

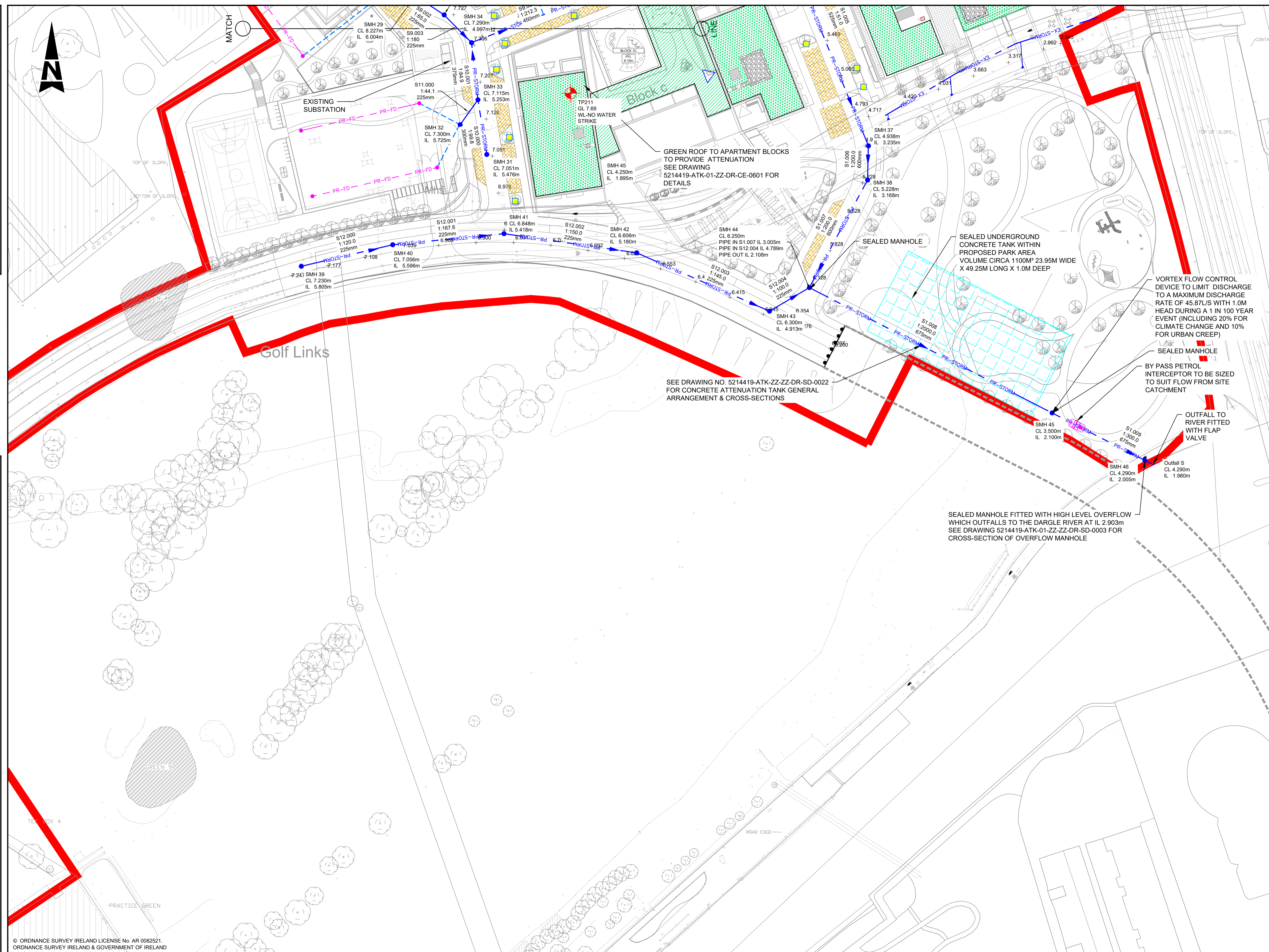
## Appendix 12.2 – Proposed Infrastructure.



A1

DO NOT SCALE

File: 5214419-ATK-01-ZZ-DR-CE-0501\_0502.dwg  
Date: Sep 17, 2022 - 3:54pm  
Printed by: patrick.sheridan



- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
  2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
  3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
  4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR

**LEGEND**

	SITE BOUNDARY		PROPOSED UNDERGROUND ATTENUATION SYSTEM
	PROPOSED STORM DRAINAGE		PROPOSED PERMEABLE PAVING
	PROPOSED STORM WATER MANHOLE		PROPOSED INTENSIVE GREEN COURTYARD
	PROPOSED ROAD GULLY		PROPOSED EXTENSIVE GREEN ROOF
	PROPOSED INSPECTION CHAMBER & FILTER DRAIN		EXISTING STORM DRAINAGE
	PROPOSED COLLECTOR DRAIN		SITE INVESTIGATION TRIAL PIT LOCATION
	PROPOSED SWALE & PERFORATED MANHOLE COVER		
	PROPOSED TREE PIT LOCATION		

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SEE DRAWING NO. 5214419-ATK-ZZ-DR-SD-0022 FOR CONCRETE ATTENUATION TANK GENERAL ARRANGEMENT & CROSS-SECTIONS

SEALED MANHOLE FITTED WITH HIGH LEVEL OVERFLOW WHICH OUTFALLS TO THE DARGLE RIVER AT IL 2.903m SEE DRAWING 5214419-ATK-01-ZZ-DR-SD-0003 FOR CROSS-SECTION OF OVERFLOW MANHOLE

VORTEX FLOW CONTROL DEVICE TO LIMIT DISCHARGE TO A MAXIMUM DISCHARGE RATE OF 45.87L/S WITH 1.0M HEAD DURING A 1 IN 100 YEAR EVENT (INCLUDING 20% FOR CLIMATE CHANGE AND 10% FOR URBAN CREEP)

BY PASS PETROL INTERCEPTOR TO BE SIZED TO SUIT FLOW FROM SITE CATCHMENT

OUTFALL TO RIVER FITTED WITH FLAP VALVE

- NOTE:**
1. THE SURFACE WATER DRAINAGE NETWORK IS TO BE DESIGNED AND CONSTRUCTED IN COMPLIANCE WITH THE 'REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS VERSION 6.0'
  2. NO SURFACE WATER/RAINWATER TO DISCHARGE INTO THE FOUL SEWER SYSTEM UNDER ANY CIRCUMSTANCES.
  3. ALL RWP, GULLY AND CHANNEL DRAIN CONNECTIONS TO THE MAIN SURFACE WATER DRAINAGE SYSTEM ARE TO BE ACHIEVED VIA DIRECT CONNECTION TO THE MANHOLE AT LEVELS SOFFITS OR VIA SADDLE CONNECTION TO THE STORM SEWER PIPE.
  4. ALL GULLIES TO HAVE SEPARATE CONNECTIONS TO THE STORM DRAINAGE NETWORK.

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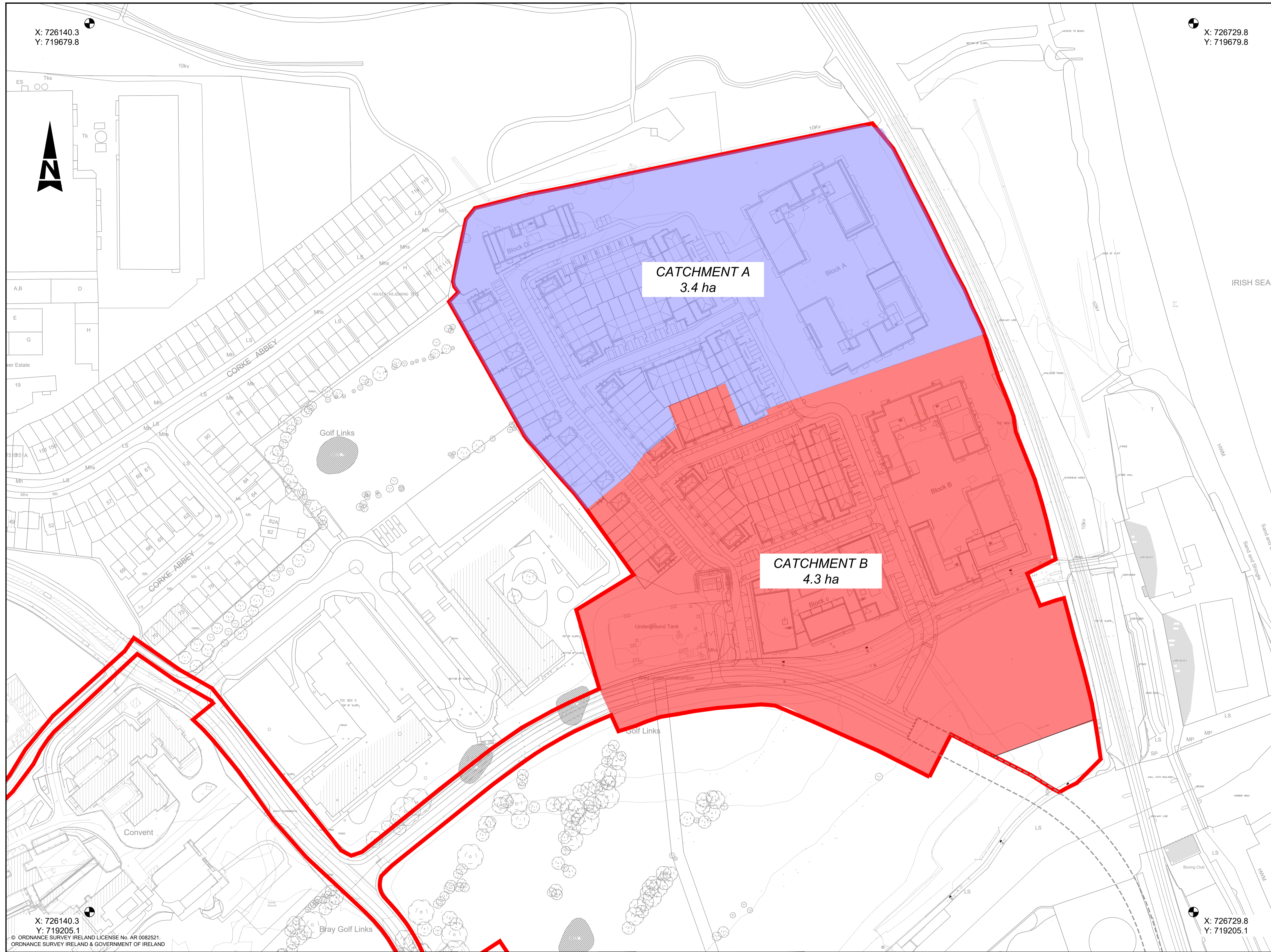
Client: SHANKILL PROPERTY INVESTMENTS LTD

Project: COASTAL QUARTER SHD 2

Purpose: PLANNING		Title: PROPOSED STORM WATER LAYOUT SHEET 2 of 2	
Original Scale: 1:500 at A1 1:1000 at A3	Design/Drawn: PS Date: 26.05.22	Checked: AC Date: 26.05.22	Authorized: GH Date: 26.05.22
Status: P	Drawing Number: 5214419-ATK-01-ZZ-DR-CE-0502	Rev: P01	

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A1

DO NOT SCALE



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**LEGEND**

	CATCHMENT A AREA 3.4 ha
	CATCHMENT B AREA 4.3 ha
	SITE BOUNDARY

X: 726140.3  
Y: 719205.1  
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X: 726729.8  
Y: 719679.8

X: 726729.8  
Y: 719205.1

PO1	ISSUED FOR PLANNING	PS	06.09.22	AC	GH
Rev	Description	By	Date	Chk'd	Auth

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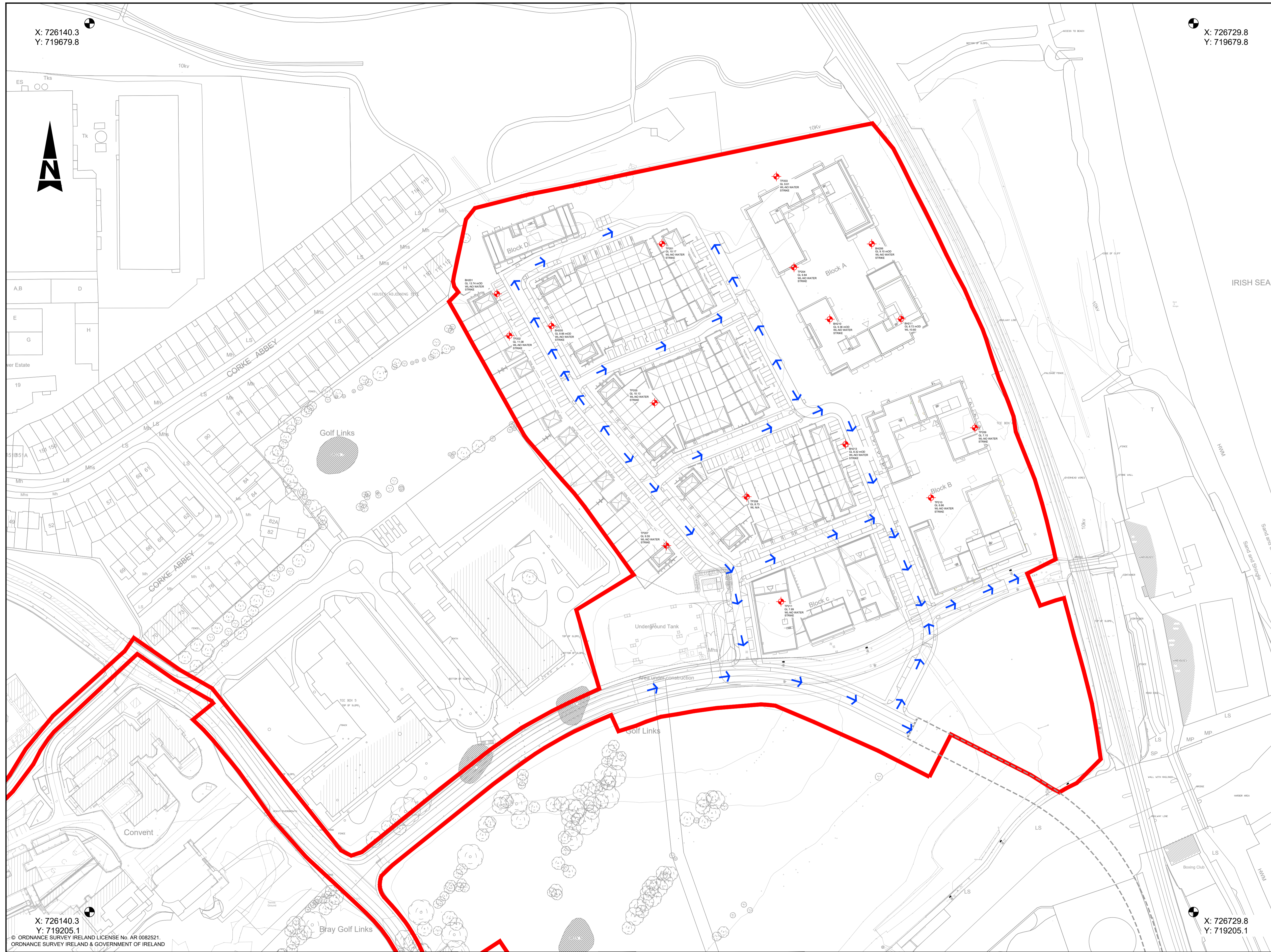
Client	SHANKILL PROPERTY INVESTMENTS LTD
Project	COASTAL QUARTER SHD 2

Title		PROPOSED STORM WATER DRAINAGE SUB CATCHMENT AREAS			
Original Scale	Design/Drawn	Checked	Authorised		
1:1000 at A1 1:2000 at A3	PS	AC	GH		
Date	Date	Date	Date		
26.05.22	26.05.22	26.05.22	26.05.22		
Status	Drawing Number				
P	5214419-ATK-01-ZZ-DR-CE-0503	P01			

File: 5214419-ATK-01-ZZ-DR-CE-0503.dwg  
Date: Sep 17, 2022 - 3:55pm  
Printed by: patrick.sheridan

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X: 726140.3  
Y: 719679.8

X: 726729.8  
Y: 719679.8

X: 726140.3  
Y: 719205.1

X: 726729.8  
Y: 719205.1

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**LEGEND**

- SITE BOUNDARY
- ◆ SITE INVESTIGATION TRIAL PIT LOCATION
- ROUTE OF SURFACE WATER FLOW PATH

Rev	Description	By	Date	Chk'd	Auth
P01	ISSUED FOR PLANNING	PS	06.09.22	AC	GH

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Client  
**SHANKILL PROPERTY INVESTMENTS LTD**

Project  
**COASTAL QUARTER SHD 2**

Purpose  
**PLANNING**

Title  
**PROPOSED STORM WATER FLOW PATH DIAGRAM**

Original Scale 1:1000 at A1 1:2000 at A3	Design/Drawn PS Date 26.05.22	Checked AC Date 26.05.22	Authorized GH Date 26.05.22
Status P	Drawing Number 5214419-ATK-01-ZZ-DR-CE-0504	Rev P01	

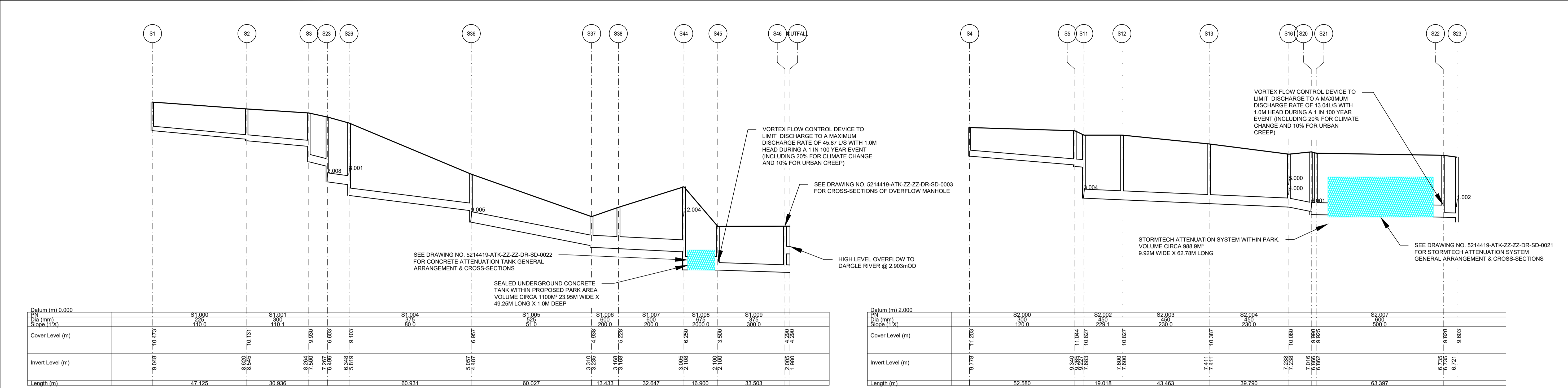
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Date: Sep 17, 2022 - 3:55pm  
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Date: Sep 12, 2022 - 3:56pm  
Printed by: patrick.sheridan

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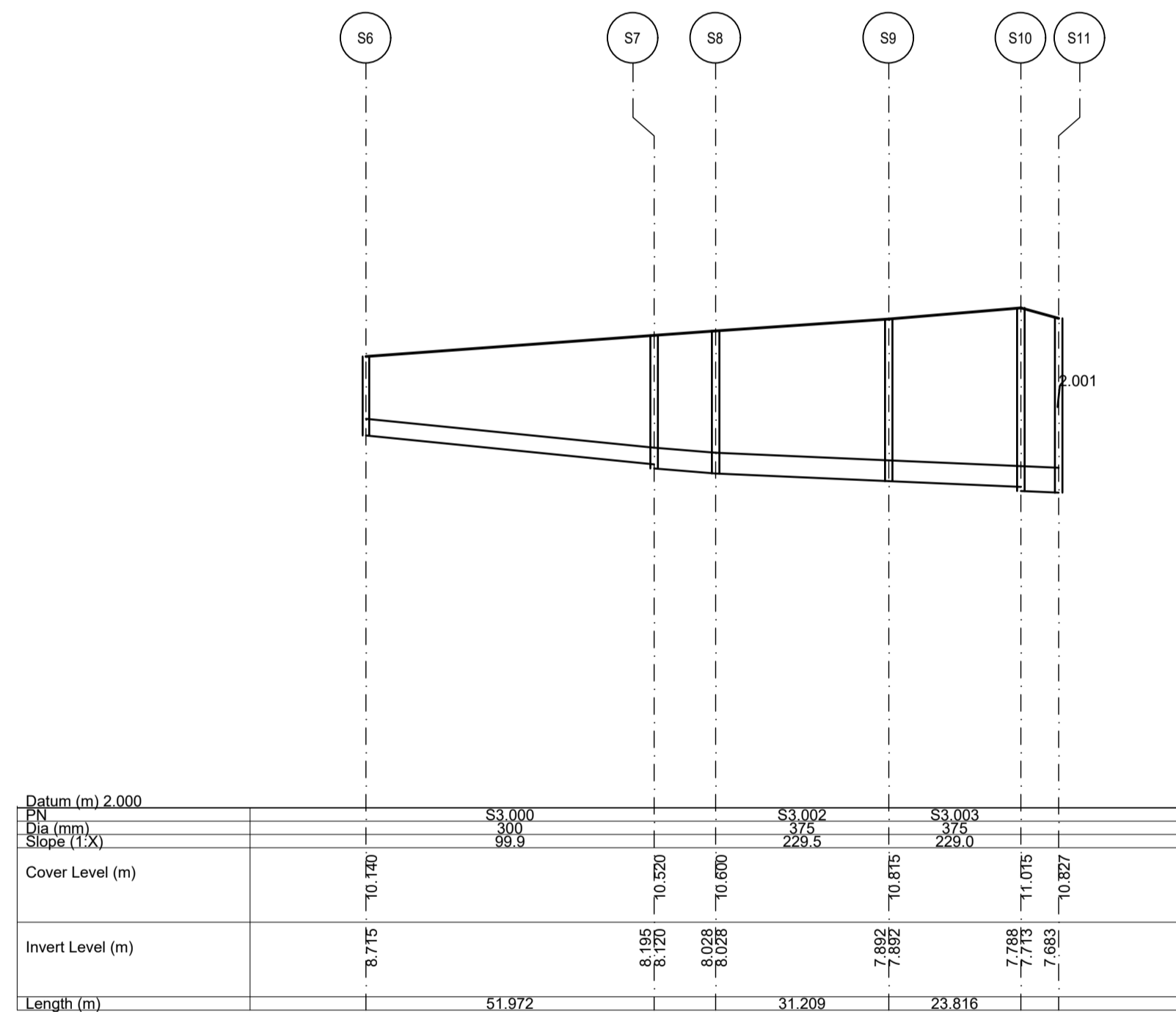


Datum (m)	S1,000	S1,001	S1,004	S1,005	S1,006	S1,007	S1,008	S1,009
DN	125	125	125	125	125	125	125	125
Dia (mm)	110.0	110.1	80.0	200.0	200.0	200.0	200.0	300.0
Slope (1:X)								
Cover Level (m)	7.048	7.013	6.830	6.657	6.638	6.290	6.570	7.250
Invert Level (m)	6.525	6.490	6.317	6.144	6.125	5.777	6.057	6.737
Length (m)	47.125	30.936	60.931	60.027	13.433	32.647	16.900	33.503

**Longitudinal Section SMH1 - OUTFALL**  
Scale 1:1000 (Horizontally), 1:100 (Vertically)

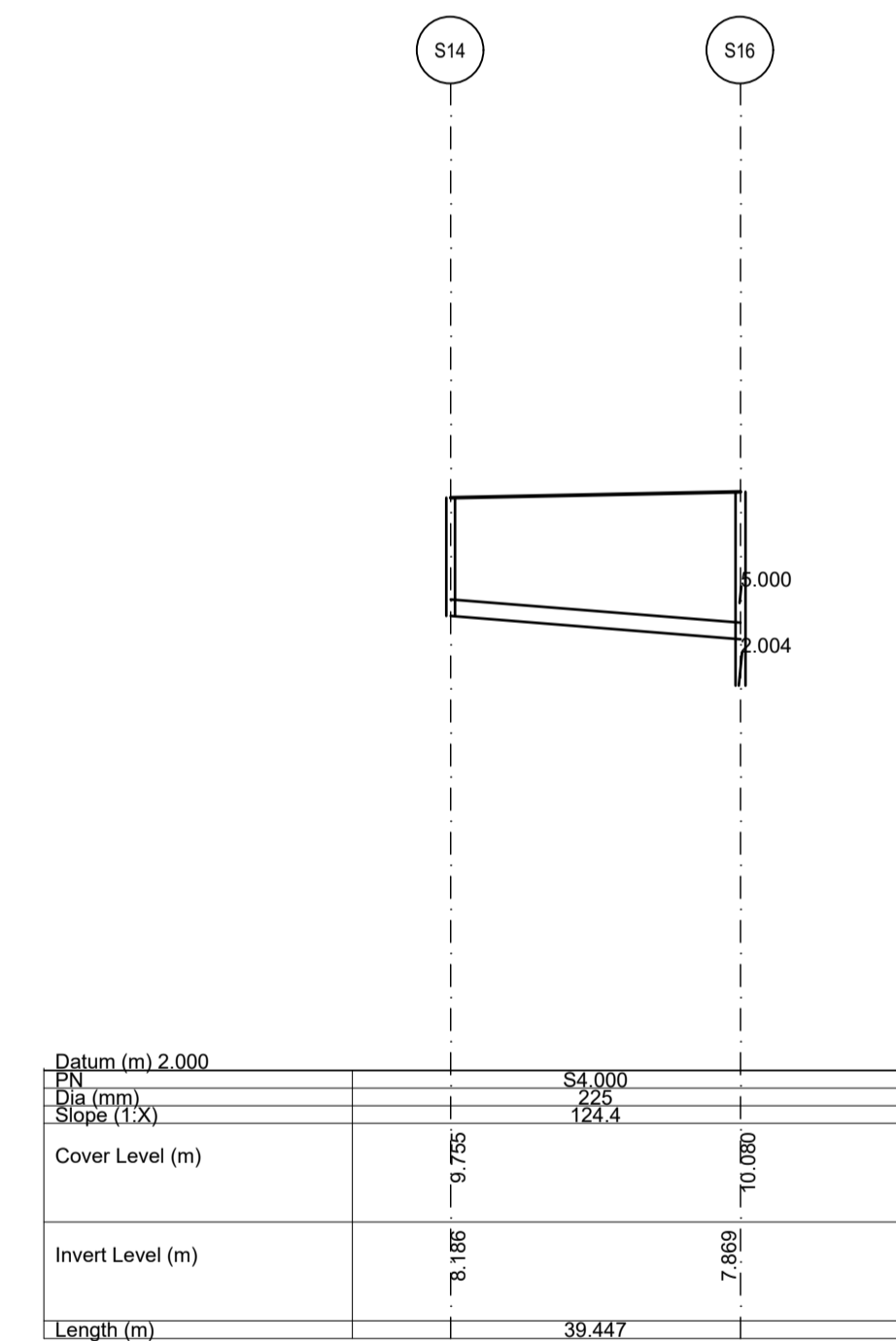
Datum (m)	S2,000	S2,002	S2,003	S2,004	S2,007
DN	120	120	120	120	120
Dia (mm)	120.0	229.1	230.0	230.0	500.0
Slope (1:X)					
Cover Level (m)	7.178	7.084	7.027	7.037	7.820
Invert Level (m)	6.340	6.283	6.226	6.236	7.016
Length (m)	52.580	19.018	43.463	39.790	63.397

