



JABATAN PENGAIRAN & SALIRAN, SABAH
KAJIAN PELAN INDUK SALIRAN BANDAR
SEMPORNA, SABAH

Contract No: JPS/N/SAB/PP/108/2019

(The Drainage Master Plan Study for Semporna Town, Sabah)



Volume 3a: Technical Appendices
(Summary Of Site Data Collection)

FINAL REPORT
December 2021

In association with:



Submitted by:



MEGAMAS KONSULT SDN BHD
CIVIL & STRUCTURAL CONSULTING ENGINEERS
AND PROJECT MANAGEMENT
Lot 26, 3rd Floor, Block C, Heritage Plaza,
Off Jalan Lintas, 88300 Kota Kinabalu, Sabah
Tel : 016-9233648, Fax : 088-744244
Email : mmksb@hotmail.com

APPENDICES

Appendix A.....	Drain Route & Drain Condition
Appendix B.....	Structure Details

**APPENDIX A:
DRAIN ROUTE, DRAIN
CONDITION**

MC/10/600.01/ (MEGAMAS)/(19)

17 JUN 2021

Megamas Konsult Sdn Bhd
Lot 26, 3rd Floor, Block C,
Heritage Plaza Off Jalan Lintas,
88300 Kota Kinabalu, Sabah.

Attn : Ir. Ng Chien Faan Donald

Dear Sir,

PROJECT : KAJIAN PELAN INDUK SALIRAN BANDAR SEMPORNA, SABAH
~ Submission of Surveyor Endorsed Survey Data

The above subject refers.

Attached please find the surveyor endorsed document for :-

- i. Appendix A - Drain Route & Drain Condition...
- ii. Appendix B - Structure Details
- iii. Appendix C - River Sections

Thank you.

Yours faithfully,



DATUK DR. MAKIN M. MOJIGOH
(Juruyul Berdaftar No.0086 & Berlesen No. 09/2021)

CONSULTANTS IN:

- * Land Development Planning and Surveys; Housing Development Planning and Surveys.
- * Cadastral (survey for titles); amalgamation and subdivision surveys and strata title surveys.
- * Engineering Surveys; topographical Surveys; Aerial and Hydrographic Surveys; Geodetic and GPS Control Surveys; Mining and Underground Cadastre Surveys; Deformation and Seismic; Golf Courses Development Surveys.

PROJECT : KAJIAN PELAN INDUK SALIRAN BANDAR SEMPORNA, SABAH
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The above subject refers.

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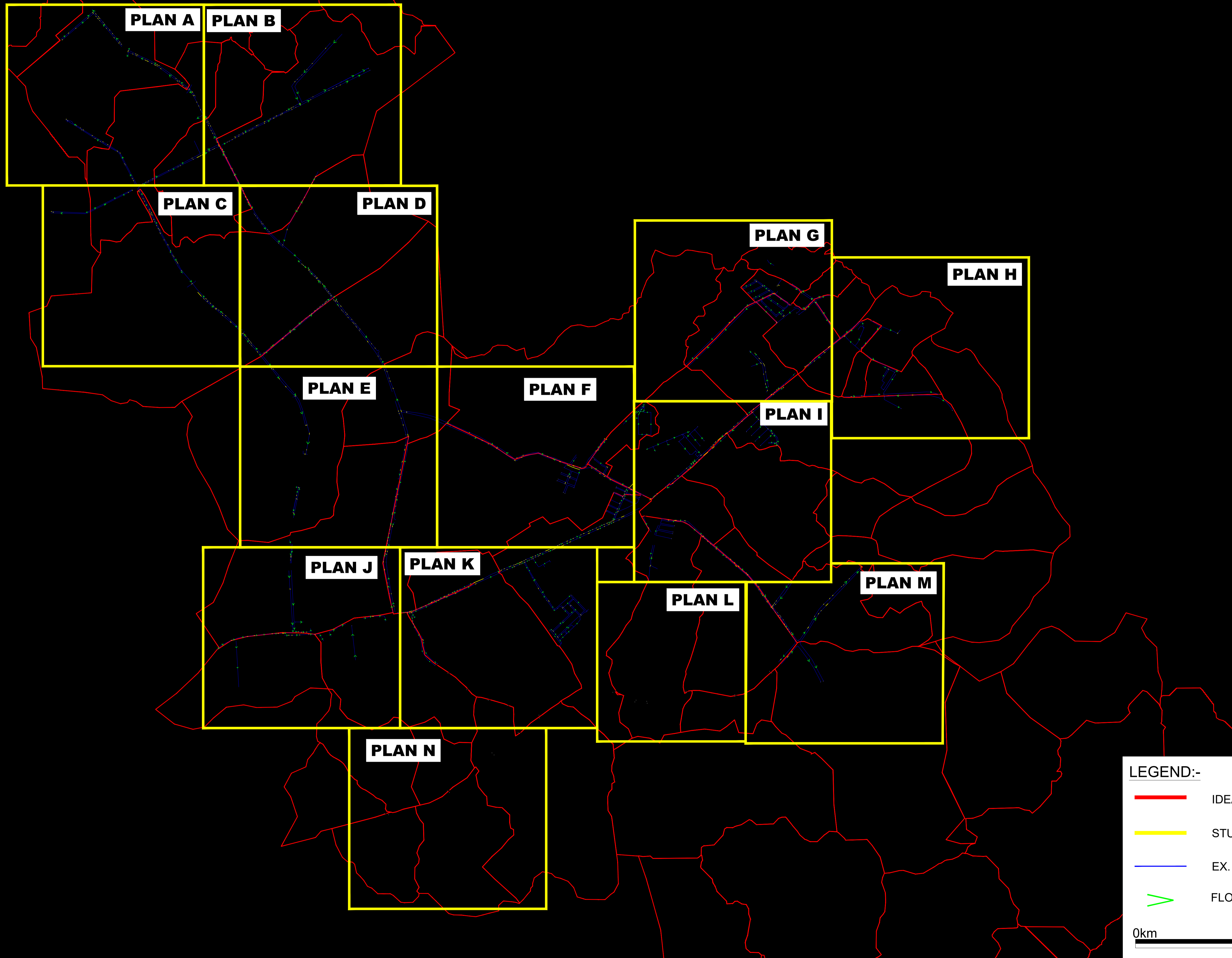
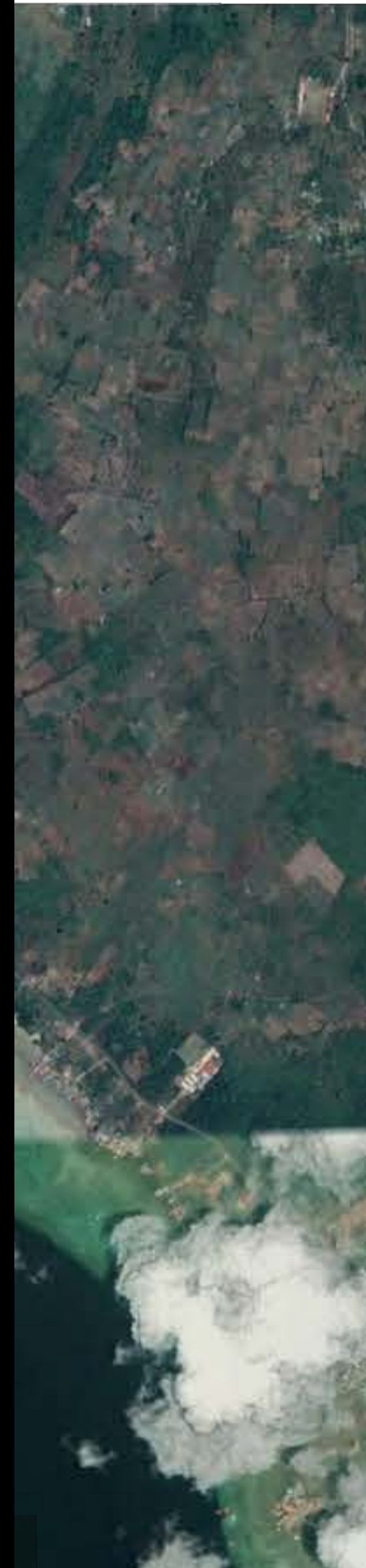
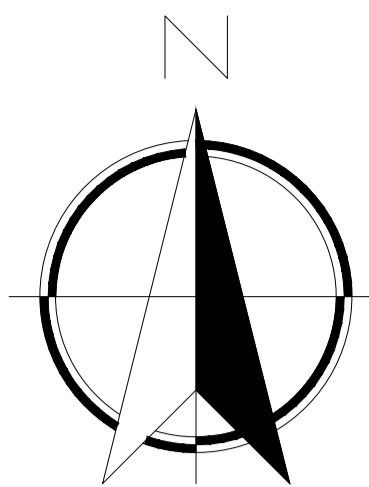
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Yours faithfully,



DATUK DR. MAKIN M. MOJIGOH
(Jurukur Berdaftar No.0086 & Berlesen No. 09/2021)

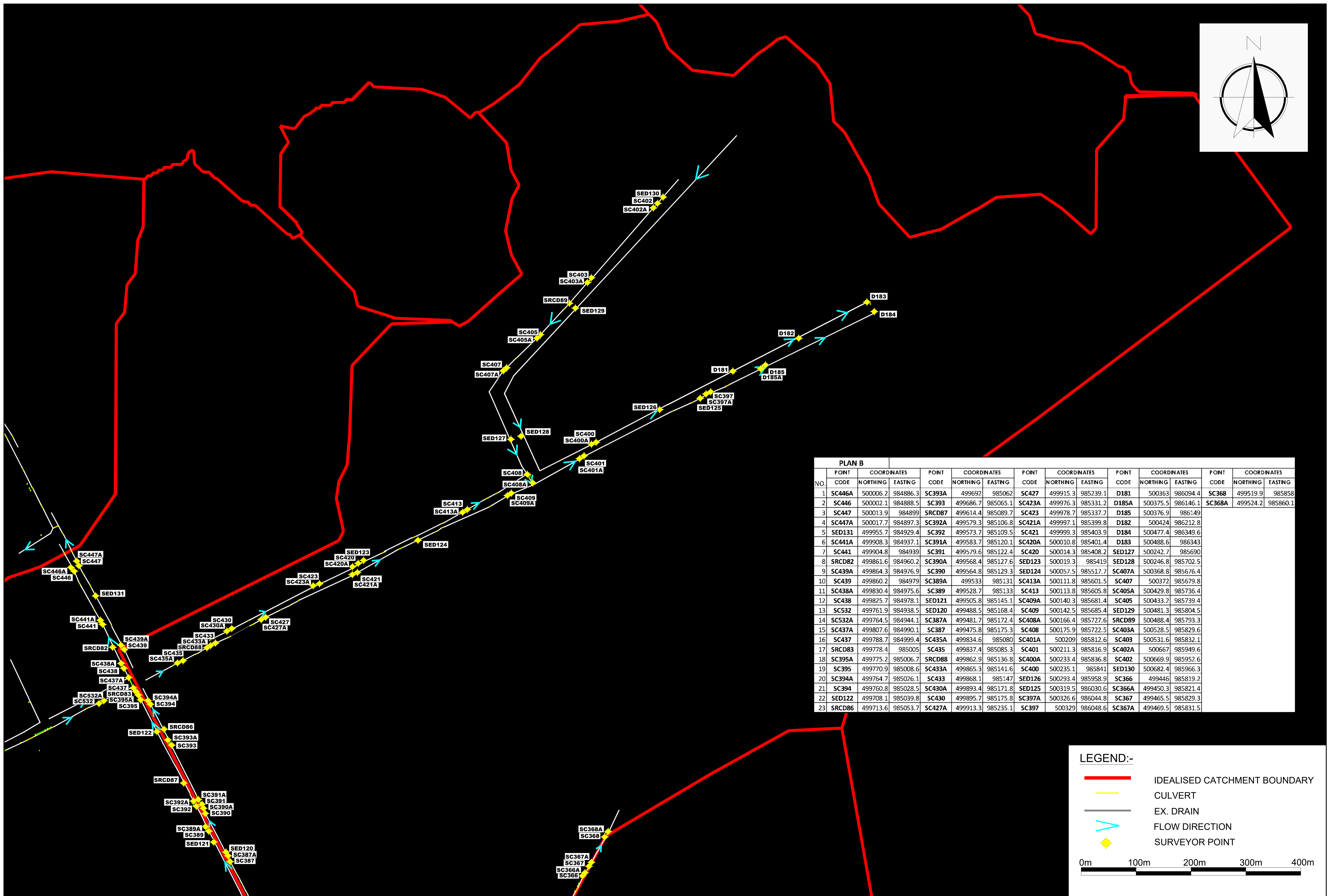


LEGEND:-

-  IDEALISED CATCHMENT BOUNDARY
-  STUDY BOUNDARY
-  EX. DRAIN
-  FLOW DIRECTION

0km 1km 2km

SEMPORNA DRAIN SURVEY POINT MASTER LAYOUT PLAN



PLAN B															
NO.	POINT CODE	COORDINATES		POINT CODE	COORDINATES		POINT CODE	COORDINATES		POINT CODE	COORDINATES		POINT CODE	COORDINATES	
		NORTHING	EASTING		NORTHING	EASTING		NORTHING	EASTING		NORTHING	EASTING		NORTHING	EASTING
1	SC446A	500006.2	984886.3	SC393A	499692	985062	SC427	499915.3	985239.1	D181	500363	986094.4	SC368	499519.9	985858
2	SC446	500002.1	984888.5	SC393	499686.7	985065.1	SC423A	499976.3	985331.2	D185A	500375.5	986146.1	SC368A	499524.2	985860.1
3	SC447	500013.9	984899	SRCD87	499614.4	985089.7	SC423	499978.7	985337.2	D185	500376.9	986149			
4	SC447A	500017.7	984897.3	SC392A	499579.3	985106.8	SC421A	499997.1	985399.8	D182	500424	986212.8			
5	SED131	499955.7	984929.4	SC392	499573.7	985109.5	SC421	499999.3	985403.9	D184	500477.4	986349.6			
6	SC441A	499908.3	984937.1	SC391A	499583.7	985120.1	SC420A	500010.8	985401.4	D183	500488.6	986343			
7	SC441	499904.8	984939	SC391	499579.6	985122.4	SC420	500014.3	985408.2	SED127	500242.7	985690			
8	SRCD82	499861.6	984960.2	SC390A	499568.4	985127.6	SED123	500019.3	985419	SED128	500246.8	985702.5			
9	SC439A	499864.3	984976.9	SC390	499564.8	985129.3	SED124	500057.5	985517.7	SC407A	500368.8	985676.4			
10	SC439	499860.2	984979	SC389A	499533	985131	SC413A	500111.8	985601.5	SC407	500372	985679.8			
11	SC438A	499830.4	984975.6	SC389	499528.7	985133	SC413	500113.8	985605.8	SC405A	500429.8	985736.4			
12	SC438	499825.7	984978.1	SED121	499505.8	985145.1	SC409A	500140.3	985681.4	SC405	500433.2	985739.4			
13	SC532	499761.9	984938.5	SED120	499488.5	985168.4	SC409	500142.5	985685.4	SED129	500481.3	985804.5			
14	SC532A	499764.5	984944.1	SC387A	499481.7	985172.4	SC408A	500166.4	985727.6	SRCD89	500488.4	985793.3			
15	SC437A	499807.6	984990.1	SC387	499475.8	985175.3	SC408	500175.9	985722.5	SC403A	500528.5	985829.6			
16	SC437	499788.7	984999.4	SC435A	499834.6	985080	SC401A	500209	985812.6	SC403	500531.6	985832.1			
17	SRCD83	499778.4	985005	SC435	499837.4	985085.3	SC401	500211.3	985816.9	SC402A	500667	985949.6			
18	SC395A	499775.2	985006.7	SRCD88	499862.9	985136.8	SC400A	500233.4	985836.8	SC402	500669.9	985952.6			
19	SC395	499770.9	985008.6	SC433A	499865.3	985141.6	SC400	500235.1	985841	SED130	500682.4	985966.3			
20	SC394A	499764.7	985026.1	SC433	499868.1	985147	SED126	500293.4	985958.9	SC366	499446	985819.2			
21	SC394	499760.8	985028.5	SC430A	499893.4	985171.8	SED125	500319.5	986030.6	SC366A	499450.3	985821.4			
22	SED122	499708.1	985039.8	SC430	499895.7	985175.8	SC397A	500326.6	986044.8	SC367	499465.5	985829.3			
23	SRCD86	499713.6	985053.7	SC427A	499913.3	985235.1	SC397	500329	986048.6	SC367A	499469.5	985831.5			

LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- ◆ SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN B DRAIN SURVEY POINT



PLAN C			
NO.	POINT CODE	NORTHING	EASTING
1	SED153	499211.3	983835.4
2	SED154	499241.2	983912.6
3	SC535	499375.6	984177.5
4	SC535A	499380.5	984187.9
5	SC538	499375.2	984286.2
6	SC538A	499371.2	984288.3
7	SED155	499270.8	984352.1
8	SED156	499233.5	984361.9
9	SC541	499224.5	984366.2
10	SC541A	499220.3	984368
11	SC544	499200.4	984388.7
12	SC544A	499196.2	984390.6
13	SC546	499183.8	984386.6
14	SC546A	499179.8	984388.7
15	SC550	499086.8	984435.1
16	SC550A	499082.6	984437.2
17	SC554A	498951.2	984504.9
18	SC554	498955.4	984502.6
19	SC556	498860.2	984561.2
20	SC556A	498856.1	984563.3
21	SED158	498841.7	984560.1
22	SED157	498845.2	984568.4
23	SC562	498676.4	984656.7
24	SC562A	498681.7	984664
25	SED160	498555.8	984748.2
26	AD7	498556.2	984750.4
27	AD8	498562.3	984761
28	SC564	498457.4	984834.9
29	SC564A	498434.1	984855.5
30	SC569	498367.1	984942.5
31	SC569A	498360.6	984949.6
32	SED159	498332.6	984983.1
33	SED161	498300	985008.4
34	SC575	498271.3	985056.9
35	SC575A	498267.2	985062.3
36	SC576	498225.2	985099
37	SC576A	498219.5	985105.5

LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- ◆ SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN C DRAIN SURVEY POINT



PLAN D																		
NO.	POINT CODE	COORDINATES		POINT CODE	COORDINATES		POINT CODE	COORDINATES		POINT CODE	COORDINATES		POINT CODE	COORDINATES		POINT CODE	COORDINATES	
		NORTHING	EASTING		NORTHING	EASTING		NORTHING	EASTING		NORTHING	EASTING		NORTHING	EASTING		NORTHING	EASTING
1	SED119	499403.4	985210.9	SC373	499116.6	985375.5	SC580	498095.4	985230	SED91	498100	986302.3	SED99	498494.9	985963.1	SC364A	499391.8	985789.9
2	SC382A	499395	985215.3	SED113	499108.7	985381.2	SC580A	498086.2	985237.3	SED92	498167.8	986235.8	SC337A	498518.8	985941.8	SC365	499418.2	985804.7
3	SC382	499390.8	985217.9	SC371A	499102.5	985385.6	SED163	498032.9	985269.4	SC318	498215	986196.1	SC337	498512.7	985946.7	SED108	499432.4	985811.6
4	SC381A	499368.7	985214.3	SC371	499097.4	985389.9	SC587	498007.9	985291.9	SC318A	498219.9	986192.4	SED98	498520.1	985957.3	SC365A	499427.8	985809.5
5	SC381	499361.4	985217.6	SED112	499070.9	985411	SC587A	498004.3	985295	SED93	498251.6	986164.6	SED100	498566.5	985903.7			
6	SED118	499351.5	985222.6	SED110	499052.5	985411.4	SED164	498012.2	985301.1	SC320	498261.1	986156.6	SC344	498581.1	985907.8			
7	SC380A	499343.7	985226.9	SC370A	499049	985428.5	SC589	497940	985395.6	SC320A	498267.4	986151	SC344A	498585.8	985903.8			
8	SC380	499338	985230	SC370	499045	985432.5	SC589A	497943	985399.2	SC323	498304.1	986132.3	SC345	498588.9	985885.2			
9	SC378A	499294.4	985252.4	SED111	499036.6	985438.8	SRCD80	497891.2	985390.4	SC323A	498309.1	986128.5	SC345A	498594.4	985880.7			
10	SC378	499287.3	985256.6	SC369A	499032.2	985442.9	SC592	498067.3	985561.1	SC324	498314.5	986109.1	SED102	498600.5	985875.4			
11	SC377A	499261.3	985267.7	SC369	499028.2	985446.5	SC592A	498076.8	985573.6	SC324A	498320.7	986104.2	SED101	498629	985866.6			
12	SC377	499253.8	985270.9	SED109	498947	985502.7	SED97	498139.2	985633.9	SED94	498328.5	986111.7	SED103	498639.6	985834			
13	SED117	499232.7	985296	SC359A	498923.3	985529.1	SED96	498200.3	985723.4	SC326	498357.4	986087.7	SC353A	498684.2	985798.6			
14	SC376A	499186.5	985308.6	SC359	498917.8	985535.1	SC601	498343.5	985882.7	SC326A	498364.3	986081.7	SC353	498696.8	985799.7			
15	SC376	499183.6	985312.2	SC358A	498911.2	985562.5	SC601A	498346.2	985885.8	SC327	498364.8	986068.2	SED104	498743.2	985733.8			
16	SED116	499177.9	985315.7	SC358	498903.8	985570.3	SC607	498403.6	985954.9	SC327A	498369.6	986064.3	SC360	499033.4	985601.9			
17	SC375A	499171.8	985319.6	SED106	498896.5	985556.7	SC607A	498409.4	985962.1	SC328	498396.4	986055.1	SC360A	499037.9	985603			
18	SC375	499167.4	985322.5	SED105	498894.3	985577.7	SC307	497889.8	986446.5	SC328A	498404	986049.6	SED107	499159.2	985653.5			
19	SED115	499161.2	985341.1	SC577	498136.6	985186.4	SC307A	497893.7	986444.3	SED95	498399.2	986039.6	SC361	499254.5	985712.2			
20	SC374A	499150.7	985335.2	SC577A	498132.9	985189.1	SED89	498015.8	986369.1	SC329	498412.7	986028.4	SC361A	499258.3	985714.7			
21	SC374	499147.3	985337.8	AD5	498109.8	985207.2	SED90	498023.3	986348.8	SC329A	498422.3	986021.1	SC363	499337.5	985761			
22	SED114	499118.4	985360.9	SED162	498106.1	985203.4	SC311	498039.5	986336.6	SC330	498449.2	985999.8	SC363A	499344.9	985765.4			
23	SC373A	499120.3	985372.5	AD6	498116.1	985214.2	SC311A	498044.3	986333	SC300A	498459.7	985991.4	SC364	499387.9	985788.1			

LEGEND:-

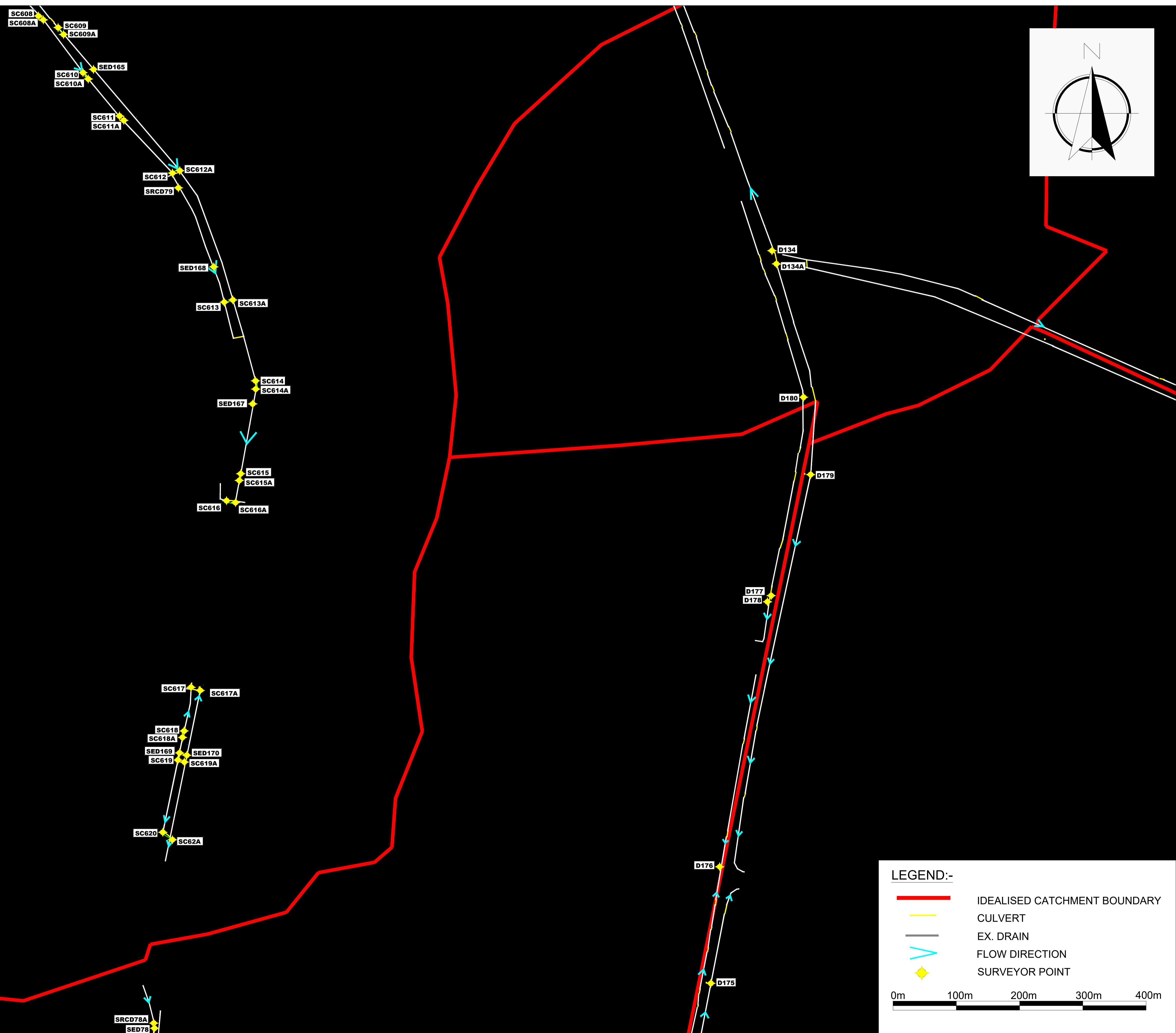
- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN D DRAIN SURVEY POINT



PLAN E						
NO.	POINT CODE	COORDINATES		POINT CODE	COORDINATES	
		NORTHING	EASTING		NORTHING	EASTING
1	SC608	497802.5	985462.6	SC618	496672.3	985690.6
2	SC608A	497798.8	985465.4	SC618A	496666.8	985689.4
3	SC609	497787.2	985492.3	SED169	496638.1	985684.6
4	SC609A	497775.5	985502.2	SED170	496635.4	985697.6
5	SC610	497713.6	985534.3	SC619	496626.6	985684.8
6	SC610A	497709.8	985537.3	SC619A	496624.6	985693.8
7	SED165	497720.7	985548.2	SC620	496510.8	985660.5
8	SC611	497645.6	985592.9	SC62A	496504.2	985672.2
9	SC611A	497642.7	985595.7	SRCD78A	496211.8	985645.9
10	SC612	497557	985673.9	SED78	496204.7	985645.6
11	SC612A	497562.2	985682.4	D134	497438.5	986612.2
12	SRCD79	497532.8	985685.7	D134A	497415.5	986619.7
13	SED168	497407.8	985740.3	D180	497202	986673.9
14	SC613	497352.9	985759.9	D179	497081.2	986674.7
15	SC613A	497355.4	985768.7	D178	496885.5	986623.5
16	SC614	497225.9	985808.9	D177	496882	986635.1
17	SC614A	497219.9	985808.4	D176	496459.9	986539.6
18	SED167	497193	985801.8	D175	496276.4	986519.4
19	SC615	497077.1	985782.7			
20	SC615A	497072.5	985781.9			
21	SC616	497036	985762.9			
22	SC616A	497033.9	985771.8			
23	SC617	496745.4	985704.4			
24	SC617A	496743.8	985717.4			



LEGEND:-

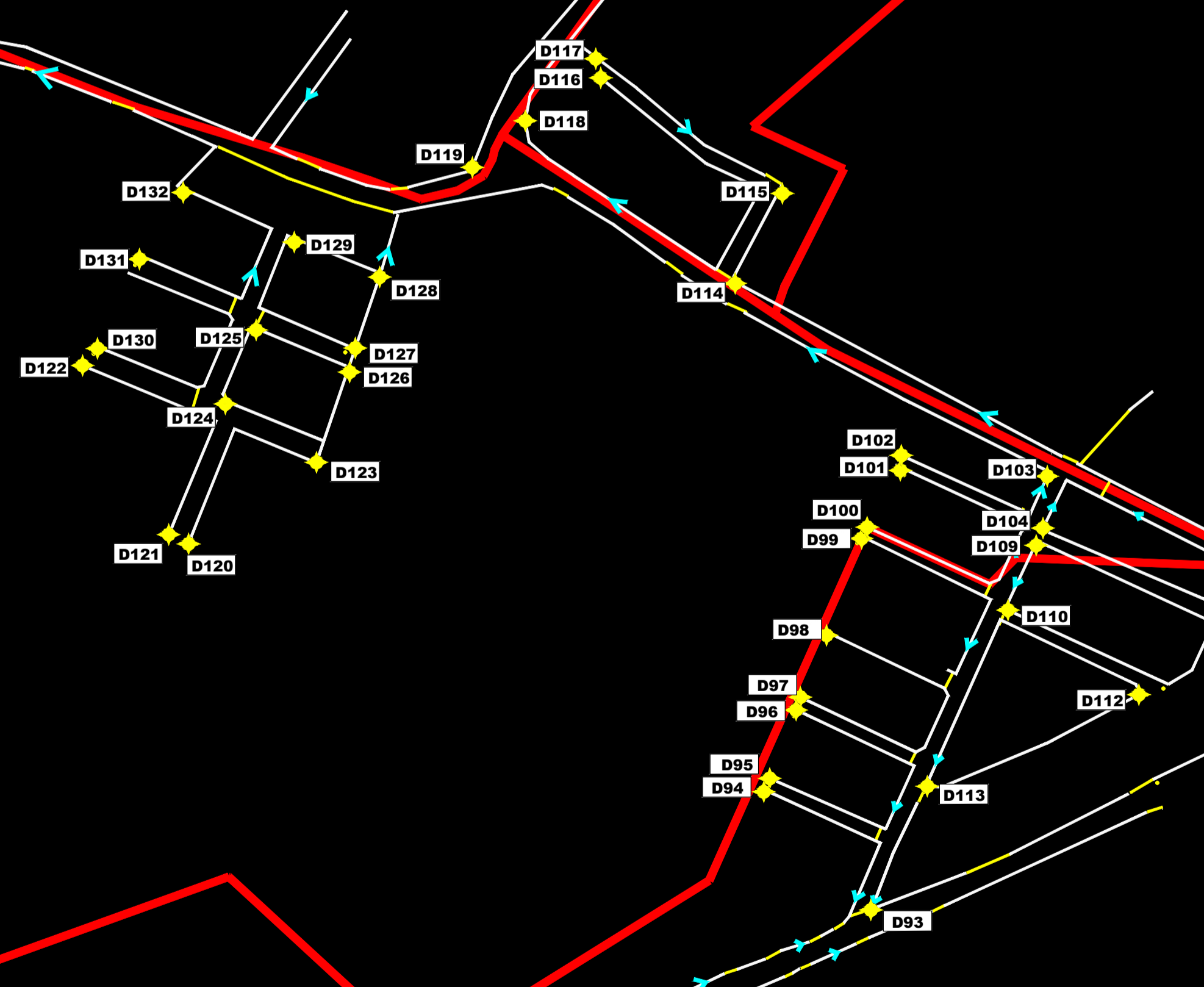
- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- ◆ SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN E DRAIN SURVEY POINT



PLAN F			
NO	POINT CODE	NORTHING	EASTING
1	D133	497294.2	987054.7
2	D132	496913.9	988088.1
3	D131	496866.8	988058.1
4	D130	496809.3	988031.2
5	D122	496800.4	988020.7
6	D121	496688.2	988081.8
7	D120	496685.6	988093.3
8	D124	496773.6	988116.4
9	D123	496737.2	988178
10	D126	496796.7	988196.7
11	D127	496810.3	988194.2
12	D125	496821.8	988137
13	D147	496267.3	988178.8
14	D93	496447.4	988534.5
15	D94	496524.2	988466.4
16	D95	496531.9	988469.3
17	D129	496880.7	988161.1
18	D128	496858.3	988216.2
19	D119	496928.9	988278.7
20	D118	496958.8	988308.8
21	D116	496986.6	988356.6
22	D117	496999.6	988356.6
23	D115	496912.3	988477.5
24	D114	496854.1	988446.7
25	D102	496743	988551.1
26	D101	496730.8	988556.5
27	D100	496694.8	988530
28	D99	496686.6	988526.1
29	D98	496625.4	988503.5
30	D97	496582.7	988488.5
31	D96	496574.7	988485
32	D113	496525.5	988569.5
33	D112	496585.4	988709.2
34	D110	496640.4	988622.3
35	D109	496684.9	988642.9
36	D104	496693.2	988646.7
37	D103	496728.2	988650.9



LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- ↔ FLOW DIRECTION
- ◆ SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN F DRAIN SURVEY POINT



PLAN G			
NO.	POINT CODE	NORTHING	EASTING
1	D21	497834.6	989170.3
2	D23	497812.9	989185.4
3	D44	497646.8	989906.1
4	D43	497659.7	990051.6
5	D45	497967	989748.3
6	D46	497840.2	989811.4
7	D47	497847	989850.2
8	L8	497731.7	990136
9	D42	497761.3	990152.9
10	D41	497817.8	990267
11	D33	498170.5	990481
12	D6	498459.5	990470.1
13	D56	498450.8	990372.9
14	D57A	498436.9	990382.8
15	D58	498396.9	990316.7
16	D4	498408	990300.7
17	D8	498285.7	990189.2
18	D7	498291.7	990165.3
19	D27	498265.5	989983.5
20	D28	498279.2	989983.3
21	D29	498331.1	990045.6
22	D30	498339.6	990056.7
23	D32	498367.2	990104
24	D9	498368.1	990118.1
25	D31	498374.7	990088.6
26	D22	498356.3	989742.4
27	D20	498370	989733.8
28	D24	498388	989813.3
29	D19	498401	989806.9
30	D25	498396.7	989826.8
31	D26	498404.7	989856.3
32	D17	498421.6	989786.4
33	D16	498428.9	989780
34	D15	498468.6	989741.1
35	D14	498474.4	989732
36	D13	498512.1	989689.6
37	D12	498520.4	989681.7
38	D11	498592.9	989790.4
39	D10	498594.1	989804.2
40	D18	498479	989948.4
41	D1	498561.7	990100.5
42	D2	498576.4	990106.5
43	D3	498597.9	990032.2



LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- ◆ SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN G DRAIN SURVEY POINT



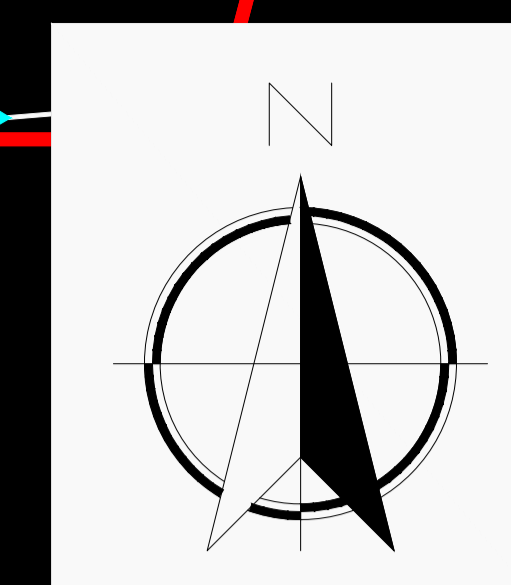
PLAN H			
NO.	POINT CODE	COORDINATES	
		NORTHING	EASTING
1	D40	498016	990508
2	D39	498078.8	990551.7
3	D37	498092.1	990602.3
4	D36	498112	990750.1
5	D35	498195.7	990718.8
6	D34	498212.3	990714.6
7	D38	498223.6	990838.5
8	D48	497915.1	990798.1
9	D51A	497766.4	991047.8
10	D51	497770.4	991071.7
11	D50	497747.3	991052.2
12	L10	498245.4	990807.5
13	D53	497566.6	990877.5
14	D52	497609.6	990945.3
15	L7	497555.9	990936.8
16	D54	497571	990964.8
17	D61	497551.9	990967.4
18	D60	497440.9	991098.9
19	D55	497564.5	991440.3
20	D59	497412.5	991574.3

LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN H DRAIN SURVEY POINT



PLAN I			
NO.	POINT CODE	NORTHING	EASTING
1	D72	497072.8	988814
2	D74	497099	988882.9
3	D76	497154.1	989011.2
4	D75	497115.1	989029.7
5	D87	497146.4	989116.7
6	D77	497210.2	989143.3
7	D86	497183.9	989162.9
8	D85	497186.3	989179.6
9	D78	497215.6	989156.4
10	D84	497212.8	989212.9
11	D79	497242.2	989218.2
12	D82	497250.2	989251.5
13	D80	497273.2	989272.7
14	D92	496531.4	988720.6
15	D111	496592.5	988724.6
16	D108	496632.4	988757.6
17	D107	496641.4	988759.2
18	D105	496665.4	988772.1
19	D106	496660.4	988814.3
20	D135	496479.9	988798.9
21	D137	496442.9	988966.4
22	D136	496390.6	989071
23	D139	496331	989051.8
24	D138	496334	989059.4
25	D140	496278.7	989042.3
26	AD31	496201.6	989431.2
27	AD32	496204.6	989434
28	AD30	496187.4	989445.7
29	AD38	496182.8	989429.8
30	AD33	496189.4	989451.5
31	AD29	496183.4	989450.5
32	AD37	496173.9	989440
33	AD36	496152.9	989469.5
34	AD35	496158.5	989479.6
35	AD34	496161.3	989483.7
36	D142	495898.4	990130.6
37	D141	495905.4	990121.1
38	D91	496743.2	988994.7
39	D88	497036.4	989210.6
40	D90	497009.3	989276.9
41	D71	497028	989315.3
42	D89	497065.5	989266.5
43	D83	497119.7	989293.6
44	D81	497157	989333.6
45	D69	497107.6	989438
46	D68	497193.7	989531.3
47	D67	497217	989559.7
48	D70	497231.4	989549.6
49	D62	497245.2	989728.7
50	D63	497200.6	989765.3
51	D64	497156.3	989802.6
52	D65	497114.8	989842.3
53	D66	497119.6	989999.9

LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN I DRAIN SURVEY POINT



PLAN J			
NO.	POINT CODE	NORTHING	EASTING
1	SED171	496159.9	985640.3
2	SED172	496158.2	985650
3	SC621	496121.2	985636.7
4	SC621A	496116	985636.2
5	SC622	496123.9	985646.8
6	SC622A	496119.3	985647.1
7	SC625	496099	985635.6
8	SC625A	496098.1	985646.8
9	SC623	496089.2	985634.3
10	SC623A	496076.2	985634
11	SC624	495825.6	985637.1
12	SC624A	495818.1	985637.6
13	SED173	495814.7	985637.9
14	SC1	495372.2	985105.5
15	SC1A	495373.4	985109.1
16	SRCD1	495390.7	985164.1
17	SED1	495215.9	985164.8
18	SC2	495406.5	985245.9
19	SC2A	495409.5	985254.1
20	SC3	495415.2	985305.2
21	SC3A	495416.4	985314
22	SED2	495429	985423.4
23	SC4	495432.1	985469.1
24	SC4A	495432.5	985472.9
25	SC5	495434.6	985516.6
26	SC5A	495435.1	985532.1
27	SC6	495436.5	985558.3
28	SC6A	495438.7	985584.3
29	SC7	495424.2	985624.2
30	SC7A	495424.8	985635.2
31	SC8	495424	985639.1
32	SC8A	495424.2	985650.1
33	SED5A	495440	985621.9
34	SED174	495618.5	985660.3
35	SC10	495444.8	985702.3
36	SC10A	495445.6	985710.3
37	SC9	495426.6	985708.7
38	SC9A	495427.3	985718.3
39	SC11	495446.5	985730.5
40	SC11A	495446.9	985736.9
41	SED5	495448.1	985764.7
42	SED4	495447.9	985764.9
43	SC12	495449.3	985775.3
44	SC12A	495449.3	985783.2
45	SED3	495431	985776.5
46	SC13A	495432	985797.2
47	SC13	495432.4	985803.5
48	SC14	495434.6	985852.7
49	SC14A	495434.6	985859
50	SED6	495486.9	986059
51	D169A	495499.3	986184
52	D170	495621.1	986590.4
53	D171	495630.5	986567.4
54	D172	495629	986553.8
55	D173	495780.6	986527.3
56	D174	496068.6	986486.6



LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- ◆ SURVEYOR POINT
- FLOW DIRECTION
- EX. DRAIN
- CULVERT

0m 100m 200m 300m 400m

ENLARGED PLAN J DRAIN SURVEY POINT



PLAN K			
NO.	POINT CODE	COORDINATES	
		NORTHING	EASTING
1	AD2	495466.8	986753.5
2	AD1	495483.3	986766
3	D169	495197.9	986894.3
4	D168	495184.8	986886.5
5	D208	495097.7	987019.3
6	D209	494925.3	987220.8
7	D210	494845.7	987373.9
8	D211	494788.4	987571.9
9	D195	494661	987843.5
10	D194	494693	987851.2
11	AD20	495340.6	988056.7
12	AD19	495346.4	988065.3
13	AD18	495385.5	988022.4
14	AD16	495394.9	988032.1
15	AD17	495400.8	988027.4
16	AD15	495431.1	987987.1
17	AD14	495437.2	987995.7
18	AD10	495454.4	987983.5
19	AD13	495448.1	987991.5
20	AD12	495454.3	987986.8
21	AD11	495458.7	987965.7
22	D162	495463.9	987961.6
23	D155	495466.5	987966
24	D158	495426.7	988108.2
25	D160	495533.2	988083.1
26	D161	495542.1	988076.8
27	D159	495579.6	988228.3
28	D156	495627.8	988290.1
29	D153	495657.9	988031.4
30	D163	495734.7	988168.9
31	D164	495769	988155.3
32	D154	495777.2	988147.4
33	D165	495728.1	987928.5
34	D152	495902.3	987817.6
35	D151	495911.6	987825.5
36	D166	495953.1	987460.1
37	D150	496069.7	987736.1
38	D149	496052.6	987838.2
39	D148	496080.9	987950.6
40	AD26	496131.6	987862.8
41	AD25	496133.9	987879.7
42	AD27	496141.1	987884.7
43	AD28	496149.7	987904.1
44	AD24	496138	987889.8
45	AD22	496124.2	987889.5
46	AD21	496127.8	987900.4
47	AD23	496116.3	987881.1

LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN K DRAIN SURVEY POINT



PLAN L			
NO.	POINT	COORDINATES	
	CODE	NORTHING	EASTING
1	D197	494896.9	988539.9
2	D196	494909.5	988555.4
3	D199	494818.8	988721.2
4	D198	494837.4	988726.9
5	D201	494799.6	988826.1
6	D200	494822.9	988823.9
7	D203	494897.1	989184
8	D202	494917.8	989171.8
9	D204	494903.2	989669.7

LEGEND:-

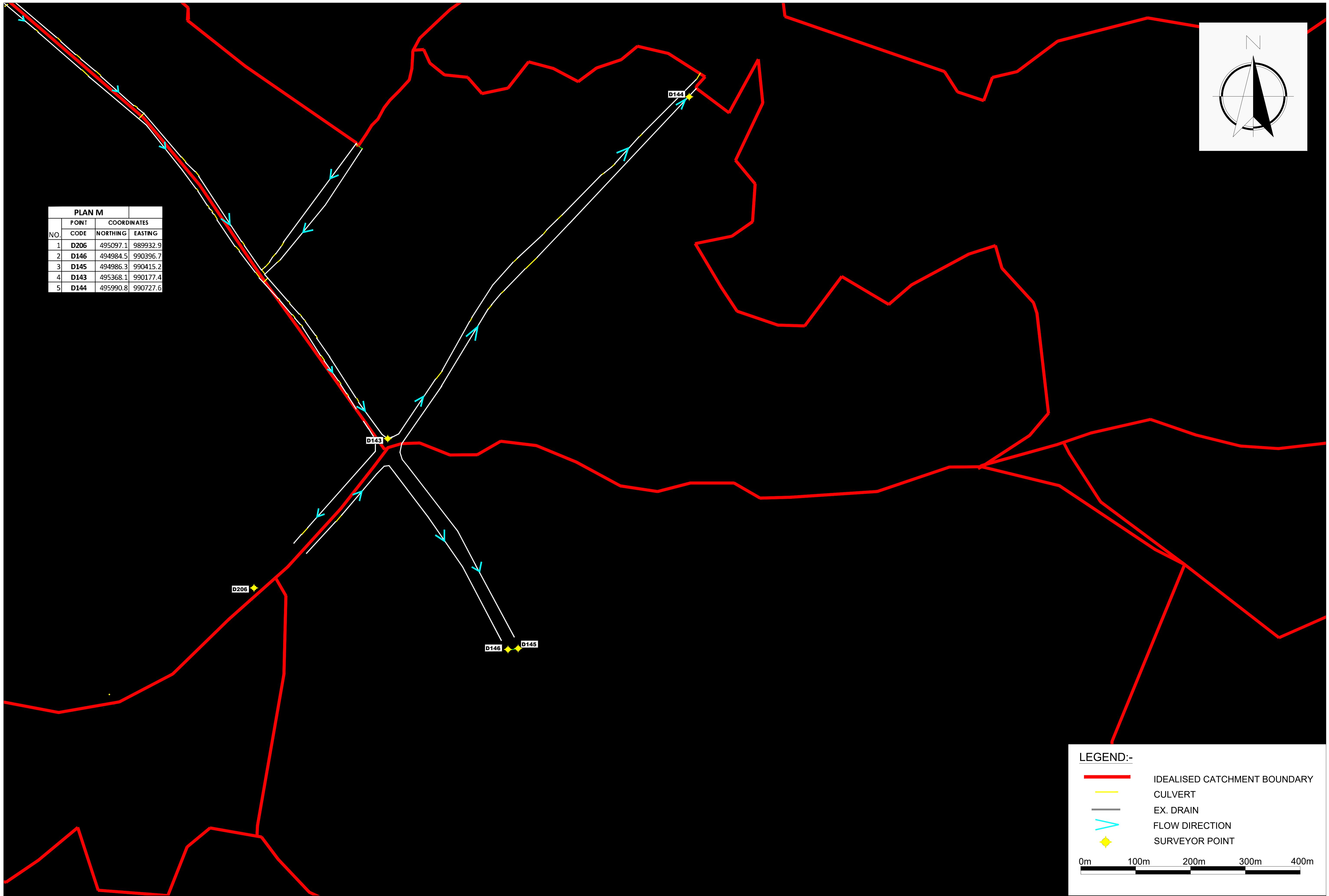
- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- > FLOW DIRECTION
- ◆ SURVEYOR POINT



ENLARGED PLAN L DRAIN SURVEY POINT



PLAN M			
NO.	POINT	COORDINATES	
	CODE	NORTHING	EASTING
1	D206	495097.1	989932.9
2	D146	494984.5	990396.7
3	D145	494986.3	990415.2
4	D143	495368.1	990177.4
5	D144	495990.8	990727.6

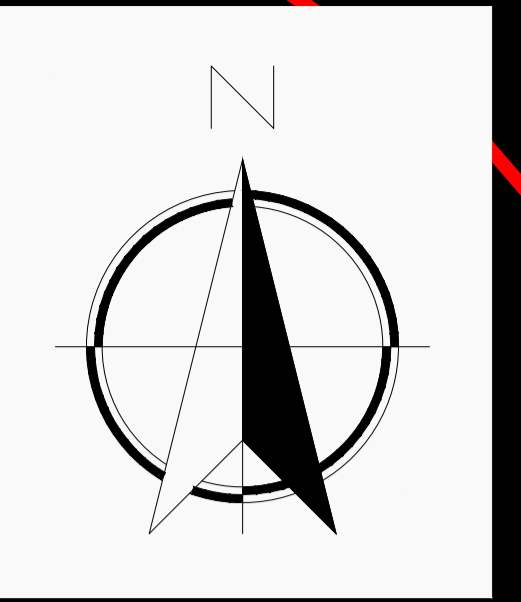


LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- SURVEYOR POINT

0m 100m 200m 300m 400m

ENLARGED PLAN M DRAIN SURVEY POINT

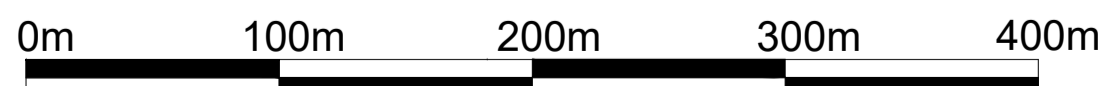


PLAN N			
NO.	POINT	COORDINATES	
	CODE	NORTHING	EASTING
1	D186	493834.6	986455.1
2	D187	493810.6	986511.5
3	D189	493990.9	987036.3
4	D188	494008.3	987022.2
5	D191	494336.8	987450.4
6	D190	494351.7	987440.4
7	D193	494534.2	987689.8
8	D192	494546.8	987676.6



LEGEND:-

- IDEALISED CATCHMENT BOUNDARY
- CULVERT
- EX. DRAIN
- FLOW DIRECTION
- ◆ SURVEYOR POINT



ENLARGED PLAN N DRAIN SURVEY POINT

SEMPORNA DRAINAGE MASTER

POINT CODE	TOP	BOTTOM	DEPTH	ELEVATION	COORDINATES		DESCRIPTION	REMARKS
	(M)	(M)	(M)	(M)	NORTHING	EASTING		
D1	0.7	0.7	0.5	2.856	498396.926	990316.732	CONC. DRAIN	
D2	0.6	0.6	0.43	2.402	498561.676	990100.473	CONC. DRAIN	
D3	0.6	0.6	0.4	2.51	498576.343	990106.452	CONC. DRAIN	
D4	1.2	1.1	0.1	3.437	498408.028	990300.693	EARTH DRAIN	
D6	0.57	0.57	0.4	4.39	498459.488	990470.102	CONC. DRAIN	
D7	1.2	1.2	0.1	4.712	498291.716	990165.269	CONC. DRAIN	
D8	0.83	0.83	0.56	4.646	498285.688	990189.219	CONC. DRAIN	
D9	0.6	0.6	0.43	2.239	498368.125	990118.125	CONC. DRAIN	
D10	0.72	0.72	1.2	1.69	498594.078	989804.218	CONC. DRAIN	
D11	1.92	1.92	1.4	1.6	498592.88	989790.394	CONC. DRAIN	
D12	0.46	0.46	0.46	3.284	498520.442	989681.687	CONC. DRAIN	
D13	0.44	0.44	0.44	3.271	498512.062	989689.564	CONC. DRAIN	
D14	0.44	0.44	0.42	2.983	498474.438	989731.967	CONC. DRAIN	
D15	0.55	0.55	0.43	2.883	498468.578	989741.07	CONC. DRAIN	
D16	0.5	0.5	0.41	2.745	498428.878	989780.027	CONC. DRAIN	
D17	0.54	0.54	0.41	2.765	498421.561	989786.41	CONC. DRAIN	
D18	1	1	0.87	2.01	498479.003	989948.357	CONC. DRAIN	
D19	0.73	0.73	0.55	2.413	498401.01	989836.89	CONC. DRAIN	
D20	0.77	0.77	0.5	1.526	498369.992	989733.756	CONC. DRAIN	
D21	0.6	0.6	0.62	1.694	497834.553	989170.302	CONC. DRAIN	
D22	3	1	1	0.809	498356.294	989742.449	EARTH DRAIN	
D23	3.7	1.4	1.6	-0.07	497812.936	989185.363	EARTH DRAIN	
D24	1.2	1.2	0.9	1.257	498388.019	989813.289	CONC. DRAIN	
D25	1.6	0.4	0.7	1.856	498396.721	989826.818	EARTH DRAIN	
D26	0.5	0.5	0.5	2.308	498404.68	989856.332	CONC. DRAIN	
D27	0.53	0.53	0.17	2.614	498265.545	989883.49	CONC. DRAIN	
D28	0.53	0.53	0.26	2.577	498279.19	989883.314	CONC. DRAIN	
D29	0.53	0.53	0.43	2.609	498331.139	990045.619	CONC. DRAIN	
D30	0.4	0.4	0.46	2.574	498339.575	990056.719	CONC. DRAIN	
D31	0.6	0.6	0.83	1.913	498374.667	990088.583	CONC. DRAIN	
D32	0.64	0.64	0.7	2.08	498367.15	990103.997	CONC. DRAIN	
D33	1	0.8	0.1	6.516	498170.451	990481.031	EARTH DRAIN	
D34	0.6	0.6	0.4	5.013	498212.267	990114.639	CONC. DRAIN	
D35	2.2	1.2	1.2	4.271	498195.719	990718.847	EARTH DRAIN	
D36	0.8	0.8	0.96	4.825	498112.016	990750.115	CONC. DRAIN	
D37	2.5	1.3	1.4	3.866	498092.077	990602.275	EARTH DRAIN	
D38	0.6	0.6	0.56	4.814	498223.569	990838.532	CONC. DRAIN	
D39	0.6	0.6	0.7	4.545	498078.805	990551.669	CONC. DRAIN	
D40	0.55	0.55	0.46	2.712	498597.942	990332.192	CONC. DRAIN	
D41	2.7	1.5	1	3.394	497817.79	990266.952	EARTH DRAIN	
D42	1.4	1	0.2	5.039	497761.312	990152.934	EARTH DRAIN	
D43	0.5	0.5	0.4	5.3	497659.677	990051.573	CONC. DRAIN	
D44	0.9	0.6	0.3	4.46	497646.845	989906.066	EARTH DRAIN	
D45	1.2	0.8	0.3	2.301	497966.966	989748.282	EARTH DRAIN	
D46	0.55	0.55	0.5	3.08	497840.195	989811.396	CONC. DRAIN	
D47	1.8	1	0.6	2.565	497846.969	989850.218	EARTH DRAIN	
D48	0.5	0.5	0.4	5.04	497915.063	990798.119	CONC. DRAIN	
D49	0.6	0.6	0.6	3.809	497770.377	991071.679	CONC. DRAIN	
D50	0.8	0.8	0.6	4.617	497747.253	991052.162	CONC. DRAIN	

SEMPORNA DRAINAGE MASTER

POINT CODE	TOP	BOTTOM	DEPTH	ELEVATION	COORDINATES		DESCRIPTION	REMARKS
	(M)	(M)	(M)	(M)	NORTHING	EASTING		
D51A	0.6	0.6	0.6	3.742	497766.445	991047.79	CONC. DRAIN	
D52	0.55	0.55	0.55	3.142	497409.641	990945.296	CONC. DRAIN	
D53	2	1	0.4	2.586	497566.646	990877.49	EARTH DRAIN	
D54	1.3	0.5	0.3	3.275	497571.013	990944.787	EARTH DRAIN	
D55	2.3	2.3	1.2	2.194	497564.546	991440.268	CONC. DRAIN	
D56	1	0.8	0.15	3.342	498450.782	990372.943	EARTH DRAIN	
D57A	0.57	0.57	0.62	3.018	498436.854	990382.809	CONC. DRAIN	
D58	0.96	0.96	1.5	3.504	498016.001	990507.982	CONC. DRAIN	
D59	2.3	2.3	1.2	3.03	497412.538	991574.319	CONC. DRAIN	
D60	1	0.7	0.3	3.252	497440.896	991098.896	EARTH DRAIN	
D61	2.3	1.4	1.7	2.853	497551.897	990947.44	CONC. DRAIN	
D62	0.6	0.6	0.4	1.674	497245.232	989728.744	CONC. DRAIN	
D63	0.6	0.6	0.4	1.797	497200.573	989765.269	CONC. DRAIN	
D64	0.6	0.6	0.4	1.466	497156.312	989602.626	CONC. DRAIN	
D65	0.6	0.6	0.45	1.502	497114.821	989642.257	CONC. DRAIN	
D66	0.9	0.9	0.8	1.055	497119.584	989999.927	CONC. DRAIN	
D67	1.1	0.5	0.1	1.411	497216.959	989559.709	EARTH DRAIN	
D68	0.5	0.3	0.4	1.218	497193.713	989531.342	EARTH DRAIN	
D69	0.6	0.6	0.8	0.996	497107.617	989437.983	CONC. DRAIN	
D70	0.6	0.6	0.5	1.028	497231.351	989549.634	CONC. DRAIN	
D71	0.45	0.45	0.6	1.159	497027.982	989315.255	CONC. DRAIN	
D72	2.2	1	0.5	1.209	497072.844	988813.978	EARTH DRAIN	
D73	0.8	0.8	0.7	1.02	497049.453	988903.84	CONC. DRAIN	
D74	0.6	0.6	0.7	0.952	497098.97	988882.898	CONC. DRAIN	
D75	2	2	1.2	0.346	497115.087	989029.667	CONC. DRAIN	
D76	2	2	1.2	0.255	497154.056	989011.195	CONC. DRAIN	
D77	0.7	0.7	0.9	0.839	497210.221	989143.319	CONC. DRAIN	
D78	0.7	0.7	0.55	0.872	497215.639	989156.355	CONC. DRAIN	
D79	0.8	0.8	0.7	0.844	497242.151	989218.147	CONC. DRAIN	
D80	0.43	0.43	0.53	0.897	497273.188	989272.666	CONC. DRAIN	
D81	0.46	0.46	0.34	1.076	497157.041	989333.632	CONC. DRAIN	
D82	0.4	0.4	0.5	0.905	497250.167	989251.539	CONC. DRAIN	
D83	0.45	0.45	0.35	1.113	497119.747	989293.645	CONC. DRAIN	
D84	0.4	0.4	0.45	0.974	497212.754	989212.882	CONC. DRAIN	
D85	0.44	0.44	0.4	0.95	497186.263	989179.604	CONC. DRAIN	
D86	0.9	0.9	1	0.738	497183.92	989162.895	CONC. DRAIN	
D87	2	2	0.9	0.714	497146.411	989116.718	CONC. DRAIN	
D88	0.6	0.6	0.6	0.831	497036.411	989210.63	CONC. DRAIN	
D89	0.4	0.4	0.55	0.817	497065.493	989266.469	CONC. DRAIN	
D90	0.4	0.4	0.4	1.054	497009.336	989276.851	CONC. DRAIN	
D91	0.6	0.6	0.8	3.472	496743.156	988994.652	CONC. DRAIN	
D92	2	1	0.6	5.427	496531.365	988720.634	EARTH DRAIN	
D93	1.7	1	1	4.155	496447.381	988534.47	CONC. DRAIN	
D94	0.6	0.6	0.5	5.315	496524.179	988466.409	CONC. DRAIN	
D95	0.6	0.6	0.5	4.892	496531.869	988469.265	CONC. DRAIN	
D96	0.45	0.45	0.45	5.207	496574.654	988485.028	CONC. DRAIN	
D97	0.45	0.45	0.45	4.981	496582.65	988488.523	CONC. DRAIN	
D98	0.45	0.45	0.45	5.053	496425.354	988503.545	CONC. DRAIN	
D99	0.45	0.45	0.45	4.642	496486.637	988526.103	CONC. DRAIN	
D100	0.45	0.45	0.45	4.619	496484.824	988529.938	CONC. DRAIN	

SEMPORNA DRAINAGE MASTER

POINT CODE	TOP	BOTTOM	DEPTH	ELEVATION	COORDINATES		DESCRIPTION	REMARKS
	(M)	(M)	(M)	(M)	NORTHING	EASTING		
D101	0.3	0.3	0.4	4.451	496730.814	988556.465	CONC. DRAIN	
D102	0.3	0.3	0.4	4.464	496742.979	988551.07	CONC. DRAIN	
D103	0.6	0.6	0.6	3.33	496726.246	988650.93	CONC. DRAIN	
D104	0.6	0.6	1	3.813	496693.177	988646.665	CONC. DRAIN	
D105	0.6	0.6	0.6	3.97	496665.449	988772.129	CONC. DRAIN	
D106	1.9	1	0.3	4.045	496660.431	988814.29	EARTH DRAIN	
D107	0.5	0.5	0.4	4.227	496641.401	988759.201	CONC. DRAIN	
D108	0.4	0.4	0.8	4.396	496632.359	988757.594	CONC. DRAIN	
D109	0.6	0.6	1	3.871	496684.932	988642.893	CONC. DRAIN	
D110	0.6	0.6	0.6	4.094	496640.424	988622.331	CONC. DRAIN	
D111	0.6	0.6	0.7	4.795	496593.471	988724.598	CONC. DRAIN	
D112	0.6	0.6	0.7	4.858	496585.39	988709.211	CONC. DRAIN	
D113	0.6	0.6	0.5	4.248	496525.522	988569.531	CONC. DRAIN	
D114	0.5	0.5	0.7	4.873	496554.084	988446.698	CONC. DRAIN	
D115	0.63	0.63	0.8	4.5	496912.292	988477.519	CONC. DRAIN	
D116	0.6	0.6	0.4	6.004	496986.594	988356.631	CONC. DRAIN	
D117	0.55	0.55	0.45	5.777	496999.599	988354.559	CONC. DRAIN	
D118	0.6	0.6	0.6	6.024	496958.755	988308.779	CONC. DRAIN	
D119	0.6	0.6	0.6	6.198	496928.949	988278.71	CONC. DRAIN	
D120	0.45	0.45	0.2	7.027	496855.62	988093.295	CONC. DRAIN	
D121	0.5	0.5	0.36	7.055	496888.249	988081.776	CONC. DRAIN	
D122	0.45	0.45	0.42	6.862	496800.444	988020.668	CONC. DRAIN	
D123	0.24	0.24	0.17	7.215	496737.243	988178.01	CONC. DRAIN	
D124	0.45	0.45	0.54	6.764	496773.594	988116.356	CONC. DRAIN	
D125	0.44	0.44	0.67	6.606	496821.834	988136.962	CONC. DRAIN	
D126	0.46	0.46	0.27	6.976	496796.704	988196.706	CONC. DRAIN	
D127	0.4	0.4	0.3	6.965	496810.284	988194.231	CONC. DRAIN	
D128	0.6	0.6	1	6.292	496858.073	988216.227	CONC. DRAIN	
D129	0.6	0.6	0.86	6.444	496880.73	988161.144	CONC. DRAIN	
D130	0.45	0.45	0.42	6.927	496809.327	988031.213	CONC. DRAIN	
D131	0.44	0.44	0.44	6.83	496866.801	988058.074	CONC. DRAIN	
D132	0.94	0.94	1.08	6.206	496913.936	988088.127	CONC. DRAIN	
D133	2.6	0.8	0.8	6.701	497294.203	987054.705	EARTH DRAIN	
D134		0.6 #		6.019	497438.54	986612.175	RCP CULVERT	
D134A		0.6 #		6.396	497415.476	986619.659	RCP CULVERT	
D135	1.4	0.9	0.2	6.497	496479.871	988798.948	EARTH DRAIN	
D136	0.5	0.5	0.4	6.318	496390.55	989071.02	CONC. DRAIN	
D137	1.9	0.9	0.5	6.41	496442.944	988966.439	EARTH DRAIN	
D138	0.5	0.5	0.4	6.352	496334.042	989059.384	CONC. DRAIN	
D139	0.5	0.5	0.4	6.298	496330.974	989051.794	CONC. DRAIN	
D140	0.5	0.5	0.4	6.907	496278.702	989042.298	CONC. DRAIN	
D141	1.8	0.7	0.5	8.217	495905.442	990121.075	EARTH DRAIN	
D142	1.8	1	0.9	7.715	495898.371	990130.597	EARTH DRAIN	
D143	2.07	2.07	1.6	5.859	495368.135	990177.423	SUMP	
D144	2.3	1.55	1	6.46	495990.774	990727.644	CONC. DRAIN	
D145	2	1.4	1	3.559	494986.329	990415.24	CONC. DRAIN	
D146	2	1.4	1	3.636	494984.499	990396.709	CONC. DRAIN	
D147	3.2	1.1	1.2	4.615	496267.312	988178.794	EARTH DRAIN	
D148	0.45	0.45	0.48	5.997	496080.949	987950.618	CONC. DRAIN	
D149	0.46	0.46	0.5	5.873	496052.828	987938.161	CONC. DRAIN	
D150	2.1	1.2	1.1	6.24	496069.737	988736.089	EARTH DRAIN	

