



NAIROBI CITY COUNTY GOVERNMENT

DEPARTMENT OF HOUSING AND URBAN RENEWAL

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2)

RFB NO: KE-NAIROBI COUNTY 377334-CW-RFB

**CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS AND PUBLIC
LIGHTING INFRASTRUCTURE WORKS IN SELECTED
INFORMAL SETTLEMENTS WITHIN
NAIROBI COUNTY**

VOLUME 2 OF 3

BOOK OF DRAWINGS

AUGUST 2024

CONSTRUCTION WORKS OF ROADS / FOOTPATHS AND DRAINAGE INFORMAL SETTLEMENTS WORKS IN NAIROBI COUNTY

S/No.	DESCRIPTION	Drawing No.
1	PROJECT LOCATION	WMCL/CR214/PLP
HURUMA FIRE VICTIMS SETTLEMENT		
2	HURUMA FIRE VICTIMS SETTLEMENT GENERAL LAYOUT PLAN - Sheet 1 of 2	WMCL/CR214/HRM/GLP/01
3	HURUMA FIRE VICTIMS SETTLEMENT GENERAL LAYOUT PLAN - Sheet 2 of 2	WMCL/CR214/HRM/GLP/02
HURUMA FIRE VICTIMS SETTLEMENT PLAN & PROFILES		
4	HURUMA FIRE VICTIMS SETTLEMENT PLAN AND PROFILES HRM RD 01 - Sheet 1 of 6	WMCL/CR214/HRM/PP/01
5	HURUMA FIRE VICTIMS SETTLEMENT CROSS SECTIONS HRM RD 01 - Sheet 1 of 6	WMCL/CR214/HRM/DCS/01
6	HURUMA FIRE VICTIMS SETTLEMENT PLAN AND PROFILES HRM RD 02 - Sheet 2 of 6	WMCL/CR214/HRM/PP/02
7	HURUMA FIRE VICTIMS SETTLEMENT CROSS SECTIONS HRM RD 02 - Sheet 2 of 6	WMCL/CR214/HRM/DCS/02
8	HURUMA FIRE VICTIMS SETTLEMENT PLAN AND PROFILES HRM RD 03 - Sheet 3 of 6	WMCL/CR214/HRM/PP/03
9	HURUMA FIRE VICTIMS SETTLEMENT CROSS SECTIONS HRM RD 03 - Sheet 3 of 6	WMCL/CR214/HRM/DCS/03
10	HURUMA FIRE VICTIMS SETTLEMENT PLAN AND PROFILES HRM RD 04 - Sheet 4 of 6	WMCL/CR214/HRM/PP/04
11	HURUMA FIRE VICTIMS SETTLEMENT CROSS SECTIONS HRM RD 04 - Sheet 4 of 6	WMCL/CR214/HRM/DCS/04
12	HURUMA FIRE VICTIMS SETTLEMENT PLAN AND PROFILES HRM RD 06 - Sheet 5 of 6	WMCL/CR214/HRM/PP/05
13	HURUMA FIRE VICTIMS SETTLEMENT CROSS SECTIONS HRM RD 06 - Sheet 5 of 6	WMCL/CR214/HRM/DCS/05
14	HURUMA FIRE VICTIMS SETTLEMENT PLAN AND PROFILES HRM RD 07 - Sheet 6 of 6	WMCL/CR214/HRM/PP/06
15	HURUMA FIRE VICTIMS SETTLEMENT CROSS SECTIONS HRM RD 07 - Sheet 6 of 6	WMCL/CR214/HRM/DCS/06
MATOPENI SETTLEMENT		
16	MATOPENI SETTLEMENT GENERAL LAYOUT PLAN - Sheet 1 of 2	WMCL/CR214/MAT/GLP/01
17	MATOPENI SETTLEMENT GENERAL LAYOUT PLAN - Sheet 2 of 2	WMCL/CR214/MAT/GLP/02
MATOPENI SETTLEMENT PLAN & PROFILES		
18	MATOPENI SETTLEMENT PLAN & PROFILES RD 01 - Sheet 2 of 10	WMCL/CR214/MAT/PP/02
19	MATOPENI SETTLEMENT CROSS SECTIONS RD 01 - Sheet 1 of 4	WMCL/CR214/MAT/DCS/01
20	MATOPENI SETTLEMENT CROSS SECTIONS RD 01 - Sheet 2 of 4	WMCL/CR214/MAT/DCS/02
21	MATOPENI SETTLEMENT CROSS SECTIONS RD 01 - Sheet 3 of 4	WMCL/CR214/MAT/DCS/03
22	MATOPENI SETTLEMENT CROSS SECTIONS RD 01 - Sheet 4 of 4	WMCL/CR214/MAT/DCS/04
23	MATOPENI SETTLEMENT PLAN & PROFILES RD 01A - Sheet 3 of 10	WMCL/CR214/MAT/PP/03
24	MATOPENI SETTLEMENT CROSS SECTIONS RD 01A - Sheet 1 of 1	WMCL/CR214/MAT/DCS/01
25	MATOPENI SETTLEMENT PLAN & PROFILES RD 02 - Sheet 4 of 10	WMCL/CR214/MAT/PP/04
26	MATOPENI SETTLEMENT CROSS SECTIONS RD 02 - Sheet 1 of 2	WMCL/CR214/MAT/DCS/01
27	MATOPENI SETTLEMENT CROSS SECTIONS RD 02 - Sheet 2 of 2	WMCL/CR214/MAT/DCS/02

CONSTRUCTION WORKS OF ROADS / FOOTPATHS AND DRAINAGE INFORMAL SETTLEMENTS WORKS IN NAIROBI COUNTY

S/No.	DESCRIPTION	Drawing No.
28	MATOPENI SETTLEMENT PLAN & PROFILES RD 02A - Sheet 5 of 10	WMCL/CR214/MAT/PP/05
29	MATOPENI SETTLEMENT CROSS SECTIONS RD 02A - Sheet 1 of 3	WMCL/CR214/MAT/DCS/01
30	MATOPENI SETTLEMENT CROSS SECTIONS RD 02A - Sheet 2 of 3	WMCL/CR214/MAT/DCS/02
31	MATOPENI SETTLEMENT CROSS SECTIONS RD 02A - Sheet 3 of 3	WMCL/CR214/MAT/DCS/03
32	MATOPENI SETTLEMENT PLAN & PROFILES RD 03 - Sheet 6 of 10	WMCL/CR214/MAT/PP/06
33	MATOPENI SETTLEMENT CROSS SECTIONS RD 03 - Sheet 1 of 4	WMCL/CR214/MAT/DCS/01
34	MATOPENI SETTLEMENT CROSS SECTIONS RD 03 - Sheet 2 of 4	WMCL/CR214/MAT/DCS/02
35	MATOPENI SETTLEMENT CROSS SECTIONS RD 03 - Sheet 3 of 4	WMCL/CR214/MAT/DCS/03
36	MATOPENI SETTLEMENT CROSS SECTIONS RD 03 - Sheet 4 of 4	WMCL/CR214/MAT/DCS/04
37	MATOPENI SETTLEMENT PLAN & PROFILES DRAIN 01 - Sheet 7 of 10	WMCL/CR214/MAT/PP/09
38	MATOPENI SETTLEMENT PLAN & PROFILES DRAIN 02 - Sheet 8 of 10	WMCL/CR214/MAT/PP/10
39	MATOPENI SETTLEMENT PLAN & PROFILES DRAIN 03 - Sheet 9 of 10	WMCL/CR214/MAT/PP/11
40	MATOPENI SETTLEMENT PLAN & PROFILES DRAIN 04 - Sheet 10 of 10	WMCL/CR214/MAT/PP/12
MATHARE FIRE VICTIMS SETTLEMENT		
41	MATHARE FIRE VICTIMS SETTLEMENT GENERAL LAYOUT PLAN - Sheet 1 of 2	WMCL/CR214/MFV/GLP/01
42	MATHARE FIRE VICTIMS SETTLEMENT GENERAL LAYOUT PLAN - Sheet 2 of 2	WMCL/CR214/MFV/GLP/02
MATHARE FIRE VICTIMS SETTLEMENT PLAN & PROFILES		
43	MATHARE FIRE VICTIMS SETTLEMENT PLAN & PROFILES MFV RD 01 - Sheet 1 of 4	WMCL/CR214/MFV/PP/01
44	MATHARE FIRE VICTIMS SETTLEMENT CROSS SECTIONS MFV RD 01 - Sheet 1 of 3	WMCL/CR214/MFV/DCS/01
45	MATHARE FIRE VICTIMS SETTLEMENT PLAN & PROFILES MFV RD 01& RD 02 - Sheet 2 of 4	WMCL/CR214/MFV/PP/02
46	MATHARE FIRE VICTIMS SETTLEMENT CROSS SECTIONS MFV RD 02 & RD 03 - Sheet 2 of 3	WMCL/CR214/MFV/DCS/02
47	MATHARE FIRE VICTIMS SETTLEMENT PLAN & PROFILES MFV FT 01 - FT 04 - Sheet 3 of 4	WMCL/CR214/MFV/PP/03
48	MATHARE FIRE VICTIMS SETTLEMENT CROSS SECTIONS MFV FT01 - FT 04 - Sheet 3 of 3	WMCL/CR214/MFV/DCS/03
49	MATHARE FIRE VICTIMS SETTLEMENT DRAIN PLAN & PROFILES	WMCL/CR214/MFV/PP/04
PUMWANI MAJENGO SETTLEMENT		
50	PUMWANI MAJENGO SETTLEMENT GENERAL LAYOUT PLAN - Sheet 1 of 2	WMCL/CR214/PMMJ/GLP/01
51	PUMWANI MAJENGO SETTLEMENT GENERAL LAYOUT PLAN - Sheet 2 of 2	WMCL/CR214/PMMJ/GLP/02
PUMWANI MAJENGO SETTLEMENT PLAN & PROFILES		
52	PUMWANI MAJENGO SETTLEMENT PLAN & PROFILES PMMJ RD 01 - Sheet 1 of 4	WMCL/CR214/PMMJ/PP/01
53	PUMWANI MAJENGO SETTLEMENT CROSS SECTIONS PMMJ RD 01 - Sheet 1 of 4	WMCL/CR214/PMMJ/DCS/01
54	PUMWANI MAJENGO SETTLEMENT PLAN & PROFILES PMMJ RD 02 - Sheet 2 of 4	WMCL/CR214/PMMJ/PP/02

CLIENT:



**MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT**

EMPLOYER:



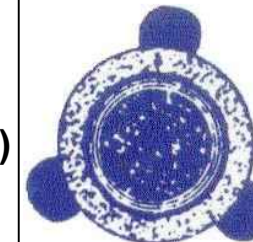
**NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)**

FINANCIER:



**INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)**

CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY.**





Drawing Title: **DRAWING INDEX**

Drg. No.	WMCL/CR214/DI/01	Sheet No.	1 of 3
Scale:	1:50	Date:	FEBRUARY:2024
	1:100	Stage:	TENDER DRAWINGS
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM

REVISIONS

No.	Date	AMMENDMENTS


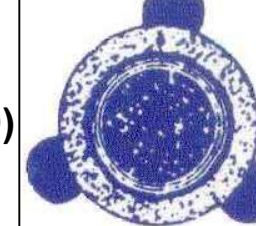
CONSTRUCTION WORKS OF ROADS / FOOTPATHS AND DRAINAGE INFORMAL SETTLEMENTS WORKS IN NAIROBI COUNTY			CONSTRUCTION WORKS OF ROADS / FOOTPATHS AND DRAINAGE INFORMAL SETTLEMENTS WORKS IN NAIROBI COUNTY		
S/No.	DESCRIPTION	Drawing No.	S/No.	DESCRIPTION	Drawing No.
55	PUMWANI MAJENGO SETTLEMENT CROSS SECTIONS PMMJ RD 02 - Sheet 2 of 4	WMCL/CR214/IPMJ/DCS/02	SPRING VALLEY SETTLEMENT PLAN & PROFILES		
56	PUMWANI MAJENGO SETTLEMENT PLAN & PROFILES PMMJ RD 03 - Sheet 3 of 4	WMCL/CR214/IPMJ/PP/03	84	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 003 - Sheet 19 of 28	WMCL/CR214/SPRV/CRS/19
57	PUMWANI MAJENGO SETTLEMENT CROSS SECTIONS PMMJ RD 03 - Sheet 3 of 4	WMCL/CR214/IPMJ/DCS/03	85	SPRING VALLEY SETTLEMENT PLAN & PROFILES SPRV RD 003 - Sheet 5 of 7	WMCL/CR214/SPRV/PP/05
58	PUMWANI MAJENGO SETTLEMENT PLAN & PROFILES PMMJ RD 05 - Sheet 4 of 4	WMCL/CR214/IPMJ/PP/04	86	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 003 - Sheet 20 of 28	WMCL/CR214/SPRV/CRS/20
59	PUMWANI MAJENGO SETTLEMENT CROSS SECTIONS PMMJ RD 05 - Sheet 4 of 4	WMCL/CR214/IPMJ/DCS/04	87	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 003 - Sheet 21 of 28	WMCL/CR214/SPRV/CRS/21
SPRING VALLEY SETTLEMENT			88	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 003 - Sheet 22 of 28	WMCL/CR214/SPRV/CRS/22
60	SPRING VALLEY SETTLEMENT GENERAL LAYOUT PLAN - Sheet 1 of 2	WMCL/CR214/SPRV/GLP/01	89	SPRING VALLEY SETTLEMENT CROSS SECTIONS DRAIN 001 - Sheet 23 of 28	WMCL/CR214/SPRV/CRS/23
61	SPRING VALLEY SETTLEMENT GENERAL LAYOUT PLAN - Sheet 2 of 2	WMCL/CR214/SPRV/GLP/02	90	SPRING VALLEY SETTLEMENT CROSS SECTIONS DRAIN 001 - Sheet 24 of 28	WMCL/CR214/SPRV/CRS/24
SPRING VALLEY SETTLEMENT PLAN & PROFILES			91	SPRING VALLEY SETTLEMENT CROSS SECTIONS DRAIN 002 - Sheet 25 of 28	WMCL/CR214/SPRV/CRS/25
62	SPRING VALLEY SETTLEMENT PLAN & PROFILES SPRV RD 001 - Sheet 1 of 7	WMCL/CR214/SPRV/PP/01	92	SPRING VALLEY SETTLEMENT CROSS SECTIONS DRAIN 003 - Sheet 26 of 28	WMCL/CR214/SPRV/CRS/26
63	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 001 - Sheet 1 of 28	WMCL/CR214/SPRV/CRS/01	93	SPRING VALLEY SETTLEMENT CROSS SECTIONS DRAIN 003 - Sheet 27 of 28	WMCL/CR214/SPRV/CRS/27
64	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 001 - Sheet 2 of 28	WMCL/CR214/SPRV/CRS/02	94	SPRING VALLEY SETTLEMENT CROSS SECTIONS DRAIN 004 - Sheet 28 of 28	WMCL/CR214/SPRV/CRS/28
65	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 001 - Sheet 3 of 28	WMCL/CR214/SPRV/CRS/03	95	SPRING VALLEY SETTLEMENT PLAN & PROFILES SPRV RD 003 - Sheet 6 of 7	WMCL/CR214/SPRV/PP/06
66	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 001 - Sheet 4 of 28	WMCL/CR214/SPRV/CRS/04	96	SPRING VALLEY SETTLEMENT PLAN & PROFILES SPRV RD 003 - Sheet 7 of 7	WMCL/CR214/SPRV/PP/07
67	SPRING VALLEY SETTLEMENT PLAN & PROFILES SPRV RD 001A - Sheet 2 of 7	WMCL/CR214/SPRV/PP/02	STANDARD DETAILS		
68	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 001A - Sheet 5 of 28	WMCL/CR214/SPRV/CRS/05	97	HURUMA FIRE VICTIMS ROAD CROSS SECTION 1	WMCL-CR214-RC -01
69	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 001A - Sheet 6 of 28	WMCL/CR214/SPRV/CRS/06	98	HURUMA FIRE VICTIMS ROAD CROSS SECTION 2	WMCL-CR214-RC -02
70	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 001A - Sheet 7 of 28	WMCL/CR214/SPRV/CRS/07	99	HURUMA FIRE VICTIMS ROAD CROSS SECTION 3	WMCL-CR214-RC -03
71	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 001A - Sheet 8 of 28	WMCL/CR214/SPRV/CRS/08	100	MATOPENI ROAD CROSS SECTION 1	WMCL-CR214-RC -04
72	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 001A - Sheet 9 of 28	WMCL/CR214/SPRV/CRS/09	101	MATHARE FIRE VICTIMS ROAD CROSS SECTION 1	WMCL-CR214-RC -05
73	SPRING VALLEY SETTLEMENT PLAN & PROFILES SPRV RD 003 - Sheet 3 of 7	WMCL/CR214/SPRV/PP/03	102	MATHARE FIRE VICTIMS ROAD CROSS SECTION 2	WMCL-CR214-RC -06
74	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 002 - Sheet 10 of 28	WMCL/CR214/SPRV/CRS/10	103	PUMWANI MAJENGO ROAD CROSS SECTION 1	WMCL-CR214-RC -07
75	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 002 - Sheet 11 of 28	WMCL/CR214/SPRV/CRS/11	104	PUMWANI MAJENGO ROAD CROSS SECTION 2	WMCL-CR214-RC -07A
76	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 002 - Sheet 12 of 28	WMCL/CR214/SPRV/CRS/12	105	SPRING VALLEY ROAD CROSS SECTION 1	WMCL-CR214-RC -08
77	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 002 - Sheet 13 of 28	WMCL/CR214/SPRV/CRS/13	106	5.0X2.5 SINGLE CELL CULVERT GENERAL ARRANGEMENT	WMCL-CR214-BC -01
78	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 002 - Sheet 14 of 28	WMCL/CR214/SPRV/CRS/14	107	5.0X2.5 SINGLE CELL CULVERT REINFORCEMENT DETAILS	WMCL-CR214-BC -02
79	SPRING VALLEY SETTLEMENT PLAN & PROFILES SPRV RD 003 - Sheet 4 of 7	WMCL/CR214/SPRV/PP/04	108	5.0X2.5 SINGLE CELL CULVERT BAR BENDING SCHEDULE 1	WMCL-CR214-BC -03
80	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 003 - Sheet 15 of 28	WMCL/CR214/SPRV/CRS/15	109	5.0X2.5 SINGLE CELL CULVERT BAR BENDING SCHEDULE 2	WMCL-CR214-BC -04
81	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 003 - Sheet 16 of 28	WMCL/CR214/SPRV/CRS/16	110	TYPICAL BUS BAY DETAILS	WMCL-CR214-SD -01
82	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 003 - Sheet 17 of 28	WMCL/CR214/SPRV/CRS/17	111	TYPICAL JUNCTION DETAILS	WMCL-CR214-SD -02
83	SPRING VALLEY SETTLEMENT CROSS SECTIONS SPRV RD 003 - Sheet 18 of 28	WMCL/CR214/SPRV/CRS/18	112	TYPICAL ROAD SAFETY DETAILS	WMCL-CR214-SD -03

 CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	 EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)	 FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	 CONSULTANT: Wanjohi Mutonyi Consult Ltd. <small>Engineers, Environmentalists, Project Managers</small> Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.	Drawing Title: DRAWING INDEX				REVISIONS	
					Drg. No. WMCL/CR214/DI/02 Scale: 1:50 1:100	Sheet No. 2 of 3 Date: FEBRUARY:2024 Stage: TENDER DRAWINGS	APPROVED BY: ENG.IKWM CHECKED BY: ENG.PNG	DESIGNED BY: LWK DRAWN BY: SM		

CONSTRUCTION WORKS OF ROADS / FOOTPATHS AND DRAINAGE INFORMAL SETTLEMENTS WORKS IN NAIROBI COUNTY		
S/No.	DESCRIPTION	Drawing No.
113	DESIGN CHANNEL DETAILS	WMCL-CR214-SD- 05
114	DETAILED SIGNING FOR DEVIATION	WMCL-CR214-SD- 06
115	DETAILED ROAD SIGNS	WMCL-CR214-SD- 07
116	DETAILED SLOTTED & SUBSOIL DRAIN DETAILS	WMCL-CR214-SD- 08
STANDARD DETAILS		
117	TYPICAL INDEPENDENT DRAIN DETAILS	WMCL-CR214-SD- 08A
118	MOTORABLE RECTANGULAR COVERED DRAIN DETAILS	WMCL-CR214-SD- 08B
119	DEEP UNDERGROUND DRAIN DETAILS	WMCL-CR214-SD- 08C
120	DETAILED SINGLE PIPE CULVERT DETAILS	WMCL-CR214-SD- 09
121	DETAILED MULTIPLE PIPE CULVERT DETAILS	WMCL-CR214-SD- 10
122	PROJECT SIGN BOARD	WMCL-CR214-SD- 11
123	STREET LIGHTING DETAILS	WMCL-CR214-SD- 12
HURUMA FIRE VICTIM SEWER DRAWINGS		
124	HURUMA FIRE VICTIMS SETTLEMENT GENERAL LAYOUT PLAN 01	WMCL-CR214-SW- 01
125	HURUMA FIRE VICTIMS SETTLEMENT GENERAL LAYOUT PLAN 02	WMCL-CR214-SW- 02
126	HURUMA FIRE VICTIMS SETTLEMENT SEWER LINE 1: PLAN & PROFILE	WMCL-CR214-SW- 03
127	HURUMA FIRE VICTIMS SETTLEMENT SEWER LINE 2 & 3: PLAN & PROFILES	WMCL-CR214-SW- 04
128	HURUMA FIRE VICTIMS SETTLEMENT SEWER LINE 4,5 & 6: PLAN & PROFILES	WMCL-CR214-SW- 05
129	HURUMA FIRE VICTIMS SETTLEMENT SEWER LINE 7: PLAN & PROFILE	WMCL-CR214-SW- 06
130	HURUMA FIRE VICTIMS SETTLEMENT SETTING OUT DATA	WMCL-CR214-SW- 07
131	HURUMA FIRE VICTIMS SETTLEMENT PIPE BEDDING DETAILS	WMCL-CR214-SW- 08
132	HURUMA FIRE VICTIMS SETTLEMENT MANHOLES DETAILS 01	WMCL-CR214-SW- 09
133	HURUMA FIRE VICTIMS SETTLEMENT MANHOLES DETAILS 02 & INSPECTION CHAMBER	WMCL-CR214-SW- 10

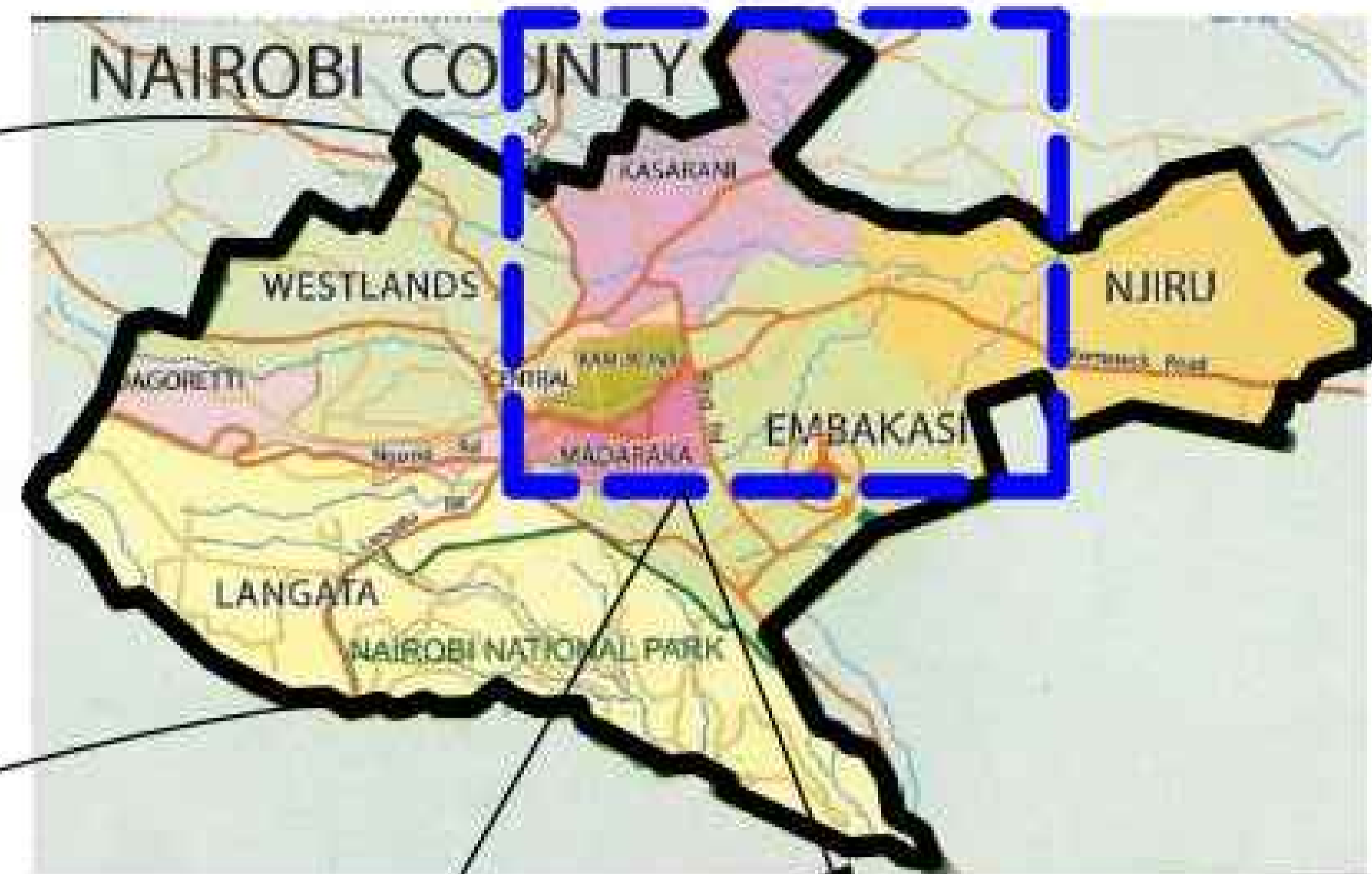
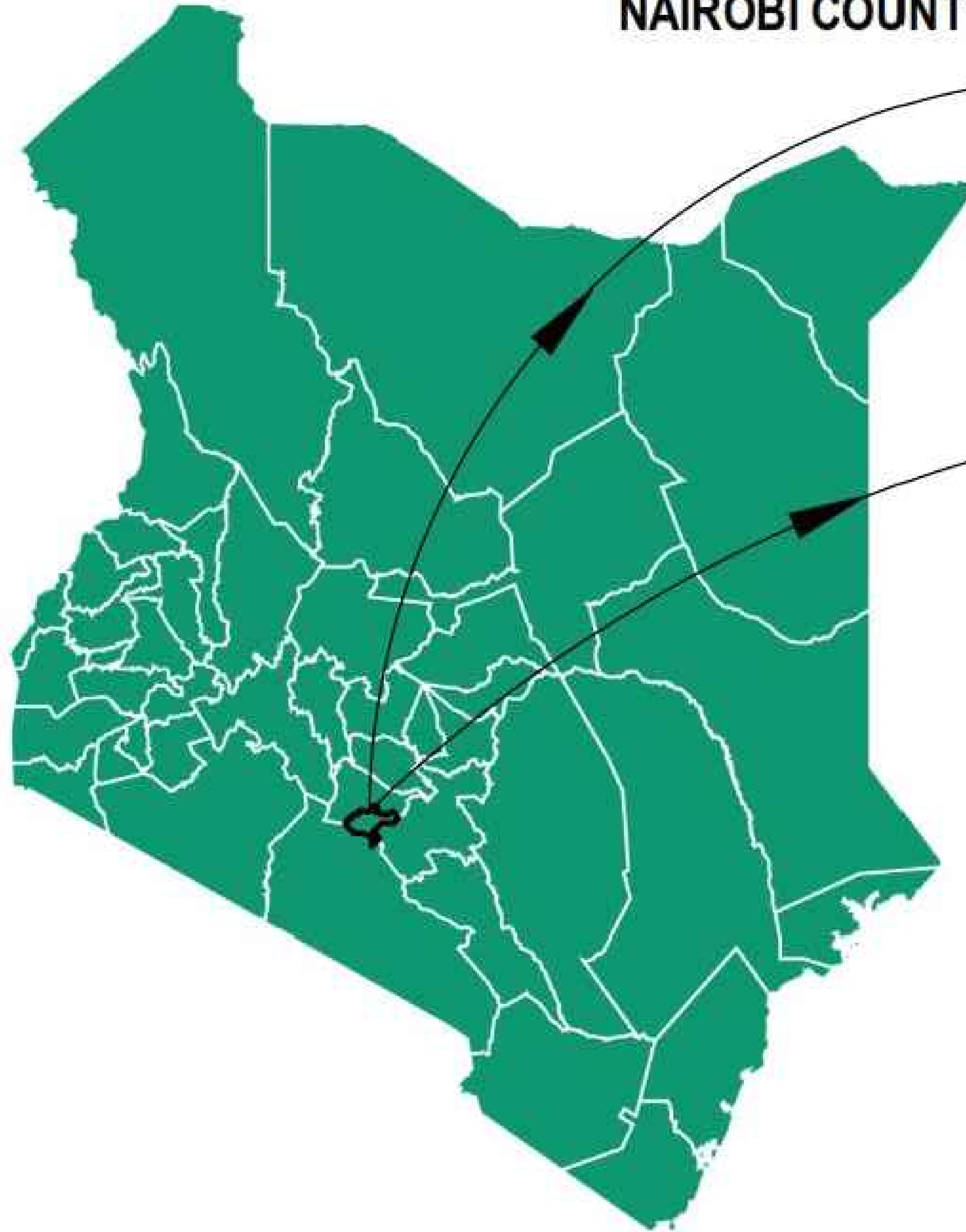
CLIENT:  MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	EMPLOYER:  NAIROBI CITY COUNTY GOVERNMENT (NCCG)	FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY(IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT(AFD)  	CONSULTANT:  Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.	Drawing Title: DRAWING INDEX <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Drg. No.</td> <td>WMCL/CR214/DI/03</td> <td>Sheet No.</td> <td>3 of 3</td> </tr> <tr> <td>Scale:</td> <td>1:50 1:100</td> <td>Date:</td> <td>FEBRUARY:2024</td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> </tr> </table>	Drg. No.	WMCL/CR214/DI/03	Sheet No.	3 of 3	Scale:	1:50 1:100	Date:	FEBRUARY:2024	APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	CHECKED BY	ENG.PNG	DRAWN BY	SM	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>No.</th> <th>Date</th> <th>AMMENDMENTS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS			No.	Date	AMMENDMENTS			
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PROJECT LOCATION MAP

 CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	 EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)	 FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	 CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.	Drawing Title: PROJECT LOCATION MAP		REVISIONS	
					Drg. No.	Sheet No.	Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS
					No.	Date	AMMENDMENTS	

PROJECT LOCATION

NAIROBI COUNTY



KEY

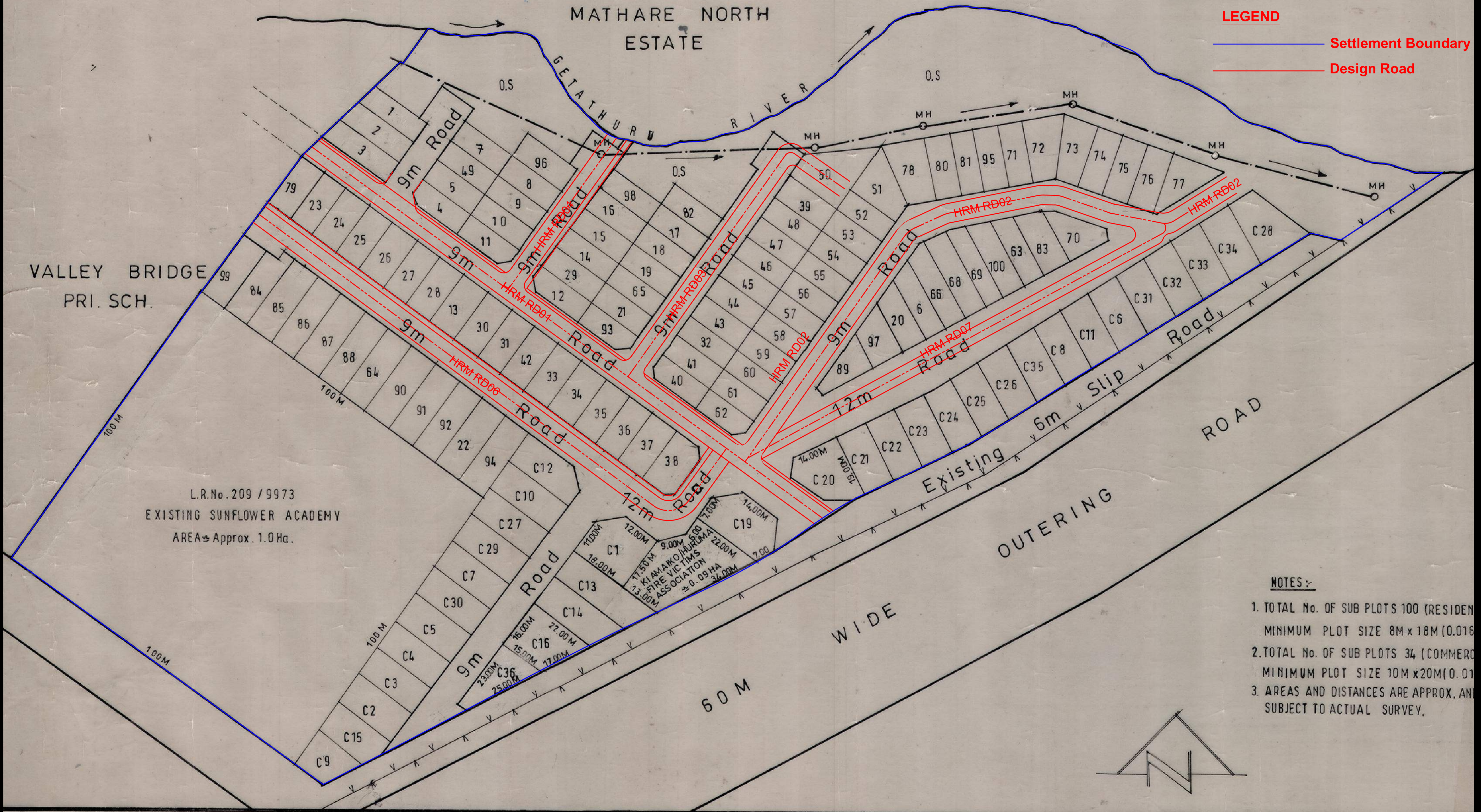
■ REDEEMED	■ HURUMA FIRE VICTIMS	■ EX GROGON
■ MATHARE FIRE	■ KAYOLE MATOPENI	■ BOSNIA/RIVERSIDE
■ MJI WA HURUMA	■ SPRING VALLEY	
■ CITY CARTON	■ NGUNYUMU	

HURUMA FIRE VICTIMS SETTLEMENT

<p>CLIENT:</p>  <p>REPUBLIC OF KENYA</p> <p>MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER:</p>  <p>NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER:</p> <p>INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>  	<p>CONSULTANT:</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE:</p> <p>SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.</p>	<p>Drawing Title: HURUMA FIRE VICTIMS SETTLEMENT</p> <table border="1"> <tr> <td>Drg. No.</td> <td>Sheet No.</td> </tr> <tr> <td>Scale: 1:50 1:100</td> <td>Date: FEBRUARY:2024 Stage: TENDER DRAWINGS</td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> </tr> </table>	Drg. No.	Sheet No.	Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS	APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	CHECKED BY	ENG.PNG	DRAWN BY	SM	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>AMMENDMENTS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	Date	AMMENDMENTS			
Drg. No.	Sheet No.																							
Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS																							
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK																					
CHECKED BY	ENG.PNG	DRAWN BY	SM																					
No.	Date	AMMENDMENTS																						

GENERAL LAYOUT

HURUMA FIRE VICTIMS SETTLEMENT LAYOUT PLAN

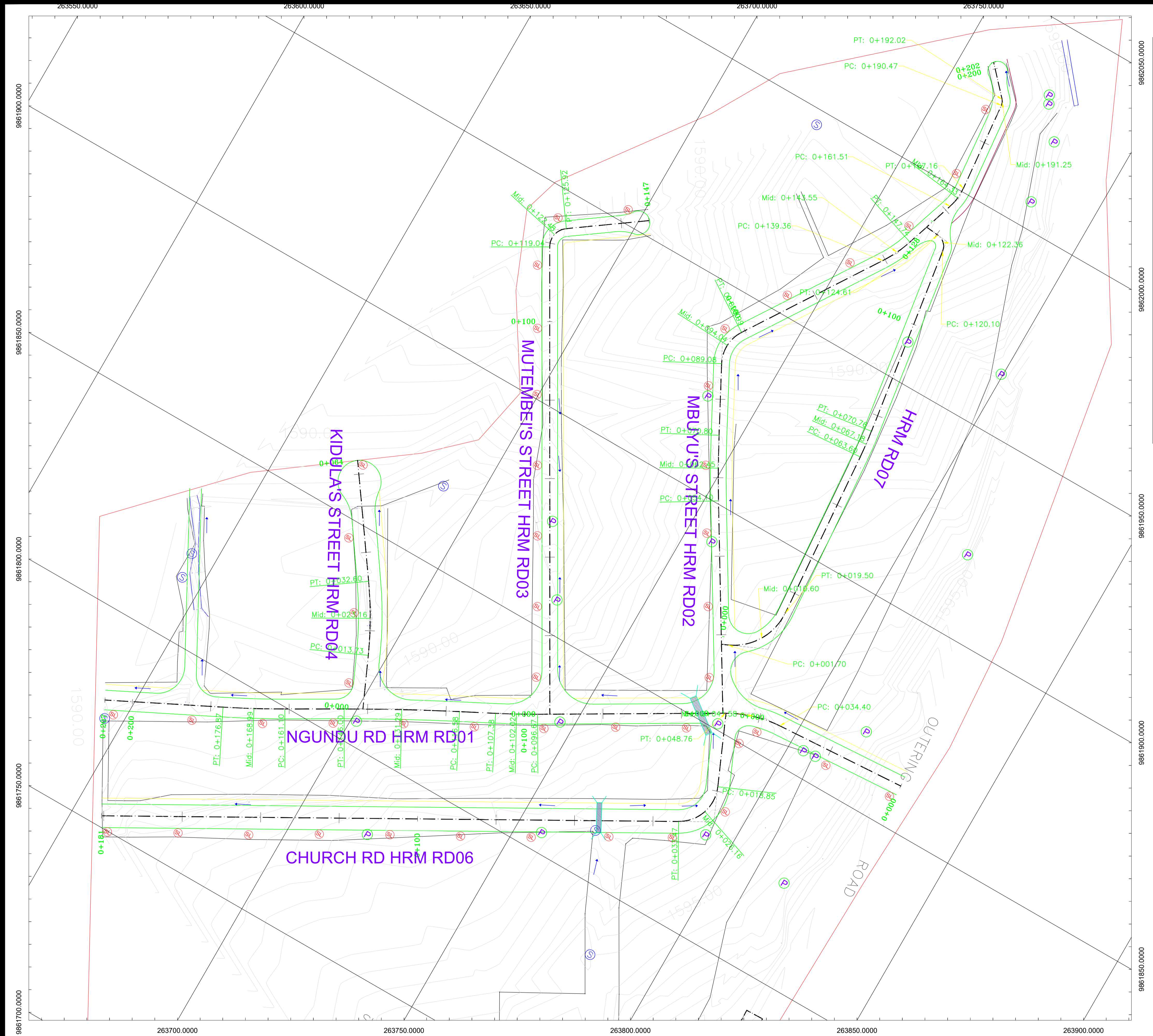


LEGEND
 — Settlement Boundary
 — Design Road

L.R.No. 209 / 9973
 EXISTING SUNFLOWER ACADEMY
 AREA ≈ Approx. 1.0 Ha.

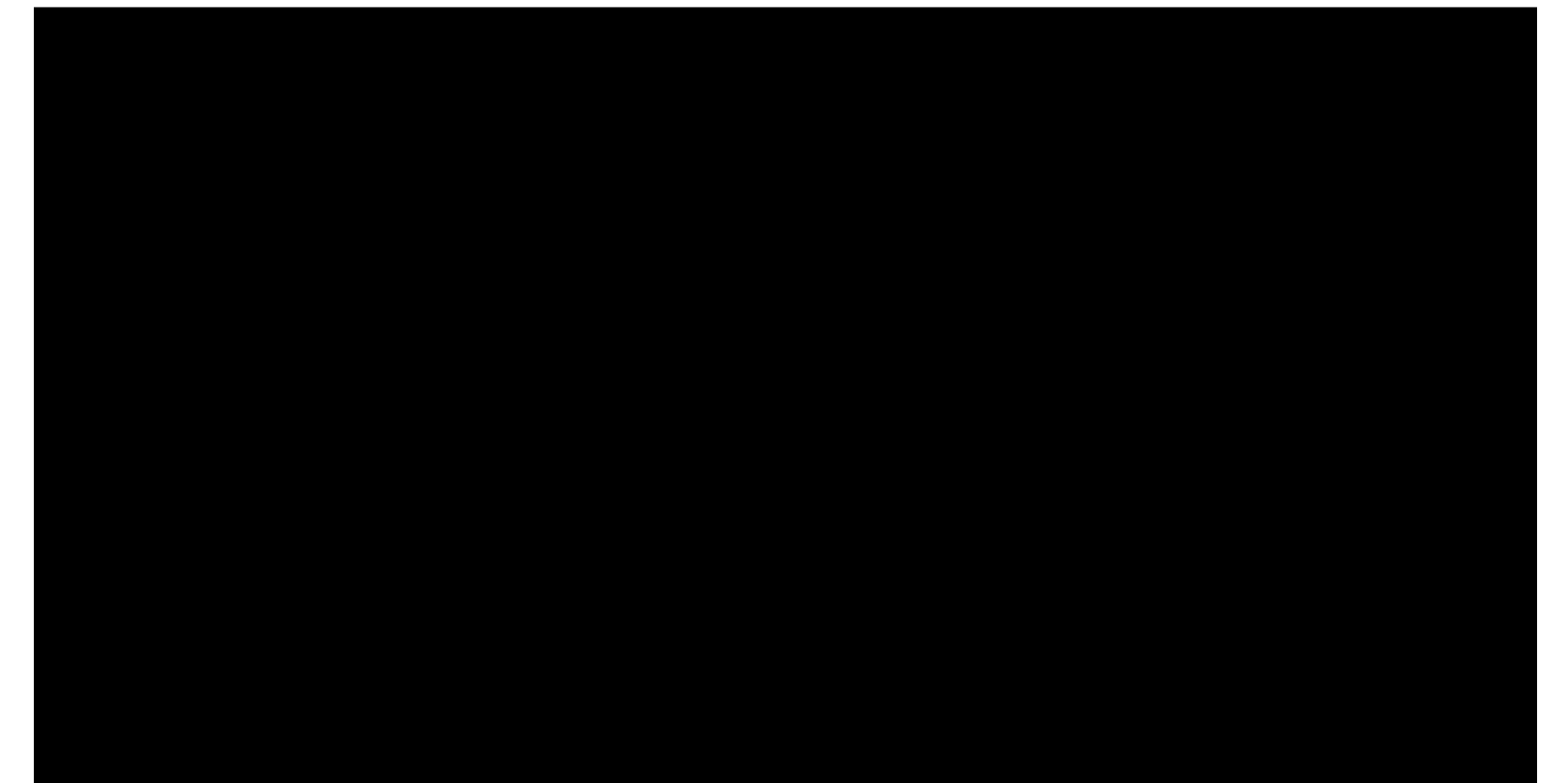
- NOTES:**
- TOTAL No. OF SUB PLOTS 100 (RESIDEN) MINIMUM PLOT SIZE 8M x 18M (0.016)
 - TOTAL No. OF SUB PLOTS 34 (COMMERC) MINIMUM PLOT SIZE 10M x 20M (0.01)
 - AREAS AND DISTANCES ARE APPROX. AND SUBJECT TO ACTUAL SURVEY.

CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)	FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY	Drawing Title: HURUMA FIRE VICTIMS SETTLEMENT LAYOUT PLAN.	REVISIONS				
					Drg. No. WMCL/CR214/HRM/GLP/01 Sheet No. 1 of 2		Date: FEBRUARY 2024			
Scale: 1:10 1:200					Stage: TENDER DRAWINGS					
APPROVED BY:	ENG. IKWM	DESIGNED BY:	LWK	CHECKED BY:	ENG. PNG	DRAWN BY:	SM	No.	Date	AMMENDMENTS



LEGEND

- Red line: Settlement Boundary
- Green line: Edge of Carriageway
- Black line: Building Walls
- Dashed black line: Centreline Alignment
- Grey line: Contours
- Blue hatched rectangle: Culvert
- Blue arrow: Water Flow Direction
- Blue line: Drain Profile
- Yellow line: Edge of Footpath
- Red circle with 'SL': Proposed Streetlight
- Green circle with 'P': Existing Powerposts



CLIENT:

**MINISTRY OF LANDS,
 PUBLIC WORKS,
 HOUSING AND
 URBAN DEVELOPMENT**

EMPLOYER:

**NAIROBI CITY
 COUNTY
 GOVERNMENT
 (NCCG)**

FINANCIER:
**INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)**







CONSULTANT:

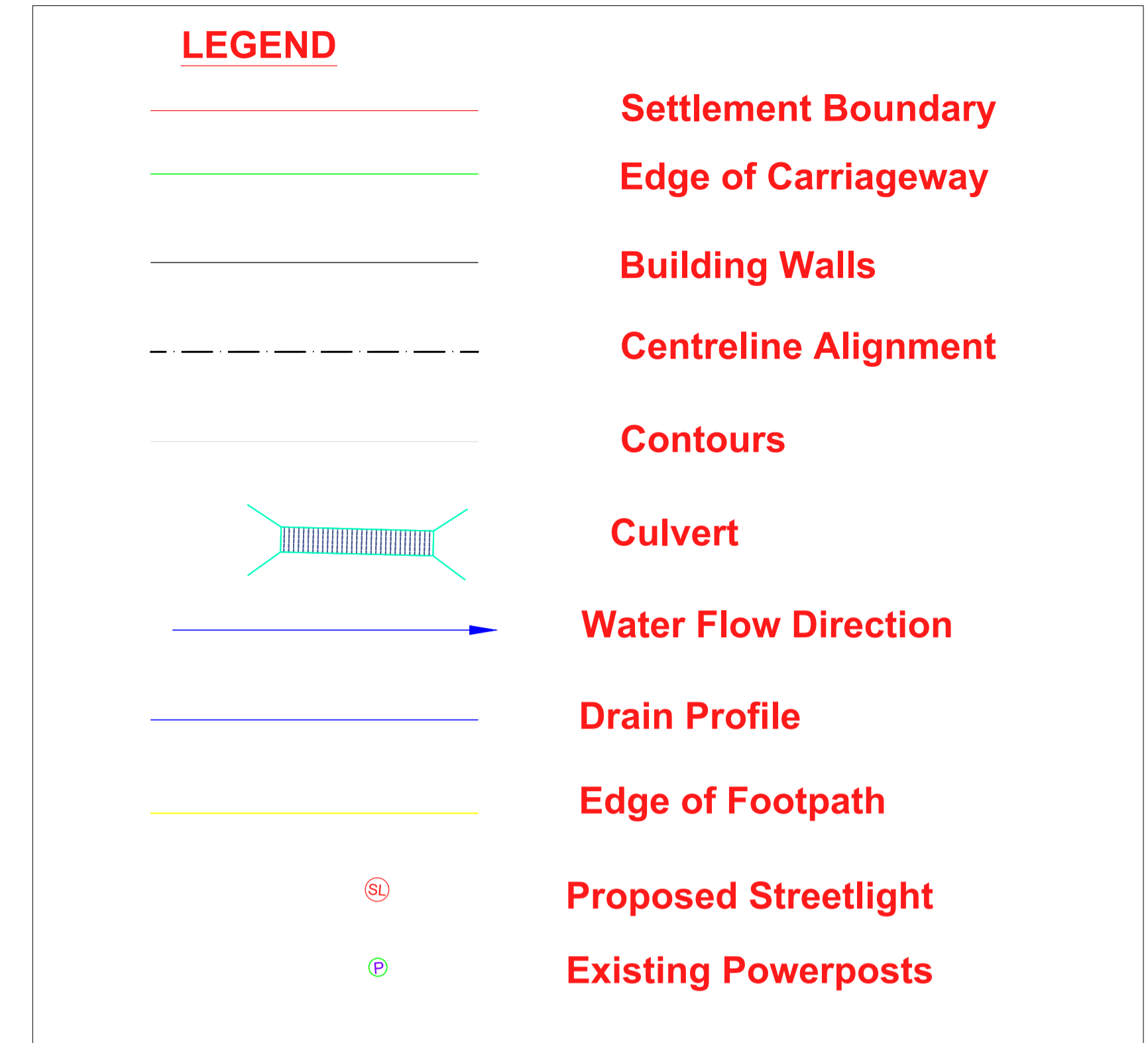
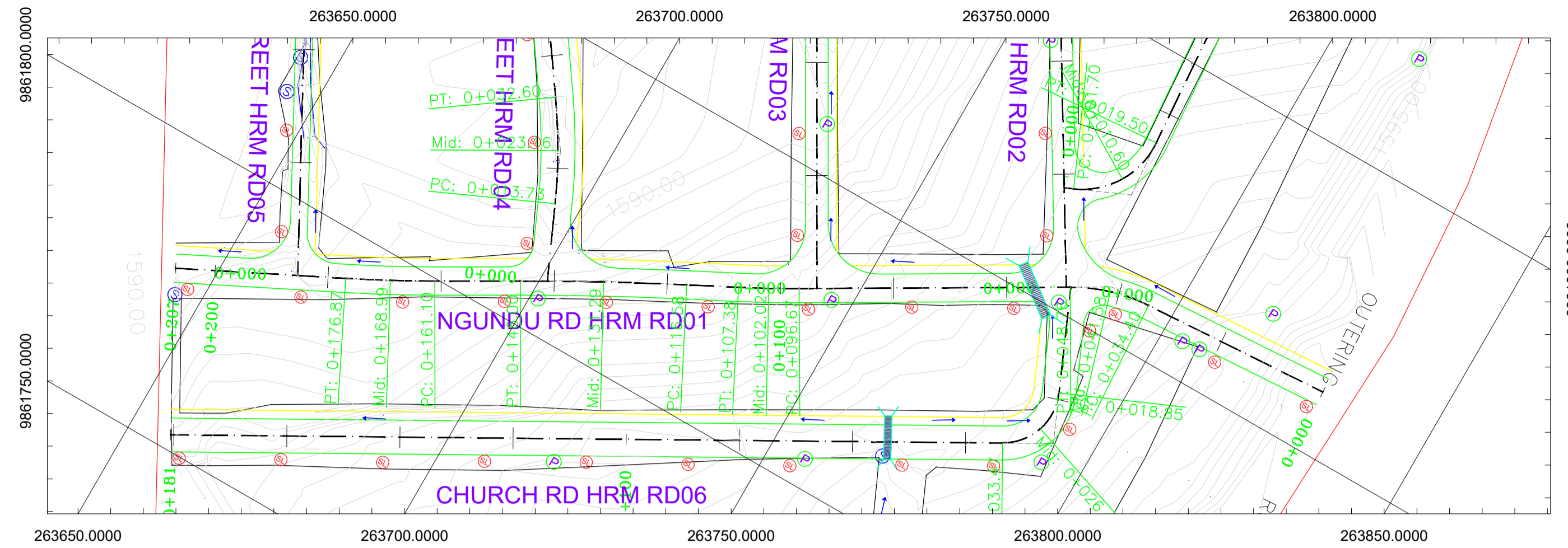
**Wanjohi
 Mutonyi
 Consult Ltd.**
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
 ,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
 IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
 (HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.**

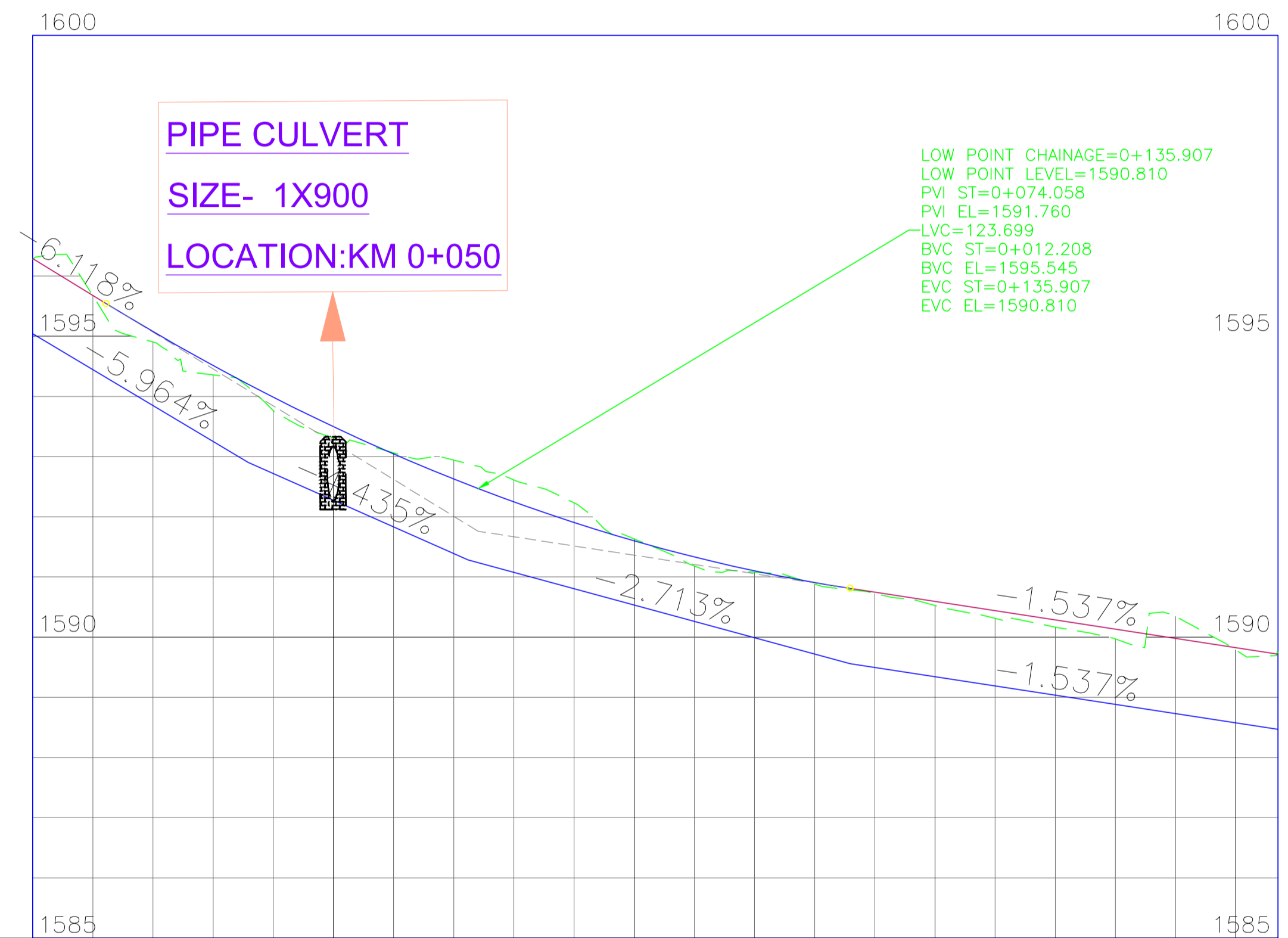
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Drg: NoWMCL/CR214/HRM/GLP/02Sheet No.2of2		Date: FEBRUARY 2024			
Scale: H: 1:2000		V: 1:200			
Stage: TENDER DRAWINGS					
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK	No	Date
CHECKED BY	ENG. PNG	DRAWN BY	LWK		AMMENDMENTS

PLANS AND PROFILES

<p>CLIENT:</p>  <p>REPUBLIC OF KENYA</p> <p>MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER:</p>  <p>NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER:</p> <p>INTERNATIONAL DEVELOPMENT AGENCY(IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT(AFD)</p>  	<p>CONSULTANT:</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers. Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE:</p> <p>SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.</p>	<table border="1"> <tr> <td colspan="4">Drawing Title: PLAN AND PROFILES</td> <td colspan="2">REVISIONS</td> </tr> <tr> <td>Drg. No.</td> <td colspan="2">Sheet No.</td> <td colspan="3"></td> </tr> <tr> <td>Scale: 1:50</td> <td>Date: FEBRUARY:2024</td> <td colspan="4"></td> </tr> <tr> <td>1:100</td> <td>Stage: TENDER DRAWINGS</td> <td colspan="4"></td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> <td>No.</td> <td>Date</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> <td colspan="2">AMMENDMENTS</td> </tr> </table>	Drawing Title: PLAN AND PROFILES				REVISIONS		Drg. No.	Sheet No.					Scale: 1:50	Date: FEBRUARY:2024					1:100	Stage: TENDER DRAWINGS					APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	No.	Date	CHECKED BY	ENG.PNG	DRAWN BY	SM	AMMENDMENTS	
Drawing Title: PLAN AND PROFILES				REVISIONS																																					
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APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	No.	Date																																				
CHECKED BY	ENG.PNG	DRAWN BY	SM	AMMENDMENTS																																					



NGUNDU ROAD HRM RD01 PROFILE



STATION	0+000	0+050	0+100	0+150	0+200	0+207			
FRL	1595.042	1596.278	1596.292	1595.680	1595.079	1594.515			
OGL	1594.445	1595.674	1595.680	1595.079	1594.515	1593.987			
Drain	1593.849	1594.905	1595.079	1594.515	1593.987	1593.497			
HORIZONTAL ALIGNMENT	L=34.398m		R=30.75m L=14.363m	L=47.906m	R=205.111m L=10.174m	R=611.27m L=29.421m	R=258.42m L=15.104m	L=15.769m	L=30.136m
VERTICAL ALIGNMENT	L=12.231m -6.118%		LVC=124m K=26.998	L=71.109m -1.537%					



CLIENT:
**MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT**



EMPLOYER:
**NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)**



FINANCIER:
**INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)**

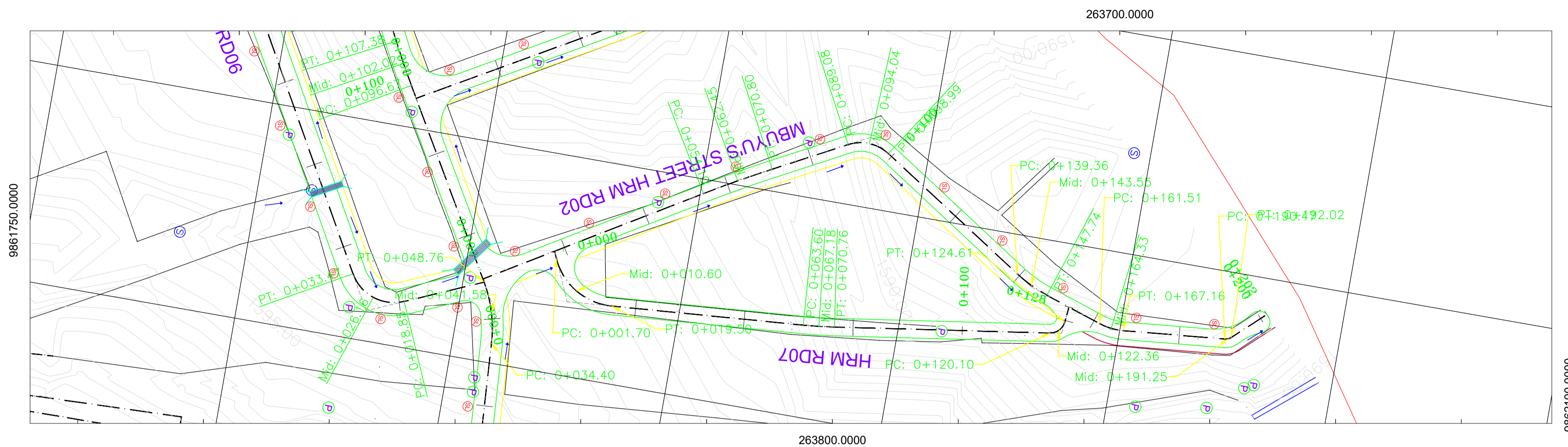


CONSULTANT:
**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.**

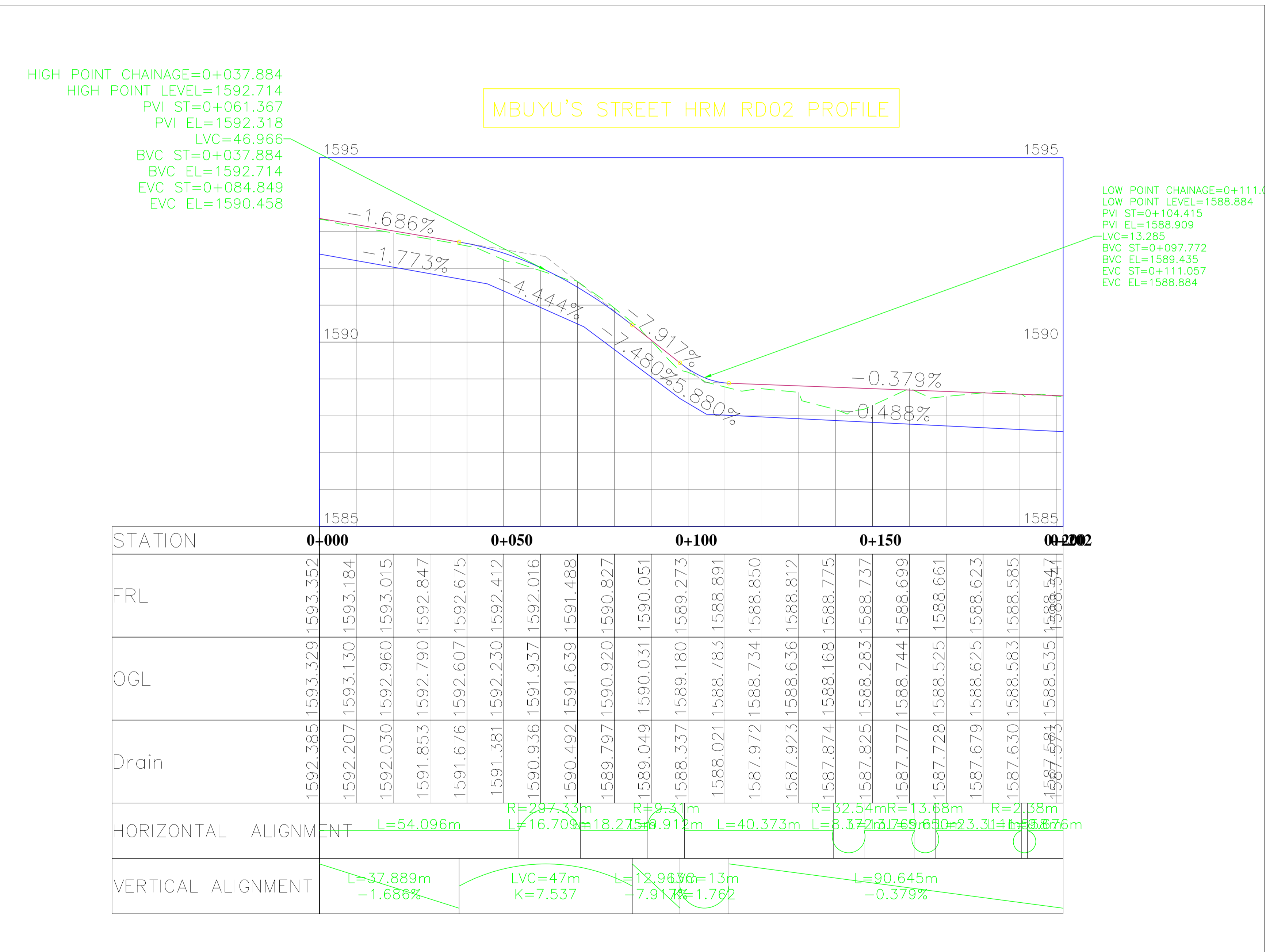
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Drg. No: WMCL/CR214/HRM/PP/01		Sheet No: 1 of 6	
Scale: H: 1:2000		Date: FEBRUARY 2024	
V: 1:200		Stage: TENDER DRAWINGS	
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK
CHECKED BY	ENG. PNG	DRAWN BY	LWK

REVISIONS	
No.	Date



LEGEND

- Settlement Boundary
- Edge of Carriageway
- Building Walls
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Proposed Streetlight
- Existing Powerposts



CLIENT:
 MINISTRY OF LANDS,
 PUBLIC WORKS,
 HOUSING AND
 URBAN DEVELOPMENT

EMPLOYER:
 NAIROBI CITY
 COUNTY
 GOVERNMENT
 (NCCG)

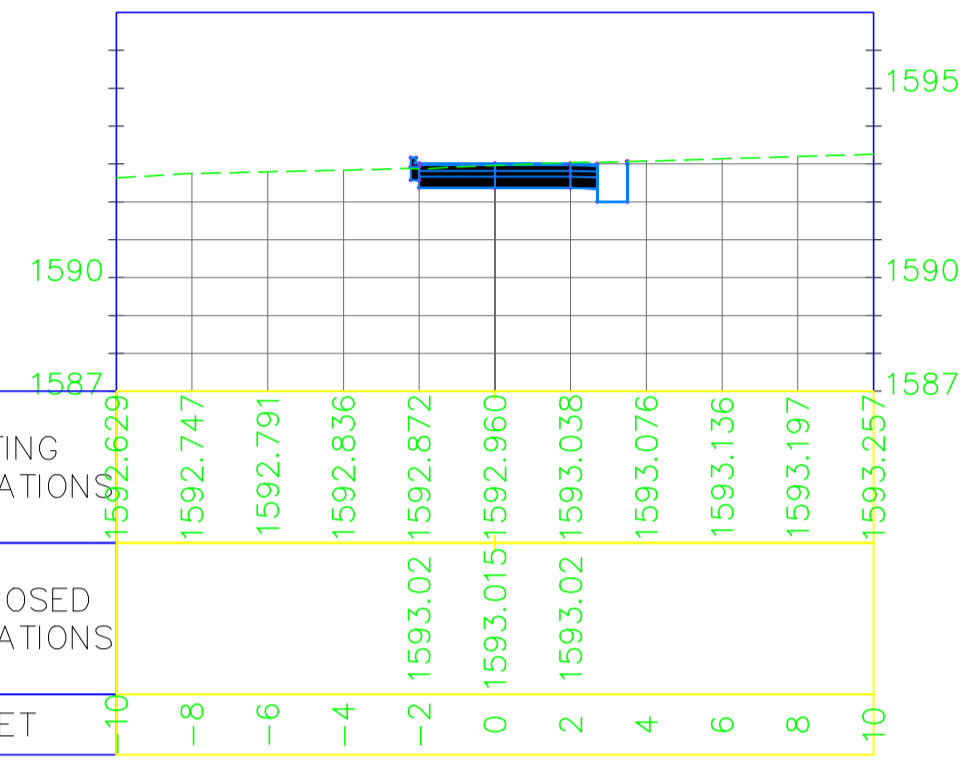
FINANCIER:
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)
 THE WORLD BANK

CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

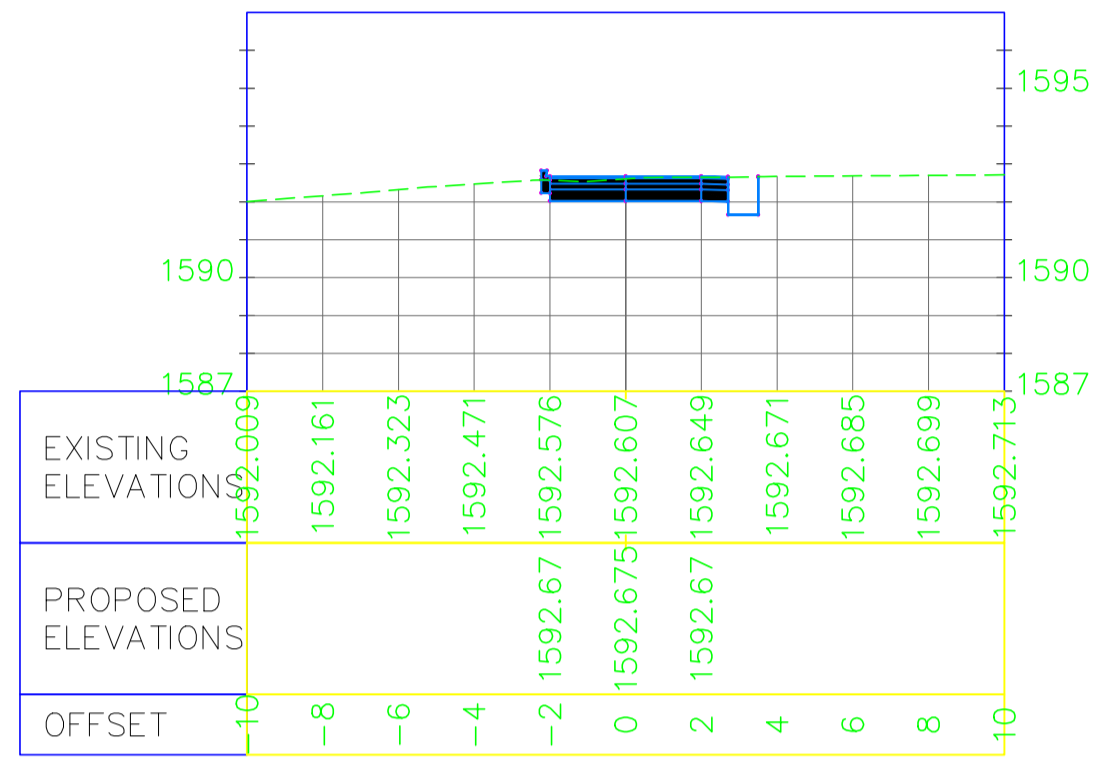
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 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2); CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: HURUMA FIRE VICTIMS : MBUYU'S STREET HRM RD02 PLAN & PROFILES		REVISIONS	
Drg. No: WML/CR214/HRM/PP/02/Sheet No.2 of 6	Date: FEBRUARY 2024		
Scale: H: 1:2000 V: 1:200	Stage: TENDER DRAWINGS		
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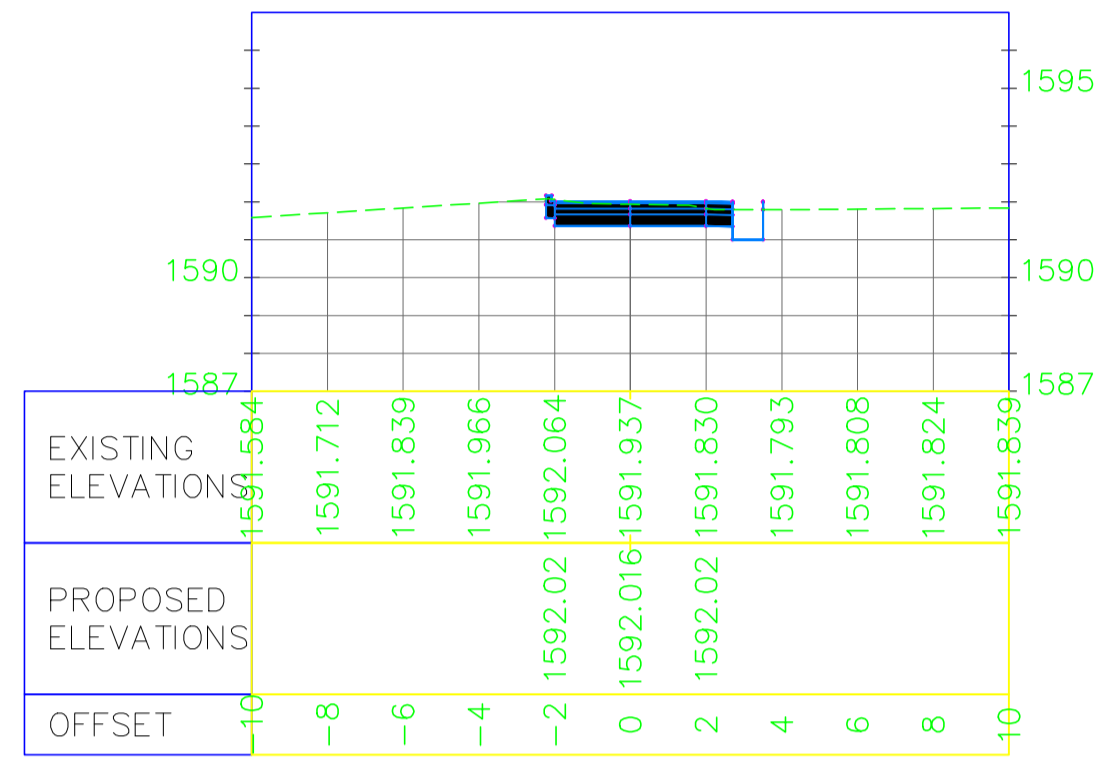
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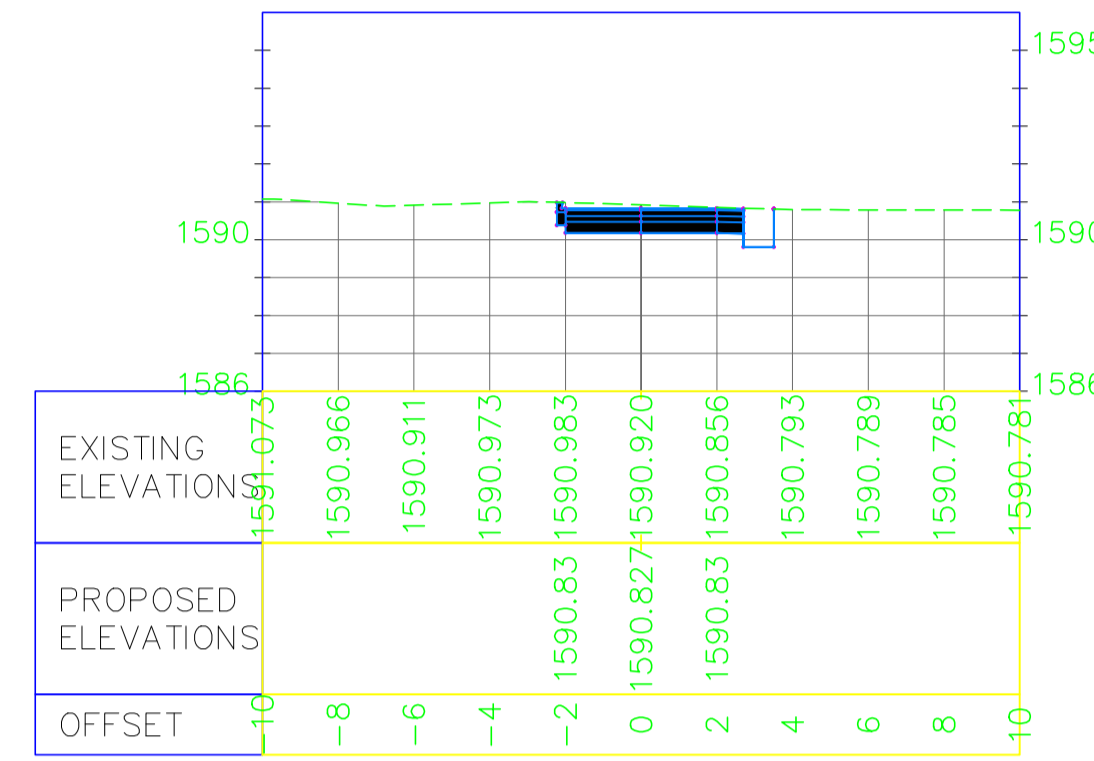
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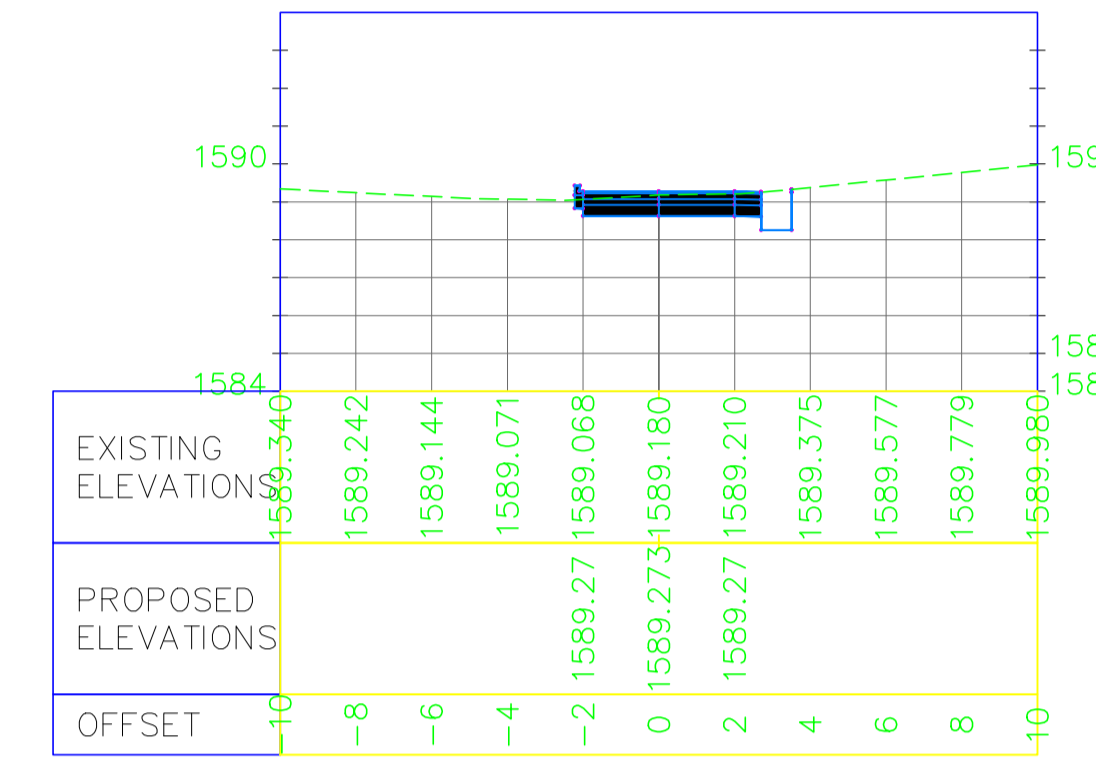
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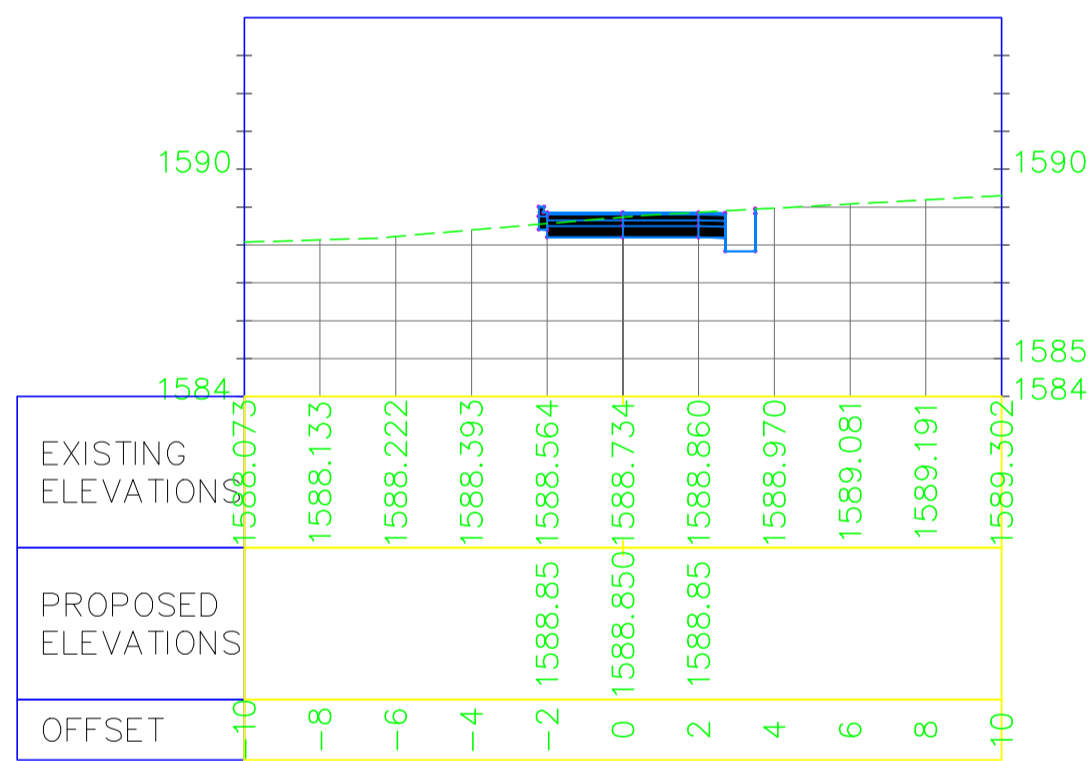
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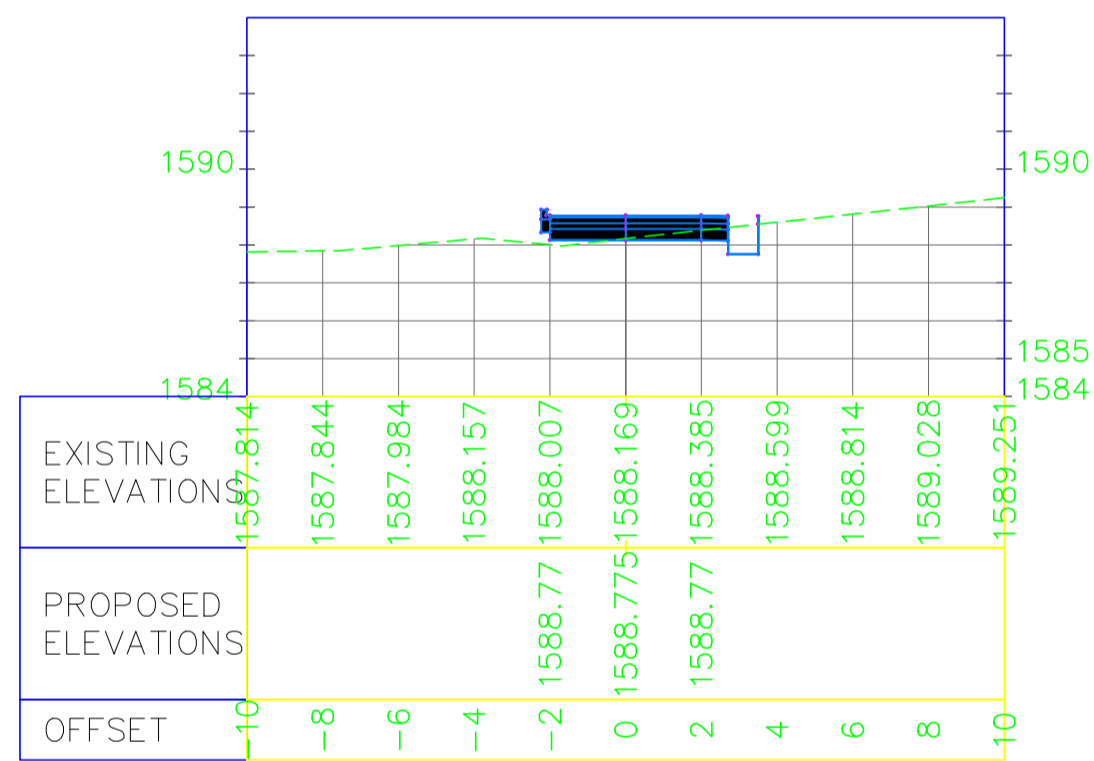
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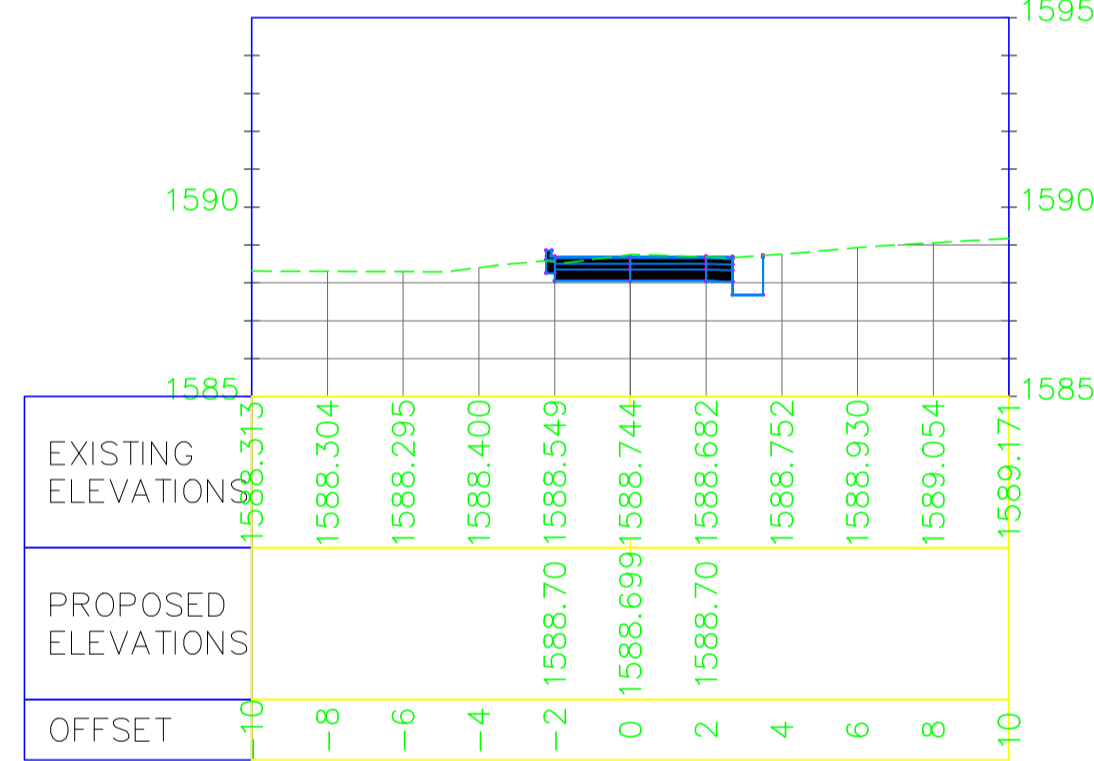
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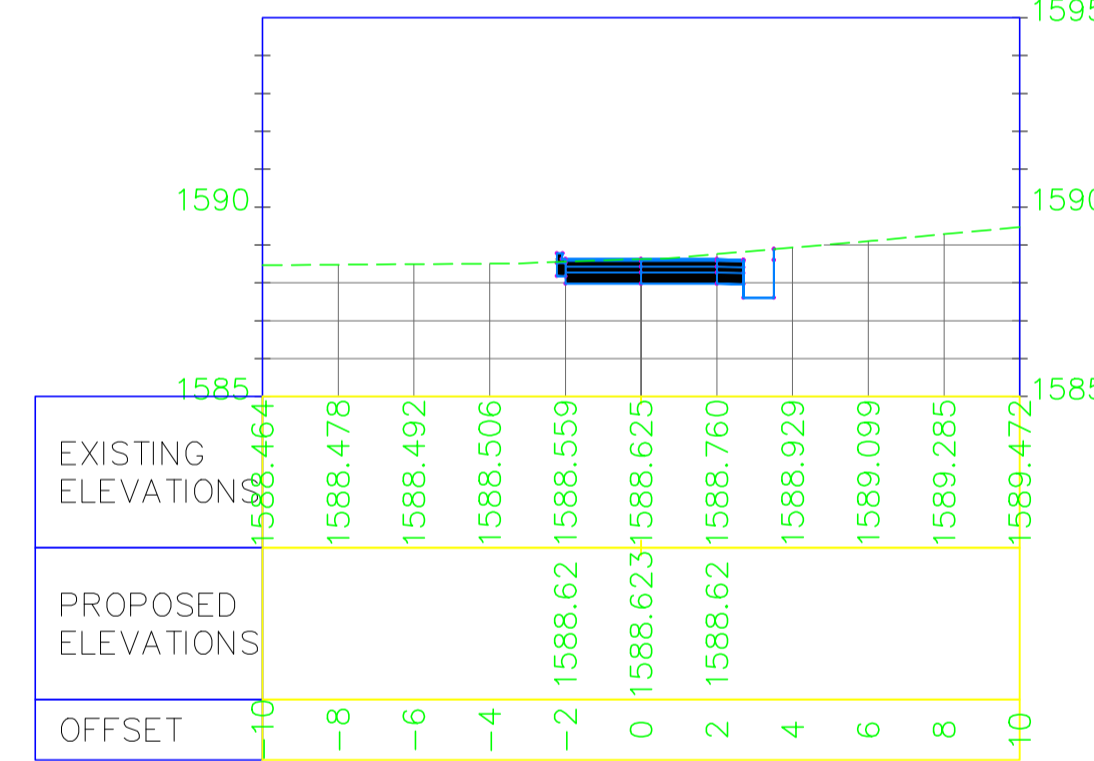
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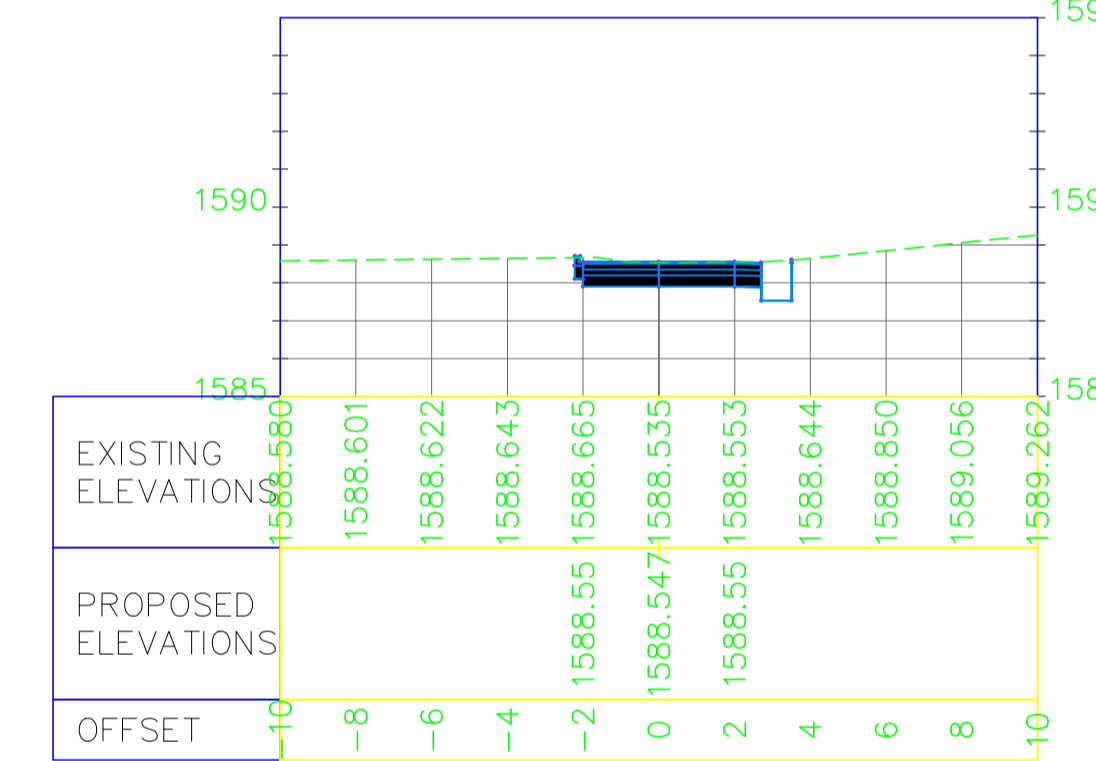
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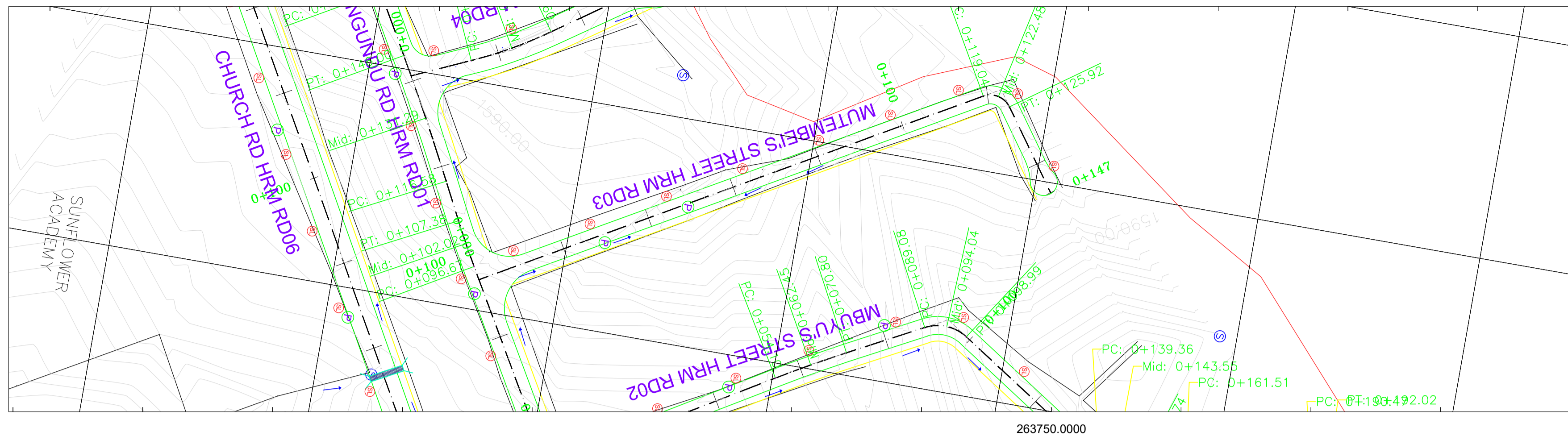