**Longitudinal Section SMH4 - SMH23**  
Scale 1:1000 (Horizontally), 1:100 (Vertically)



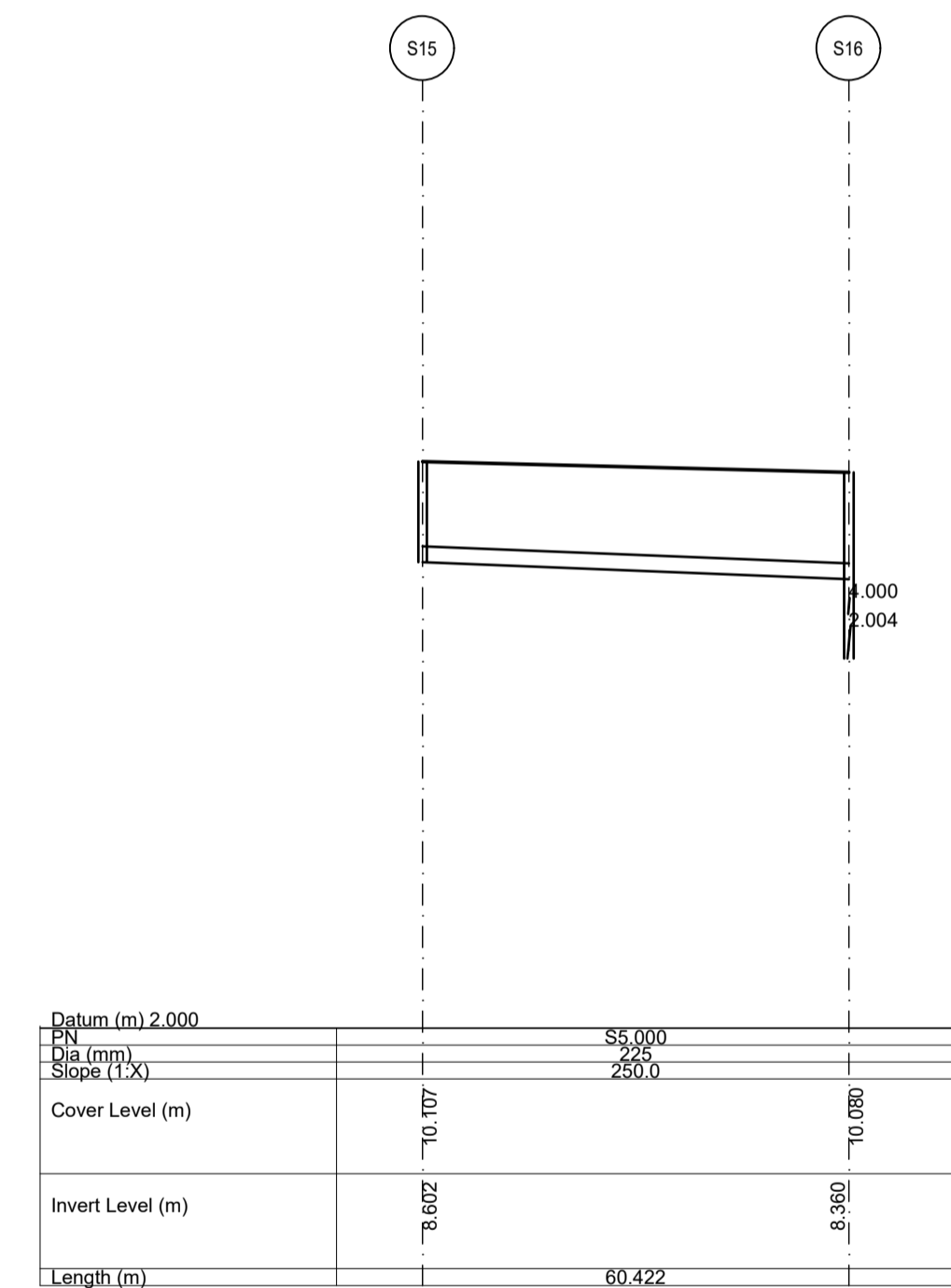
Datum (m)	S3,000	S3,002	S3,003
DN	80	80	80
Dia (mm)	99.9	229.5	229.0
Slope (1:X)			
Cover Level (m)	7.115	7.050	7.015
Invert Level (m)	6.195	6.028	5.983
Length (m)	51.972	31.209	23.816

**Longitudinal Section SMH6 - SMH11**  
Scale 1:1000 (Horizontally), 1:100 (Vertically)



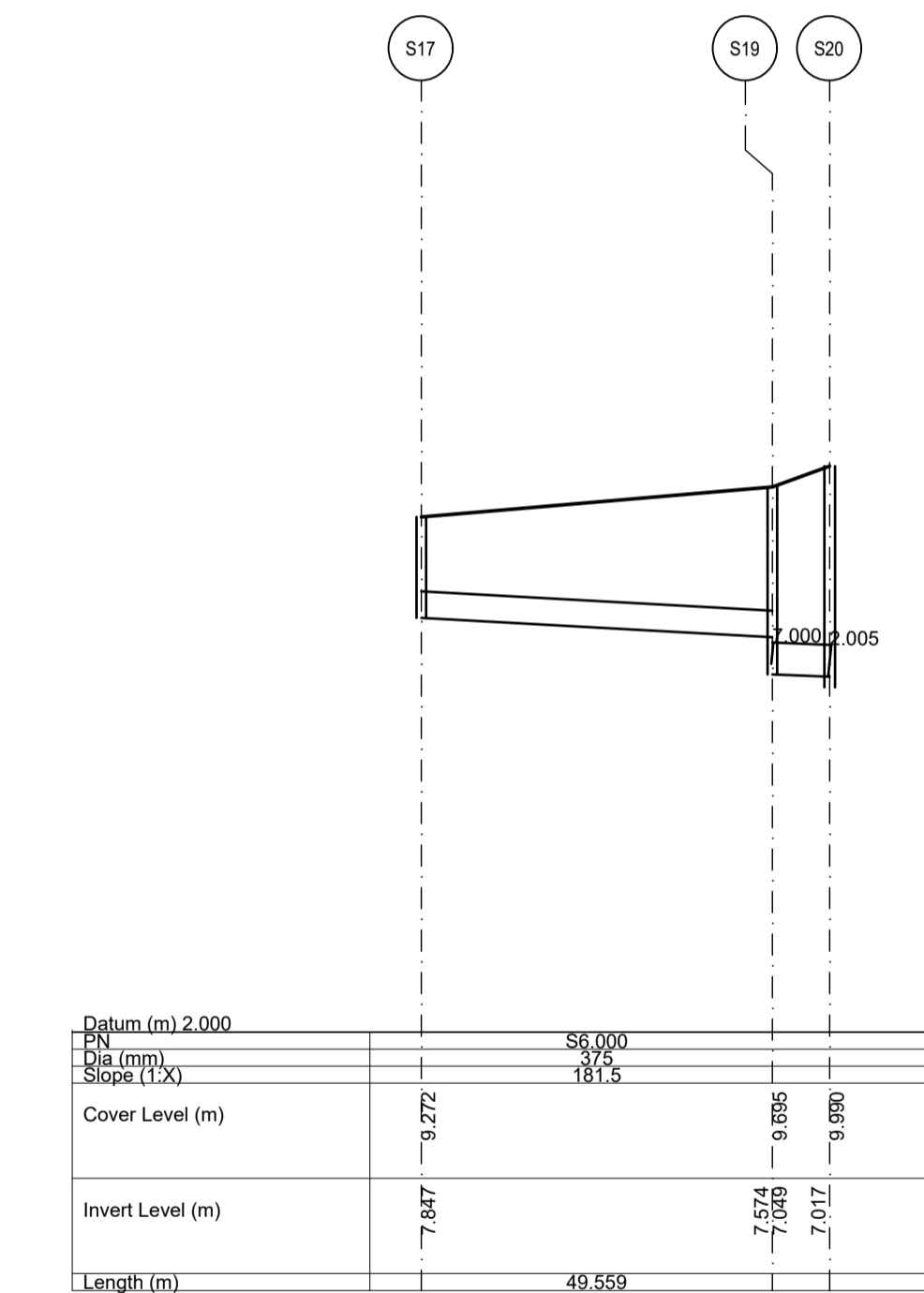
Datum (m)	S4,000
DN	125
Dia (mm)	124.4
Slope (1:X)	
Cover Level (m)	7.795
Invert Level (m)	6.186
Length (m)	39.447

**Longitudinal Section SMH14 - SMH16**  
Scale 1:1000 (Horizontally), 1:100 (Vertically)



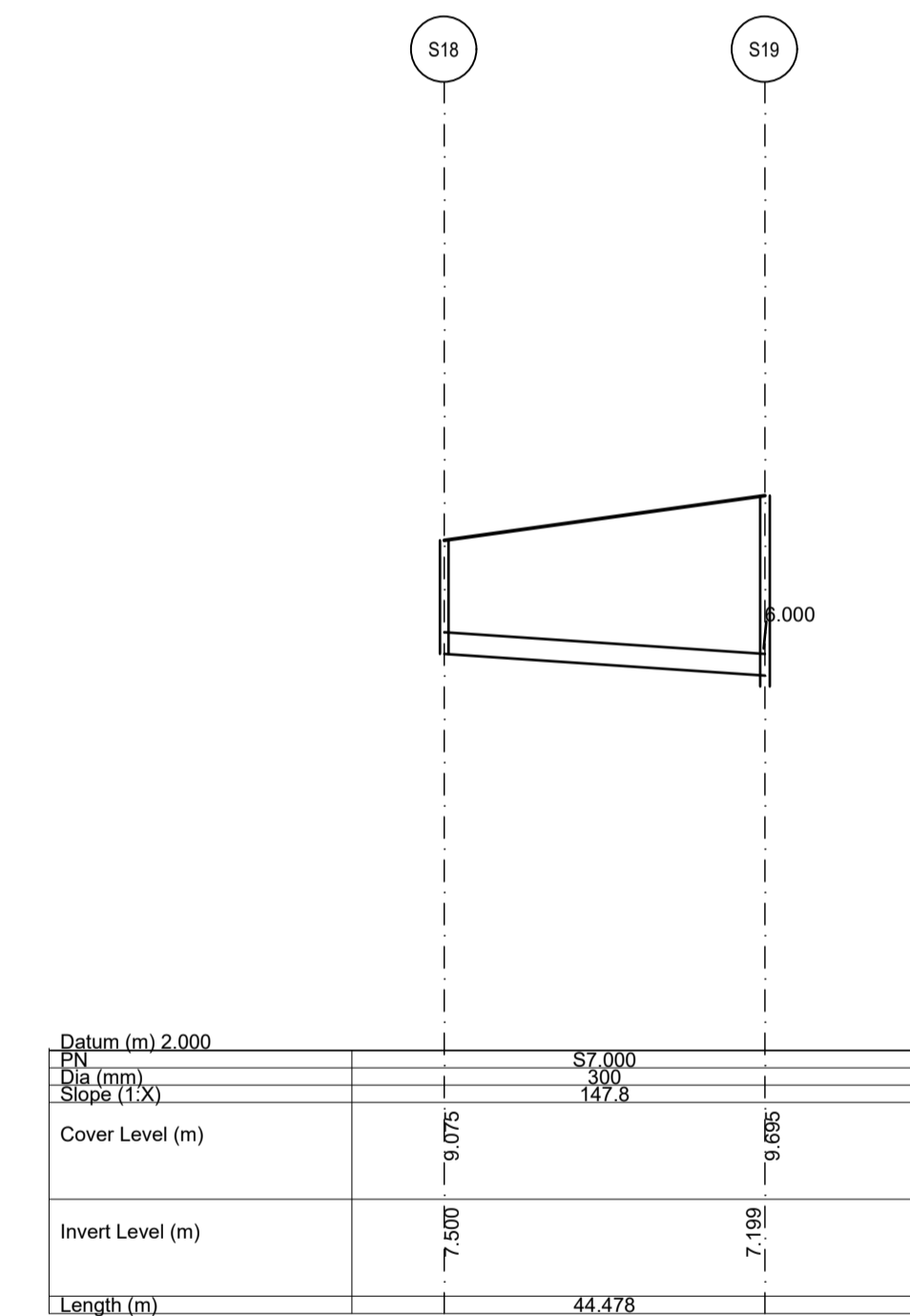
Datum (m)	S5,000
DN	125
Dia (mm)	250.0
Slope (1:X)	
Cover Level (m)	7.107
Invert Level (m)	6.602
Length (m)	60.422

**Longitudinal Section SMH15 - SMH16**  
Scale 1:1000 (Horizontally), 1:100 (Vertically)



Datum (m)	S6,000	S6,005
DN	125	125
Dia (mm)	181.5	181.5
Slope (1:X)		
Cover Level (m)	7.272	7.095
Invert Level (m)	6.847	6.670
Length (m)	49.559	

**Longitudinal Section SMH17 - SMH20**  
Scale 1:1000 (Horizontally), 1:100 (Vertically)



Datum (m)	S7,000
DN	125
Dia (mm)	147.8
Slope (1:X)	
Cover Level (m)	7.075
Invert Level (m)	6.500
Length (m)	44.478

**Longitudinal Section SMH18 - SMH19**  
Scale 1:1000 (Horizontally), 1:100 (Vertically)

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Rev	Description	By	Date	Chk'd	Auth
P01	ISSUED FOR PLANNING	PS	06.09.22	AC	GH

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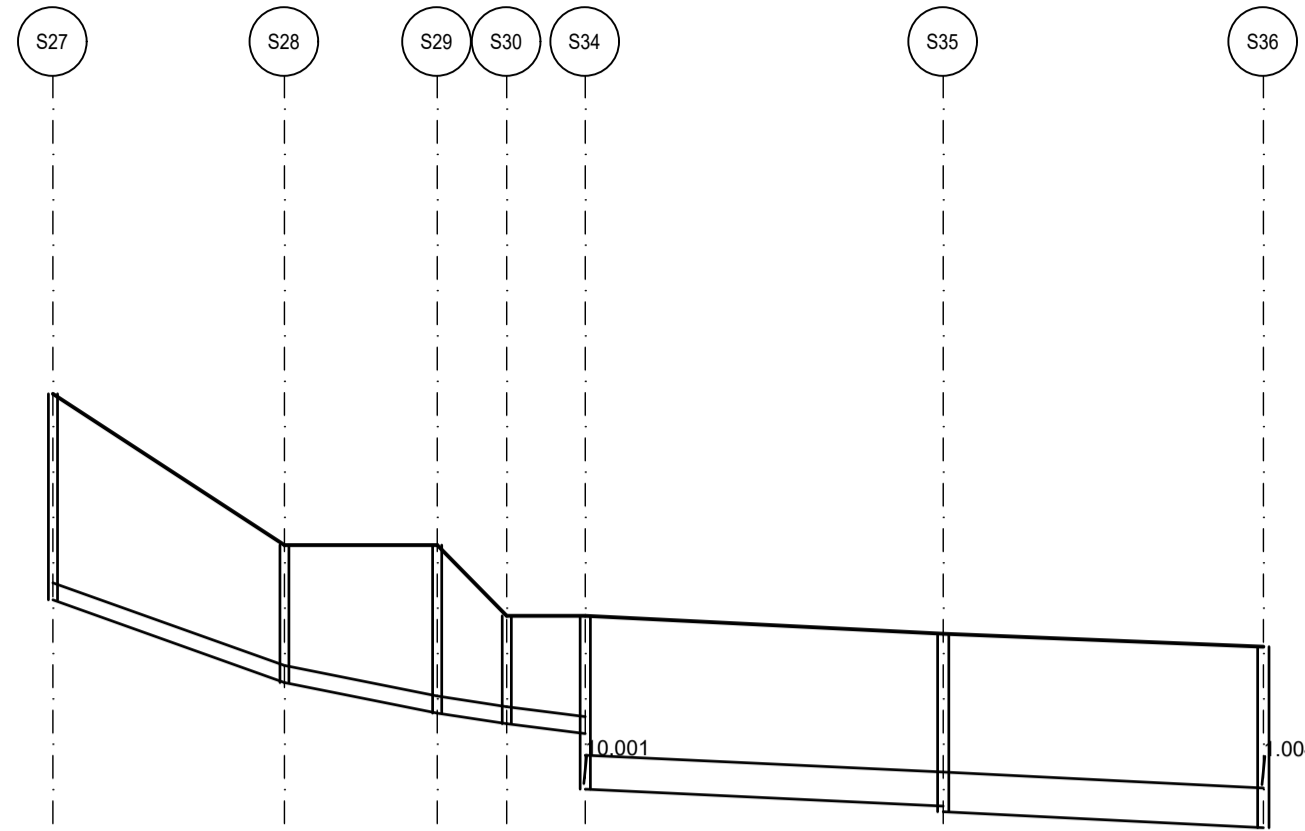
Client	SHANKILL PROPERTY INVESTMENTS LTD		
Project	COASTAL QUARTER SHD 2		

Purpose	PLANNING						
Title	PROPOSED STORM WATER LONG SECTIONS SHEET 1 of 2						
Original Scale	AS SHOWN	Design/Drawn	PS	Checked	AC	Authorized	GH
Date	26.05.22	Date	26.05.22	Date	26.05.22	Date	26.05.22
Status	P	Drawing Number	5214419-ATK-01-ZZ-DR-CE-0510	Rev	P01		

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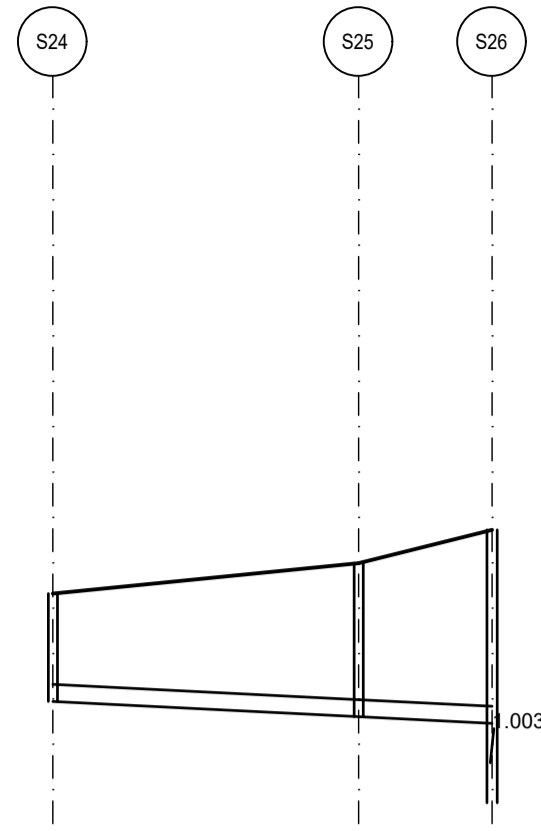
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 Date: Sep 12, 2022 - 3:56pm  
 Plotted by: patrick.sheridan



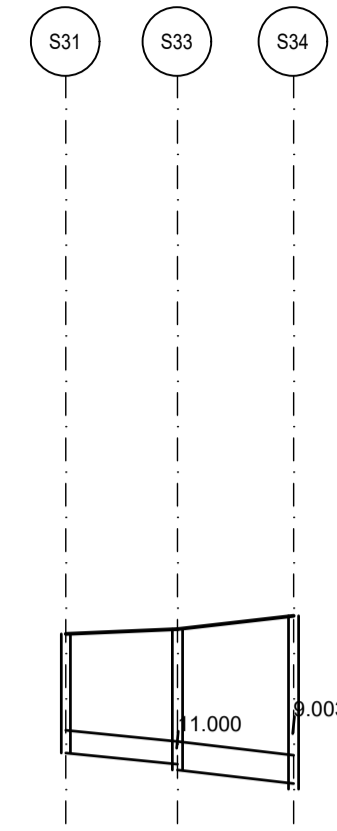
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PN	S8,000	S8,001	S8,002	S8,003	S8,004	S8,005	S8,006
Dia (mm)	280	300	300	300	300	300	300
Slope (1:X)							
Cover Level (m)	7.027	6.227	6.227	7.290	7.290	7.054	6.957
Invert Level (m)	6.408	6.004	6.004	5.853	5.733	4.659	4.487
Length (m)	30.619	20.208			47.347		42.347

Longitudinal Section SMH27 - SMH36  
 Scale 1:1000 (Horizontally), 1:100 (Vertically)



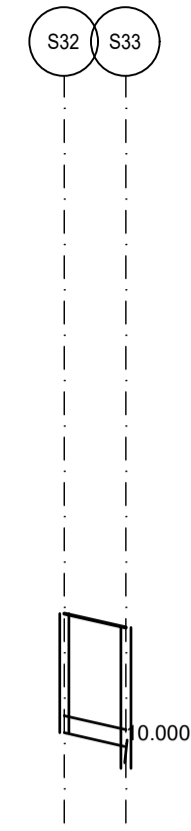
Datum (m) 2.000	S24	S25	S26
PN	S8,000	S8,001	S8,002
Dia (mm)	200.0	200.0	200.0
Slope (1:X)			
Cover Level (m)	6.954	6.896	6.103
Invert Level (m)	6.157	6.057	5.803
Length (m)	40.451	17.646	

Longitudinal Section SMH24 - SMH26  
 Scale 1:1000 (Horizontally), 1:100 (Vertically)



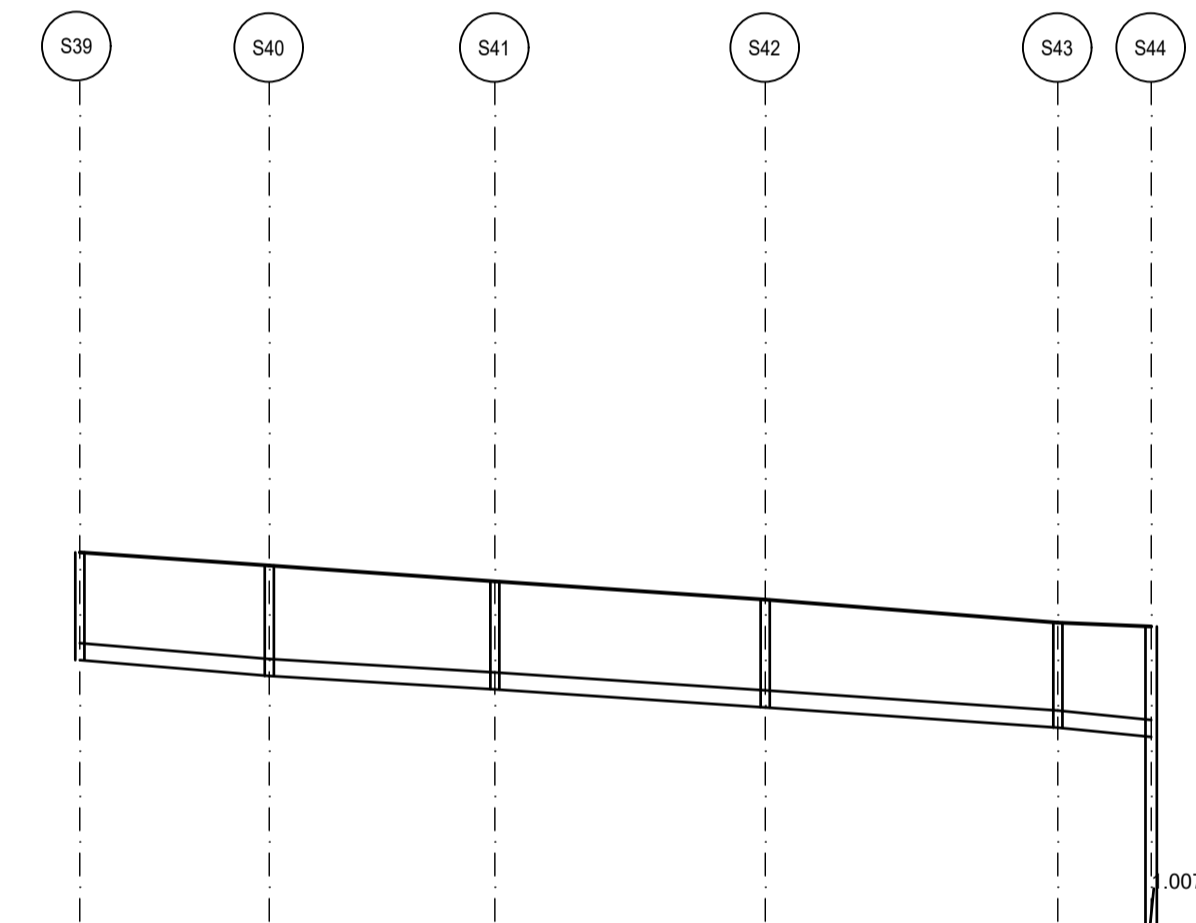
Datum (m) 1.000	S31	S33	S34
PN	S10,000	S10,001	S10,002
Dia (mm)	300	300	300
Slope (1:X)	99.8	84.9	
Cover Level (m)	7.051	7.115	7.290
Invert Level (m)	6.476	6.253	5.072
Length (m)	14.767	15.358	

Longitudinal Section SMH31 - SMH34  
 Scale 1:1000 (Horizontally), 1:100 (Vertically)



Datum (m) 1.000	S32	S33
PN	S10,000	S10,001
Dia (mm)	300	300
Slope (1:X)		
Cover Level (m)	7.300	7.115
Invert Level (m)	6.725	5.510
Length (m)		

Longitudinal Section SMH32 - SMH33  
 Scale 1:1000 (Horizontally), 1:100 (Vertically)



Datum (m) 0.000	S39	S40	S41	S42	S43	S44
PN	S12,000	S12,001	S12,002	S12,003	S12,004	S12,005
Dia (mm)	120.0	120.0	120.0	120.0	120.0	120.0
Slope (1:X)						
Cover Level (m)	7.230	7.056	6.818	6.606	6.306	6.230
Invert Level (m)	5.805	5.596	5.418	5.180	4.913	4.780
Length (m)	25.057	29.839	35.766	38.698	12.353	

Longitudinal Section SMH39 - SMH44  
 Scale 1:1000 (Horizontally), 1:100 (Vertically)

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Rev	Description	By	Date	Chkd	Auth
P01	ISSUED FOR PLANNING	PS	06.09.22	AC	GH

