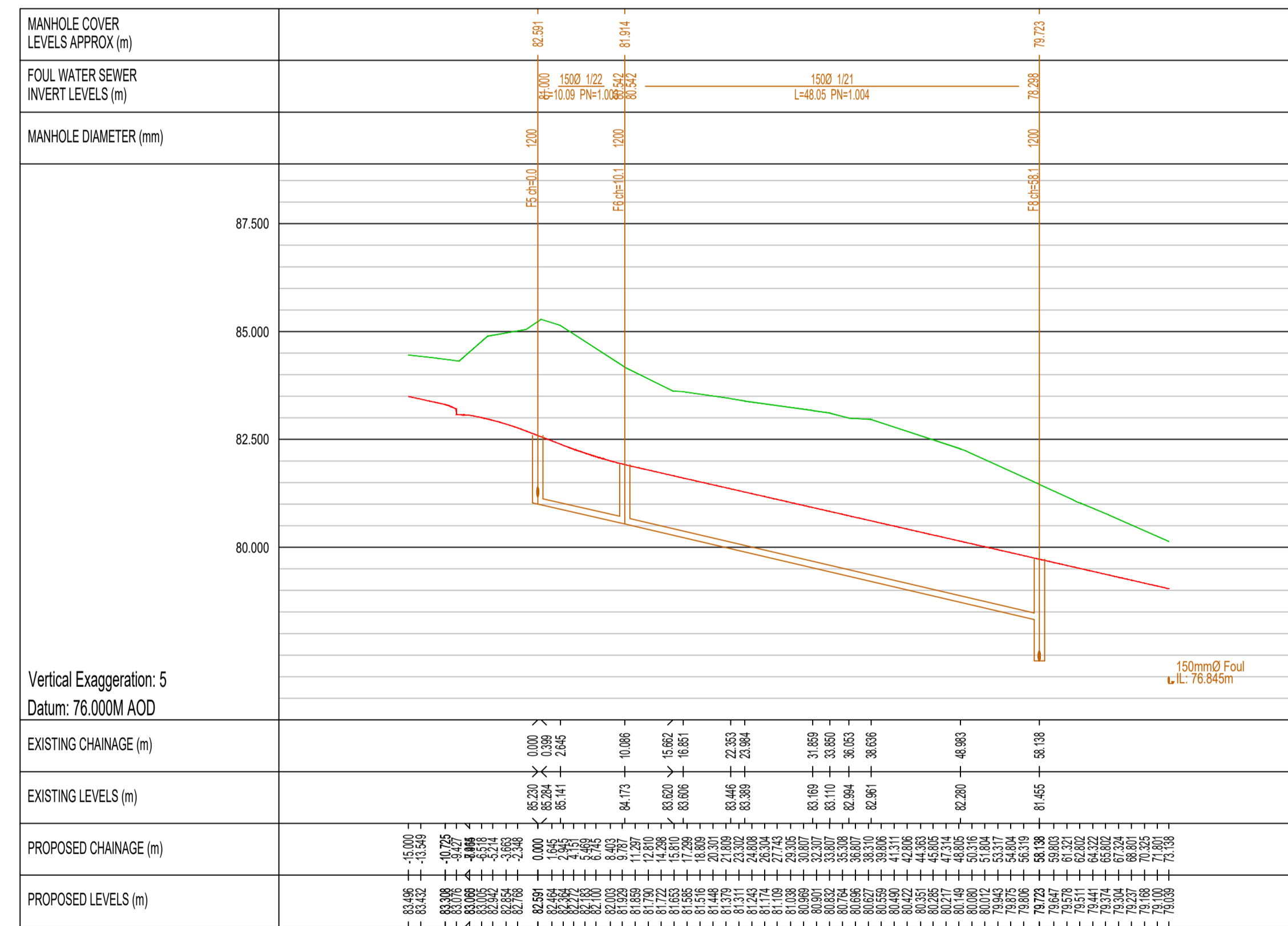
Note:
 In the swept path analysis both vehicles begin at the site entrance and circulate through the proposed layout in an anticlockwise direction. Both vehicles enter the 3 proposed cul-de-sacs, turn and exit again in forward gear.

Consulting Engineers The Mall, Maryborough Woods, Douglas, Cork Tel: 021-4774940 email: info@wdg.ie	
Title:	Site Layout Vehicle Tracking Analysis
Project:	Housing Development, St. Joseph's Road, Mallow, Co. Cork
ID No:	22054-XX-XX-XX-DR-WDG-CE-005
Date:	April 2024
Drawn by:	IR
Scale:	1:500
Purpose:	P3 - Planning
Rev:	0

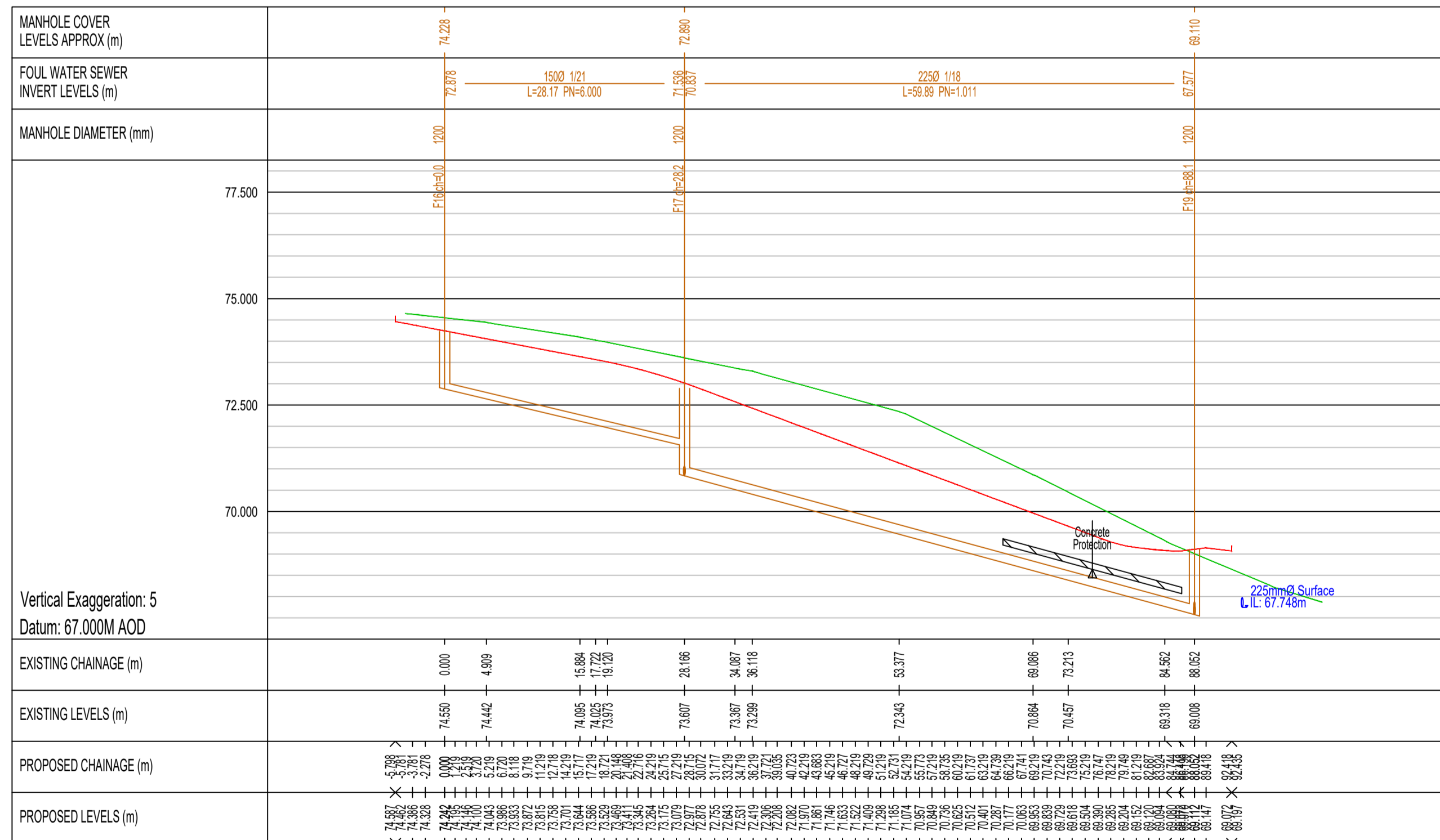
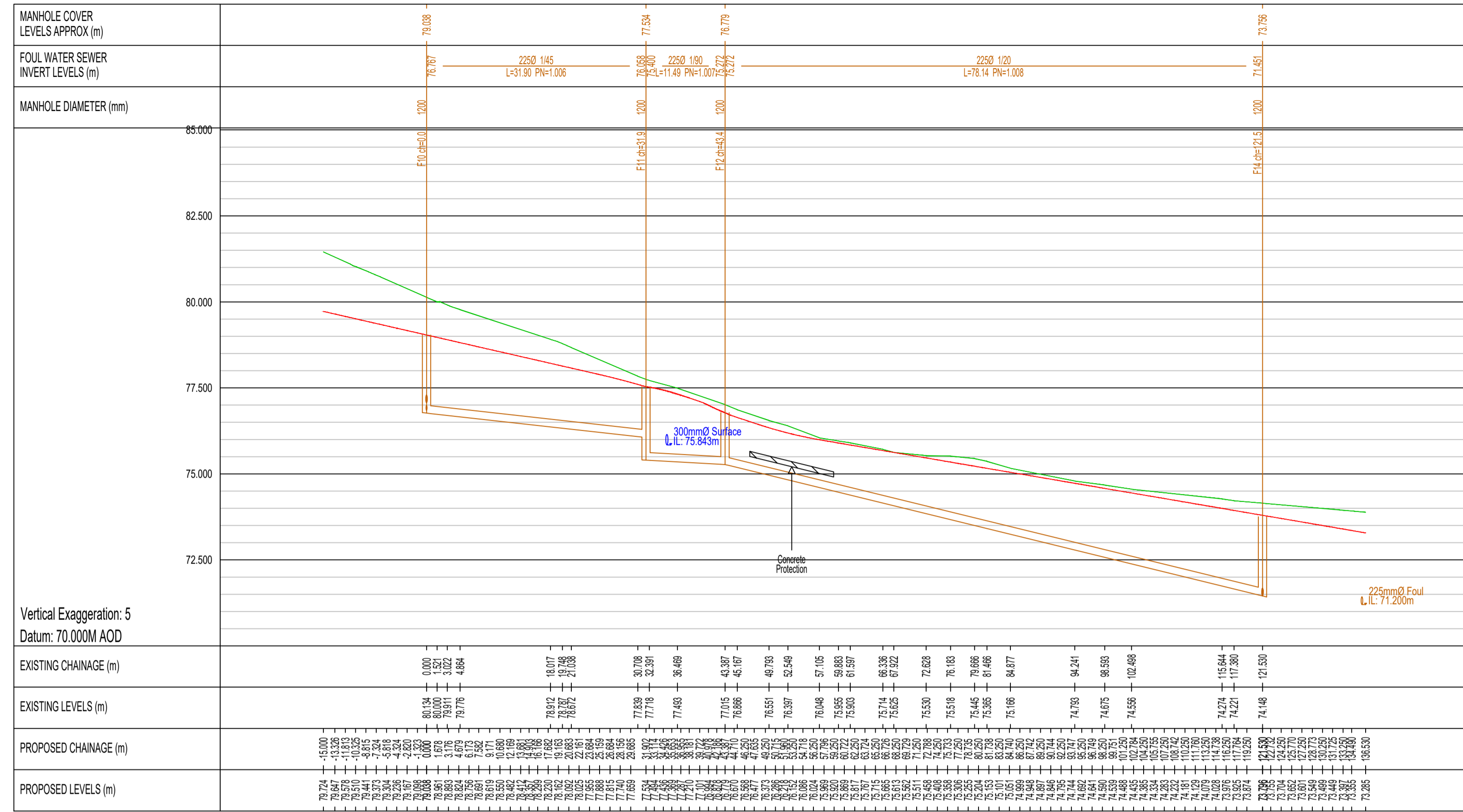
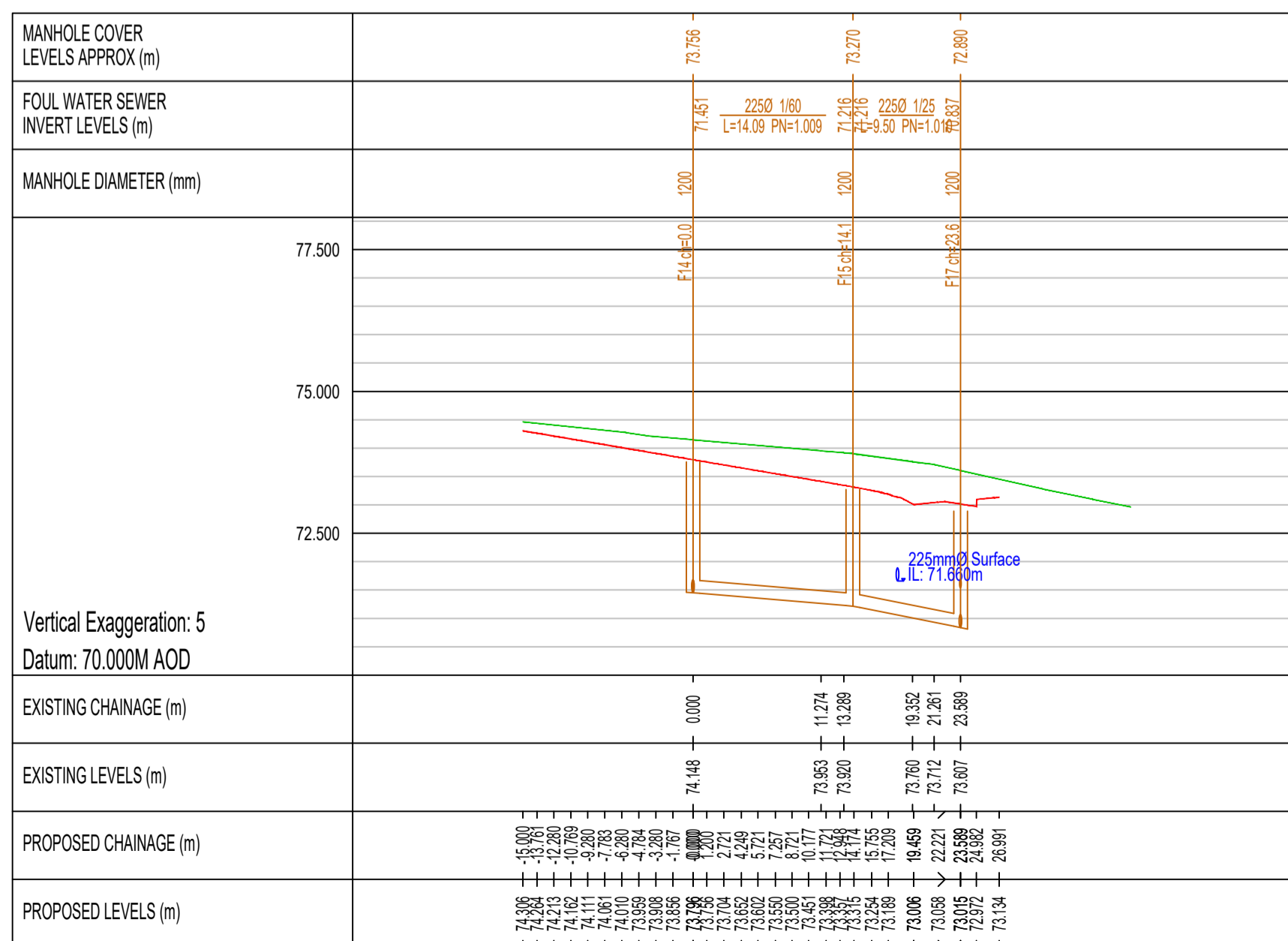
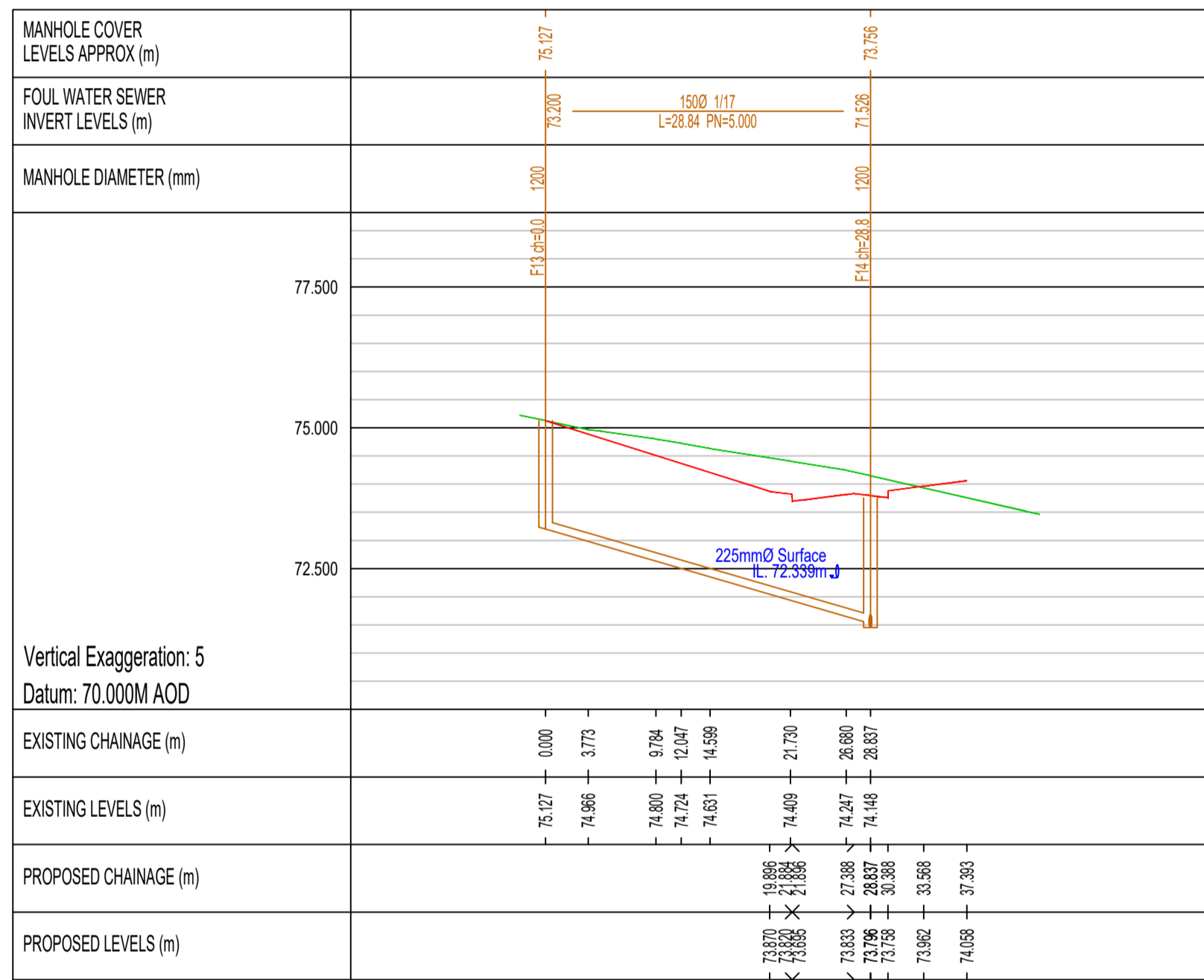
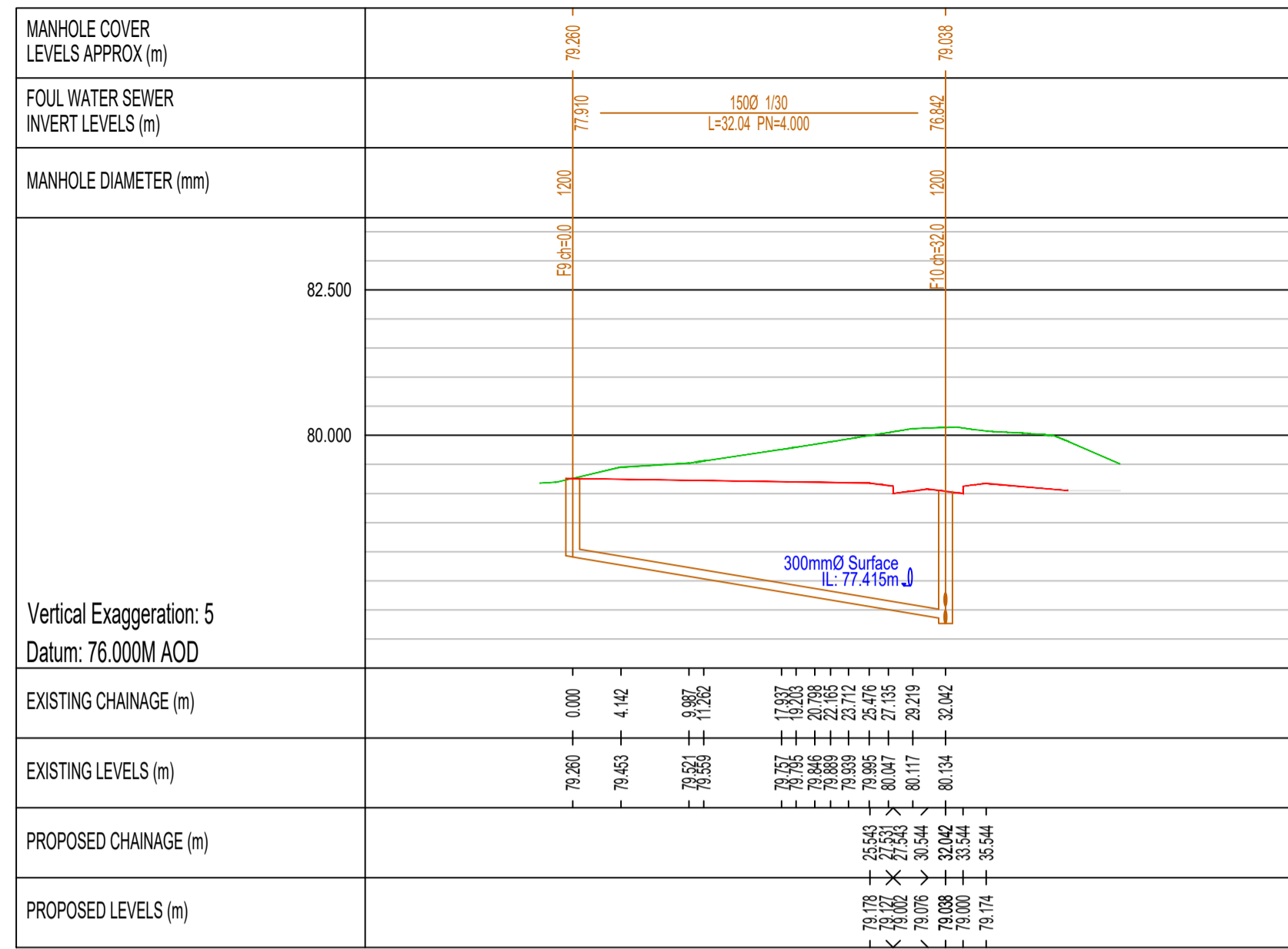
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NOTE:
All Surface Water and Wastewater sewer Pipes shall be protected with a concrete surround, with flexible joints filled with compressible material, where the depth from the road surface to the crown of the pipe is less than 1200mm.
For notes on sewer construction see drawing nos. 22054-XX-XX-XX-DR-WDG-CE-002 and 22054-XX-XX-XX-XX-DR-WDG-CE-501.
If the contractor notices any discrepancy between this drawing and any other WDG construction drawing or specification they should bring it to the attention of WDG Engineers as soon as possible.



Consulting Engineers The Mall, Maryborough Woods, Douglas, Cork Tel: 021-4774940 email: info@wdg.ie	
Title: Wastewater longitudinal Sections Sheet 1 of 4	Project: Housing Development, St. Joseph's Road, Mallow, Co. Cork
ID No: 22054-XX-XX-XX-DR-WDG-CE-302 Date: April 2024 Drawn by: IR Scale: 1:500 Purpose: P3 - planning	Rev: 0
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NOTE:
All Surface Water and Wastewater sewer Pipes shall be protected with a concrete surround, with flexible joints filled with compressible material, where the depth from the road surface to the crown of the pipe is less than 1200mm.