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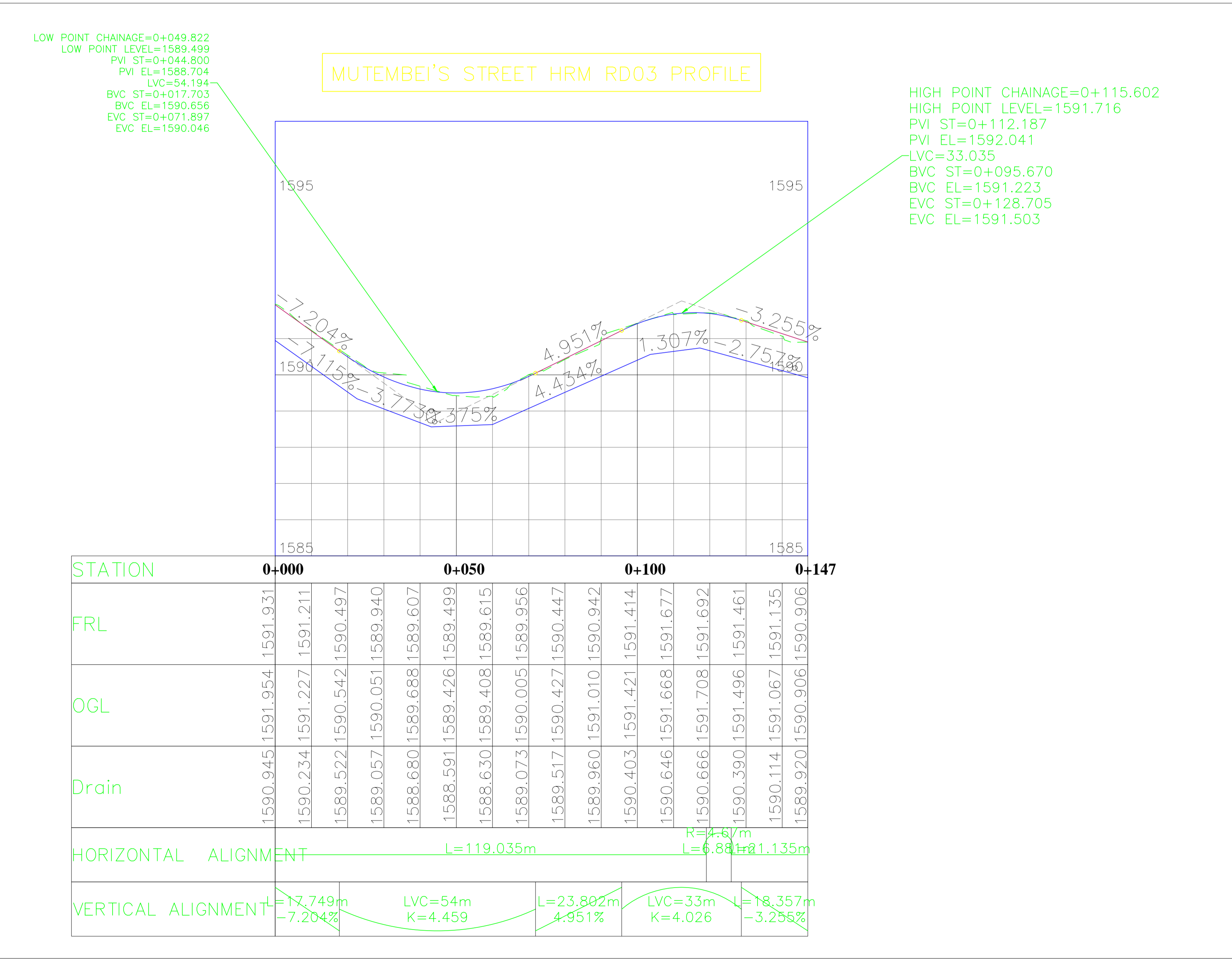




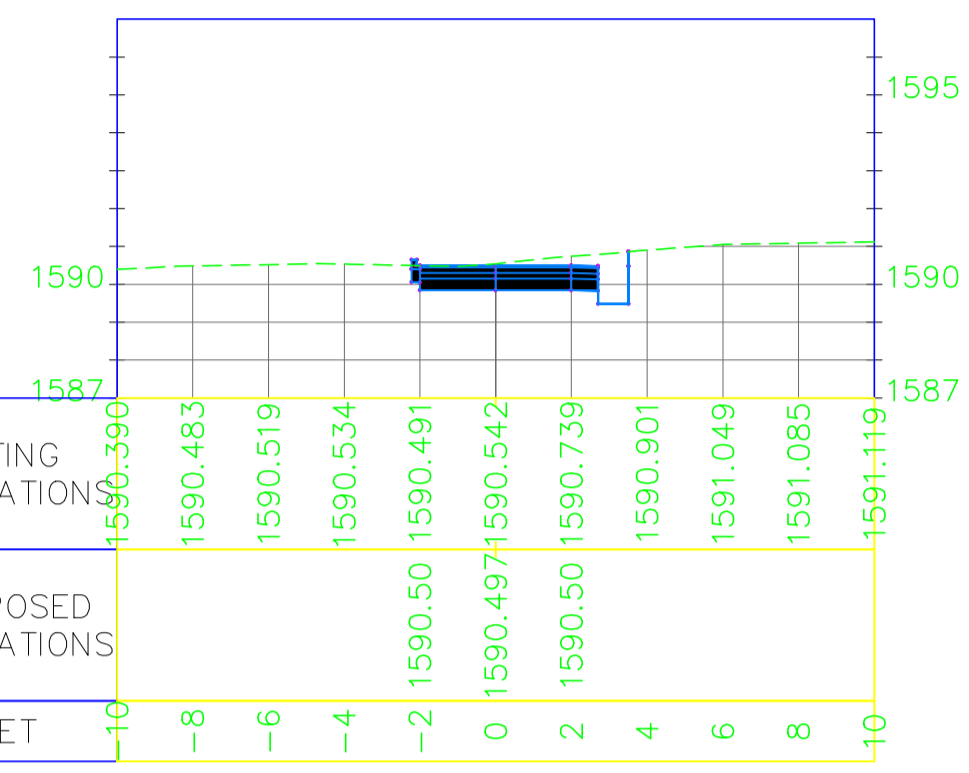
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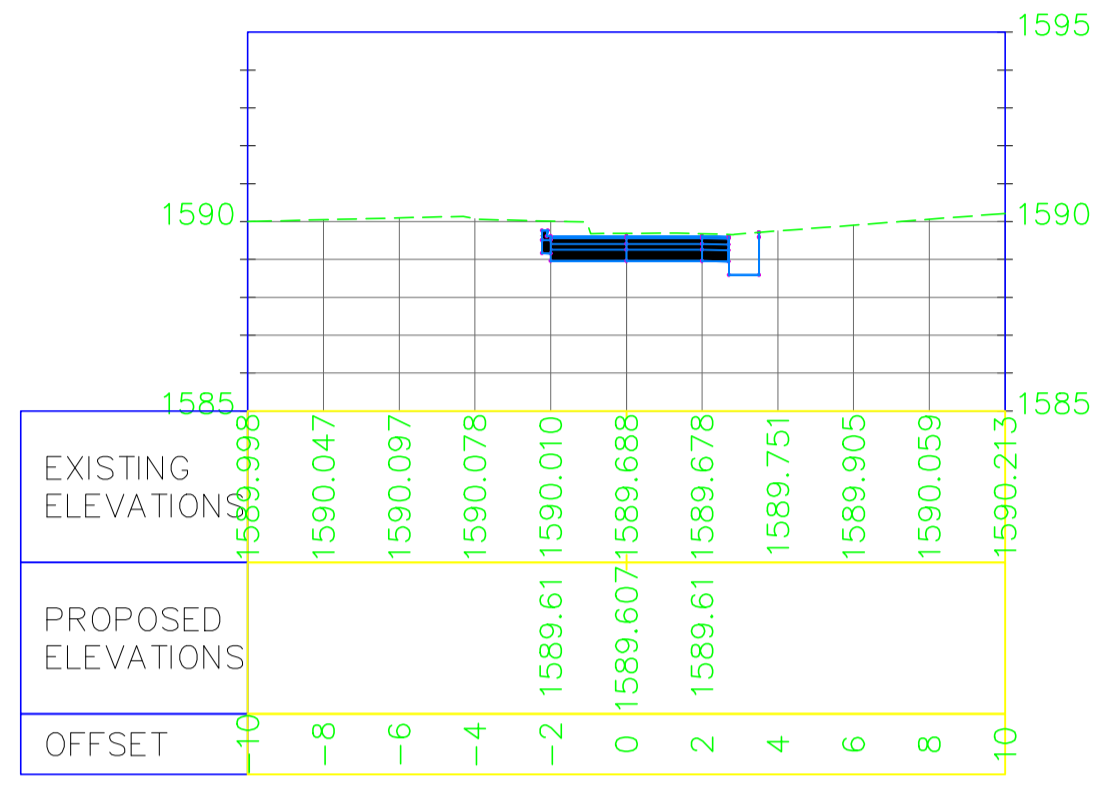
- Settlement Boundary
- Edge of Carriageway
- Building Walls
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Proposed Streetlight
- Existing Powerposts



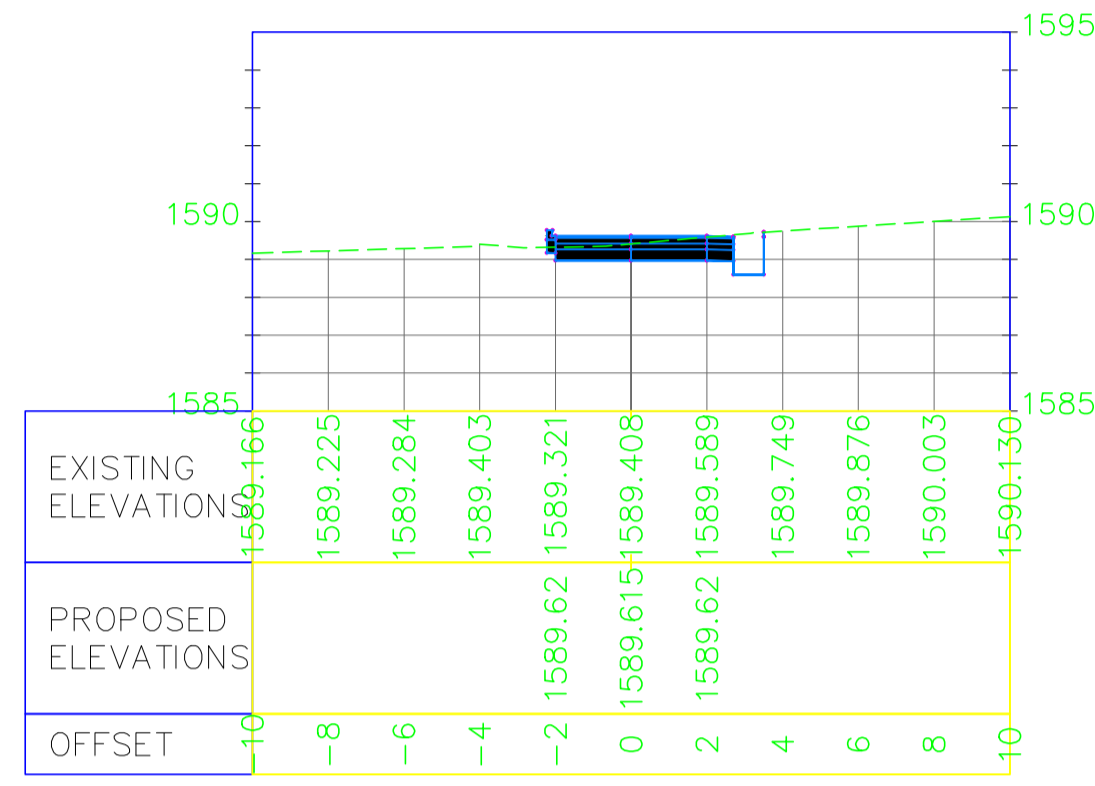
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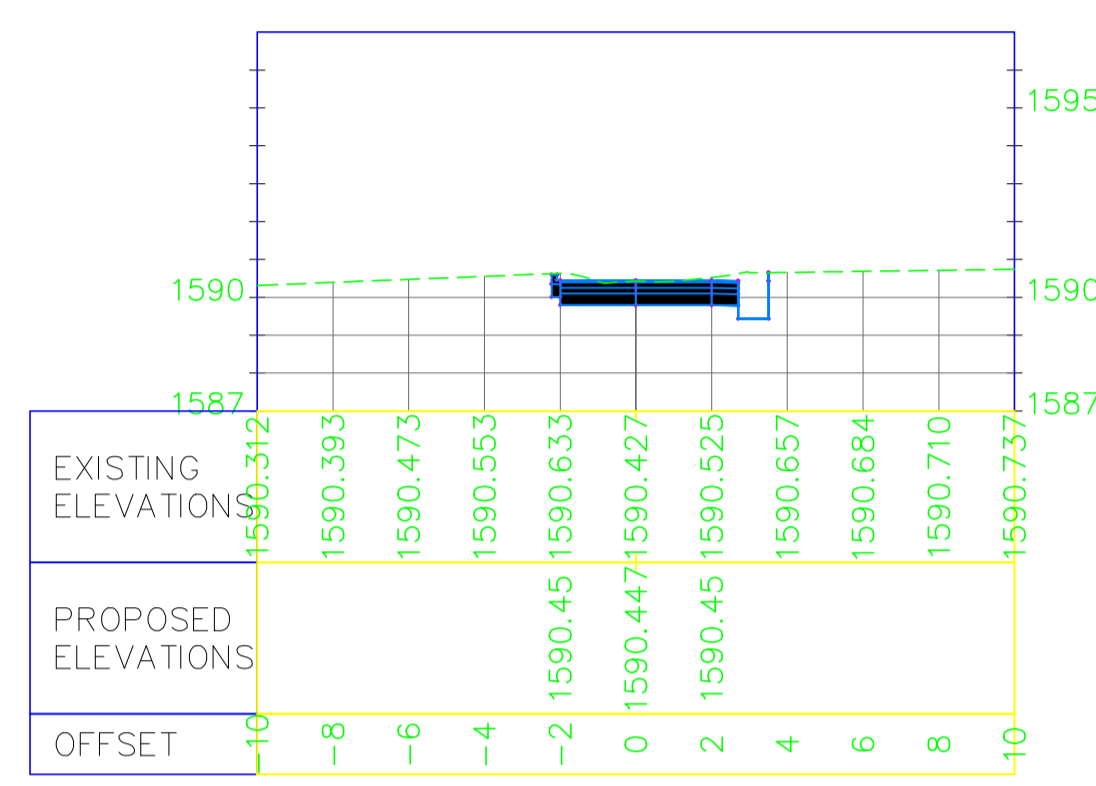
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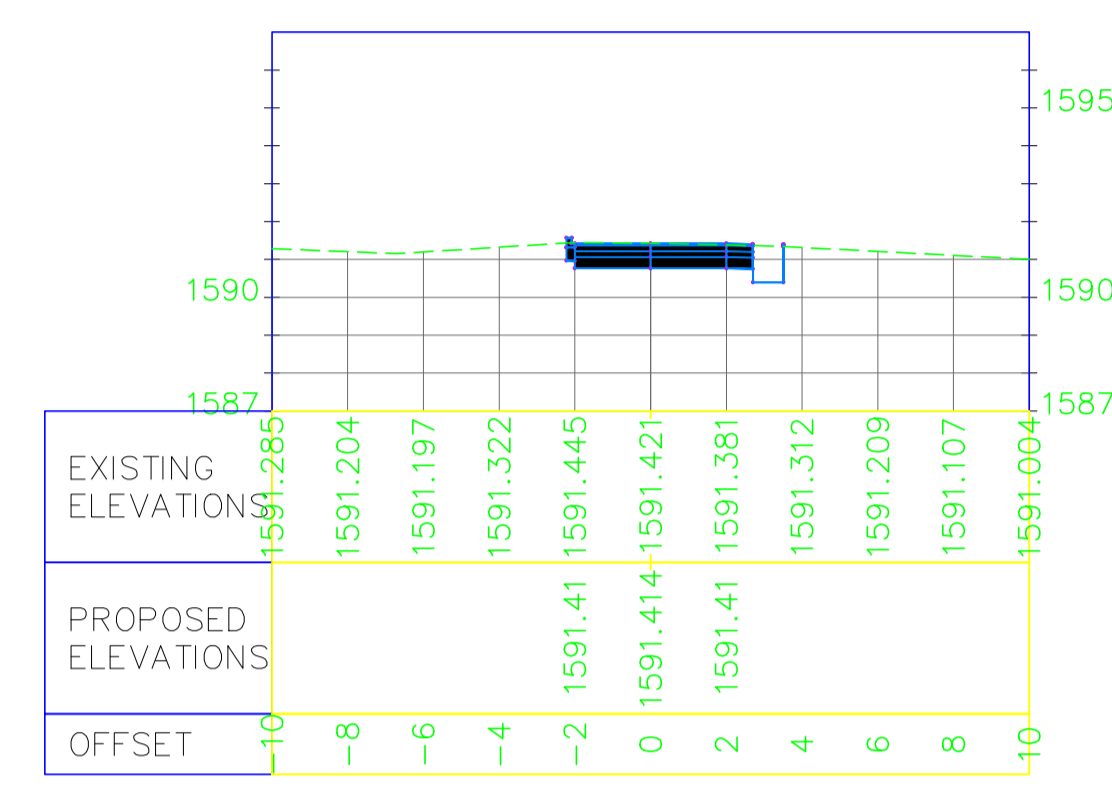
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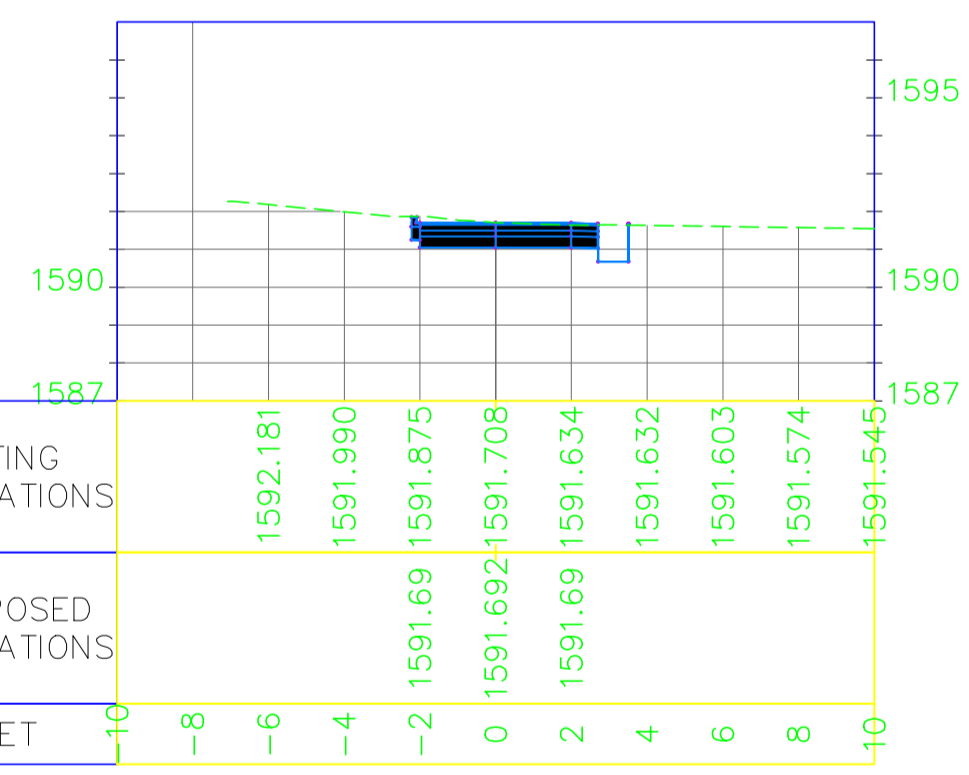
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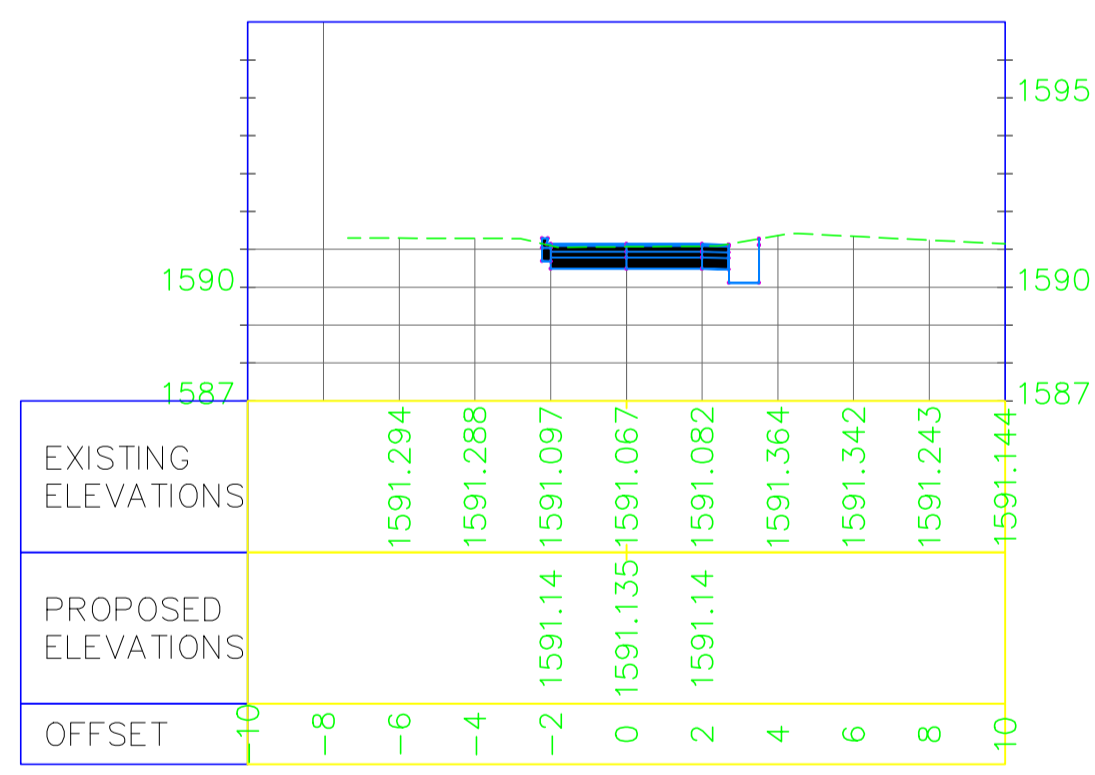
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0+120.00



0+140.00



CLIENT:



MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY COUNTY GOVERNMENT (NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.

PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: HURUMA FIRE VICTIMS : MUTEMBEI'S STREET HRM RD03 CROSS SECTIONS

Drg. No: WMC/CR214/HRM/DCS/03 Sheet No. 3 of 6

Scale: H: 1:2000 Date: FEBRUARY 2024

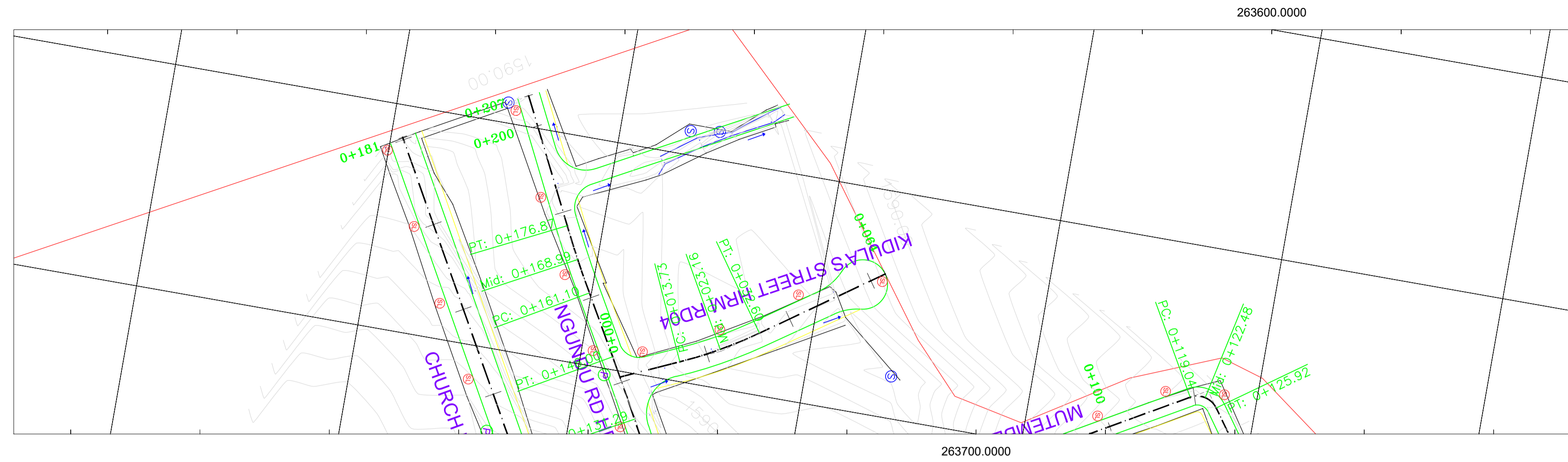
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APPROVED BY: ENG. IKWM DESIGNED BY: LWK

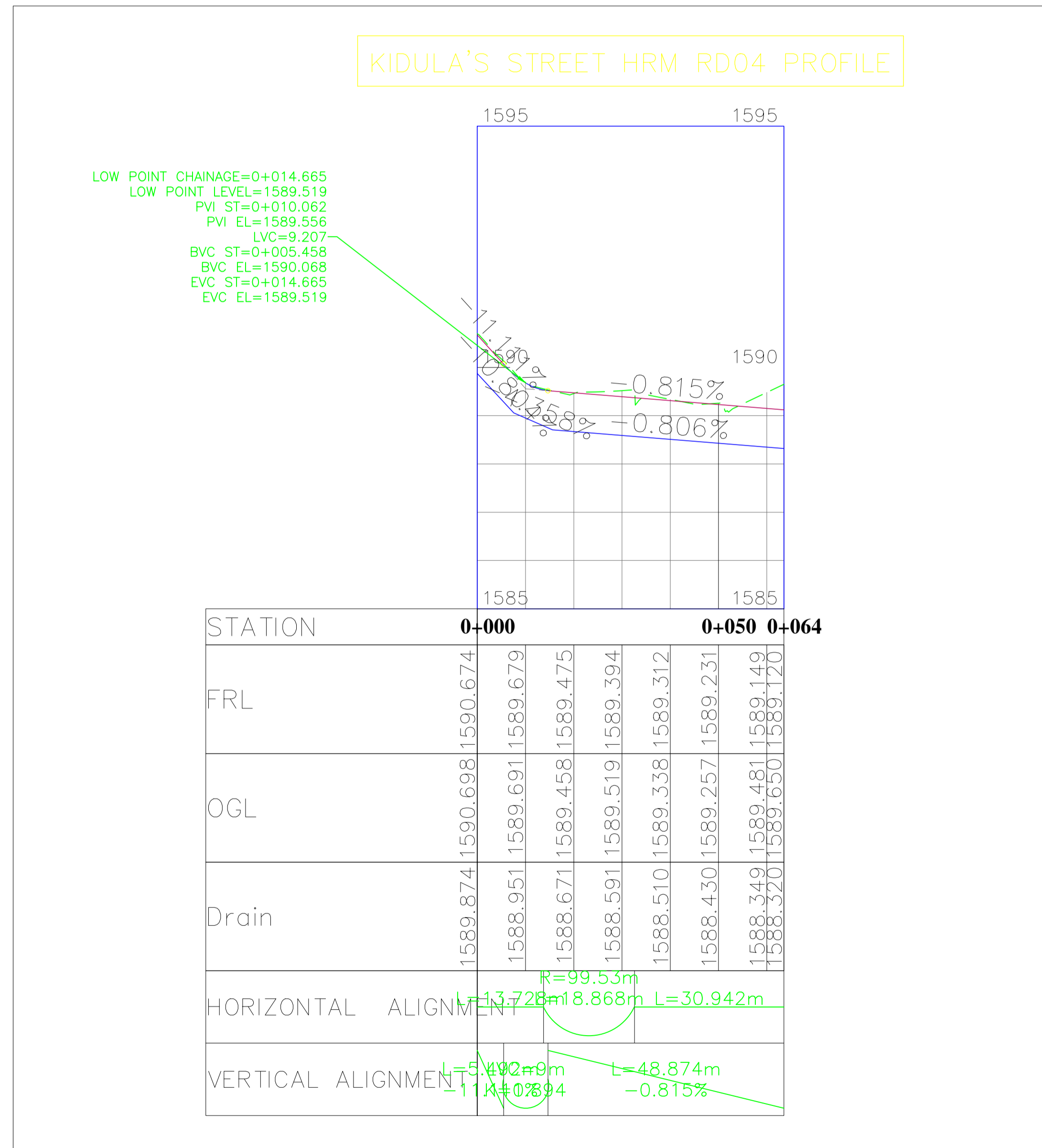
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REVISIONS

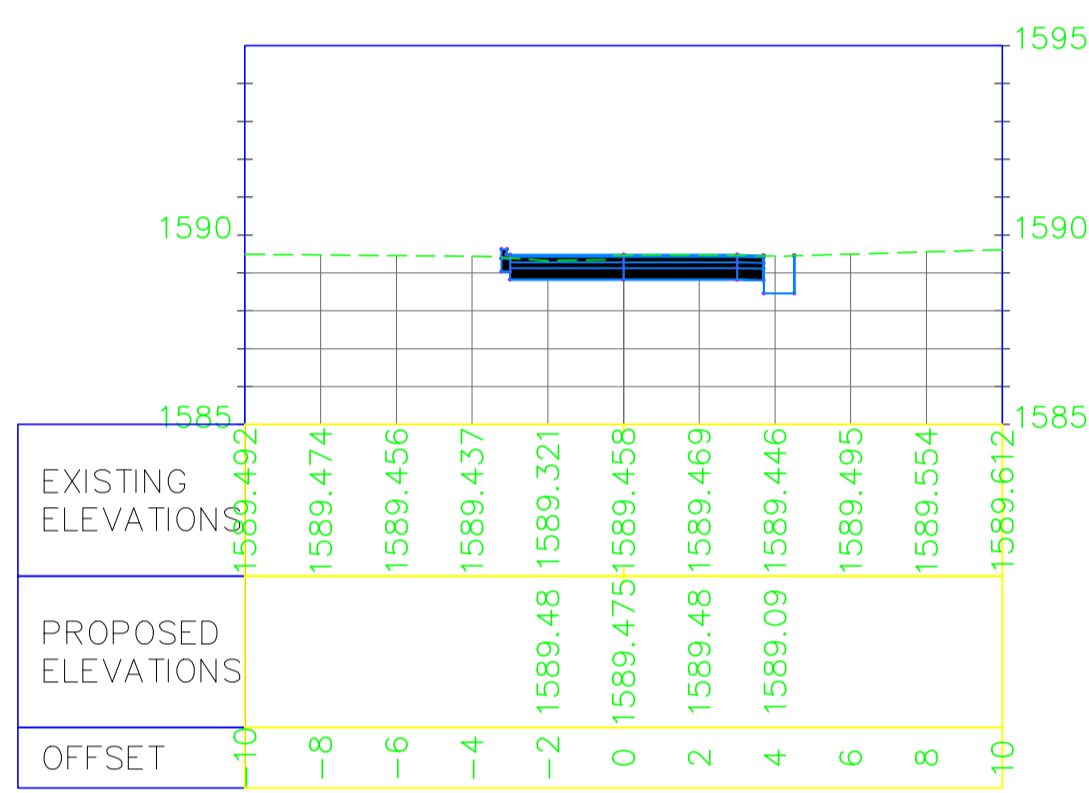
No.	Date	AMMENDMENTS



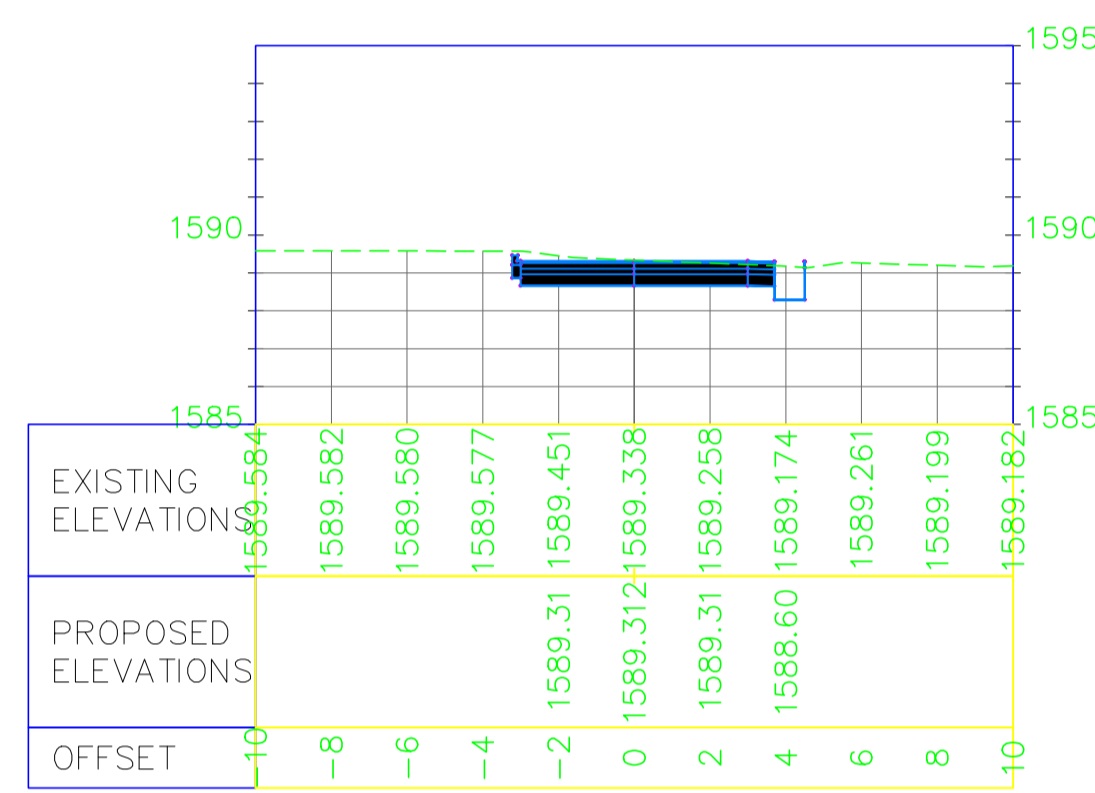
LEGEND	
	Settlement Boundary
	Edge of Carriageway
	Building Walls
	Centreline Alignment
	Contours
	Culvert
	Water Flow Direction
	Drain Profile
	Edge of Footpath
	Proposed Streetlight
	Existing Powerposts



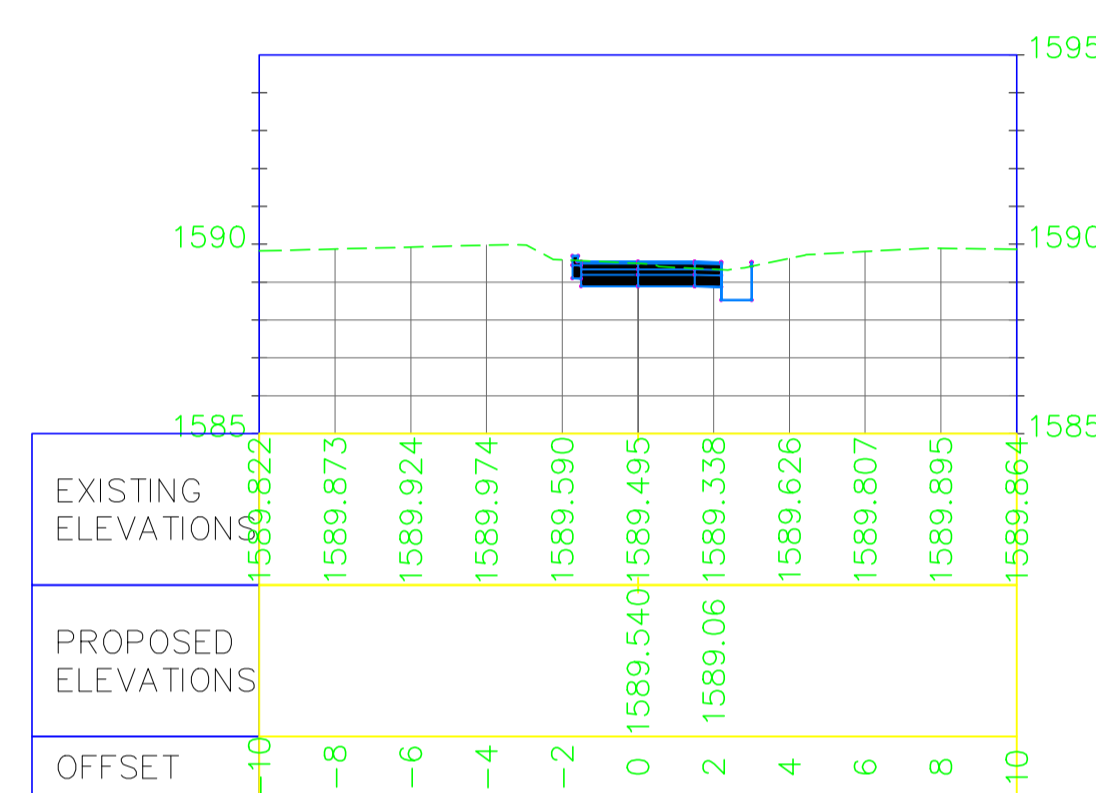
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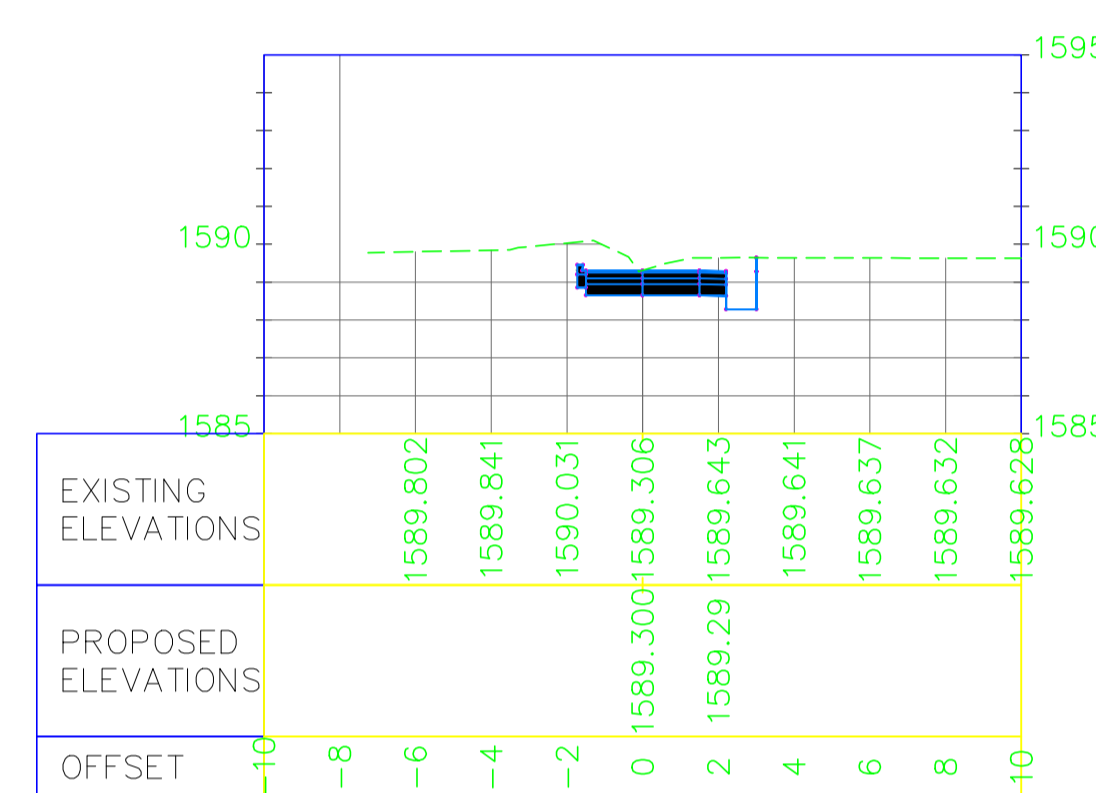
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0+020.00



0+040.00



CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
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FINANCIER:

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FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
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Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: HURUMA FIRE VICTIMS : HRM RD04 & HRM RD05 CROSS SECTIONS

Drg. No: WML/CR214/HRM/DCS/04 Sheet No 4 of 6

Scale: H: 1:2000 Date: FEBRUARY 2024

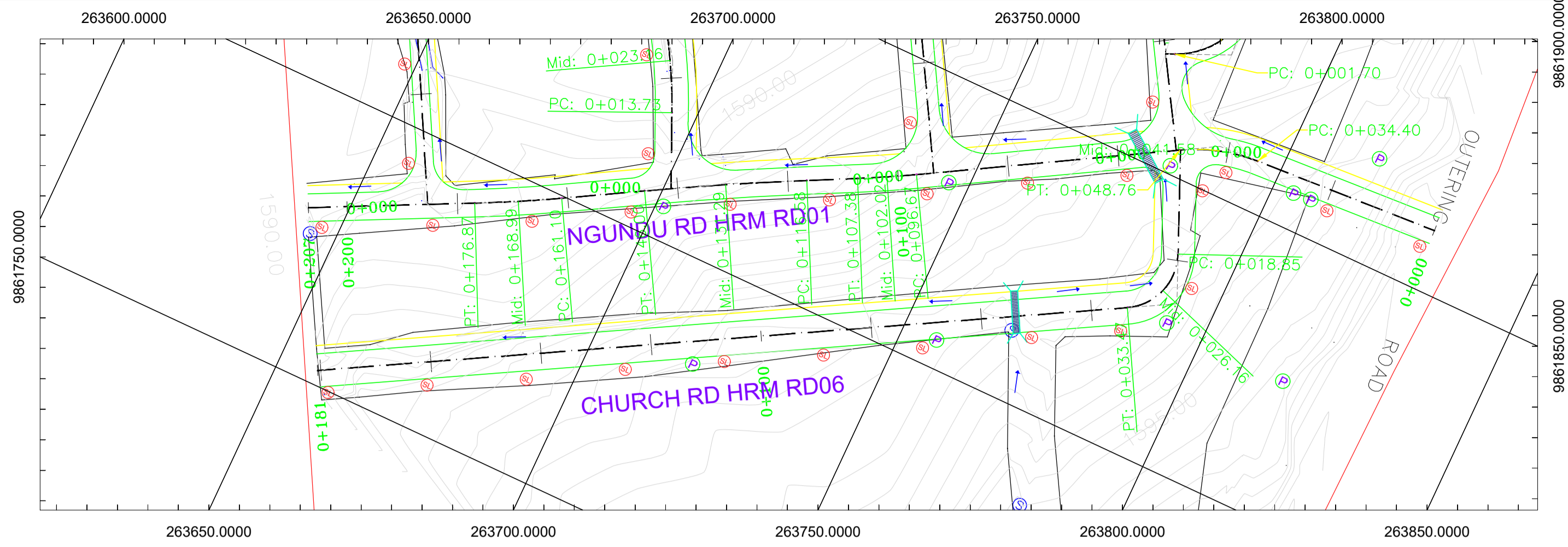
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APPROVED BY: ENG. IKWM DESIGNED BY: LWK

CHECKED BY: ENG. PNG DRAWN BY: LWK

REVISIONS

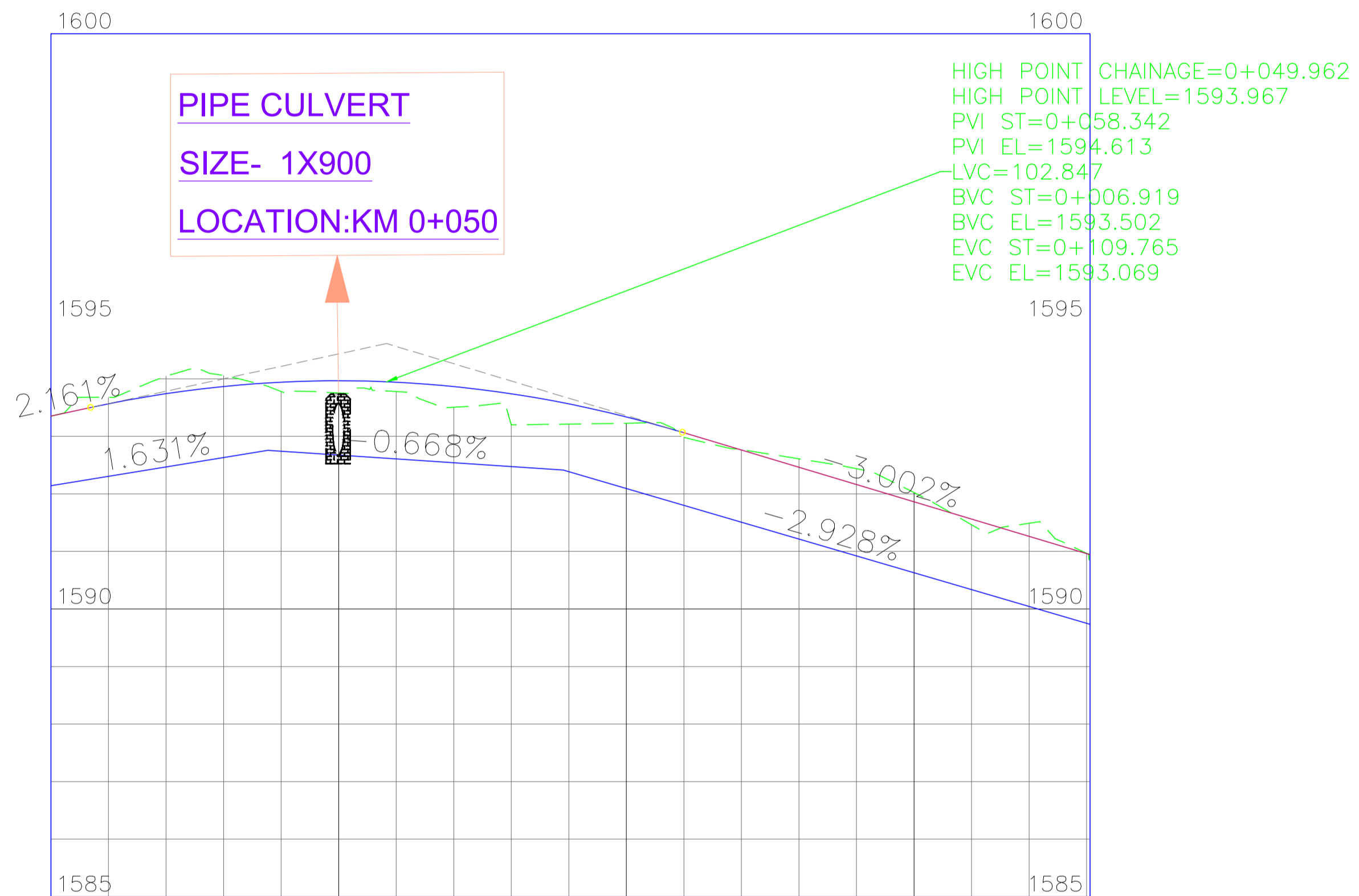
No.	Date	AMMENDMENTS



LEGEND

- Settlement Boundary
- Edge of Carriageway
- Building Walls
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Proposed Streetlight
- Existing Powerposts

CHURCH ROAD HRM RD06 PROFILE



STATION	0+000	0+050	0+100	0+150	0+181
FRL	1593.352	1593.566	1593.741	1593.339	1590.941
OGL	1593.353	1593.678	1593.755	1593.228	1590.966
Drain	1592.143	1592.306	1592.475	1592.093	1589.754
HORIZONTAL ALIGNMENT	L=18.851m 2.161%		L=147.119m -0.668%		L=70.852m -3.002%
VERTICAL ALIGNMENT	L=6.920m 2.161%		LVC=103m K=19.919		L=70.852m -3.002%

CLIENT:
MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

EMPLOYER:
NAIROBI CITY COUNTY GOVERNMENT (NCCG)

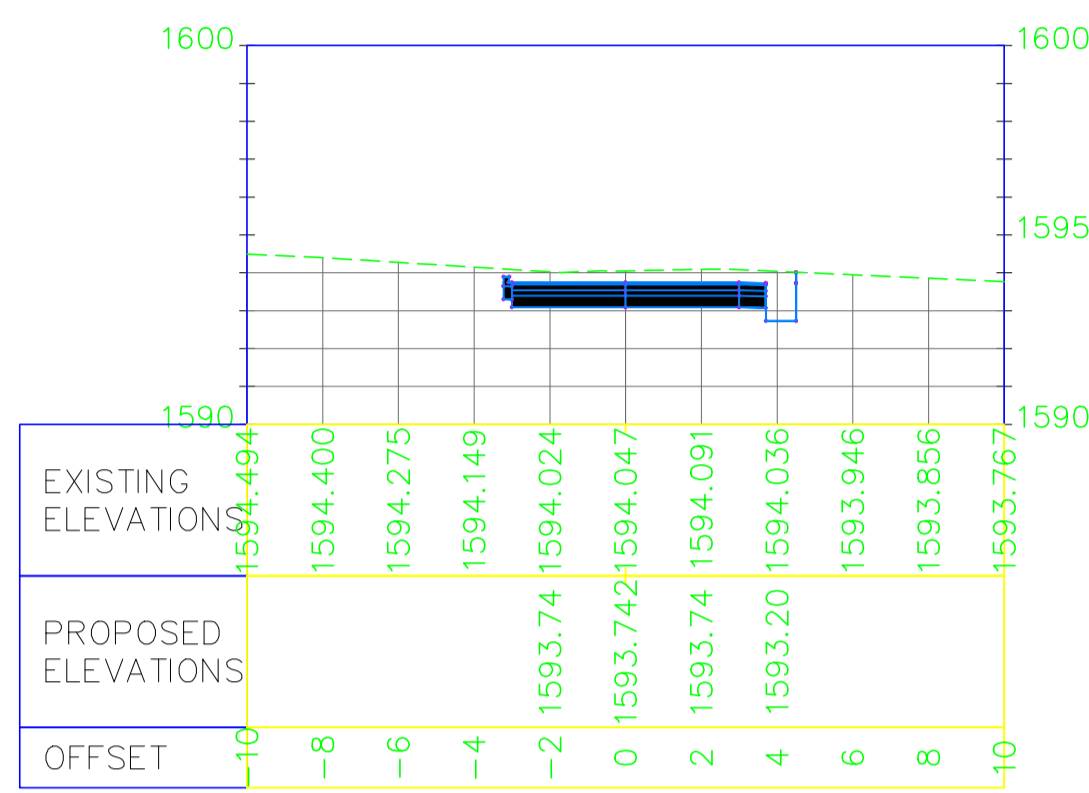
FINANCIER:
INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

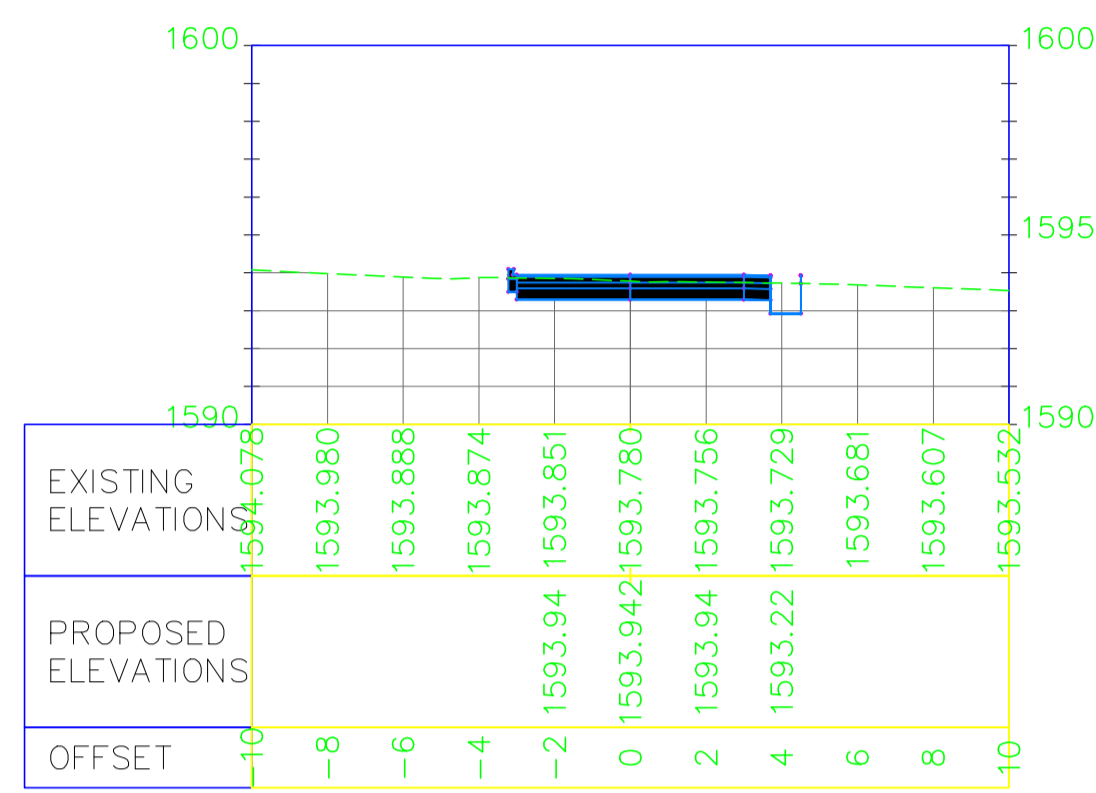
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SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: HURUMA FIRE VICTIMS : CHURCH ROAD HRM RD06 PLAN & PROFILES				REVISIONS	
Drg. No: WML/CR214/HRM/PP/05/Sheet No.5of6		Date: FEBRUARY 2024			
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CHECKED BY: ENG. PNG		DRAWN BY: LWK		No. Date AMMENDMENTS	

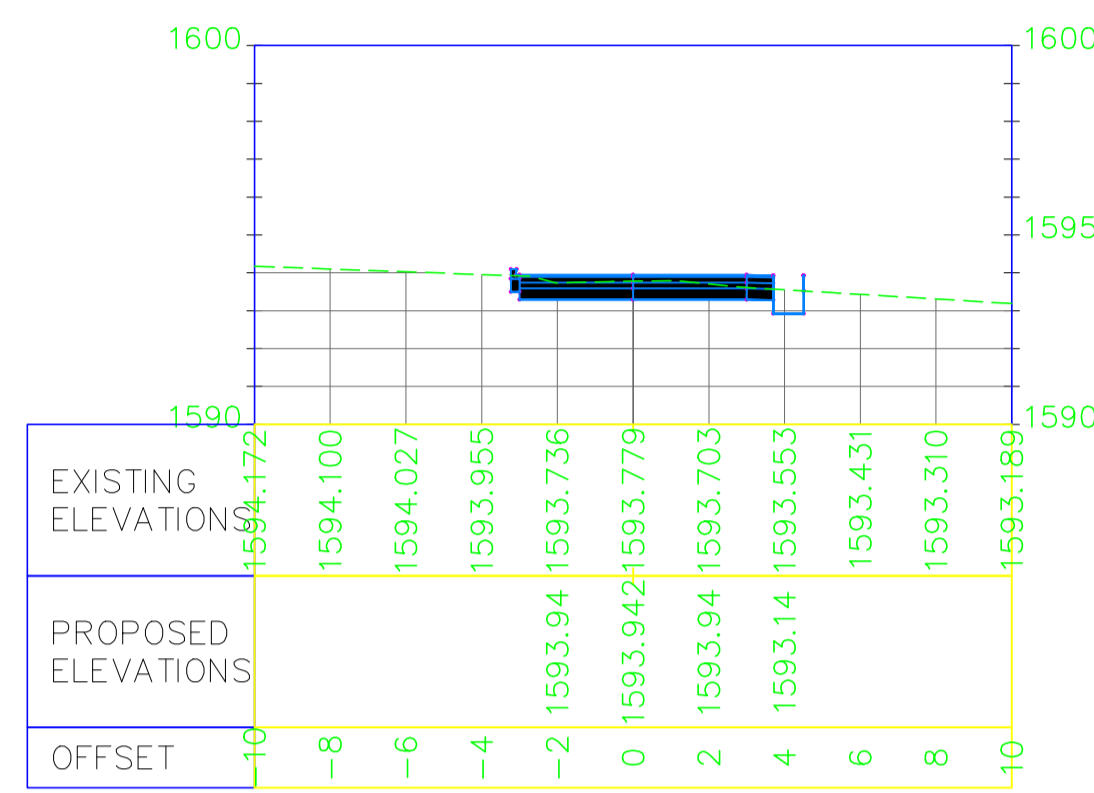
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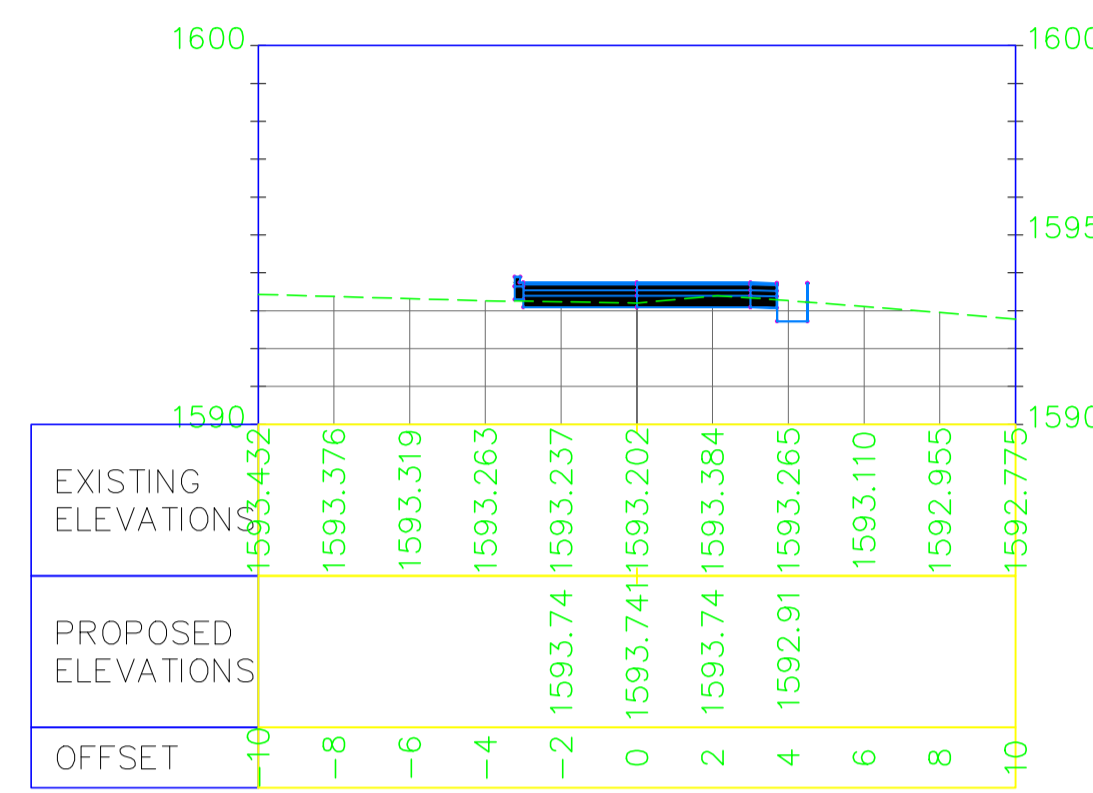
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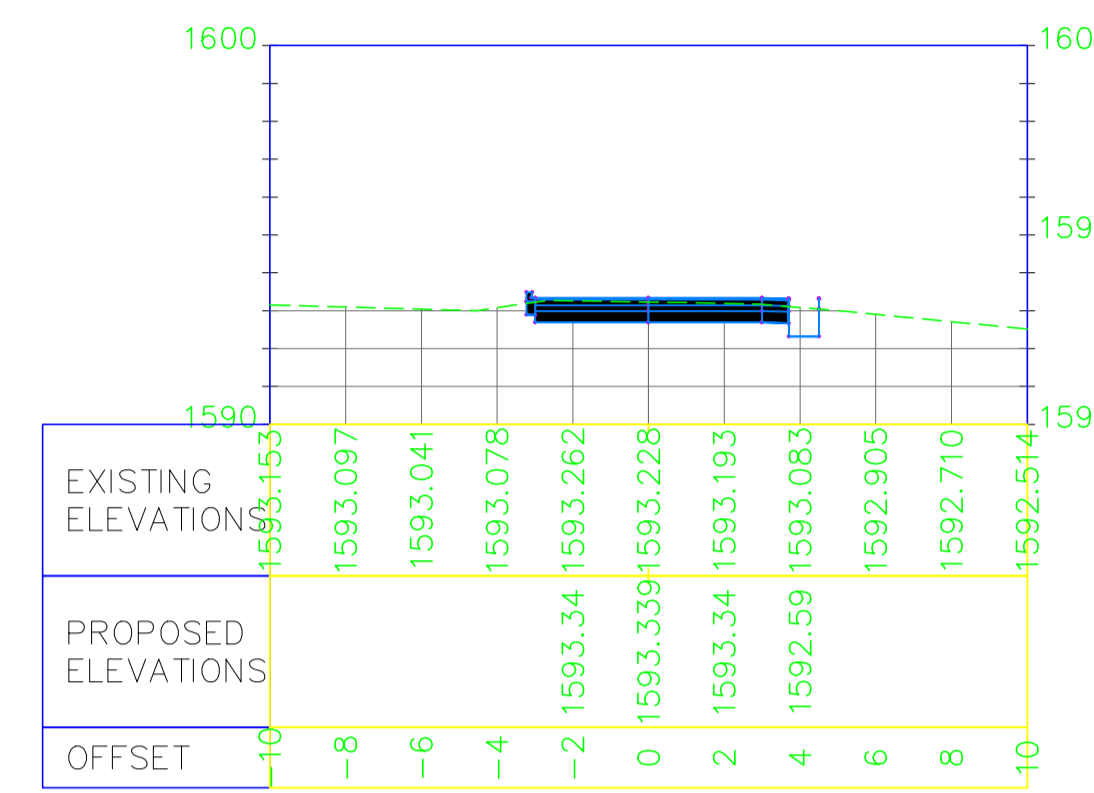
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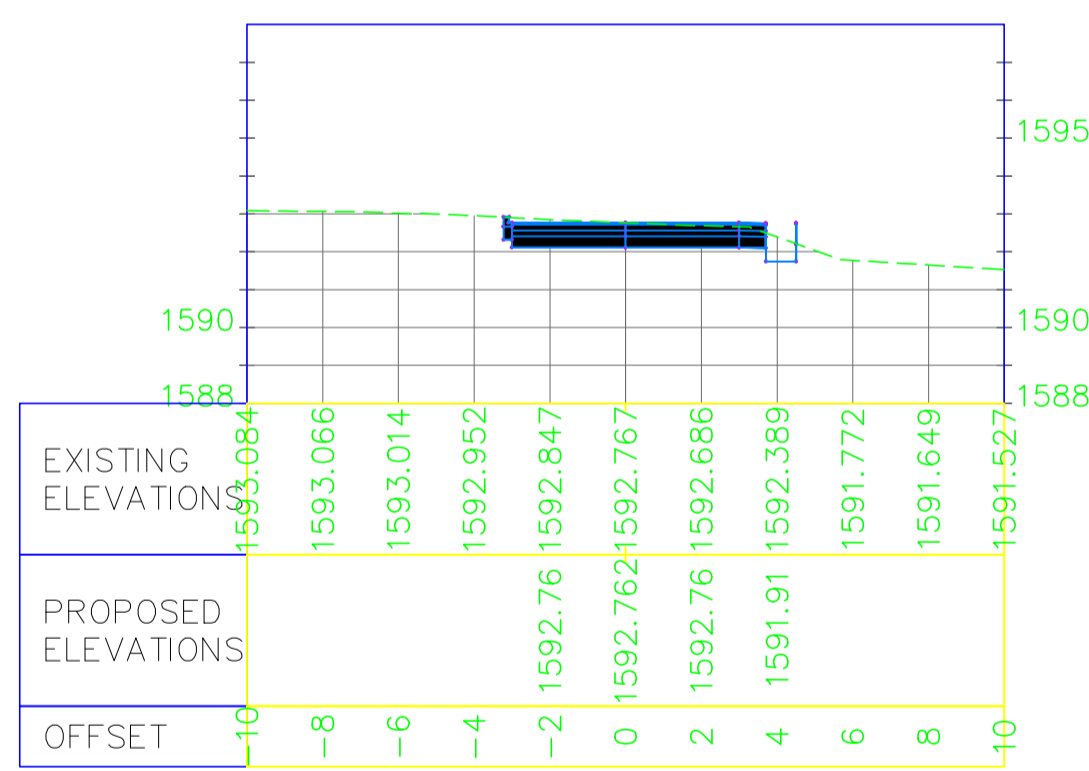
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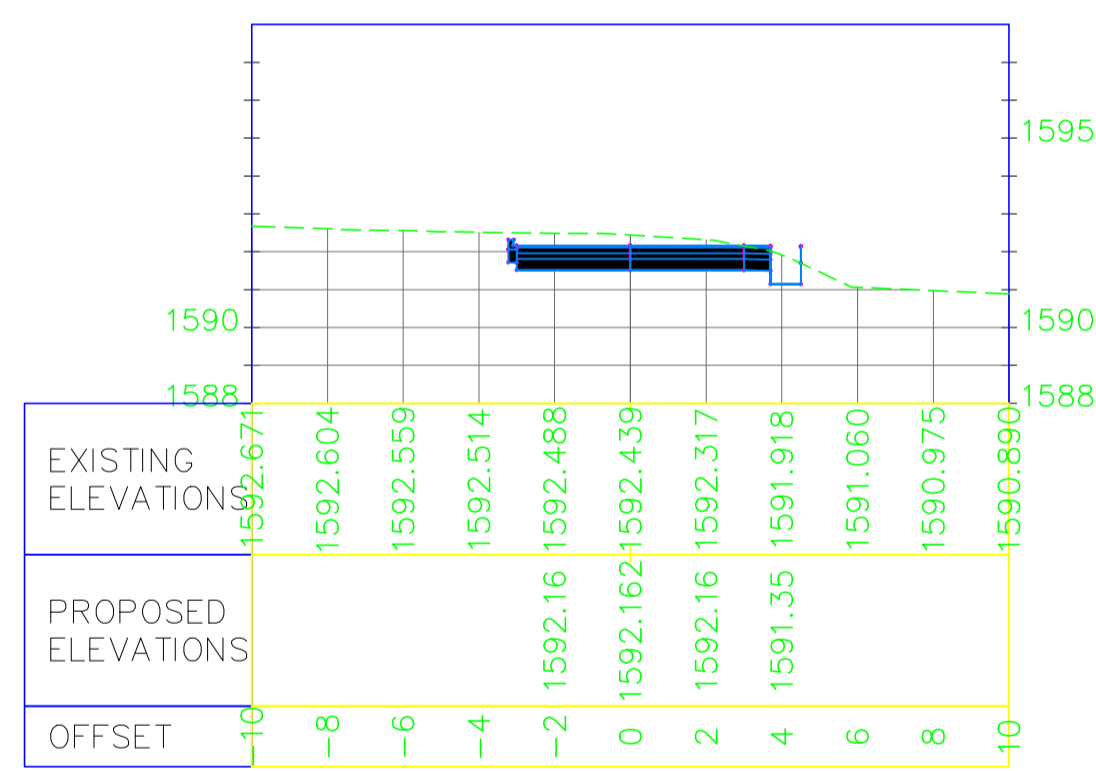
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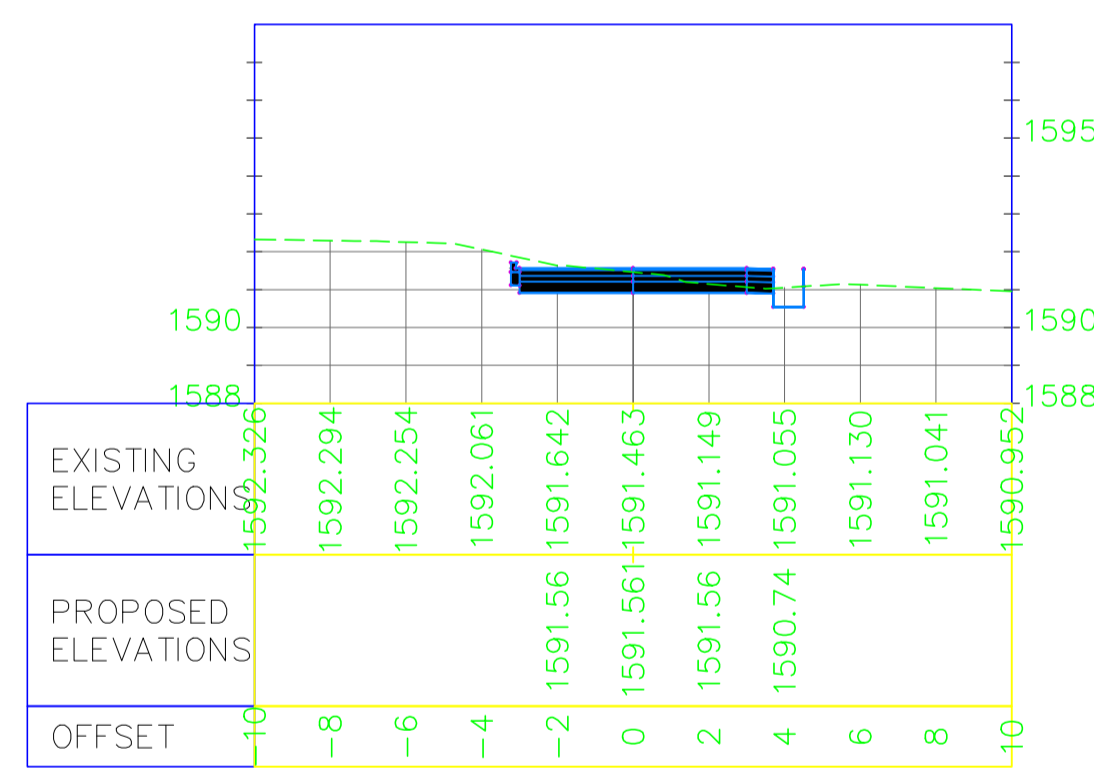
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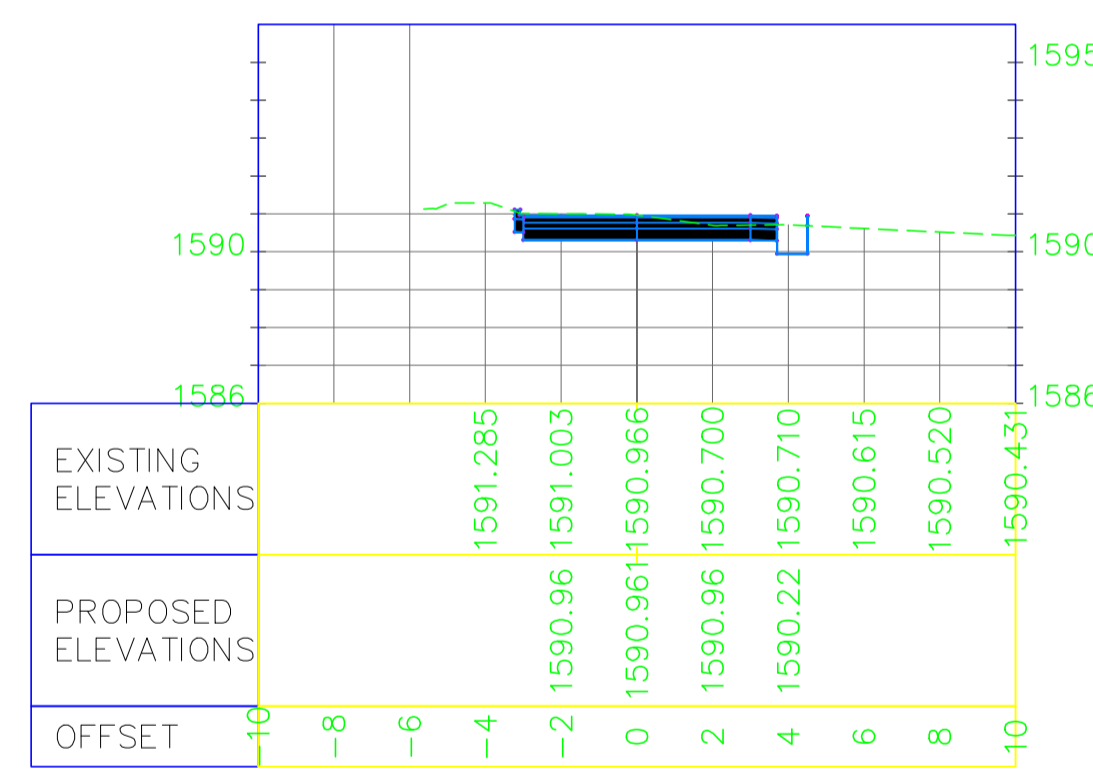
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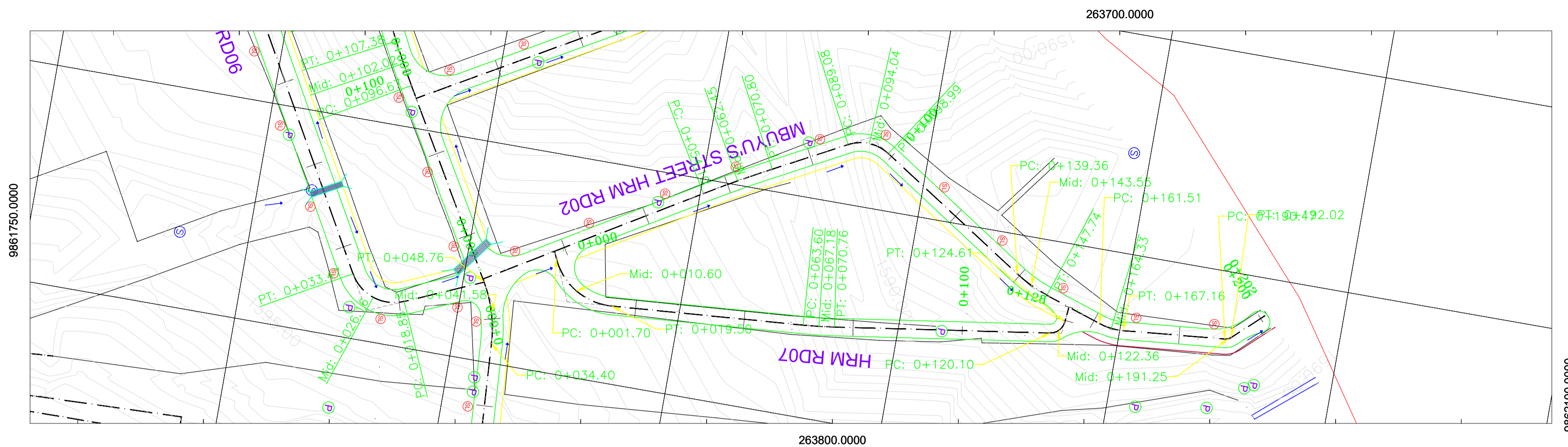