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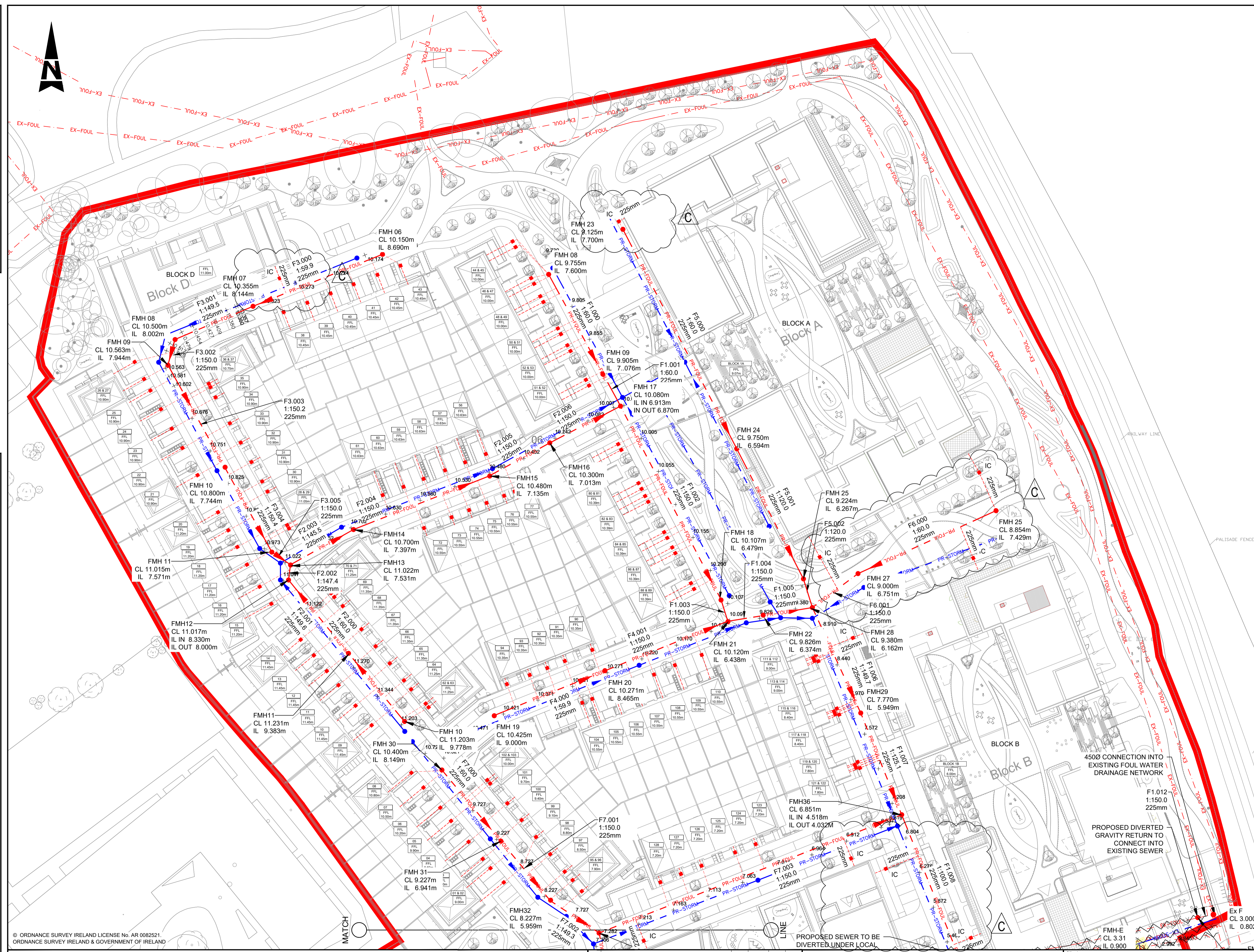
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 Parkmore Technology Park, Galway  
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Client	SHANKILL PROPERTY INVESTMENTS LTD		
Project	COASTAL QUARTER SHD 2		

Purpose	PLANNING		
Title	PROPOSED STORM WATER LONG SECTIONS SHEET 2 of 2		
Original Scale	AS SHOWN	Design/Drawn	PS
Checked	AC	Date	26.05.22
Authorized	GH	Date	26.05.22
Status	P	Drawing Number	5214419-ATK-01-ZZ-DR-CE-0511
Rev	P01		

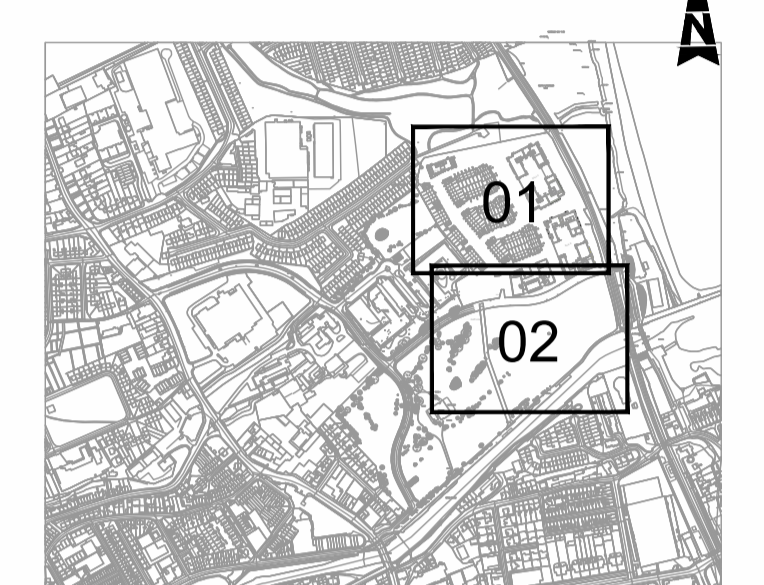
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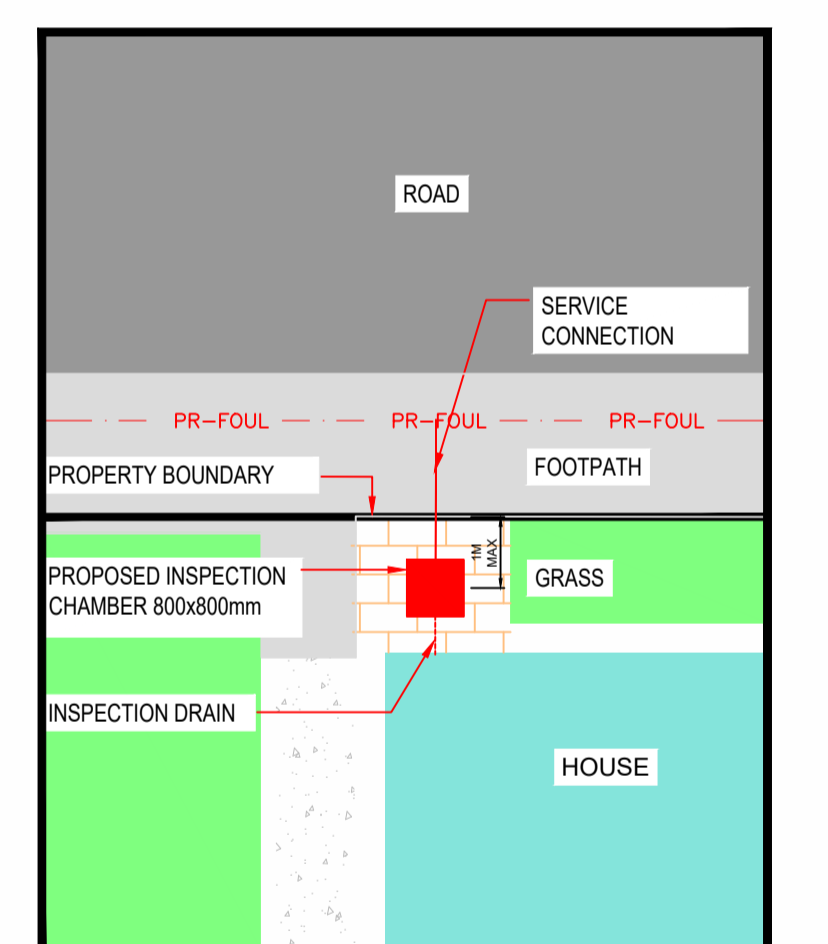


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FINAL LAYOUT AS AGREED WITH IRISH WATER IN THE STATEMENT OF DESIGN ACCEPTANCE (REF NO.CDS22005393)  
FINAL DIVERSION AS AGREED WITH IRISH WATER IN DIVERSION REFERENCE DIV21013.



KEY PLAN  
Scale NTS



INSPECTION CHAMBER LOCATION TYPICAL DETAIL  
Scale at A1:1:100

NOTE:  
INSTALLATION OF FOUL SEWER SHALL BE IN ACCORDANCE WITH IRISH WATER WASTEWATER INFRASTRUCTURE STANDARD DETAILS (IW-CDS-5030-01) & CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE (IW-CDS-5030-03) INSTALLATION OF FOUL SEWER AND ALL OTHER DEVELOPMENT SERVICES SHALL BE IN ACCORDANCE WITH IRISH WATER STD-WW-05. A GEOTEXTILE PIPE WRAP ROOT PROTECTION SYSTEM WILL BE APPLIED TO THE PIPES WHERE IT IS LAID WITHIN THE MINIMUM DISTANCE GIVEN IN TABLE A1 OF BS 5837 AS SPECIFIED IN SECTION 3.21 OF THE IRISH WATER CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE

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LEGEND	
	SITE BOUNDARY
	PROPOSED (UPVC) GRAVITY FOUL DRAINAGE. DIAMETER AS INDICATED (IW-CDS-5030-03, SECTION 3.13.3)
	PROPOSED FOU MANHOLE (IW-STD-WW-09.10.11,12)
	PROPOSED RISING MAIN, 900mm OD HDPE SDR17
	PROPOSED INSPECTION CHAMBER & 100MM PVC CONNECTION (IW-STD-WW-03, 13)
	PROPOSED 900Ø (UPVC) GRAVITY FOUL DRAINAGE. (IW-CDS-5030-03, SECTION 3.13.3)
	EX-FOUL EXISTING FOUL MAIN
	FW PROPOSED SEWER UNDER LOCAL NETWORK REINFORCEMENT PROJECT BY IRISH WATER
	PIPE WORK TO BE REMOVED
	PROPOSED FOUL WATER WAYLEAVE
	PR-STORM PROPOSED STORM DRAINAGE

Rev	Description	By	Date	Chk'd	Auth
C	ISSUED FOR PLANNING	PS	06.09.22	AC	GH
C	ISSUED FOR IW REVIEW	PS	24.08.22	AC	GH
B	ISSUED FOR IW REVIEW	PS	23.08.22	AC	GH
C	ISSUED FOR IW REVIEW	PS	02.08.22	AC	GH
-	FOR INFORMATION	PS	26.05.22	AC	GH



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Client: SHANKILL PROPERTY INVESTMENTS LTD

Project: COASTAL QUARTER SHD 2

PLANNING		PROPOSED FOUL WATER LAYOUT SHEET 1 of 2	
Purpose	PLANNING	Original Scale	1:500 at A1 1:1000 at A3
Design/Drawn	PS	Checked	AC
Date	26.05.22	Date	26.05.22
Authorized	GH	Date	26.05.22
Status	P	Drawing Number	5214419-ATK-01-ZZ-DR-CE-0551
Rev	C		

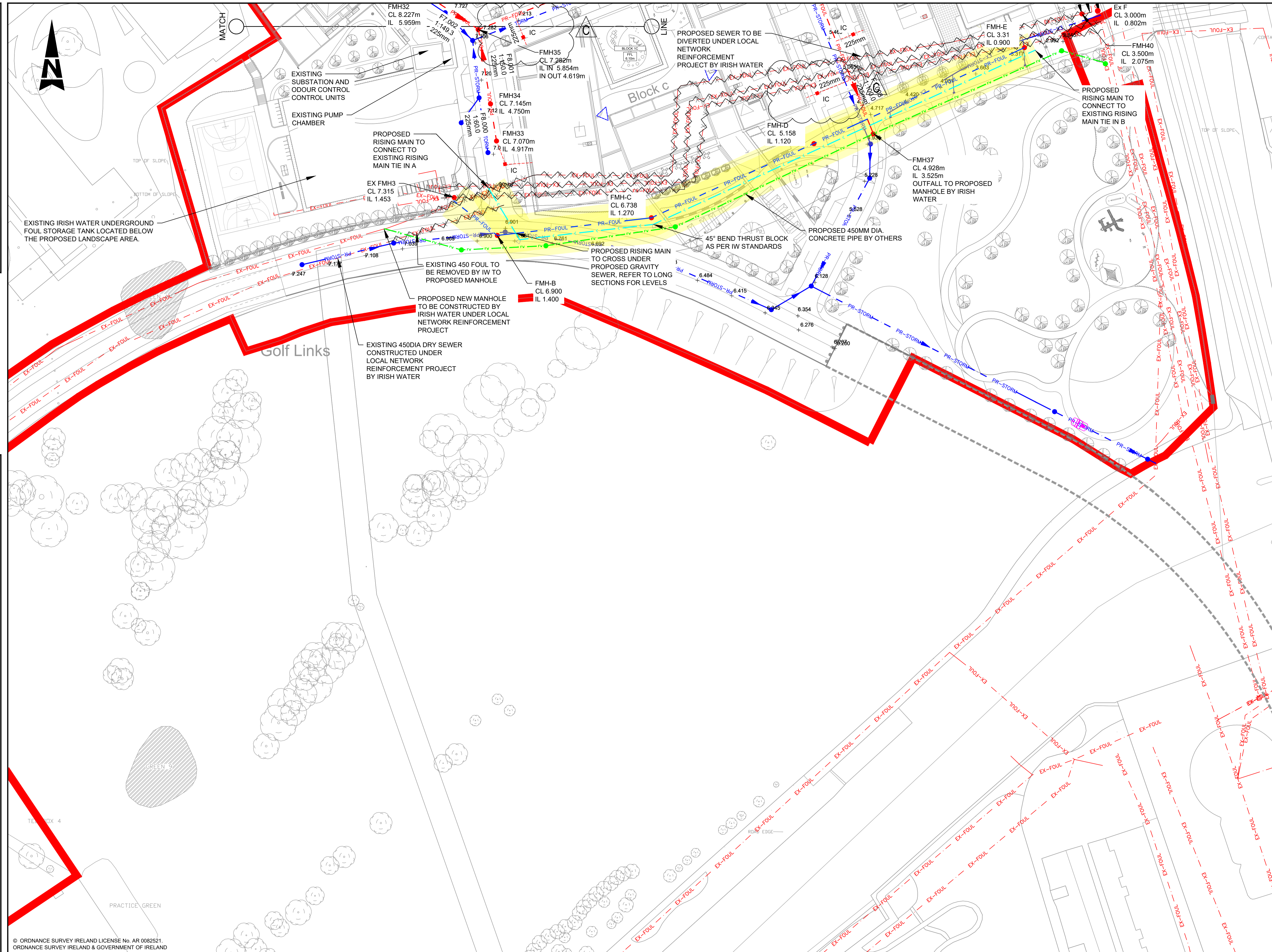
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Date: Sep 12, 2022 - 3:56pm  
Printed by: patrick.sheridan



A1

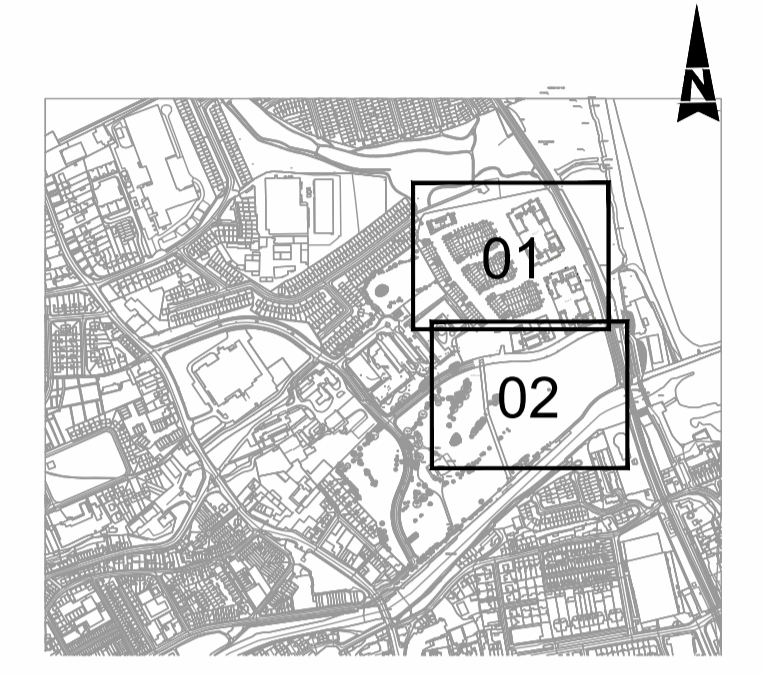
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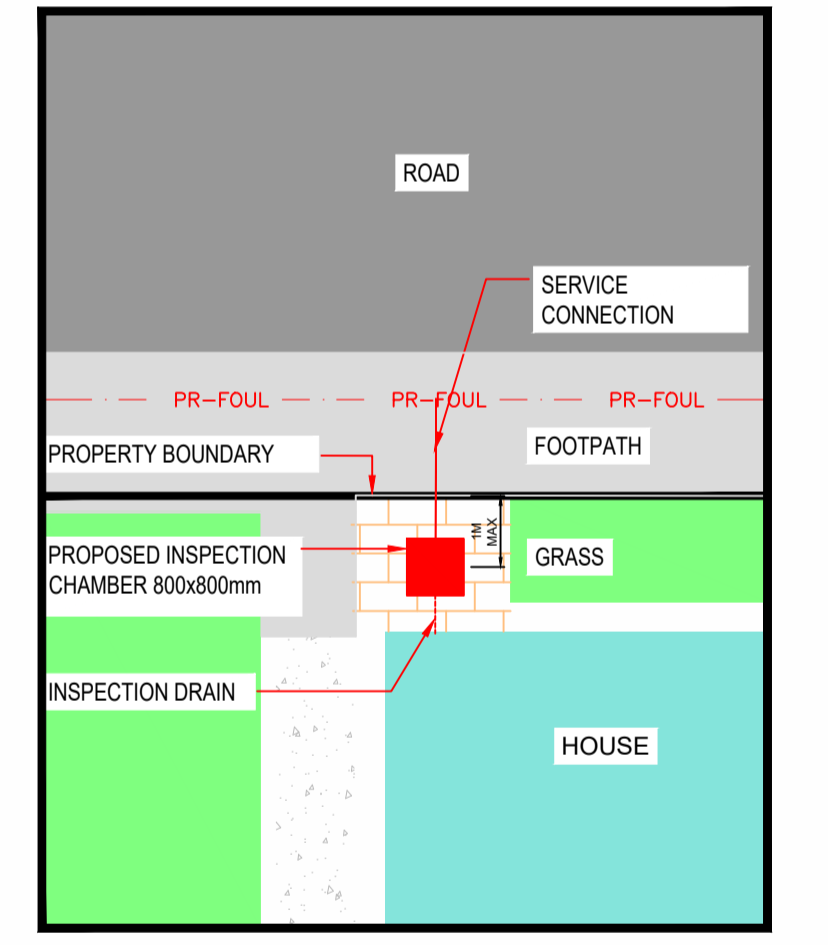


- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
  2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
  3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
  4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR

FINAL LAYOUT AS AGREED WITH IRISH WATER IN THE STATEMENT OF DESIGN ACCEPTANCE (REF NO.CDS22005393)  
FINAL DIVERSION AS AGREED WITH IRISH WATER IN DIVERSION REFERENCE DIV21013.



**KEY PLAN**  
Scale NTS



**INSPECTION CHAMBER LOCATION TYPICAL DETAIL**  
Scale at A1 1:100

**NOTE:**  
INSTALLATION OF FOUL SEWER SHALL BE IN ACCORDANCE WITH IRISH WATER WASTEWATER INFRASTRUCTURE STANDARD DETAILS (IW-CDS-5030-01) & CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE (IW-CDS-5030-03) INSTALLATION OF FOUL SEWER AND ALL OTHER DEVELOPMENT SERVICES SHALL BE IN ACCORDANCE WITH IRISH WATER STD-WW-05. A GEOTEXTILE PIPE WRAP ROOT PROTECTION SYSTEM WILL BE APPLIED TO THE PIPES WHERE IT IS LAID WITHIN THE MINIMUM DISTANCE GIVEN IN TABLE A1 OF BS 5837 AS SPECIFIED IN SECTION 3.21 OF THE IRISH WATER CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE

LEGEND	
	EXISTING FOUL MAIN
	PROPOSED SEWER UNDER LOCAL NETWORK REINFORCEMENT PROJECT BY IRISH WATER
	PROPOSED RISING MAIN, 900mm OD HDPE SDR17
	PROPOSED INSPECTION CHAMBER & 100MM PVC CONNECTION (IW-STD-WW-03, 13)
	PROPOSED 900Ø (UPVC) GRAVITY FOUL DRAINAGE, (IW-CDS-5030-03, SECTION 3.13.3)
	EXISTING FOUL MAIN
	PROPOSED SEWER UNDER LOCAL NETWORK REINFORCEMENT PROJECT BY IRISH WATER
	PROPOSED RISING MAIN, 900mm OD HDPE SDR17
	PROPOSED INSPECTION CHAMBER & 100MM PVC CONNECTION (IW-STD-WW-03, 13)
	PROPOSED 900Ø (UPVC) GRAVITY FOUL DRAINAGE, (IW-CDS-5030-03, SECTION 3.13.3)
	EXISTING FOUL MAIN
	PROPOSED SEWER UNDER LOCAL NETWORK REINFORCEMENT PROJECT BY IRISH WATER
	PROPOSED RISING MAIN, 900mm OD HDPE SDR17
	PROPOSED INSPECTION CHAMBER & 100MM PVC CONNECTION (IW-STD-WW-03, 13)
	PROPOSED 900Ø (UPVC) GRAVITY FOUL DRAINAGE, (IW-CDS-5030-03, SECTION 3.13.3)
	EXISTING FOUL MAIN
	PROPOSED SEWER UNDER LOCAL NETWORK REINFORCEMENT PROJECT BY IRISH WATER
	PROPOSED RISING MAIN, 900mm OD HDPE SDR17
	PROPOSED INSPECTION CHAMBER & 100MM PVC CONNECTION (IW-STD-WW-03, 13)
	PROPOSED 900Ø (UPVC) GRAVITY FOUL DRAINAGE, (IW-CDS-5030-03, SECTION 3.13.3)

Rev	Description	By	Date	Chk'd	Auth
C	ISSUED FOR PLANNING		PS 06.09.22	AC	GH
C	ISSUED FOR IW REVIEW		PS 24.08.22	AC	GH
B	ISSUED FOR IW REVIEW		PS 23.08.22	AC	GH
C	ISSUED FOR IW REVIEW		PS 02.08.22	AC	GH
-	FOR INFORMATION		PS 26.05.22	AC	GH

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1st Floor Technology House Parkmore Technology Park, Galway  
Tel (+353) 091 786 050 Fax (+353) 091 779 830

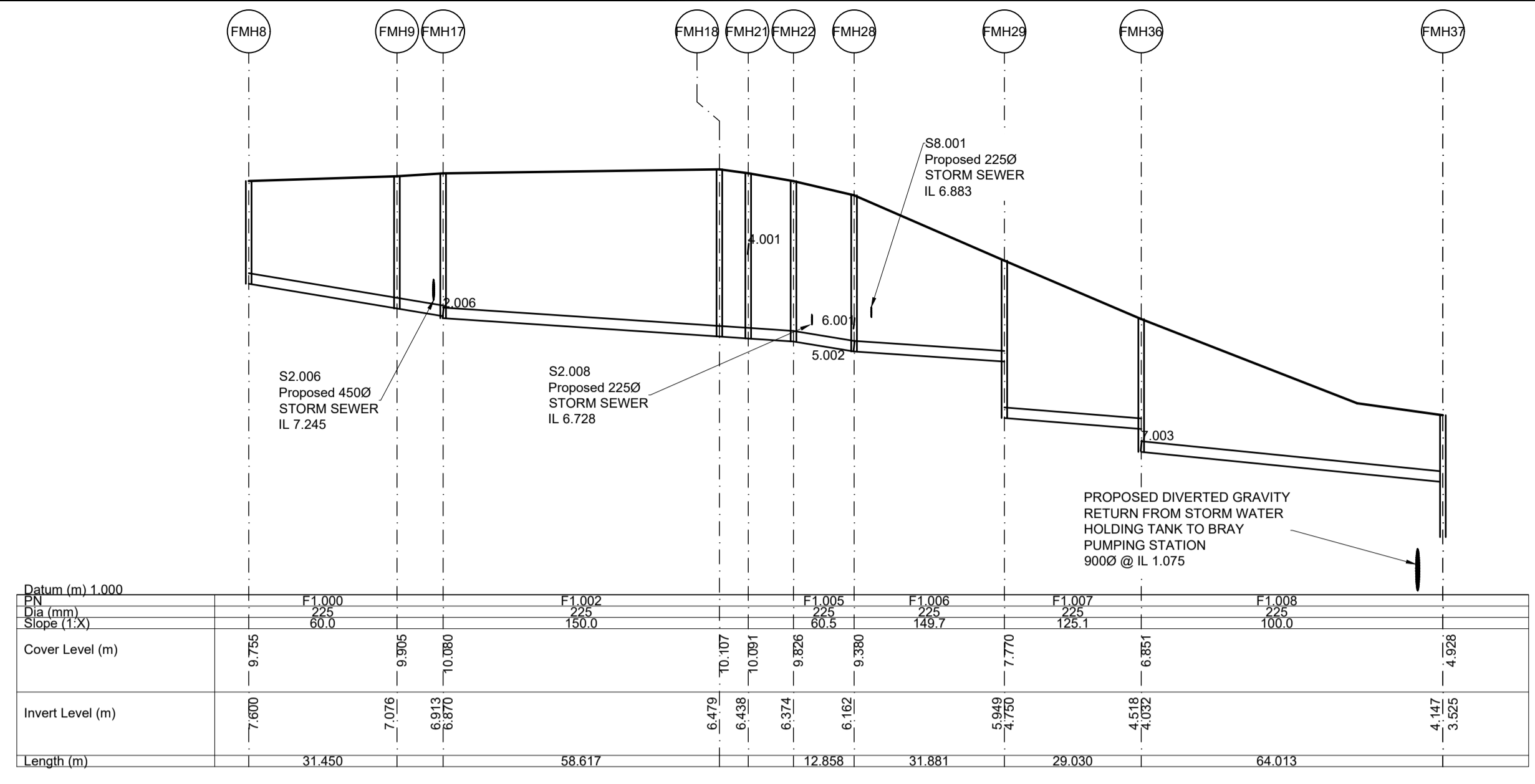
Client	SHANKILL PROPERTY INVESTMENTS LTD
Project	COASTAL QUARTER SHD 2

Purpose	PLANNING
Title	PROPOSED FOUL WATER LAYOUT SHEET 2 of 2
Original Scale	1:500 at A1 1:1000 at A3
Design/Drawn	PS
Checked	AC
Authorized	GH
Date	26.05.22
Date	26.05.22
Date	26.05.22
Status	P
Drawing Number	5214419-ATK-01-ZZ-DR-CE-0552
Rev	C