SEMPORNA DRAINAGE MASTER

POINT CODE	TOP	BOTTOM	DEPTH	ELEVATION	COORDINATES		DESCRIPTION	REMARKS
	(M)	(M)	(M)	(M)	NORTHING	EASTING		
D151	1.2	0.6	0.3	5.643	495911.407	987825.485	EARTH DRAIN	
D152	2.2	0.9	0.5	5.56	495902.287	987817.614	EARTH DRAIN	
D153	0.6	0.6	0.4	5.382	495467.906	988021.387	CONC. DRAIN	
D154	1.5	1.45	0.1	5.573	495777.198	988147.396	EARTH DRAIN	
D155	0.6	0.6	0.4	4.086	495466.536	987965.983	CONC. DRAIN	
D156	0.6	0.6	0.7	5.393	495627.761	988290.11	CONC. DRAIN	
D157	0.8	0.8	1	3.432	495346.432	988065.259	CONC. DRAIN	
D158	0.6	0.6	0.7	4.665	495426.679	988108.199	CONC. DRAIN	
D159	0.6	0.6	0.78	5.307	495579.555	988228.259	CONC. DRAIN	
D160	0.6	0.6	0.64	5.049	495533.185	988083.145	CONC. DRAIN	
D161	0.6	0.6	1	4.635	495542.142	988076.778	CONC. DRAIN	
D162	0.6	0.6	0.4	4.169	495463.947	987961.624	CONC. DRAIN	
D163	0.6	0.6	0.47	5.629	495734.74	988168.918	CONC. DRAIN	
D164	0.6	0.6	0.4	5.817	495768.986	988155.333	CONC. DRAIN	
D165	2.2	0.8	0.4	4.594	495758.103	987928.549	EARTH DRAIN	
D165	0.6	0.6	0.352	4.594	495728.103	987928.549	CONC. DRAIN	
D166	4.7	1	1.6	5.163	495953.078	987460.082	EARTH DRAIN	
D167		0.9		6.465	495197.891	984894.316	ZINC CULVERT	
D168		0.9		6.67	495184.846	98486.525	ZINC CULVERT	
D169	0.75	0.75	0.55	12.921	495499.337	986184.029	CONC. DRAIN	
D170	2.5	1	0.5	10.349	495621.135	986590.365	EARTH DRAIN	
D171	2.4	1	0.6	10.004	495630.486	986567.402	EARTH DRAIN	
D172	1.5	1.4	0.1	10.34	495429.031	986553.775	EARTH DRAIN	
D173	1.5	0.6	0.7	9.774	495780.587	986527.334	EARTH DRAIN	
D174	2.5	0.9	0.7	7.802	49688.622	986486.63	EARTH DRAIN	
D175	1.5	0.7	0.175	9.434	496276.368	986519.433	EARTH DRAIN	
D176	2.7	1.2	0.3	8.502	496459.872	986539.583	EARTH DRAIN	
D177	1.6	0.3	0.5	9.889	496881.954	986635.044	EARTH DRAIN	
D178	2.2	0.6	0.6	9.955	496885.485	986623.459	EARTH DRAIN	
D179	2.1	0.6	0.4	8.289	497081.239	986674.749	EARTH DRAIN	
D180	2	0.8	0.5	8.458	497202.019	986673.929	EARTH DRAIN	
D181	2	1.8	0.1	3.36	500362.97	986094.35	EARTH DRAIN	
D182	1	1	0.1	3.414	500424.006	986212.764	EARTH DRAIN	
D183	1.8	1.8	0.1	3.849	500488.645	986342.973	EARTH DRAIN	
D184	1.9	1.8	0.1	3.749	500477.445	986349.598	EARTH DRAIN	
D185		0.6		3.189	500376.944	986149.006	RCP CULVERT	
D185A		0.6		3.213	500375.457	986146.127	RCP CULVERT	
D186	3	2	0.7	-1.078	493834.574	986455.113	EARTH DRAIN	
D187	2.3	1.6	1	3.795	493810.55	986511.5	EARTH DRAIN	
D188		1.2		6.467	494008.295	987022.215	RCP CULVERT	
D189		1.2		6.042	493990.867	987036.285	RCP CULVERT	
D190	2.3	1.6	1	9.938	494351.717	987440.371	CONC. DRAIN	
D191	2.3	1.6	1	10.038	49436.785	987450.407	CONC. DRAIN	
D192	2.3	1.5	1	6.215	494546.803	987676.553	CONC. DRAIN	
D193	2.3	1.5	1	6.104	494534.235	987689.808	CONC. DRAIN	
D194	2	1.9	1	6.856	494892.987	987851.174	EARTH DRAIN	
D195	2.3	1.5	1	6.126	494661.015	987843.522	CONC. DRAIN	
D196	2.1	1.5	1	3.396	494909.518	98855.418	CONC. DRAIN	
D197	2.1	1.5	1	3.572	494896.888	98859.87	CONC. DRAIN	
D198	2.3	1.7	1	2.762	494837.431	988726.948	CONC. DRAIN	
D199	1.4	1.2	0.2	3.412	494818.752	988721.208	EARTH DRAIN	
D200	2.3	1.7	1	3.363	494822.918	988823.939	CONC. DRAIN	
D201	1.2	1	0.2	3.478	494799.641	988826.079	EARTH DRAIN	
D202	2	1.1	0.8	2.968	494917.788	989171.844	EARTH DRAIN	
D203	1.2	1	0.2	2.485	494897.123	989183.992	EARTH DRAIN	
D204	5.2	3	1	0.332	494903.189	989669.672	EARTH DRAIN	
D205	2.2	1.5	0.3	0.139	494868.203	989674.4	EARTH DRAIN	
D206	2.5	1	1.6	2.875	495097.121	989932.911	EARTH DRAIN	
D207	1.6	0.5	1.2	3.687	495074.199	989948.56	EARTH DRAIN	
D208	1.3	0.6	0.4	14.286	495097.711	987019.269	EARTH DRAIN	
D209	1.4	0.4	0.4	11.91	494925.286	987220.762	EARTH DRAIN	
D210	2	0.9	0.4	9.872	494845.66	987373.887	EARTH DRAIN	
D211	2.3	1.2	0.6	2.654	494788.374	987571.876	EARTH DRAIN	



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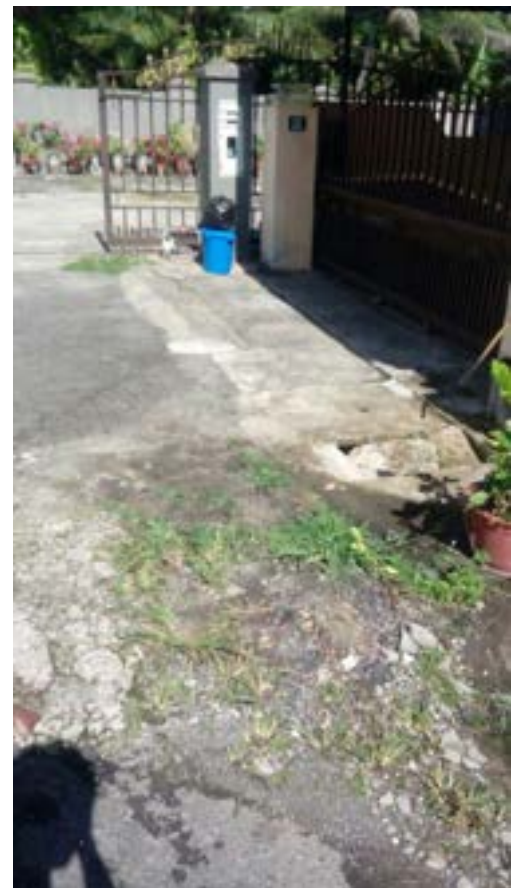
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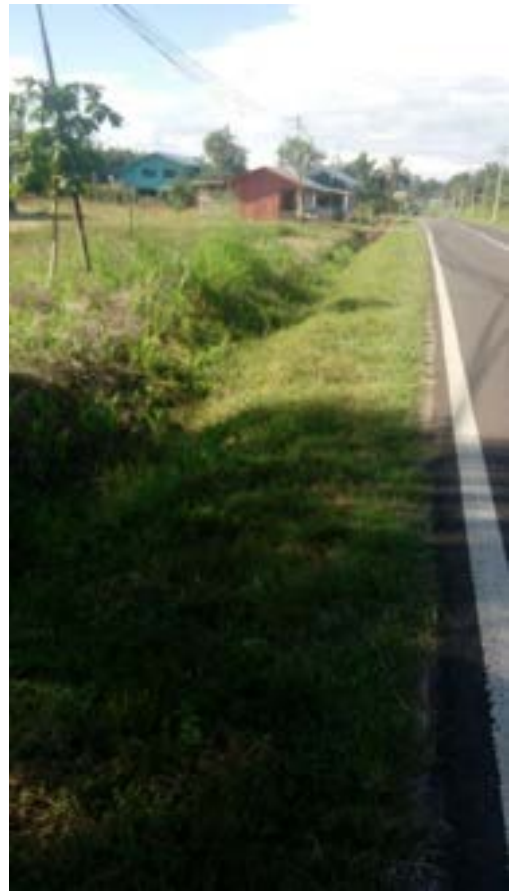
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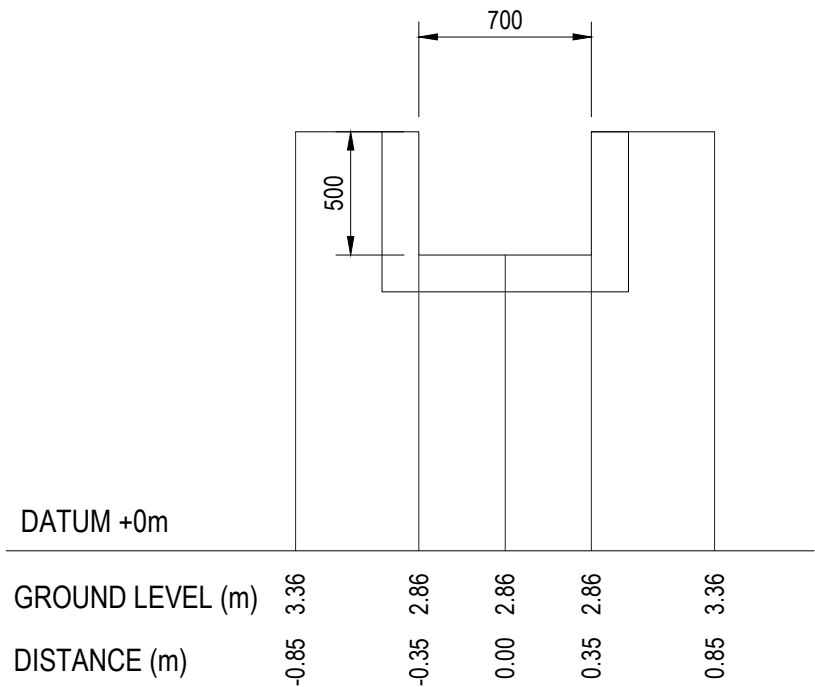
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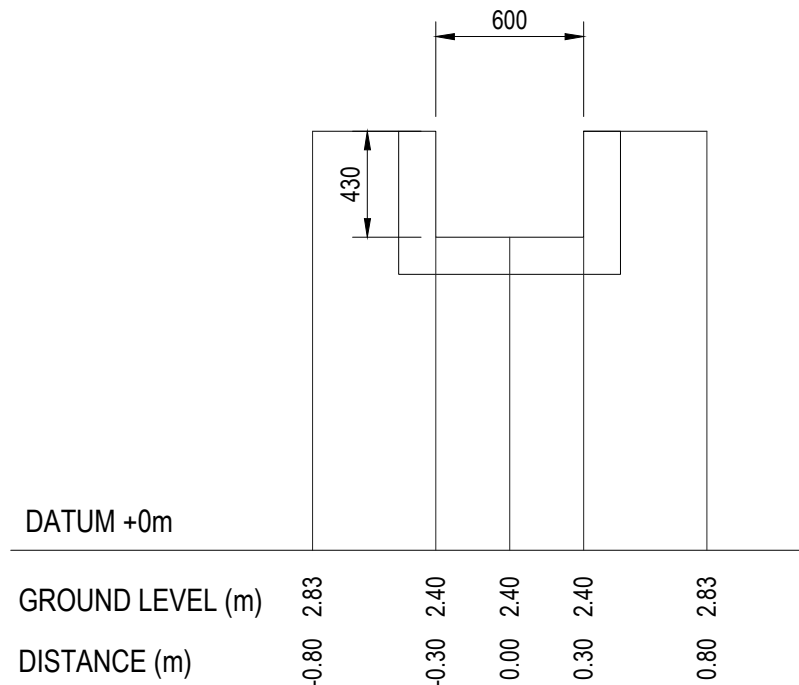
APPENDIX B:
STRUCTURE DETAILS

R.C OPEN DRAIN

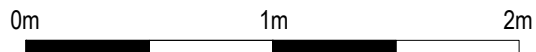


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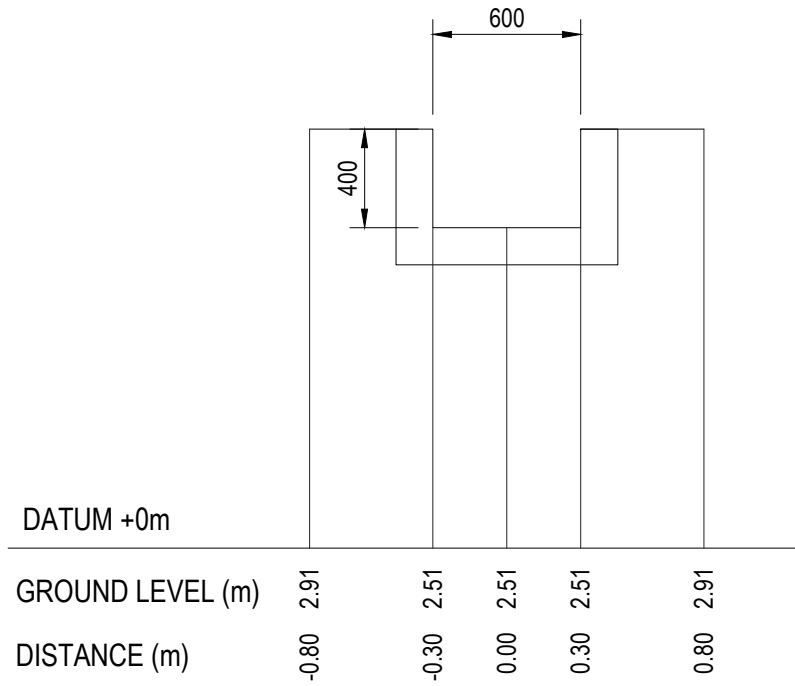
R.C OPEN DRAIN



SECTION D2

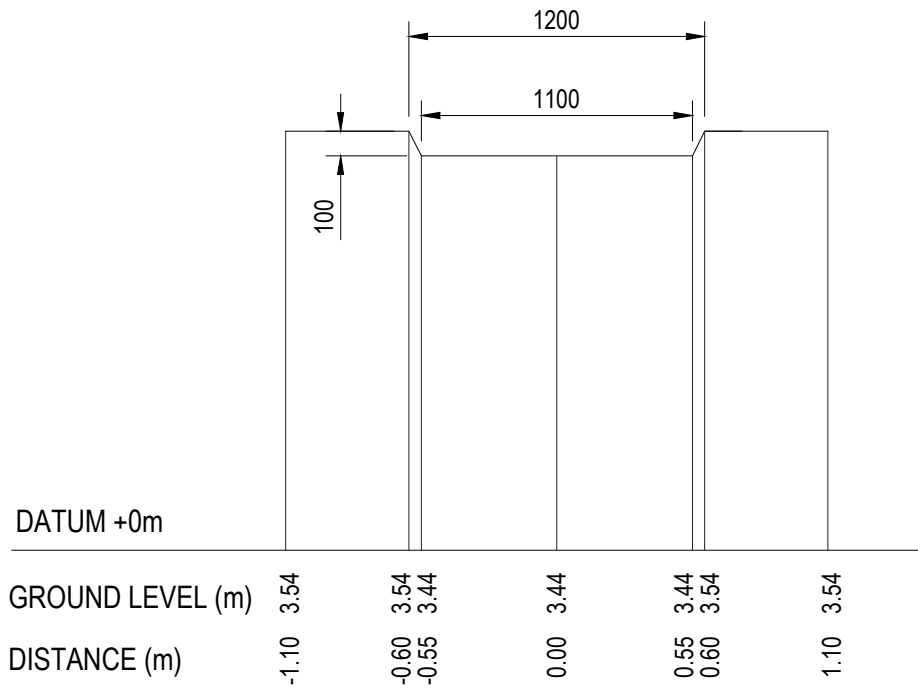


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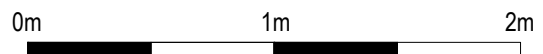


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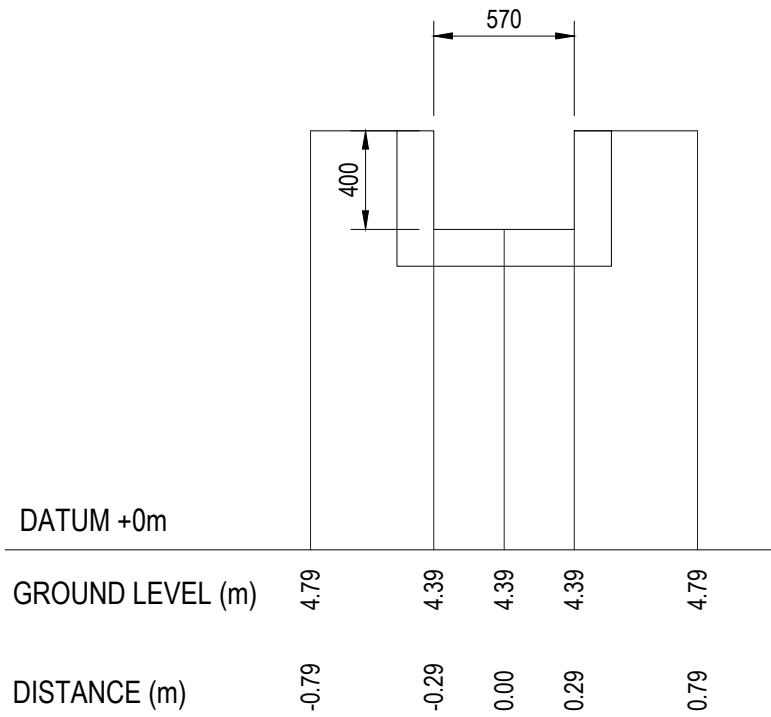
EARTH DRAIN



SECTION D4

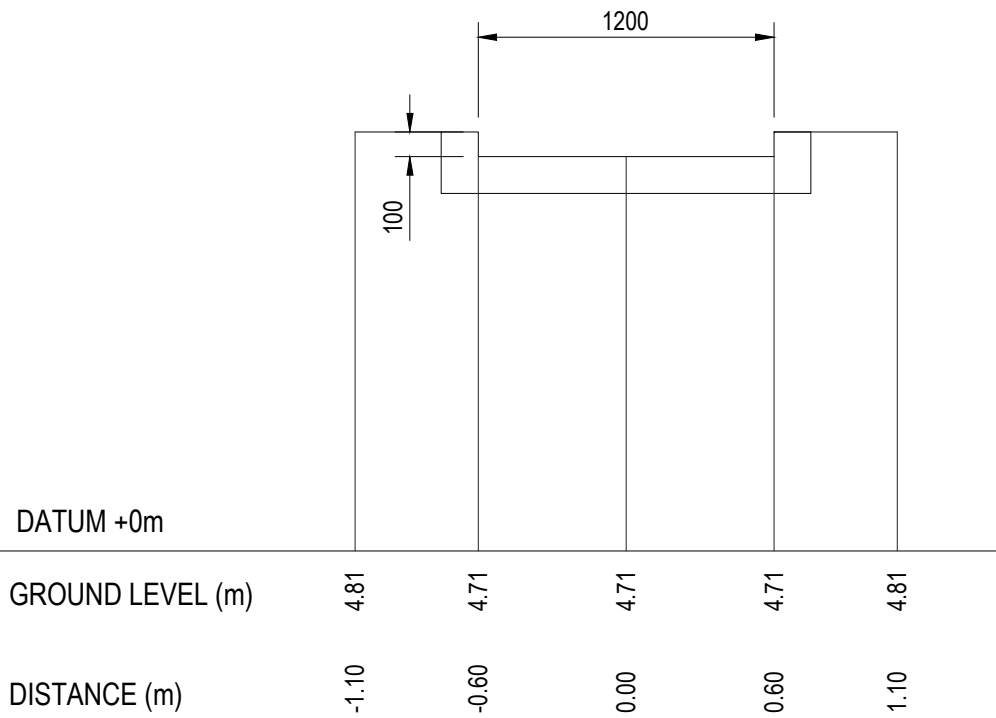


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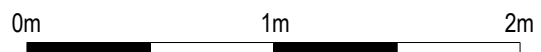


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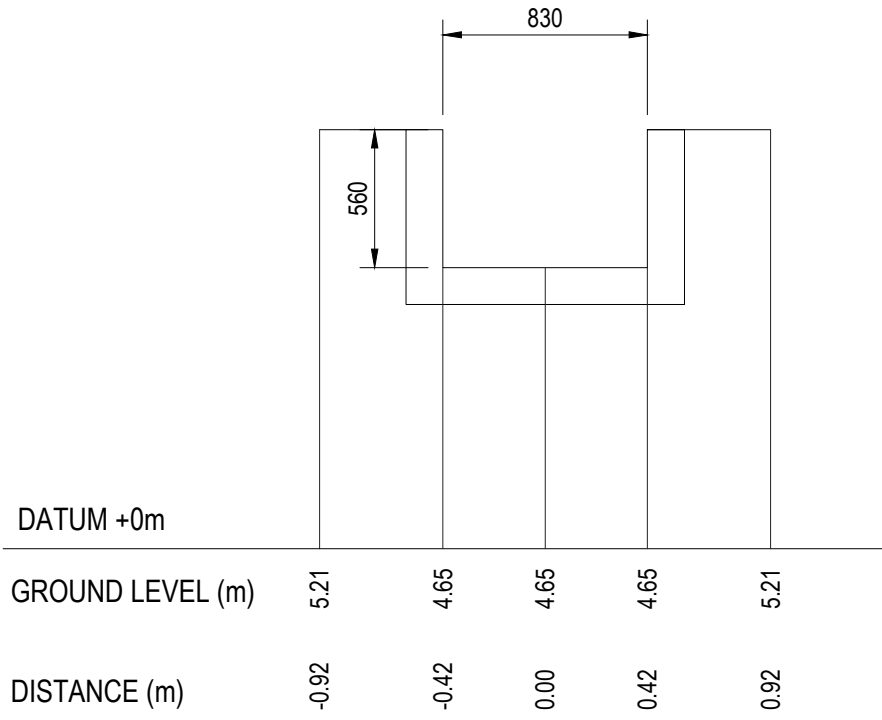
R.C OPEN DRAIN



SECTION D7

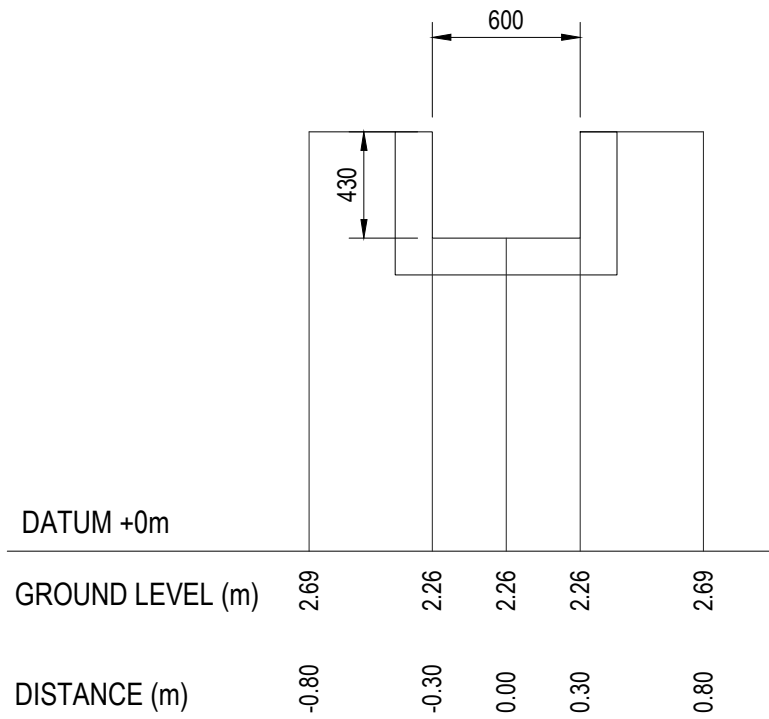


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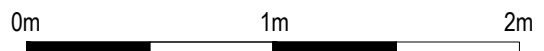


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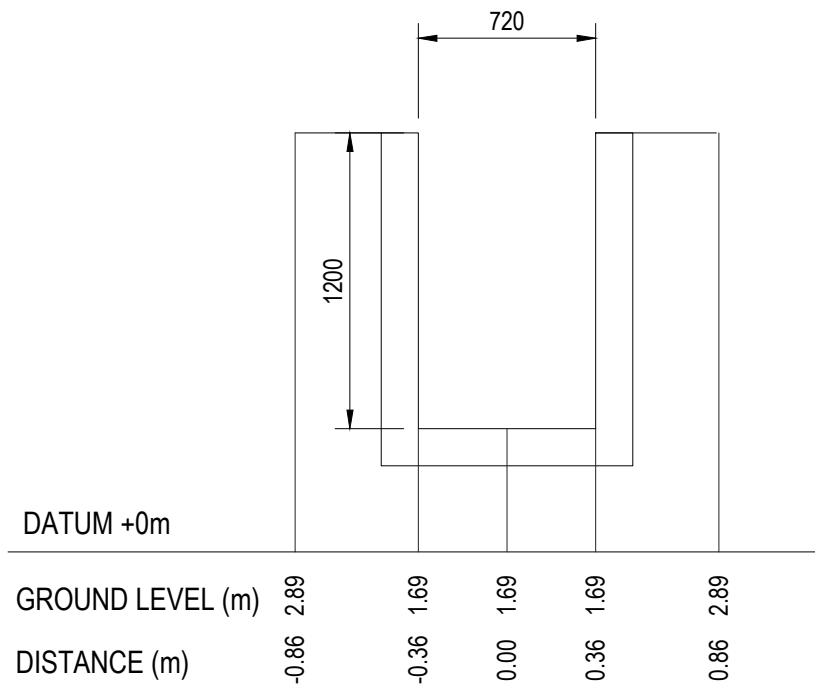
R.C OPEN DRAIN



SECTION D9

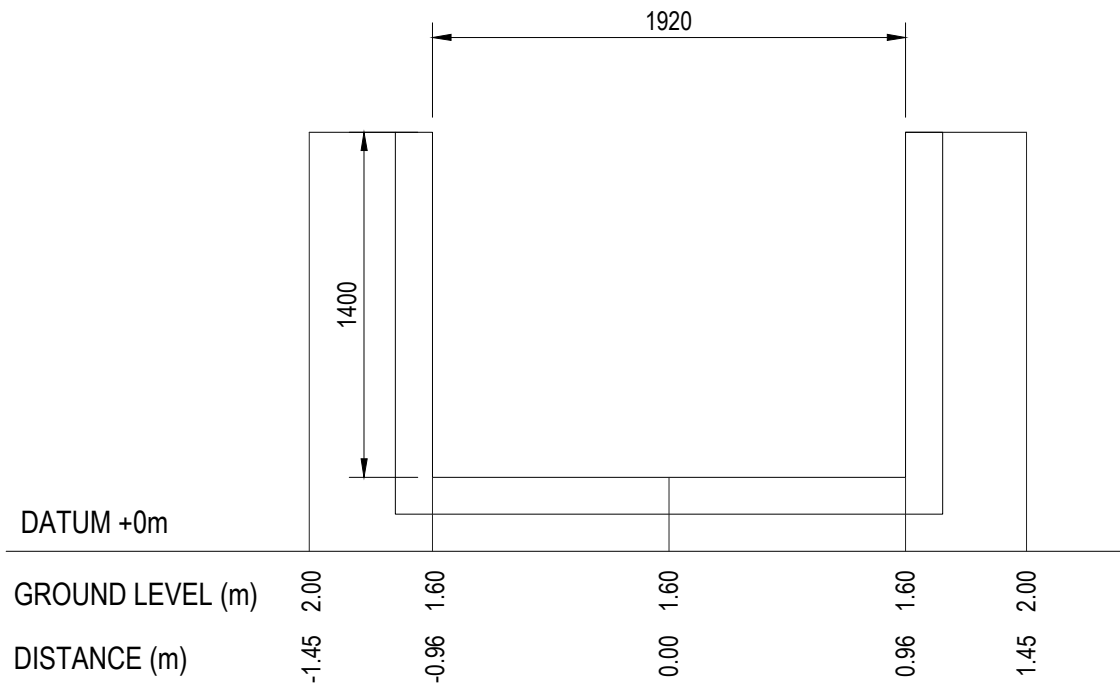


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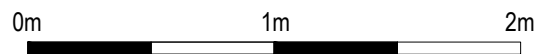


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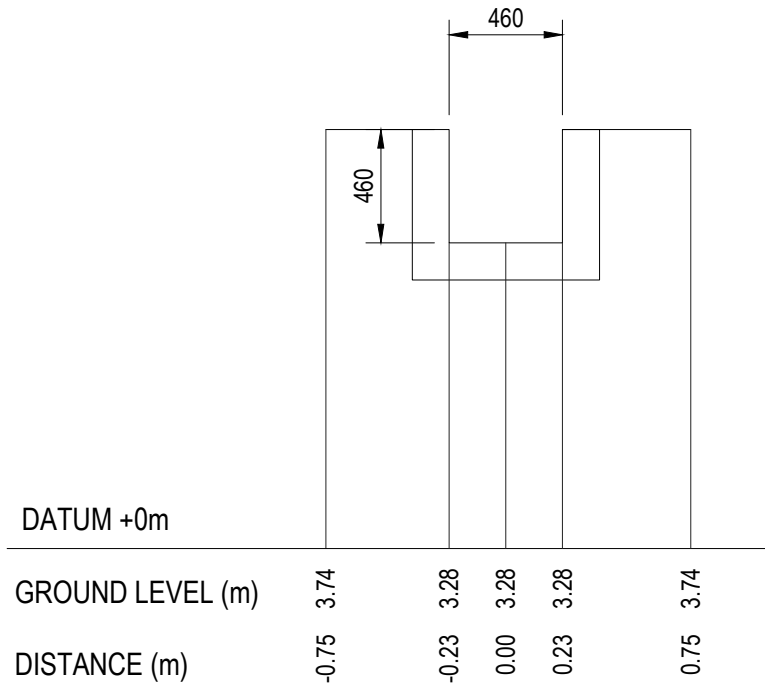
R.C OPEN DRAIN



SECTION D11

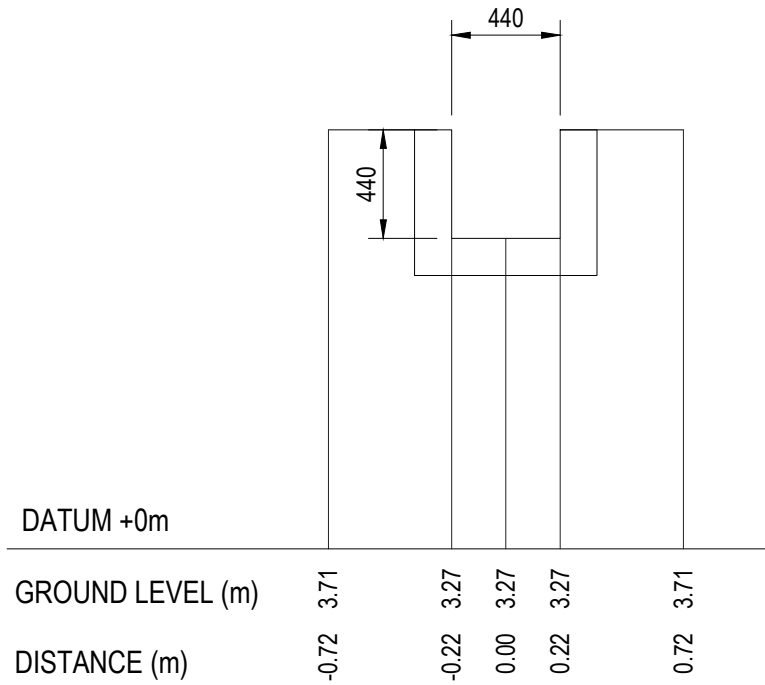


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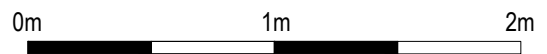


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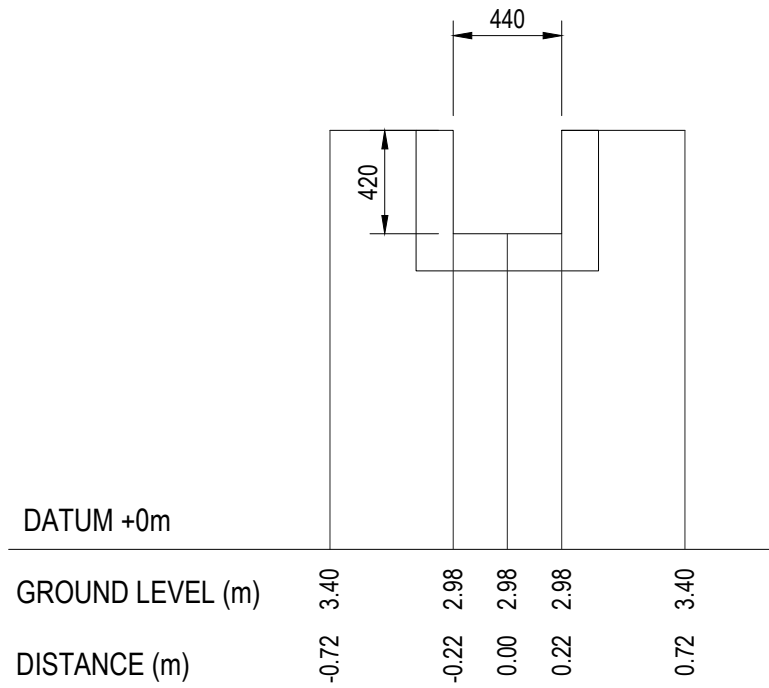
R.C OPEN DRAIN



SECTION D13

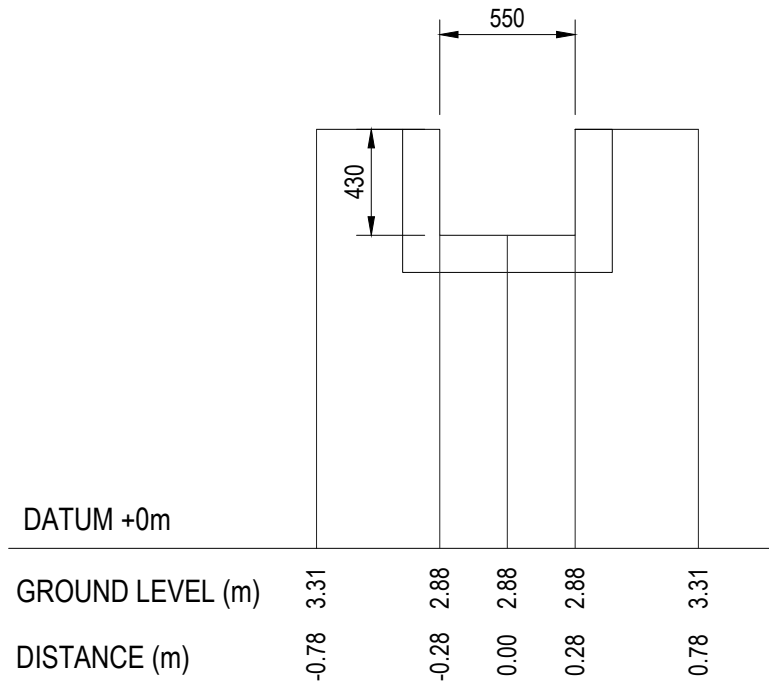


R.C OPEN DRAIN

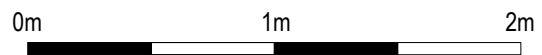


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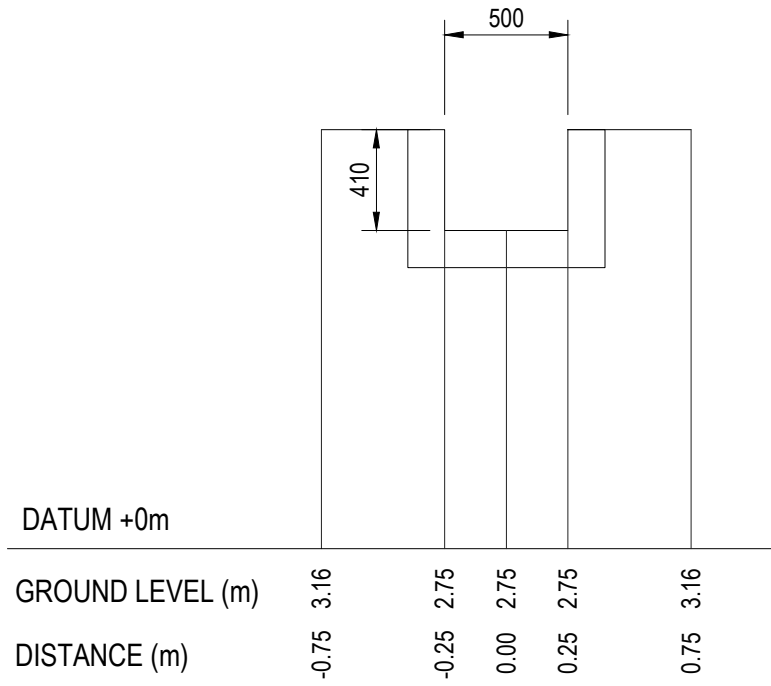
R.C OPEN DRAIN



SECTION D15

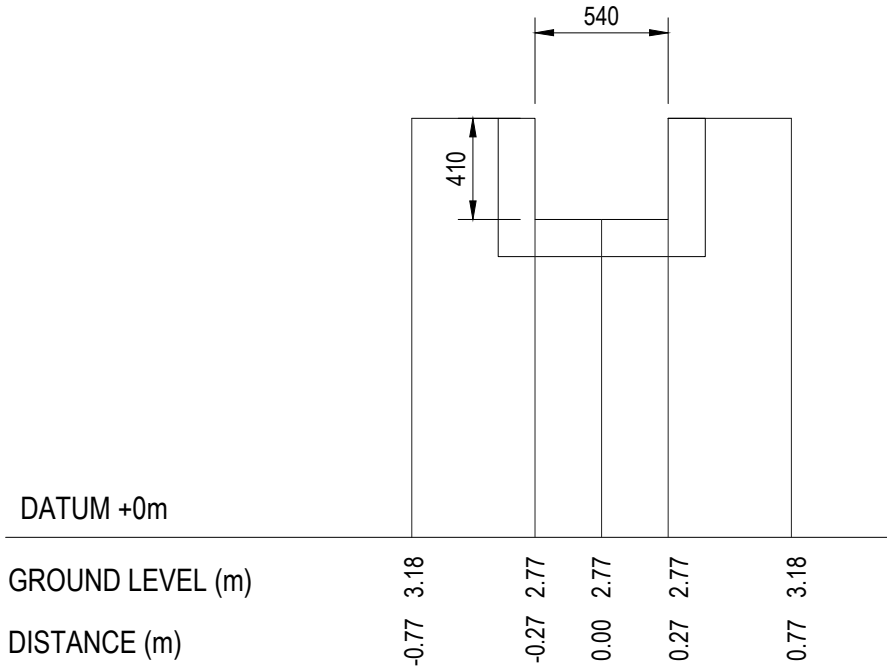


R.C OPEN DRAIN

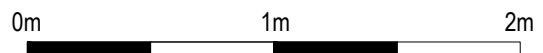


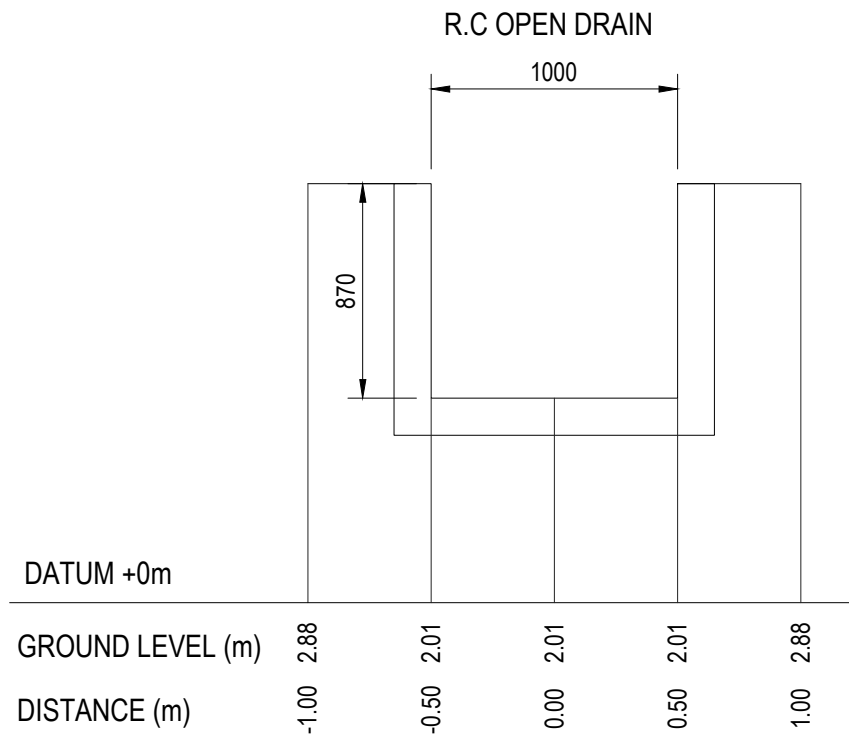
SECTION D16

R.C OPEN DRAIN

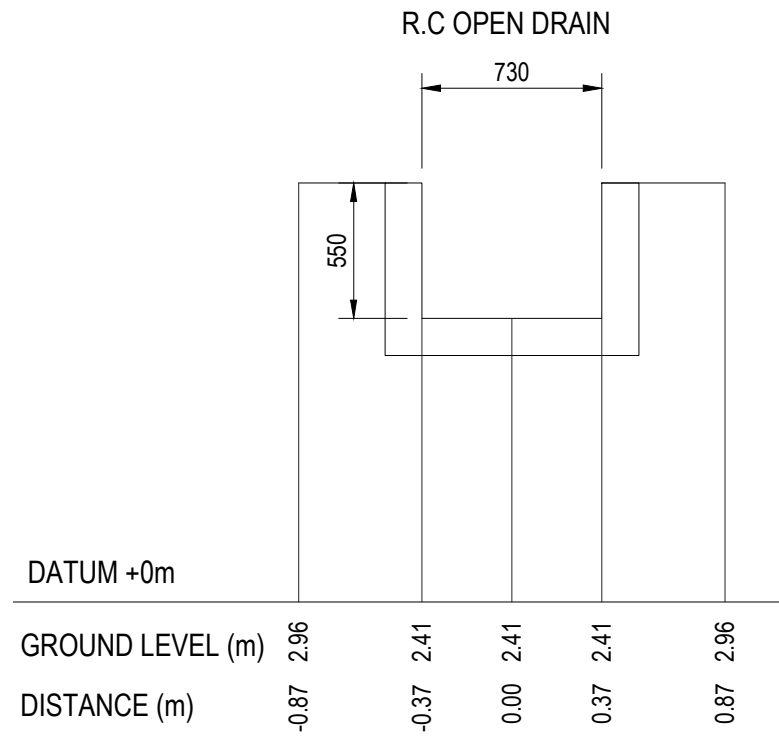


SECTION D17

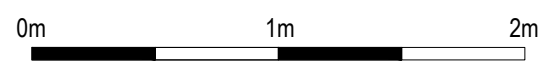




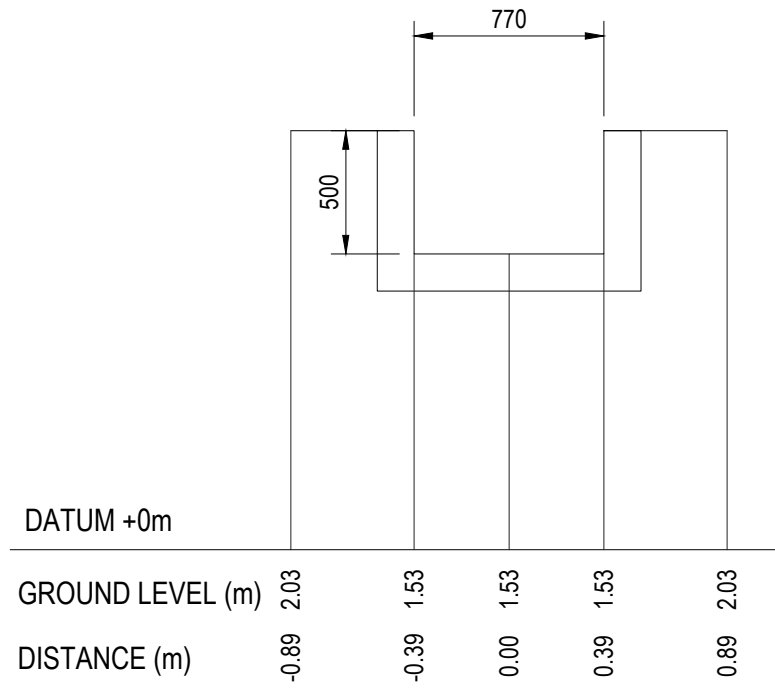
SECTION D18



SECTION D19

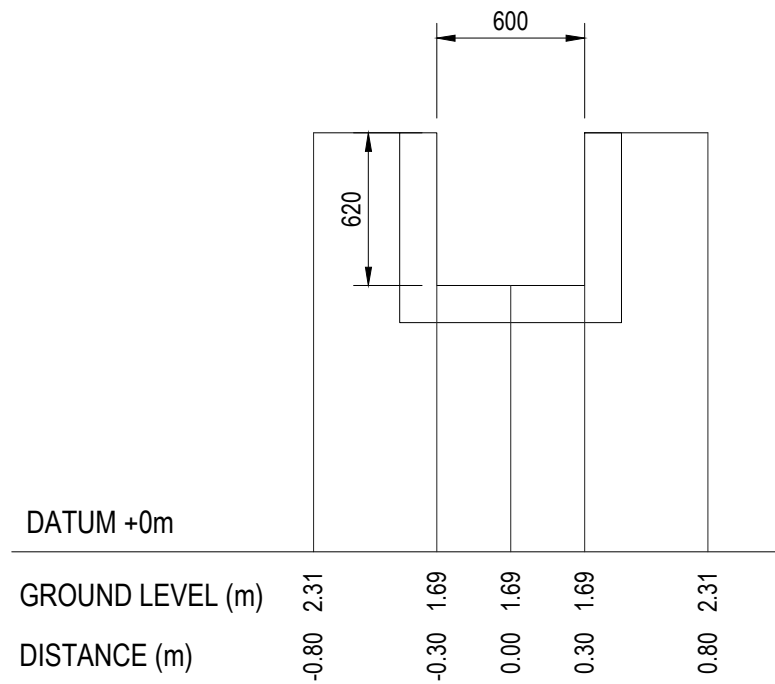


R.C OPEN DRAIN

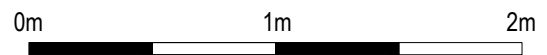


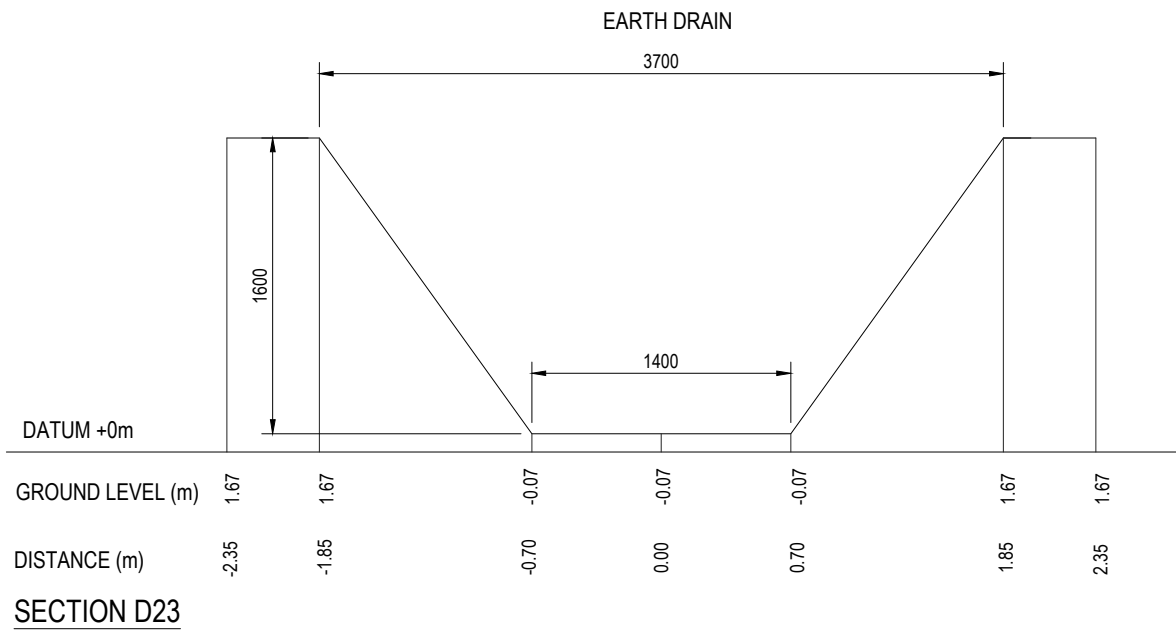
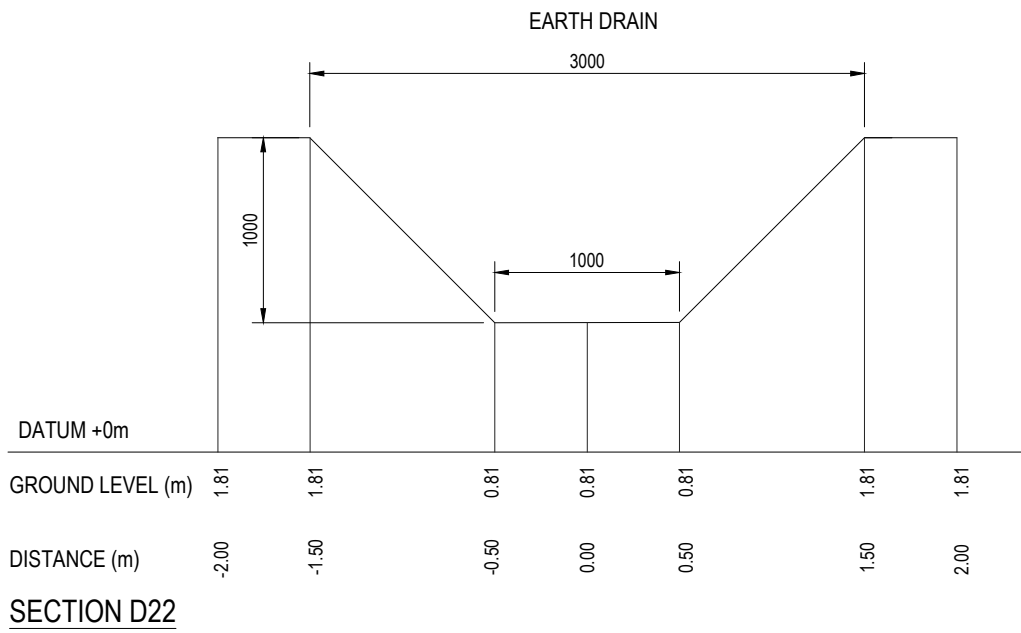
SECTION D20

