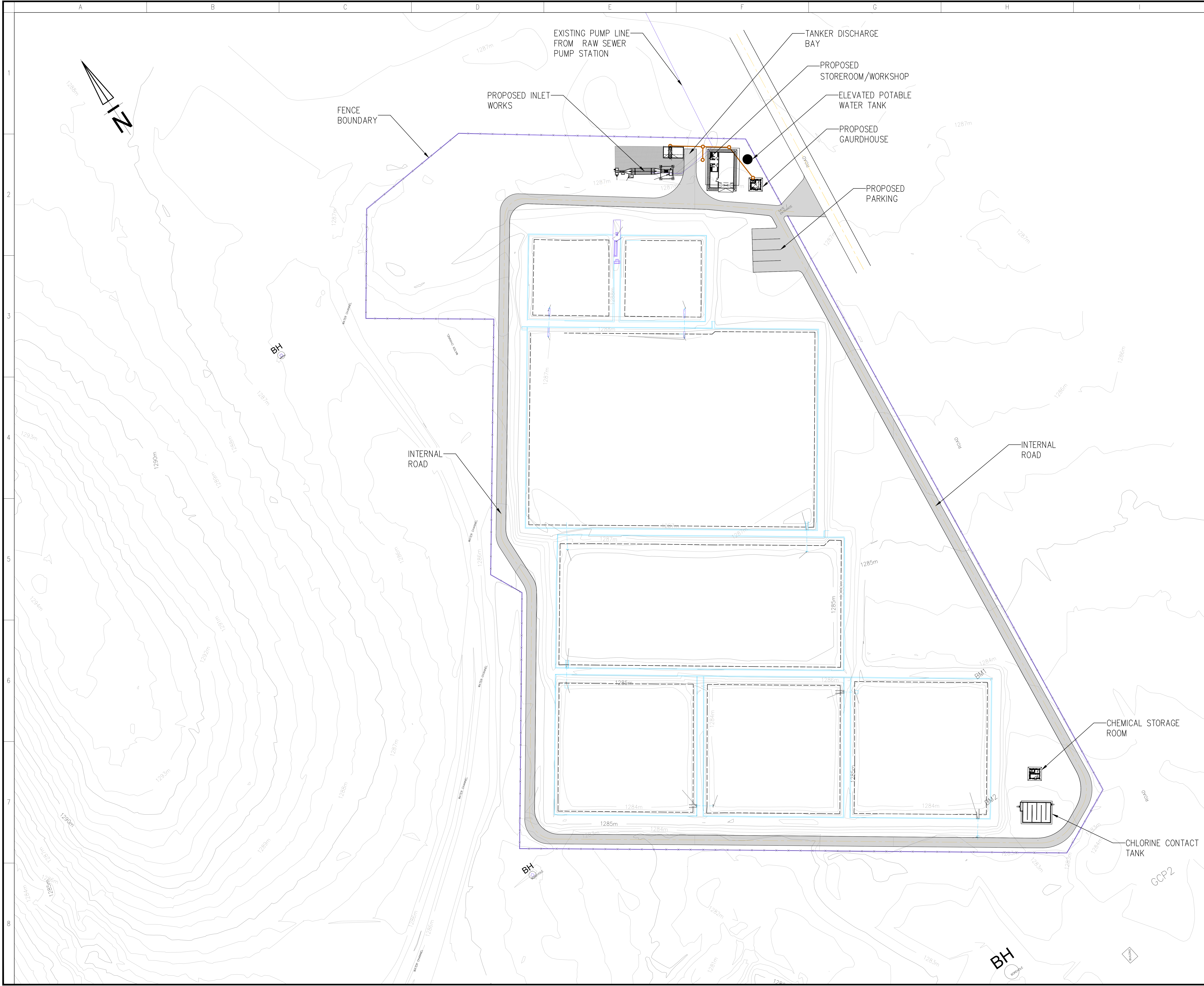
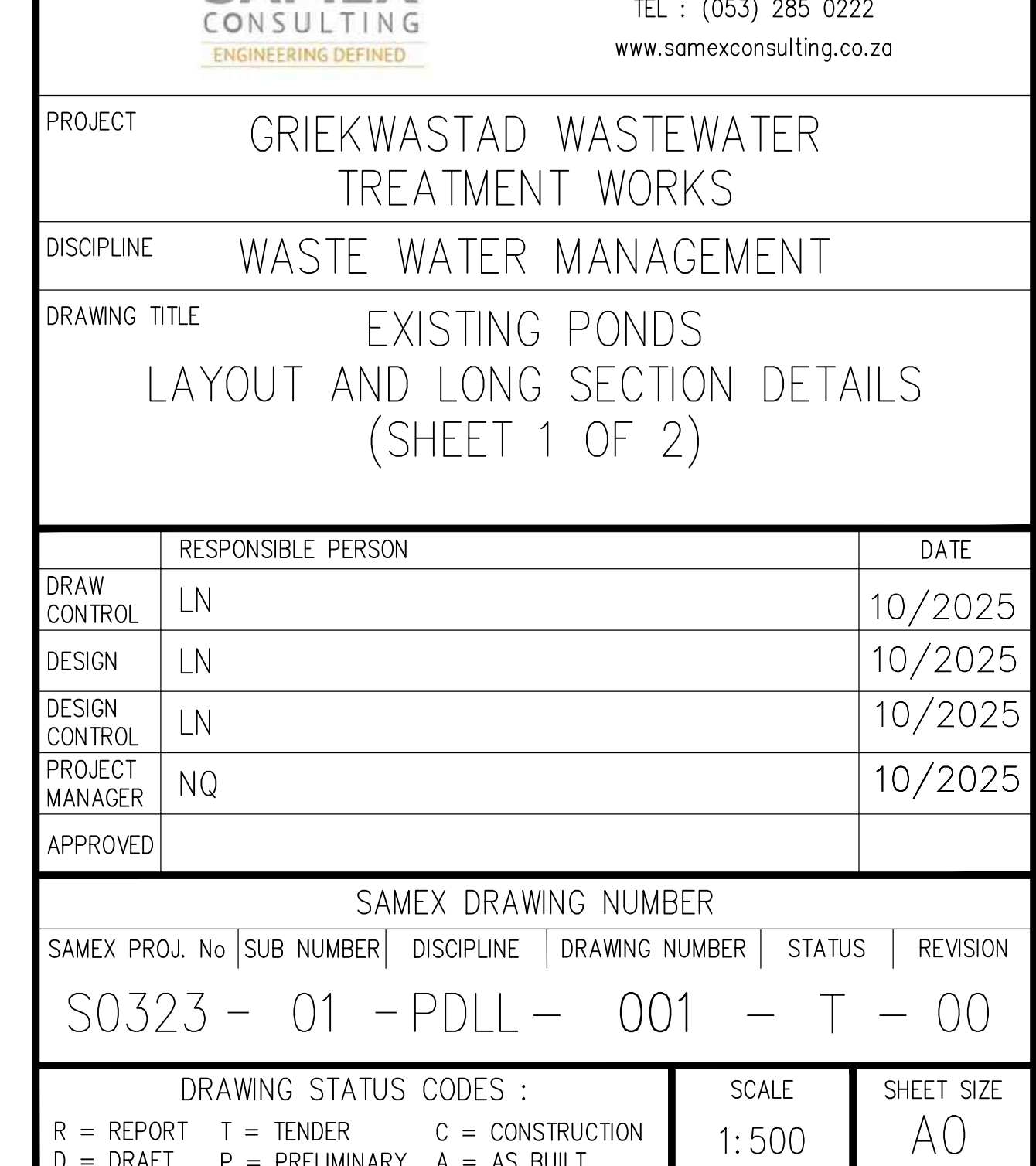
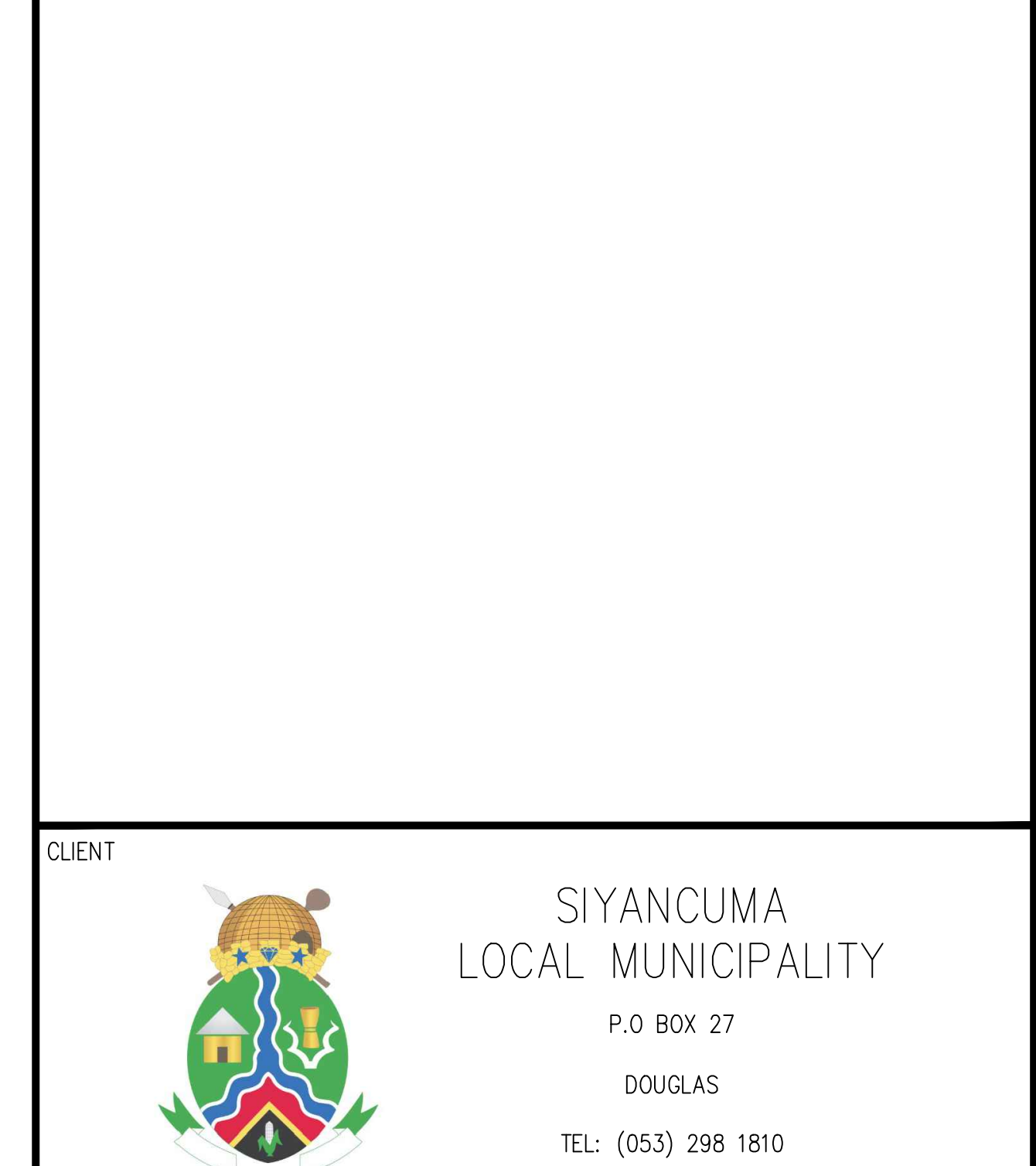
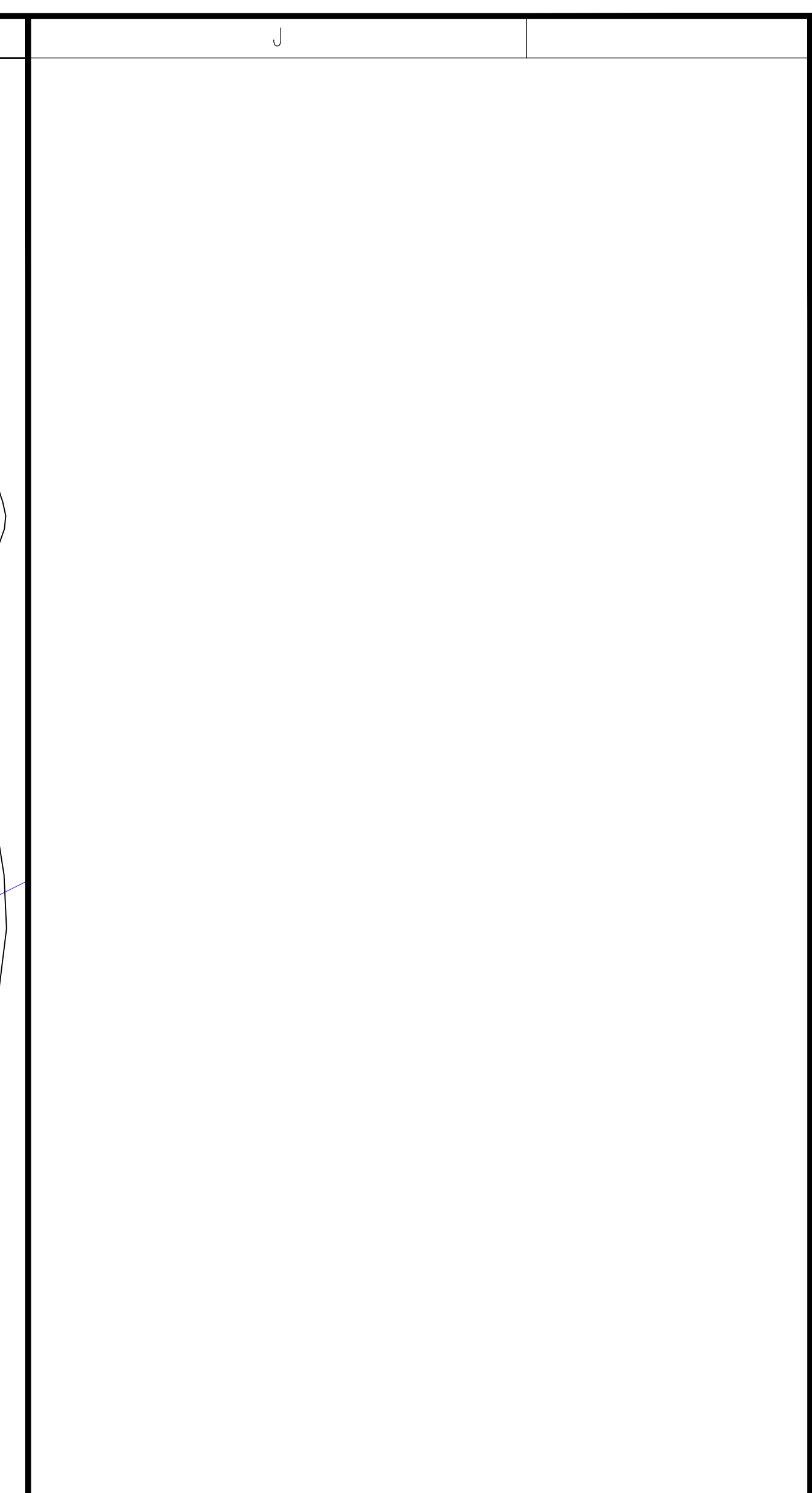
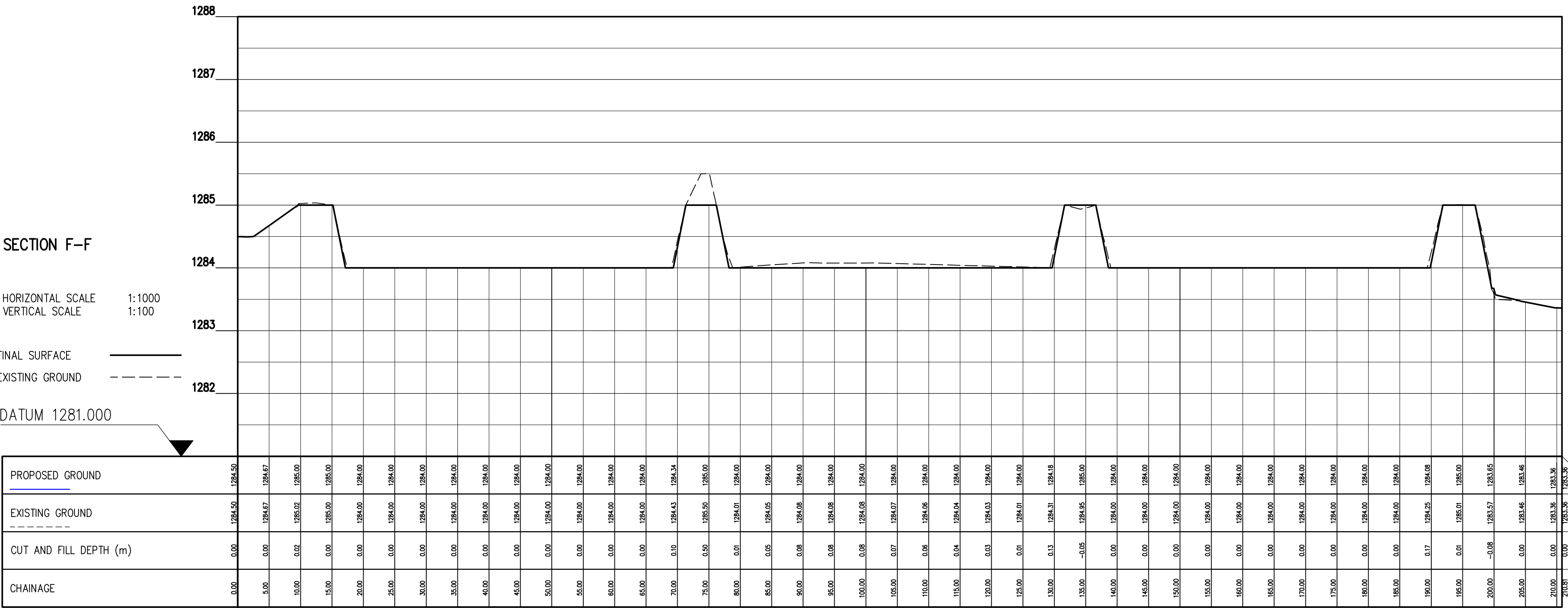
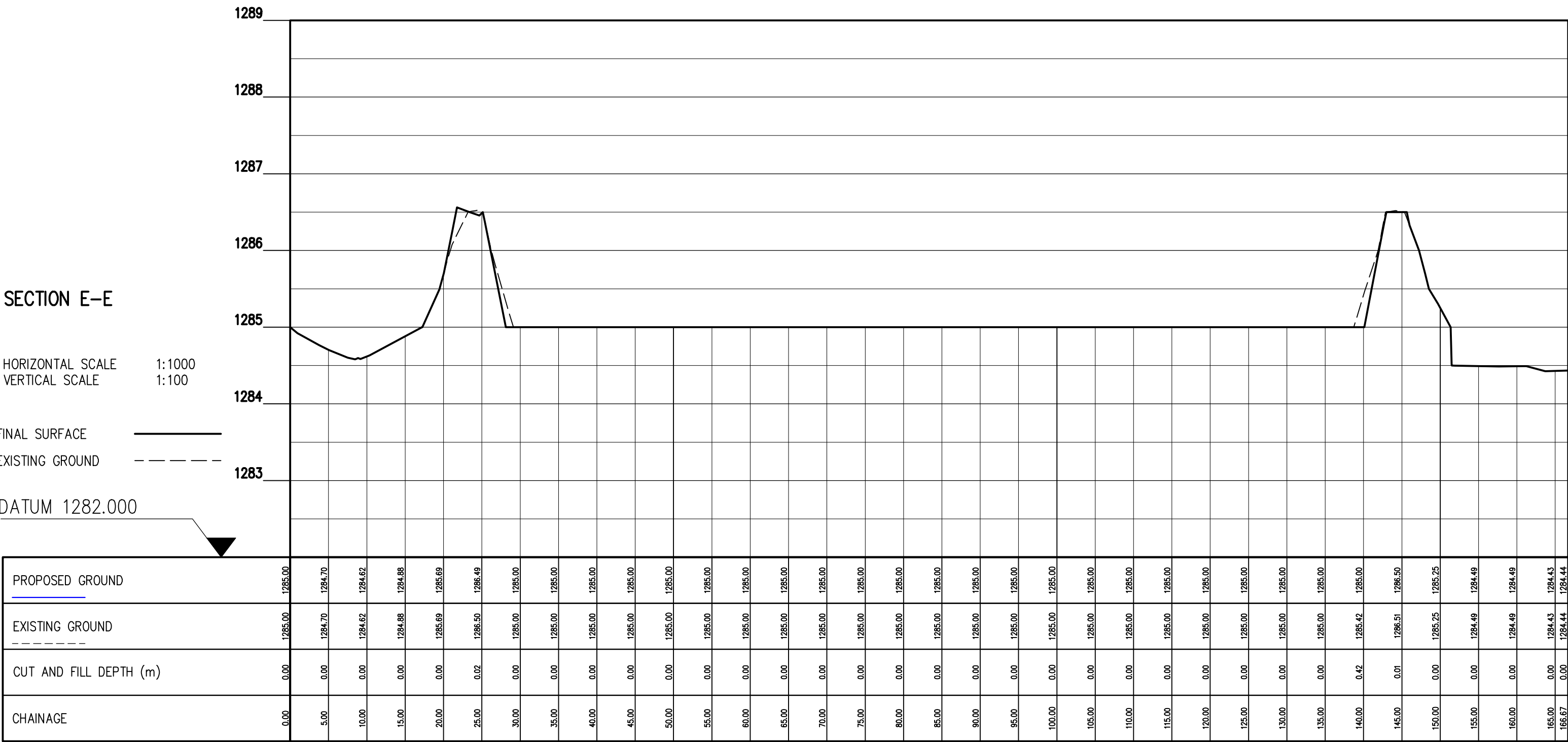
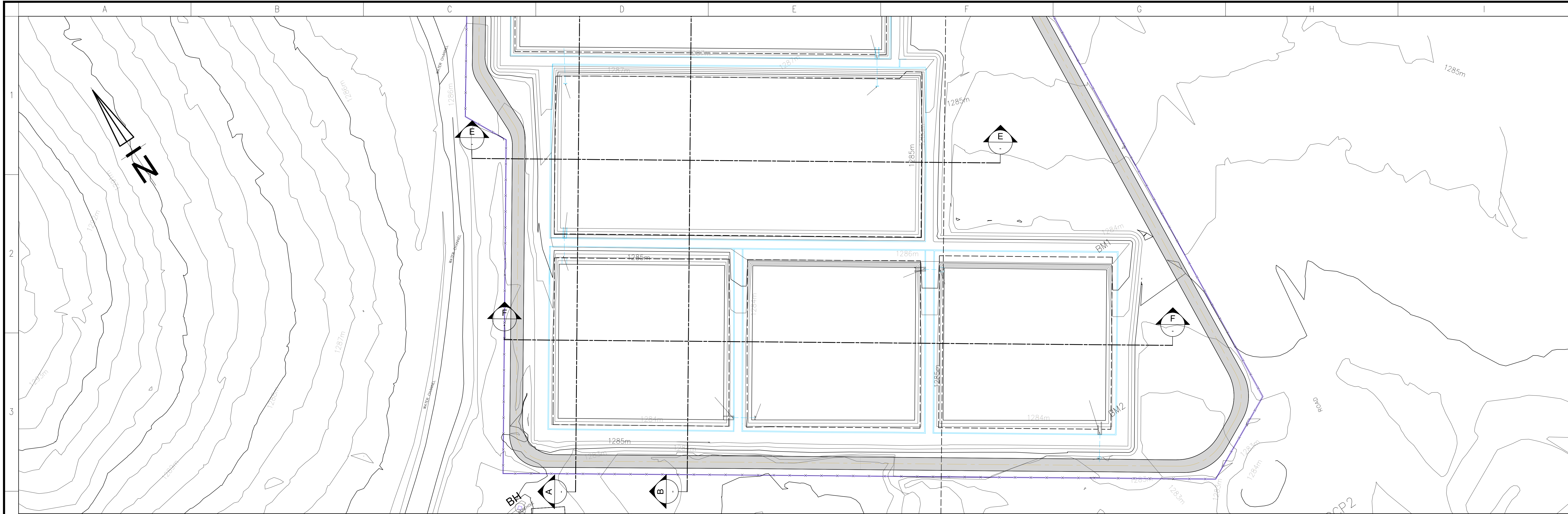