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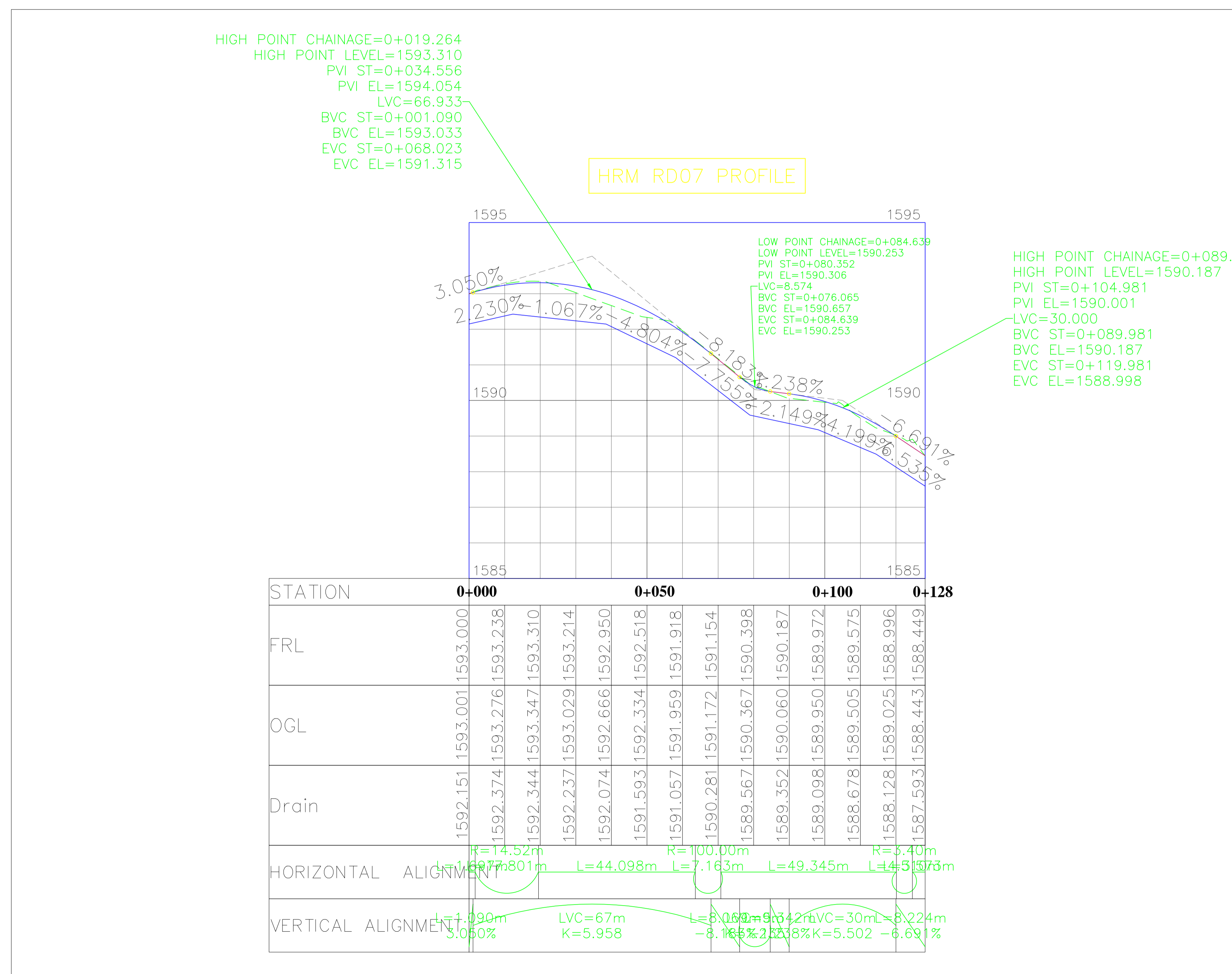
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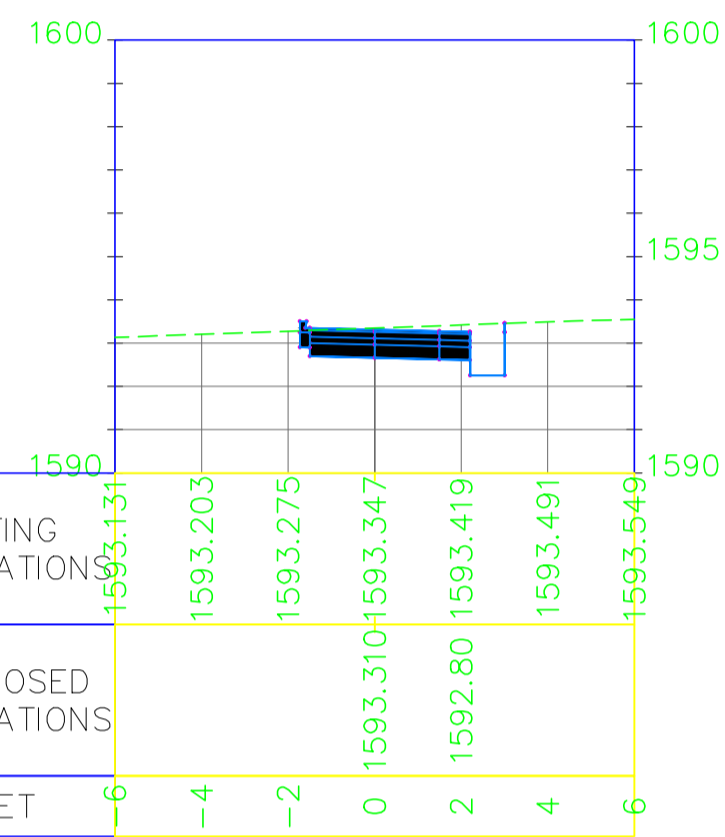


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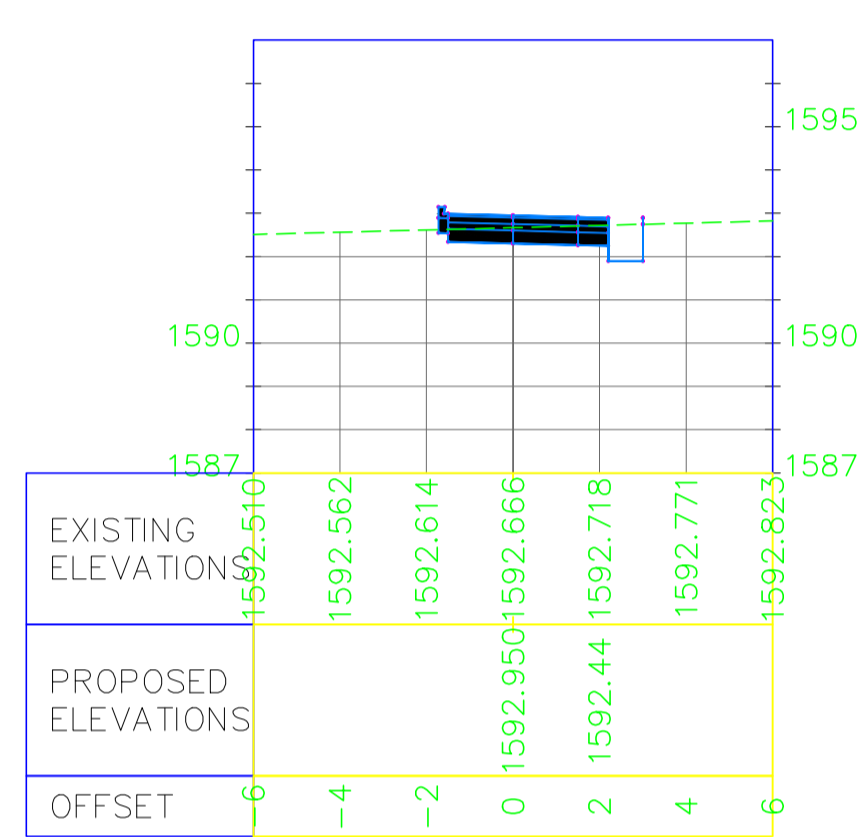
- Settlement Boundary
- Edge of Carriageway
- Building Walls
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Proposed Streetlight
- Existing Powerposts



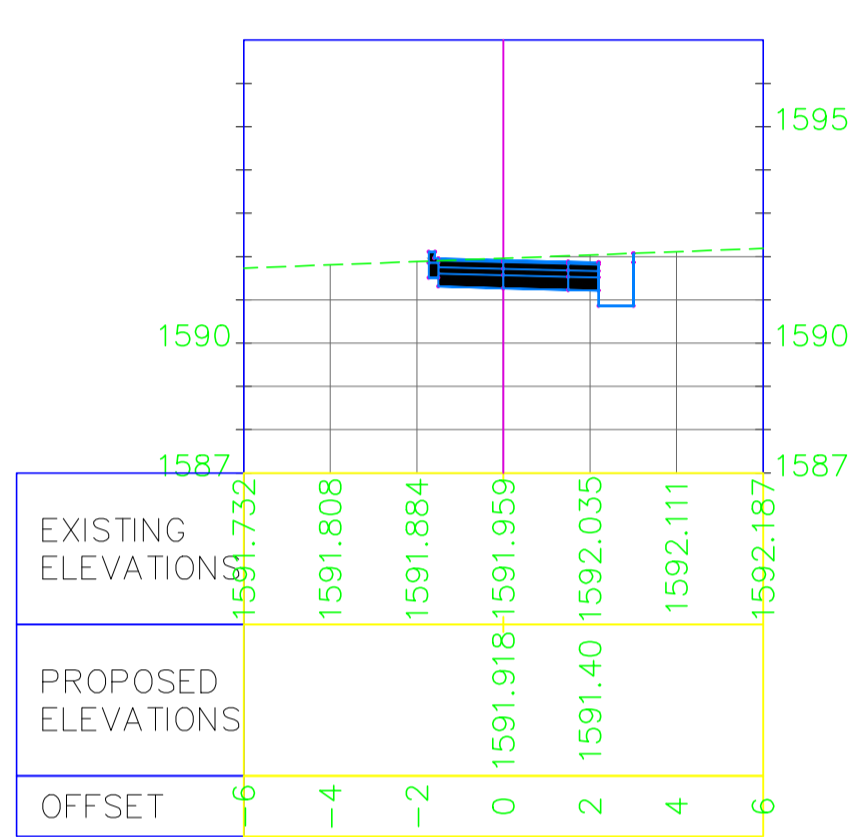
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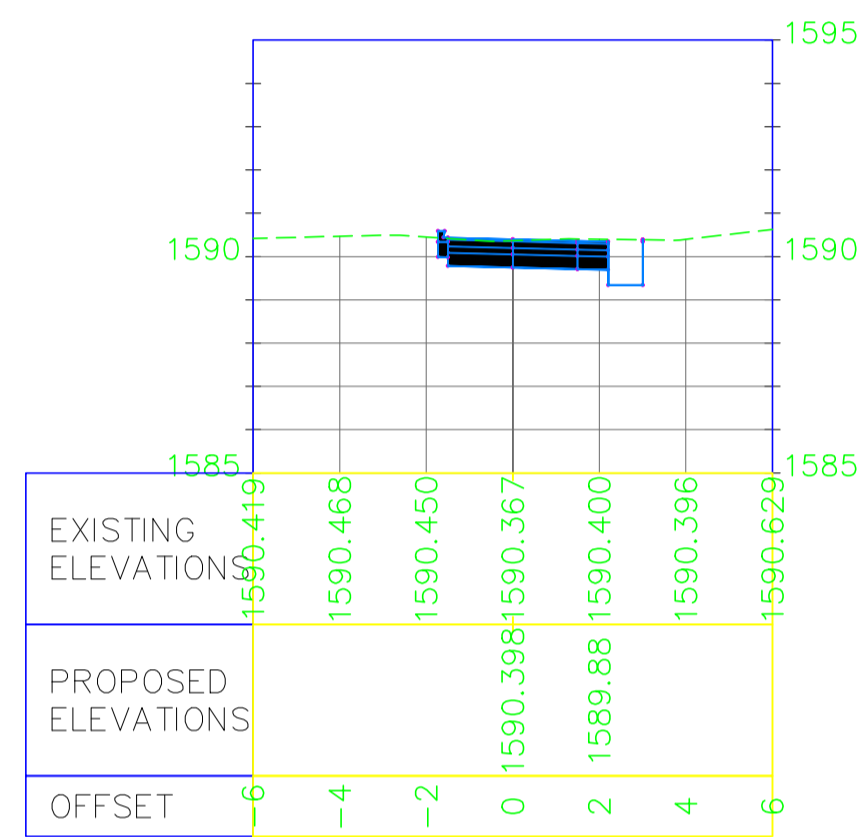
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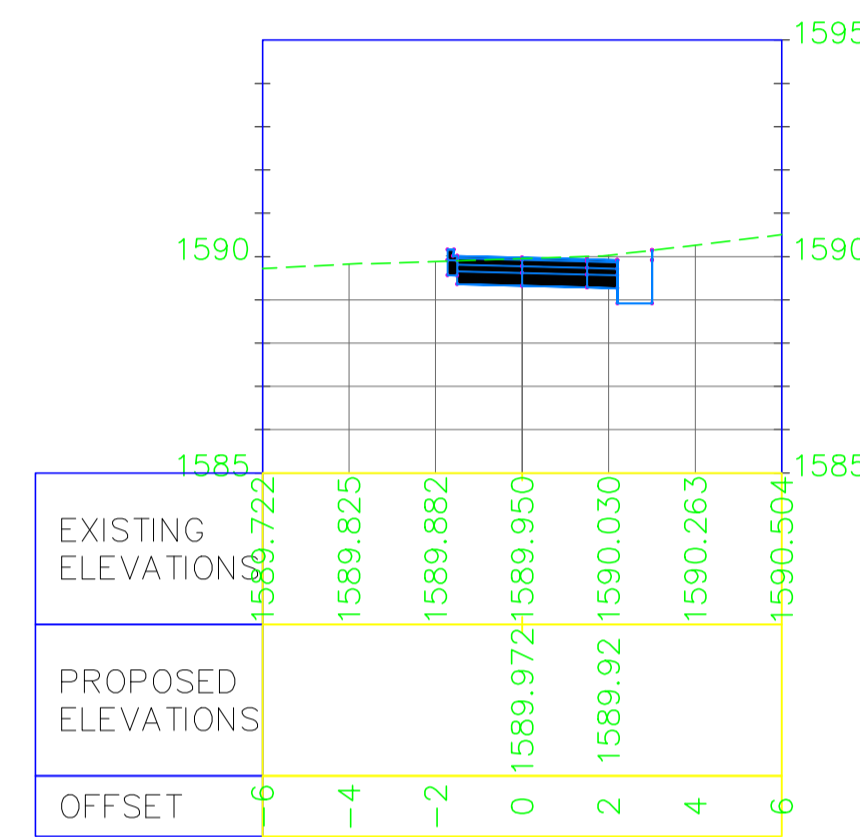
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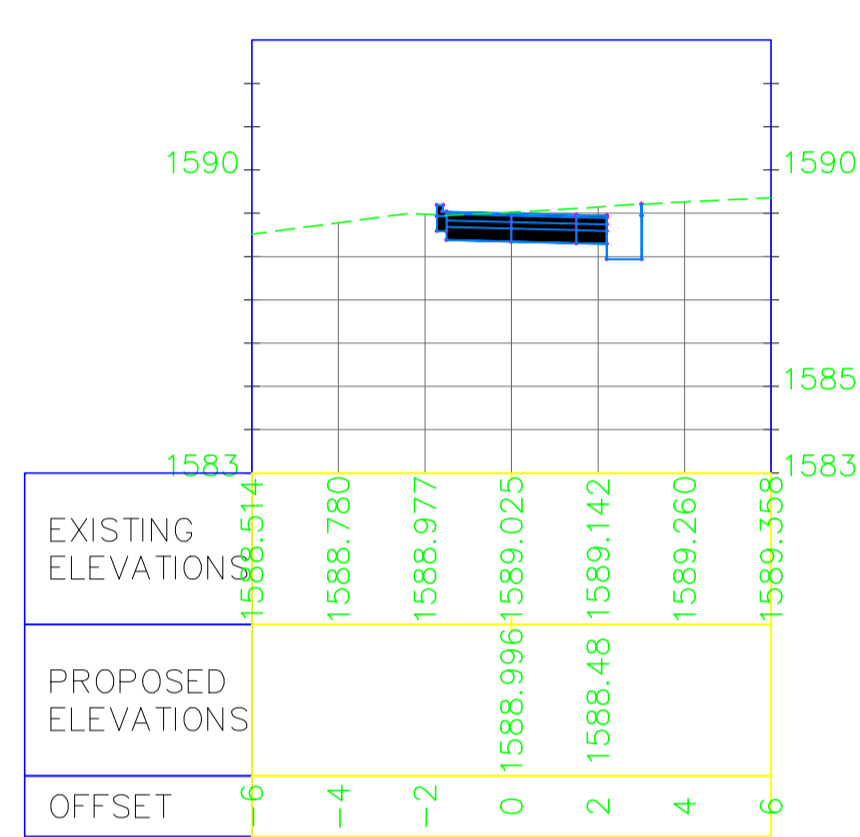
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0+120.00



CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: HURUMA FIRE VICTIMS : HRM RD07

CROSS SECTIONS

Drg. No: WMCL/CR214/HRM/DCS/06 Sheet No 6 of 6

Scale: H: 1:2000 Date: FEBRUARY 2024

V: 1:200 Stage: TENDER DRAWINGS






APPROVED BY: ENG. IKWM DESIGNED BY: LWK

CHECKED BY: ENG. PNG DRAWN BY: LWK

REVISIONS

No.	Date	AMMENDMENTS

MATOPENI SETTLEMENT

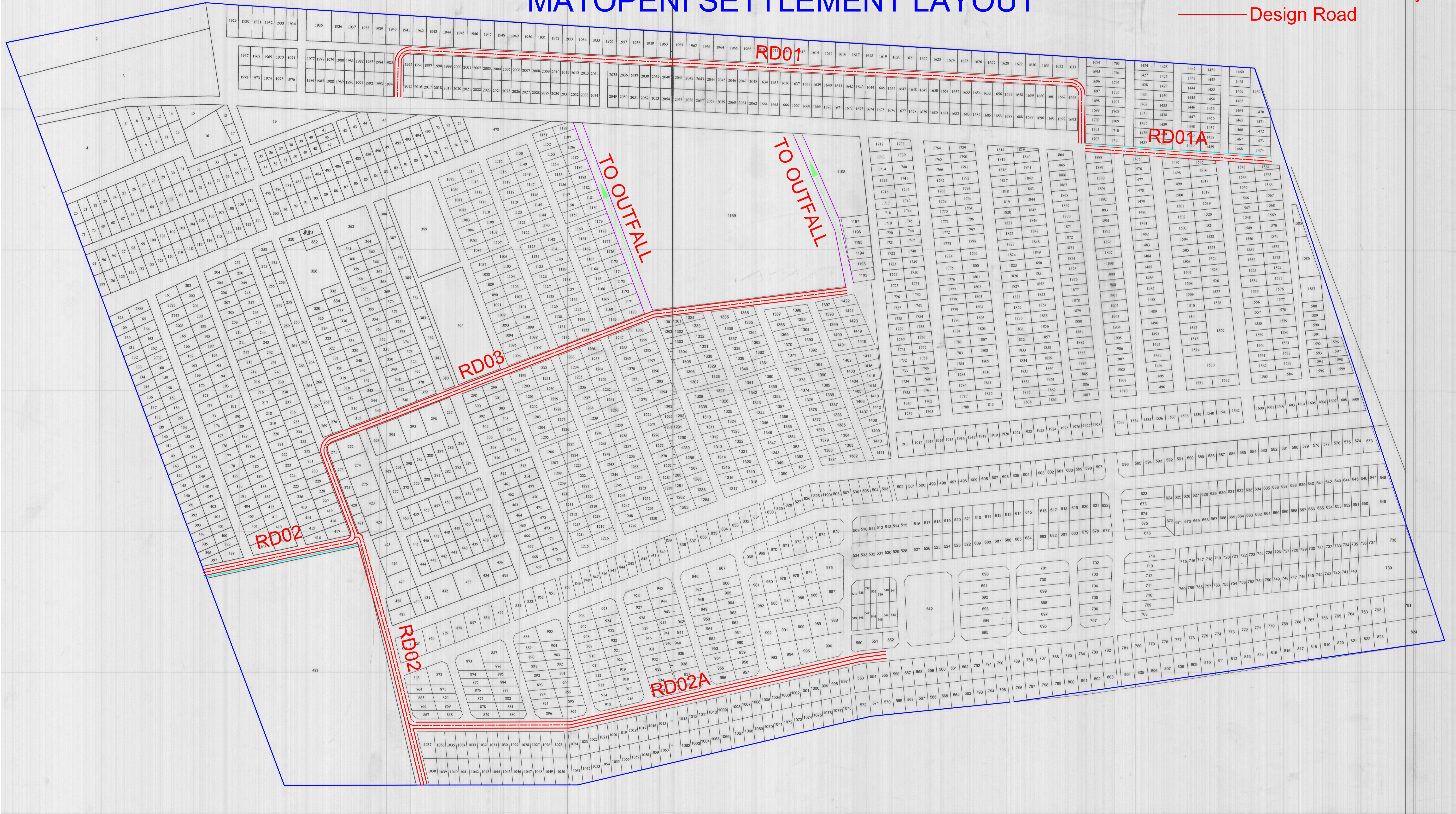
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									Drg. No.	Sheet No.	Scale: 1:50 1:100	Date: FEBRUARY 2024 Stage: TENDER DRAWINGS

GENERAL LAYOUT

MATOPENI SETTLEMENT LAYOUT

LEGEND

- Settlement Boundary
- Design Road



CLIENT:



**MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT**

EMPLOYER:



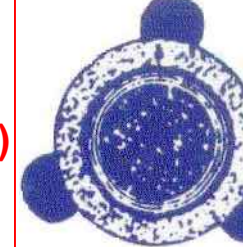
**NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)**

FINANCIER:

**INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)**



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY**

Drawing Title: **MATOPENI SETTLEMENT
LAYOUT PLAN.**

Drg. No. WMCL/CR214/MAT/GLP/01 Sheet No. 1 of 2

Scale: 1:10
1:200

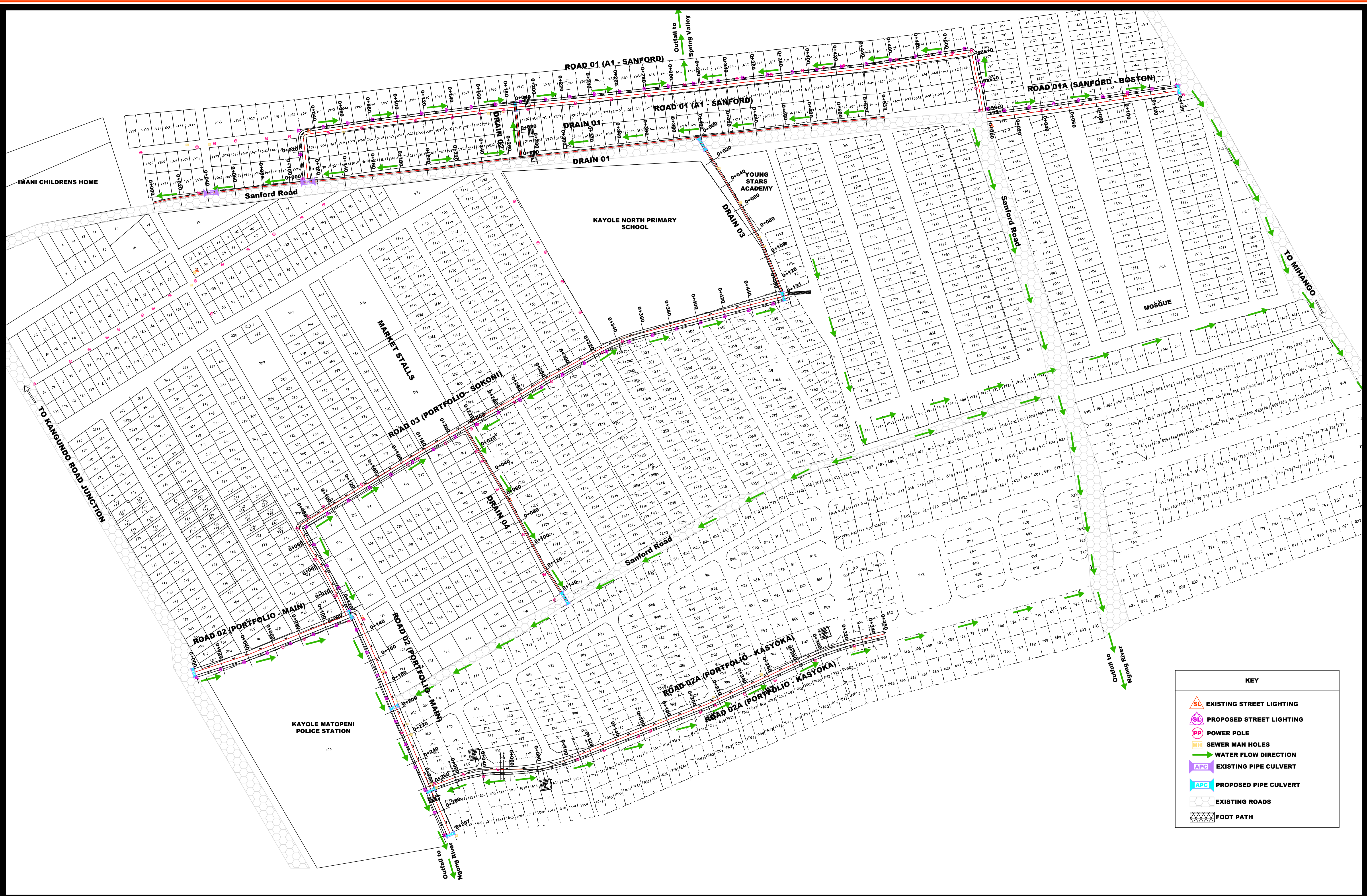
Date: FEBRUARY 2024
Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: LWK

CHECKED BY: ENG. PNG DRAWN BY: SM

REVISIONS






No.	Date	AMMENDMENTS

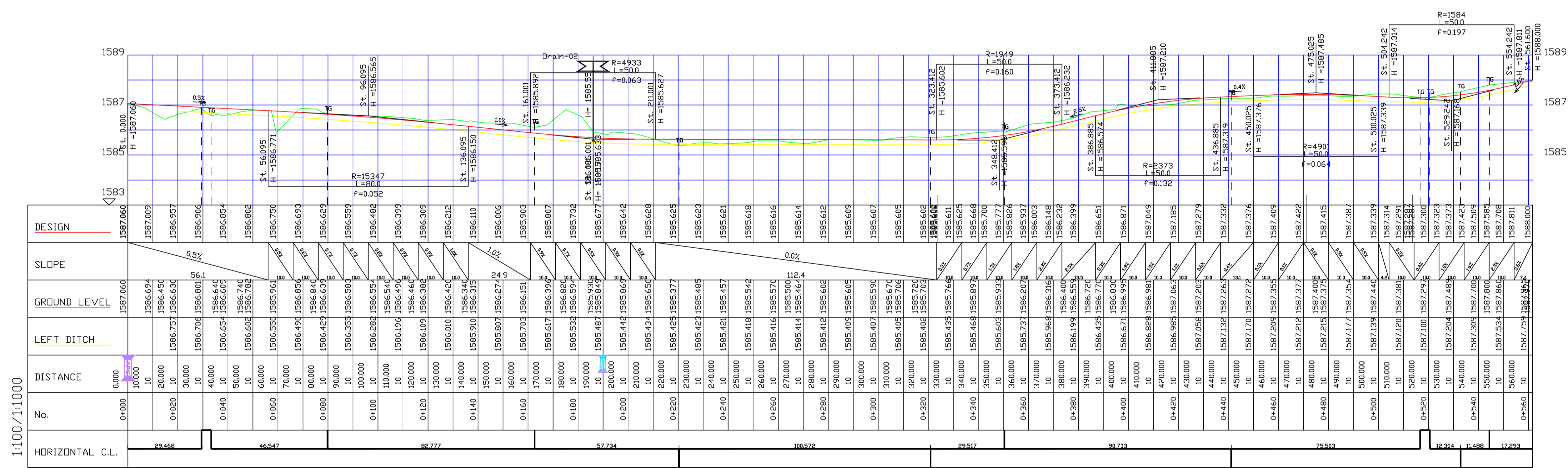
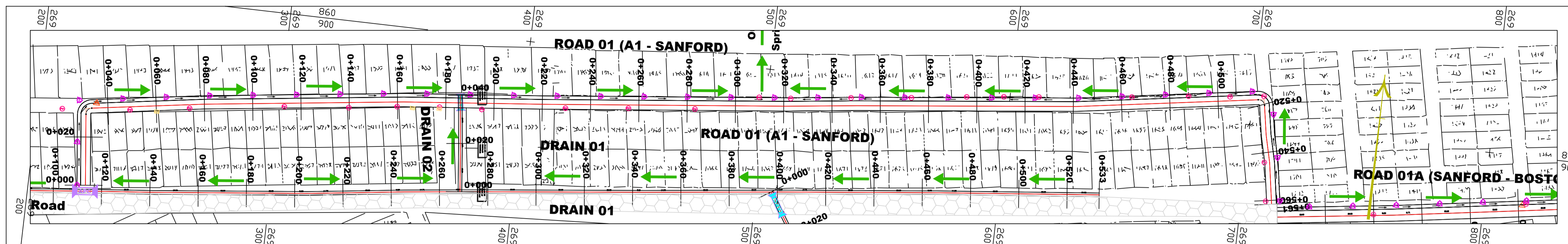


KEY	
	EXISTING STREET LIGHTING
	PROPOSED STREET LIGHTING
	POWER POLE
	SEWER MAN HOLES
	WATER FLOW DIRECTION
	EXISTING PIPE CULVERT
	PROPOSED PIPE CULVERT
	EXISTING ROADS
	FOOT PATH

CLIENT: 	EMPLOYER: 	FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD) 	CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.	Drawing Title: MATOPENI SETTLEMENT: GENERAL LAYOUT PLAN Scale: 1:1250 Date: JANUARY 2024 Stage: TENDER DRAWINGS	REVISIONS <table border="1"> <thead> <tr> <th>No</th> <th>Date</th> <th>AMMENDMENTS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No	Date	AMMENDMENTS			
					No		Date	AMMENDMENTS				
APPROVED BY: ENGIKWM DESIGNED BY: KDD	CHECKED BY: ENGPNG DRAWN BY: KDD											

PLANS AND PROFILES

<p>CLIENT:</p>  <p>REPUBLIC OF KENYA</p> <p>MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER:</p>  <p>NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER:</p> <p>INTERNATIONAL DEVELOPMENT AGENCY(IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT(AFD)</p>  	<p>CONSULTANT:</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE:</p> <p>SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.</p>	<p>Drawing Title: PLAN AND PROFILES</p> <table border="1"> <tr> <td>Drg. No.</td> <td>Sheet No.</td> </tr> <tr> <td>Scale: 1:50 1:100</td> <td>Date: FEBRUARY:2024 Stage: TENDER DRAWINGS</td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> </tr> </table> <table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>No.</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Drg. No.	Sheet No.	Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS	APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	CHECKED BY	ENG.PNG	DRAWN BY	SM	REVISIONS		No.	Date				
Drg. No.	Sheet No.																								
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APPROVED BY	ENG.IKWM	DESIGNED BY	LWK																						
CHECKED BY	ENG.PNG	DRAWN BY	SM																						
REVISIONS																									
No.	Date																								



A1-Sanford

KEY	
	EXISTING STREET LIGHTING
	PROPOSED STREET LIGHTING
	POWER POLE
	SEWER MAN HOLES
	WATER FLOW DIRECTION
	EXISTING PIPE CULVERT
	PROPOSED PIPE CULVERT
	EXISTING ROADS
	FOOT PATH

CLIENT:
MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

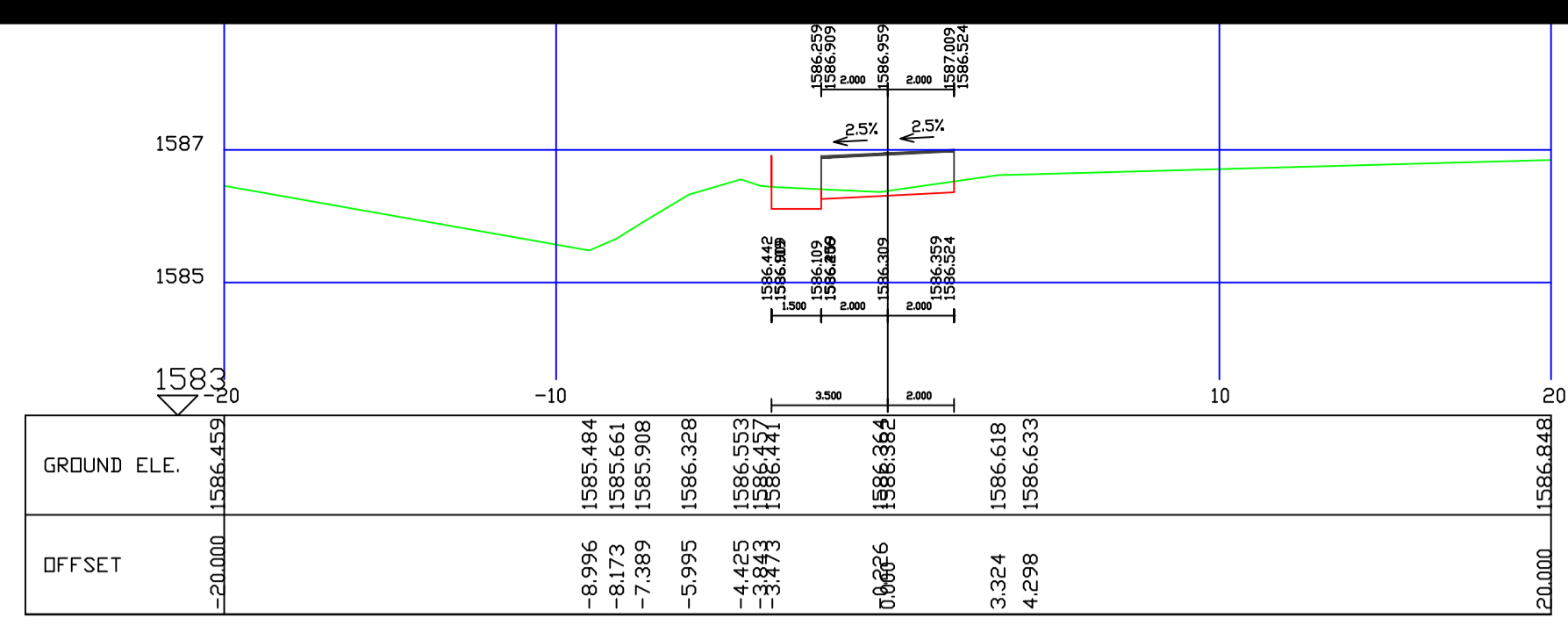
EMPLOYER:
NAIROBI CITY COUNTY GOVERNMENT (NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists . Project Managers
 Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.

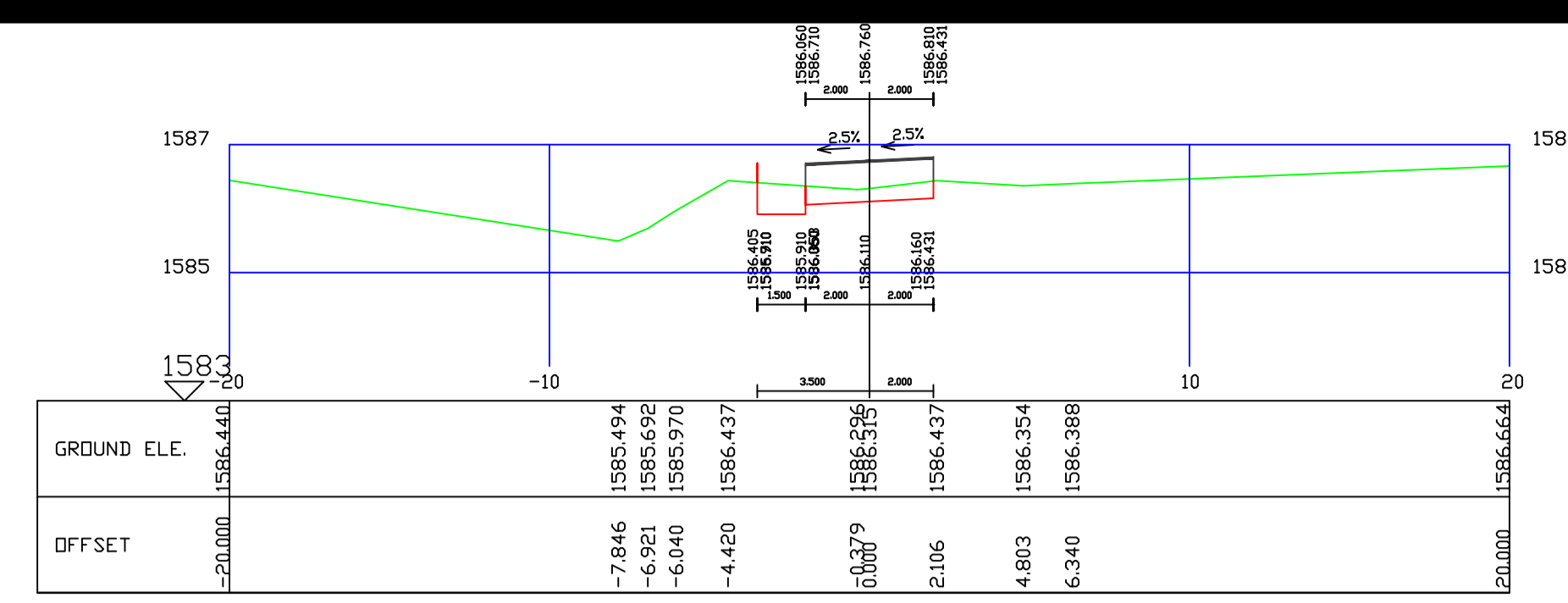
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SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: MATOPENI SETTLEMENT: PLAN AND PROFILE FOR RD 01		REVISIONS	
Drg. No: WMCL/CR214/MAT/PP/02 Sheet No: 2 of 10			
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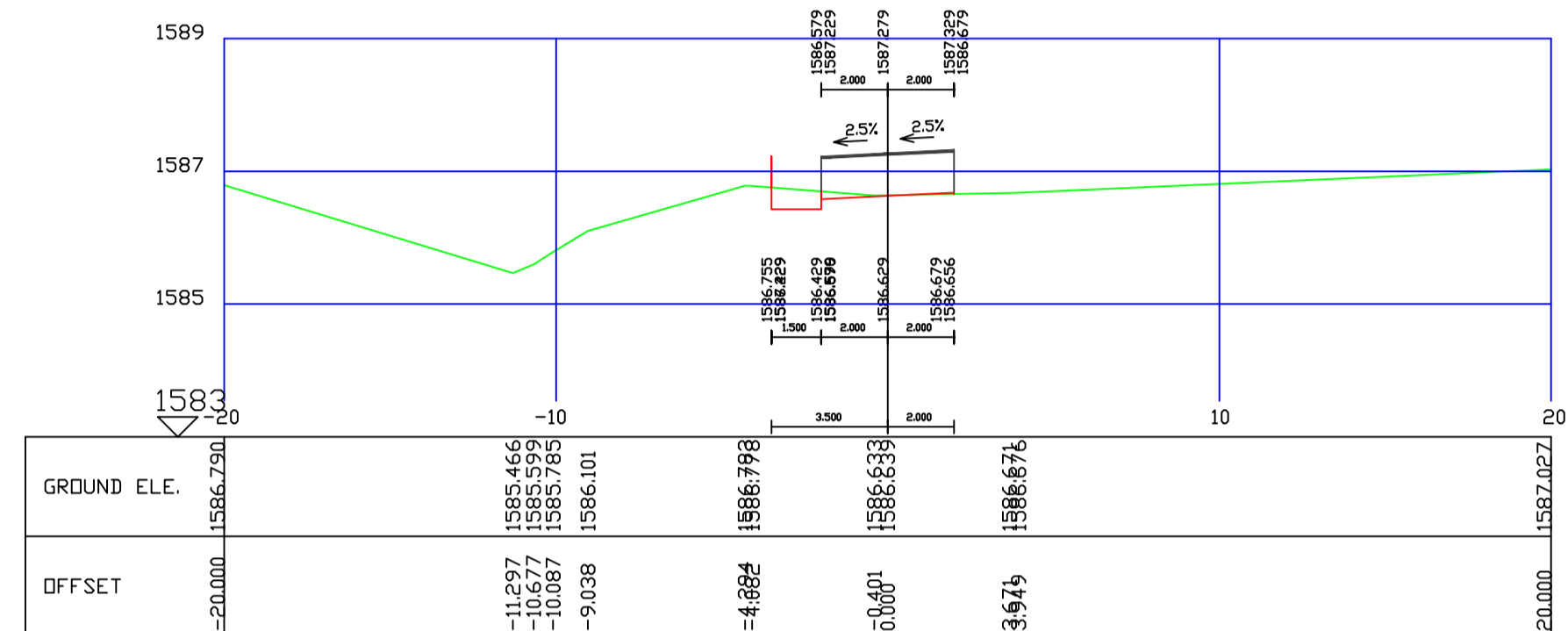
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A1-Sanford



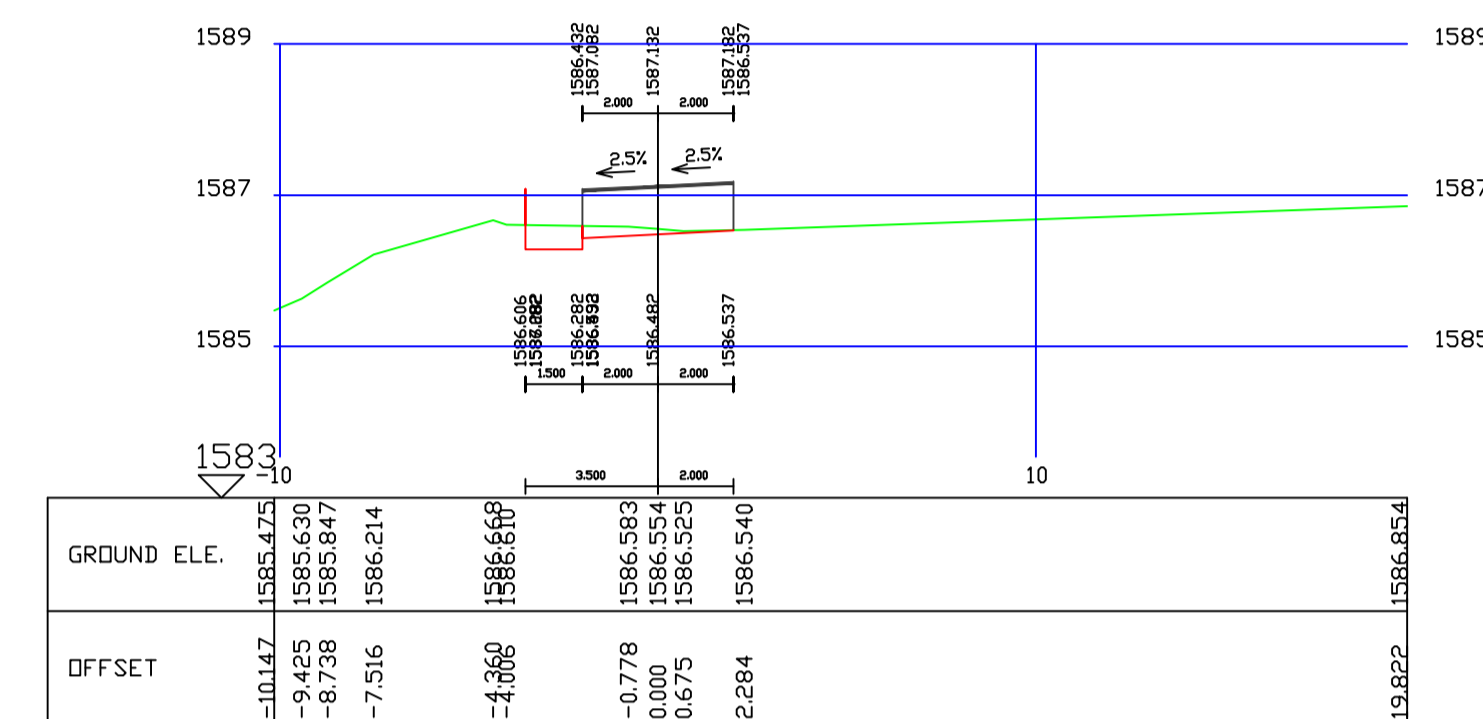
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A1-Sanford



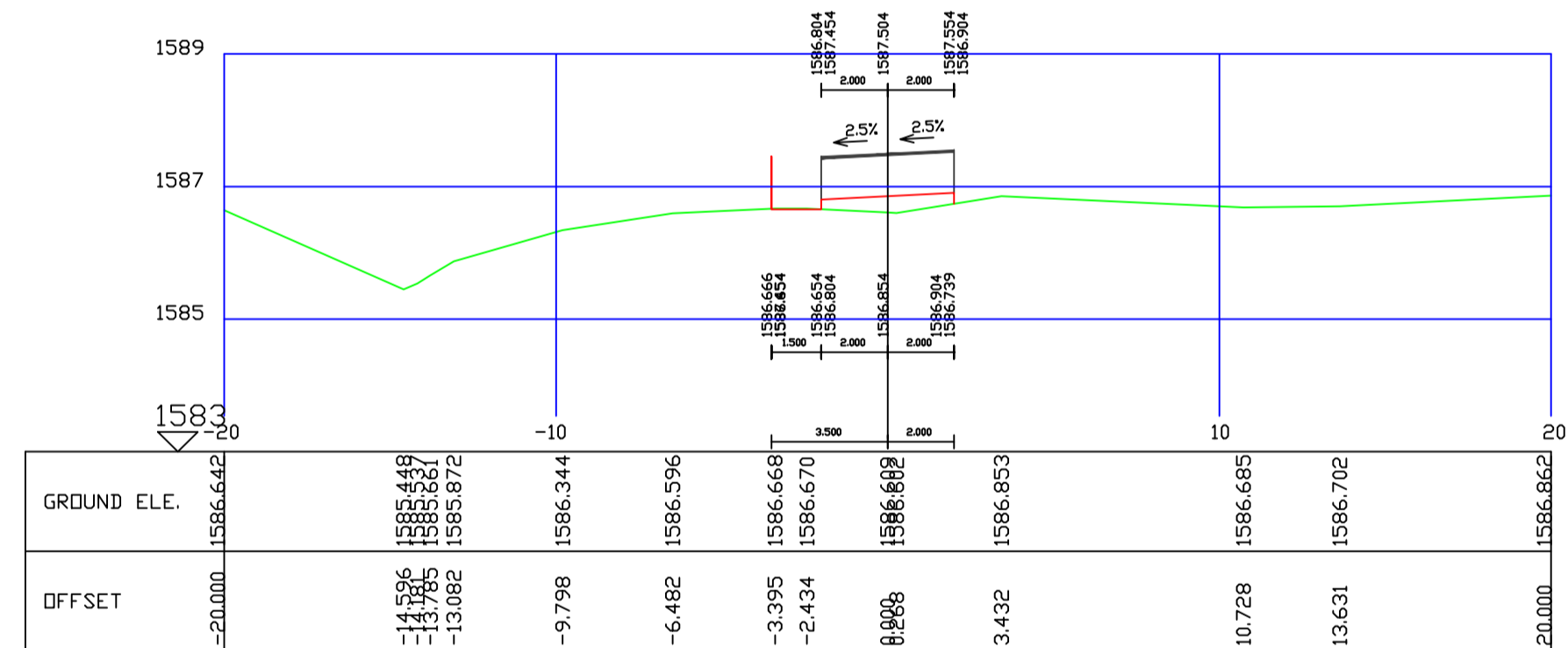
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A1-Sanford



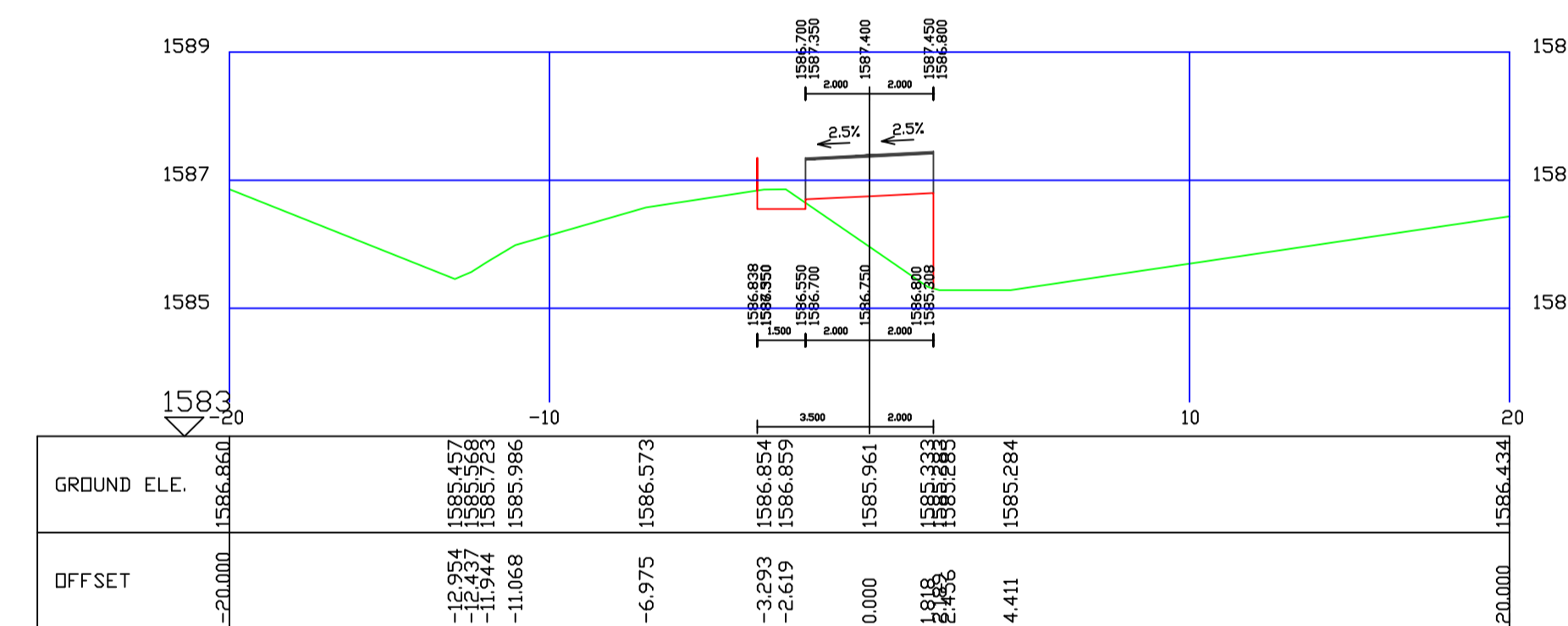
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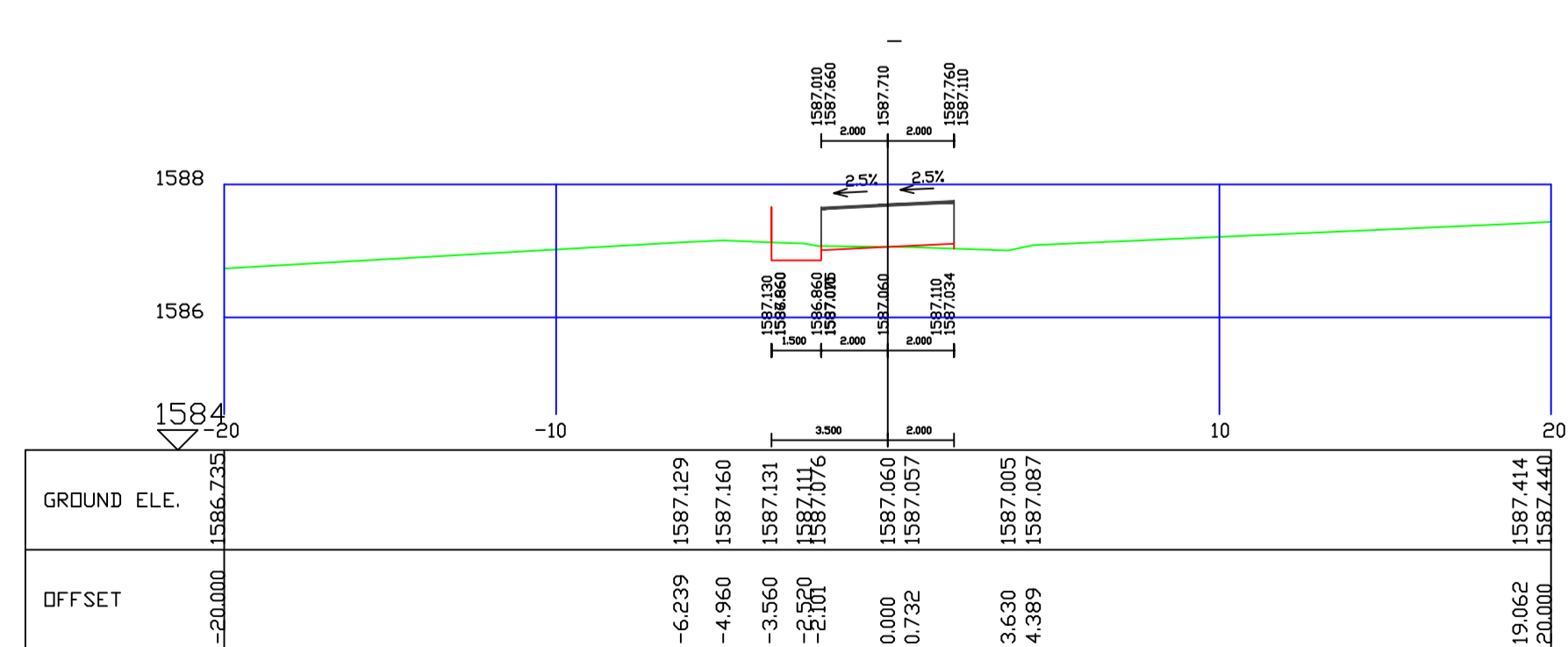
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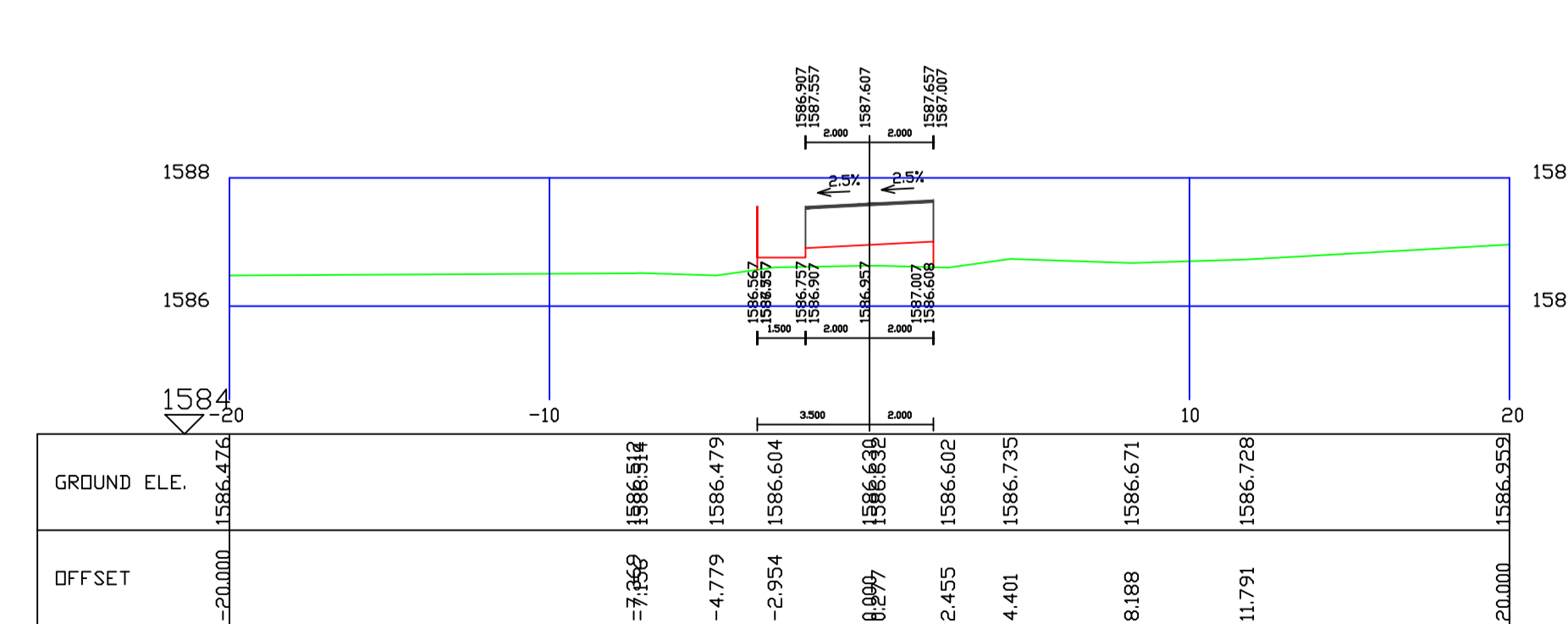
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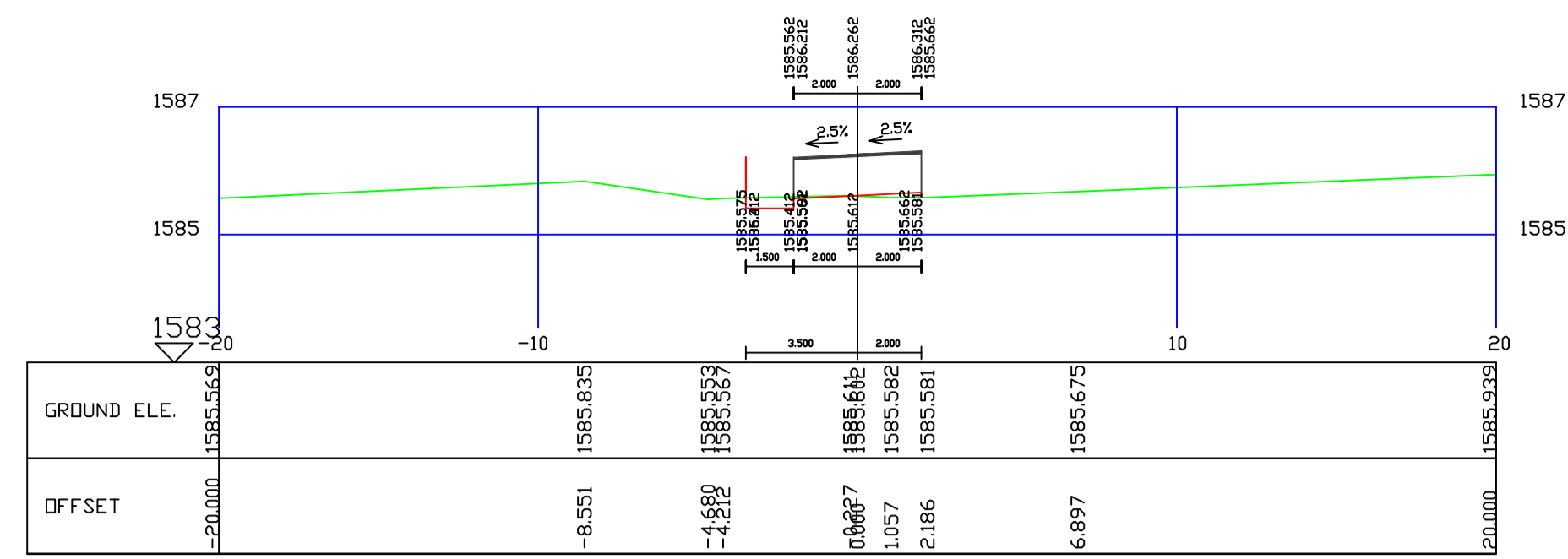
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A1-Sanford

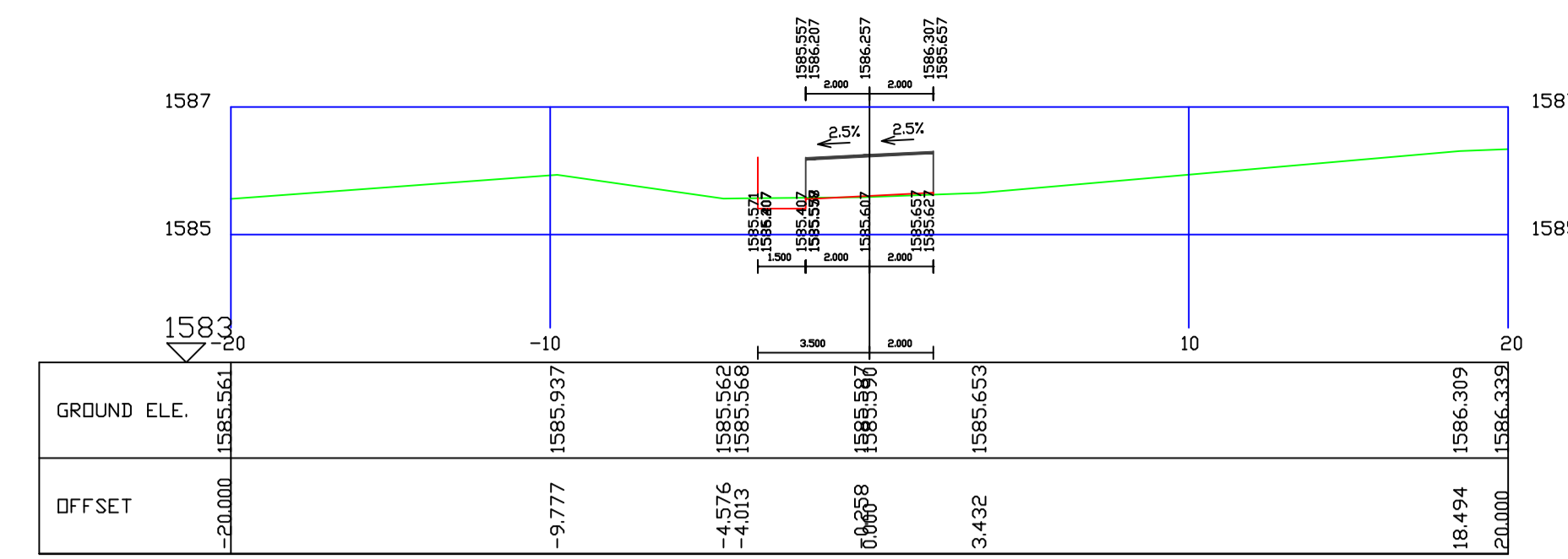


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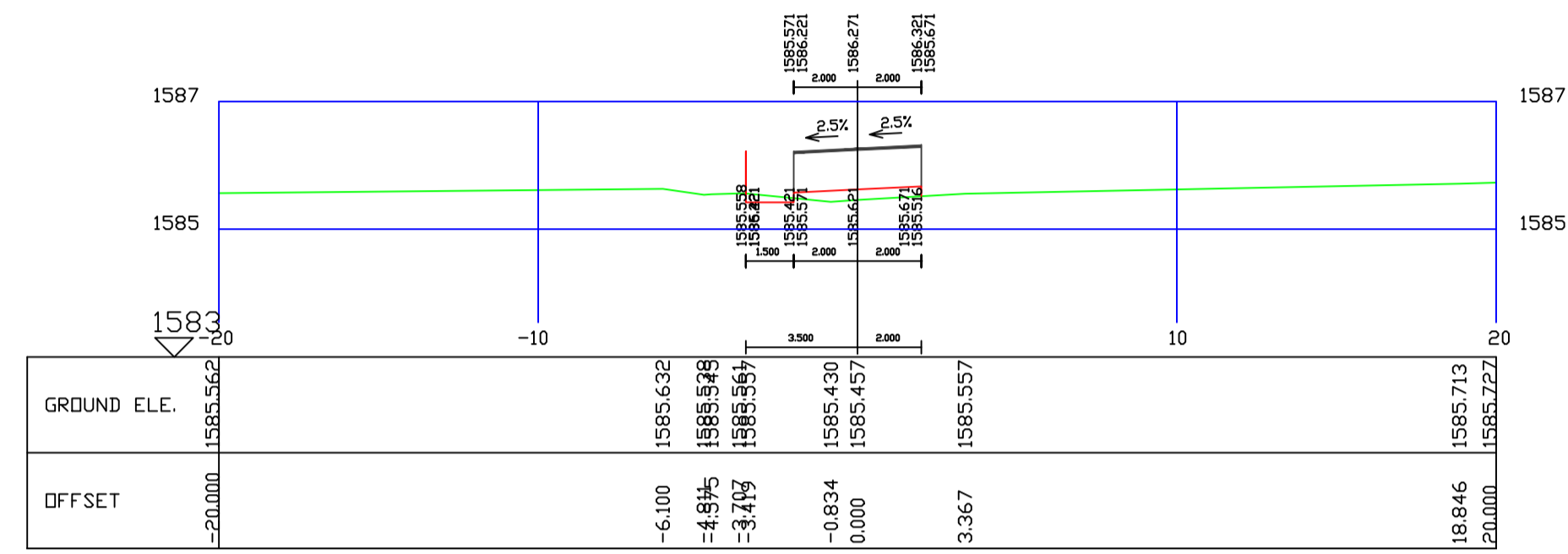
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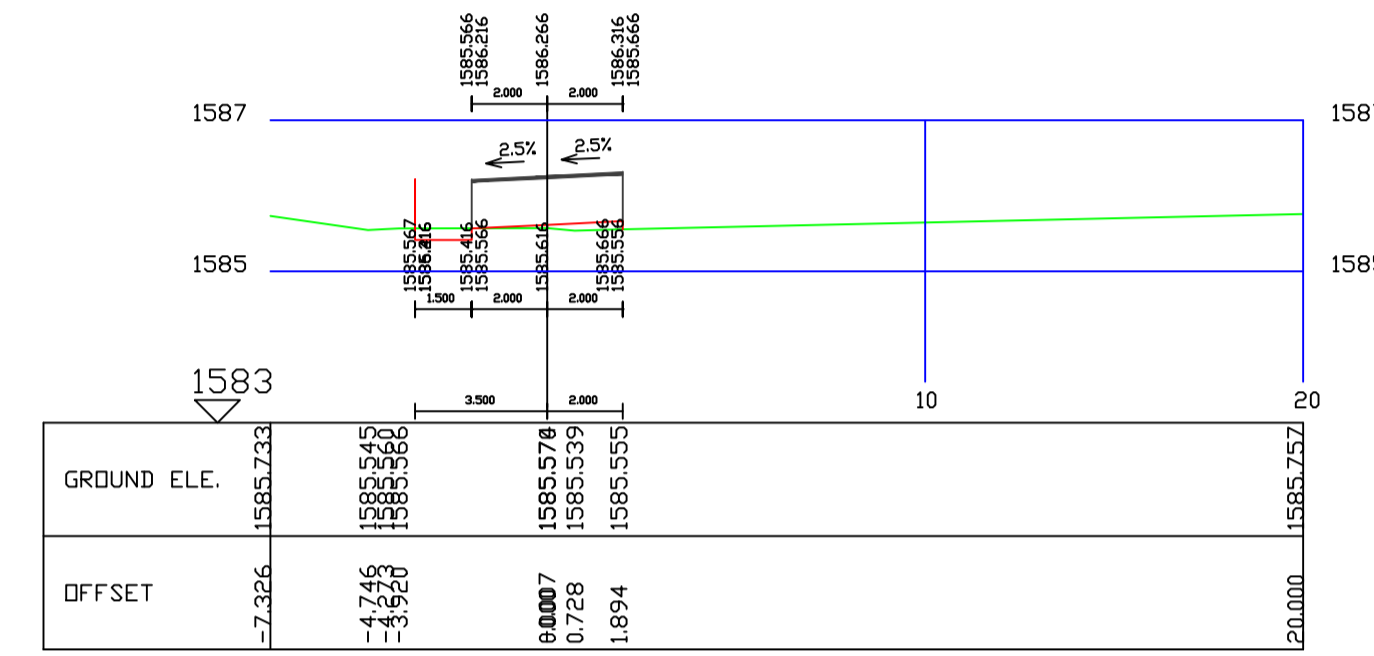
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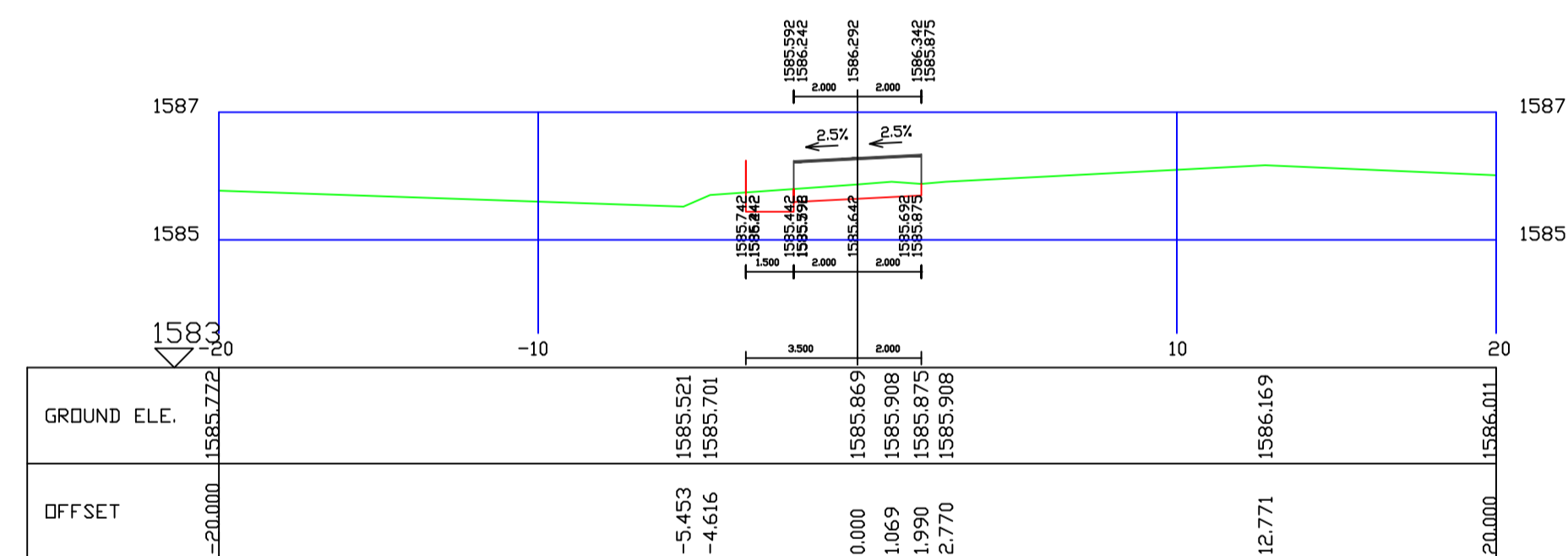
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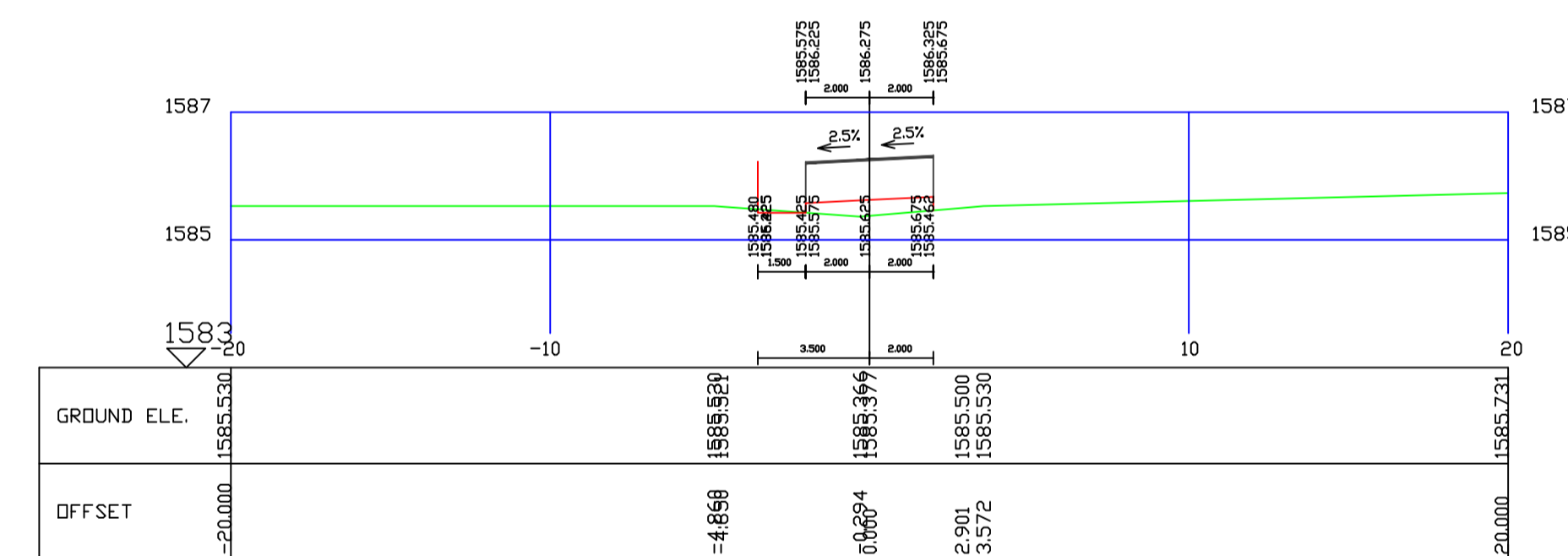
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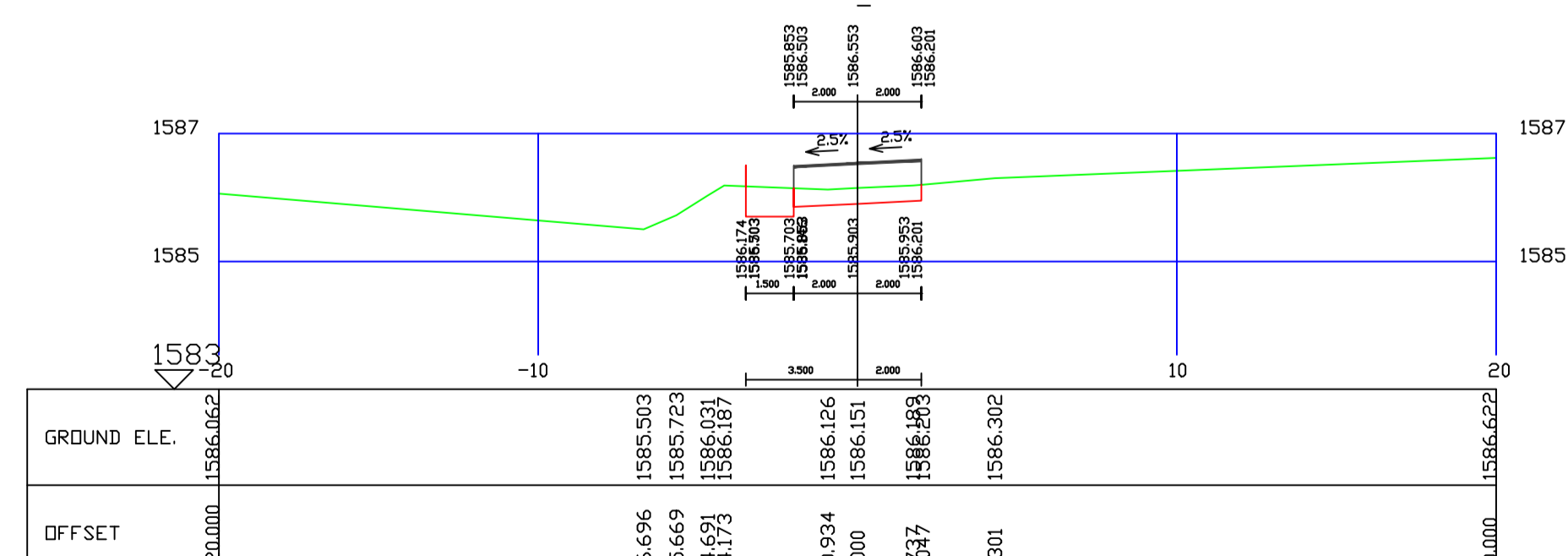
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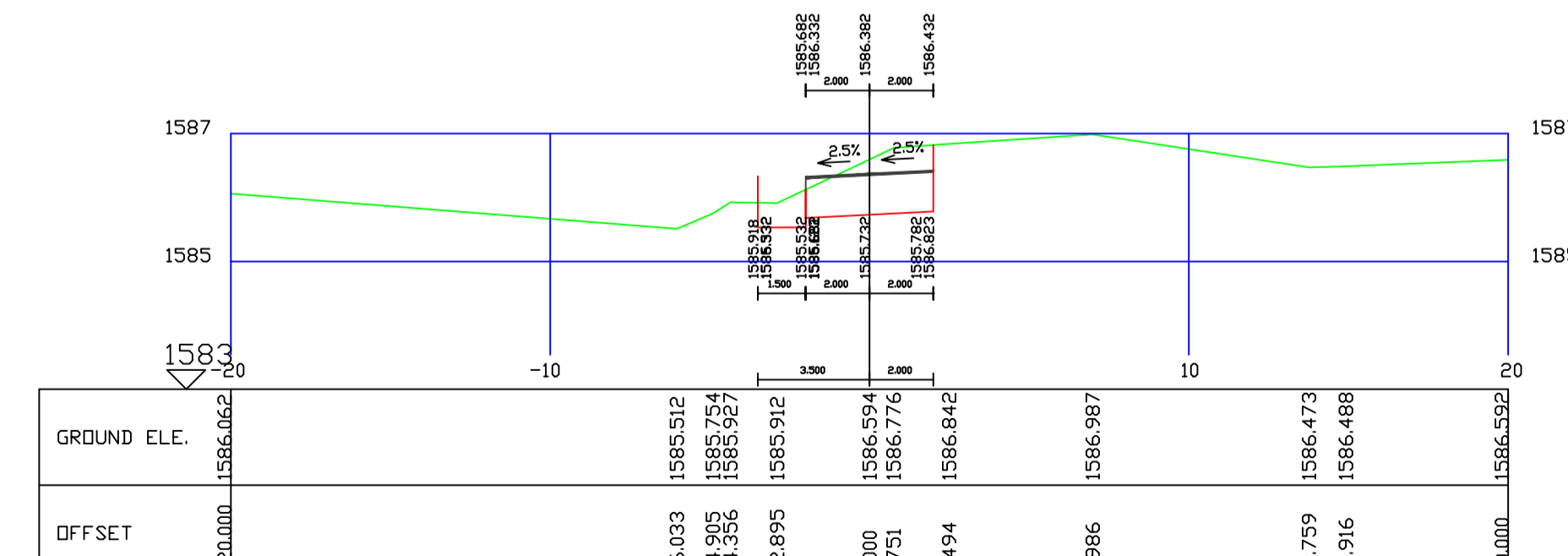
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SECTION 0+220 St. 220 A1-Sanford



SECTION 0+160 St. 160 A1-Sanford



SECTION 0+180 St. 180 A1-Sanford



CLIENT:
**MINISTRY OF LANDS,
 PUBLIC WORKS,
 HOUSING AND
 URBAN DEVELOPMENT**



EMPLOYER:
**NAIROBI CITY
 COUNTY
 GOVERNMENT
 (NCCG)**

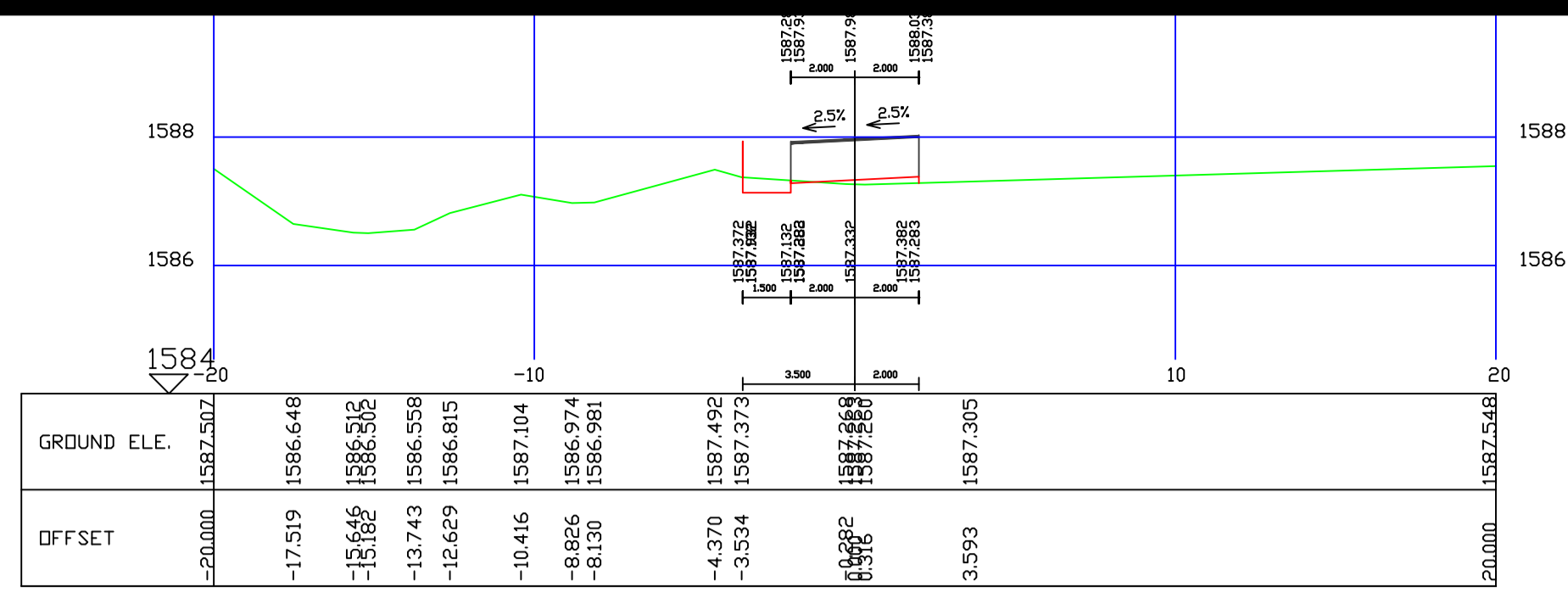
FINANCIER:
**INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)**



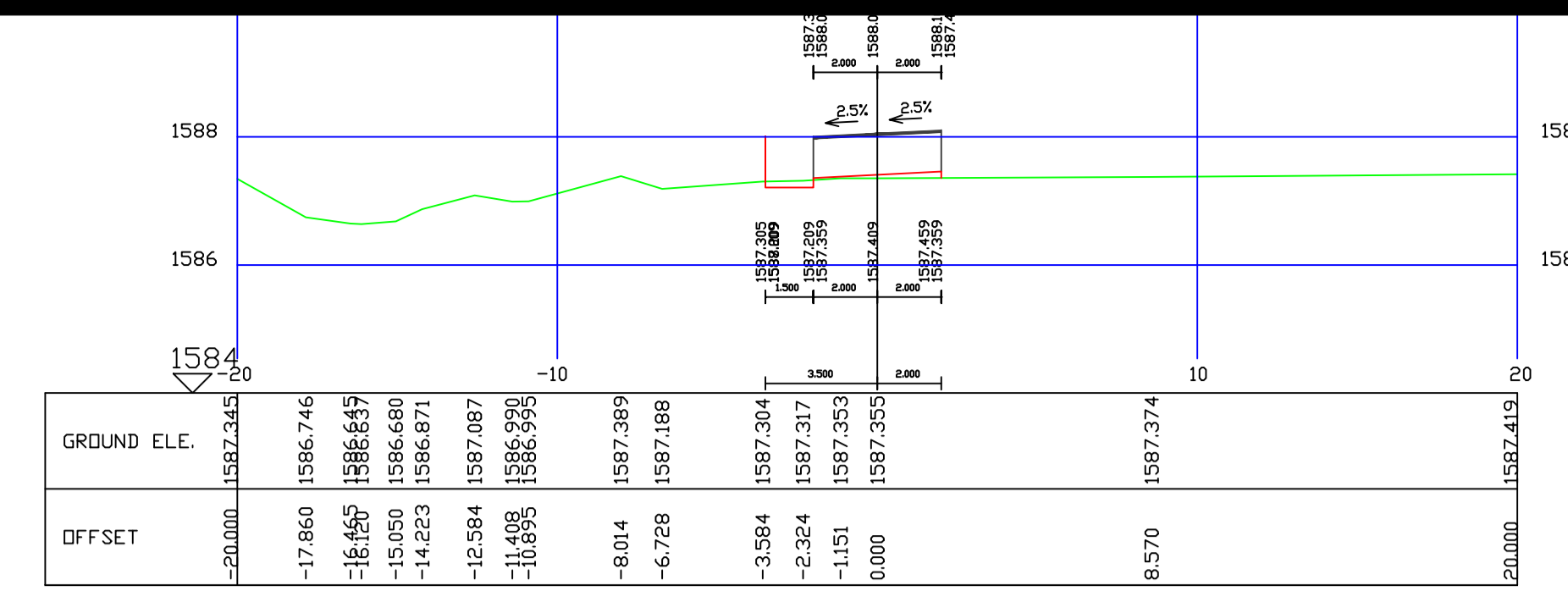
CONSULTANT:
**Wanjohi
 Mutonyi
 Consult Ltd.**
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
 ,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
 IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
 (KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.**