R.C OPEN DRAIN

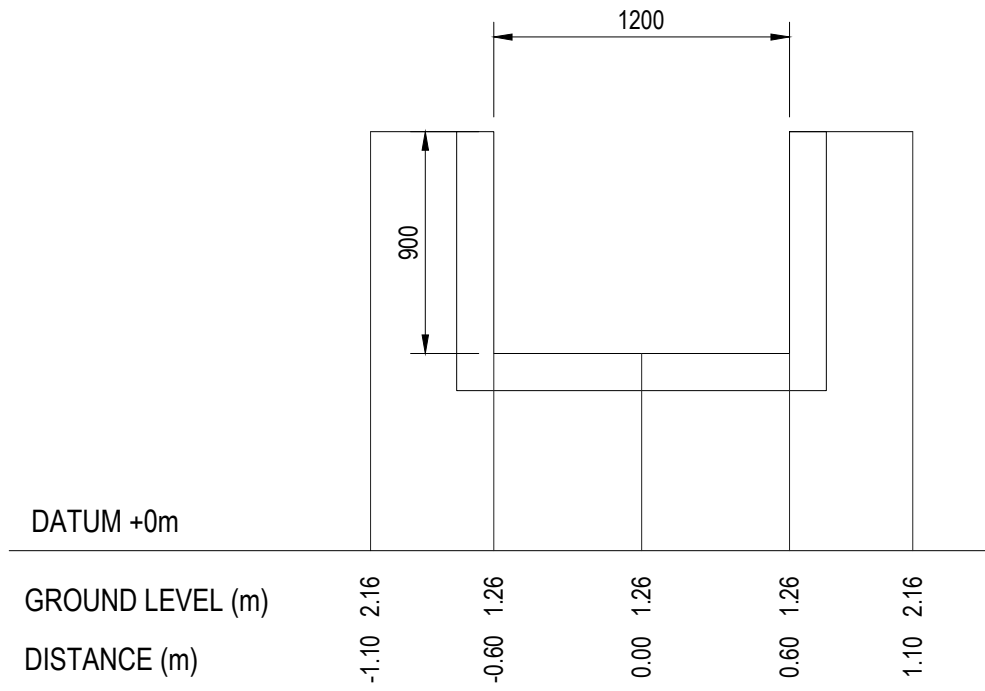


SECTION D21



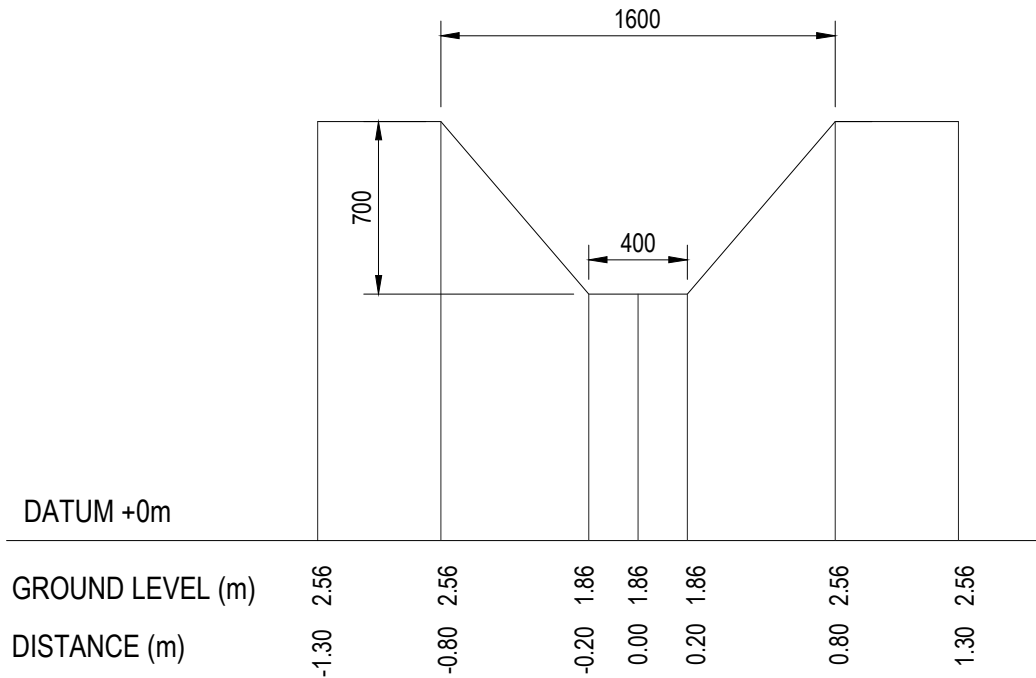


R.C OPEN DRAIN

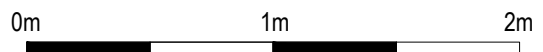


SECTION D24

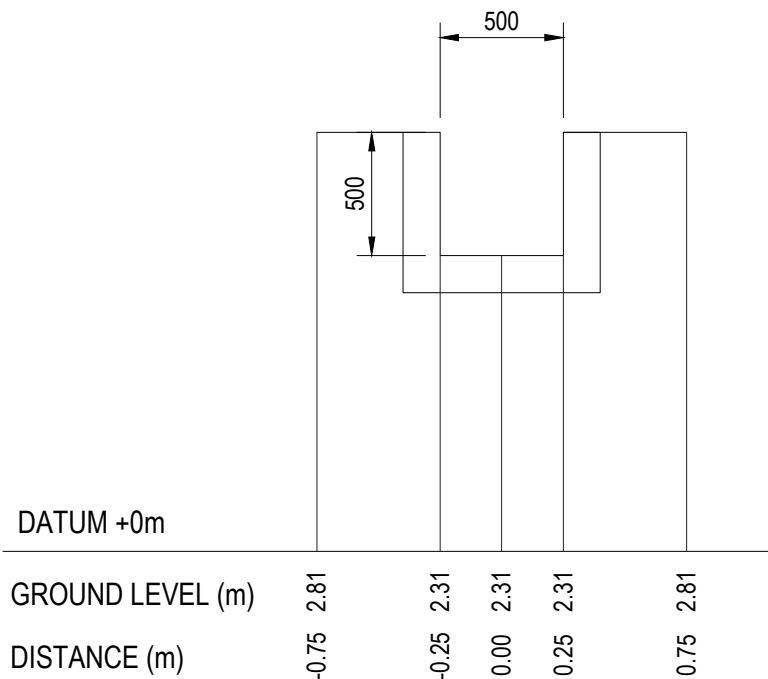
EARTH DRAIN



SECTION D25

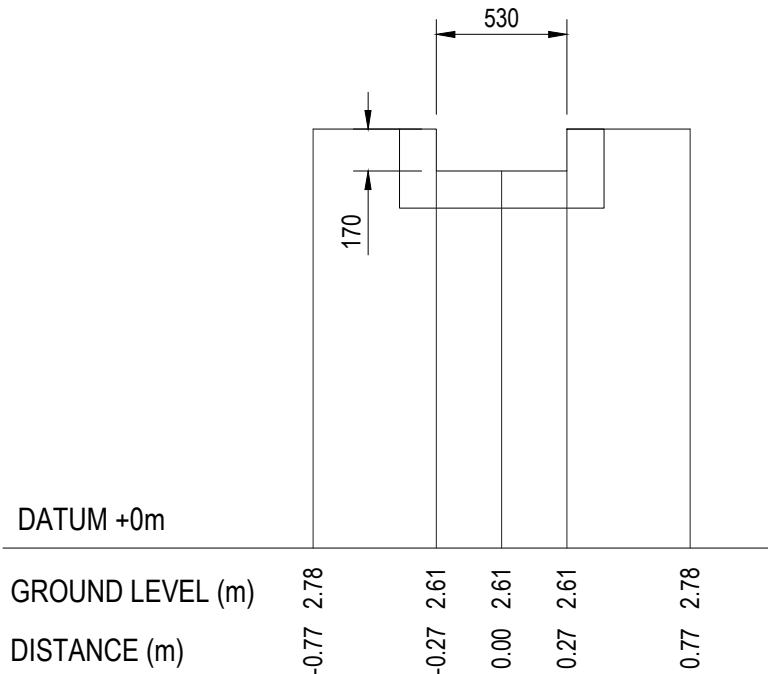


R.C OPEN DRAIN

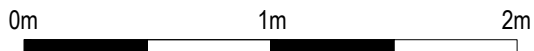


SECTION D26

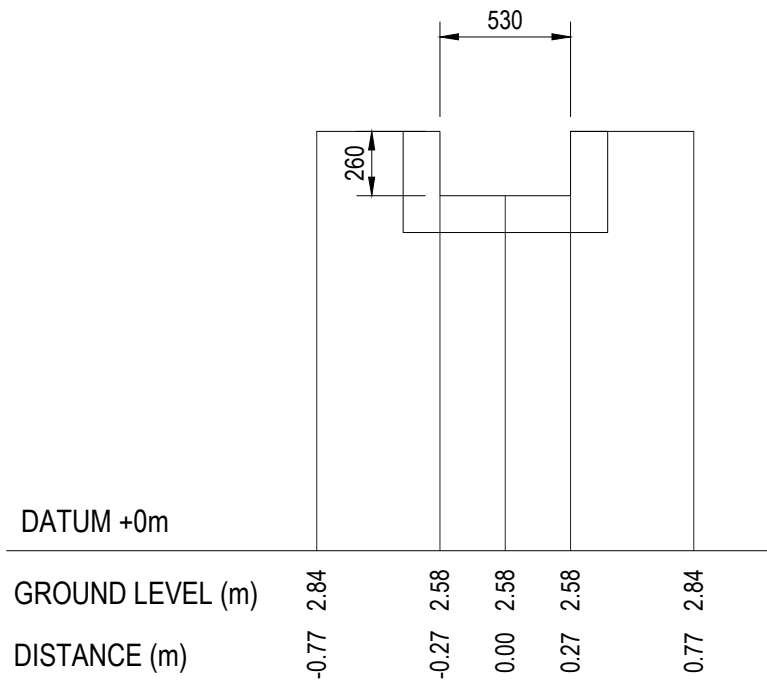
R.C OPEN DRAIN



SECTION D27

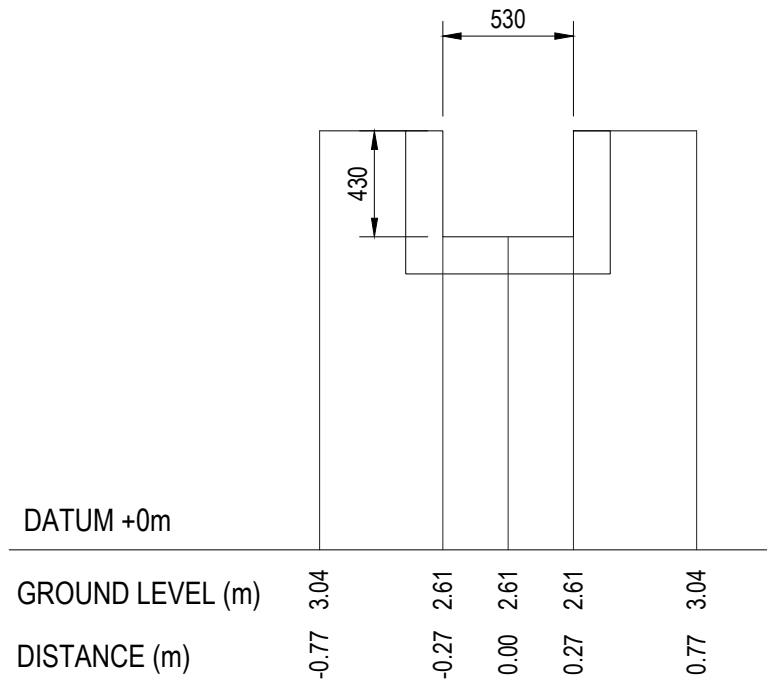


R.C OPEN DRAIN

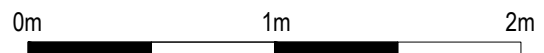


SECTION D28

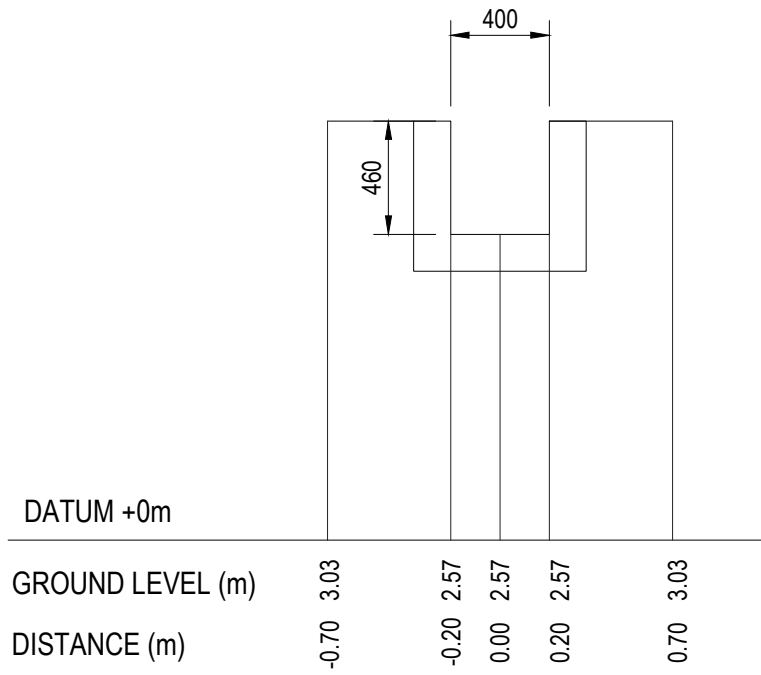
R.C OPEN DRAIN



SECTION D29

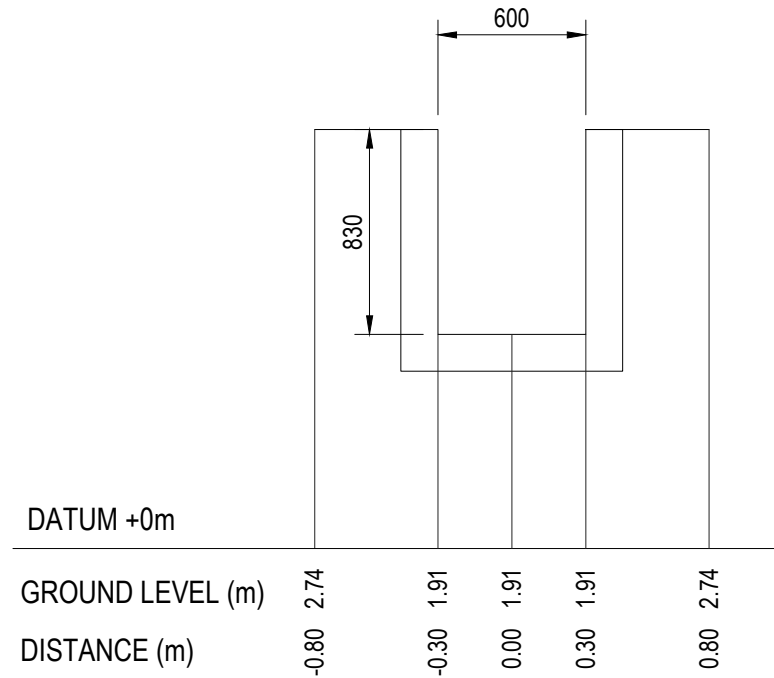


R.C OPEN DRAIN

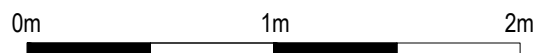


SECTION D30

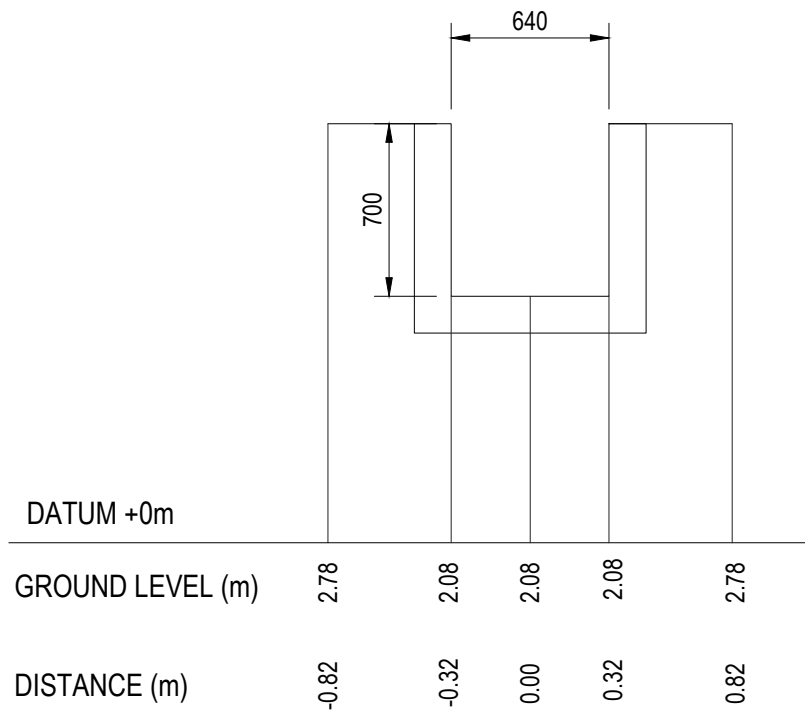
R.C OPEN DRAIN



SECTION D31

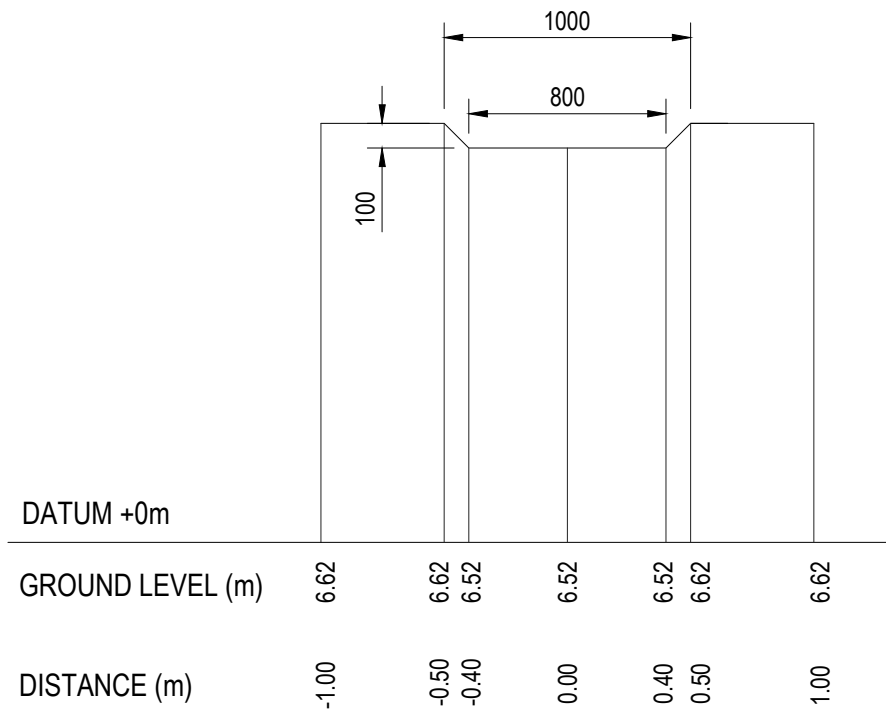


R.C OPEN DRAIN

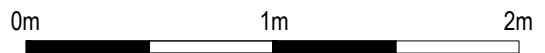


SECTION D32

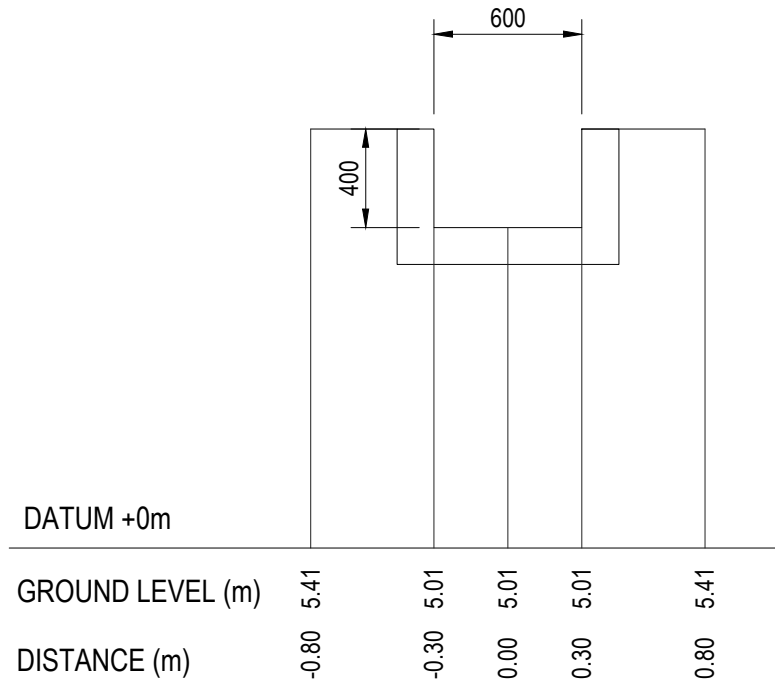
EARTH DRAIN



SECTION D33

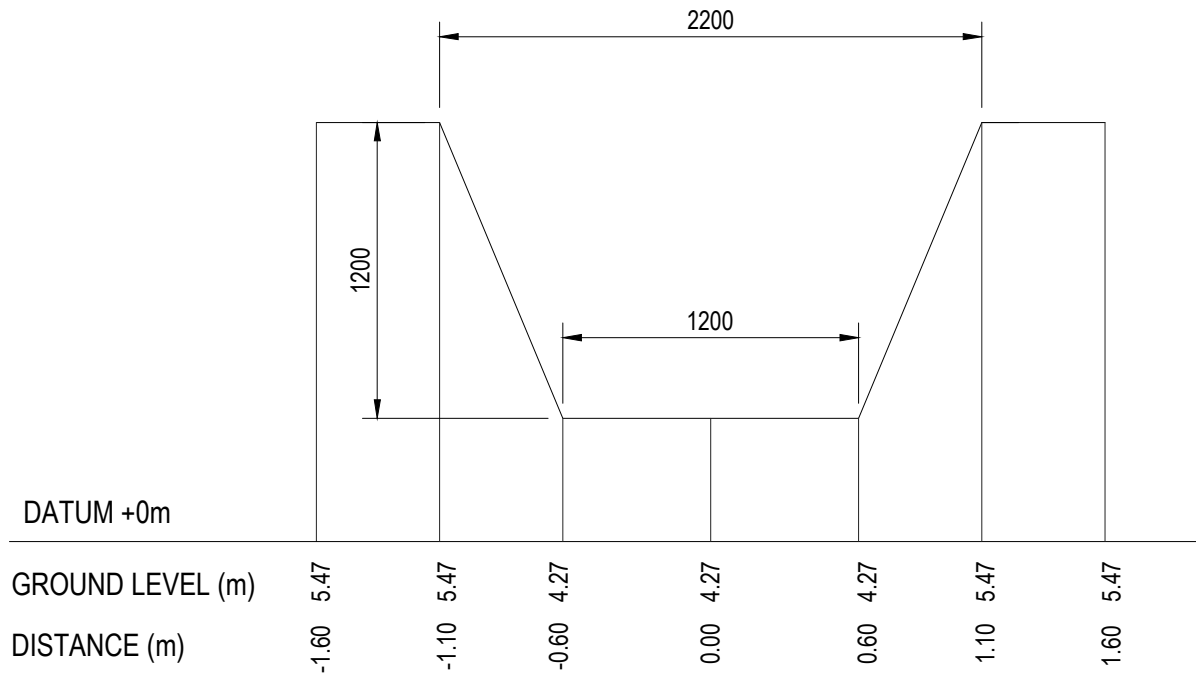


R.C OPEN DRAIN

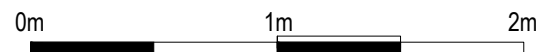


SECTION D34

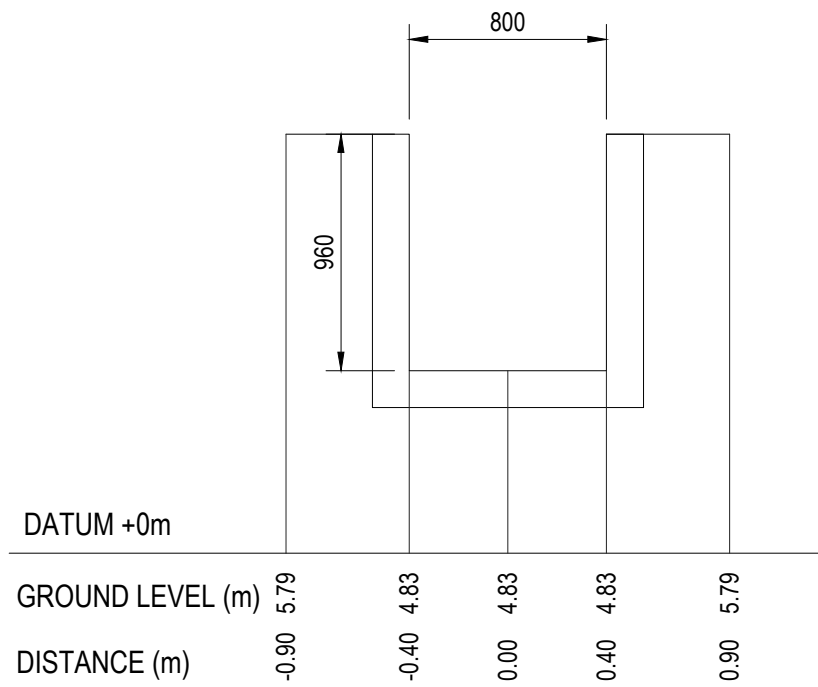
EARTH DRAIN



SECTION D35

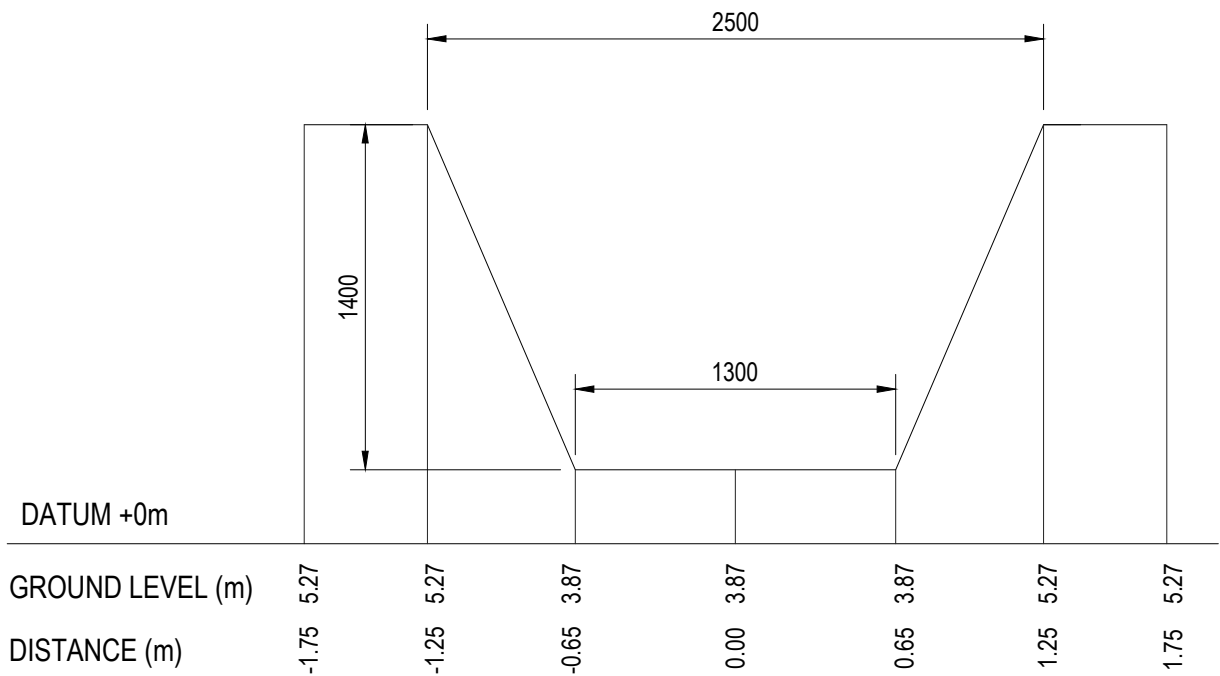


R.C OPEN DRAIN

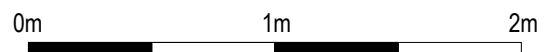


SECTION D36

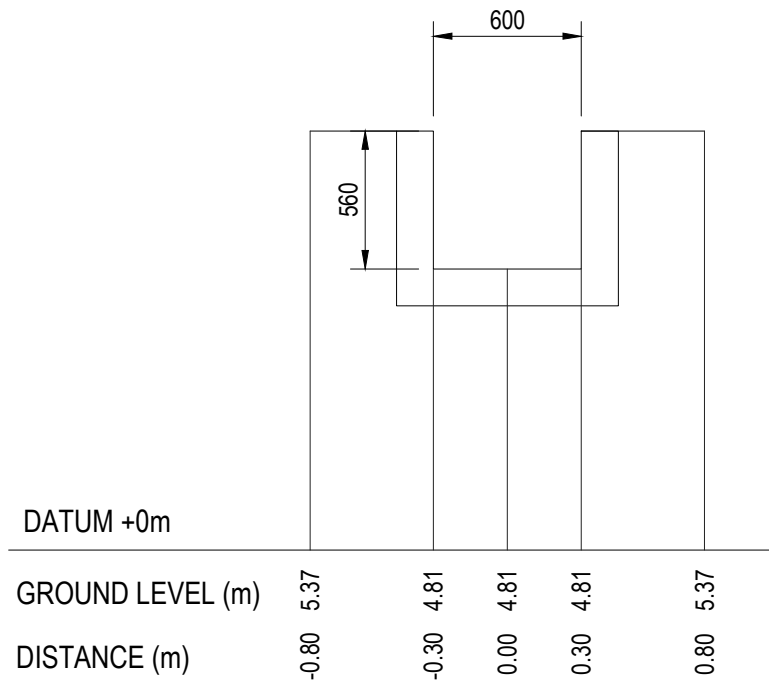
EARTH DRAIN



SECTION D37

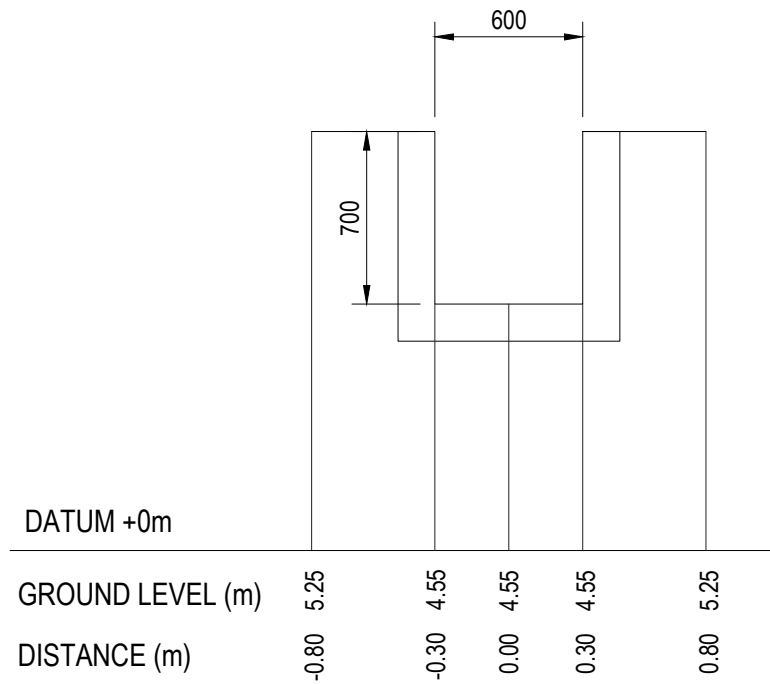


R.C OPEN DRAIN

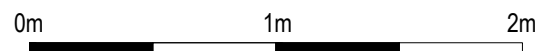


SECTION D38

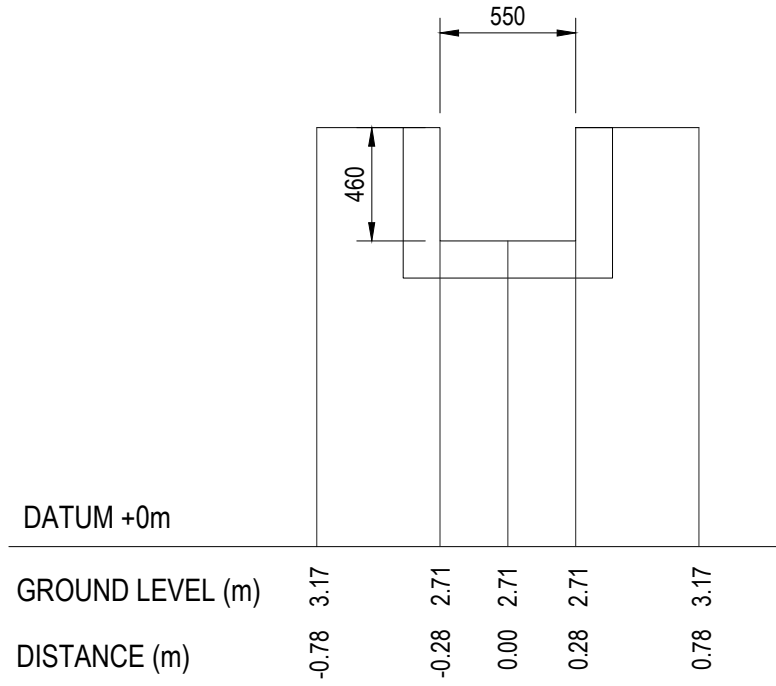
R.C OPEN DRAIN



SECTION D39

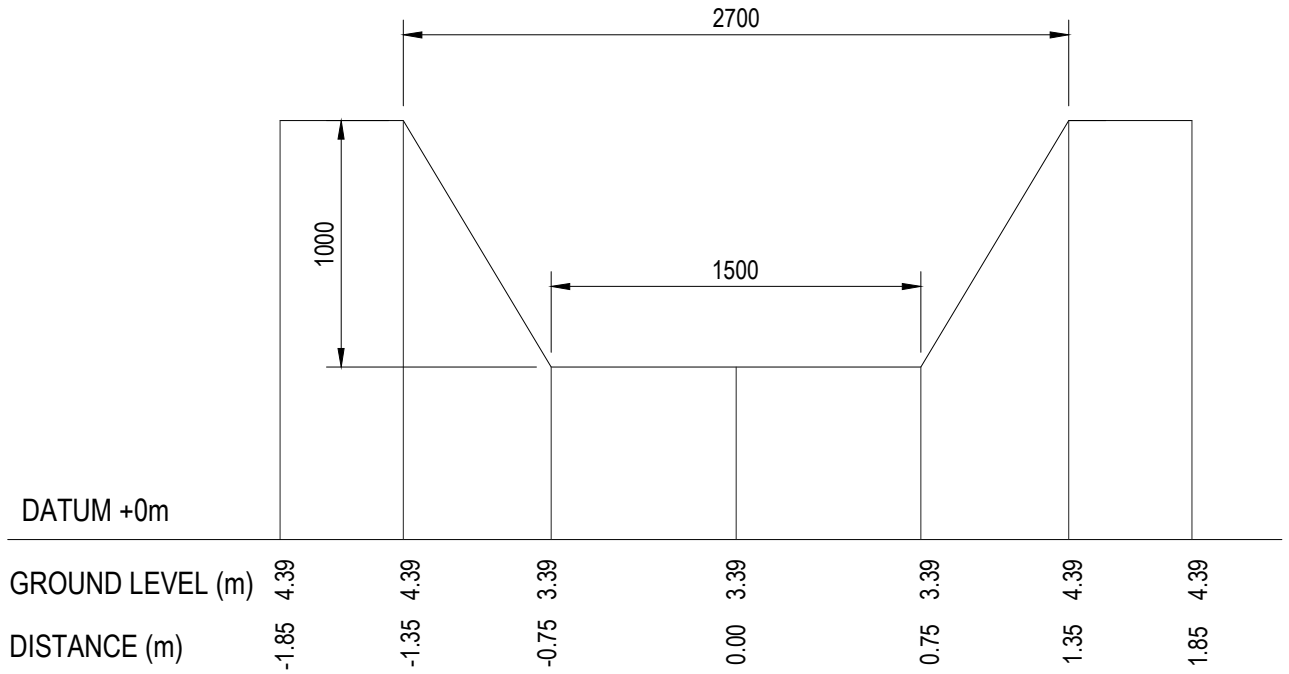


R.C OPEN DRAIN

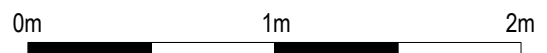


SECTION D40

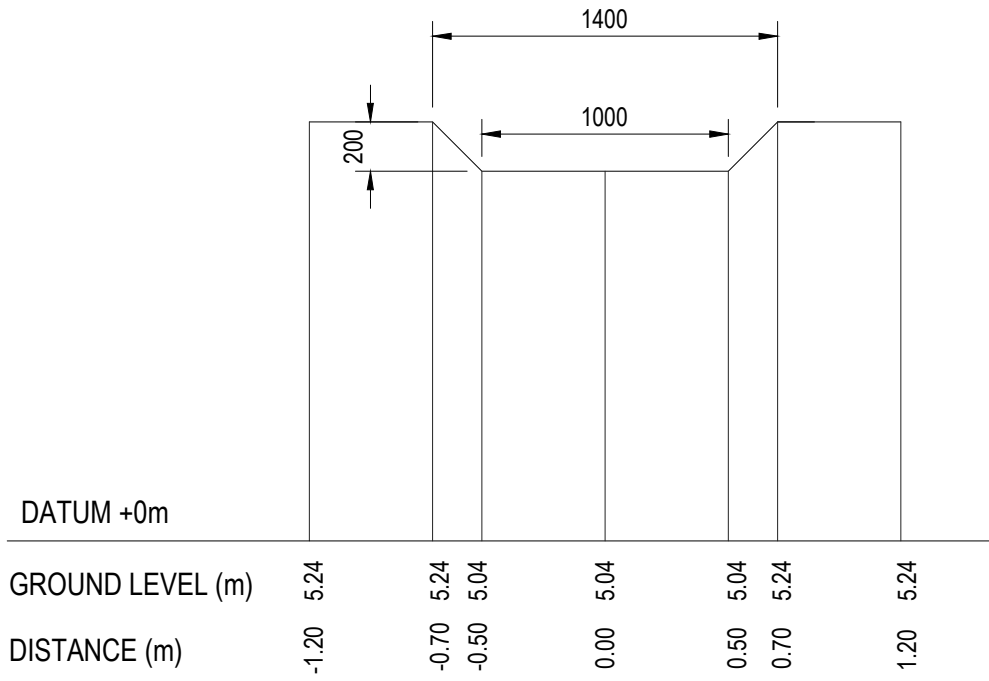
EARTH DRAIN



SECTION D41

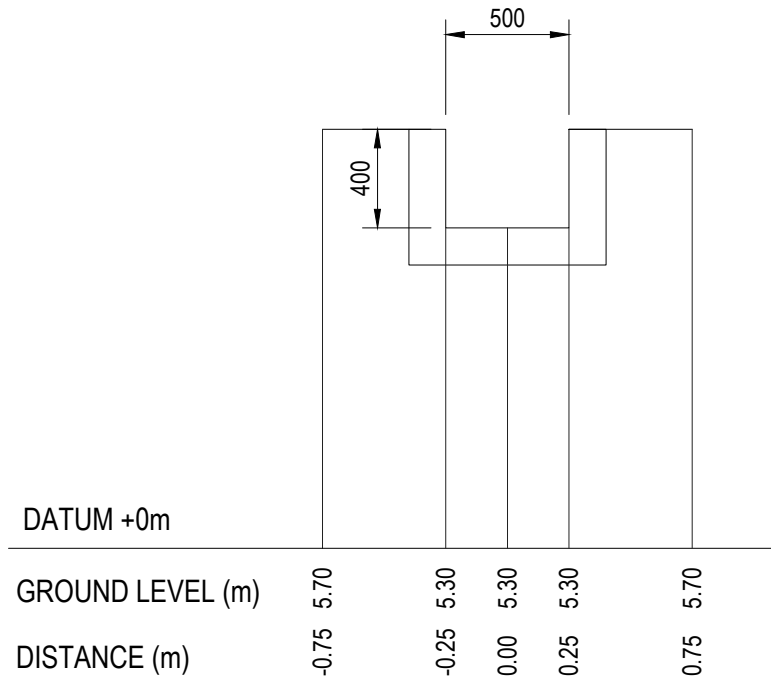


EARTH DRAIN

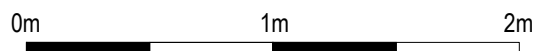


SECTION D42

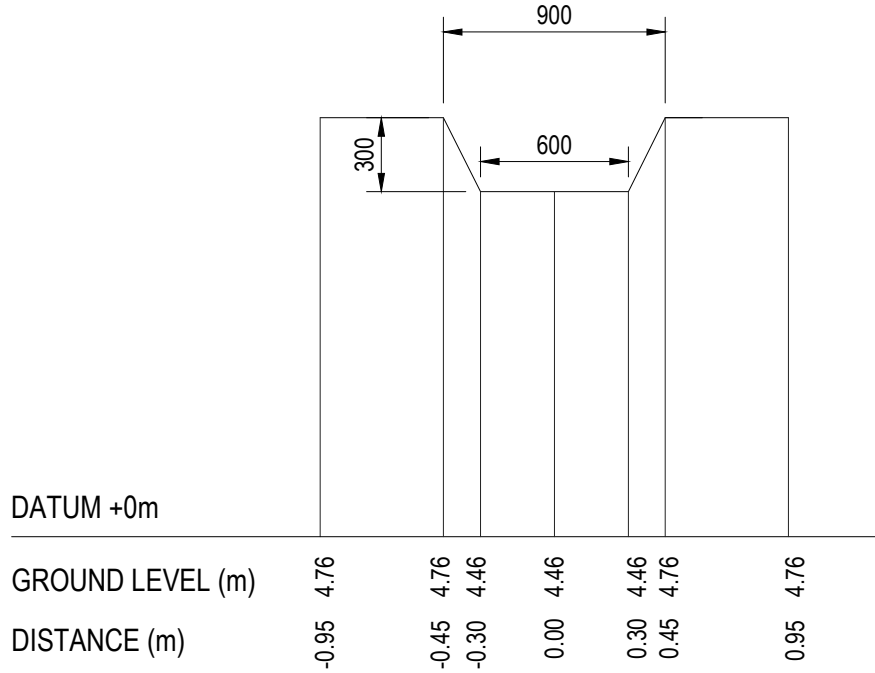
R.C OPEN DRAIN



SECTION D43



EARTH DRAIN



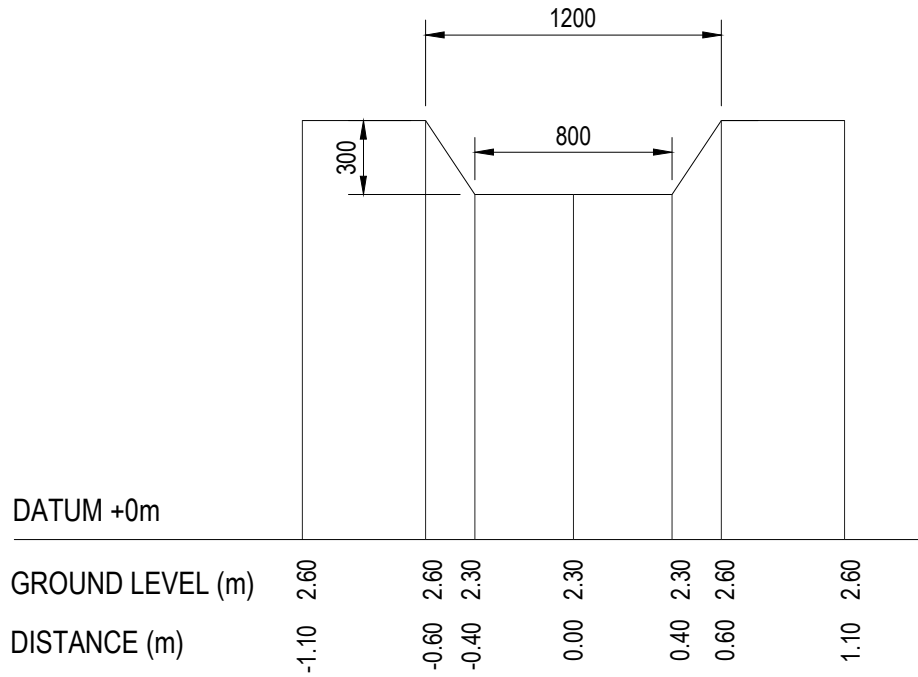
DATUM +0m

GROUND LEVEL (m)

DISTANCE (m)

SECTION D44

EARTH DRAIN

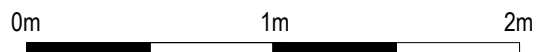


DATUM +0m

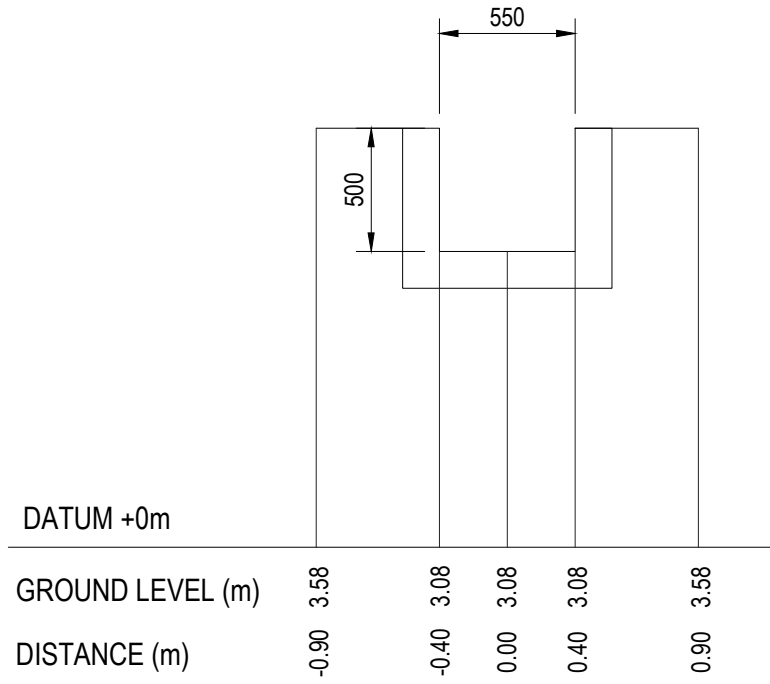
GROUND LEVEL (m)

DISTANCE (m)

SECTION D45

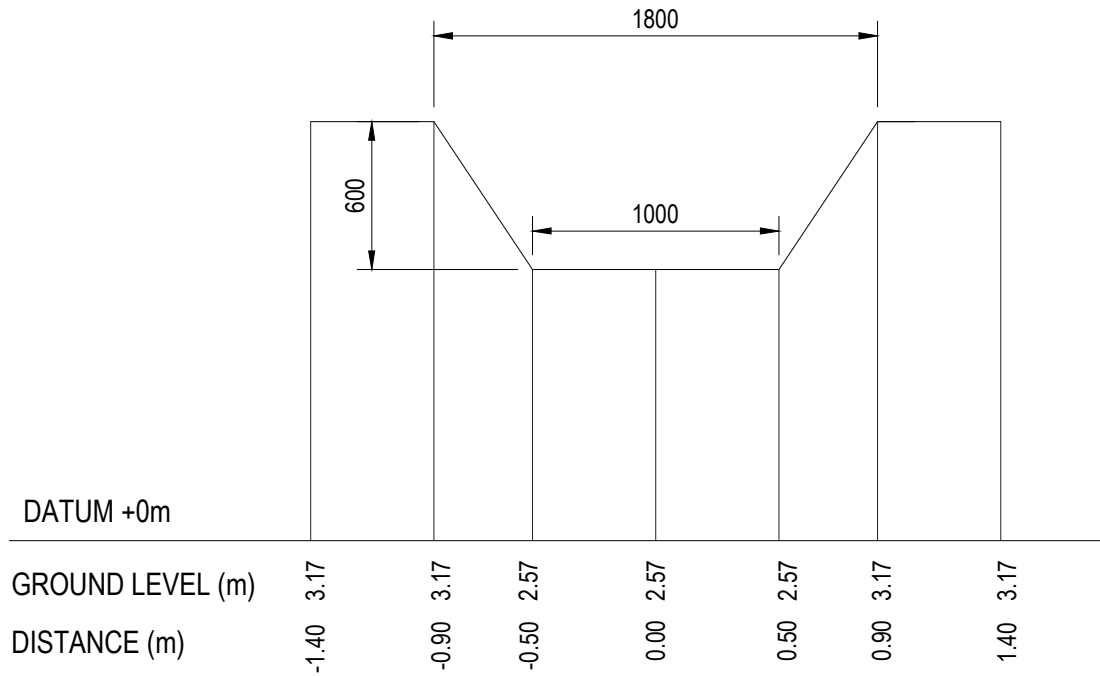


R.C OPEN DRAIN

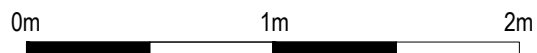


SECTION D46

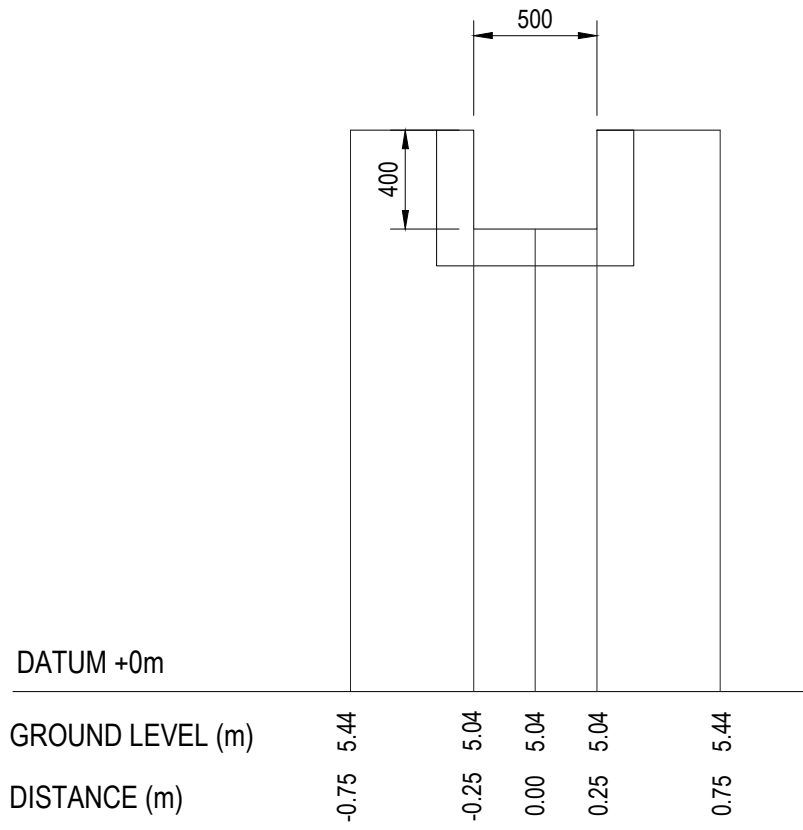
EARTH DRAIN



SECTION D47

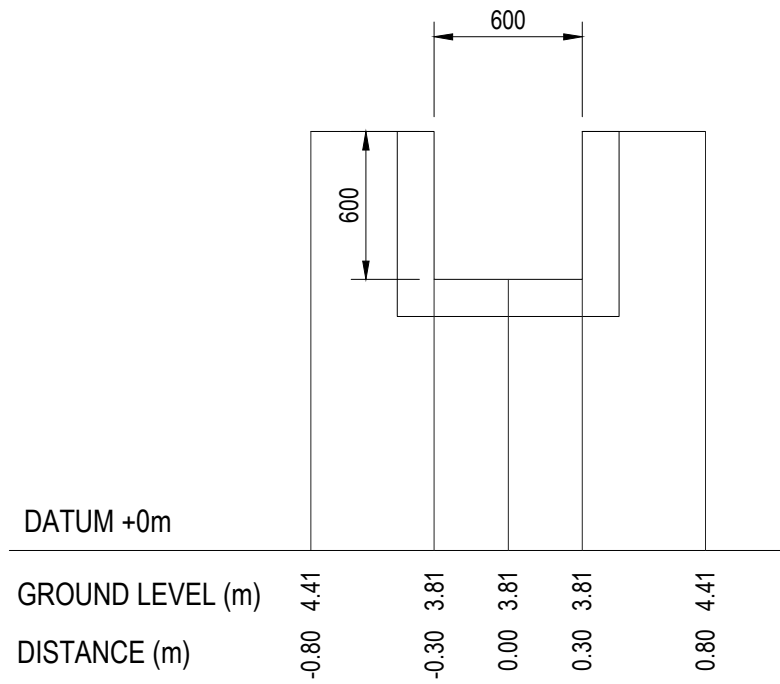


R.C OPEN DRAIN

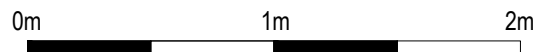


SECTION D48

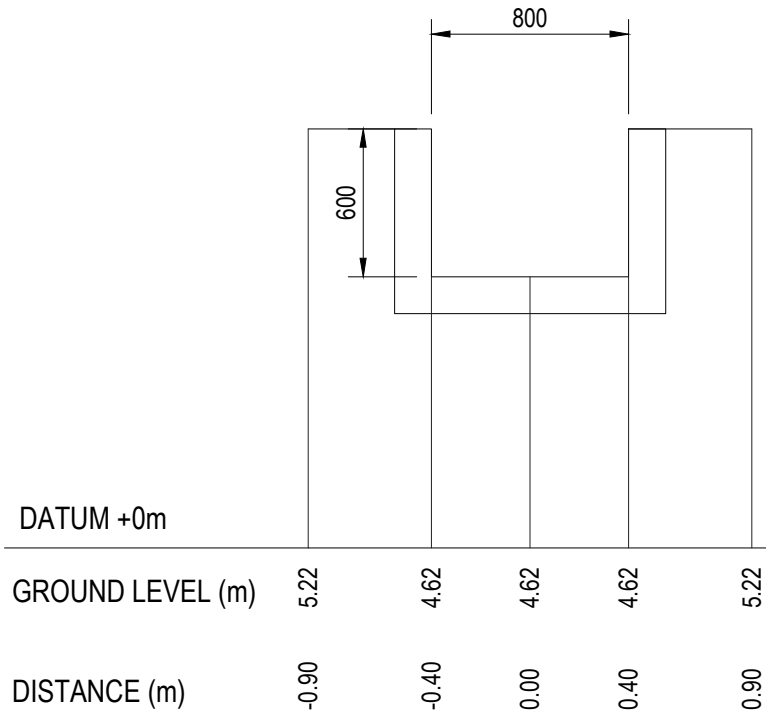
R.C OPEN DRAIN



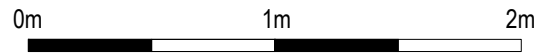
SECTION D49



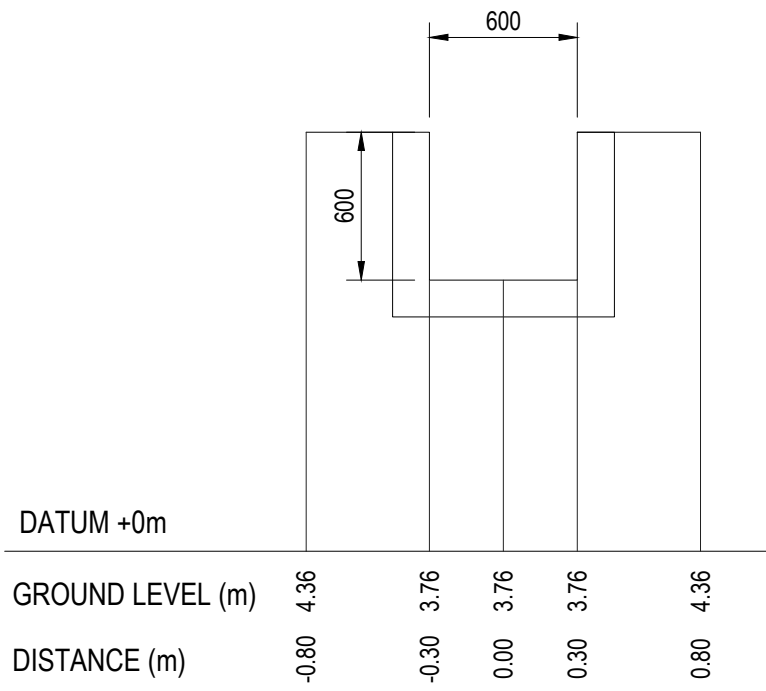
R.C OPEN DRAIN



SECTION D50

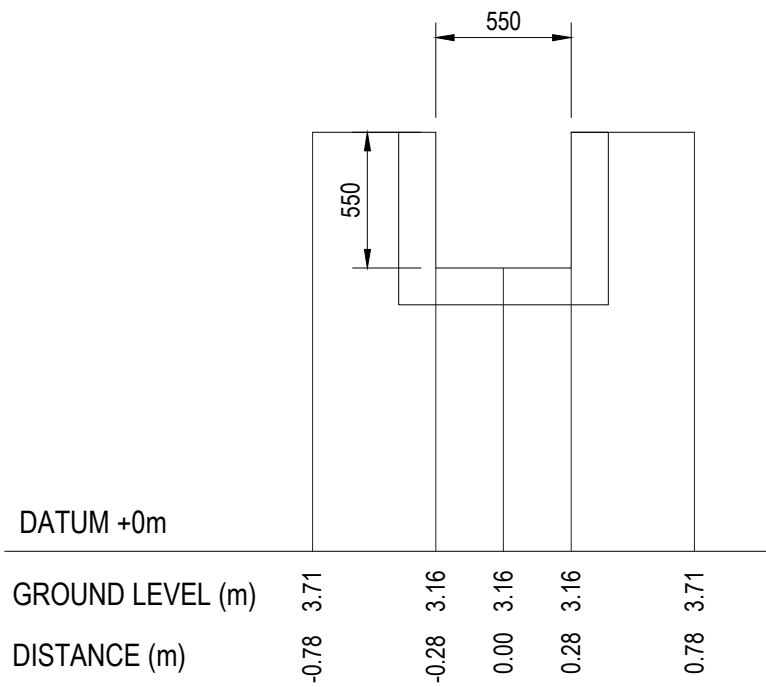


R.C OPEN DRAIN

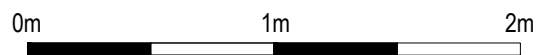


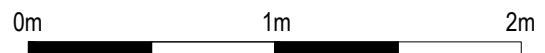
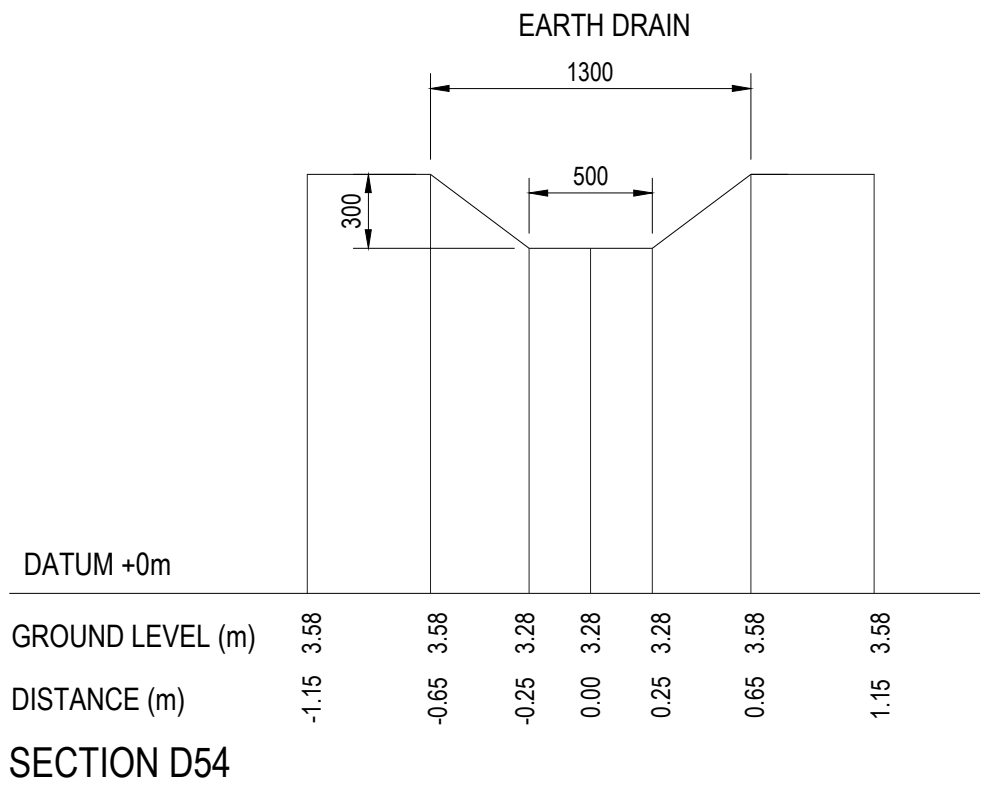
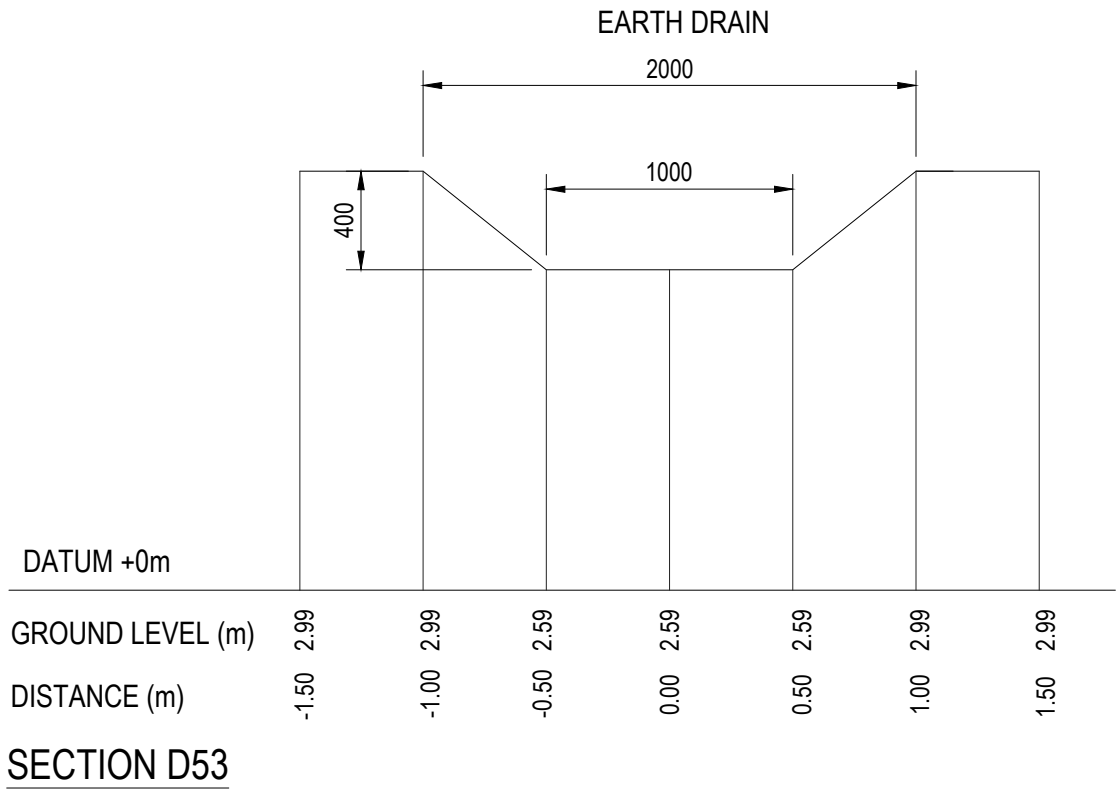
SECTION D51A

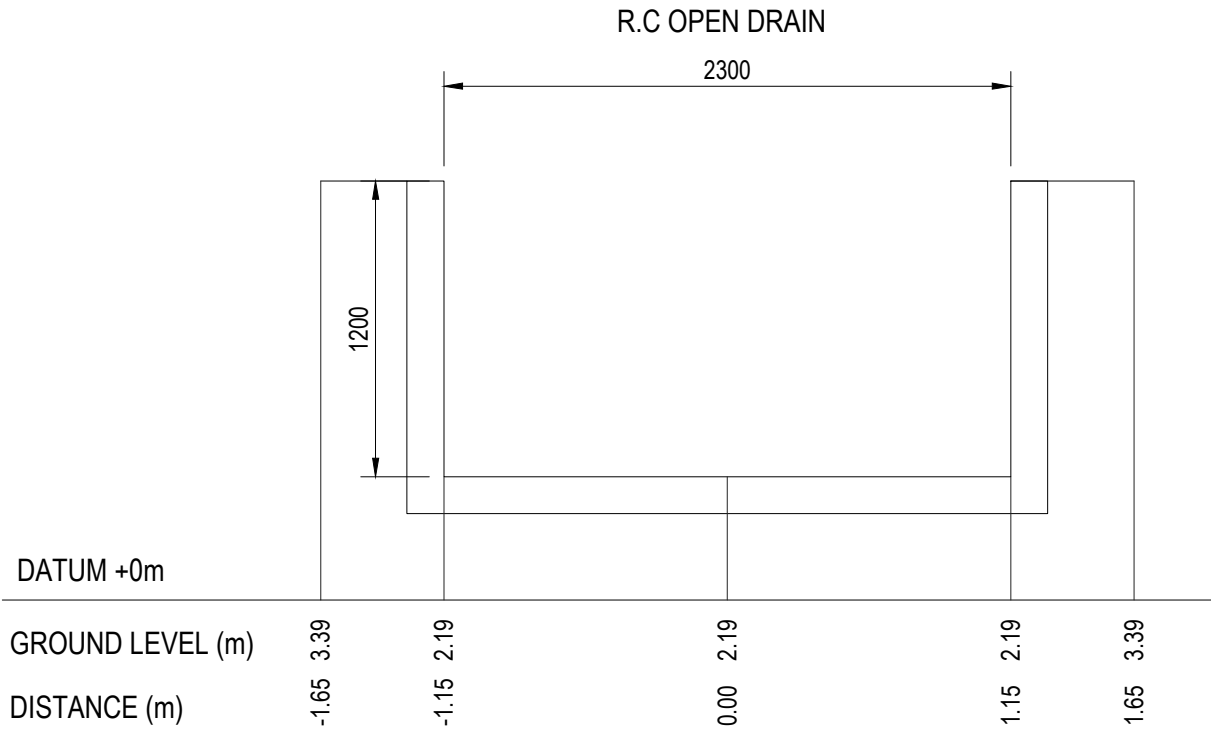
R.C OPEN DRAIN



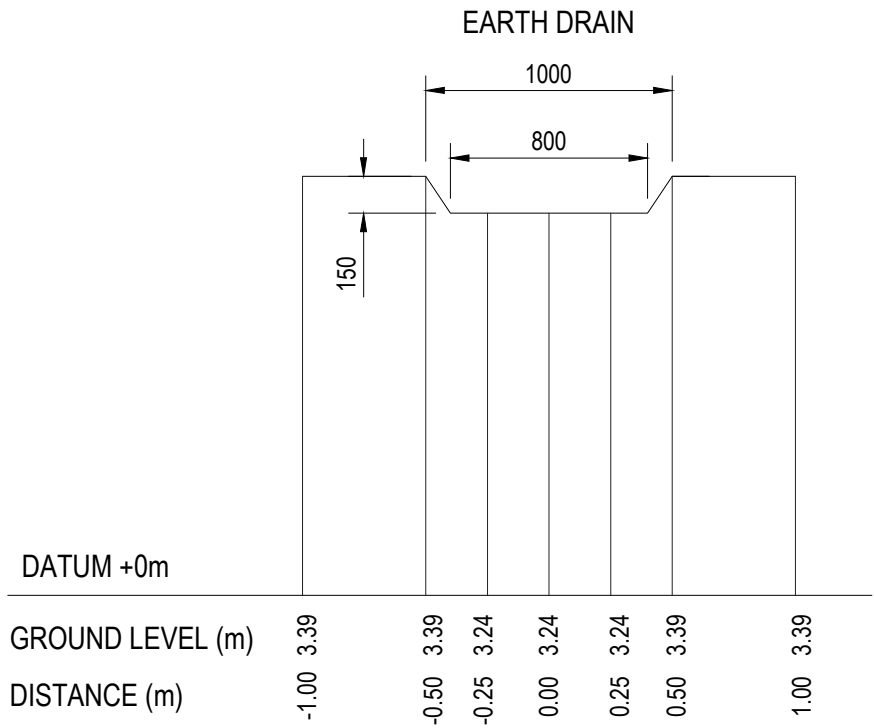
SECTION D52



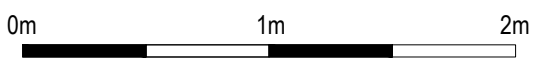




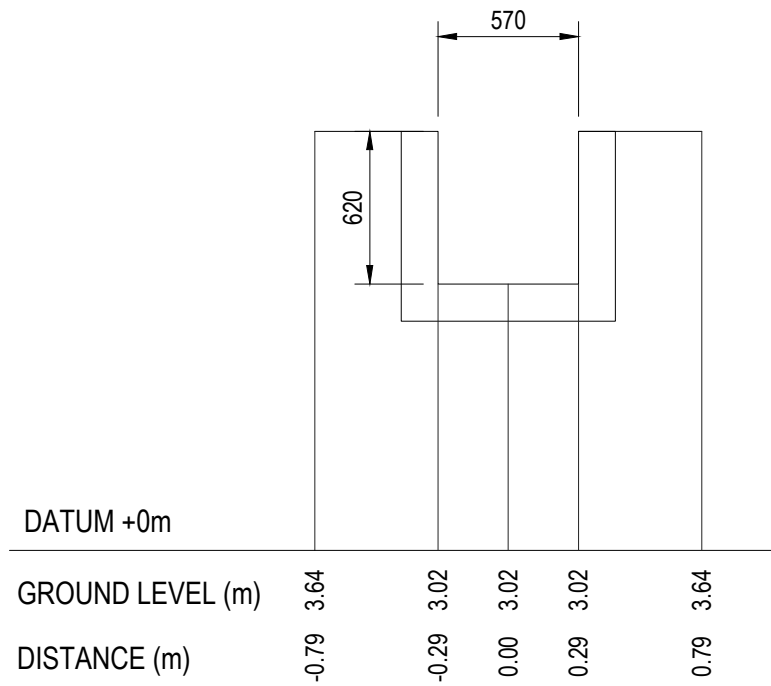
SECTION D55



SECTION D56

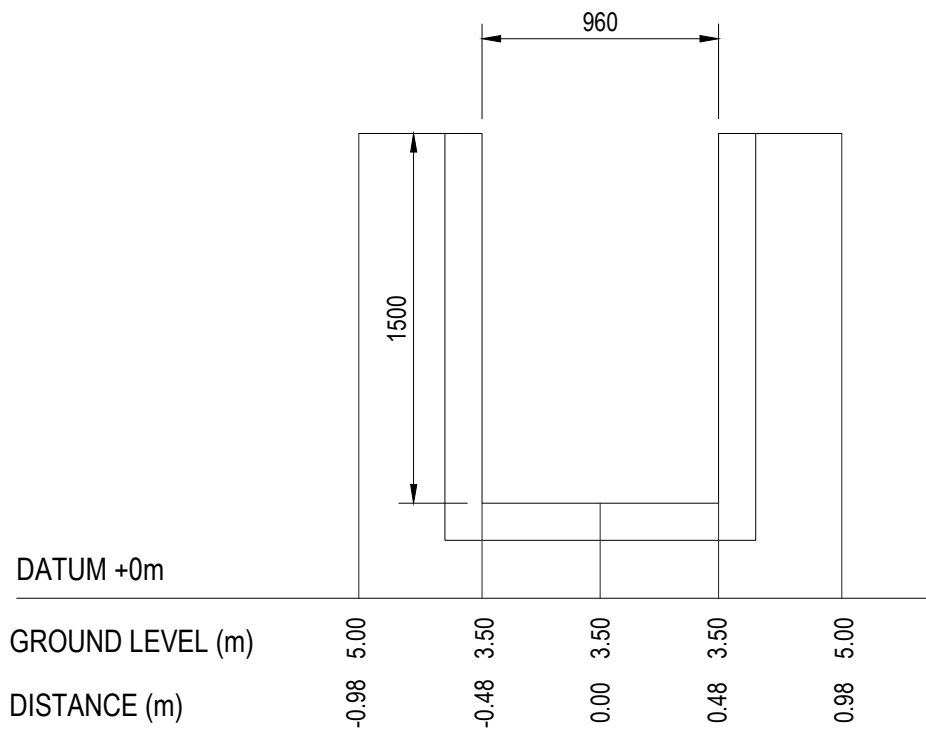


R.C OPEN DRAIN

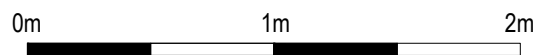


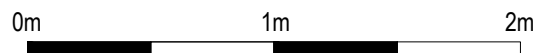
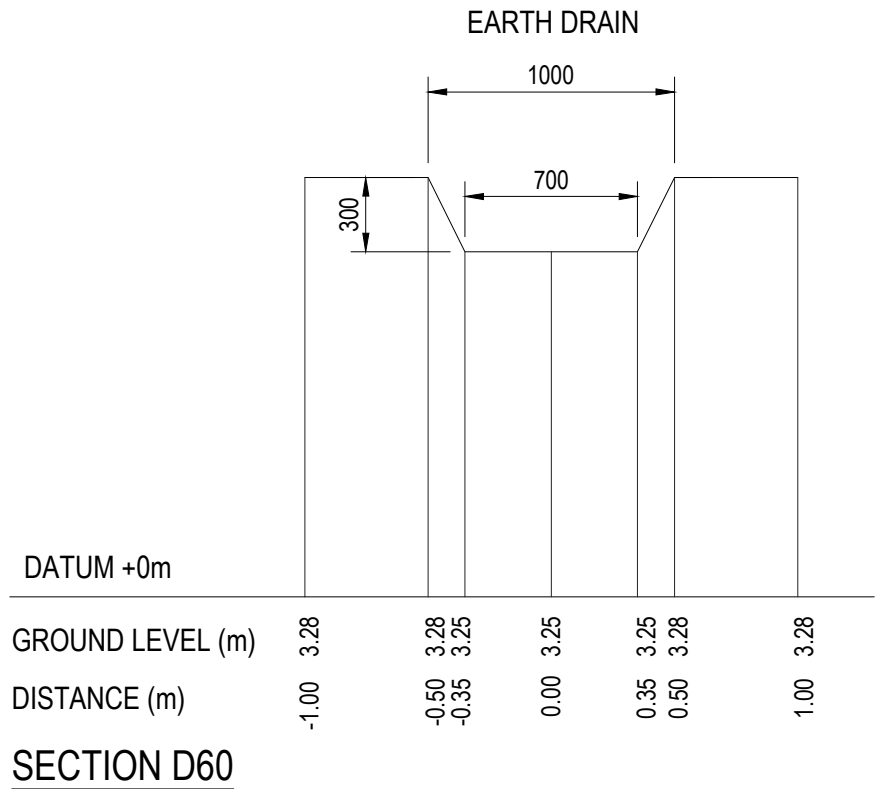
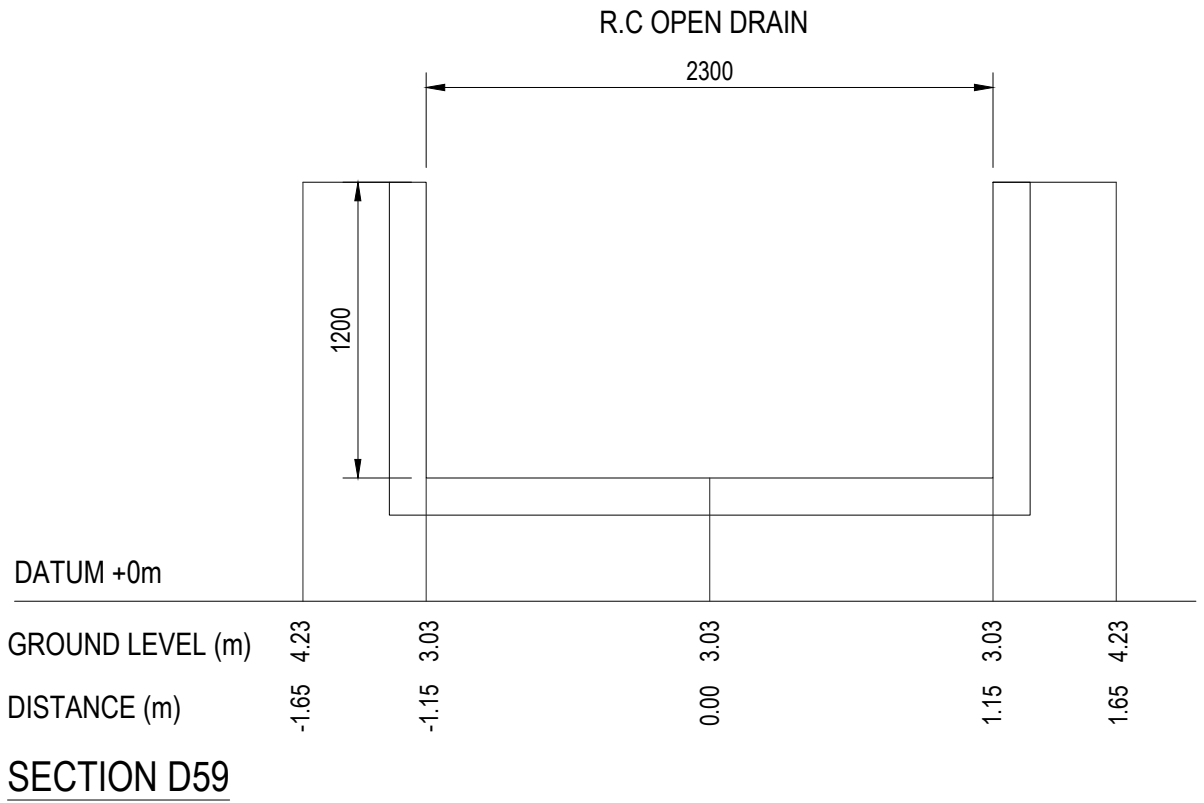
SECTION D57A