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	CNR JACOBUS SMITH AND WATERWORKS, 6 URBAN CORNER, NEW PARK KIMBERLEY, 8301 TEL : (053) 285 0222 www.samexconsulting.co.za				
PROJECT					
GRIEKWASTAD WASTEWATER TREATMENT WORKS					
DISCIPLINE					
WASTE WATER MANAGEMENT					
DRAWING TITLE					
OVERALL PLANT LAYOUT PLAN					
DRAW CONTROL	RESPONSIBLE PERSON	DATE			
LN		10/2025			
DESIGN	LN	10/2025			
DESIGN CONTROL	LN	10/2025			
PROJECT MANAGER	NQ	10/2025			
APPROVED					
SAMES DRAWING NUMBER					
SAMES PROJ. No	SUB NUMBER	DISCIPLINE	DRAWING NUMBER	STATUS	REVISION
S0323 - 01 - GA - 001 - T - 00					
DRAWING STATUS CODES :			SCALE	SHEET SIZE	
R = REPORT	T = TENDER	C = CONSTRUCTION	1:500	A0	
D = DRAFT	P = PRELIMINARY	A = AS BUILT			
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PROJECTGRIEKWASTAD WASTEWATER
TREATMENT WORKS

DISCIPLINEWASTE WATER MANAGEMENT

DRAWING TITLEXISTING PONDS
LAYOUT AND LONG SECTION DETAILS
(SHEET 3 OF 3)

DRAW CONTROL	RESPONSIBLE PERSON	DATE
LN		10/2025
DESIGN	LN	10/2025
DESIGN CONTROL	LN	10/2025
PROJECT MANAGER	NQ	10/2025
APPROVED		

SAMEX DRAWING NUMBER

SAMEX PROJ. No | SUB NUMBER | DISCIPLINE | DRAWING NUMBER | STATUS | REVISION

S0323 - 01 - PDLL - 003 - T - 00

DRAWING STATUS CODES :
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D = DRAFT

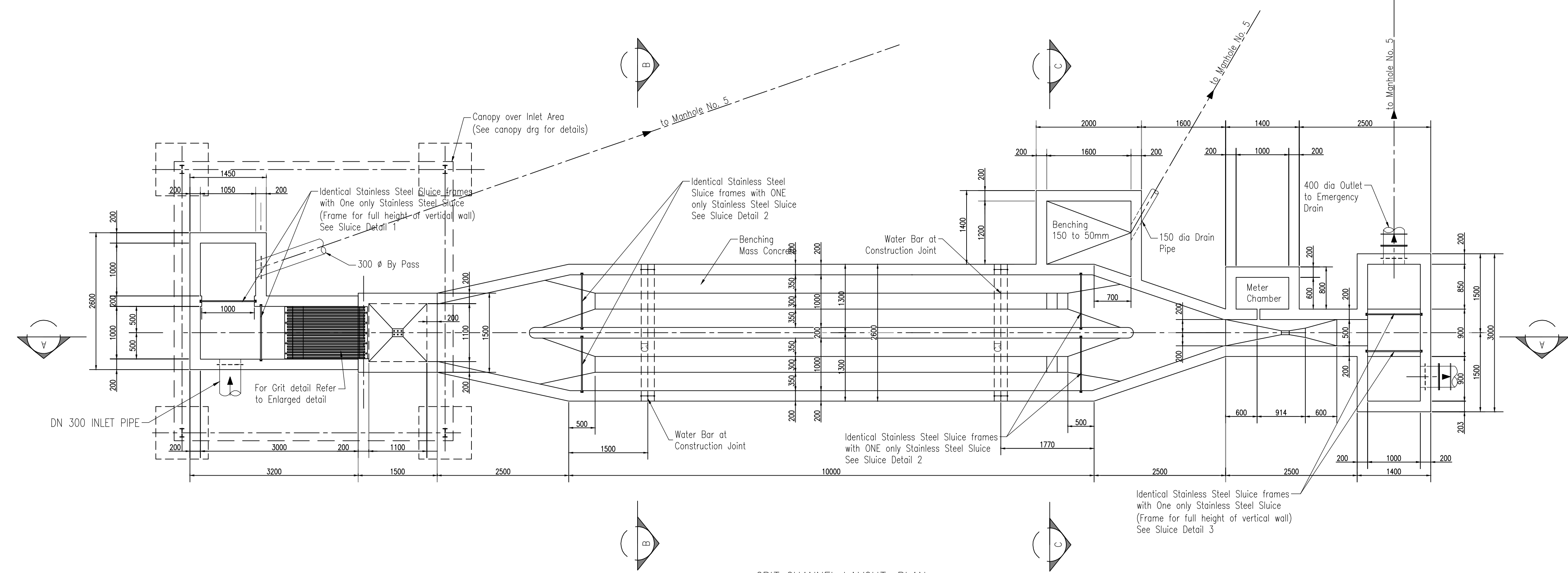
T = TENDER
P = PRELIMINARY

C = CONSTRUCTION
A = AS BUILT

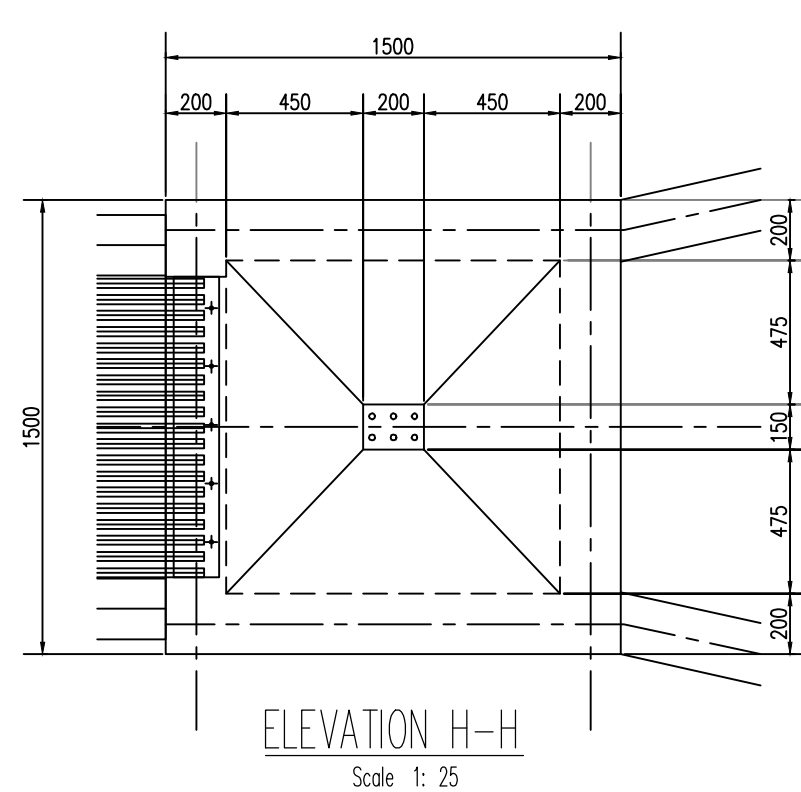
SCALE
1:500

SHEET SIZE
A0

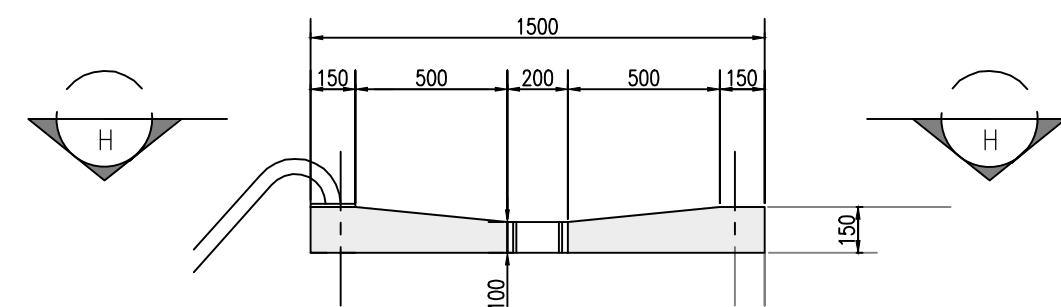
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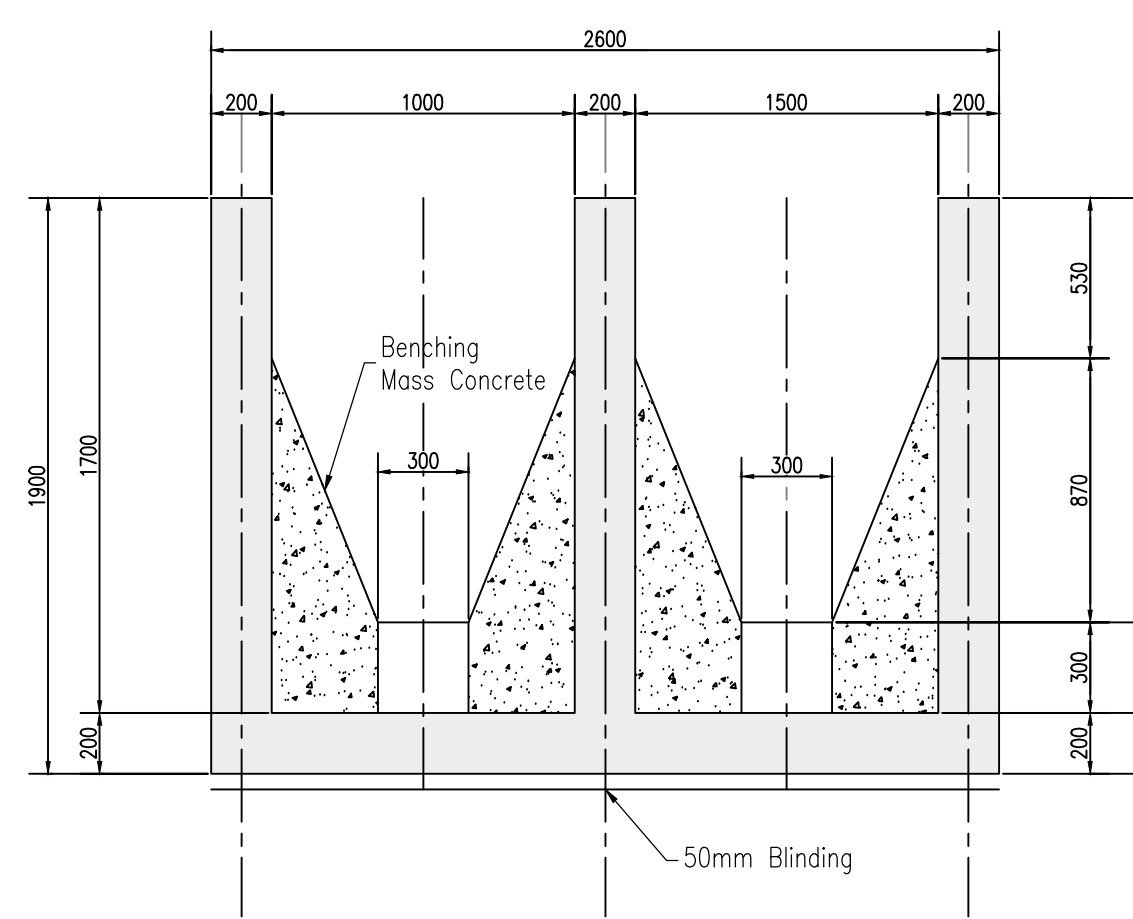
GRIT CHANNEL LAYOUT: PLAN
Scale 1: 50



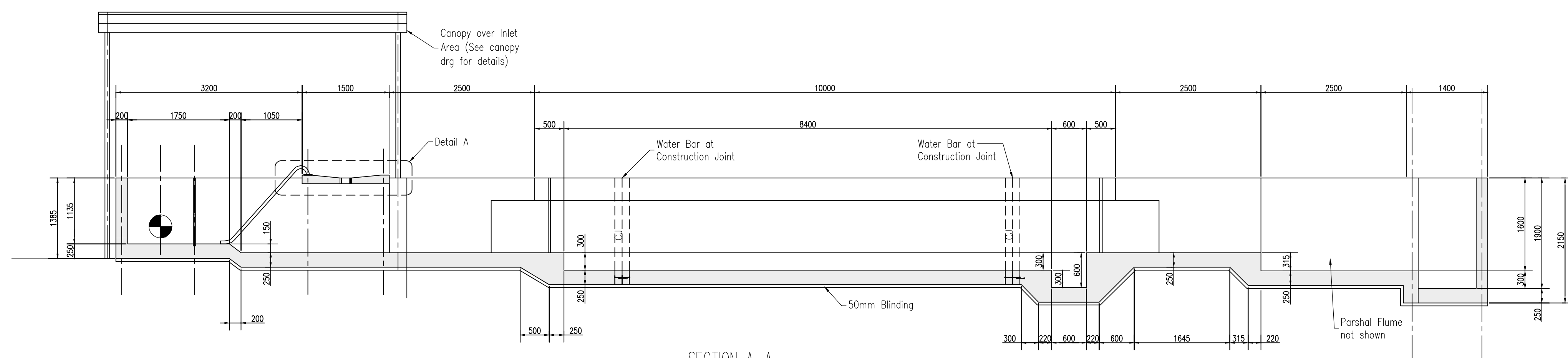
ELEVATION H-H
Scale 1: 25



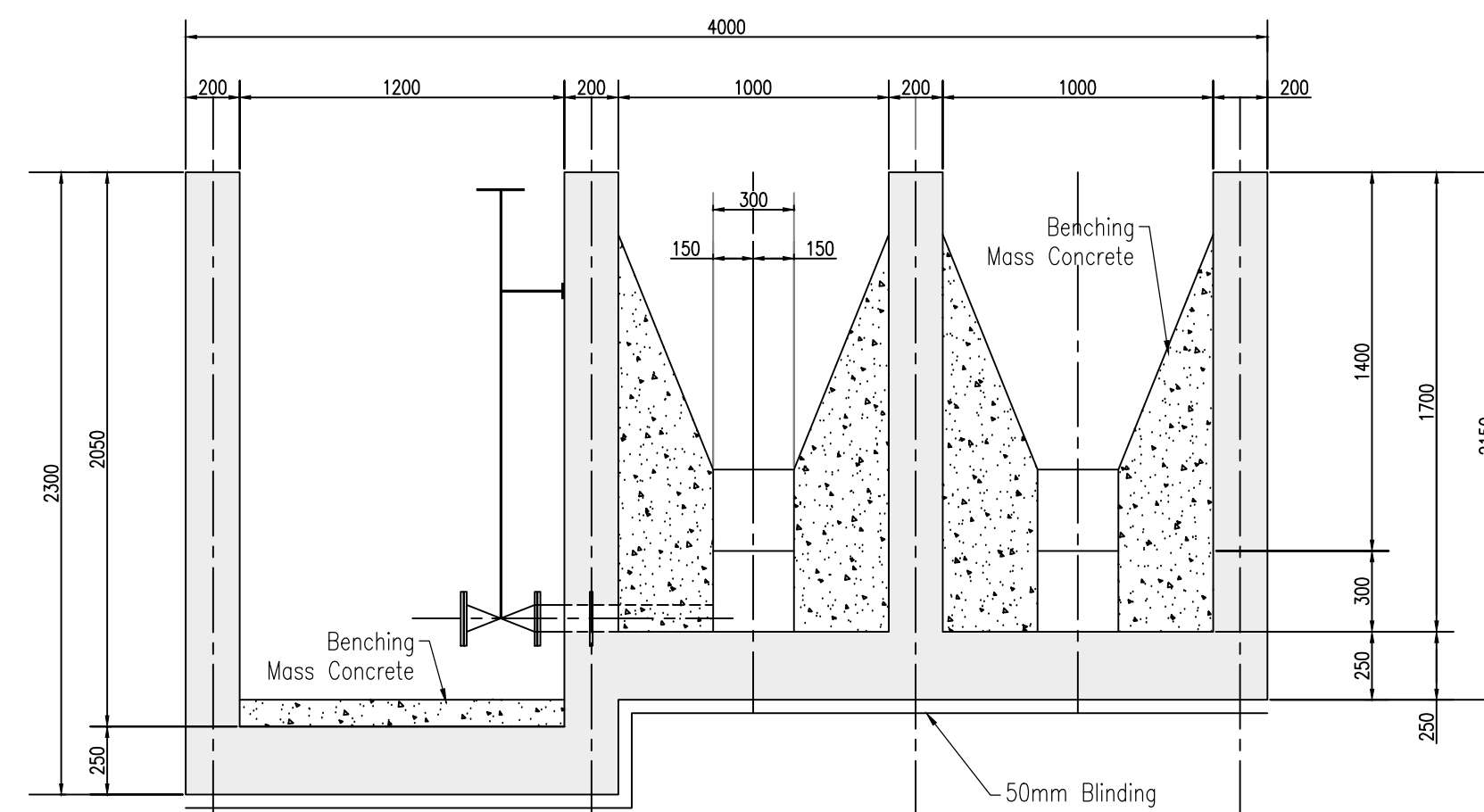
ENLARGED DETAIL A
Scale 1: 25



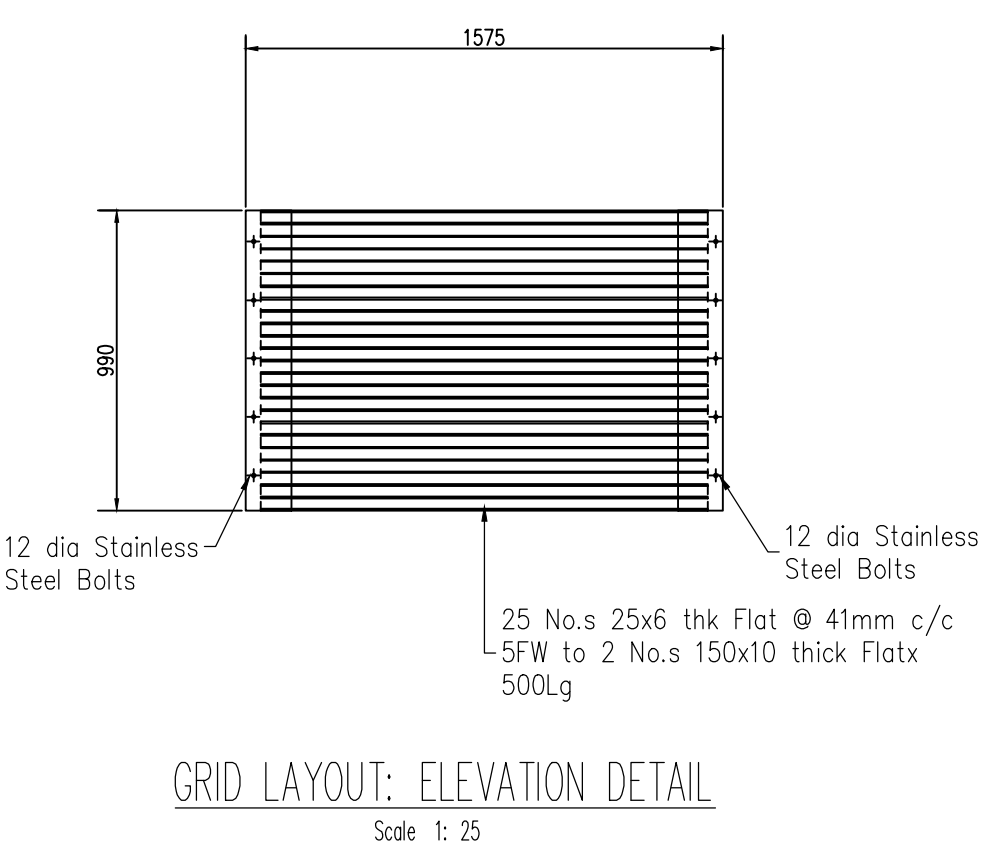
SECTION B-B
Scale 1: 25



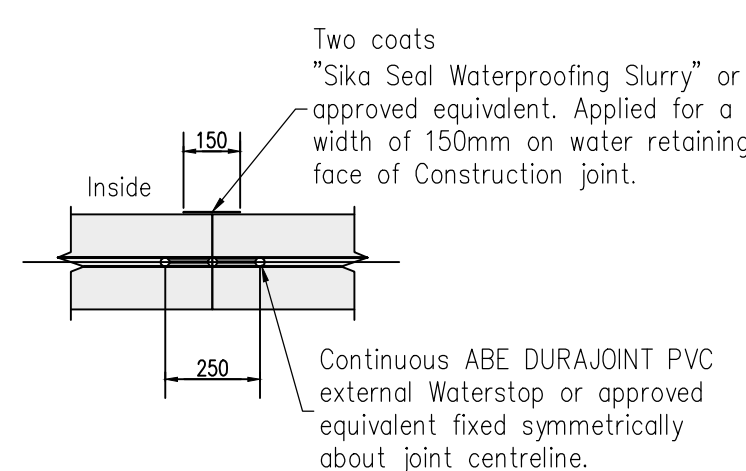
SECTION A-A
Scale 1: 25



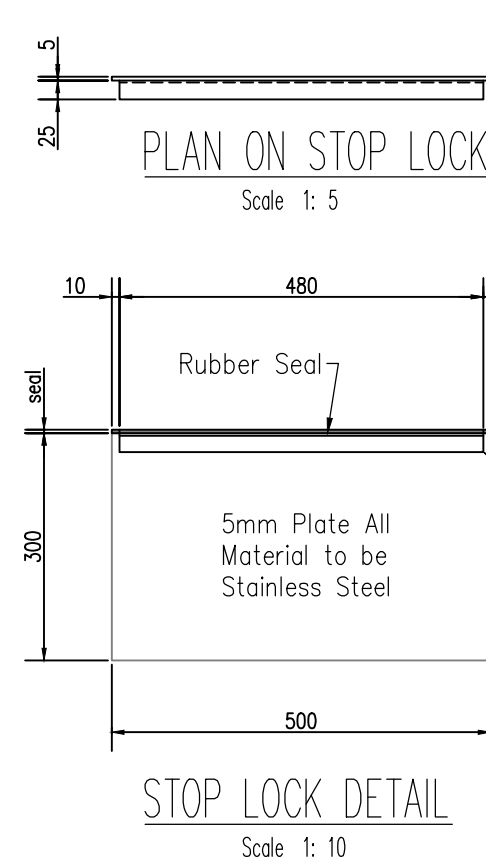
SECTION C-C
Scale 1: 25



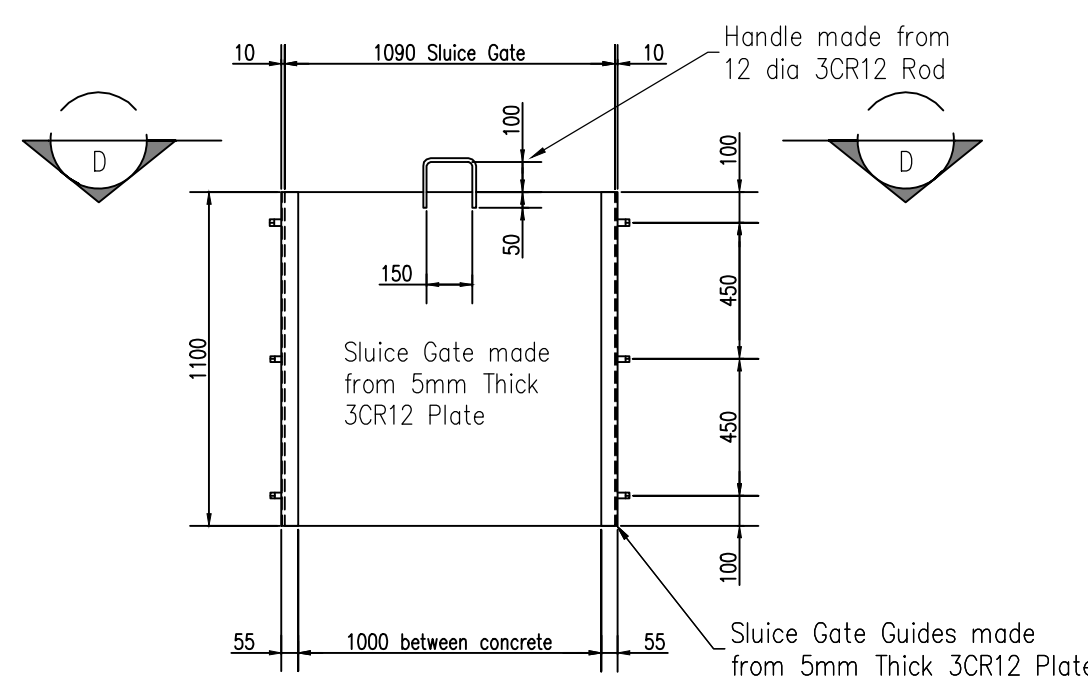
GRID LAYOUT: ELEVATION DETAIL
Scale 1: 25