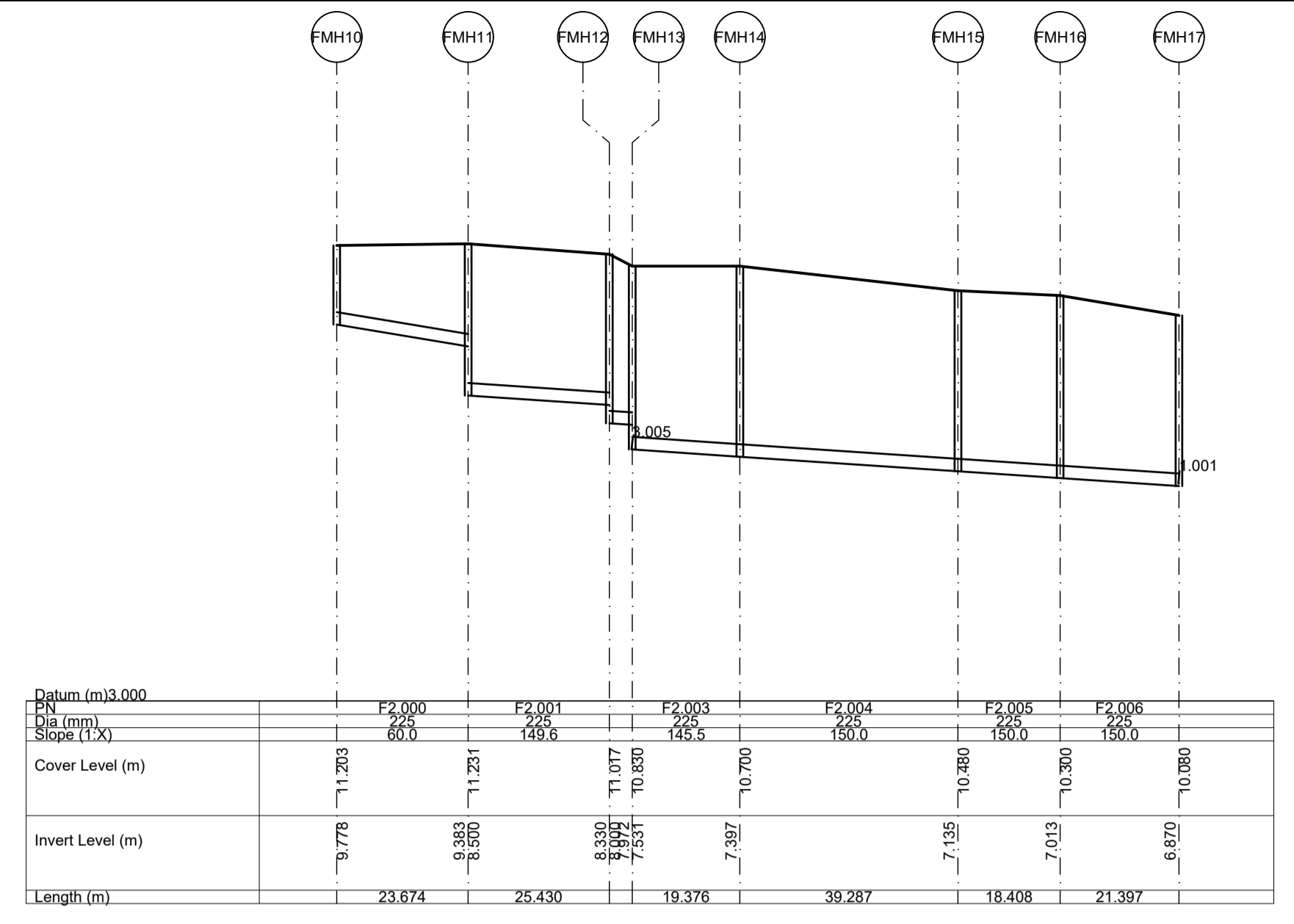
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Printed by: patrick.sheridan

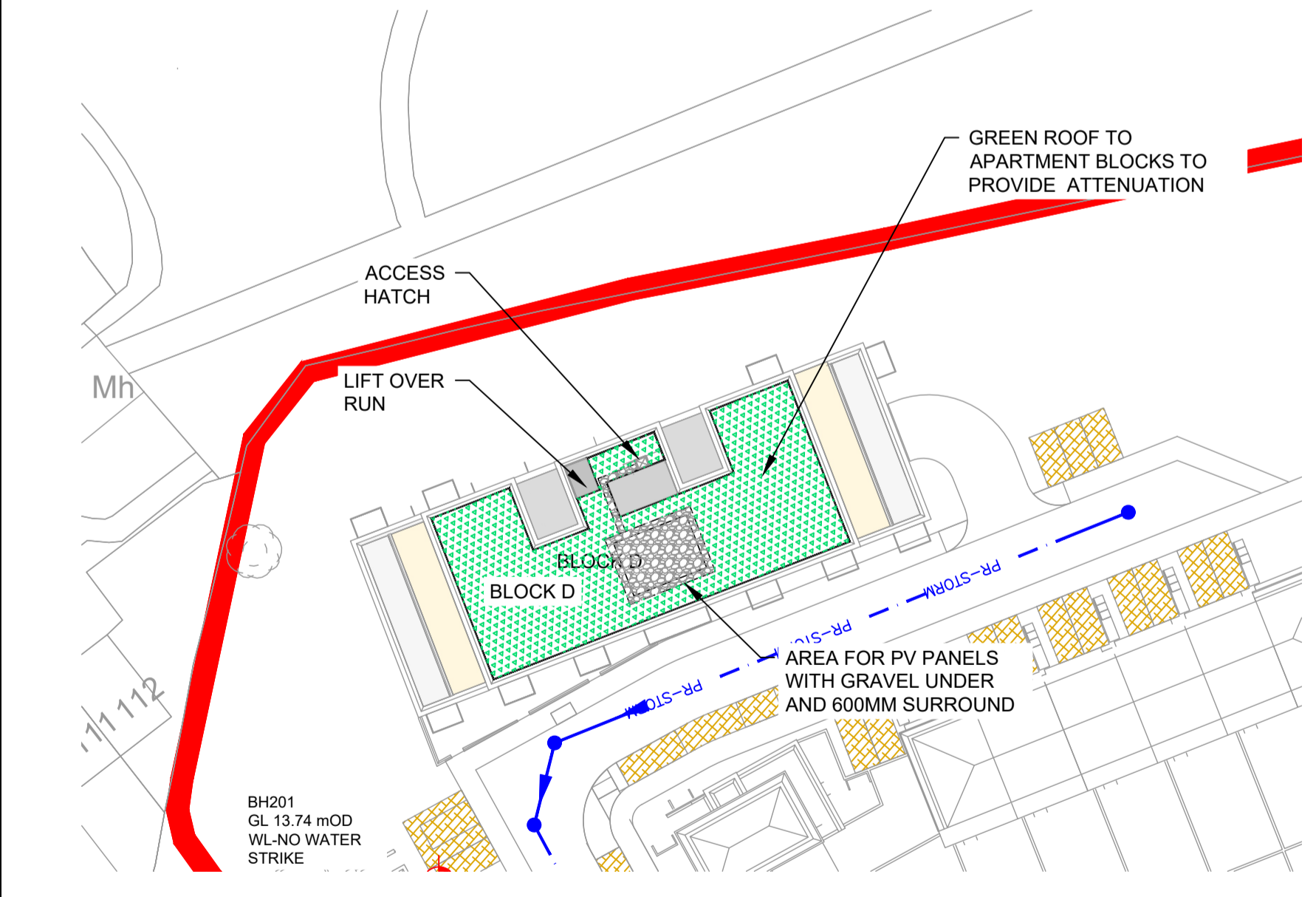
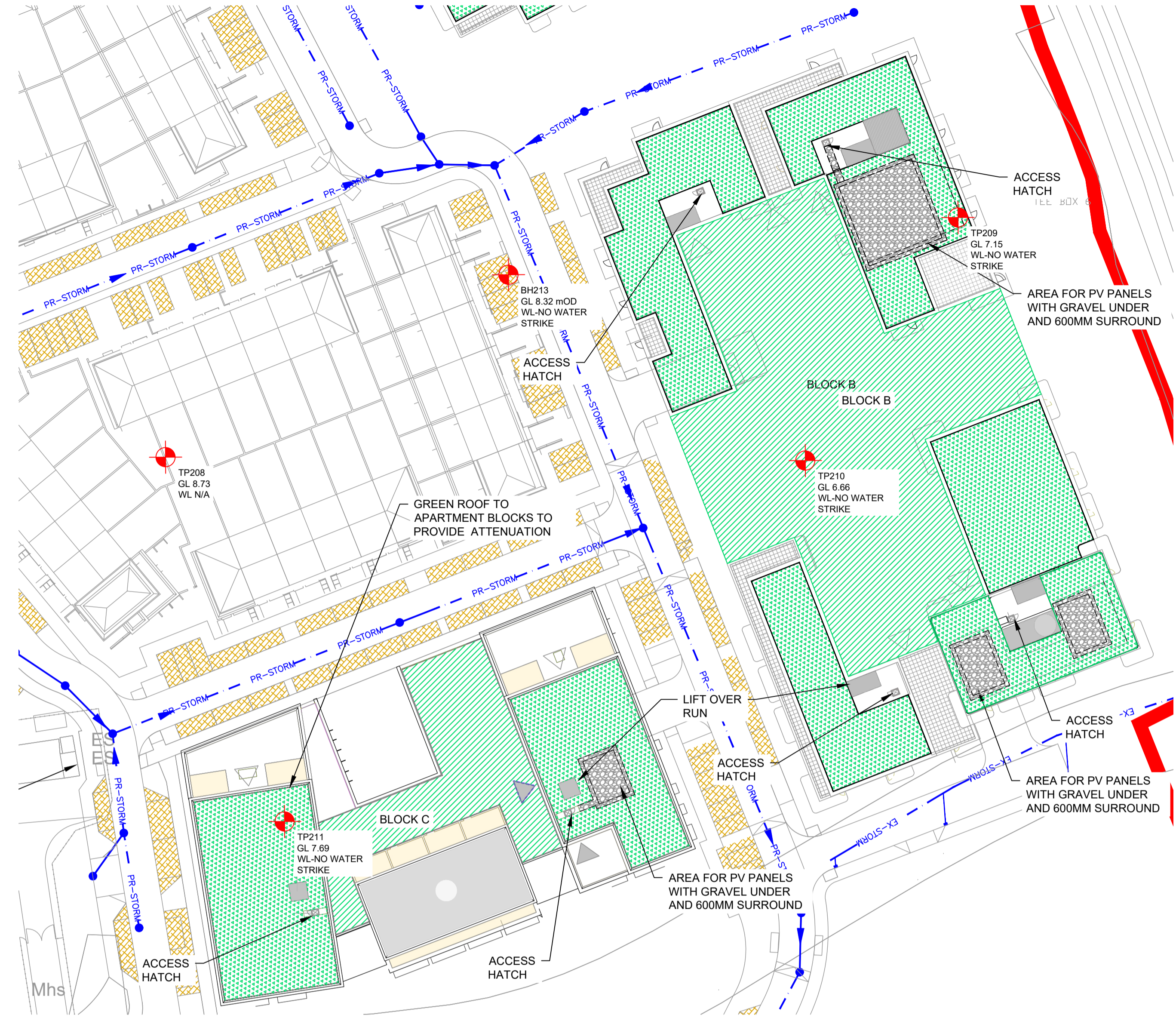
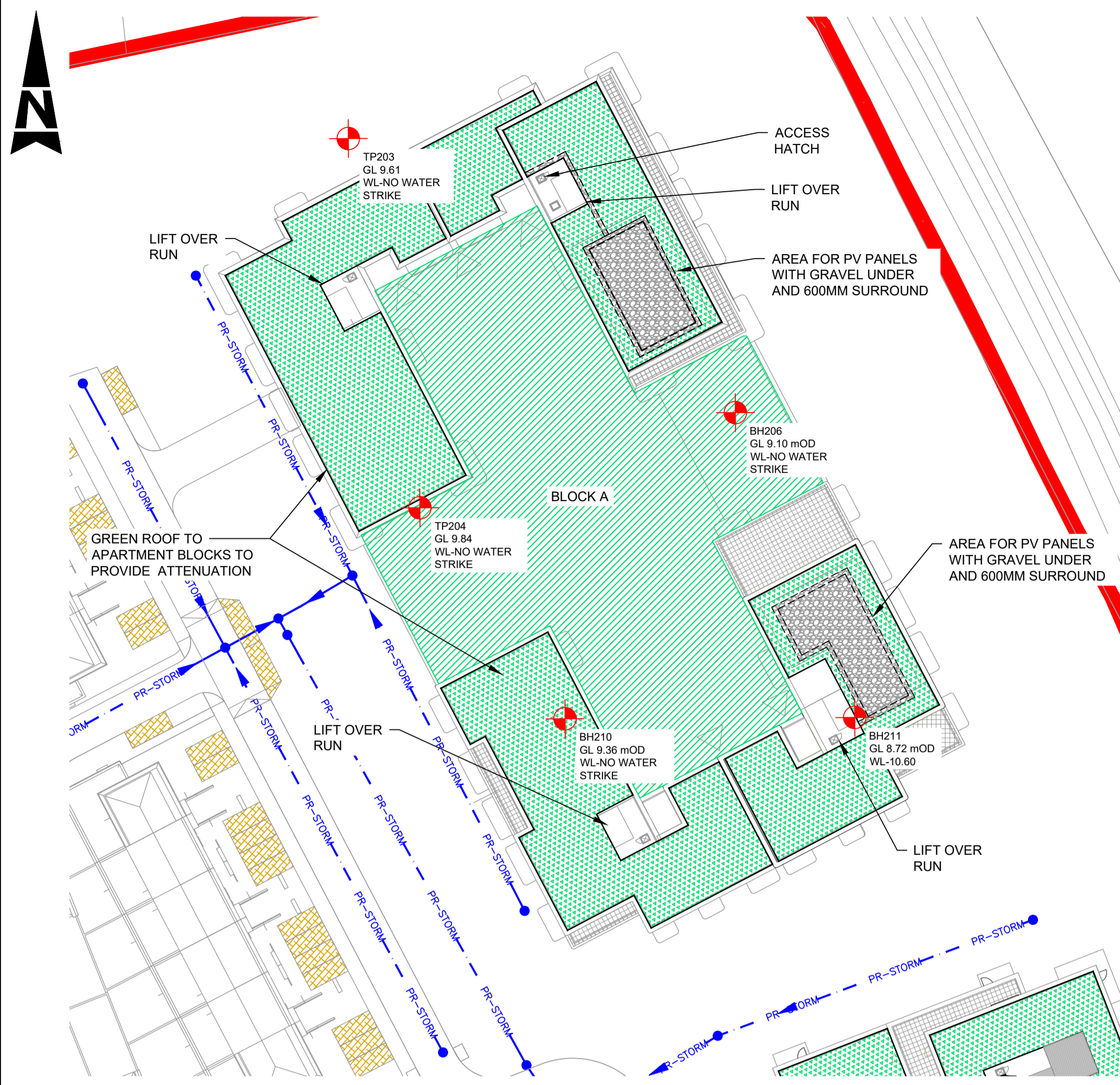


Longitudinal Section FMH8 - FMH33  
Scale 1:1000 (Horizontally), 1:100 (Vertically)



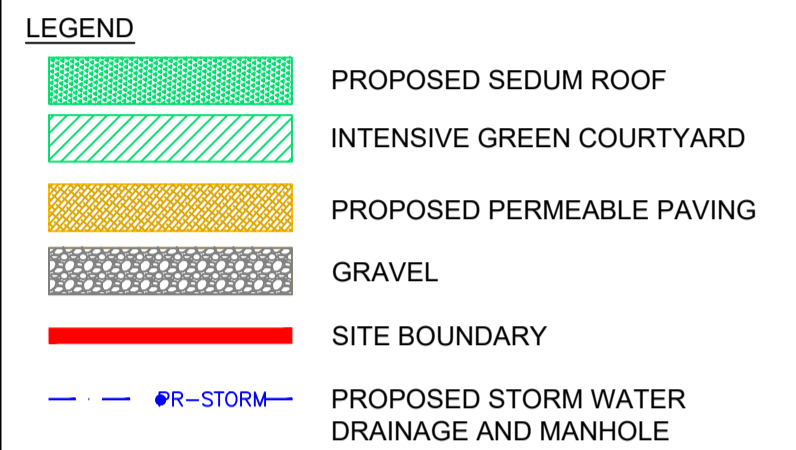
100  
0 10  
A1

DO NOT SCALE



- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
  2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
  3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
  4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR

**NOTE:**  
PROPOSED GREEN ROOF COURTYARD DESIGNED IN ACCORDANCE WITH DLRCO COUNTY DEVELOPMENT PLAN 2022-2028 APPENDIX 7.2 GREEN ROOF POLICY 2022



**EXTENSIVE GREEN ROOF / SEDUM ROOF**

**BLOCK A**  
TOTAL ROOF AREA = 3352 M<sup>2</sup>  
MINIMUM SEDUM ROOF AREA REQUIRED (70%) = 2346.4 M<sup>2</sup>  
TOTAL SEDUM ROOF AREA PROVIDED = 2691.2 M<sup>2</sup> (80%)

**BLOCK B**  
TOTAL ROOF AREA = 2492 M<sup>2</sup>  
MINIMUM SEDUM ROOF AREA REQUIRED (70%) = 1745 M<sup>2</sup>  
TOTAL SEDUM ROOF AREA PROVIDED = 2379 M<sup>2</sup> (94%)

**BLOCK C**  
TOTAL ROOF AREA = 1175 M<sup>2</sup>  
MINIMUM SEDUM ROOF AREA REQUIRED (70%) = 822.5 M<sup>2</sup>  
TOTAL SEDUM ROOF AREA PROVIDED = 1011 M<sup>2</sup> (86%)

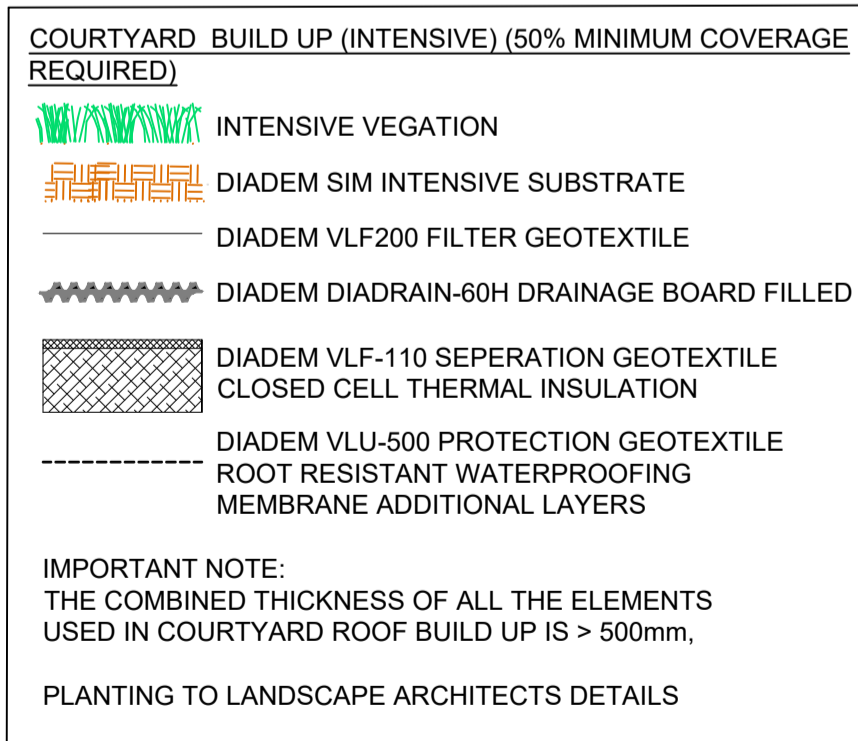
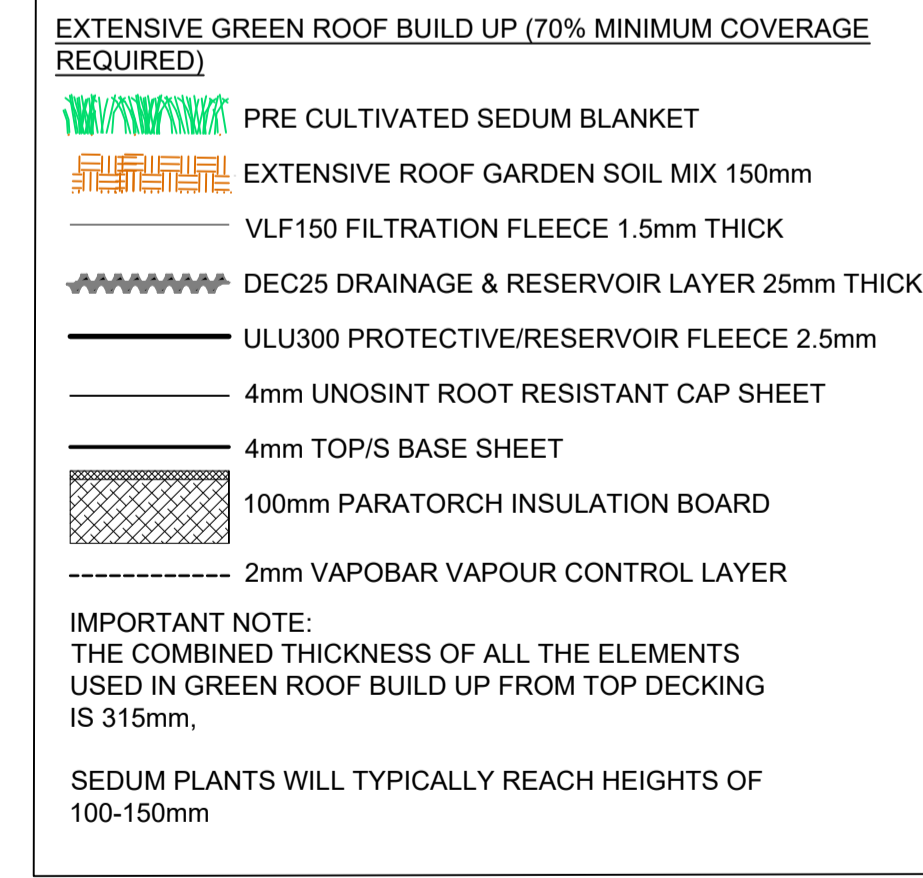
**BLOCK D**  
TOTAL ROOF AREA = 536 M<sup>2</sup>  
MINIMUM SEDUM ROOF AREA REQUIRED (70%) = 375.2 M<sup>2</sup>  
TOTAL SEDUM ROOF AREA PROVIDED = 439 M<sup>2</sup> (81.9%)

**INTENSIVE GREEN ROOF**

**BLOCK A**  
TOTAL ROOF AREA = 2537 M<sup>2</sup>  
MINIMUM SEDUM ROOF AREA REQUIRED (50%) = 1268.5 M<sup>2</sup>  
TOTAL SEDUM ROOF AREA PROVIDED = 1522.2 M<sup>2</sup> (60%)

**BLOCK B**  
TOTAL ROOF AREA = 2329 M<sup>2</sup>  
MINIMUM SEDUM ROOF AREA REQUIRED (50%) = 1165 M<sup>2</sup>  
TOTAL SEDUM ROOF AREA PROVIDED = 1398 M<sup>2</sup> (60%)

**BLOCK C**  
TOTAL ROOF AREA = 595 M<sup>2</sup>  
MINIMUM SEDUM ROOF AREA REQUIRED (50%) = 298 M<sup>2</sup>  
TOTAL SEDUM ROOF AREA PROVIDED = 357 M<sup>2</sup> (60%)



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File: 5214419-ATK-01-ZZ-DR-CE-0601.dwg  
Date: Sep 17, 2022 - 5:05pm  
Printed by: patrick.sheridan

Rev	Description	By	Date	Chk'd	Auth
P01	ISSUED FOR PLANNING	PS	06.09.22	AC	GH

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1st Floor Technology House Parkmore Technology Park, Galway  
Tel (+353) 091 786 050 Fax (+353) 091 779 830

Client: SHANKILL PROPERTY INVESTMENTS LTD

Project: COASTAL QUARTER SHD 2

Purpose: PLANNING

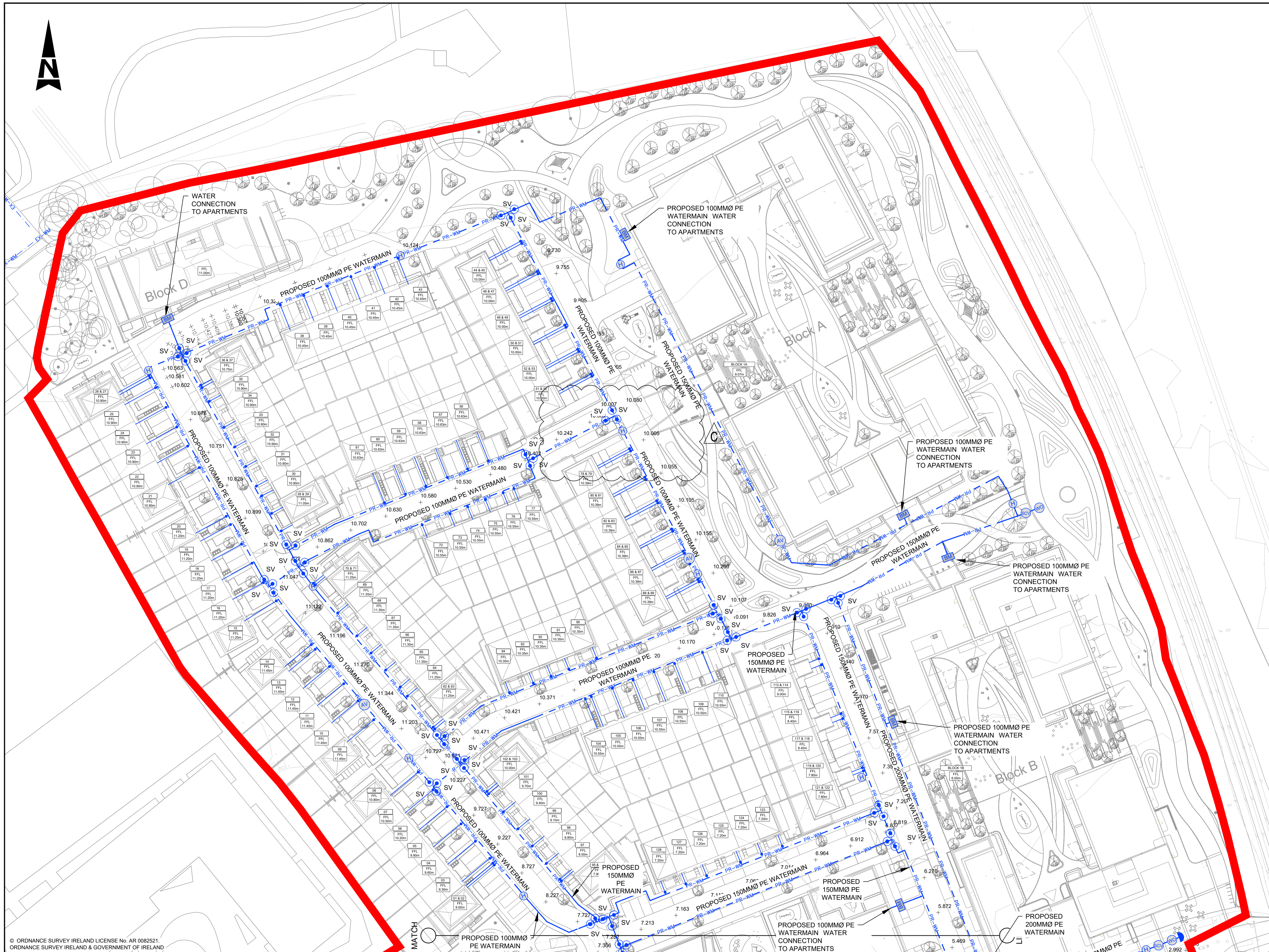
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Original Scale: 1:500 at A1 1:1000 at A3	Design/Drawn: PS Date: 26.05.22	Checked: AC Date: 26.05.22	Authorised: GH Date: 26.05.22
Status: P	Drawing Number: 5214419-ATK-01-ZZ-DR-CE-0601	Rev: P01	

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A1

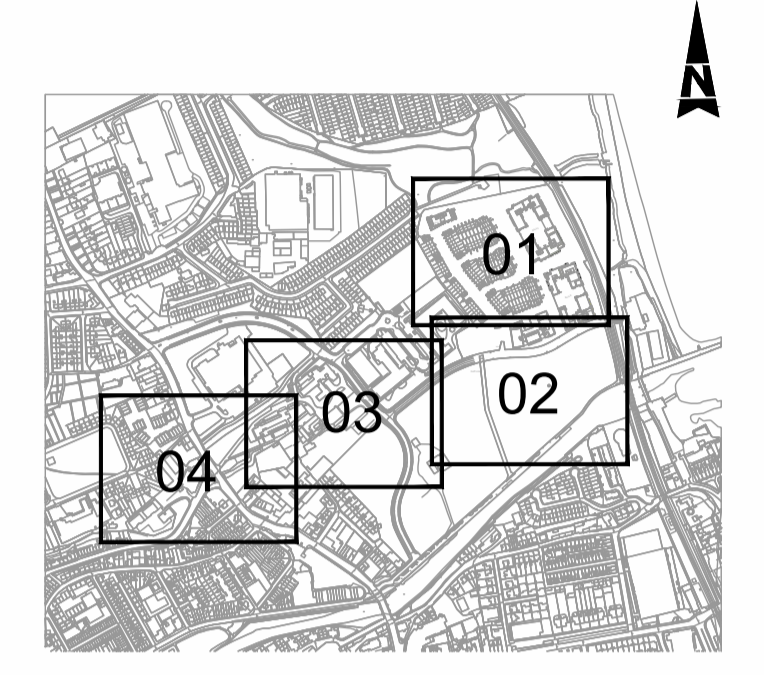
DO NOT SCALE

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Printed by: patrick.sheridan