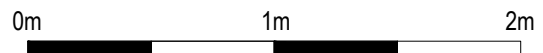
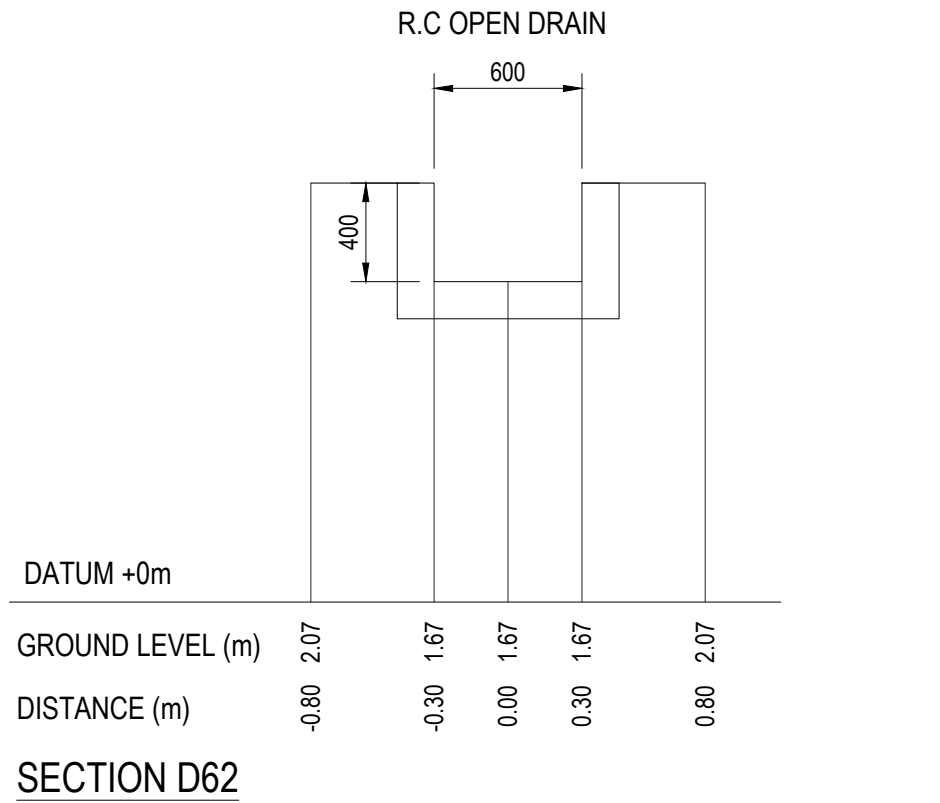
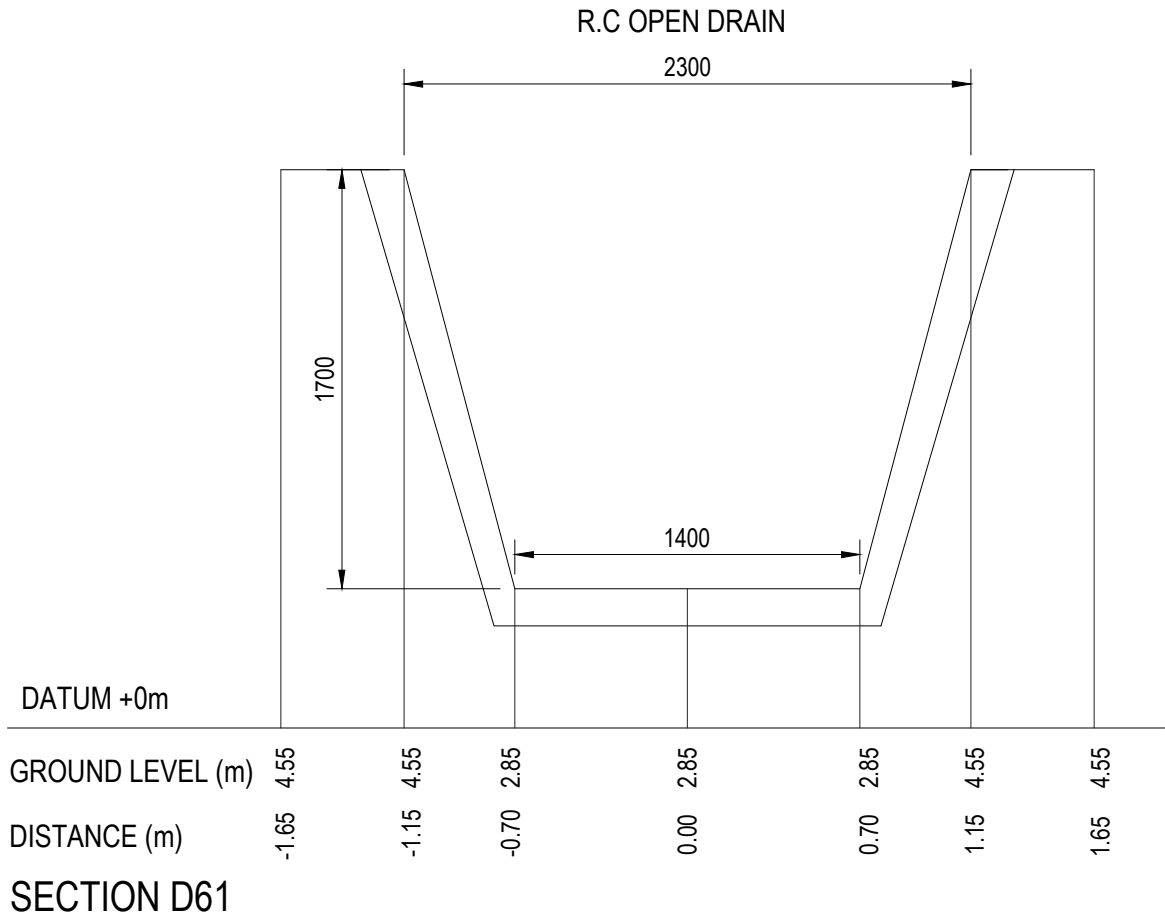
R.C OPEN DRAIN



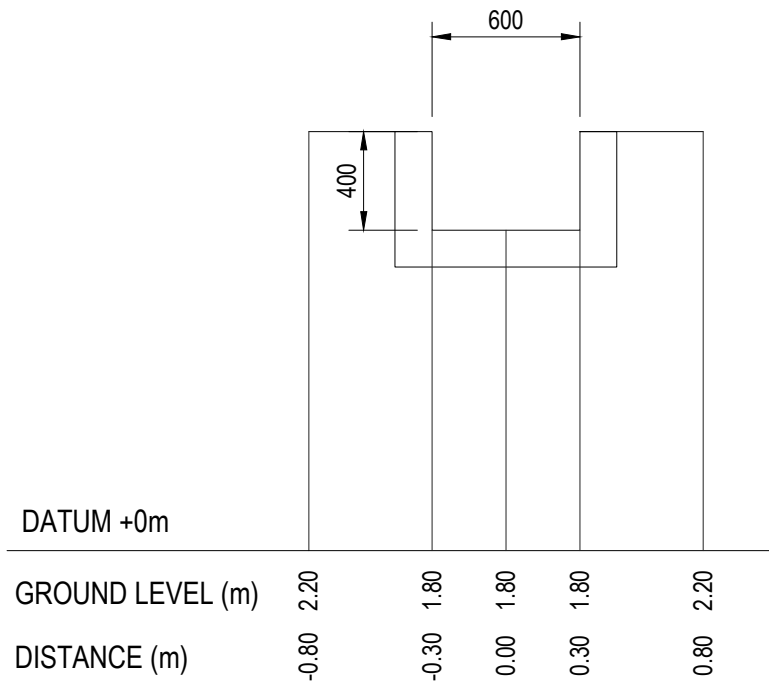
SECTION D58





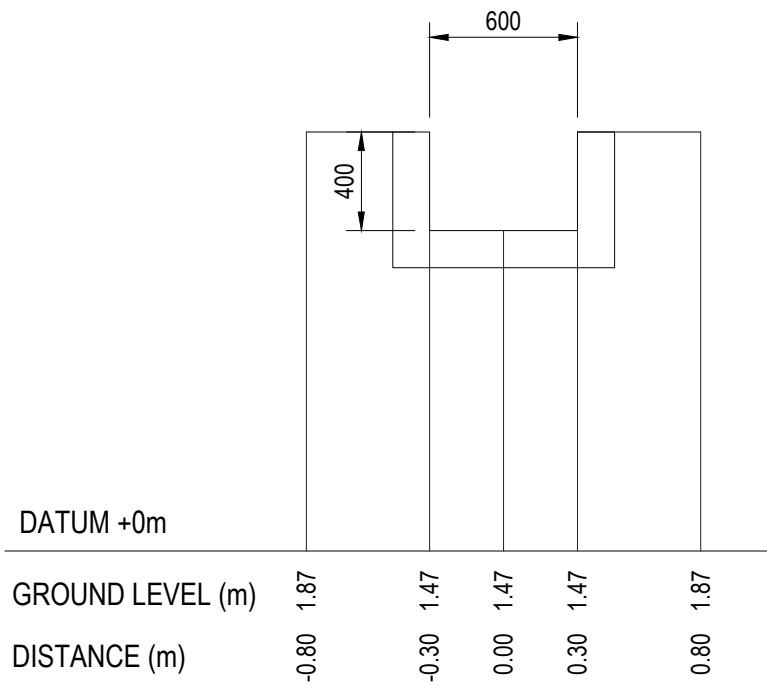


R.C OPEN DRAIN

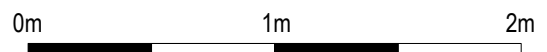


SECTION D63

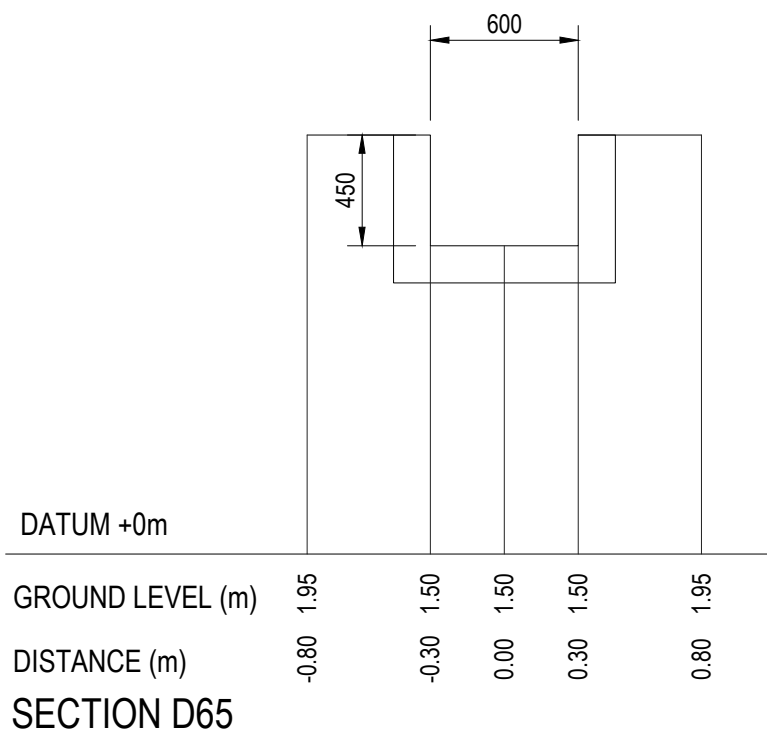
R.C OPEN DRAIN



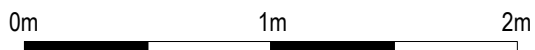
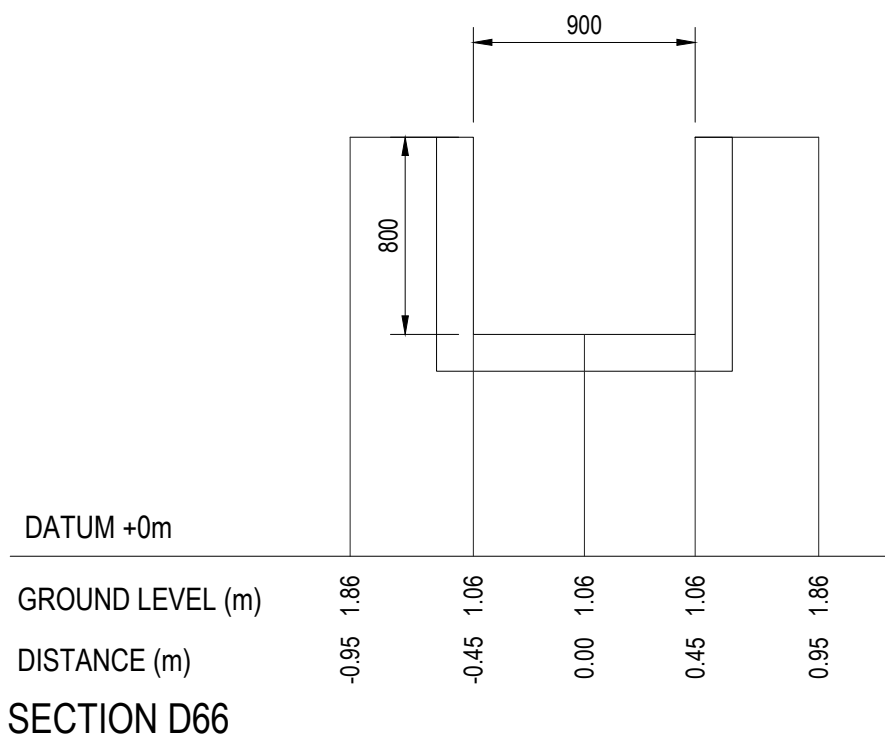
SECTION D64