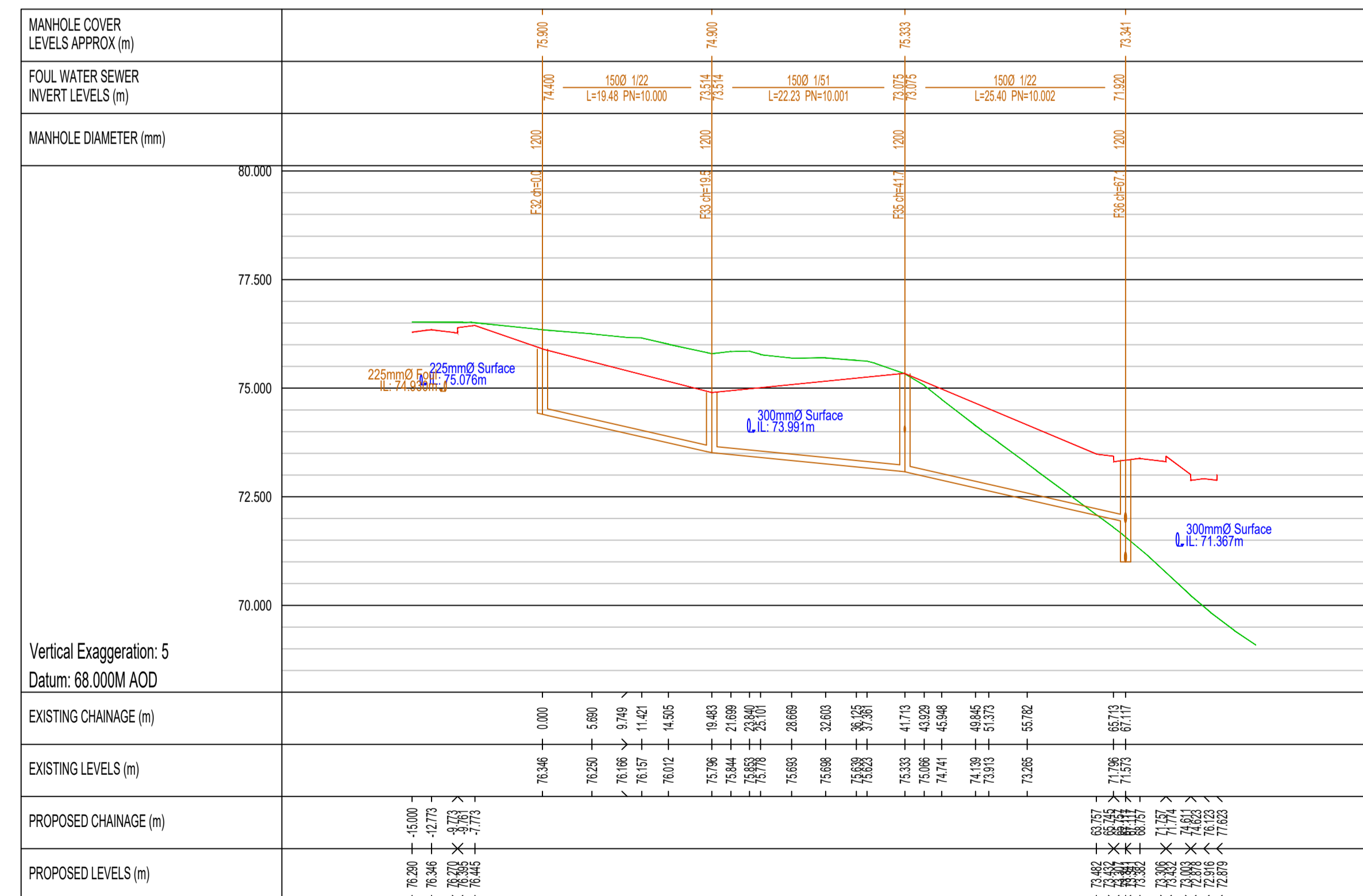
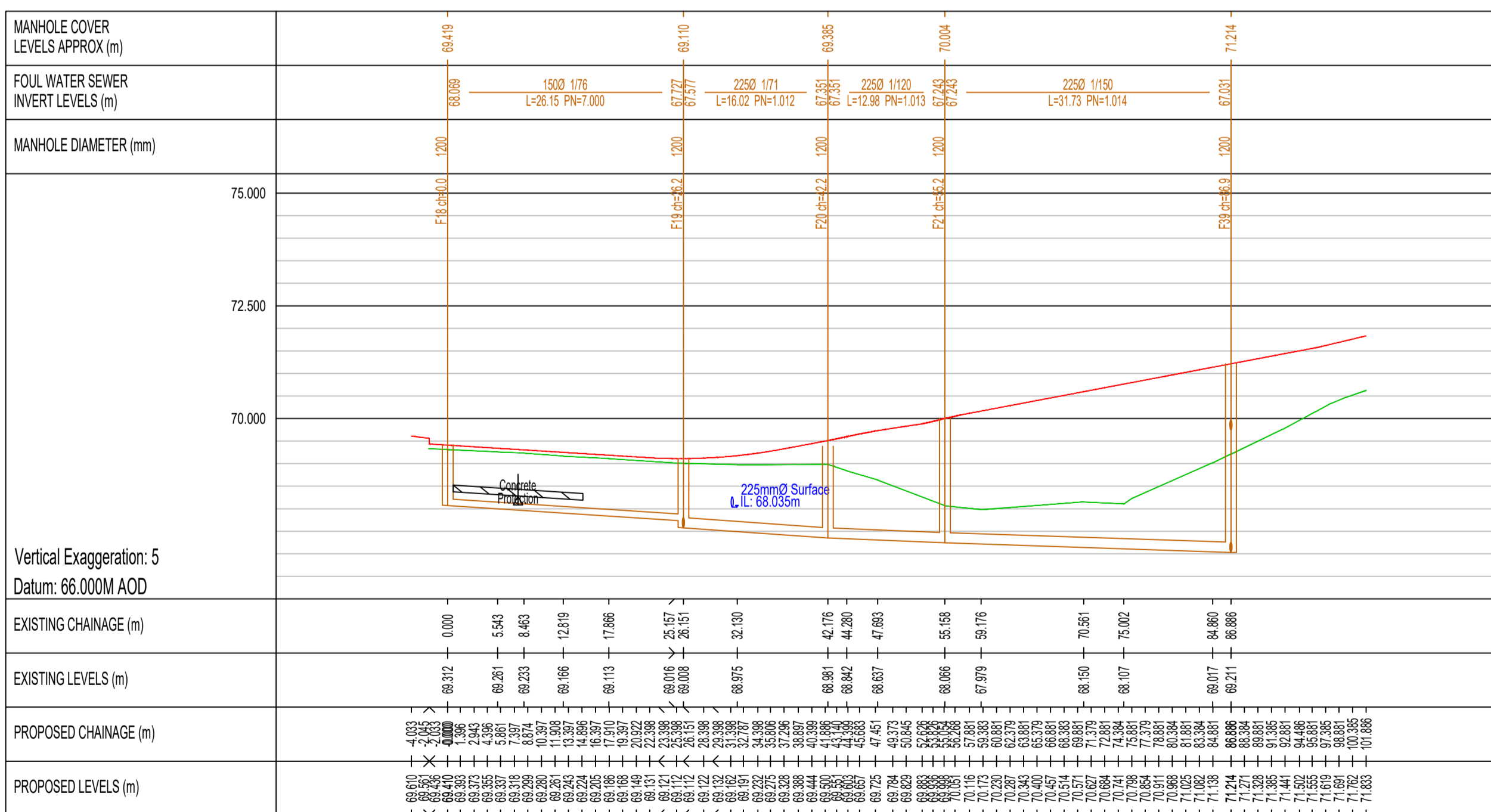
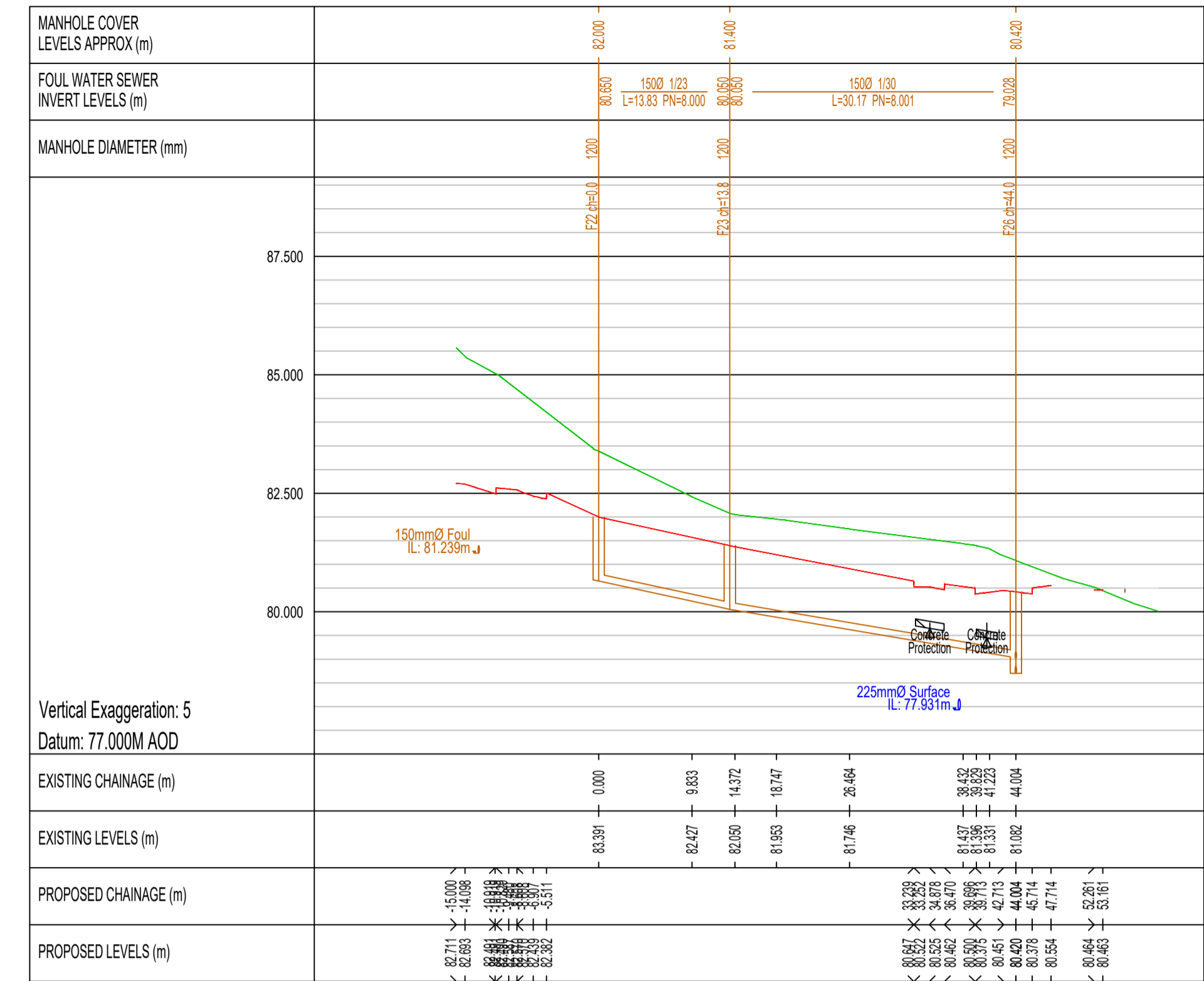
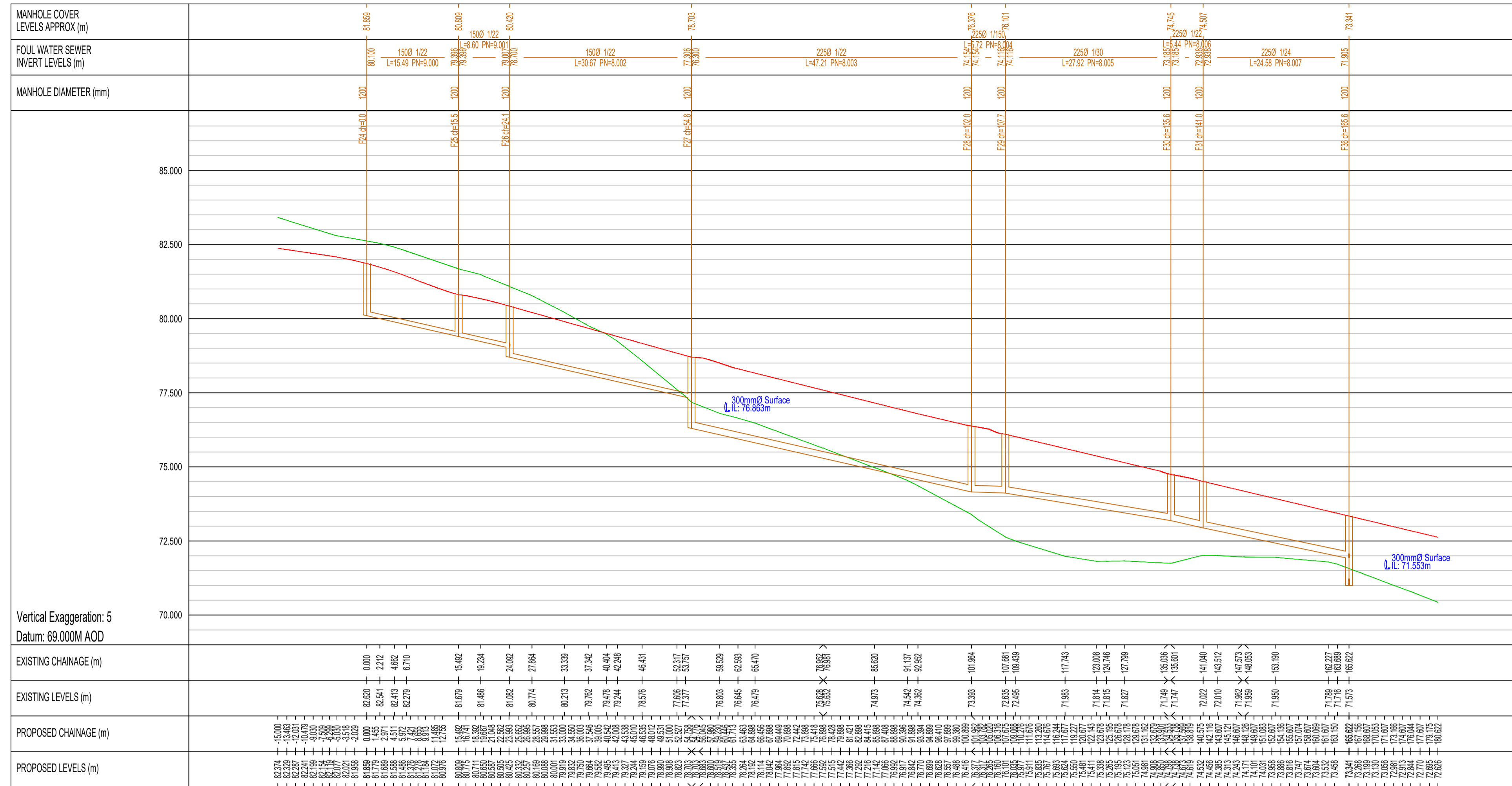
For notes on sewer construction see drawing nos. 22054-XX-XX-XX-DR-WDG-CE-002 and 22054-XX-XX-XX-DR-WDG-CE-501.

If the contractor notices any discrepancy between this drawing and any other WDG construction drawing or specification they should bring it to the attention of WDG Engineers as soon as possible.



Consulting Engineers The Mall, Maryborough Woods, Douglas, Cork Tel: 021-4774940 email: info@wdg.ie	
Title:	Wastewater longitudinal Sections Sheet 2 of 4
Project:	Housing Development, St. Joseph's Road, Mallow, Co. Cork
ID No:	22054-XX-XX-XX-DR-WDG-CE-503
Date:	April 2024
Drawn by:	IR
Scale:	1:500
Purpose:	P3 - planning
Rev:	0

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NOTE:
 All Surface Water and Wastewater sewer Pipes shall be protected with a concrete surround, with flexible joints filled with compressible material, where the depth from the road surface to the crown of the pipe is less than 1200mm.
 For notes on sewer construction see drawing nos. 22054-XX-XX-XX-DR-WDG-CE-002 and 22054-XX-XX-XX-XX-DR-WDG-CE-501.
 If the contractor notices any discrepancy between this drawing and any other WDG construction drawing or specification they should bring it to the attention of WDG Engineers as soon as possible.