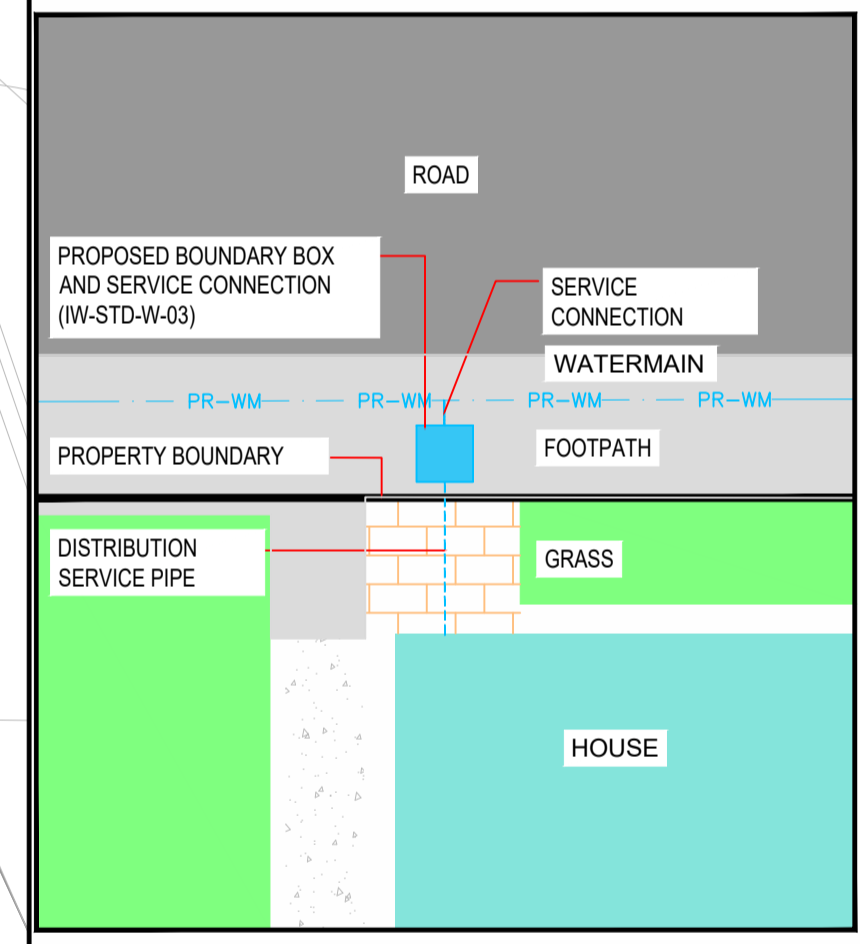


- GENERAL NOTES**
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  2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
  3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
  4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR

FINAL LAYOUT AS AGREED WITH IRISH WATER IN THE STATEMENT OF DESIGN ACCEPTANCE (REF NO.CDS22005393)



**KEY PLAN**  
Scale NTS



**TYPICAL BOUNDARY BOX DETAIL**  
Scale at A1 1:100

**NOTE:**  
INSTALLATION OF WATER MAIN SHALL BE IN ACCORDANCE WITH IRISH WATER, WATER INFRASTRUCTURE STANDARD DETAILS (IW-CDS-5020-01) & CODE OF PRACTICE FOR WATER INFRASTRUCTURE (IW-CDS-5020-03)  
INSTALLATION OF WATER MAIN AND ALL OTHER DEVELOPMENT SERVICES SHALL BE IN ACCORDANCE WITH IRISH WATER STD-W-11  
AIR VALVE AND HYDRANTS COVERS, WHERE LOCATED IN GRASS AREAS, SHALL BE SURROUNDED BY A CONCRETE PLINTH, 200MM ALL ROUND AND 100MM DEEP FORMED WITH C20/25 CONCRETE, 20MM AGGREGATE SIZE, BEDDED IN CLAUSE 804 MATERIAL. THE PLINTH SHALL INCORPORATE MILD STEEL REINFORCEMENT LINKS AND SHALL HAVE A BULL-NOSE FINISH AROUND ITS EXTERNAL PERIMETER. SEE SECTION 3.18 OF WATER CODE OF PRACTICE A GEOTEXTILE PIPE WRAP ROOT PROTECTION SYSTEM WILL BE APPLIED TO THE PIPES WHERE IT IS LAID WITHIN THE MINIMUM DISTANCE GIVEN IN TABLE A1 OF BS 5837 AS SPECIFIED IN SECTION 3.26 OF THE IRISH WATER CODE OF PRACTICE FOR WATER INFRASTRUCTURE

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LEGEND	
— EX—WM —	EXISTING WATERMAIN
— PR—WM —	PROPOSED (HPP/HDPE PE-100 SDR-17) WATERMAIN DIAMETER AS INDICATED
SV	PROPOSED SLUICE VALVE (IW-STD-W-15)
H	PROPOSED FIRE HYDRANT (ONLINE IW-STD-W-18) (OFFLINE IW-STD-W-19)
BM	PROPOSED BULK METER (IW-STD-W-26)
—	PROPOSED 25MM (OD) PE SERVICE PIPE AS PER STD-W-01
AV	PROPOSED AIR VALVE (ONLINE IW-STD-W-22) (OFFLINE IW-STD-W-23)
SCV	PROPOSED SCOUR VALVE (IW-STD-W-30)
MC	PROPOSED MANIFOLD CHAMBER (IW-CDS-5020-03, SECTION 3.14)
EC	PROPOSED END CAP (IW-STD-W-05)
WHD	PROPOSED WASH OUT HYDRANT (IW-STD-W-30A)
—	SITE BOUNDARY

Rev	Description	By	Date	Chk'd	Auth
C	ISSUED FOR PLANNING	PS	06.09.22	AC	GH
C	ISSUED FOR IW REVIEW	PS	24.08.22	AC	GH
B	ISSUED FOR IW REVIEW	PS	23.08.22	AC	GH
A	ISSUED FOR IW REVIEW	PS	02.08.22	AC	GH
-	FOR INFORMATION	PS	26.05.22	AC	GH

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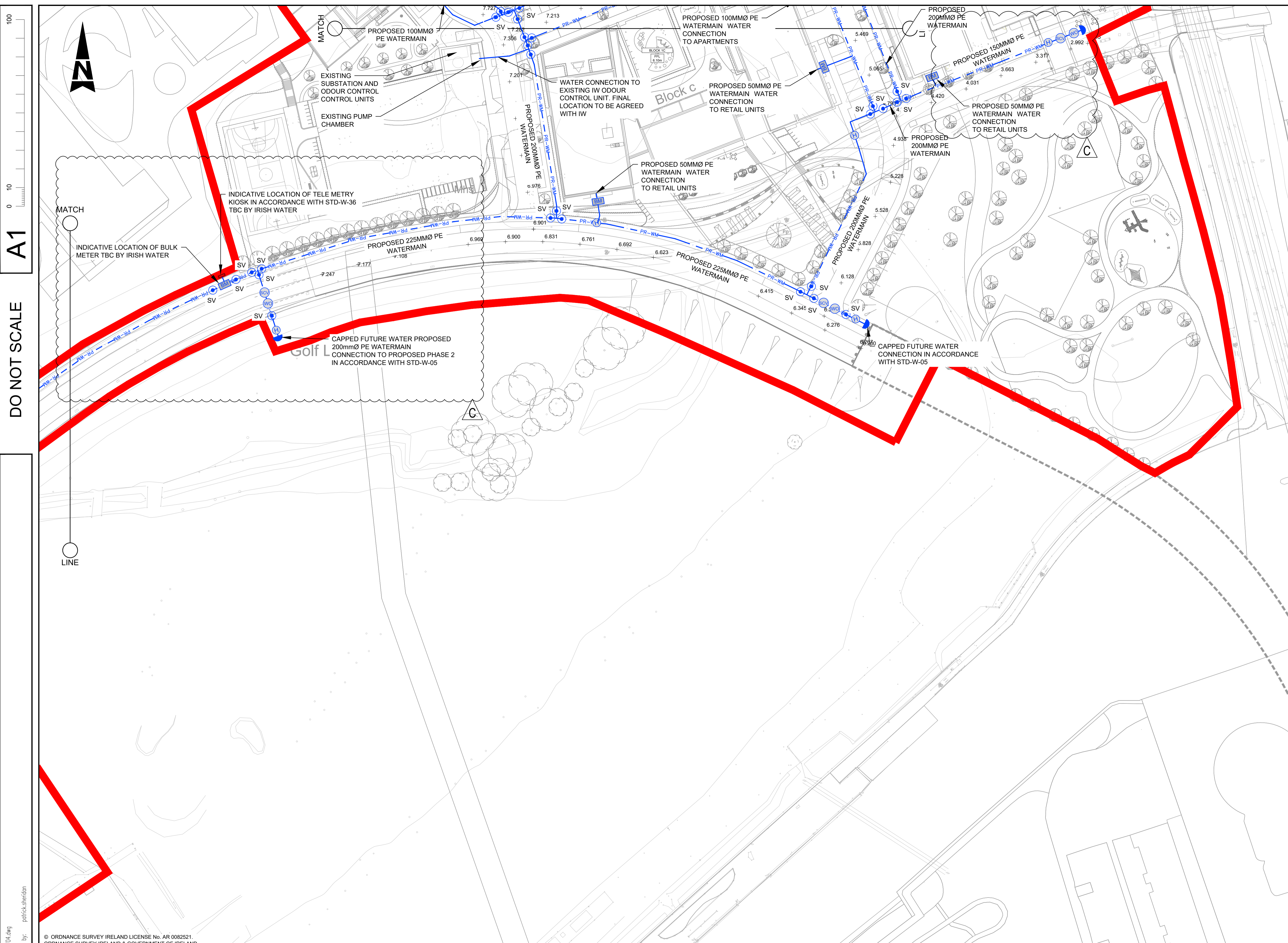
Atkins House, 150-155 Ainslie Road, Business Park, Cork  
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Client	SHANKILL PROPERTY INVESTMENTS LTD
Project	COASTAL QUARTER SHD 2

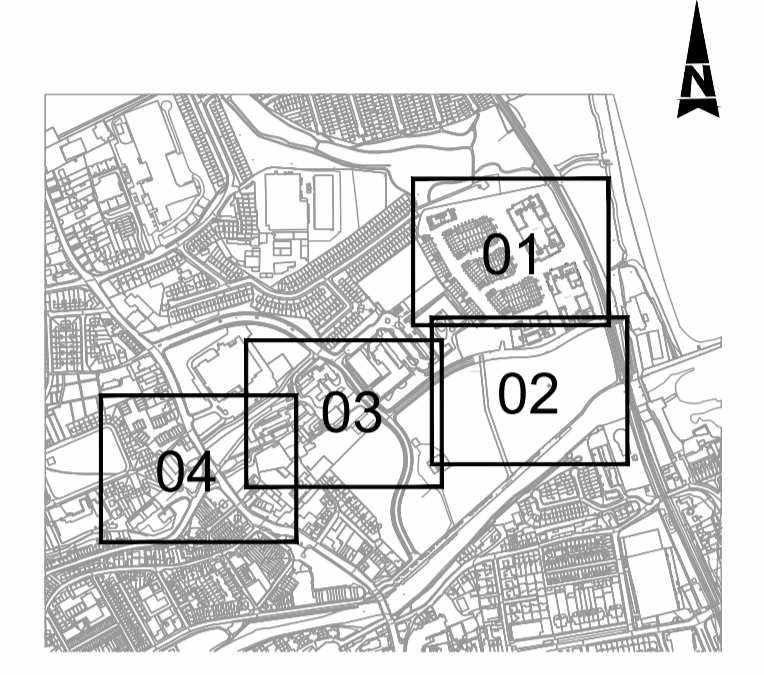
Purpose	PLANNING
Title	PROPOSED WATERMANS LAYOUT SHEET 1 of 4
Original Scale	1:500 at A1 1:1000 at A3
Design/Drawn	PS
Checked	AC
Authorized	GH
Date	26.05.22
Date	26.05.22
Date	26.05.22
Status	P
Drawing Number	5214419-ATK-01-ZZ-DR-CE-2701
Rev	C



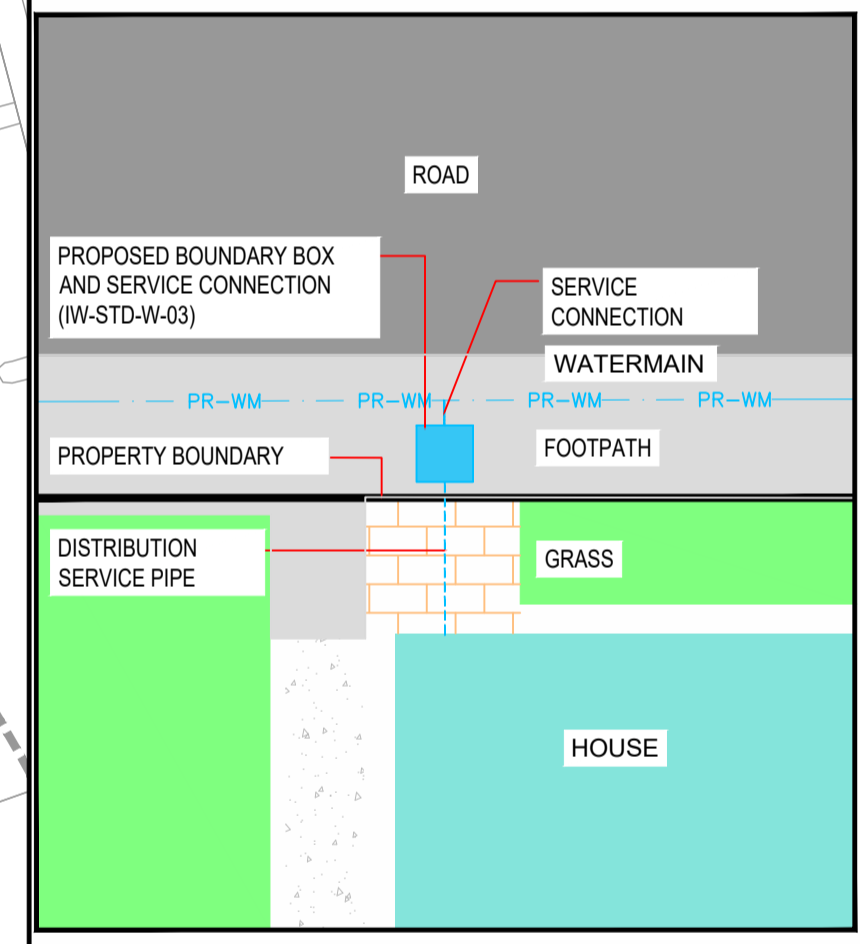
A1  
DO NOT SCALE

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  3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
  4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR

FINAL LAYOUT AS AGREED WITH IRISH WATER IN THE STATEMENT OF DESIGN ACCEPTANCE (REF NO.CDS22005393)



**KEY PLAN**  
Scale NTS



**TYPICAL BOUNDARY BOX DETAIL**  
Scale at A1 1:100

**NOTE:**  
INSTALLATION OF WATER MAIN SHALL BE IN ACCORDANCE WITH IRISH WATER, WATER INFRASTRUCTURE STANDARD DETAILS (IW-CDS-5020-01) & CODE OF PRACTICE FOR WATER INFRASTRUCTURE (IW-CDS-5020-03)  
INSTALLATION OF WATER MAIN AND ALL OTHER DEVELOPMENT SERVICES SHALL BE IN ACCORDANCE WITH IRISH WATER STD-W-11  
AIR VALVE AND HYDRANTS COVERS, WHERE LOCATED IN GRASS AREAS, SHALL BE SURROUNDED BY A CONCRETE PLINTH, 200MM ALL ROUND AND 100MM DEEP FORMED WITH C20/25 CONCRETE, 20MM AGGREGATE SIZE, BEDDED IN CLAUSE 804 MATERIAL. THE PLINTH SHALL INCORPORATE MILD STEEL REINFORCEMENT LINKS AND SHALL HAVE A BULL-NOSE FINISH AROUND ITS EXTERNAL PERIMETER. SEE SECTION 3.18 OF WATER CODE OF PRACTICE  
A GEOTEXTILE PIPE WRAP ROOT PROTECTION SYSTEM WILL BE APPLIED TO THE PIPES WHERE IT IS LAID WITHIN THE MINIMUM DISTANCE GIVEN IN TABLE A1 OF BS 5837 AS SPECIFIED IN SECTION 3.26 OF THE IRISH WATER CODE OF PRACTICE FOR WATER INFRASTRUCTURE

File: 5214419-ATK-01-ZZ-DR-CE-2701\_2704.dwg  
Date: Sep 17, 2022 - 3:56pm  
Printed by: patrick.sheridan

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LEGEND	
	EXISTING WATERMAIN
	PROPOSED (H)PE/HDPE PE-100 SDR-17) WATERMAIN DIAMETER AS INDICATED
	PROPOSED SLUICE VALVE (IW-STD-W-15)
	PROPOSED FIRE HYDRANT (ONLINE IW-STD-W-18) (OFFLINE IW-STD-W-19)
	PROPOSED BULK METER (IW-STD-W-26)
	PROPOSED 25MM (OD) PE SERVICE PIPE AS PER STD-W-01
	PROPOSED AIR VALVE (ONLINE IW-STD-W-22) (OFFLINE IW-STD-W-23)
	PROPOSED SCOUR VALVE (IW-STD-W-30)
	PROPOSED MANIFOLD CHAMBER (IW-CDS-5020-03, SECTION 3.14)
	PROPOSED END CAP (IW-STD-W-05)
	PROPOSED WASH OUT HYDRANT (IW-STD-W-30A)
	SITE BOUNDARY

Rev	Description	By	Date	Chk'd	Auth
C	ISSUED FOR PLANNING	PS	06.09.22	AC	GH
C	ISSUED FOR IW REVIEW	PS	24.08.22	AC	GH
B	ISSUED FOR IW REVIEW	PS	23.08.22	AC	GH
A	ISSUED FOR IW REVIEW	PS	02.08.22	AC	GH
-	FOR INFORMATION	PS	26.05.22	AC	GH

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Client	SHANKILL PROPERTY INVESTMENTS LTD
Project	COASTAL QUARTER SHD 2

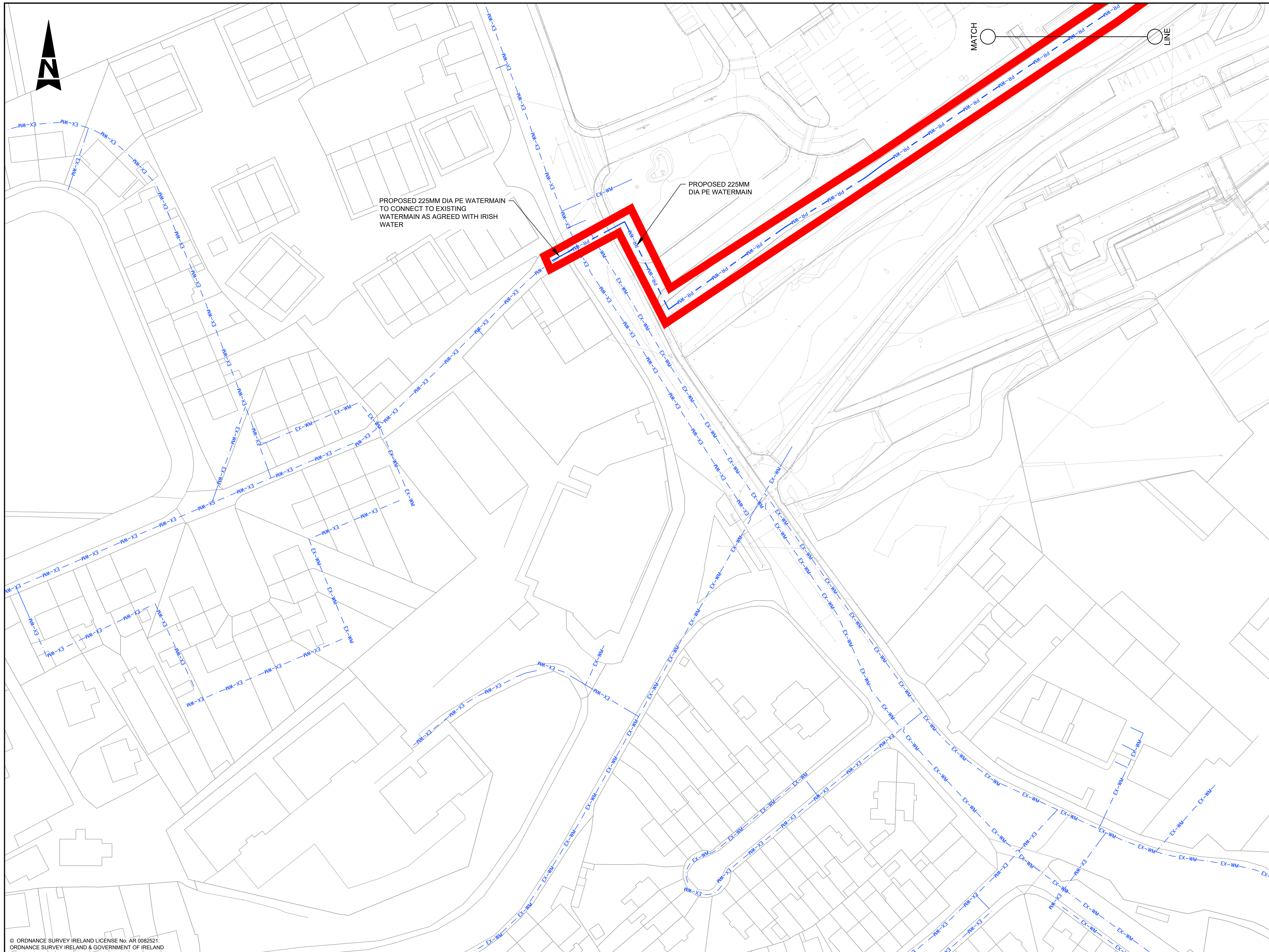
Purpose	PLANNING
Title	PROPOSED WATERMANS LAYOUT SHEET 2 of 4
Original Scale	1:500 at A1 1:1000 at A3
Design/Drawn	PS
Checked	AC
Authorized	GH
Date	26.05.22
Date	26.05.22
Date	26.05.22
Status	P
Drawing Number	5214419-ATK-01-ZZ-DR-CE-2702
Rev	C



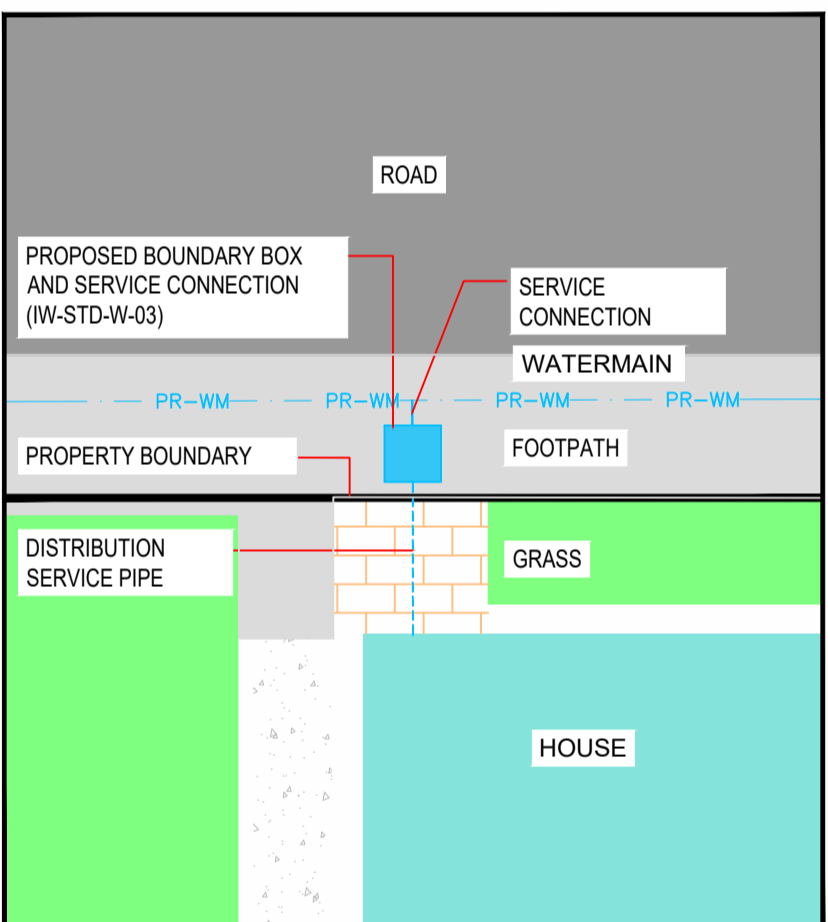
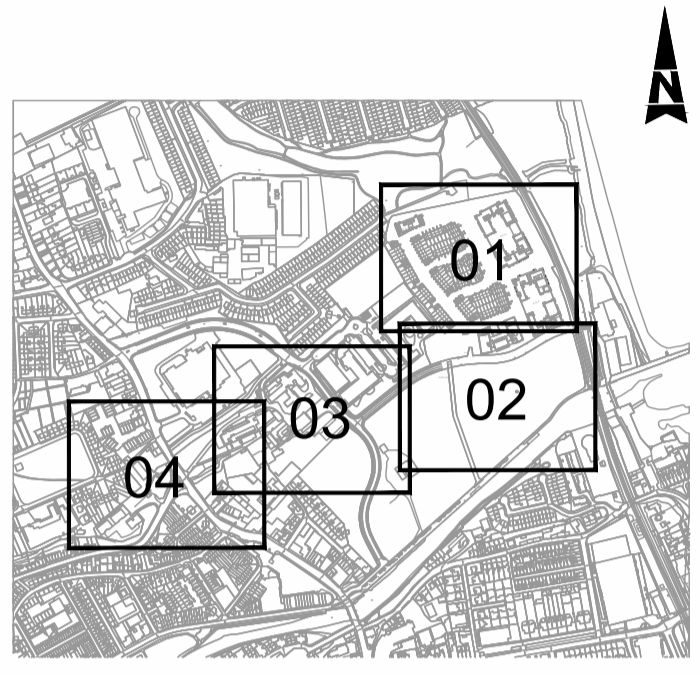
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DO NOT SCALE

File: 5214419-ATK-01-ZZ-DR-CE-2701\_2704.dwg  
Date: Sep 12, 2022 - 3:59pm  
Printed by: patrick.sheridan



- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
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  3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
  4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR