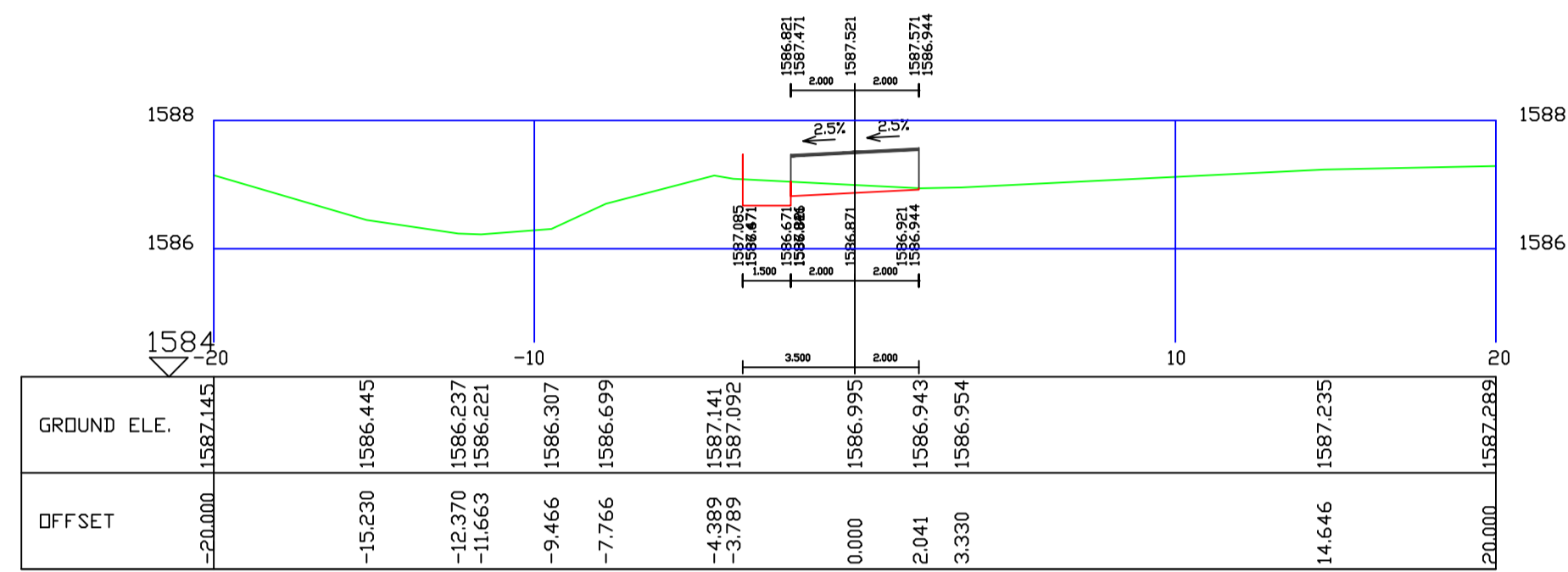
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Drg. No. wmcl/cr214/MAT/DCS/02		Date: FEBRUARY 2024		Sheet No. 2 of 4	
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				AMMENDMENTS	



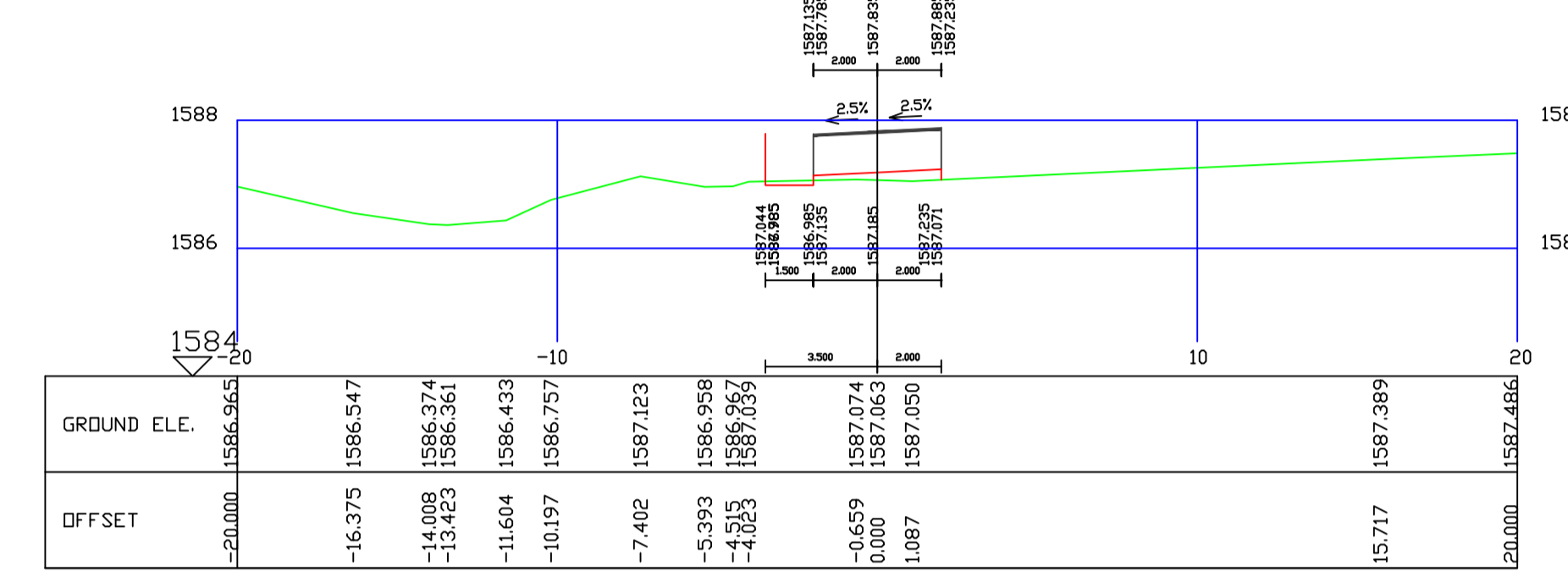
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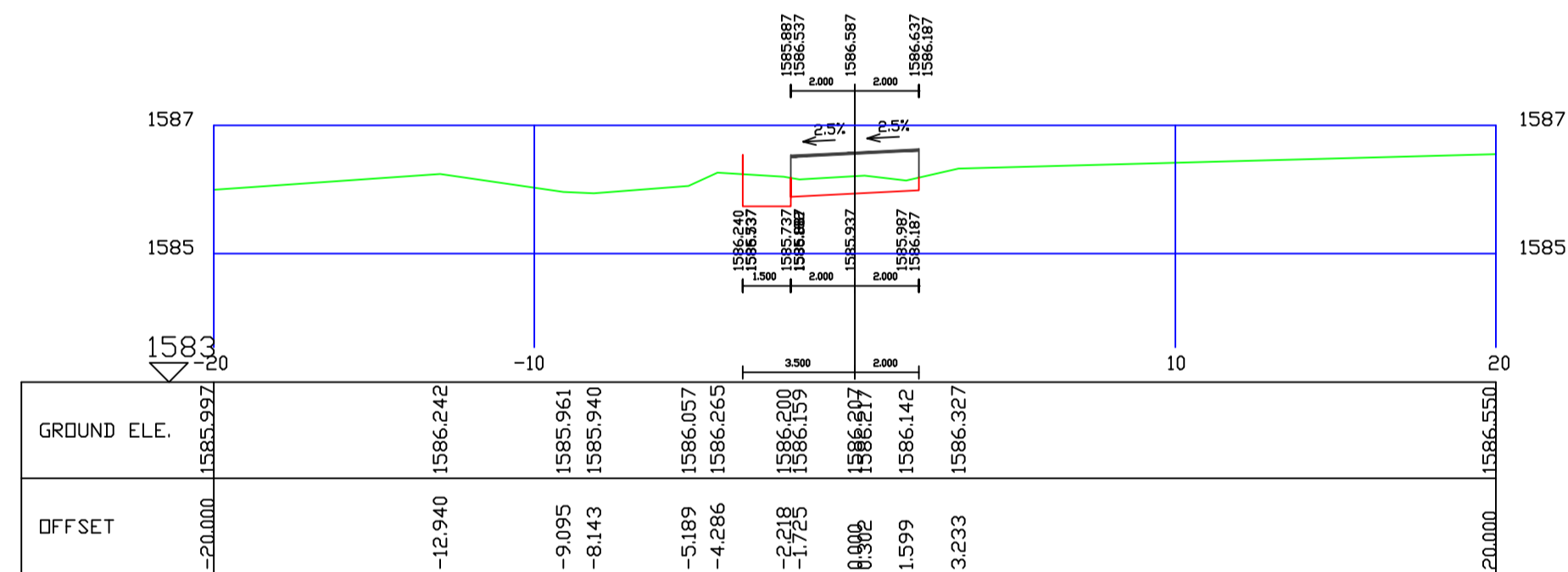
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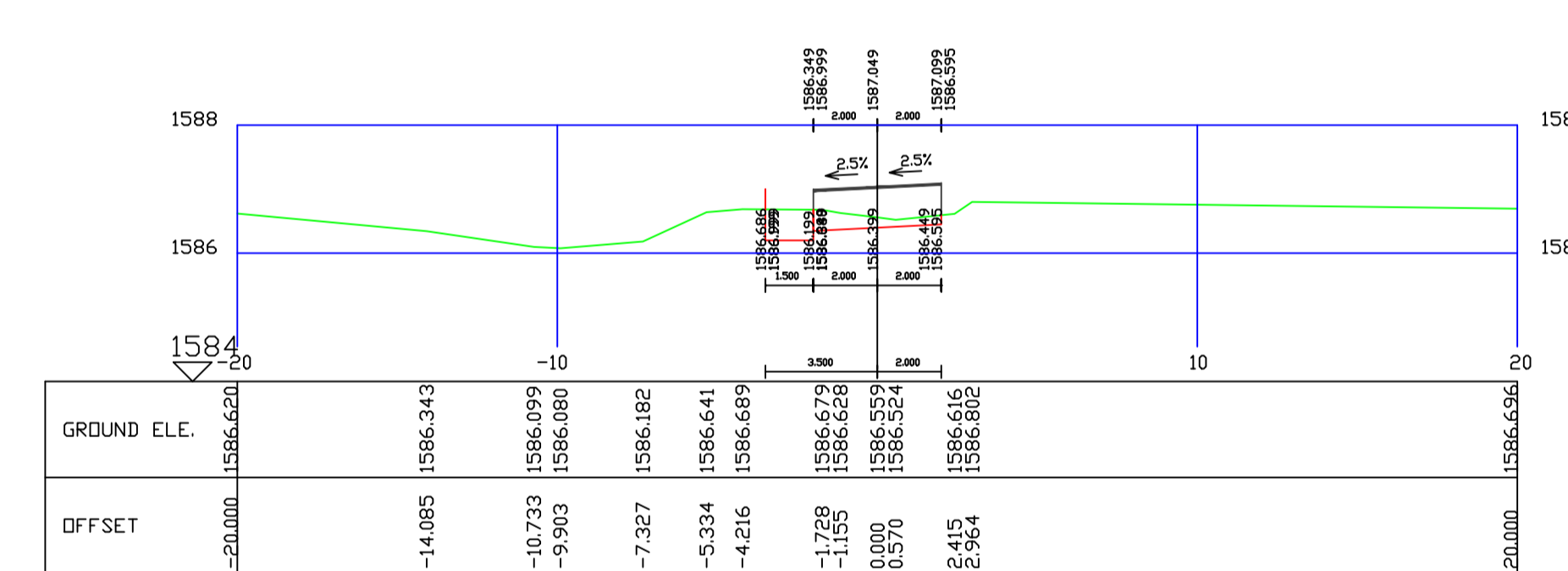
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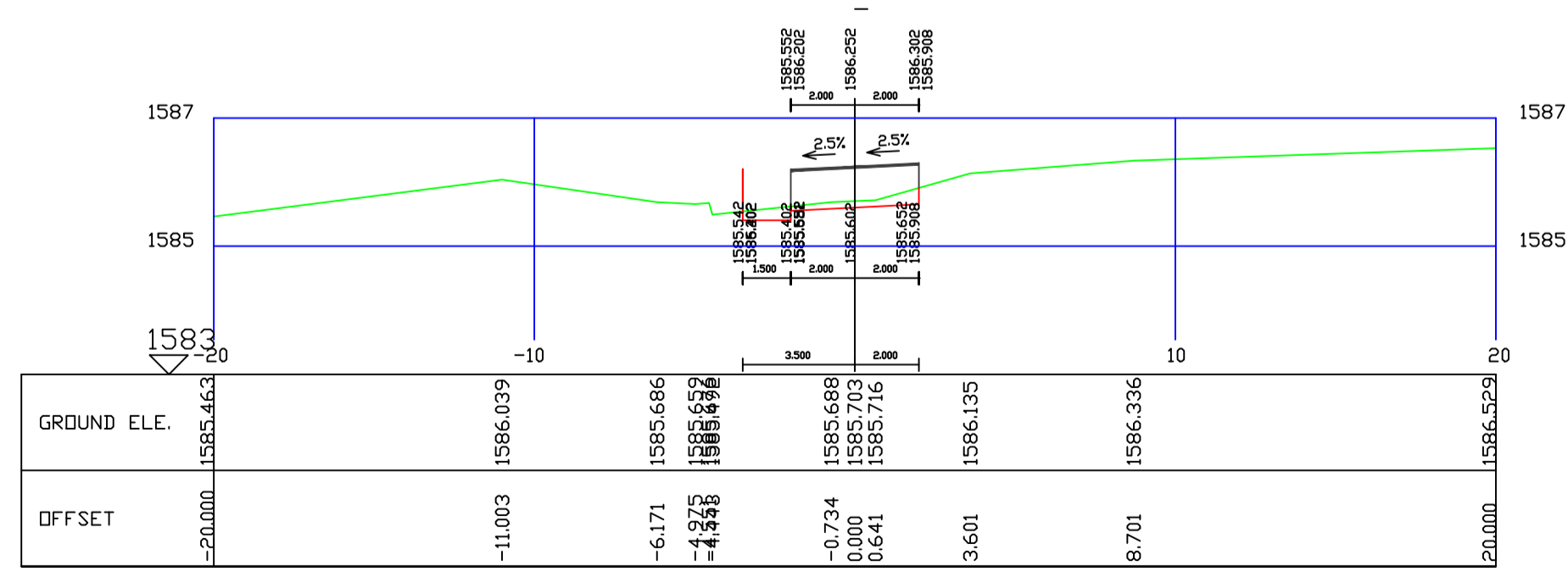
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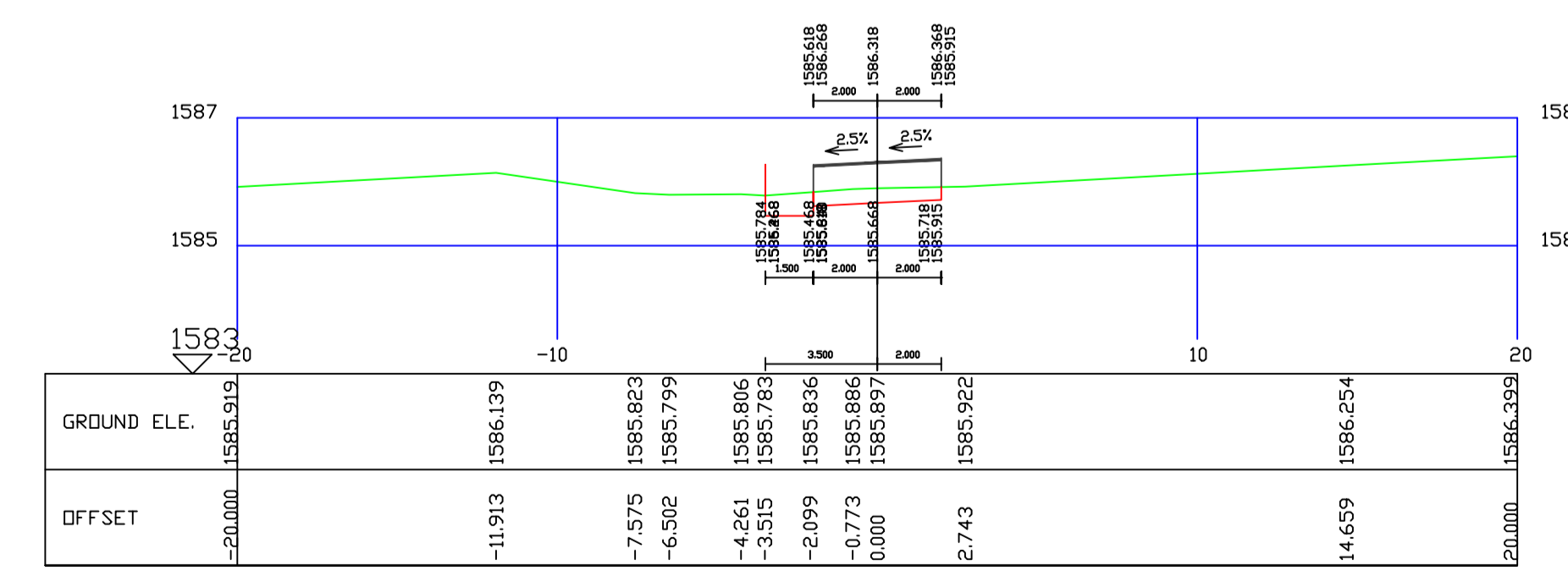
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SECTION 0+380 St. 380 A1-Sanford



SECTION 0+320 St. 320 A1-Sanford



SECTION 0+340 St. 340 A1-Sanford

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:



INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)
THE WORLD BANK

CONSULTANT:



**Wanjohi
Mutonyi
Consultancy Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

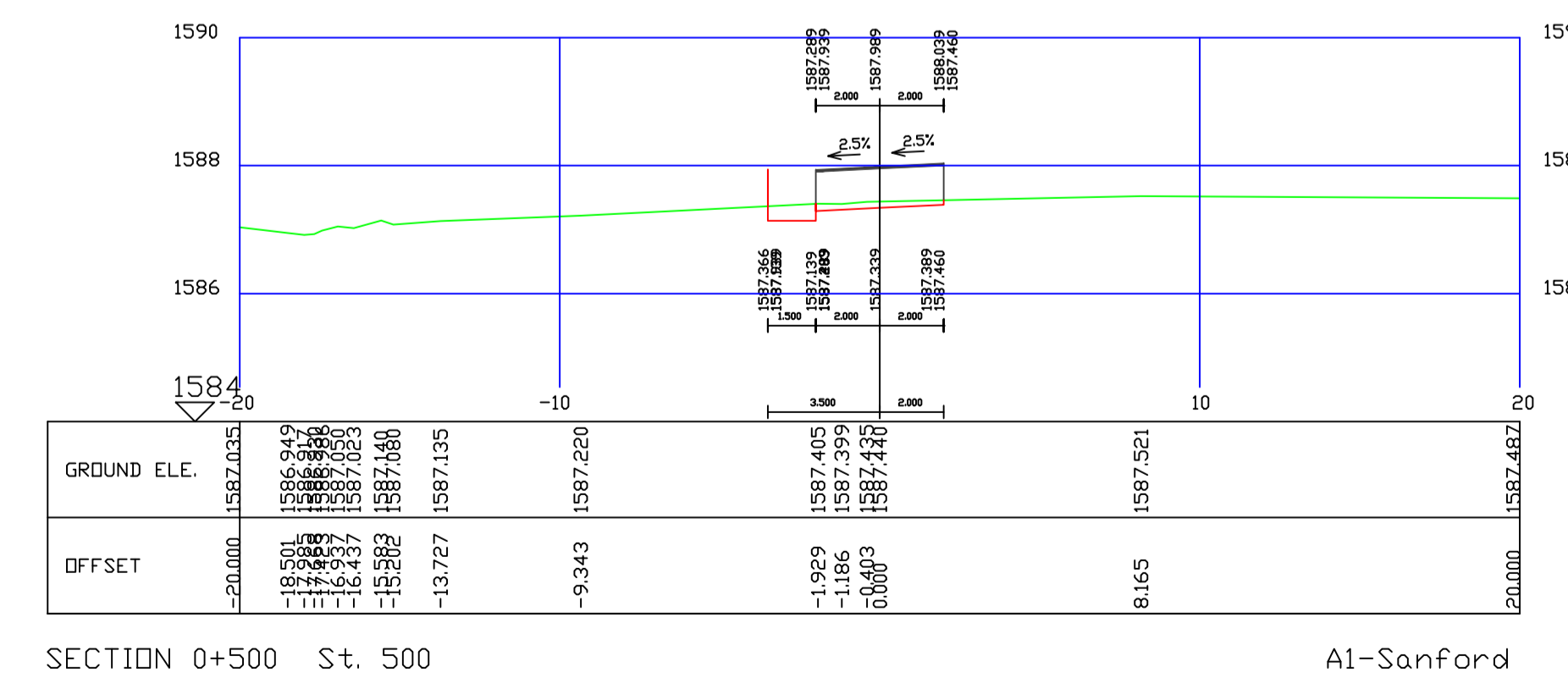
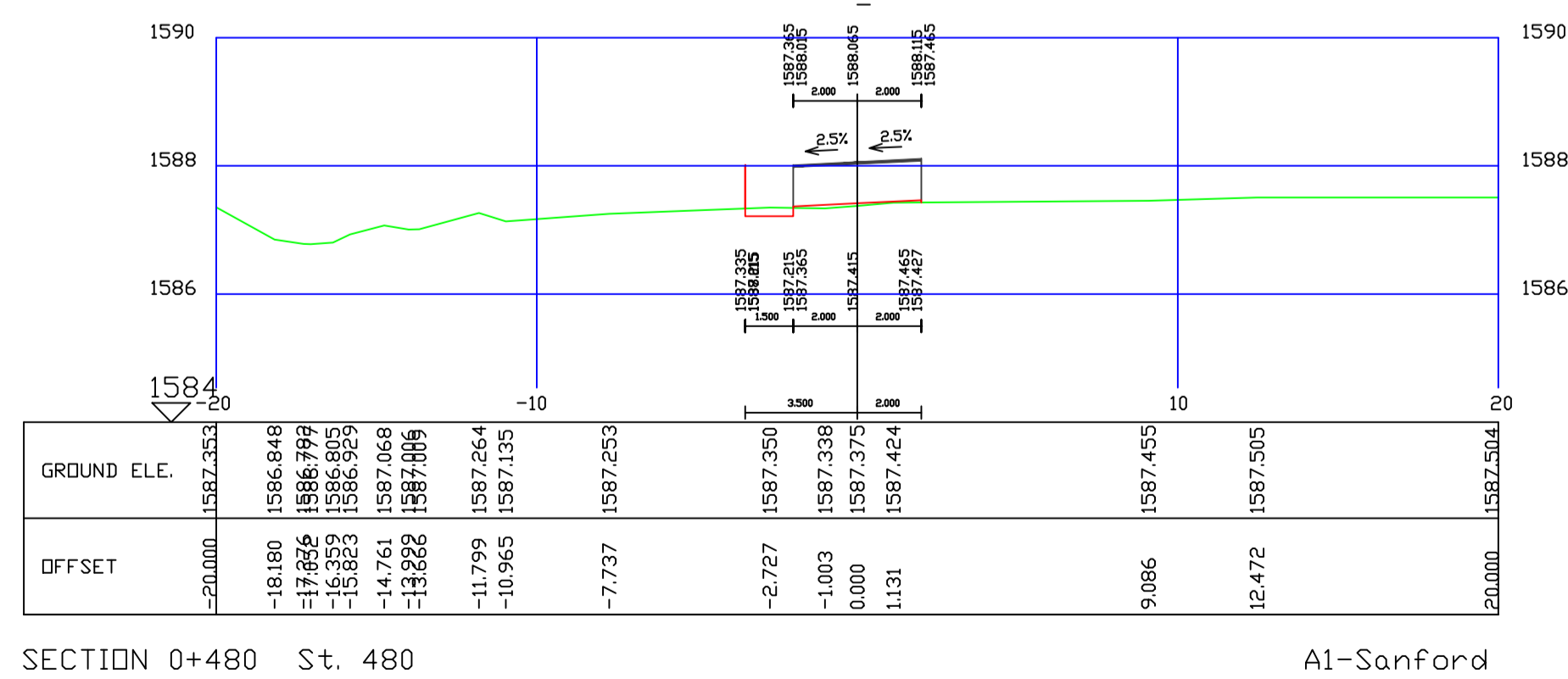
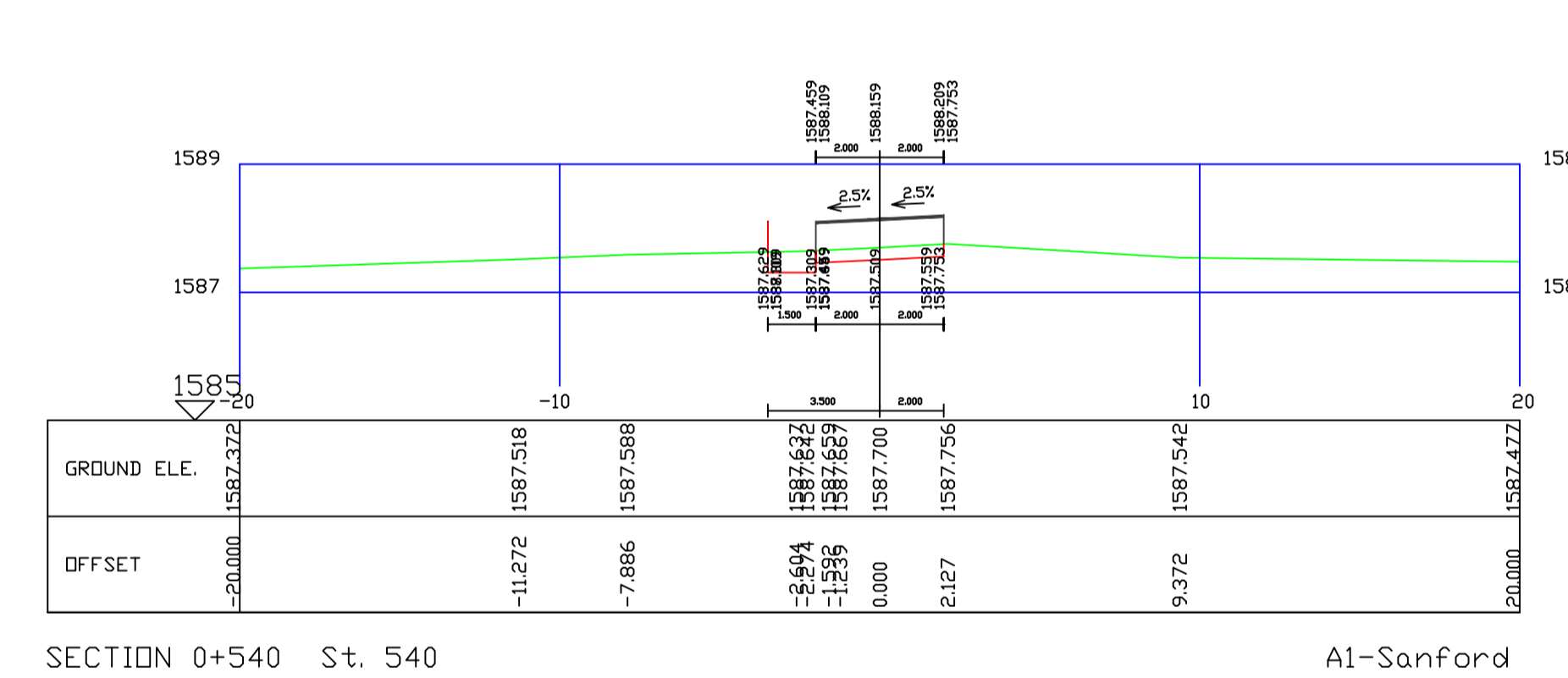
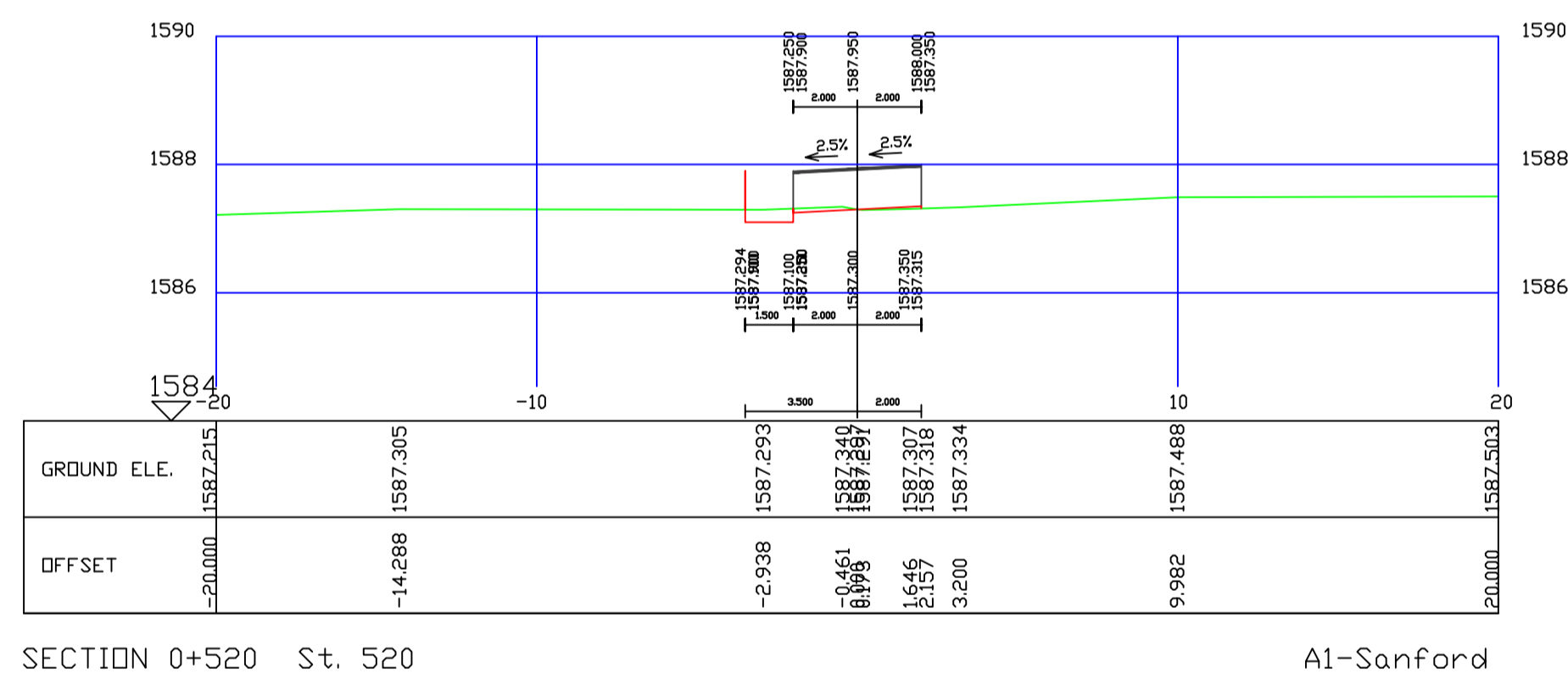
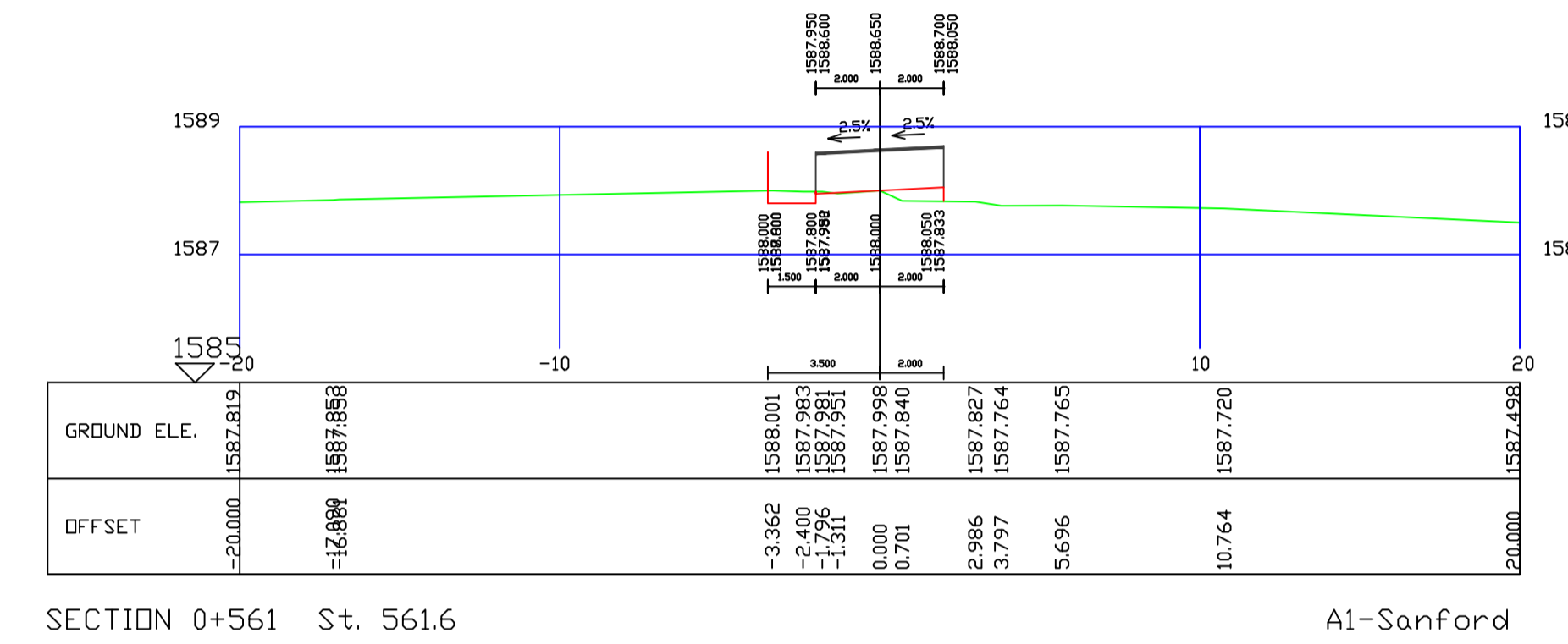
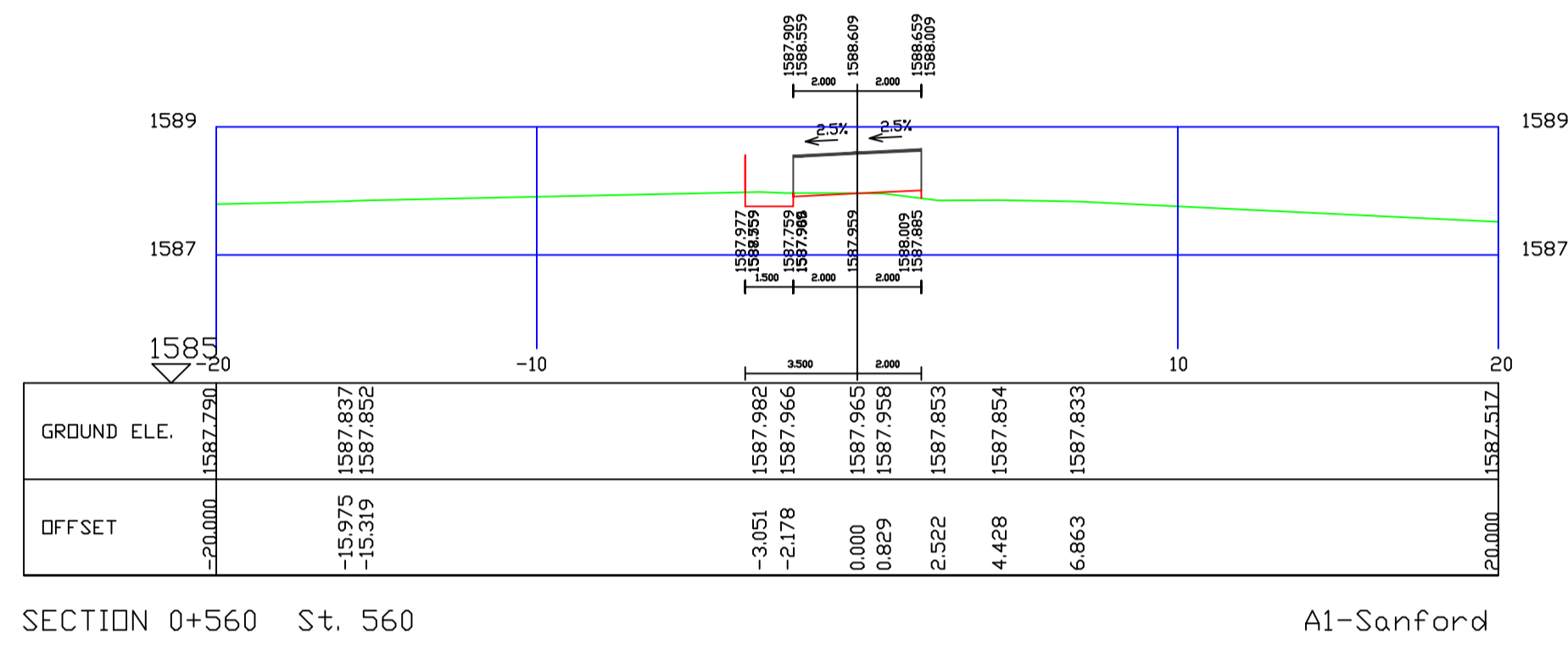
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: MATOPENI SETTLEMENT: RD 01

DETAILED CROSS SECTIONS
Drg. No. WMCL/CR214/MAT/DCS/03 Sheet No. 3 of 4
Scale: V:1:100 Date: FEBRUARY 2024
H:1:200 Stage: TENDER DRAWINGS
APPROVED BY: ENG. IKWM DESIGNED BY: KOD
CHECKED BY: ENG. PNG DRAWN BY: KOD

REVISIONS

No	Date	AMMENDMENTS



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)



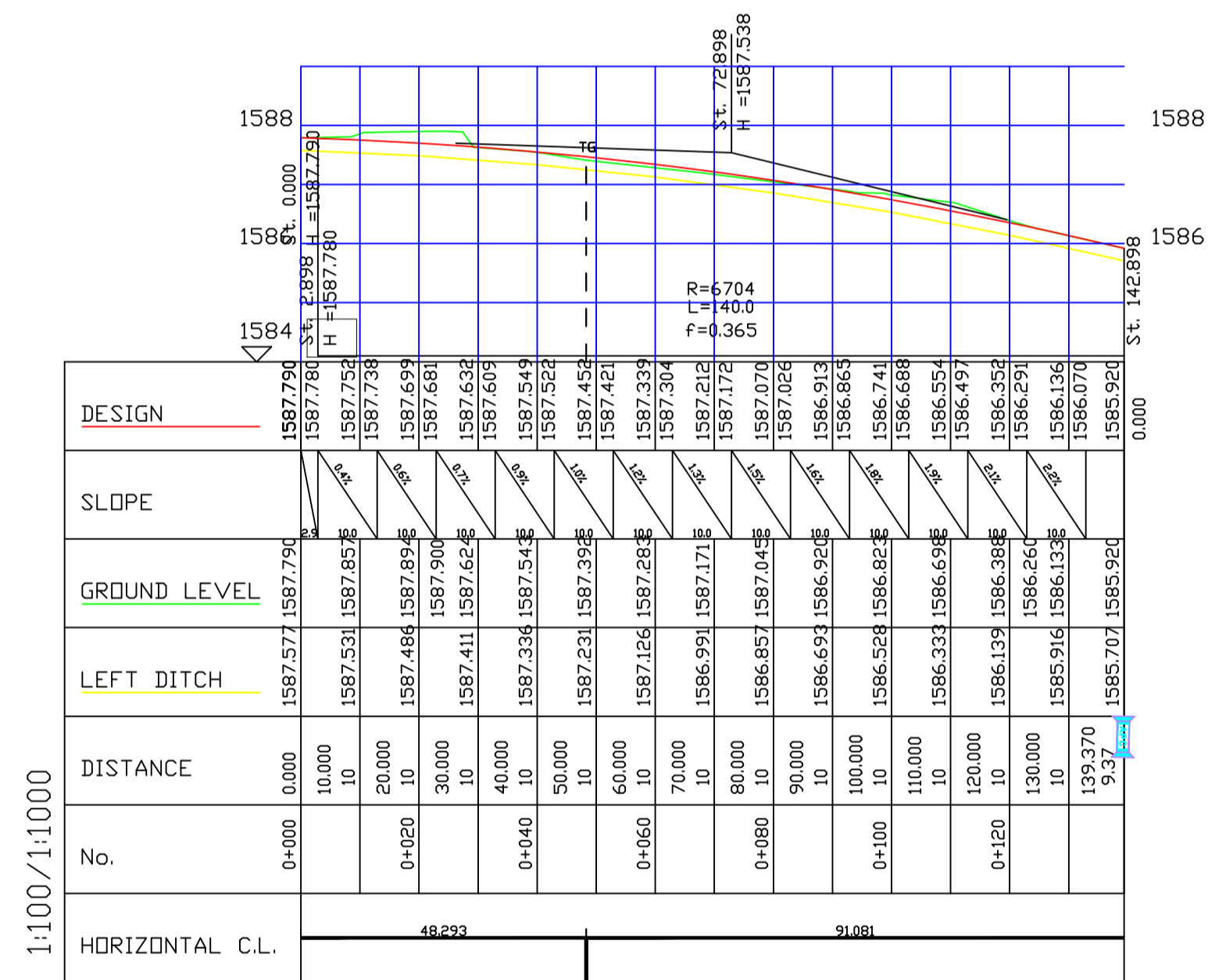
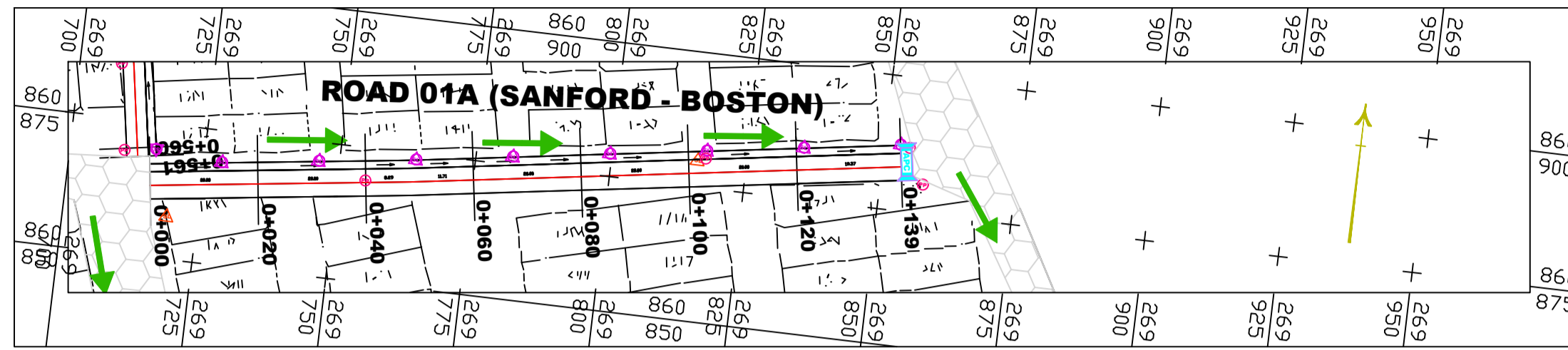
FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: MATOPENI SETTLEMENT: RD 01 DETAILED CROSS SECTIONS		REVISIONS	
Drg. No. WMCL/CR214/MAT/DCS/04	Sheet No. 4 of 4		
Scale: V:1:100	Date: FEBRUARY 2024		
H:1:200	Stage: TENDER DRAWINGS		
APPROVED BY: ENK.IKW	DESIGNED BY: KDD		
CHECKED BY: ENG.PNG	DRAWN BY: KDD	No.	Date
		AMMENDMENTS	



Sanford-Boston

KEY	
	EXISTING STREET LIGHTING
	PROPOSED STREET LIGHTING
	POWER POLE
	SEWER MAN HOLES
	WATER FLOW DIRECTION
	EXISTING PIPE CULVERT
	PROPOSED PIPE CULVERT
	EXISTING ROADS
	FOOT PATH



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

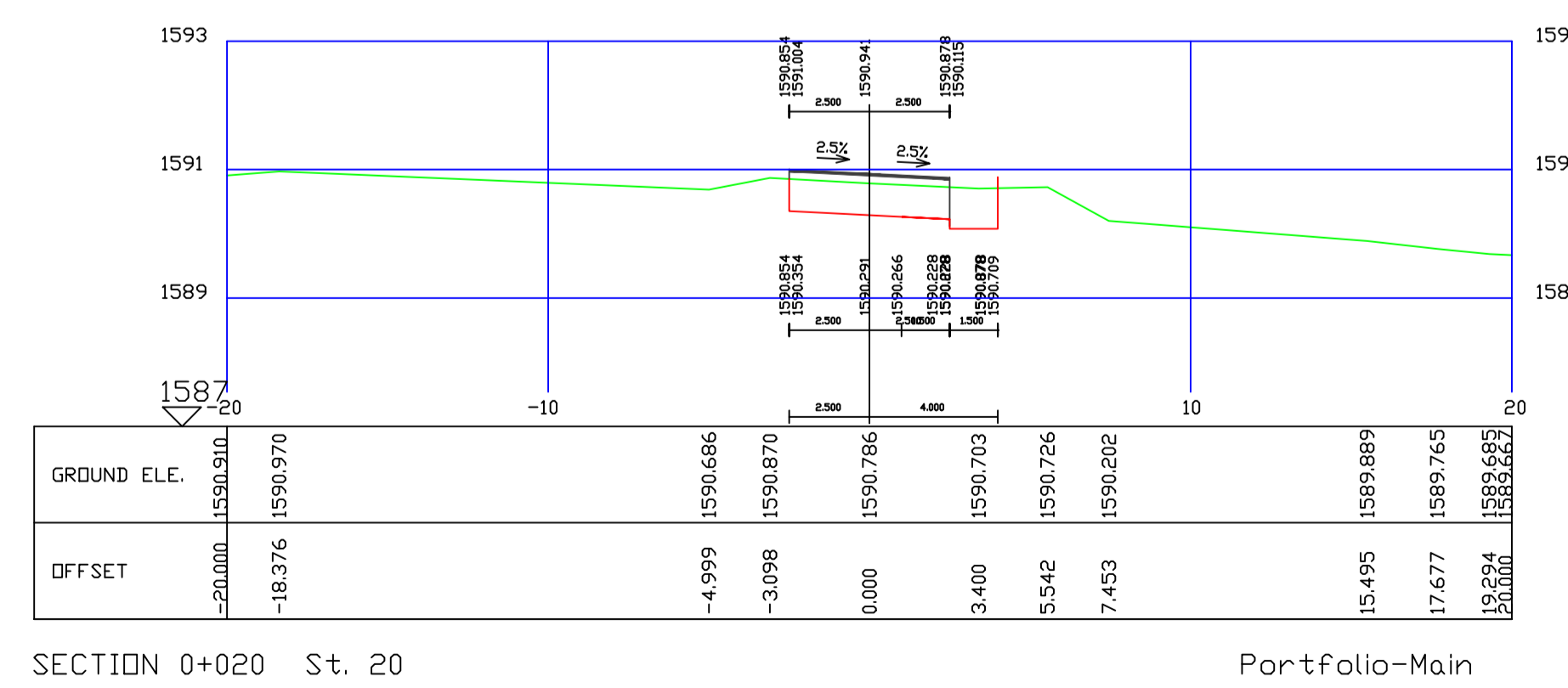
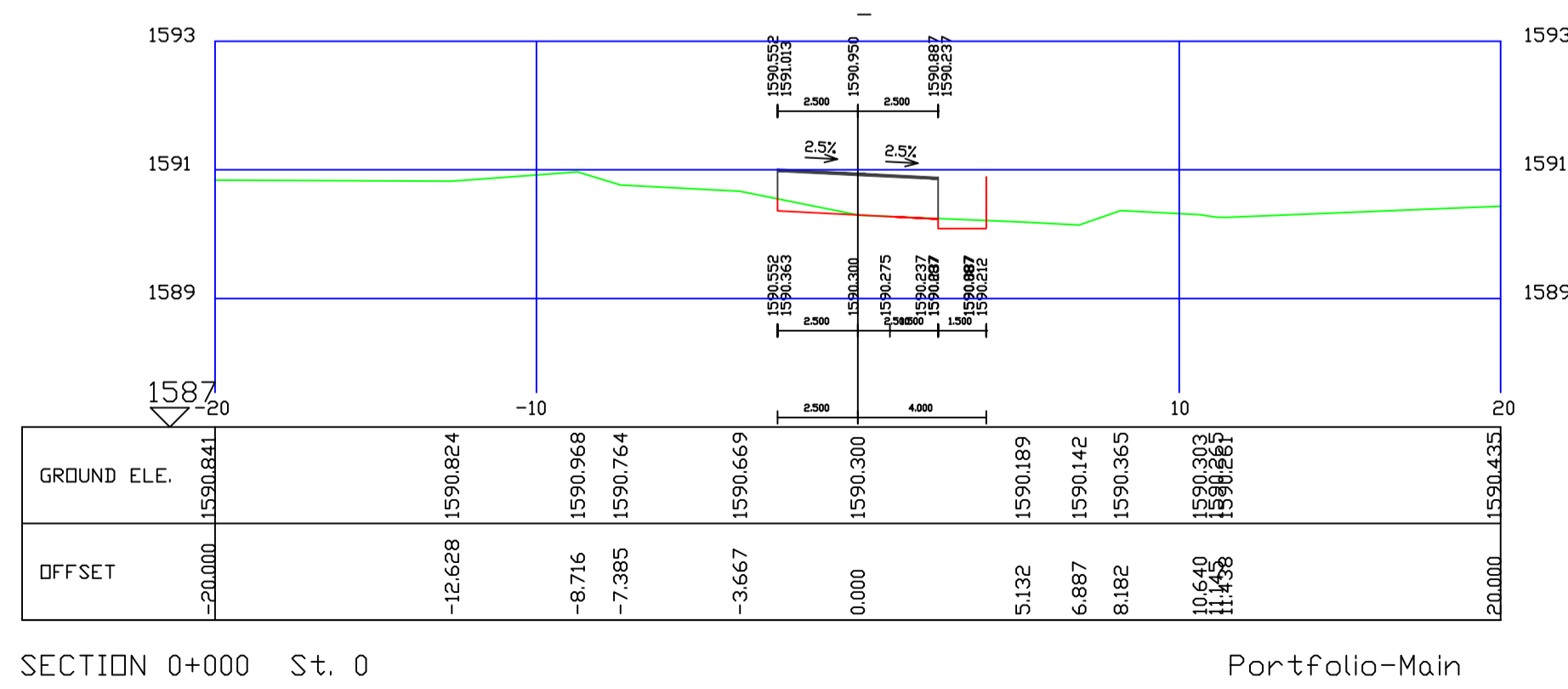
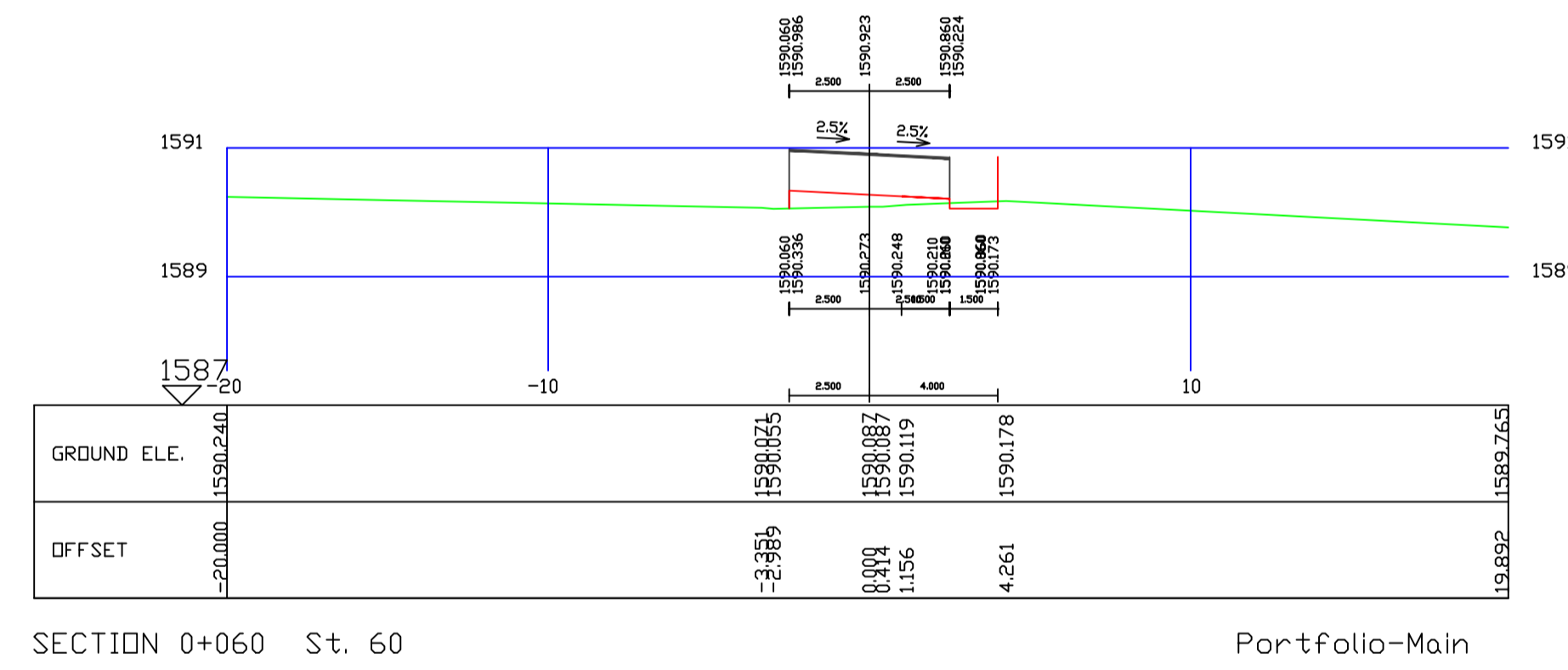
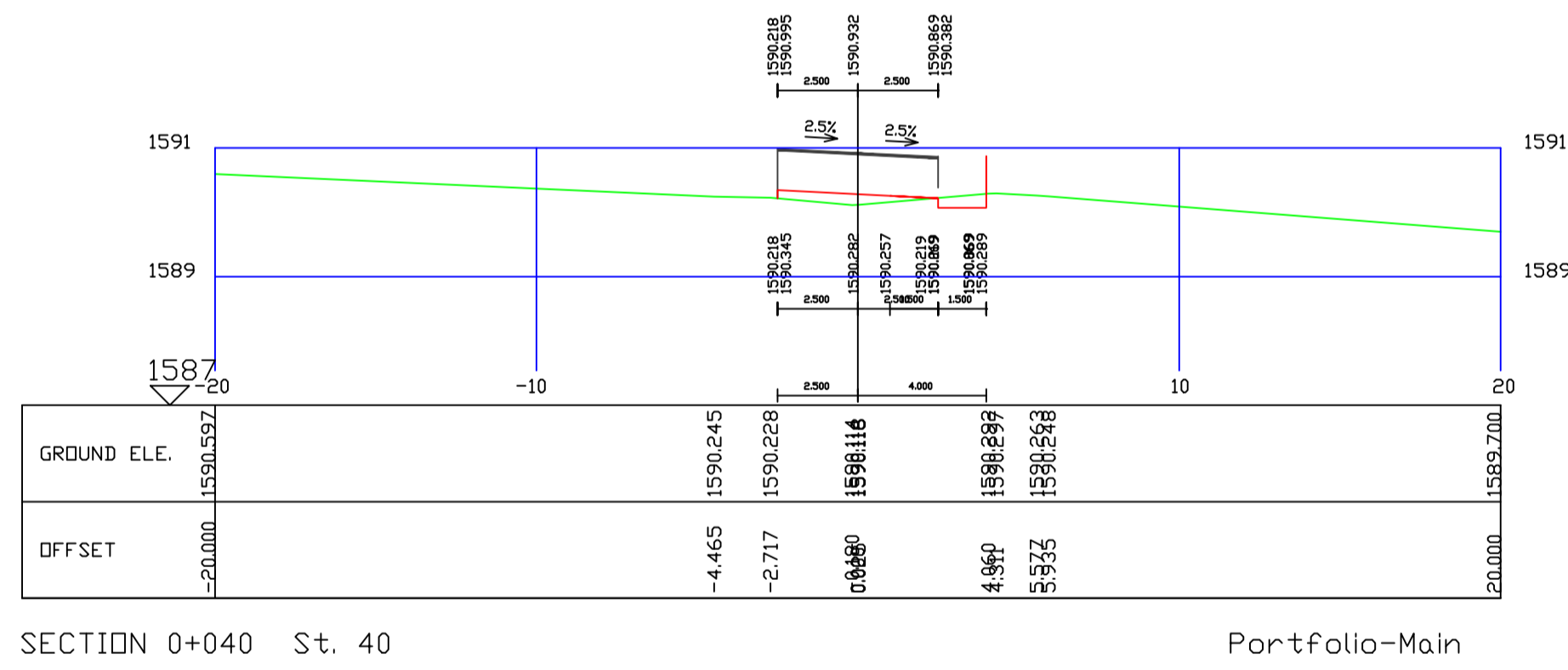
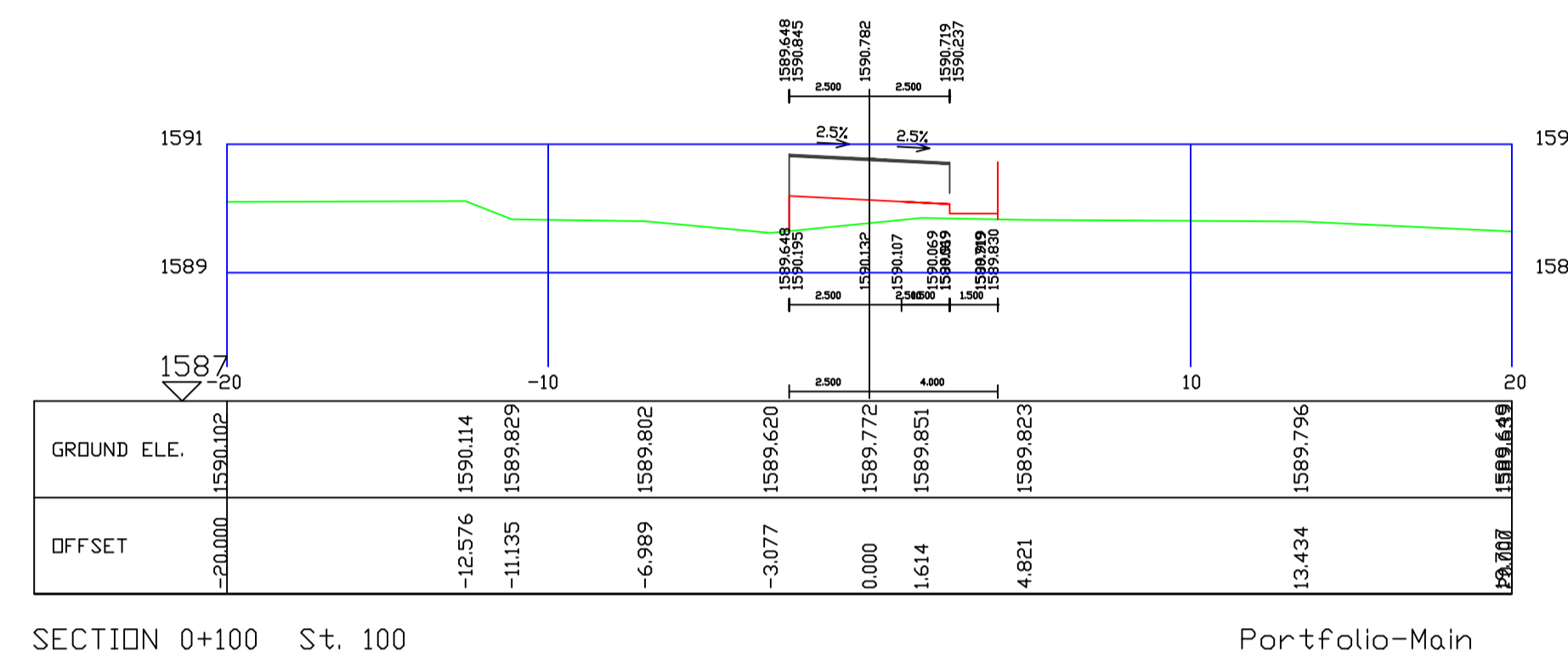
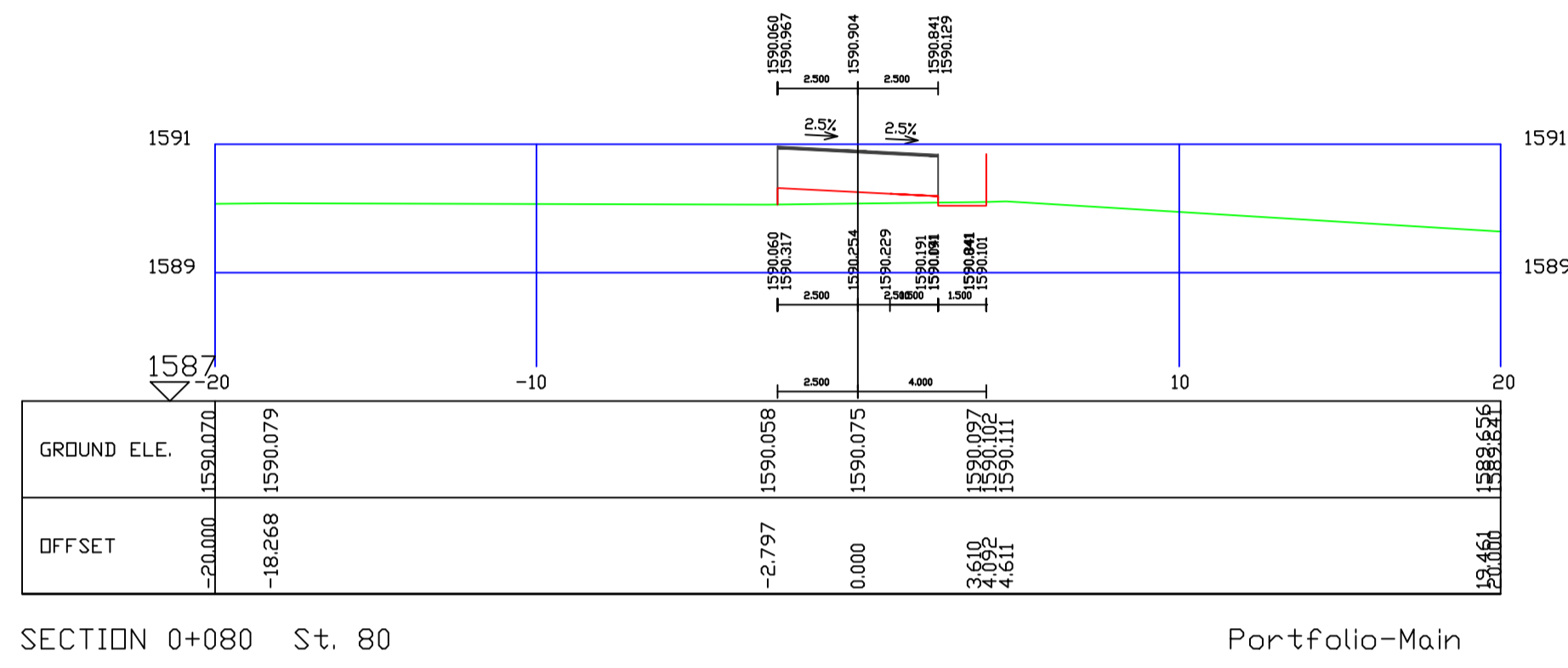
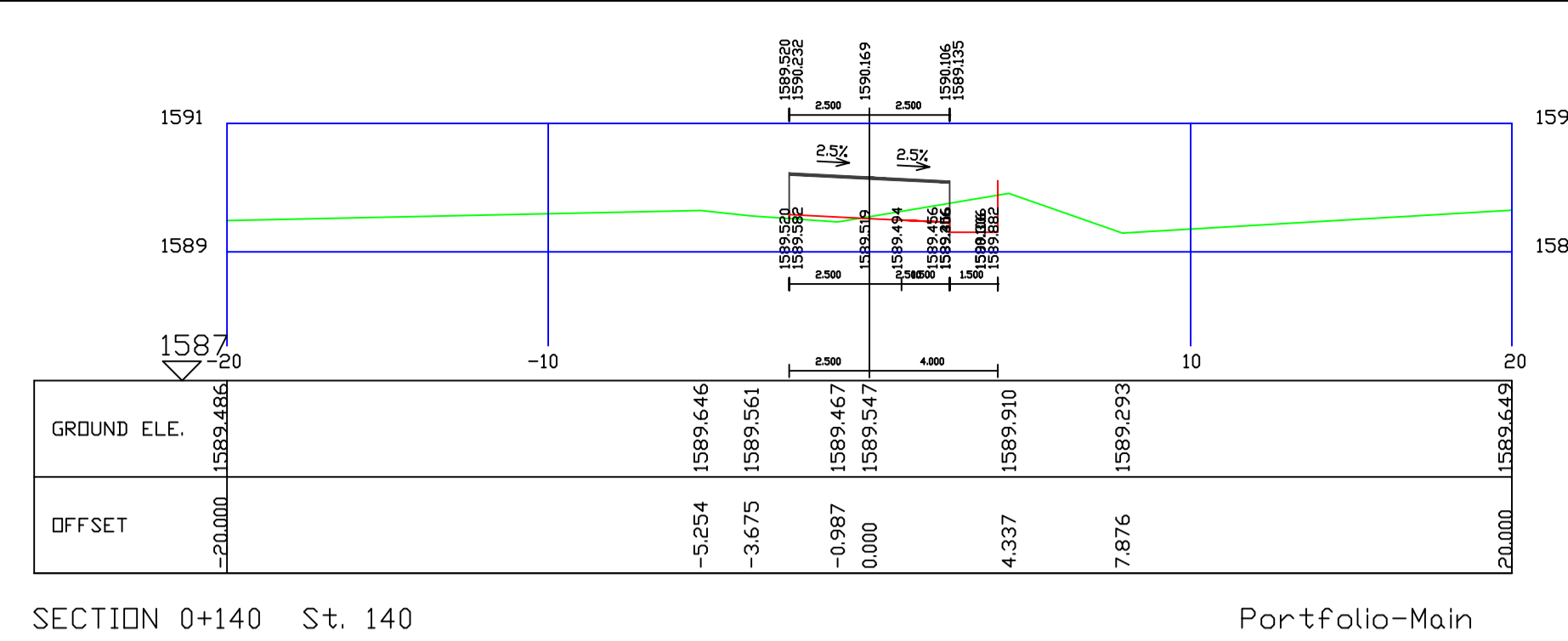
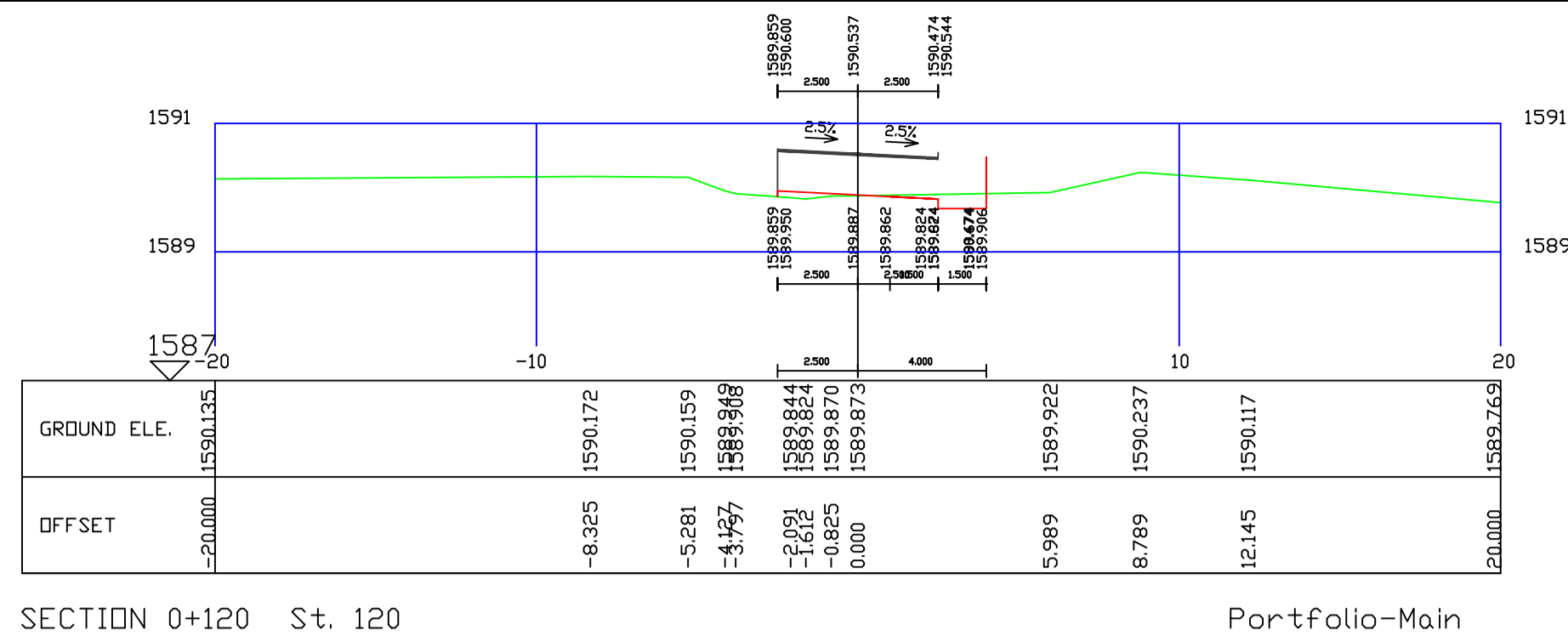


CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: MATOPENI SETTLEMENT: PLAN AND PROFILE FOR RD 01A	
Org. No: WMCL/CR214/MAT/PP/03 Sheet No. 3 of 10	
Scale: 1:1000	Date: FEBRUARY 2024
Stage: TENDER DRAWINGS	
APPROVED BY: ENG. IKWM	DESIGNED BY: KOO
CHECKED BY: ENG. PNG	DRAWN BY: KOO

REVISIONS		
No.	Date	AMMENDMENTS



CLIENT:
MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

EMPLOYER:
NAIROBI CITY COUNTY GOVERNMENT (NCCG)

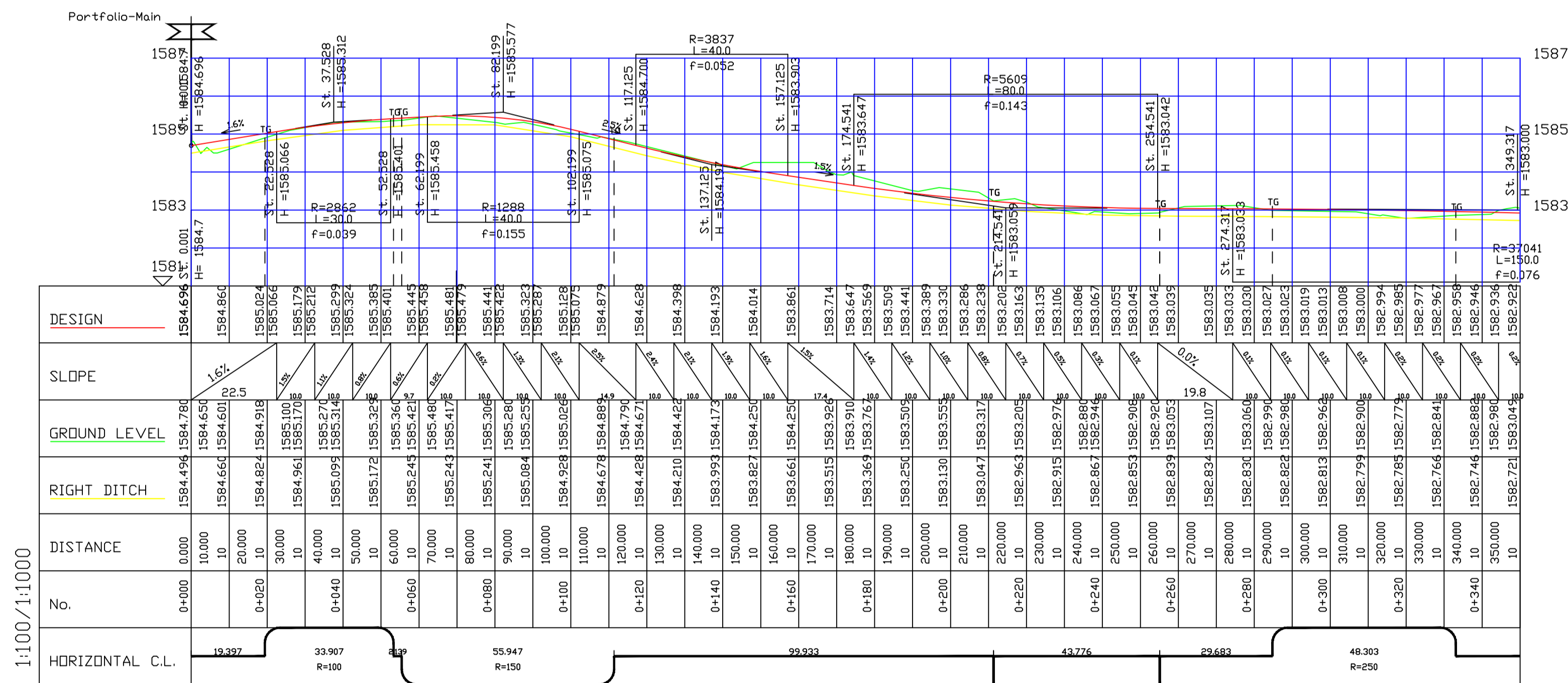
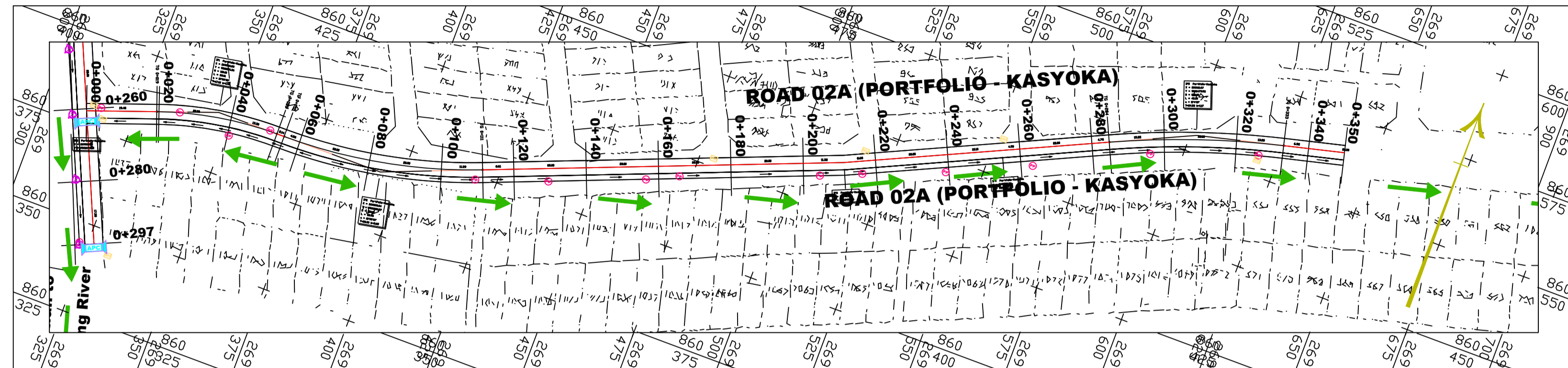
FINANCIER:
INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: **MATOPENI SETTLEMENT: RD 02 DETAILED CROSS SECTIONS**
 Drg. No. WMCL/CR214/MAT/DCS/01/Sheet No.1of2
 Scale: V:1:100 Date: FEBRUARY 2024
 H:1:200 Stage: TENDER DRAWINGS
 APPROVED BY: ENG. IKWM DESIGNED BY: KOD
 CHECKED BY: ENG. PNG DRAWN BY: KOD

REVISIONS		
No.	Date	AMMENDMENTS



1:100/1:1000

Portfolio-Kasyoka

KEY	
	EXISTING STREET LIGHTING
	PROPOSED STREET LIGHTING
	POWER POLE
	SEWER MAN HOLES
	WATER FLOW DIRECTION
	EXISTING PIPE CULVERT
	PROPOSED PIPE CULVERT
	EXISTING ROADS
	FOOT PATH

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:



CONSULTANT:



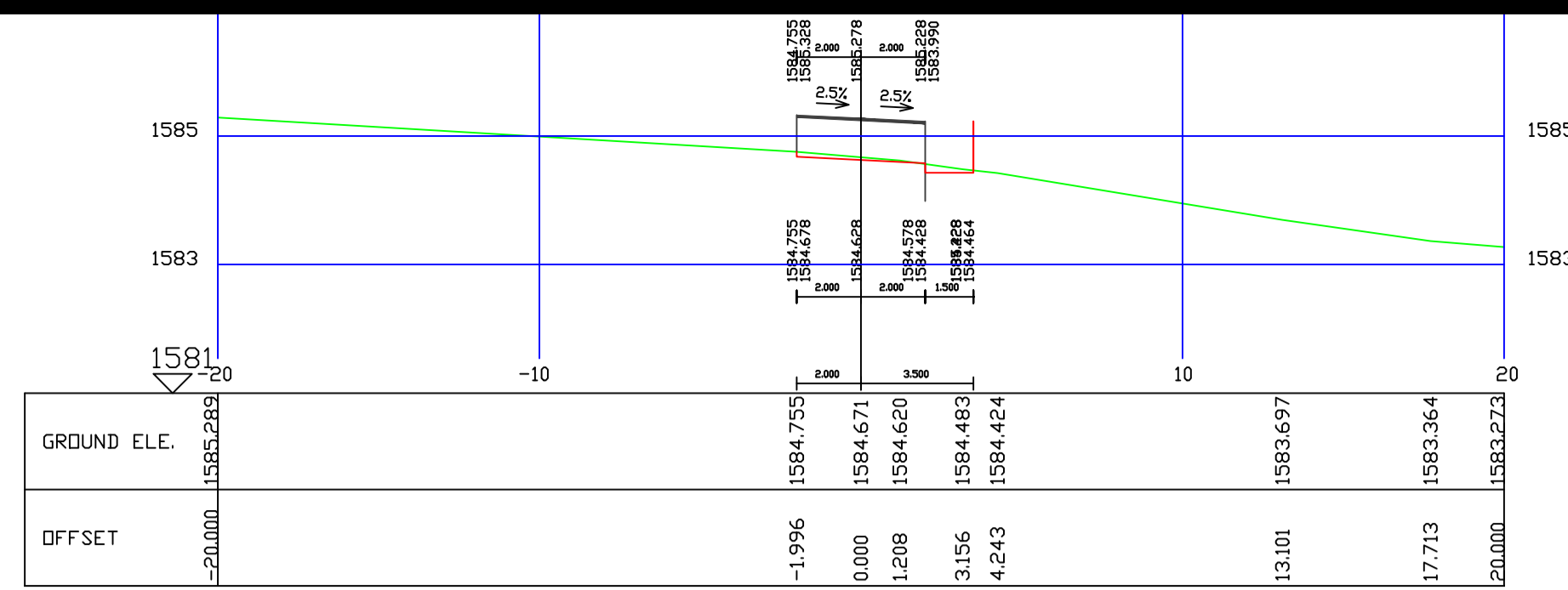
**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

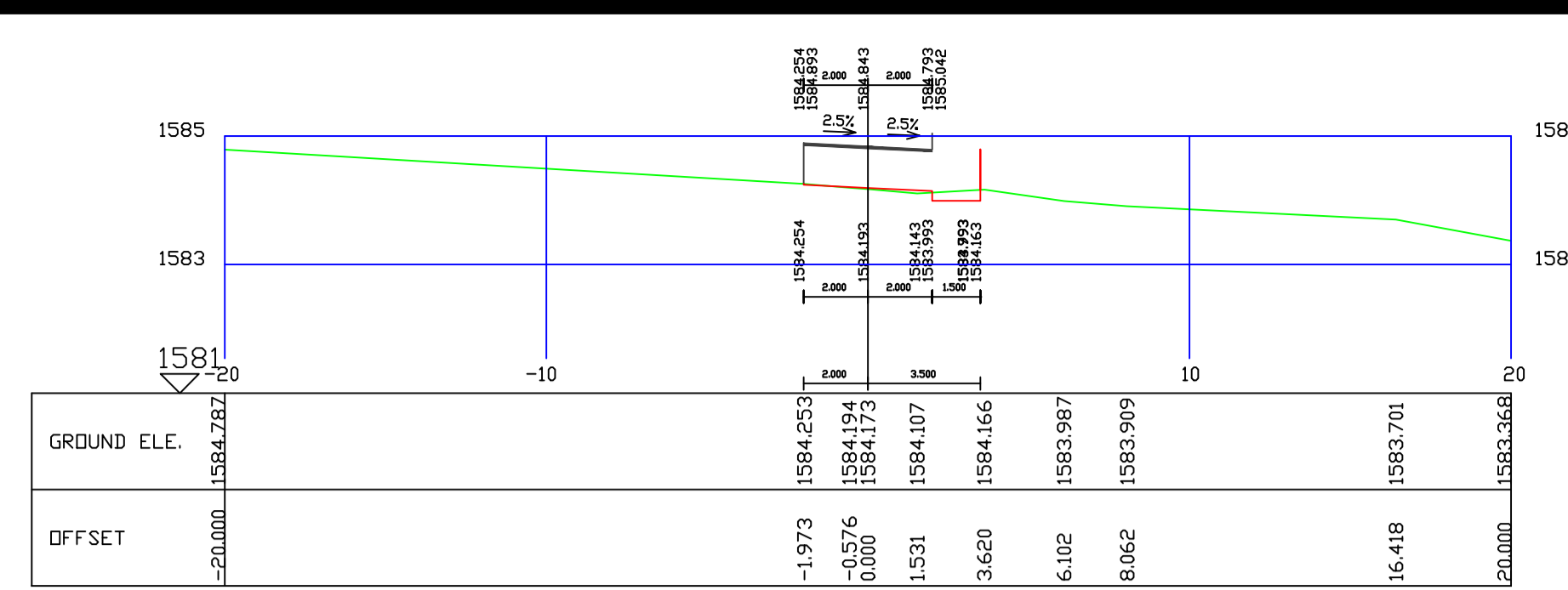
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Scale: 1:1000 Date: FEBRUARY 2024
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APPROVED BY: ENG. IKWM DESIGNED BY: KOD
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REVISIONS