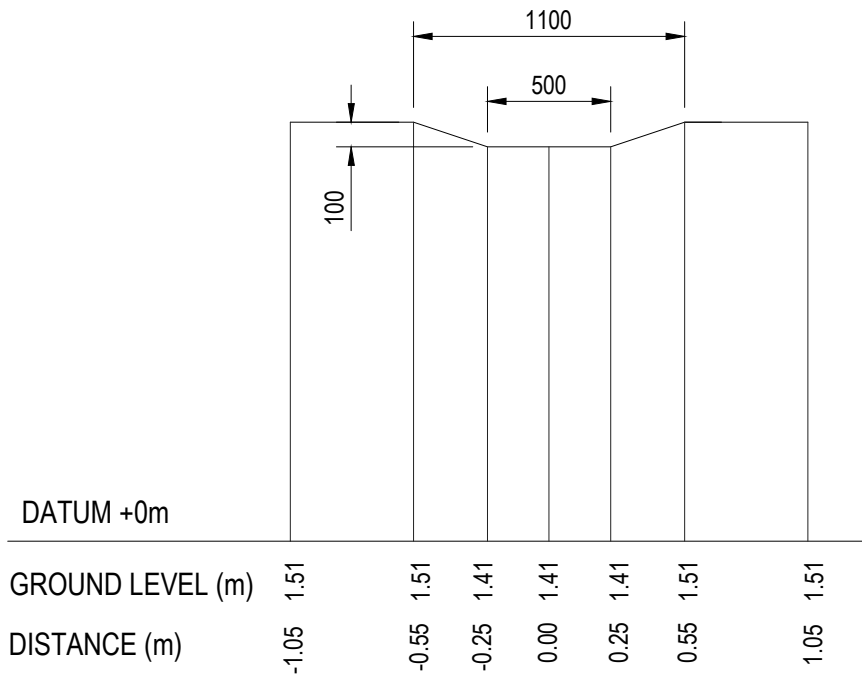
R.C OPEN DRAIN



R.C OPEN DRAIN

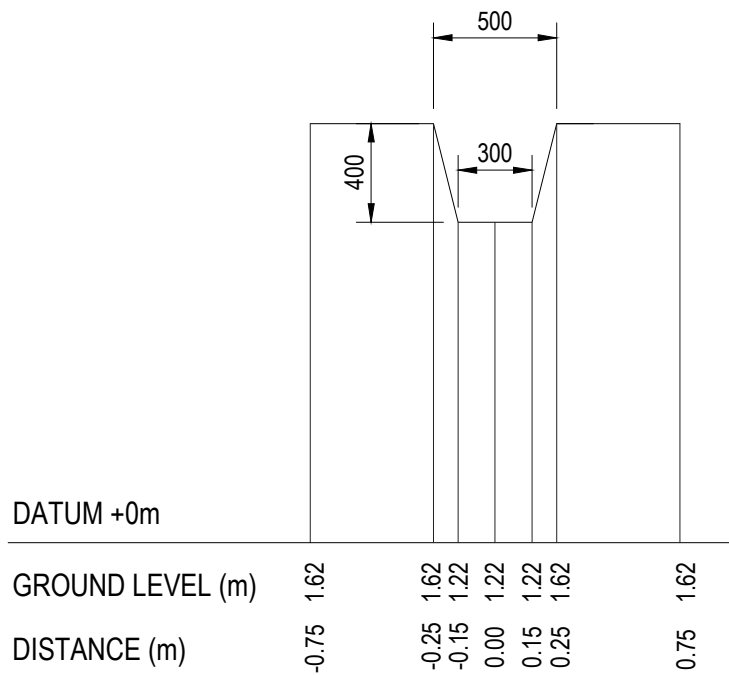


EARTH DRAIN

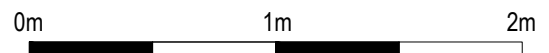


SECTION D67

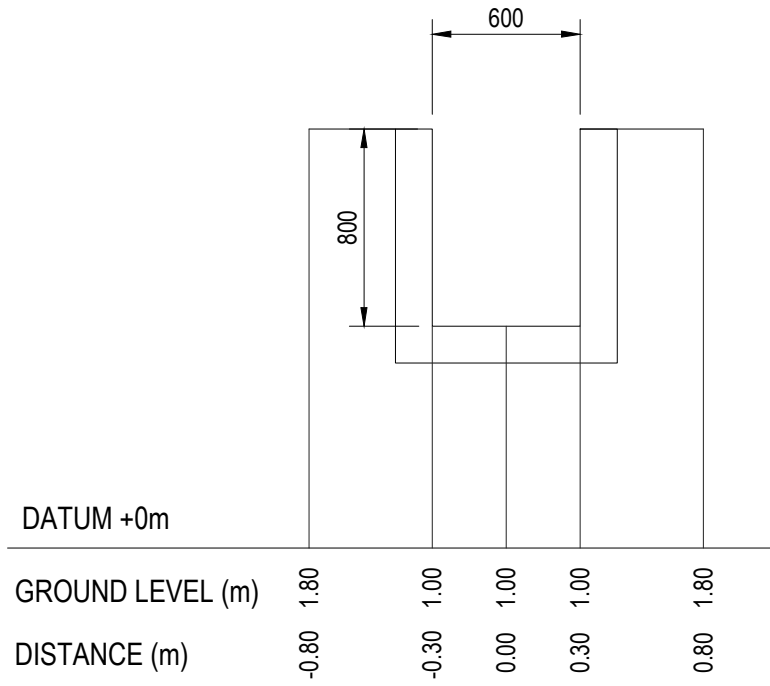
EARTH DRAIN



SECTION D68

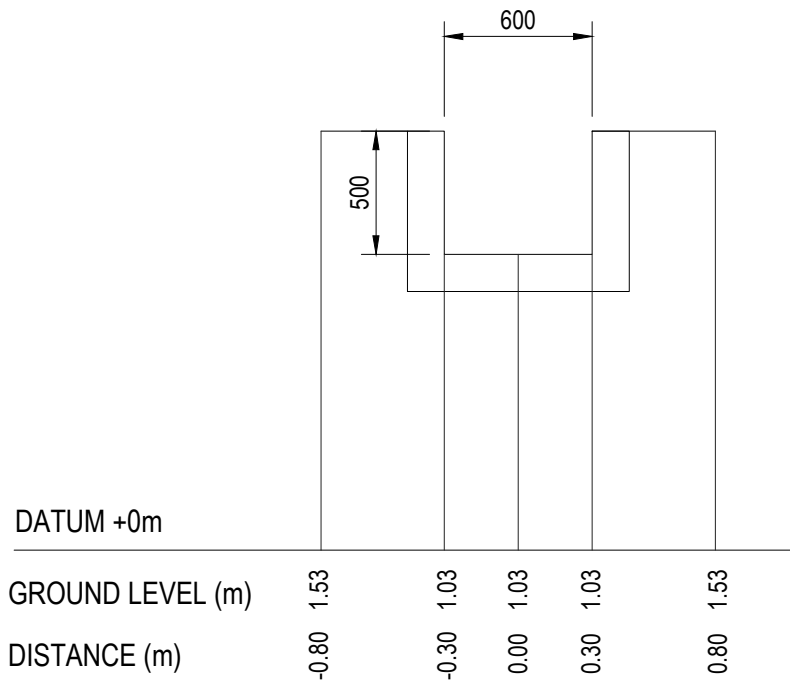


R.C OPEN DRAIN

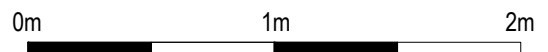


SECTION D69

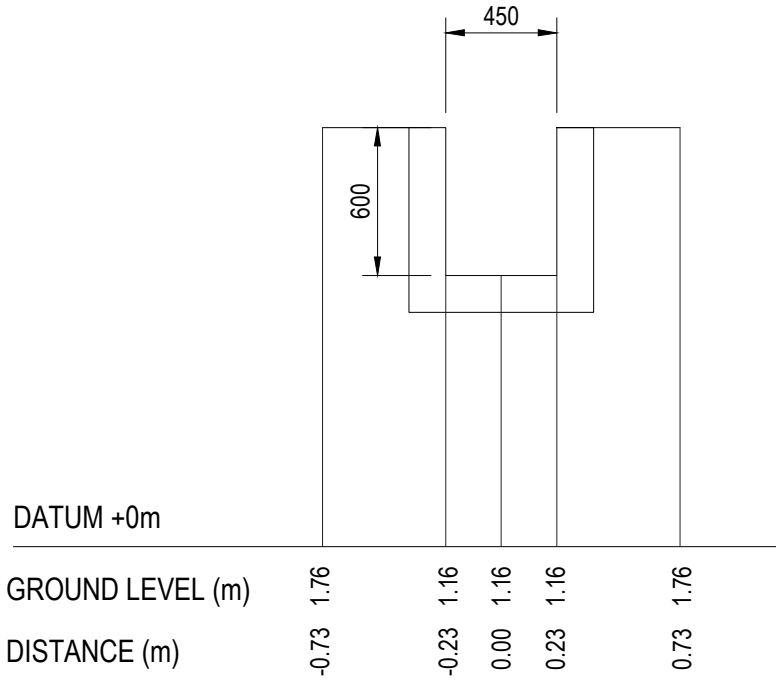
R.C OPEN DRAIN



SECTION D70

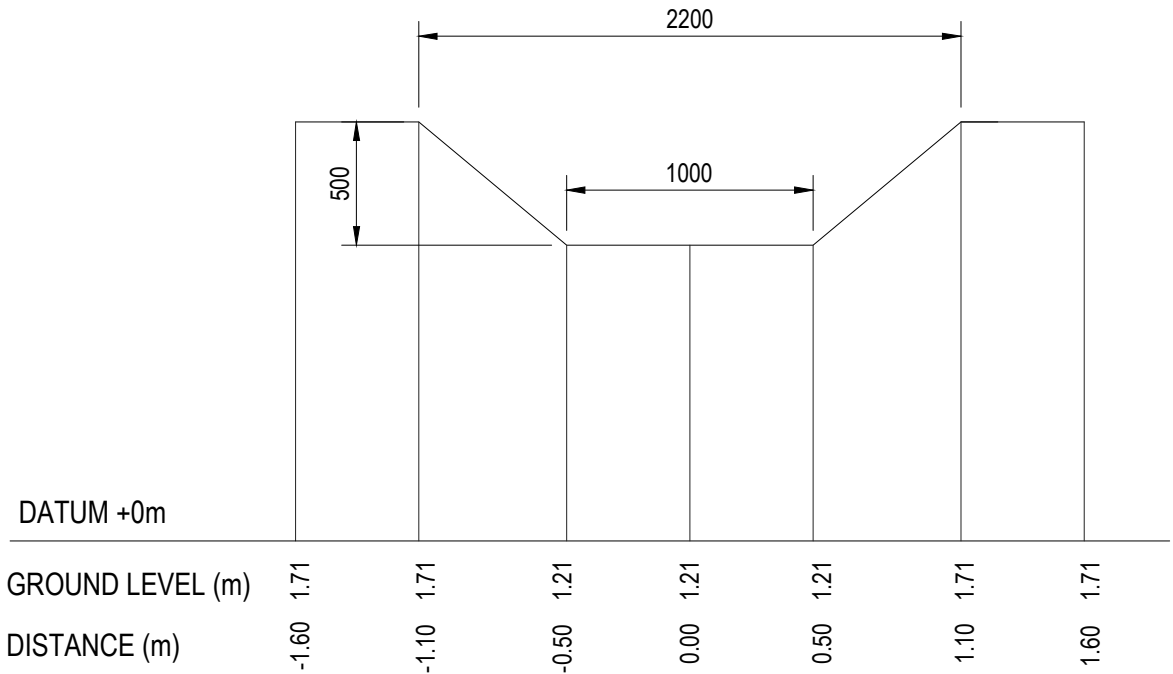


R.C OPEN DRAIN

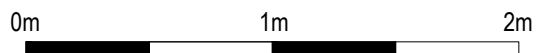


SECTION D71

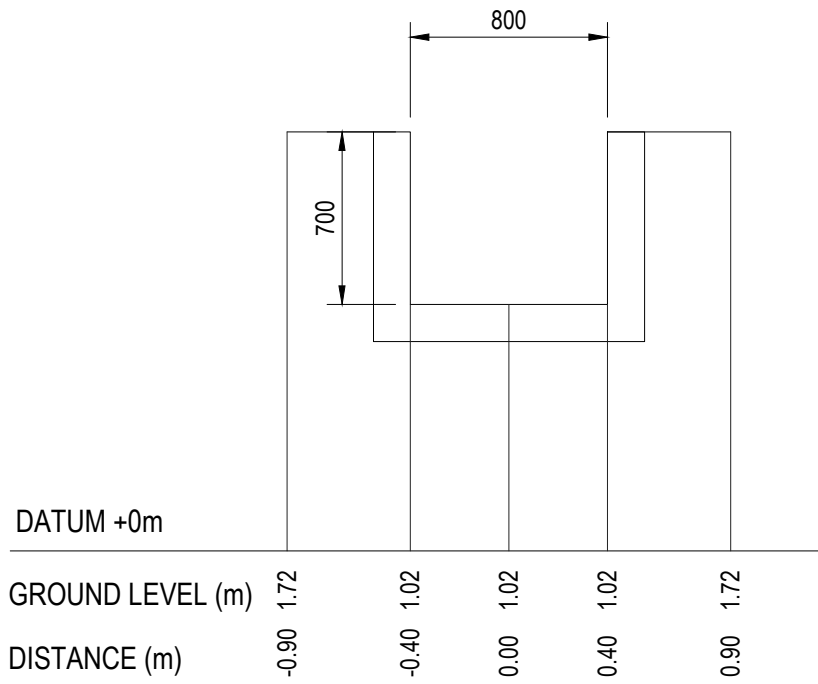
EARTH DRAIN



SECTION D72

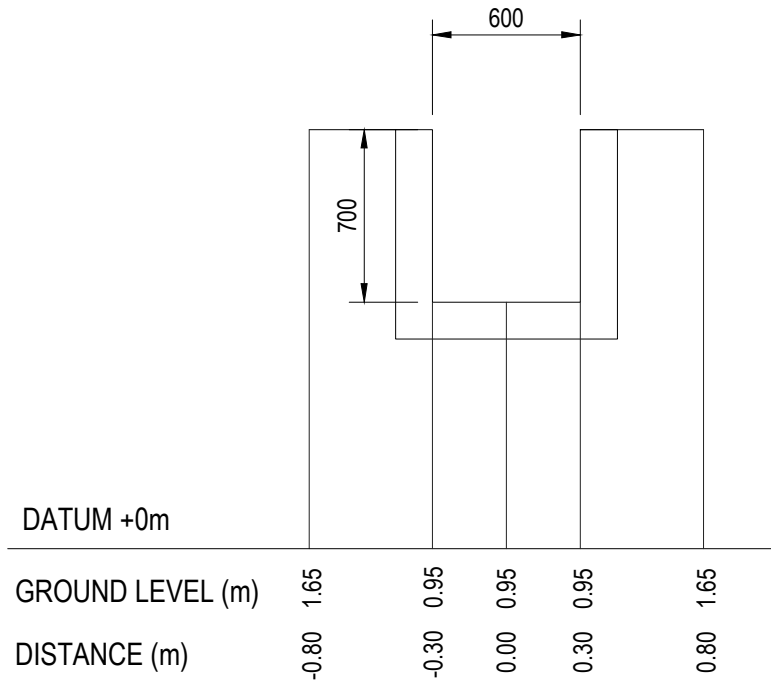


R.C OPEN DRAIN

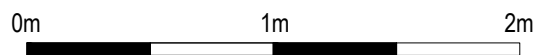


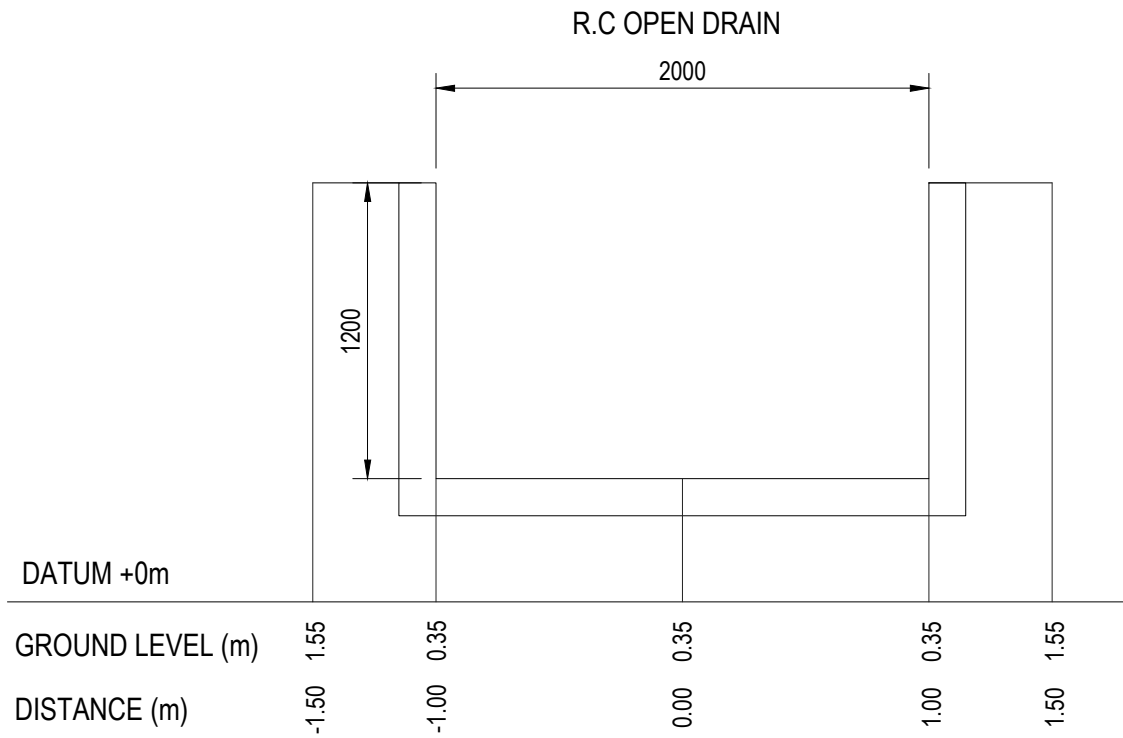
SECTION D73

R.C OPEN DRAIN

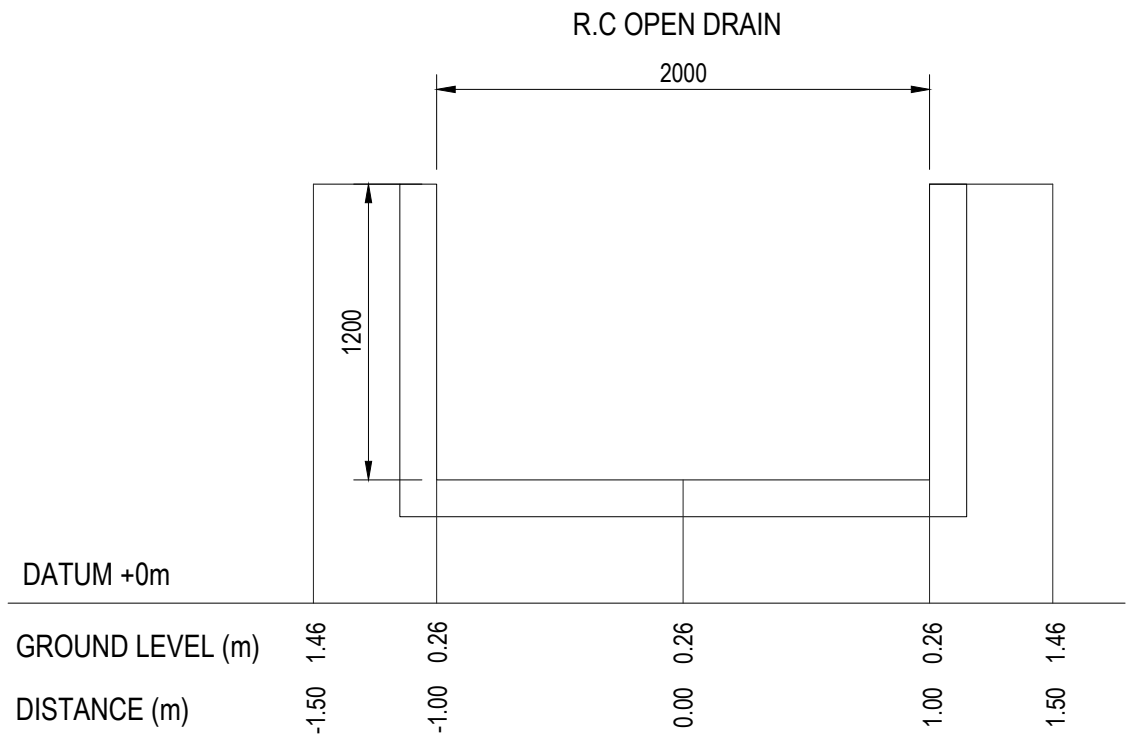


SECTION D74

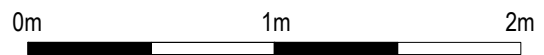




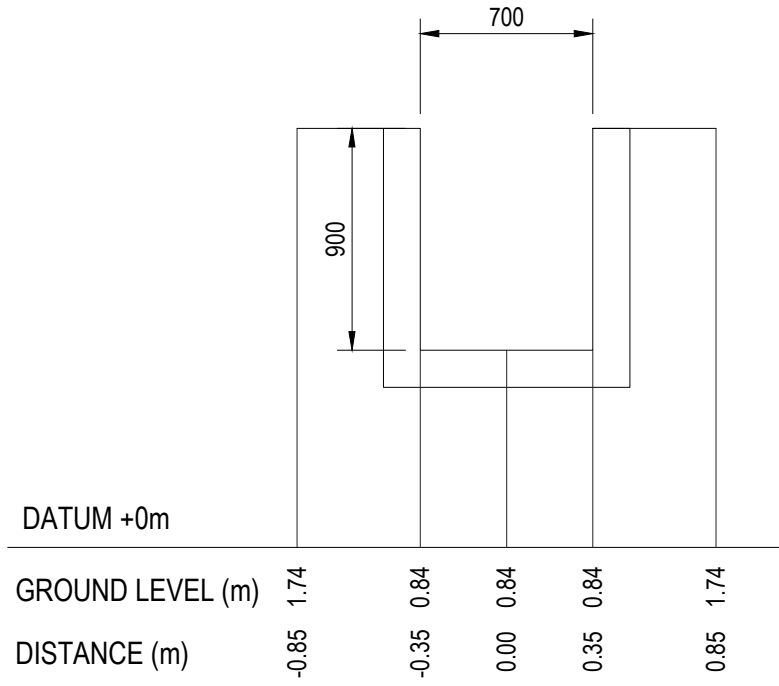
SECTION D75



SECTION D76

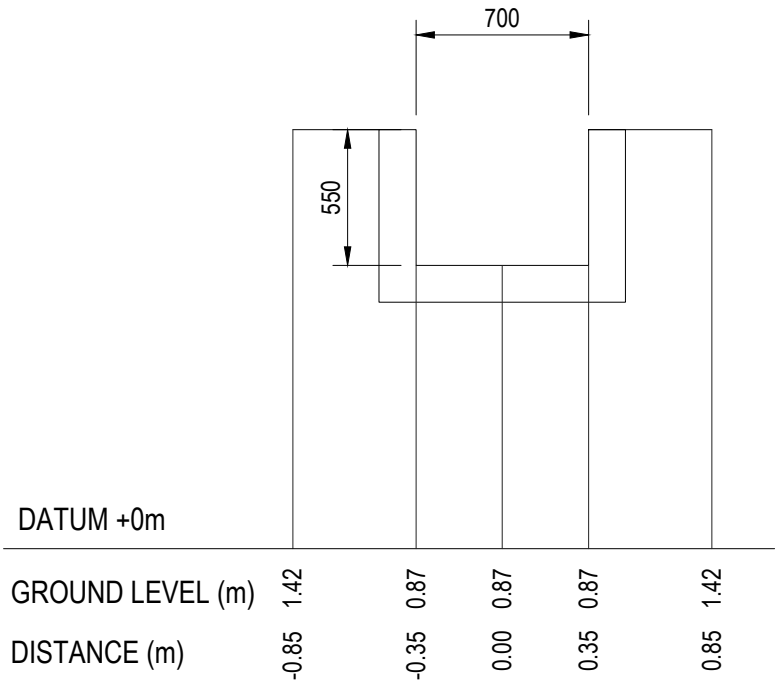


R.C OPEN DRAIN

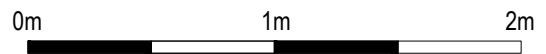


SECTION D77

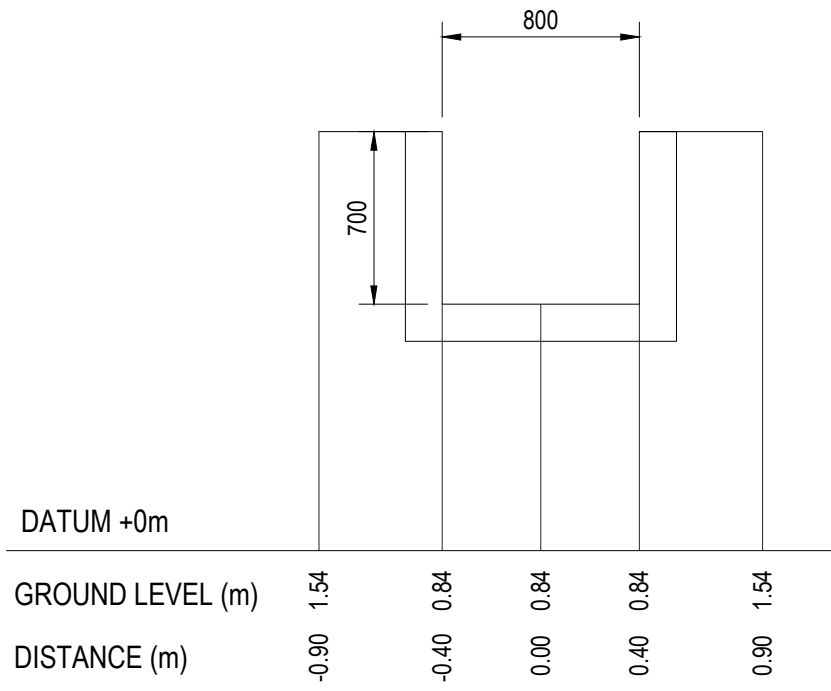
R.C OPEN DRAIN



SECTION D78

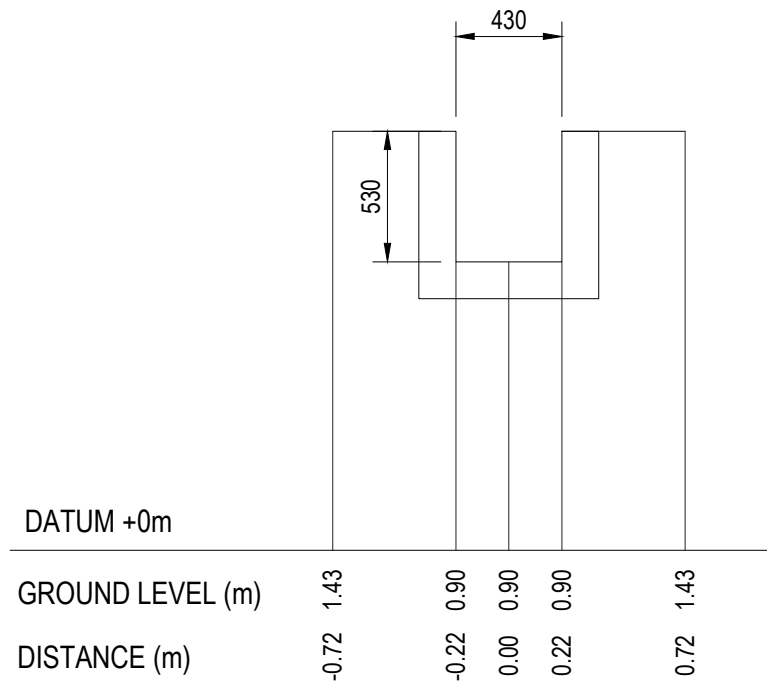


R.C OPEN DRAIN



SECTION D79

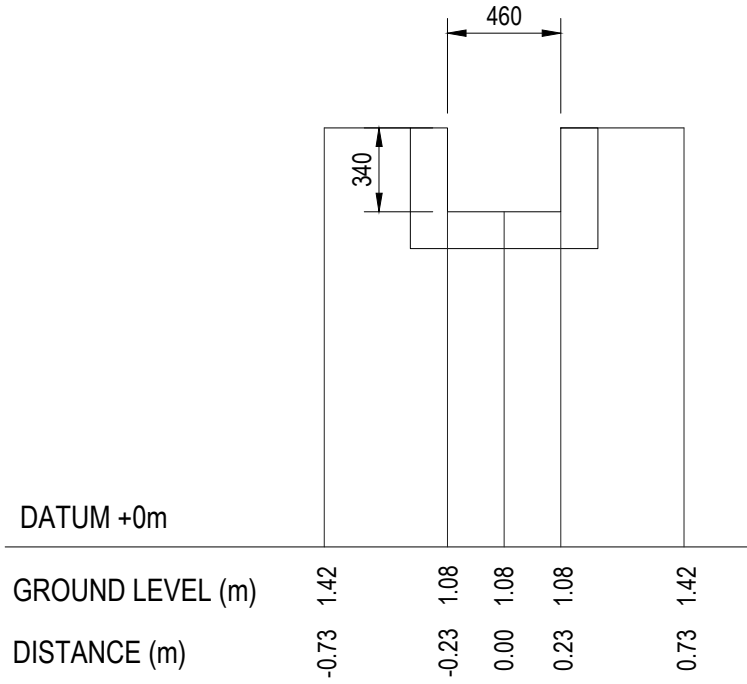
R.C OPEN DRAIN



SECTION D80

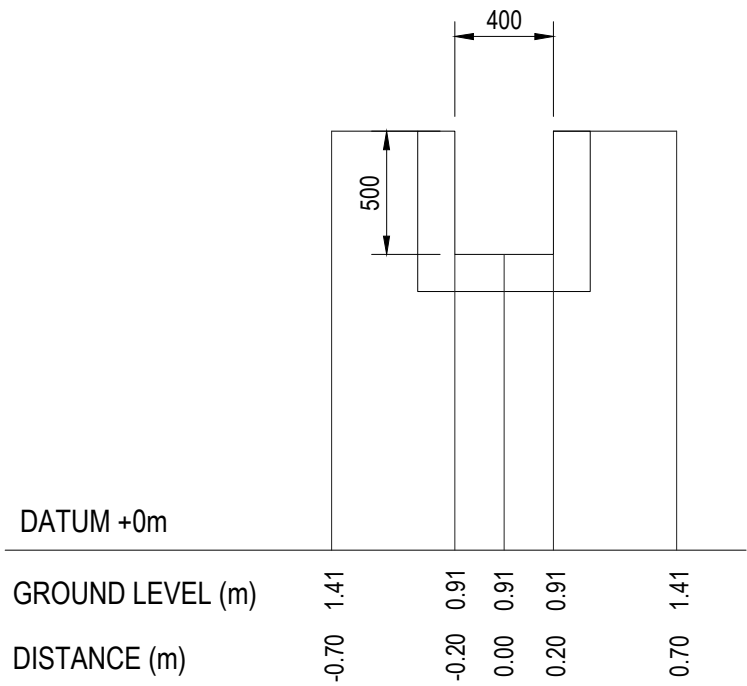


R.C OPEN DRAIN

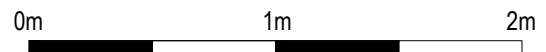


SECTION D81

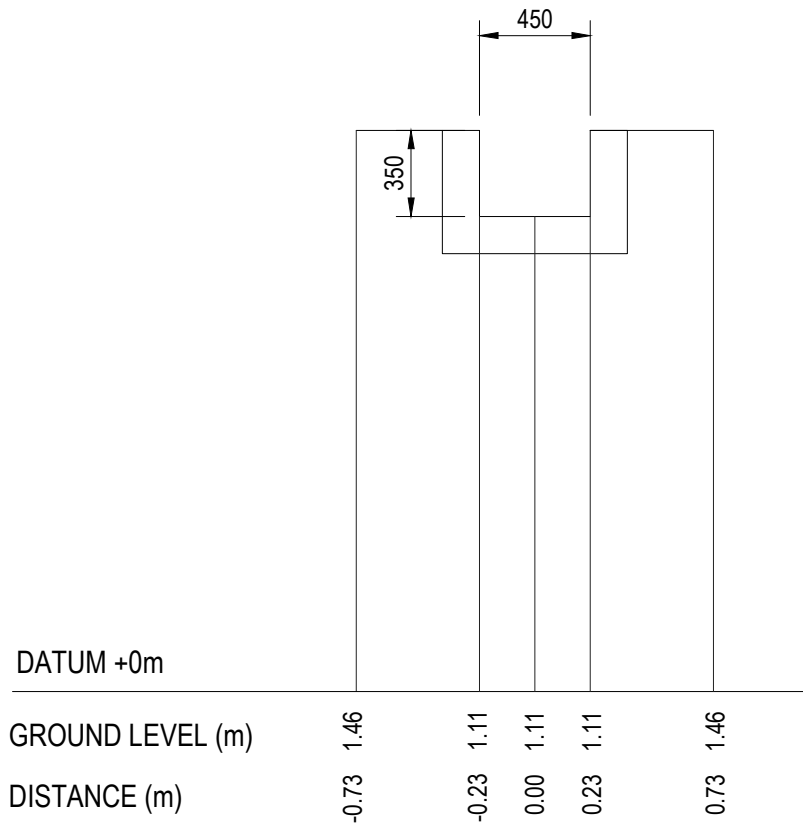
R.C OPEN DRAIN



SECTION D82

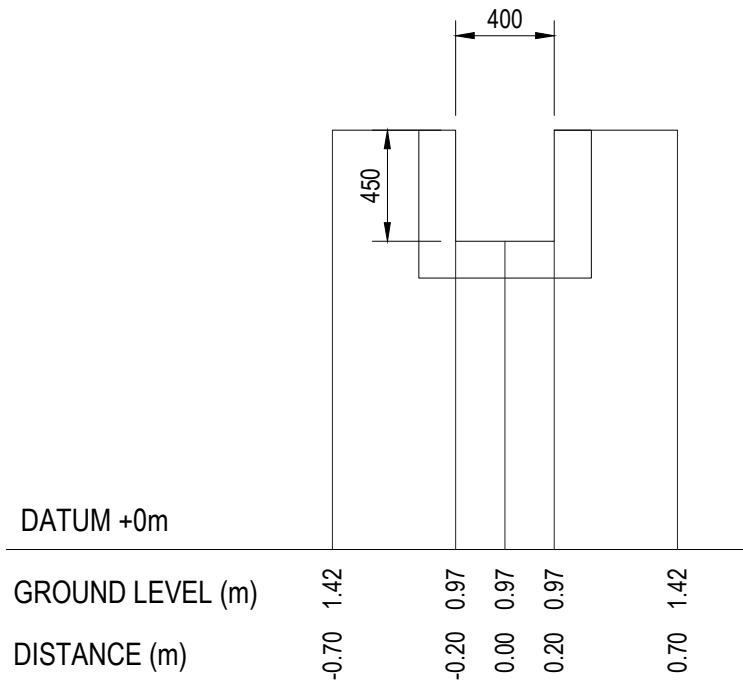


R.C OPEN DRAIN

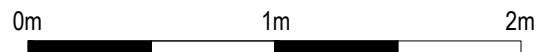


SECTION D83

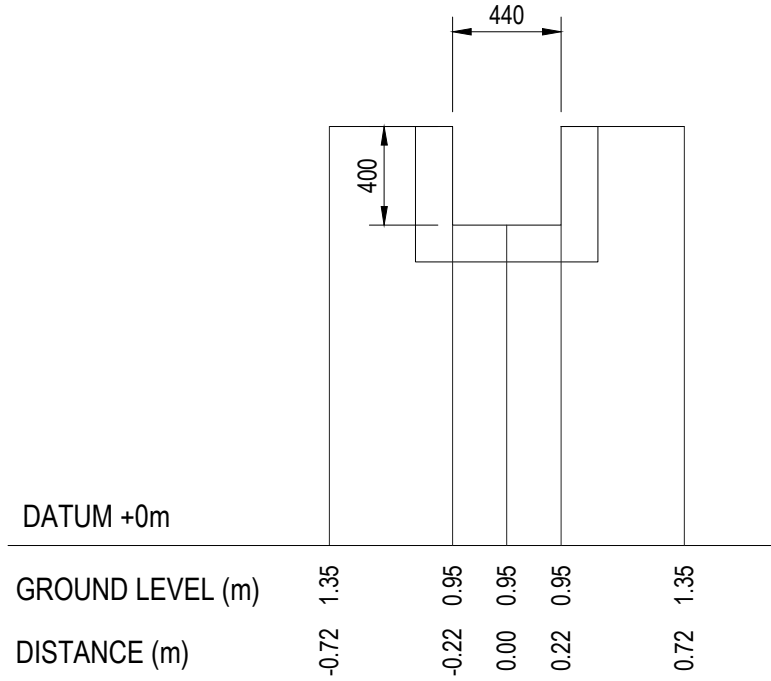
R.C OPEN DRAIN



SECTION D84

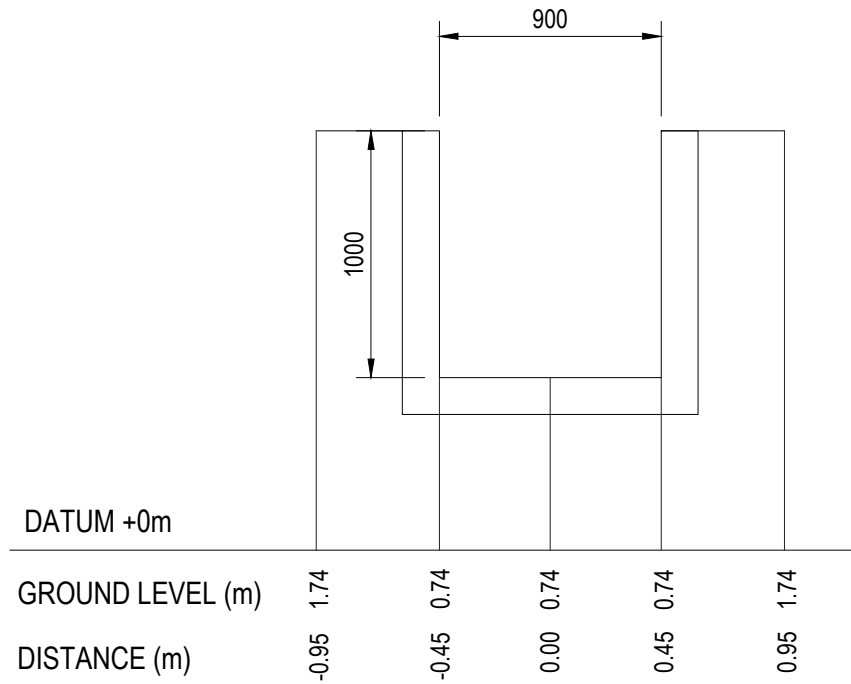


R.C OPEN DRAIN

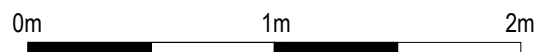


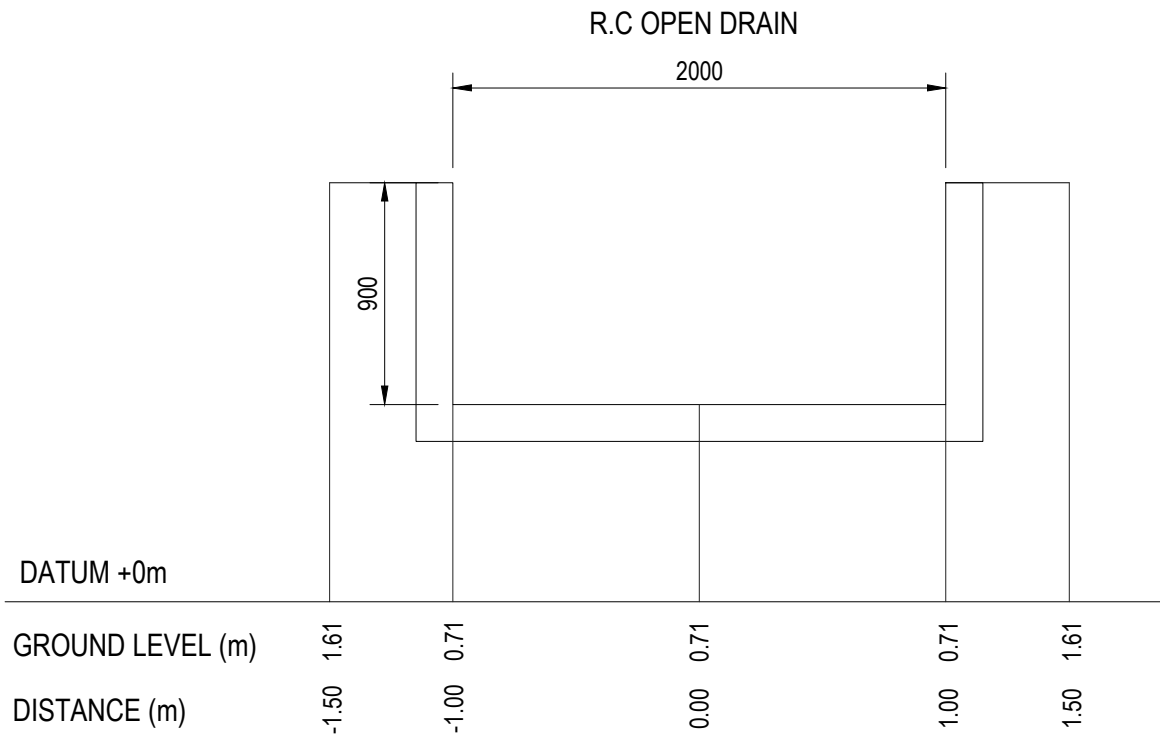
SECTION D85

R.C OPEN DRAIN

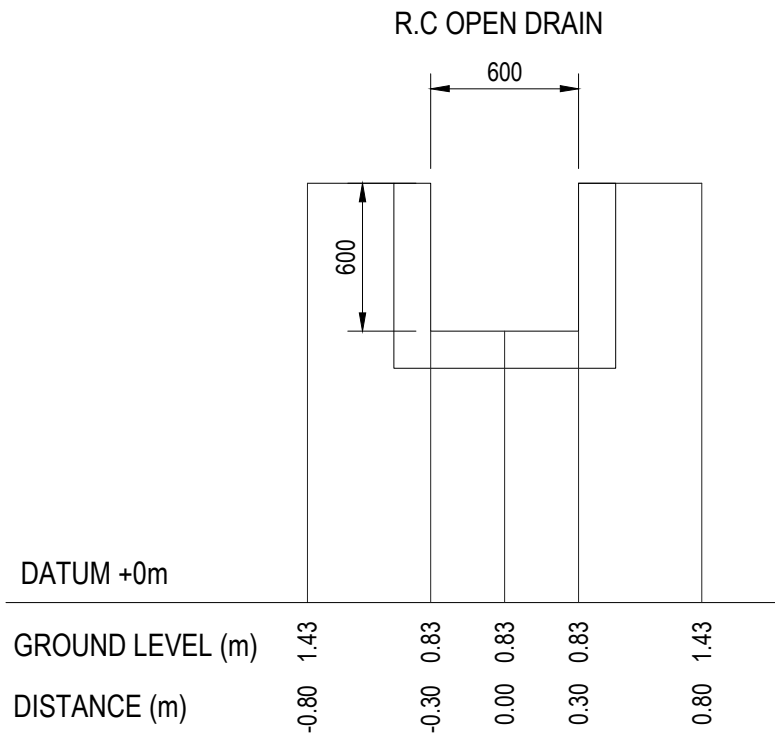


SECTION D86

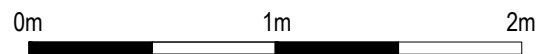




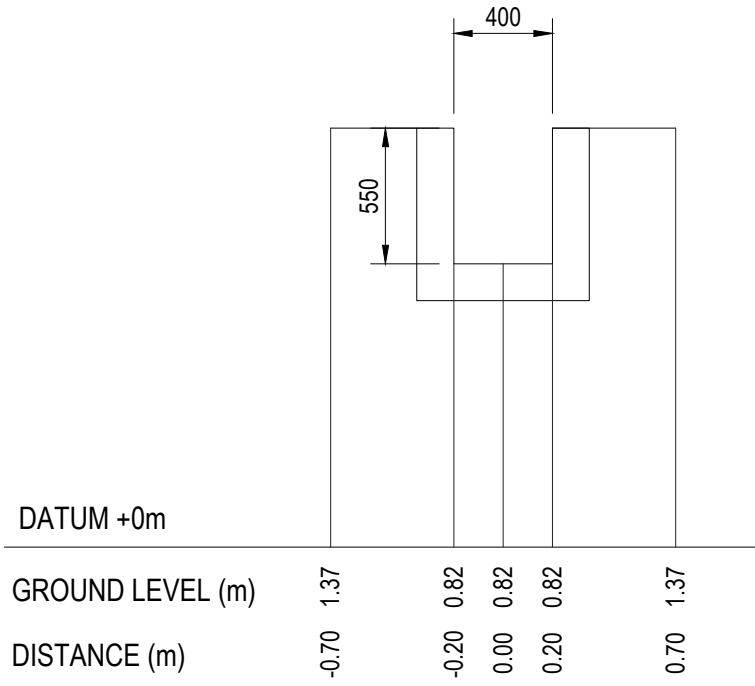
SECTION D87



SECTION D88

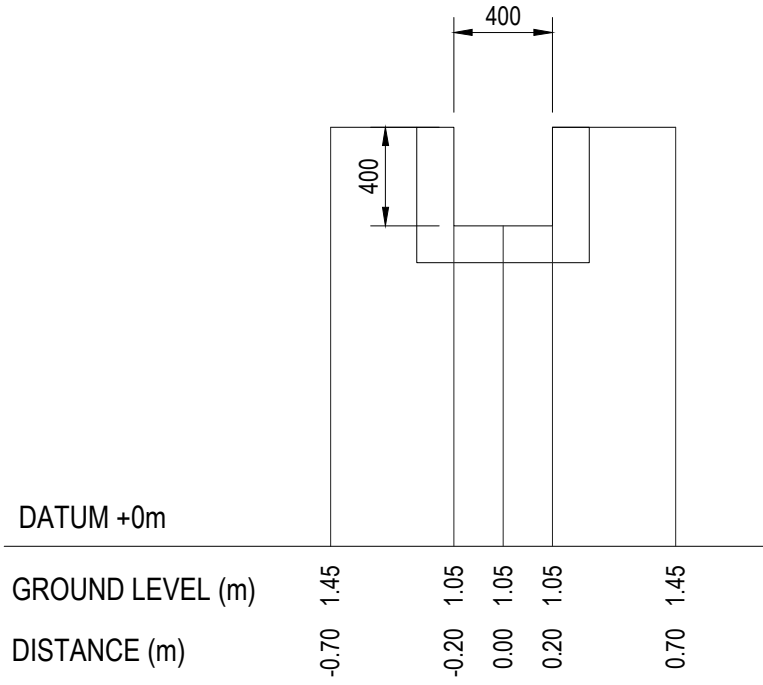


R.C OPEN DRAIN

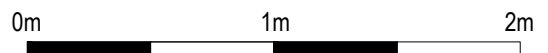


SECTION D89

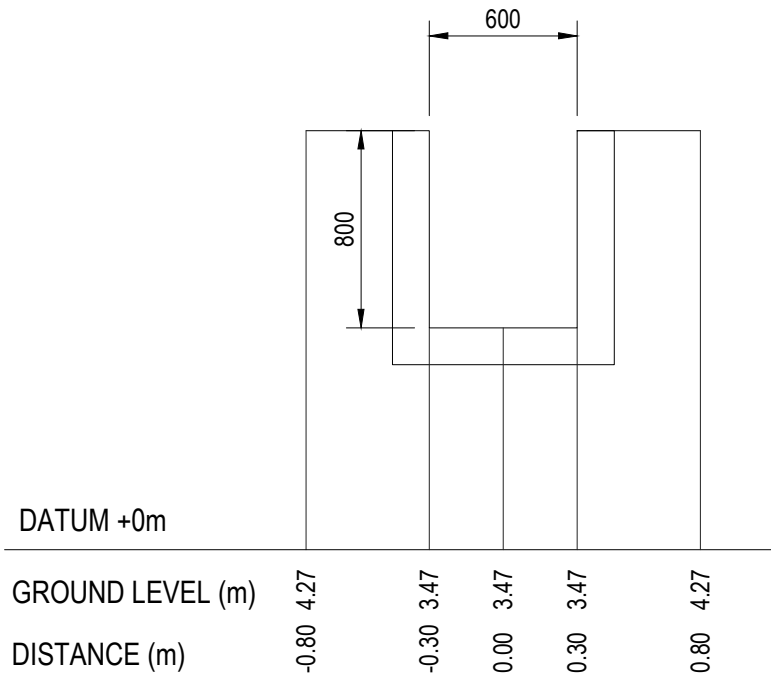
R.C OPEN DRAIN



SECTION D90

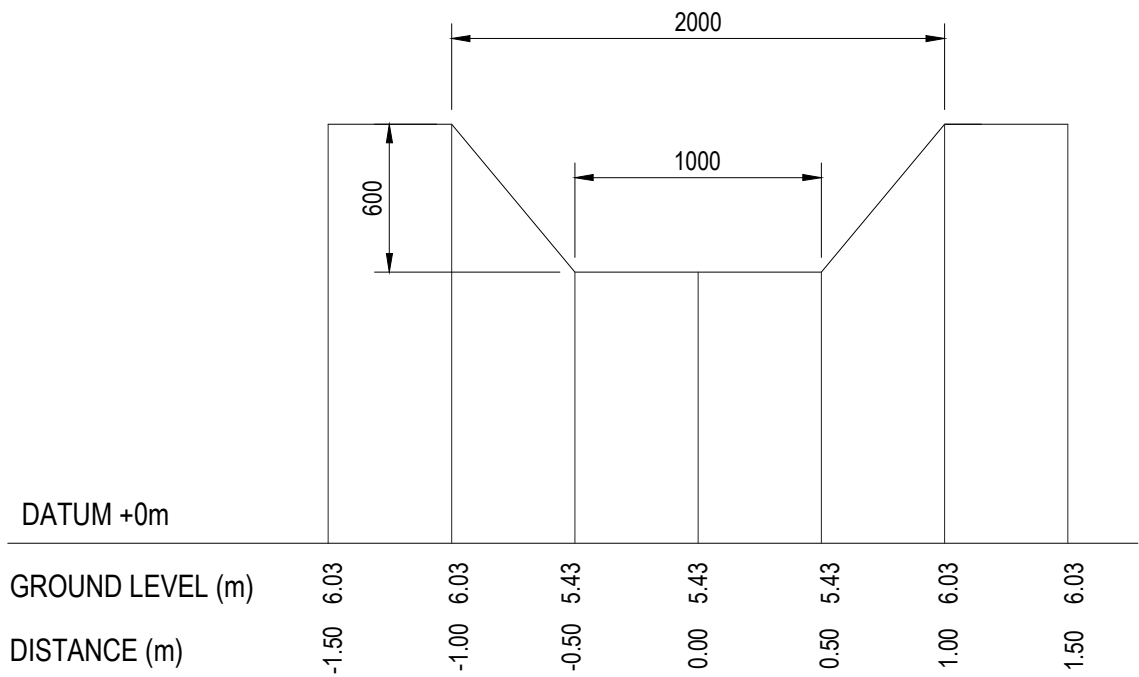


R.C OPEN DRAIN



SECTION D91

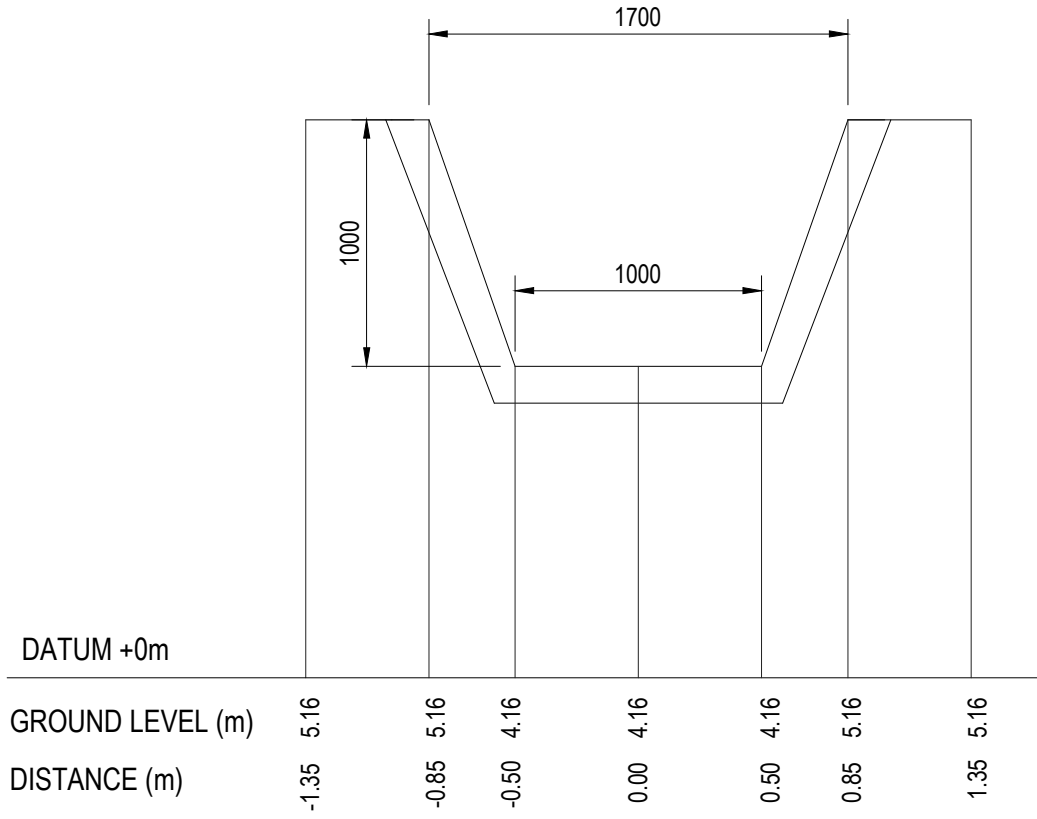
EARTH DRAIN



SECTION D92

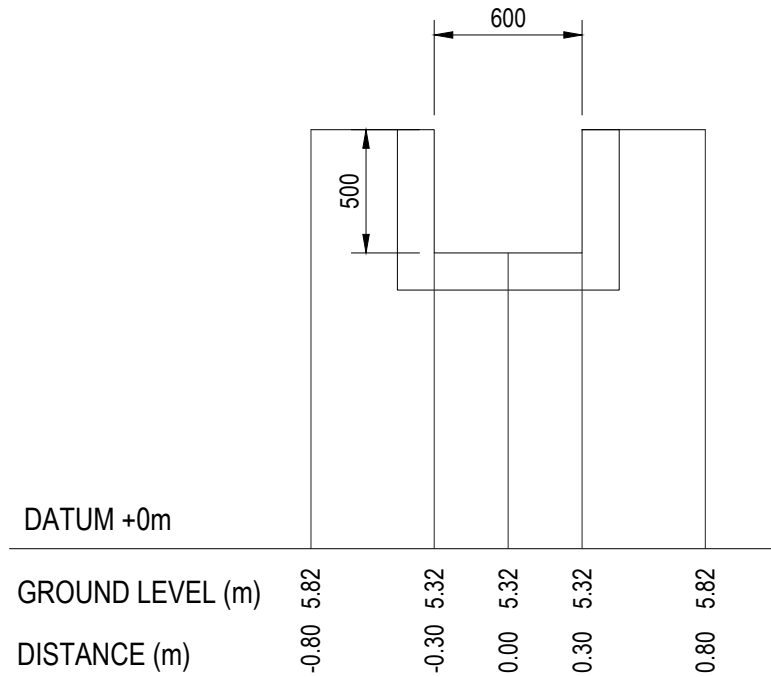


R.C OPEN DRAIN

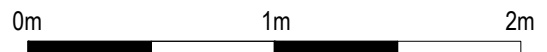


SECTION D93

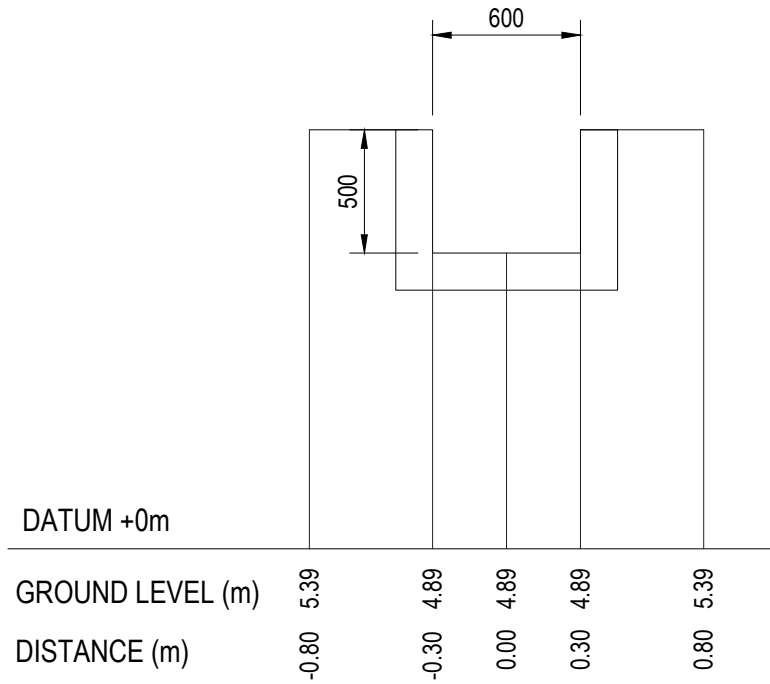
R.C OPEN DRAIN



SECTION D94

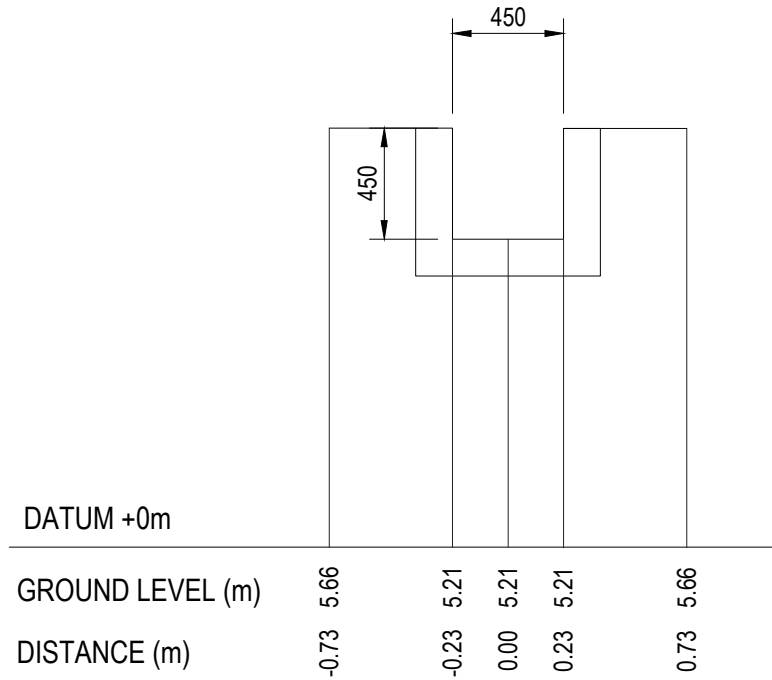


R.C OPEN DRAIN

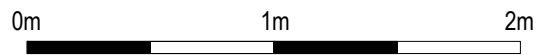


SECTION D95

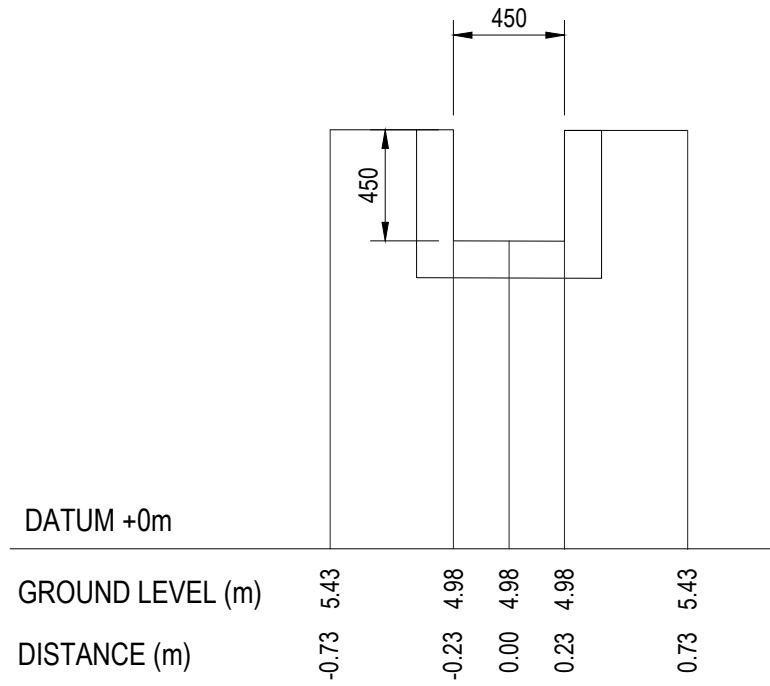
R.C OPEN DRAIN



SECTION D96

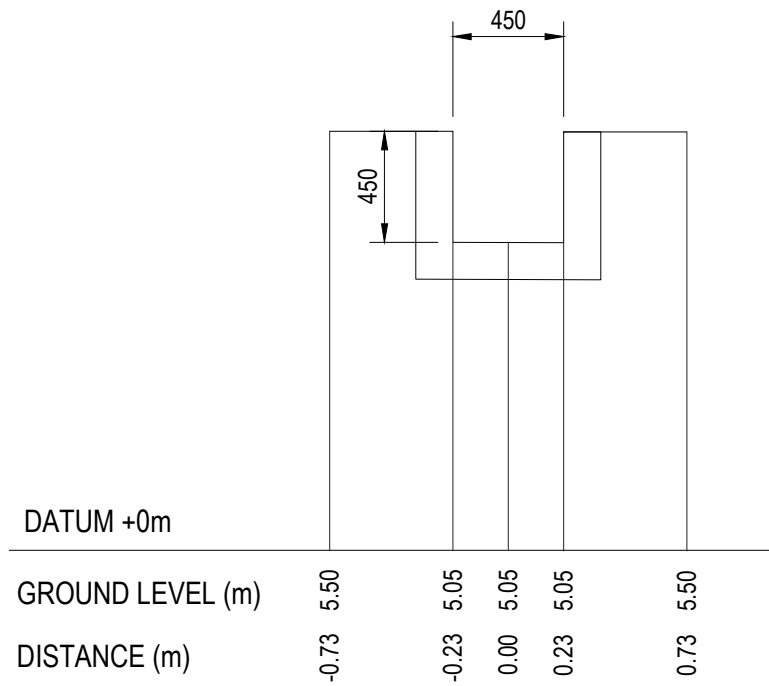


R.C OPEN DRAIN

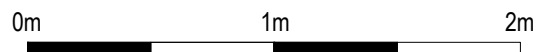


SECTION D97

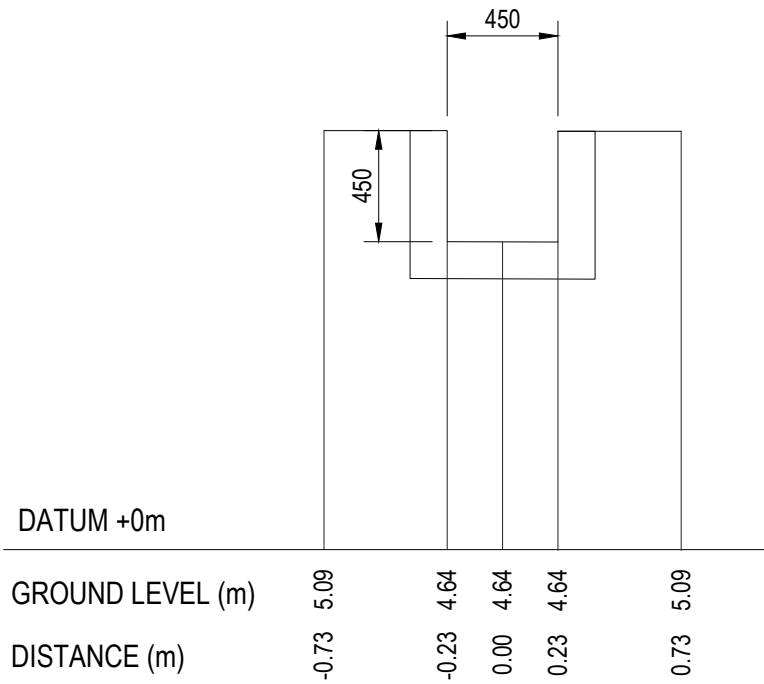
R.C OPEN DRAIN



SECTION D98

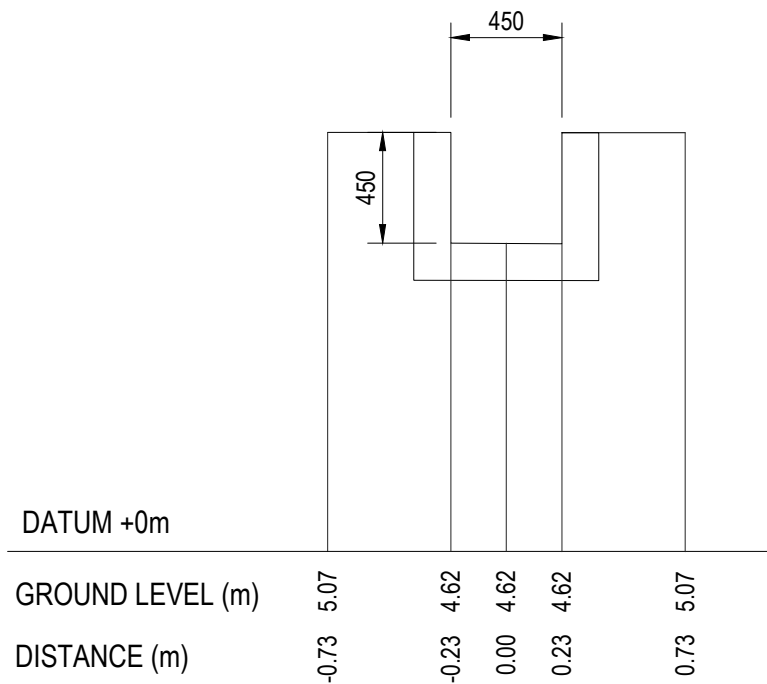


R.C OPEN DRAIN

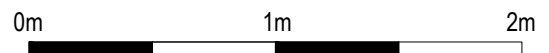


SECTION D99

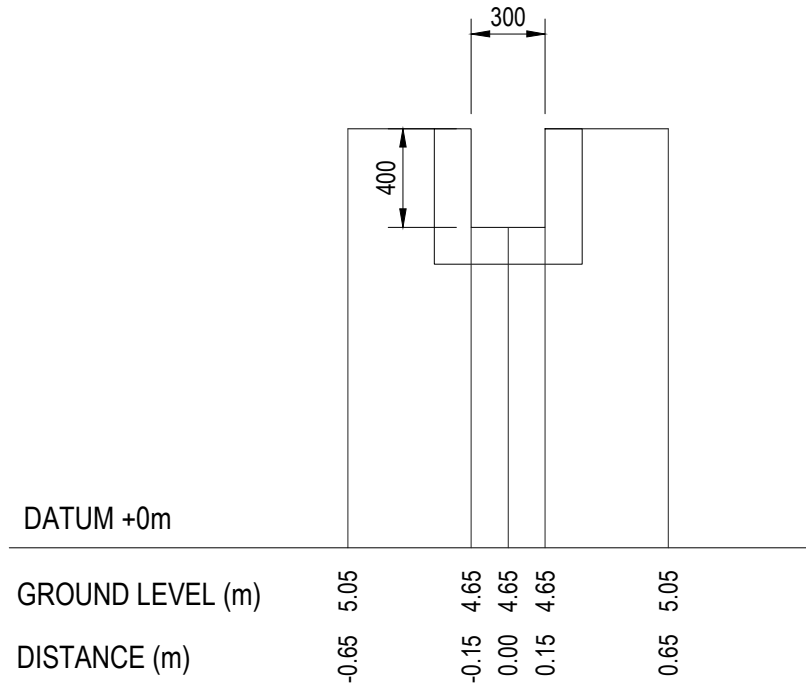
R.C OPEN DRAIN



SECTION D100

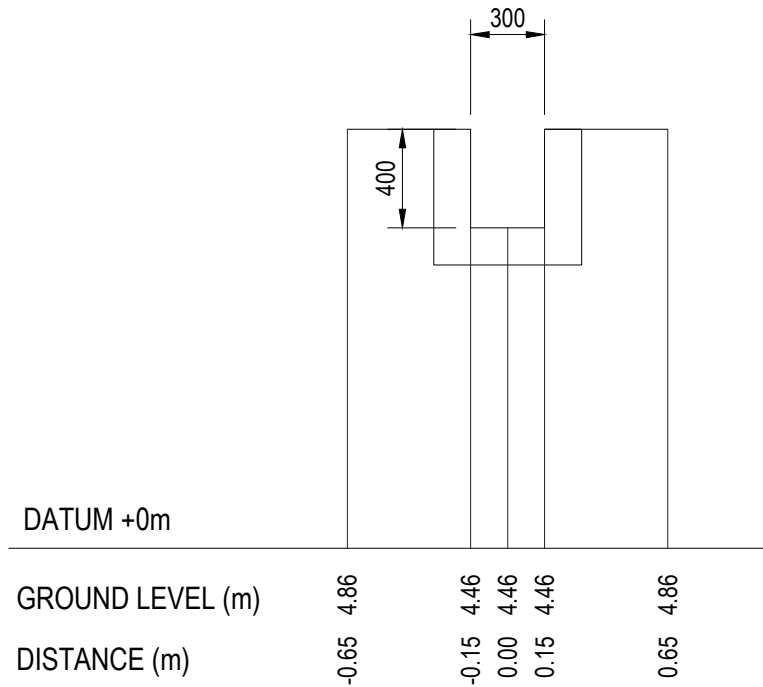


R.C OPEN DRAIN

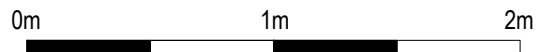


SECTION D101

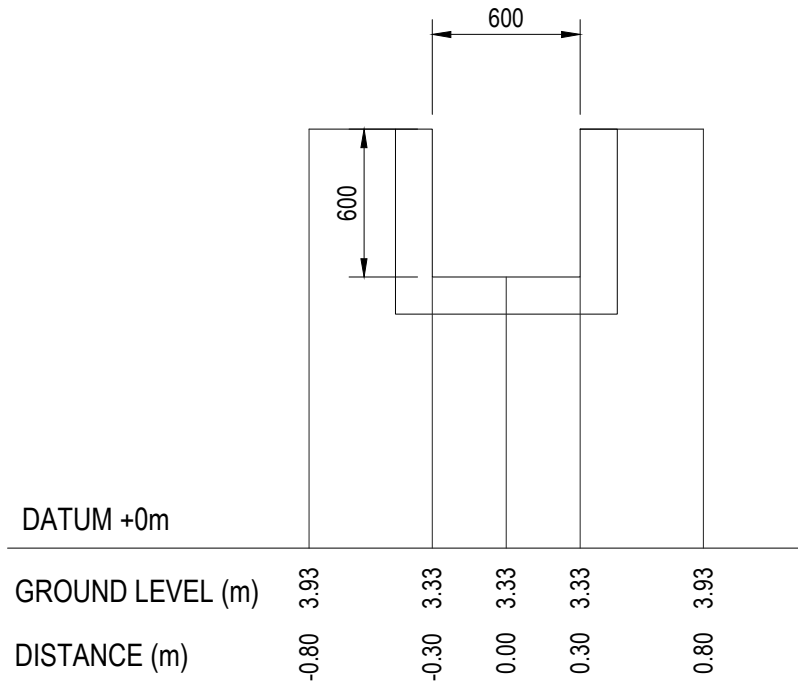
R.C OPEN DRAIN



SECTION D102

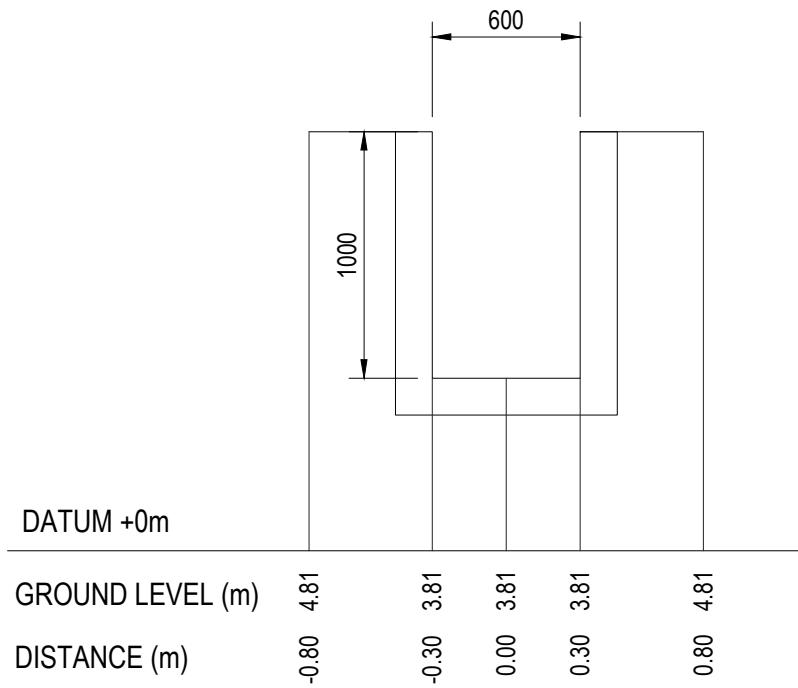


R.C OPEN DRAIN

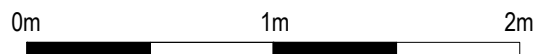


SECTION D103

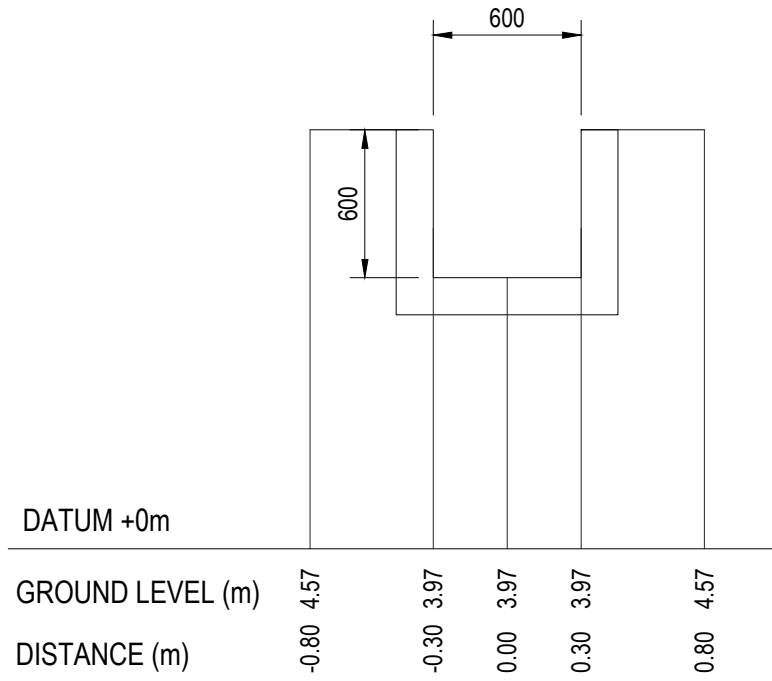
R.C OPEN DRAIN



SECTION D104

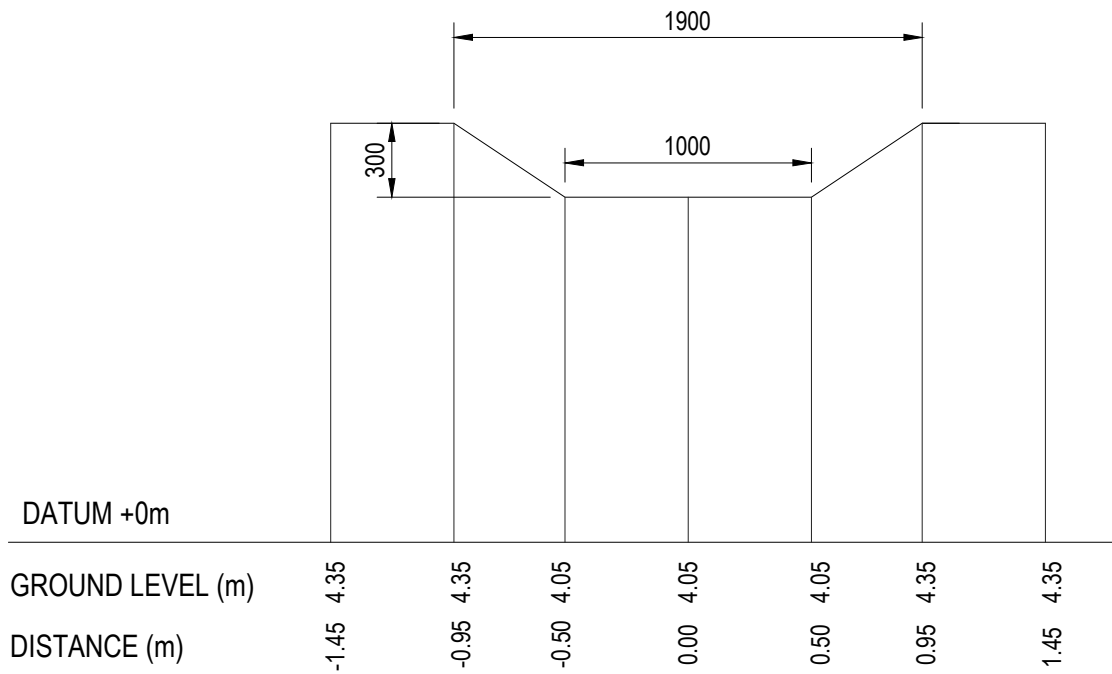


R.C OPEN DRAIN

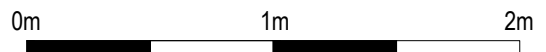


SECTION D105

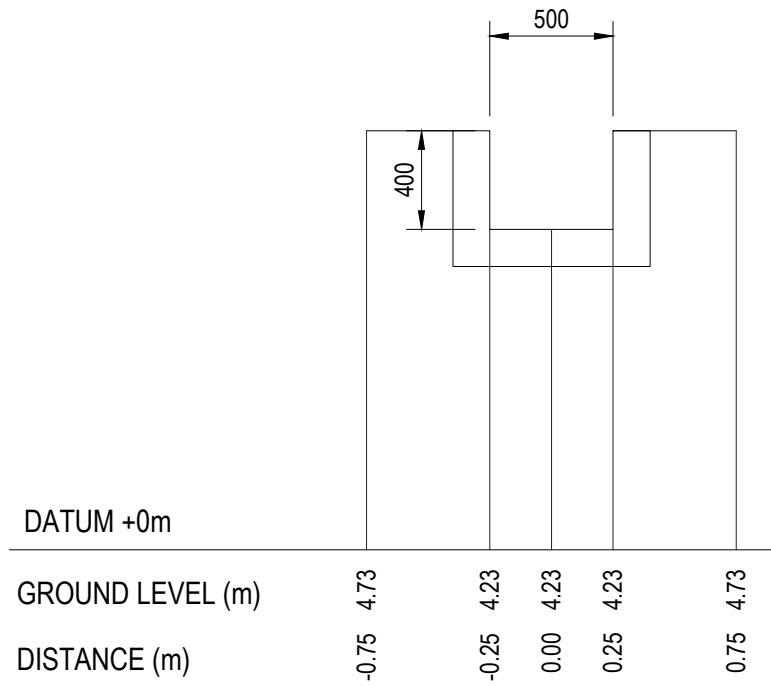
EARTH DRAIN



SECTION D106

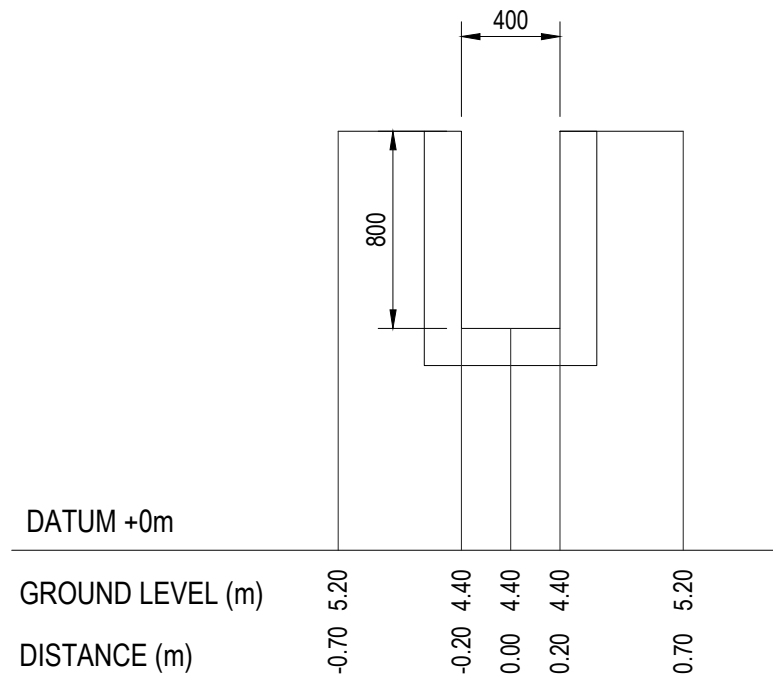


R.C OPEN DRAIN

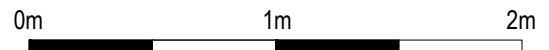


SECTION D107

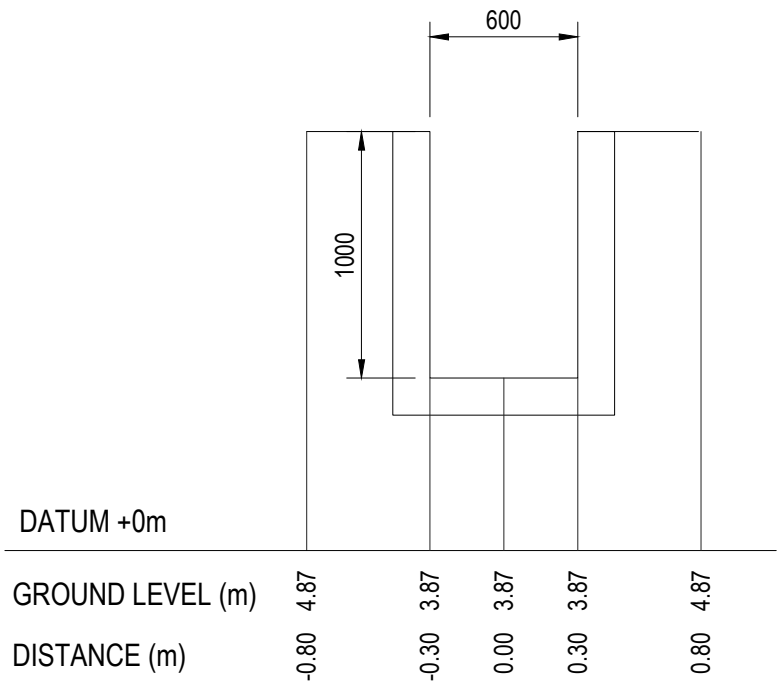
R.C OPEN DRAIN



SECTION D108

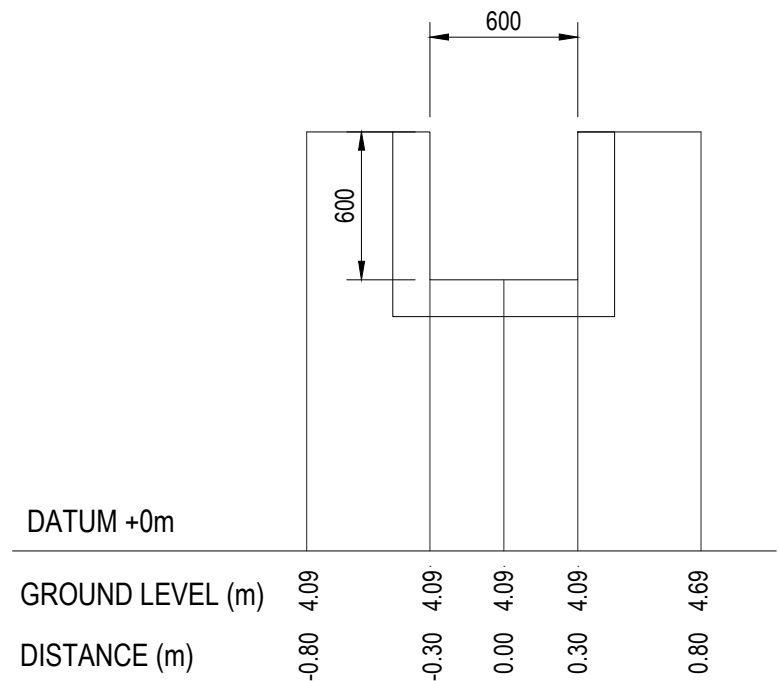


R.C OPEN DRAIN

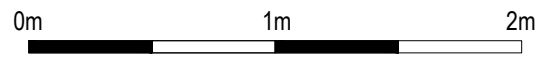


SECTION D109

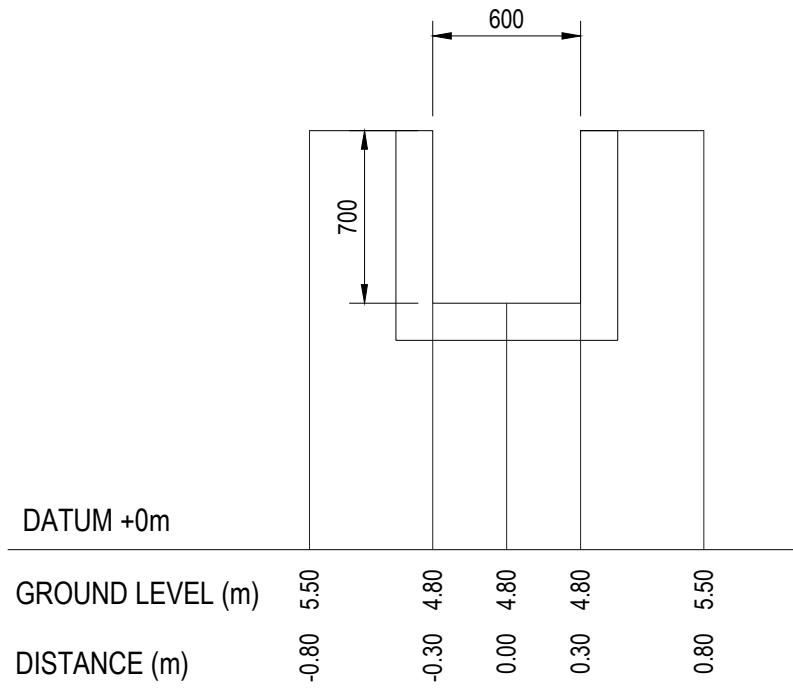
R.C OPEN DRAIN



SECTION D110

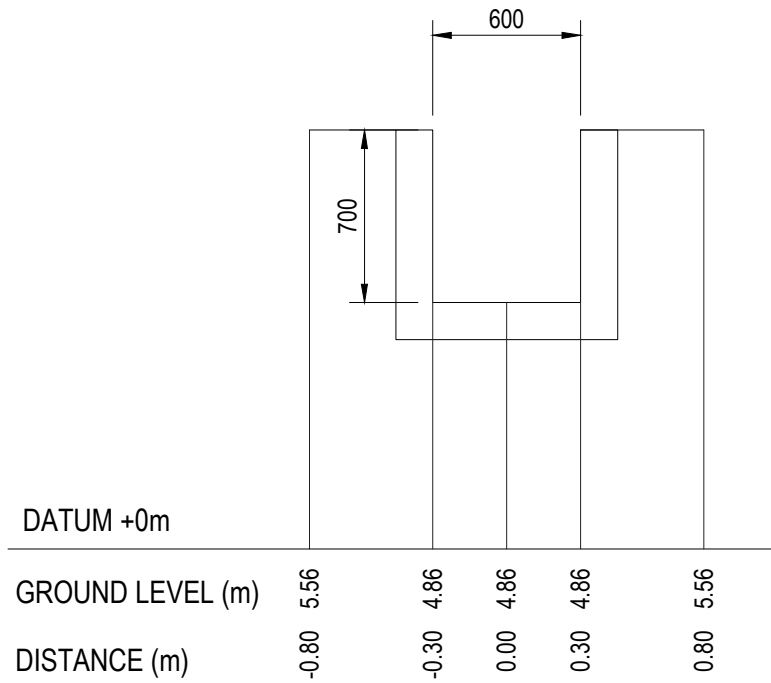


R.C OPEN DRAIN

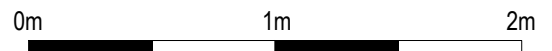


SECTION D111

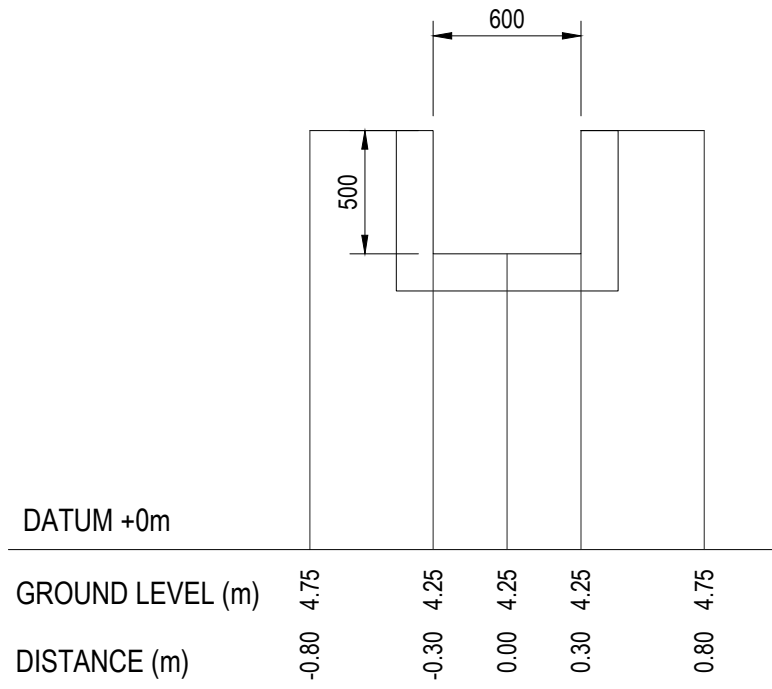
R.C OPEN DRAIN



SECTION D112

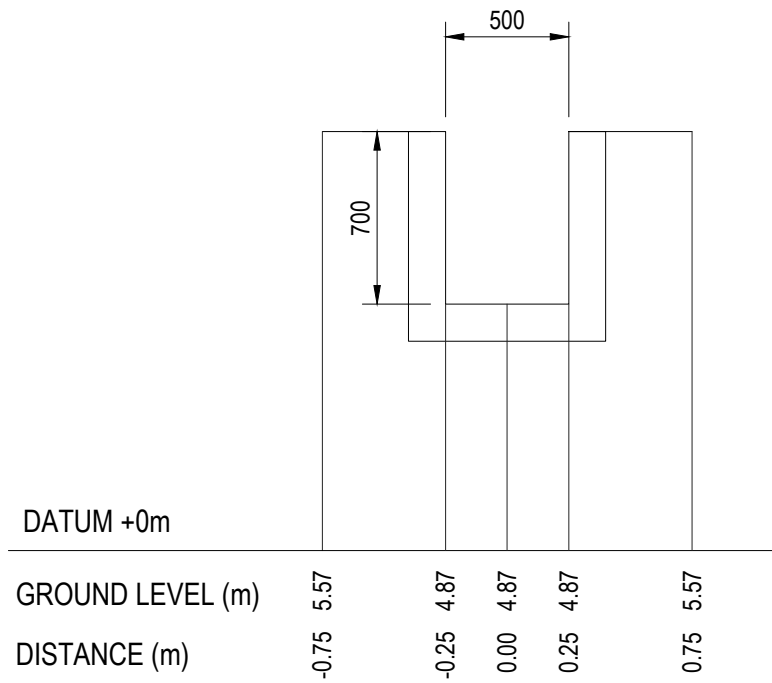


R.C OPEN DRAIN

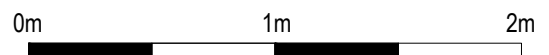


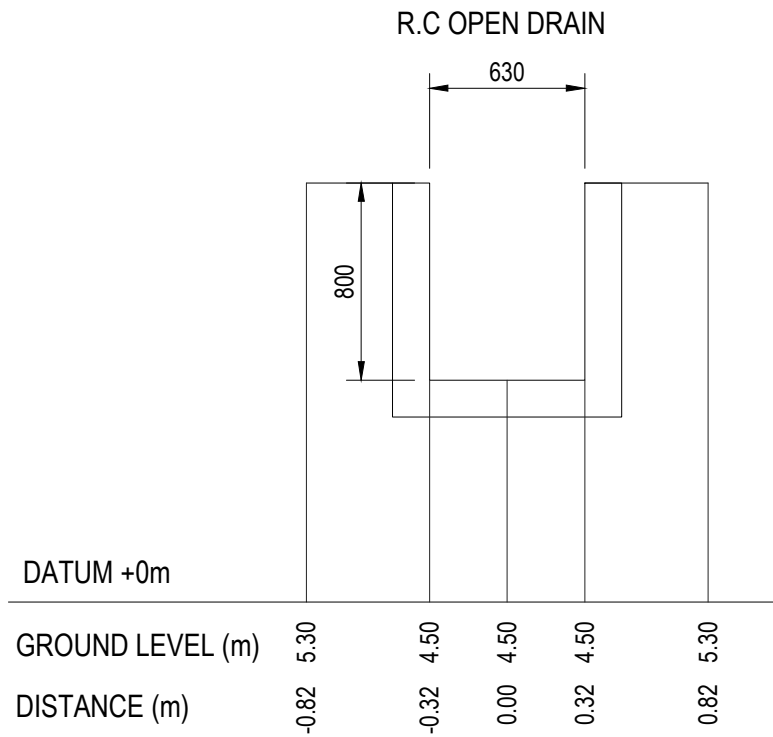
SECTION D113

R.C OPEN DRAIN

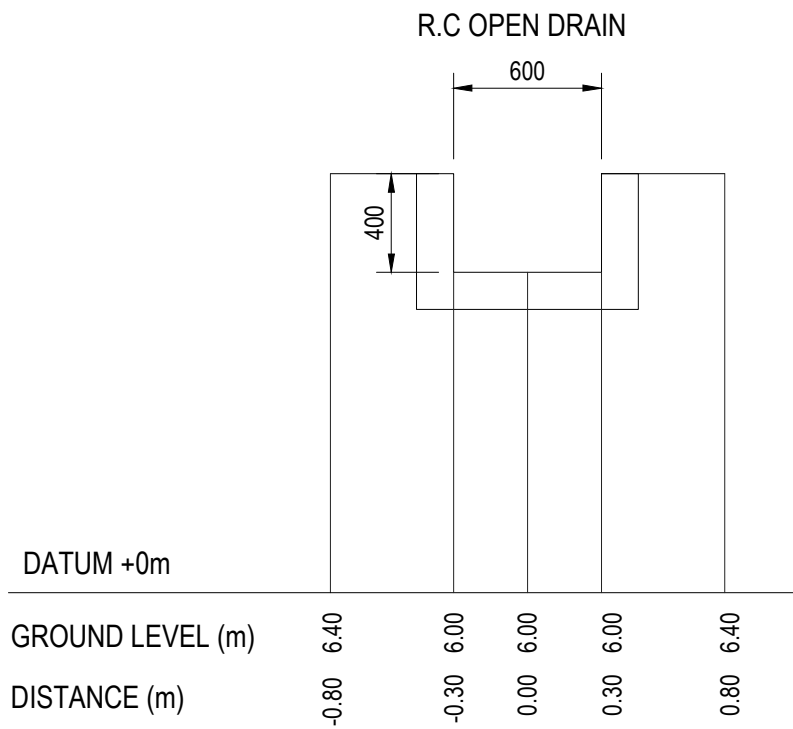


SECTION D114





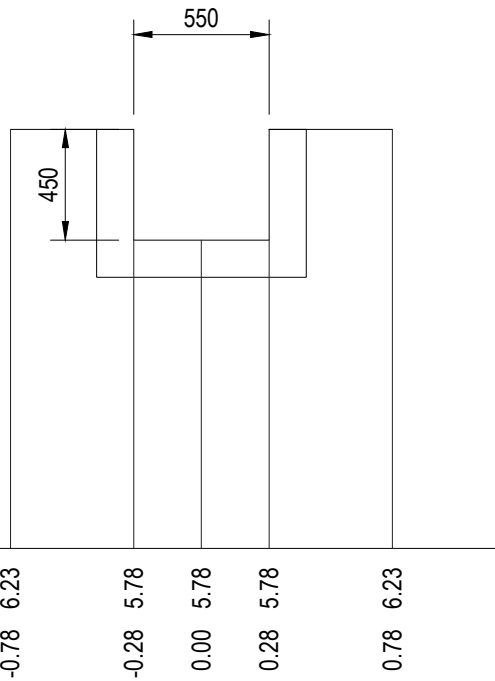
SECTION D115



SECTION D116



R.C OPEN DRAIN



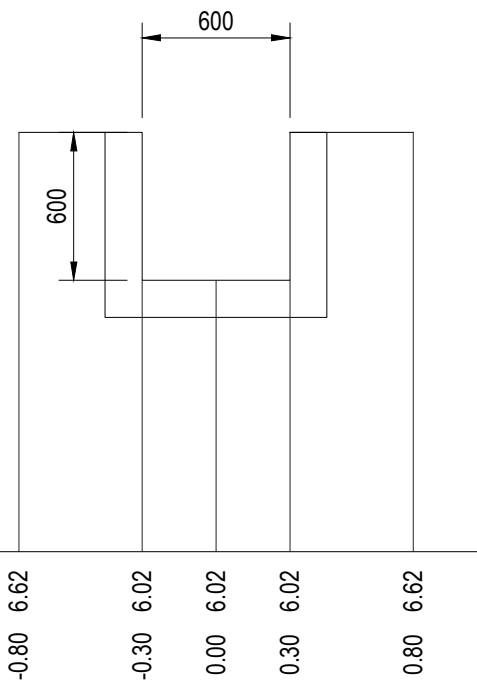
DATUM +0m

GROUND LEVEL (m)

DISTANCE (m)

SECTION D117

R.C OPEN DRAIN

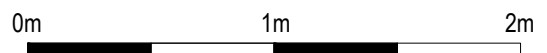


DATUM +0m

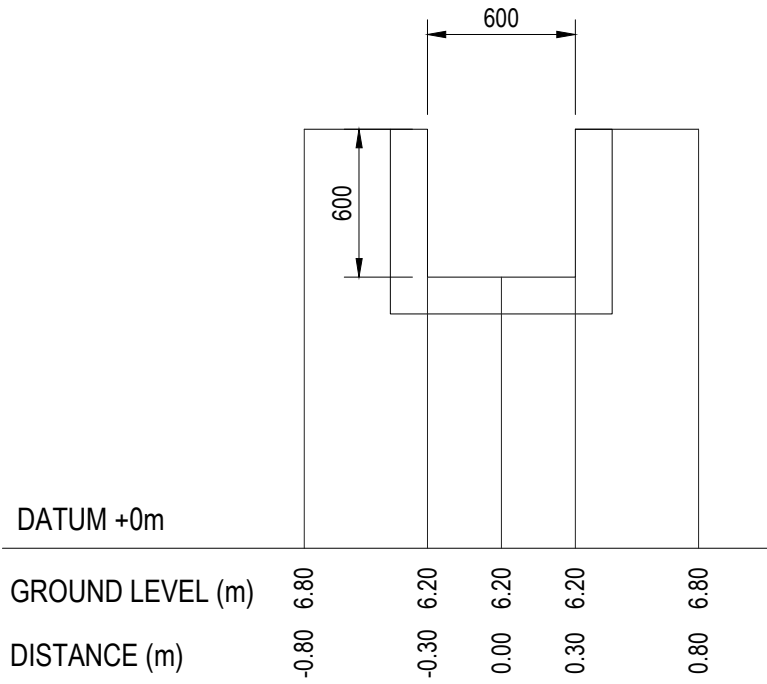
GROUND LEVEL (m)

DISTANCE (m)