**NOTE:**  
INSTALLATION OF WATER MAIN SHALL BE IN ACCORDANCE WITH IRISH WATER, WATER INFRASTRUCTURE STANDARD DETAILS (IW-CDS-5020-01) & CODE OF PRACTICE FOR WATER INFRASTRUCTURE (IW-CDS-5020-03)  
INSTALLATION OF WATER MAIN AND ALL OTHER DEVELOPMENT SERVICES SHALL BE IN ACCORDANCE WITH IRISH WATER STD-W-11  
AIR VALVE AND HYDRANTS COVERS, WHERE LOCATED IN GRASS AREAS, SHALL BE SURROUNDED BY A CONCRETE PLINTH, 200MM ALL ROUND AND 100MM DEEP FORMED WITH C20/25 CONCRETE, 20MM AGGREGATE SIZE, BEDDED IN CLAUSE 804 MATERIAL. THE PLINTH SHALL INCORPORATE MILD STEEL REINFORCEMENT LINKS AND SHALL HAVE A BULL-NOSE FINISH AROUND ITS EXTERNAL PERIMETER. SEE SECTION 3.18 OF WATER CODE OF PRACTICE A GEOTEXTILE PIPE WRAP ROOT PROTECTION SYSTEM WILL BE APPLIED TO THE PIPES WHERE IT IS LAID WITHIN THE MINIMUM DISTANCE GIVEN IN TABLE A1 OF BS 5837 AS SPECIFIED IN SECTION 3.26 OF THE IRISH WATER CODE OF PRACTICE FOR WATER INFRASTRUCTURE

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ORDNANCE SURVEY IRELAND & GOVERNMENT OF IRELAND

LEGEND	
EX-WM	EXISTING WATERMAIN
PR-WM	PROPOSED (HPP/HDPE PE-100 SDR-17) WATERMAIN DIAMETER AS INDICATED
SV	PROPOSED SLUICE VALVE (IW-STD-W-15)
H	PROPOSED FIRE HYDRANT (ONLINE IW-STD-W-18) (OFFLINE IW-STD-W-19)
BM	PROPOSED BULK METER (IW-STD-W-26)
OD	PROPOSED 25MM (OD) PE SERVICE PIPE AS PER STD-W-01
AV	PROPOSED AIR VALVE (ONLINE IW-STD-W-22) (OFFLINE IW-STD-W-23)
SCV	PROPOSED SCOUR VALVE (IW-STD-W-30)
MC	PROPOSED MANIFOLD CHAMBER (IW-CDS-5020-03, SECTION 3.14)
EC	PROPOSED END CAP (IW-STD-W-05)
WHD	PROPOSED WASH OUT HYDRANT (IW-STD-W-30A)
SB	SITE BOUNDARY

Rev	Description	By	Date	Chk'd	Auth
A	ISSUED FOR PLANNING	PS	06.09.22	AC	GH
A	ISSUED FOR IW REVIEW	PS	02.08.22	AC	GH
-	FOR INFORMATION	PS	26.05.22	AC	GH

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Project	COASTAL QUARTER SHD 2

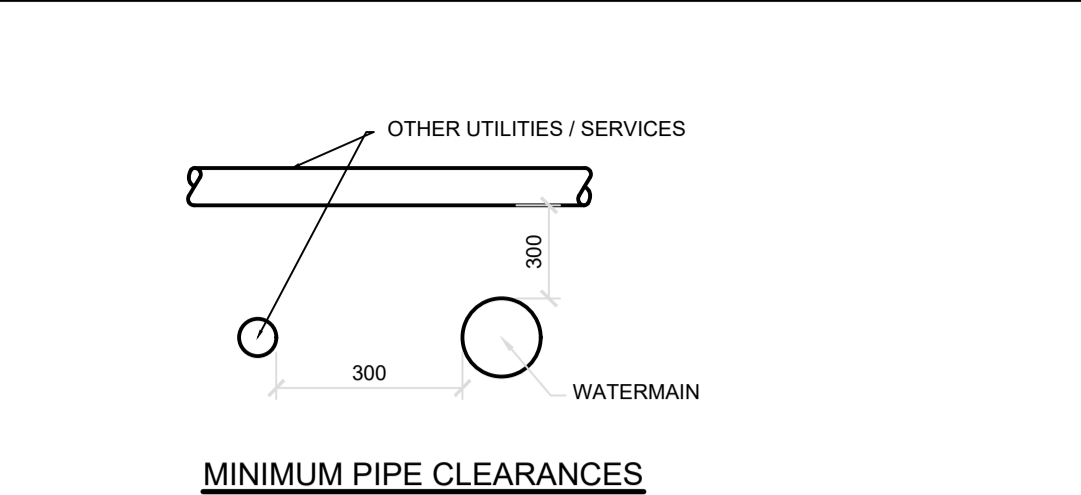
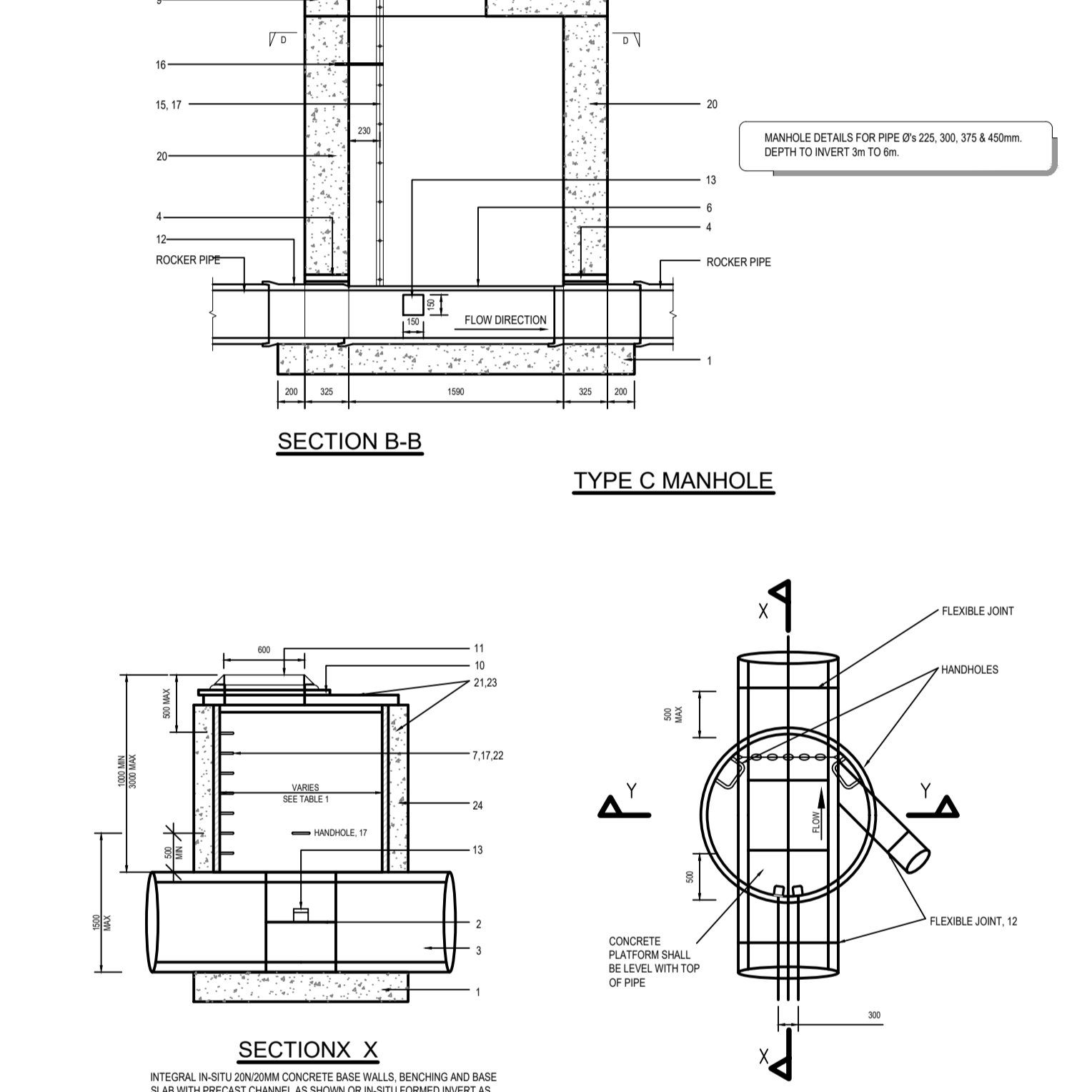
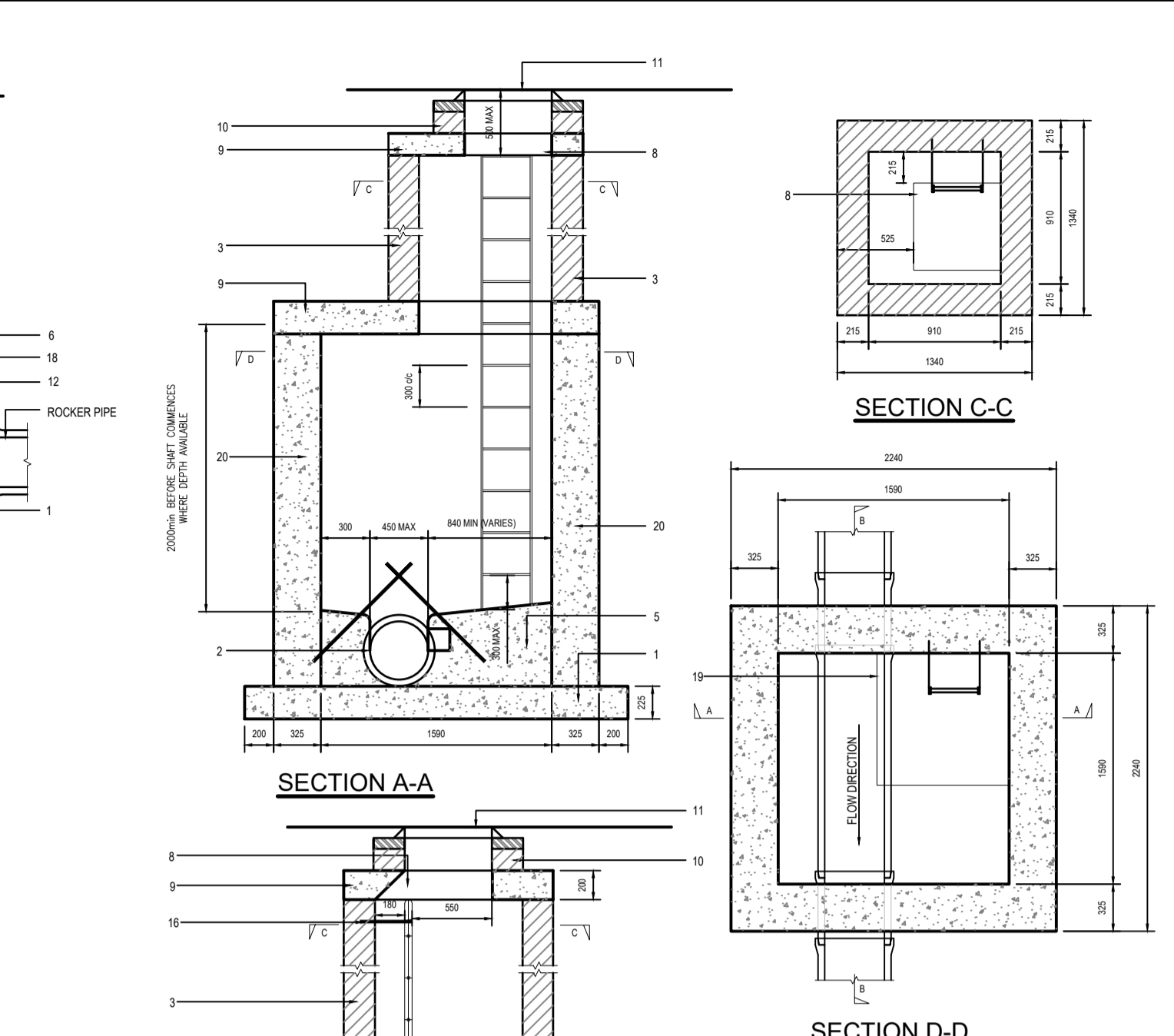
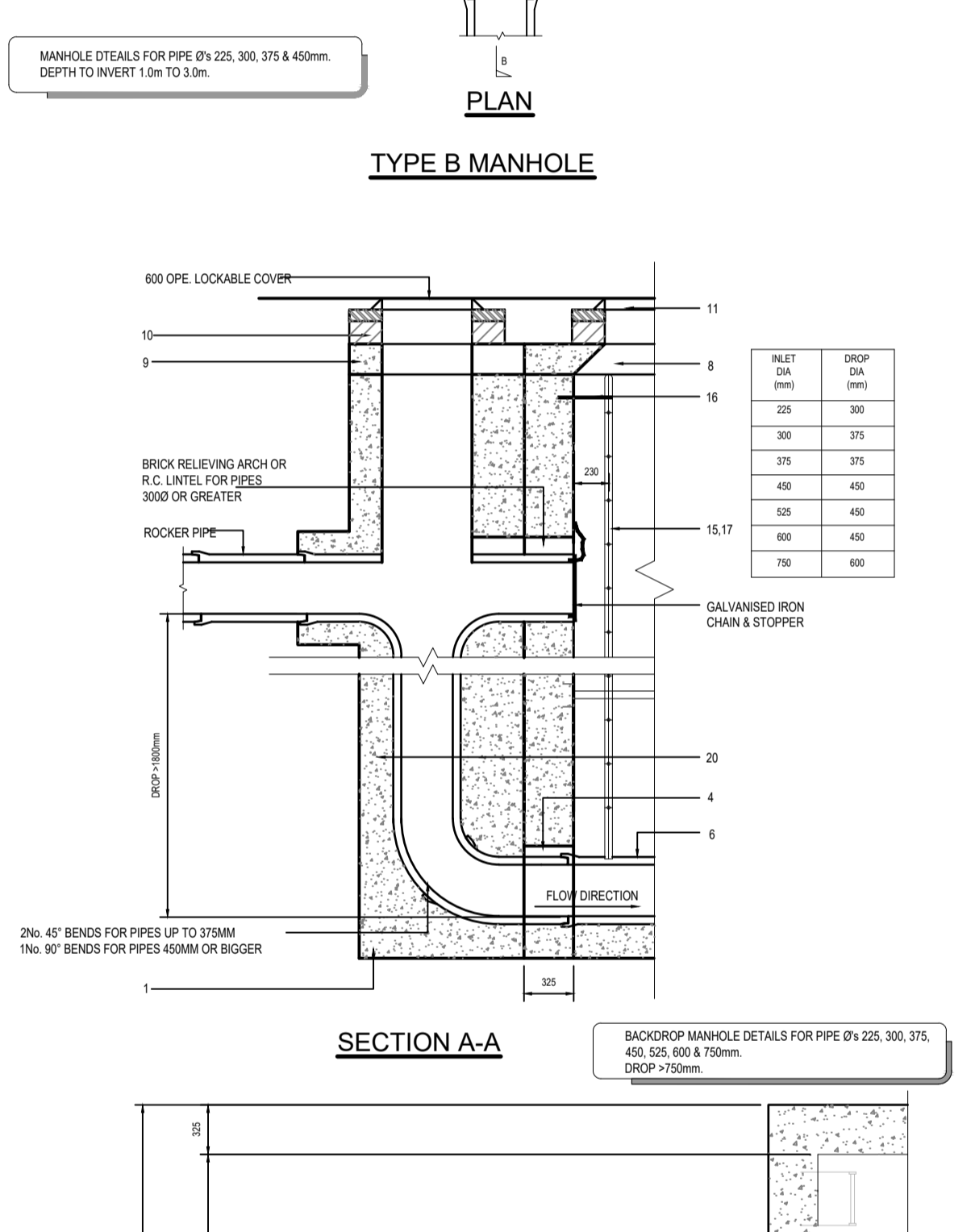
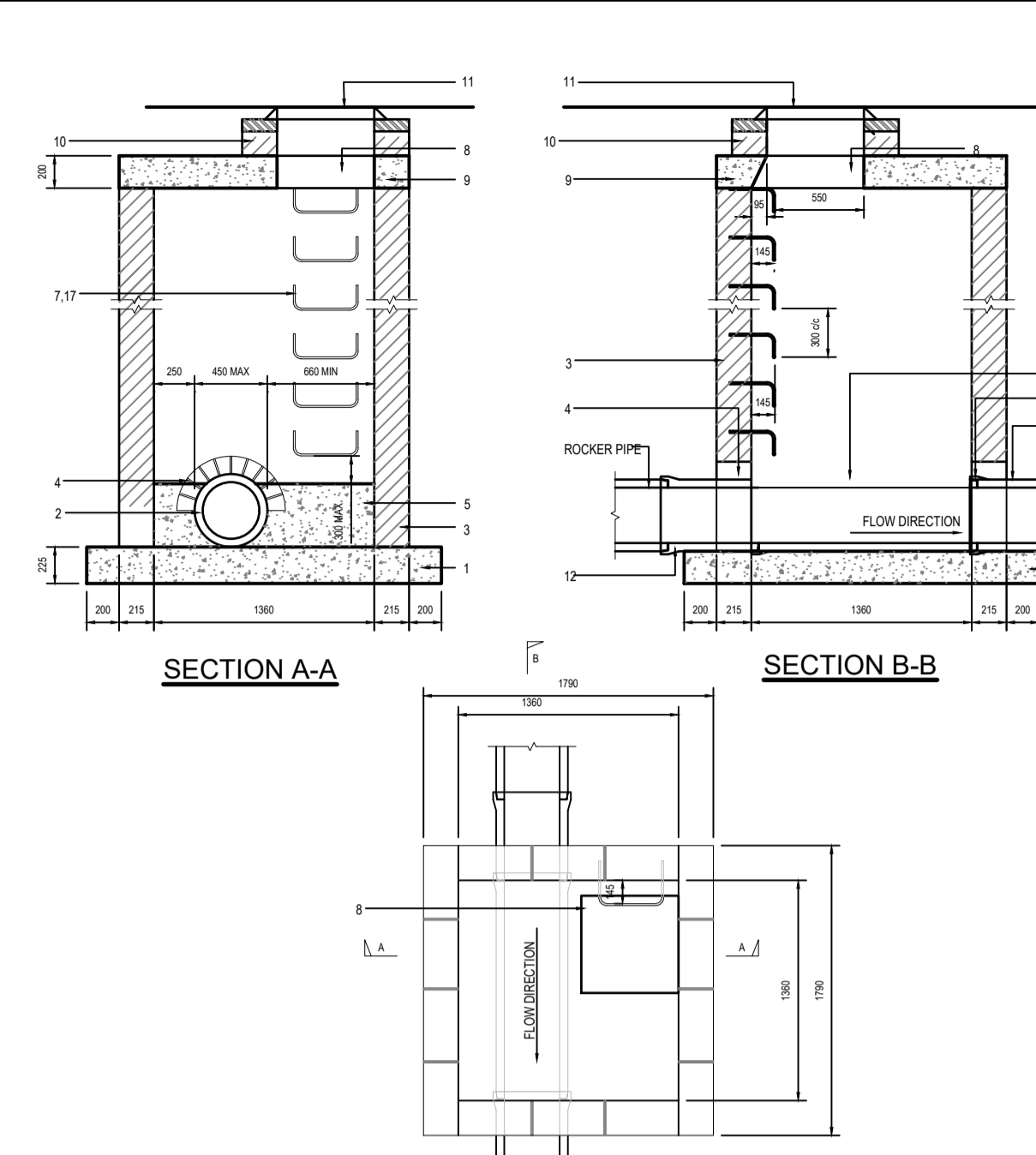
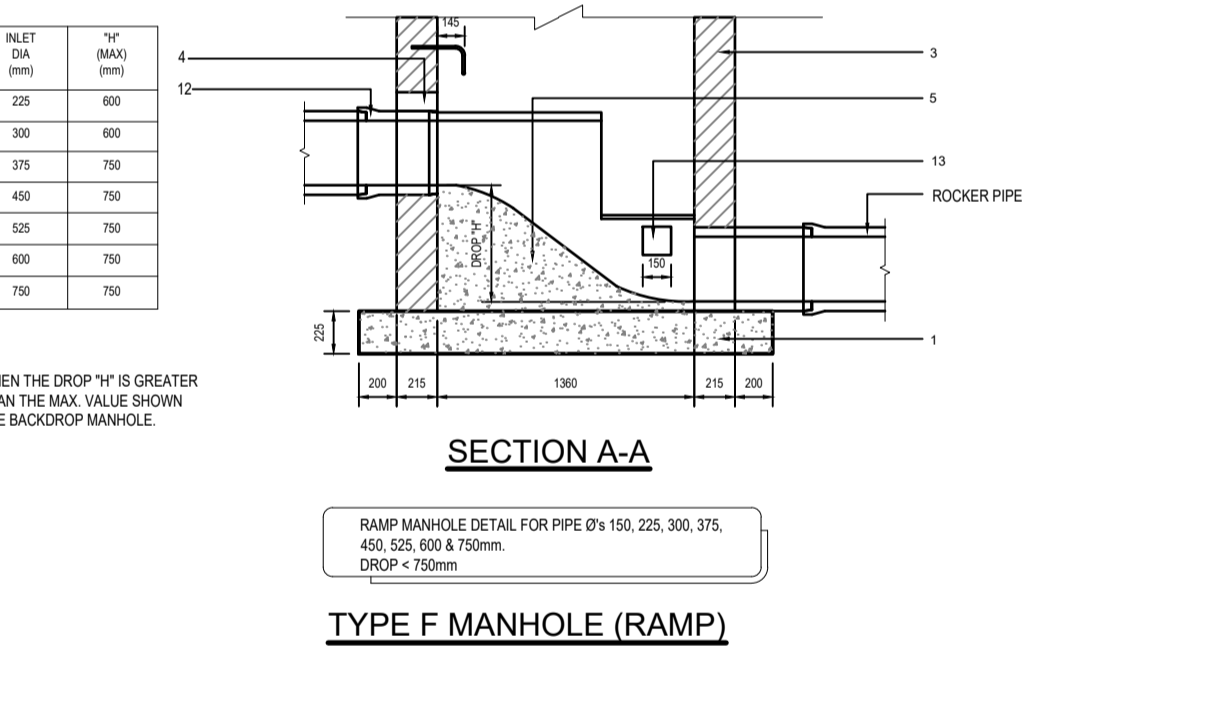
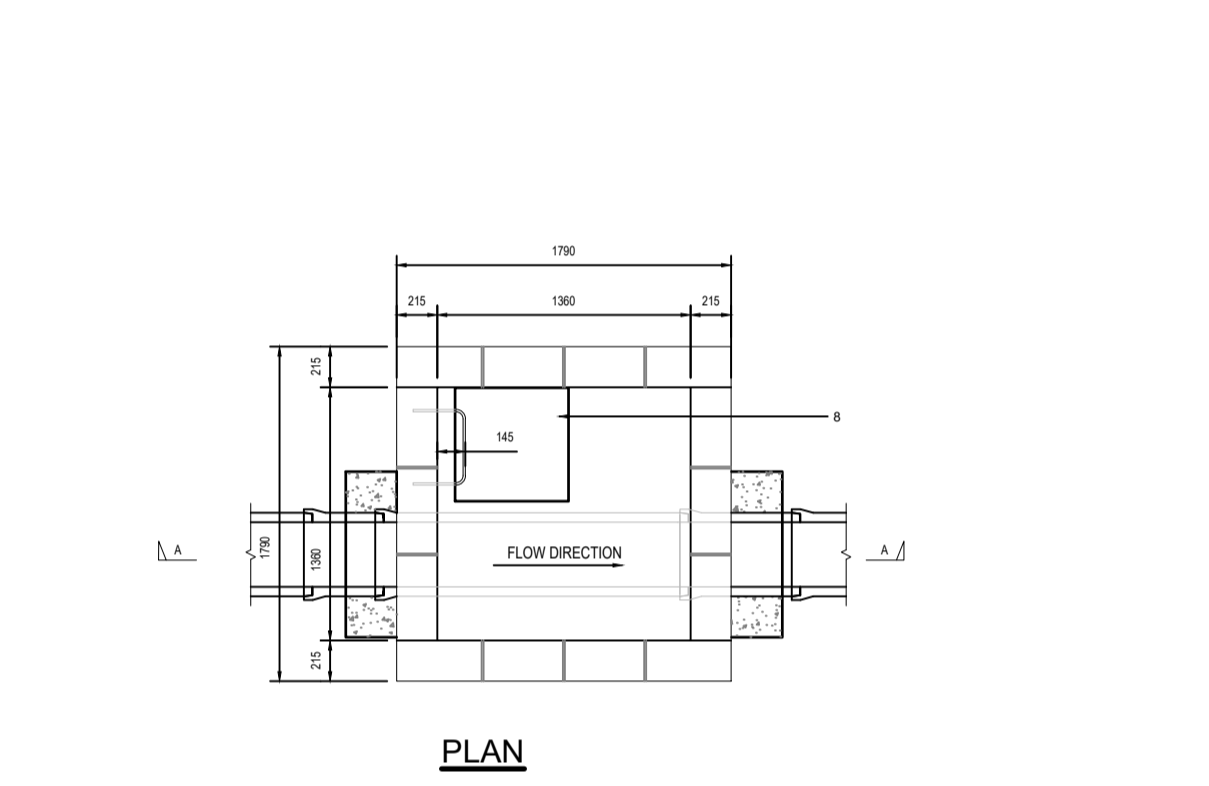
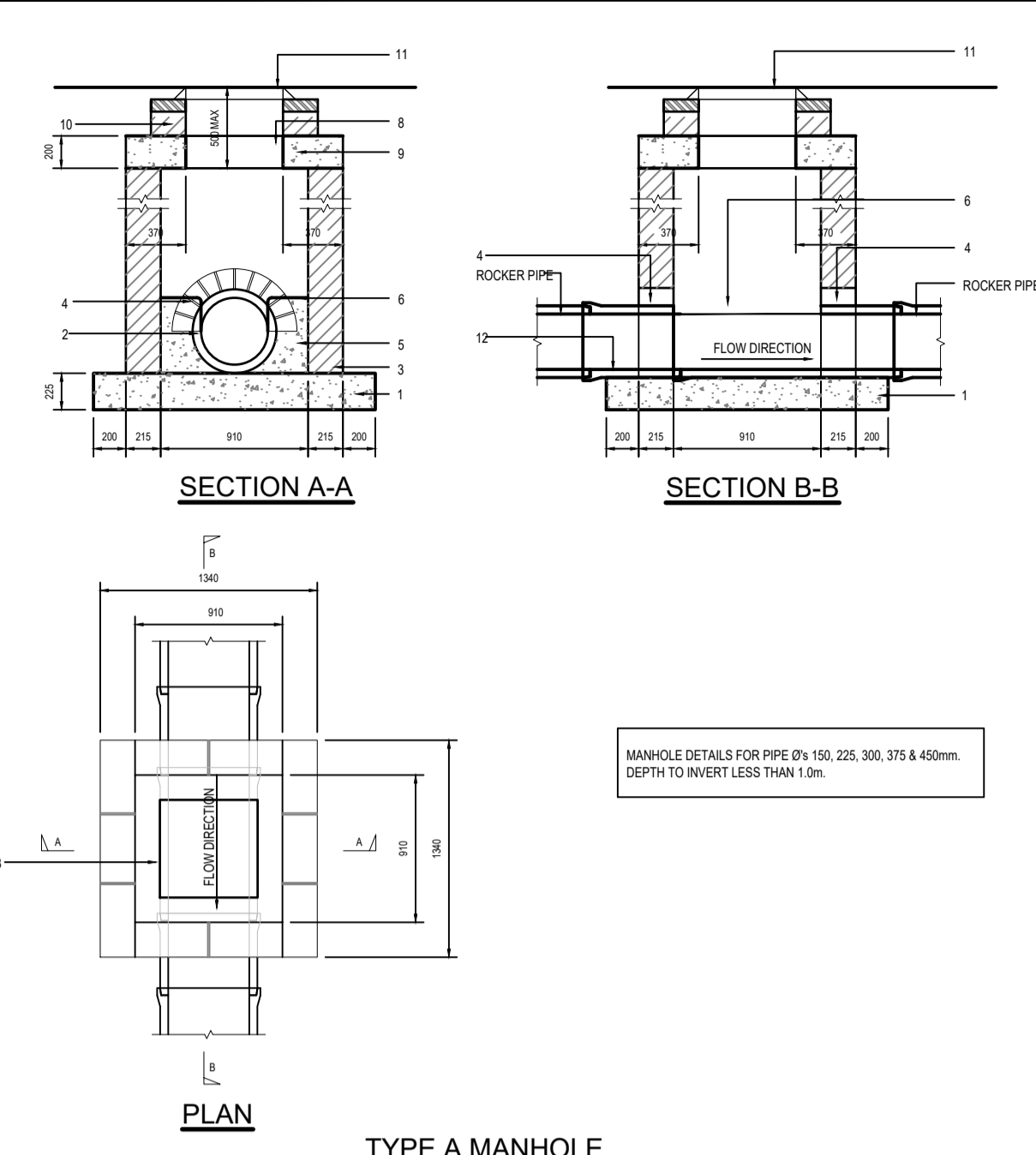
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Original Scale	1:500 at A1 1:1000 at A3
Design/Drawn	PS
Checked	AC
Authorized	GH
Date	26.05.22
Date	26.05.22
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Status	P
Drawing Number	5214419-ATK-01-ZZ-DR-CE-2704
Rev	A