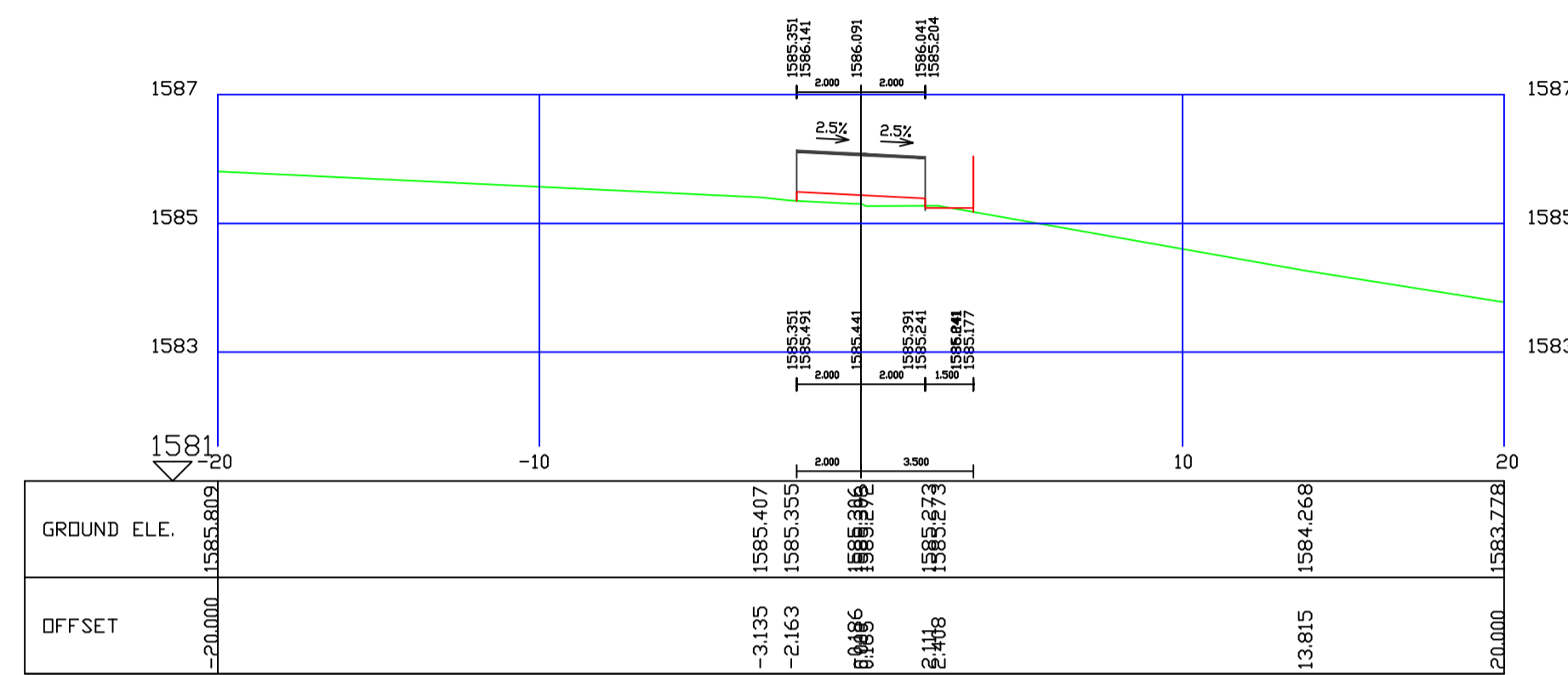
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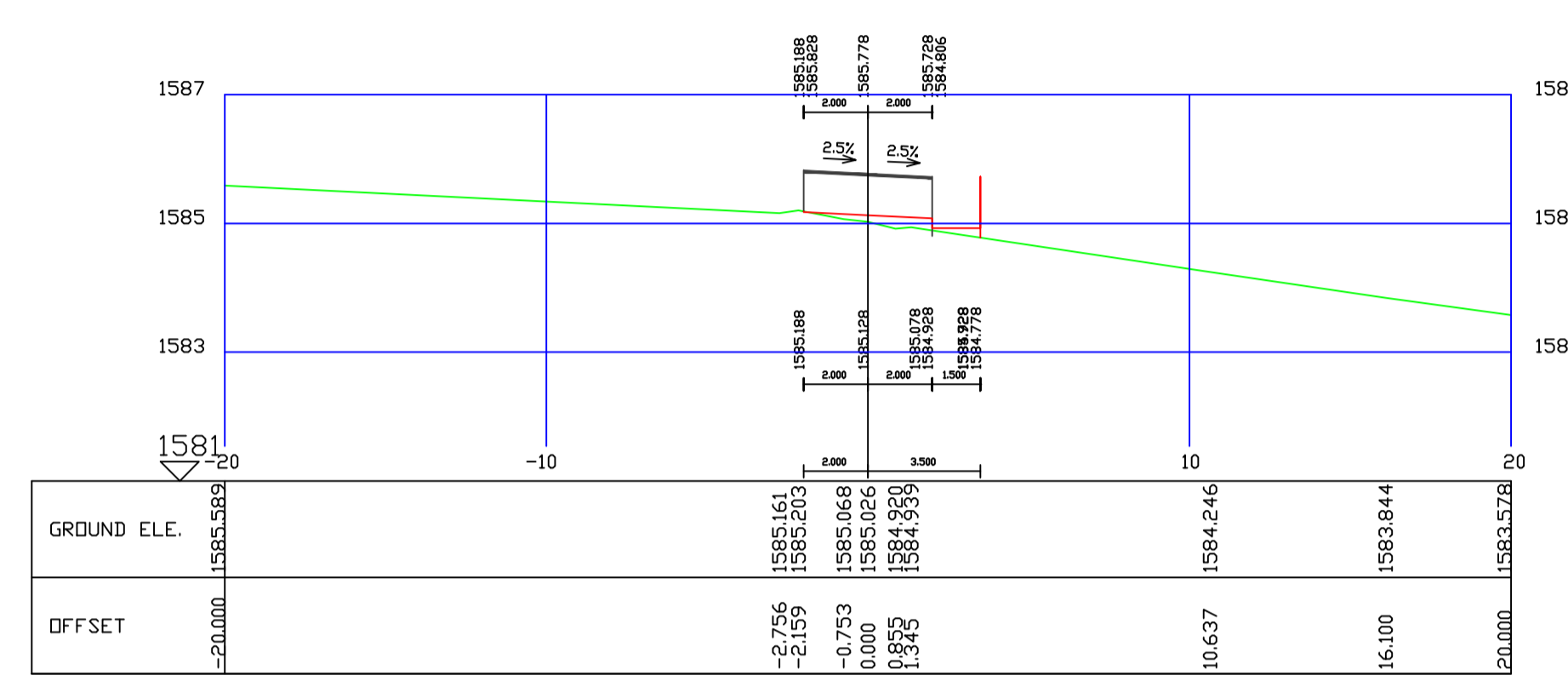
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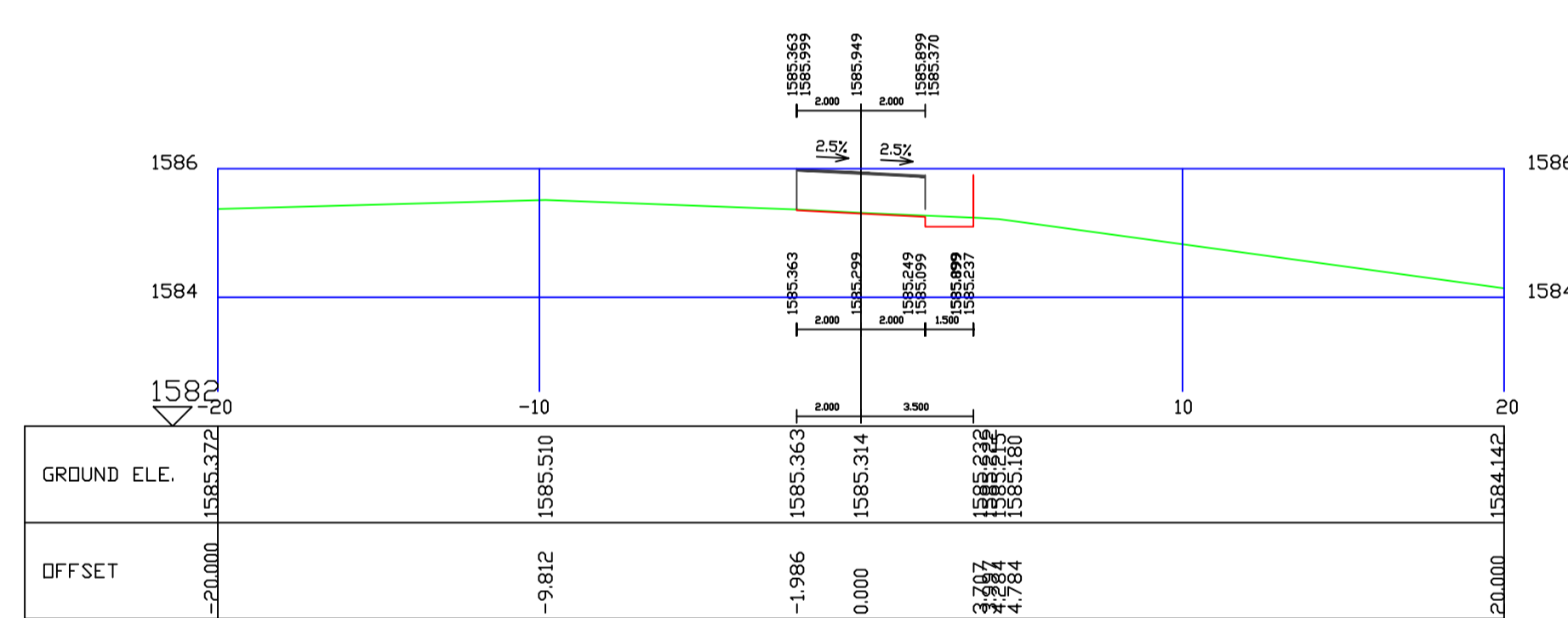
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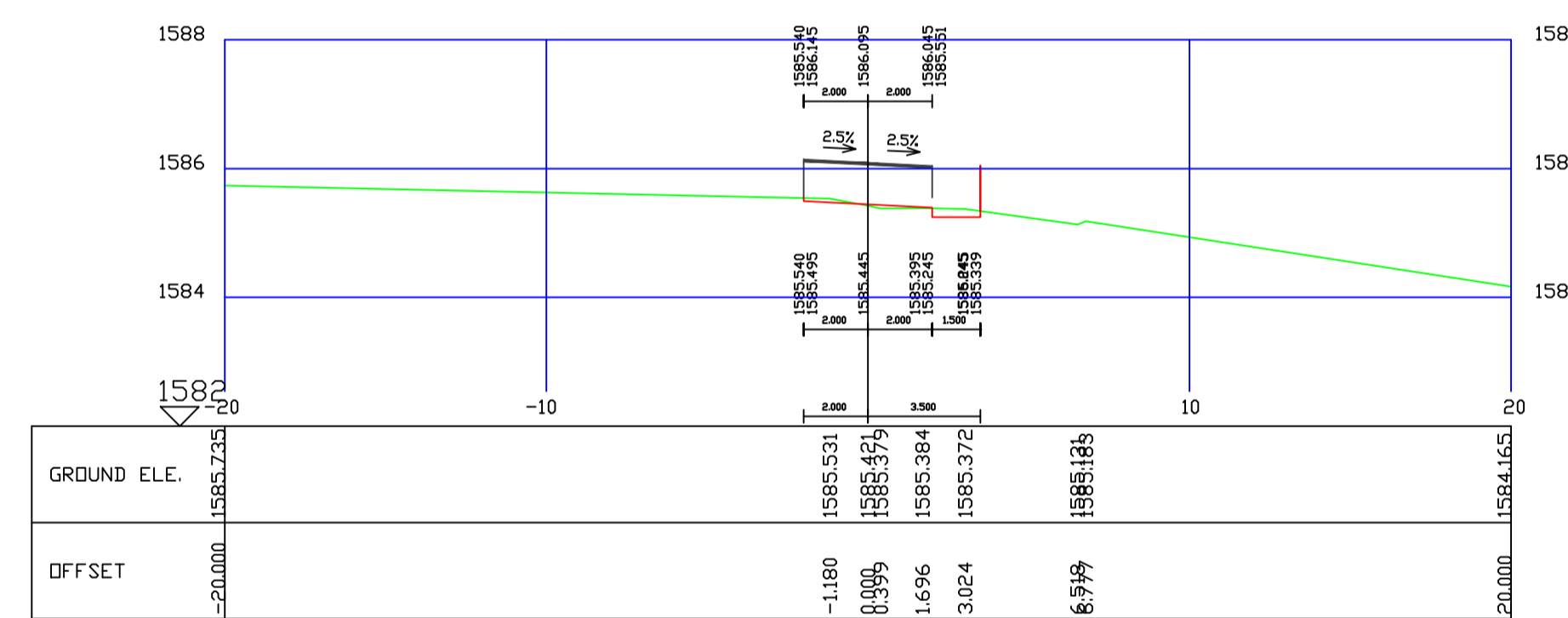
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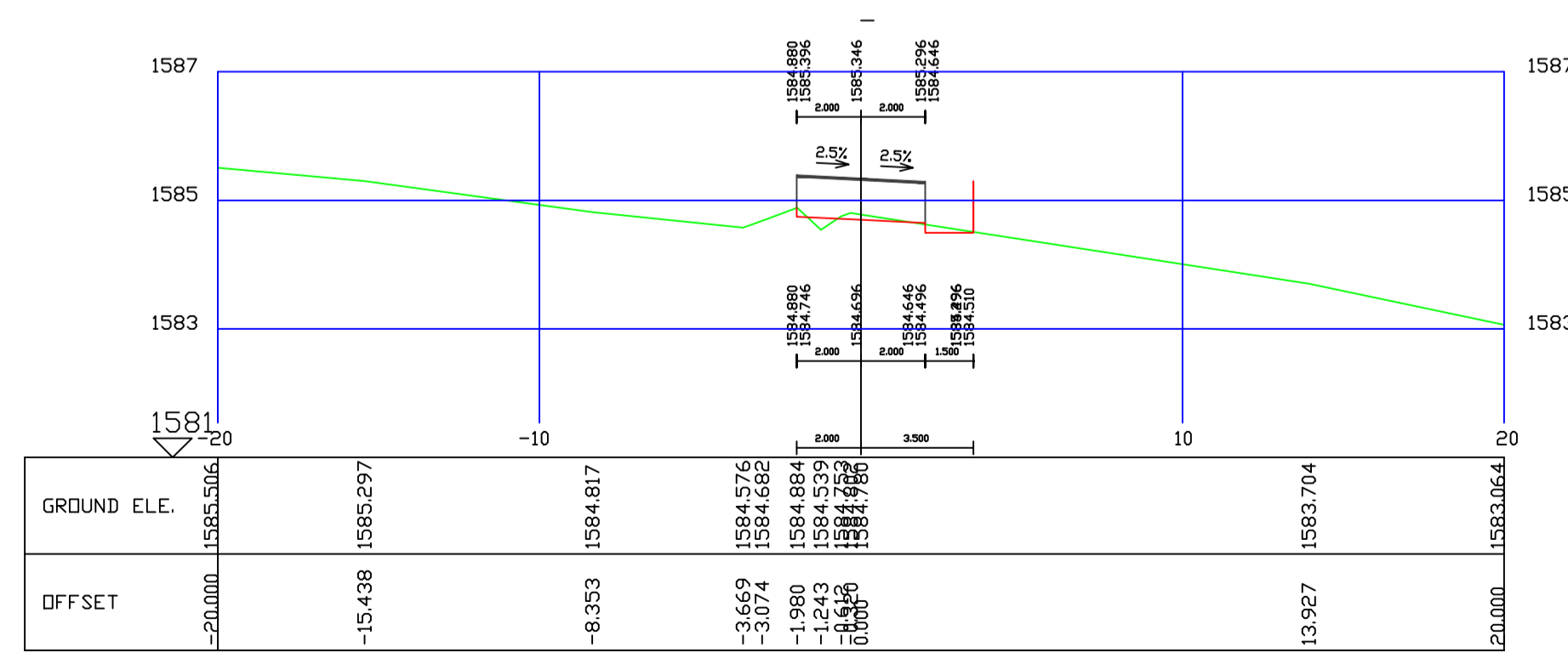
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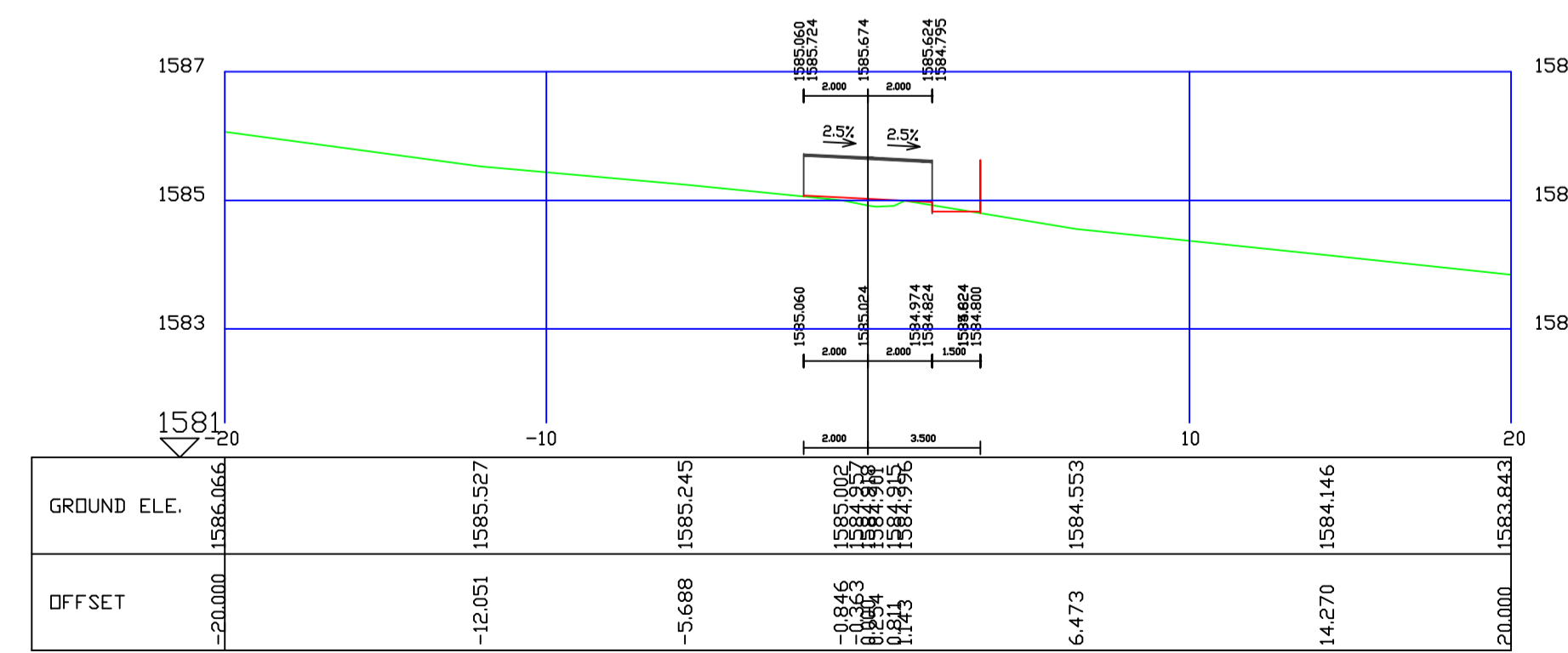
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SECTION 0+060 St. 60 Portfolio-Kasyoka



SECTION 0+000 St. 0 Portfolio-Kasyoka



SECTION 0+020 St. 20 Portfolio-Kasyoka

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: MATOPENI SETTLEMENT: RD 02A

DETAILED CROSS SECTIONS

Drw. No. WMCL/CR214/MAT/DCS/01Sheet No.1of3

Scale: V:1:100

Date: FEBRUARY 2024

H:1:200

Stage: TENDER DRAWINGS

APPROVED BY ENGI.KWM

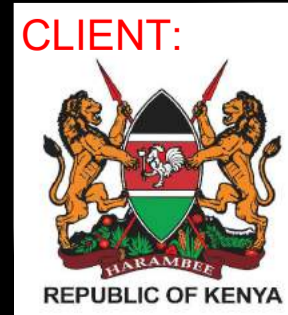
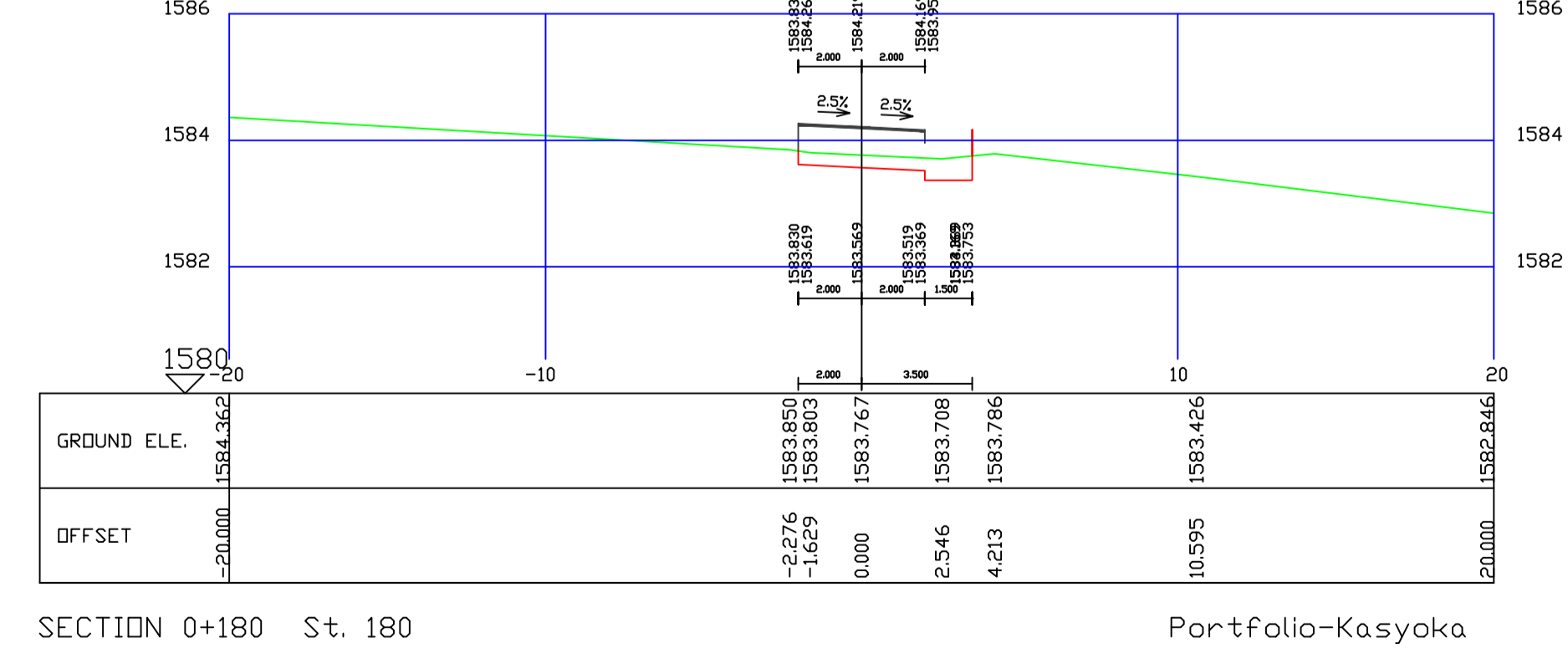
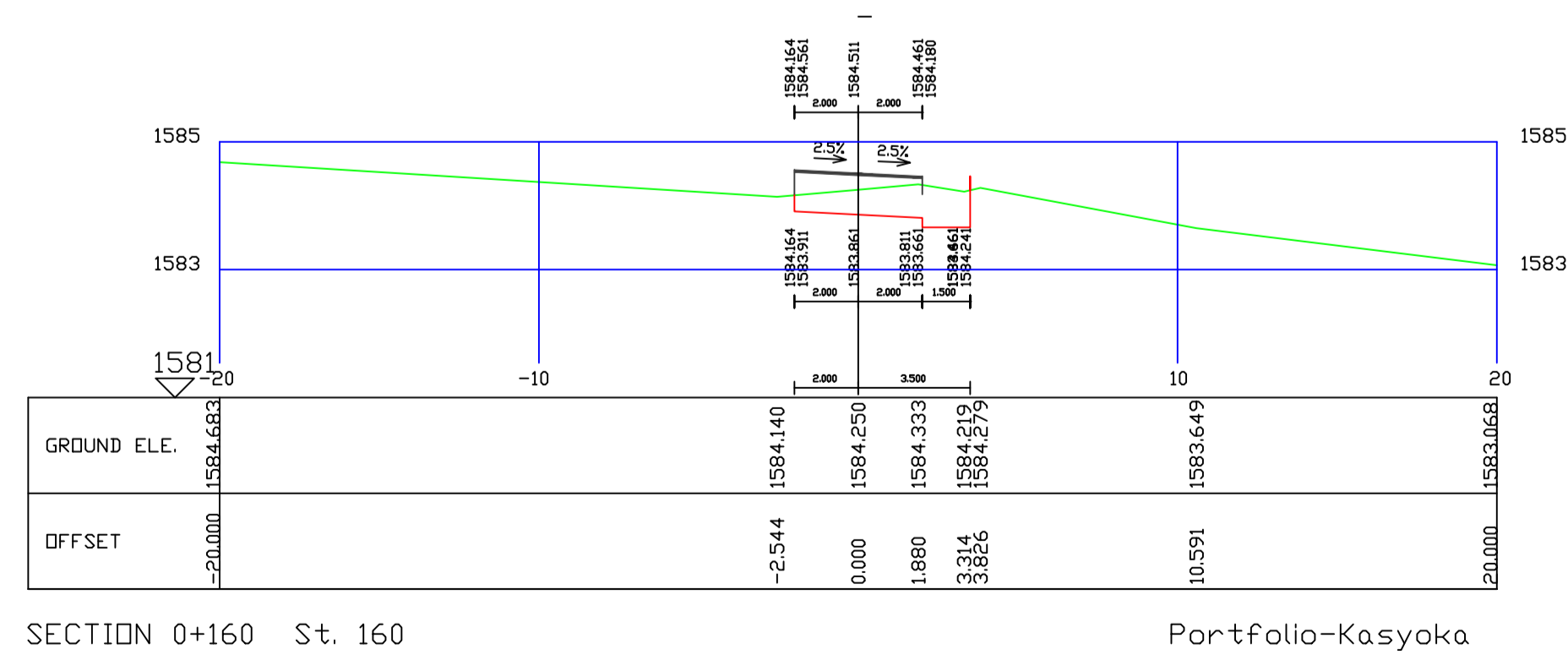
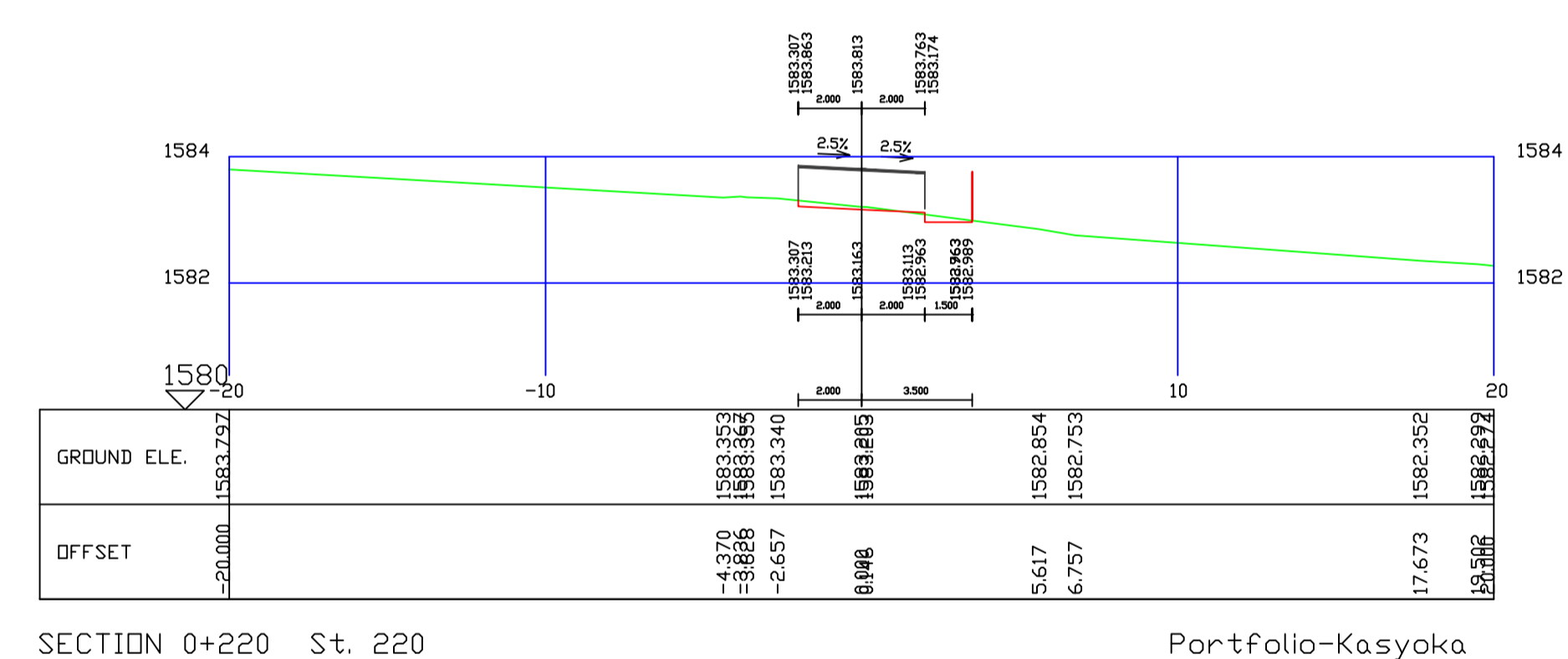
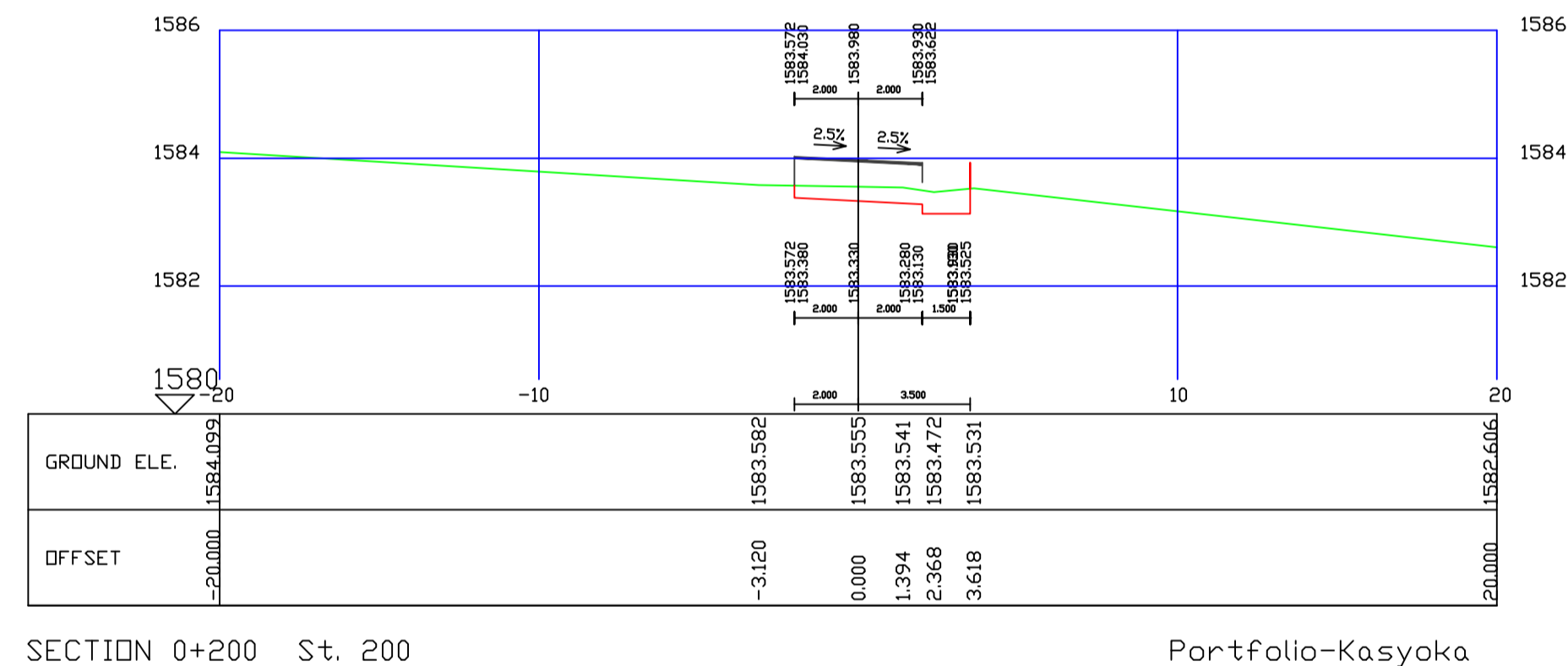
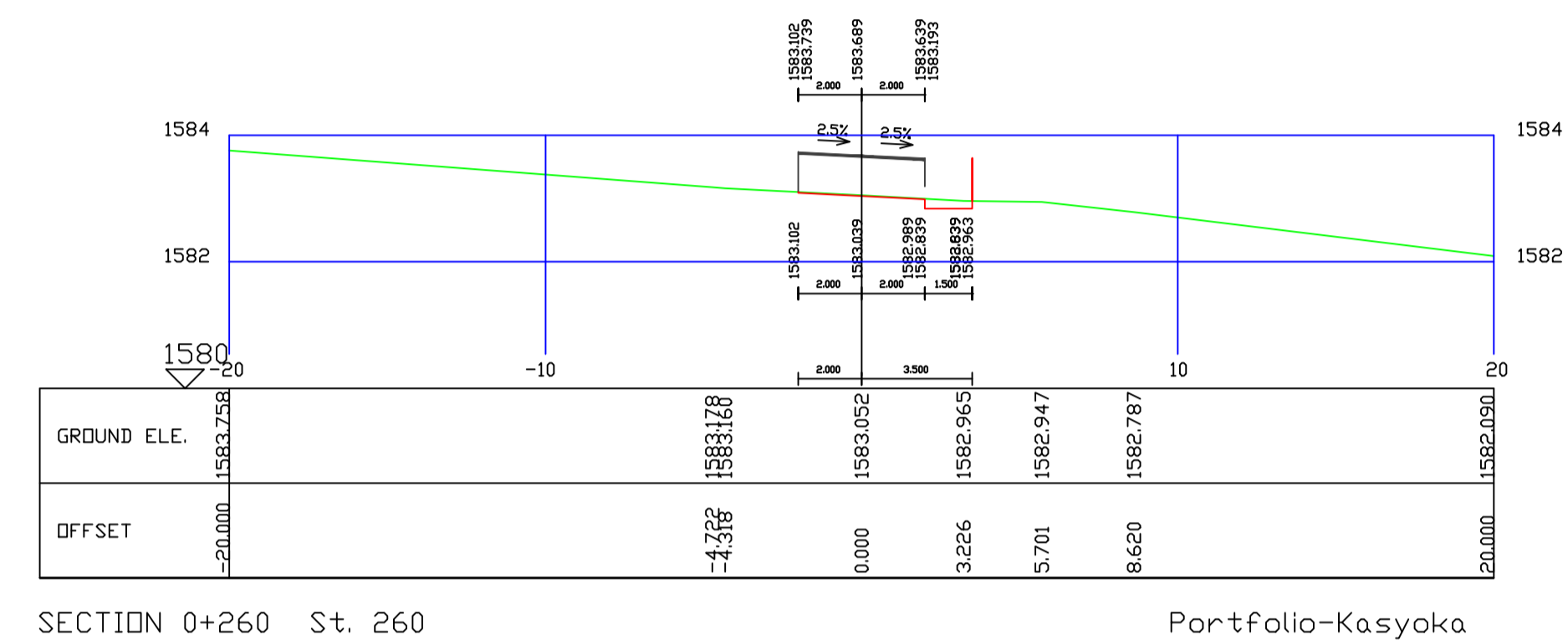
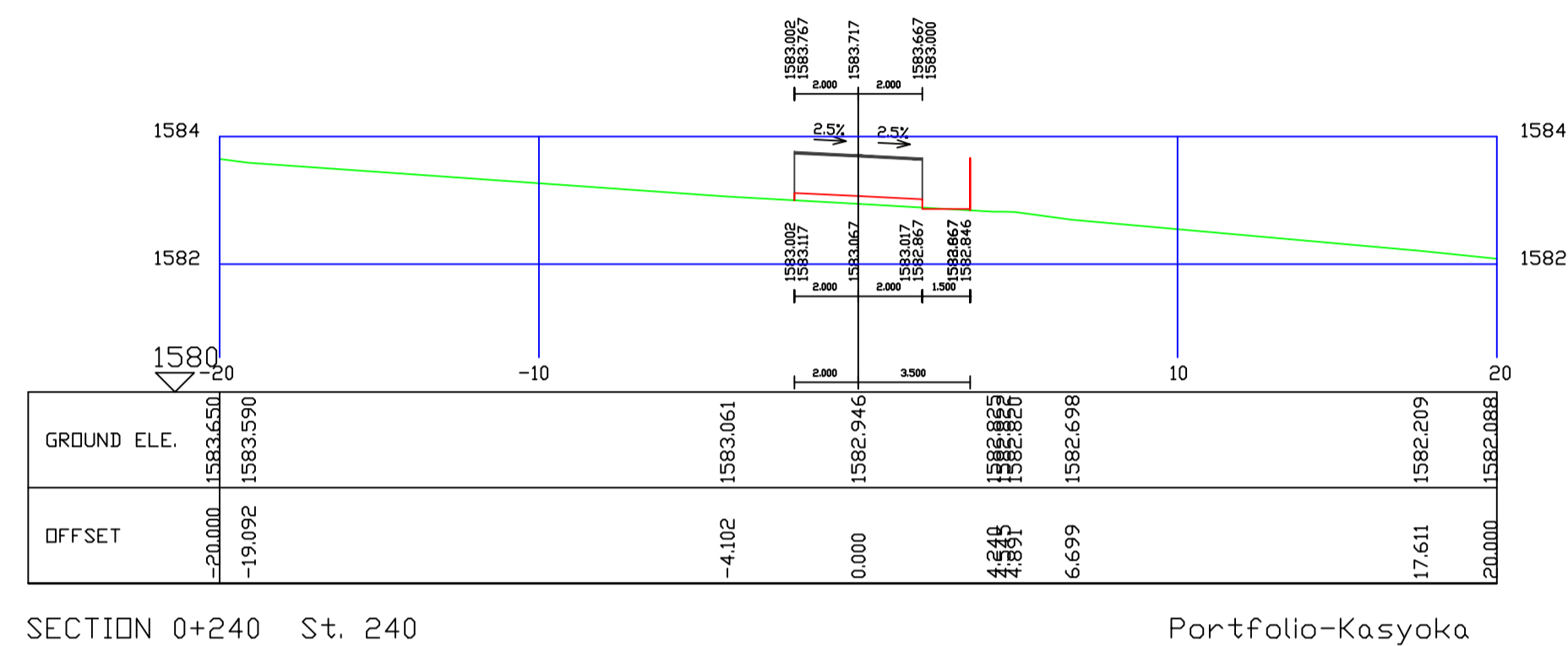
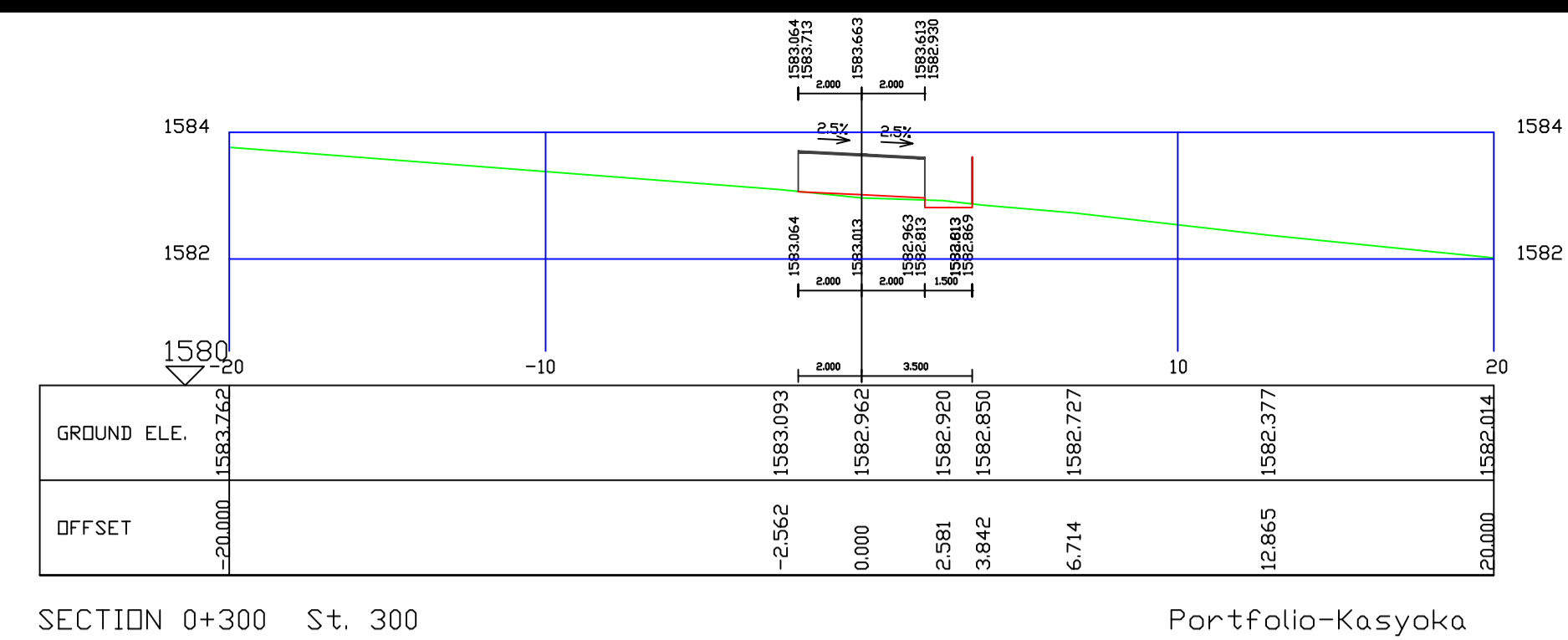
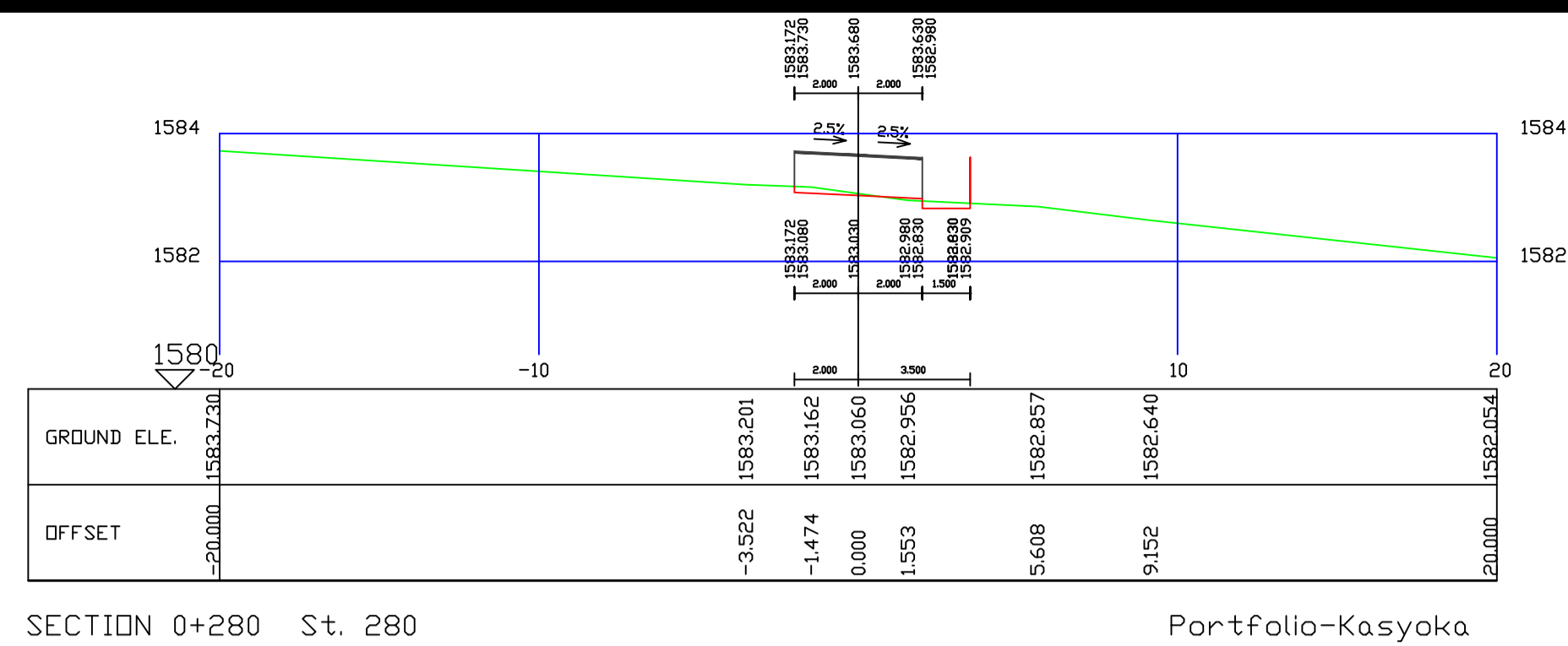
DESIGNED BY KDD

CHECKED BY ENG.PNG

DRAWN BY KDD

REVISIONS

No	Date	AMMENDMENTS



CLIENT:
MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



EMPLOYER:
NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

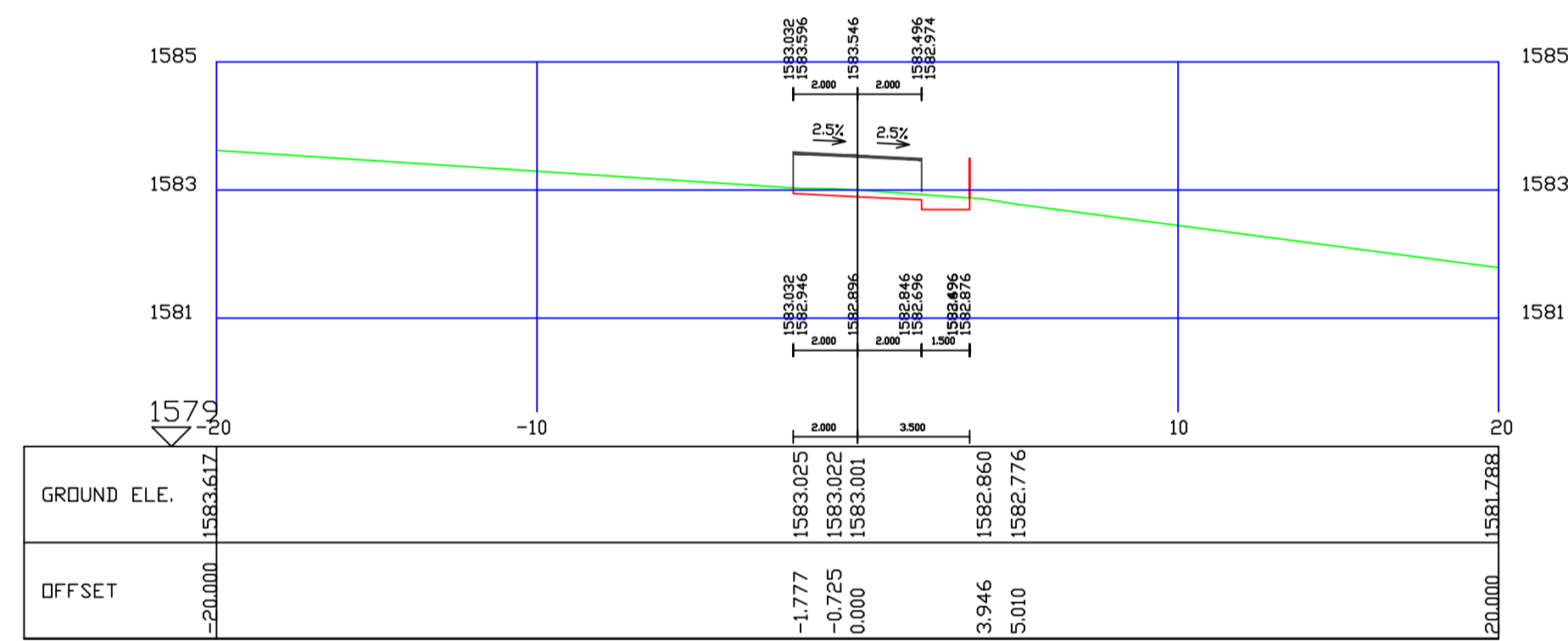
FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFDF)
THE WORLD BANK
AFD



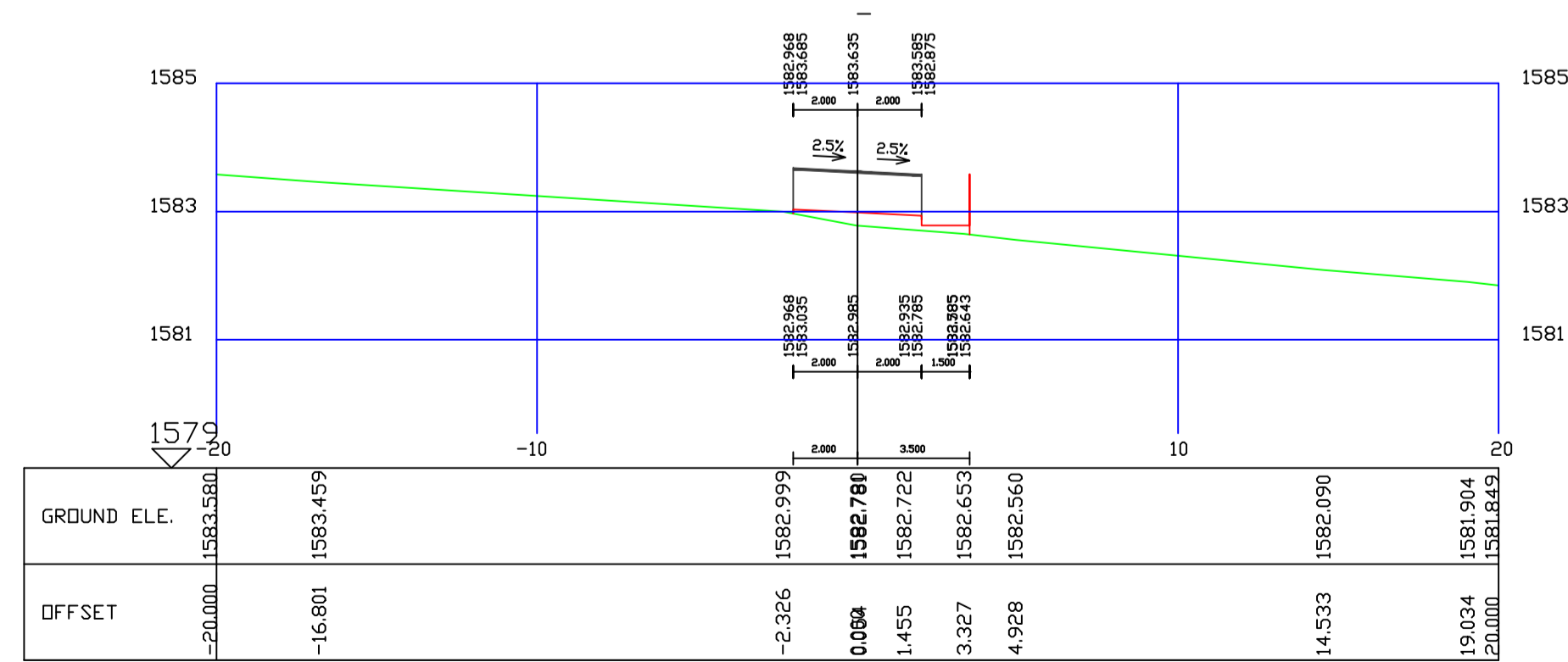
CONSULTANT:
**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

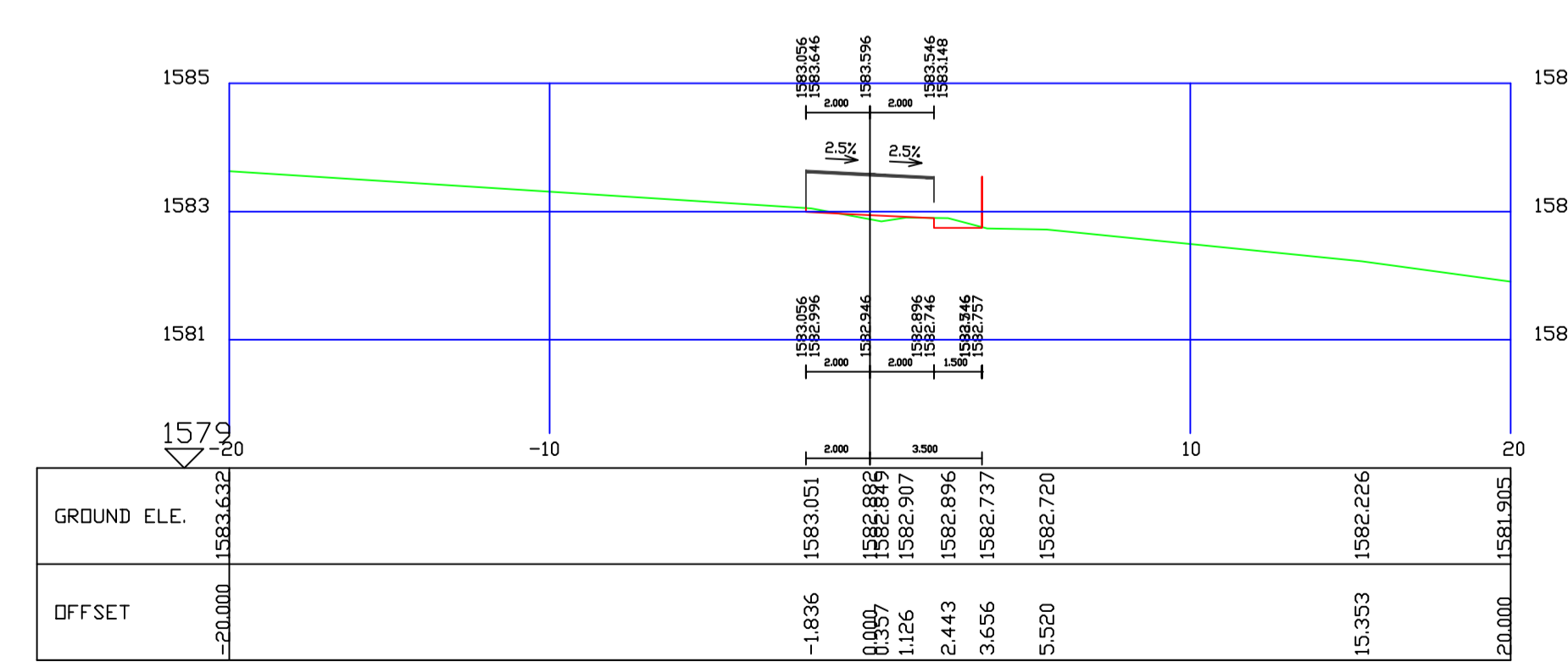
Drawing Title: MATOPENI SETTLEMENT: RD 02A DETAILED CROSS SECTIONS		REVISIONS	
Drg. No. WMCL/CR214/MAT/DCS/02	Sheet No. 2 of 3		
Scale: V:1:100	Date: FEBRUARY 2024		
H:1:200	Stage: TENDER DRAWINGS		
APPROVED BY: ENKIKWM	DESIGNED BY: KOD		
CHECKED BY: ENG.PNG	DRAWN BY: KOD	No.	Date
		AMMENDMENTS	



SECTION 0+360 St. 360 Portfolio-Kasyoka



SECTION 0+320 St. 320 Portfolio-Kasyoka



SECTION 0+340 St. 340 Portfolio-Kasyoka

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **MATOPENI SETTLEMENT: RD 02A**

DETAILED CROSS SECTIONS

Dwg. No. WMCL/CR214/MAT/DCS/03 Sheet No. 3 of 3

Scale: V:1:100

Date: FEBRUARY 2024

H:1:200

Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM

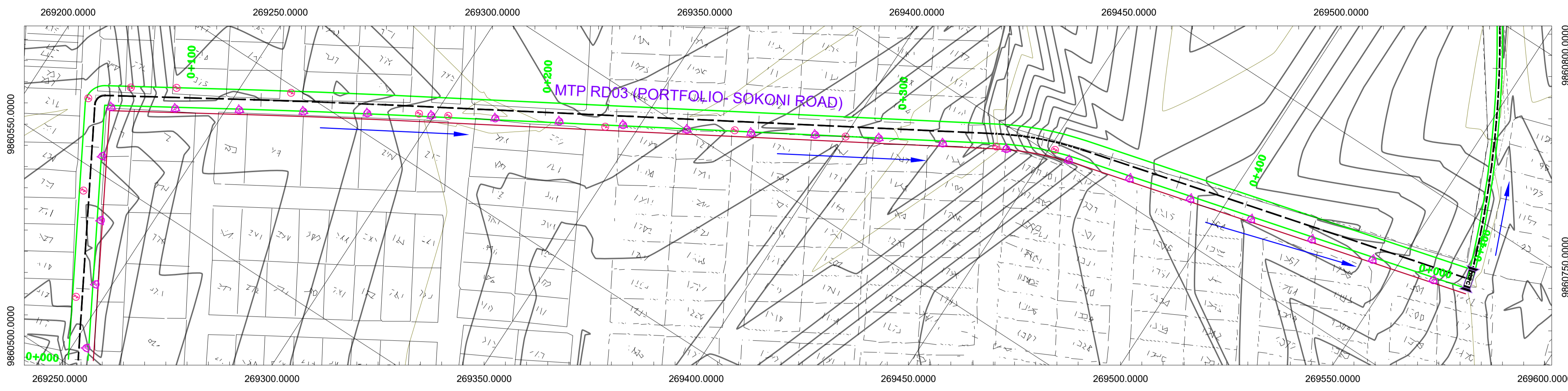
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CHECKED BY: ENG. PNG

DRAWN BY: KOD

REVISIONS

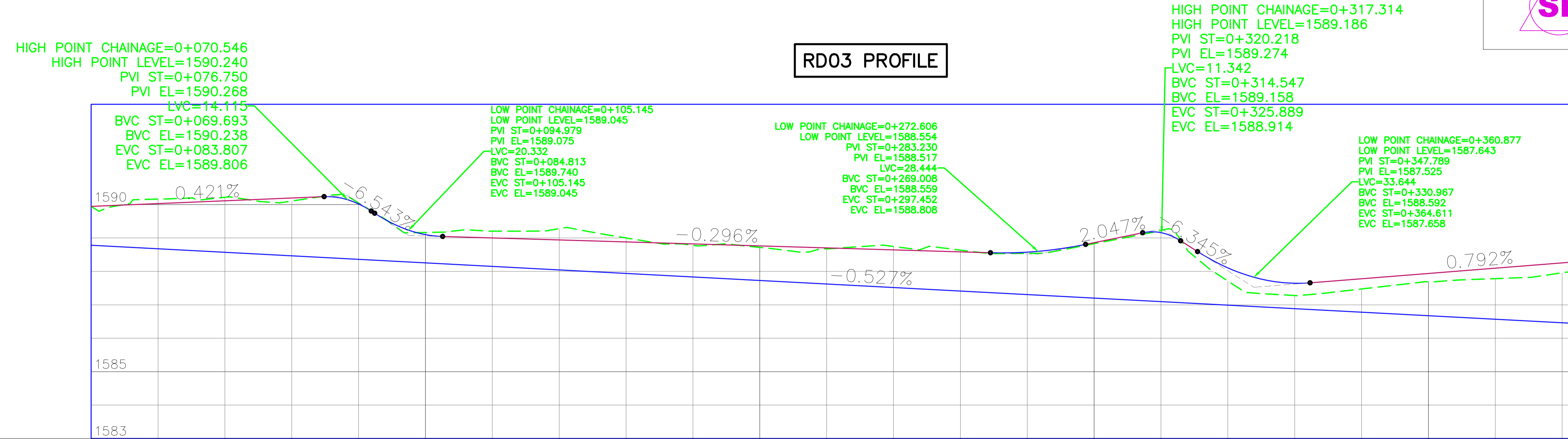
No.	Date	AMMENDMENTS



LEGEND

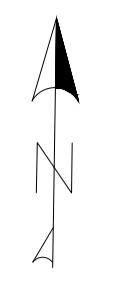
- Edge of Carriageway
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Existing Power post
- Sewer Manhole
- Proposed Streetlighting

RD03 PROFILE

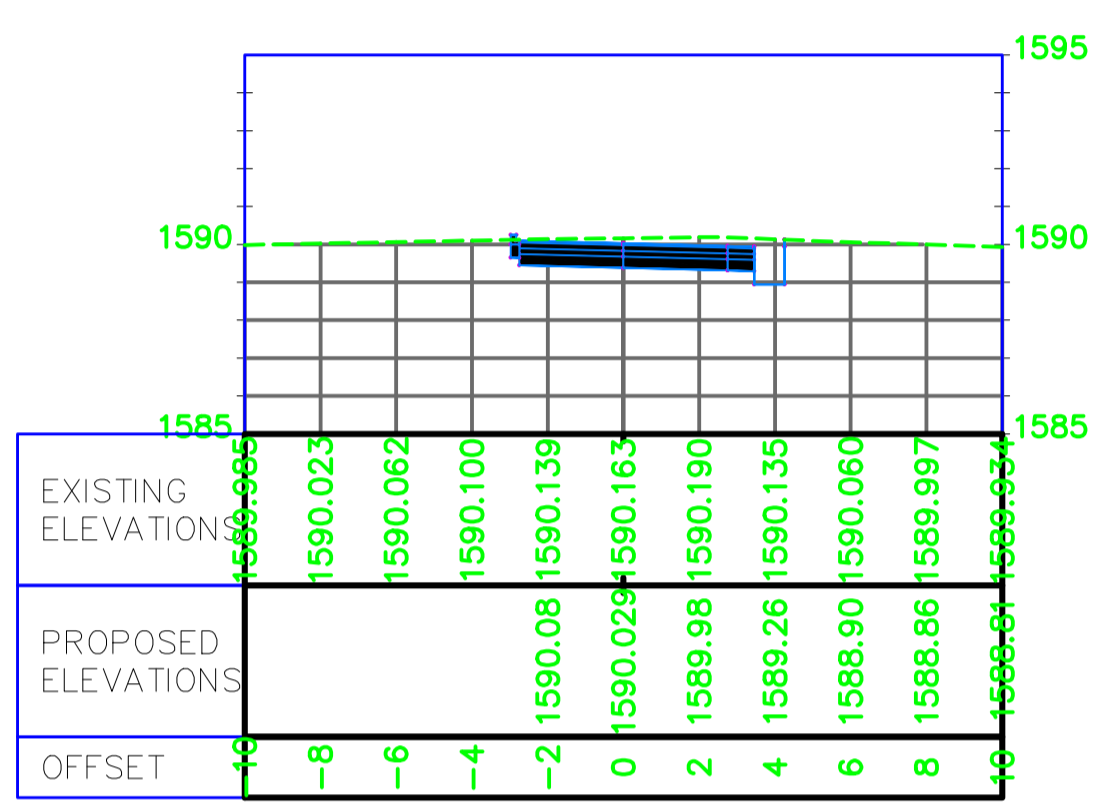


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OGL	1588.782	1588.676	1588.571	1588.466	1588.360
Drain	1588.782	1588.676	1588.571	1588.466	1588.360
HORIZONTAL ALIGNMENT	L=71.923m		R=2.73m L=4.183m L=41.924m	R=2000.88m L=36.944m	L=171.760m
VERTICAL ALIGNMENT	L=69.693m 0.421%	LVC=14.115 K=2.025 K=3.255	L=163.864m -0.296%	LVC=28m L=17.099m K=12.135	L=101.843m 0.792%

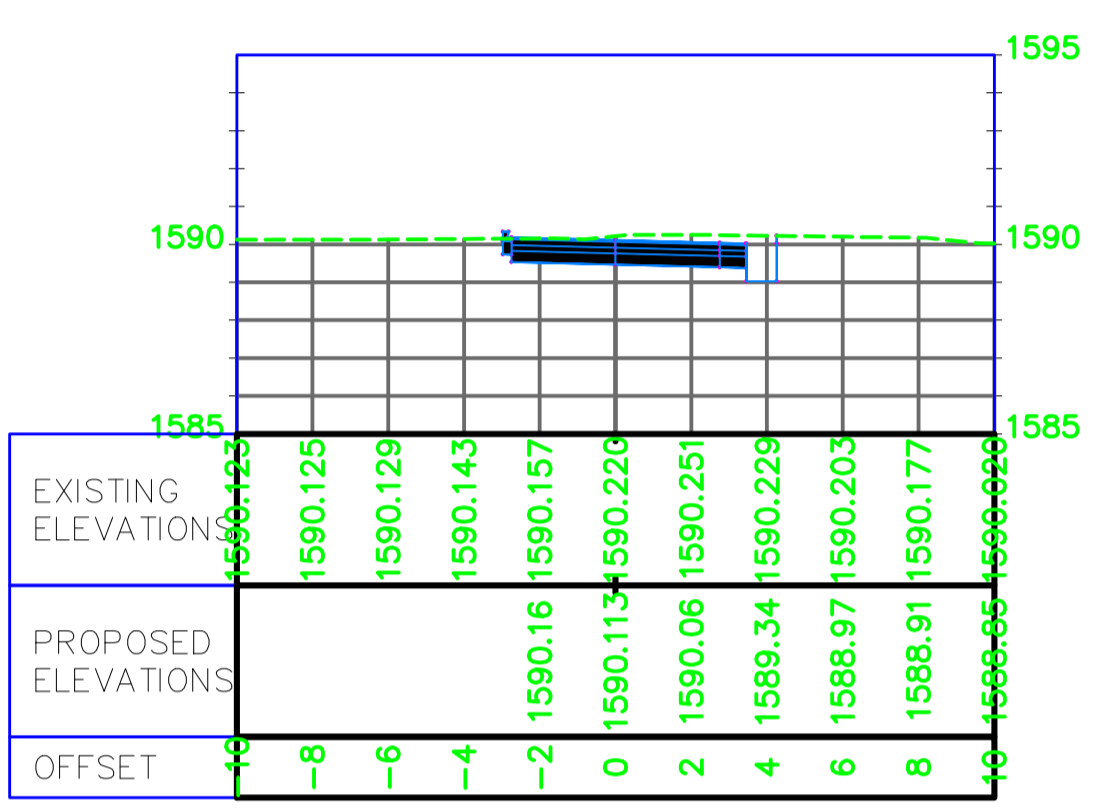
<p>CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>	<p>CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (MATOPENI SETTLEMENT) IN NAIROBI COUNTY.</p>	<p>Drawing Title: MATOPENI : MTP RD03 PLAN & PROFILE</p>	<p>REVISIONS</p>	
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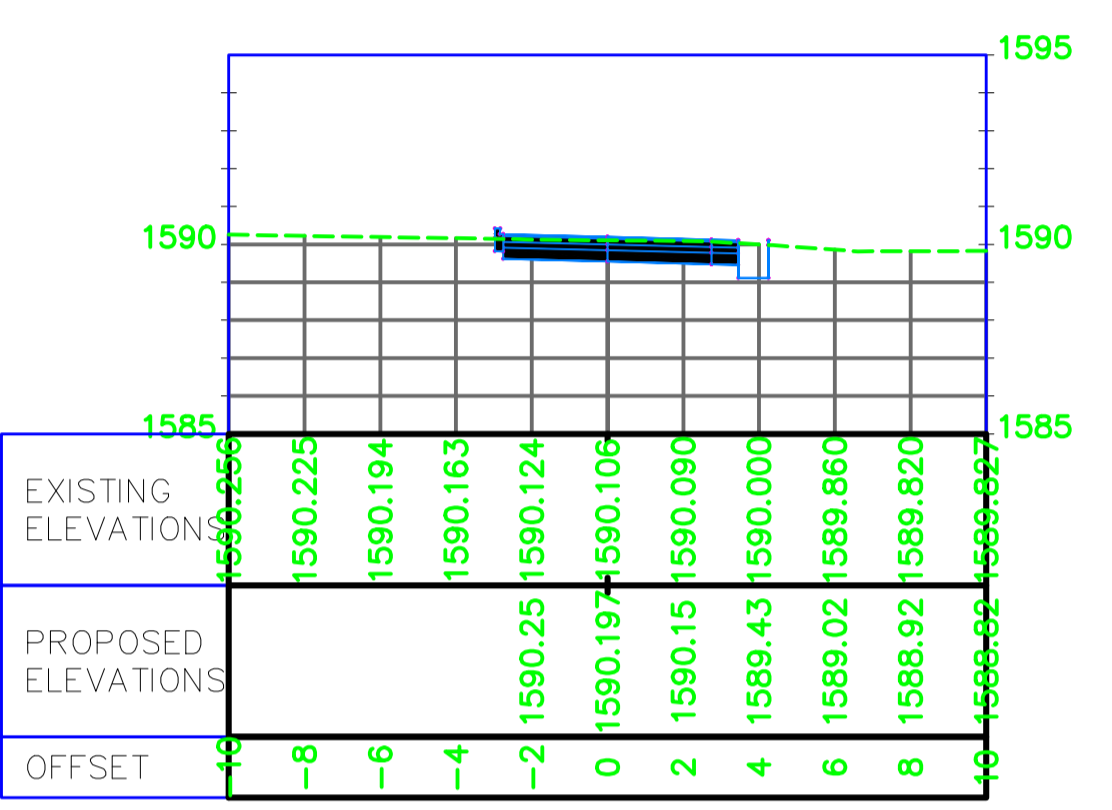
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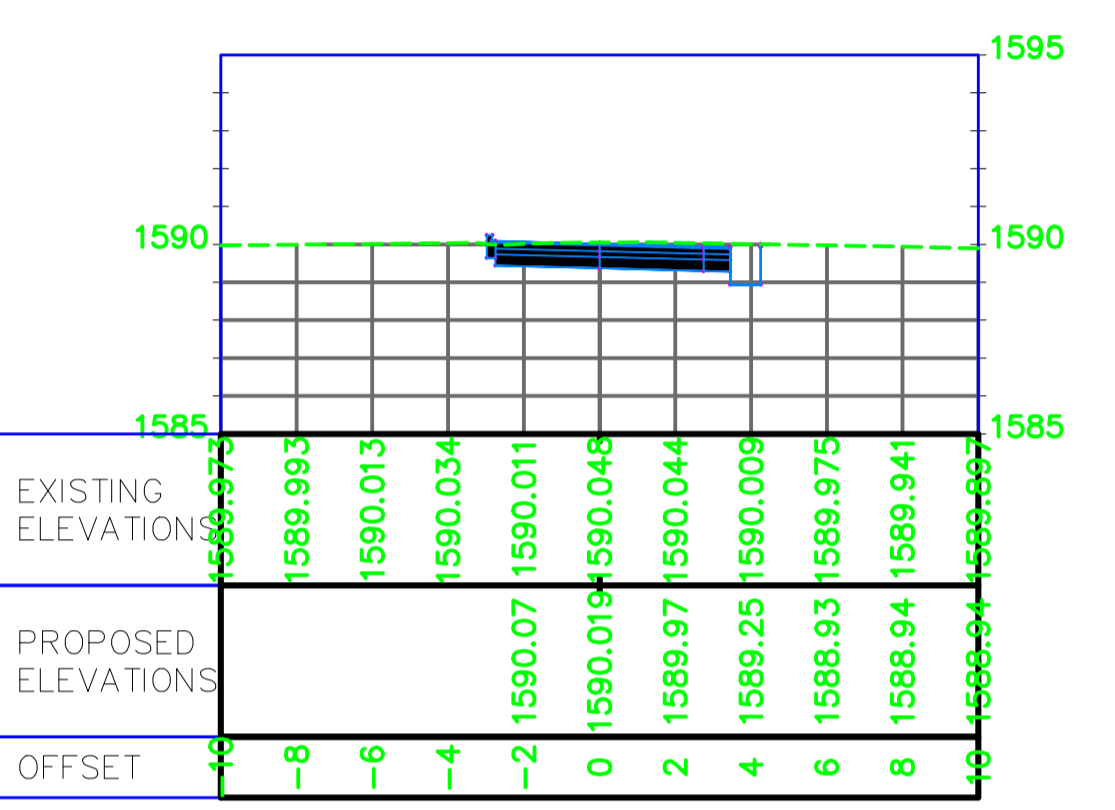
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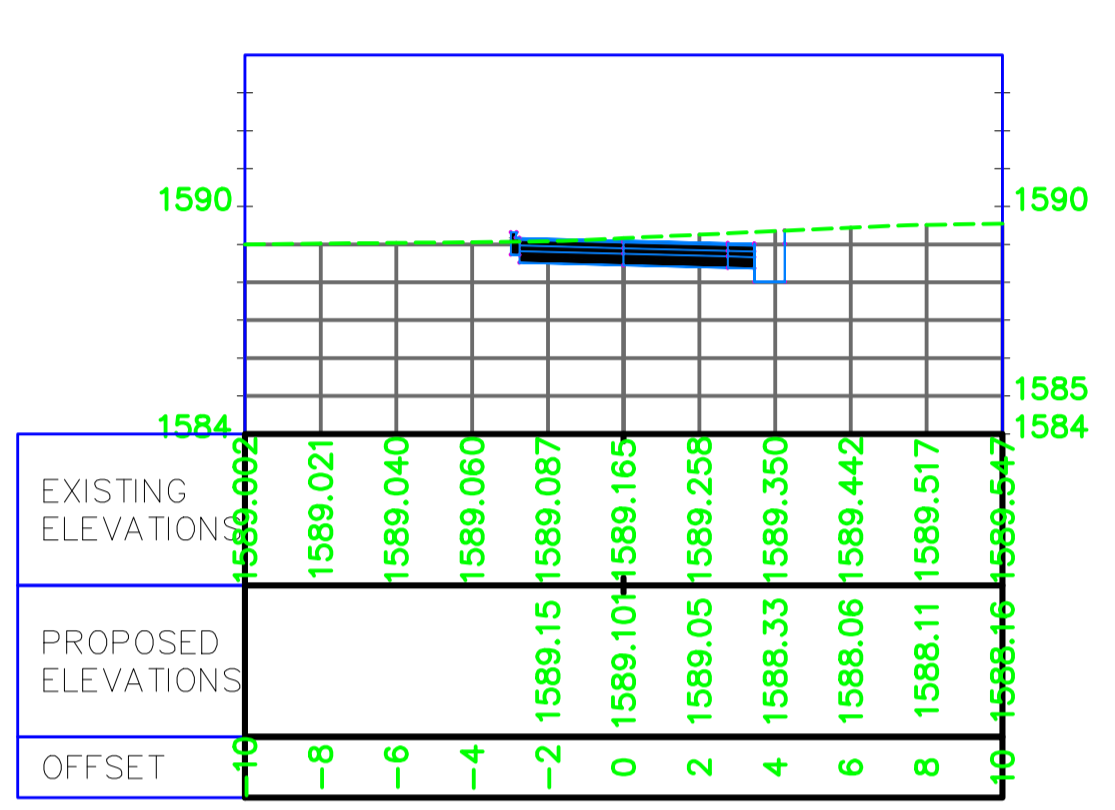
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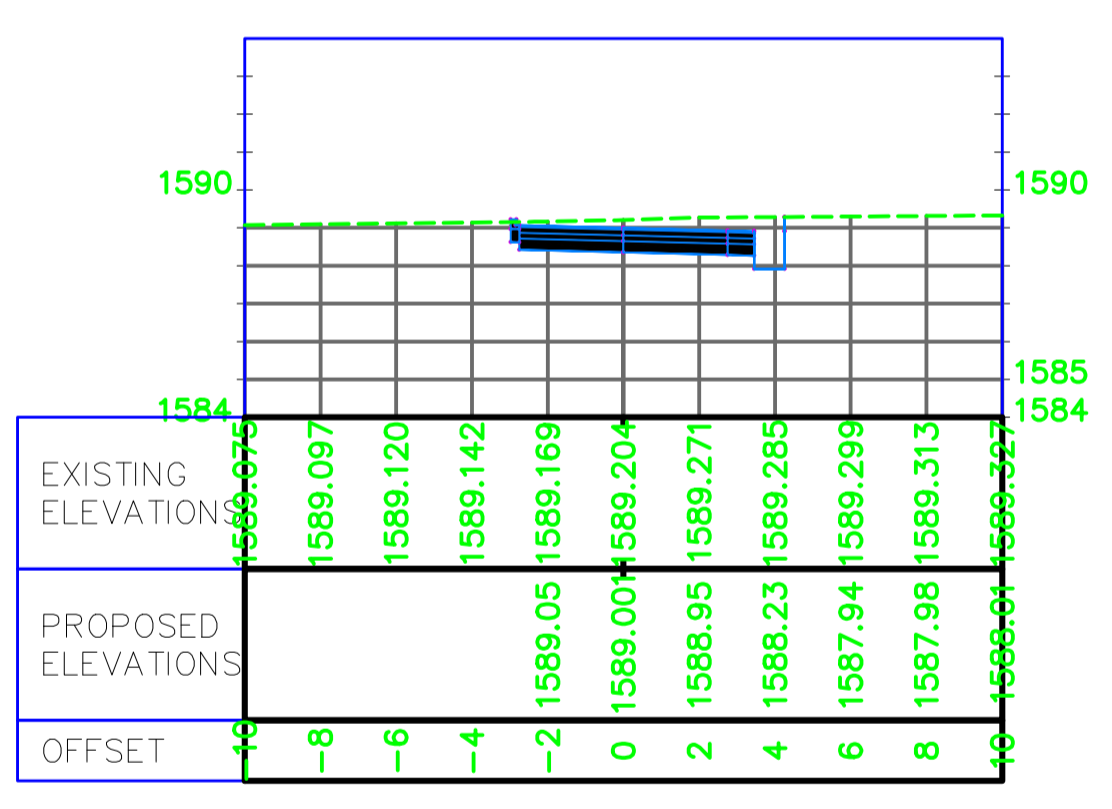
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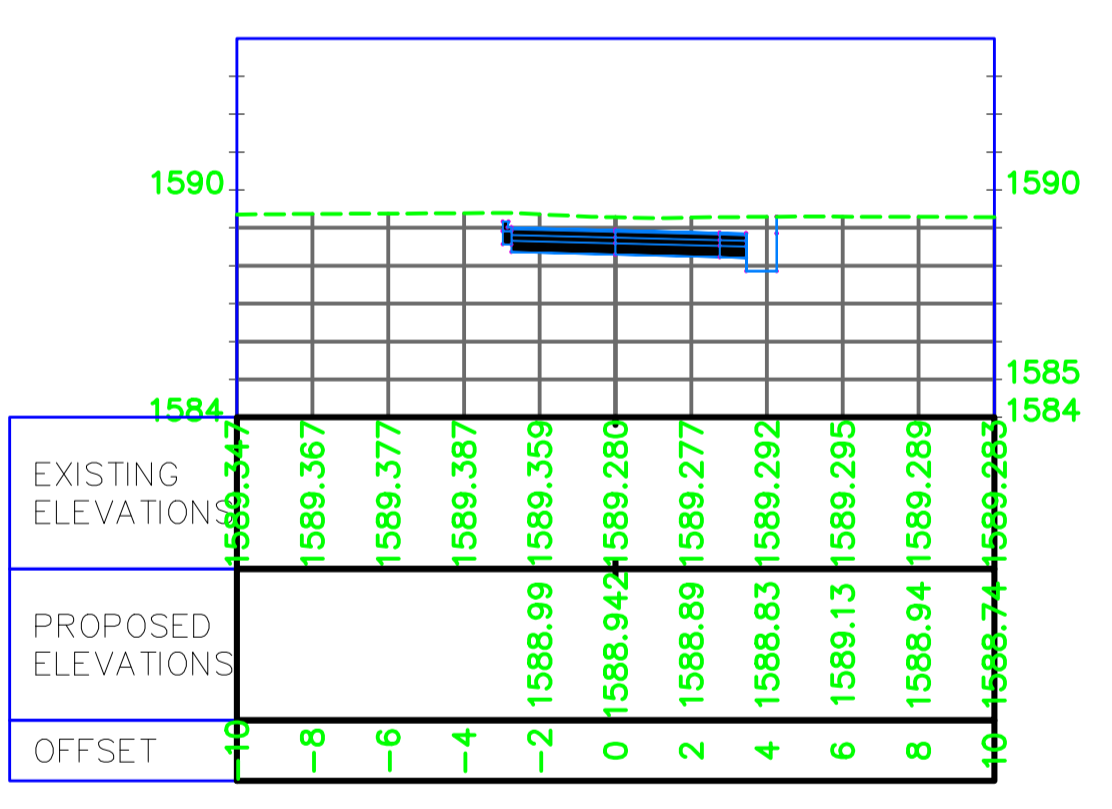
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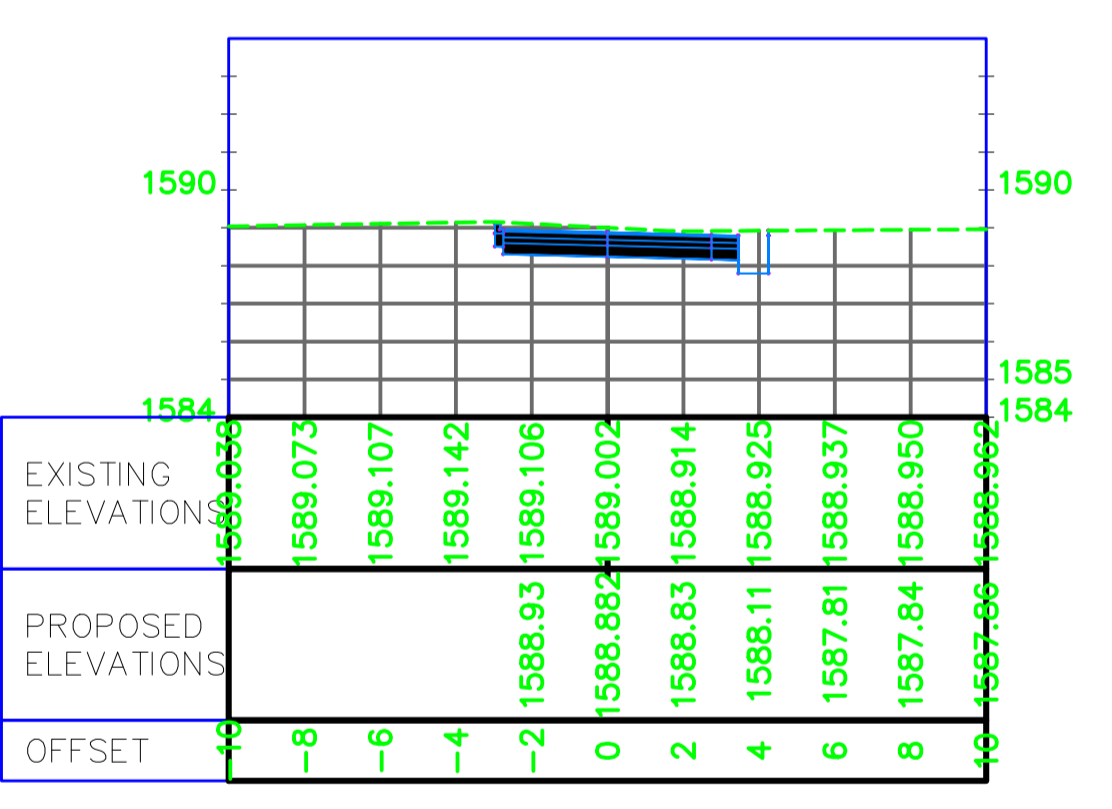
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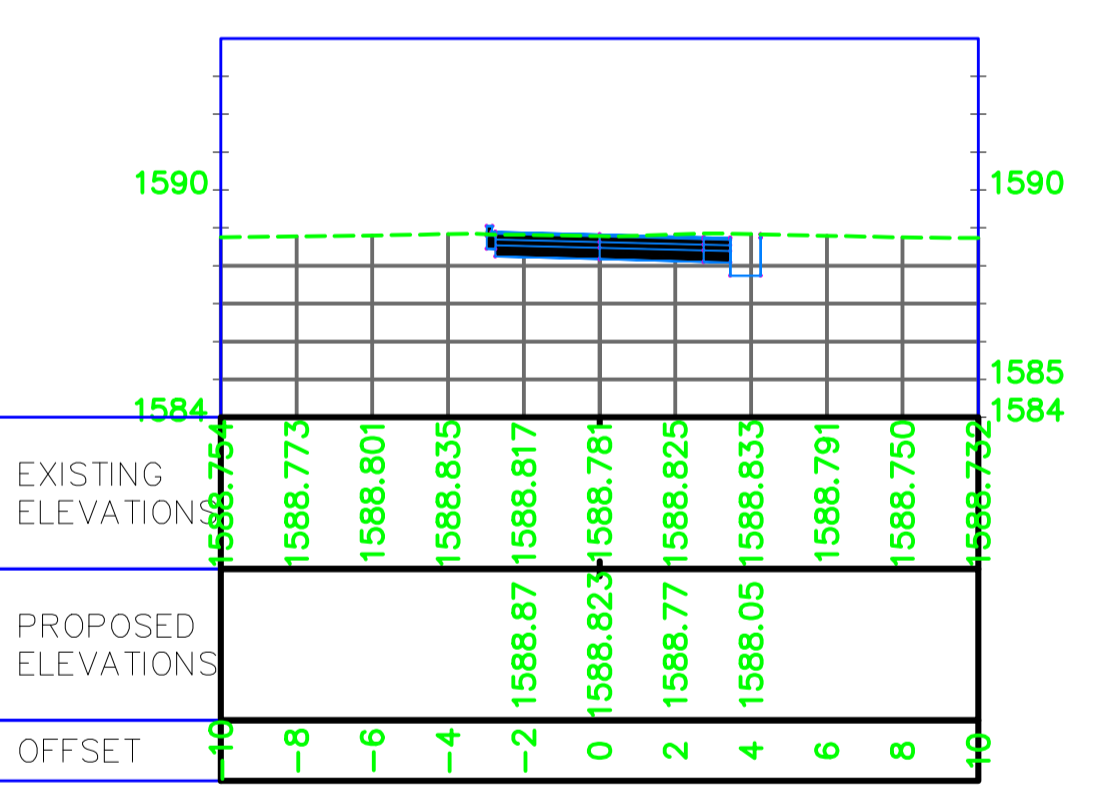
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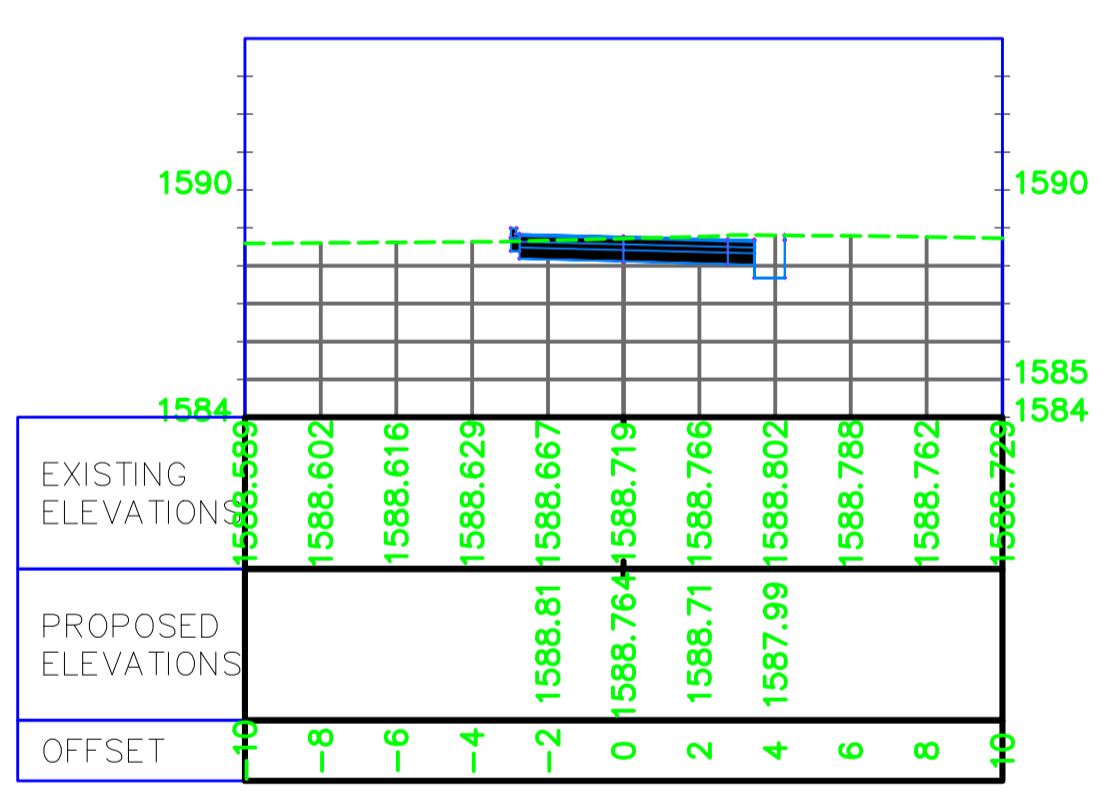
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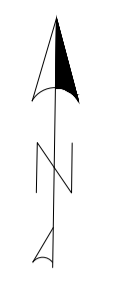