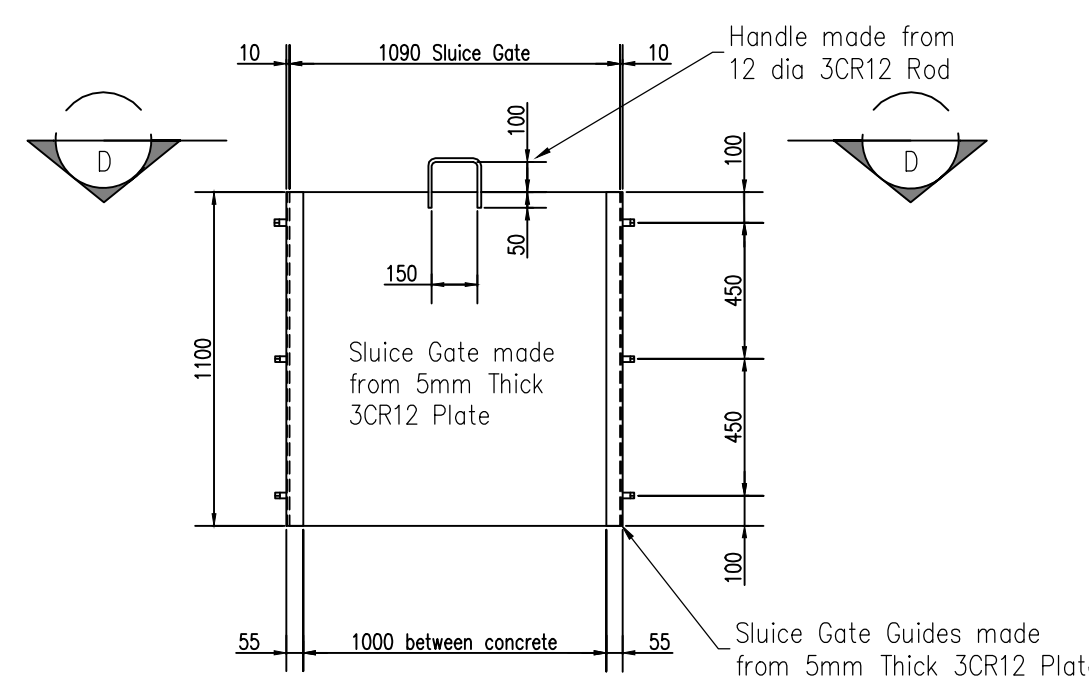
CONSTRUCTION JOINT (CJ) LAYOUT
SECTION DETAIL IN WALL & BASE
Scale 1: 10



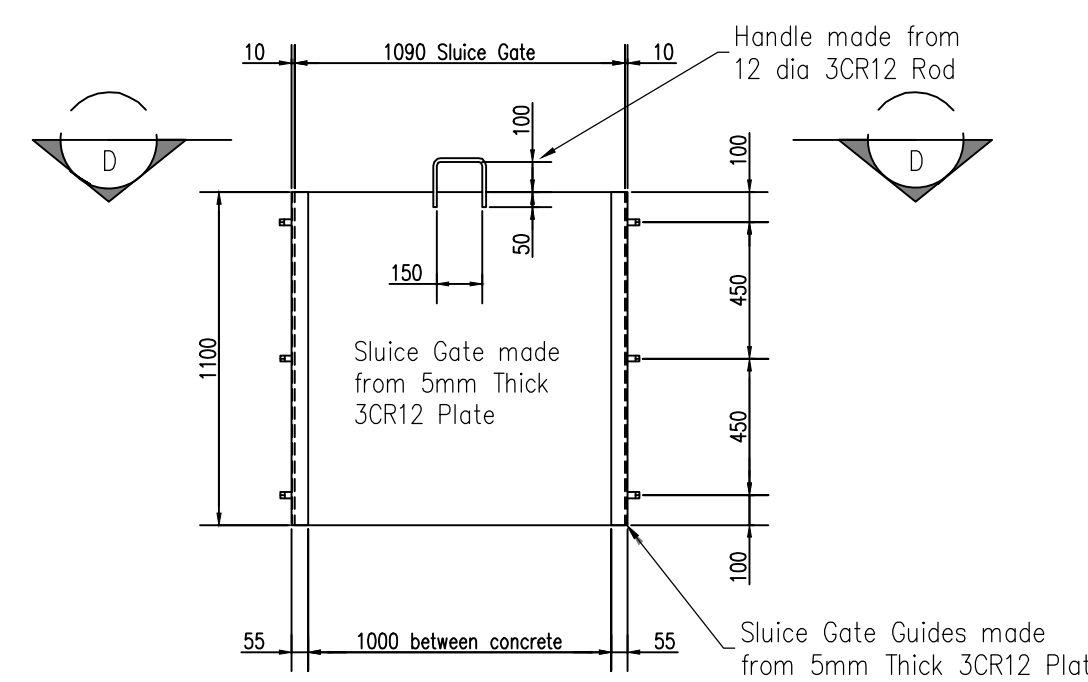
STOP LOCK DETAIL
Scale 1: 10



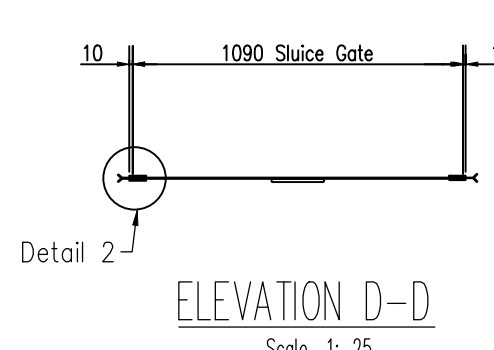
SLUICE GATE DETAIL 1
Scale 1: 25



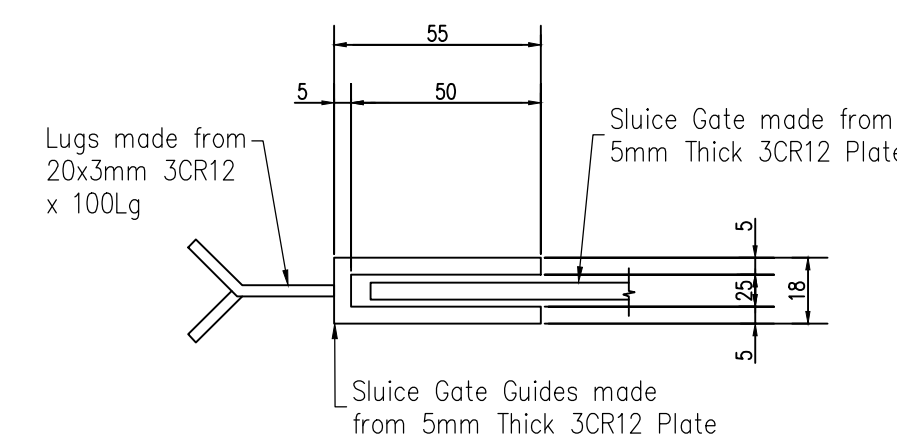
SLUICE GATE DETAIL 2
Scale 1: 25



SLUICE GATE DETAIL 3
Scale 1: 25



ELEVATION D-D
Scale 1: 25



ENLARGED DETAIL 2
Scale 1: 2

NOTES

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2. DO NOT SCALE THIS DRAWING, USE FIGURED DIMENSIONS ONLY. ALL DIMENSIONS TO BE IN MILLIMETRES AND LEVELS IN METRES UNLESS NOTE OTHERWISE (U.M.O)
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4. ALL CONCRETE SIZES DO NOT INCLUDE FINISHES U.N.O
5. CONCRETE FINISHES AS SPECIFIED IN THE CONTRACT DOCUMENTS OR AS SHOWN.
6. PROVIDE 150mm KICKERS FOR COLUMNS AND WALLS. THESE ARE TO BE CAST WITH SAME STRENGTH AS AND MONOLITHIC WITH CONCRETE ELEMENTS BELOW THEM.
7. FOR DESCRIPTIVE NOTES AND PROCEDURES REFER TO DRAWING No.

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PROJECT

GRIEKWASTAD WASTEWATER
TREATMENT WORKS

DISCIPLINE

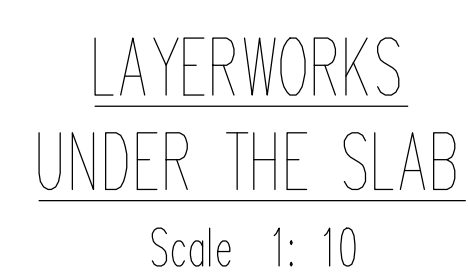
WASTE WATER MANAGEMENT

DRAWING TITLE

PROPOSED
INLET WORKS

	RESPONSIBLE PERSON	DATE
DRAW CONTROL	LN	10/2025
DESIGN	LN	10/2025
DESIGN CONTROL	LN	10/2025
PROJECT MANAGER	NQ	10/2025
APPROVED		

SAMEX DRAWING NUMBER				
SAMEX PROJ. No	SUB NUMBER	DISCIPLINE	DRAWING NUMBER	STATUS
S0323	01	-HWST-	001	T - 00
DRAWING STATUS CODES :				
R = REPORT	T = TENDER	C = CONSTRUCTION	SCALE	SHEET SIZE
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 5. CONCRETE FINISHES AS SPECIFIED IN THE CONTRACT DOCUMENTS OR AS SHOWN.
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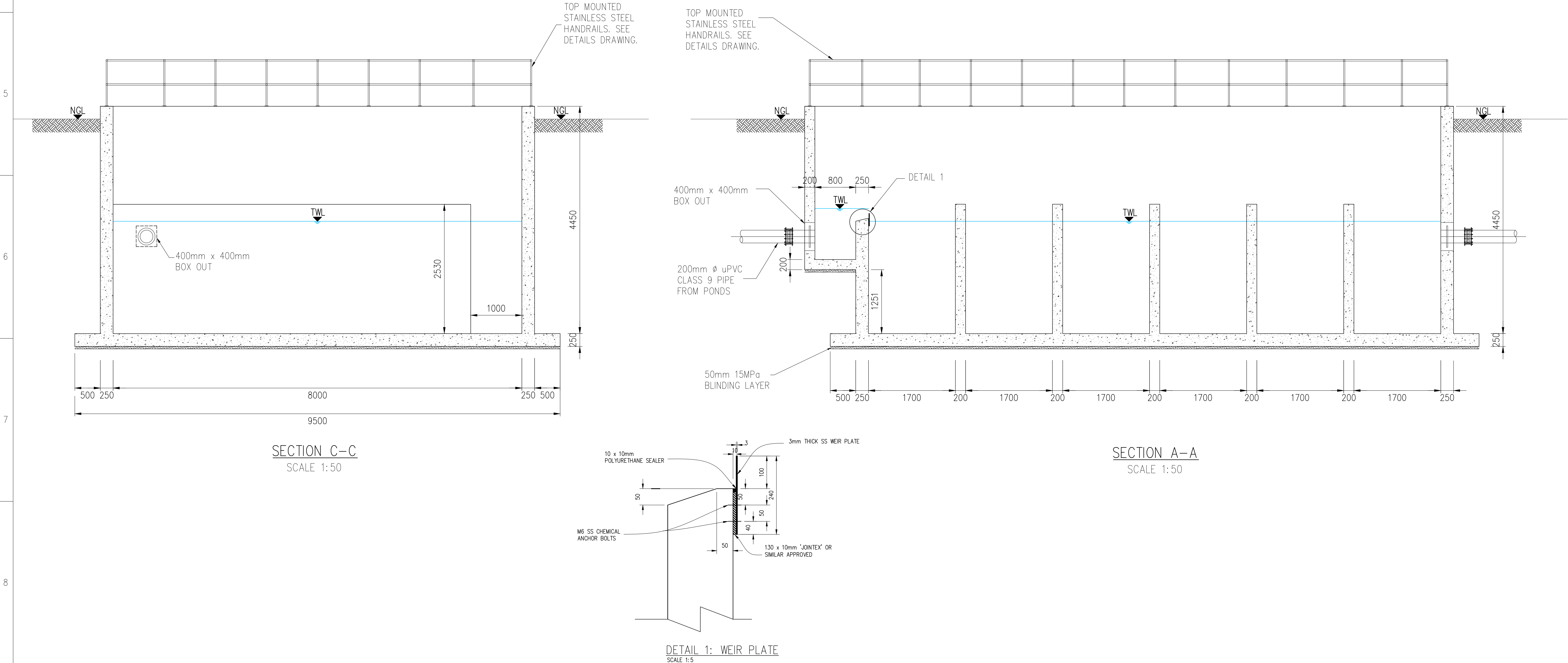
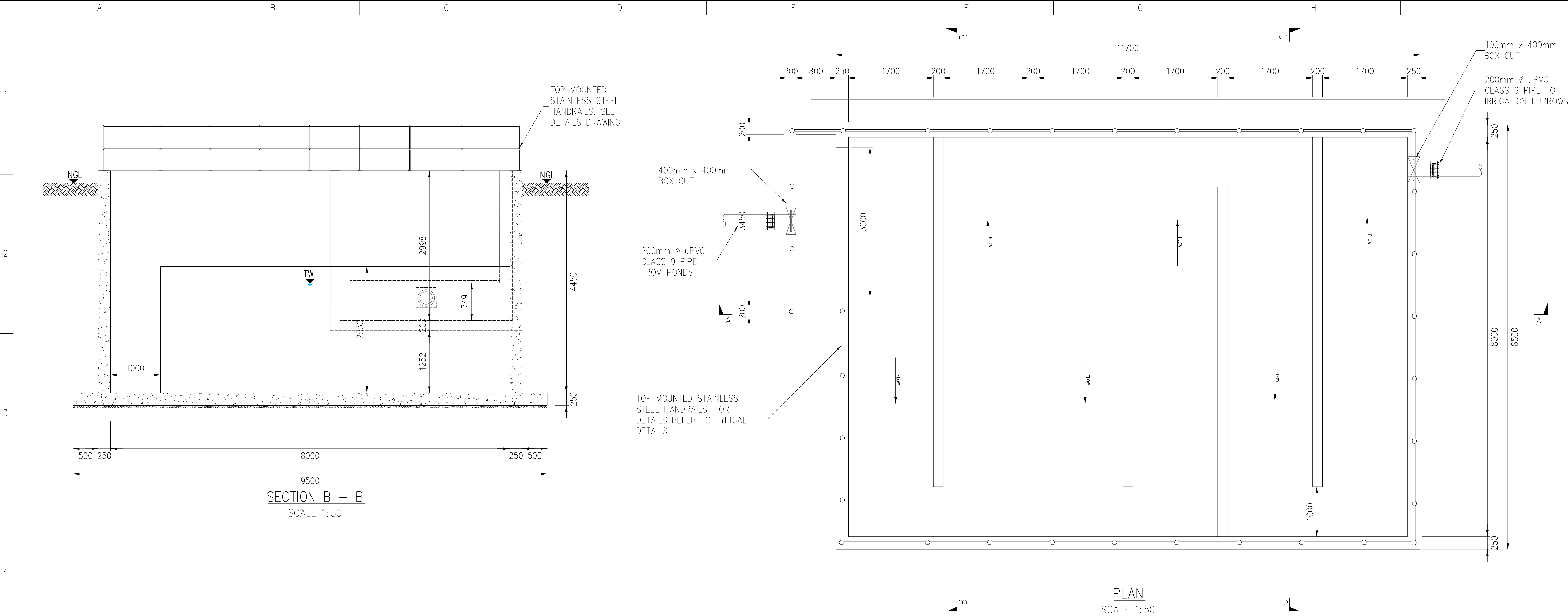
PROJECT	GRIEKWASTAD WASTEWATER TREATMENT WORKS
DISCIPLINE	WASTE WATER MANAGEMENT
DRAWING TITLE	GRIT REMOVAL CHANNEL DISPOSAL FACILITY FOR NIGHT SOIL BUCKETS

	RESPONSIBLE PERSON	DATE
DRAW CONTROL	LN	10/2025
DESIGN	LN	10/2025
DESIGN CONTROL	LN	10/2025
PROJECT MANAGER	NQ	10/2025
APPROVED		

SAMESX DRAWING NUMBER					
SAMESX PROJ. No	SUB NUMBER	DISCIPLINE	DRAWING NUMBER	STATUS	REVISION
S0323 -	01 -	HWST -	002 -	T -	00

DRAWING STATUS CODES :			SCALE	SHEET SIZE
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 - 2) ALL EXCAVATIONS AND FOUNDATIONS TO BE CHECKED AND APPROVED BY THE ENGINEER OR HIS DELEGATED SPECIALIST GEOTECHNICAL ENGINEER BEFORE ANY CONCRETE IS CAST.
 - 3) CONCRETE CHARACTERISTICS (AT 28 DAYS):
STRUCTURAL 25MPa/19mm
(ALL REINF. CONCRETE)
WATER RETAINING 35MPa/19mm
BENCHING 20MPa/19mm
WALL FOOTINGS 15MPa/19mm
THRUST BLOCKS 15MPa/19mm
ENCASEMENT 20MPa/19mm
SCREEDS 20MPa/13mm
BLINDING 15MPa/19mm
NO-FINES 15MPa/19mm
 - 4) MINIMUM CONCRETE COVER TO REINFORCEMENT IS 50mm.
 - 5) MINIMUM THICKNESS OF SCREEDS TO BE 25mm

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PROJECT GRIEKWASTAD WASTEWATER
TREATMENT WORKS

DISCIPLINE WASTE WATER MANAGEMENT

DRAWING TITLE CHLORINE CONTACT
TANK: LAYOUT SECTIONS
AND DETAILS

	RESPONSIBLE PERSON	DATE
DRAW CONTROL	LN	10/2025
DESIGN	LN	10/2025
DESIGN CONTROL	LN	10/2025
PROJECT MANAGER	NQ	10/2025
APPROVED		

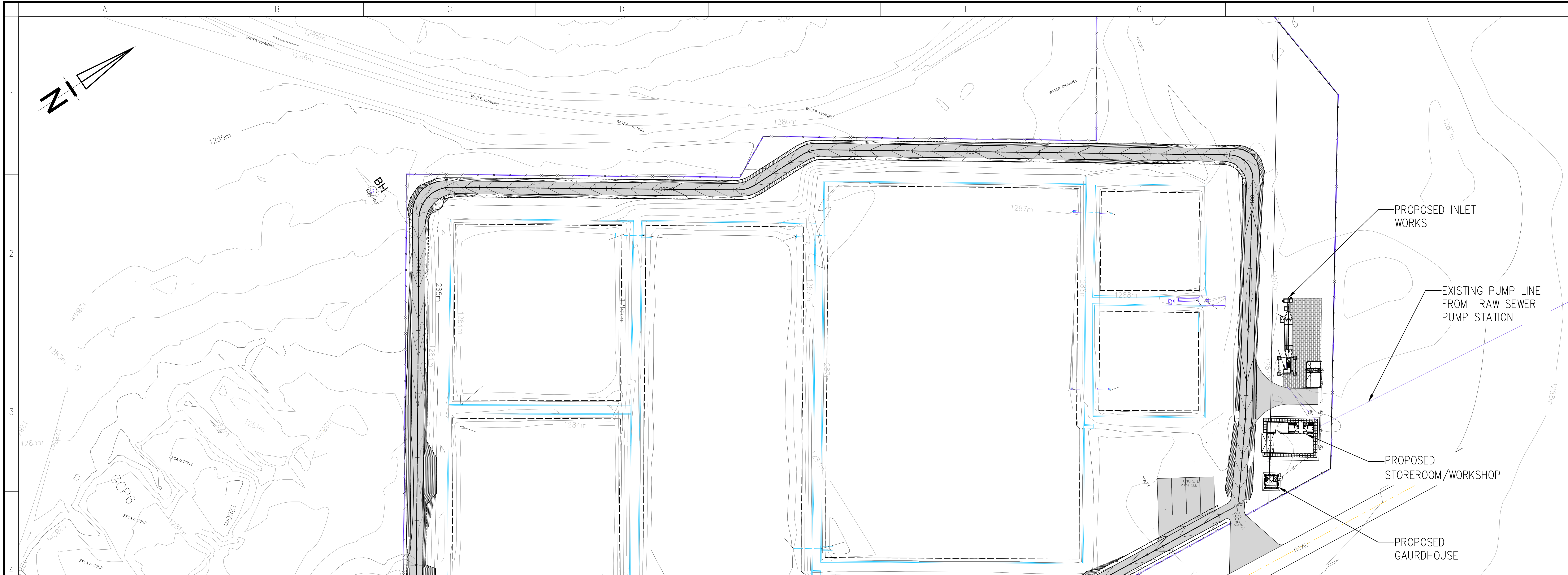
SAMEX DRAWING NUMBER

SAMEX PROJ No	SUB NUMBER	DISCIPLINE	DRAWING NUMBER	STATUS	REVISION
S0323	01	-CCST-	001	- T -	00

DRAWING STATUS CODES :

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D = DRAFT	P = PRELIMINARY	A = AS BUILT	AS SHOWN	A0

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PROJECT

DISCIPLINE

DRAWING TITLE

GRIEKWASTAD WASTEWATER
TREATMENT WORKS

WASTE WATER MANAGEMENT

PROPOSED INTERNAL ROAD
LAYOUT AND LONG SECTION DETAIL
(SHEET 1 OF 2)

DRAW
CONTROL

DESIGN

DESIGN
CONTROL

PROJECT
MANAGER

APPROVED

LN

LN

LN

NQ

RESPONSIBLE PERSON

DATE

10/2025

10/2025

10/2025

10/2025

10/2025

SAMEX PROJ. No

SUB NUMBER

DISCIPLINE

DRAWING NUMBER

STATUS

REVISION

S0323 - 01 - RDLL - 001 - T - 00

DRAWING STATUS CODES :

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D = DRAFT

T = TENDER
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C = CONSTRUCTION
A = AS BUILT