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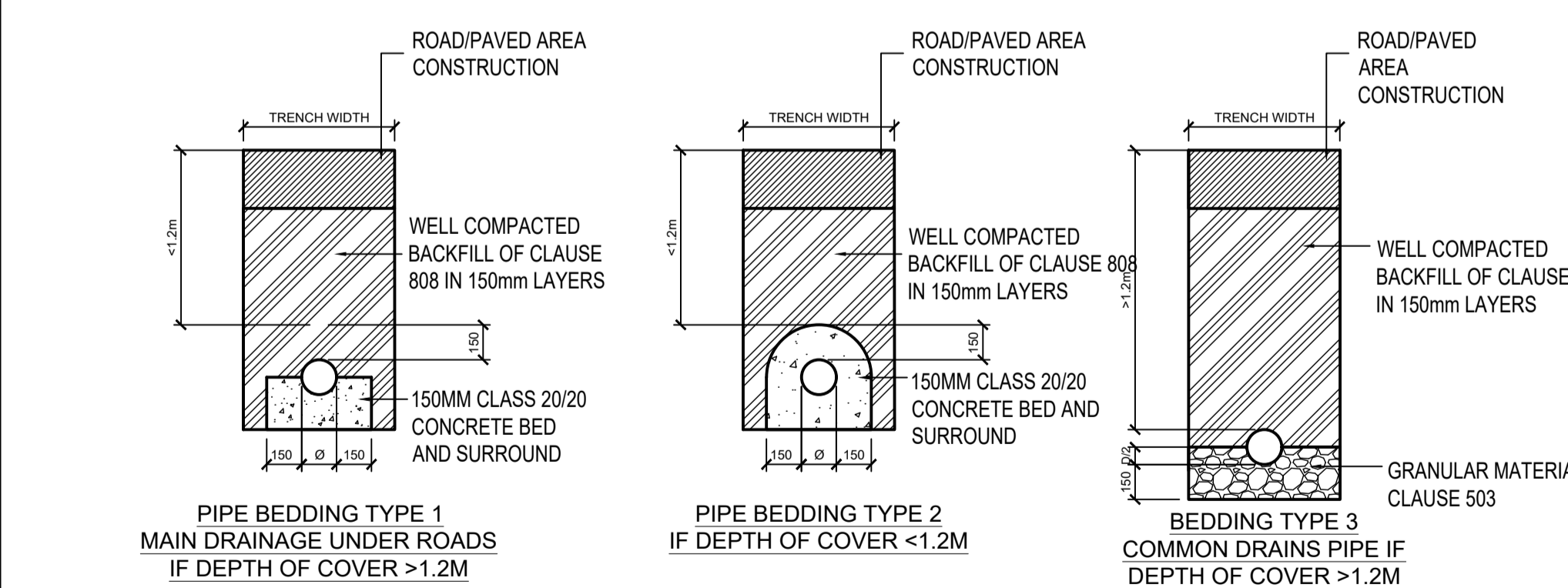
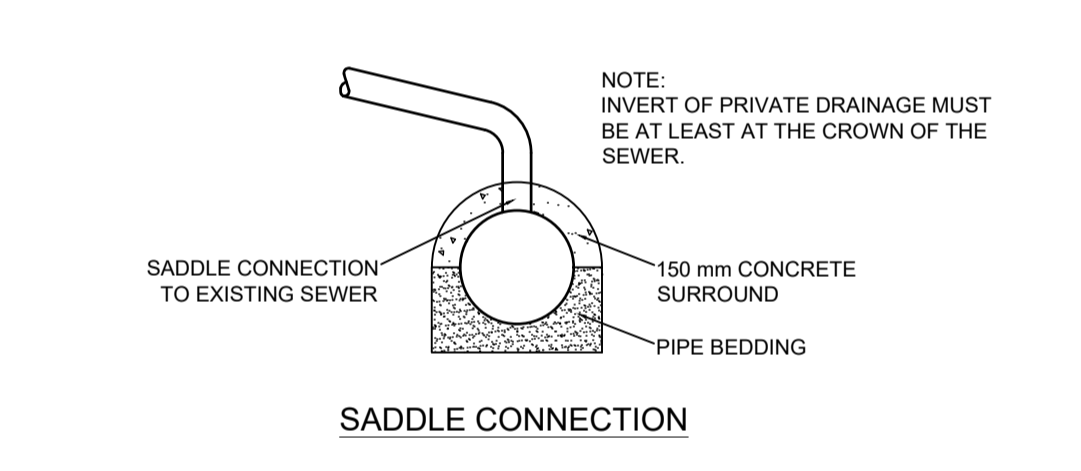
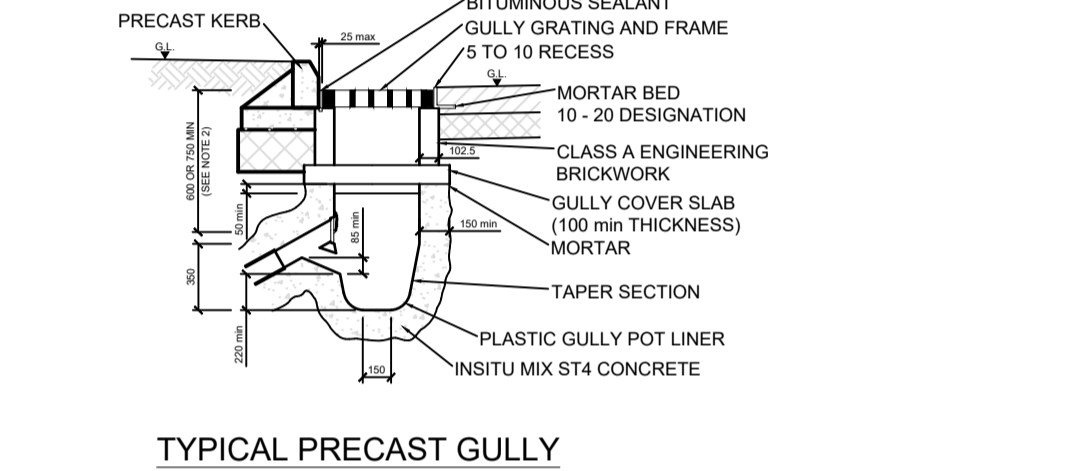
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Date: Sep 17, 2022 - 4:00pm  
Printed by: patrick.sheridan

- MANHOLE GENERAL NOTES:**
- 1) ALL BRICK TO BE SOLID ENGINEERING BRICK CLASS A OR B
  - 2) FOR PIPE DIAMETER >750MM USE MANHOLE WITH INTERNAL DIAMETER SIZE + PIPE SIZE + 1 METRE + 300MM
  - 3) DISTANCE FROM TOP RUNG OF THE LADDER TO GROUND LEVEL MUST BE A MAXIMUM OF 500MM
- MANHOLE DRAWING NOTES:**
- 1) 225mm THICK CL20/20 MASS CONCRETE FOUNDATIONS.
  - 2) PREFORMED HALF CIRCLE CHANNEL PIPES. THE PIPELINE MAY WHERE PRACTICABLE, BE LAID THROUGH THE MANHOLE AND THE CROWN CUT OUT TO HALF DIAMETER. PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH SIDE NO FURTHER THAN 600mm FROM THE INNER FACE OF THE MANHOLE WALL.
  - 3) MANHOLE CONSTRUCTION FOR SURFACE WATER MANHOLES HIGH DENSITY BLOCKS TO CLS10 OF IS 20 PART 1: 1987 OR CL 30/20 IN-SITU CONCRETE. BLOCKWORK SHALL BE BEDDED AND JOINTED USING MORTAR DESIGNATION THREE TO IS 406. BEDS AND VERTICAL JOINTS SHALL BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE LAID. JOINTS SHALL BE FLUSH POINTED AS THE WORK PROCEEDS. ALL FOUL MANHOLES MUST BE FACED IN SOLID ENGINEERING BRICK (MIN CLASS A OR B) OR IN-SITU CONCRETE FOR 1m ABOVE BENCHING LEVEL. BRICK TO BE BEDDED TO BLOCKWORK USING ENGLISH GARDEN WALL BOND.
  - 4) RELIEVING ARCH FORMED BY 215x110x65 BRICK CLASS A OR B AS PER DRAWING. RELIEVING ARCHES USED IN BRICK OR BLOCKWORK MANHOLES TO EXTEND OVER FULL THICKNESS OF WALL. A DOUBLE ARCH IS TO BE FORMED FOR PIPE DIAMETERS GREATER THAN 600mm.
  - 5) BENCHING AND PIPE CHANNEL PIPE SURROUND - CL 20/20 CONCRETE.
  - 6) BENCHING FINISHED IN 2:1 SAND-CEMENT MORTAR WITH SMOOTH TROWEL FINISH. AT 1 IN 30 SLOPE TOWARDS CHANNEL.
  - 7) STANDARD RUNGS AT 300c/c VERTICALLY AND GALVANISED TO LATEST VERSION OF BS729 OR EQUIVALENT.
  - 8) 600mm SQUARE OPE. IN ROOF SLAB.
  - 9) PRECAST R.C. ROOF SLAB SHALL BE 200MM THICK IN CL 30/20MM CONCRETE. WITH 40MM COVER TO STEEL.
  - 10) 1) TO 2 COURSES OF SOLID ENGINEERING BRICKS CLASS B TO IS 91:1983 SET IN 1:3 CEMENT AND MORTAR.
  - 11) CLASS D400 OR E500 MANHOLE COVER AND FRAME TO IS EN 124. 150mm DEEP FRAME FOR ROAD. 100mm DEEP FOR FOOTPATHS AND GREEN AREAS. NON-ROCK DESIGN. CLOSED KEYWAYS. MANUFACTURED FROM SPHEROIDAL GRAPHITE CAST IRON (DUCTILE CAST IRON). 600/600 (OR 600 DIAM) CLEAR OPENING. COVER & FRAME COATED IN BITUMEN OR OTHER APPROVED MATERIAL. COVER TO HAVE A MINIMUM MASS OF 140kg/m<sup>2</sup>. FRAME BEARING AREA SHALL BE 80,000mm<sup>2</sup> MIN. FRAMES SHALL BE DESIGNED TO PREVENT COVERS FALLING INTO MANHOLE. FRAMES SHALL BE BEDDED ON APPROVED MORTAR TO MANUFACTURER'S CONSTRUCTIONS.
  - 12) SHORT LENGTH PIPE JOINT EXTERNAL TO MANHOLE SHALL NOT EXCEED 600mm FROM THE INNER FACE OF MANHOLE WALL.
  - 13) TOE HOLES OF 230mm MIN. DEPTH AND GALVANISED STEEL SAFETY RAILINGS TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 525 DIAMETER. AND DEPTH TO INVERT >3m FOR ACCESS TO INVERT.
  - 14) SAFETY CHAIN TO BE PROVIDED ON PIPES THAT EXCEED 450mm IN DIAMETER. MILD STEEL. SAFETY CHAIN SHALL BE 10mm NOMINAL SIZE GRADE MIN NON CALBRATED CHAIN TYPE 2. COMPLYING WITH BS: 4842 Part 2. EQUIVALENT.
  - 15) WHEN DEPTH OF MANHOLES TO INVERT IS GREATER THAN 3m. LADDERS SHALL BE USED. INSTEAD OF RUNGS. TO BS4211 EXCEPT THAT STRINGERS SHOULD BE NOT LESS THAN 65x12mm IN SECTION AND RUNGS 25mm IN DIAMETER. FIXED LADDERS SHOULD MEET THE DIMENSIONAL REQUIREMENTS OF BS 4211.
  - 16) LADDER STRINGERS SHOULD BE ADEQUATELY SUPPORTED FROM THE MANHOLE WALL AT INTERVALS OF NOT MORE THAN 1.0m. STRINGERS SHOULD BE BOLTED TO CLEATS TO FACILITATE RENEWAL.
  - 17) ALL LADDERS, RUNGS, HANDRAILS, SAFETY CHAINS ETC. SHALL BE HOT DIP GALVANISED TO BS729.
  - 18) SOCKET OF PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALL SO THAT THE CHANNEL EXTENDS FULL LENGTH OF THE MANHOLE (EXCEPT FOR PRECAST MANHOLES).
  - 19) POSITION OF 910 SQUARE OPENING IN INTERMEDIATE ROOF SLAB. ALL MANHOLES SHALL BE WATERTIGHT TO THE SATISFACTION OF THE ENGINEER. FORMWORK TO REINFORCEMENT CONCRETE AND MASS CONCRETE SHALL COMPLY TO CLASS 2. SECTION 6.2.7. BS8110: PART 1: 1997. FINISH TO THE TOP OF SLABS SHALL COMPLY TO TYPE A. SECTION 6.2.7. BS8110: PART 1: 1997. PLAN DIMENSIONS OF MANHOLES ARE BASED ON BLOCKWORK HAVING A CO-ORDINATING SIZE OF 450x225x100. MANHOLES ARE DESIGNED TO BS8005 AND WALL THICKNESSES TO BS20 BLOCKWORK DESIGN CODE TAKING GRANULAR FILL PRESSURE AND H.B. SURCHARGE. REINFORCEMENT TO SLABS TO ENGINEERS DETAILS.
  - 20) FOR MANHOLES >3.0m DEPTH TO INVERT USE 30N/20 IN-SITU CONCRETE REINFORCING MESH REF. A383 (86) 8mm TO BE PLACED AT MID POINT OF WALL ADDITIONAL REINFORCEMENT TO BE SUPPLIED OVER PIPE CROWN.
  - 21) FOR PRECAST MANHOLES. CHAMBER WALLS AND COVER SLAB TO BE CONSTRUCTED TO IS EN 1917 AND IS 420 2004.
  - 22) MANHOLE OPENING TO BE SITUATED FURTHEST FROM THE NEAREST CARRIAGEWAY. MANHOLE STEPS/ACCESS TO BE POSITIONED TO ALLOW VIEWING OF ONCOMING TRAFFIC.
  - 23) FOR BEDDING AND SEALING OF CHAMBER RINGS. THE TOP RING (TO PRECAST COVER SLAB) AND BOTTOM RING TO BE BEDDED WITH CEMENT MORTAR. FOR INTERMEDIATE RINGS. JOINTS TO BE SEALED WITH APPROVED PRE-FORMED JOINTING STRIP.
  - 24) PRECAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150MM THICK GRADE C20/20 CONCRETE.



**NOTES:**  
DETAILS INDICATED IN ACCORDANCE WITH GOSOS REQUIREMENTS FOR STORM DRAINAGE  
FOUL DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS AND CODE OF PRACTICE

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS.
  2. THE MINIMUM DEPTH FROM THE TOP OF THE GRATING TO THE TOP OF THE GULLY OUTLET IS TO BE 750mm WHEN THE CONNECTING PIPE IS UNDER A CARRIAGE WAY OR A HARD SHOULDER AND 600 ELSEWHERE.
  3. PRE CAST CONCRETE GULLIES AND COVER SLABS SHALL BE TO BS 5911-6.
  4. WHEN AN INSITU CAST GULLY HAS A TRAP, THE STOPPERS SHALL COMPLY WITH THE REQUIREMENTS OF BS 5911-4 AND BS EN 1917.
  5. ALL ST CONCRETE SHALL BE TO SHW, CLAUSE 2602



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P01	ISSUED FOR PLANNING		PS 06.09.22	AC	GH

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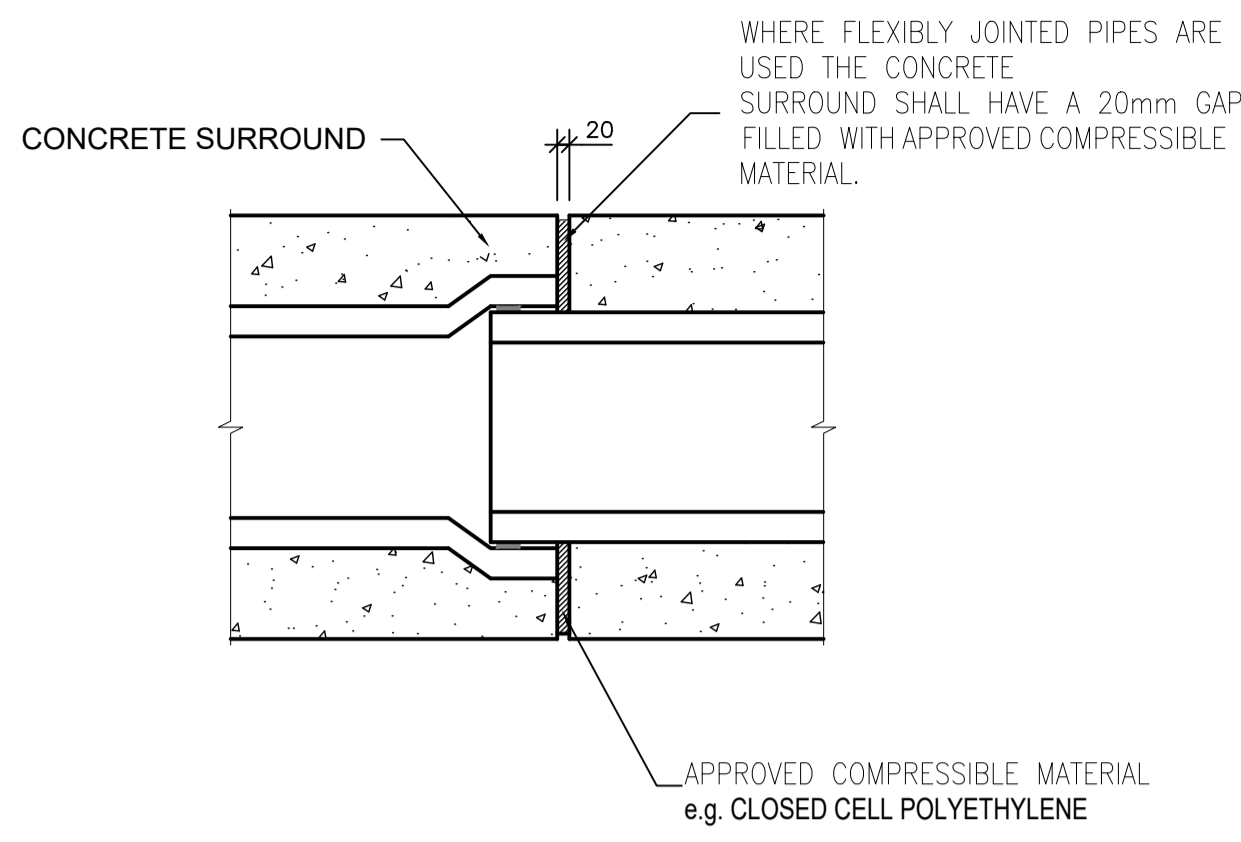
Project: COASTAL QUARTER SHD 2

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Title		STANDARD CONSTRUCTION DETAILS SHEET 1 of 3			
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AS SHOWN	PS	AC	GH		
Date	Date	Date	Date		
26.05.22	26.05.22	26.05.22	26.05.22		
Status	Drawing Number	Rev			
P	5214419-ATK-ZZ-ZZ-SK-SD-0001	P01			

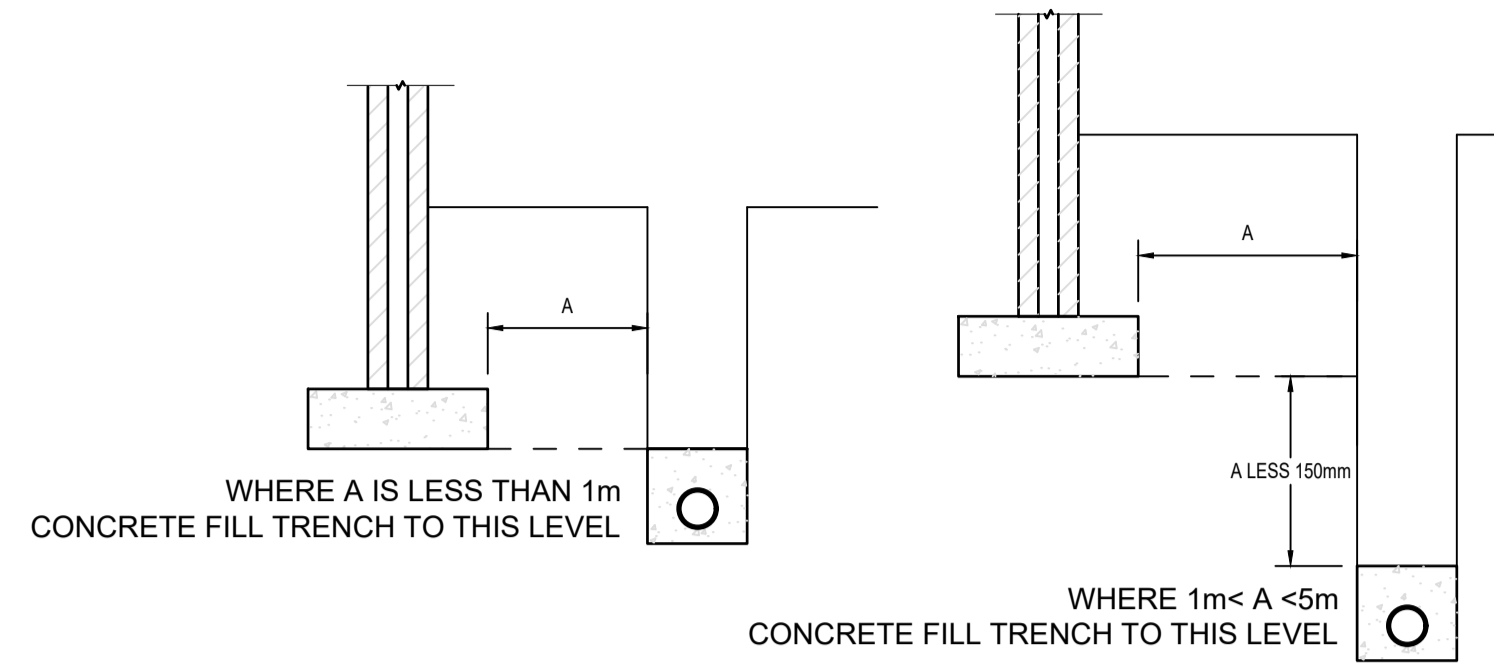


**GULLY CONNECTIONS:**

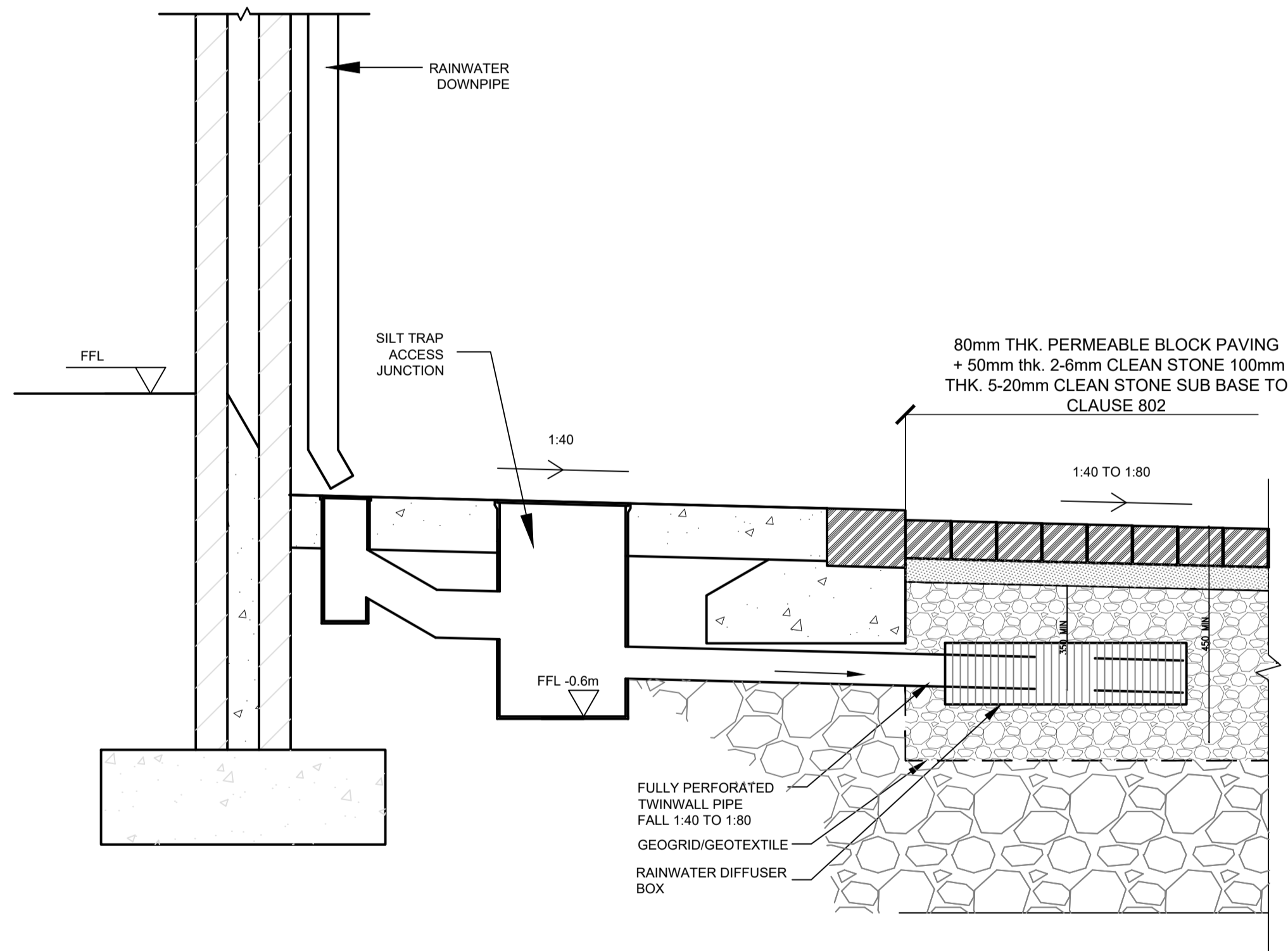
1. EACH GULLY SHALL HAVE A SEPERATE 150mm CONNECTION SURROUNDED WITH 150mm CLASS 20N20mm CONCRETE. GULLIES SHALL NOT BE INTERCONNECTED.
2. WHEN CONNECTION TO PUBLIC SEWERS, BENDS FROM 7° UP TO 45° SHOULD BE USED AS REQUIRED AND A SADDLE JUNCTION FITTED TO MAKE THE CONNECTION TO THE SEWER. LONG RADIUS BENDS ARE PREFERRED.
3. GULLY CONNECTIONS SHOULD NOT, IF POSSIBLE EXCEED 20m IN LENGTH AND CONNECT TO THE SEWER IN THE DIRECTION OF THE FLOW.
4. IN UNSEALED GULLIES THE OUTLET PIPE SHALL BE 450mm ABOVE THE FLOOR OF THE GULLY PIT.
5. WHERE THE GULLIES ARE CONNECTED TO MANHOLES THEY SHALL BE CONNECTED AT THE BENCHING LEVEL OR A MAXIMUM OF 500mm ABOVE INVERT OF MAIN PIPE.
6. CONNECTIONS SHALL BE TURNED WITH THE DIRECTION OF FLOW.