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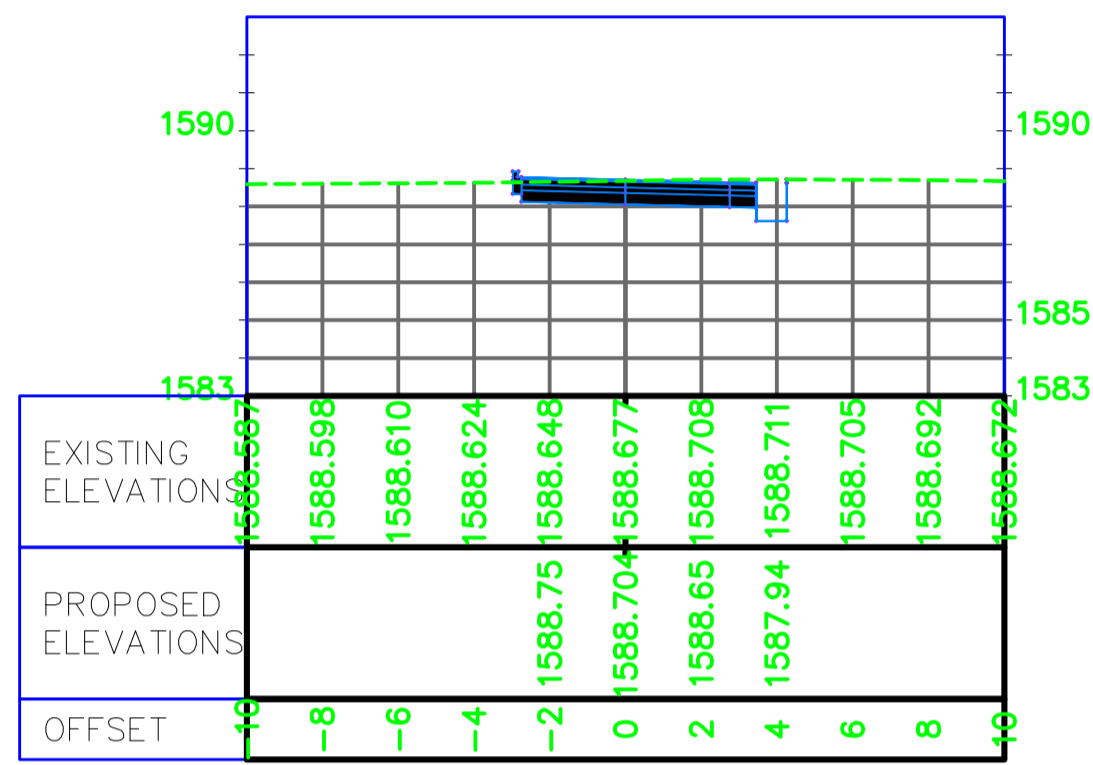


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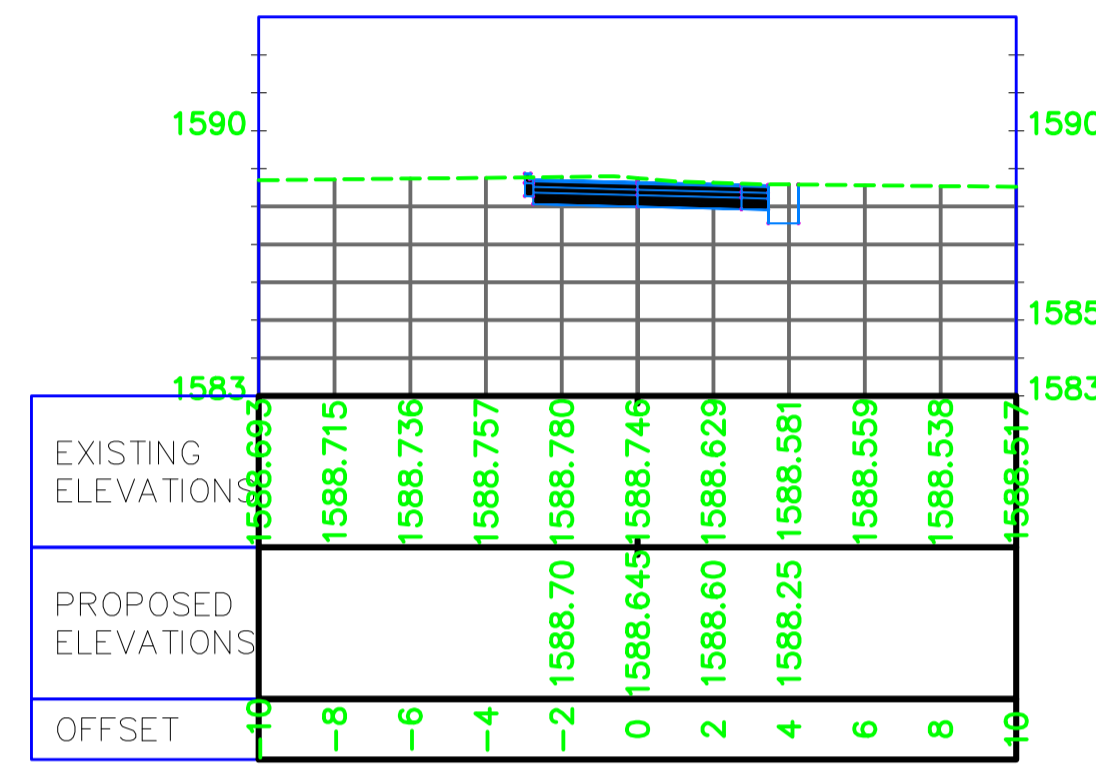




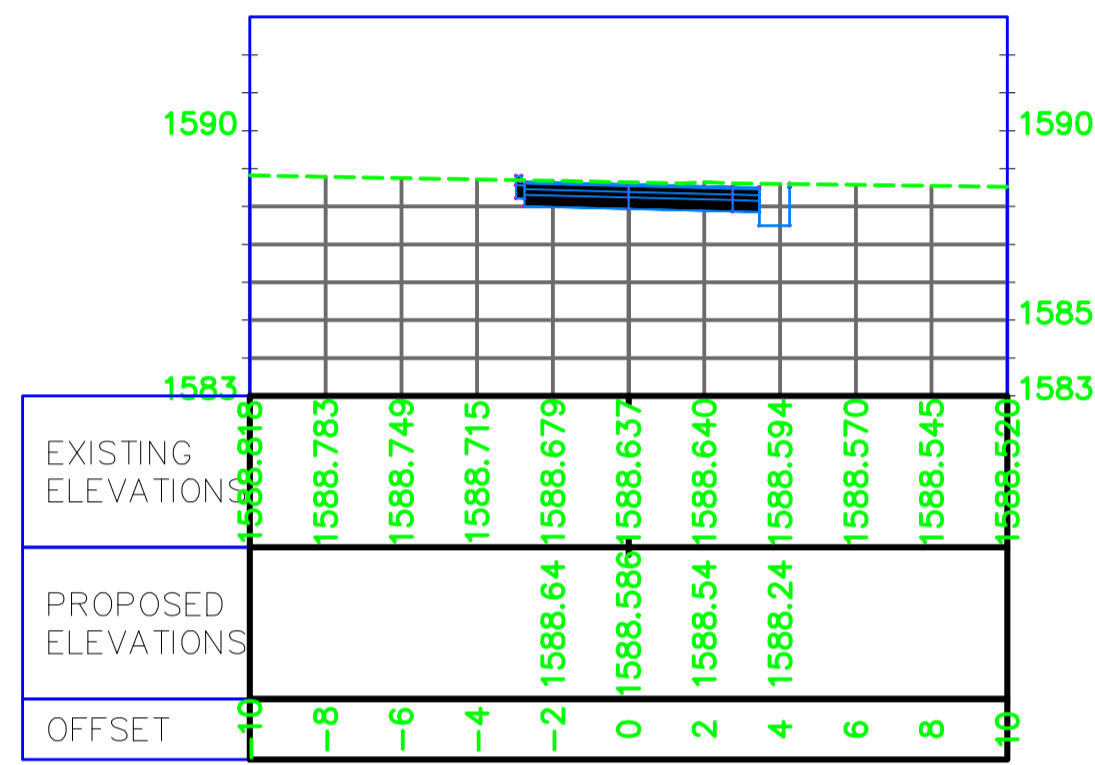
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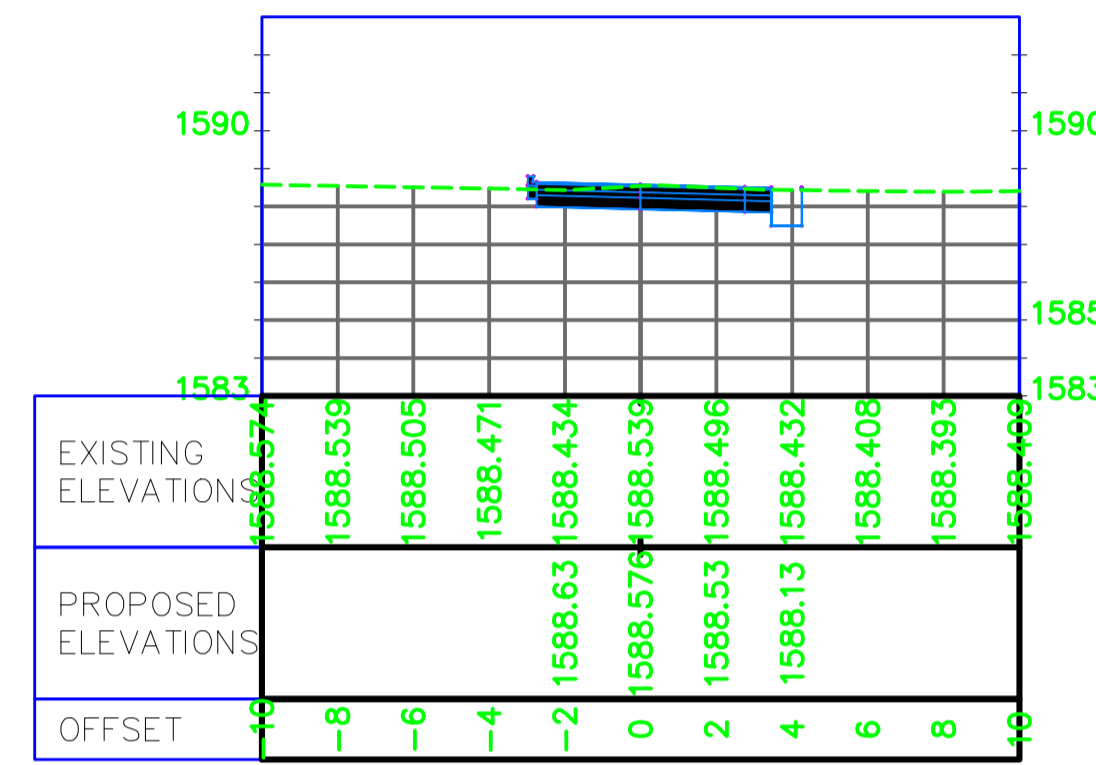
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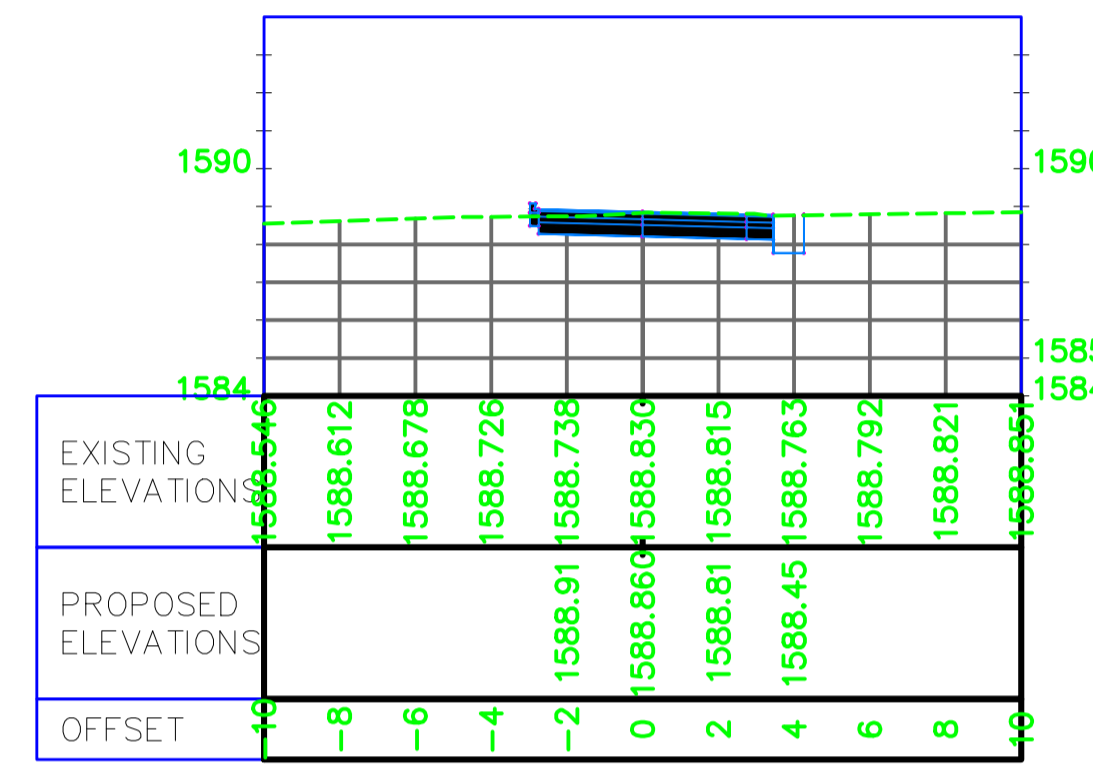
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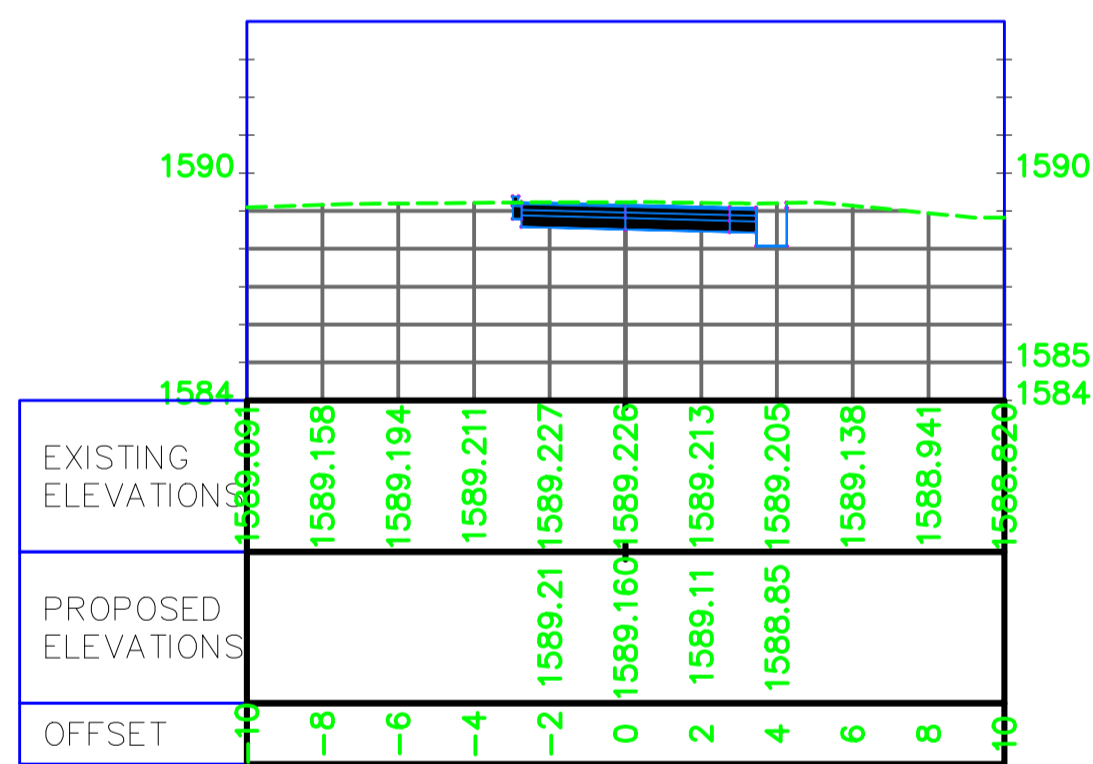
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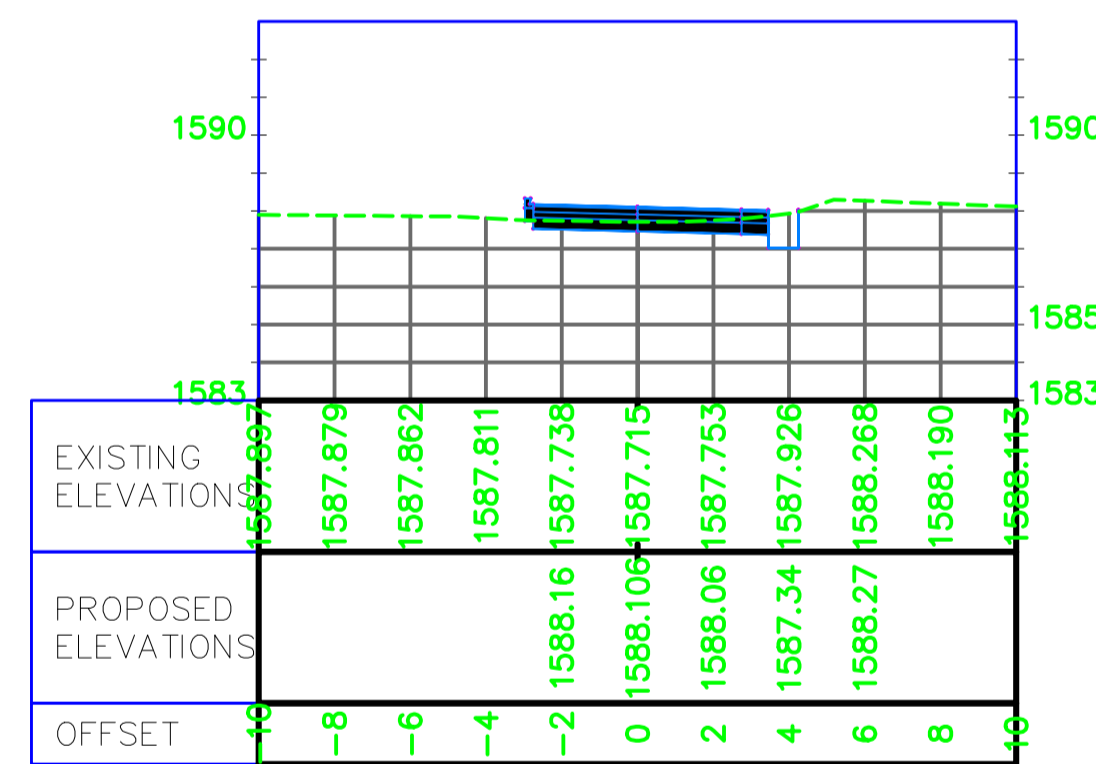
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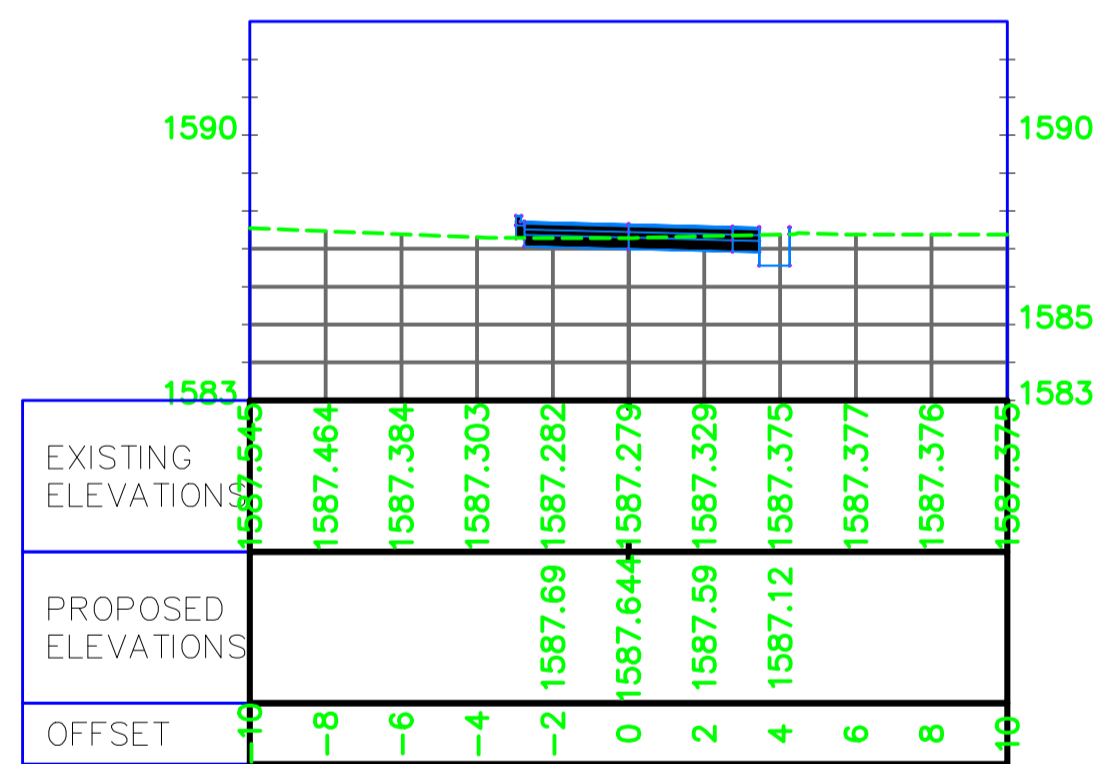
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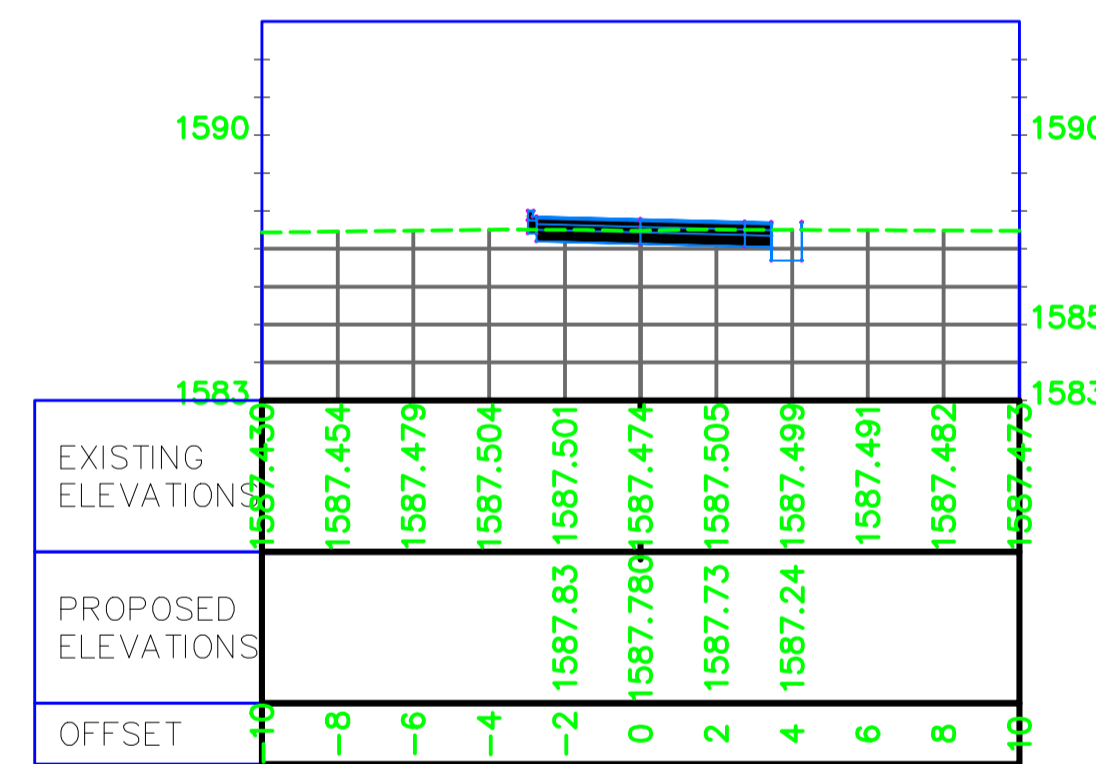
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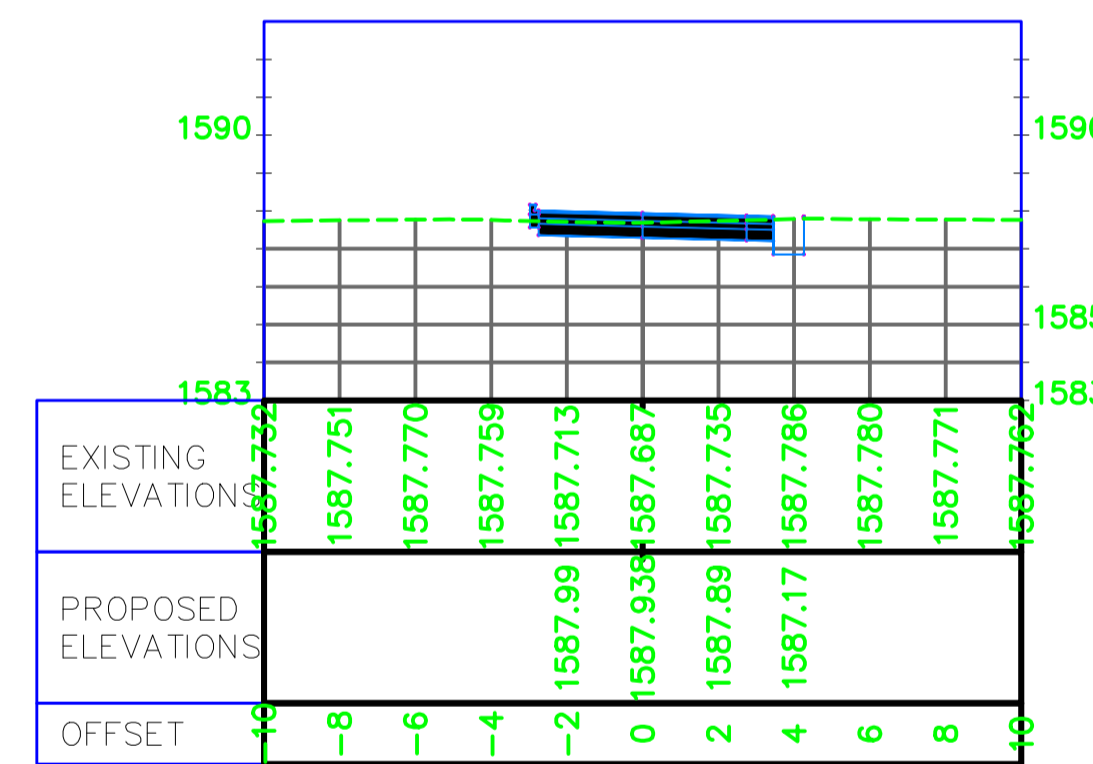
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CLIENT: **MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT**

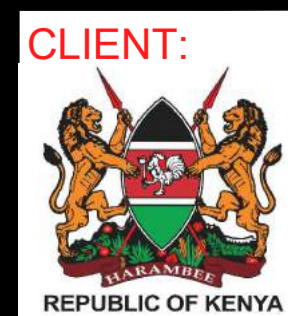
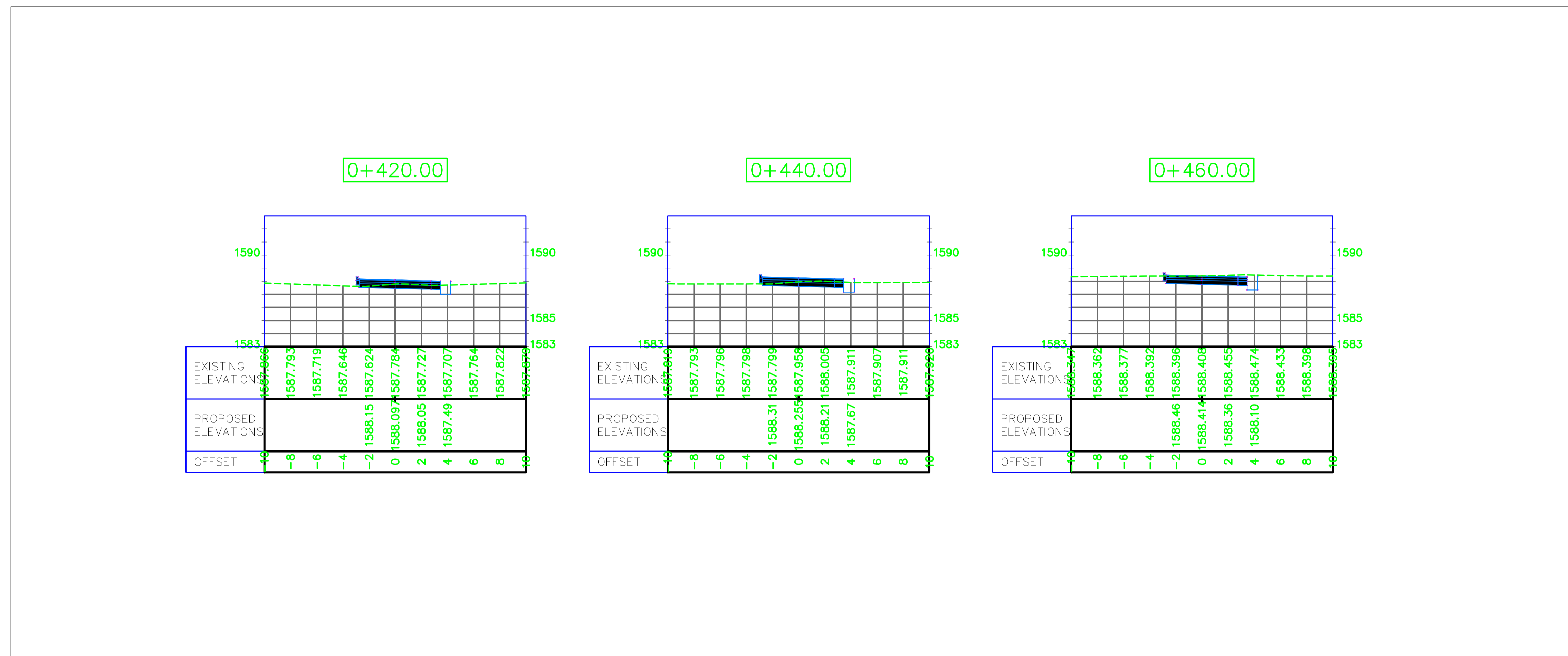
EMPLOYER: **NAIROBI CITY COUNTY GOVERNMENT (NCCG)**

FINANCIER: **INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)**

CONSULTANT: **Wanjohi Mutonyi Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.

PROJECT TITLE: **SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (MATOPENI SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: MATOPENI : MTP RD03 DETAILED CROSS SECTIONS				REVISIONS	
Drg. No: NowMCL/CR214/MTP/DCS/02/Sheet No.2of3		Date: FEBRUARY 2024		No.	
Scale: H:1:2000		V: 1:200		Date	
Stage: TENDER DRAWINGS		DESIGNED BY: LWK		AMMENDMENTS	
APPROVED BY:	ENG. IKWM	DESIGNED BY:	LWK	No.	Date
CHECKED BY:	ENG. PNG	DRAWN BY:	LWK		



CLIENT:
 MINISTRY OF LANDS,
 PUBLIC WORKS,
 HOUSING AND
 URBAN DEVELOPMENT



EMPLOYER:
 NAIROBI CITY
 COUNTY
 GOVERNMENT
 (NCCG)

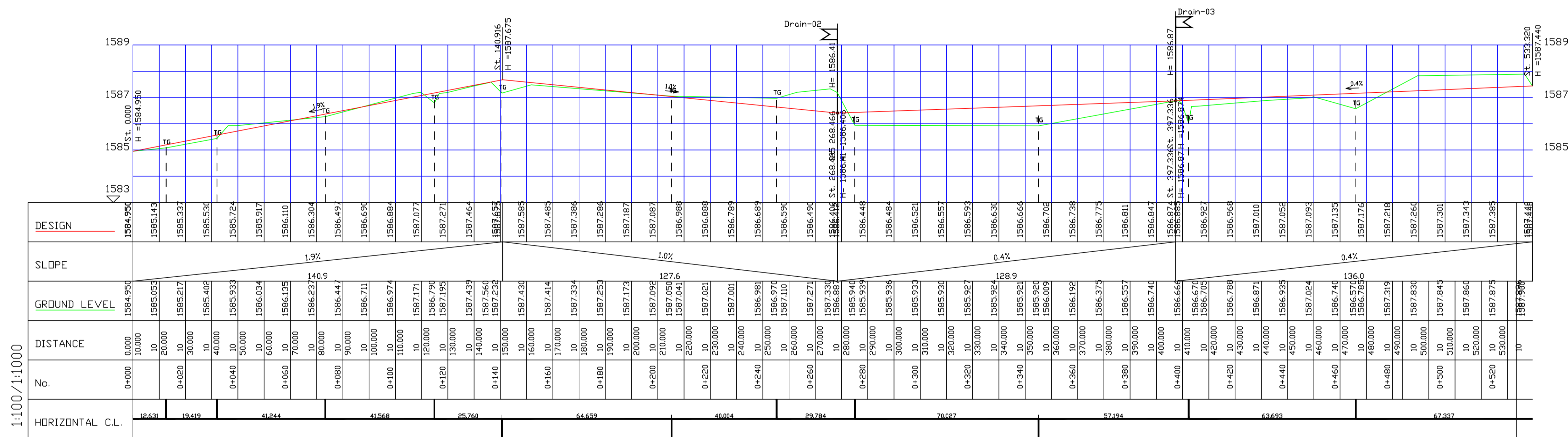
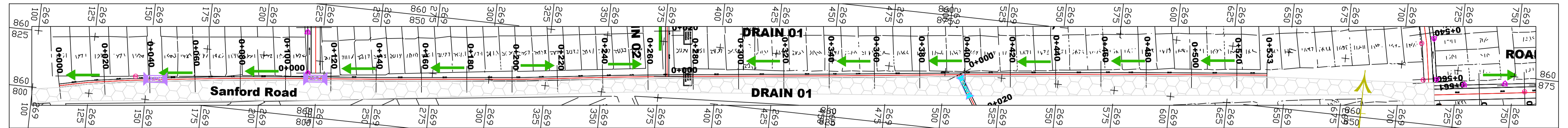
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 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
 ,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
 IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
 (MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: MATOPENI : MTP RD03 DETAILED CROSS SECTIONS				REVISIONS	
Drg. No: WML/CR214/MTP/DCS/03 Sheet No. 3 of 3		Date: FEBRUARY 2024			
Scale: H: 1:2000		V: 1:200			
APPROVED BY: ENG. IKWM		DESIGNED BY: LWK			
CHECKED BY: ENG. PNG		DRAWN BY: LWK		No.	Date
				AMMENDMENTS	



KEY	
	EXISTING STREET LIGHTING
	PROPOSED STREET LIGHTING
	POWER POLE
	SEWER MAN HOLES
	WATER FLOW DIRECTION
	EXISTING PIPE CULVERT
	PROPOSED PIPE CULVERT
	EXISTING ROADS
	FOOT PATH

CLIENT: **MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT**

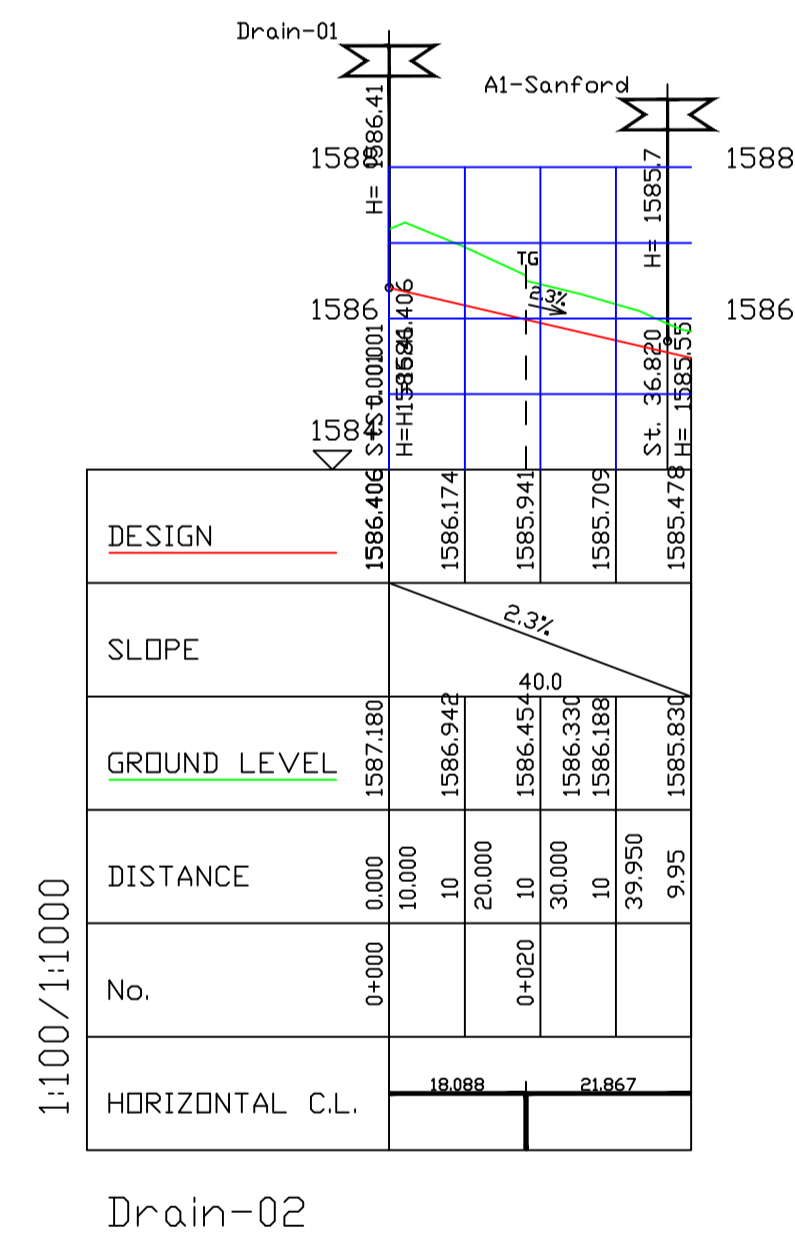
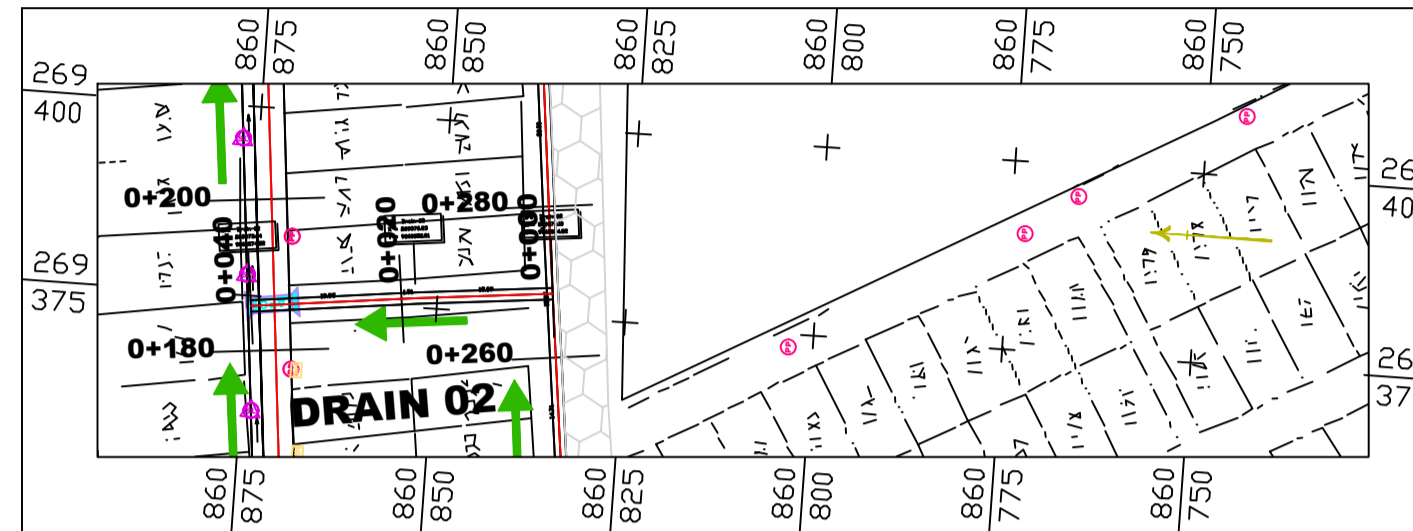
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FINANCIER: **INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)**

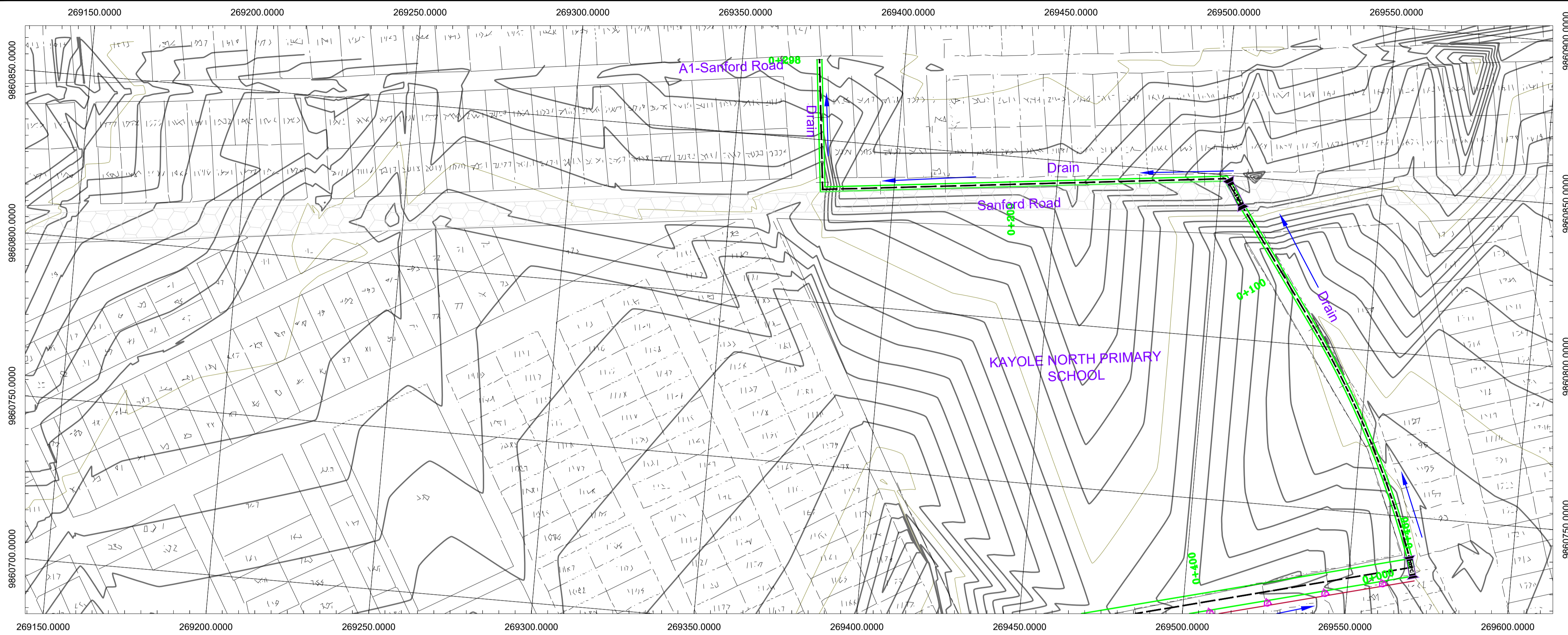
CONSULTANT: **Wanjohi Mutonyi Consult Ltd.**
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.

PROJECT TITLE: **SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: MATOPENI SETTLEMENT: PLAN AND PROFILE FOR DRAIN 01		REVISIONS	
Drg. No: WML/CR214/MAT/PP/09/Sheet No.7of10			
Scale: 1:1000			
Date: FEBRUARY 2024			
Stage: TENDER DRAWINGS			
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CHECKED BY: ENG.PNG	DRAWN BY: KDD		AMMENDMENTS



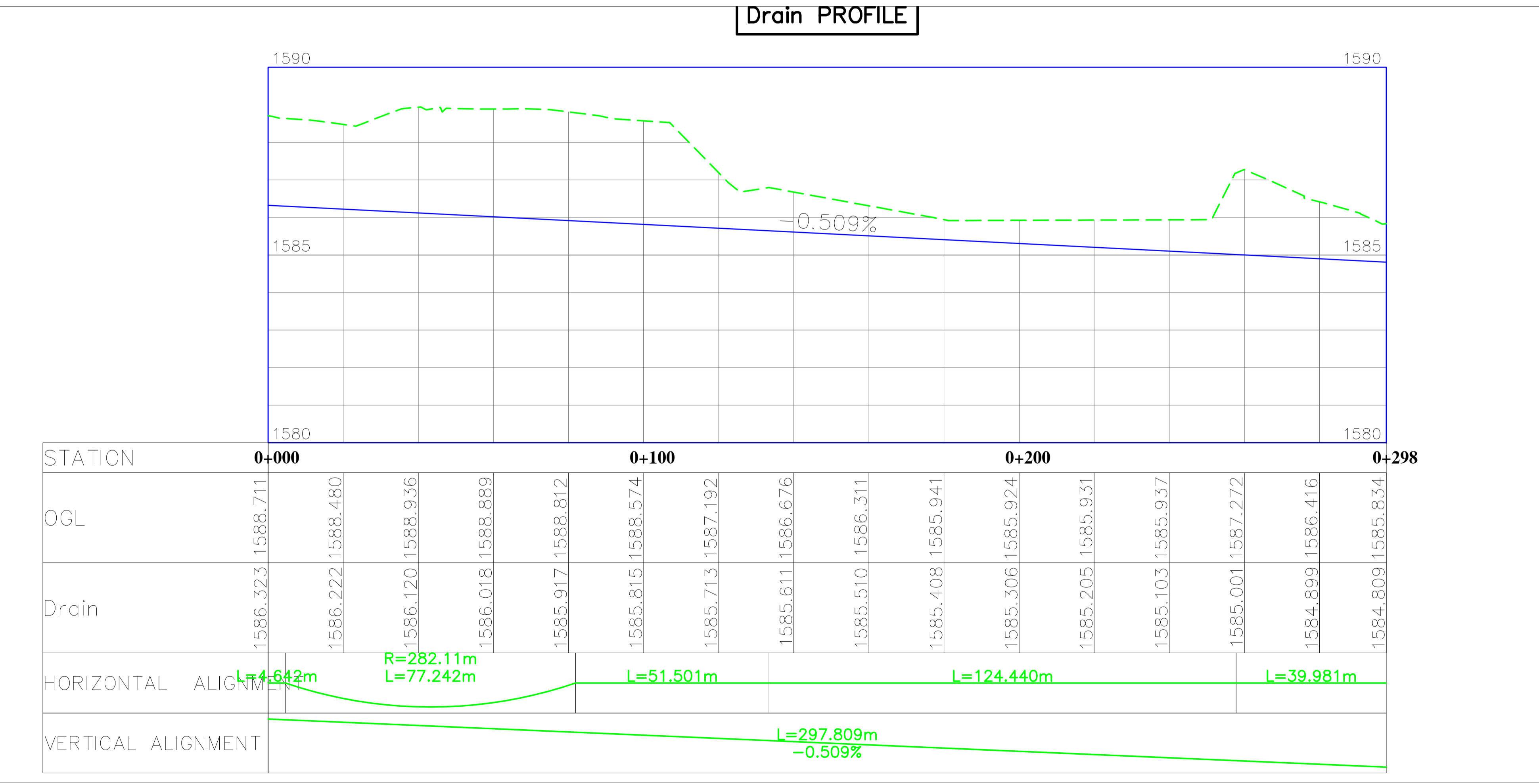
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	POWER POLE
	SEWER MAN HOLES
	WATER FLOW DIRECTION
	EXISTING PIPE CULVERT
	PROPOSED PIPE CULVERT
	EXISTING ROADS
	FOOT PATH



LEGEND

- Edge of Carriageway
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Existing Power post
- Sewer Manhole
- Proposed Streetlighting

Drain PROFILE



CLIENT:
MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

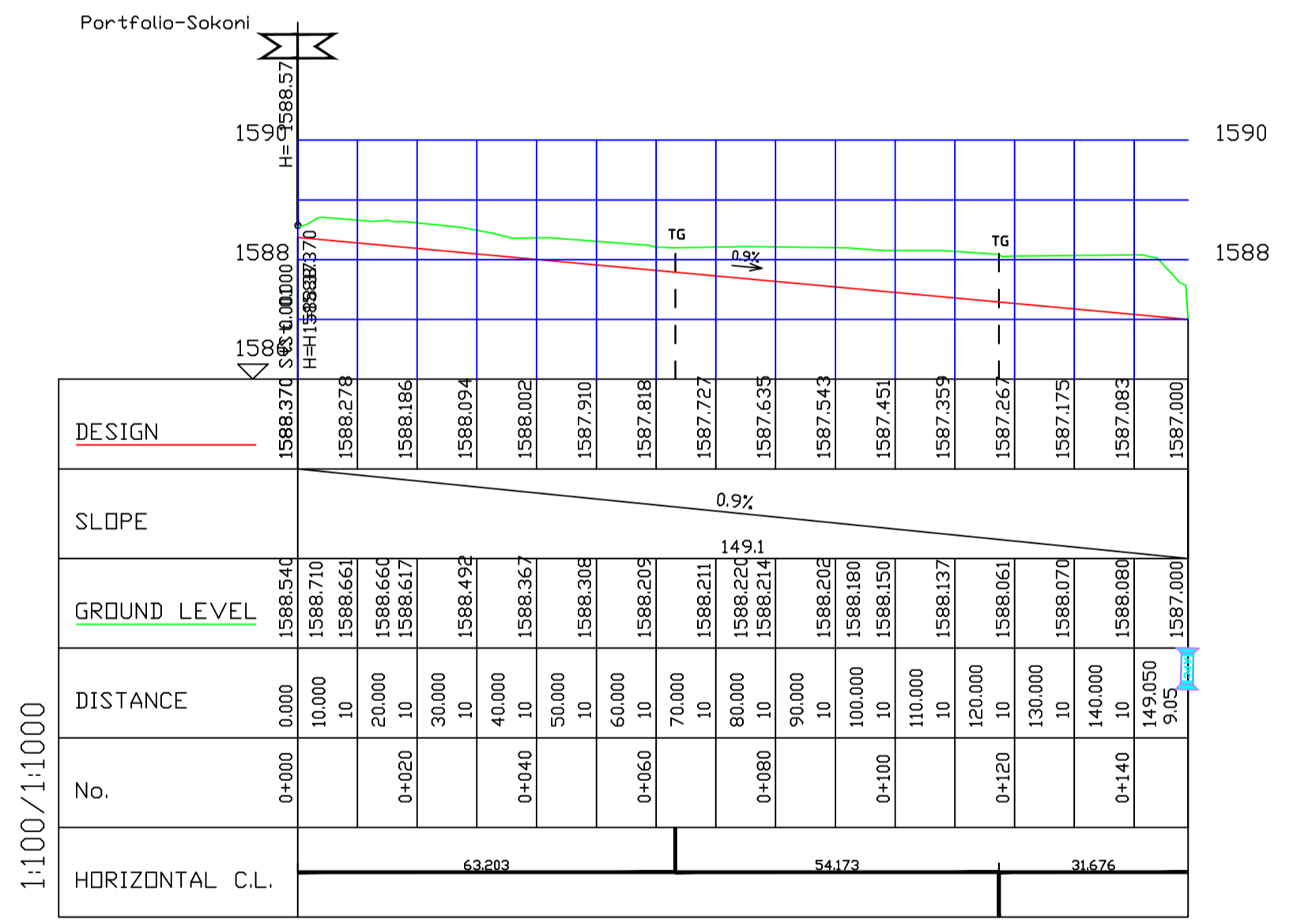
EMPLOYER:
NAIROBI CITY COUNTY GOVERNMENT (NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: MATOPENI : DRAIN PLAN & PROFILE		REVISIONS	
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Scale: H: 1:2000	V: 1:200	Stage: TENDER DRAWINGS	
APPROVED BY: ENG. IKWM	DESIGNED BY: LWK		
CHECKED BY: ENG. PNG	DRAWN BY: LWK	No. Date	AMMENDMENTS



Drain-04

KEY	
	EXISTING STREET LIGHTING
	PROPOSED STREET LIGHTING
	POWER POLE
	SEWER MAN HOLES
	WATER FLOW DIRECTION
	EXISTING PIPE CULVERT
	PROPOSED PIPE CULVERT
	EXISTING ROADS
	FOOT PATH

CLIENT:
MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

EMPLOYER:
NAIROBI CITY COUNTY GOVERNMENT (NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE MATOPENI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: MATOPENI SETTLEMENT: PLAN AND PROFILE FOR DRAIN 04		REVISIONS	
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			AMMENDMENTS

MATHARE FIRE VICTIMS SETTLEMENT

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY.

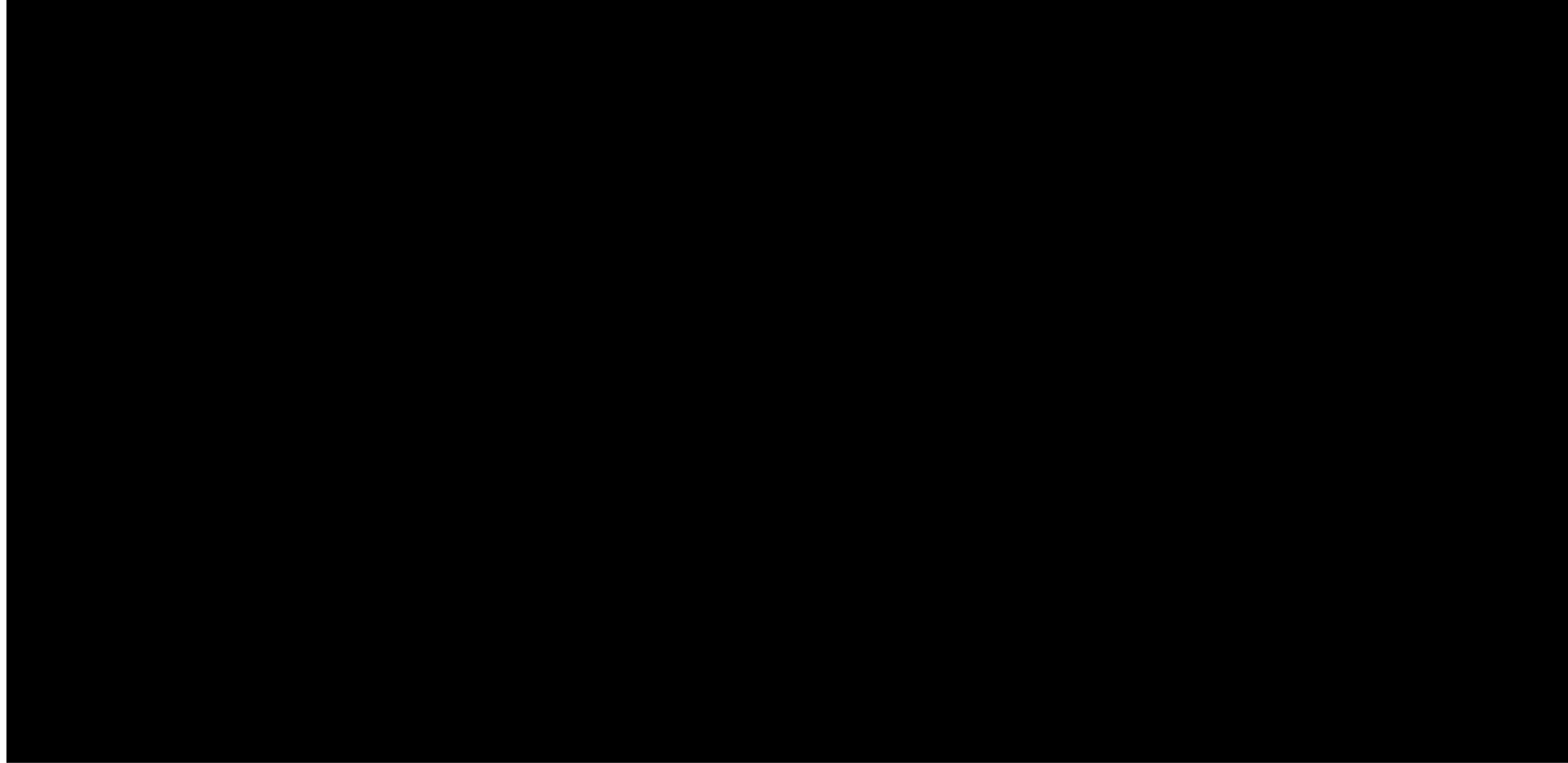
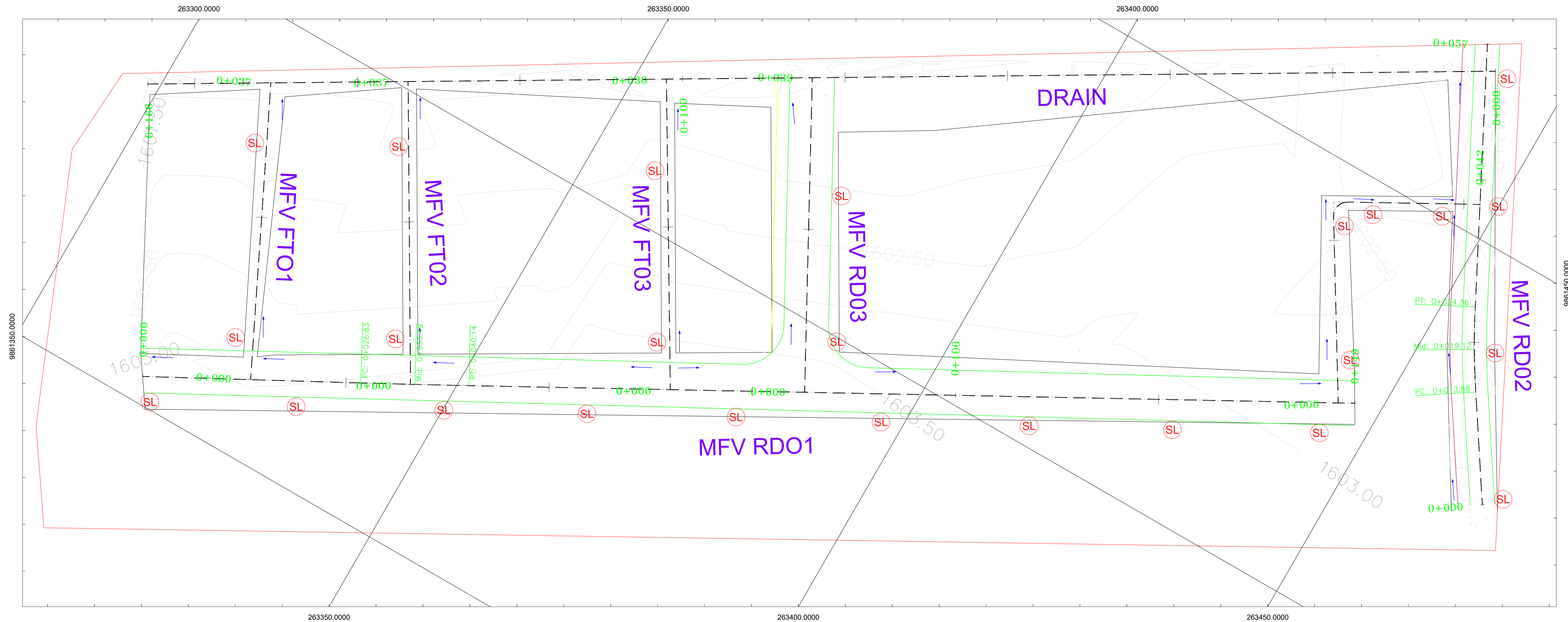
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SETTLEMENT**

Drg. No.	Sheet No.		
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REVISIONS





No.	Date	AMMENDMENTS

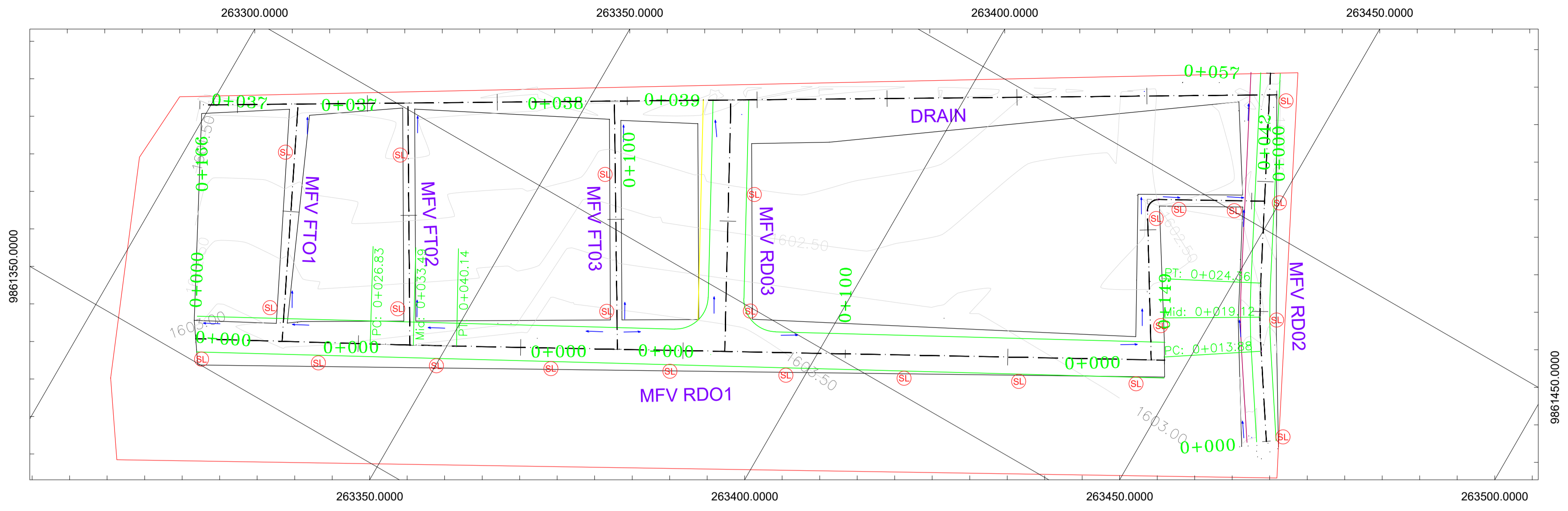
GENERAL LAYOUT



LEGEND	
	Settlement Boundary
	Edge of Carriageway
	Building Walls
	Centreline Alignment
	Contours
	Culvert
	Water Flow Direction
	Drain Profile
	Edge of Footpath
	Proposed Streetlight
	Existing Powerposts

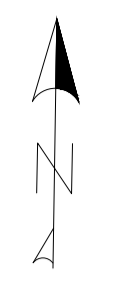
PLANS AND PROFILES

<p>CLIENT:  MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p> <p>EMPLOYER:  NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p> <p> THE WORLD BANK </p>	<p>CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p> 	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.</p>	<p>Drawing Title: PLAN AND PROFILES</p> <table border="1"> <tr> <td>Drg. No.</td> <td>Sheet No.</td> </tr> <tr> <td>Scale: 1:50 1:100</td> <td>Date: FEBRUARY:2024 Stage: TENDER DRAWINGS</td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> </tr> </table>	Drg. No.	Sheet No.	Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS	APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	CHECKED BY	ENG.PNG	DRAWN BY	SM	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>AMMENDMENTS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	Date	AMMENDMENTS			
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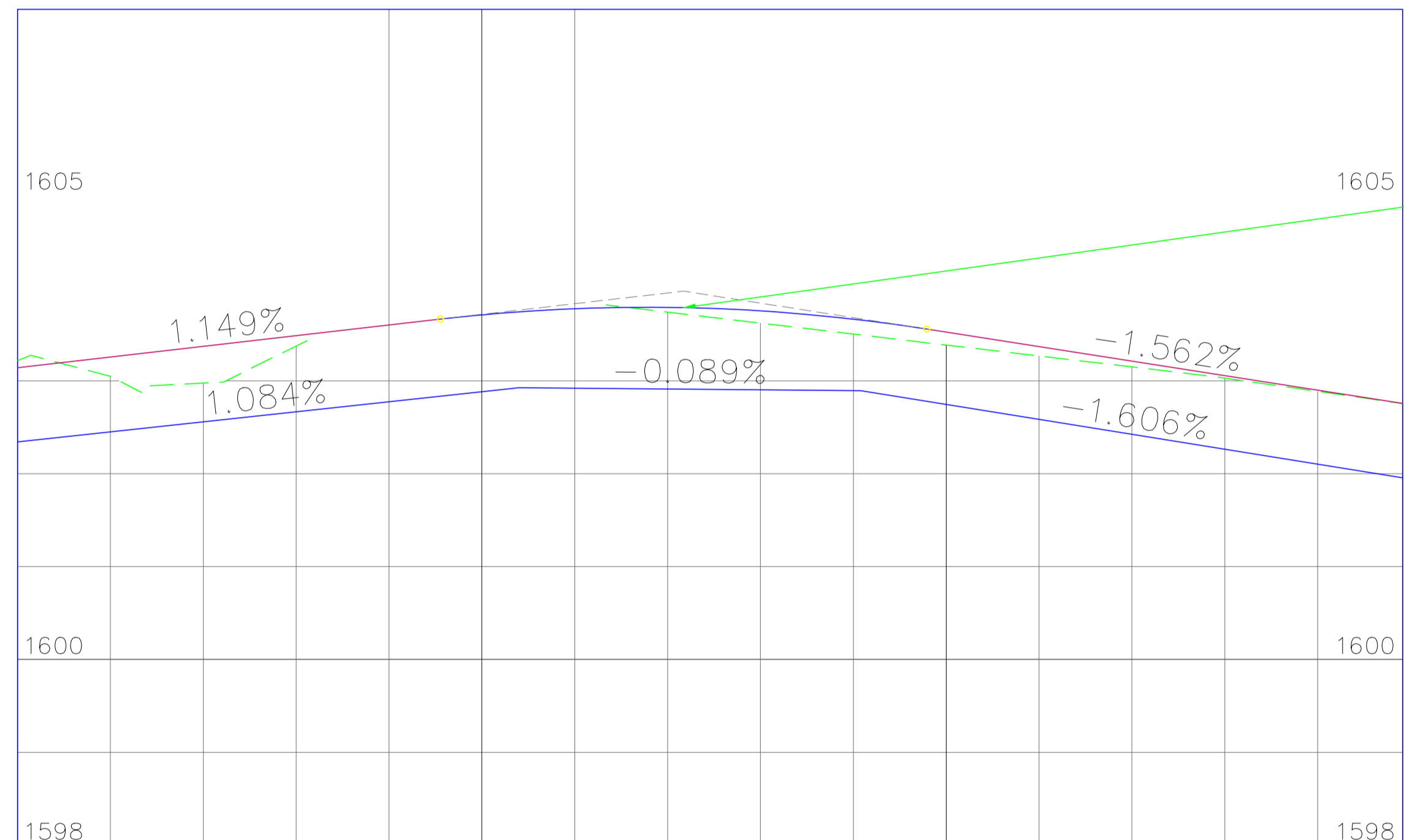


LEGEND

- Settlement Boundary
- Edge of Carriageway
- Building Walls
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Proposed Streetlight
- Existing Powerposts



MFV RD01 PROFILE

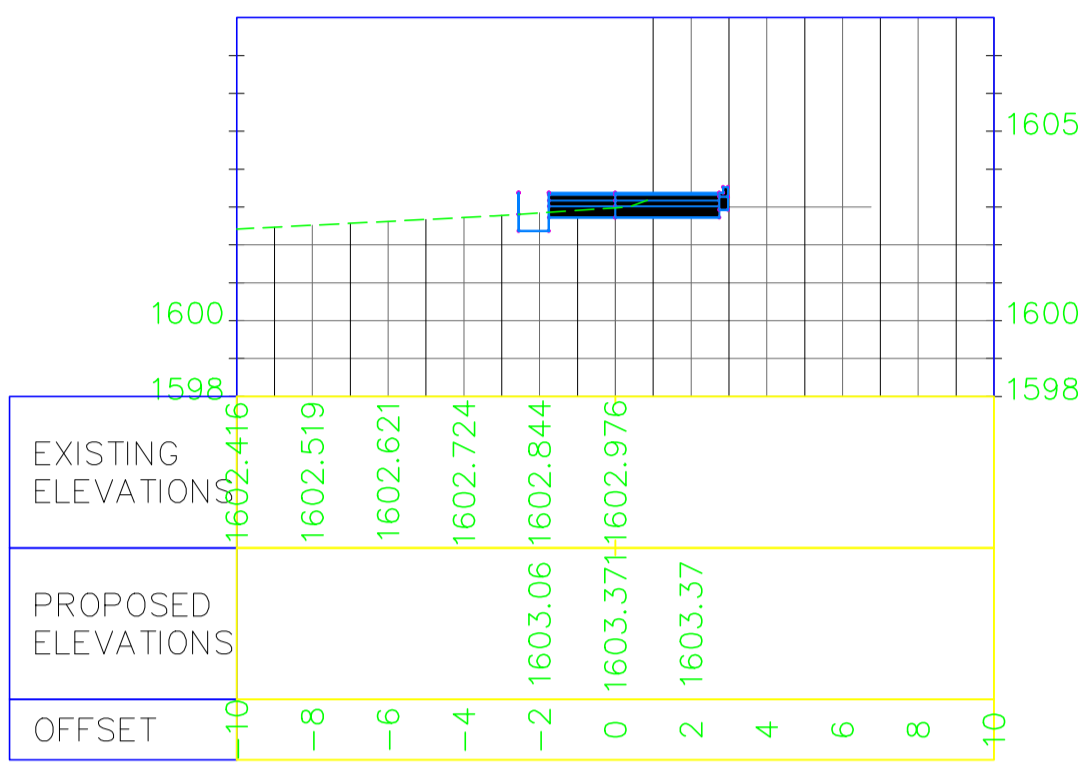


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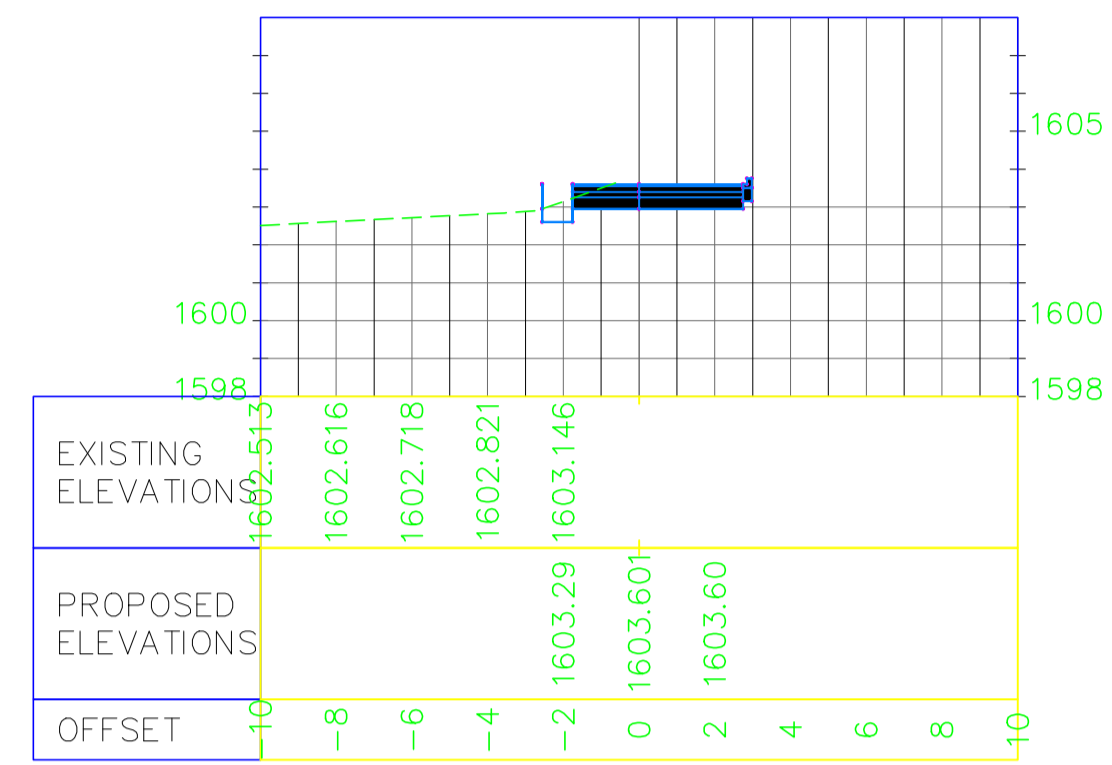
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OGL	1603.218	1603.048	1602.976	1602.899
Drain	1602.341	1602.450	1602.558	1602.666
HORIZONTAL ALIGNMENT	L=26.832m R=1304.81m L=13.310m L=109.007m			
VERTICAL ALIGNMENT	L=45.561m 1.149% LVC=52m K=19.314 L=51.247m -1.562%			

CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)	FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (MATHARE FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.	Drawing Title: MATHARE FIRE VICTIMS SETTLEMENT :MFV RD01 PLAN & PROFILES Drg. No: WMCL/CR214/MFV/PP/01/Sheet No.1of4 Scale: H: 1:2000 Date: FEBRUARY 2024 V: 1:200 Stage: TENDER DRAWINGS APPROVED BY: ENG. IKWM DESIGNED BY: LWK CHECKED BY: ENG. PNG DRAWN BY: LWK						
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No.	Date	AMMENDMENTS									

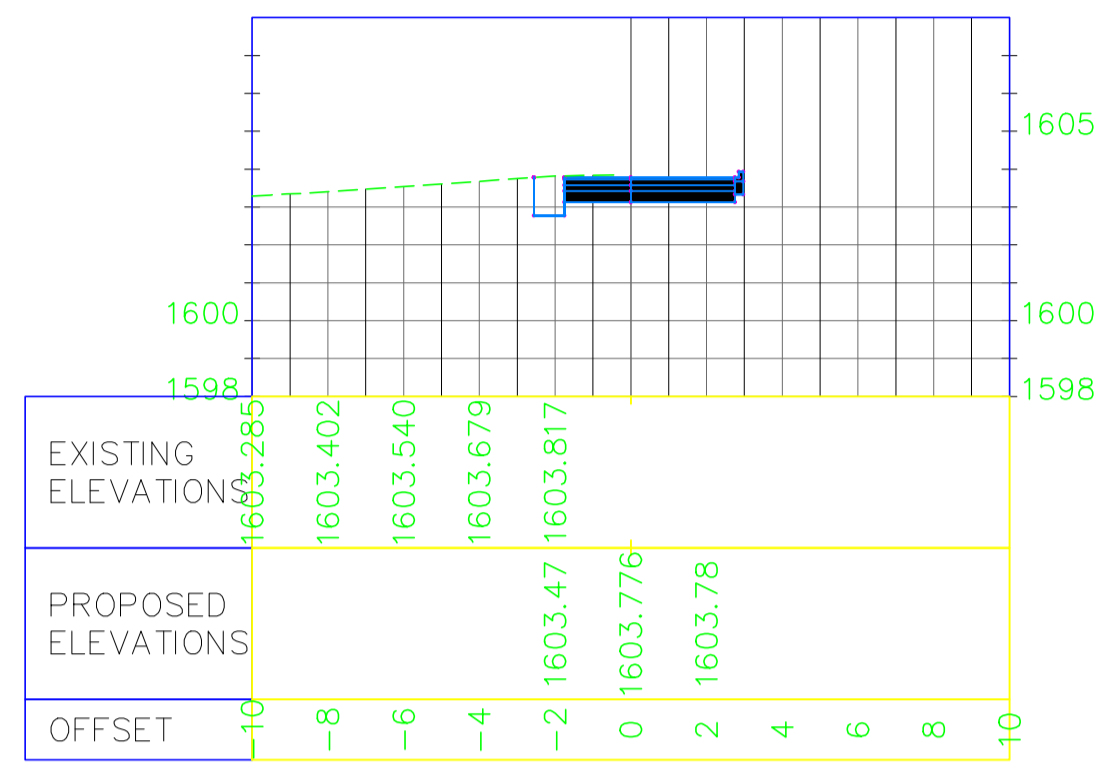
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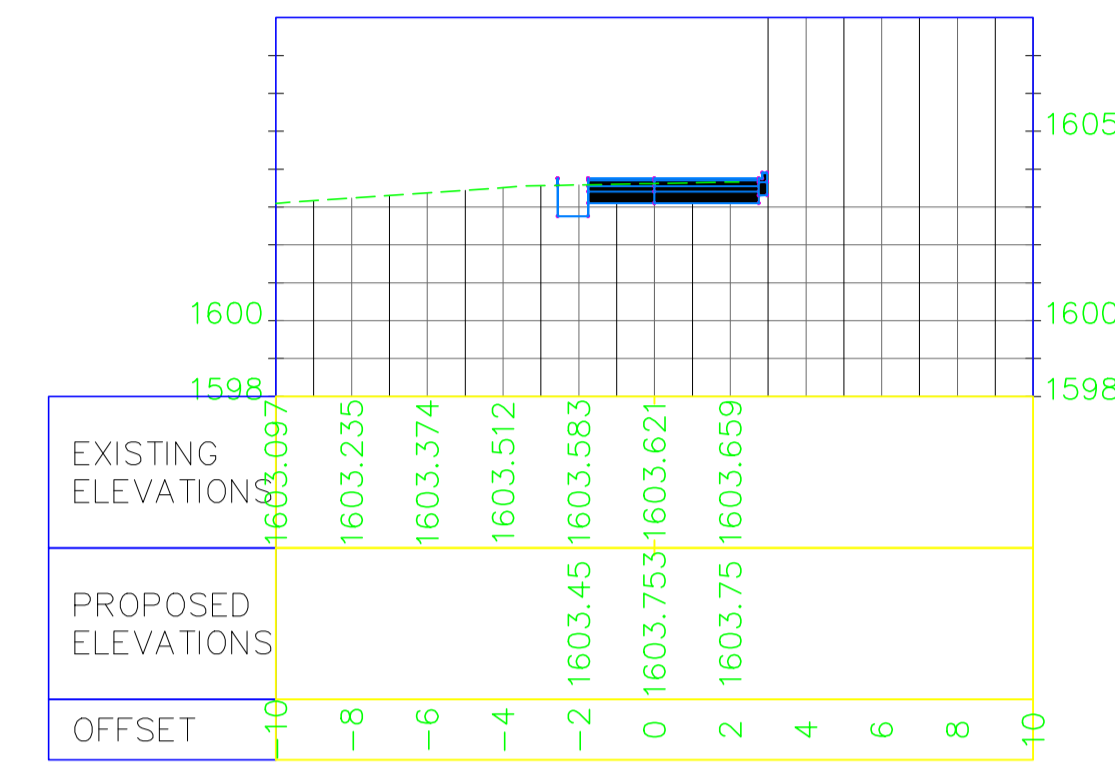
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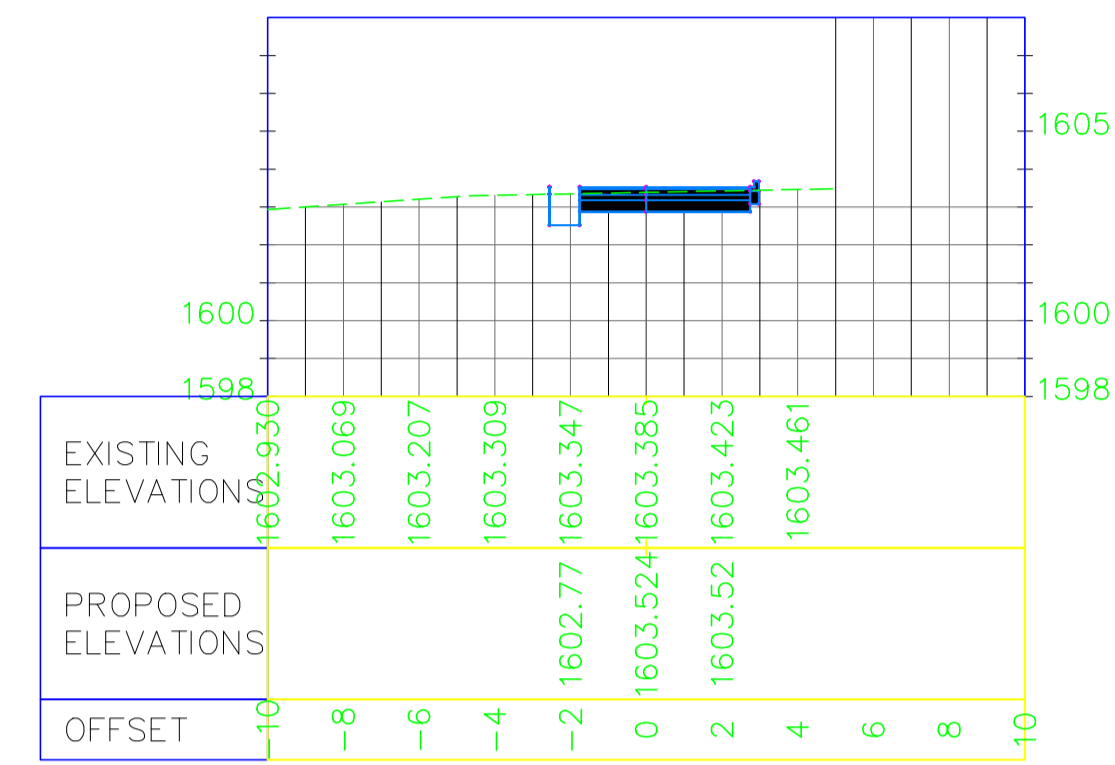
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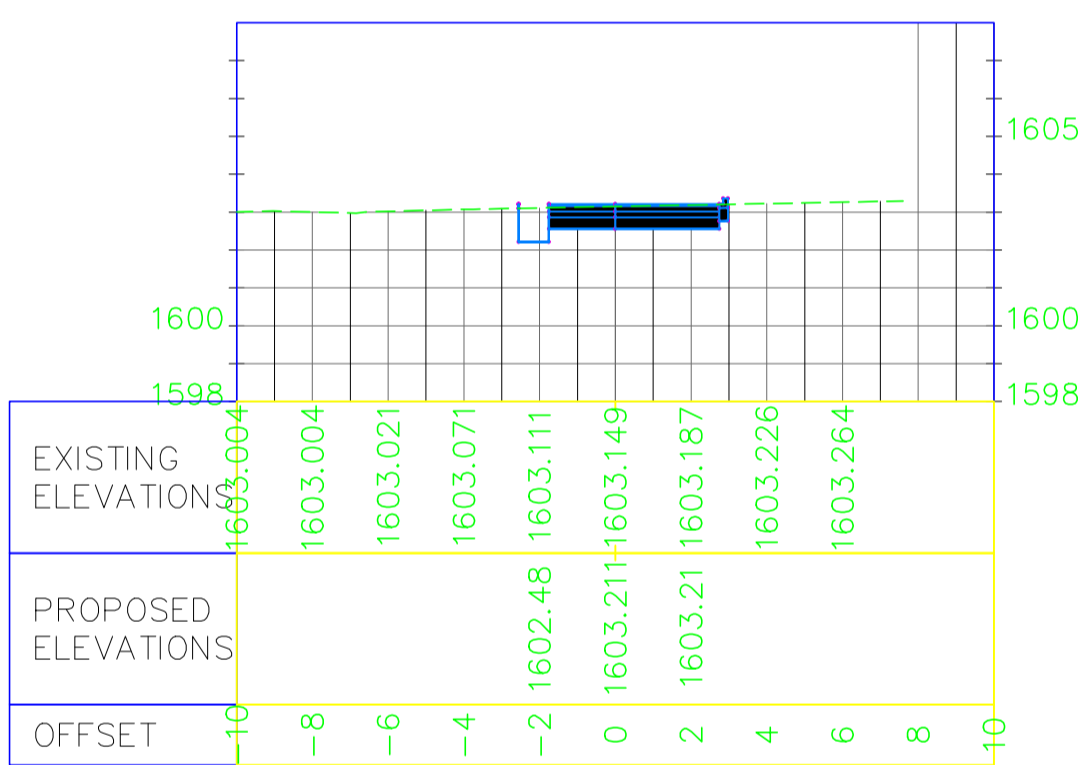
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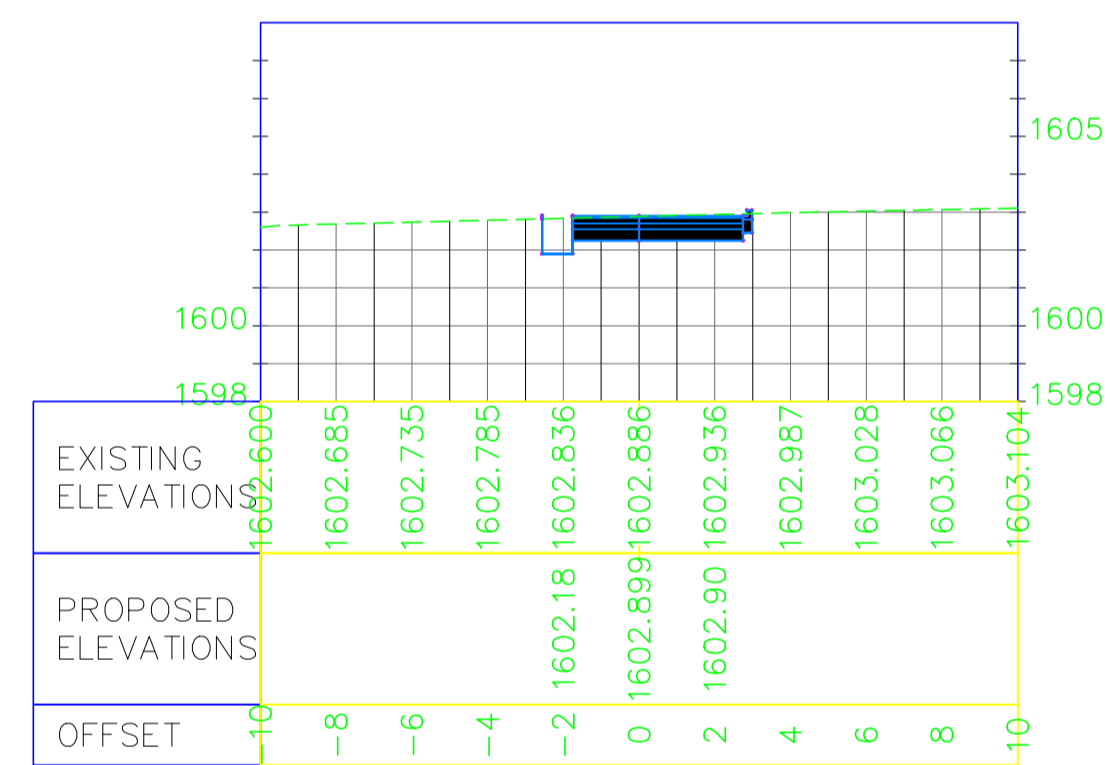
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CLIENT: **MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT**