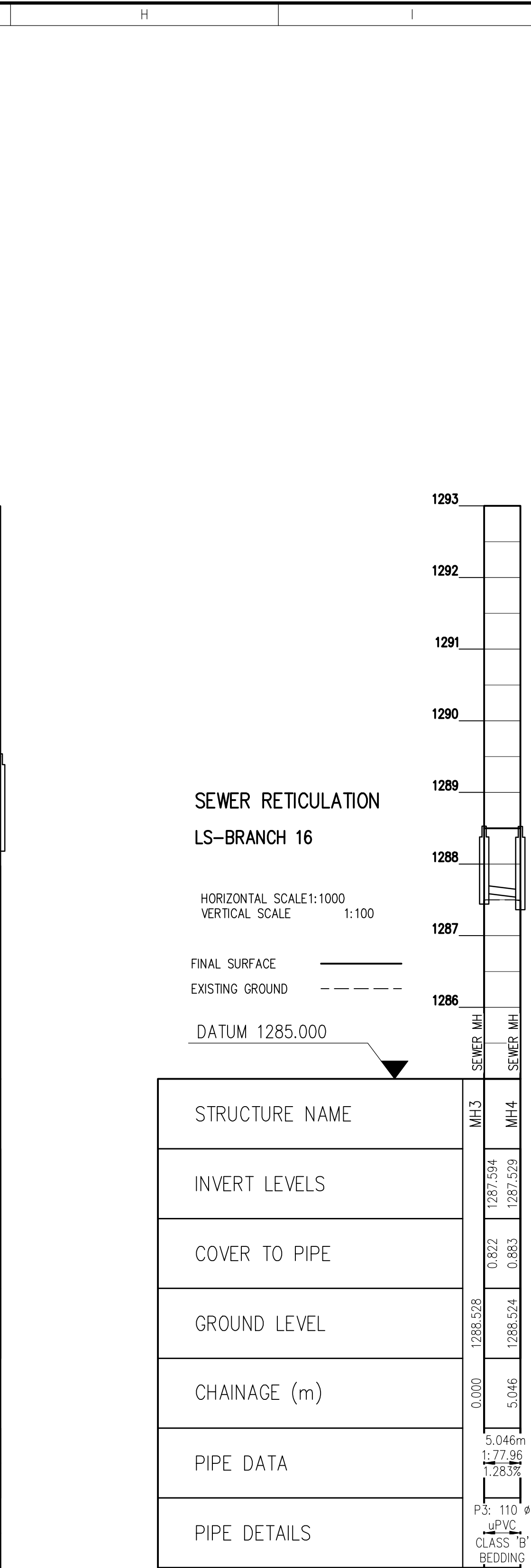
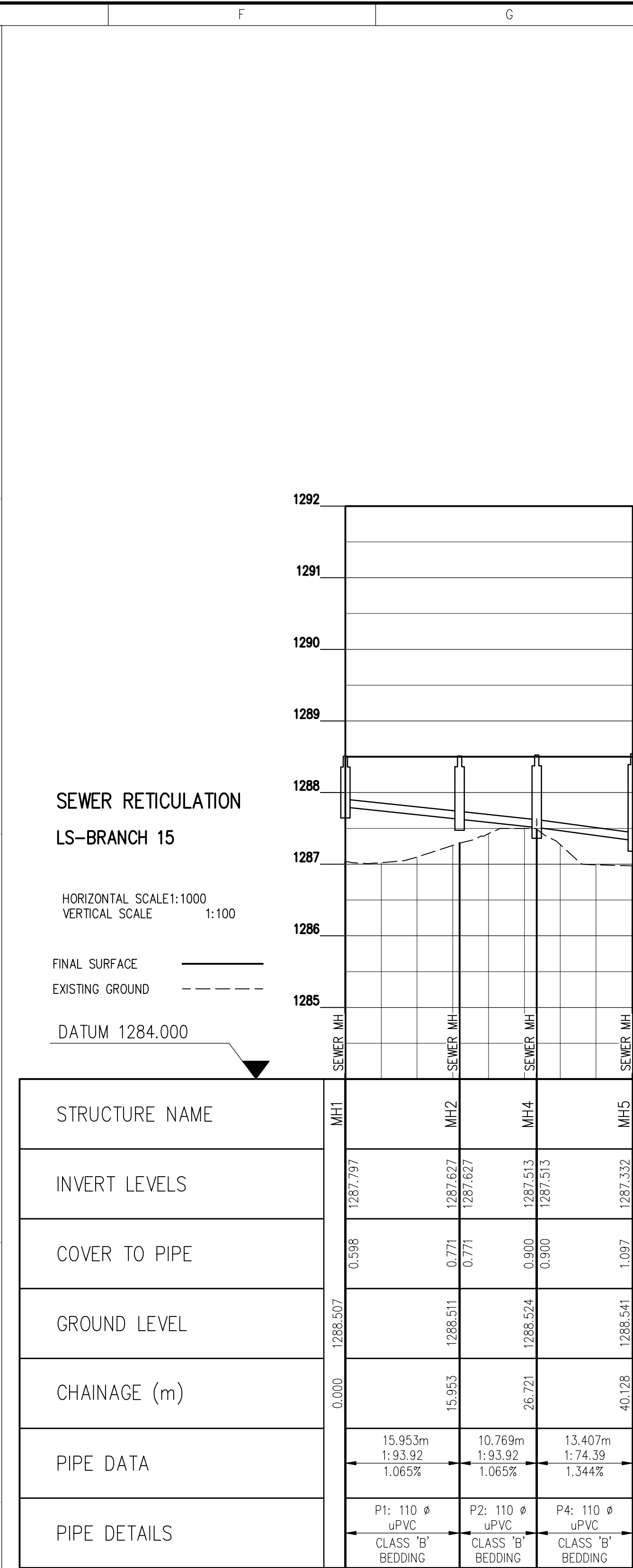
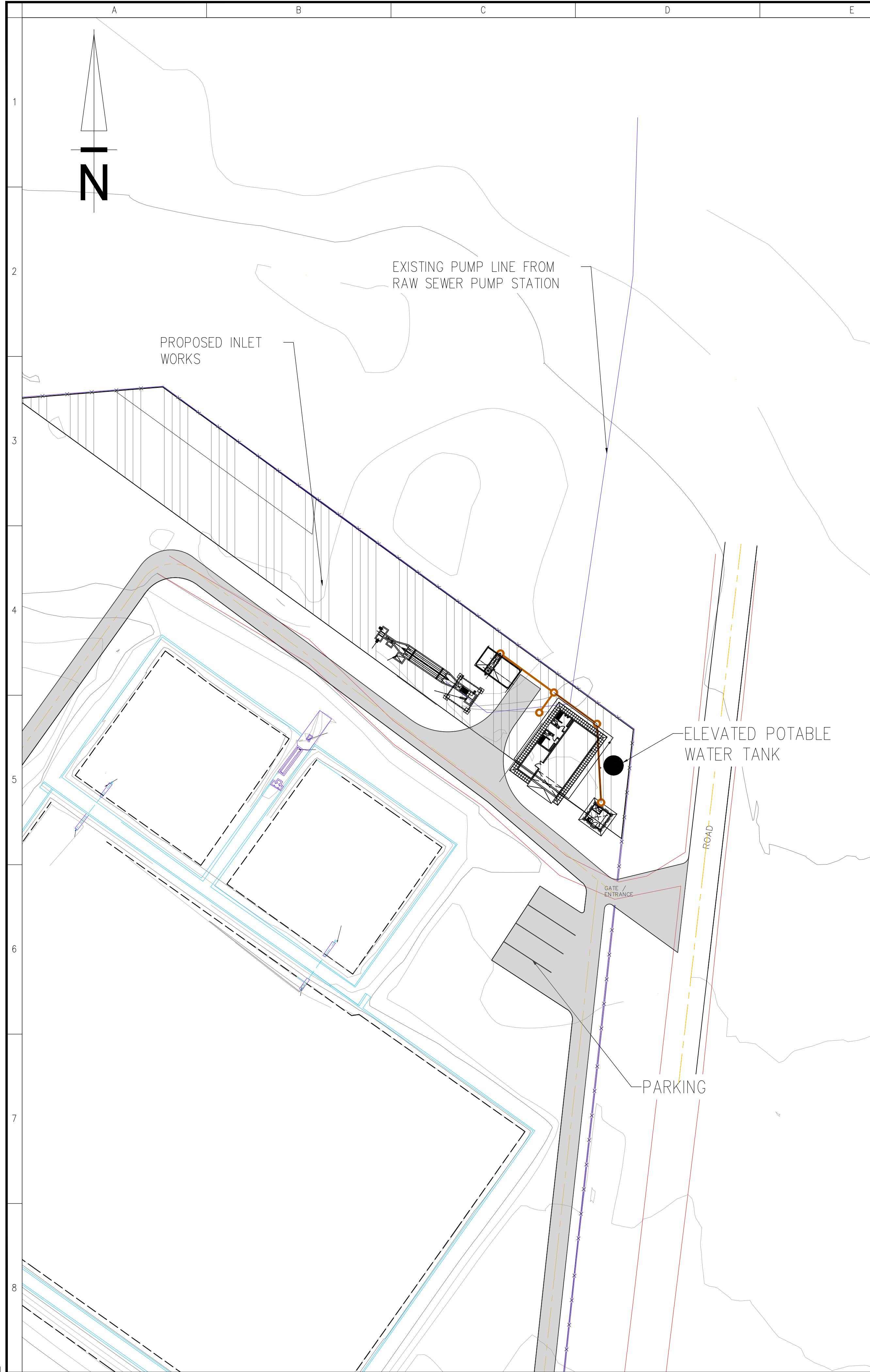
SCALE

AS SHOWN

SHEET SIZE

A0

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PROJECT

**GRIEKWASTAD WASTEWATER
TREATMENT WORKS**

DISCIPLINE

WASTE WATER MANAGEMENT

DRAWING TITLE

**SITE
SEWER**

	RESPONSIBLE PERSON	DATE
DRAW CONTROL	LN	07/2025
DESIGN	LN	07/2025
DESIGN CONTROL	LN	07/2025
PROJECT MANAGER	NQ	07/2025
APPROVED		

SAMESX DRAWING NUMBER

SAMESX PROJ. No | SUB NUMBER | DISCIPLINE | DRAWING NUMBER | STATUS | REVISION

S0323 - 01 - SELL - 001 - R - 00

DRAWING STATUS CODES :

R = REPORT T = TENDER C = CONSTRUCTION
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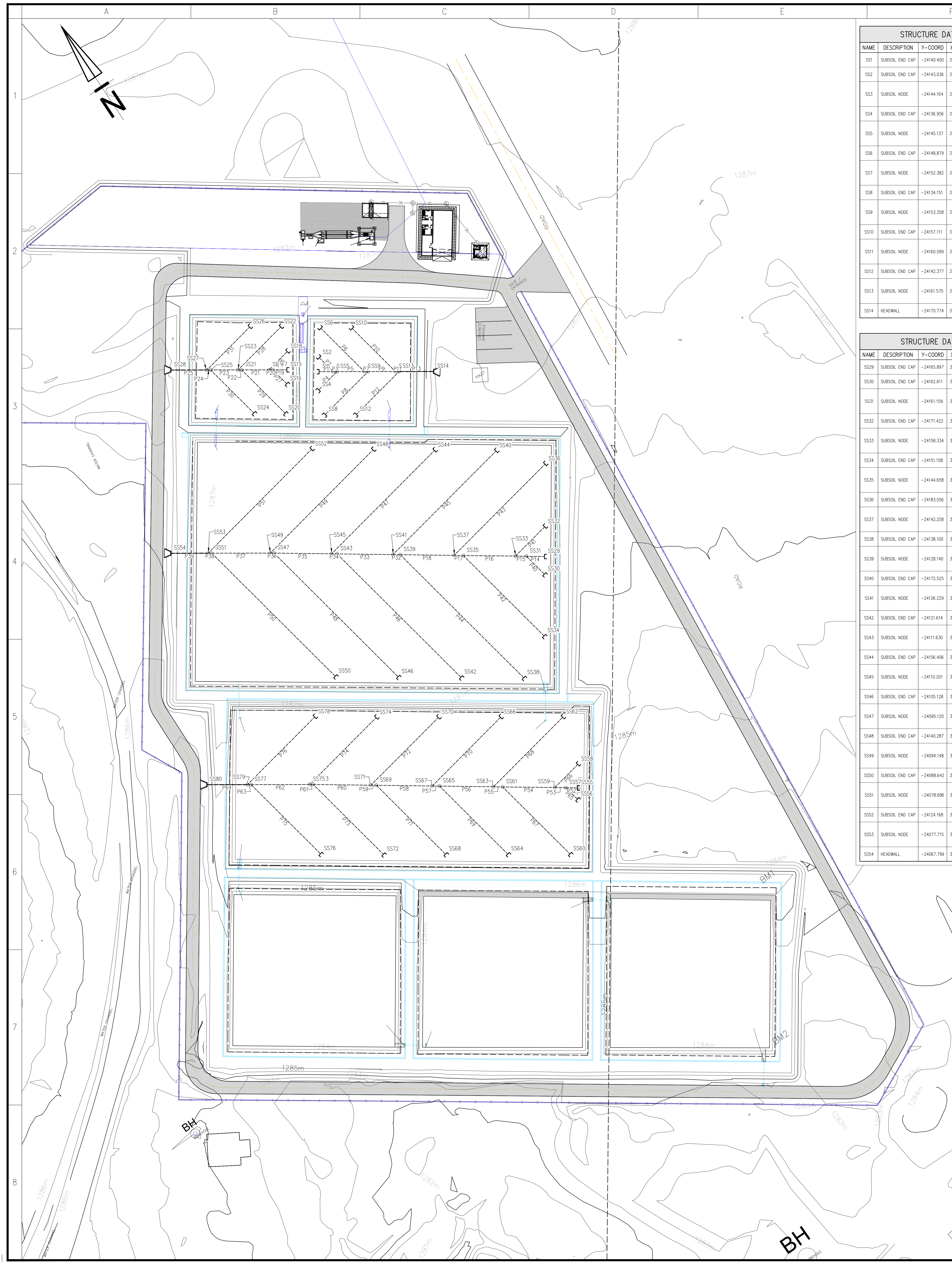
SCALE

AS SHOWN

SHEET SIZE

A1

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STRUCTURE DATA: SUBSOIL				
NAME	DESCRIPTION	Y-COORD	X-COORD	DETAILS
SS1	SUBSOIL END CAP	-24140.400	3194728.135	DEPTH = 0.500m P1 INV OUT = 1286.500
SS2	SUBSOIL END CAP	-24143.036	3194724.489	DEPTH = 0.444m P2 INV OUT = 1286.506
SS3	SUBSOIL NODE	-24144.164	3194730.749	DEPTH = 0.325m P1 INV IN = 1286.485 P2 INV IN = 1286.485 P3 INV OUT = 1286.485
SS4	SUBSOIL END CAP	-24136.956	3194732.899	DEPTH = 0.489m P4 INV OUT = 1286.509
SS5	SUBSOIL NODE	-24145.137	3194731.424	DEPTH = 0.325m P3 INV IN = 1286.481 P4 INV IN = 1286.481 P5 INV OUT = 1286.481
SS6	SUBSOIL END CAP	-24148.879	3194717.026	DEPTH = 0.489m P6 INV OUT = 1286.517
SS7	SUBSOIL NODE	-24152.382	3194736.456	DEPTH = 0.325m P5 INV IN = 1286.451 P6 INV IN = 1286.451 P7 INV OUT = 1286.451
SS8	SUBSOIL END CAP	-24134.151	3194740.593	DEPTH = 0.489m P8 INV OUT = 1286.512
SS9	SUBSOIL NODE	-24153.358	3194737.130	DEPTH = 0.325m P7 INV IN = 1286.447 P8 INV IN = 1286.447 P9 INV OUT = 1286.447
SS10	SUBSOIL END CAP	-24157.111	3194722.820	DEPTH = 0.559m P10 INV OUT = 1286.484
SS11	SUBSOIL NODE	-24160.599	3194742.163	DEPTH = 0.325m P9 INV IN = 1286.415 P10 INV IN = 1286.415 P11 INV OUT = 1286.415
SS12	SUBSOIL END CAP	-24142.377	3194746.298	DEPTH = 0.559m P12 INV OUT = 1286.479
SS13	SUBSOIL NODE	-24161.570	3194742.838	DEPTH = 0.325m P11 INV IN = 1286.414 P12 INV IN = 1286.414 P13 INV OUT = 1286.414
SS14	HEADWALL	-24170.774	3194749.241	DEPTH = 0.359m P13 INV IN = 1286.377

STRUCTURE DATA: SUBSOIL				
NAME	DESCRIPTION	Y-COORD	X-COORD	DETAILS
SS29	SUBSOIL END CAP	-24165.897	3194818.417	DEPTH = 0.500m P14 INV OUT = 1285.500
SS30	SUBSOIL END CAP	-24162.611	3194823.071	DEPTH = 0.420m P46 INV OUT = 1285.506
SS31	SUBSOIL NODE	-24161.159	3194815.022	DEPTH = 0.325m P14 INV IN = 1285.481 P40 INV IN = 1285.481 P15 INV OUT = 1285.481
SS32	SUBSOIL END CAP	-24171.422	3194810.594	DEPTH = 0.489m P40 INV OUT = 1285.513
SS33	SUBSOIL NODE	-24158.334	3194812.954	DEPTH = 0.325m P15 INV IN = 1285.469 P41 INV IN = 1285.469 P16 INV OUT = 1285.469
SS34	SUBSOIL END CAP	-24151.158	3194839.288	DEPTH = 0.420m P42 INV OUT = 1285.535
SS35	SUBSOIL NODE	-24144.658	3194803.233	DEPTH = 0.325m P42 INV IN = 1285.413 P17 INV IN = 1285.413 P17 INV OUT = 1285.413
SS36	SUBSOIL END CAP	-24183.056	3194794.120	DEPTH = 0.489m P43 INV OUT = 1285.541
SS37	SUBSOIL NODE	-24142.258	3194801.475	DEPTH = 0.325m P17 INV IN = 1285.403 P43 INV IN = 1285.403 P18 INV OUT = 1285.403
SS38	SUBSOIL END CAP	-24138.100	3194846.600	DEPTH = 0.489m P44 INV OUT = 1285.532
SS39	SUBSOIL NODE	-24128.140	3194791.358	DEPTH = 0.325m P18 INV IN = 1285.345 P44 INV IN = 1285.345 P32 INV OUT = 1285.345
SS40	SUBSOIL END CAP	-24172.525	3194781.642	DEPTH = 0.559m P45 INV OUT = 1285.494
SS41	SUBSOIL NODE	-24126.229	3194789.988	DEPTH = 0.325m P32 INV IN = 1285.337 P45 INV IN = 1285.337 P33 INV OUT = 1285.337
SS42	SUBSOIL END CAP	-24121.614	3194834.901	DEPTH = 0.559m P46 INV OUT = 1285.465
SS43	SUBSOIL NODE	-24111.630	3194779.526	DEPTH = 0.325m P33 INV IN = 1285.278 P46 INV IN = 1285.278 P34 INV OUT = 1285.278
SS44	SUBSOIL END CAP	-24156.406	3194701.171	DEPTH = 0.559m P47 INV OUT = 1285.428
SS45	SUBSOIL NODE	-24110.201	3194778.502	DEPTH = 0.325m P34 INV IN = 1285.272 P47 INV IN = 1285.272 P35 INV OUT = 1285.272
SS46	SUBSOIL END CAP	-24105.128	3194823.202	DEPTH = 0.609m P48 INV OUT = 1285.386
SS47	SUBSOIL NODE	-24095.120	3194767.694	DEPTH = 0.809m P35 INV IN = 1285.210 P48 INV IN = 1285.210 P36 INV OUT = 1285.210
SS48	SUBSOIL END CAP	-24140.287	3194758.701	DEPTH = 0.589m P49 INV OUT = 1285.362
SS49	SUBSOIL NODE	-24094.148	3194767.019	DEPTH = 0.809m P36 INV IN = 1285.206 P49 INV IN = 1285.206 P37 INV OUT = 1285.206
SS50	SUBSOIL END CAP	-24088.642	3194811.503	DEPTH = 0.670m P50 INV OUT = 1285.330
SS51	SUBSOIL NODE	-24078.686	3194756.280	DEPTH = 0.870m P37 INV IN = 1285.143 P50 INV IN = 1285.143 P38 INV OUT = 1285.143
SS52	SUBSOIL END CAP	-24124.168	3194747.230	DEPTH = 0.704m P51 INV OUT = 1285.286
SS53	SUBSOIL NODE	-24077.715	3194755.605	DEPTH = 0.870m P38 INV IN = 1285.139 P51 INV IN = 1285.139 P39 INV OUT = 1285.139
SS54	HEADWALL	-24067.799	3194748.707	DEPTH = 0.704m P39 INV IN = 1285.099

PIPE DATA: SUBSOIL				
NAME	SIZE	MATERIAL & CLASS	LENGTH	SPAN
P1	110 #	HDPE SLOTTED DRAINAGE PIPE	4.6 m	SS1 - SS3
P2	110 #	HDPE SLOTTED DRAINAGE PIPE	6.4 m	SS2 - SS3
P4	110 #	HDPE SLOTTED DRAINAGE PIPE	8.3 m	SS4 - SS5
P5	110 #	HDPE SLOTTED DRAINAGE PIPE	8.8 m	SS5 - SS7
P6	110 #	HDPE SLOTTED DRAINAGE PIPE	19.7 m	SS6 - SS7
P8	110 #	HDPE SLOTTED DRAINAGE PIPE	19.5 m	SS8 - SS9
P9	110 #	HDPE SLOTTED DRAINAGE PIPE	8.8 m	SS9 - SS11
P10	110 #	HDPE SLOTTED DRAINAGE PIPE	19.7 m	SS10 - SS11
P12	110 #	HDPE SLOTTED DRAINAGE PIPE	19.5 m	SS12 - SS13
P13	110 #	UPVC CLASS 6	11.2 m	SS13 - SS14

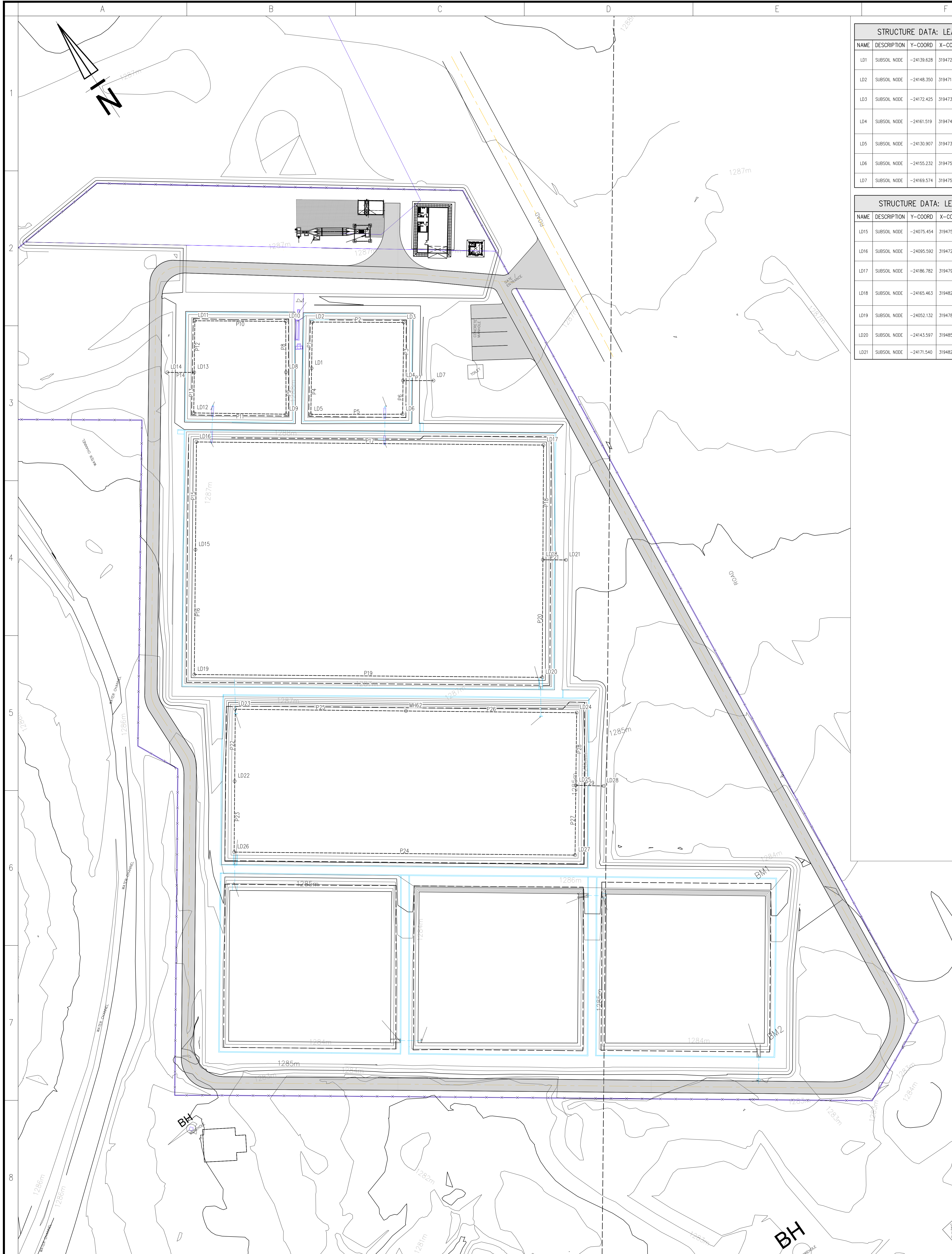
PIPE DATA: SUBSOIL				
NAME	SIZE	MATERIAL & CLASS	LENGTH	SPAN
P14	110 #	HDPE SLOTTED DRAINAGE PIPE	5.8 m	SS29 - SS31
P15	110 #	HDPE SLOTTED DRAINAGE PIPE	3.5 m	SS31 - SS33
P16	110 #	HDPE SLOTTED DRAINAGE PIPE	16.8 m	SS33 - SS35
P17	110 #	HDPE SLOTTED DRAINAGE PIPE	3.0 m	SS35 - SS37
P18	110 #	HDPE SLOTTED DRAINAGE PIPE	17.4 m	SS37 - SS39
P32	110 #	HDPE SLOTTED DRAINAGE PIPE	2.4 m	SS39 - SS41
P33	110 #	HDPE SLOTTED DRAINAGE PIPE	18.0 m	SS41 - SS43
P34	110 #	HDPE SLOTTED DRAINAGE PIPE	1.8 m	SS43 - SS45
P35	110 #	HDPE SLOTTED DRAINAGE PIPE	18.6 m	SS45 - SS47
P36	110 #	HDPE SLOTTED DRAINAGE PIPE	1.2 m	SS47 - SS49
P37	110 #	HDPE SLOTTED DRAINAGE PIPE	18.8 m	SS49 - SS51
P38	110 #	HDPE SLOTTED DRAINAGE PIPE	1.2 m	SS51 - SS53
P39	110 #	UPVC CLASS 6	12.1 m	SS53 - SS54
P40	110 #	HDPE SLOTTED DRAINAGE PIPE	8.2 m	SS50 - SS51
P41	110 #	HDPE SLOTTED DRAINAGE PIPE	13.3 m	SS52 - SS53
P42	110 #	HDPE SLOTTED DRAINAGE PIPE	36.6 m	SS34 - SS35
P43	110 #	HDPE SLOTTED DRAINAGE PIPE	41.5 m	SS36 - SS37
P44	110 #	HDPE SLOTTED DRAINAGE PIPE	56.1 m	SS38 - SS39
P45	110 #	HDPE SLOTTED DRAINAGE PIPE	47.0 m	SS40 - SS41
P46	110 #	HDPE SLOTTED DRAINAGE PIPE	56.3 m	SS42 - SS43
P47	110 #	HDPE SLOTTED DRAINAGE PIPE	47.0 m	SS44 - SS45
P48	110 #	HDPE SLOTTED DRAINAGE PIPE	56.4 m	SS46 - SS47
P49	110 #	HDPE SLOTTED DRAINAGE PIPE	46.0 m	SS48 - SS49
P50	110 #	HDPE SLOTTED DRAINAGE PIPE	56.1 m	SS50 - SS51
P51	110 #	HDPE SLOTTED DRAINAGE PIPE	47.2 m	SS52 - SS53