SECTION D118

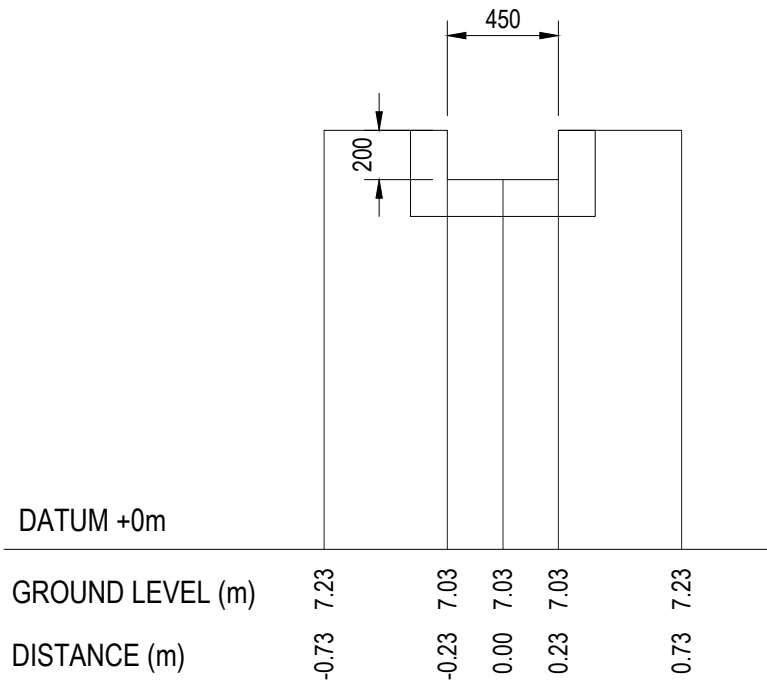


R.C OPEN DRAIN

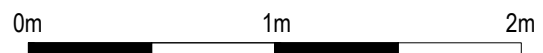


SECTION D119

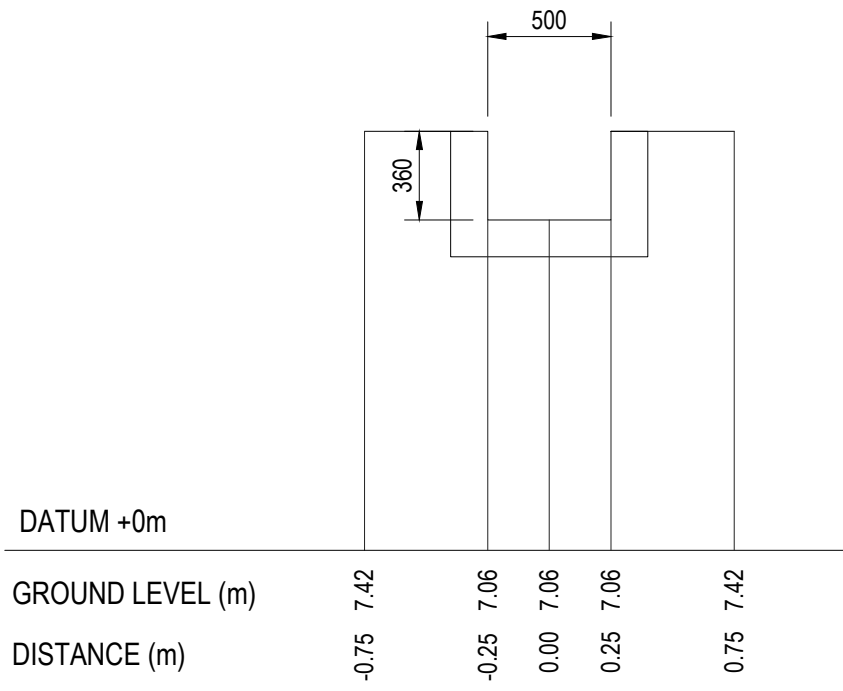
R.C OPEN DRAIN



SECTION D120

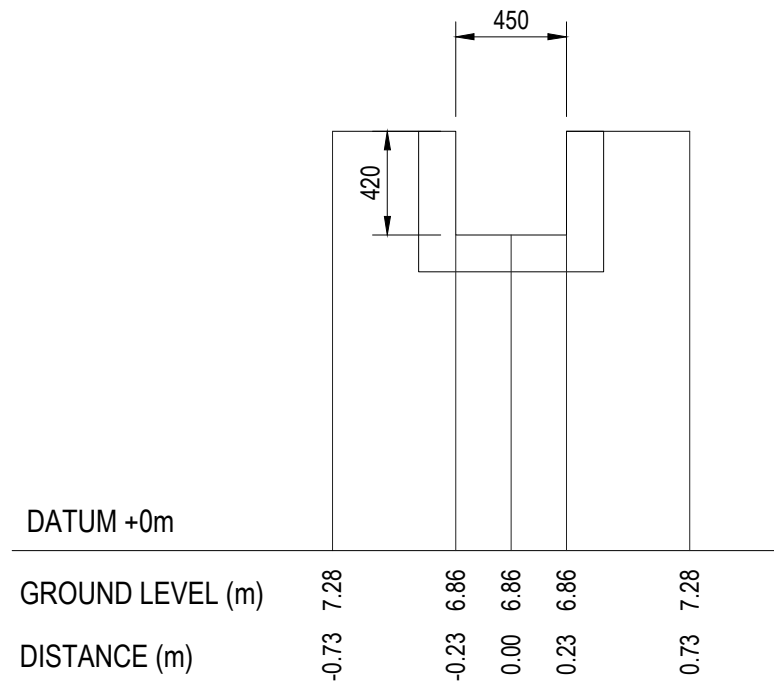


R.C OPEN DRAIN

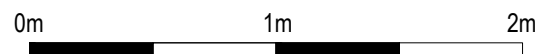


SECTION D121

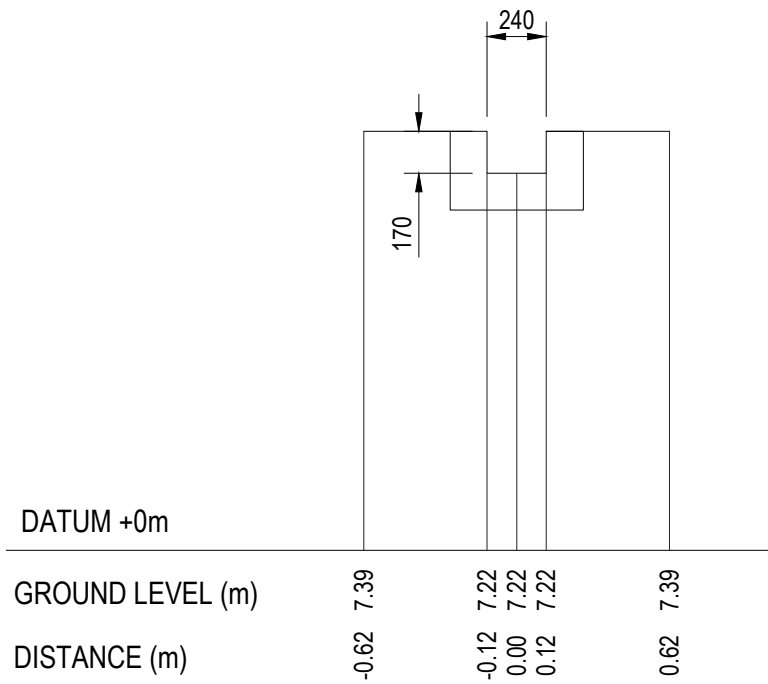
R.C OPEN DRAIN



SECTION D122

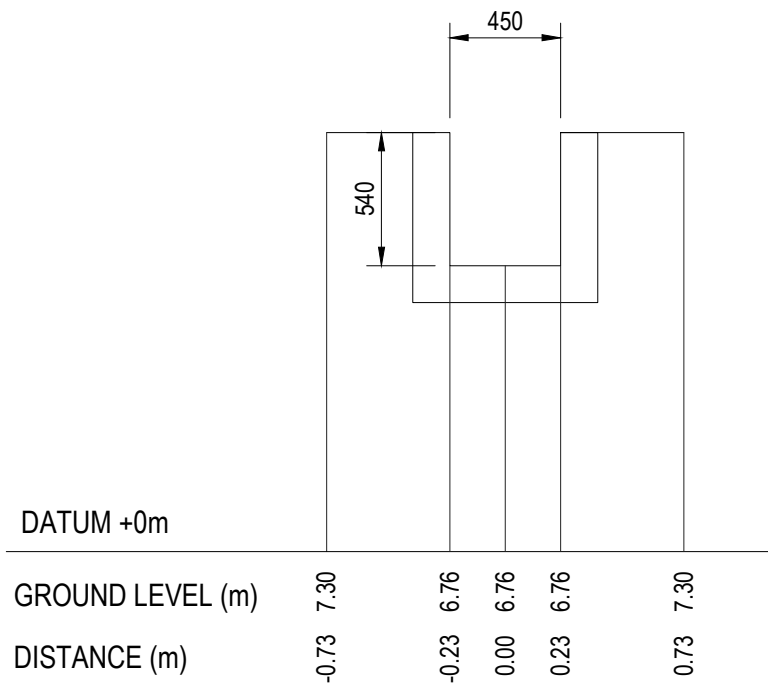


R.C OPEN DRAIN

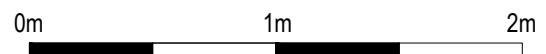


SECTION D123

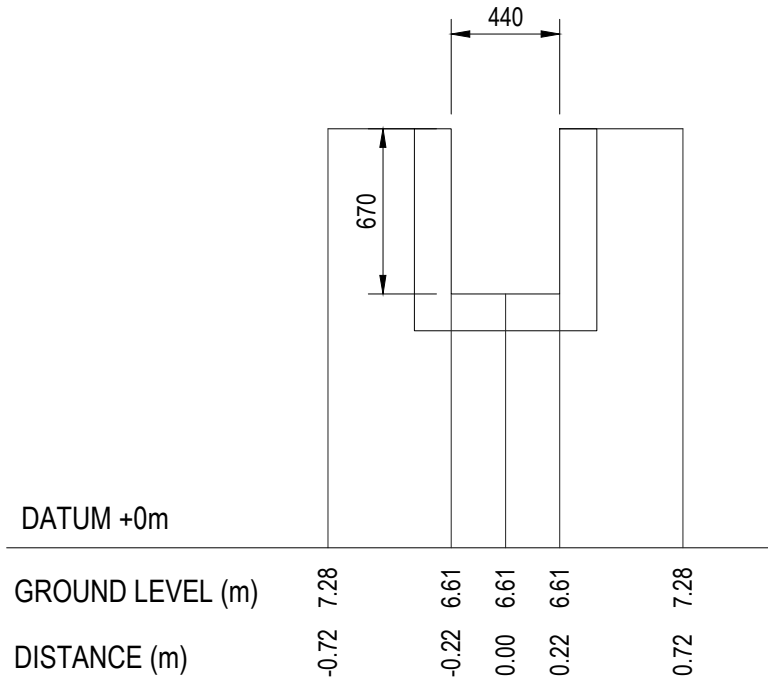
R.C OPEN DRAIN



SECTION D124

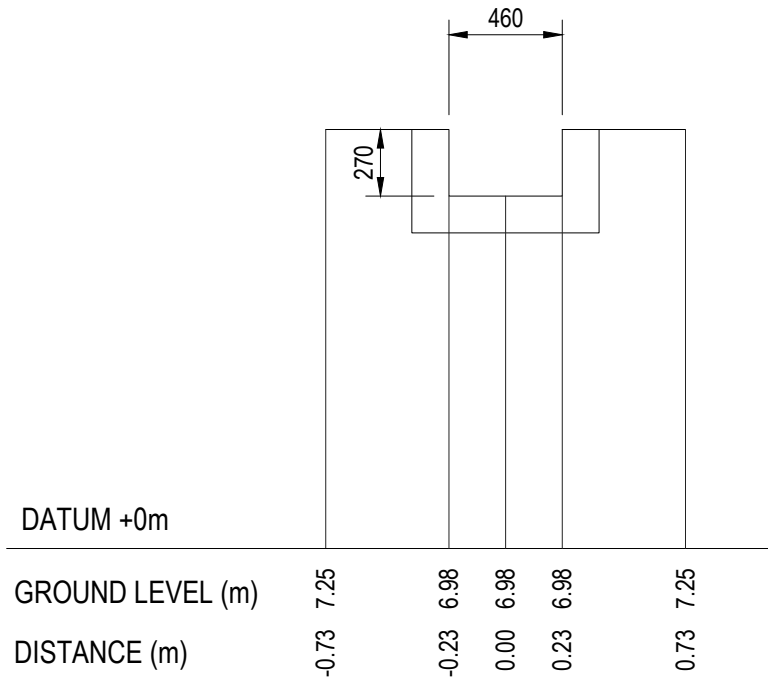


R.C OPEN DRAIN

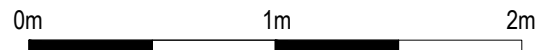


SECTION D125

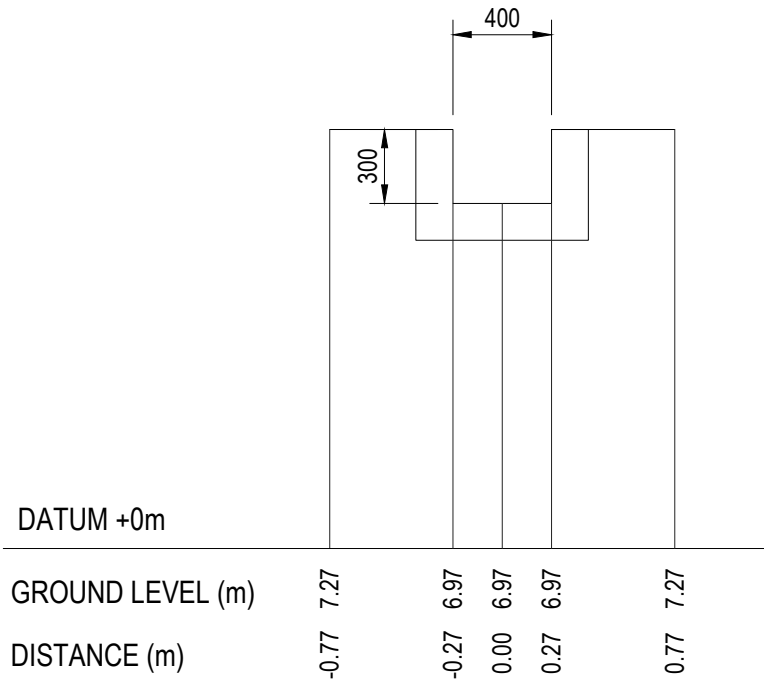
R.C OPEN DRAIN



SECTION D126

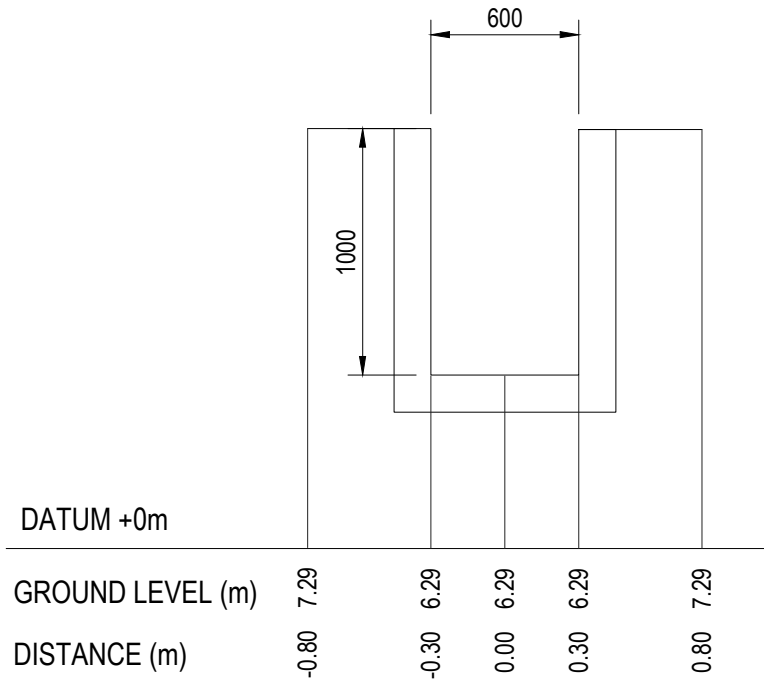


R.C OPEN DRAIN

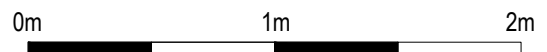


SECTION D127

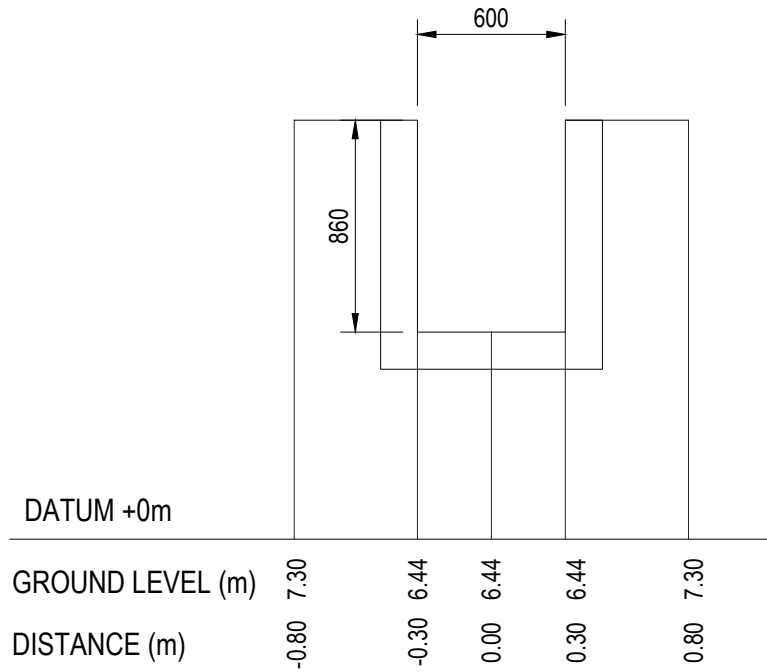
R.C OPEN DRAIN



SECTION D128

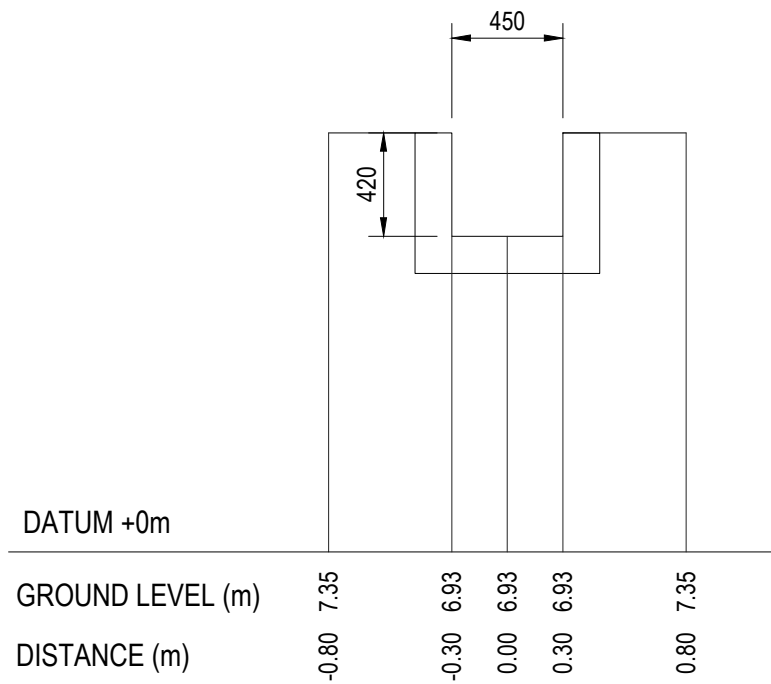


R.C OPEN DRAIN

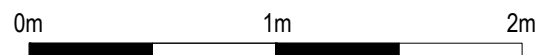


SECTION D129

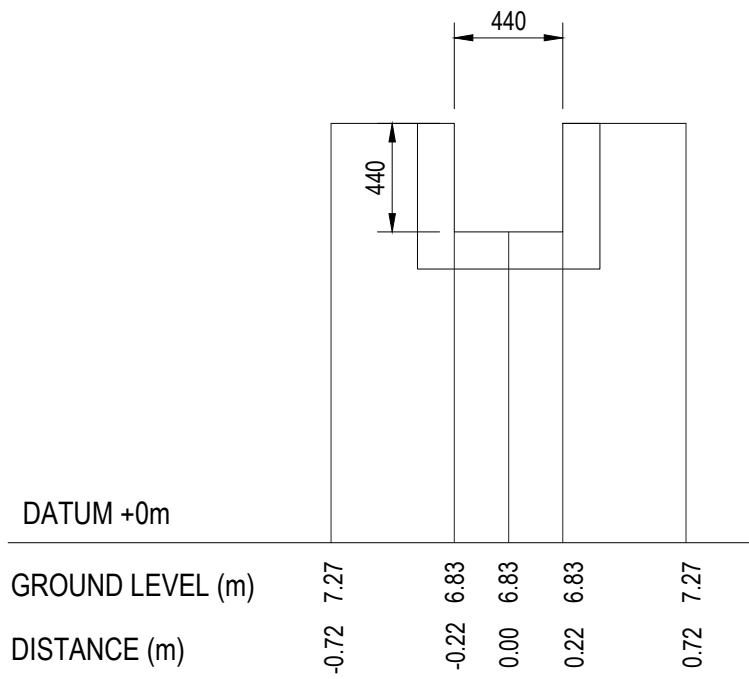
R.C OPEN DRAIN



SECTION D130

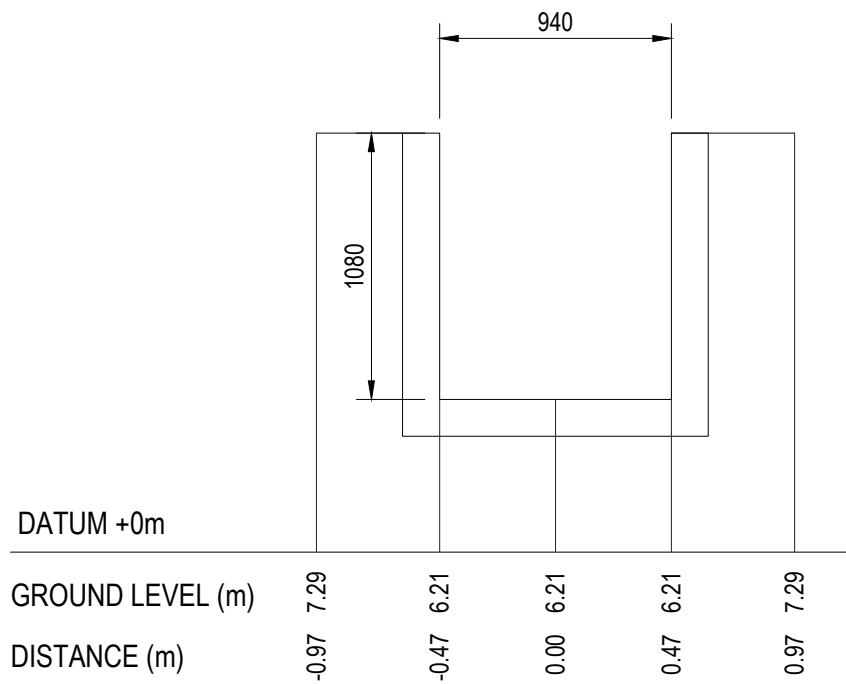


R.C OPEN DRAIN

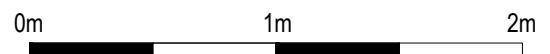


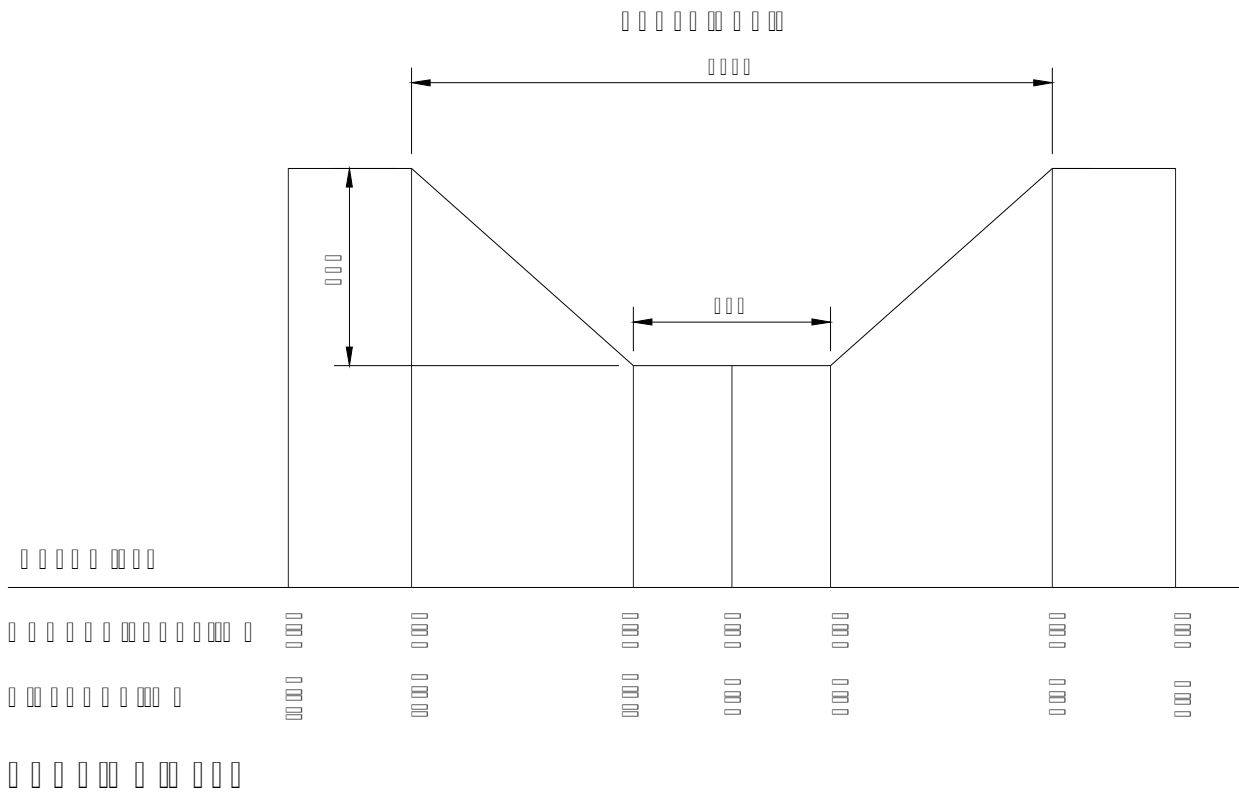
SECTION D131

R.C OPEN DRAIN

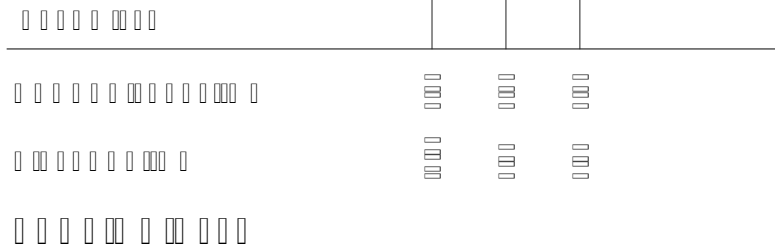


SECTION D132

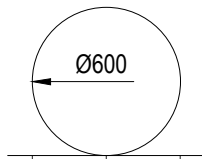




Architectural drawing of a circular element, possibly a pipe or a column, with a diameter of 600 units. The diameter is indicated by a horizontal line with arrows at both ends, labeled $\text{Ø}600$.



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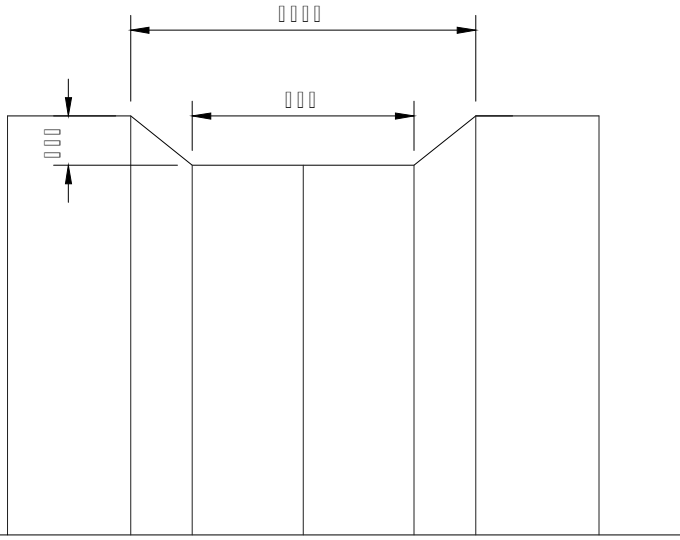
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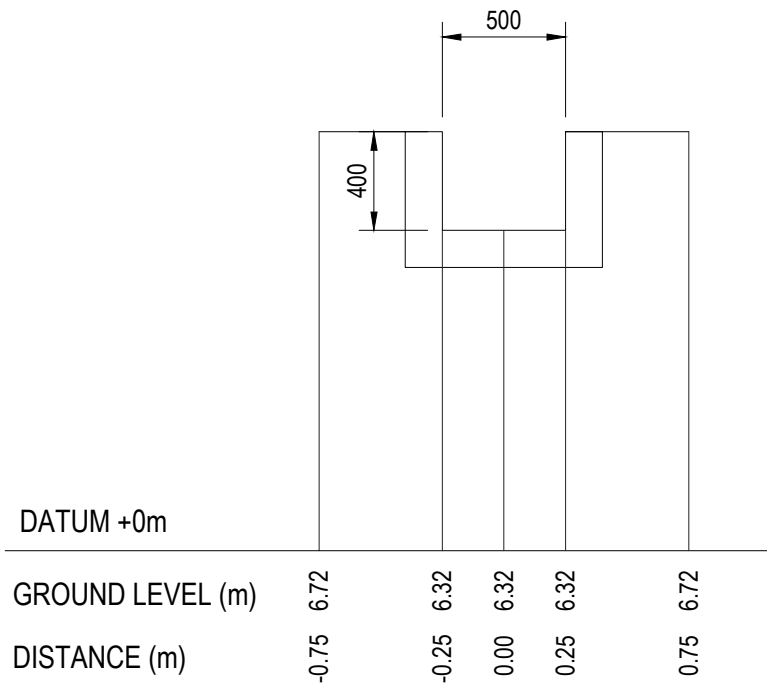
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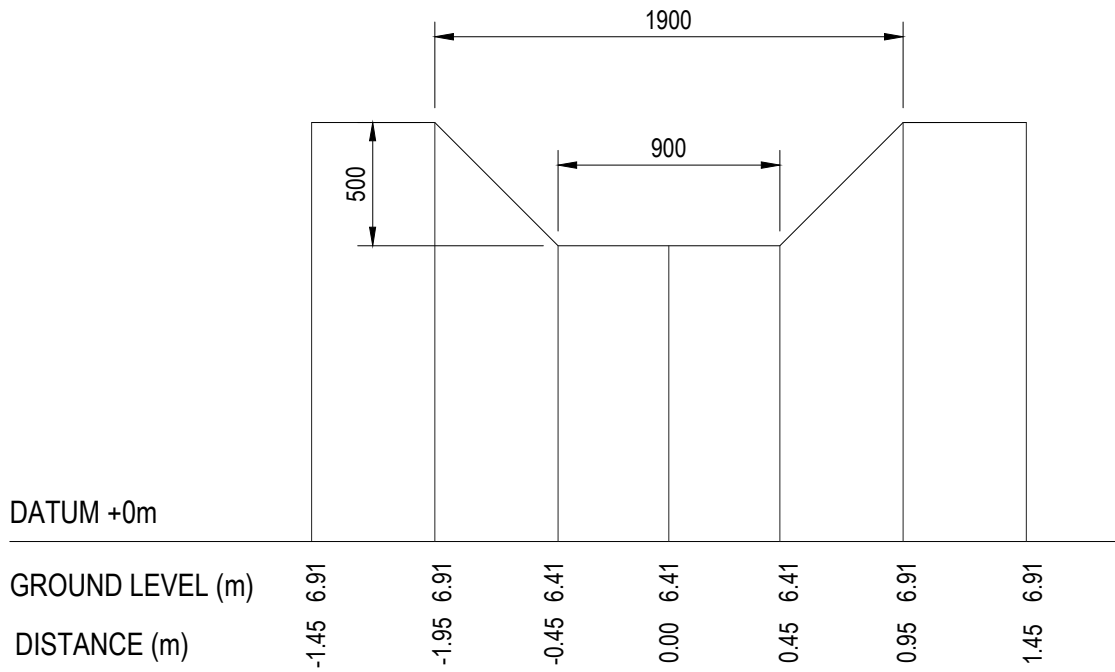