Legend
 Existing Ground Level
 Proposed Ground Level

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 Consulting Engineers

 The Mall, Maryborough Woods, Douglas, Cork

 Tel: 021-4774940 email: info@wdg.ie

Title: Wastewater longitudinal Sections Sheet 3 of 4

 Project: Housing Development, St. Joseph's Road, Mallow, Co. Cork

 ID No: 22054-XX-XX-XX-DR-WDG-CE-304

 Date: April 2024

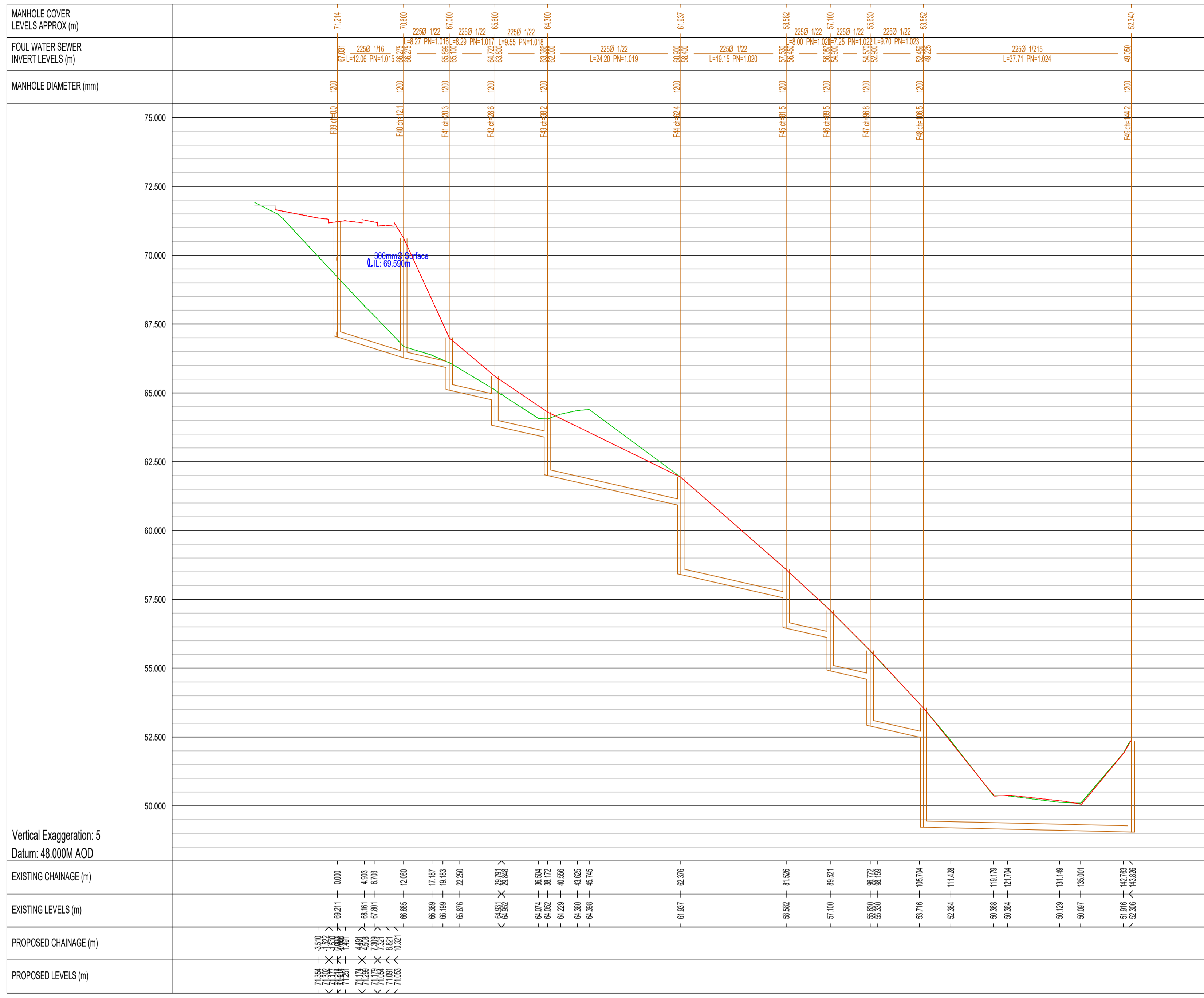
 Drawn by: IR

 Scale: 1:500

 Purpose: P3 - planning

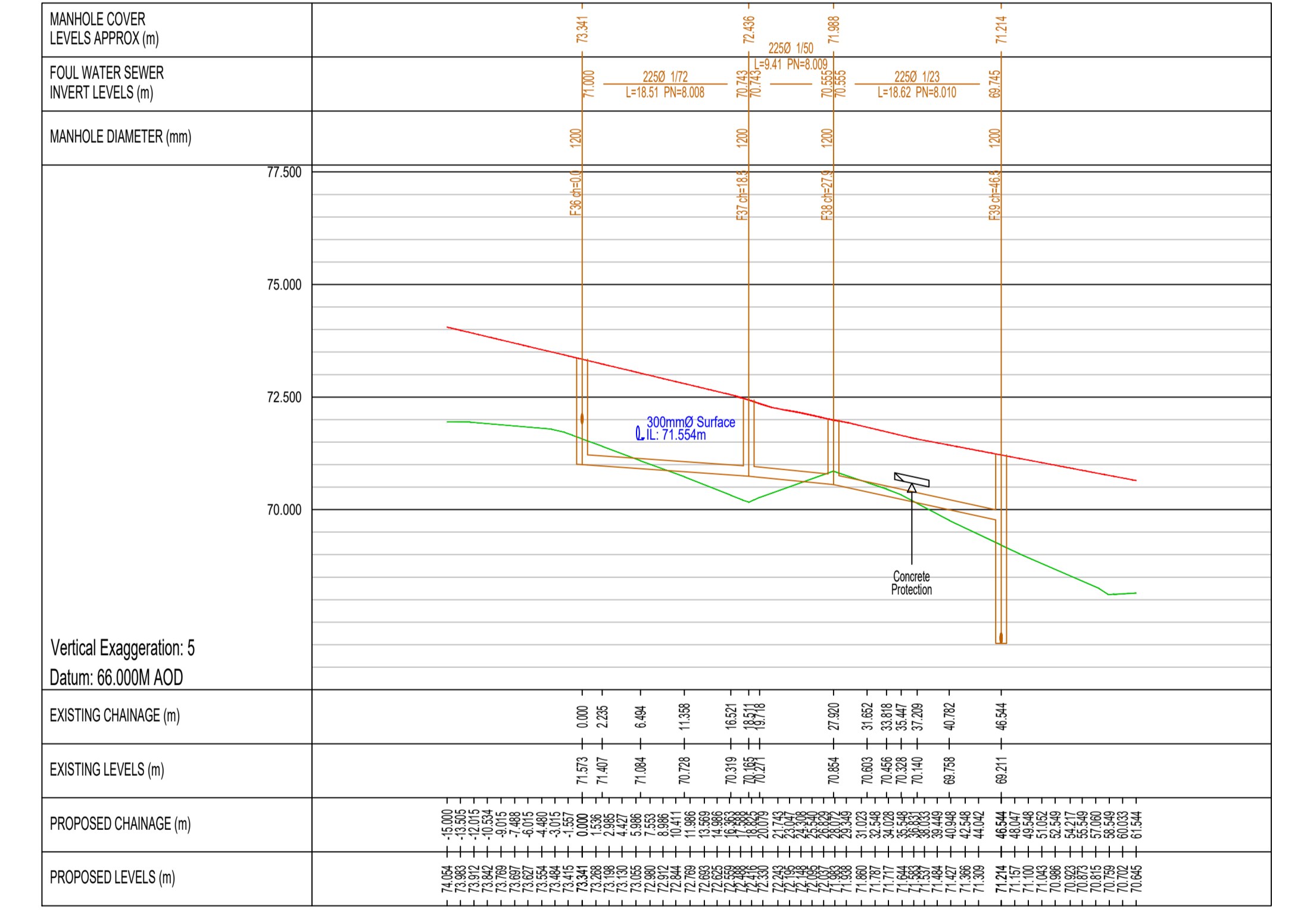
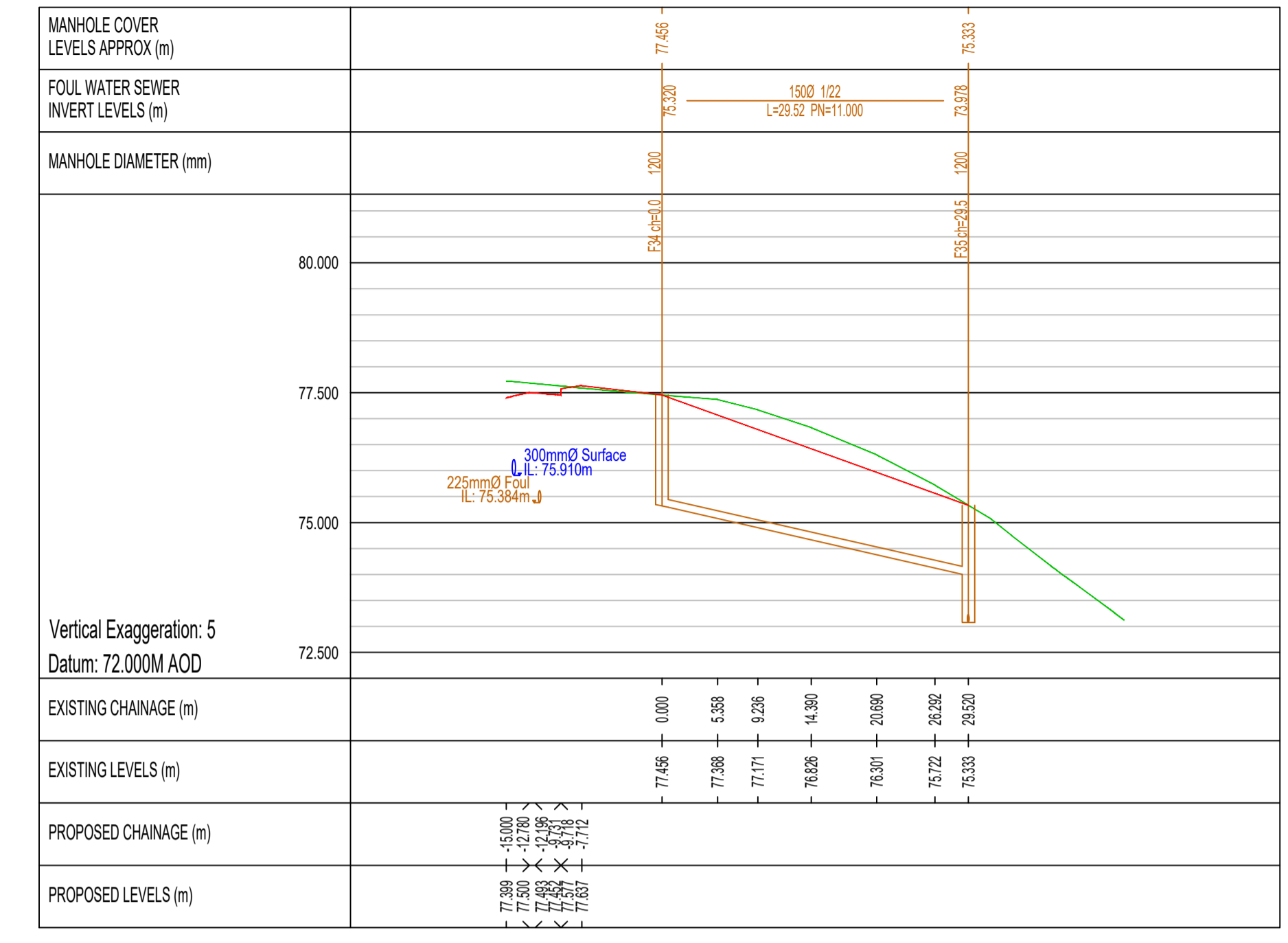
Rev: 0

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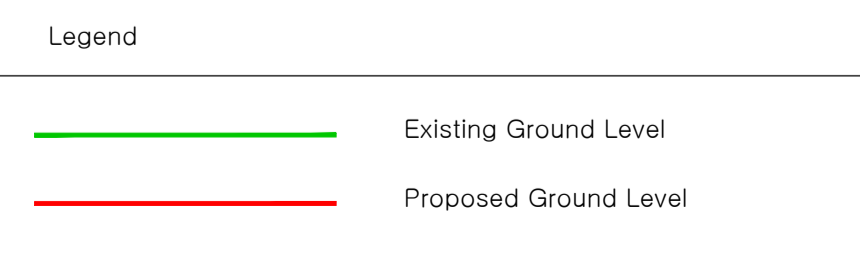


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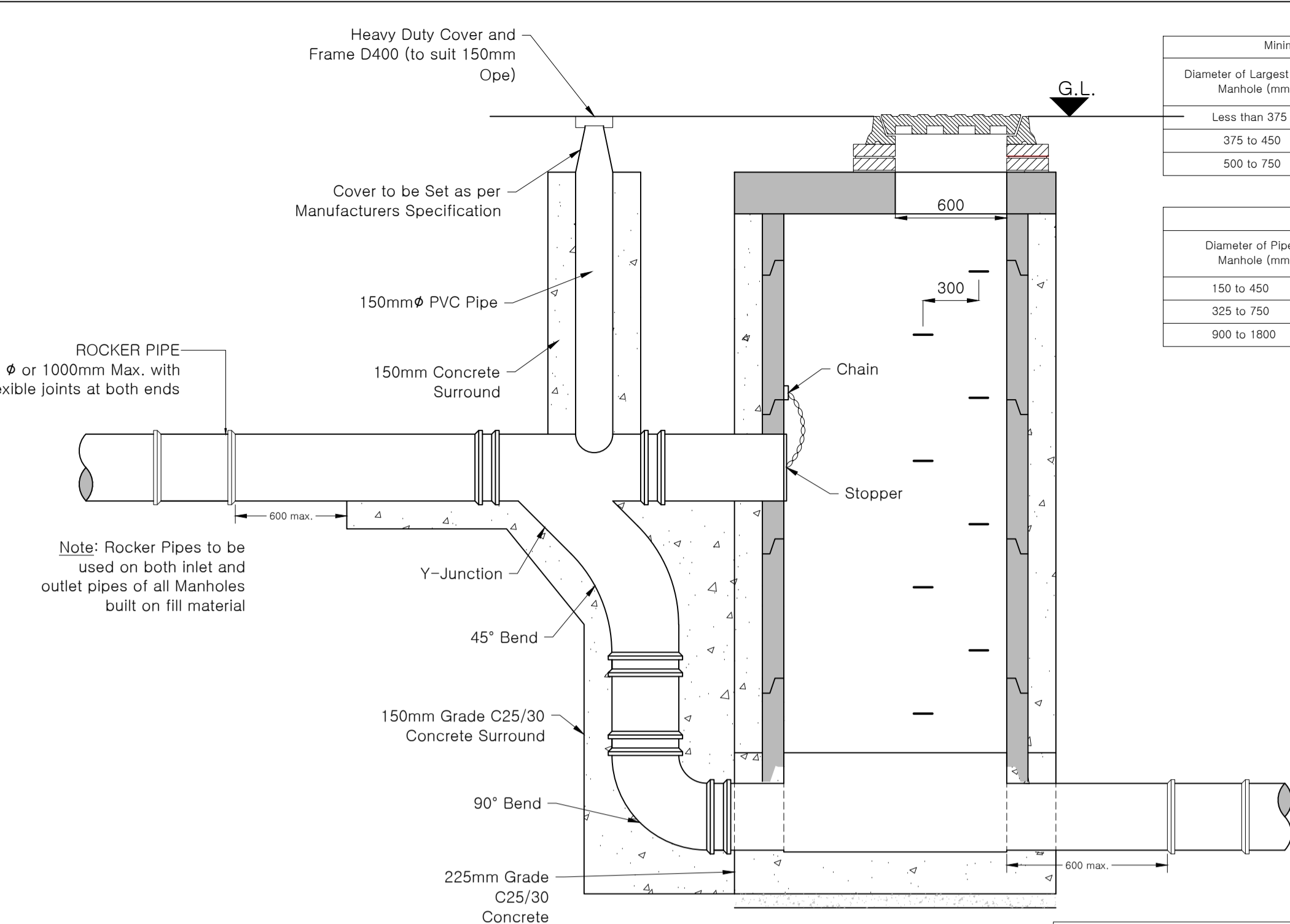
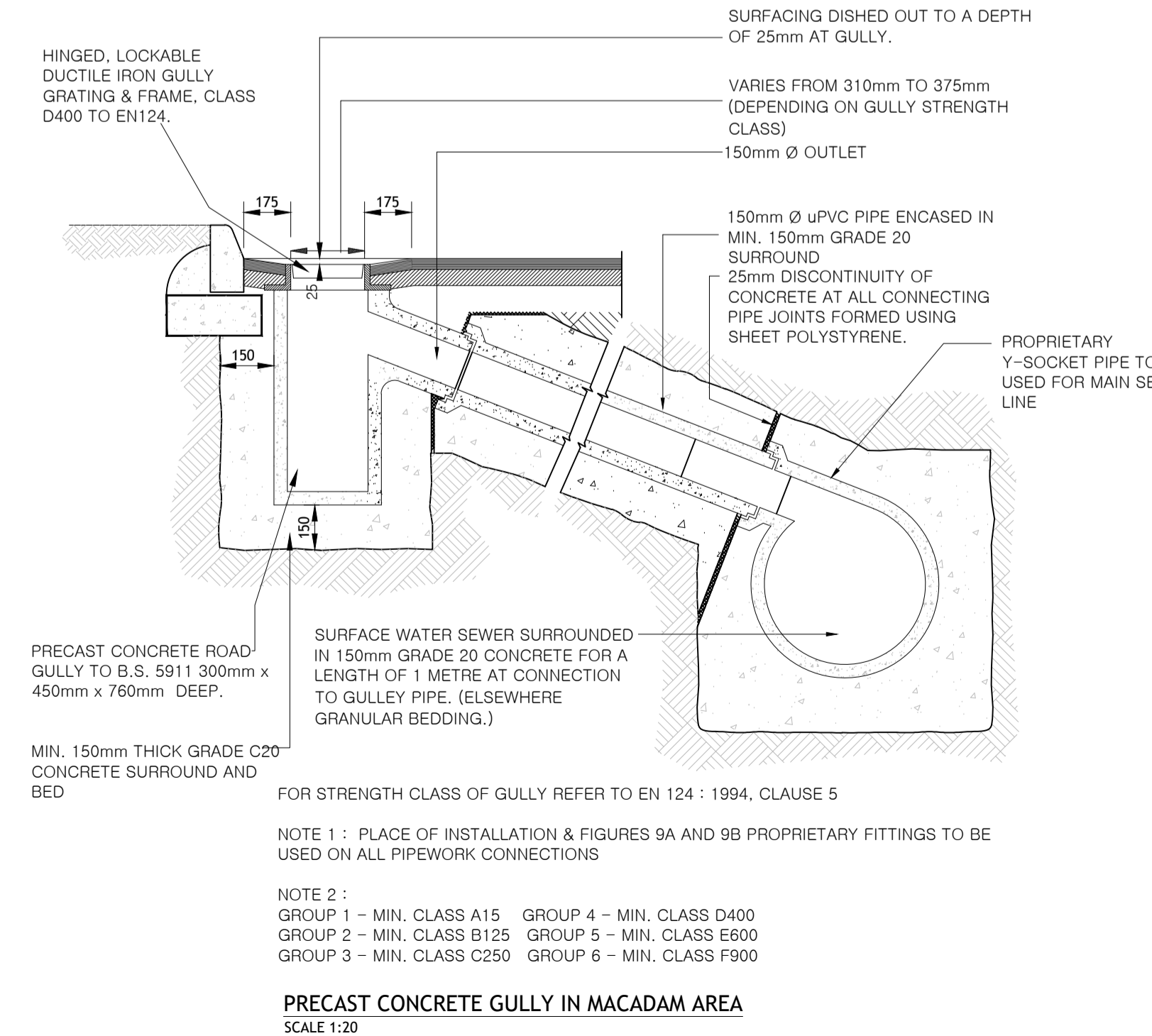
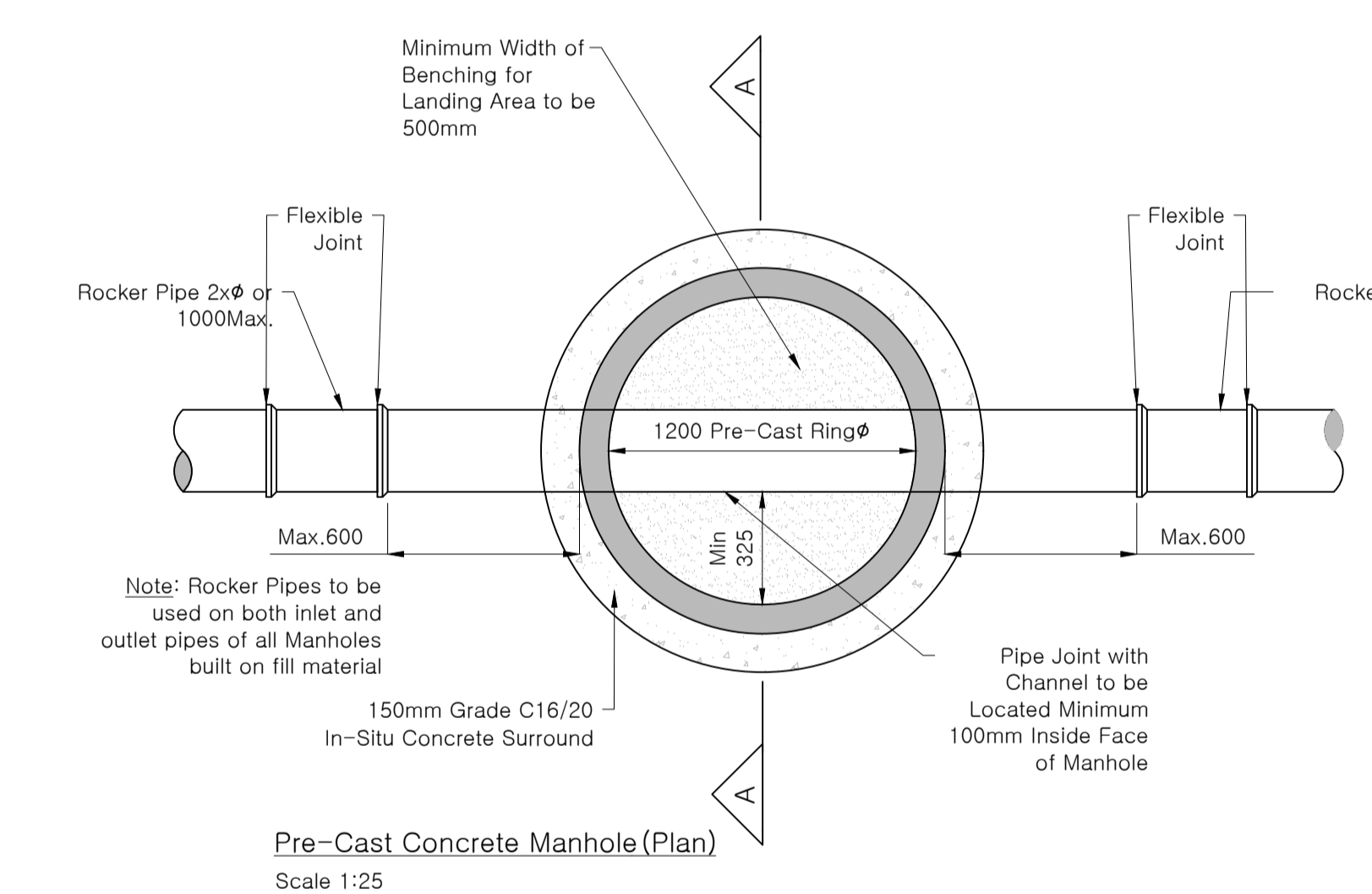
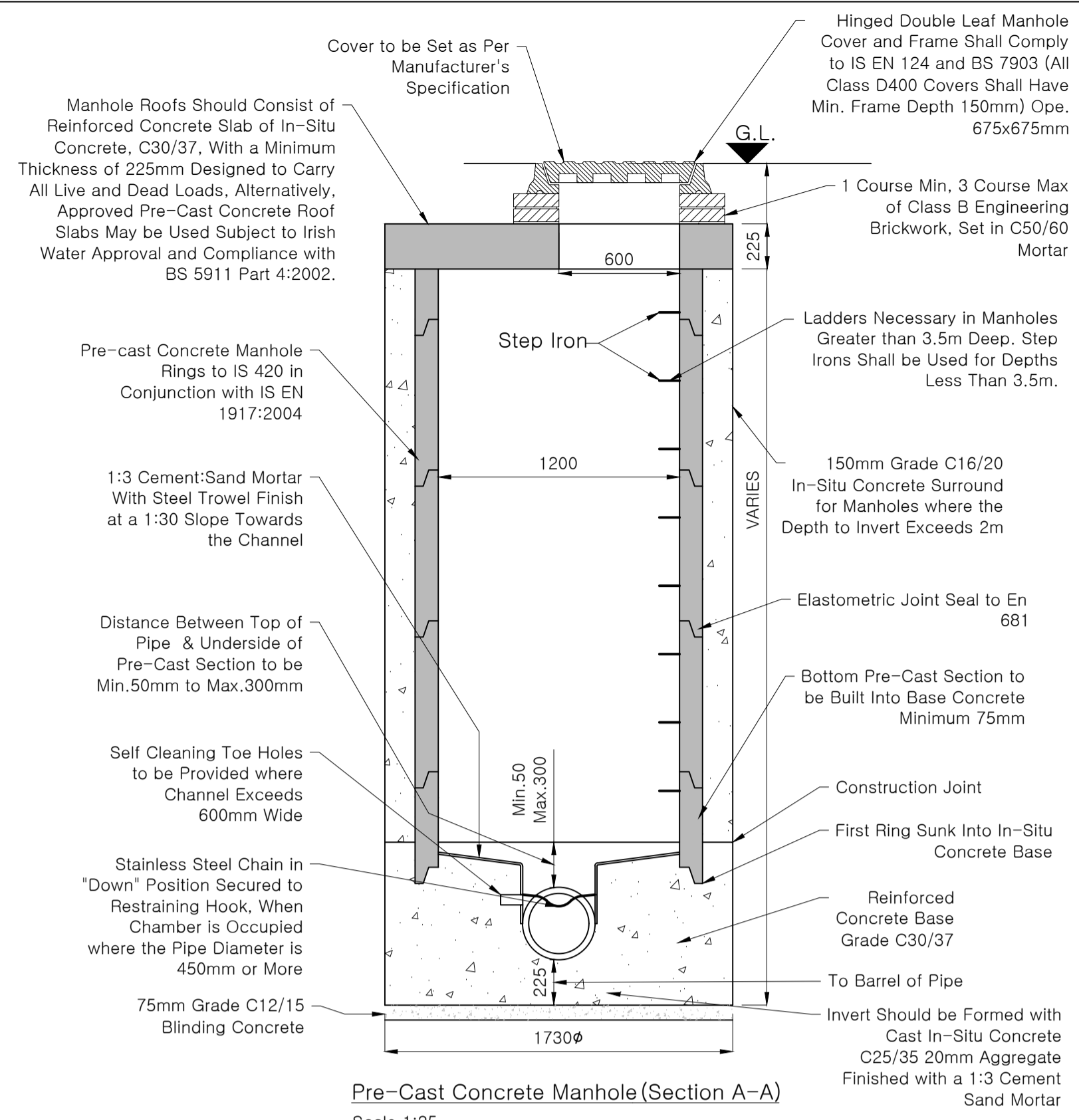
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6.702	68.281	6.702	71.344
12.600	66.865	12.600	71.324
17.497	66.395	17.497	71.304
19.393	66.025	19.393	71.284
22.290	65.074	22.290	71.264
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38.304	64.074	38.304	71.244
38.172	64.052	38.172	71.224
43.059	64.380	43.059	71.204
45.745	64.398	45.745	71.184
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82.206	61.807	82.206	71.164
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81.639	59.592	81.639	71.144
86.521	57.100	86.521	71.124
88.772	55.500	88.772	71.104
88.753	55.499	88.753	71.084
105.704	53.716	105.704	71.064
111.428	53.364	111.428	71.044
119.079	53.368	119.079	71.024
121.704	53.364	121.704	71.004
131.149	53.029	131.149	70.984
155.001	53.097	155.001	70.964
142.783	51.918	142.783	70.944
143.628	52.306	143.628	70.924



NOTE:
All Surface Water and Wastewater sewer Pipes shall be protected with a concrete surround, with flexible joints filled with compressible material, where the depth from the road surface to the crown of the pipe is less than 1200mm.
For notes on sewer construction see drawing nos. 22054-XX-XX-XX-DR-WDG-CE-002 and 22054-XX-XX-XX-XX-DR-WDG-CE-501.
If the contractor notices any discrepancy between this drawing and any other WDG construction drawing or specification they should bring it to the attention of WDG Engineers as soon as possible.