STRUCTURE DATA: SUBSOIL				
NAME	DESCRIPTION	Y-COORD	X-COORD	DETAILS
SS15	SUBSOIL END CAP	-24132.303	3194721.747	DEPTH = 0.500m P19 INV OUT = 1286.500
SS16	SUBSOIL END CAP	-24129.668	3194725.363	DEPTH = 0.494m P27 INV OUT = 1286.506
SS17	SUBSOIL NODE	-24128.539	3194719.133	DEPTH = 0.325m P19 INV IN = 1286.485 P27 INV IN = 1286.485 P20 INV OUT = 1286.485
SS18	SUBSOIL END CAP	-24135.747	3194716.983	DEPTH = 0.494m P26 INV OUT = 1286.509
SS19	SUBSOIL NODE	-24127.567	3194718.458	DEPTH = 0.325m P20 INV IN = 1286.481 P26 INV IN = 1286.481 P21 INV OUT = 1286.481
SS20	SUBSOIL END CAP	-24123.825	3194732.856	DEPTH = 0.489m P28 INV OUT = 1286.517
SS22	SUBSOIL END CAP	-24136.552	3194709.289	DEPTH = 0.489m P28 INV OUT = 1286.512
SS24	SUBSOIL END CAP	-24115.592	3194727.062	DEPTH = 0.517m P30 INV OUT = 1286.483
SS25	SUBSOIL NODE	-24112.105	3194707.719	DEPTH = 0.325m P31 INV IN = 1286.418 P32 INV IN = 1286.418 P24 INV OUT = 1286.418
SS26	SUBSOIL END CAP	-24130.326	3194703.584	DEPTH = 0.517m P31 INV OUT = 1286.479
SS27	SUBSOIL NODE	-24111.132	3194707.044	DEPTH = 0.350m P24 INV IN = 1286.414 P31 INV IN = 1286.414 P25 INV OUT = 1286.414
SS28	HEADWALL	-24101.530	3194700.375	DEPTH = 0.325m P25 INV IN = 1286.375

PIPE DATA: SUBSOIL				
NAME	SIZE	MATERIAL & CLASS	LENGTH	SPAN
P19	110 #	HDPE SLOTTED DRAINAGE PIPE	4.6 m	SS15 - SS17
P20	110 #	HDPE SLOTTED DRAINAGE PIPE	1.2 m	SS17 - SS19
P21	110 #	HDPE SLOTTED DRAINAGE PIPE	8.8 m	SS19 - SS21
P23	110 #	HDPE SLOTTED DRAINAGE PIPE	8.8 m	SS23 - SS25
P25	110 #	UPVC CLASS 6	11.7 m	SS27 - SS28
P26	110 #	HDPE SLOTTED DRAINAGE PIPE	8.3 m	SS18 - SS19
P27	110 #	HDPE SLOTTED DRAINAGE PIPE	6.4 m	SS16 - SS17
P28	110 #	HDPE SLOTTED DRAINAGE PIPE	19.5 m	SS22 - SS23
P29	110 #	HDPE SLOTTED DRAINAGE PIPE	19.7 m	SS20 - SS21
P30	110 #	HDPE SLOTTED DRAINAGE PIPE	19.7 m	SS24 - SS25
P31	110 #	HDPE SLOTTED DRAINAGE PIPE	19.5 m	SS26 - SS27

STRUCTURE DATA: SUBSOIL				
NAME	DESCRIPTION	Y-COORD	X-COORD	DETAILS
SS55	SUBSOIL END CAP	-24132.034	3194885.515	DEPTH = 0.500m P52 INV OUT = 1284.500
SS56	SUBSOIL END CAP	-24129.890	3194885.515	DEPTH = 0.495m P52 INV OUT = 1284.505
SS57	SUBSOIL NODE	-24128.951	3194883.306	DEPTH = 0.325m P52 INV IN = 1284.487 P52 INV IN = 1284.487 P53 INV OUT = 1284.487
SS58	SUBSOIL END CAP	-24136.415	3194879.383	DEPTH = 0.489m P66 INV OUT = 1284.511
SS59	SUBSOIL NODE	-24126.136	3194881.236	DEPTH = 0.325m P53 INV IN = 1284.476 P53 INV IN = 1284.476 P54 INV OUT = 1284.476
SS60	SUBSOIL END CAP	-24117.869	3194901.580	DEPTH = 0.478m P67 INV OUT = 1284.522
SS61	SUBSOIL NODE	-24112.449	3194871.518	DEPTH = 0.589m P54 INV IN = 1284.420 P67 INV IN = 1284.420 P55 INV OUT = 1284.420
SS62	SUBSOIL END CAP	-24141.123	3194864.157	DEPTH = 0.489m P68 INV OUT = 1284.515
SS63	SUBSOIL NODE	-24110.049	3194869.760	DEPTH = 0.609m P55 INV IN = 1284.410 P68 INV IN = 1284.410 P56 INV OUT = 1284.410
SS64	SUBSOIL END CAP	-24101.435	3194890.167	DEPTH = 0.540m P69 INV OUT = 1284.455
SS65	SUBSOIL NODE	-24095.931	3194859.642	DEPTH = 0.325m P56 INV IN = 1284.352 P69 INV IN = 1284.352 P57 INV OUT = 1284.352
SS66	SUBSOIL END CAP	-24124.689	3194852.743	DEPTH = 0.550m P70 INV OUT = 1284.448
SS67	SUBSOIL NODE	-24094.021	3194858.273	DEPTH = 0.325m P57 INV IN = 1284.344 P70 INV IN = 1284.344 P58 INV OUT = 1284.344
SS68	SUBSOIL END CAP	-24085.000	3194878.753	DEPTH = 0.616m P71 INV OUT = 1284.389
SS69	SUBSOIL NODE	-24079.422	3194847.810	DEPTH = 0.325m P58 INV IN = 1284.284 P71 INV IN = 1284.284 P59 INV OUT = 1284.284
SS70	SUBSOIL END CAP	-24108.254	3194841.330	DEPTH = 0.325m P72 INV OUT = 1284.381
SS71	SUBSOIL NODE	-24077.992	3194846.786	DEPTH = 0.325m P59 INV IN = 1284.279 P72 INV IN = 1284.279 P60 INV OUT = 1284.279
SS72	SUBSOIL END CAP	-24068.566	3194867.339	DEPTH = 0.677m P73 INV OUT = 1284.323
SS73	SUBSOIL NODE	-24062.912	3194835.978	DEPTH = 0.325m P60 INV IN = 1284.217 P73 INV IN = 1284.217 P61 INV OUT = 1284.217
SS74	SUBSOIL END CAP	-24091.820	3194829.916	DEPTH = 0.688m P74 INV OUT = 1284.314
SS75	SUBSOIL NODE	-24061.940	3194835.303	DEPTH = 0.325m P61 INV IN = 1284.213 P74 INV IN = 1284.213 P62 INV OUT = 1284.213
SS76	SUBSOIL END CAP	-24052.076	3194855.619	DEPTH = 0.745m P75 INV OUT = 1284.255
SS77	SUBSOIL NODE	-24046.478	3194824.565	DEPTH = 0.865m P62 INV IN = 1284.100 P75 INV IN = 1284.100 P63 INV OUT = 1284.100
SS78	SUBSOIL END CAP	-24075.723	3194818.441	DEPTH = 0.750m P76 INV OUT = 1284.248
SS79	SUBSOIL NODE	-24045.501	3194823.890	DEPTH = 0.865m P63 INV IN = 1284.146 P76 INV IN = 1284.146 P64 INV OUT = 1284.146
SS80	HEADWALL	-24034.741	3194816.400	DEPTH = 0.325m P64 INV IN = 1284.103

PIPE DATA: SUBSOIL				
NAME	SIZE	MATERIAL & CLASS	LENGTH	SPAN
P52	110 #	HDPE SLOTTED DRAINAGE PIPE	3.8 m	SS55 - SS57
P53	110 #	HDPE SLOTTED DRAINAGE PIPE	3.5 m	SS57 - SS59
P54	110 #	HDPE SLOTTED DRAINAGE PIPE	16.8 m	SS59 - SS61
P55	110 #	HDPE SLOTTED DRAINAGE PIPE	3.0 m	SS61 - SS63
P56	110 #	HDPE SLOTTED DRAINAGE PIPE	17.4 m	SS63 - SS65
P57	110 #	HDPE SLOTTED DRAINAGE PIPE	2.4 m	SS65 - SS67
P58	110 #	HDPE SLOTTED DRAINAGE PIPE	18.0 m	SS67 - SS69
P59	110 #	HDPE SLOTTED DRAINAGE PIPE	1.8 m	SS69 - SS71
P60	110 #	HDPE SLOTTED DRAINAGE PIPE	18.6 m	SS71 - SS73
P61	110 #	HDPE SLOTTED DRAINAGE PIPE	1.2 m	SS73 - SS75
P62	110 #	HDPE SLOTTED DRAINAGE PIPE	18.8 m	SS75 - SS77
P63	110 #	HDPE SLOTTED DRAINAGE PIPE	1.2 m	SS77 - SS79
P64	110 #	UPVC CLASS 6	13.1 m	SS79 - SS80
P65	110 #	HDPE SLOTTED DRAINAGE PIPE	5.3 m	SS56 - SS57
P66	110 #	HDPE SLOTTED DRAINAGE PIPE	10.4 m	SS58 - SS59
P67	110 #	HDPE SLOTTED DRAINAGE PIPE	30.5 m	SS60 - SS61
P68	110 #	HDPE SLOTTED DRAINAGE PIPE	31.6 m	SS62 - SS63
P69	110 #	HDPE SLOTTED DRAINAGE PIPE	31.0 m	SS64 - SS65
P70	110 #	HDPE SLOTTED DRAINAGE PIPE	31.2 m	SS66 - SS67
P71	110 #	HDPE SLOTTED DRAINAGE PIPE	31.4 m	SS68 - SS69
P72	110 #	HDPE SLOTTED DRAINAGE PIPE	30.7 m	SS70 - SS71
P73	110 #	HDPE SLOTTED DRAINAGE PIPE	31.9 m	SS72 - SS73
P74	110 #	HDPE SLOTTED DRAINAGE PIPE	30.4 m	SS74 - SS75
P75	110 #	HDPE SLOTTED DRAINAGE PIPE	36.6 m	SS76 - SS77
P76	110 #	HDPE SLOTTED DRAINAGE PIPE	30.7 m	SS78 - SS79



STRUCTURE DATA: LEAK DETECTION				
NAME	DESCRIPTION	Y-COORD	X-COORD	DETAILS
LD1	SUBSOL NODE	-24139.628	3194727.496	DEPTH = 0.500m P1 INV IN = 1286.500 P4 INV OUT = 1286.500
LD2	SUBSOL NODE	-24148.350	3194715.431	DEPTH = 0.550m P1 INV IN = 1286.450 P2 INV OUT = 1286.450
LD3	SUBSOL NODE	-24172.425	3194732.374	DEPTH = 0.648m P2 INV IN = 1286.352 P3 INV OUT = 1286.352
LD4	SUBSOL NODE	-24161.519	3194747.633	DEPTH = 0.310m P3 INV IN = 1286.290 P6 INV IN = 1286.290 P7 INV OUT = 1286.290
LD5	SUBSOL NODE	-24130.907	3194739.560	DEPTH = 0.557m P4 INV IN = 1286.443 P5 INV OUT = 1286.443
LD6	SUBSOL NODE	-24155.232	3194756.430	DEPTH = 0.669m P5 INV IN = 1286.331 P6 INV OUT = 1286.331
LD7	SUBSOL NODE	-24169.574	3194753.237	DEPTH = 0.742m P7 INV IN = 1286.257

STRUCTURE DATA: LEAK DETECTION				
NAME	DESCRIPTION	Y-COORD	X-COORD	DETAILS
LD15	SUBSOL NODE	-24075.454	3194754.044	DEPTH = 0.500m P15 INV OUT = 1285.500 P16 INV OUT = 1285.500
LD16	SUBSOL NODE	-24095.592	3194725.743	DEPTH = 0.616m P15 INV IN = 1285.384 P17 INV OUT = 1285.384
LD17	SUBSOL NODE	-24186.782	3194790.577	DEPTH = 0.988m P17 INV IN = 1285.012 P18 INV OUT = 1285.012
LD18	SUBSOL NODE	-24165.463	3194820.778	DEPTH = 1.154m P18 INV IN = 1284.889 P20 INV IN = 1284.889 P21 INV OUT = 1284.889
LD19	SUBSOL NODE	-24052.132	3194786.820	DEPTH = 0.634m P18 INV IN = 1285.366 P19 INV OUT = 1285.366
LD20	SUBSOL NODE	-24143.597	3194851.728	DEPTH = 1.007m P19 INV IN = 1284.993 P20 INV OUT = 1284.993
LD21	SUBSOL NODE	-24171.540	3194825.102	DEPTH = 2.384m P21 INV IN = 1284.864

PIPE DATA: LEAK DETECTION				
NAME	SIZE	MATERIAL & CLASS	LENGTH	SPAN
P1	110 ø	HDPE SLOTTED DRAINAGE PIPE	14.9 m	LD1 - LD2
P2	110 ø	HDPE SLOTTED DRAINAGE PIPE	29.4 m	LD2 - LD3
P3	110 ø	HDPE SLOTTED DRAINAGE PIPE	18.8 m	LD3 - LD4
P4	110 ø	HDPE SLOTTED DRAINAGE PIPE	14.9 m	LD1 - LD5
P5	110 ø	HDPE SLOTTED DRAINAGE PIPE	29.6 m	LD5 - LD6
P6	110 ø	HDPE SLOTTED DRAINAGE PIPE	10.8 m	LD6 - LD4
P7	110 ø	HDPE SLOTTED DRAINAGE PIPE	9.8 m	LD4 - LD7

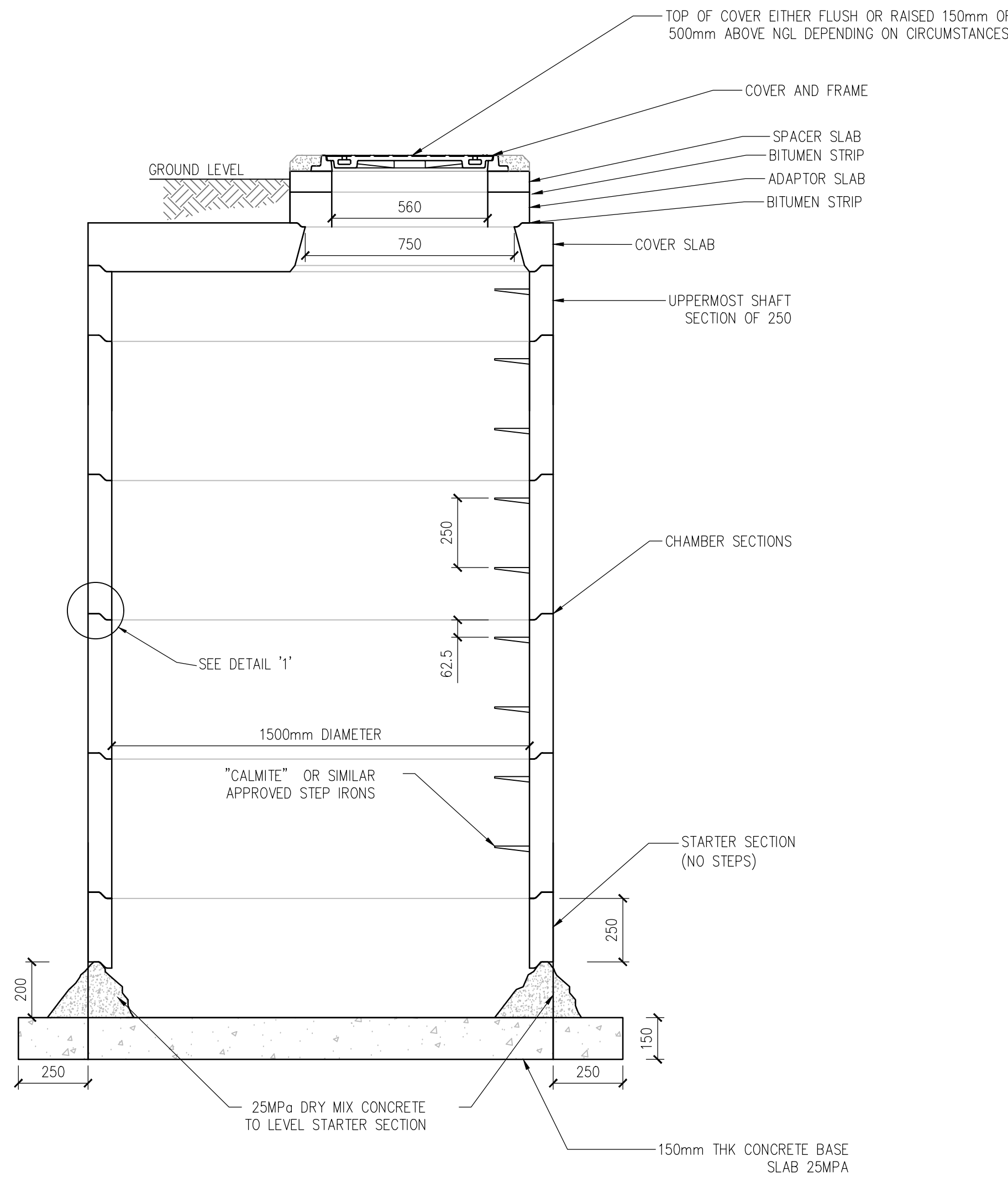
PIPE DATA: LEAK DETECTION				
NAME	SIZE	MATERIAL & CLASS	LENGTH	SPAN
P15	110 ø	HDPE SLOTTED DRAINAGE PIPE	34.7 m	LD15 - LD16
P16	110 ø	HDPE SLOTTED DRAINAGE PIPE	40.2 m	LD16 - LD19
P17	110 ø	HDPE SLOTTED DRAINAGE PIPE	111.9 m	LD16 - LD17
P18	110 ø	HDPE SLOTTED DRAINAGE PIPE	37.0 m	LD17 - LD18
P19	110 ø	HDPE SLOTTED DRAINAGE PIPE	112.2 m	LD19 - LD18
P20	110 ø	HDPE SLOTTED DRAINAGE PIPE	37.8 m	LD20 - LD18
P21	110 ø	HDPE SLOTTED DRAINAGE PIPE	7.5 m	LD18 - LD21

STRUCTURE DATA: LEAK DETECTION				
NAME	DESCRIPTION	Y-COORD	X-COORD	DETAILS
LD8	SUBSOL NODE	-24132.118	3194723.795	DEPTH = 0.500m P8 INV OUT = 1286.500 P9 INV OUT = 1286.500
LD9	SUBSOL NODE	-24124.401	3194734.936	DEPTH = 0.545m P9 INV IN = 1286.455 P11 INV OUT = 1286.455
LD10	SUBSOL NODE	-24141.438	3194710.339	DEPTH = 0.555m P8 INV IN = 1286.445 P10 INV OUT = 1286.445
LD11	SUBSOL NODE	-24117.504	3194693.403	DEPTH = 0.652m P10 INV IN = 1286.346 P12 INV OUT = 1286.346
LD12	SUBSOL NODE	-24100.235	3194717.573	DEPTH = 0.644m P11 INV IN = 1286.356 P13 INV OUT = 1286.356
LD13	SUBSOL NODE	-24107.837	3194706.932	DEPTH = 0.708m P12 INV IN = 1286.292 P13 INV IN = 1286.312 P14 INV OUT = 1286.292
LD14	SUBSOL NODE	-24100.725	3194701.988	DEPTH = 0.761m P14 INV IN = 1286.264

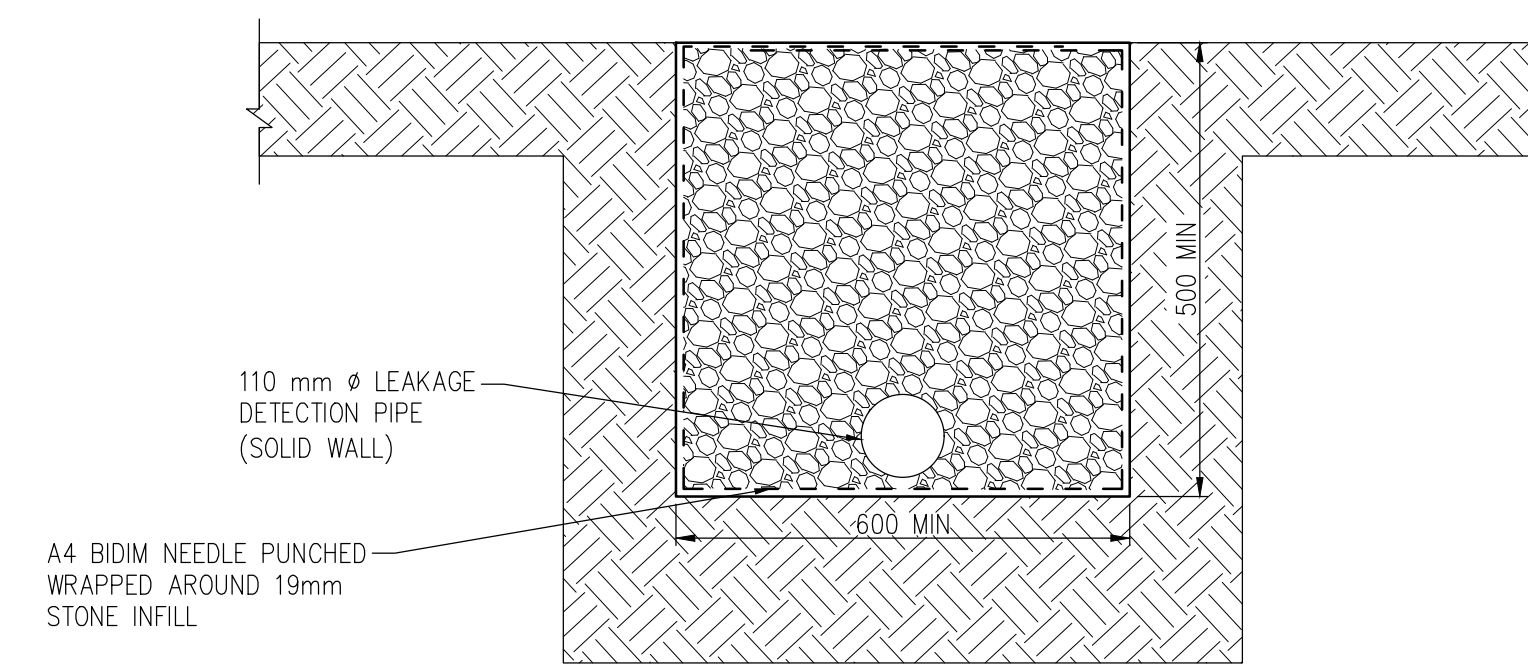
PIPE DATA: LEAK DETECTION				
NAME	SIZE	MATERIAL & CLASS	LENGTH	SPAN
P8	110 ø	HDPE SLOTTED DRAINAGE PIPE	16.4 m	LD8 - LD10
P9	110 ø	HDPE SLOTTED DRAINAGE PIPE	13.6 m	LD8 - LD9
P10	110 ø	HDPE SLOTTED DRAINAGE PIPE	29.3 m	LD10 - LD11
P11	110 ø	HDPE SLOTTED DRAINAGE PIPE	29.8 m	LD9 - LD12
P12	110 ø	HDPE SLOTTED DRAINAGE PIPE	16.6 m	LD11 - LD13
P13	110 ø	HDPE SLOTTED DRAINAGE PIPE	13.1 m	LD12 - LD13
P14	110 ø	HDPE SLOTTED DRAINAGE PIPE	6.7 m	LD13 - LD14