R.C OPEN DRAIN

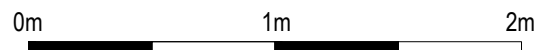


SECTION D136

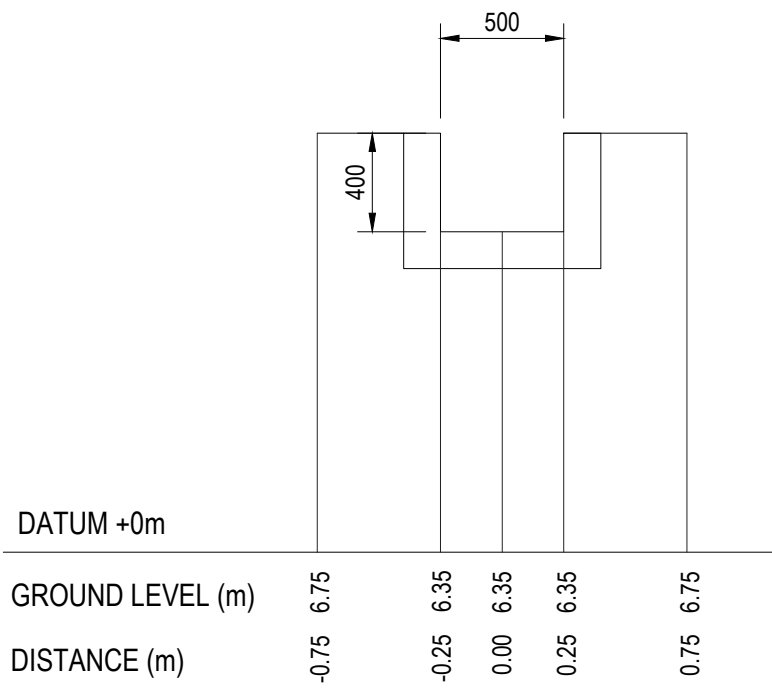
EARTH DRAIN



SECTION D137

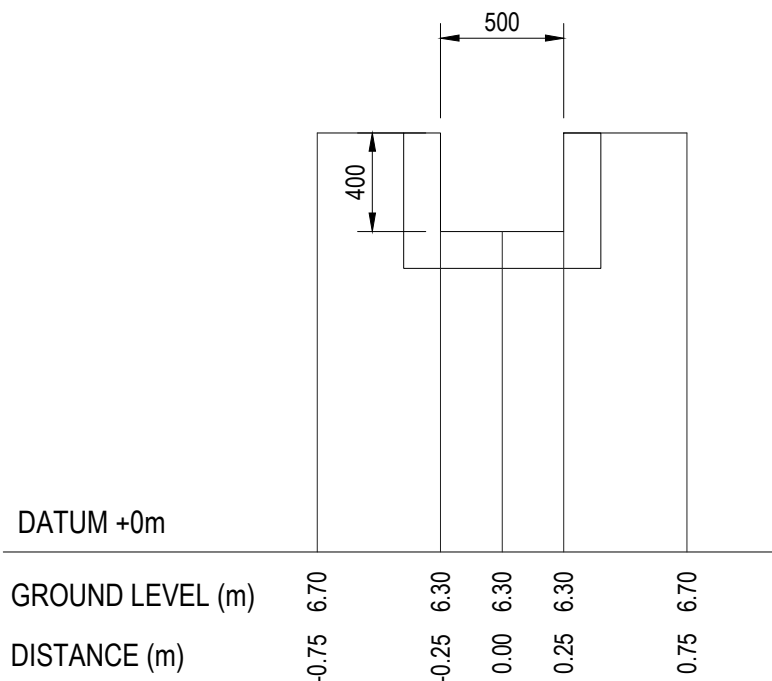


R.C OPEN DRAIN

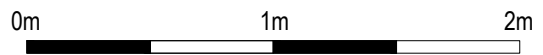


SECTION D138

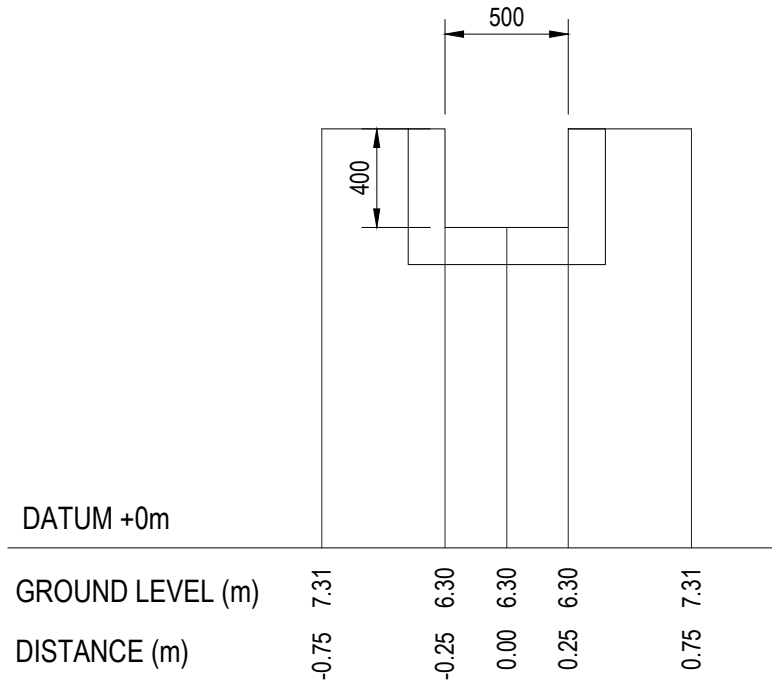
R.C OPEN DRAIN



SECTION D139

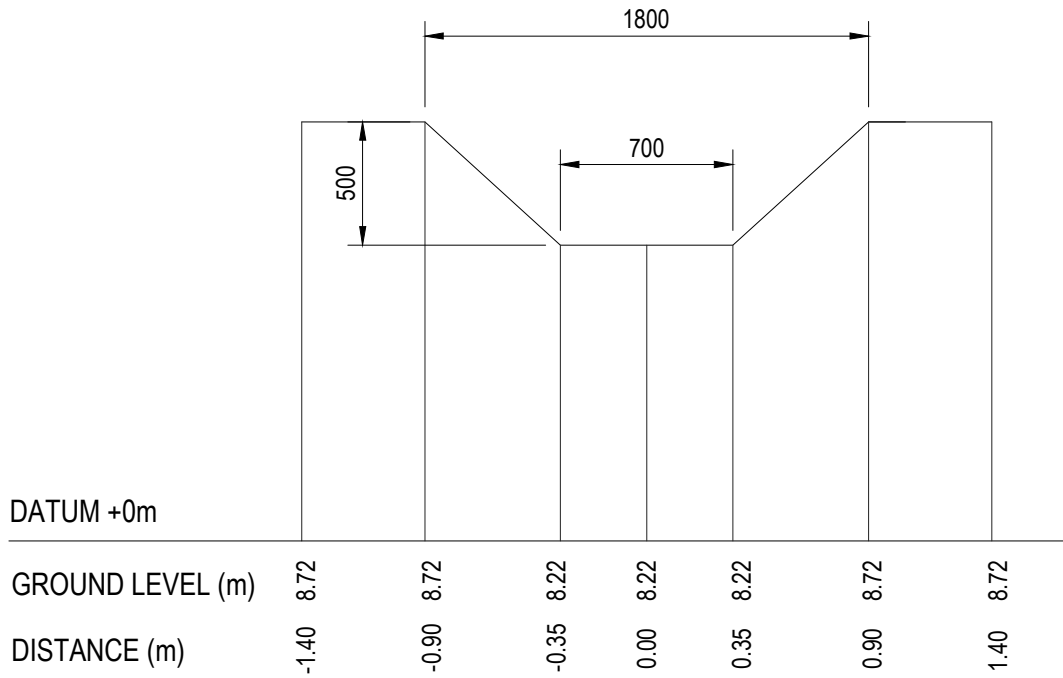


R.C OPEN DRAIN

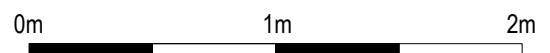


SECTION D140

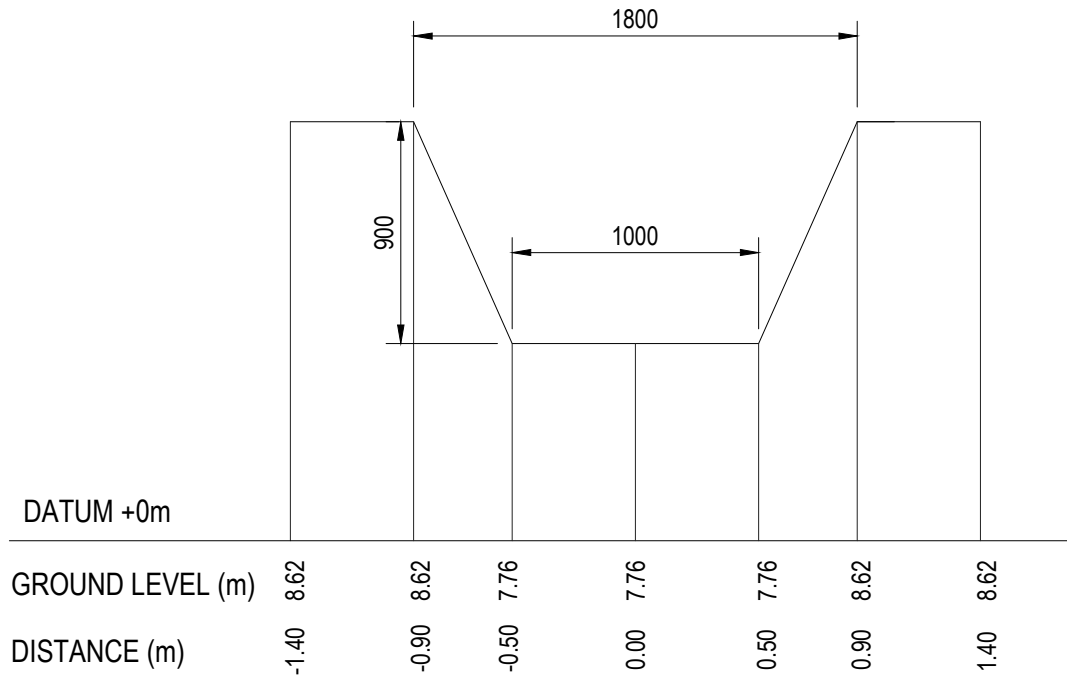
EARTH DRAIN



SECTION D141

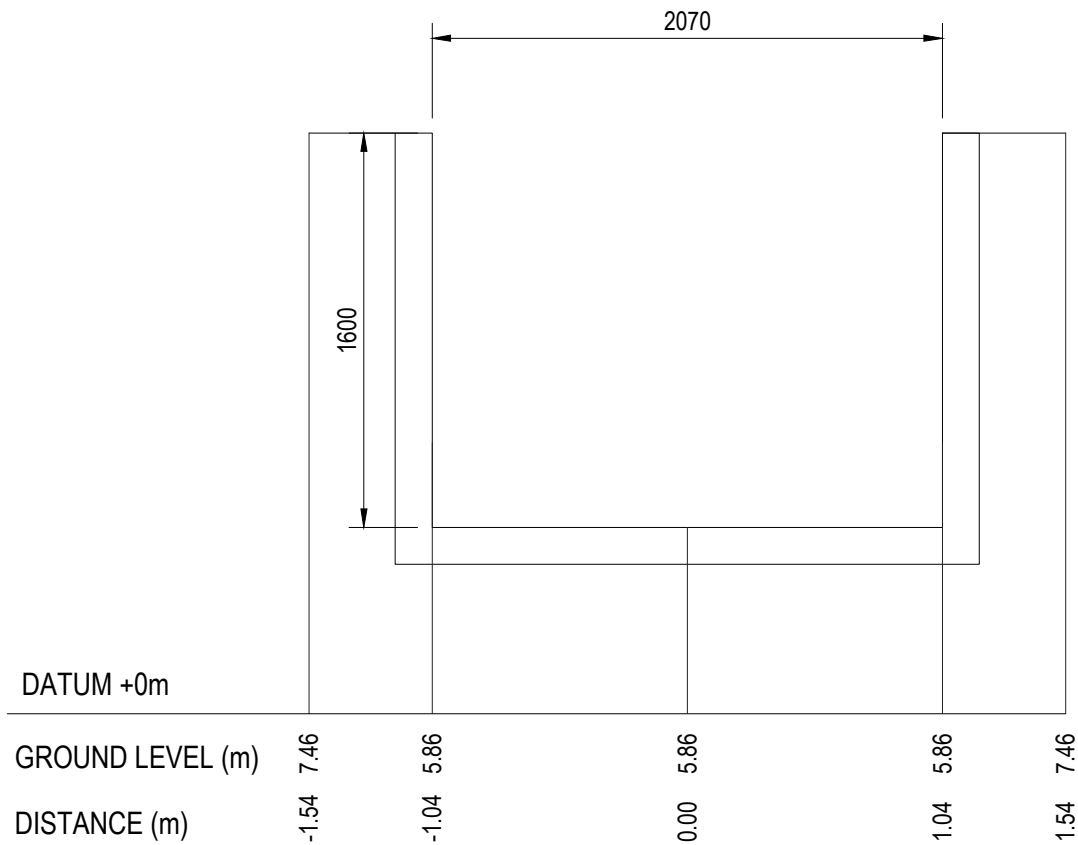


R.C OPEN DRAIN

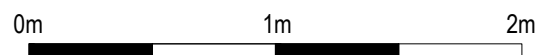


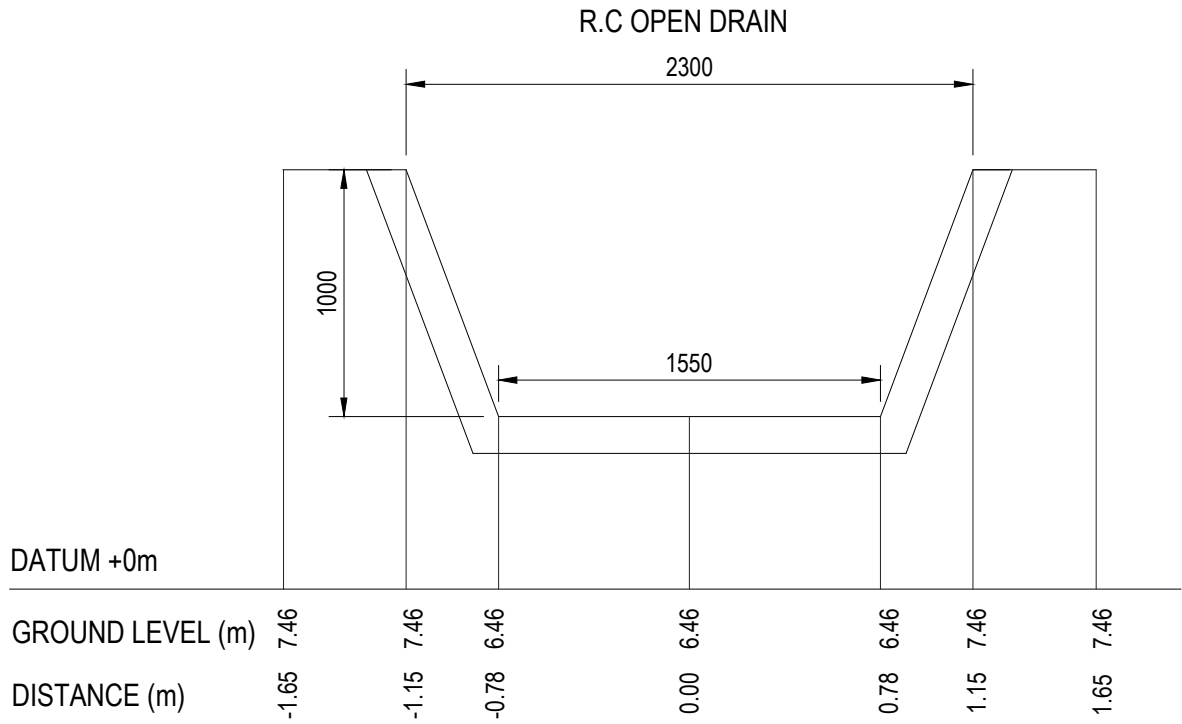
SECTION D142

SUMP

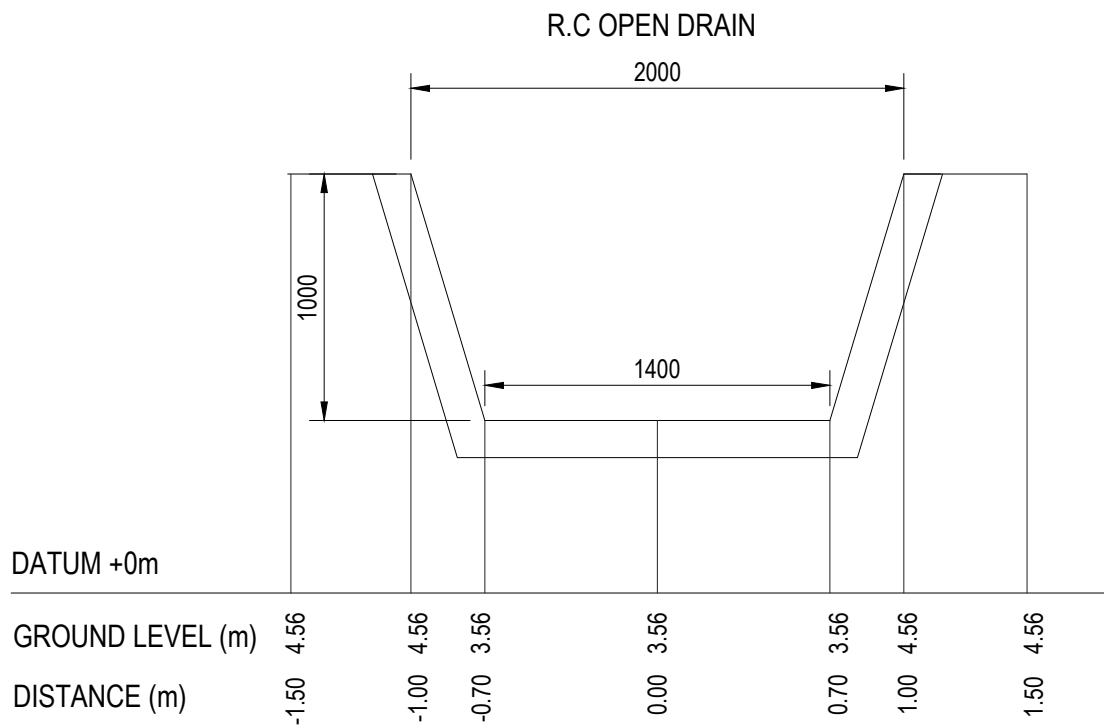


SECTION D143

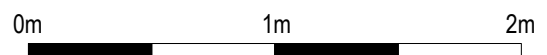


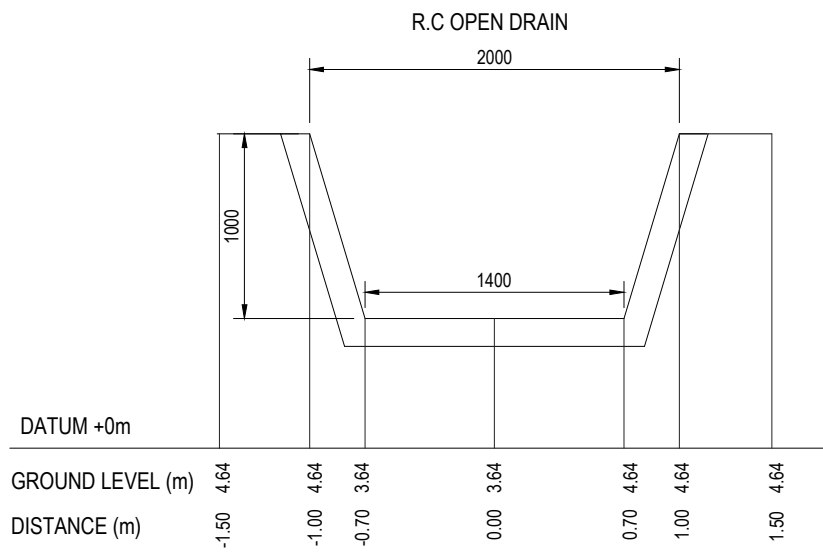


SECTION D144

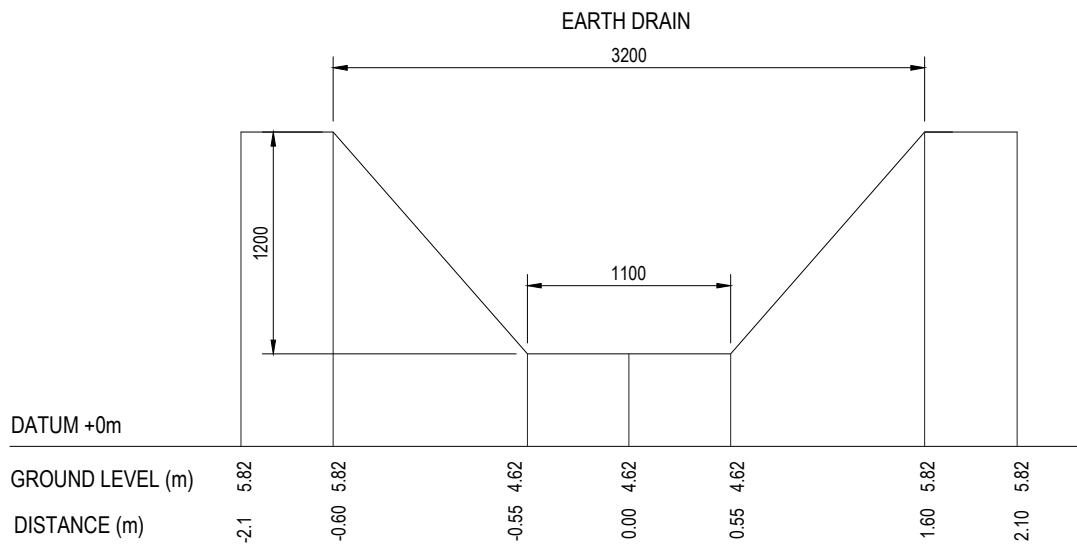


SECTION D145

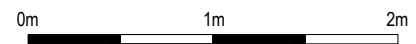




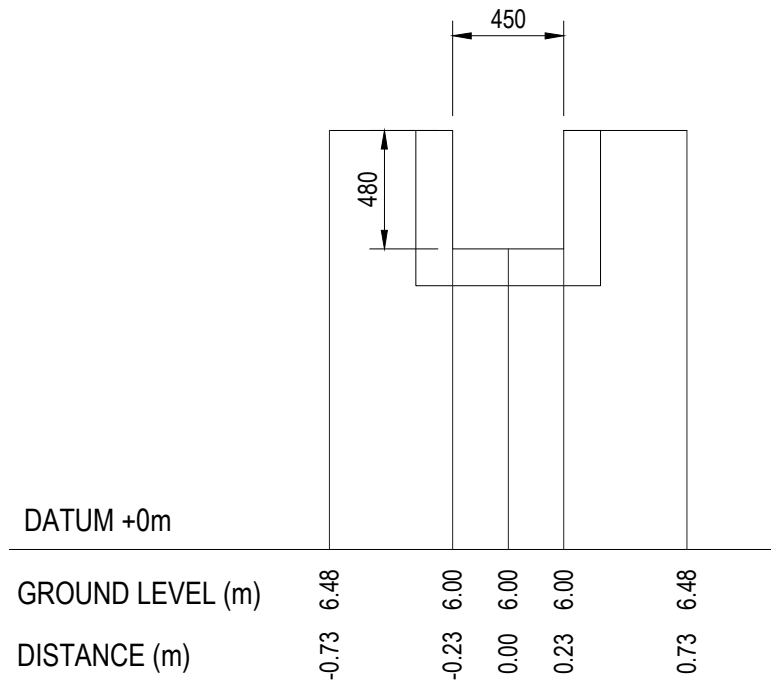
SECTION D146



SECTION D147

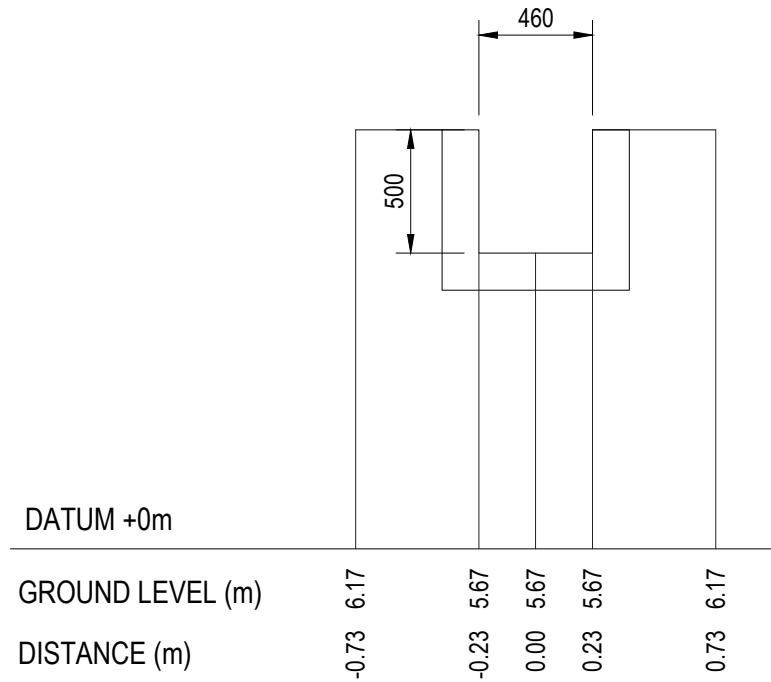


R.C OPEN DRAIN

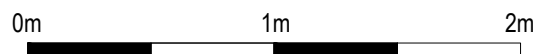


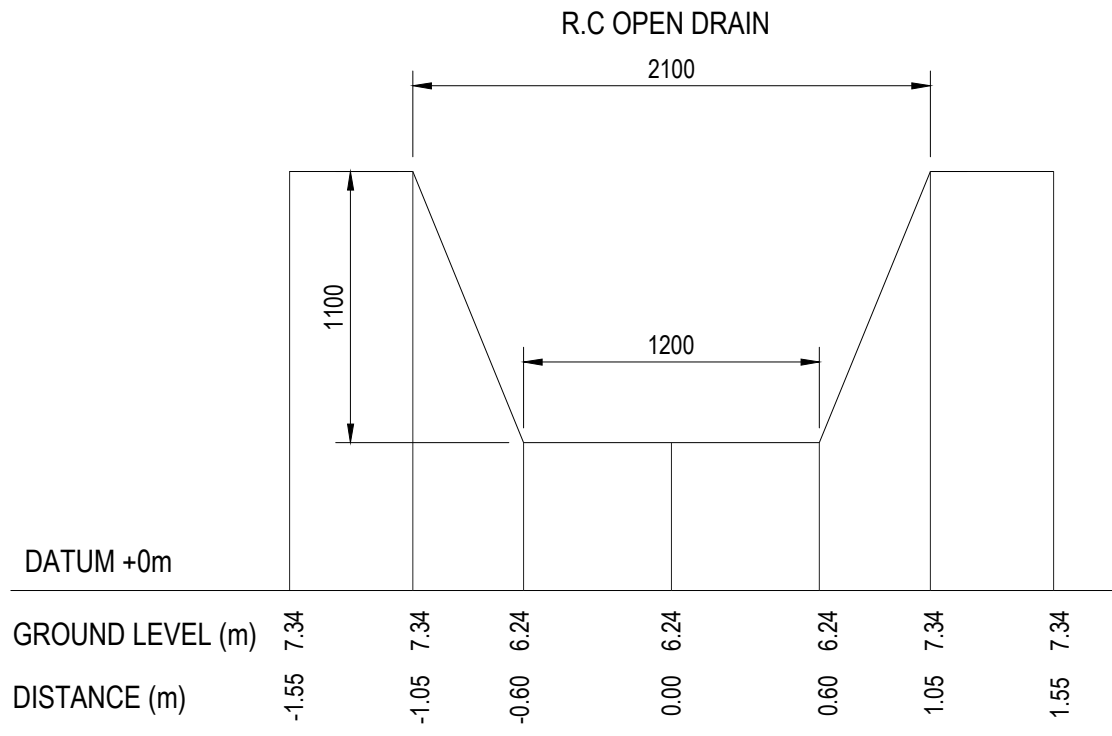
SECTION D148

R.C OPEN DRAIN

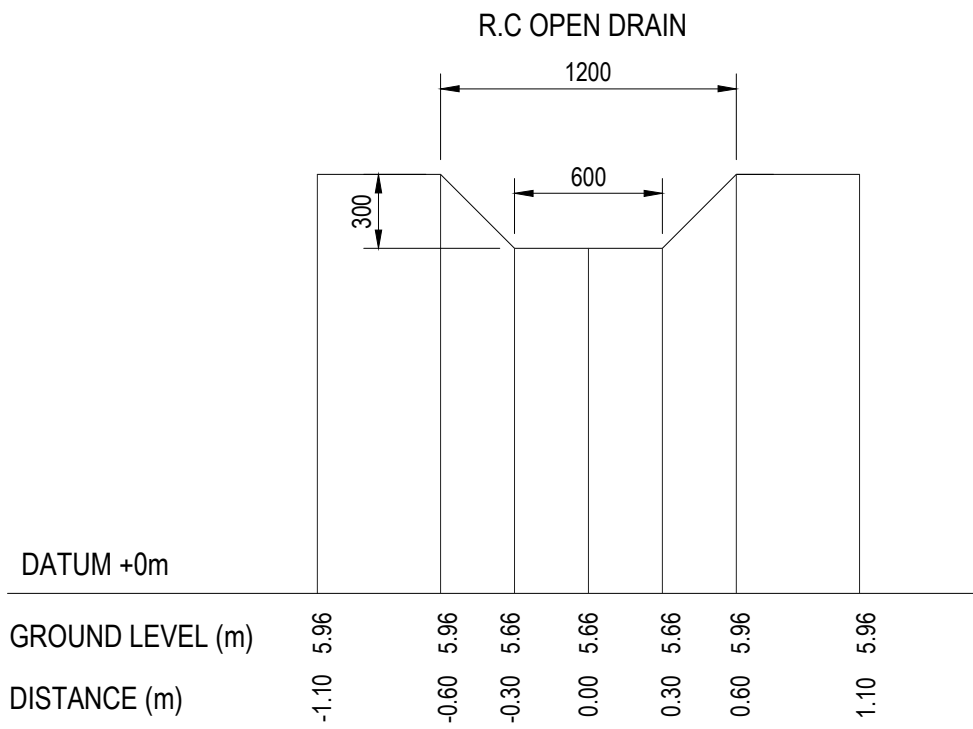


SECTION D149

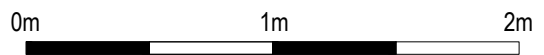


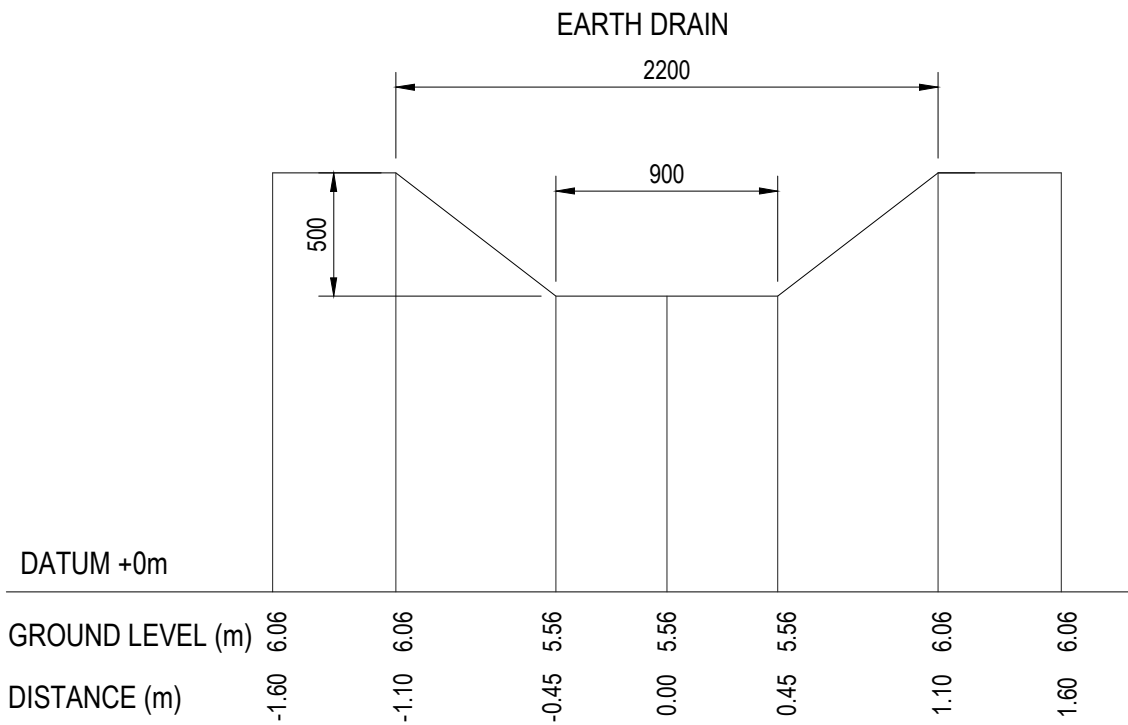


SECTION D150

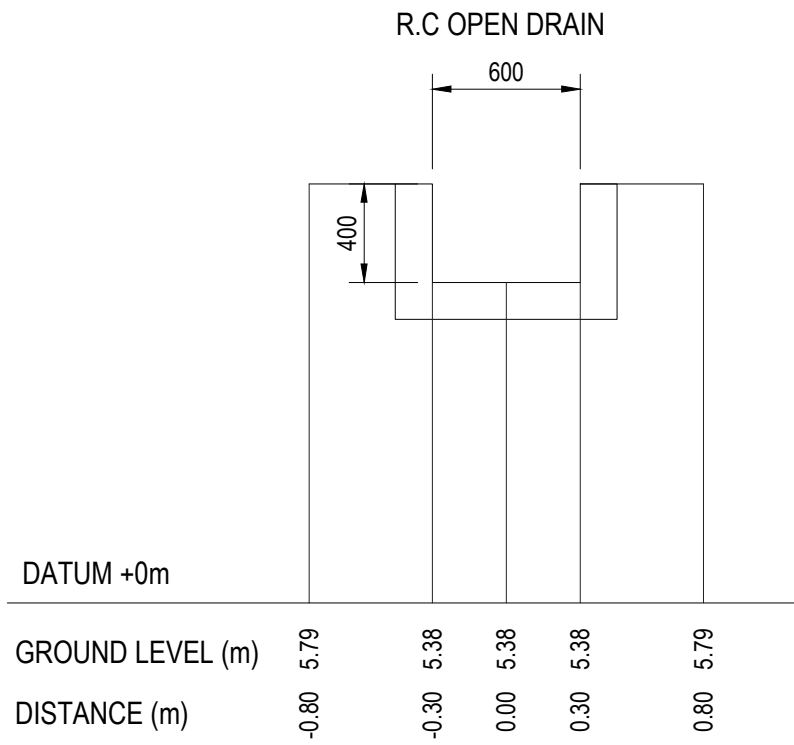


SECTION D151

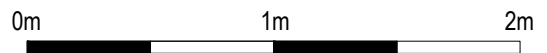


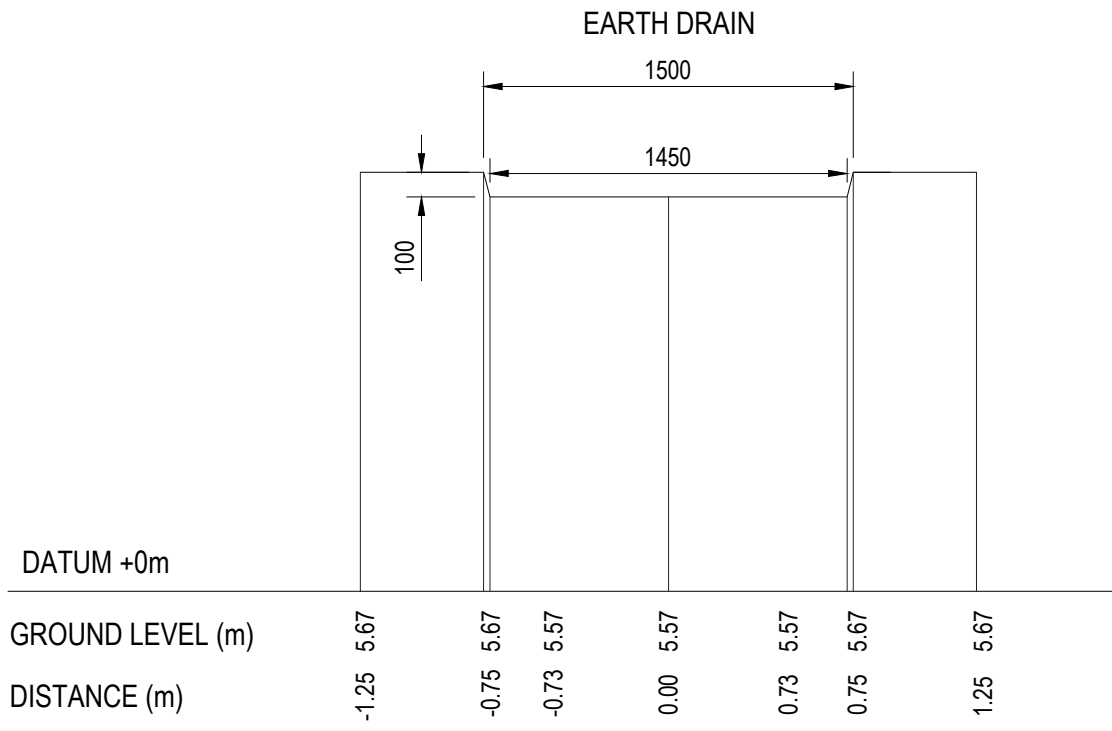


SECTION D152

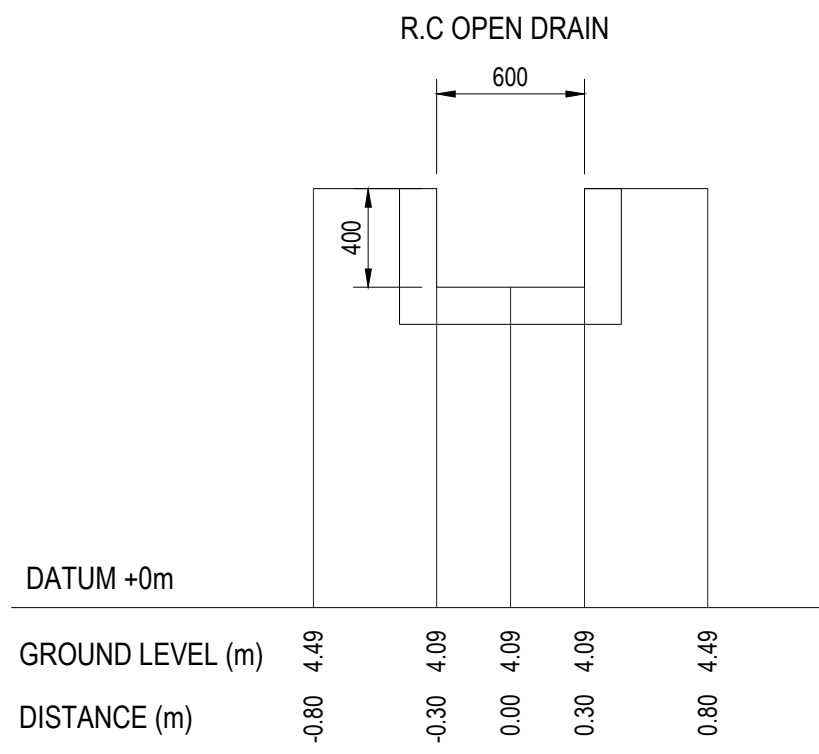


SECTION D153





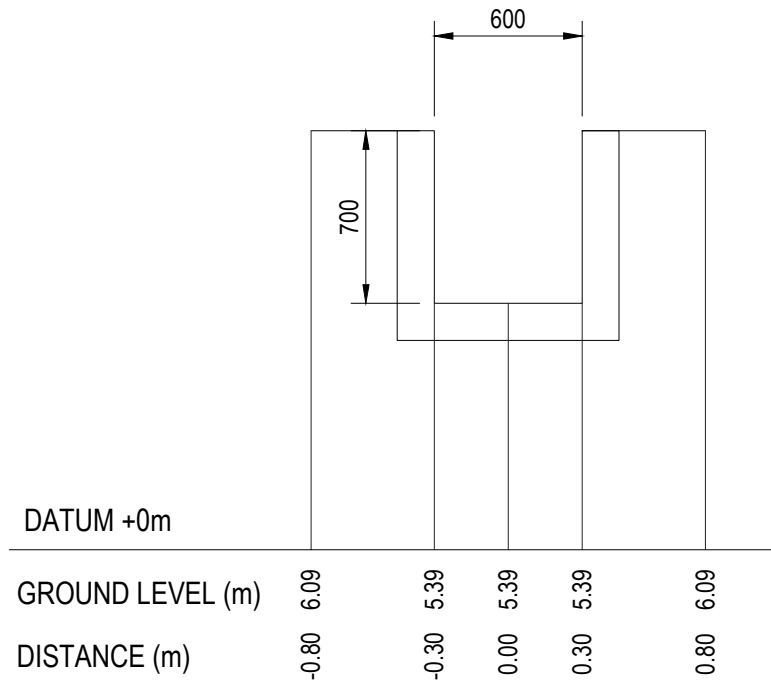
SECTION D154



SECTION D155

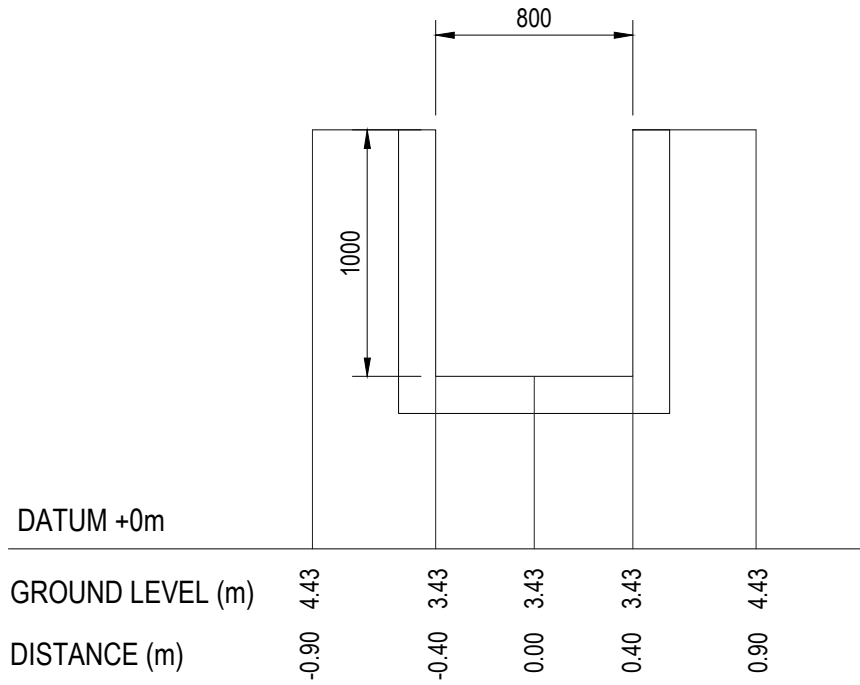


R.C OPEN DRAIN

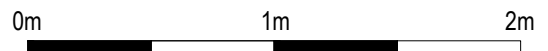


SECTION D156

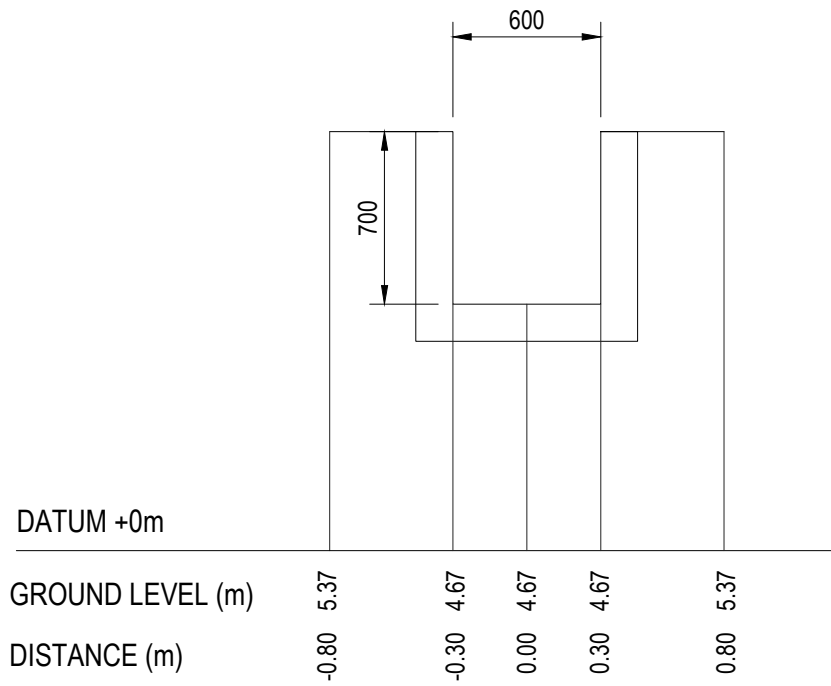
R.C OPEN DRAIN



SECTION D157

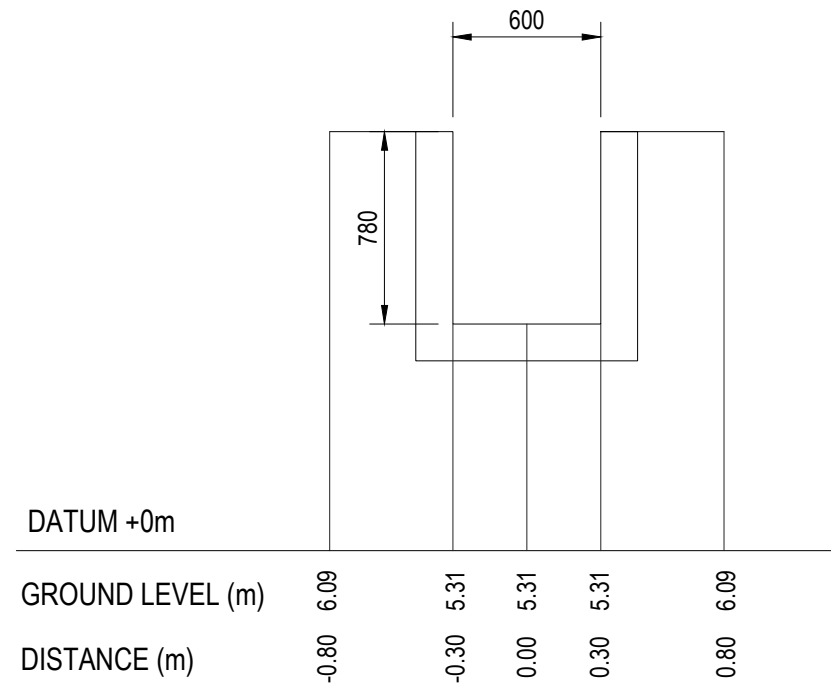


R.C OPEN DRAIN

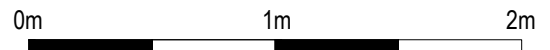


SECTION D158

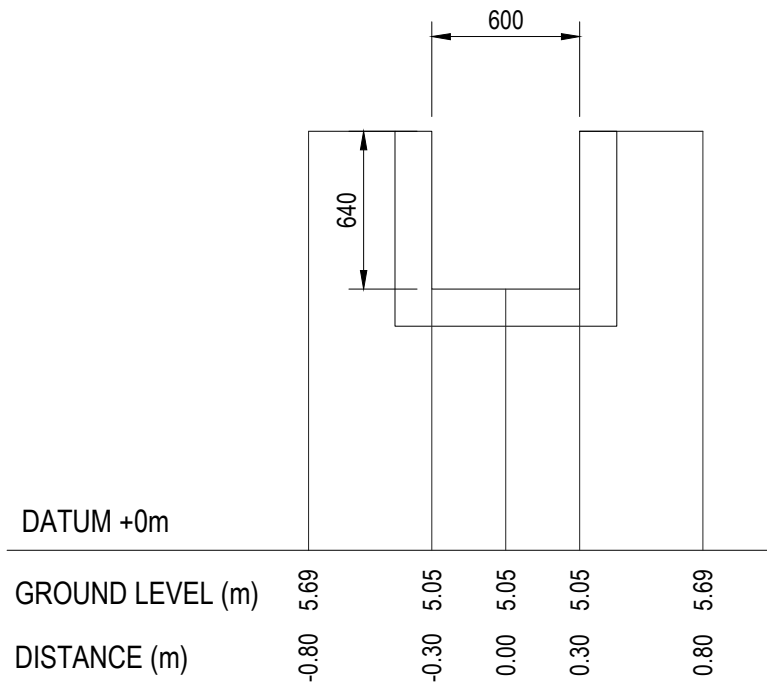
R.C OPEN DRAIN



SECTION D159

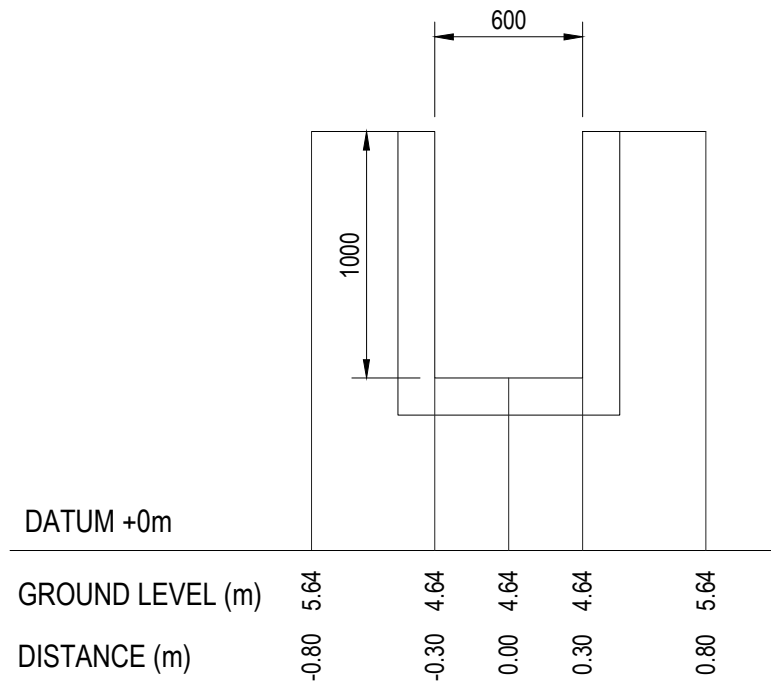


R.C OPEN DRAIN

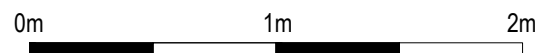


SECTION D160

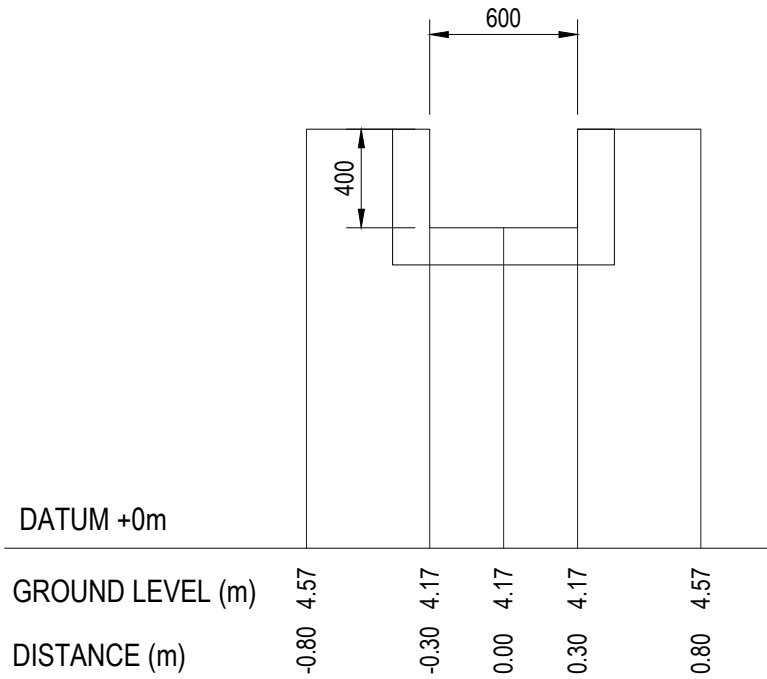
R.C OPEN DRAIN



SECTION D161

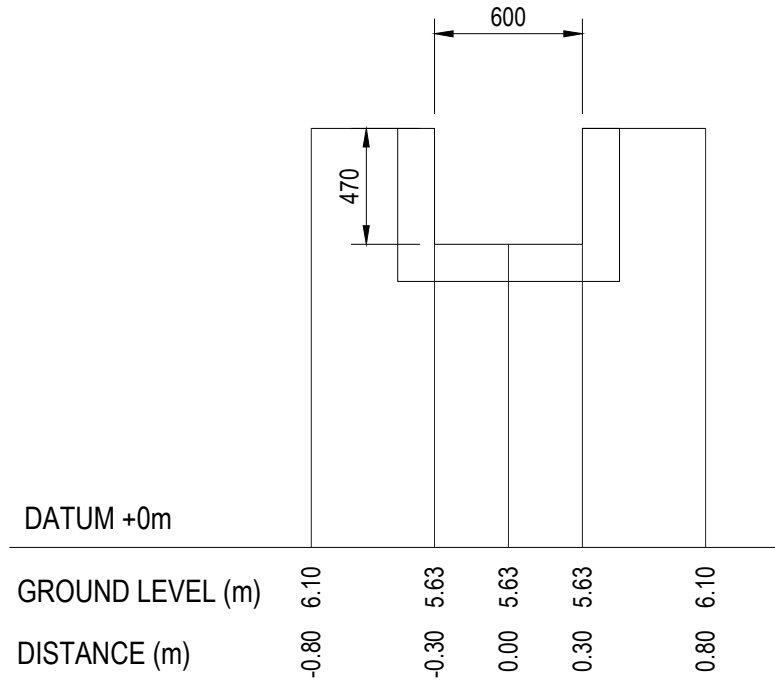


R.C OPEN DRAIN

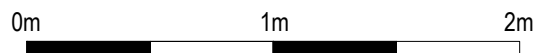


SECTION D162

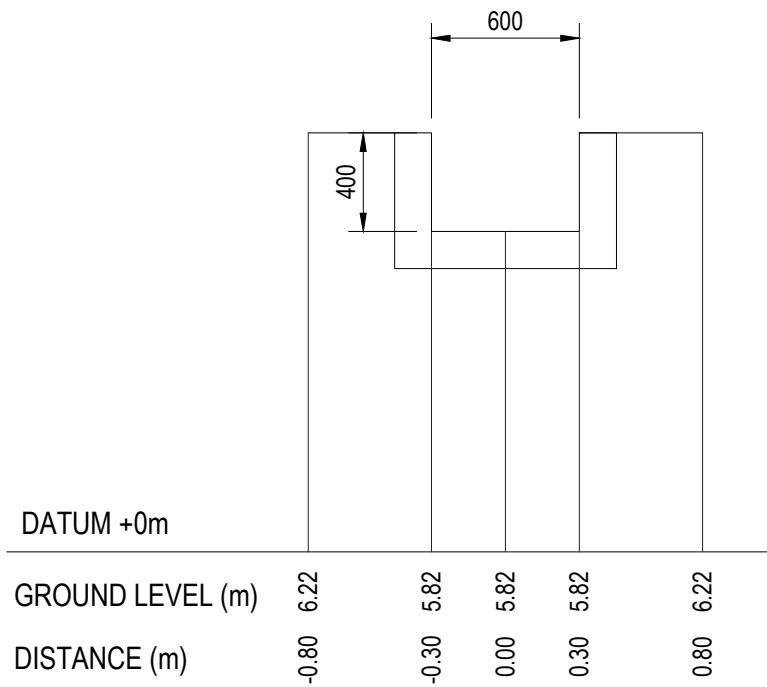
R.C OPEN DRAIN



SECTION D163

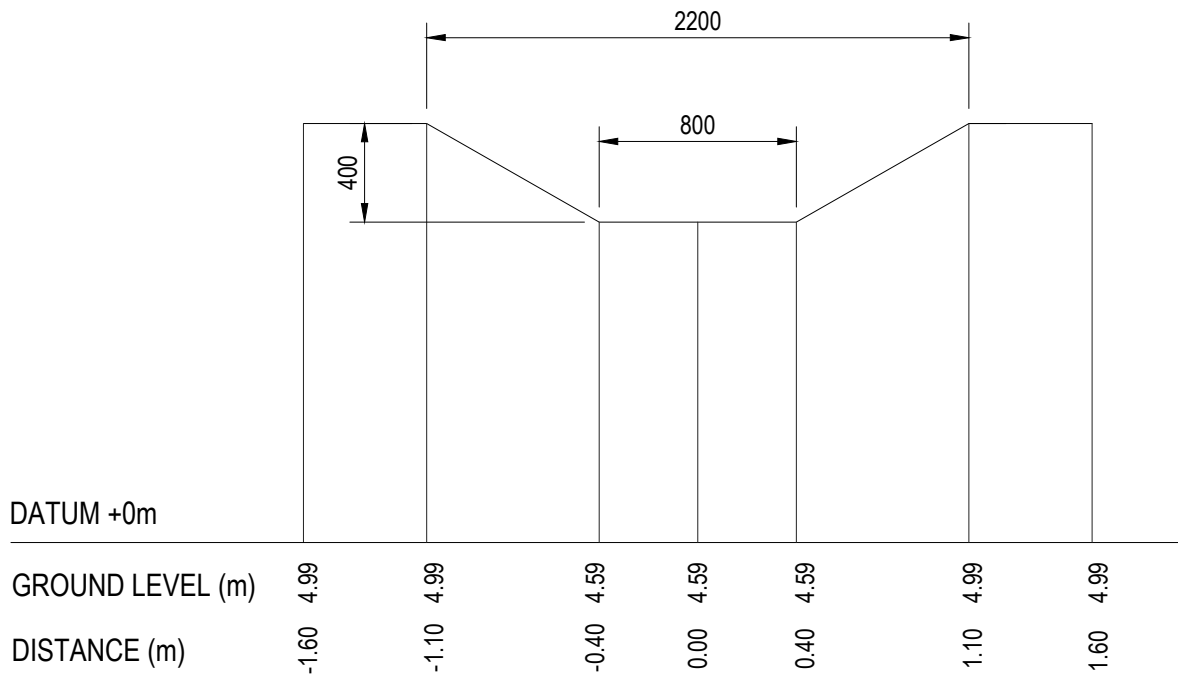


R.C OPEN DRAIN

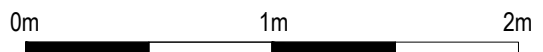


SECTION D164

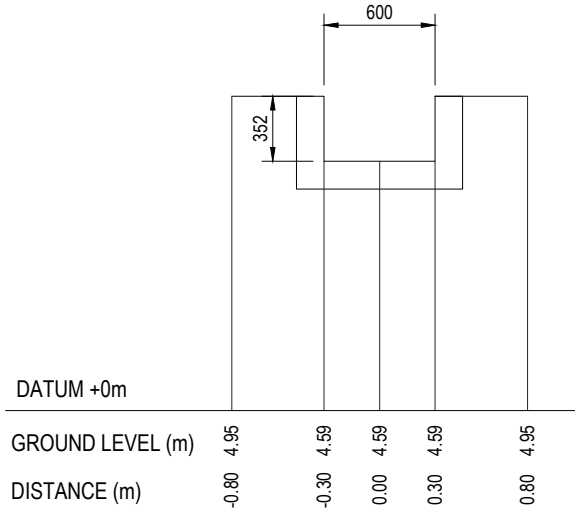
EARTH DRAIN



SECTION D165

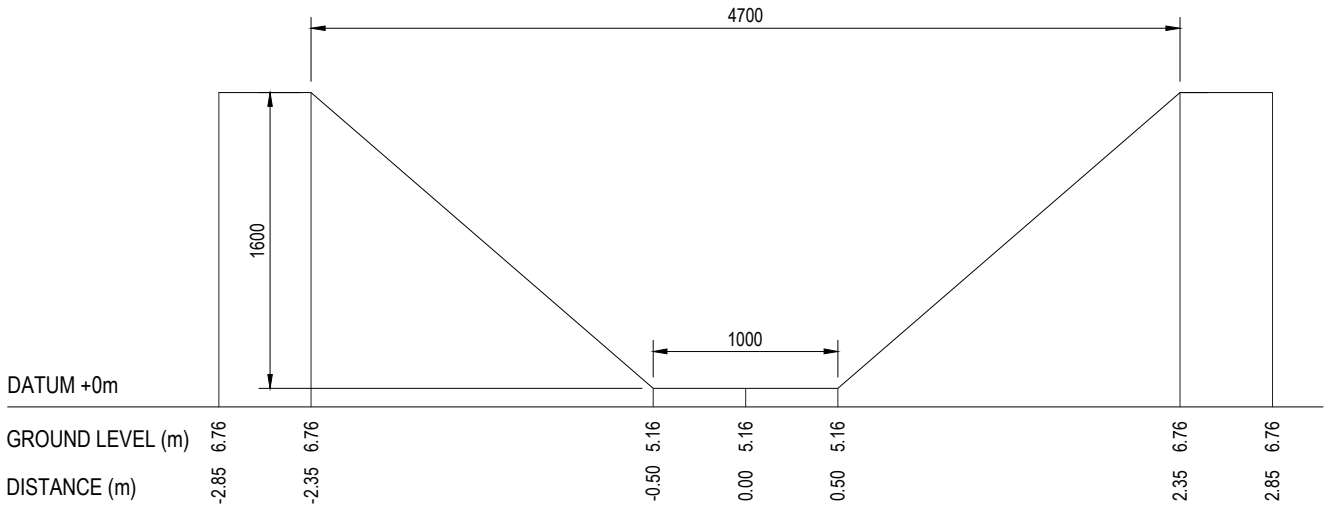


R.C OPEN DRAIN

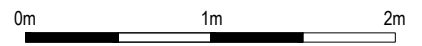


SECTION D165A

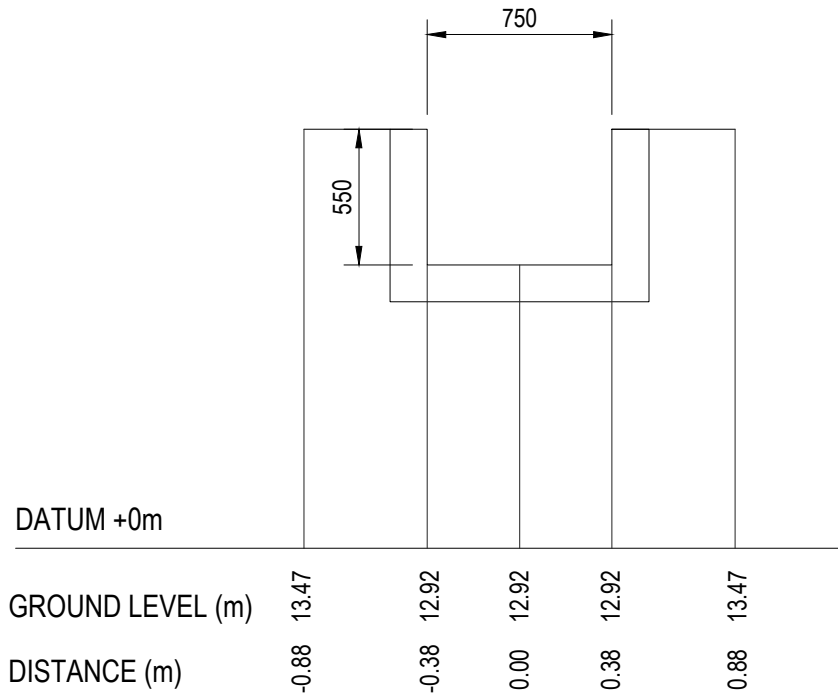
EARTH DRAIN



SECTION D166

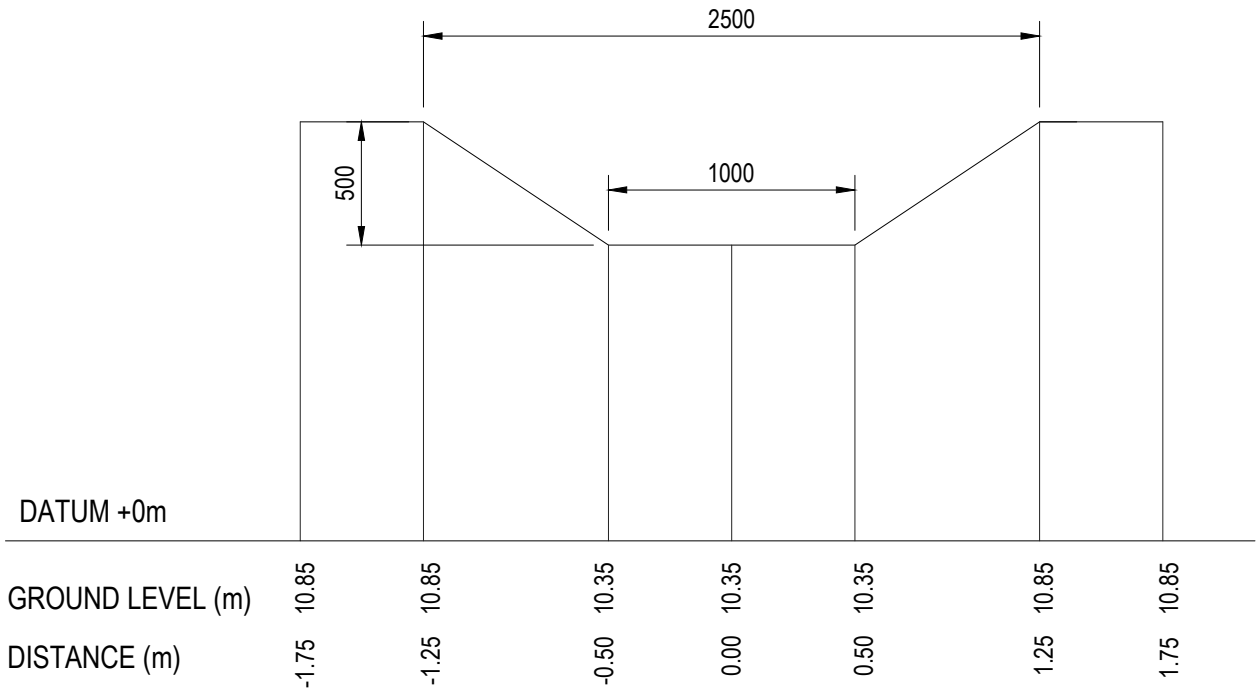


R.C OPEN DRAIN

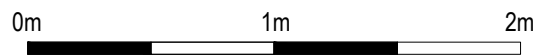


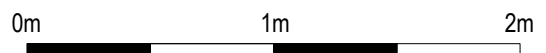
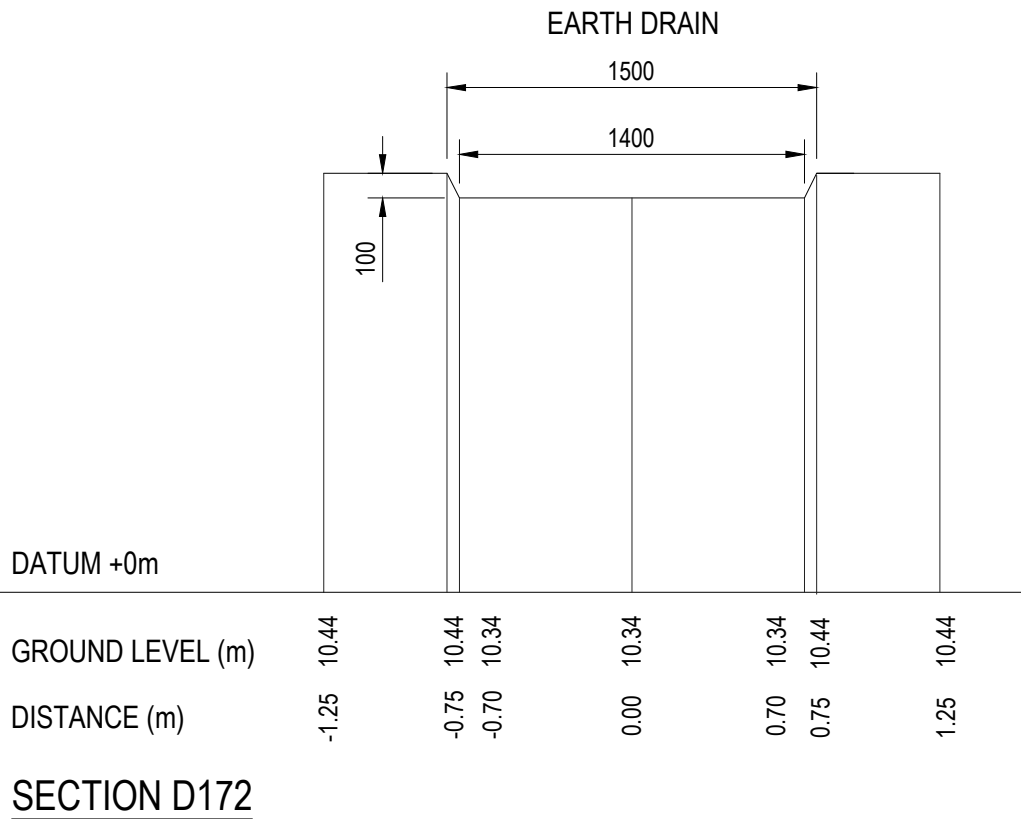
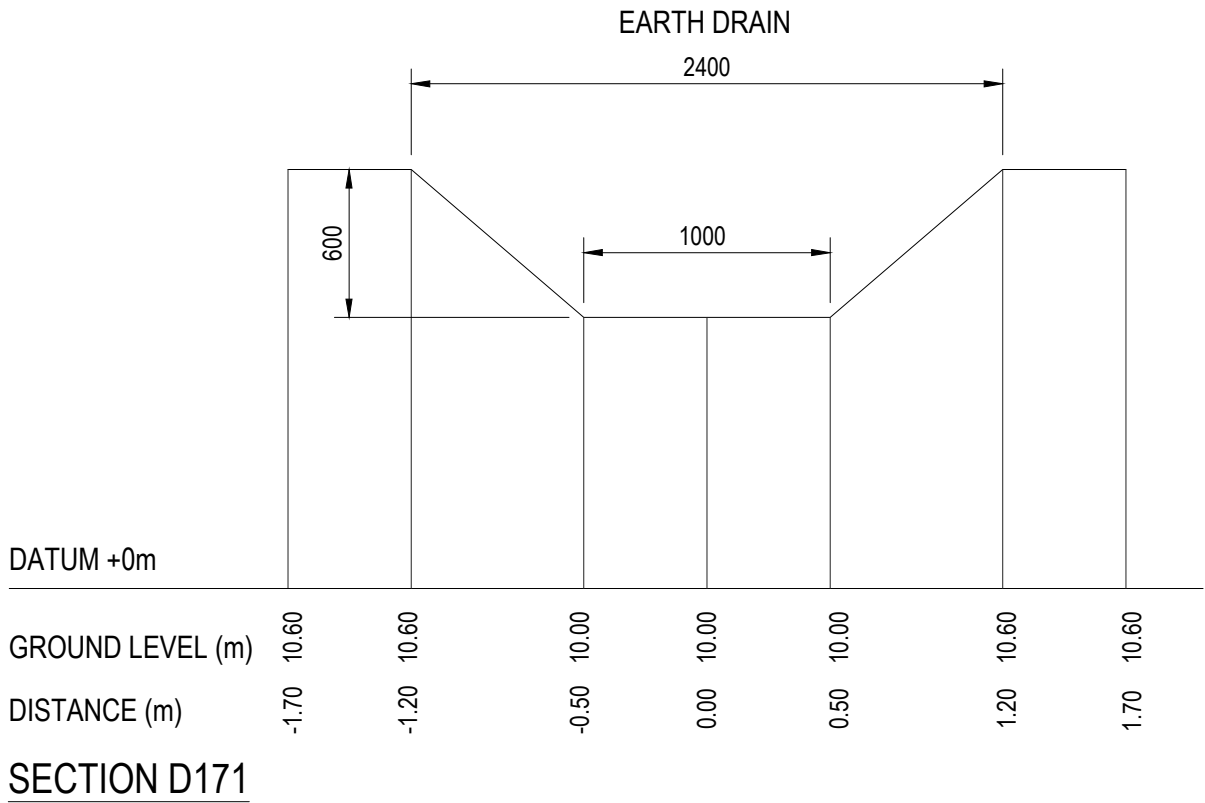
SECTION D169

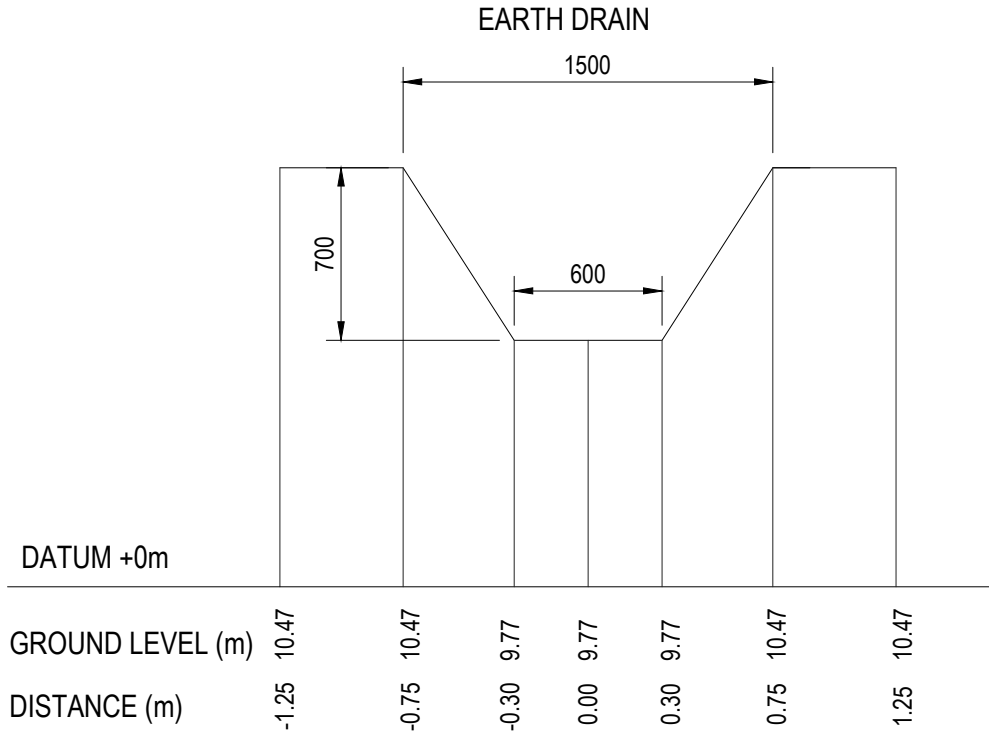
EARTH DRAIN



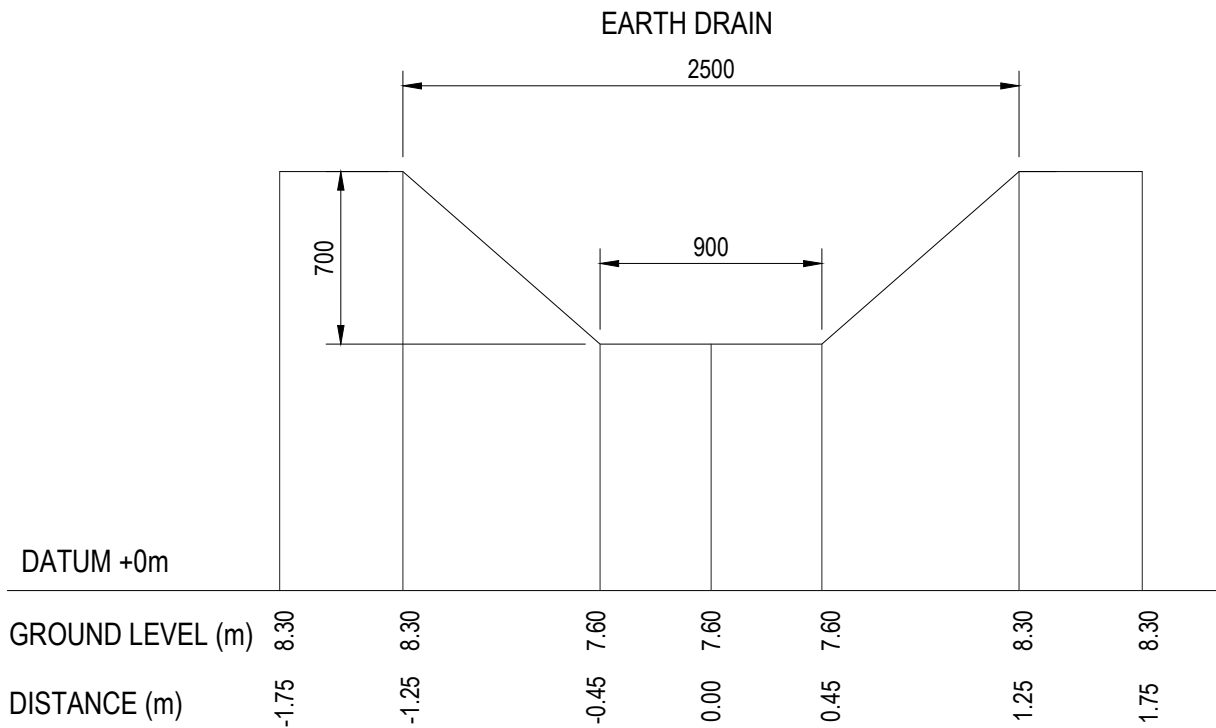
SECTION D170



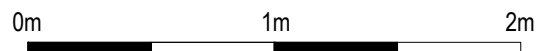


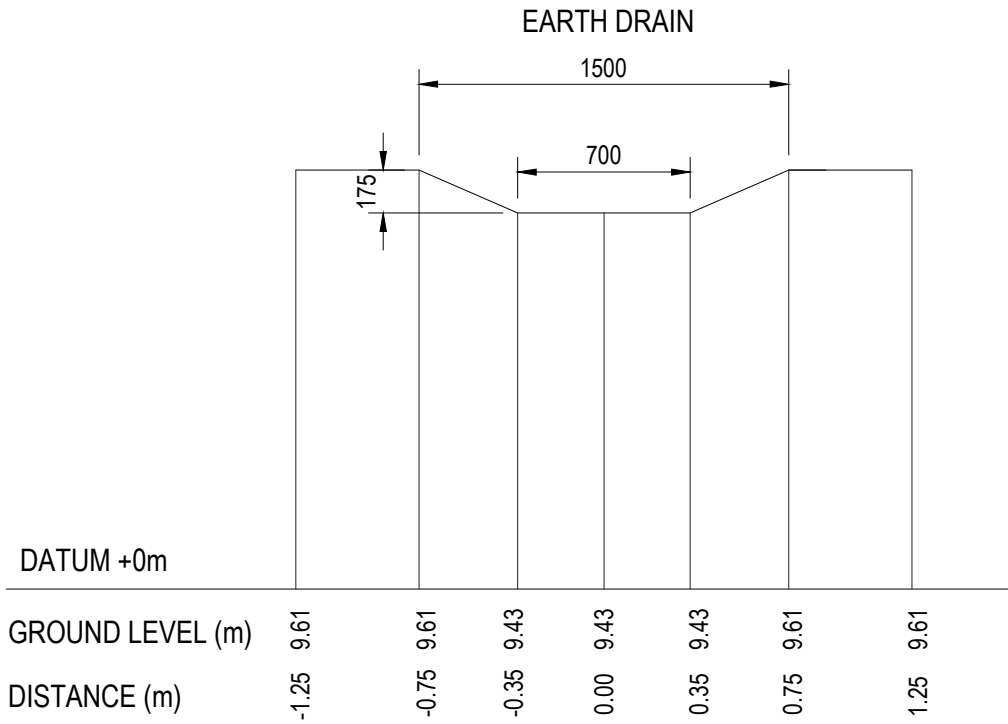


SECTION D173

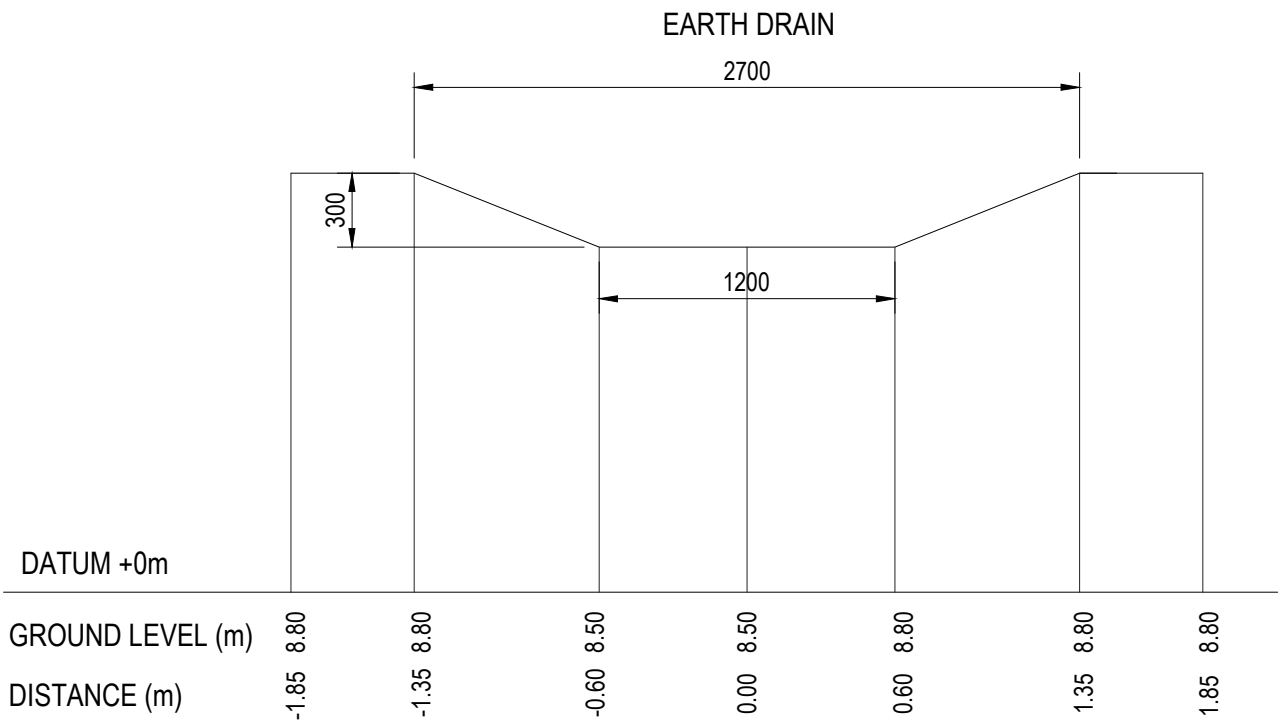


SECTION D174

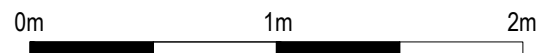




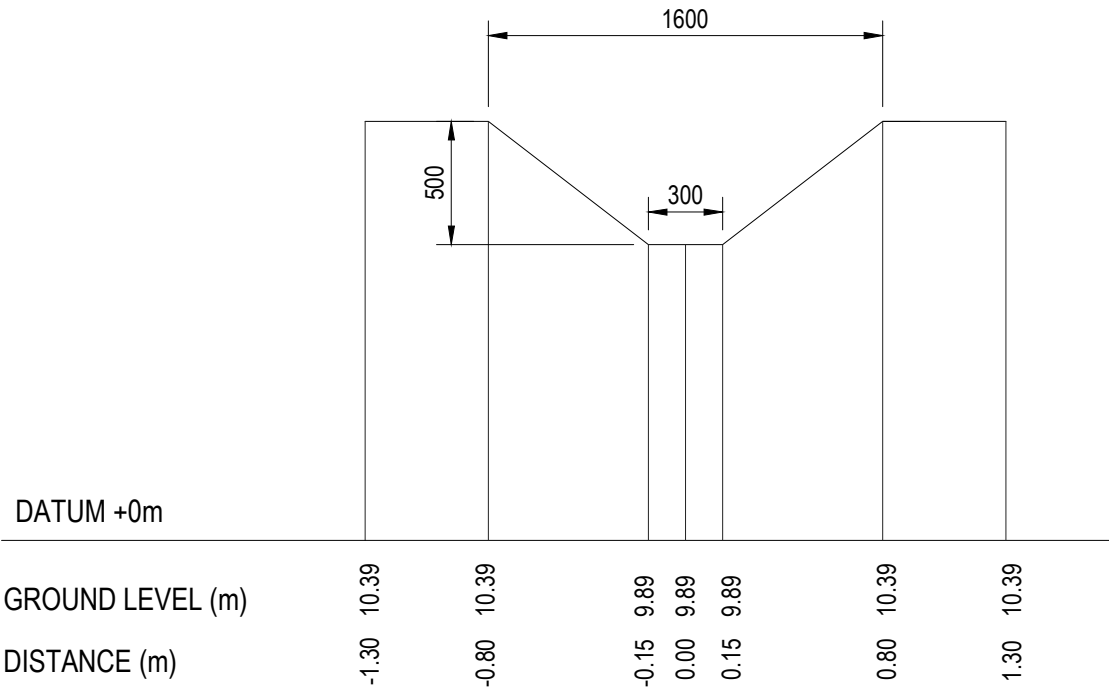
SECTION D175



SECTION D176



R.C OPEN DRAIN

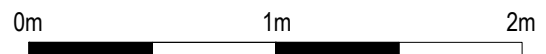
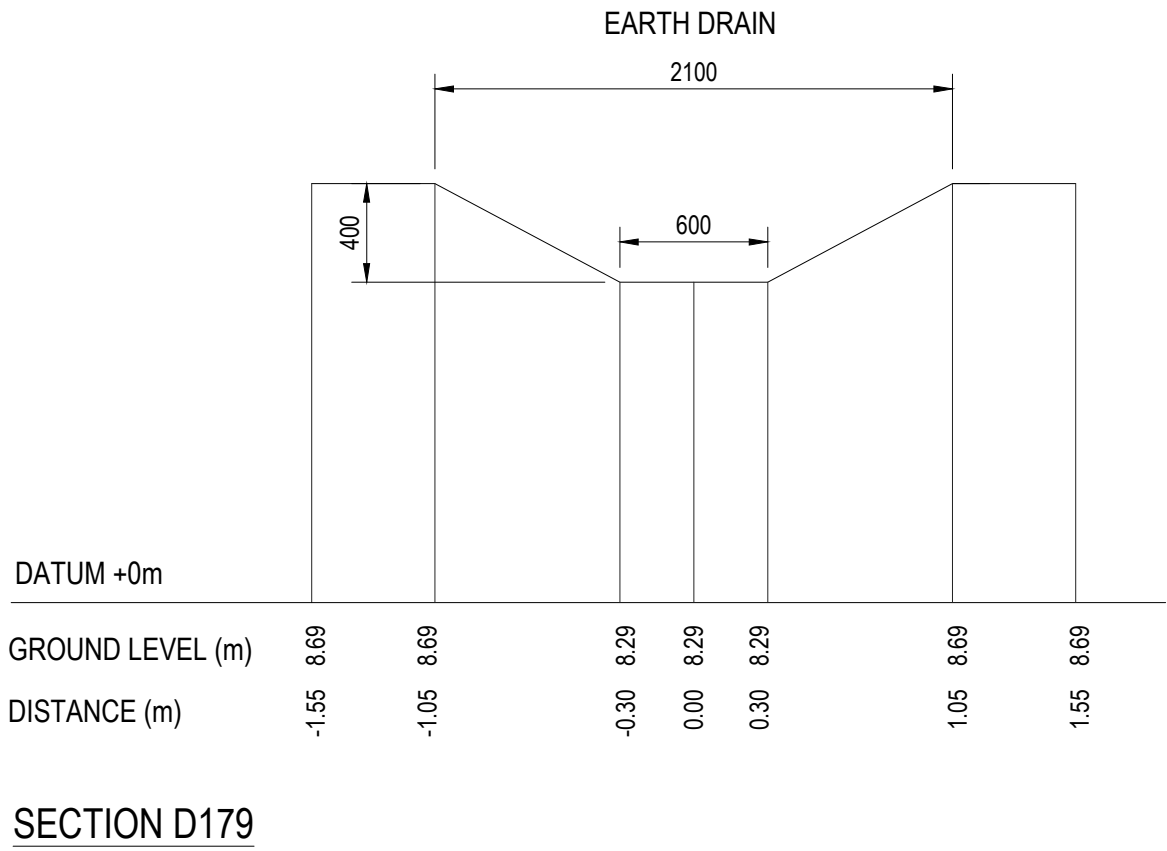
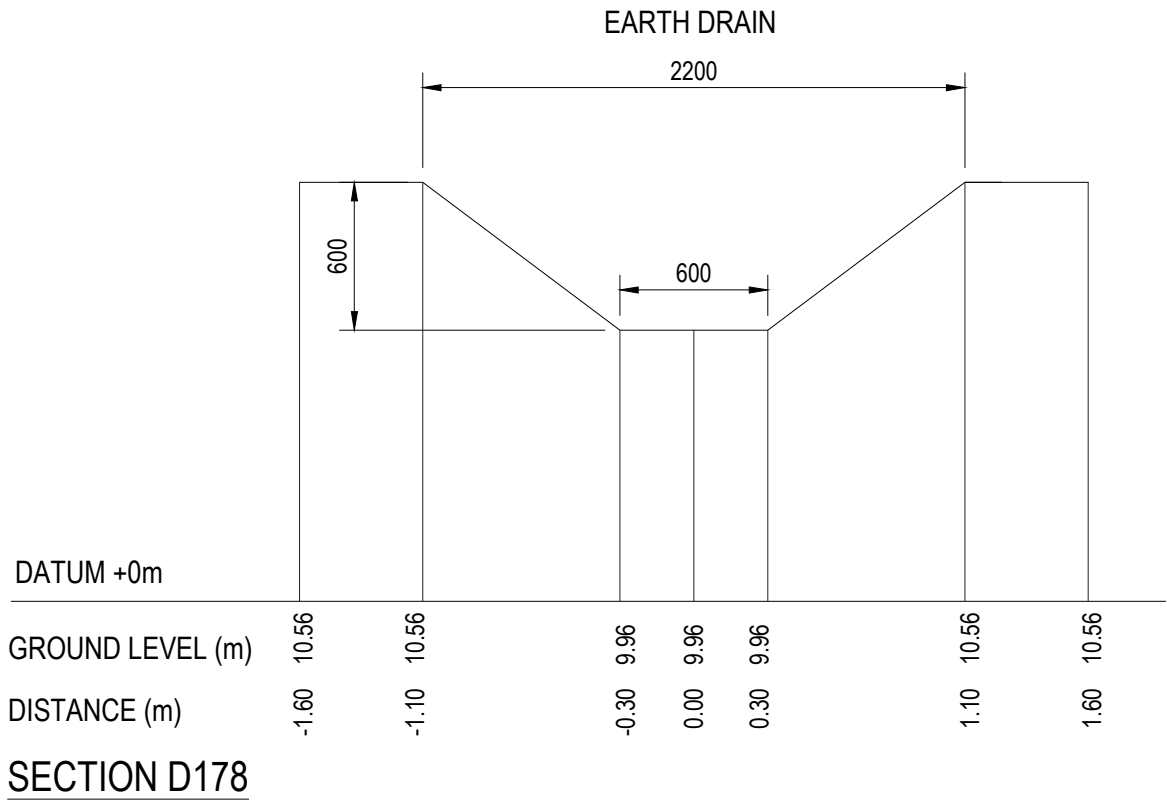


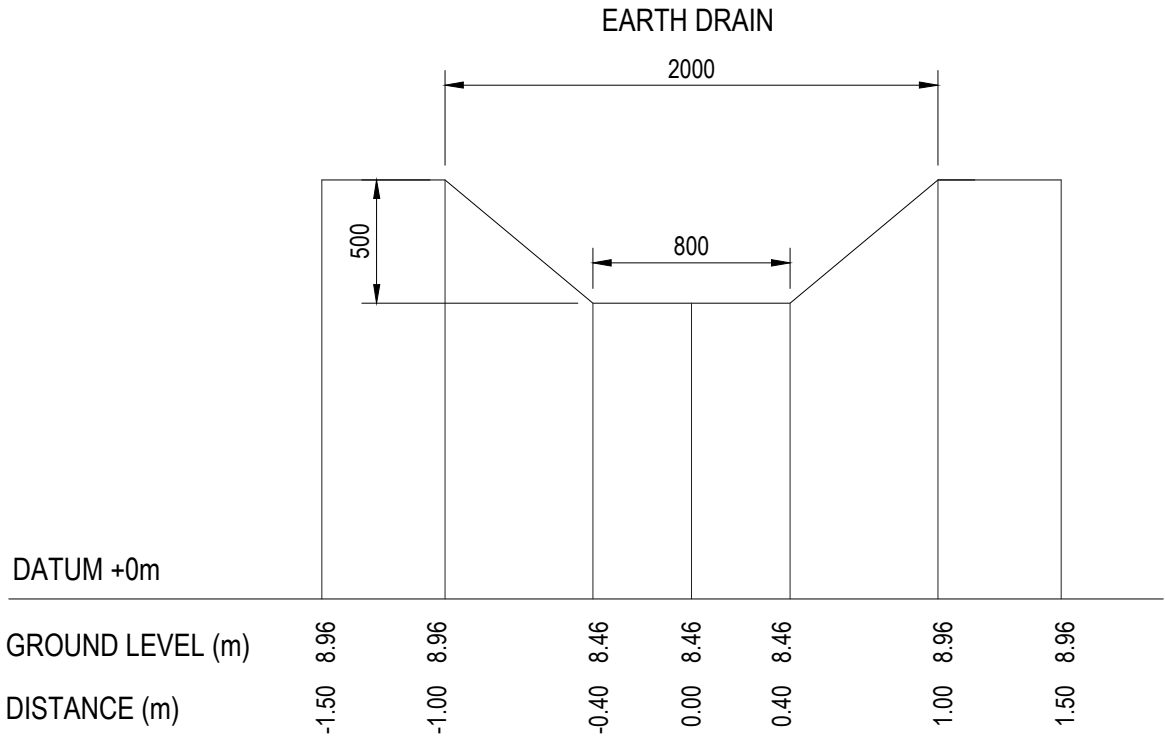
DATUM +0m

GROUND LEVEL (m)

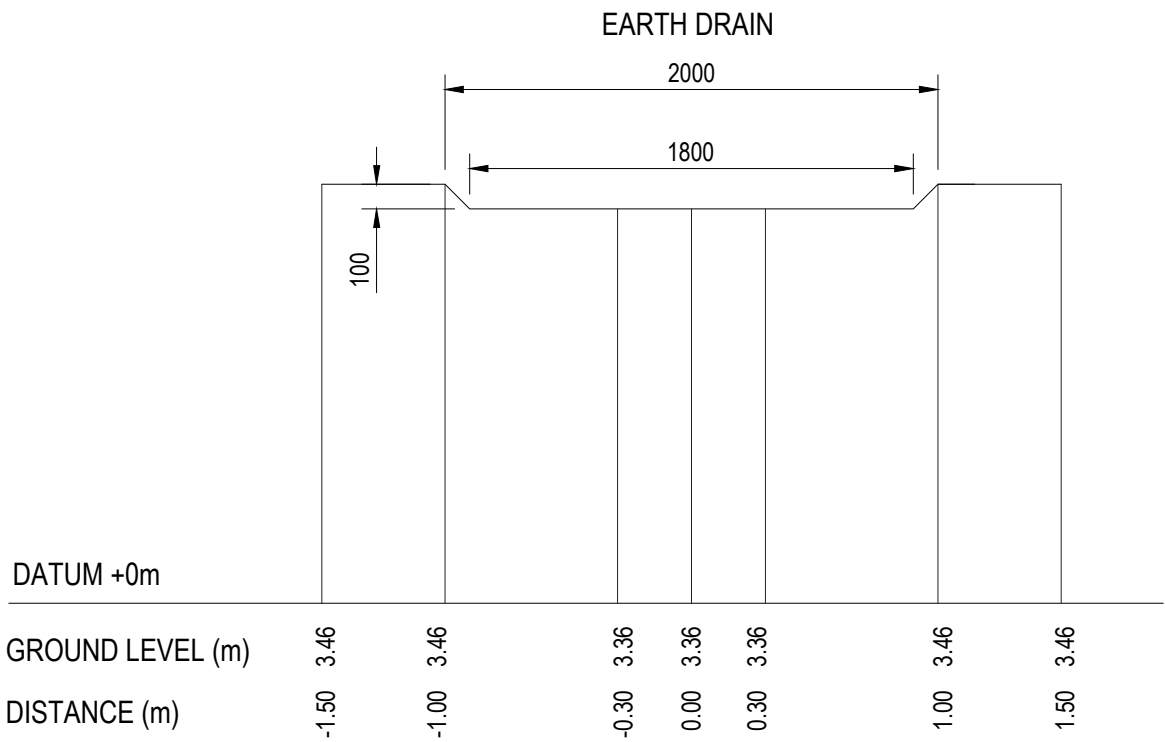
DISTANCE (m)

SECTION D177

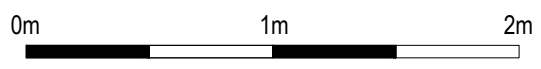




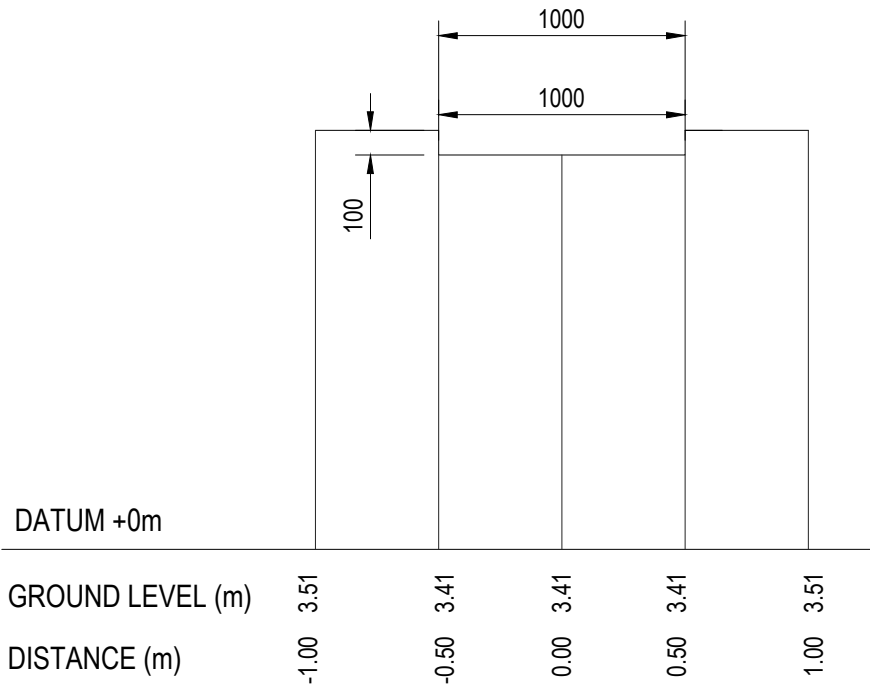
SECTION D180



SECTION D181

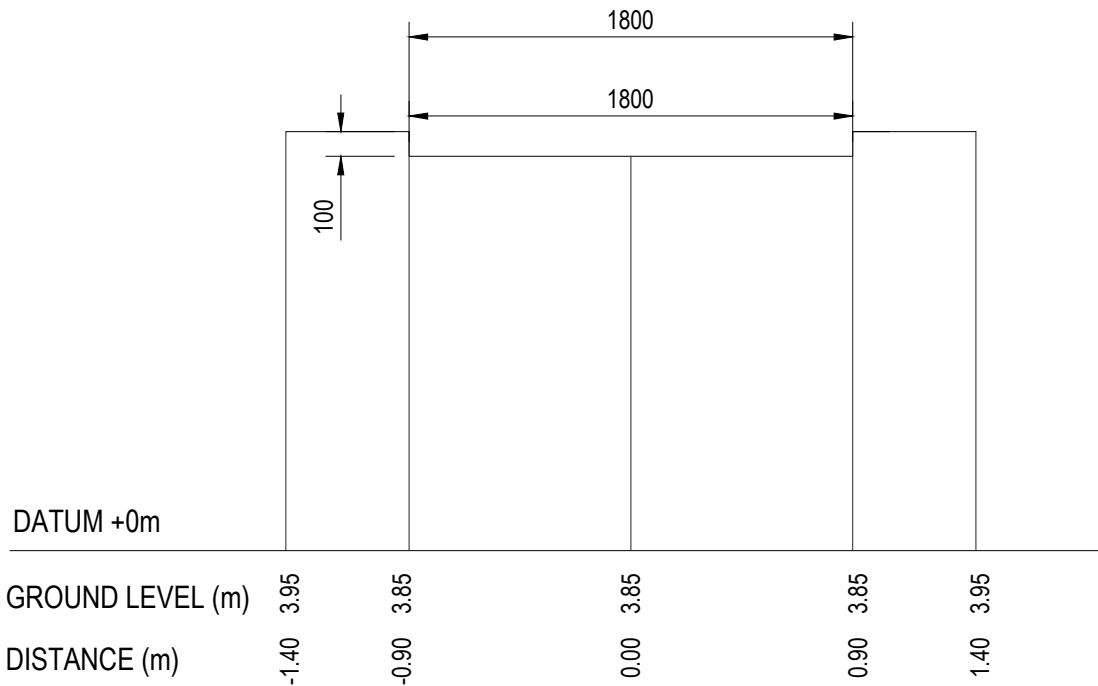


EARTH DRAIN

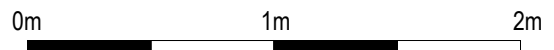


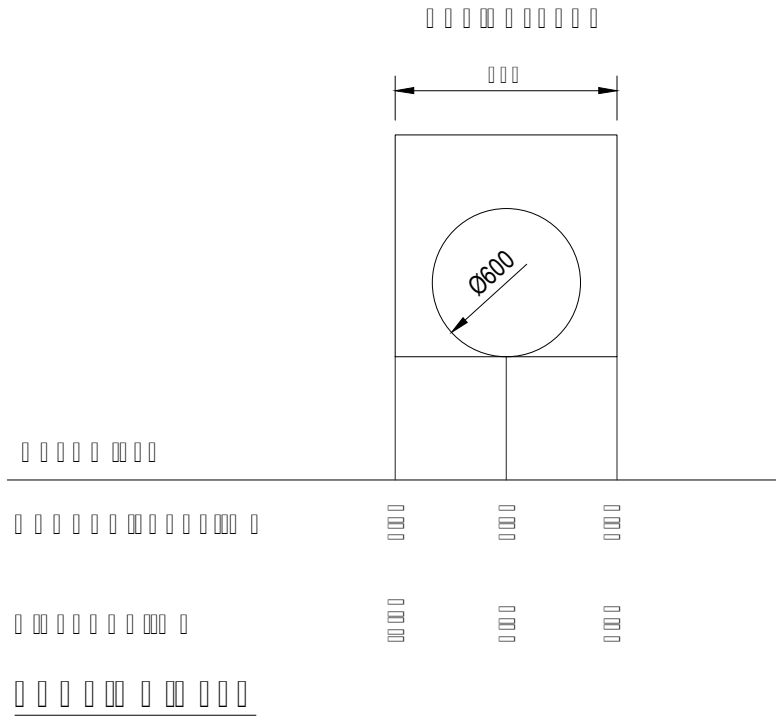
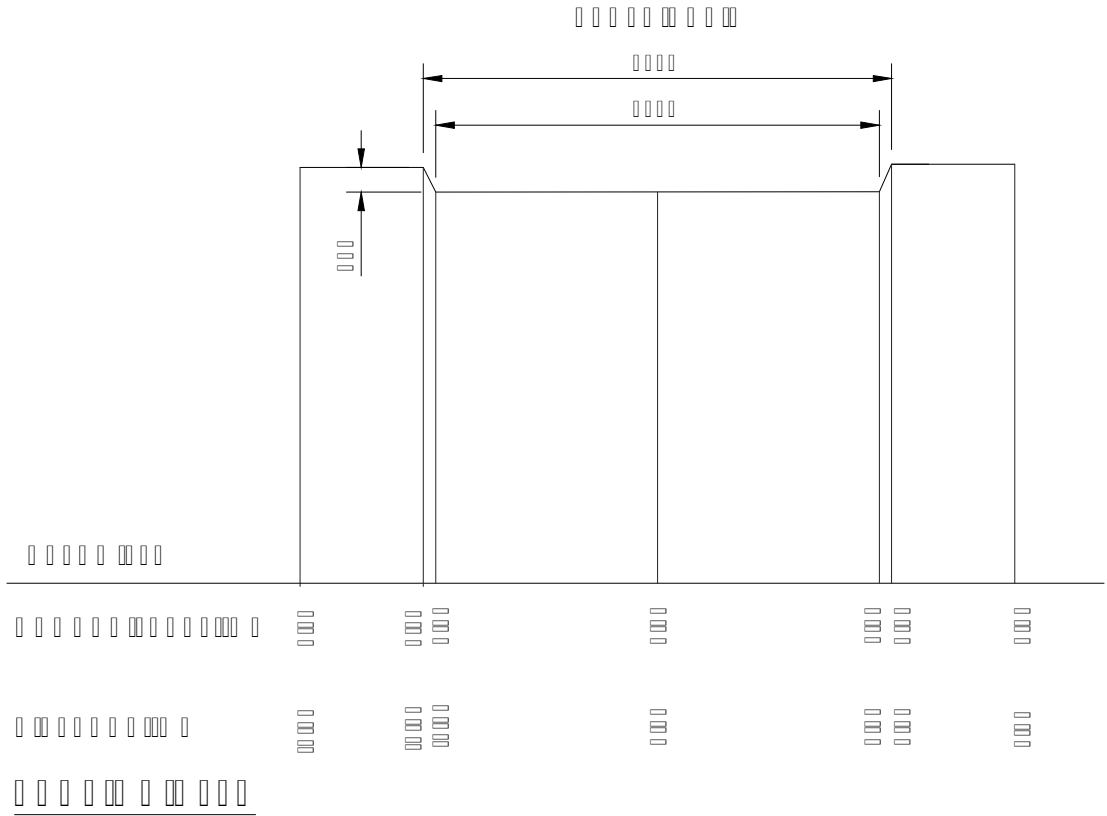
SECTION D182