CD	Issued for planning	10/07/24	18'
Rev.	Description	Date	Drawn
Consulting Engineers The Mall, Maryborough Woods, Douglas, Cork Tel: 021-4774940 email: info@wdg.ie			
Title:	Wastewater longitudinal Sections Sheet 4 of 4		
Project:	Housing Development, St. Joseph's Road, Mallow, Co. Cork		
ID No:	22054-XX-XX-XX-XX-DR-WDG-CE-305		
Date:	April 2024		
Drawn by:	IR		
Scale:	1:500		
Purpose:	P3 - planning		
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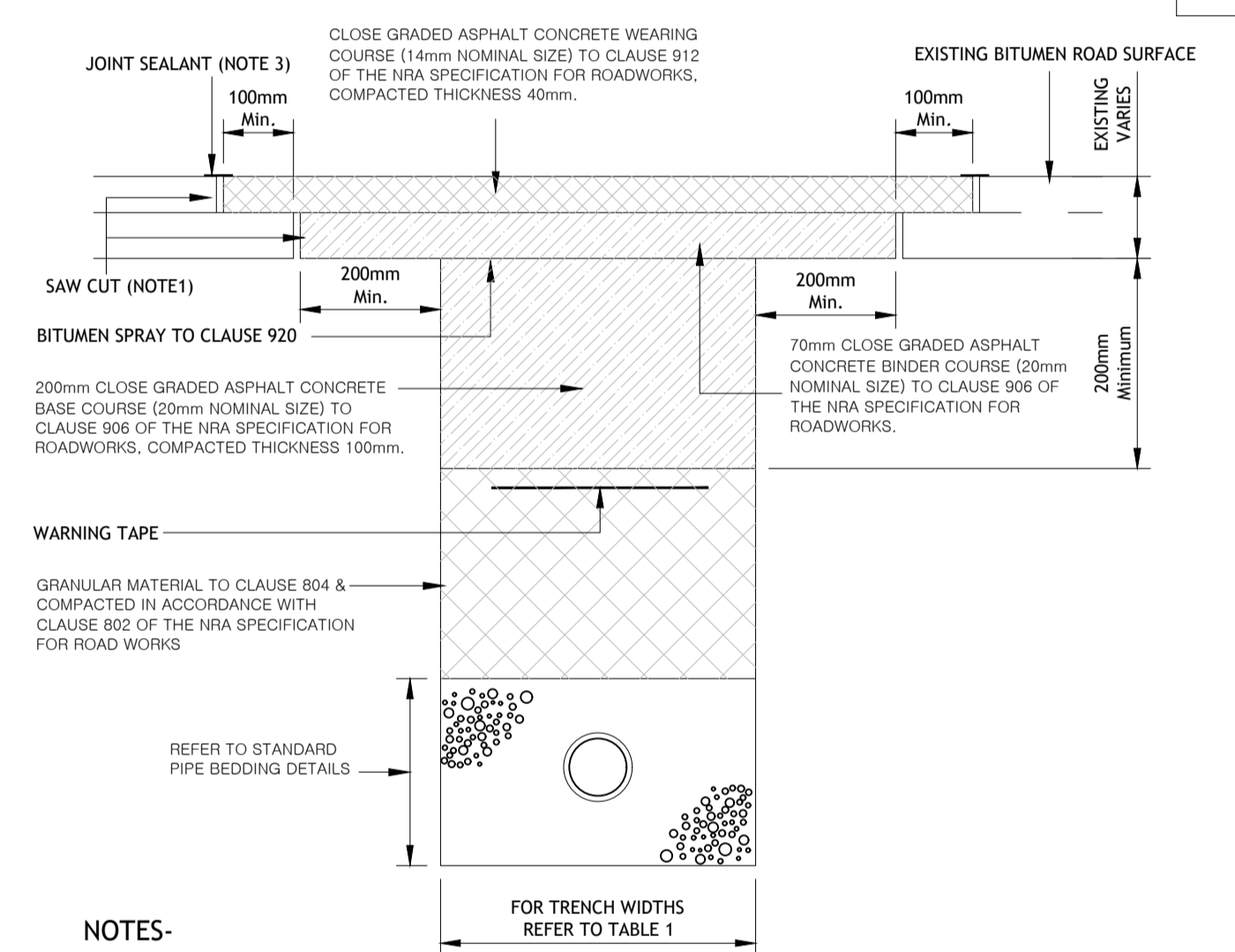
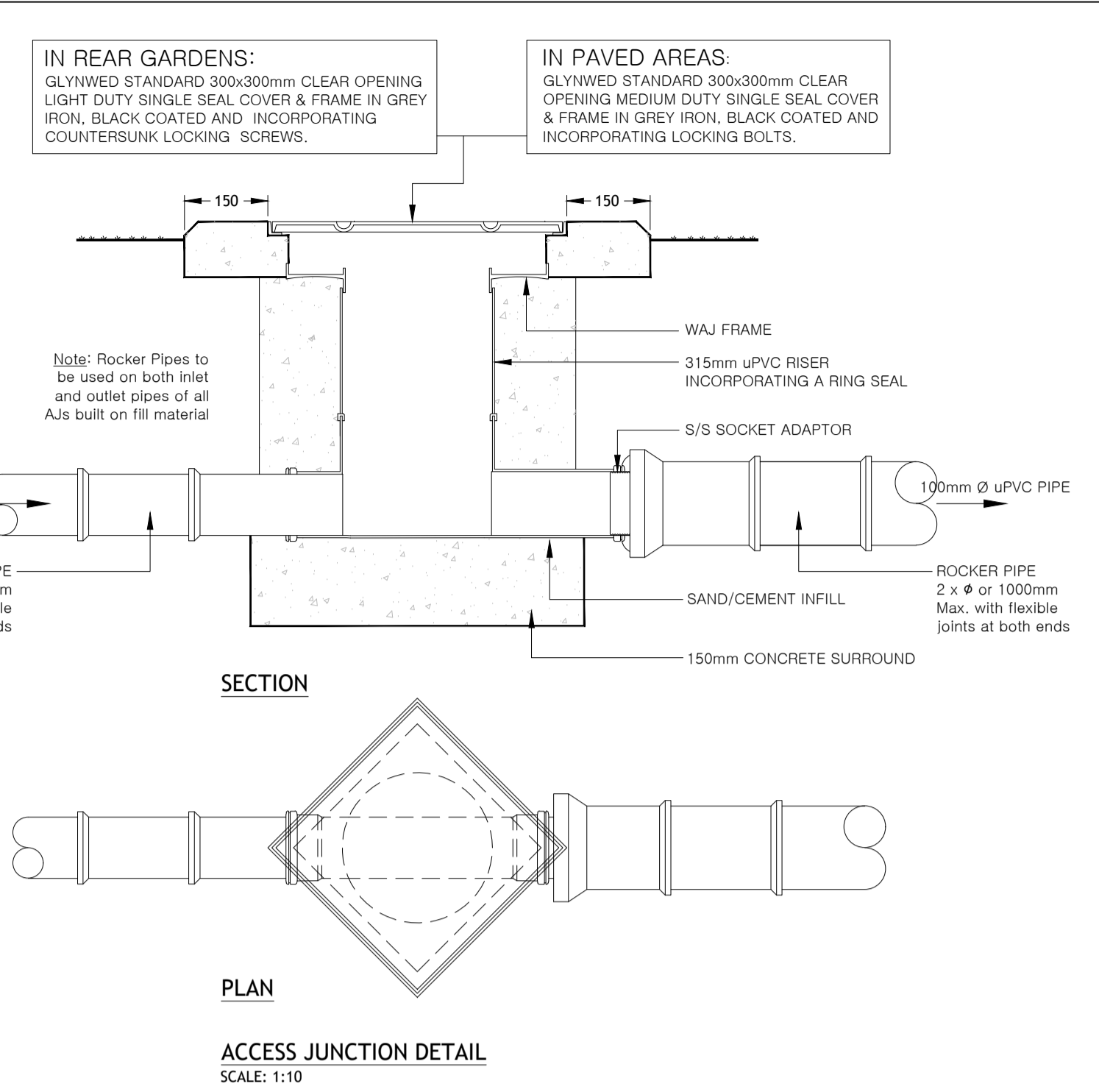


Minimum Manhole Diameters

Diameter of Largest Pipe in Manhole (mm)	Internal Diameter of Manhole (mm)
Less than 375	1200
375 to 450	1350
500 to 750	1500

Rocker Pipe Lengths

Diameter of Pipe in Manhole (mm)	Length of Pipe (mm)
150 to 450	500 to 750
325 to 750	750 to 1000
900 to 1800	1000 to 1500

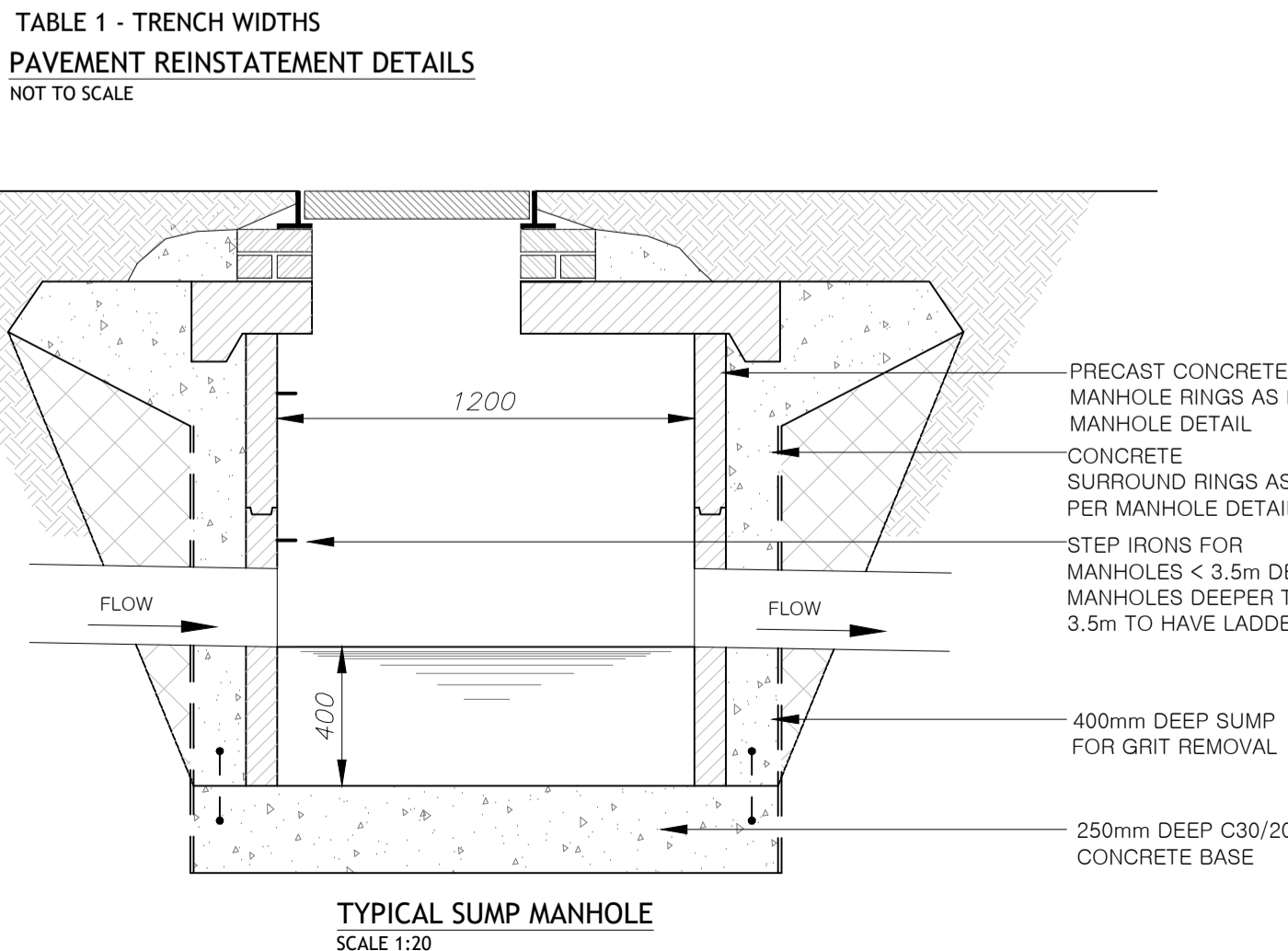


NOTES-

- ALL EDGES OF EXCAVATED AREA TO BE SAW CUT AS DETAILED.
- 100°C HOT BITUMEN BINDER 50 PEN OR COLD THROTROPIC BITUMEN 50-70 PEN TO BE APPLIED TO ALL VERTICAL CUTS IN ACCORDANCE WITH BS 594 PRIOR TO THE APPLICATION OF SURFACE LAYERS.
- JOINTS SEALED WITH HOT BITUMEN AND TOPPED WITH FINE SAND/GRIT TO GET A MINIMUM 55 SKID RESISTANCE VALUE AS DETERMINED BY THE PORTABLE SKID RESISTANCE PENDULUM SHALL NOT EXCEED 3mm THICKNESS AND A WIDTH OF 40mm.

TABLE 1 - TRENCH WIDTHS

RIGID PIPES	NOMINAL PIPE DIAMETER (mm)	100	150	225	300	375	450	525	600	750	900	1050	1200	1200
		TRENCH WIDTH MIN (mm)	450	500	600	700	950	1050	1150	1250	1400	1950	2100	2300
TRENCH WIDTH MAX (mm)		650	700	800	900	1150	1250	1350	1450	1600	2150	2300	2500	2650
FLEXIBLE PIPES	NOMINAL PIPE DIAMETER (mm)	100	150	200	250	300								
	TRENCH WIDTH MIN (mm)	450	450	600	600	700								
	TRENCH WIDTH MAX (mm)	600	600	700	700	850								



- NOTES - General Pre-Cast Manhole**
- All dimensions are in millimetres, unless noted otherwise.
 - Pre-Cast Manhole Units: Complying with requirements of IS EN 1917 and BS 5911-Part 3.
 - Thicker Manhole bases required for sewers in excess of 3m deep where the size is greater than the standard minimum size.
 - Approved Pre-Cast Concrete Bases may be used incorporating channels, benching etc. subject to Irish Water for review.
 - Manhole roofs should consist of reinforced concrete slab of in-situ concrete, C30/37, with a minimum thickness of 225mm designed to carry all live and dead loads. Alternatively, approved pre-cast concrete roof slabs may be used subject to Irish Water approval and compliance with BS 5911 Part 4:2002.
 - Covers and Frames shall be suitable for road and traffic conditions subject to approval from Cork County Council.
 - 200mm all around, 100mm deep concrete plinth with protective stainless steel metal band around covers in green areas.
 - All chambers to be checked for uplift by the developer based on ground conditions within the site. Should anti-floatation measures be required they shall be subject to approval from Irish Water.
 - All Concrete to be in Accordance with IS EN 206:2013.
 - Benching to be formed of Grade 20/40 concrete and finished with a rendering of 25mm of Class 'B' cement mortar.
 - Concrete surround to be provided to manhole rings where depth to invert exceeds 2.0m or as directed by the Engineer.
- NOTES - Backdrop Manhole**
- All dimensions are in millimetres, unless noted otherwise.
 - 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 and is subject to the approval of Irish Water.
 - Manhole details to be in accordance with STD-WW-10 & 12 as set out in 'Irish Water Connection and Developer Service (Wastewater Infrastructure Standard Details)'