STRUCTURE DATA: LEAK DETECTION				
NAME	DESCRIPTION	Y-COORD	X-COORD	DETAILS
LD22	SUBSOL NODE	-24043.146	3194822.469	DEPTH = 0.500m P22 INV OUT = 1284.500 P23 INV OUT = 1284.500
LD23	SUBSOL NODE	-24056.565	3194803.556	DEPTH = 0.577m P22 INV IN = 1284.423 P25 INV OUT = 1284.423
LD24	SUBSOL NODE	-24146.177	3194867.438	DEPTH = 0.944m P26 INV IN = 1284.056 P28 INV OUT = 1284.056
LD25	SUBSOL NODE	-24132.583	3194886.467	DEPTH = 1.023m P28 INV IN = 1283.978 P29 INV IN = 1283.978 P29 INV OUT = 1283.978
LD26	SUBSOL NODE	-24029.925	3194841.102	DEPTH = 0.577m P23 INV IN = 1284.423 P24 INV OUT = 1284.423
LD27	SUBSOL NODE	-24119.506	3194904.771	DEPTH = 0.846m P24 INV IN = 1284.054 P27 INV OUT = 1284.054
LD28	SUBSOL NODE	-24138.771	3194891.769	DEPTH = 1.760m P29 INV IN = 1283.949 P29 INV IN = 1284.240 P28 INV OUT = 1284.240
MH62	SUBSOL NODE	-24101.369	3194835.496	

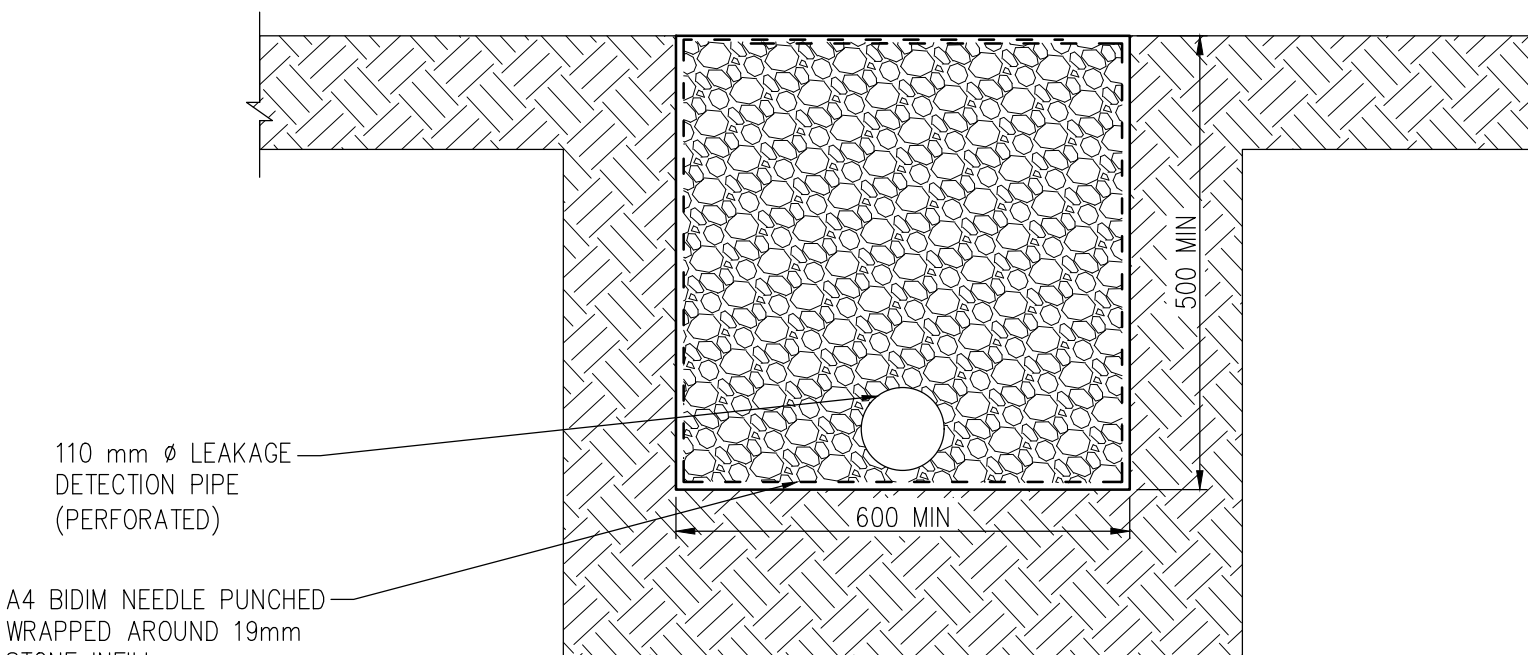
PIPE DATA: LEAK DETECTION				
NAME	SIZE	MATERIAL & CLASS	LENGTH	SPAN
P22	110 ø	HDPE SLOTTED DRAINAGE PIPE	23.2 m	LD22 - LD23
P23	110 ø	HDPE SLOTTED DRAINAGE PIPE	22.8 m	LD22 - LD26
P24	110 ø	HDPE SLOTTED DRAINAGE PIPE	109.9 m	LD26 - LD27
P25	110 ø	HDPE SLOTTED DRAINAGE PIPE	55.0 m	LD23 - MH62
P26	110 ø	HDPE SLOTTED DRAINAGE PIPE	55.0 m	MH62 - LD24
P27	110 ø	HDPE SLOTTED DRAINAGE PIPE	22.5 m	LD27 - LD25
P28	110 ø	HDPE SLOTTED DRAINAGE PIPE	23.4 m	LD24 - LD25
P29	110 ø	HDPE SLOTTED DRAINAGE PIPE	8.9 m	LD25 - LD28



PROPOSED WET-WELL CHAMBER
SCALE 1:25



PROPOSED LEAKAGE DETECTION THROUGH EMBANKMENT WALL COLLECTOR DETAIL
SCALE 1: 100



PROPOSED LEAKAGE DETECTION COLLECTOR DETAIL
SCALE 1: 100

CLIENT

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CONSULTANT

**SAMEX
CONSULTING**
ENGINEERING DEFINED
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6 URBAN CORNER, NEW PARK
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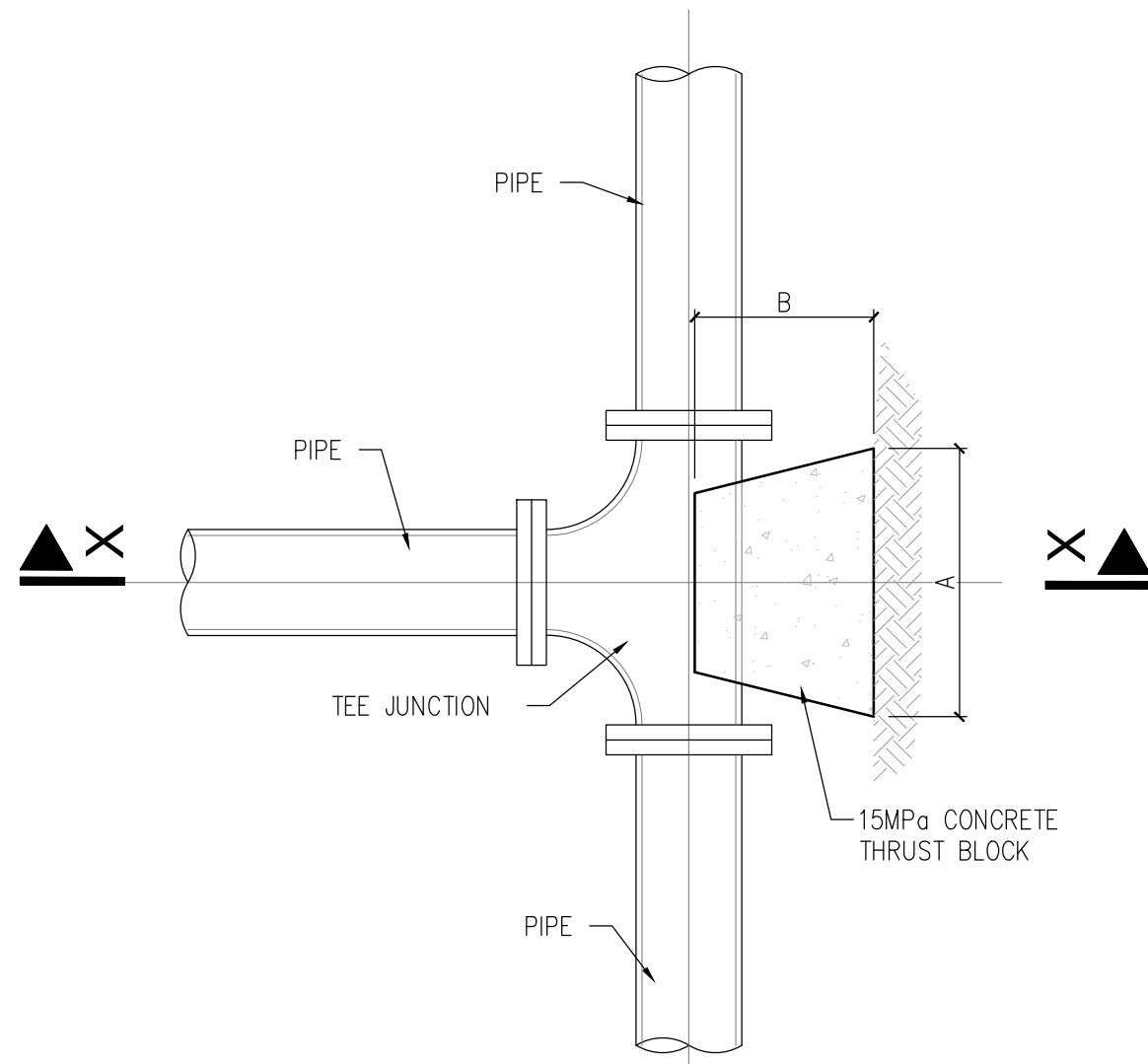
PROJECT **GRIEKWASTAD WASTEWATER
TREATMENT WORKS**

DISCIPLINE **WASTE WATER MANAGEMENT**

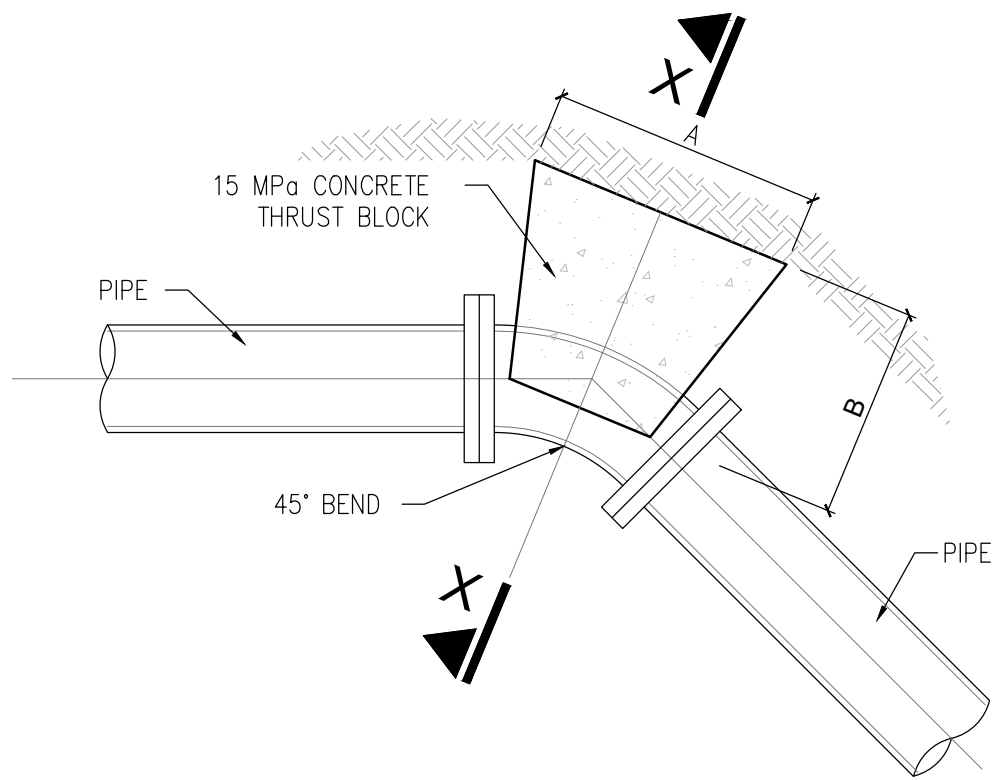
DRAWING TITLE **LAYOUT PLAN & DETAILS:
LEAKAGE DETECTION SYSTEM**

	RESPONSIBLE PERSON	DATE
DRAW CONTROL	LN	10/2025
DESIGN	LN	10/2025
DESIGN CONTROL	LN	10/2025
PROJECT MANAGER	NQ	10/2025
APPROVED		

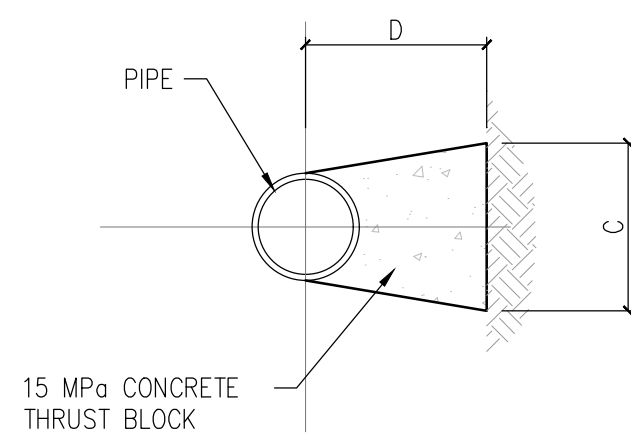
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SAMEX PROJ. NO	SUB NUMBER	DISCIPLINE	DRAWING NUMBER	STATUS
S0323	01	LDLP	001	T - 00
DRAWING STATUS CODES :				
R = REPORT	T = TENDER	C = CONSTRUCTION	AS SHOWN	SHEET SIZE
D = DRAFT	P = PRELIMINARY	A = AS BUILT		A0
COPYRIGHT RESERVED				



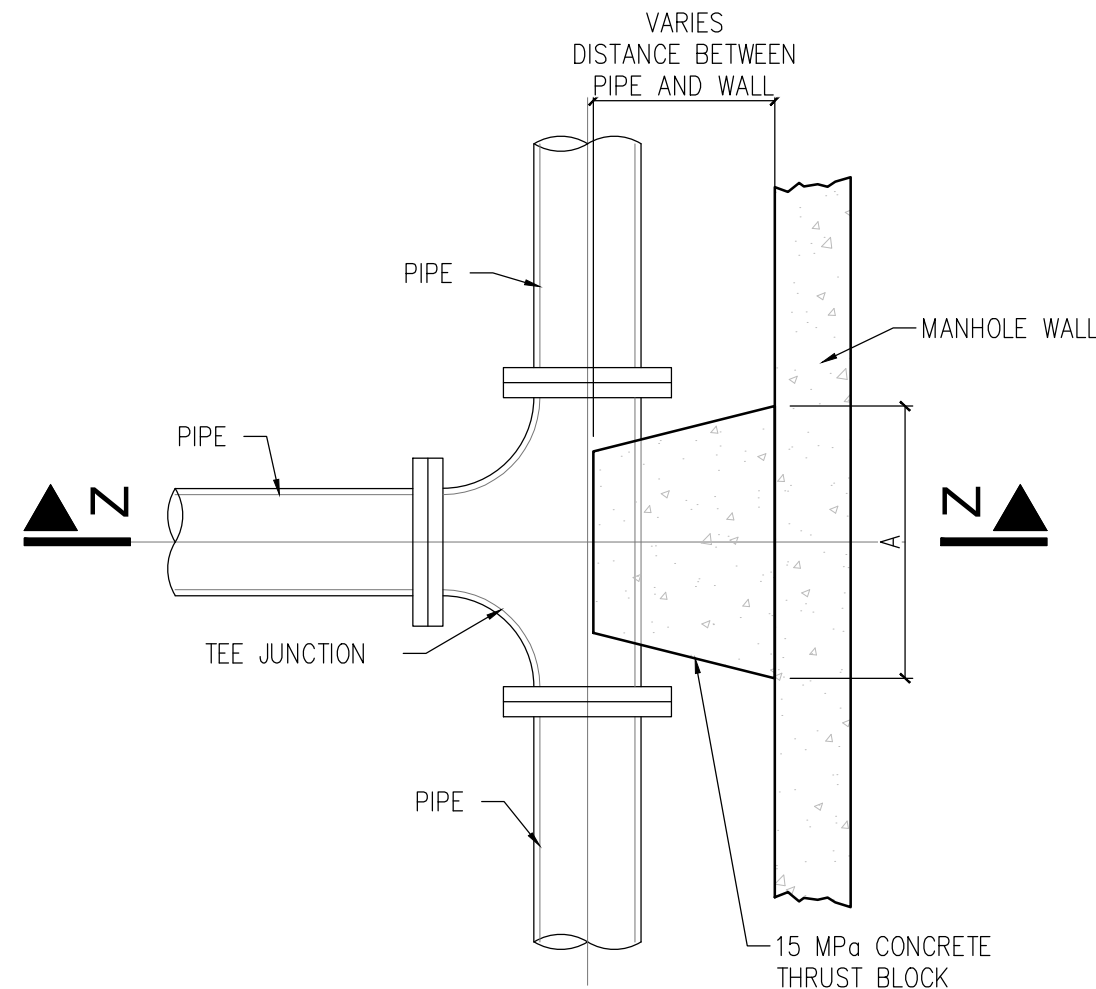
TYPICAL THRUST BLOCK
DETAIL FOR TEE JUNCTION
1:25



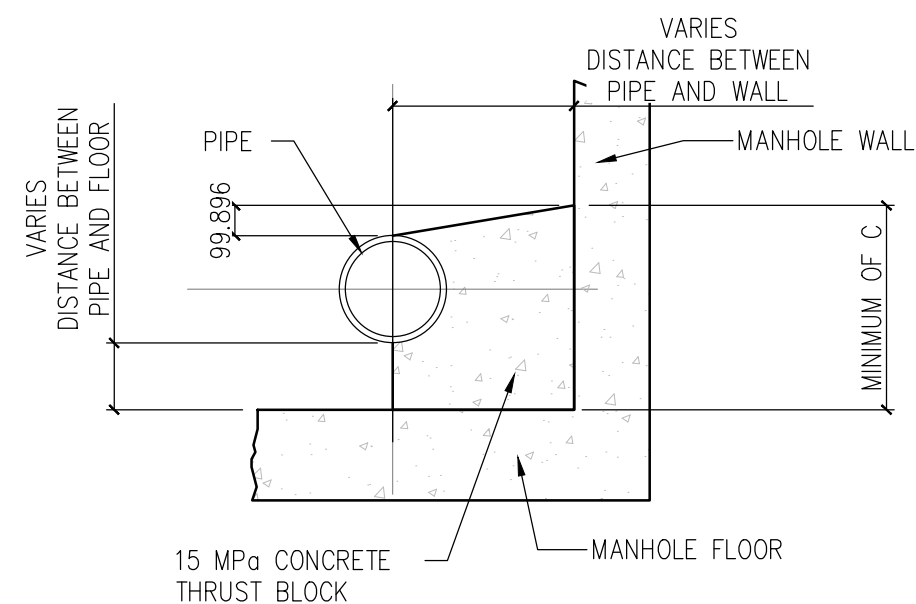
TYPICAL THRUST BLOCK
DETAIL FOR 45° BEND
1:25