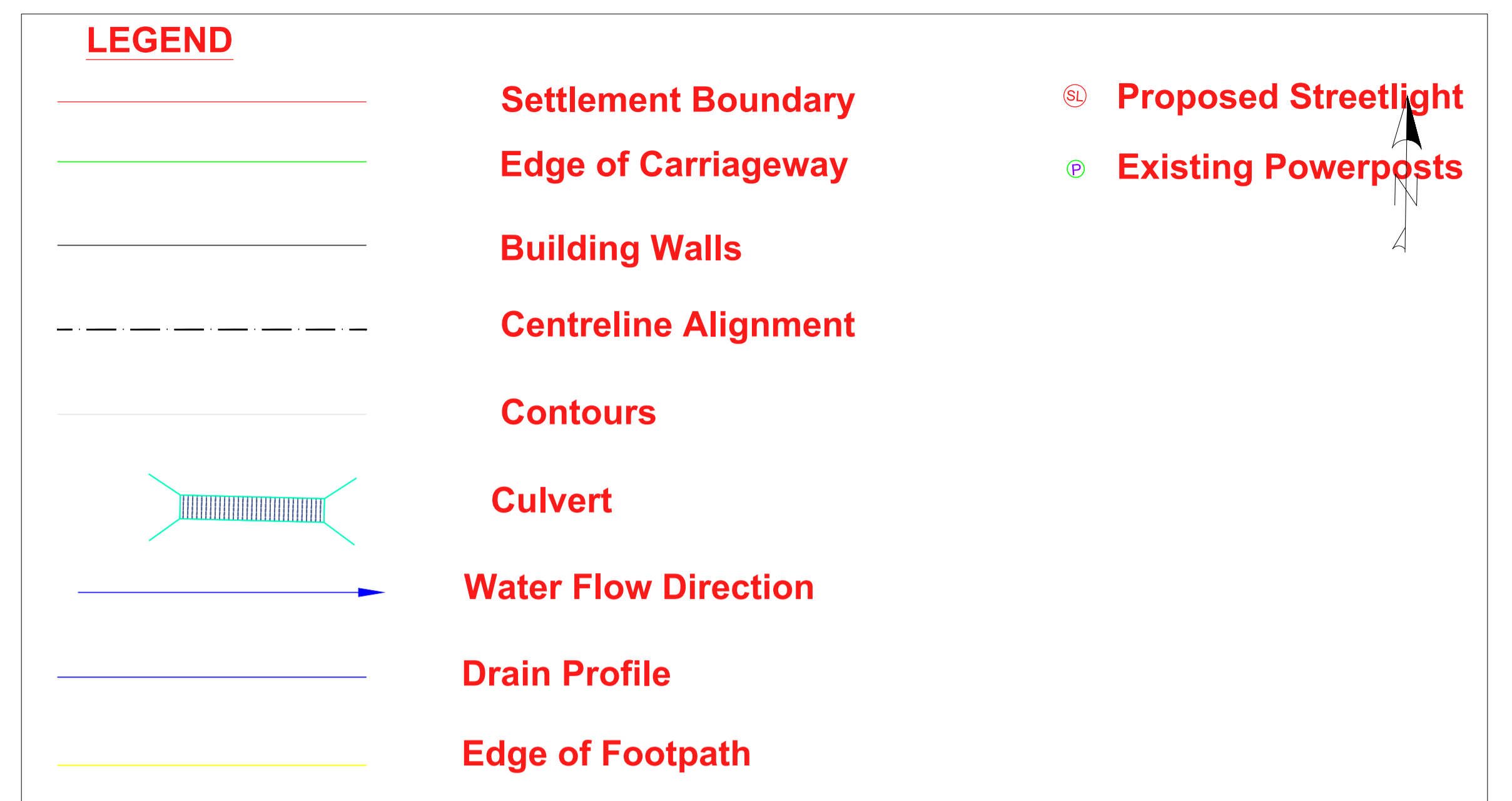
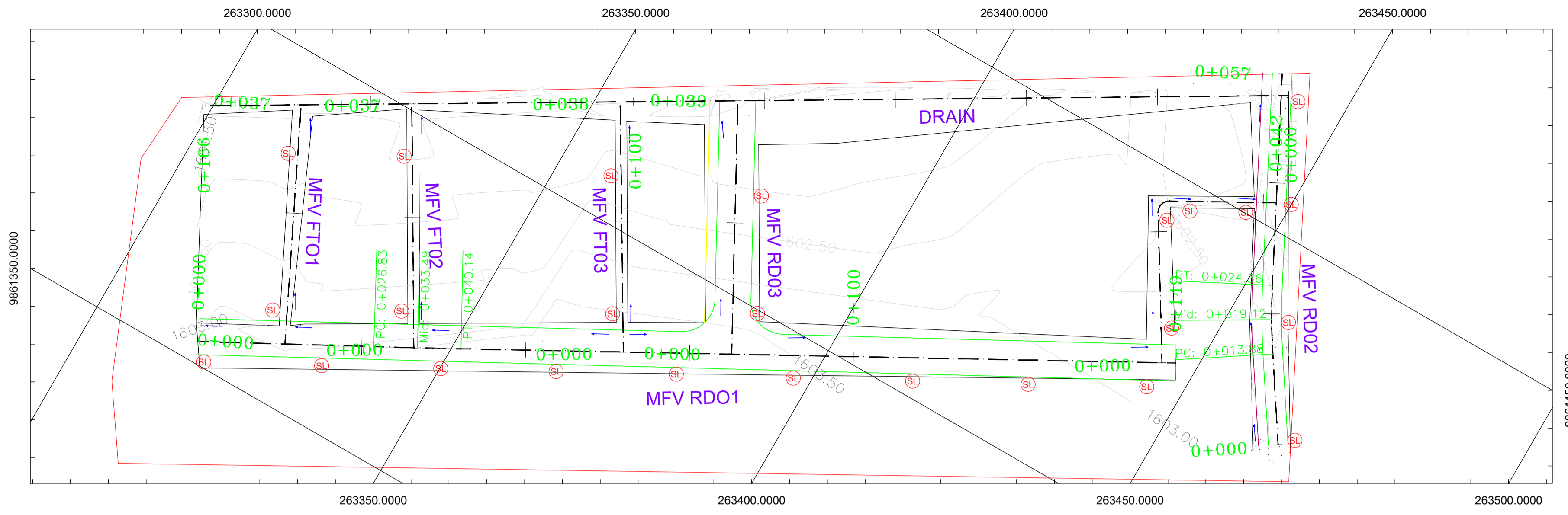
EMPLOYER: **NAIROBI CITY COUNTY GOVERNMENT (NCCG)**

FINANCIER: **INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)**

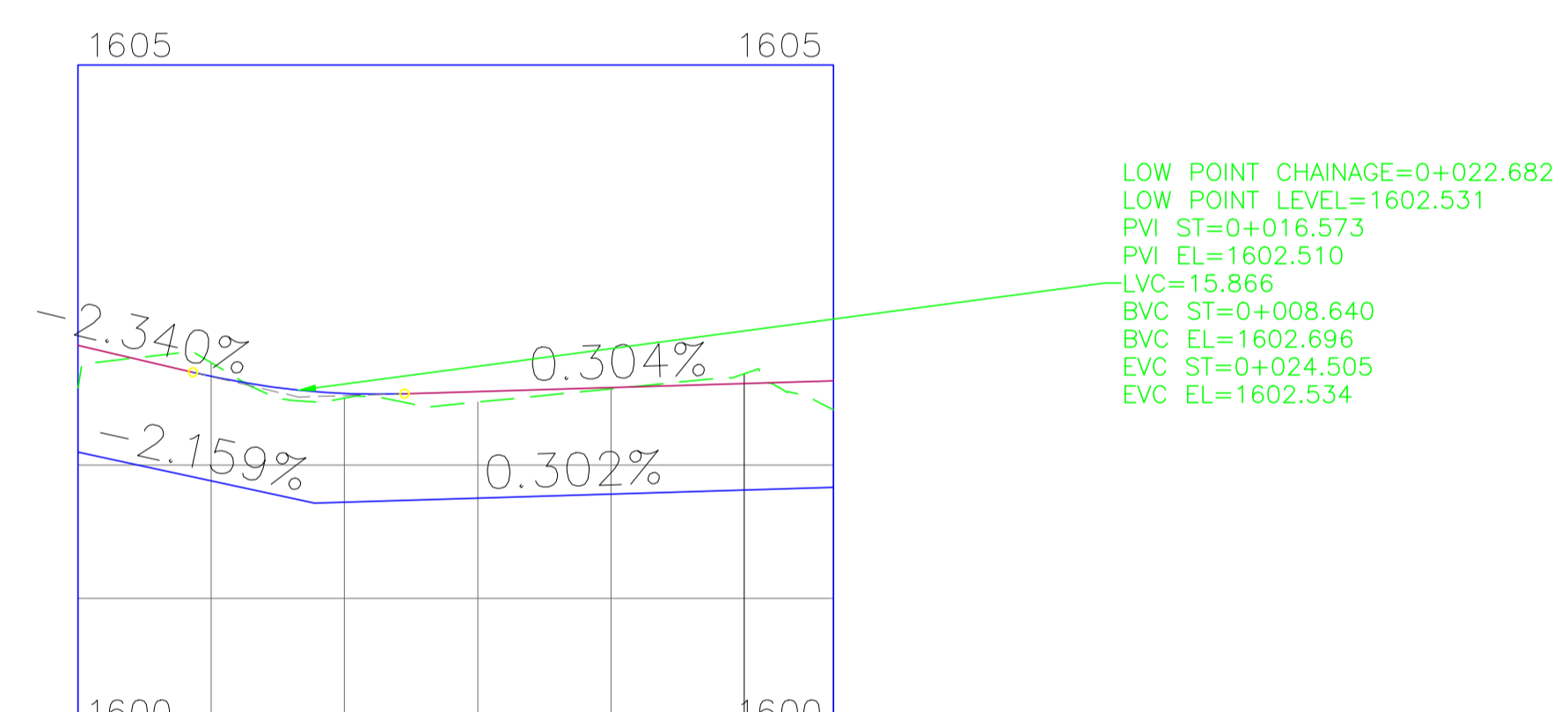
CONSULTANT: **Wanjohi Mutonyi Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.

PROJECT TITLE: **SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (MATHARE FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: MATHARE FIRE VICTIMS SETTLEMENT :MFV RD01 CROSS SECTIONS				REVISIONS	
Drg. No: WMCL/CR214/MFV/DCS/01		Sheet No: 1 of 3			
Scale: H: 1:2000		Date: FEBRUARY 2024			
V: 1:200		Stage: TENDER DRAWINGS			
APPROVED BY:	ENG. JKWM	DESIGNED BY:	LWK		
CHECKED BY:	ENG. PNG	DRAWN BY:	LWK	No.	Date
				AMMENDMENTS	



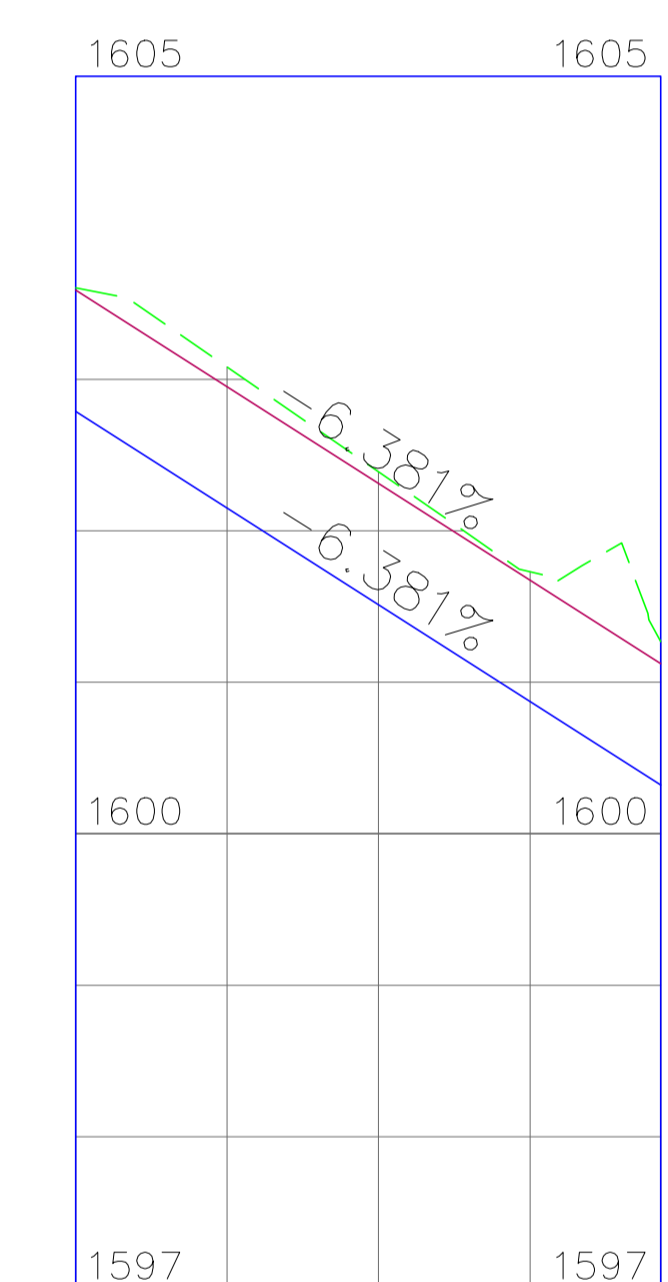
MFV RD02 PROFILE



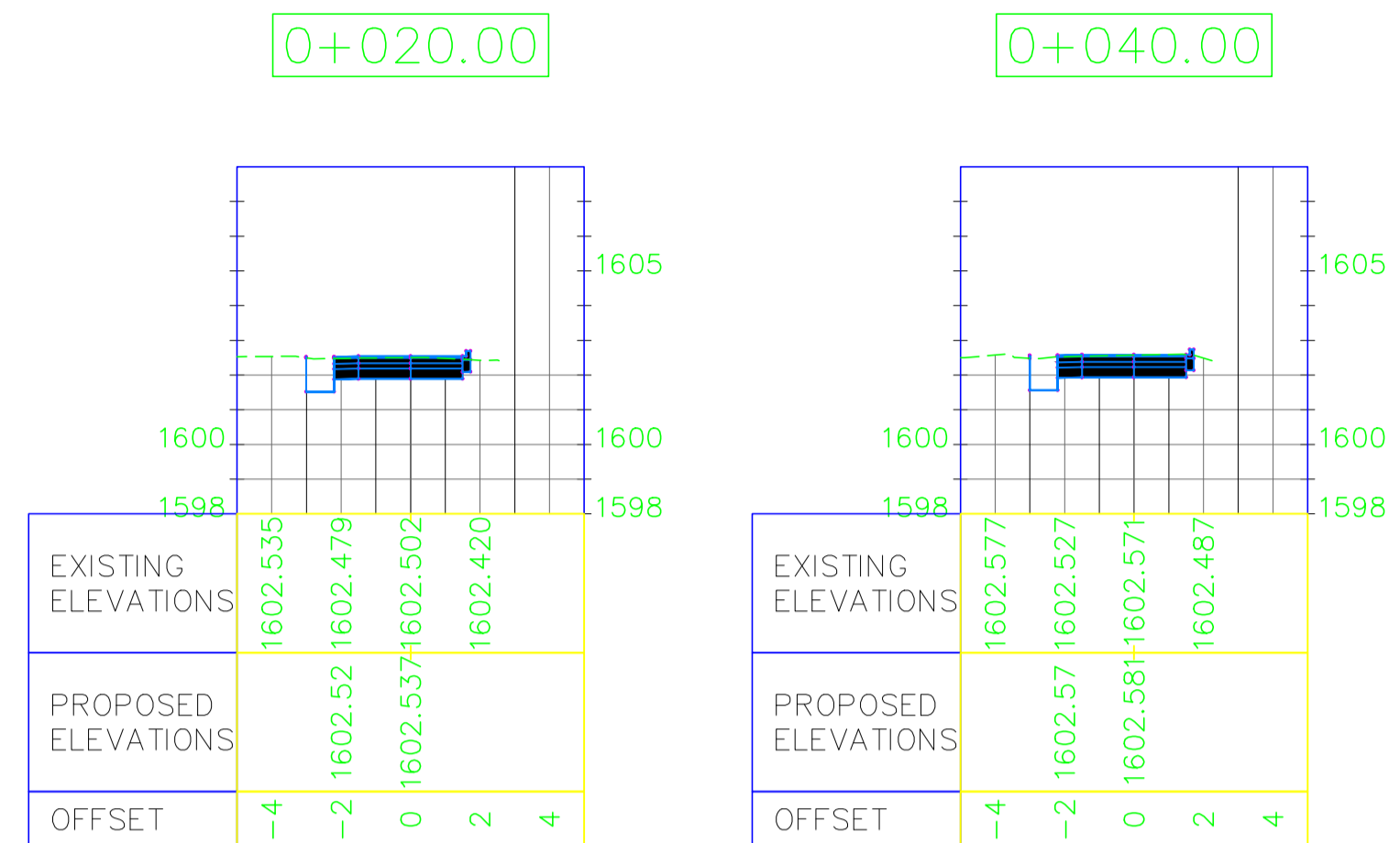
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 PVI ST=0+016.573
 PVI EL=1602.510
 LVC=15.866
 BVC ST=0+008.640
 BVC EL=1602.696
 EVC ST=0+024.505
 EVC EL=1602.534

STATION	0+000	0+050	0+057
FRL	1602.898	1602.665	1602.537
OGL	1602.582	1602.767	1602.502
Drain	1602.098	1601.882	1601.721
VERTICAL ALIGNMENT	+8.642m LVC=16m -2.340% K=6.000		L=32.183m 0.304%
HORIZONTAL ALIGNMENT	R=100.00m L=13.877m 10.480m		L=32.331m

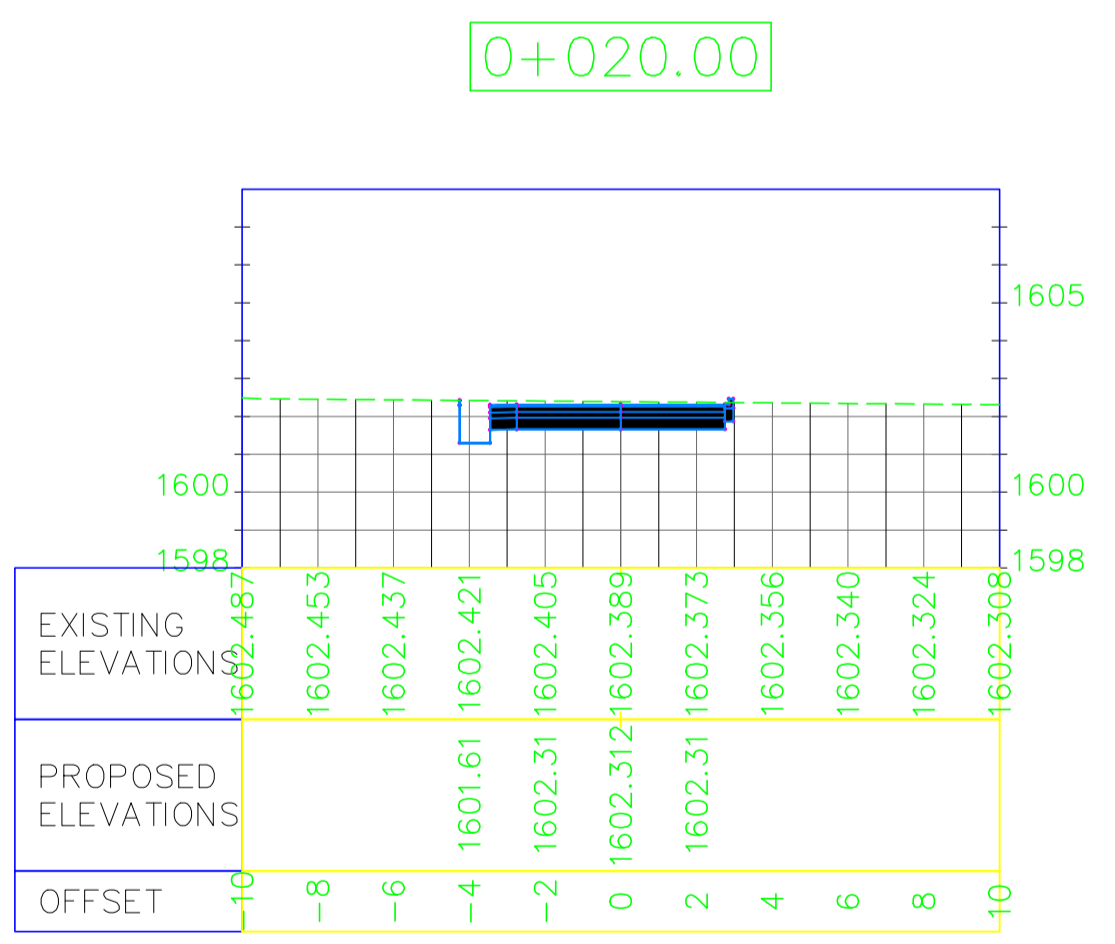
MFV RD03 PROFILE



STATION	0+000	0+039
FRL	1603.588	1602.123
OGL	1603.603	1601.269
Drain	1602.788	1601.323
VERTICAL ALIGNMENT	L=38.714m -6.381%	
HORIZONTAL ALIGNMENT	L=38.635m	



MFV RD02



MFV RD03



CLIENT:
**MINISTRY OF LANDS,
 PUBLIC WORKS,
 HOUSING AND
 URBAN DEVELOPMENT**



EMPLOYER:
**NAIROBI CITY
 COUNTY
 GOVERNMENT
 (NCCG)**



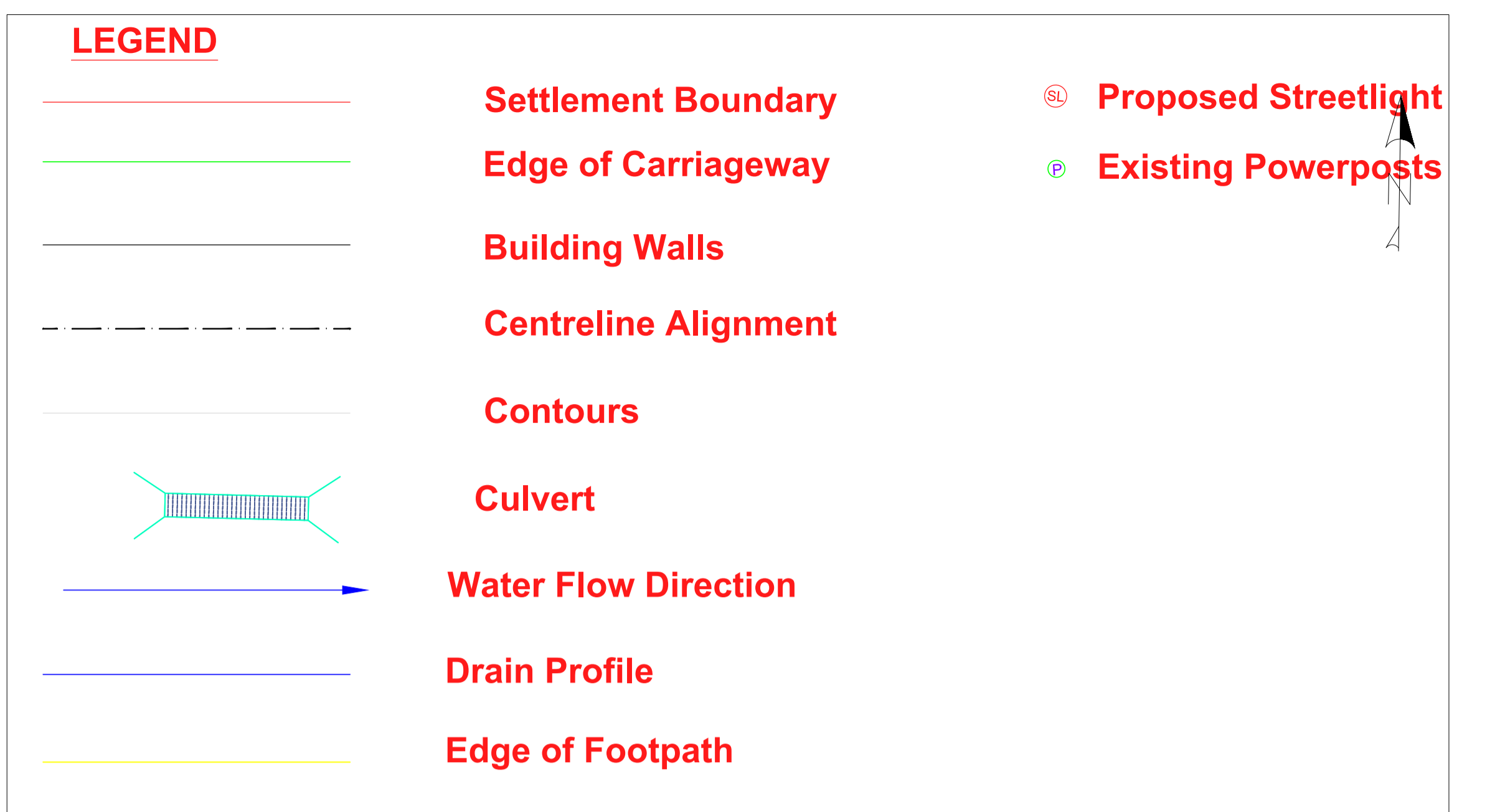
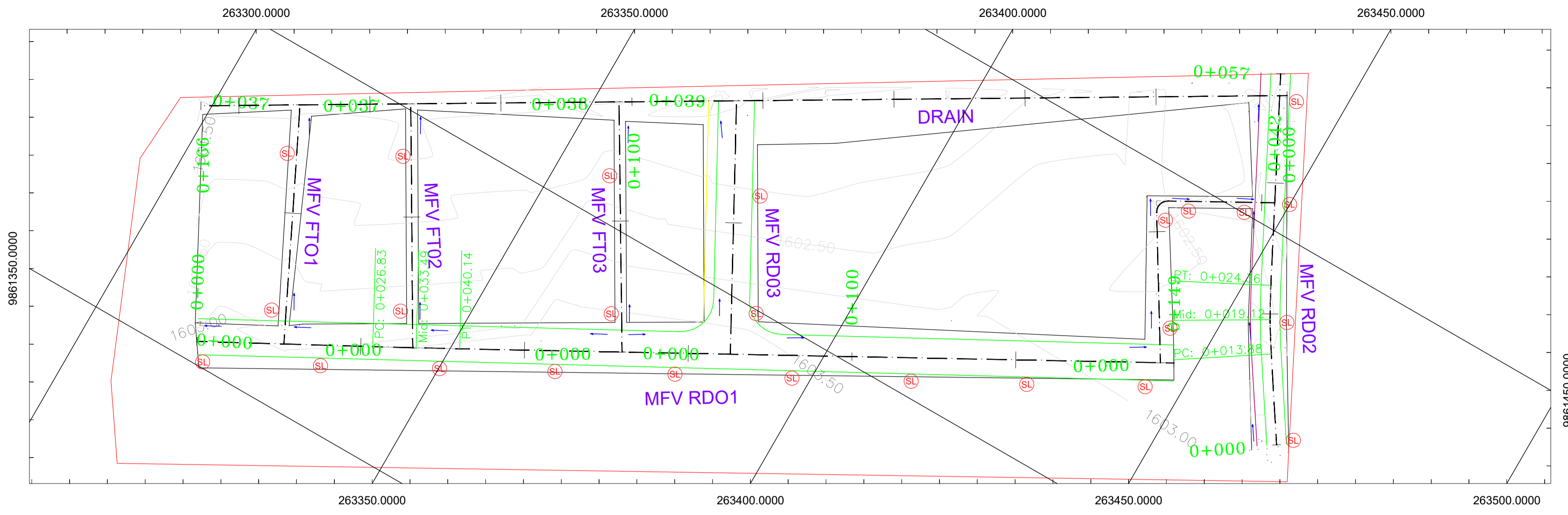
FINANCIER:
**INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)**



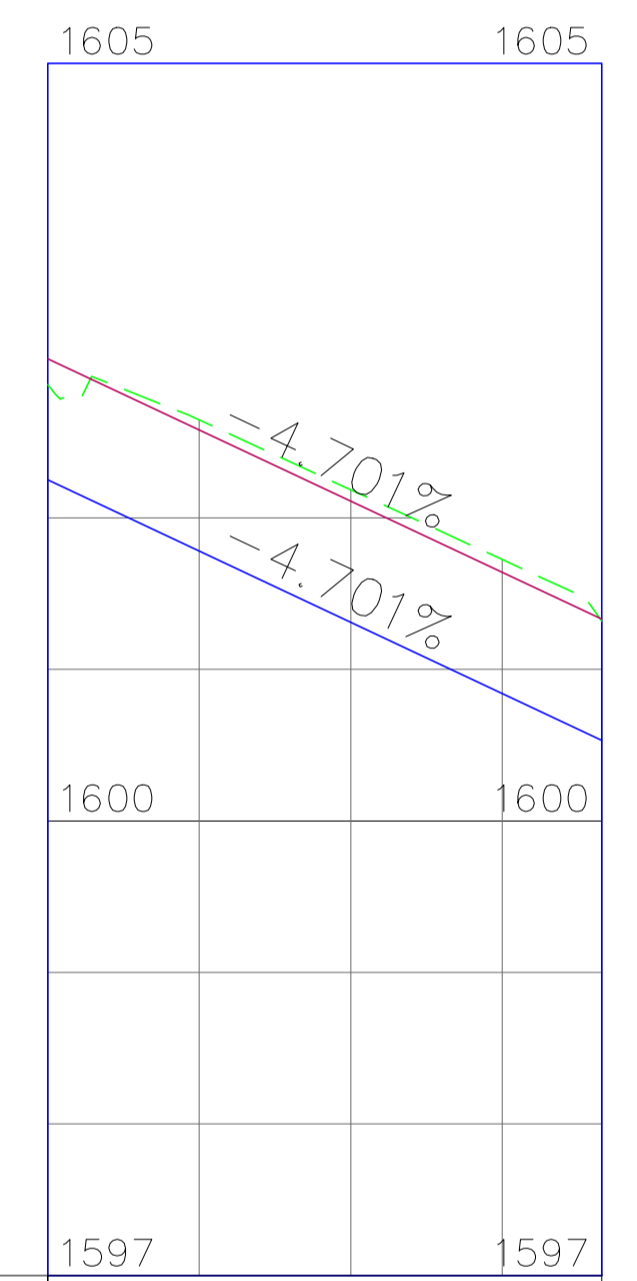
CONSULTANT:
**Wanjohi
 Mutonyi
 Consult Ltd.**
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
 ,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
 IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
 (MATHARE FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: MATHARE FIRE VICTIMS SETTLEMENT :MFV RD02 & MFV RD03 CROSS SECTIONS			
Drg. No: WMCL/CR214/MFV/DCS/02	Sheet No: 2 of 3	REVISIONS	
Scale: H: 1:2000	Date: FEBRUARY 2024		
V: 1:200	Stage: TENDER DRAWINGS		
APPROVED BY: ENG. JKWM	DESIGNED BY: LWK		
CHECKED BY: ENG. PNG	DRAWN BY: LWK	No.	Date
		AMMENDMENTS	

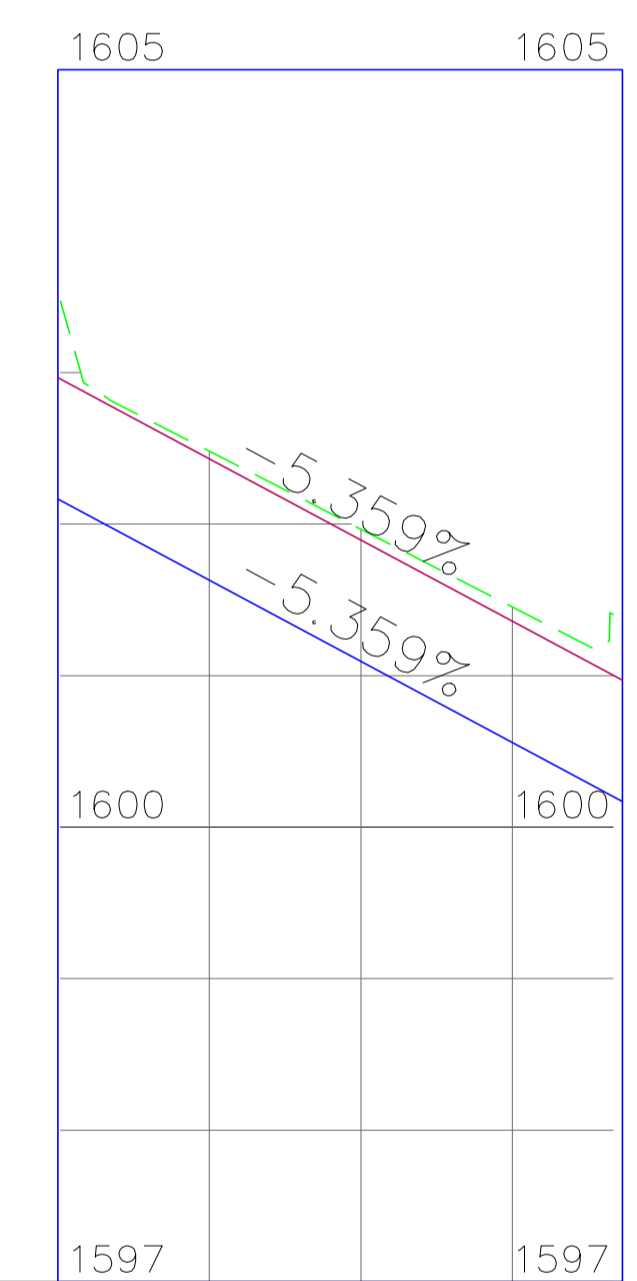


MFV FT01 PROFILE



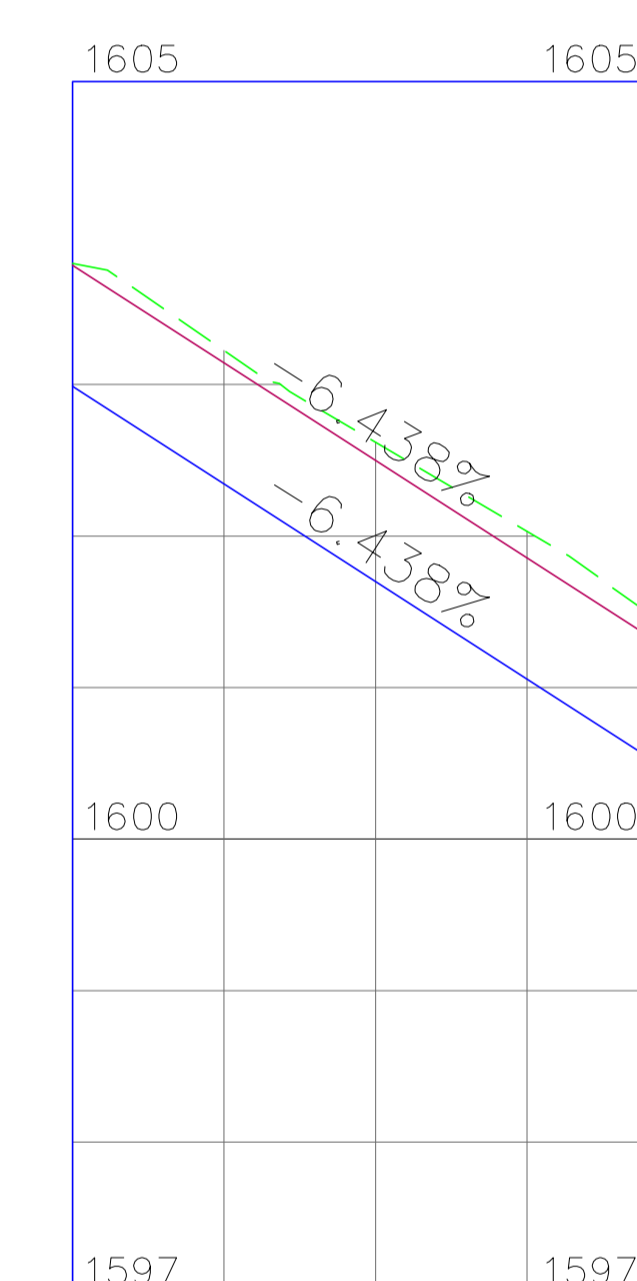
STATION	0+000	0+037
FRL	1603.051	1601.641
OGL	1602.879	1601.726
Drain	1602.251	1600.532
VERTICAL ALIGNMENT	L=36.615m -4.701%	
HORIZONTAL ALIGNMENT	L=36.575m	

MFV FT02 PROFILE



STATION	0+000	0+037
FRL	1602.966	1601.359
OGL	1602.481	1601.453
Drain	1601.631	1600.169
VERTICAL ALIGNMENT	L=37.322m -5.359%	
HORIZONTAL ALIGNMENT	L=37.268m	

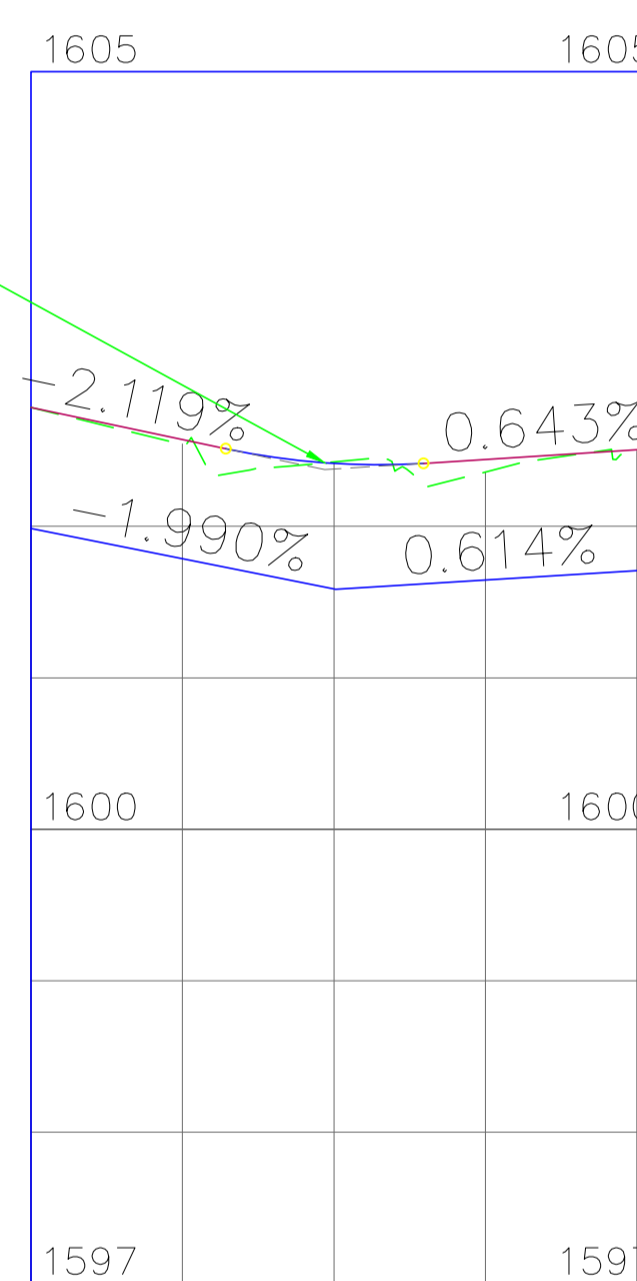
MFV FT03 PROFILE



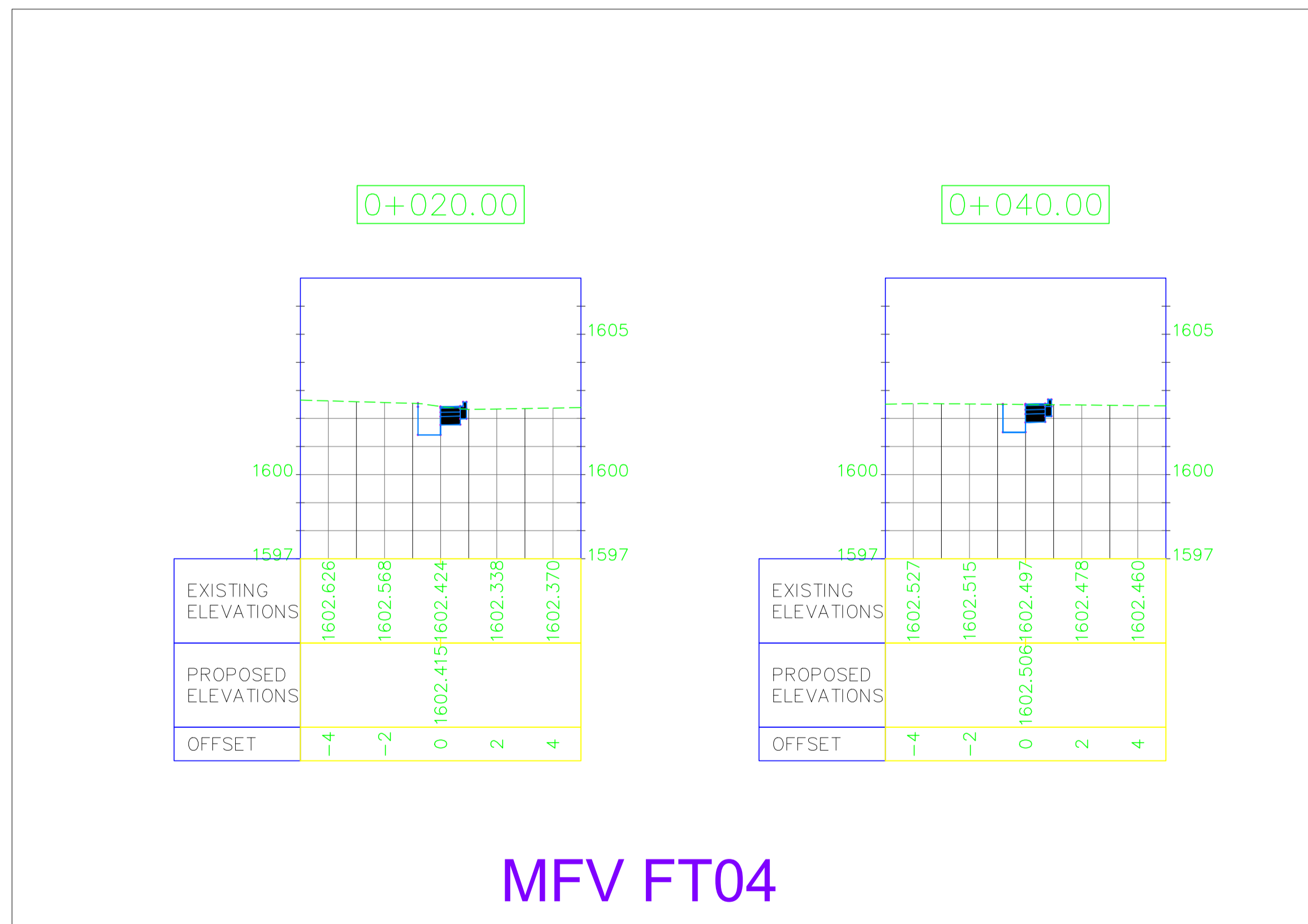
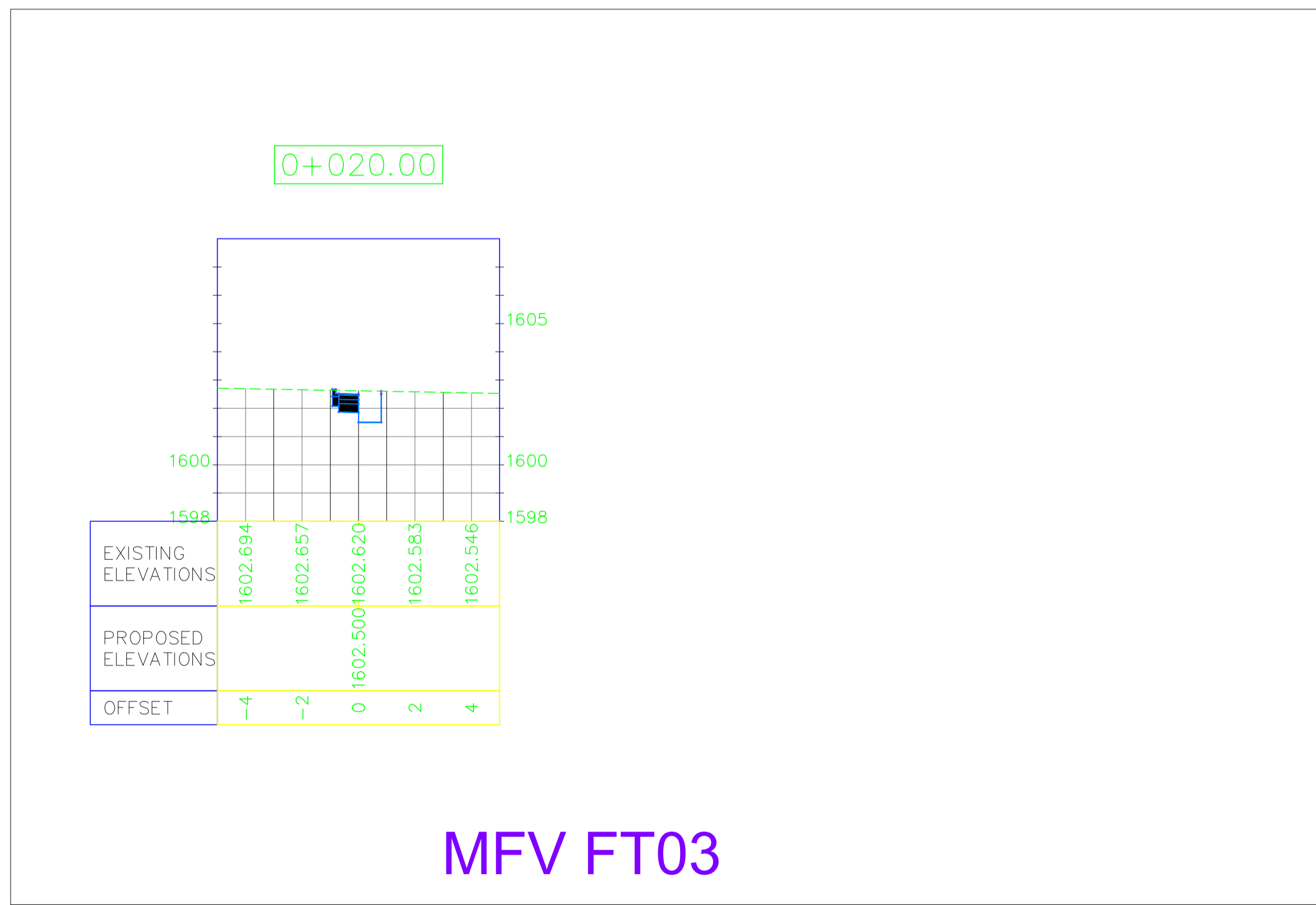
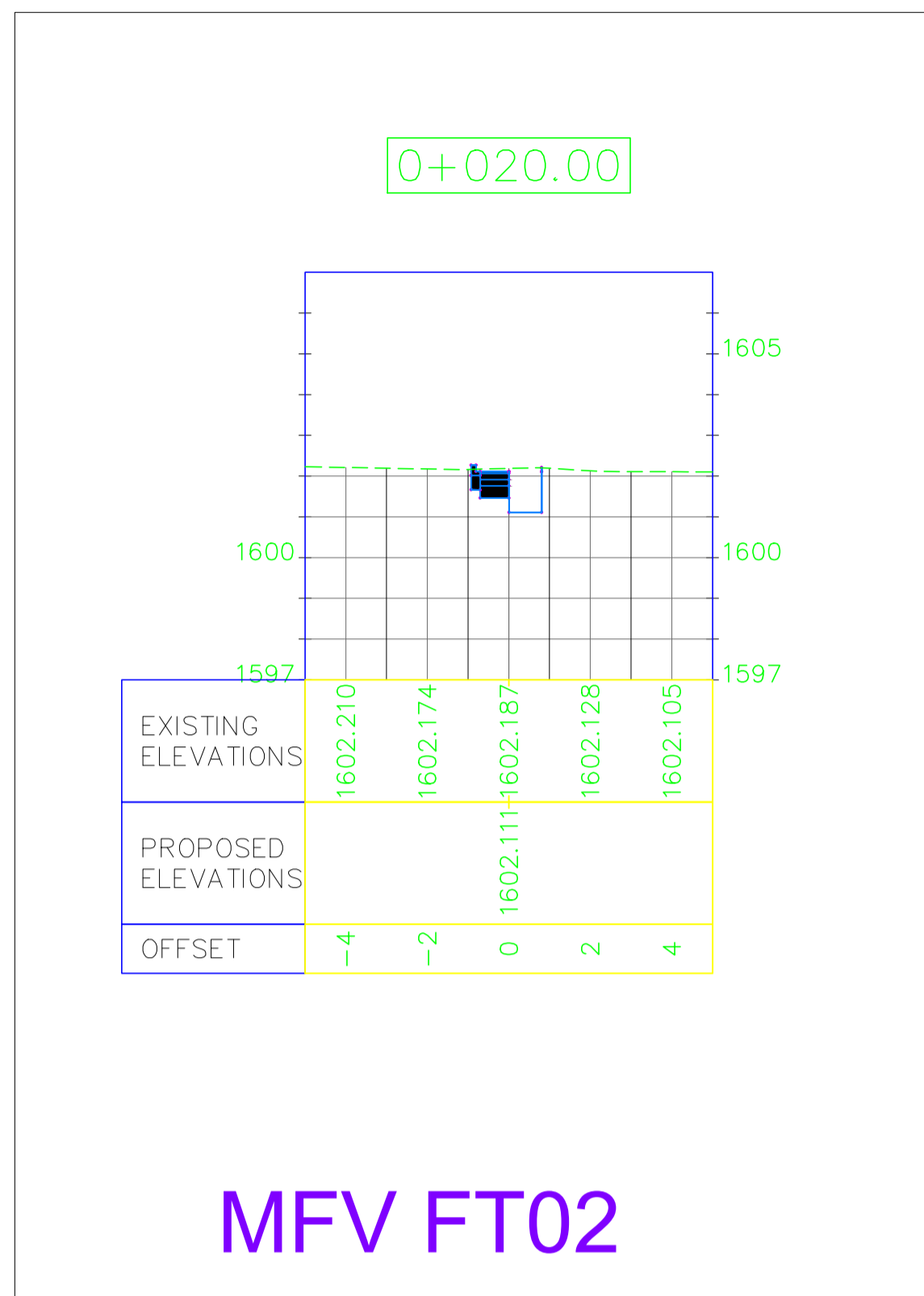
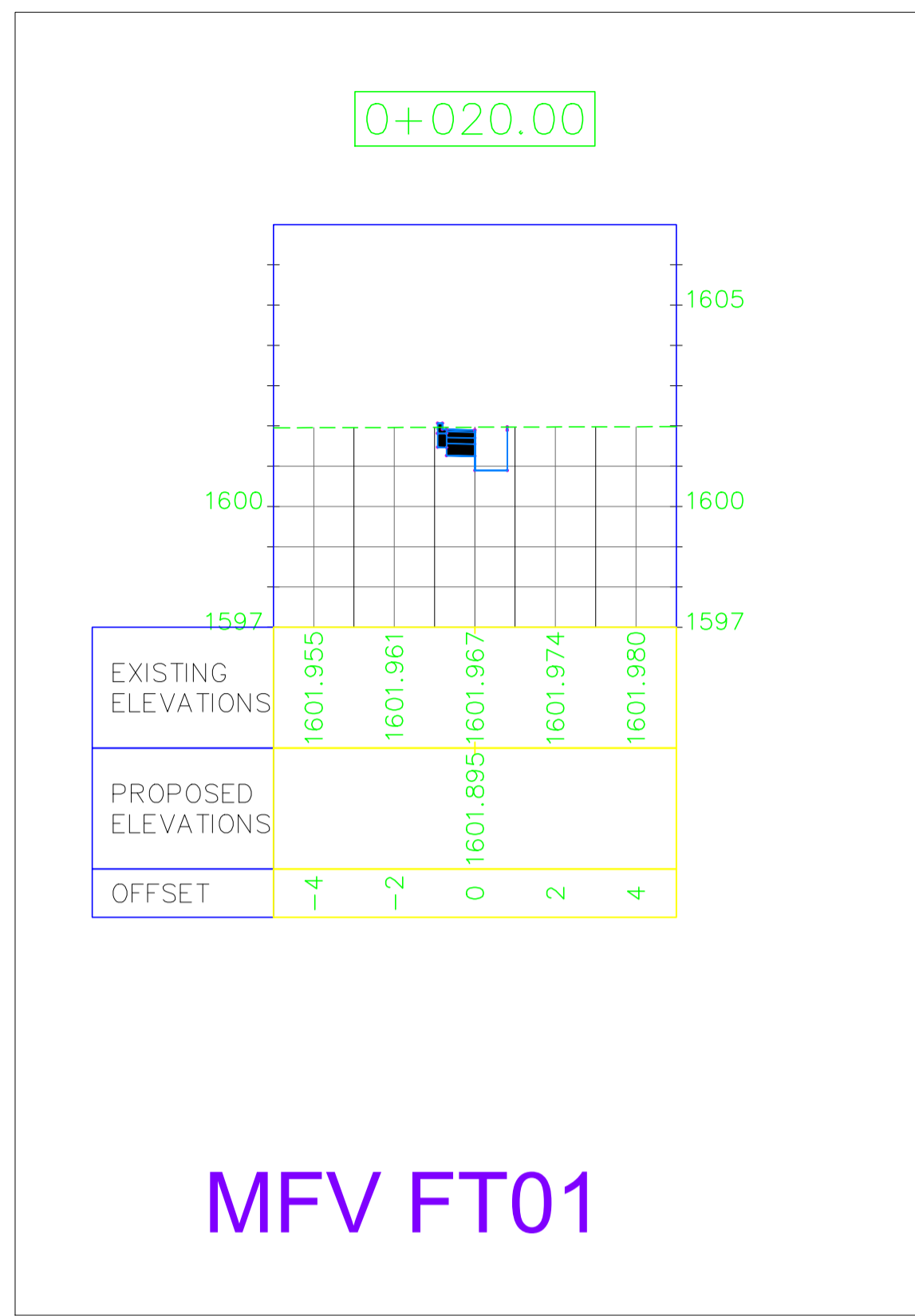
STATION	0+000	0+038
FRL	1603.788	1601.329
OGL	1603.799	1602.479
Drain	1602.988	1601.529
VERTICAL ALIGNMENT	L=38.265m -6.438%	
HORIZONTAL ALIGNMENT	L=38.185m	

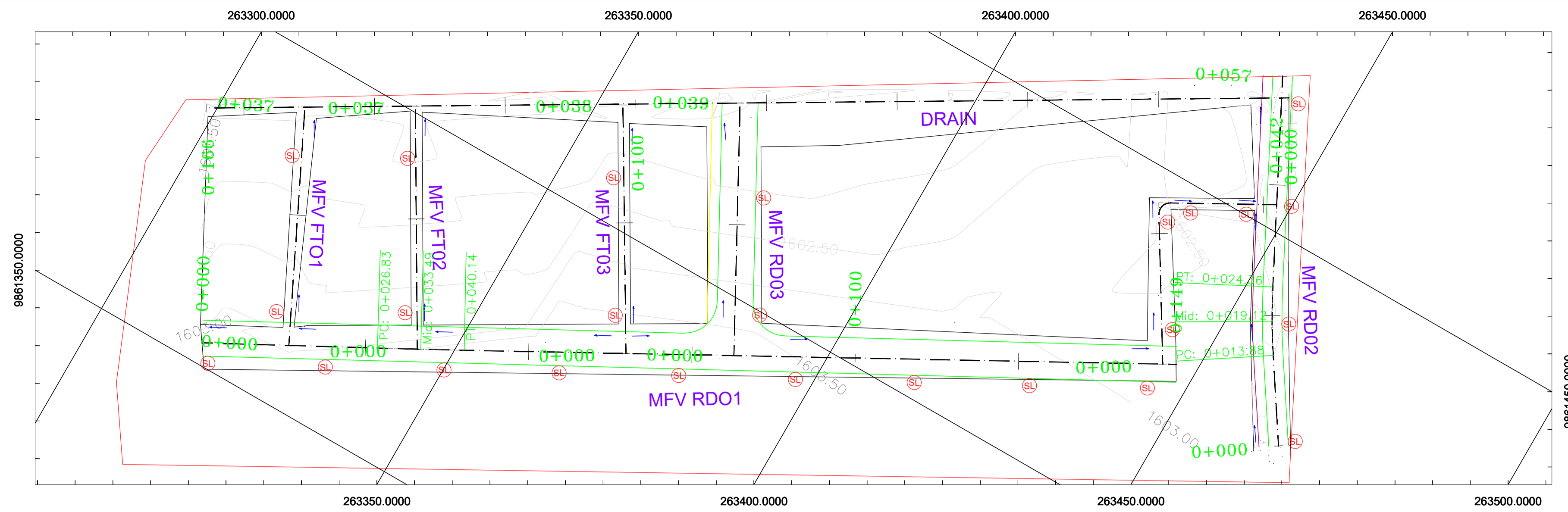
MFV FT04 PROFILE

LOW POINT CHAINAGE=0+022.886
 LOW POINT LEVEL=1602.406
 PVI ST=0+019.395
 PVI EL=1602.374
 LVC=13.060
 BVC ST=0+012.865
 BVC EL=1602.512
 EVC ST=0+025.924
 EVC EL=1602.416



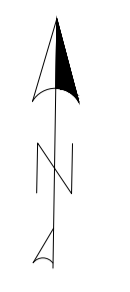
STATION	0+000	0+042
FRL	1602.785	1602.506
OGL	1602.785	1602.497
Drain	1601.985	1601.719
VERTICAL ALIGNMENT	L=22.958m -2.119% VC=13m K=4.728 L=16.061m 0.643%	
HORIZONTAL ALIGNMENT	L=22.958m R=1.70m b=2.735m 16.293m	



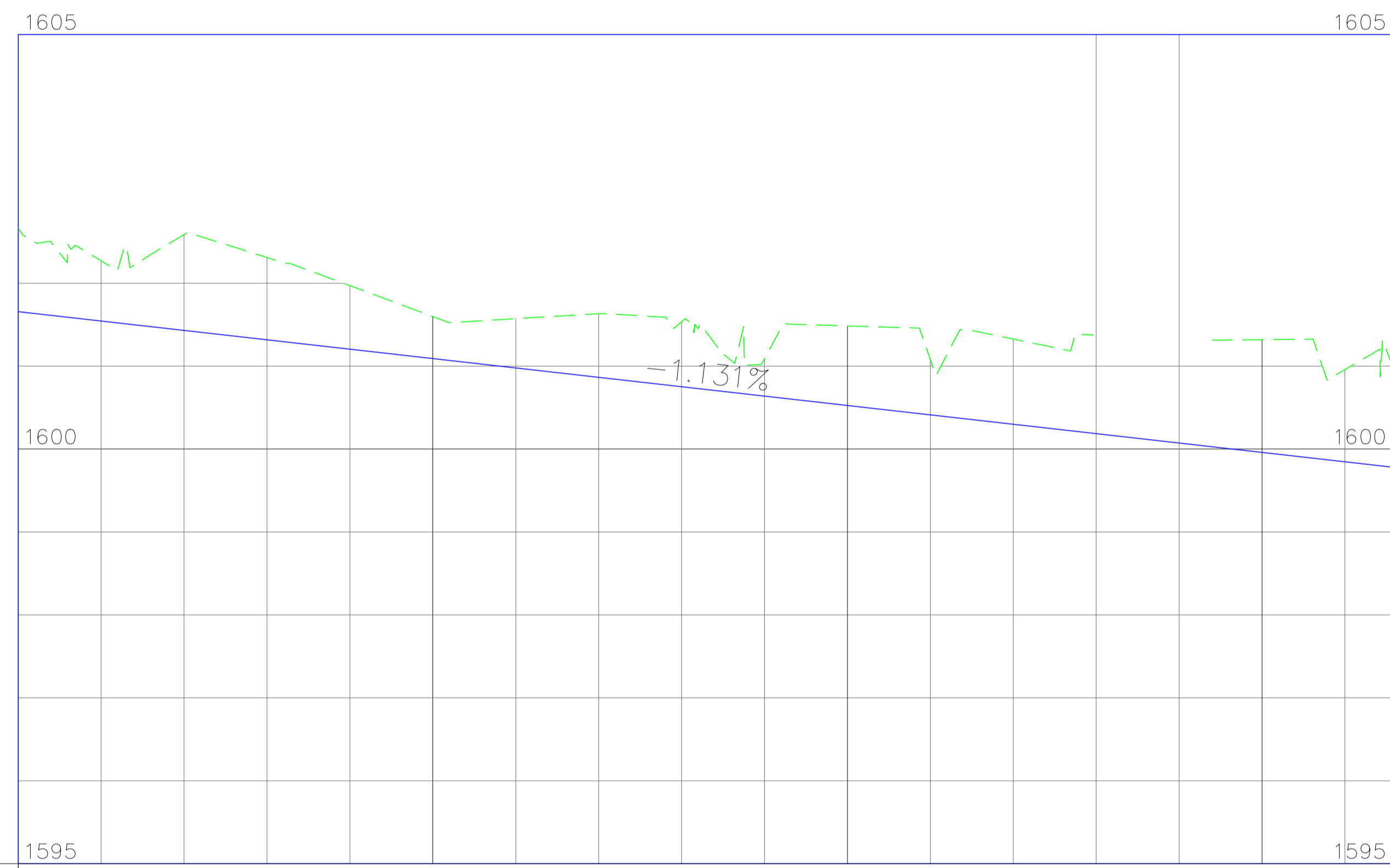


LEGEND

- Settlement Boundary
- Edge of Carriageway
- Building Walls
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Proposed Streetlight
- Existing Powerposts



DRAIN PROFILE



STATION	0+000	0+050	0+100	0+150	0+166
OGL	1602.663	1602.271	1601.536	1601.319	1600.985
Drain	1601.657	1601.543	1600.752	1599.960	1599.847
VERTICAL ALIGNMENT	L=165.797m -1.131%				
HORIZONTAL ALIGNMENT	L=165.787m				



CLIENT:
MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



EMPLOYER:
NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (MATHARE FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: **MATHARE FIRE VICTIMS SETTLEMENT DRAIN PLAN & PROFILES**

Drg. No: **NowMCL/CR214/MFV/PP/04** Sheet No. **4 of 4**
 Scale: H: 1:2000 Date: **FEBRUARY 2024**
 V: 1:200 Stage: **TENDER DRAWINGS**

APPROVED BY	ENG. IKWM	DESIGNED BY	LWK
CHECKED BY	ENG. PNG	DRAWN BY	LWK

REVISIONS	
No.	Date



PUMWANI MAJENGO SETTLEMENT

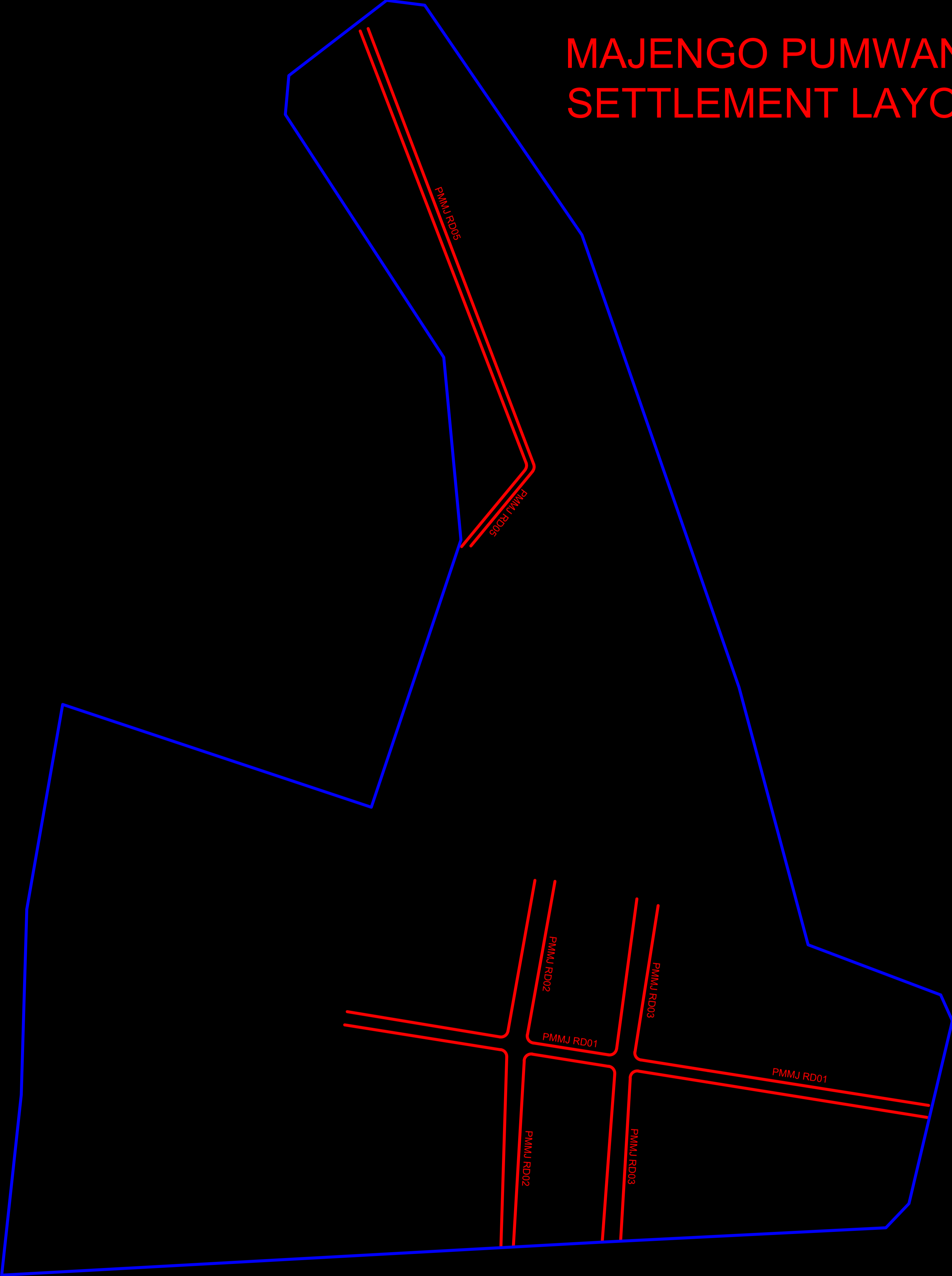
 CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	 EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)	 FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	 CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.	Drawing Title: PUMWANI MAJENGO SETTLEMENT		REVISIONS	
					Drg. No. _____ Sheet No. _____ Scale: 1:50 _____ Date: FEBRUARY:2024 1:100 _____ Stage: TENDER DRAWINGS	APPROVED BY: ENG.IKWM DESIGNED BY: LWK CHECKED BY: ENG.PNG DRAWN BY: SM	No. _____ Date _____ AMMENDMENTS _____	

GENERAL LAYOUT

MAJENGO PUMWANI SETTLEMENT LAYOUT PLAN

LEGEND

-  Settlement Boundary
-  Design Road



CLIENT:



**MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT**

EMPLOYER:



**NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)**

FINANCIER:

**INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)**



CONSULTANT:

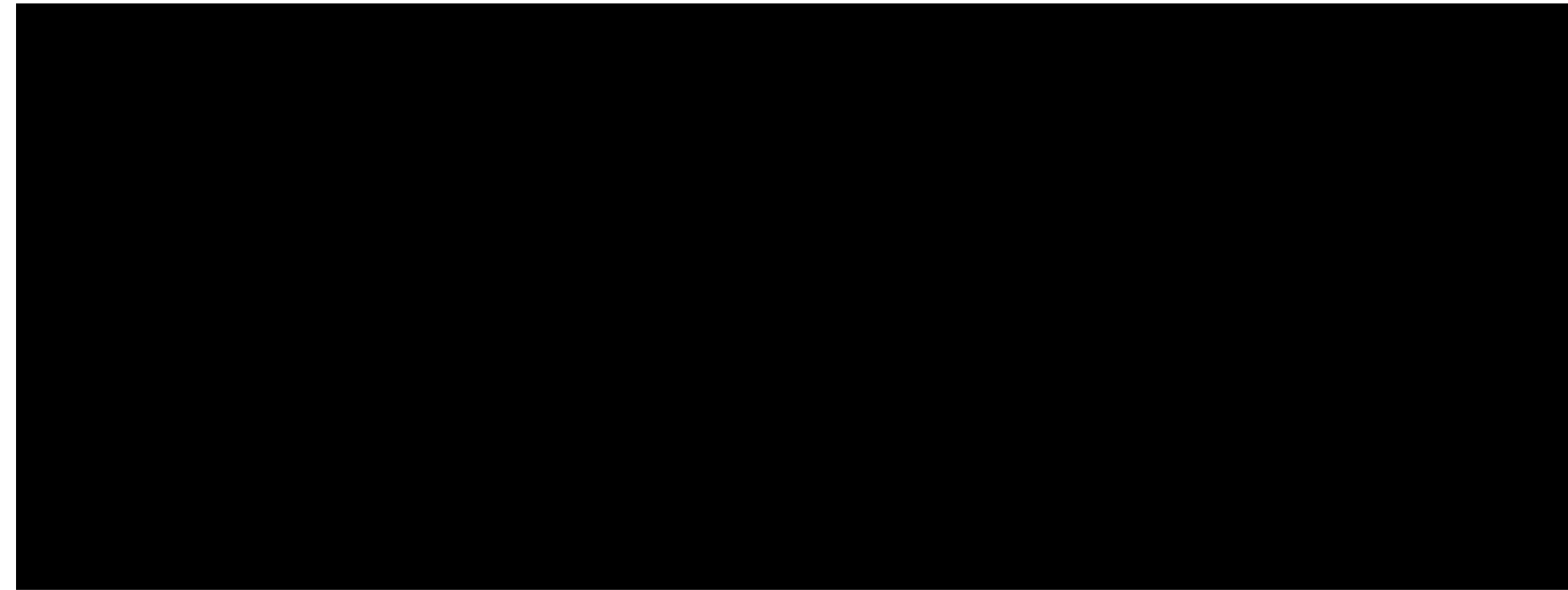


**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

**PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(MAJENGO PUMWANI SETTLEMENT) IN NAIROBI COUNTY.**






Drawing Title: MAJENGO PUMWANI SETTLEMENT : GENERAL LAYOUT PLAN			
Drg. No. WMCL/CR214/PMMJ/GLP/01	Sheet No. 1 of 2		
Scale: H:1:2000 V:1:200	Date: FEBRUARY 2024		
	Stage: TENDER DRAWINGS		
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	LWK

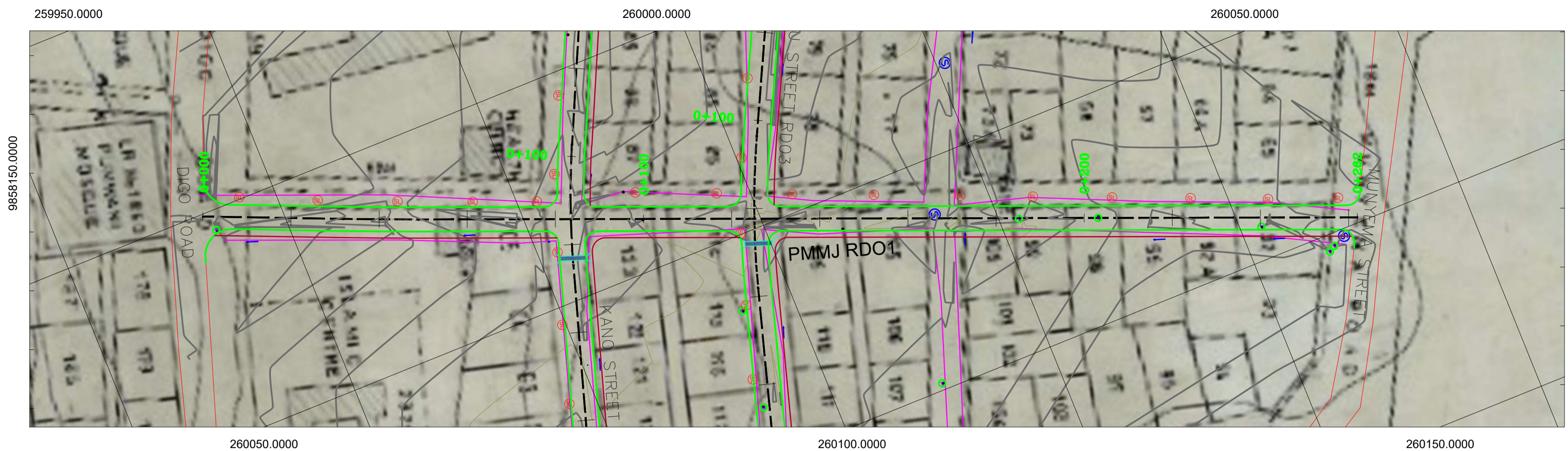
REVISIONS		
No	Date	AMMENDMENTS



LEGEND			
	Existing Road		Proposed Streetlight
	Edge of Carriageway		Existing Powerposts
	Building Walls		
	Centreline Alignment		
	Contours		
	Culvert		
	Water Flow Direction		
	Drain Profile		
	Edge of Footpath		

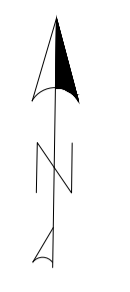
PLANS AND PROFILES

<p>CLIENT:</p>  <p>REPUBLIC OF KENYA</p> <p>MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER:</p>  <p>NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER:</p> <p>INTERNATIONAL DEVELOPMENT AGENCY(IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT(AFD)</p>  	<p>CONSULTANT:</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE:</p> <p>SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.</p>	<table border="1"> <tr> <td colspan="4">Drawing Title: PLAN AND PROFILES</td> <td colspan="2">REVISIONS</td> </tr> <tr> <td>Drg. No.</td> <td colspan="2">Sheet No.</td> <td colspan="3"></td> </tr> <tr> <td>Scale: 1:50</td> <td>Date: FEBRUARY:2024</td> <td colspan="4"></td> </tr> <tr> <td>1:100</td> <td>Stage: TENDER DRAWINGS</td> <td colspan="4"></td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> <td>No.</td> <td>Date</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> <td colspan="2">AMMENDMENTS</td> </tr> </table>	Drawing Title: PLAN AND PROFILES				REVISIONS		Drg. No.	Sheet No.					Scale: 1:50	Date: FEBRUARY:2024					1:100	Stage: TENDER DRAWINGS					APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	No.	Date	CHECKED BY	ENG.PNG	DRAWN BY	SM	AMMENDMENTS	
Drawing Title: PLAN AND PROFILES				REVISIONS																																					
Drg. No.	Sheet No.																																								
Scale: 1:50	Date: FEBRUARY:2024																																								
1:100	Stage: TENDER DRAWINGS																																								
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CHECKED BY	ENG.PNG	DRAWN BY	SM	AMMENDMENTS																																					

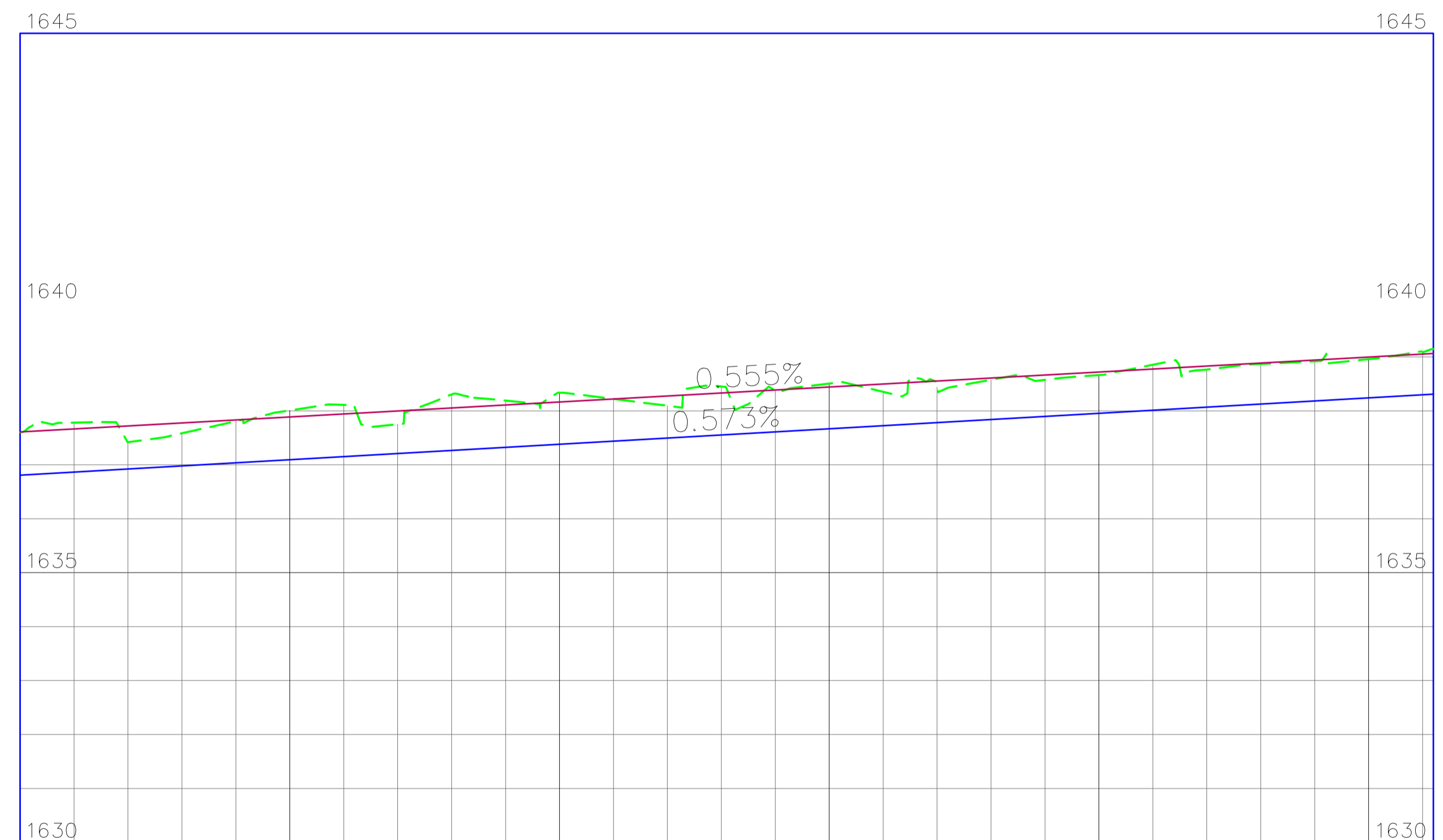


LEGEND

- Existing Road
- Edge of Carriageway
- Building Walls
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Existing Powerposts

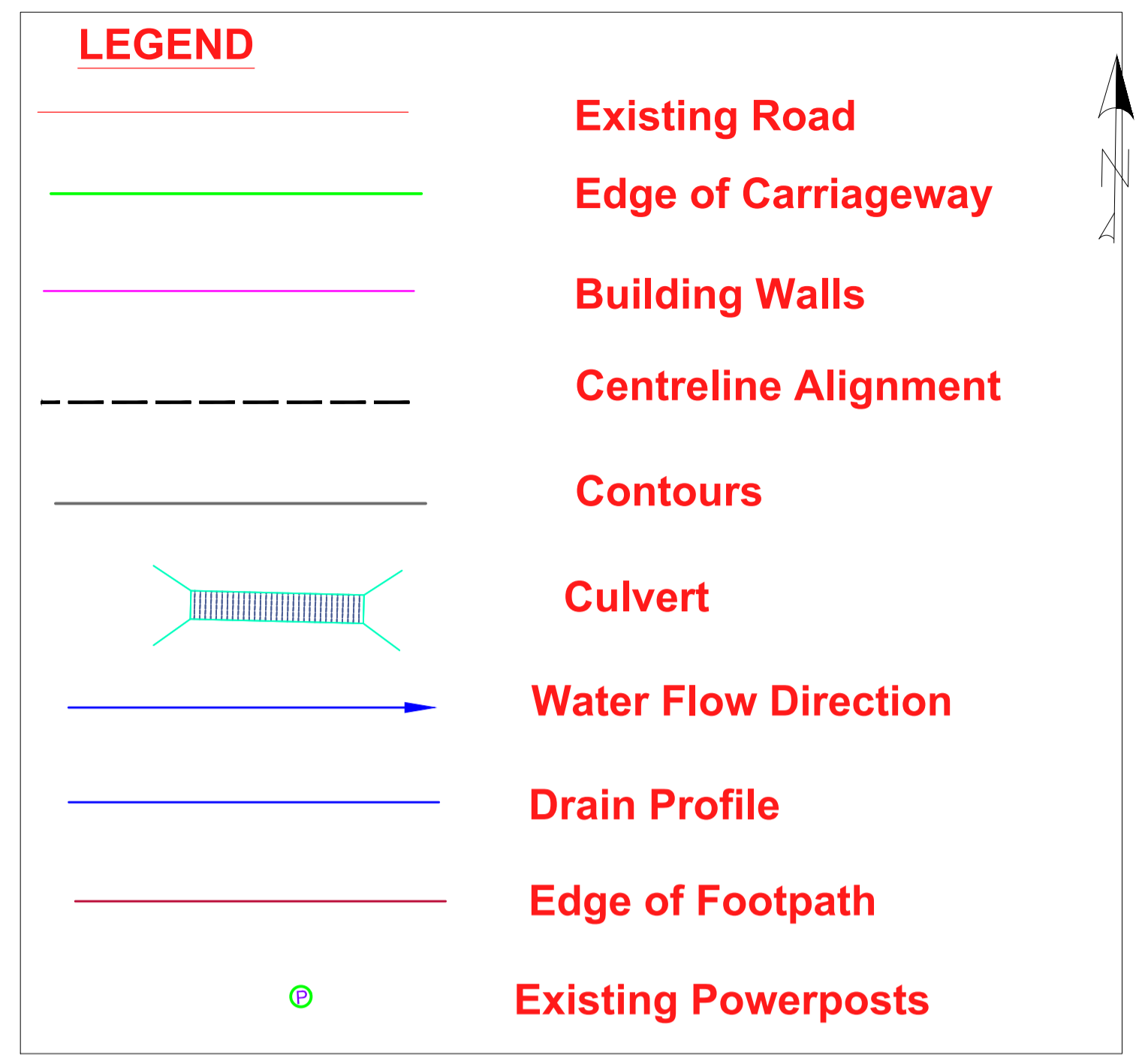


PMMJ RD01 PROFILE

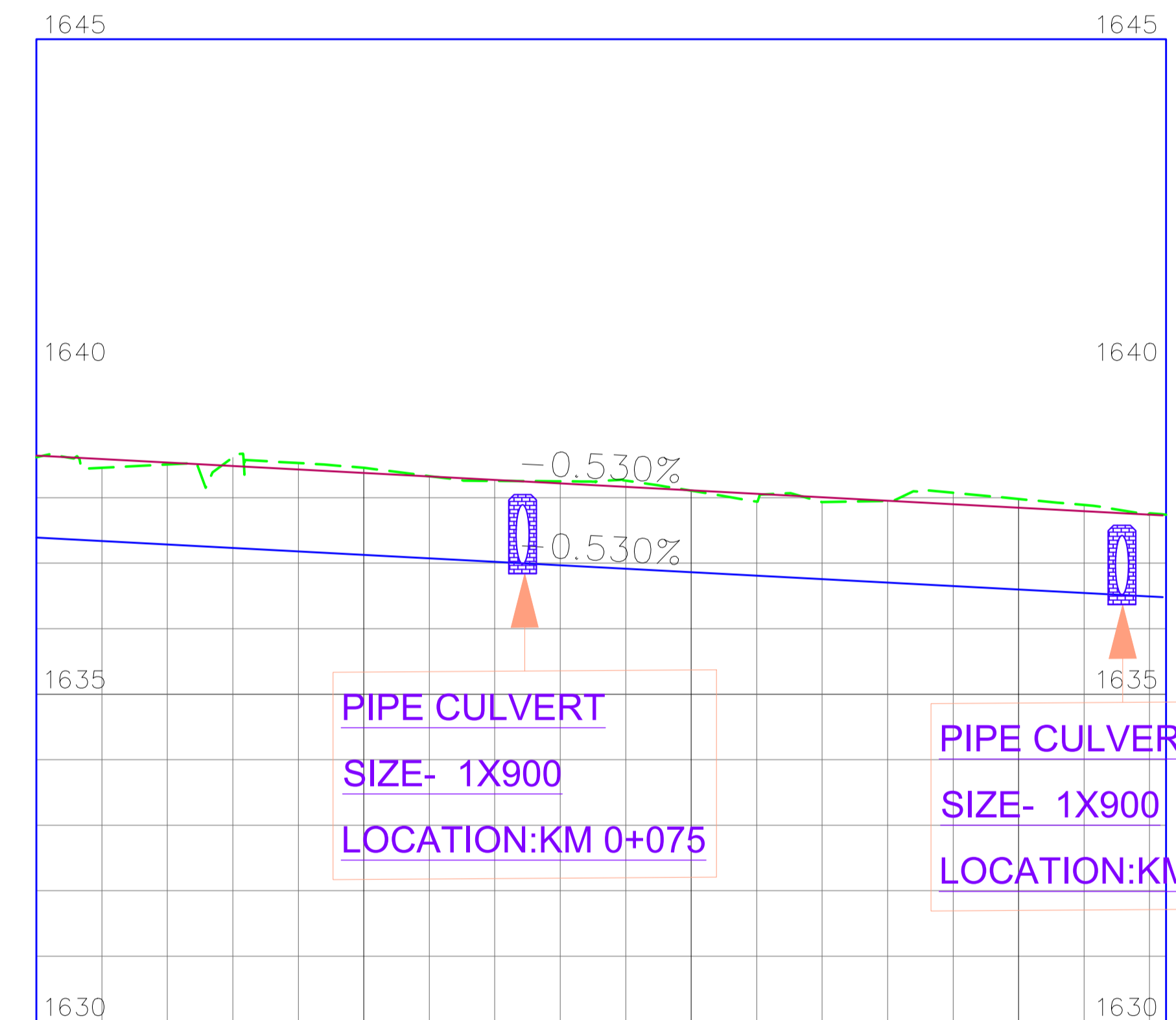


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FRL	1636.808	1637.608	1637.663	1637.719	1637.774	1637.830	1637.885
OGL	1636.866	1637.782	1637.850	1637.917	1637.984	1638.051	1638.118
Drain	1636.923	1637.849	1637.916	1637.983	1638.050	1638.117	1638.184
VERTICAL ALIGNMENT	L=270.705m 0.555%						
HORIZONTAL ALIGNMENT	L=31.962m R=902.56m		L=17.004m		L=213.025m		

<p>CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>	<p>CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (MAJENGO PUMWANI SETTLEMENT) IN NAIROBI COUNTY.</p>	<p>Drawing Title: MAJENGO PUMWANI SETTLEMENT : PMMJ RD01 PLAN & PROFILES</p>		<p>REVISIONS</p>	
					<p>APPROVED BY: ENG. IKWM</p>	<p>DESIGNED BY: LWK</p>	<p>CHECKED BY: ENG. PNG</p>	<p>DRAWN BY: LWK</p>



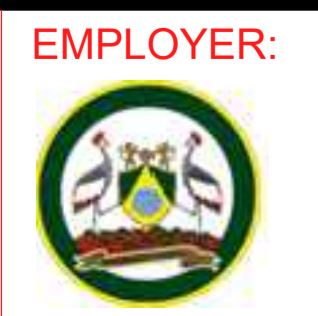
KANO STREET PMMJ RD02 PROFILE



STATION	0+000	0+050	0+100	0+150	0+173
FRL	1638.642	1638.536	1638.218	1637.900	1637.741
OGL	1638.616	1638.507	1638.256	1637.940	1637.748
Drain	1637.392	1637.286	1637.021	1636.809	1636.491
HORIZONTAL ALIGNMENT	L=75.399m		R=200.00m L=27.313m	L=69.804m	
VERTICAL ALIGNMENT	L=172.015m -0.530%				



CLIENT:
MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



EMPLOYER:
NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
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PROJECT TITLE:
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PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
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IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(MAJENGO PUMWANI SETTLEMENT) IN NAIROBI COUNTY.