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NSAI

Project: **Surface Water Drainage Typical Details**

Project: **Housing Development, St. Joseph's Road, Mallow, Co. Cork**

Drawn by: **IR**

Scale: **As shown**

Revision: **0**

Drawn by: **IR**

Scale: **As shown**

Revision: **0**

Drawn by: **IR**

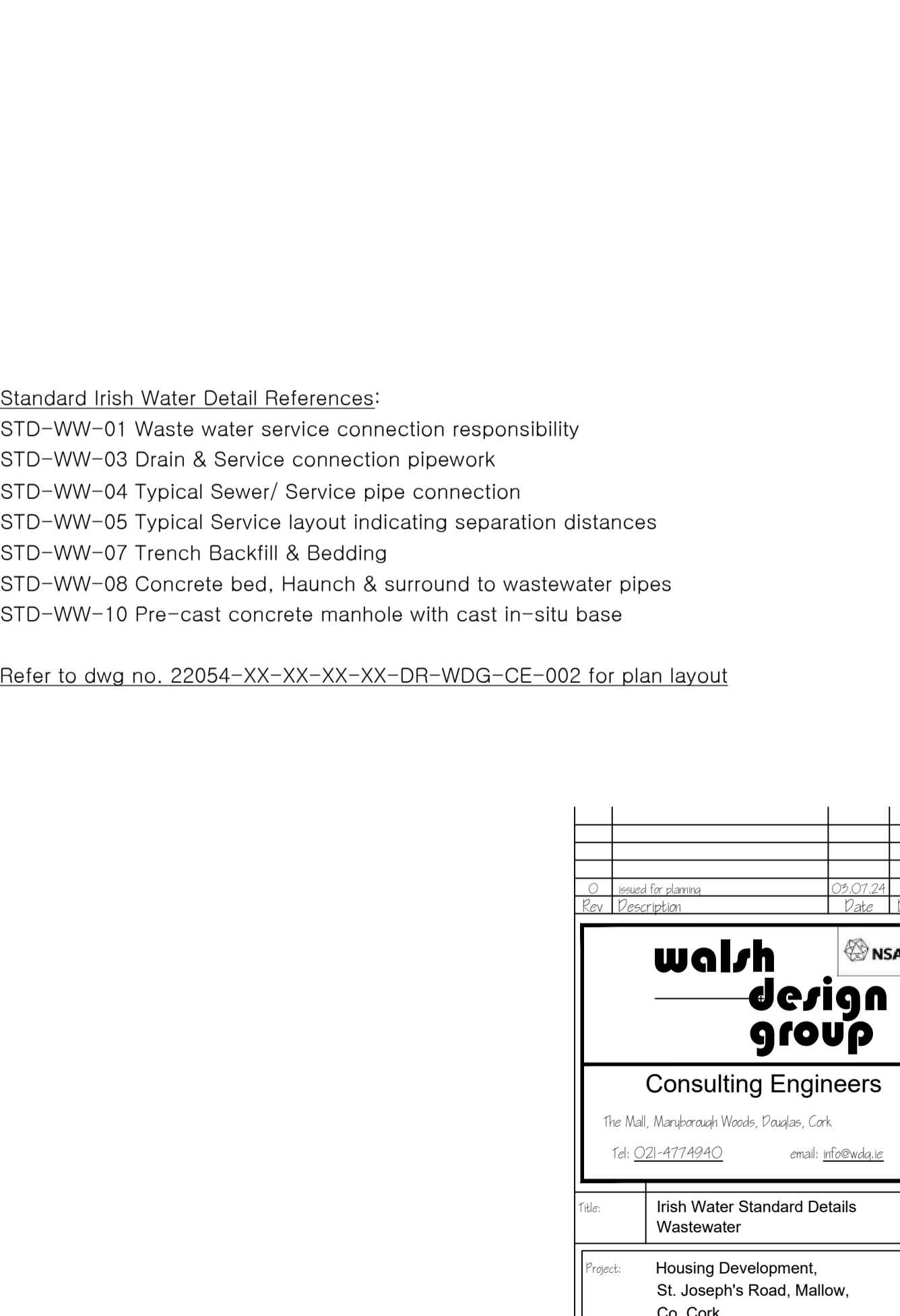
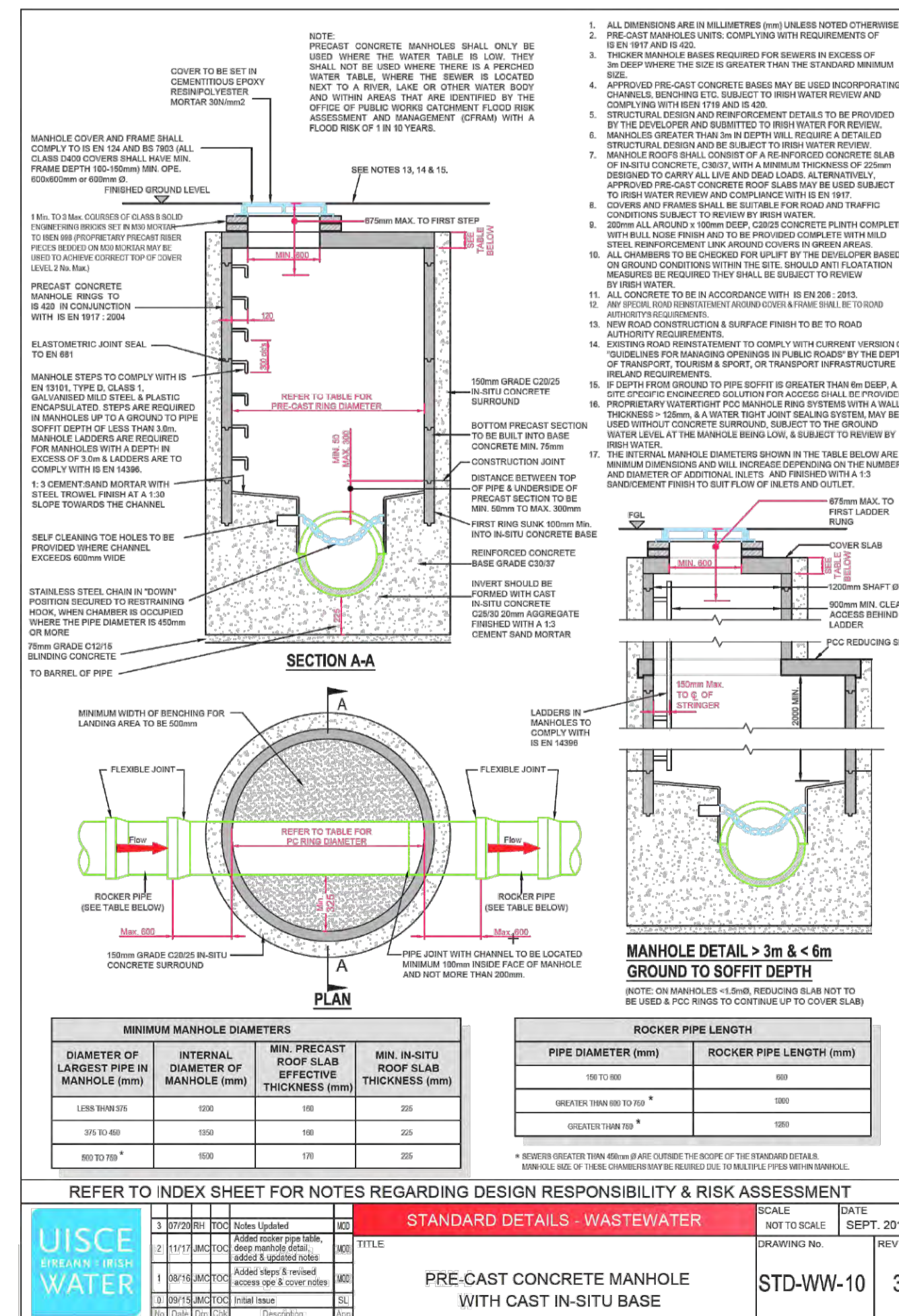
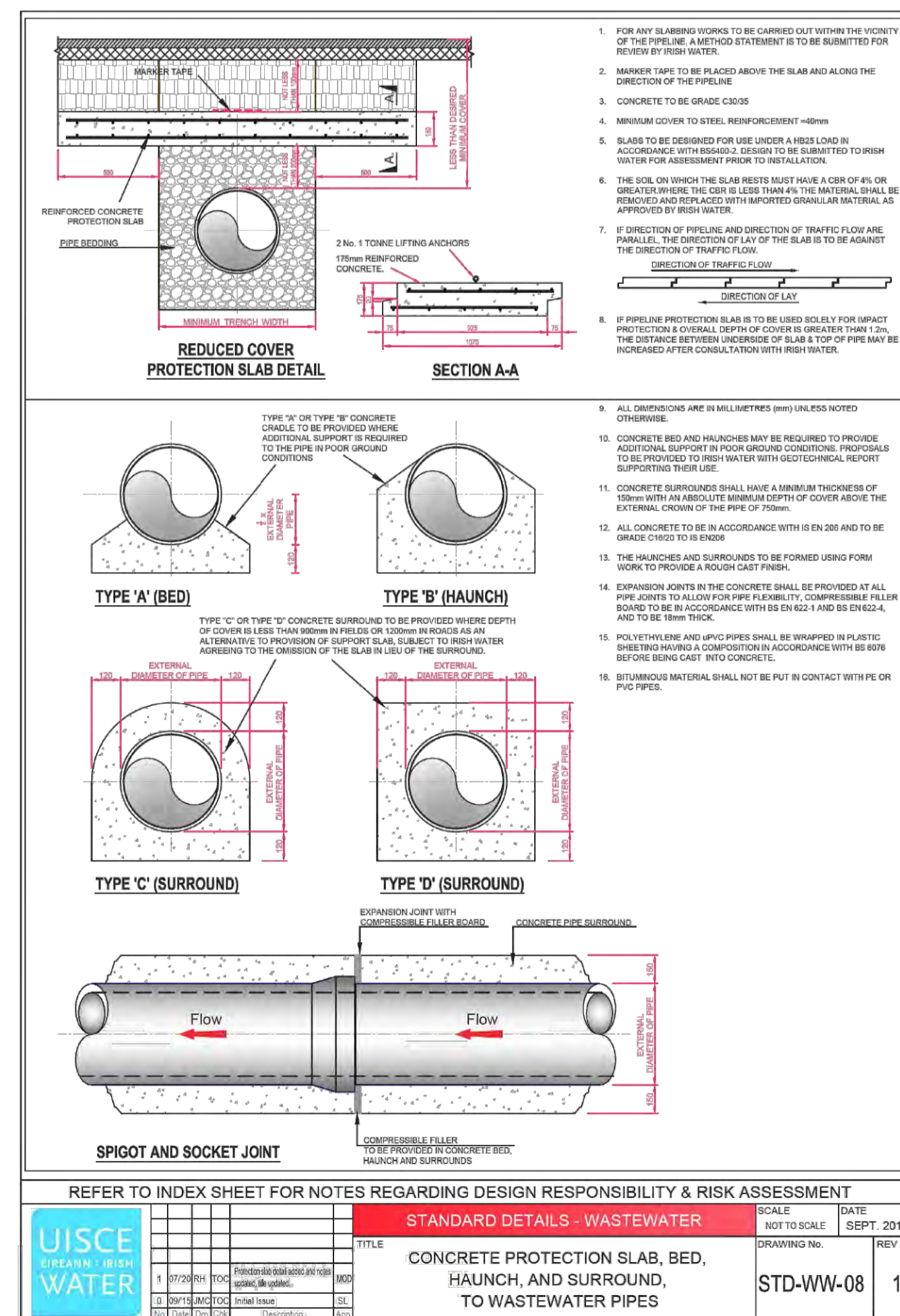
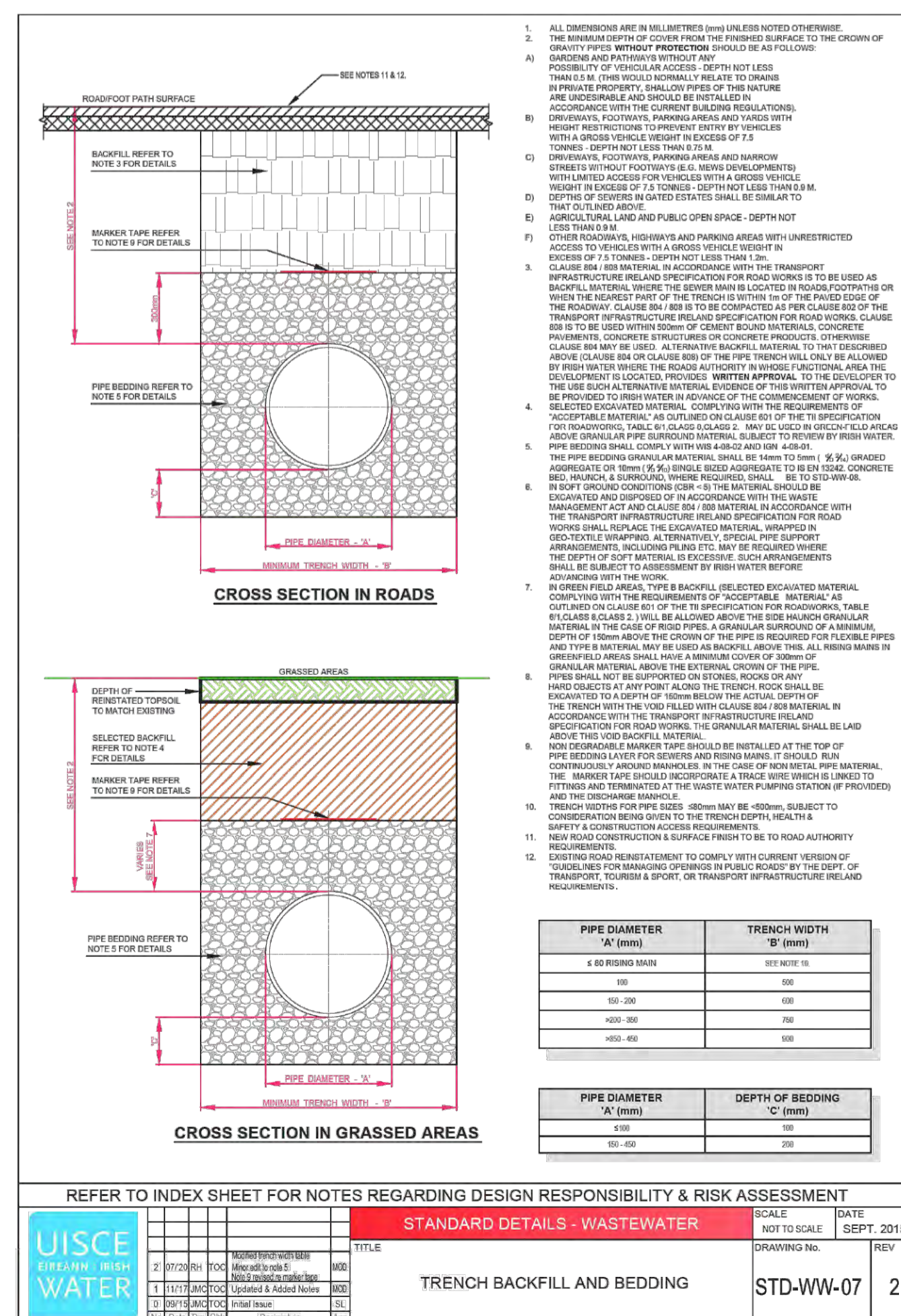
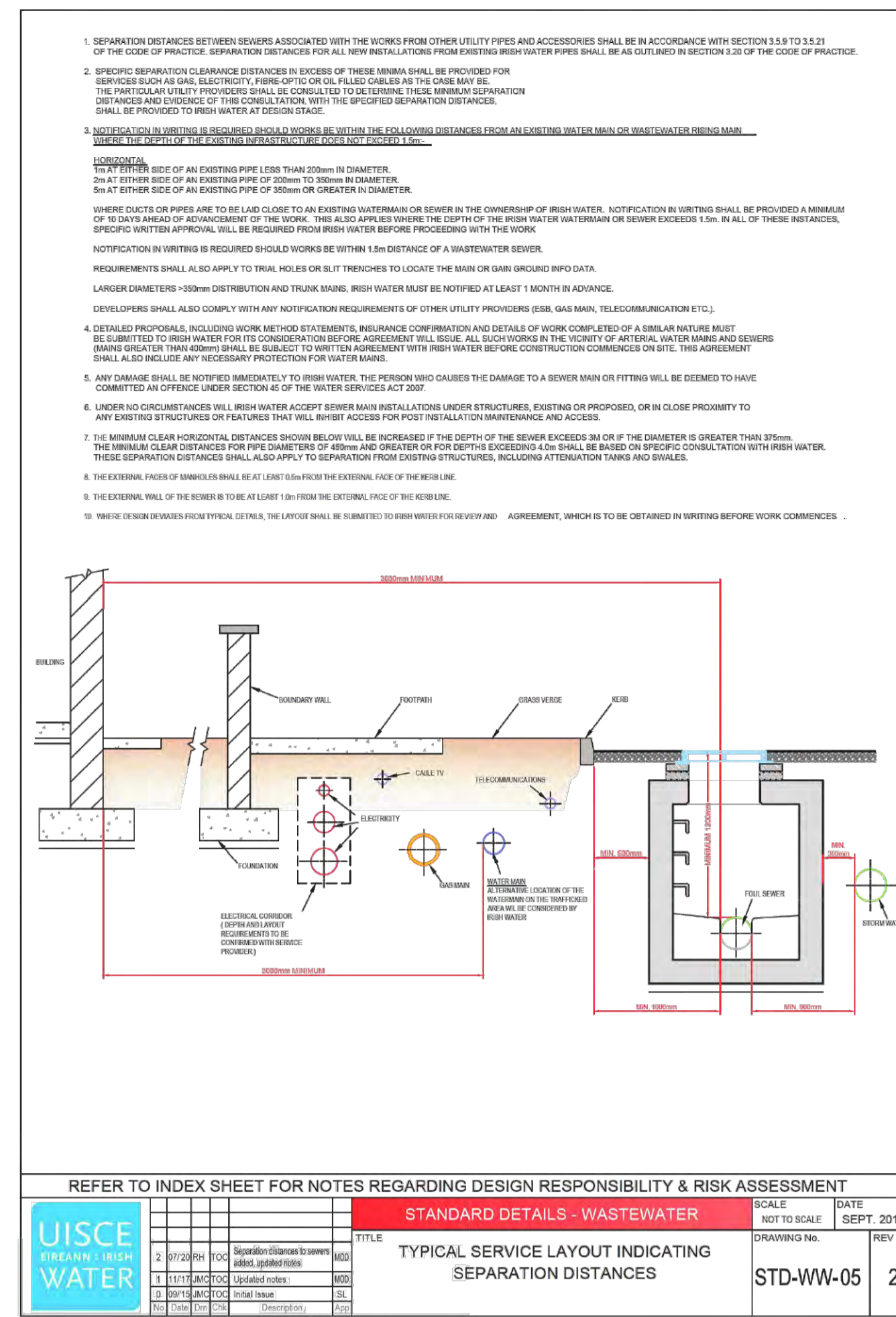
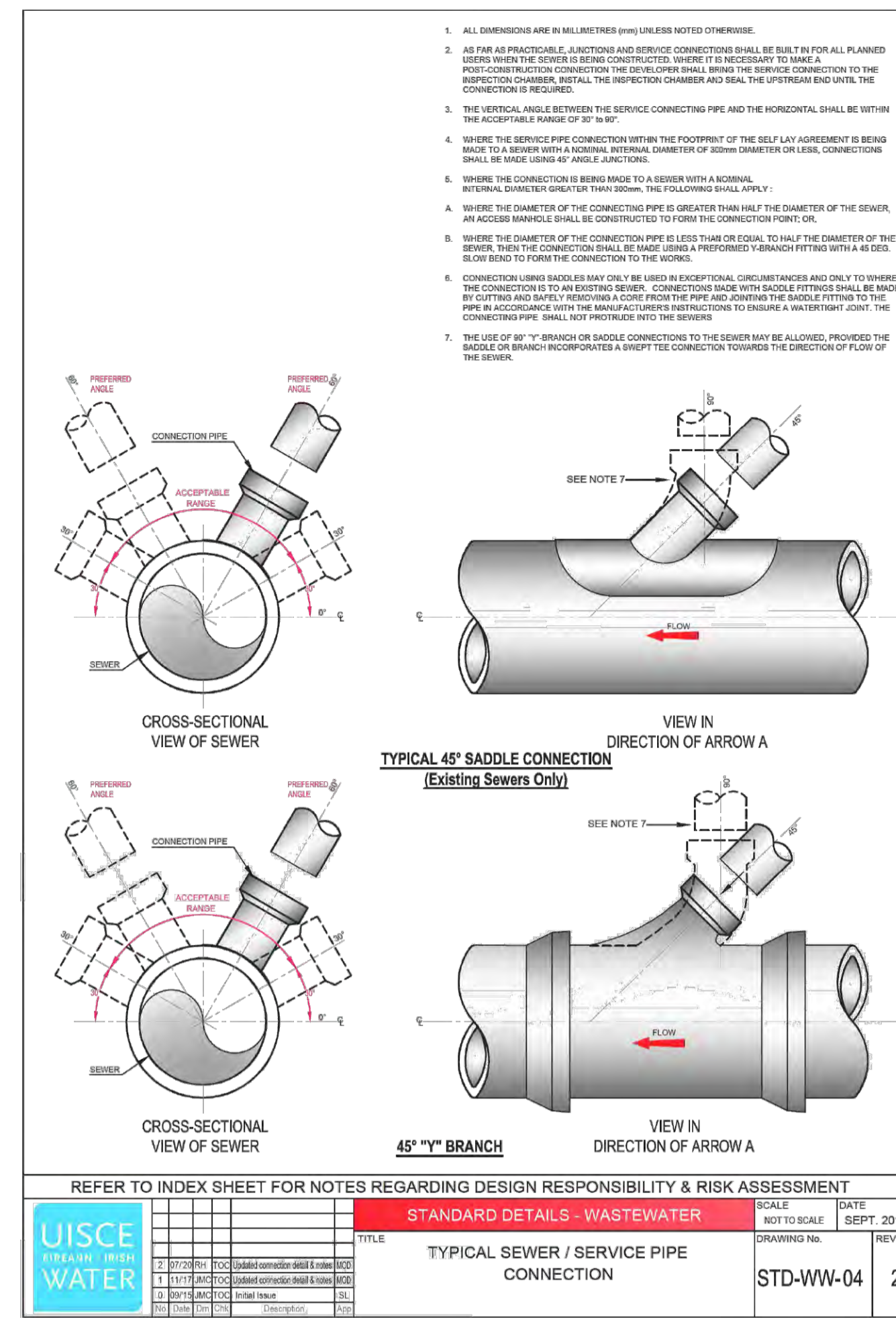
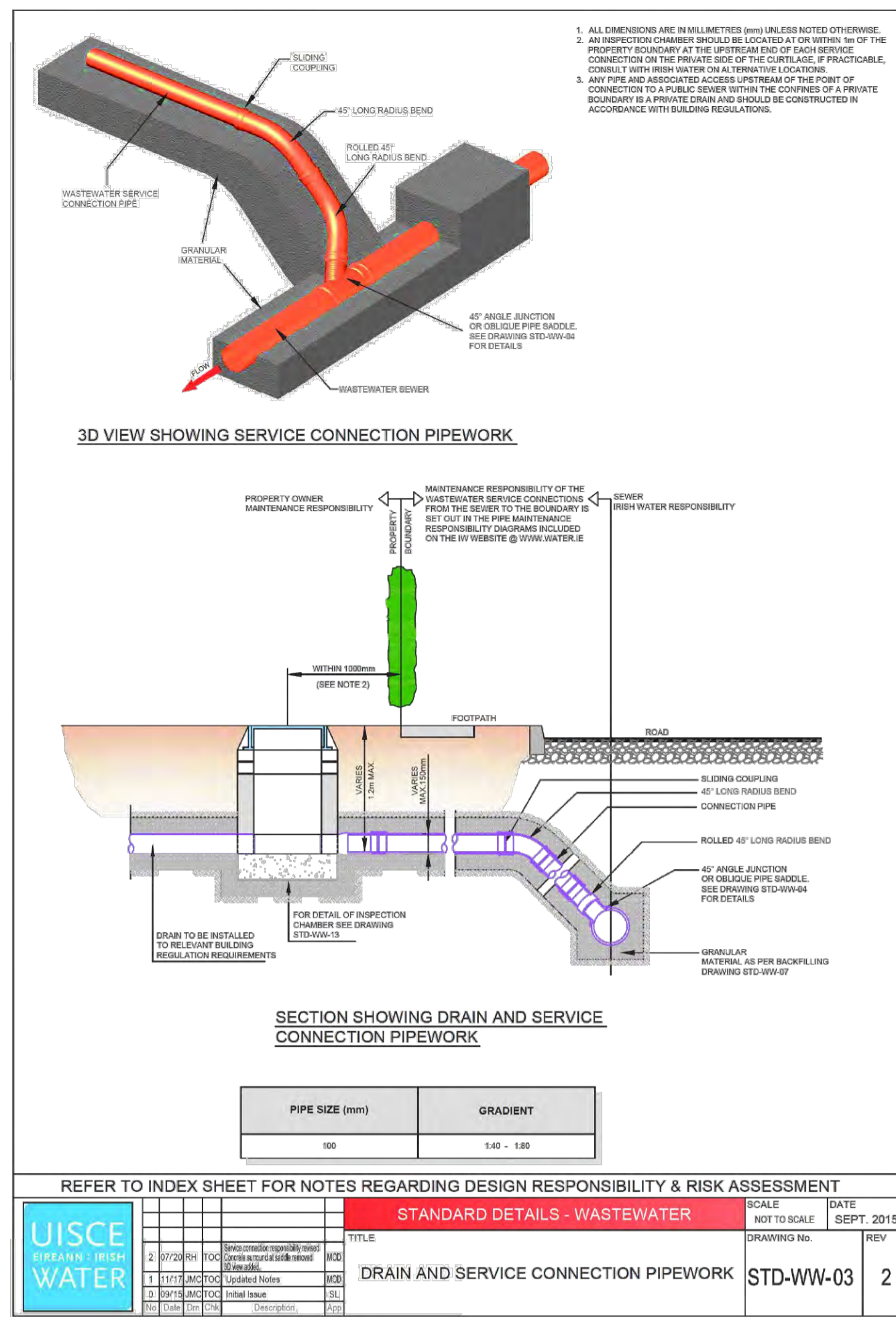
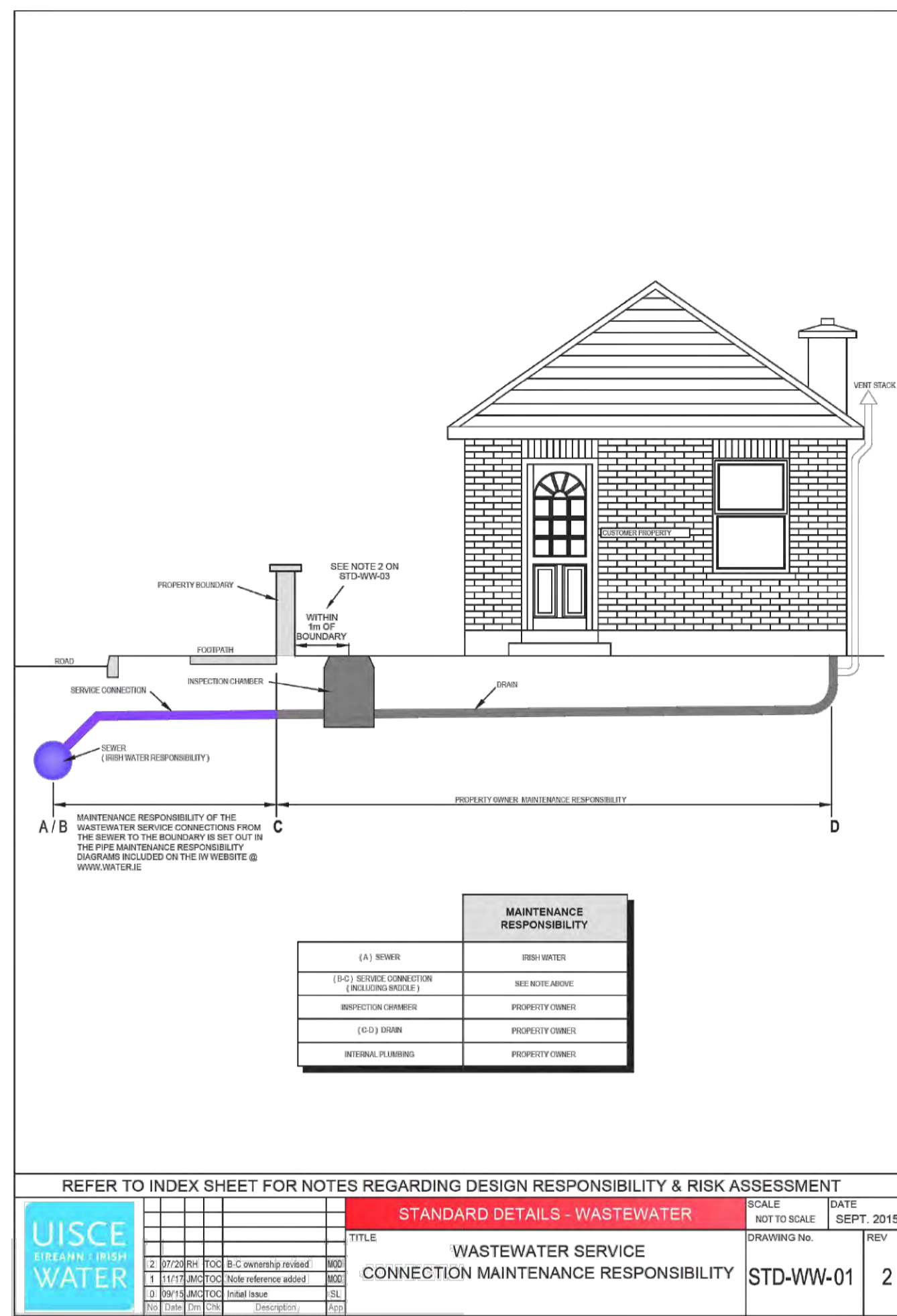
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Revision: **0**

Drawn by: **IR**

Scale: **As shown**

Revision: **0**



Uisce Éireann / Irish Water	SCALE	DATE	REV
STANDARD DETAILS - WASTEWATER	NOT TO SCALE	SEPT 2015	2
TITLE	TRENCH BACKFILL AND BEDDING	DRAWING No.	STD-WW-07

Uisce Éireann / Irish Water	SCALE	DATE	REV
STANDARD DETAILS - WASTEWATER	NOT TO SCALE	SEPT 2015	1
TITLE	CONCRETE PROTECTION SLAB, BED, HAUNCH, AND SURROUND, TO WASTEWATER PIPES	DRAWING No.	STD-WW-08

Uisce Éireann / Irish Water	SCALE	DATE	REV
STANDARD DETAILS - WASTEWATER	NOT TO SCALE	SEPT 2015	3
TITLE	PRE-CAST CONCRETE MANHOLE WITH CAST IN-SITU BASE	DRAWING No.	STD-WW-10

Uisce Éireann / Irish Water	SCALE	DATE	REV
STANDARD DETAILS - WASTEWATER	NOT TO SCALE	SEPT 2015	2
TITLE	TYPICAL SERVICE LAYOUT INDICATING SEPARATION DISTANCES	DRAWING No.	STD-WW-05

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Tel: 021-4774940 email: info@walsh.ie

File: Irish Water Standard Details Wastewater

Project: Housing Development, St. Joseph's Park, Mallow, Co. Cork

Drawn by: IR

Scale: As shown

Purpose: P3 - Planning

Rev: 0

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NOTE: THE POSITION OF THE WATER SERVICE CONNECTION SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE POSITION OF THE WATER SERVICE CONNECTION SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

MATERIAL	MAINTENANCE RESPONSIBILITY
A - B SERVICE PIPE	SEE NOTE ABOVE
METER/STANDARD BOX	PROPERTY OWNER
B - C DISTRIBUTION SYSTEM	PROPERTY OWNER
INTERNAL PIPING	PROPERTY OWNER

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

Uisce Éireann - Irish Water	STANDARD DETAILS - WATER	SCALE: NOT TO SCALE	DATE: SEPT. 2015
TITLE: WATER SERVICE CONNECTION RESPONSIBILITY	DRAWING NO: STD-W-01	REV: 1	

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NOTE: THE LOCATION OF THE WATER MAINS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER. THE LOCATION OF THE WATER MAINS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.

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

Uisce Éireann - Irish Water	STANDARD DETAILS - WATER	SCALE: NOT TO SCALE	DATE: SEPT. 2015
TITLE: TYPICAL LAYOUT FOR WATER MAINS WITHIN DEVELOPMENTS	DRAWING NO: STD-W-02	REV: 2	

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NOTE: THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY. THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY.

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

Uisce Éireann - Irish Water	STANDARD DETAILS - WATER	SCALE: NOT TO SCALE	DATE: SEPT. 2015
TITLE: CUSTOMER CONNECTION AND BOUNDARY BOX (25mm OD PIPE)	DRAWING NO: STD-W-03	REV: 4	

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NOTE: THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY. THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY.

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

Uisce Éireann - Irish Water	STANDARD DETAILS - WATER	SCALE: NOT TO SCALE	DATE: SEPT. 2015
TITLE: GENERAL PIPE CONNECTIONS (Sheet 3 of 7)	DRAWING NO: STD-W-06	REV: 3	

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NOTE: THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY. THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY.

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

Uisce Éireann - Irish Water	STANDARD DETAILS - WATER	SCALE: NOT TO SCALE	DATE: SEPT. 2015
TITLE: GENERAL PIPE CONNECTIONS (Sheet 4 of 7)	DRAWING NO: STD-W-07	REV: 2	

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NOTE: THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY. THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY.

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

Uisce Éireann - Irish Water	STANDARD DETAILS - WATER	SCALE: NOT TO SCALE	DATE: SEPT. 2015
TITLE: TRENCH BACKFILL / BEDDING & REDUCED COVER PROTECTION SLAB DETAIL	DRAWING NO: STD-W-13	REV: 2	

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NOTE: THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY. THE CUSTOMER SHALL BE RESPONSIBLE FOR THE CONNECTION FROM THE PROPERTY BOUNDARY TO THE PROPERTY.