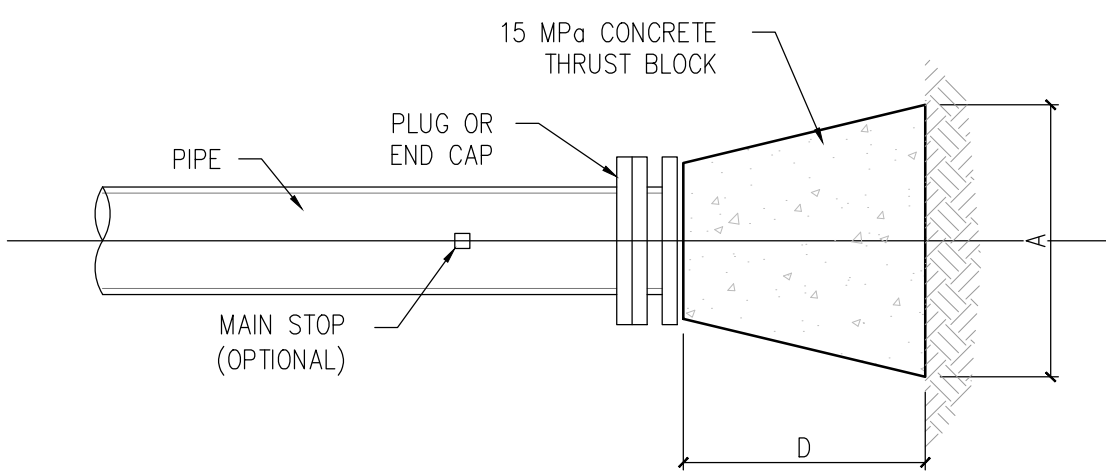
SECTION X-X
1:25



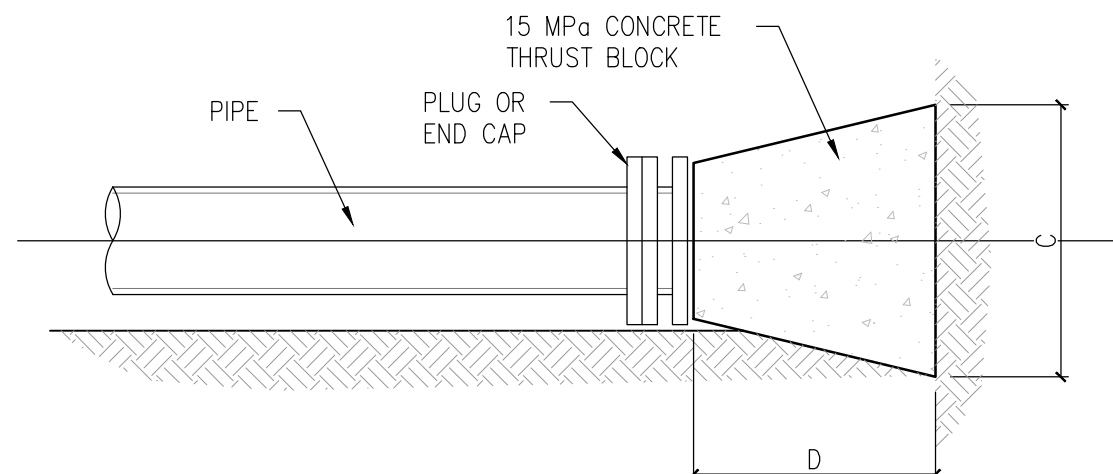
TYPICAL THRUST BLOCK DETAIL
FOR TEE JUNCTION INSIDE MANHOLE
1:25



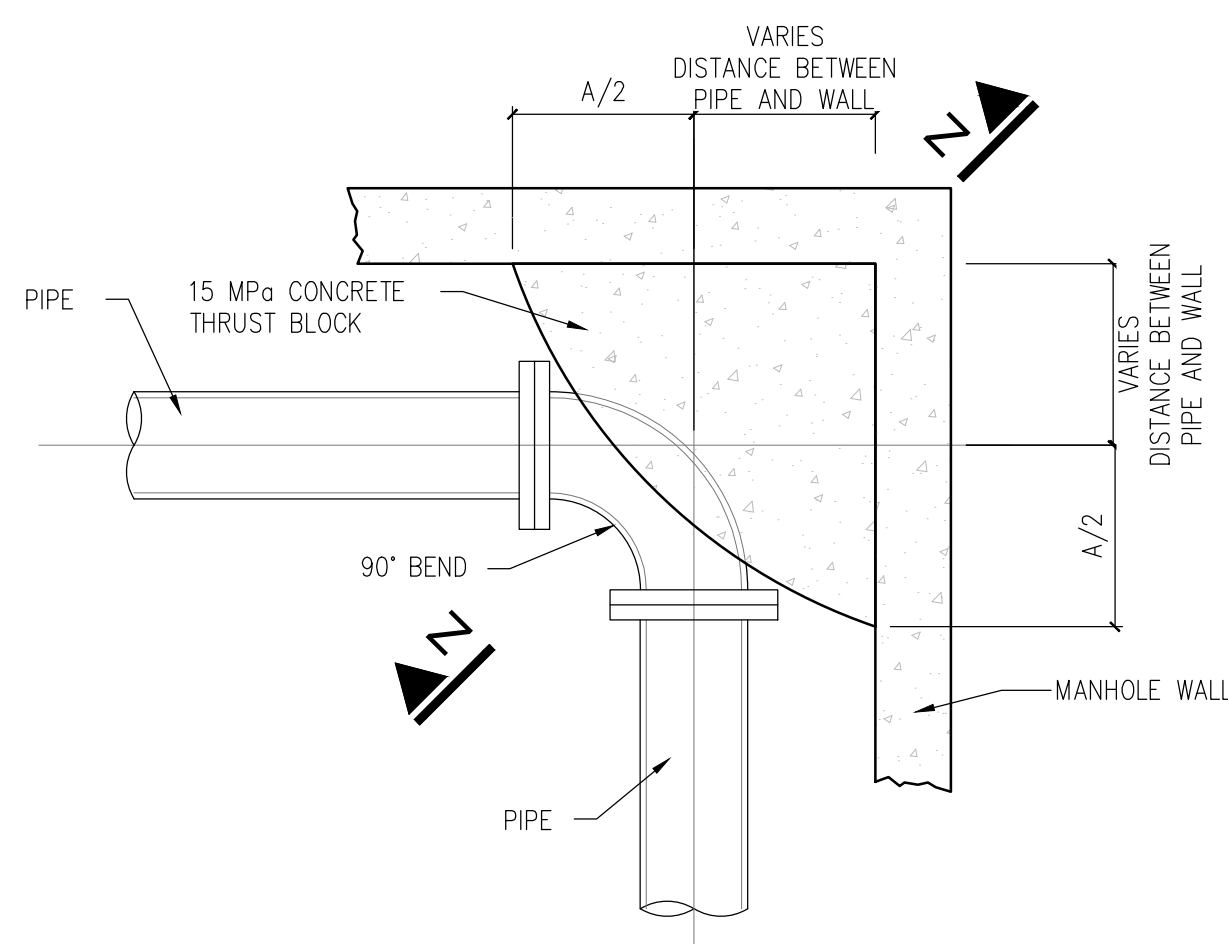
SECTION Z-Z
1:25



PLAN - END SECTION
1:25



ELEVATION - END SECTION
1:25



TYPICAL THRUST BLOCK DETAIL FOR 90°
BEND INSIDE MANHOLE
1:25

DN	90°			45°			22.5°			11.25°			135°			T PIECE			End Section		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
100	300	250	350	150	250	350	100	250	350	50	250	350	350	250	350	200	250	350	250	250	250
150	500	350	400	300	350	400	150	350	400	100	350	400	650	350	400	350	350	400	350	350	350
200	800	450	450	450	450	450	250	450	450	150	450	450	1000	450	450	550	450	450	500	450	500
250	1100	550	500	600	550	500	300	550	500	150	550	500	1400	550	500	750	550	500	600	550	600
300	1350	650	550	750	650	550	400	650	550	200	650	550	1750	650	550	950	650	550	750	650	750
350	1550	750	600	850	750	600	450	750	600	250	750	600	2000	750	600	1100	750	600	800	750	800
400	1850	850	650	1000	850	650	550	850	650	300	850	650	2400	850	650	1300	850	650	900	850	900
450	2150	950	700	1150	950	700	600	950	700	300	950	700	2800	950	700	1500	950	700	1000	950	1000
500	2450	1050	750	1350	1050	750	700	1050	750	350	1050	750	3200	1050	750	1750	1050	750	1150	1050	1150
600	3100	1250	850	1700	1250	850	850	1250	850	450	1250	850	4000	1250	850	2200	1250	850	1350	1250	1350
700	3700	1450	950	2050	1450	950	1050	1450	950	550	1450	950	4850	1450	950	2650	1450	950	1550	1450	1550
800	4350	1650	1050	2400	1650	1050	1200	1650	1050	650	1650	1050	5700	1650	1050	3100	1650	1050	1800	1650	1800
900	4350	1650	1050	2400	1650	1050	1200	1650	1050	650	1650	1050	5700	1650	1050	3100	1650	1050	1800	1650	1800
1000	5550	2000	1200	3000	2000	1200	1550	2000	1200	800	2000	1200	7250	2000	1200	3950	2000	1200	2200	2000	2200

NOTES

1. MAINTAIN CLEARANCE OF 80mm FROM FACE OF BELL TO CONCRETE
2. THIS BLOCKING DESIGN APPLIES ONLY WHERE 1035 KPa PRESSURE IS NOT EXCEEDED.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
4. PROVIDE POLYETHYLENE FILM BETWEEN CONCRETE AND FITTINGS.
5. REFER TO SPECIFICATIONS CONCRETE = 15 MPa

CLIENT



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PROJECT

GRIEKWASTAD WASTEWATER
TREATMENT WORKS

DISCIPLINE

WASTE WATER MANAGEMENT

DRAWING TITLE

TYPICAL
THRUST BLOCK DETAILS

DRAW CONTROL

RESPONSIBLE PERSON LN 10/2025

DESIGN

LN 10/2025

DESIGN CONTROL

LN 10/2025

PROJECT MANAGER

NQ 10/2025

APPROVED

SAMEX DRAWING NUMBER

SAMEX PROJ. No | SUB NUMBER | DISCIPLINE | DRAWING NUMBER | STATUS | REVISION

S0323-01-TD-001-T-00

DRAWING STATUS CODES :

R = REPORT T = TENDER C = CONSTRUCTION
D = DRAFT P = PRELIMINARY A = AS BUILT

SCALE

1:2500

SHEET SIZE

A1

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TIMBER FRAME / SINGLE CLEAR GLASS – TO SPECIALIST
MUST COMPLY TO SANS 204 & SANS 10400XA



ROOF NOTE:
0.8MM clip-lock 406 sheeting on 30 degree roof pitch on 1100mm c/c max. with 50mm x 76mm SA Pine battens spaced 1100mm max. centres, type A covering to consist of 228mm x 50mm tie beams and rafters grade 8, complete with webb members but less than 114mm x 38mm grade 4 SA Pine, tied down on 114mm x 38mm wall plates. Roof overhang = 600mm
ROOF TO ROOFING SPECIALIST SABS 0400 APPROVED INSULATION UNDERLAY REQUIRED TO MANUFACTURER WATERGOODS TO DEVELOPER SPECIFICATION
IF NO WATERGOODS - APRON TO BE PROVIDED

ROOF AND CEILINGS:
MUST ACHIEVE THE MINIMUM TOTAL R-VALUE AS PER
REQUIREMENTS THERMAL RESISTANCE FOR CEILINGS TO
COMPLY TO REGULATIONS – INSULATION TO ACHIEVE THE
REQUIREMENTS IN SANS 10400XA

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PROJECT	GRIEKWASTAD WASTEWATER TREATMENT WORKS
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DISCIPLINE	WASTE WATER MANAGEMENT
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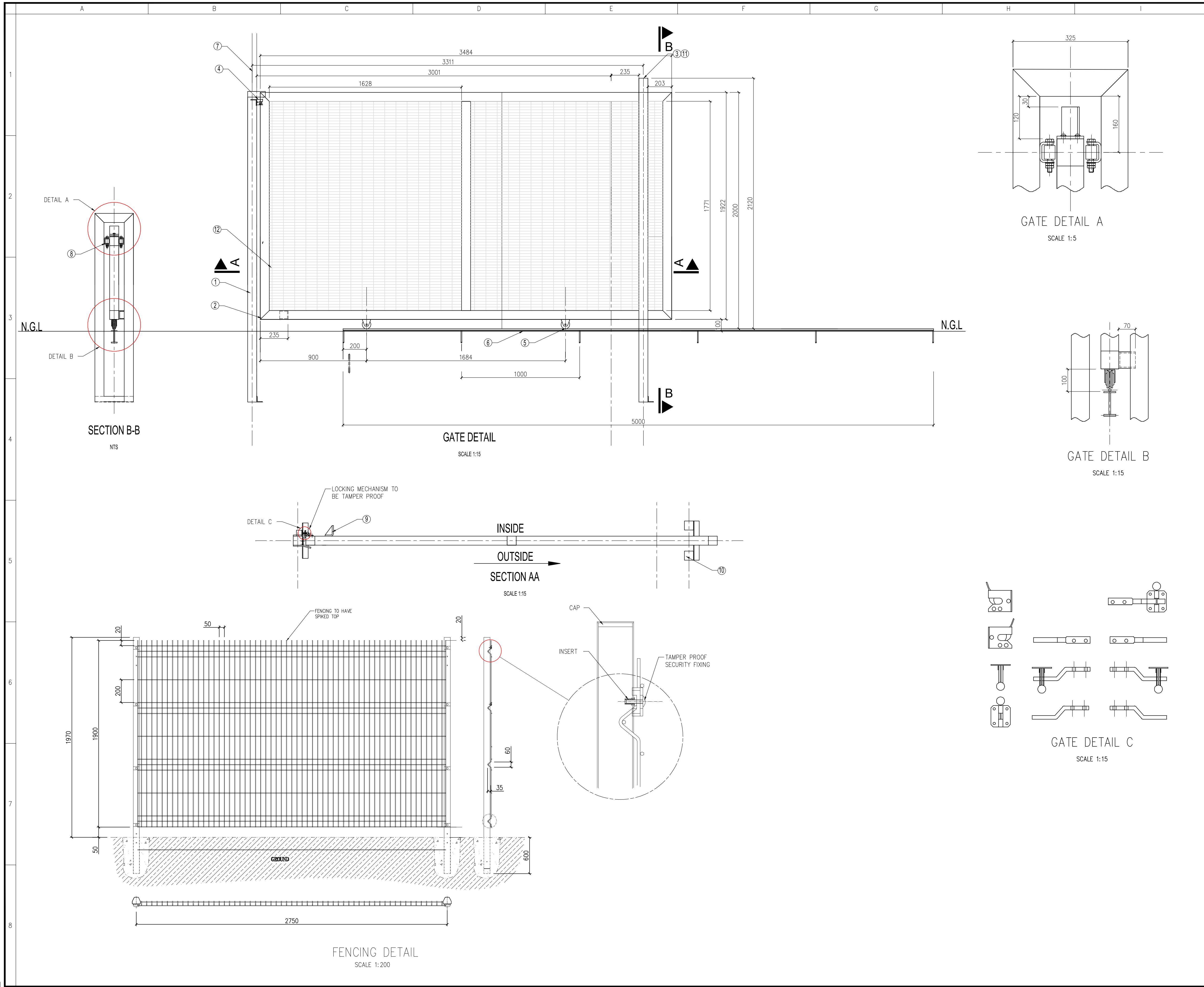
DRAWING TITLE	GAURDHOUSE DETAIL
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	RESPONSIBLE PERSON	DATE
DRAW CONTROL	LN	10/2025
DESIGN	LN	10/2025
DESIGN CONTROL	LN	10/2025
PROJECT MANAGER	NQ	10/2025
APPROVED		

SAMESX DRAWING NUMBER					
SAMESX PROJ. No	SUB NUMBER	DISCIPLINE	DRAWING NUMBER	STATUS	REVISION
S0323	01	TD	002	T	00

DRAWING STATUS CODES :		SCALE	SHEET SIZE
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D = DRAFT	P = PRELIMINARY		
	A = AS BUILT		

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- NOTES
1. DRAWING ADAPTED FROM CLEARVU SPECIFICATIONS
 2. MESH GRID FENCING APPROVED BY ENGINEER
 3. GATE MUST BE LOCKABLE WITH TAMPER PROOF LOCK
 4. FENCING TO EXTEND 500mm BELOW GROUND LEVEL

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PROJECT

GRIEKWASTAD WASTEWATER TREATMENT WORKS

DISCIPLINE

WASTE WATER MANAGEMENT

DRAWING TITLE

FENCE & GATE DETAILS

	RESPONSIBLE PERSON	DATE
DRAW CONTROL	LN	10/2025
DESIGN	LN	10/2025
DESIGN CONTROL	LN	10/2025
PROJECT MANAGER	NQ	10/2025
APPROVED		

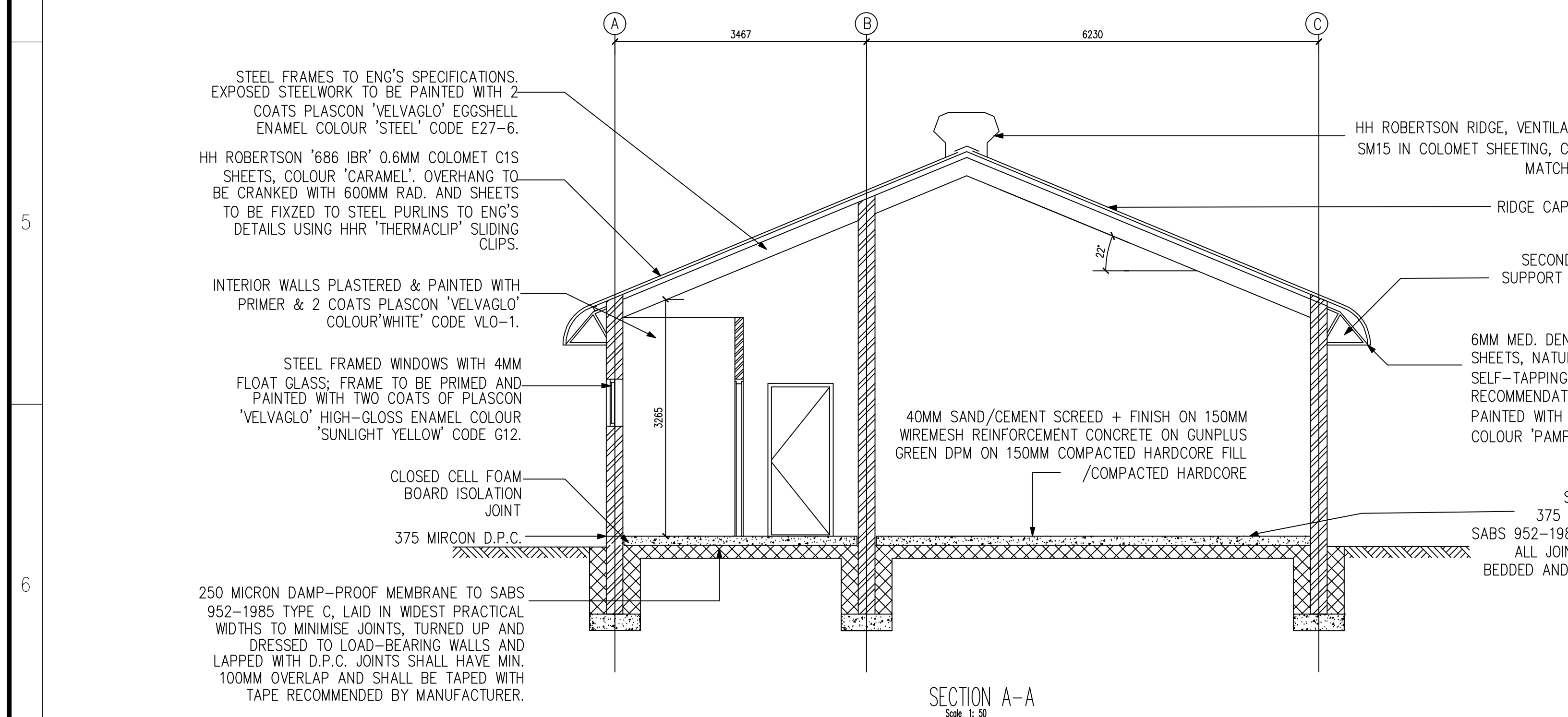
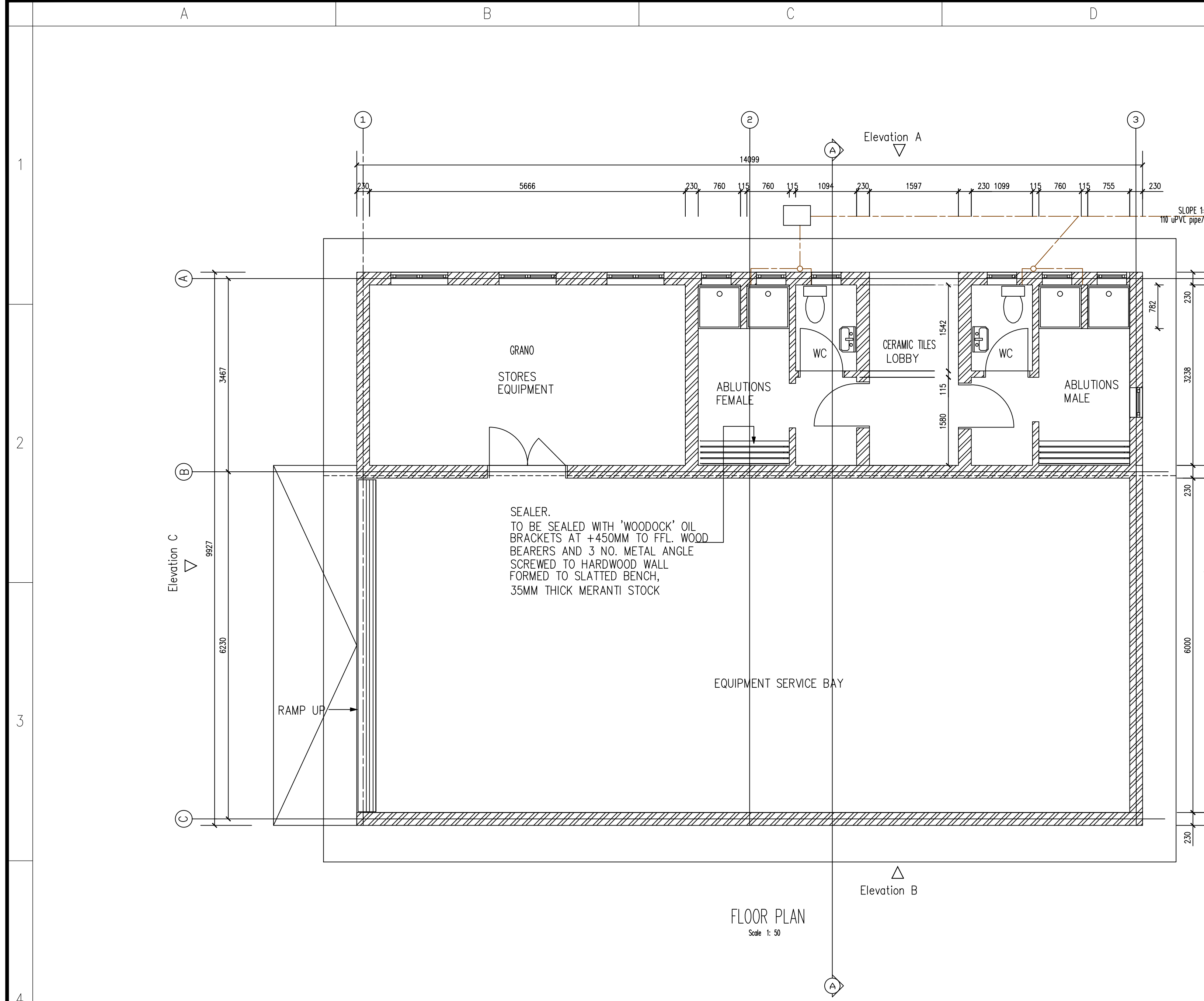
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SAMEX PROJ. No | SUB NUMBER | DISCIPLINE | DRAWING NUMBER | STATUS | REVISION