**JOINT IN CONCRETE SURROUND**

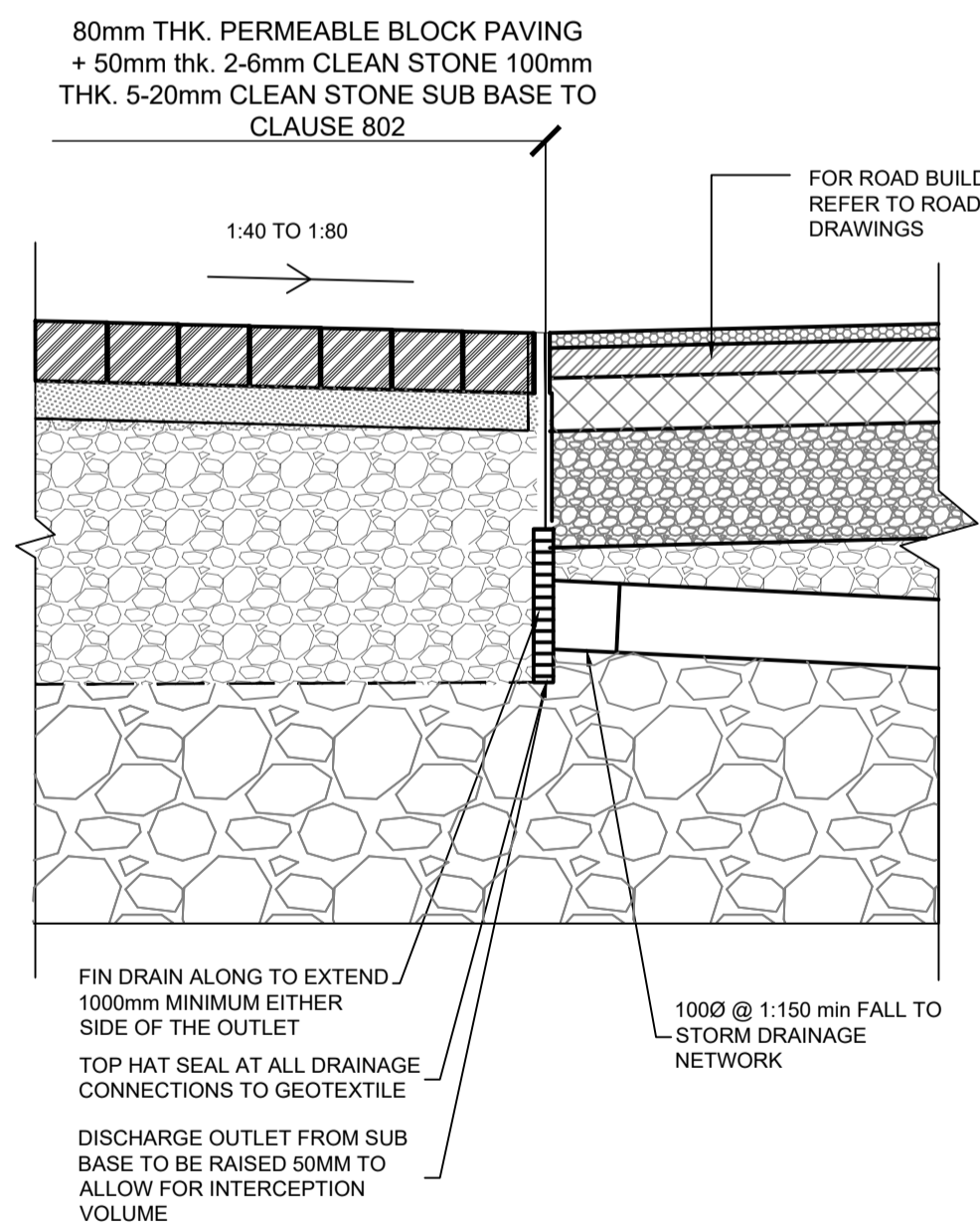


**CONCRETE SURROUND TO PIPE RUN NEAR BUILDINGS / FOUNDATIONS**



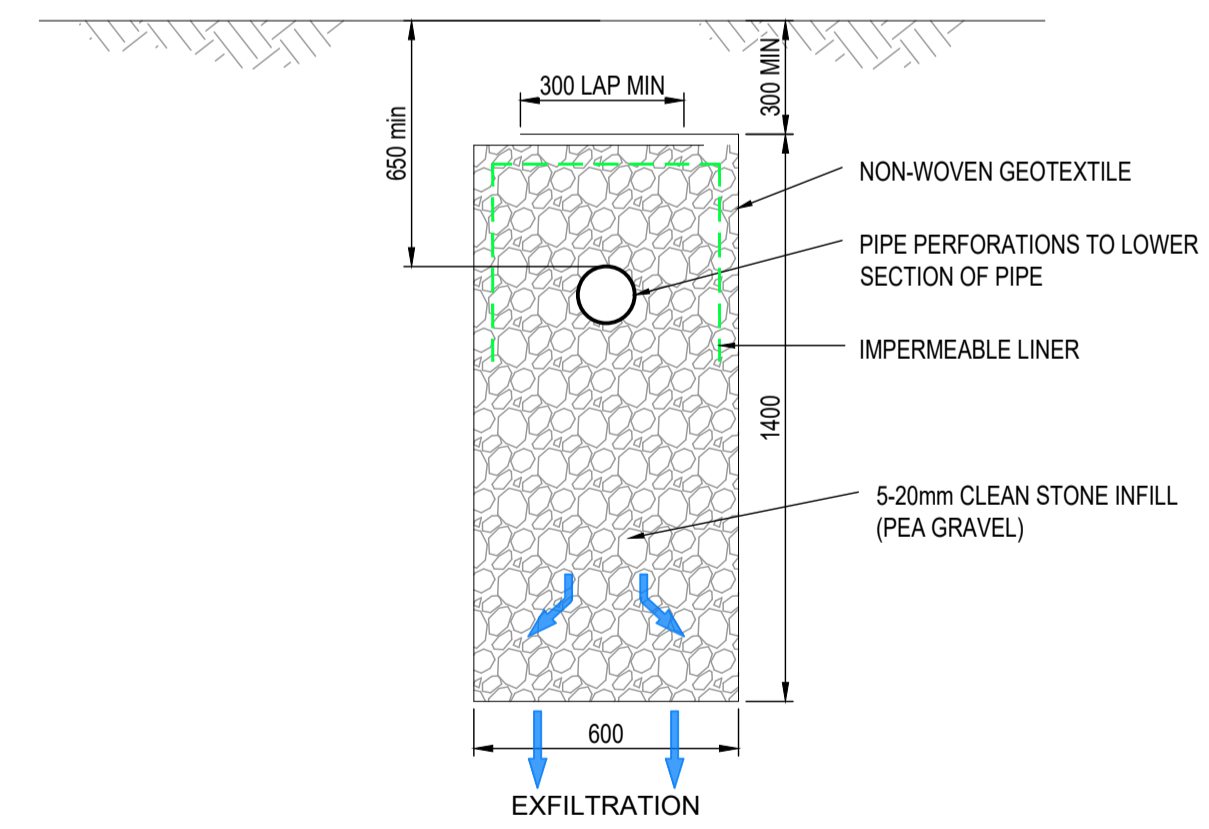
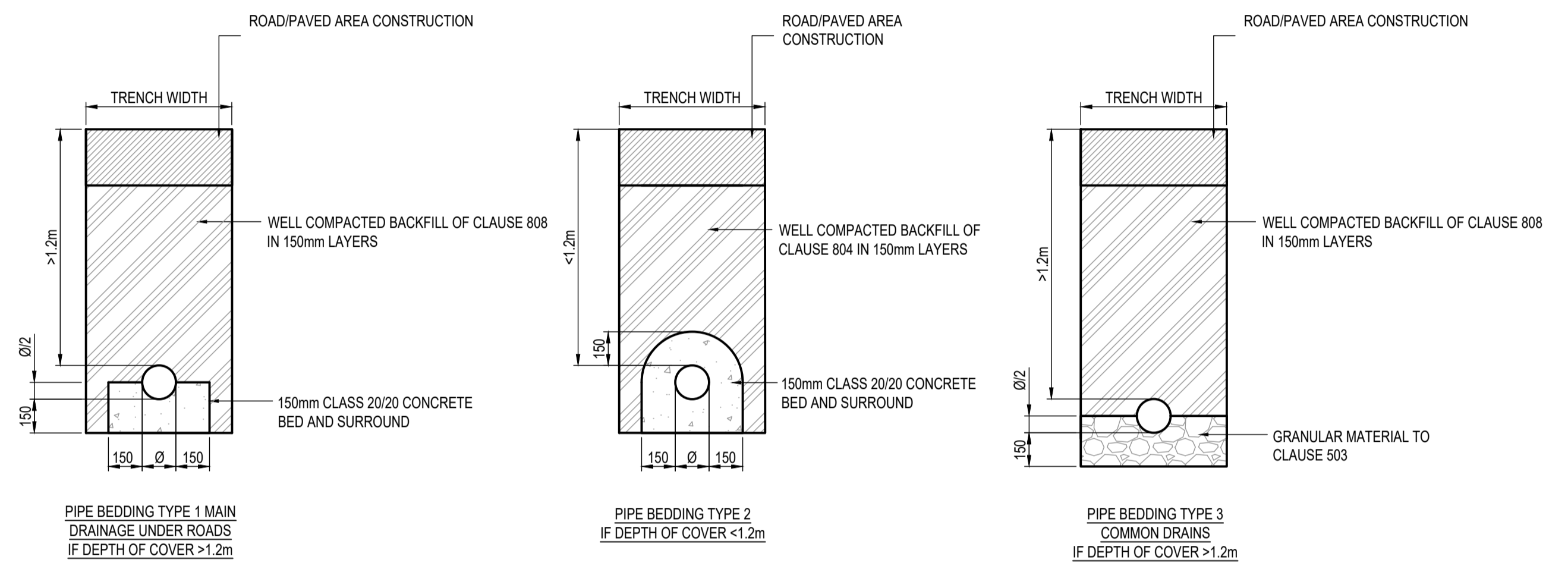
**PAVEMENT DRAINAGE DETAILS**

Scale at A1 1:10  
Scale at A3 1:20



**SURFACE WATER PIPE BEDDING DETAILS**

Scale at A1 1:20  
Scale at A3 1:40



**TYPICAL FILTER DRAIN DETAIL**

Scale at A1 1:20  
Scale at A3 1:40

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Project  
**COASTAL QUARTER SHD 2**

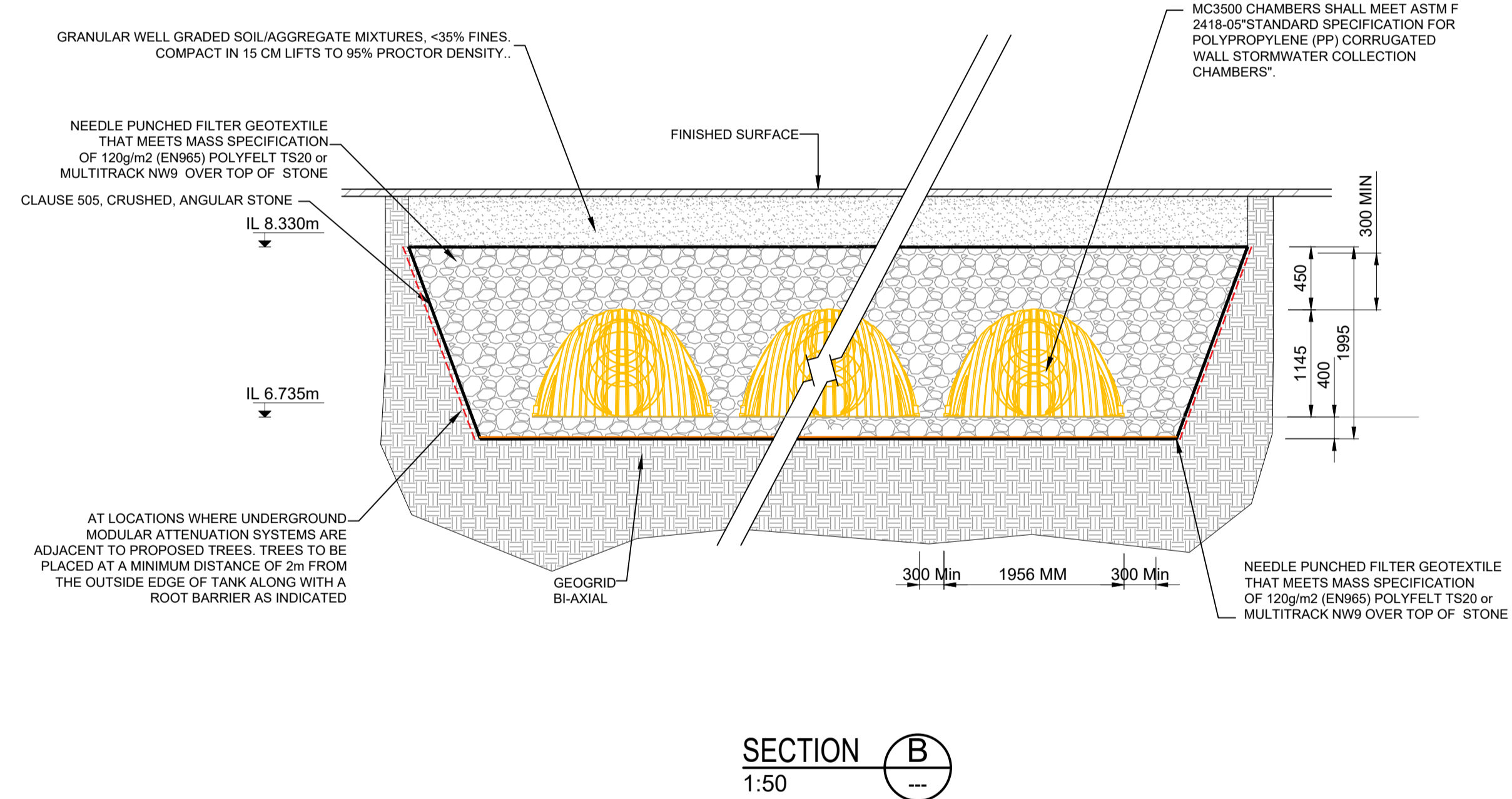
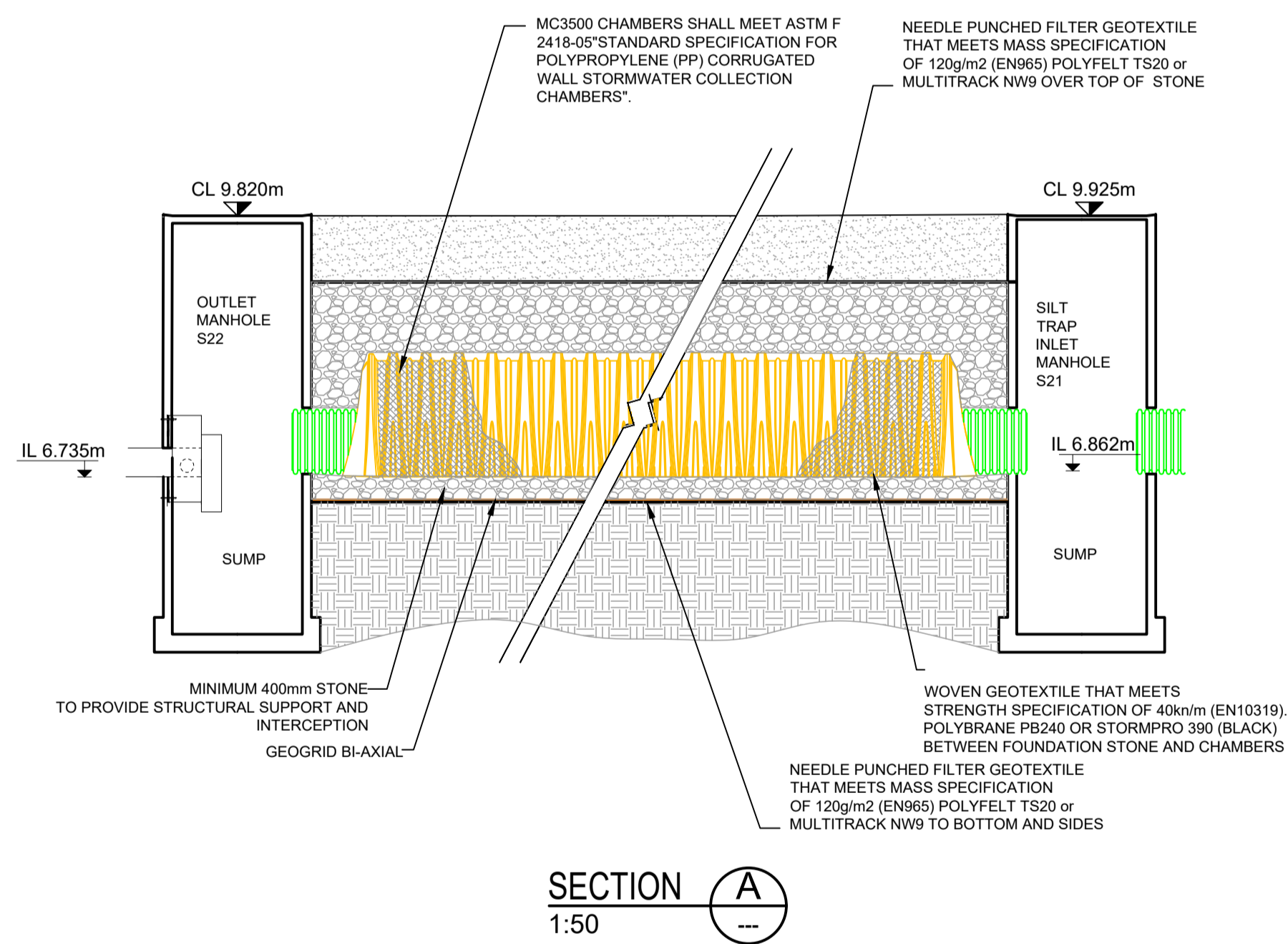
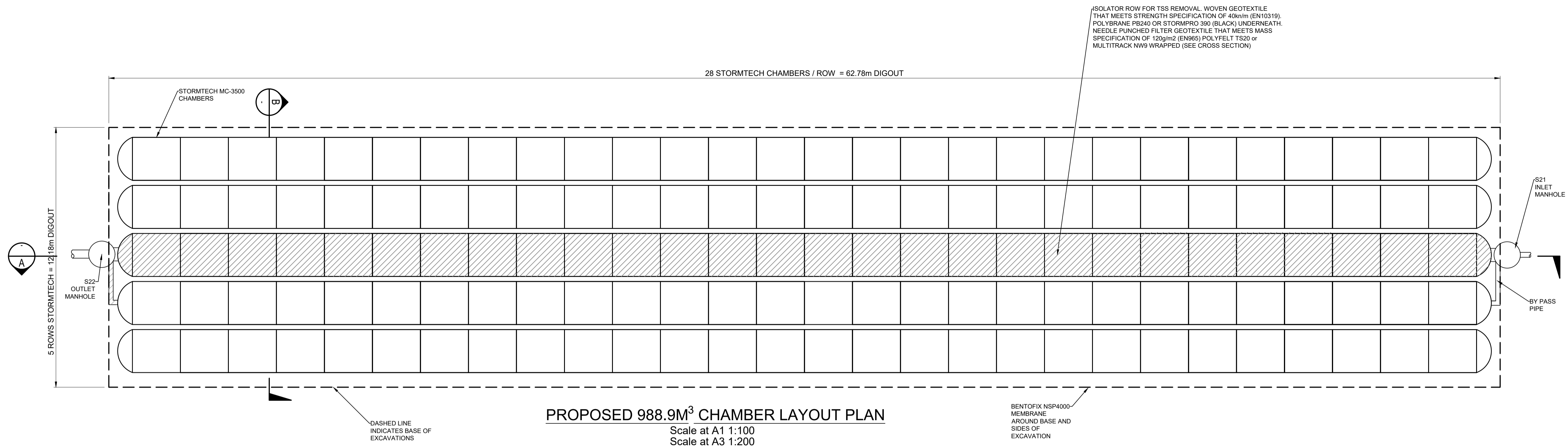
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Checked <b>AC</b> Date 26.05.22	Authorised <b>GH</b> Date 26.05.22
Status <b>P</b>	Drawing Number <b>5214419-ATK-ZZ-ZZ-SK-SD-0002</b>
Rev <b>P01</b>	Rev

Rev	Description	By	Date	Chk'd	Auth
P01	ISSUED FOR PLANNING	PS	08.09.22	AC	GH



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Date: Sep 17, 2022 - 3:53pm  
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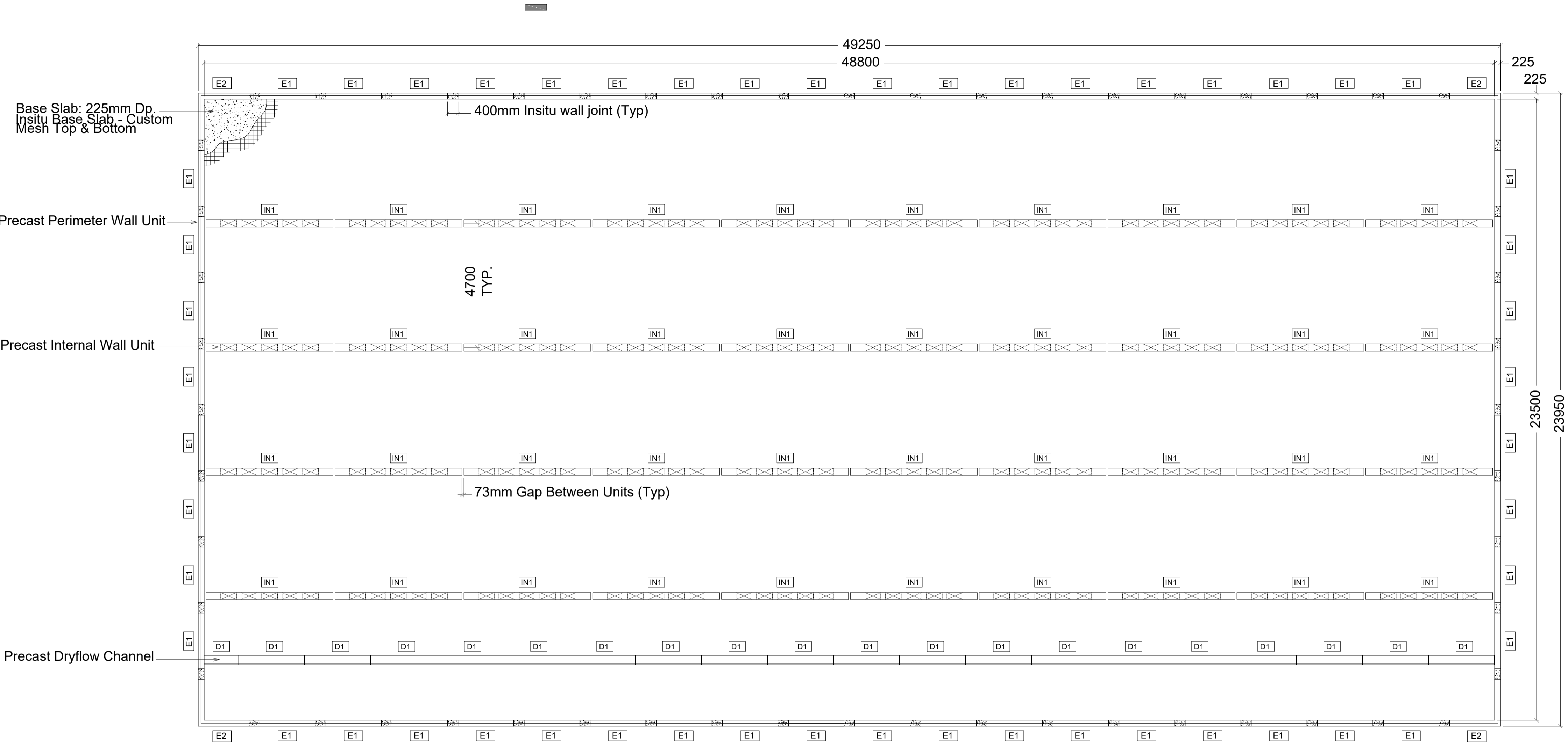
Client	SHANKILL PROPERTY INVESTMENTS LTD		
Project	COASTAL QUARTER SHD 2		

Purpose	PLANNING						
Title	UNDERGROUND MODULAR ATTENUATION TANKS SHEET 1 of 2						
Original Scale	AS SHOWN	Design/Drawn	PS	Checked	AC	Authorized	GH
Date	26.05.22	Date	26.05.22	Date	26.05.22	Date	26.05.22
Status	P	Drawing Number	5214419-ATK-ZZ-ZZ-SK-SD-0021	Rev	P01		

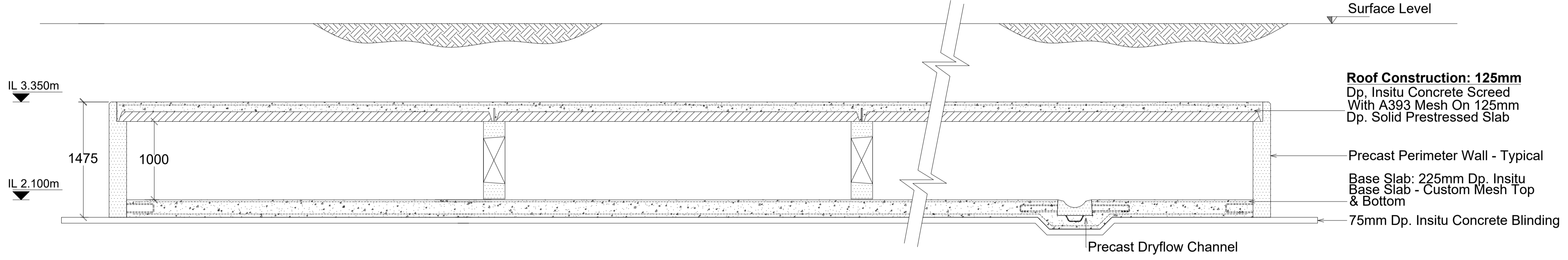
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**BASE PLAN: 1.0m DEEP MODULAR TANK**  
ESTIMATED STORAGE VOLUME: 1100m<sup>3</sup>



**SECTION 01: 1.0m DEEP MODULAR TANK**

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Purpose	PLANNING		
Title	UNDERGROUND MODULAR ATTENUATION TANKS SHEET 2 of 2		
Original Scale	1:100 @ A1	Design/Drawn	PS
Checked	AC	Date	26.05.22
Authorized	GH	Date	26.05.22
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