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

Uisce Éireann - Irish Water	STANDARD DETAILS - WATER	SCALE: NOT TO SCALE	DATE: SEPT. 2015
TITLE: SLUCE VALVE FOR POLYETHYLENE (P.E.) PIPE (< 350mm DIA.) (Sheet 2 of 2)	DRAWING NO: STD-W-15	REV: 3	

Standard Irish Water Detail References:

- STD-W-01 Water Service Connection responsibility
- STD-W-02 Typical Layout for Water Mains within developments
- STD-W-03 Customer connection & boundary box
- STD-W-06 General Pipe Connection
- STD-W-07 General Pipe Connection
- STD-W-13 Trench Backfill & Bedding
- STD-W-15 Sluce valve for Polyethylene (P.E.) Pipe (<350mm ϕ)

Refer to dwg no. 22054-XX-XX-XX-DR-WDG-CE-003 for plan layout

Uisce Éireann - Irish Water	STANDARD DETAILS - WATER	SCALE: NOT TO SCALE	DATE: SEPT. 2015
TITLE: SLUCE VALVE FOR POLYETHYLENE (P.E.) PIPE (< 350mm DIA.) (Sheet 2 of 2)	DRAWING NO: STD-W-15	REV: 3	

0. Detail for sluce valve

Rev	Description	Date	By	App'd
0		09/07/24	IR	WJ

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Consulting Engineers

The Mall, Maroonagh Woods, Daxton, Cork

Tel: 02-4774940 email: info@walshdesign.com

Title: Irish Water Standard Details Watermain Sheet 1 of 2

Project: Housing Development, St. Joseph's Road, Mallow, Co. Cork

IP No: 22054-XX-XX-XX-DR-WDG-CE-502

Rev: Feb 2024

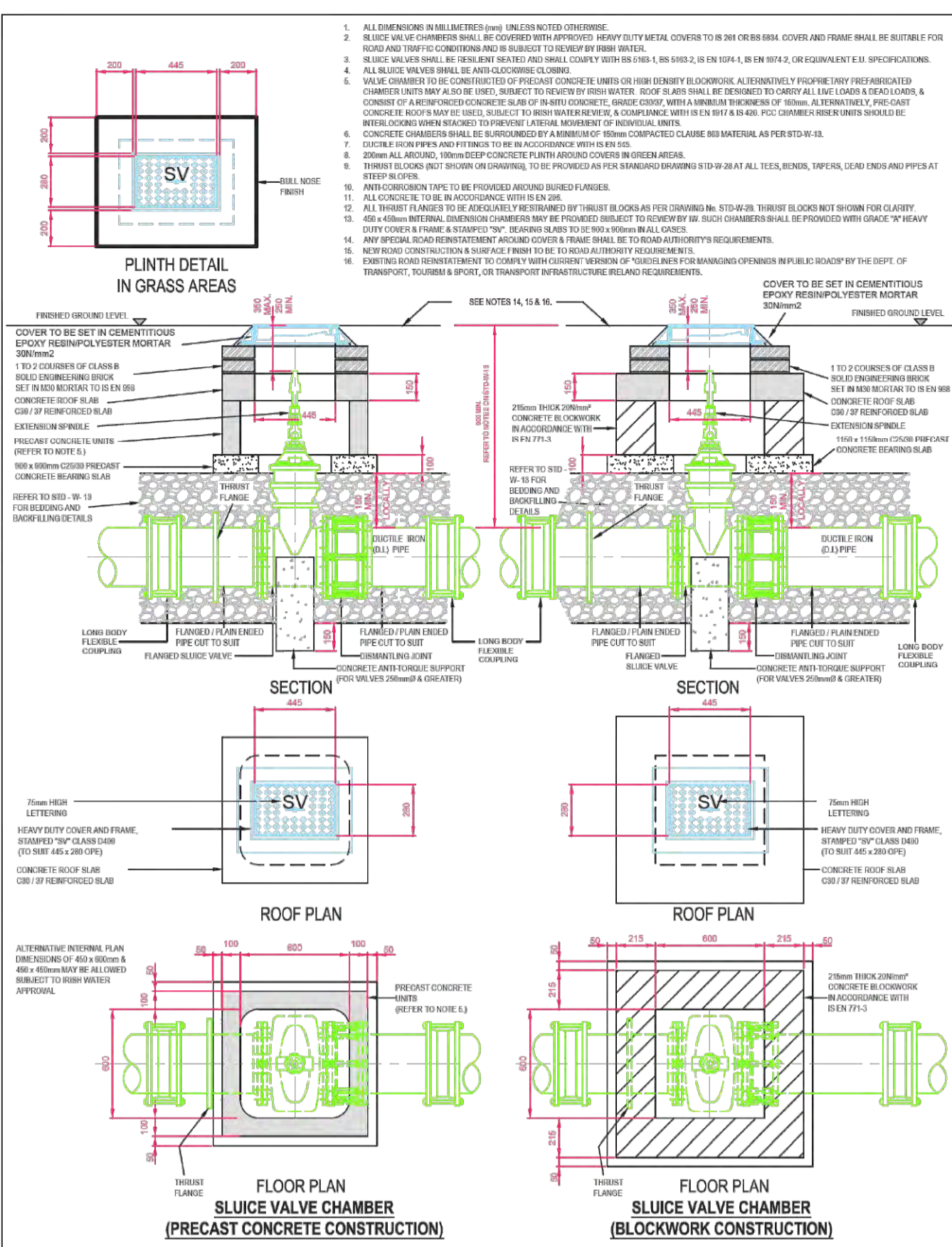
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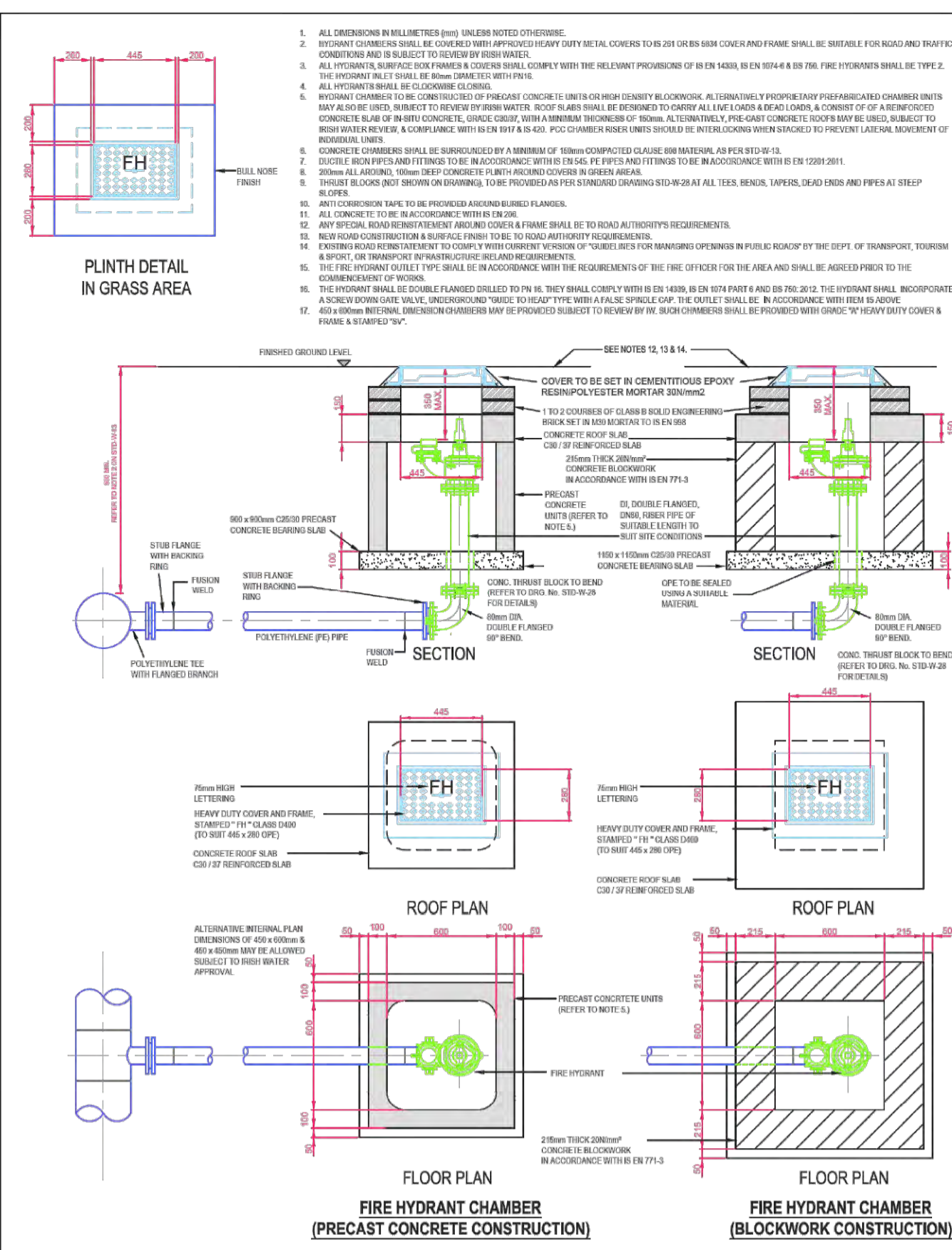
Purpose: P3 - Planning

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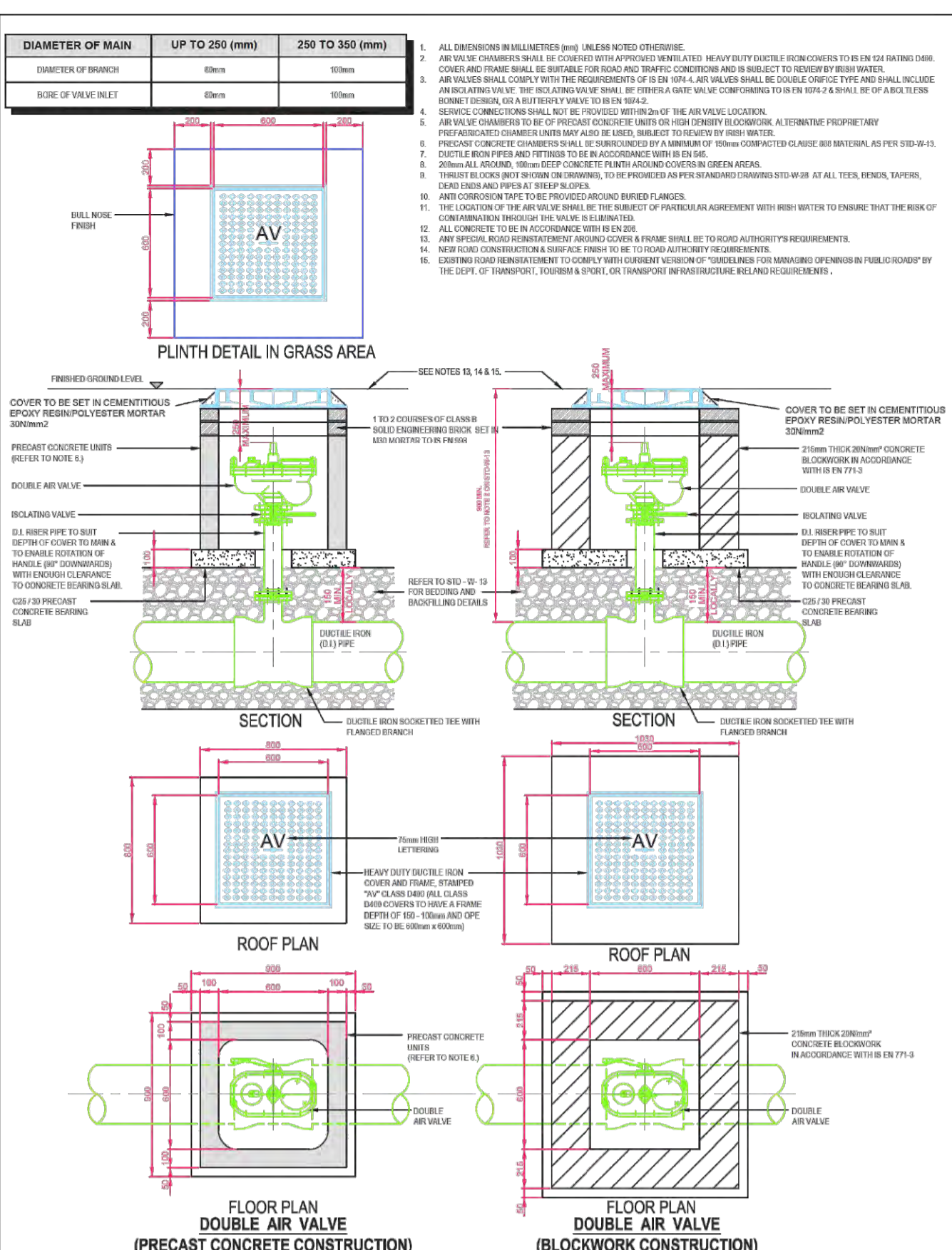
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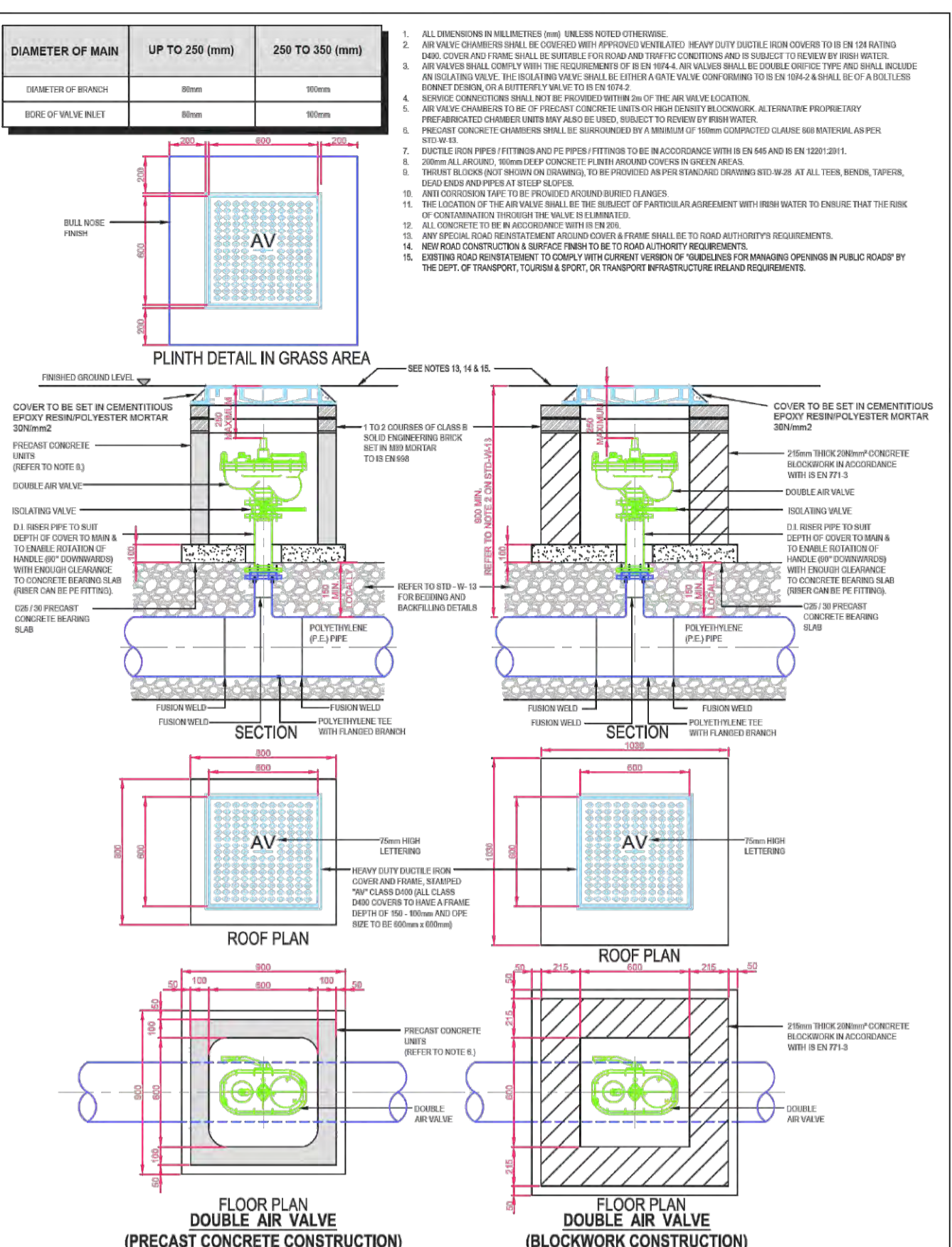
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT		SCALE: NOT TO SCALE	DATE: SEPT. 2015
Uisce Éireann Irish Water	TITLE: SLUICE VALVE FOR DUCTILE IRON (D.I.) PIPE ($\le 350\text{mm}$ DIA.) (Sheet 1 of 2)	DRAWING No. STD-W-14	REV: 4



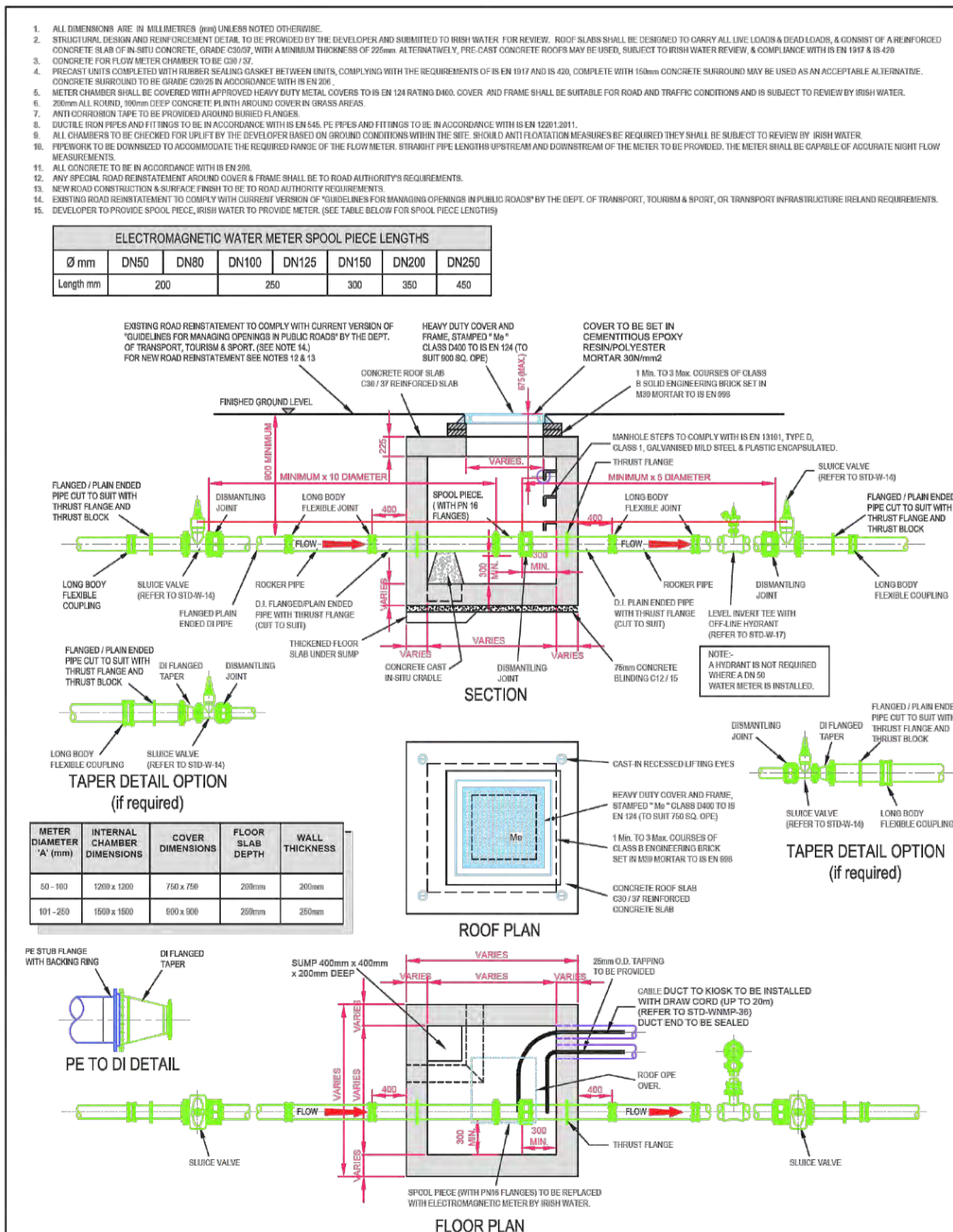
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT		SCALE: NOT TO SCALE	DATE: SEPT. 2015
Uisce Éireann Irish Water	TITLE: OFF-LINE HYDRANT FOR POLYETHYLENE (P.E.) PIPE ($\le 350\text{mm}$ DIA.) (Sheet 4 of 4)	DRAWING No. STD-W-19	REV: 4



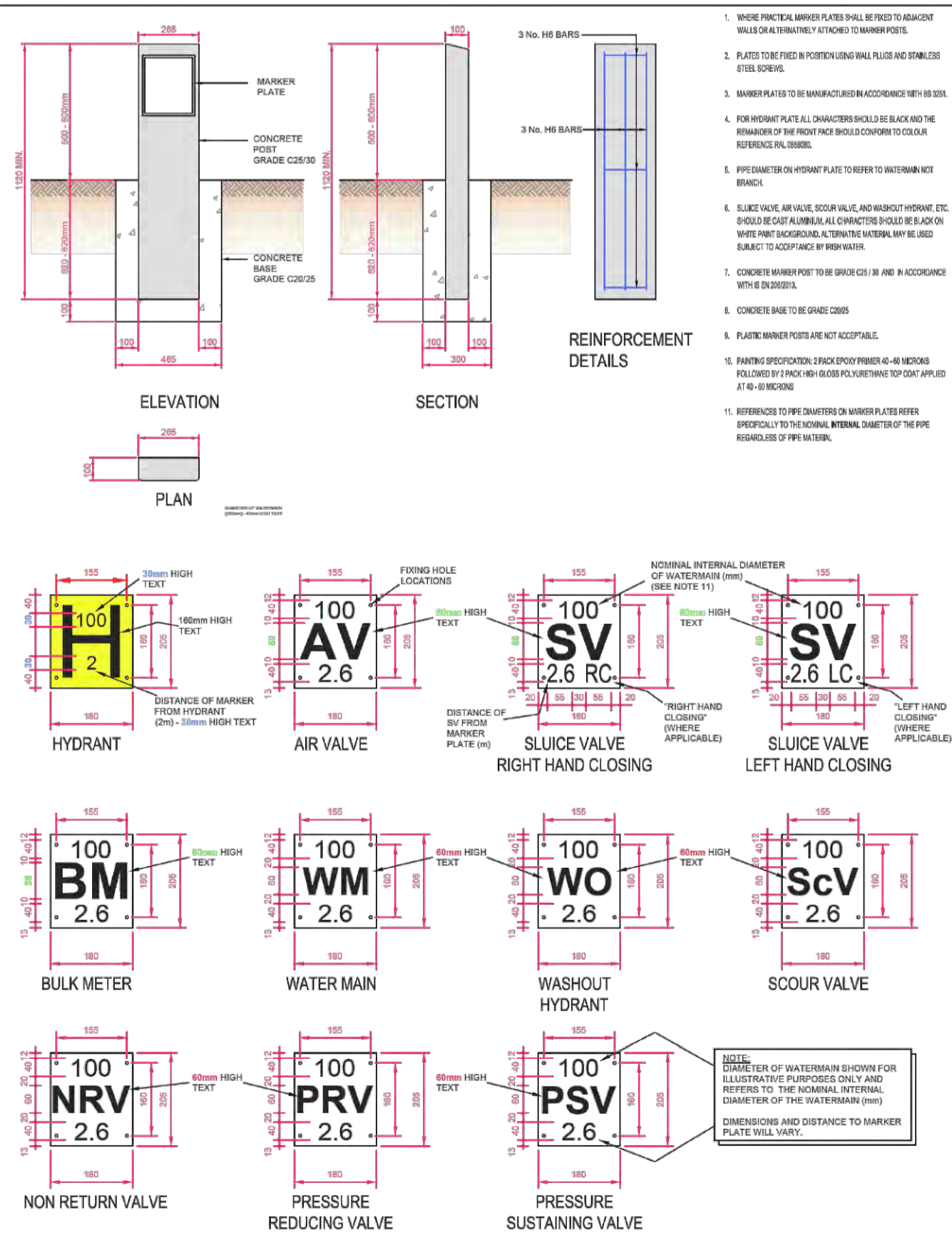
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT		SCALE: NOT TO SCALE	DATE: SEPT. 2015
Uisce Éireann Irish Water	TITLE: ON-LINE AIR VALVE FOR DUCTILE IRON (D.I.) PIPE ($\le 350\text{mm}$ DIA.) (Sheet 1 of 4)	DRAWING No. STD-W-20	REV: 3