S0323 - 01 - TD - 003 - T - 00

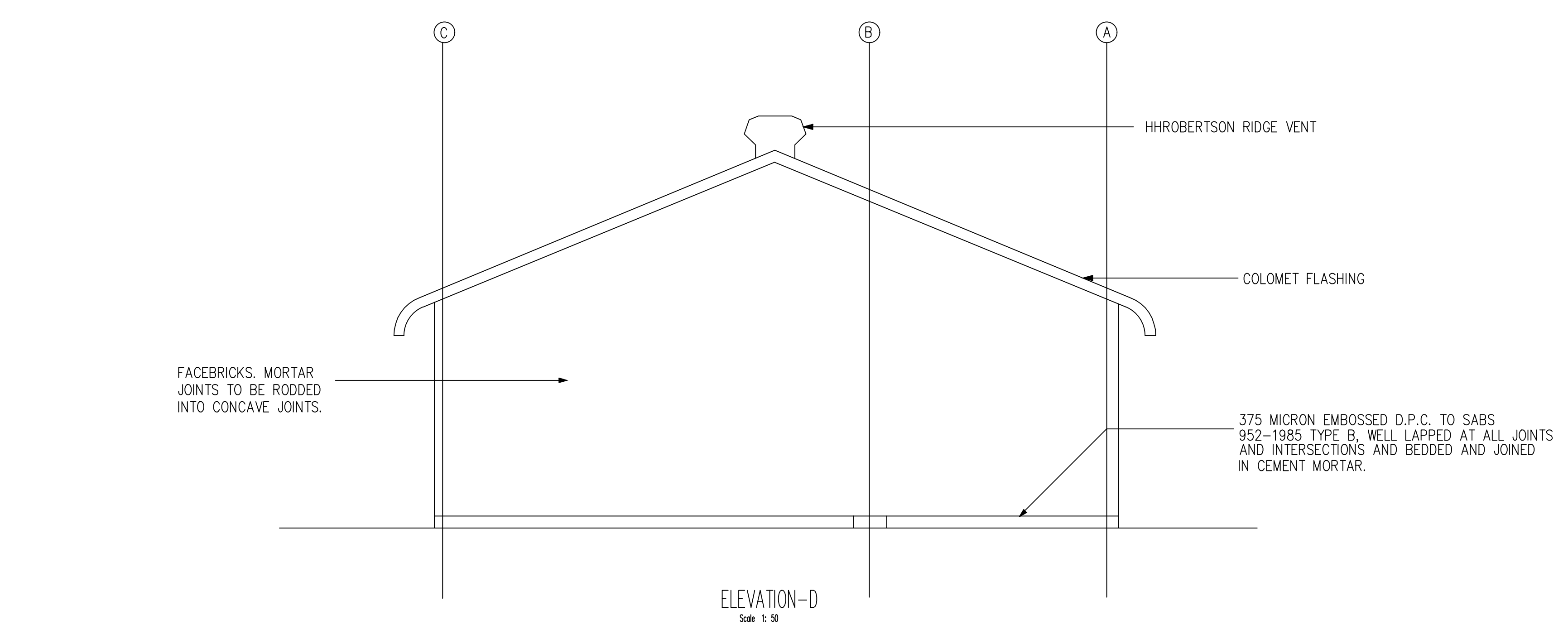
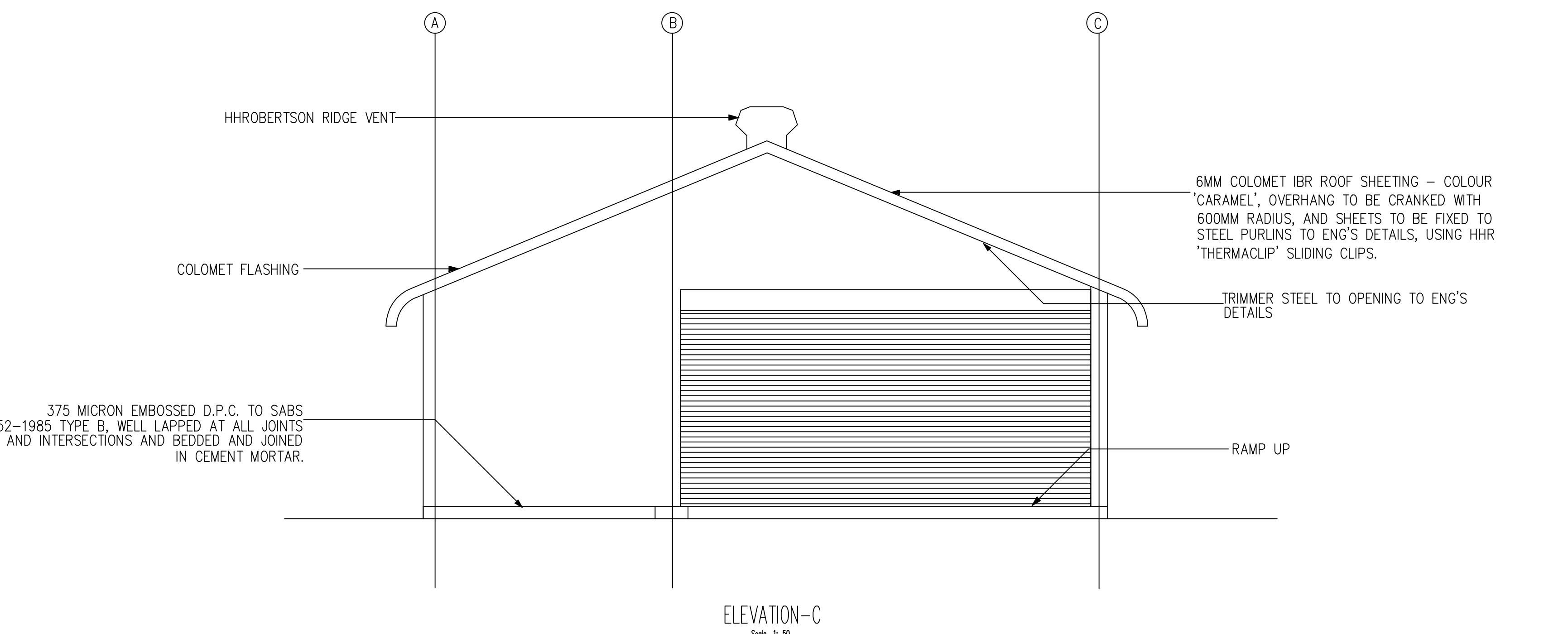
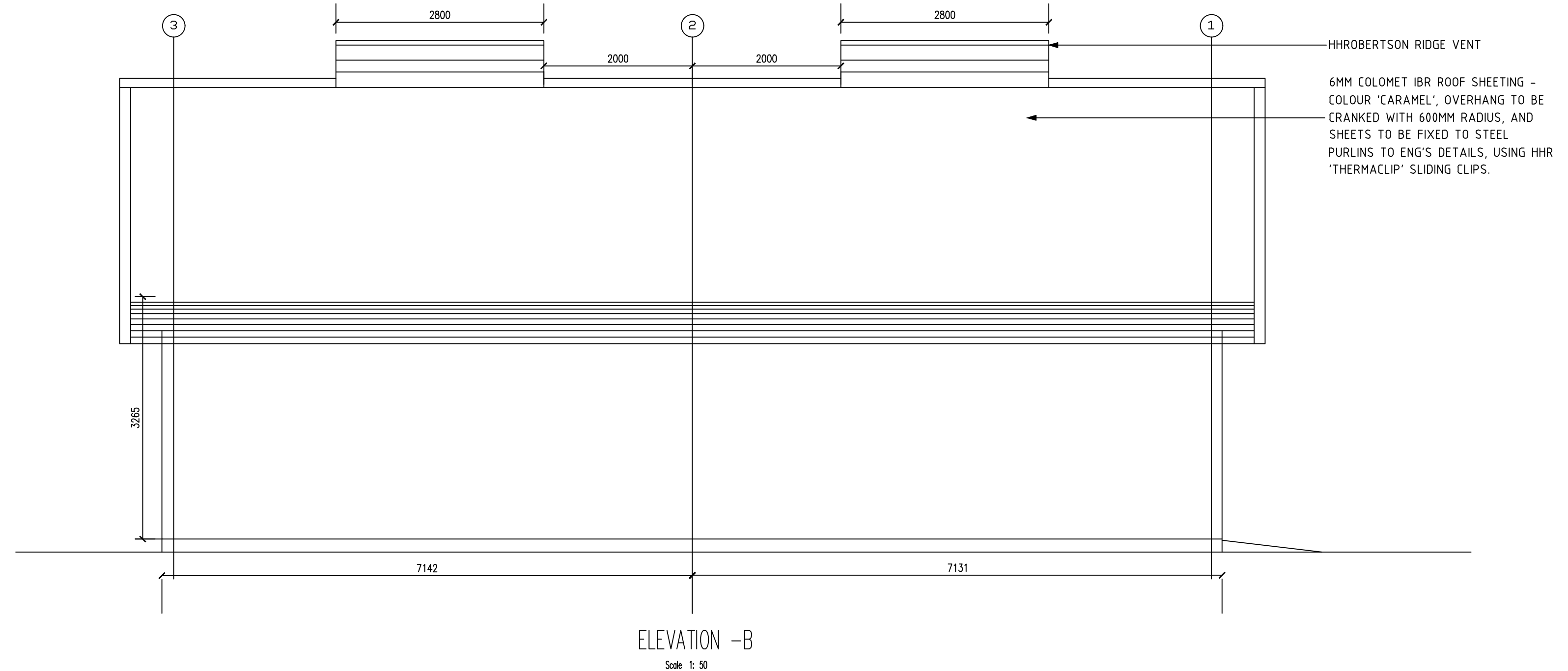
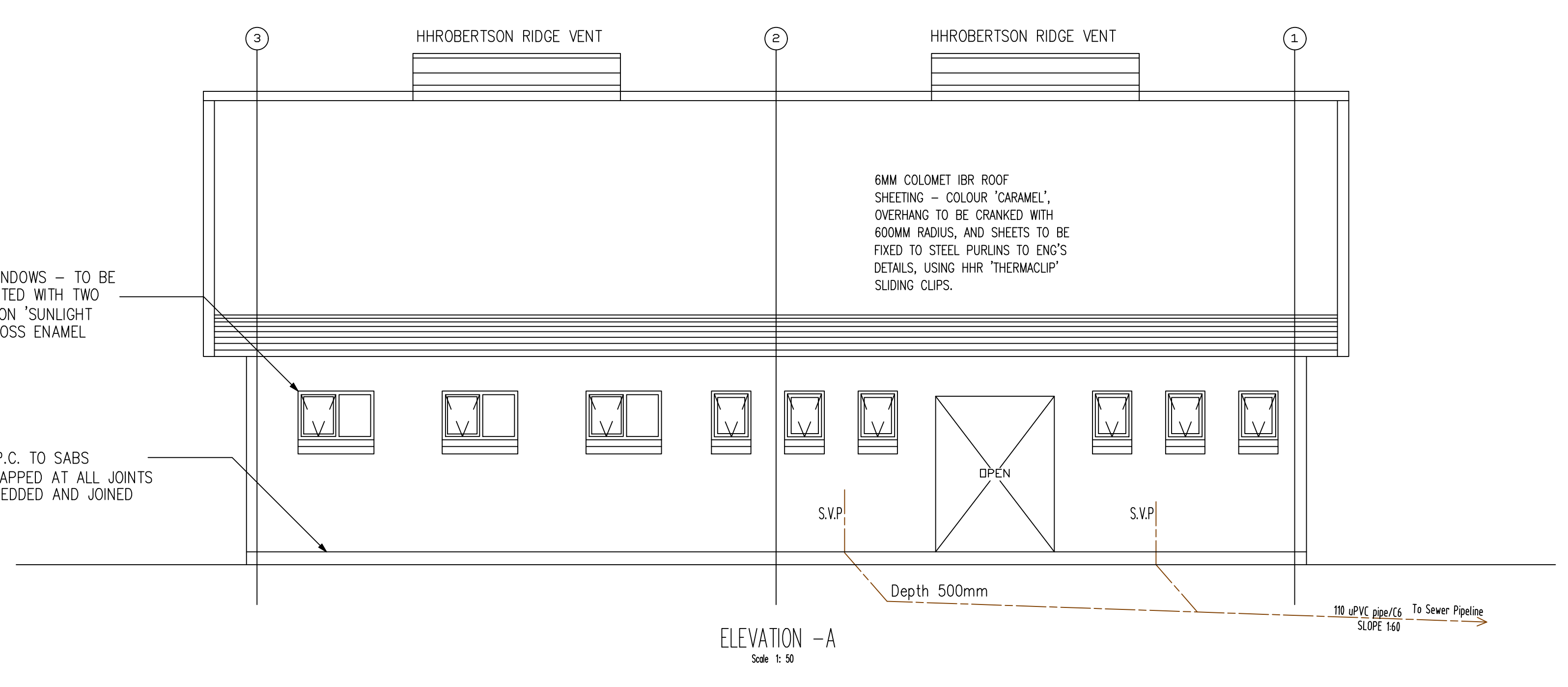
DRAWING STATUS CODES :			SCALE	SHEET SIZE
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STEEL FRAMED WINDOWS - TO BE PRIMED AND PAINTED WITH TWO COATS OF PLASCON 'SUNLIGHT YELLOW' HIGH-GLOSS ENAMEL CODE G12.

375 MICRON EMBOSSED D.P.C. TO SABS 952-1985 TYPE B, WELL LAPPED AT ALL JOINTS AND INTERSECTIONS AND BEDDED AND JOINED IN CEMENT MORTAR.



NOTES

ROOF:-
IN CLIMATIC ZONE 1 - ALL TILED ROOFS SHALL HAVE A TILED UNDERLAY OR RADIANT BARRIER AND THE JOINTS SHALL BE SEALED.
ROOF ASSEMBLY THAT HAS METAL SHEET ROOFING FIXED TO METAL PURLINS, METAL RAFTERS OR METAL BATTENS SHALL HAVE A THERMAL BREAK CONSISTING OF A MATERIAL WITH AN R-VALUE OF NOT LESS THAN 0.2 INSTALLED BETWEEN THE METAL SHEET ROOFING AND ITS SUPPORTING MEMBERS.

EXTERNAL DOORS:-
IN CLIMATIC ZONE 1, 2, 4, 6 - A SEAL TO RESTRICT AL SHALL BE FITTED TO EACH EDGE OF AN EXTERNAL DOOR AND OTHER SUCH OPENING.

HOT WATER SERVICES:-
A MINIMUM OF 50% BY VOLUME OF THE ANNUAL AVERAGE HOT WATER HEATING REQUIREMENTS SHALL BE PROVIDED BY MEANS OTHER THAN ELECTRICAL RESISTANCE HEATING, INCLUDING BUT NOT LIMITED TO, SOLAR HEATING, HEAT PUMPS, HEAT RECOVERY FROM OTHER SYSTEMS OR PROCESSES.
HOT WATER USAGE SHOULD BE MINIMISED AND THE SYSTEM MAINTAINED IN ACCORDANCE WITH REQUIREMENTS GIVEN IN SANS 10252-1.
ALL EXPOSED PIPES TO AND FROM THE HOT WATER CYLINDERS AND CENTRAL HEATING SYSTEMS SHALL BE INSULATED WITH PIPE INSULATION MATERIAL WITH AN R-VALUE IN ACCORDANCE WITH REGULATIONS.
HOT WATER VESSELS AND TANKS SHALL BE INSULATED WITH MATERIAL ACHIEVING A MINIMUM R-VALUE OF 2.0.

LIGHTING AND POWER:-
DEPENDENT UPON OCCUPANCY AND ACTIVITY, THE MINIMUM LIGHTING LEVELS SHALL BE DETERMINED IN ACCORDANCE WITH THE REQUIREMENTS OF SANS10114-1 AND SANS 10400-C.

GENERAL REQUIREMENTS:-
IN ANY BUILDING OF OCCUPANCY CLASSIFIED IN TERMS OF REGULATION A20 AS A1, A2, A3, A4, C1, C2, E1, E2, E3, E4, F1, F2, F3, G1, H1, H2, H3, H4 AND H5, THE ORIENTATION AND SHADING SHOULD BE IN ACCORDANCE WITH REQUIREMENTS OF SANS204, EXTERNAL WALLS SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF 4.4.3, FENESTRATION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF 4.4.4, ROOF ASSEMBLY CONSTRUCTION SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF 4.4.5.
IF IN SLAB HEATING IS INSTALLED, IT SHOULD BE IN ACCORDANCE WITH THE REQUIREMENTS OF 4.4.2.
AND SERVICES THAT USE ENERGY OR CONTROL THE USE OF ENERGY, INCLUDING HEATING AIR, AIR CONDITIONING AND MECHANICAL VENTILATION IN ACCORDANCE WITH SANS204.
AND HOT WATER SYSTEMS IN ACCORDANCE WITH REQUIREMENTS OF 4.1 (SERVICES EXCLUDE COOKING FACILITIES AND PORTABLE APPLIANCES).

OPENINGS NOTES:-
ROOFS, EXTERNAL FLOORS AND ANY OPENINGS SUCH AS GLAZING OR DOOR IN THE EXTERNAL FABRIC, SHALL BE CONSTRUCTED TO MINIMISE AIR LEAKAGE IN ACCORDANCE WITH 4.4.1 WHEN FORMING PART OF EXTERNAL FABRIC OF HABITABLE ROOMS IN CLIMATIC ZONES 1, 2, 4, 6 OR CONDITIONED SPACE.

EXTERNAL WALLS:-
DOUBLE-SKIN MASONRY WITH NO CAVITY, PLASTERED INTERNALLY, OR RENDERED EXTERNALLY SHOULD MEET THE REQUIRED R-VALUES SINGLE-LEAF MASONRY WALLS WITH A NOMINAL WALL THICKNESS GREATER THEN OR EQUAL TO 140MM (EXCL. PLASTERING AND RENDERING), PLASTERED INTERNALLY AND RENDERED EXTERNALLY SHOULD MEET THE REQUIRED R-VLAUES.

ROOF AND CEILING:-
MUST ACHIEVE THE MINIMUM TOTAL R-VALUE AS PER REQUIREMENTS THERMAL RESISTANCE FOR CEILINGS TO COMPLY TO REGULATIONS - INSULATION TO ACHIEVE THE REQUIREMENTS IN SANS 10400XA

CLIENT

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PROJECT

GRIEKWASTAD WASTEWATER
TREATMENT WORKS

DISCIPLINE

WASTE WATER MANAGEMENT

DRAWING TITLE

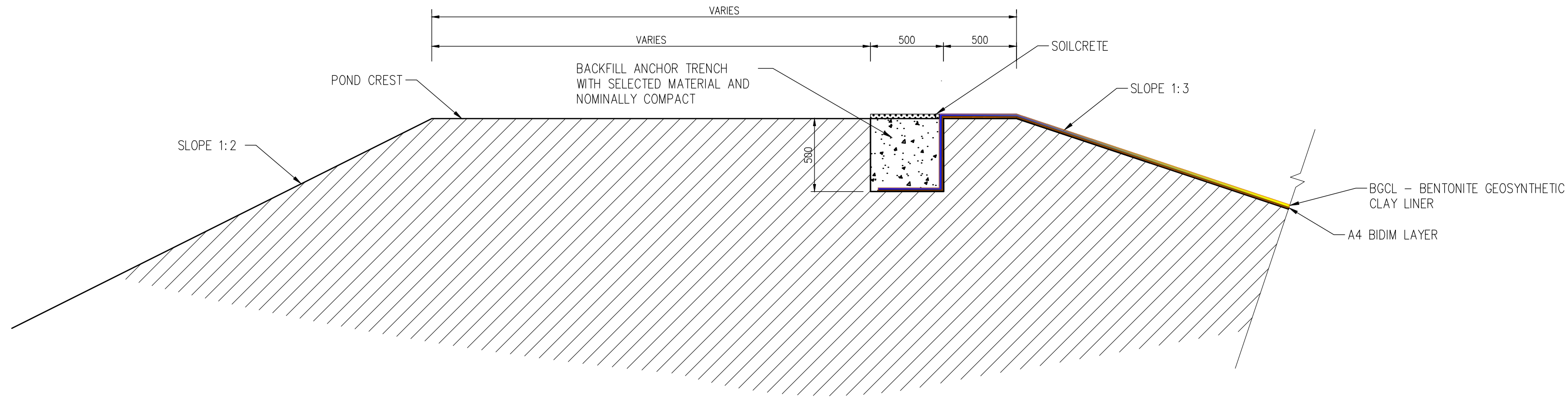
PROPOSED STORES FLOOR PLAN
SECTIONS, ELEVATIONS & DETAILS

	RESPONSIBLE PERSON	DATE
DRAW CONTROL	LN	10/2025
DESIGN	LN	10/2025
DESIGN CONTROL	LN	10/2025
PROJECT MANAGER	NQ	10/2025
APPROVED		

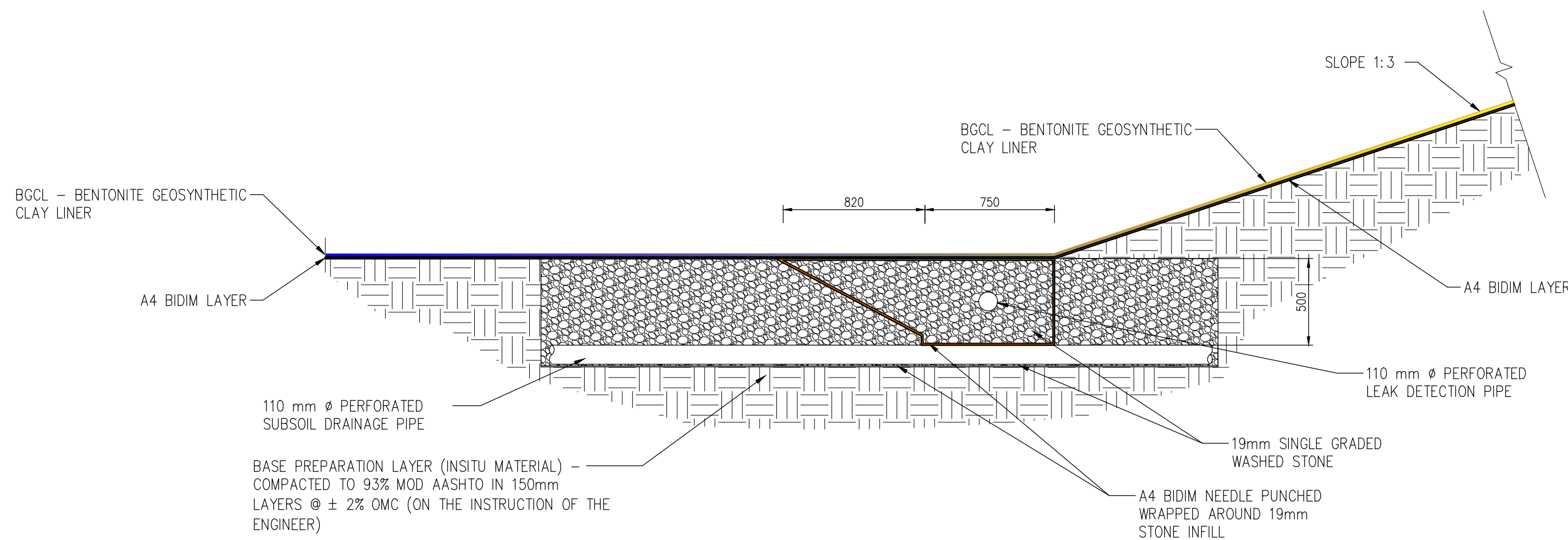
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SAMEX PROJ No	SUB NUMBER	DISCIPLINE	DRAWING NUMBER	STATUS
S0323	01	TD	004	T - 00

DRAWING STATUS CODES :		SCALE	SHEET SIZE
R = REPORT	T = TENDER	C = CONSTRUCTION	AS SHOWN
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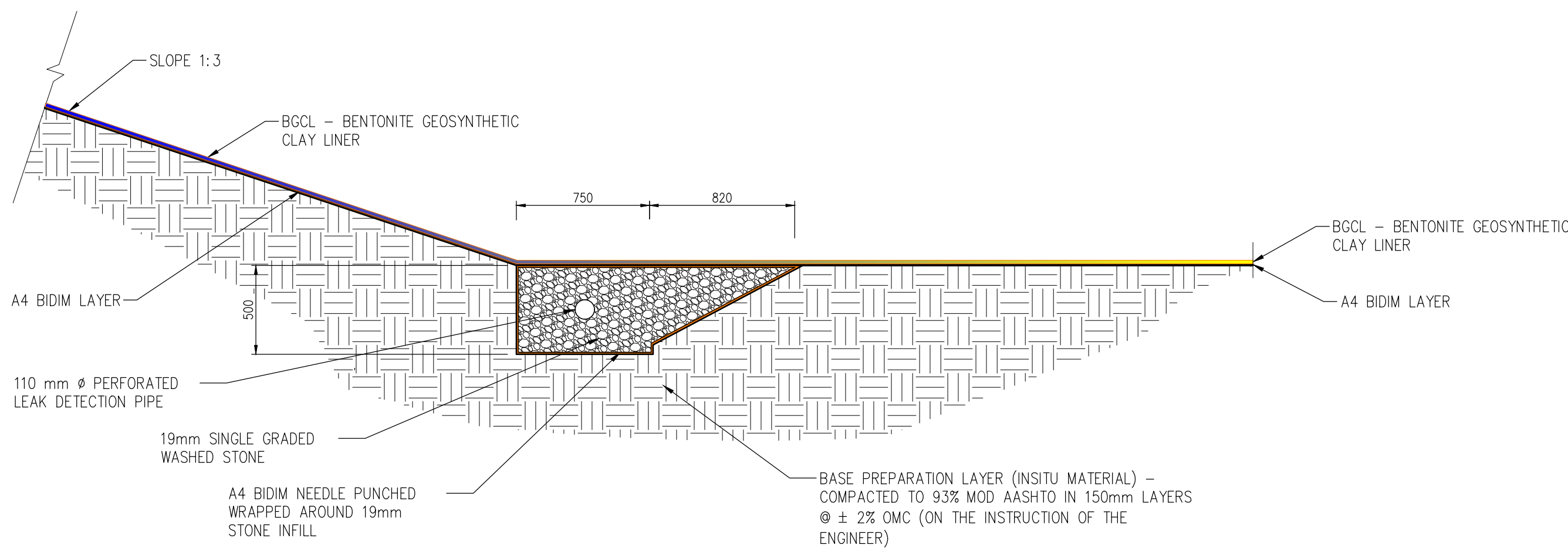
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PROPOSED LINER PLACEMENT AND ANCHOR DETAIL
SCALE 1:25



PIPE CROSSING DETAIL OF LEAK DETECTION AND SUBSOIL DRAIN
SCALE 1:25



PROPOSED DETAIL OF LEAK DETECTION OF THE PONDS
SCALE 1:25

GENERAL NOTES:

- INSIDE SIDE SLOPES 1:3
- FLOOR SLOPES 1% AVERAGE

GEOTEXTILES

GEOTEXTILES TO CONFORM TO GEOTEXTILES TO CONFORM TO GRI GT12(A)

A. THE FOLLOWING CONFORMANCE TESTS TO BE DONE:

PARAMETER	METHOD
MASS PER UNIT AREA	ASTM D5261
ALL EDGES OF THE GT & GCL MUST BE THERMALLY BONDED WITH A HEAT GUN AT ON SITE TO ENSURE CONTACT WITH THE ADJACENT LAYER.	

CONSTRUCTION QUALITY ASSURANCE

READ THE COA FOR THIS PROJECT IN THE DESIGN REPORT IN CONJUNCTION WITH THESE DRAWINGS

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PROJECT

GRIEKWASTAD WASTEWATER
TREATMENT WORKS

DISCIPLINE

WASTE WATER MANAGEMENT

DRAWING TITLE

OXIDATION PONDS
LINER DETAILS

	RESPONSIBLE PERSON	DATE
DRAW CONTROL	LN	10/2025
DESIGN	LN	10/2025
DESIGN CONTROL	LN	10/2025
PROJECT MANAGER	NQ	10/2025
APPROVED		

SAMEX DRAWING NUMBER			
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S0323	01	TD	005 - T - 00
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