EARTH DRAIN



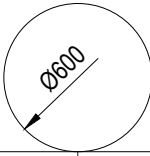
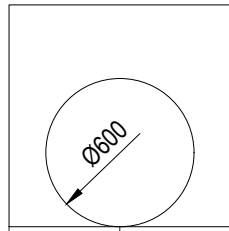
SECTION D183





0 0 0 0 0 0 0 0 0 0

0 0



0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0 0 0 0



0 0 0 0 0 0 0 0 0

0 0 0 0



0 0 0

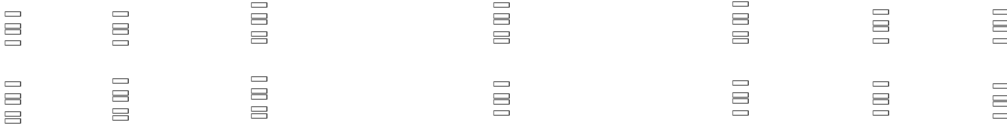
0 0 0 0

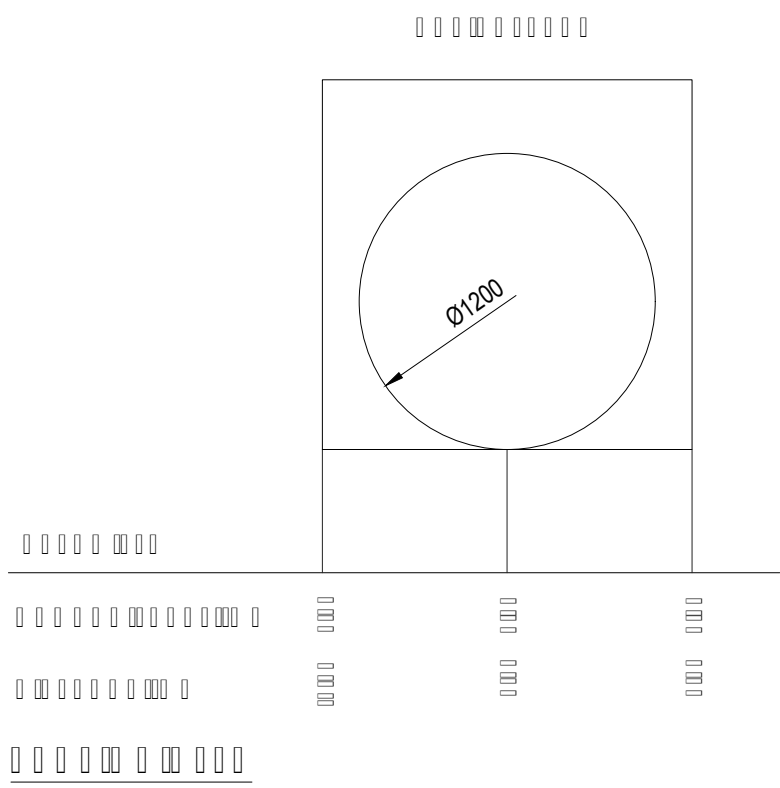
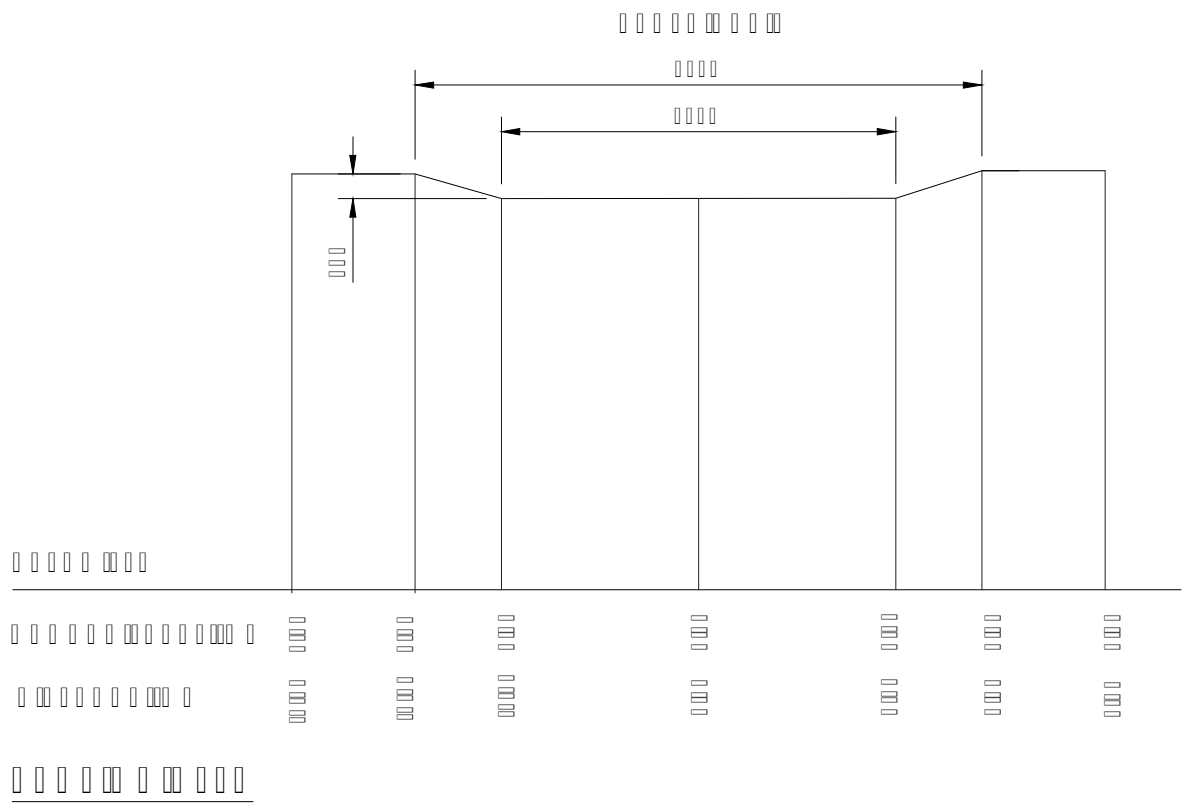
0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

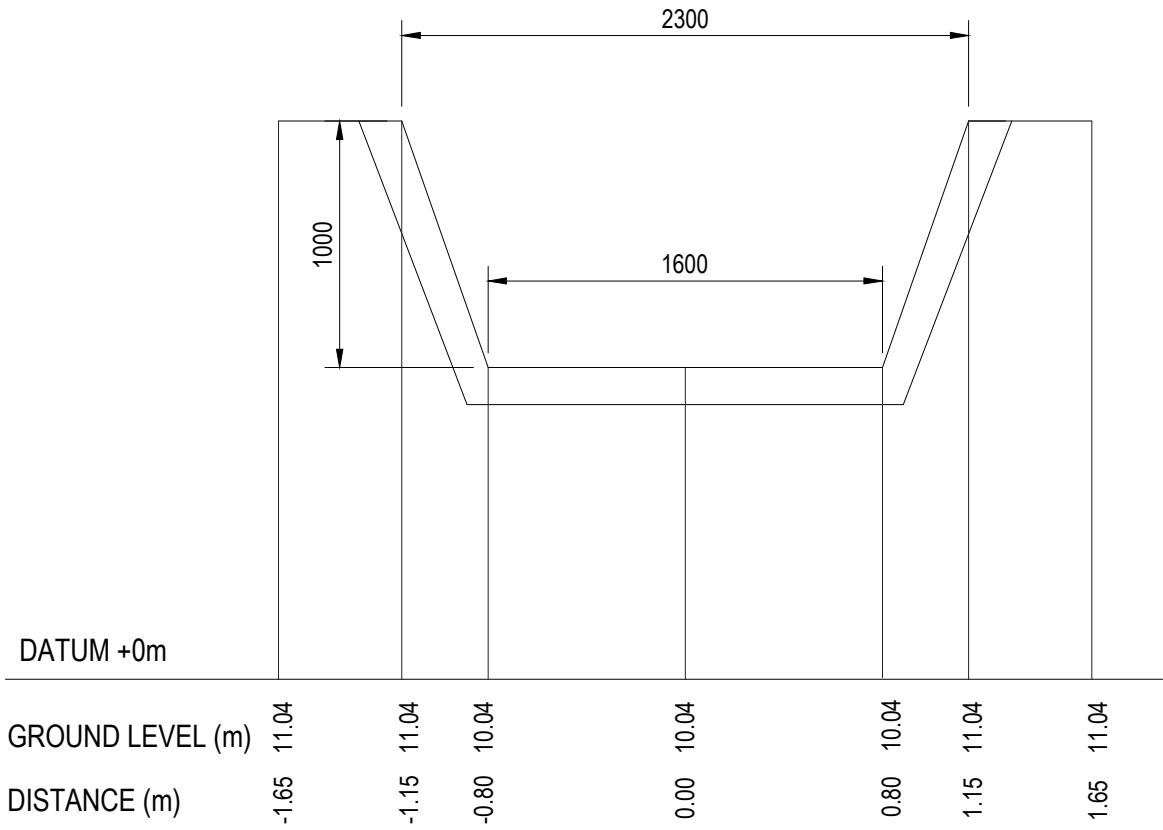
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0 0 0 0 0 0 0 0 0 0 0 0



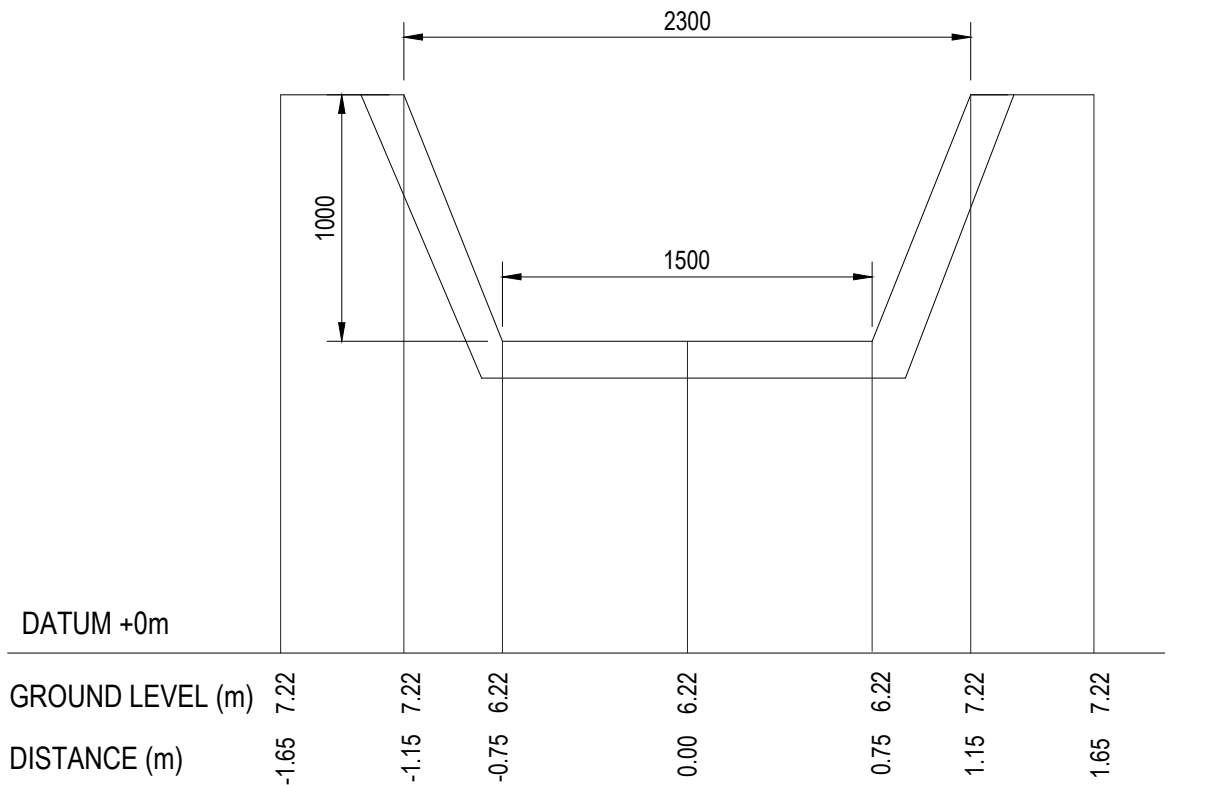


R.C OPEN DRAIN

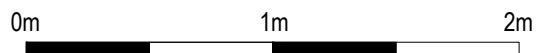


SECTION D191

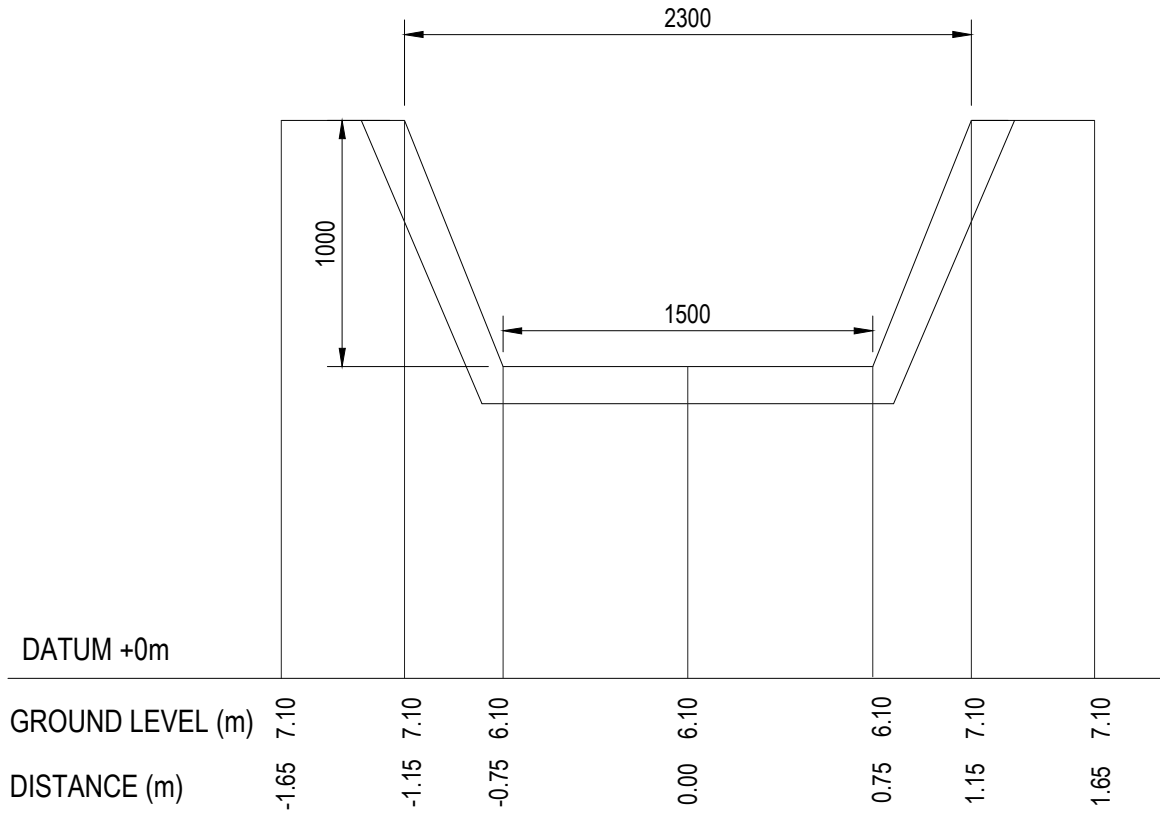
R.C OPEN DRAIN



SECTION D192

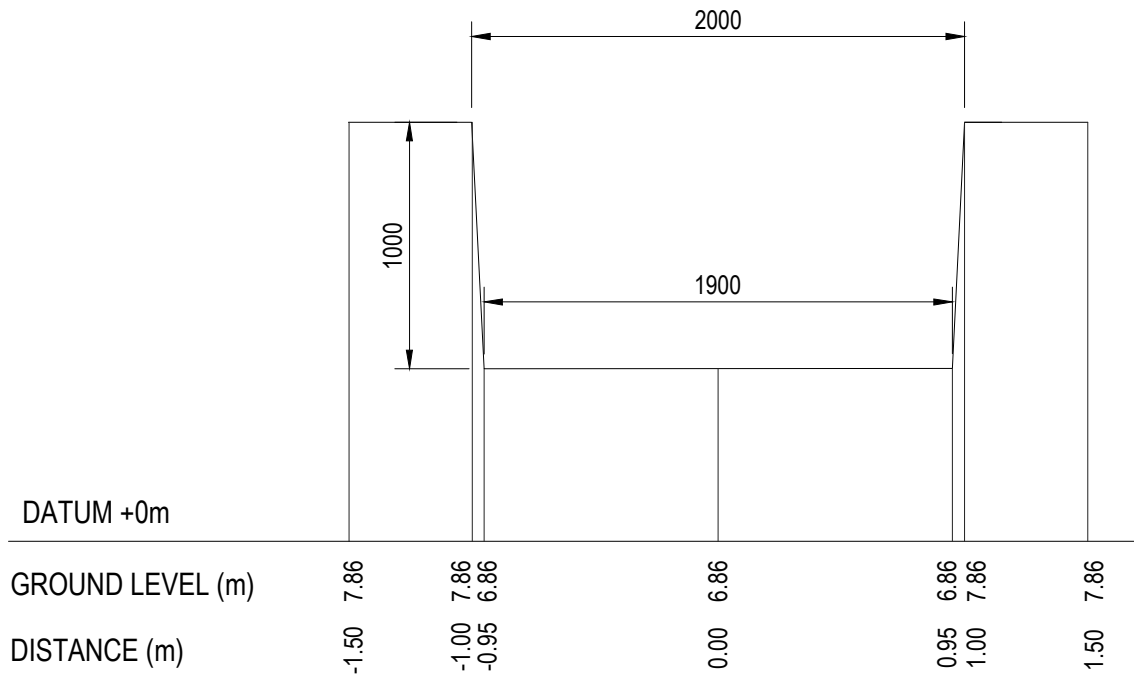


R.C OPEN DRAIN

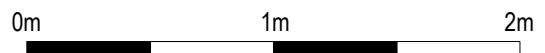


SECTION D193

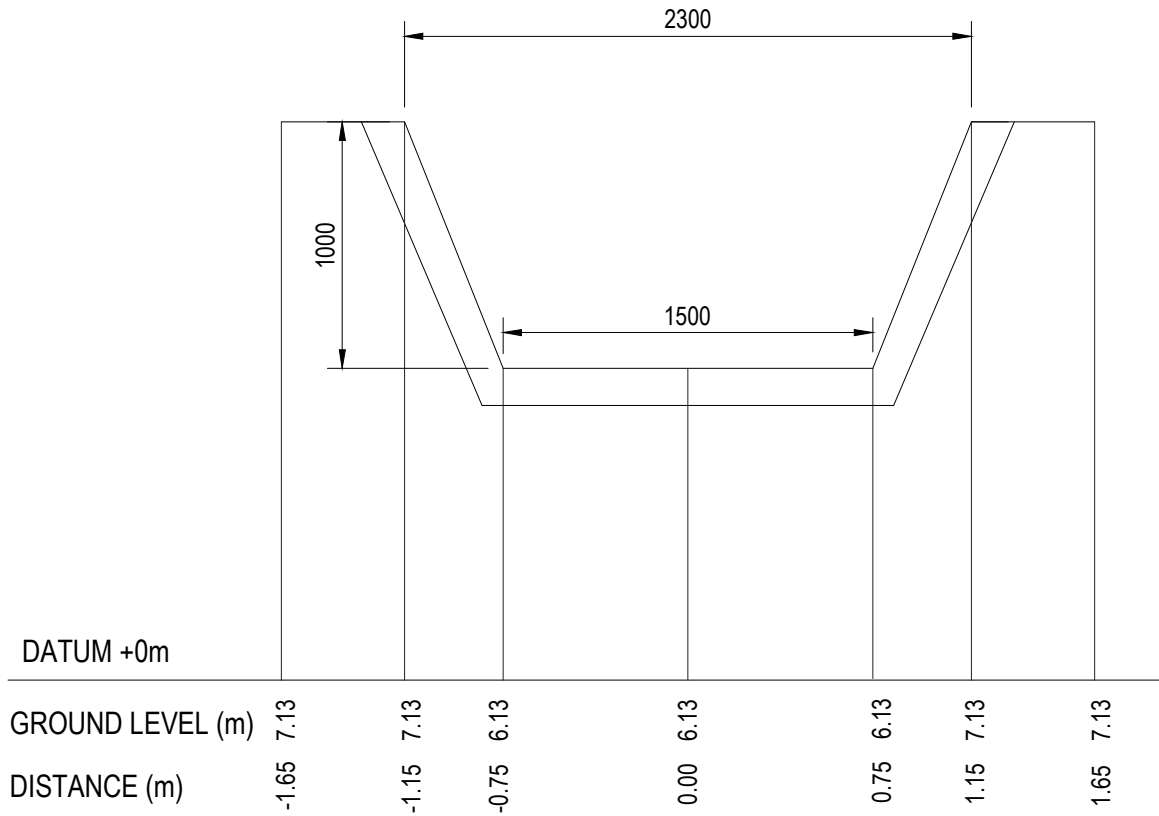
EARTH DRAIN



SECTION D194

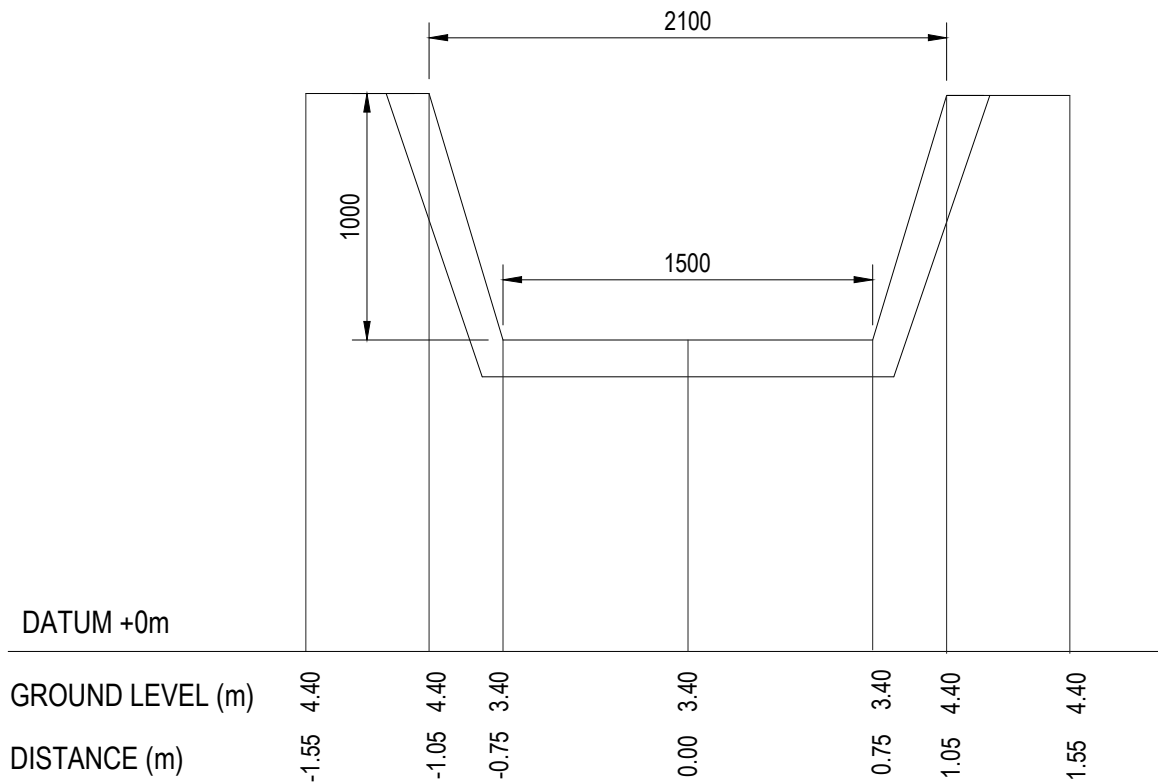


R.C OPEN DRAIN

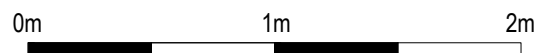


SECTION D195

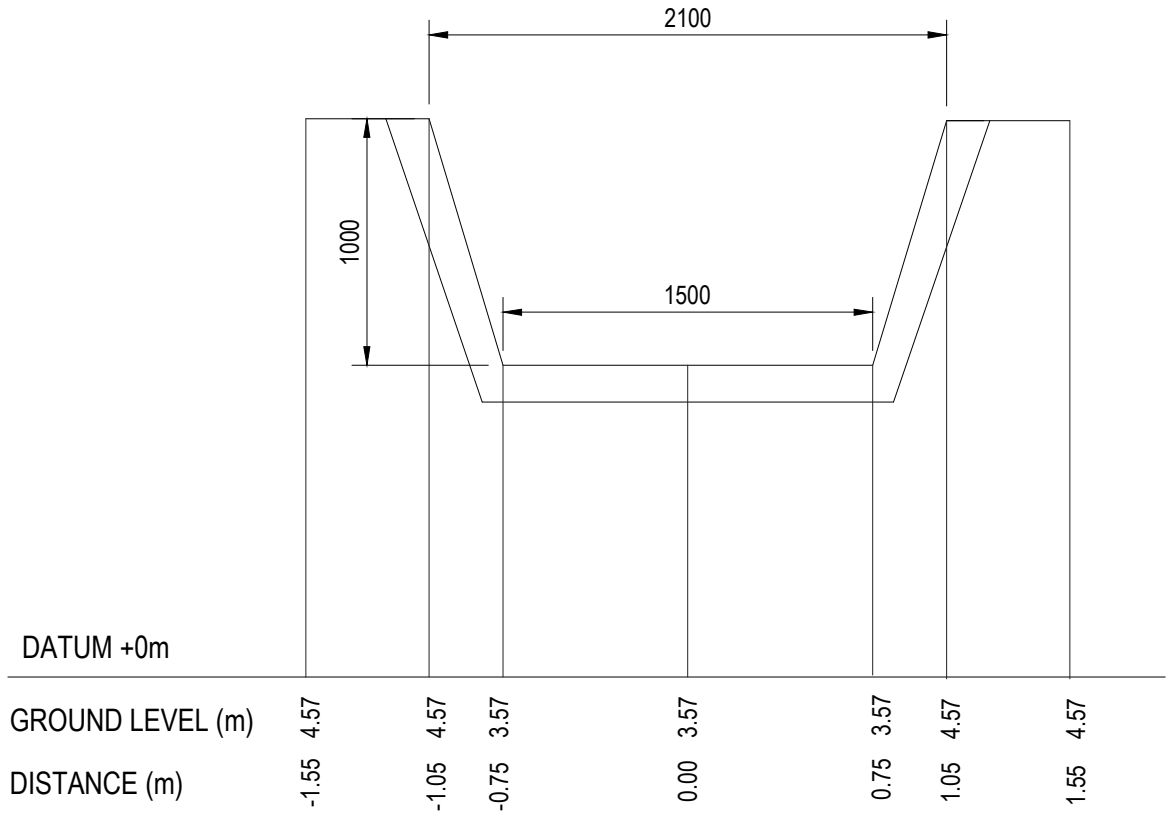
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SECTION D196

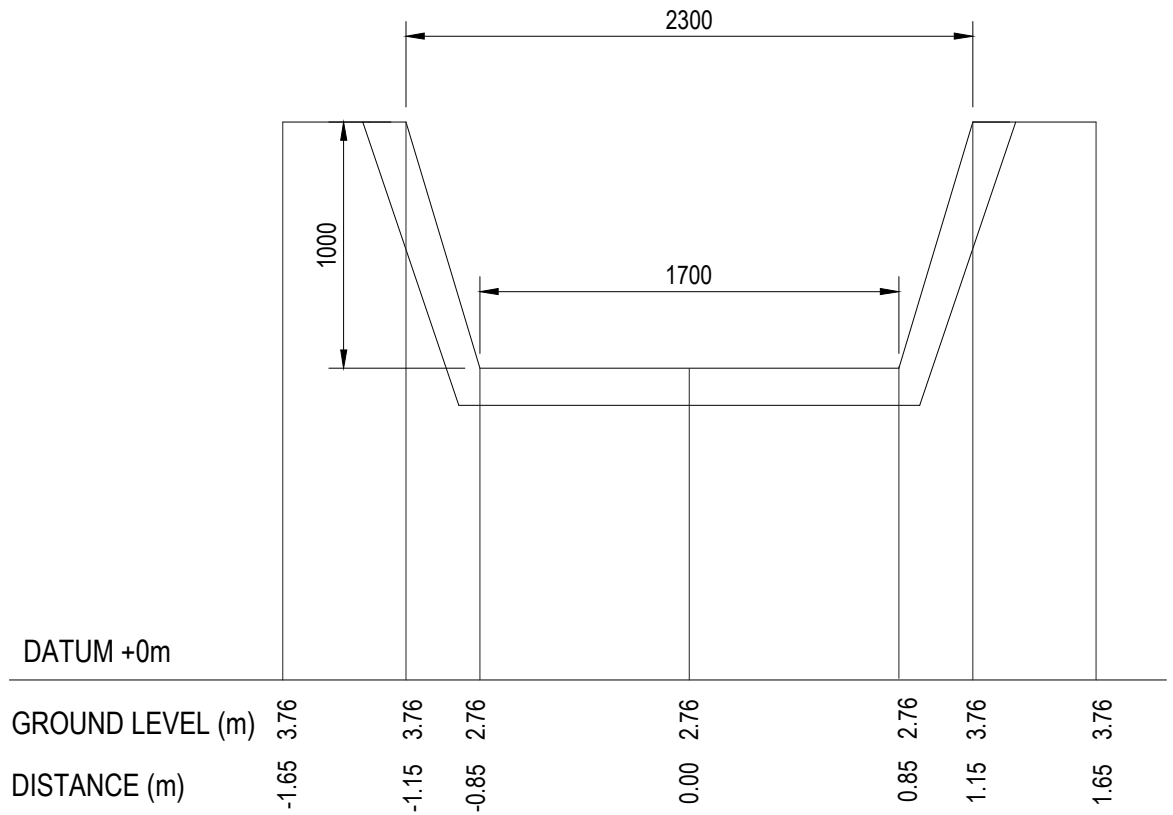


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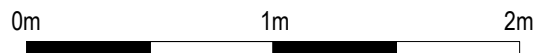


SECTION D197

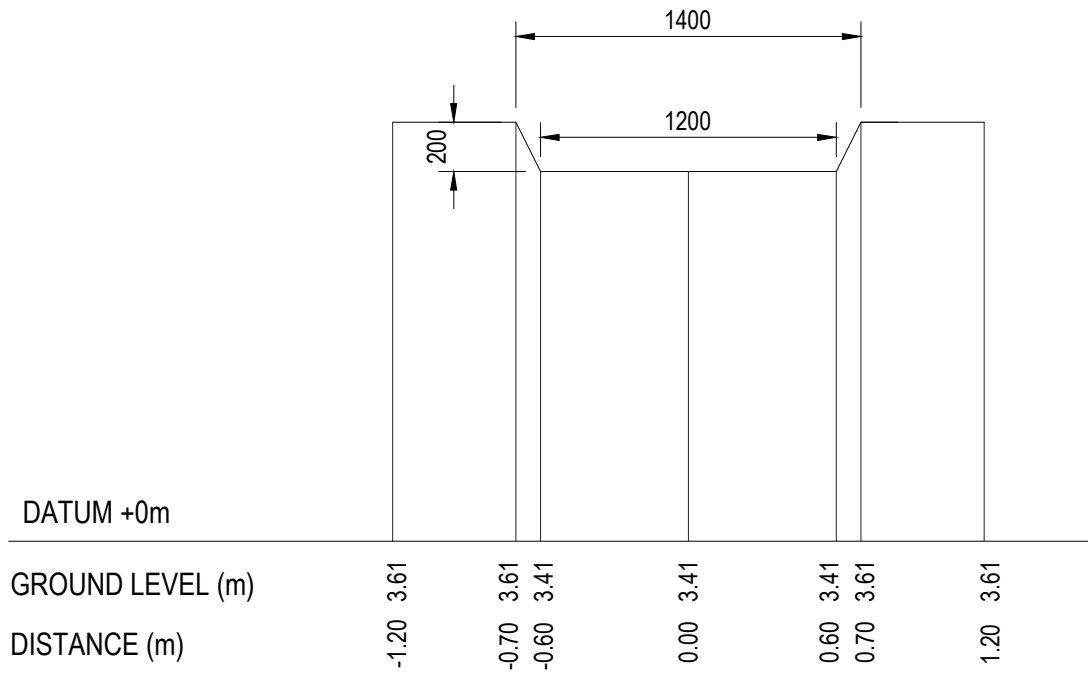
R.C OPEN DRAIN



SECTION D198

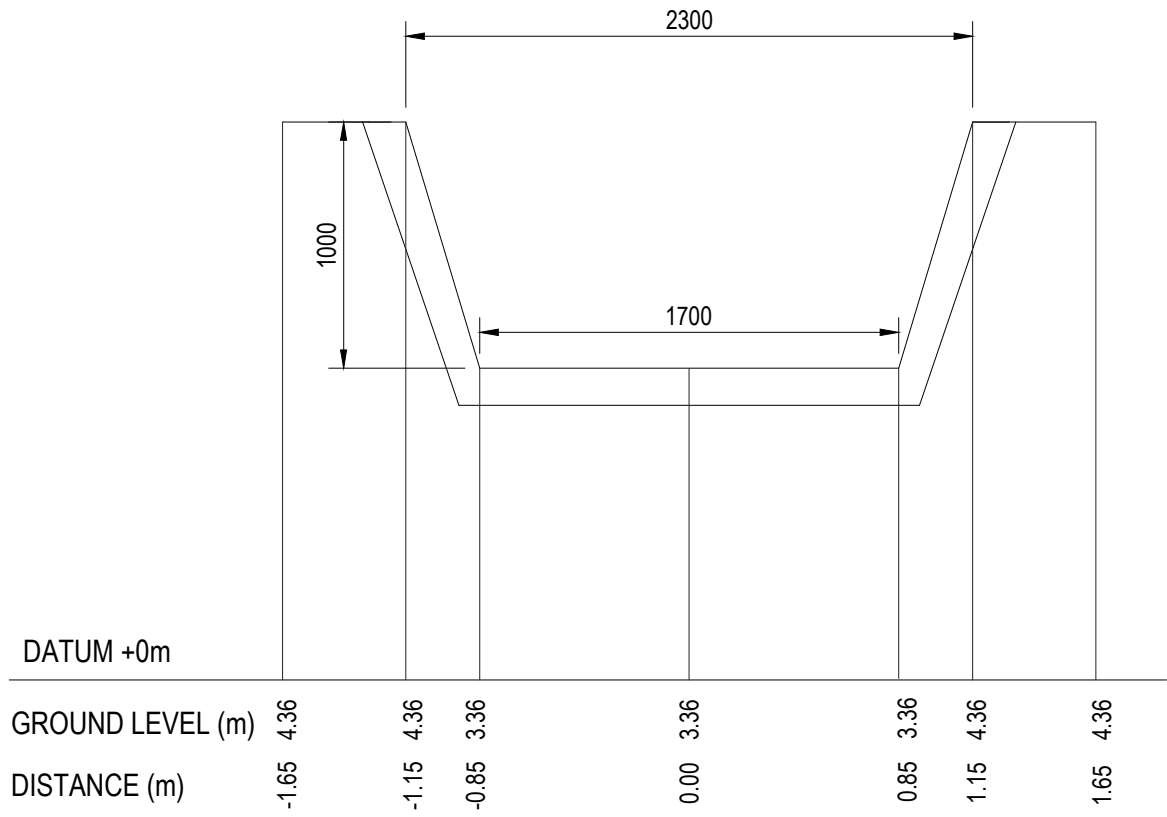


EARTH DRAIN

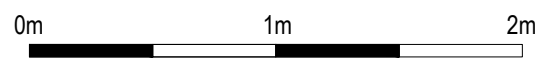


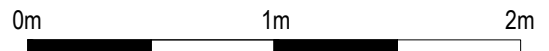
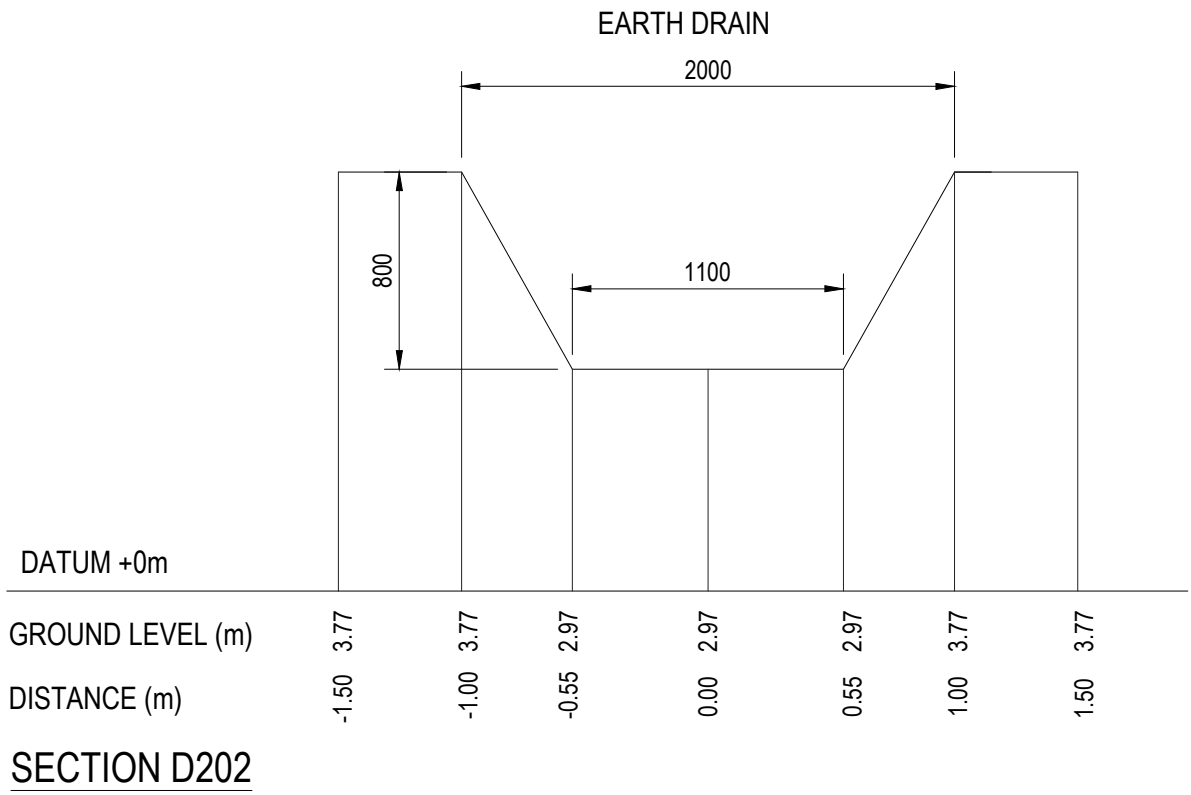
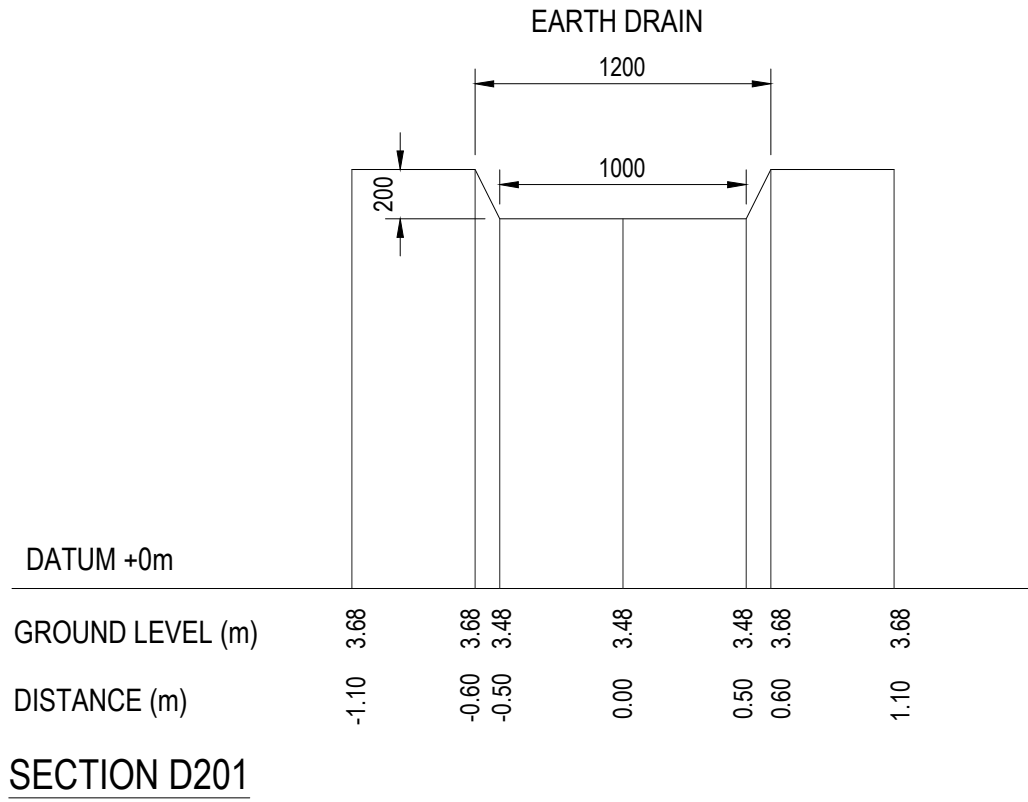
SECTION D199

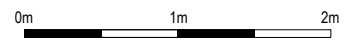
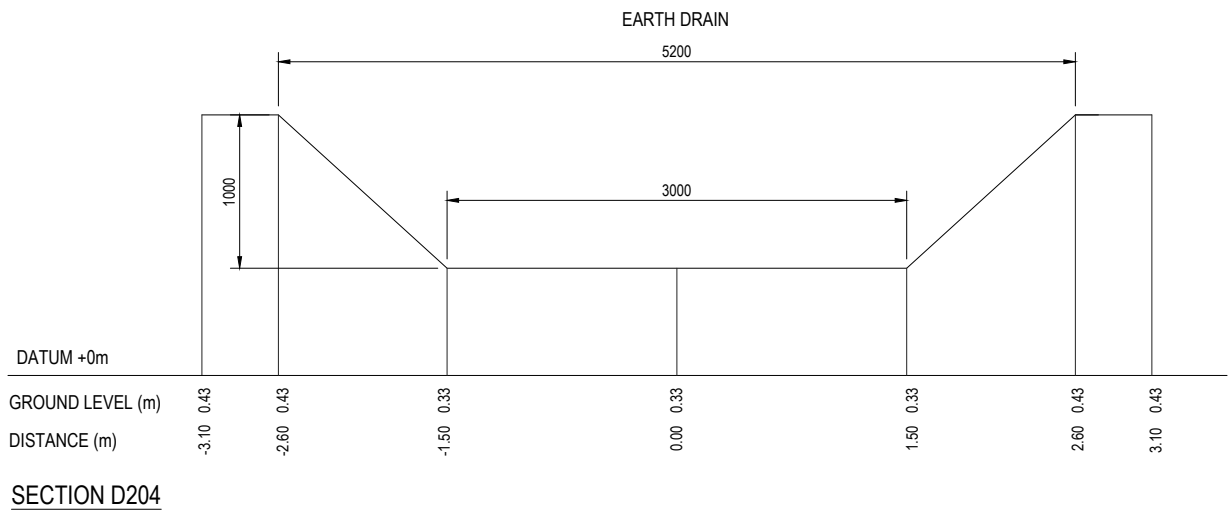
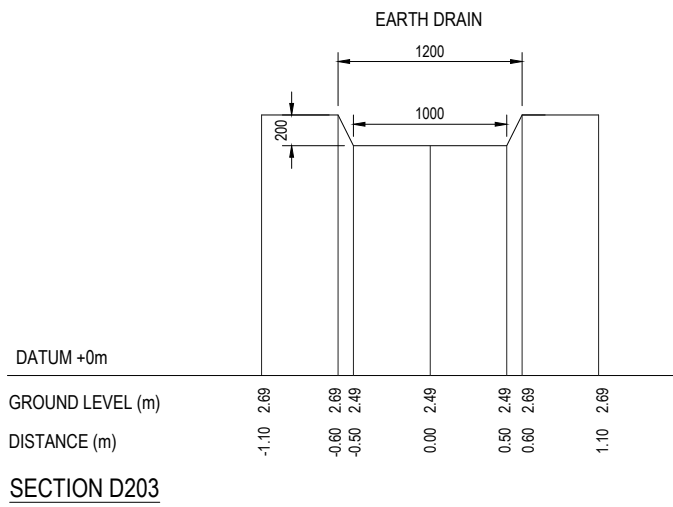
R.C OPEN DRAIN



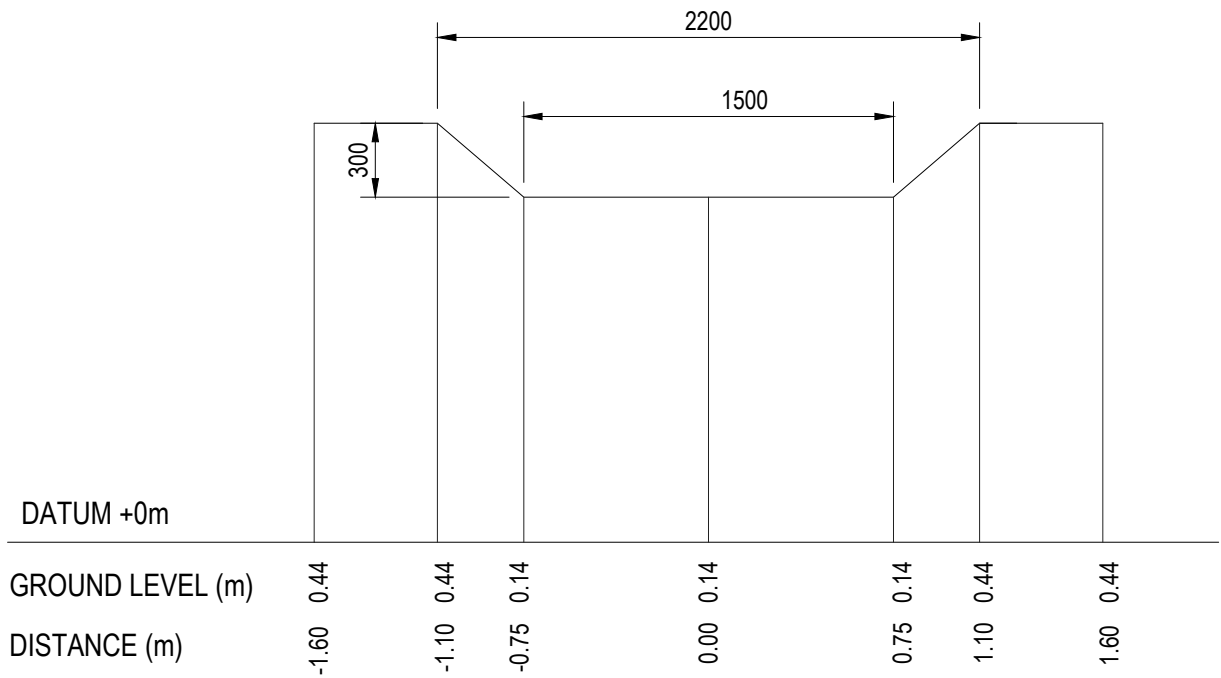
SECTION D200





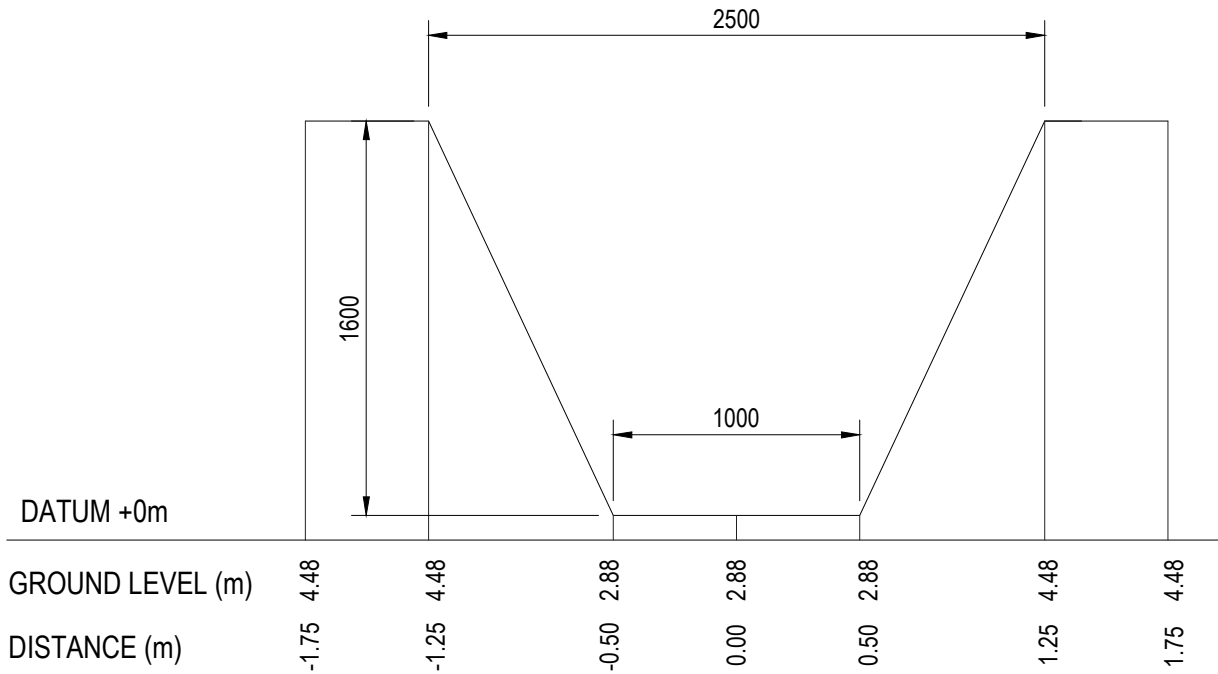


EARTH DRAIN

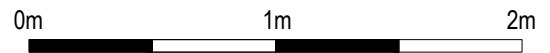


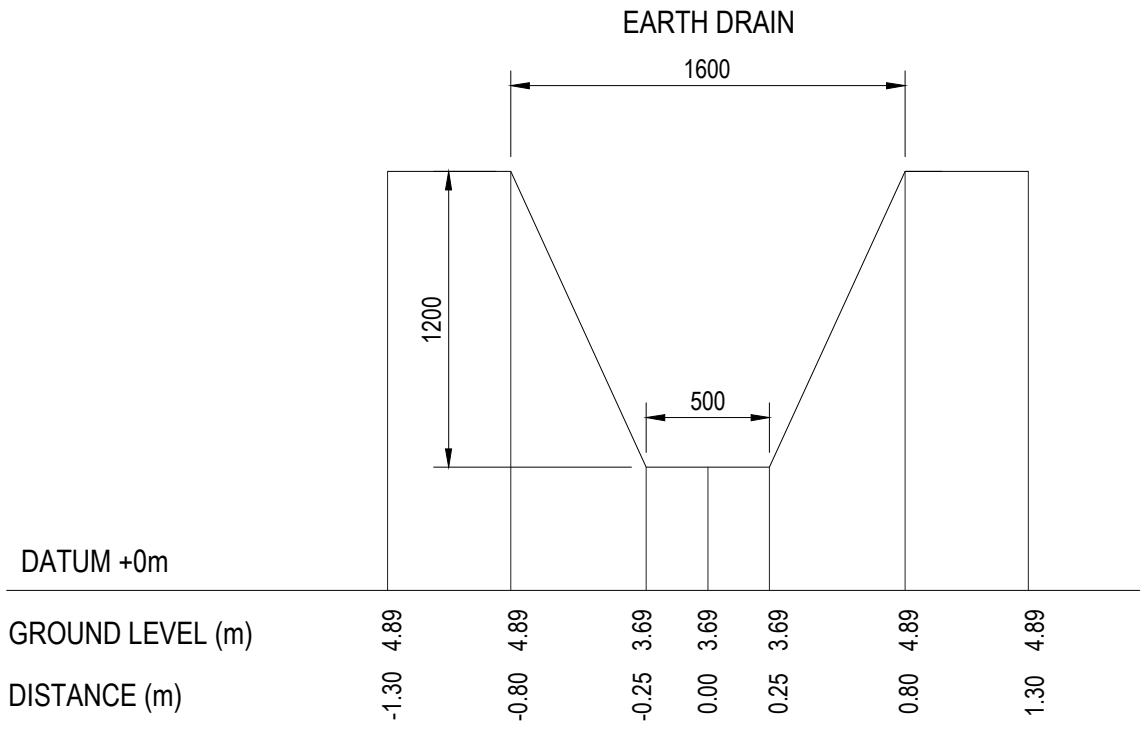
SECTION D205

EARTH DRAIN

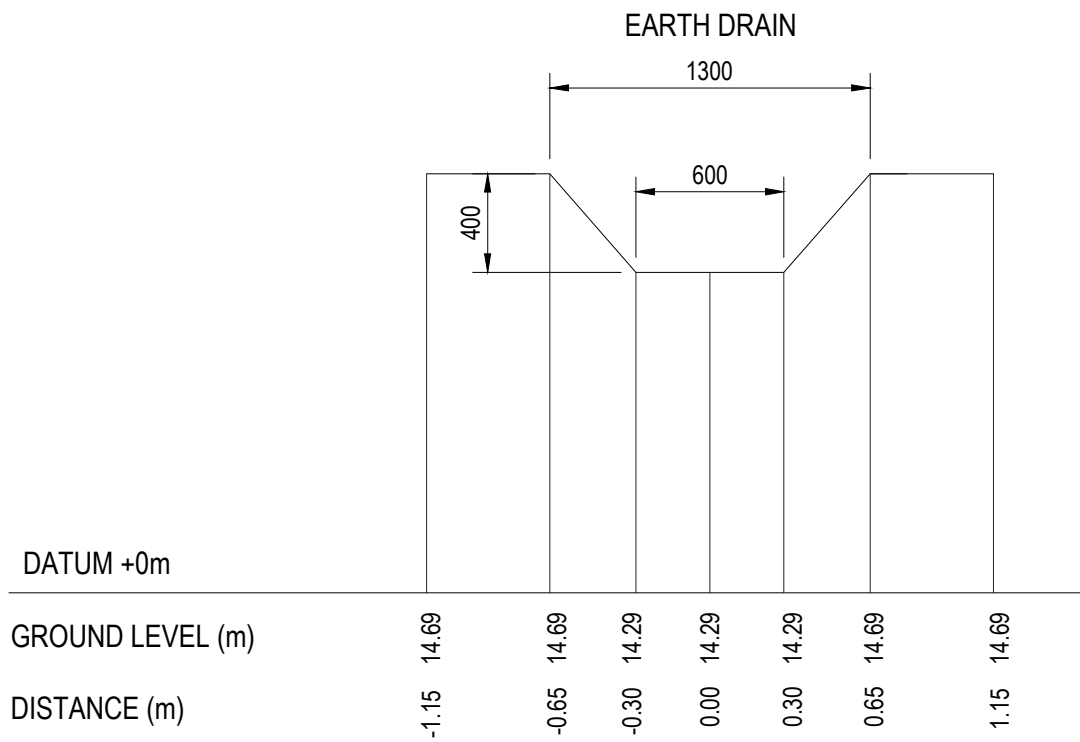


SECTION D206

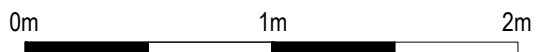




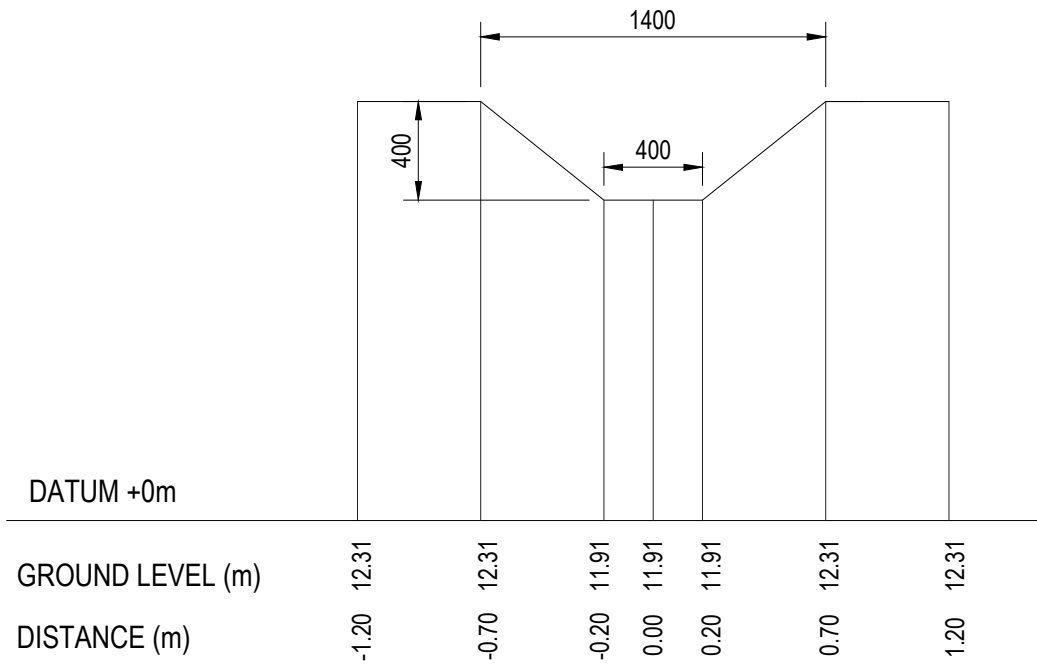
SECTION D207



SECTION D208

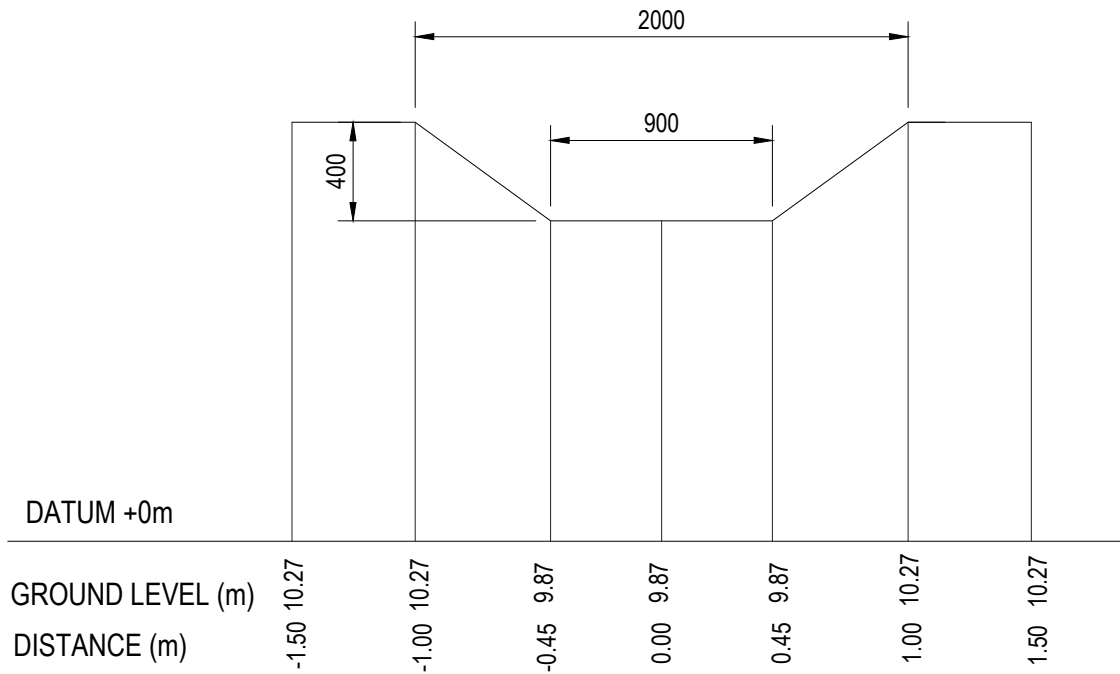


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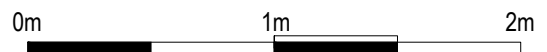


SECTION D209

EARTH DRAIN



SECTION D210



EARTH DRAIN