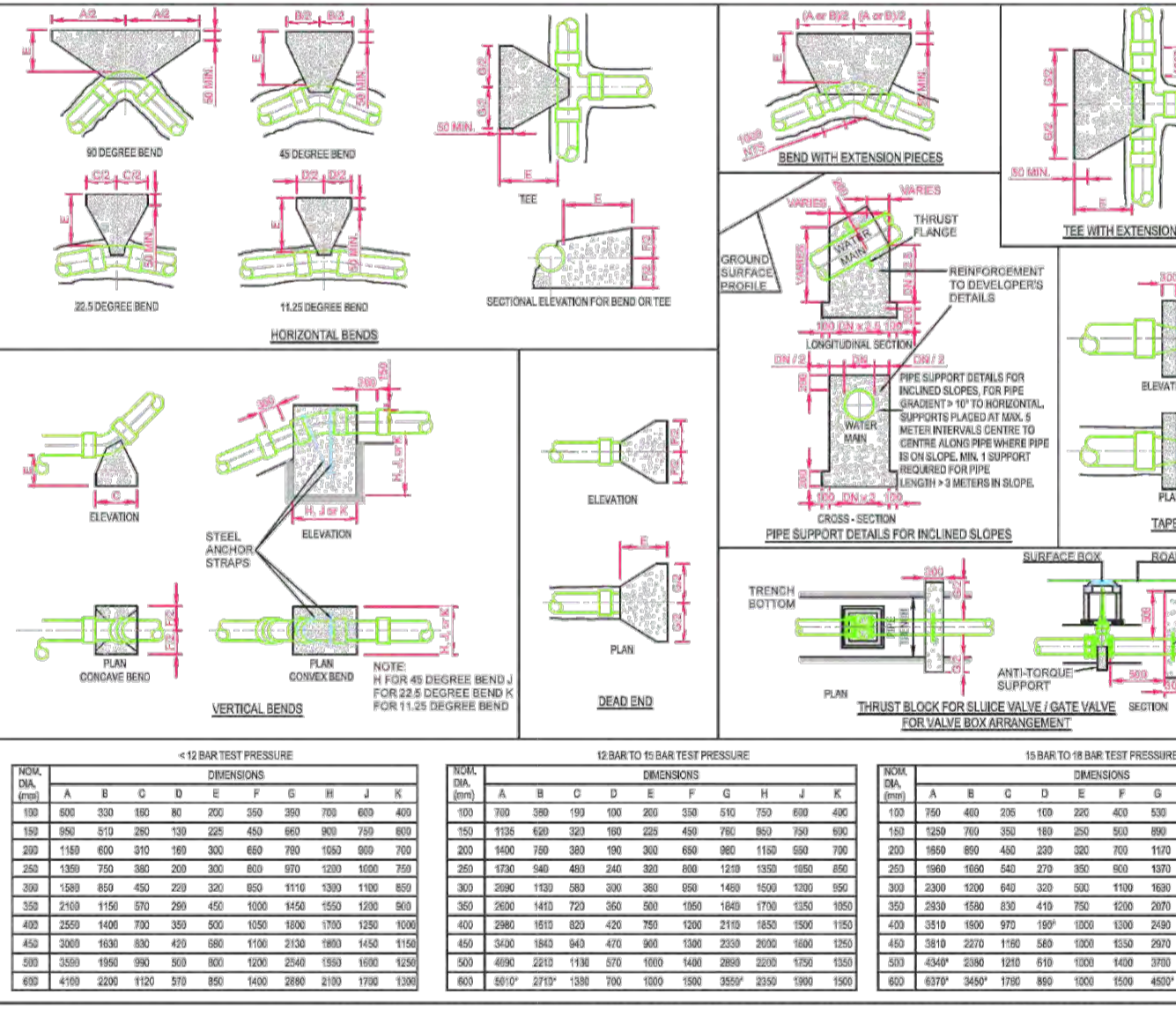
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT		SCALE: NOT TO SCALE	DATE: SEPT. 2015
Uisce Éireann Irish Water	TITLE: ON-LINE AIR VALVE FOR POLYETHYLENE (P.E.) PIPE ($\le 350\text{mm}$ DIA.) (Sheet 3 of 4)	DRAWING No. STD-W-22	REV: 3



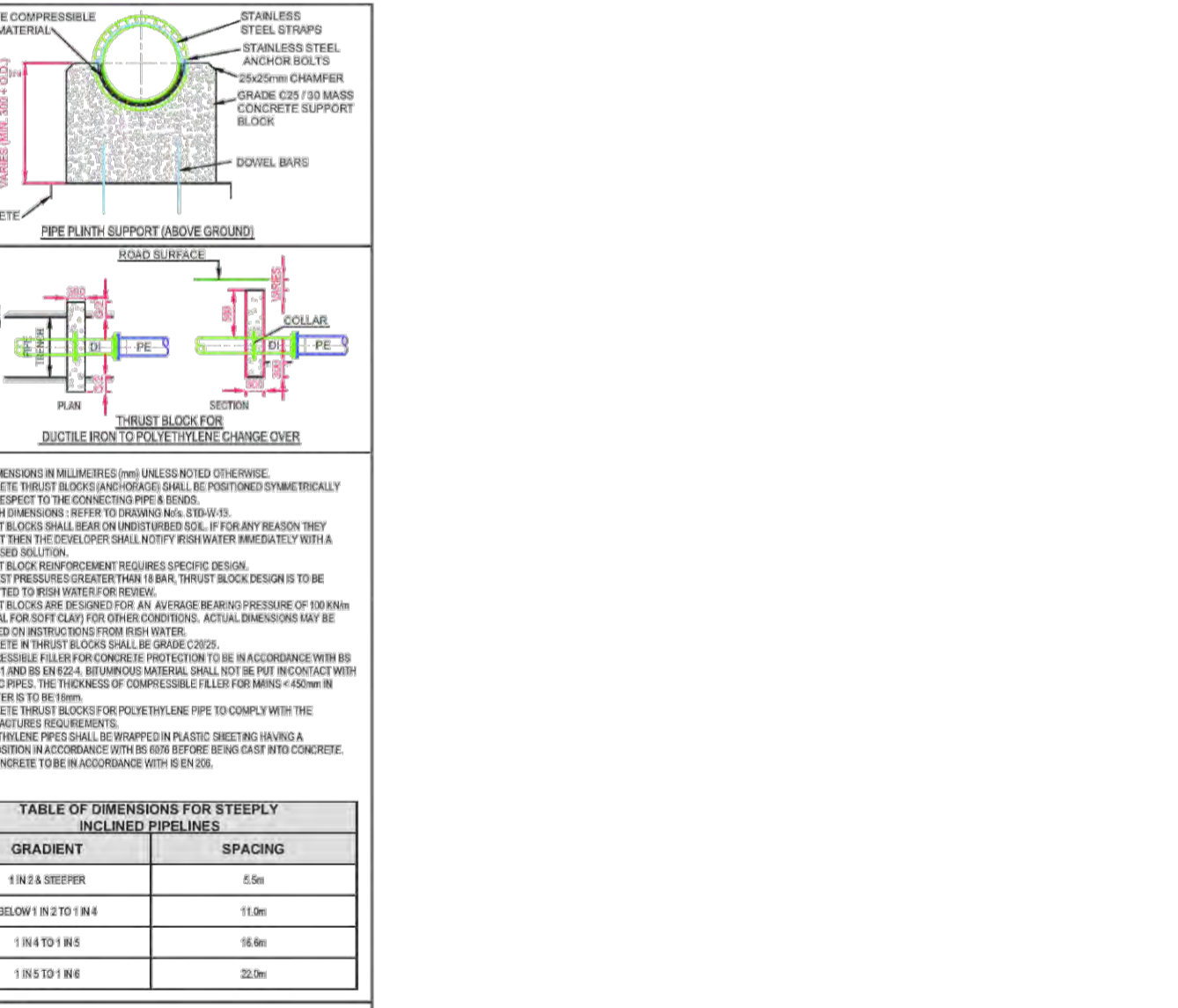
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT		SCALE: NOT TO SCALE	DATE: SEPT. 2015
Uisce Éireann Irish Water	TITLE: ELECTROMAGNETIC METER CHAMBER ($80 - 250\text{mm}$ DIA.)	DRAWING No. STD-W-26	REV: 4



REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT		SCALE: NOT TO SCALE	DATE: SEPT. 2015
Uisce Éireann Irish Water	TITLE: MARKER POSTS / PLATES	DRAWING No. STD-W-27	REV: 3



REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT		SCALE: NOT TO SCALE	DATE: SEPT. 2015
Uisce Éireann Irish Water	TITLE: WATER MAIN THRUST AND SUPPORT BLOCKS	DRAWING No. STD-W-28	REV: 1



REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT		SCALE: NOT TO SCALE	DATE: SEPT. 2015
Uisce Éireann Irish Water	TITLE: WATER MAIN THRUST AND SUPPORT BLOCKS	DRAWING No. STD-W-28	REV: 1

Standard Irish Water Detail References:
 STD-W-14 Sluice valve for Ductile Iron (D.I.) Pipe ($\le 350\text{mm}$Ø)
 STD-W-19 Off-line hydrant for Polyethylene (P.E.) Pipe
 STD-W-20 On-line Air Valve for Ductile Iron (D.I.) Pipe
 STD-W-22 On-line Air Valve for Polyethylene (P.E.) Pipe
 STD-W-26 Meter chamber ($\le 300\text{mm}$ Ø)
 STD-W-27 Marker posts / Plates
 STD-W-28 Water main thrust & support blocks

Refer to dwg no. 22054-XX-XX-XX-DR-WDG-CE-003 for plan layout

walsh design group
 Consulting Engineers
 The Mall, Manorshaw Woods, Daxton, Cork
 Tel: 021-4774940 email: info@walshdesign.ie

Project: Irish Water Standard Details Watermain Sheet 2 of 2

IP No: 22054-XX-XX-XX-DR-WDG-CE-503
 Date: Feb 2024
 Drawn by: IR
 Scale: As shown
 Purpose: P3 - Planning

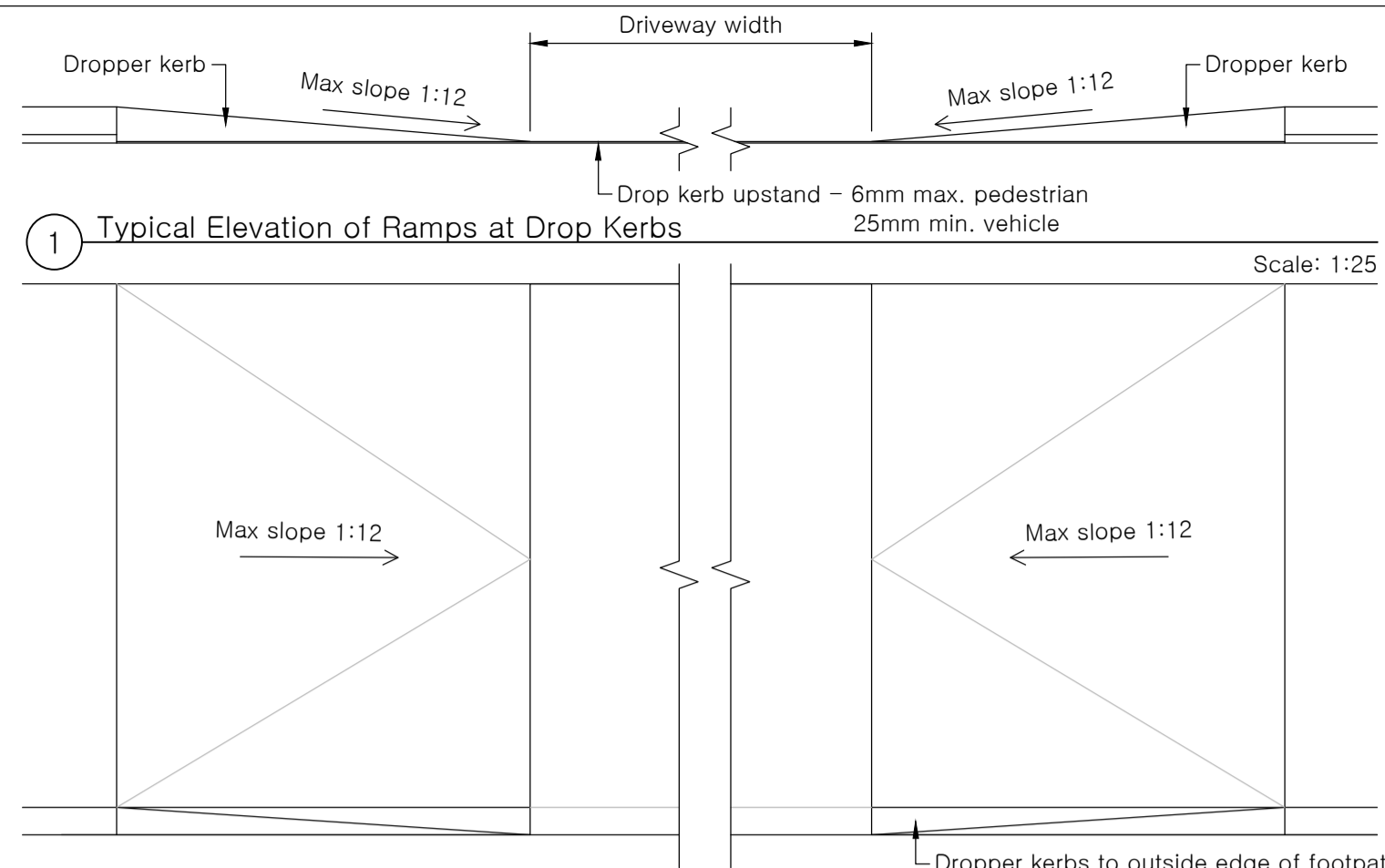
Tank Notes:

- Cast In-situ Reinforced Concrete tank designed in accordance with I.S. EN 1992-3 and I.S. EN 1992-1-1.

Flow Control:

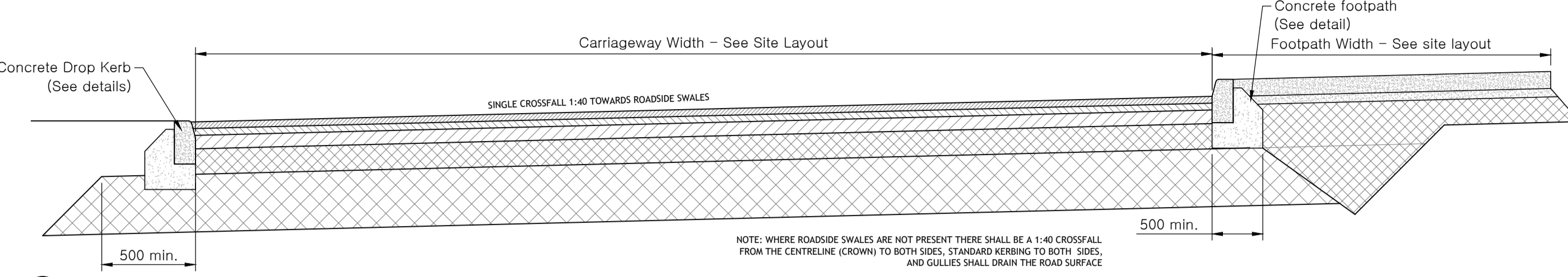
- A Hydrobrake (or similar approved) will be installed at the attenuation outlet manhole to limit flow to the appropriate rate.
- See WDG drawing no. 22054-ZZ-XX-XX-DR-WDG-CE-002 for tank location, size, invert levels and flow rate from the hydrobrake.
- This vortex flow control device is specifically designed for the required flow, has no moving parts and is powered by water flow alone.
- The device is designed to minimise risk of blockage but is also equipped with a bypass door that can be manually opened in case of blockage.
- Outlet Manhole will also be fitted with an overflow pipe, in accordance with the manufacturer's recommendations, to prevent flooding. The overflow level will be set such that flow from all events up to and including a 1 in 100 year storm event are contained before overflowing occurs.

Important:
When constructing/installing any proprietary products it is imperative to follow the manufacturer's/supplier's recommendations. Cross check with WDG if in doubt. All proprietary products to be CE marked and certified for use in the EU



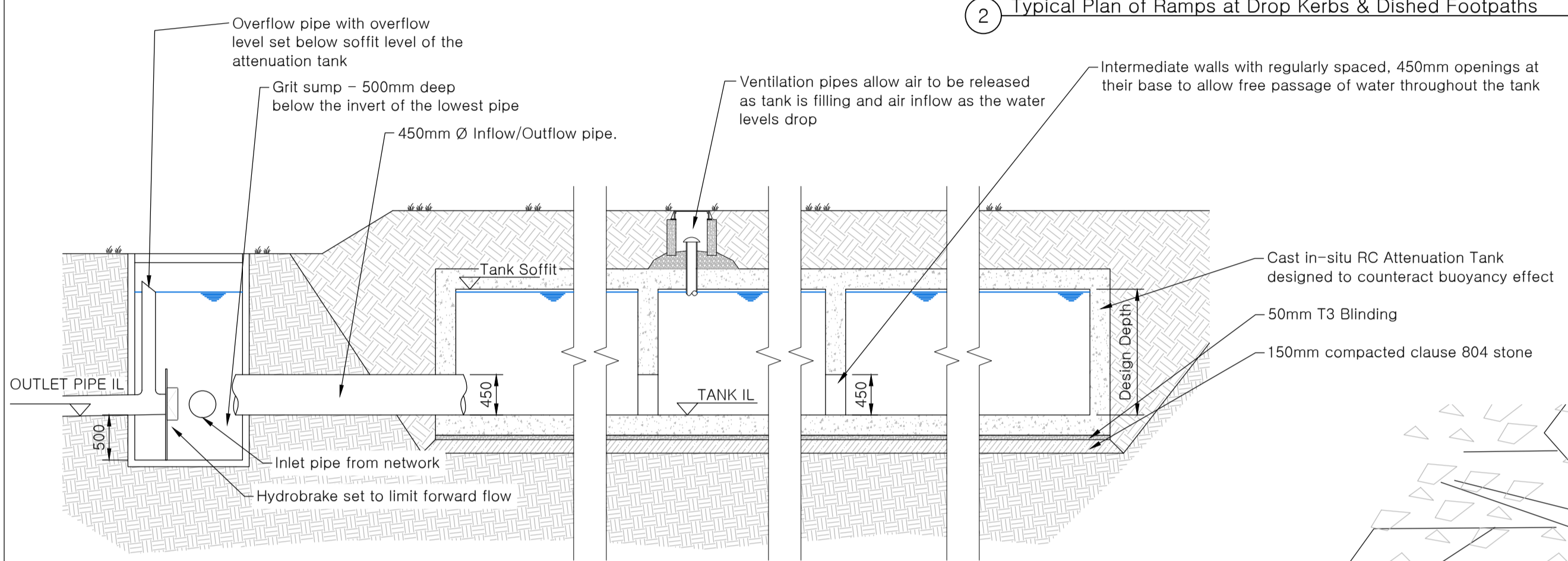
1 Typical Elevation of Ramps at Drop Kerbs Scale: 1:25
2 Typical Plan of Ramps at Drop Kerbs & Dished Footpaths Scale: 1:25

Standard Estate Road Construction
40mm STONE MASTIC ASPHALT (SMA) OR DENSE WEARING COURSE MACADAM (DWCM) - AGGREGATE NOM. SIZE 14mm. (EITHER SMA OR DWCM SHALL COMPLY WITH TII SPECIFICATION FOR ROADWORKS) ON TACK COAT ON
40mm BITUMINOUS BASE (BINDER) COURSE TO COMPLY WITH THE TII SPECIFICATION FOR ROADWORKS ON
80mm DENSE BITUMEN MACADAM ROADBASE TO COMPLY WITH THE TII SPECIFICATION FOR ROADWORKS ON
150mm TYPE B MATERIAL TO CLAUSE 804 & CLAUSE 808 (TII PUBLICATIONS, PUBLICATION NUMBER CC-SPW-00800, MARCH 2013) UNBOUND SUB-BASE ON
300-600mm CLASS 6F2 MATERIAL CAPPING LAYER ON
CLASS 6C STARTER LAYER MATERIAL (WHERE REQUIRED TO RAISE LEVELS) GRADED IN ACCORDANCE WITH TABLE 6/2 AND COMPACTED IN ACCORDANCE WITH TABLE 6/4 OF THE TII SPECIFICATION FOR ROADWORKS CC-SPW-00600.
(The depth of the Capping layer depends on CBR tests carried out on the Subgrade at 50m ctrs. by the contractor - please inform the Engineer of CBR results as soon as they are available)

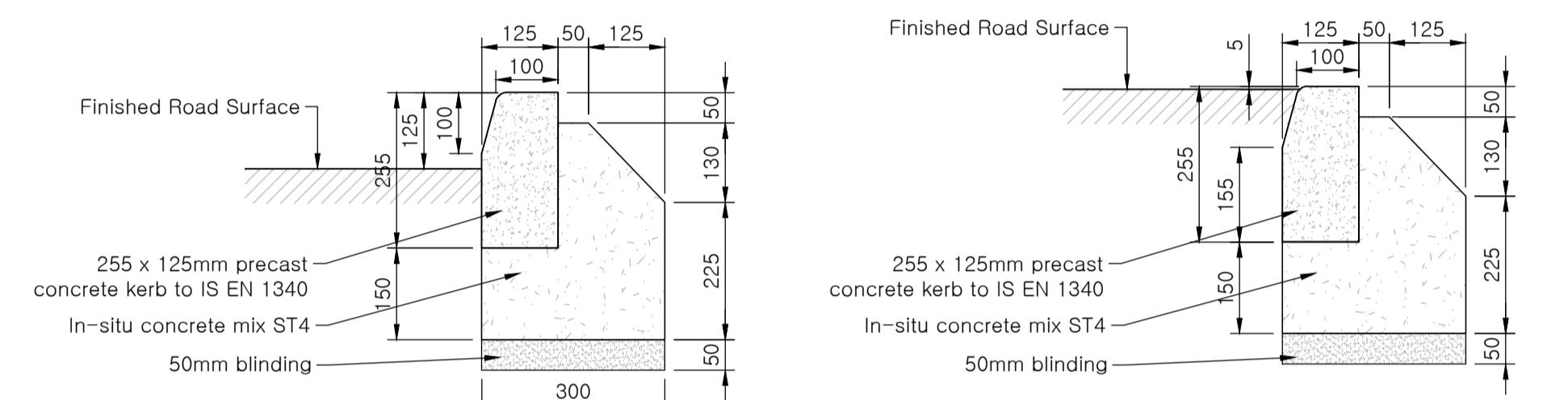


3 Estate Road - Typical Cross Section Scale: 1:25

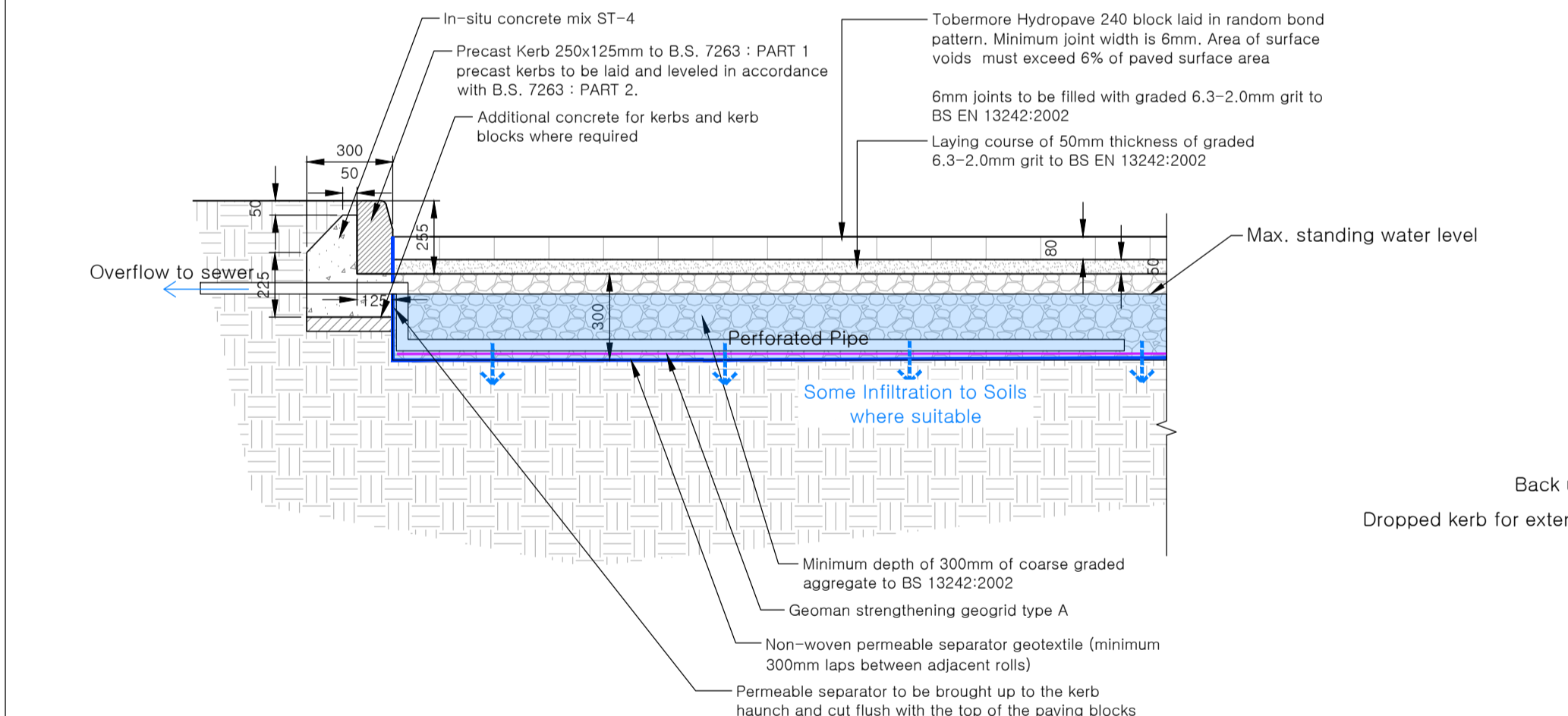
Coloured Estate Road Construction (Raised Tables and Junctions)
40mm STONE MASTIC ASPHALT (SMA) OR DENSE WEARING COURSE MACADAM (DWCM) - AGGREGATE NOM. SIZE 14mm. (EITHER SMA OR DWCM SHALL COMPLY WITH TII SPECIFICATION FOR ROADWORKS) WITH ADDED BEIGE COLOURED CHIPPINGSON
TACK COAT ON
40mm BITUMINOUS BASE (BINDER) COURSE TO COMPLY WITH THE TII SPECIFICATION FOR ROADWORKS ON
80mm DENSE BITUMEN MACADAM ROADBASE TO COMPLY WITH THE TII SPECIFICATION FOR ROADWORKS ON
150mm TYPE B MATERIAL TO CLAUSE 804 & CLAUSE 808 (TII PUBLICATIONS, PUBLICATION NUMBER CC-SPW-00800, MARCH 2013) UNBOUND SUB-BASE ON
300-600mm CLASS 6F2 MATERIAL CAPPING LAYER ON
CLASS 6C STARTER LAYER MATERIAL (WHERE REQUIRED TO RAISE LEVELS) GRADED IN ACCORDANCE WITH TABLE 6/2 AND COMPACTED IN ACCORDANCE WITH TABLE 6/4 OF THE TII SPECIFICATION FOR ROADWORKS CC-SPW-00600.
(The depth of the Capping layer depends on CBR tests carried out on the Subgrade at 50m ctrs. by the contractor - please inform the Engineer of CBR results as soon as they are available)



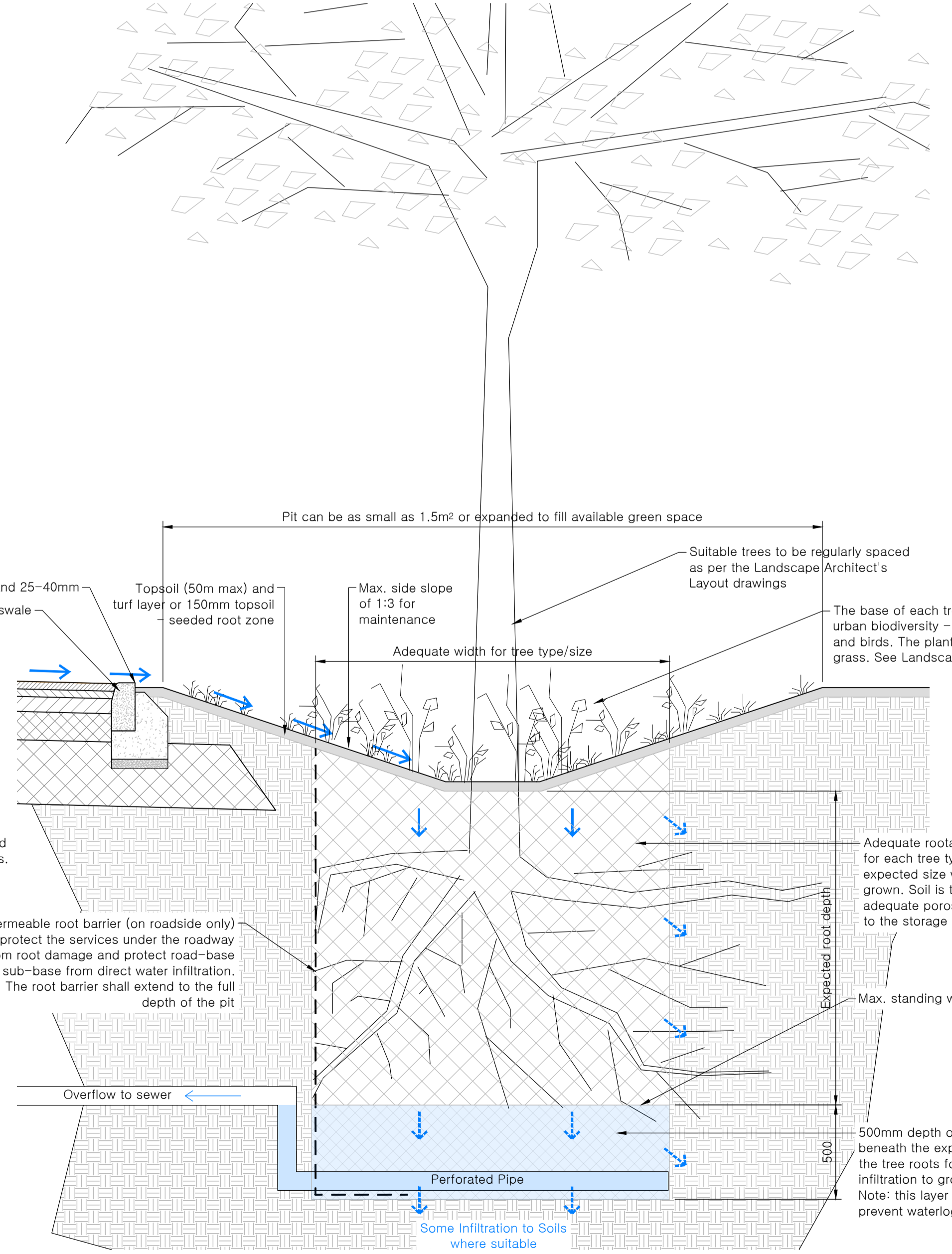
4 Attenuation Tank Detail Scale: 1:50



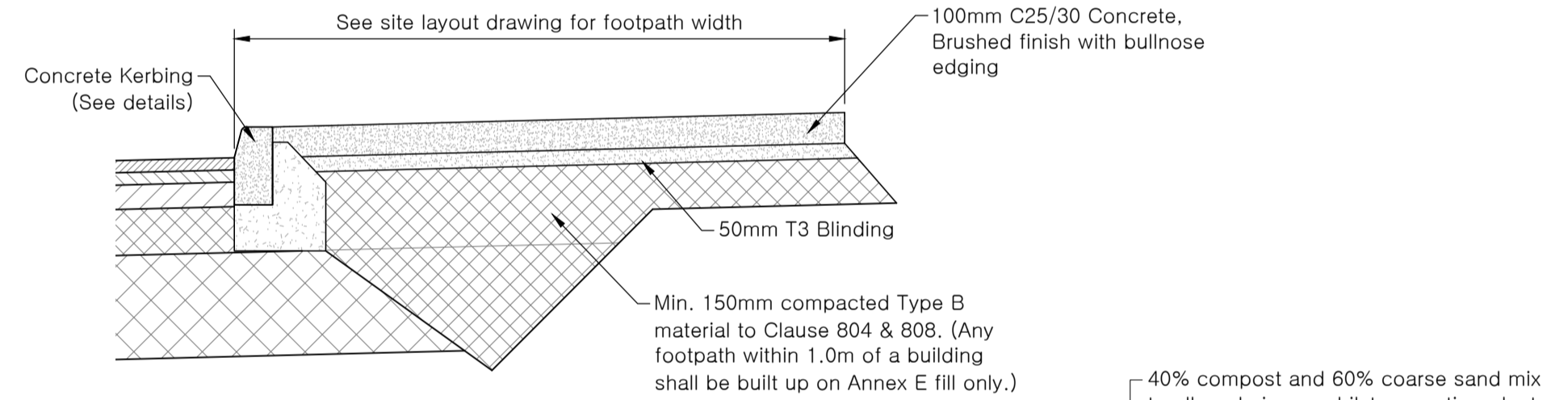
8 Concrete Kerb Detail Scale: 1:10
9 Drop Kerb Detail Scale: 1:10



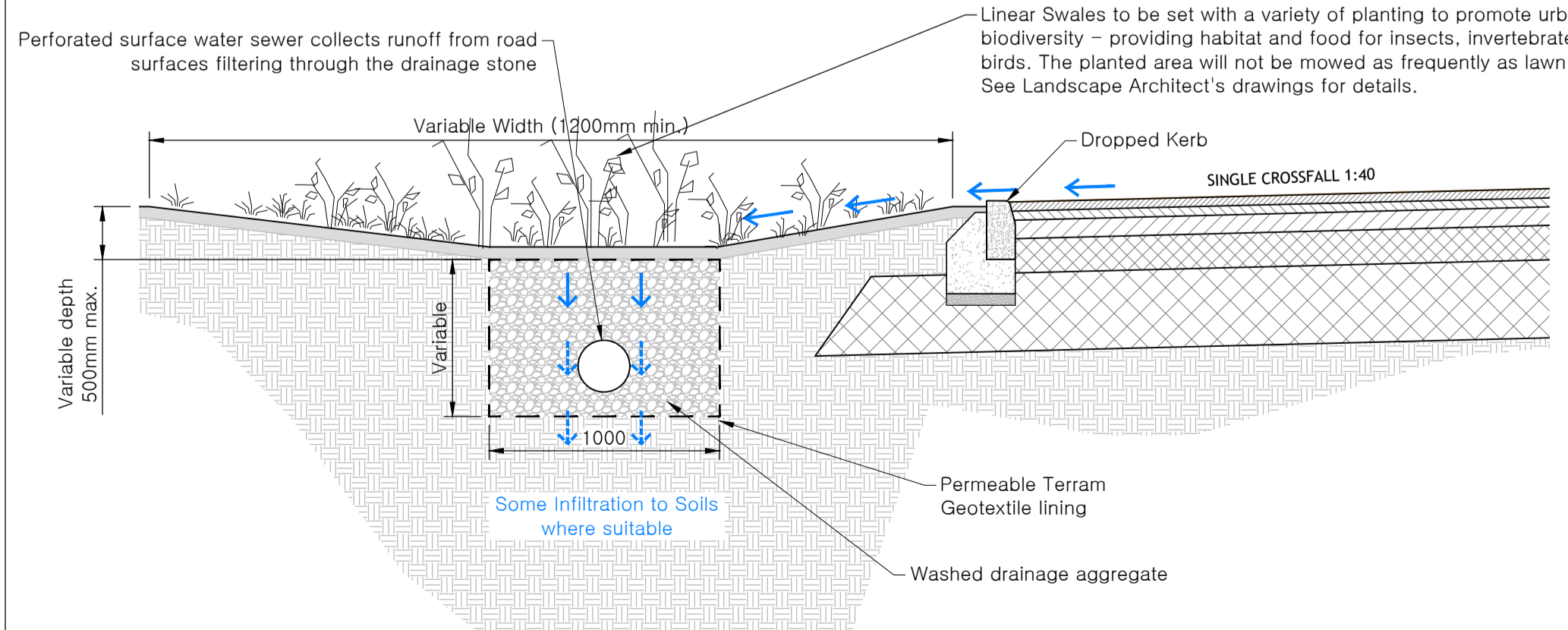
5 Permeable Paving Details (Private Driveways & Paths) Scale: 1:20



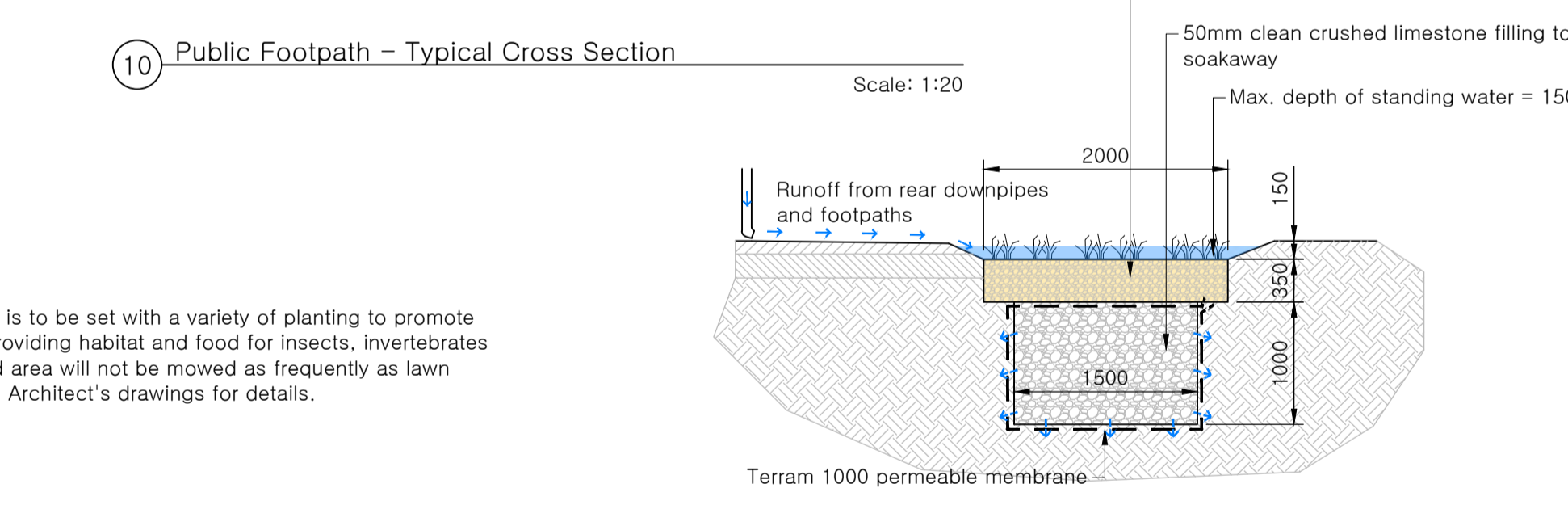
7 Roadside Bioretention Tree Pit Scale: 1:20



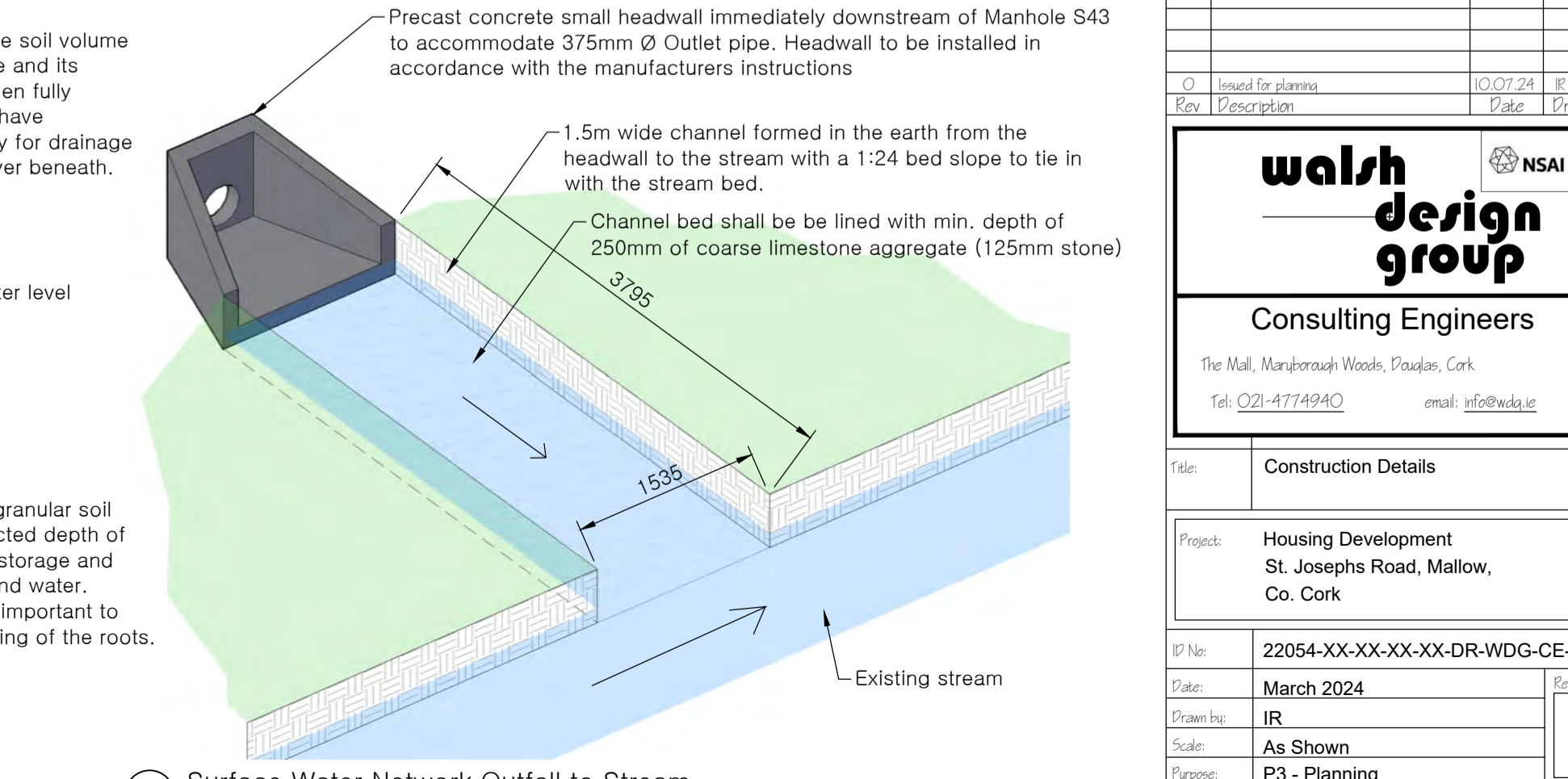
10 Public Footpath - Typical Cross Section Scale: 1:20



6 Underdrained Linear Roadside Swale Scale: 1:25



11 Raingarden Soakaway Scale: 1:50



12 Surface Water Network Outfall to Stream Scale: 1:50

Revised for	02/24	IR
By	IR	IR
Date	02/24	IR
Dim	0	0
Col		

walsh design group
Consulting Engineers
The Mill, Mallow Road, Mallow, Co. Cork
Tel: 021-4774940 email: info@walshdesigngroup.com

Title: Construction Details

Project: Housing Development St. Josephs Road, Mallow, Co. Cork

ID No: 22054-XX-XX-XX-DR-WDG-CE-504

Date: March 2024

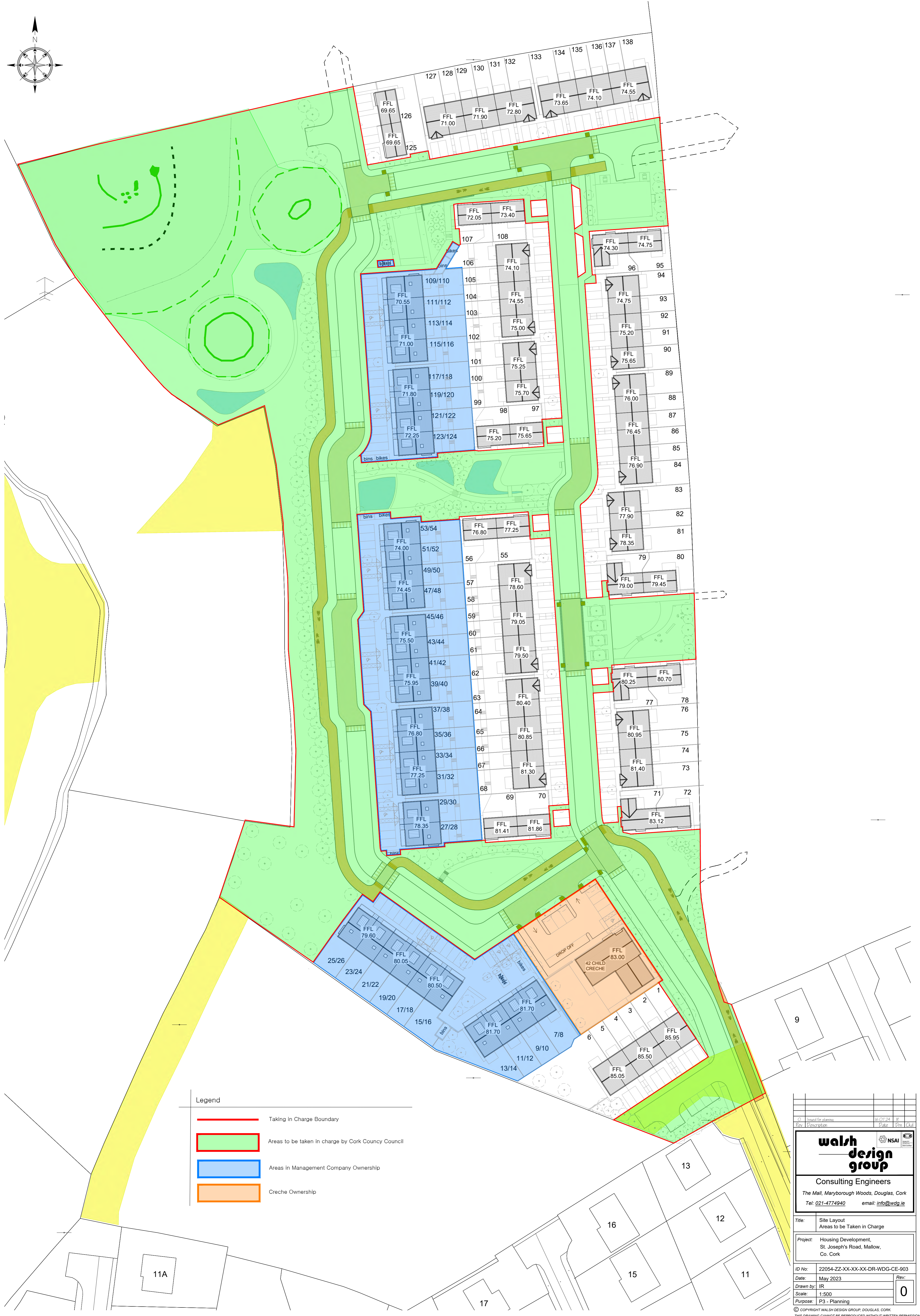
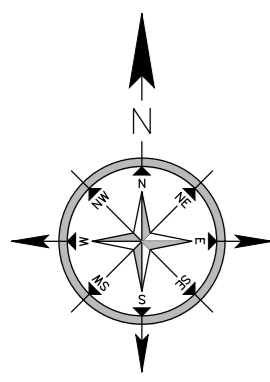
Drawn by: IR

Scale: As Shown

Purpose: P3 - Planning

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- Legend**
- Taking In Charge Boundary
 - Areas to be taken in charge by Cork County Council
 - Areas in Management Company Ownership
 - Creche Ownership

<small>Drawn by: IR</small>	<small>16/07/24</small>
<small>Scale: 1:500</small>	<small>Page: 02m</small>
walsh design group	
Consulting Engineers	
<small>The Mall, Maryborough Woods, Douglas, Cork</small>	
<small>Tel: 021-4774940 email: info@wdg.ie</small>	
<small>Title: Site Layout Areas to be Taken in Charge</small>	
<small>Project: Housing Development, St. Joseph's Road, Mallow, Co. Cork</small>	
<small>ID No: 22054-ZZ-XX-XX-DR-WDG-CE-903</small>	<small>Rev: 0</small>
<small>Date: May 2023</small>	
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