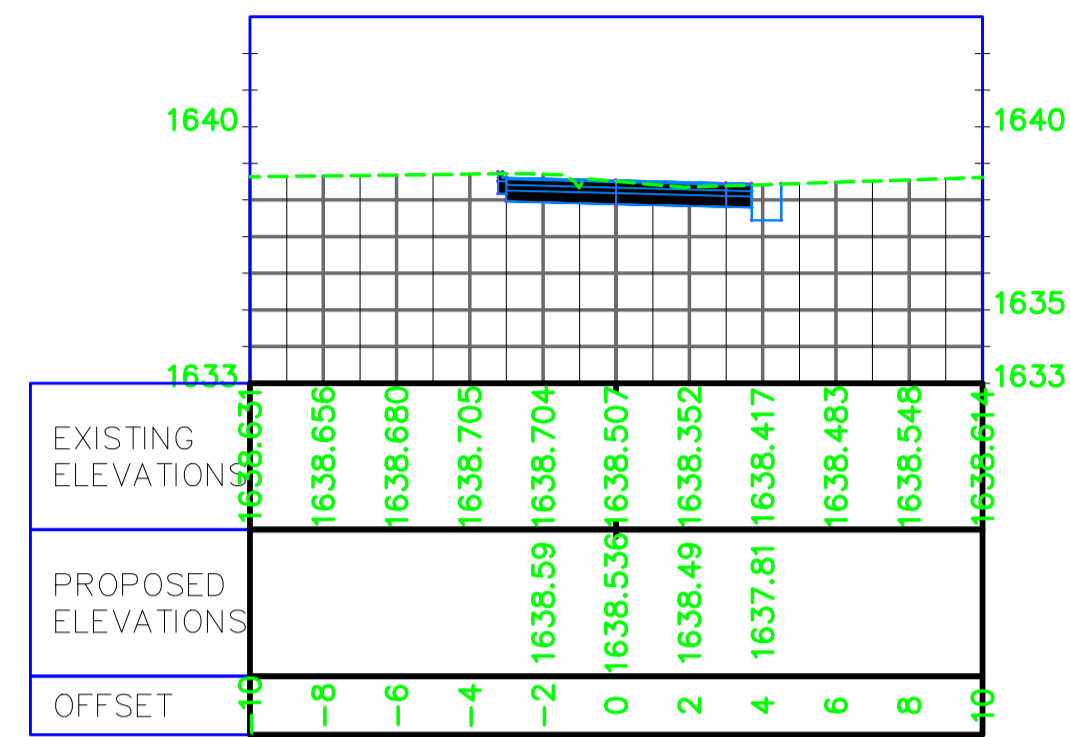
Drawing Title: **MAJENGO PUMWANI SETTLEMENT : PMMJ RD02 PLAN & PROFILES**

Drg. No: WMCL/CR214/PPMJ/PP/02 Sheet No 2 of 4
Scale: H: 1:2000 Date: FEBRUARY 2024
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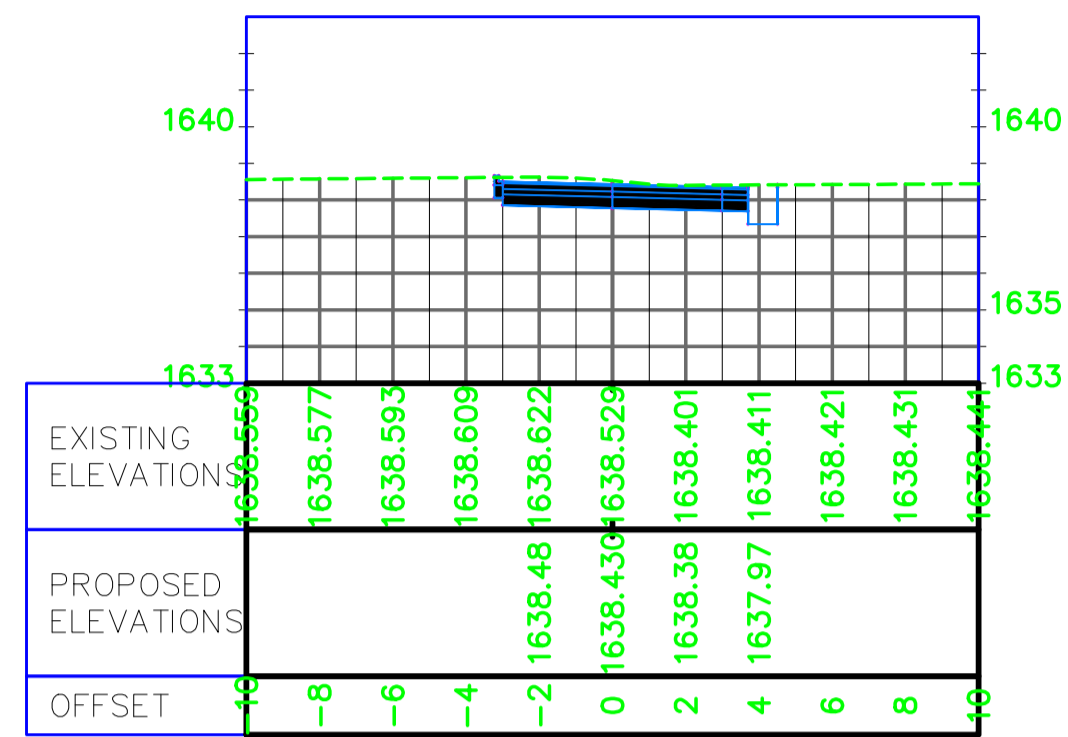
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CHECKED BY	ENG. PNG	DRAWN BY	LWK

REVISIONS	
No.	Date

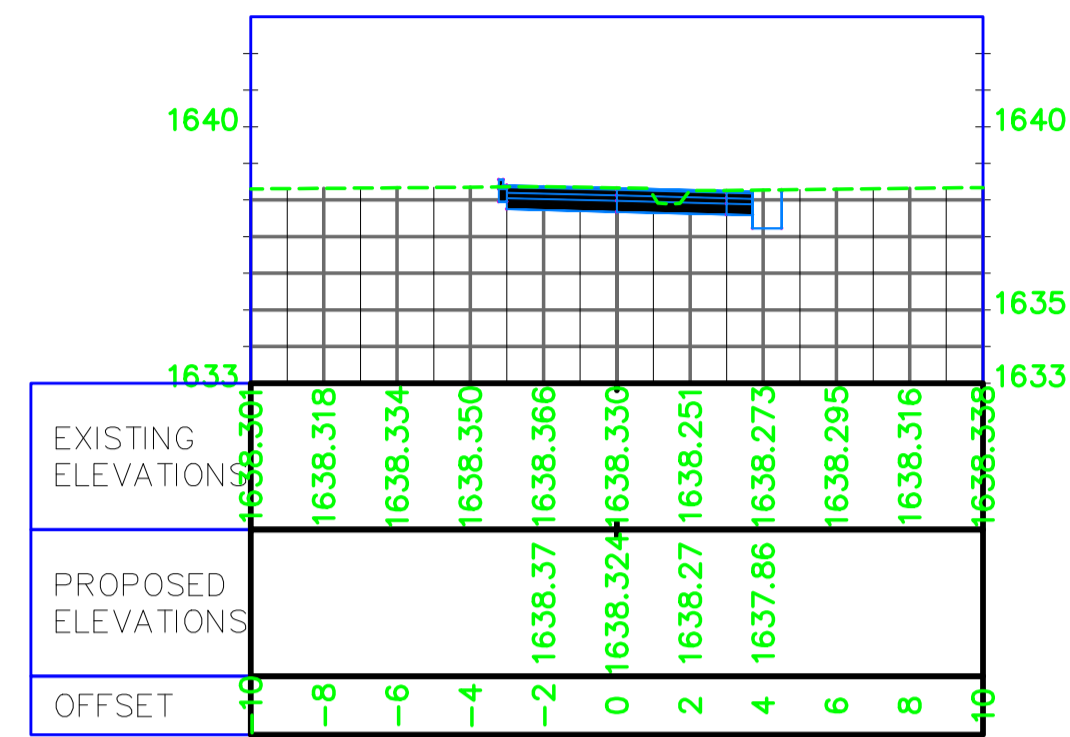
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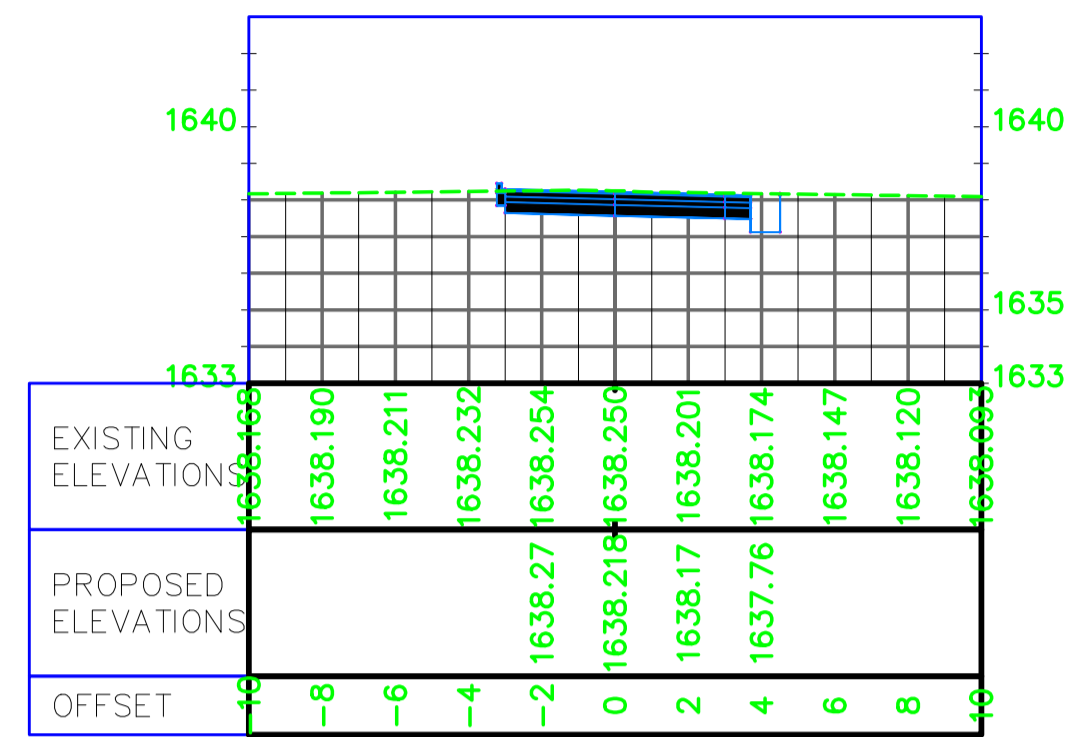
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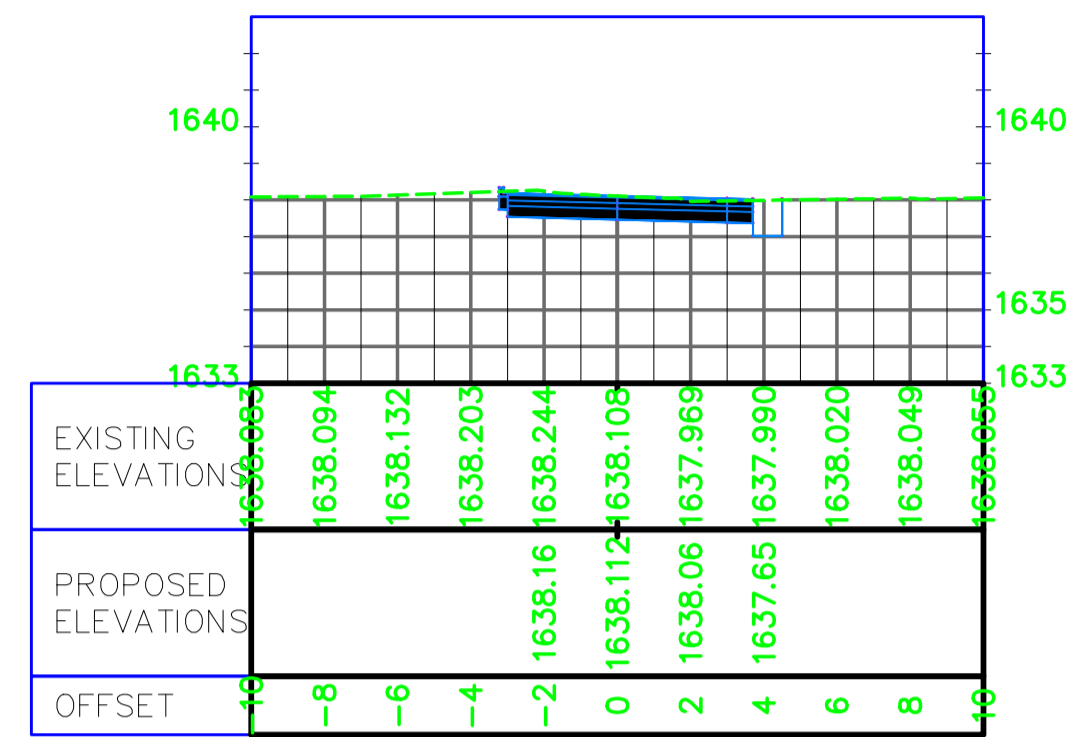
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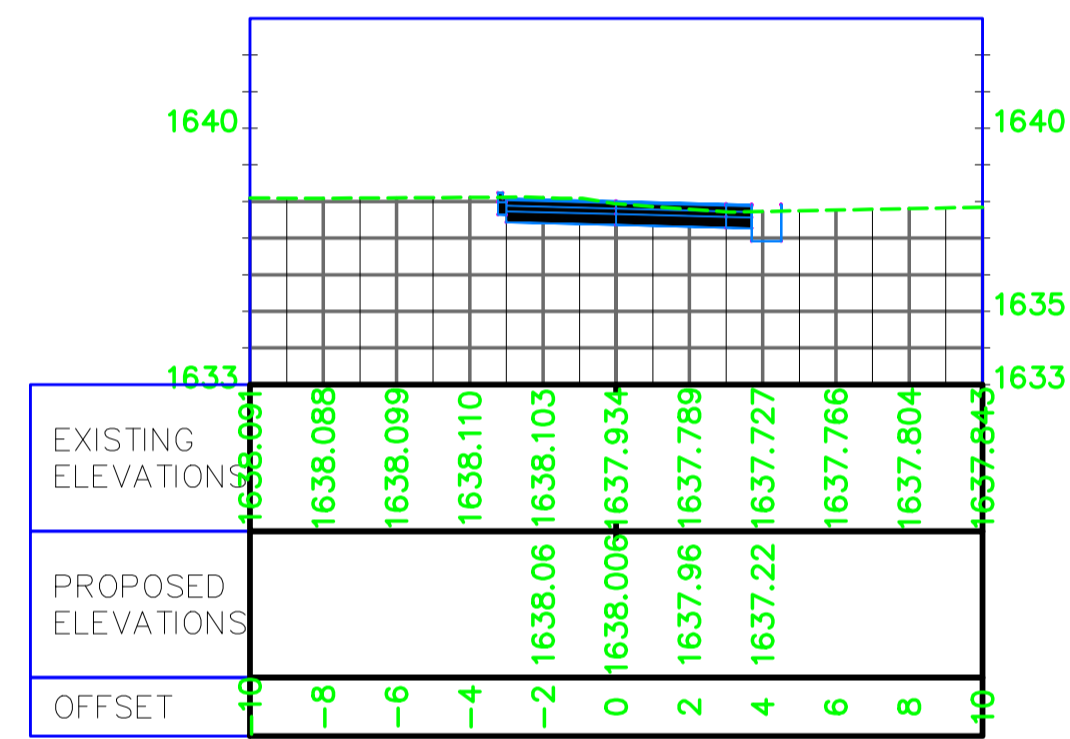
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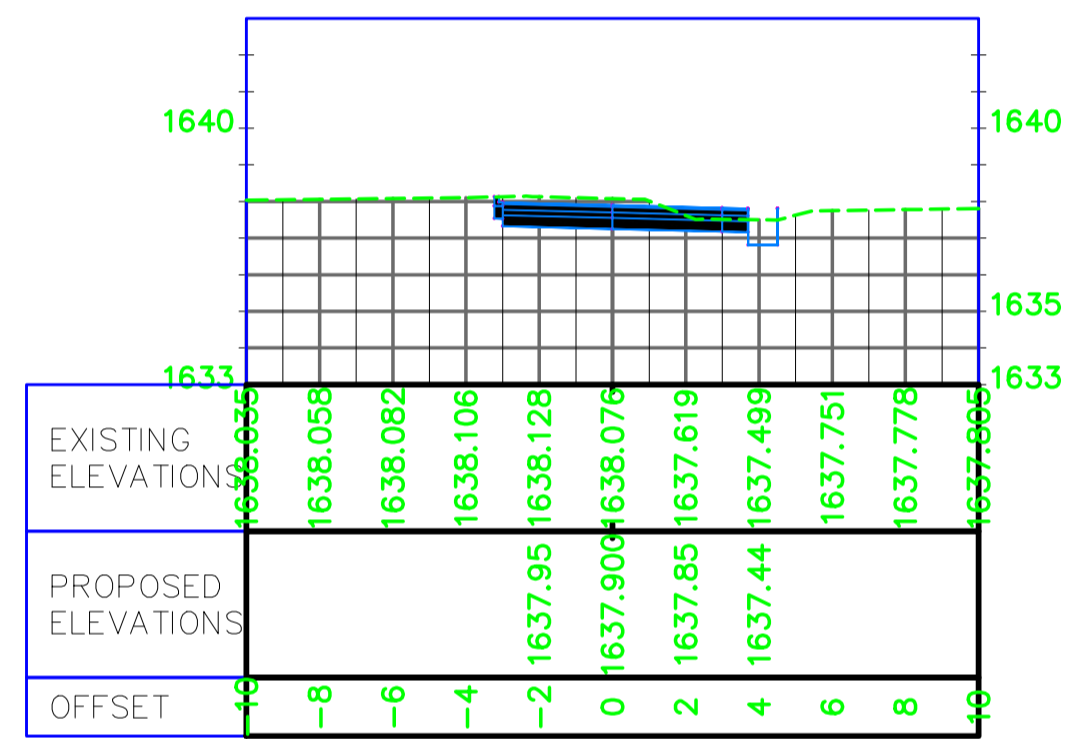
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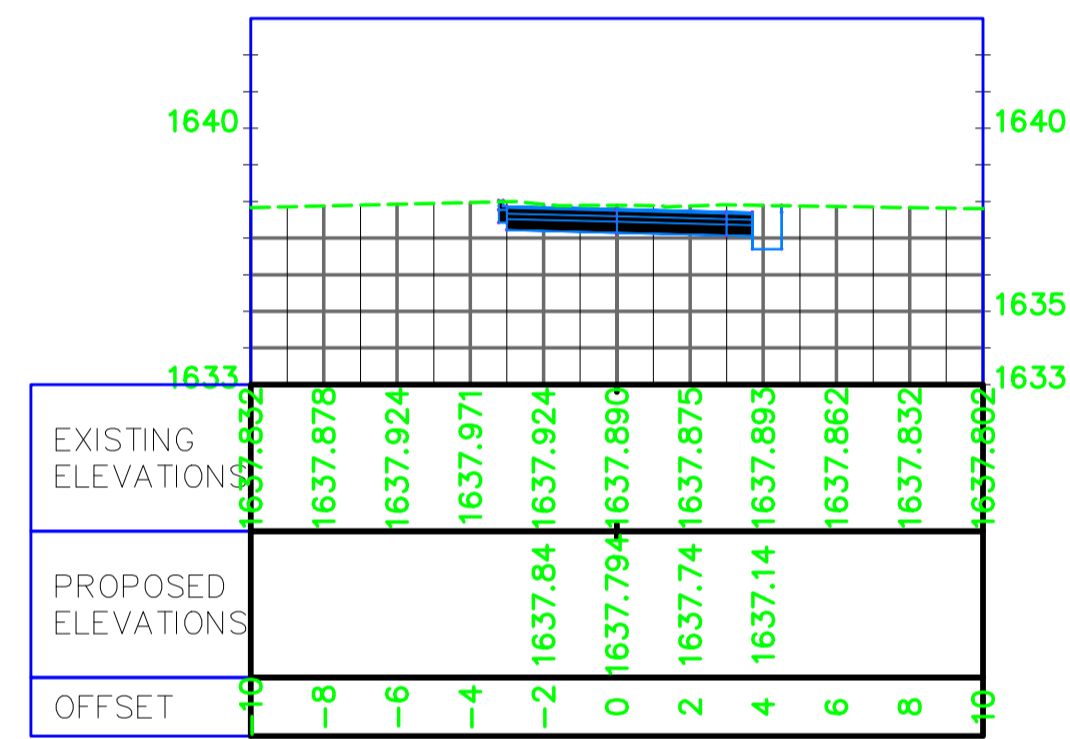
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0+140.00



0+160.00



CLIENT:



MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY COUNTY GOVERNMENT (NCCG)

FINANCIER:



CONSULTANT:



PROJECT TITLE:

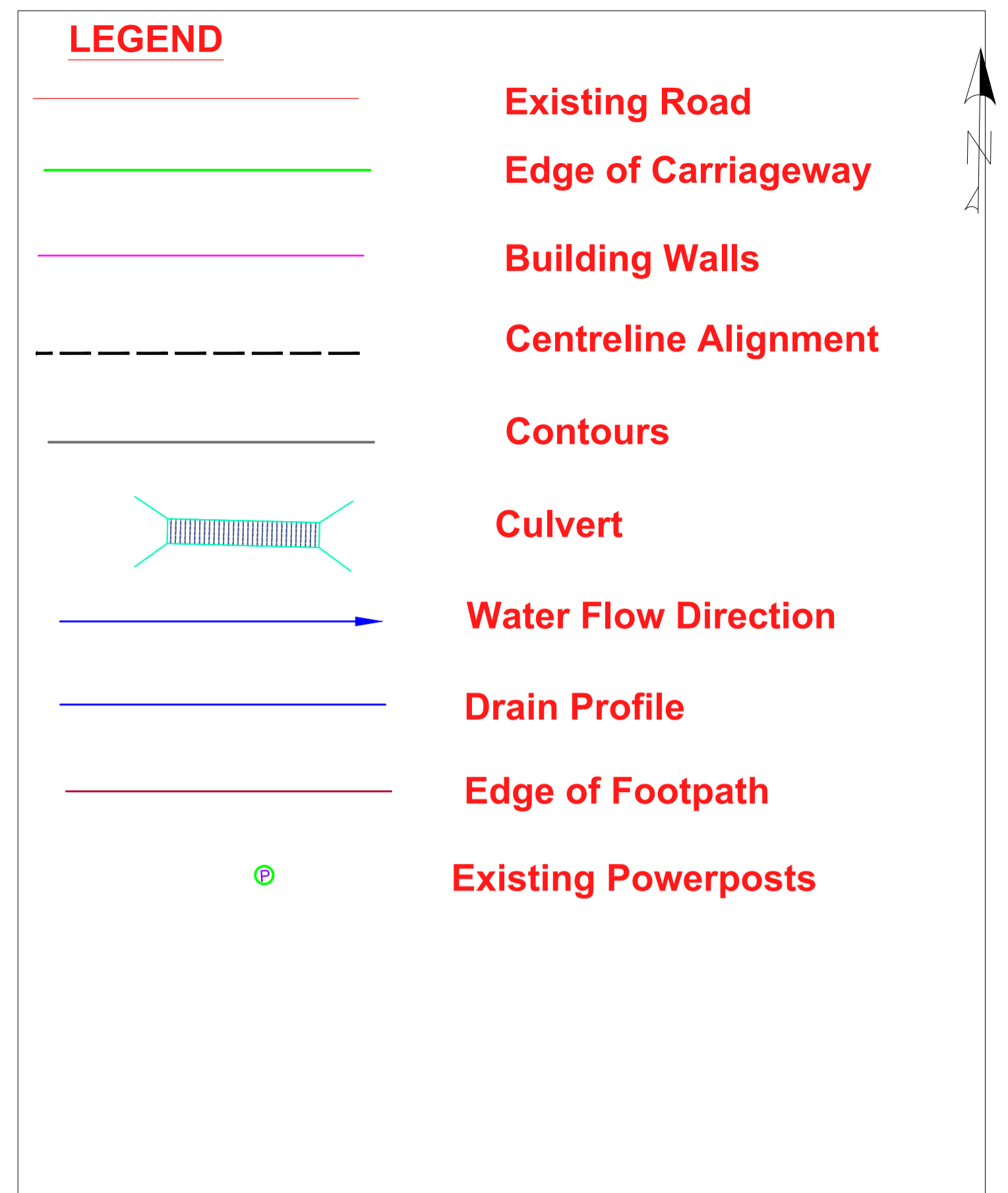
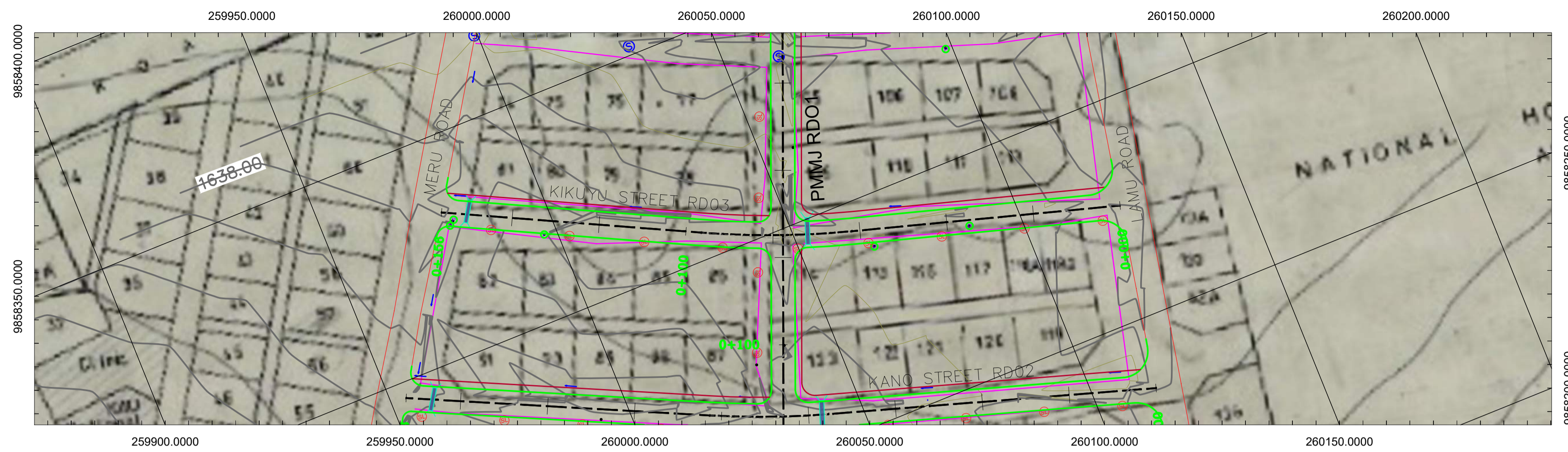
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (MAJENGO PUMWANI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: PUMWANI MAJENGO SETTLEMENT : PMMJ RD02 CROSS SECTIONS

Scale: H: 1:2000	Date: FEBRUARY 2024
V: 1:200	Stage: TENDER DRAWINGS
APPROVED BY: ENG. IKWM	DESIGNED BY: LWK
CHECKED BY: ENG. PNG	DRAWN BY: LWK

REVISIONS

No	Date	AMMENDMENTS



KIKUYU STREET PMMJ RD03 PROFILE

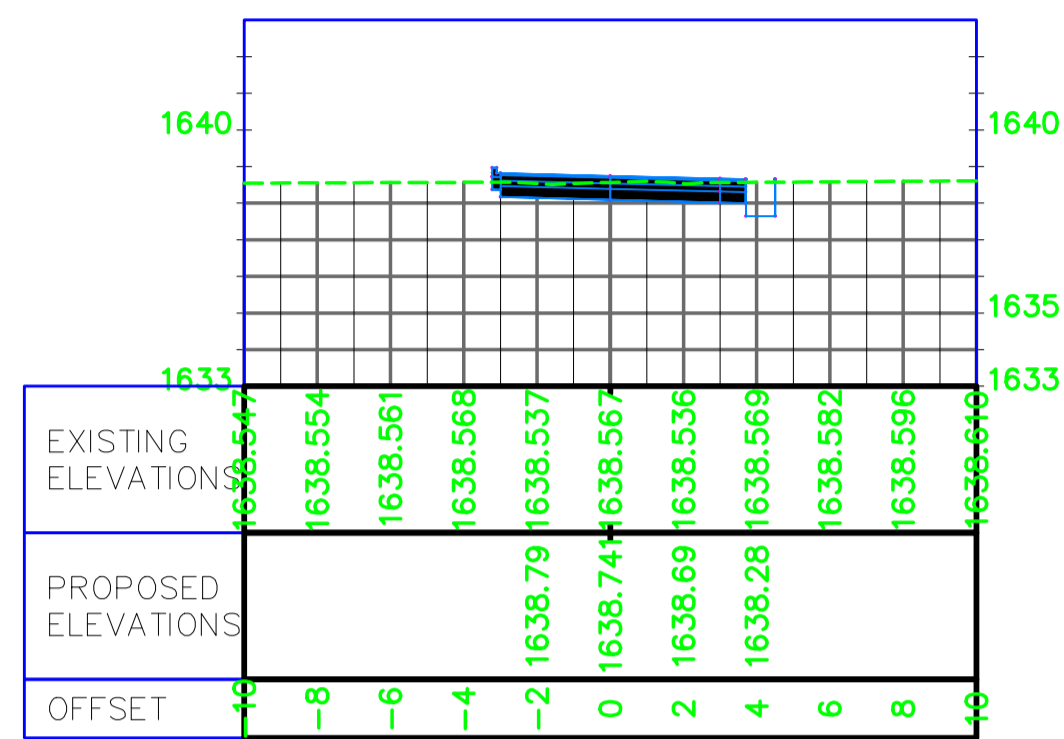


PIPE CULVERT
SIZE- 1X900
LOCATION:KM 0+075

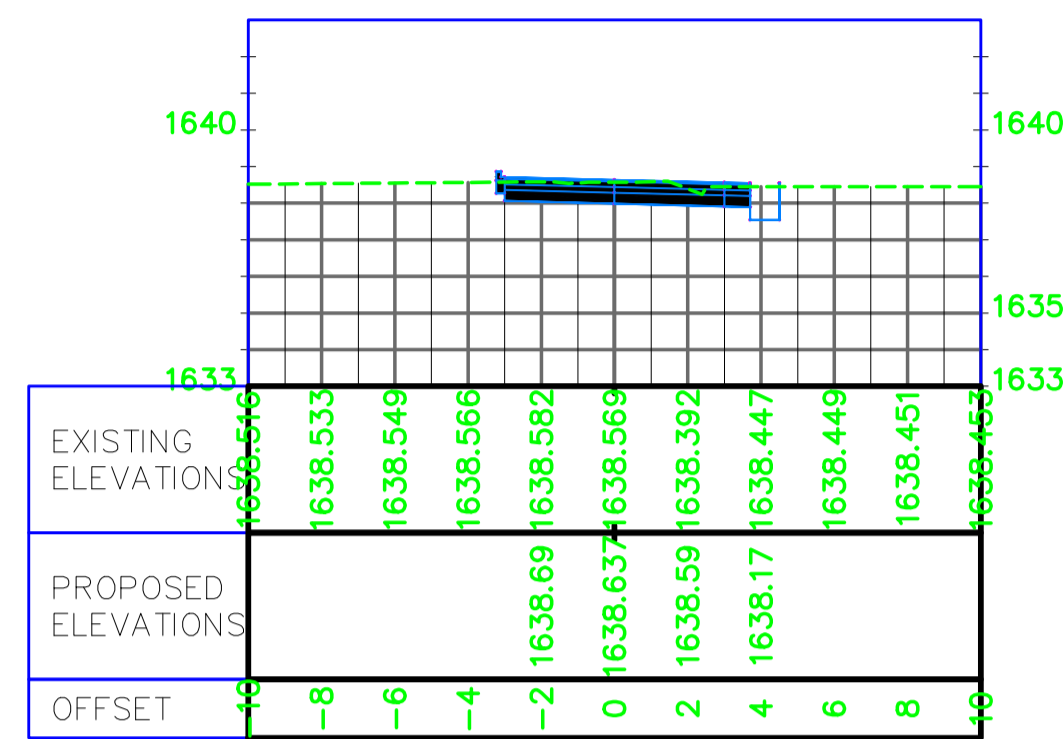
PIPE CULVERT
SIZE- 1X900
LOCATION:KM 0+150

STATION	0+000	0+050	0+100	0+156
FRL	1638.845	1638.793	1638.741	1638.689
OGL	1638.798	1638.628	1638.571	1638.689
Drain	1637.595	1637.567	1637.539	1637.511
HORIZONTAL ALIGNMENT	L=61.895m		L=34.541m	L=59.828m
VERTICAL ALIGNMENT	L=156.266m -0.520%			

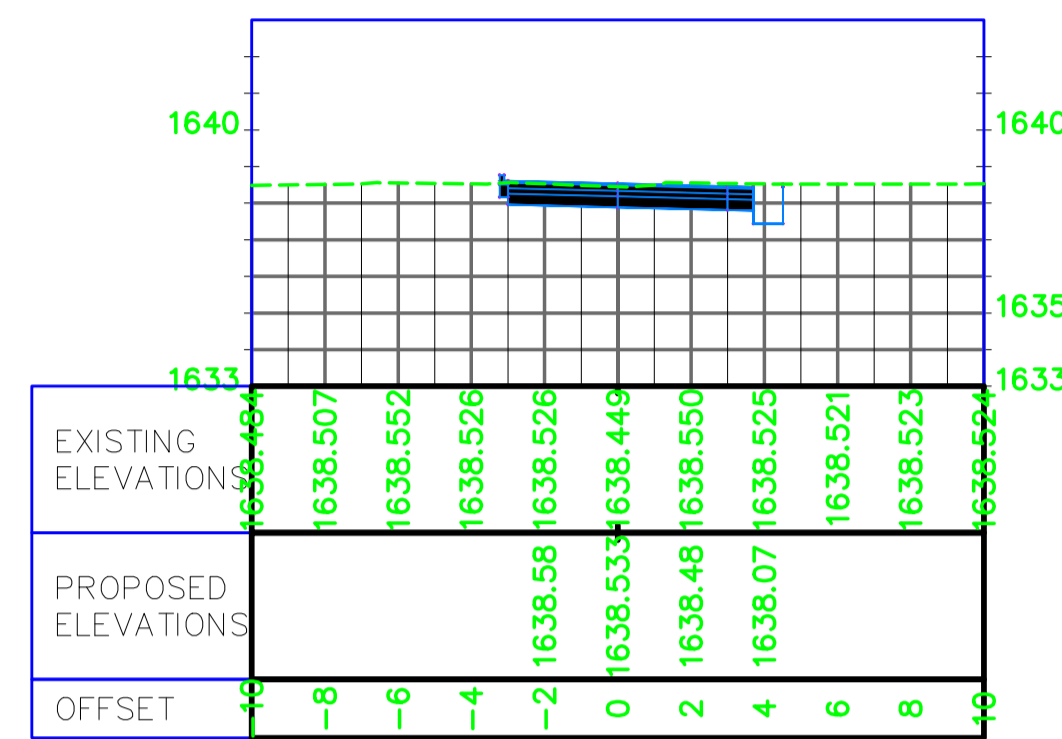
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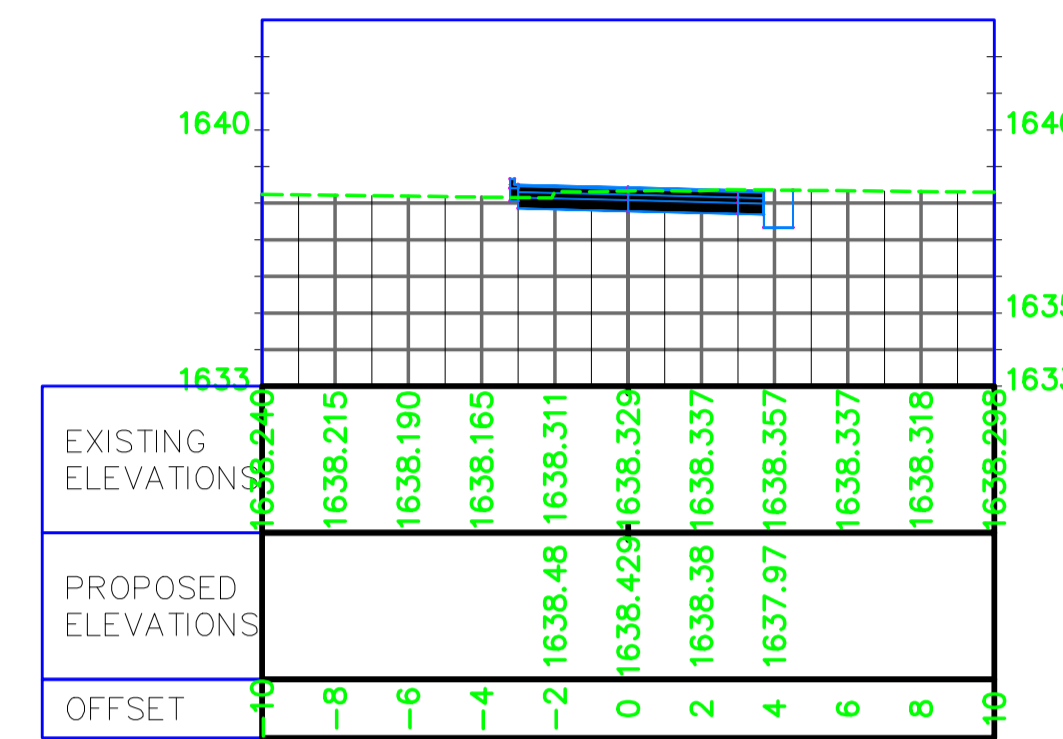
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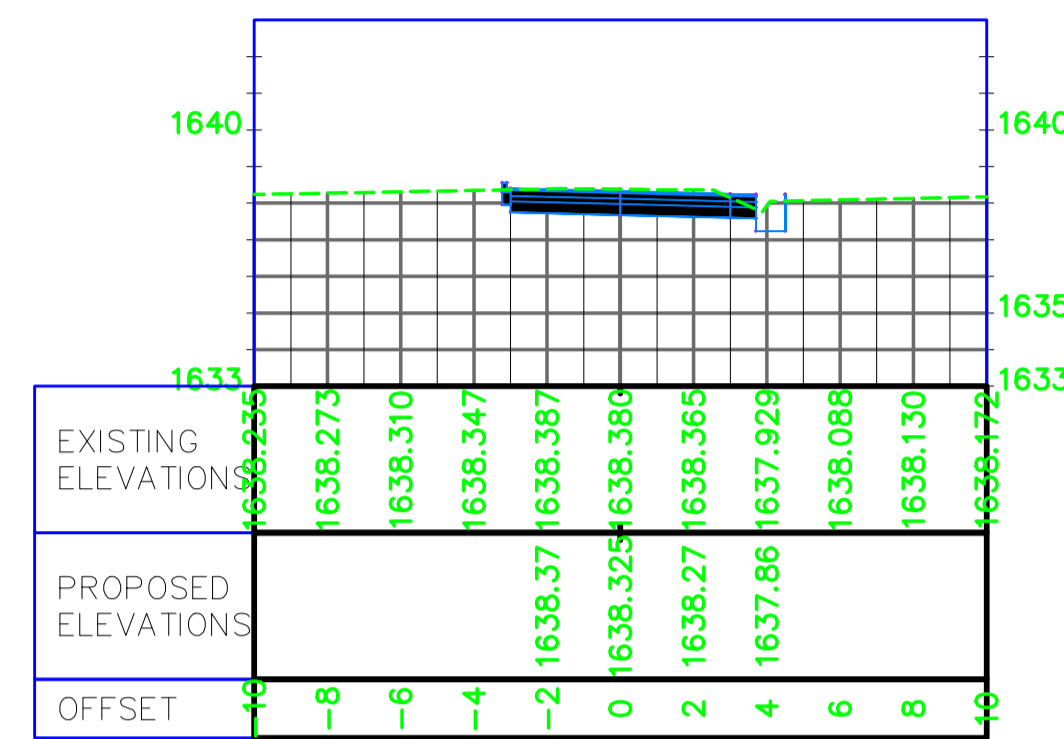
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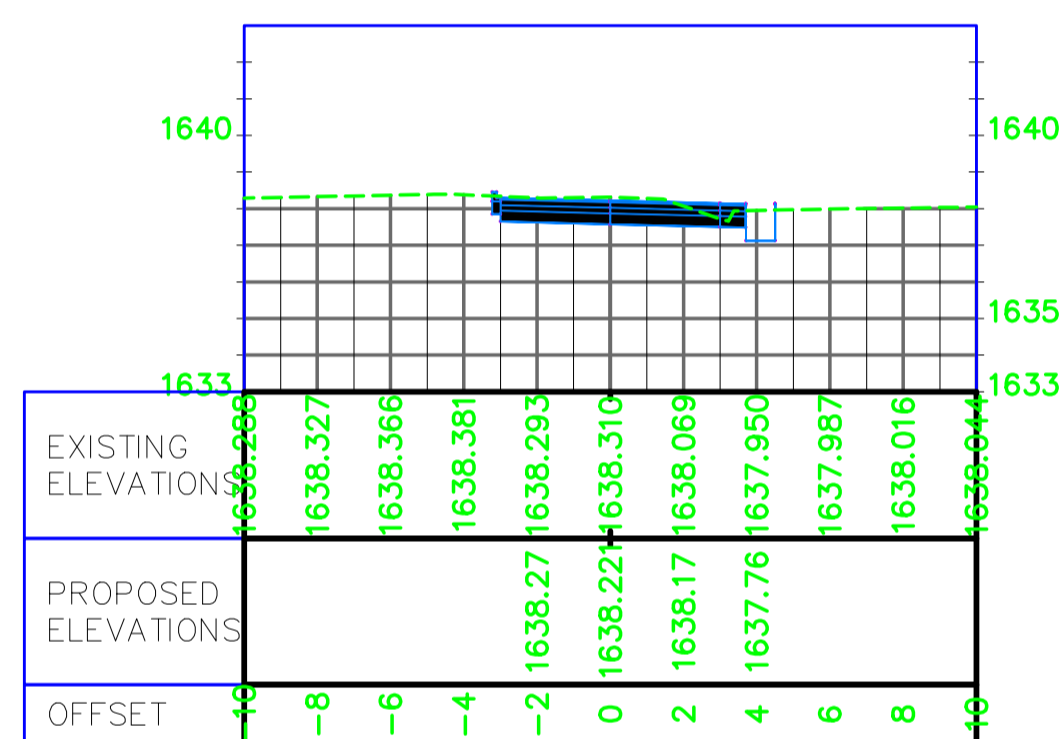
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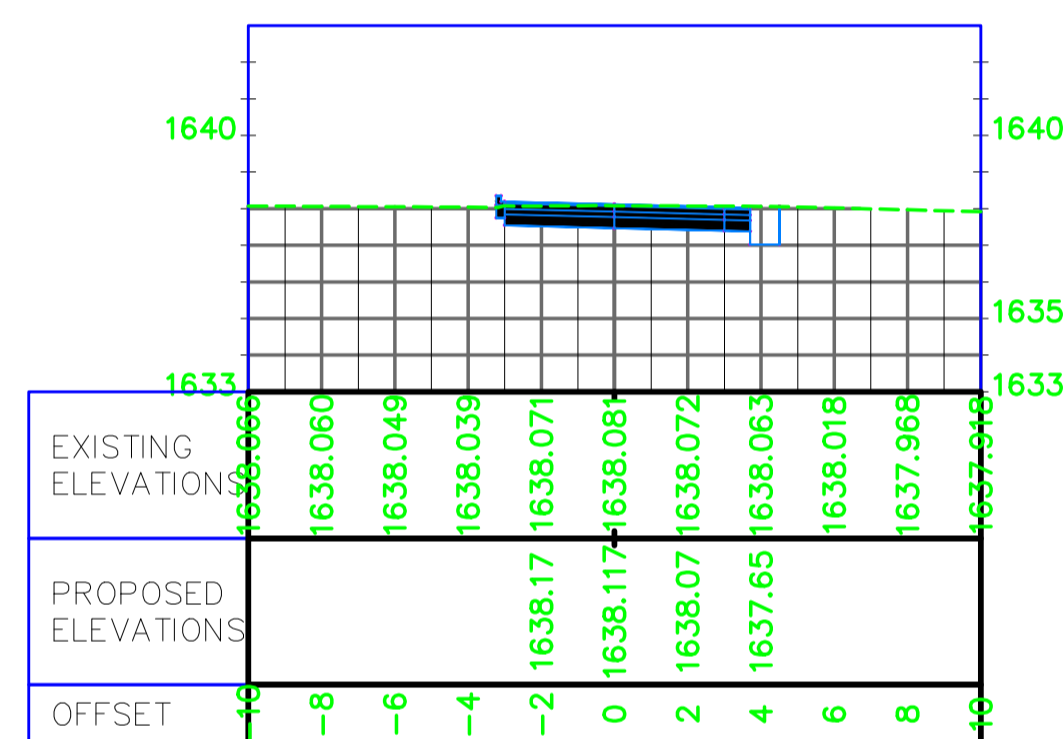
0+100.00



0+120.00



0+140.00



CLIENT:



MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY COUNTY GOVERNMENT (NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT:



Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers. Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (MAJENGO PUMWANI SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: PUMWANI MAJENGO SETTLEMENT : PMMJ RD03 CROSS SECTIONS

Scale: H: 1:2000 Date: FEBRUARY 2024 V: 1:200 Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: LWK CHECKED BY: ENG. PNG DRAWN BY: LWK

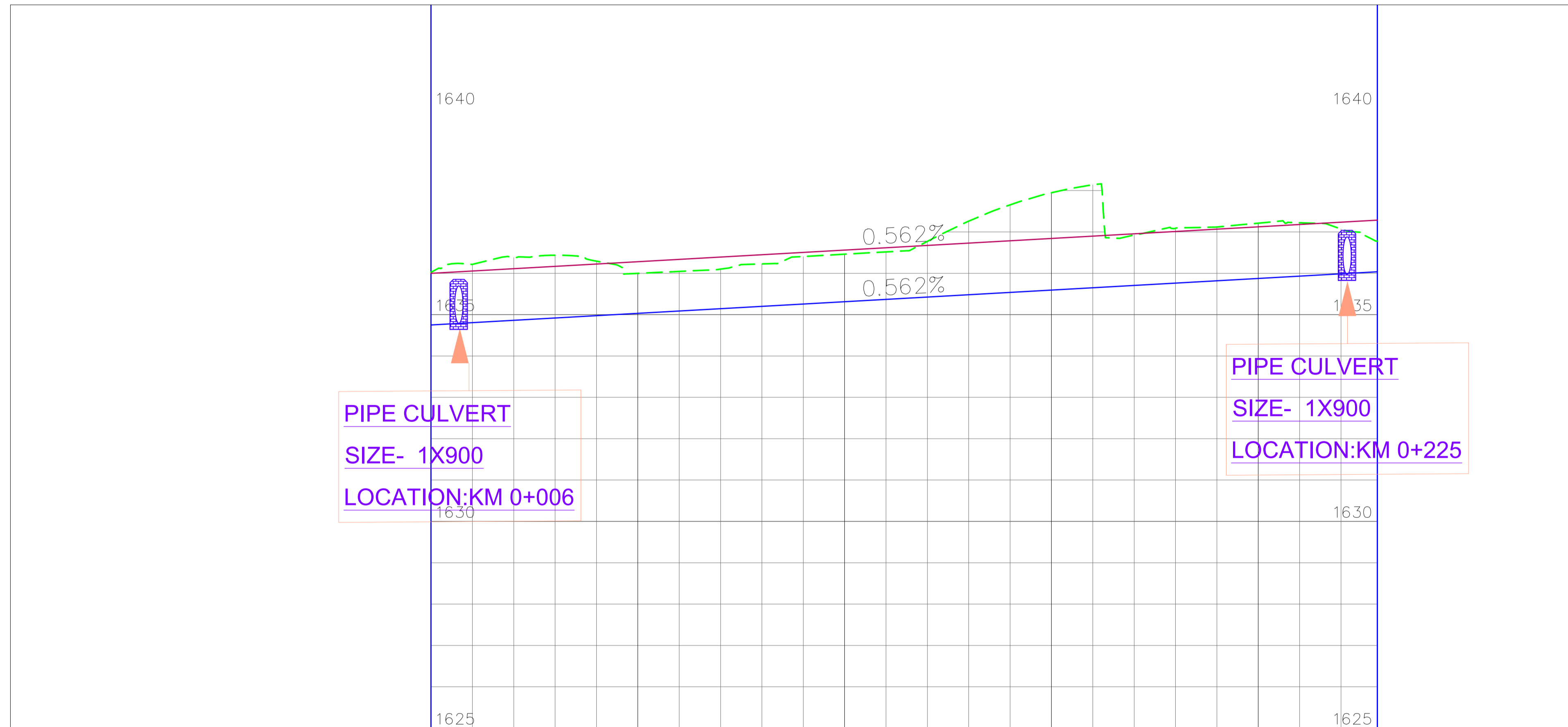
REVISIONS

No	Date	AMMENDMENTS

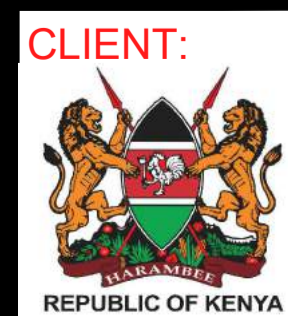


LEGEND

- Existing Road
- Edge of Carriageway
- Building Walls
- Centreline Alignment
- Contours
- Culvert
- Water Flow Direction
- Drain Profile
- Edge of Footpath
- Existing Powerposts



STATION	0+000	0+050	0+100	0+150	0+200	0+229
FRL	1636.000	1636.056	1636.112	1636.169	1636.225	1636.285
OGL	1636.028	1636.215	1636.381	1636.436	1636.180	1637.236
Drain	1634.750	1636.028	1636.215	1636.381	1636.436	1636.180
HORIZONTAL ALIGNMENT	R=7.58m L=3.430m		R=7.58m L=3.379m		R=489.02m L=42.750m	
VERTICAL ALIGNMENT	L=228.784m 0.562%					



CLIENT:
MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



EMPLOYER:
NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(MAJENGO PUMWANI SETTLEMENT) IN NAIROBI COUNTY.

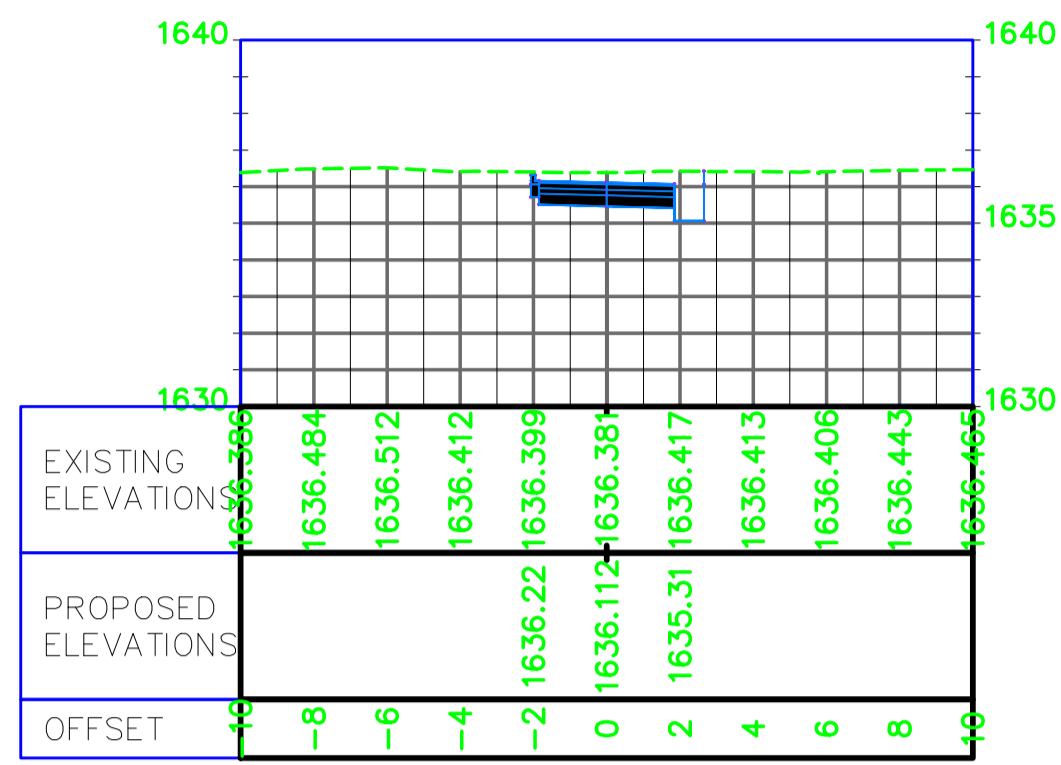
Drawing Title: **MAJENGO PUMWANI SETTLEMENT : PMMJ RD05 PLAN & PROFILES**

Drg. No: **NowMCL/CR214/PPMJ/PP/04** Sheet No: **4 of 4**
 Scale: **H: 1:2000** Date: **FEBRUARY 2024**
V: 1:200 Stage: **TENDER DRAWINGS**

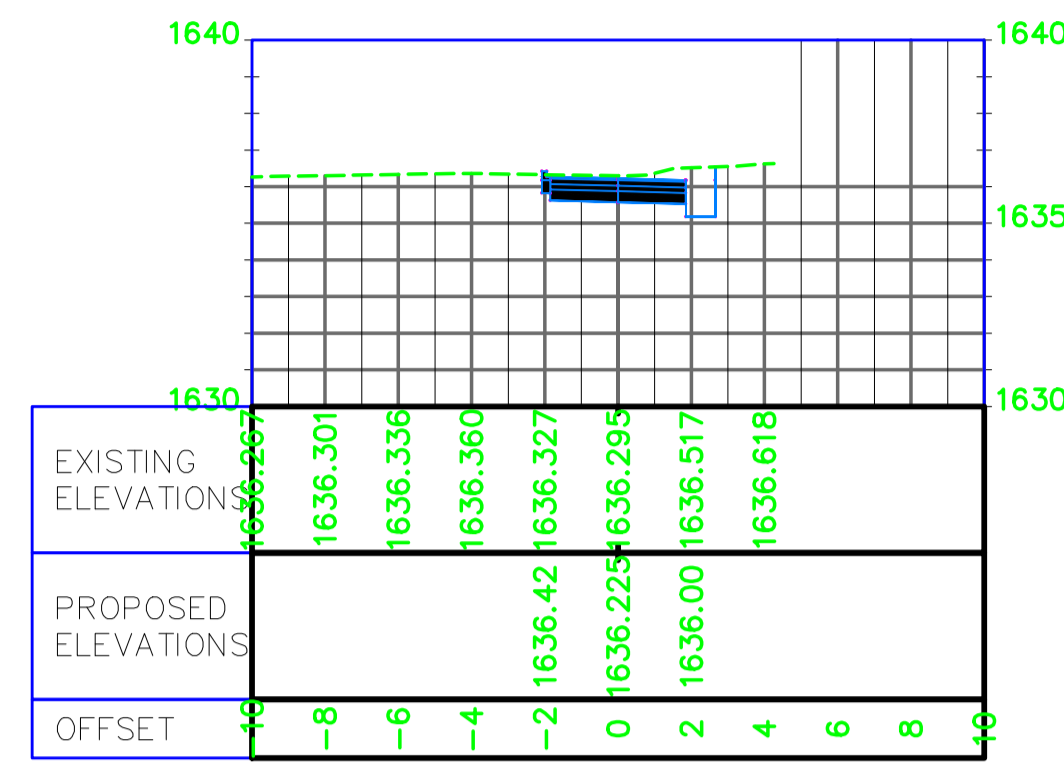
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CHECKED BY	ENG. PNG	DRAWN BY	LWK

REVISIONS	
No.	Date

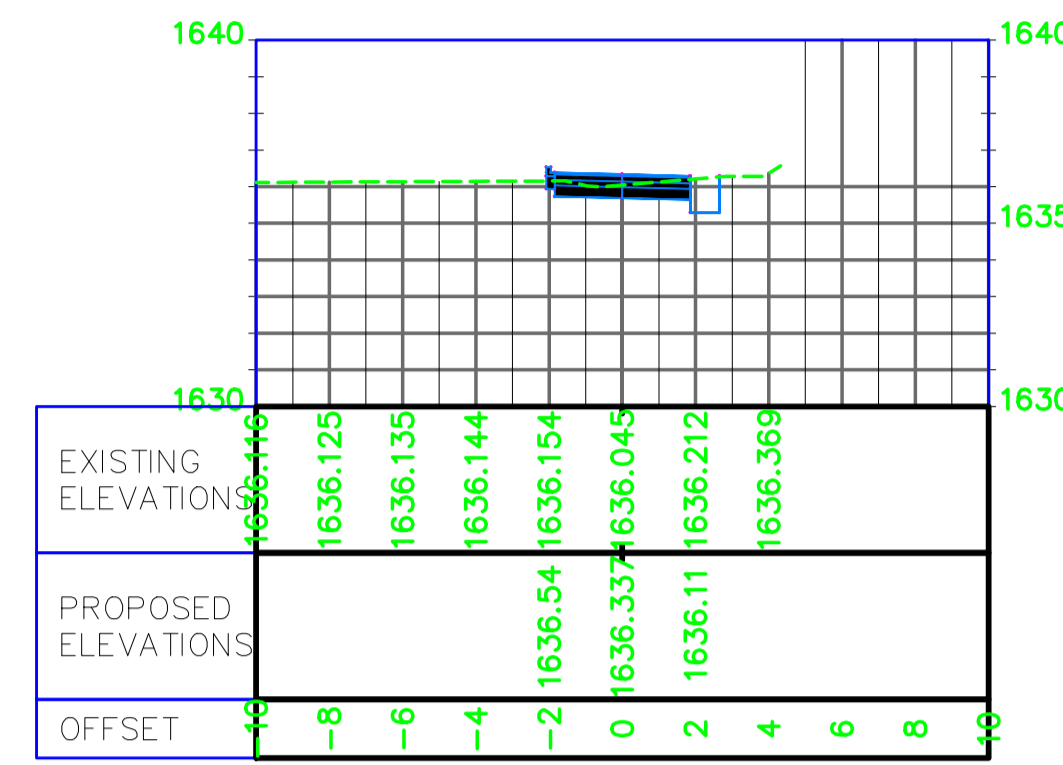
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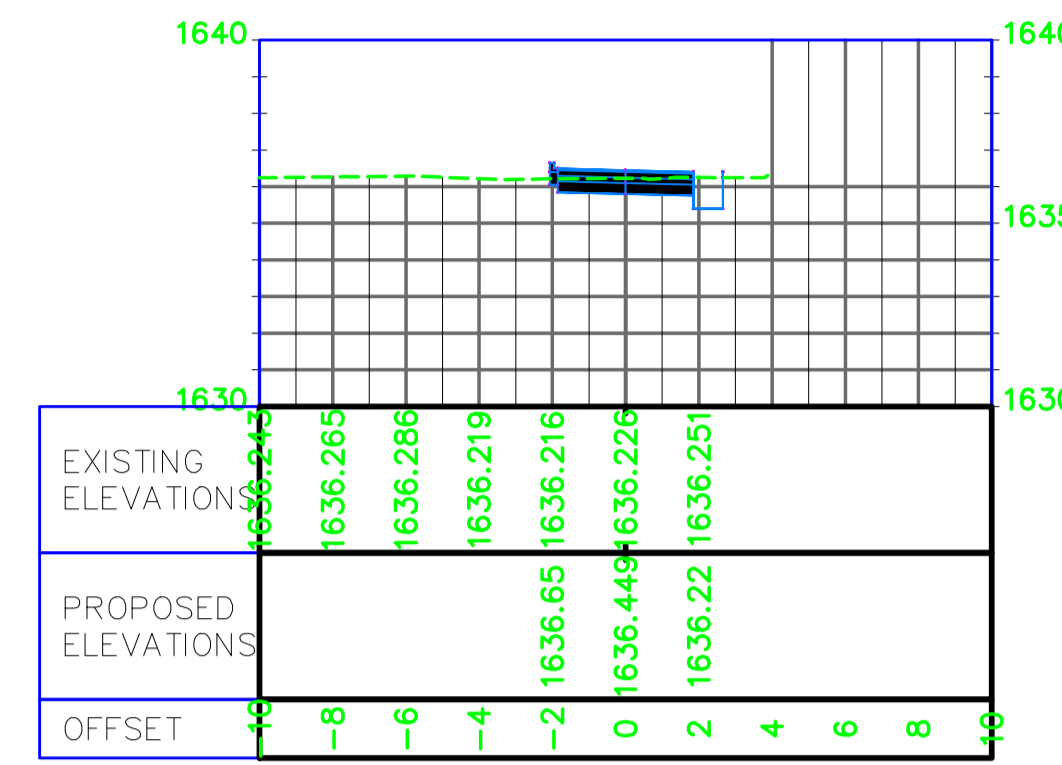
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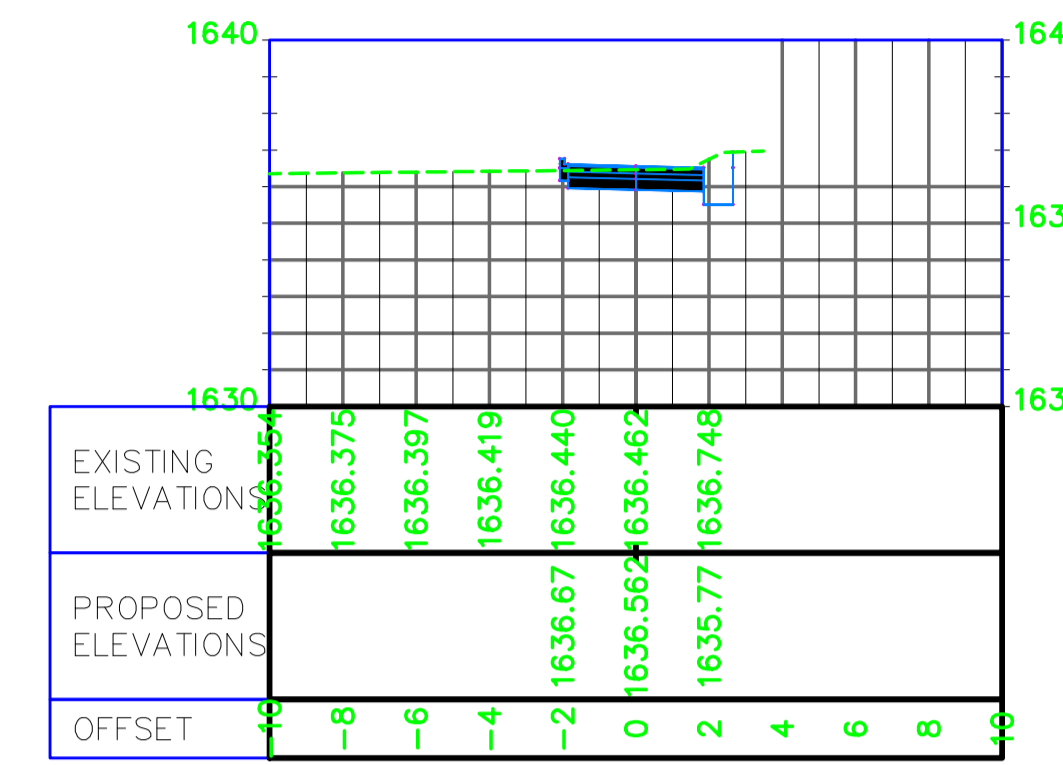
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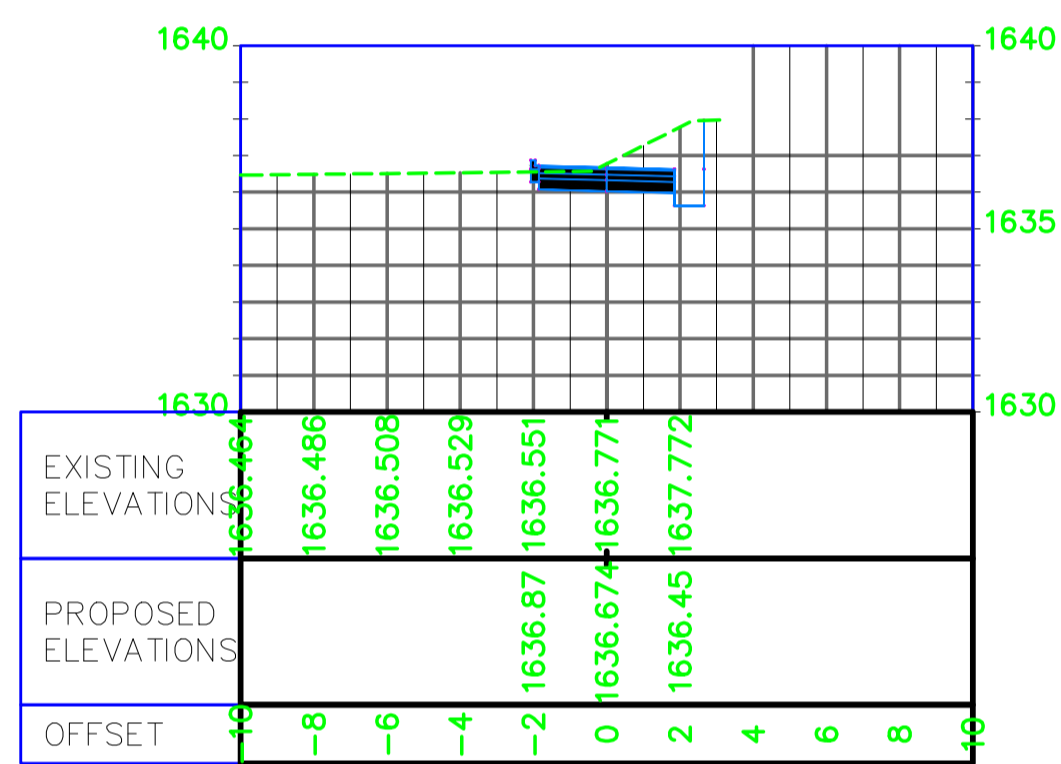
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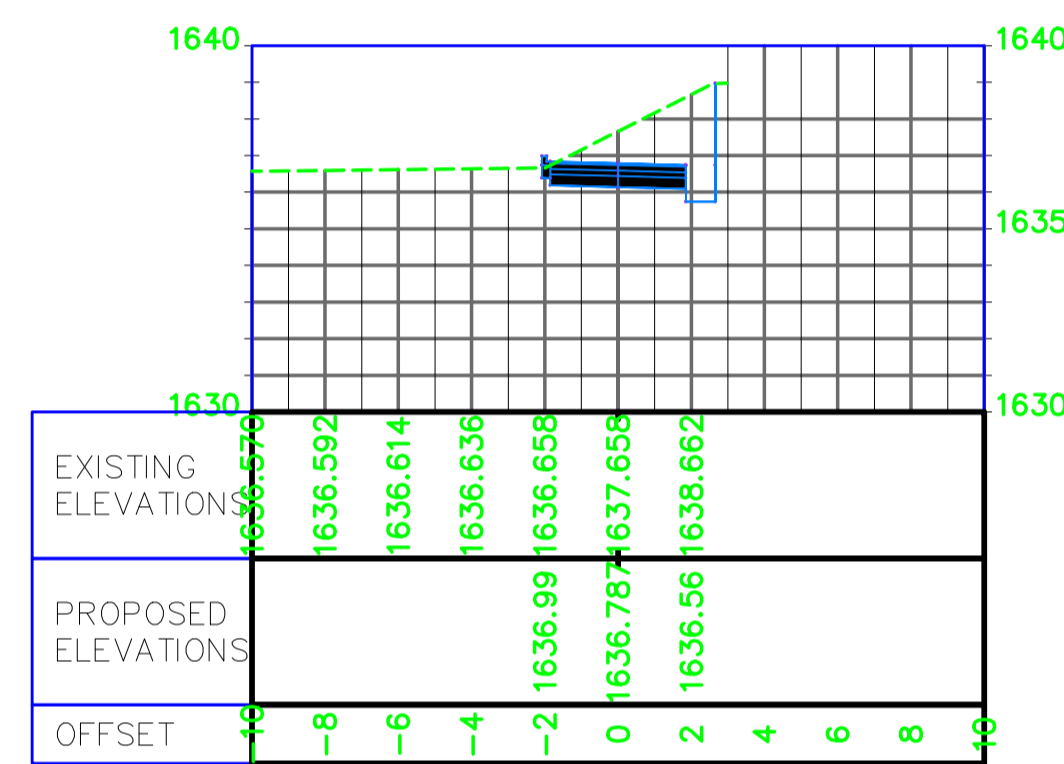
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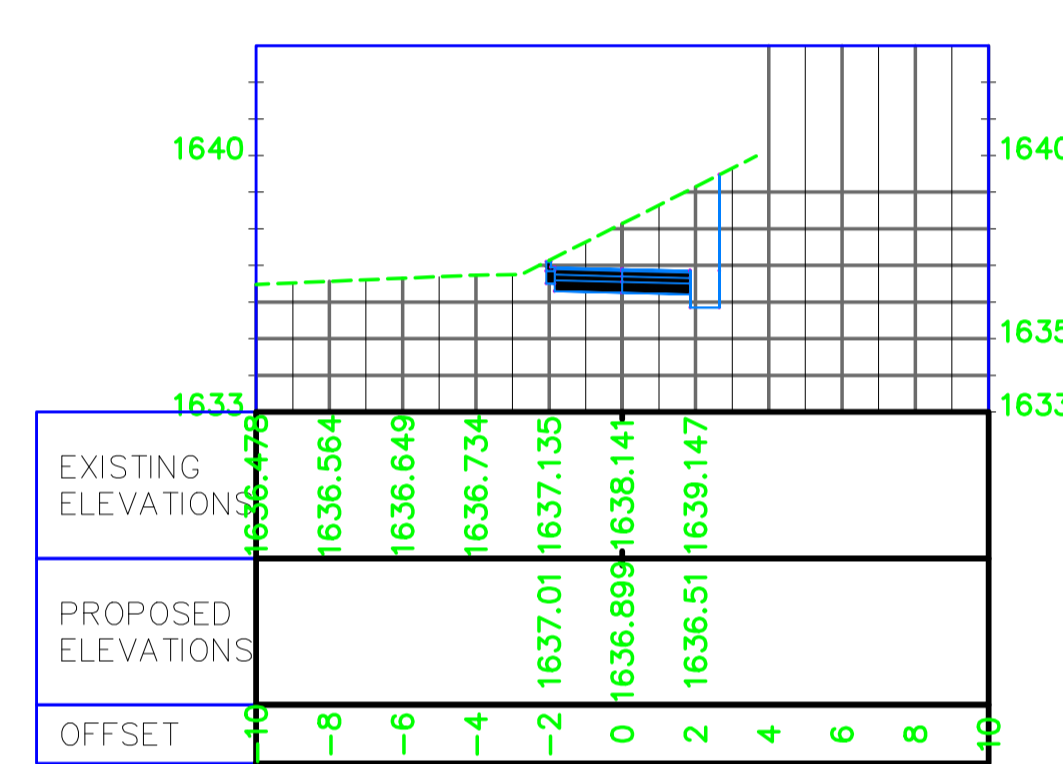
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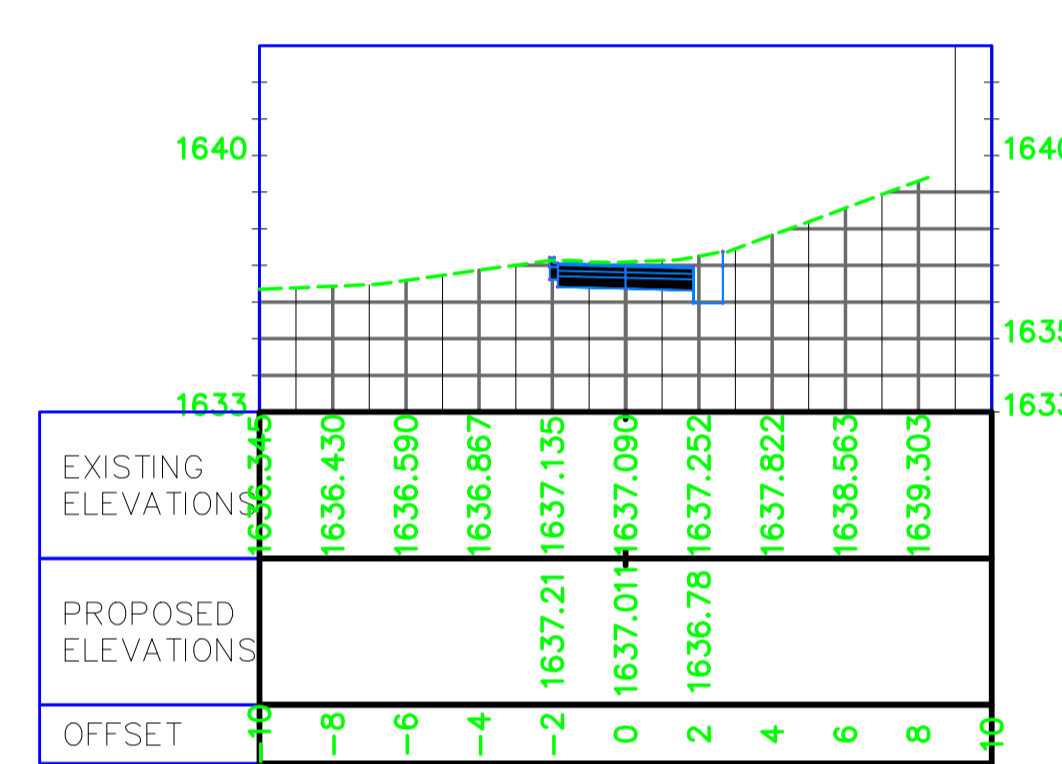
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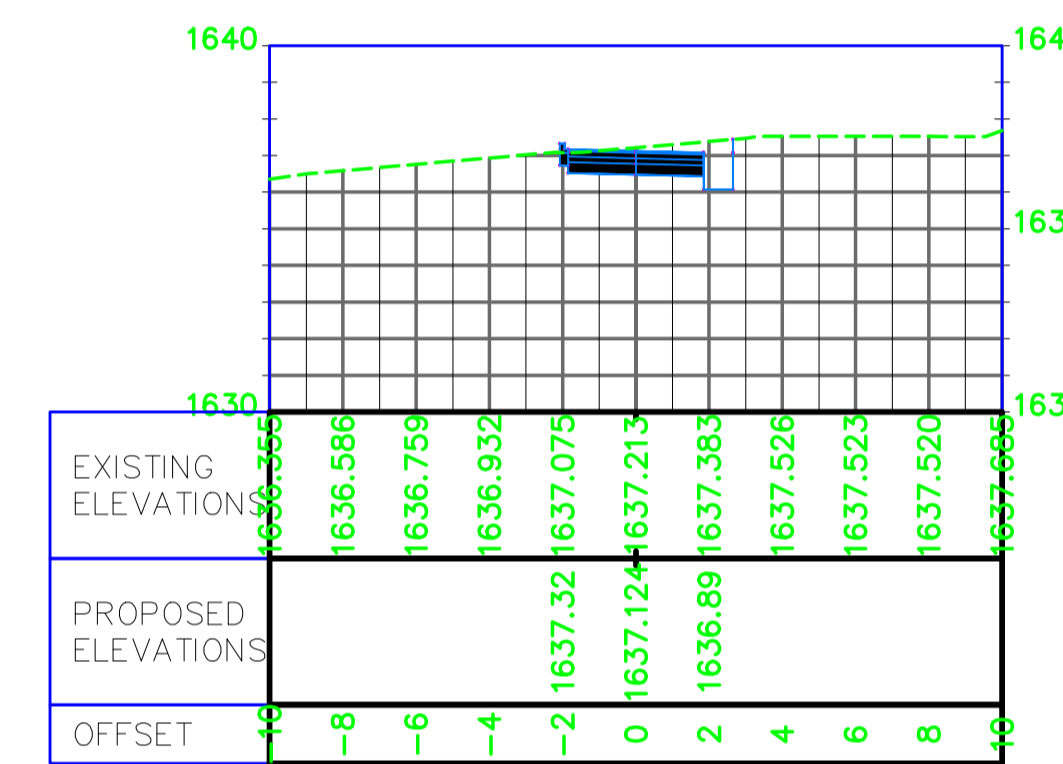
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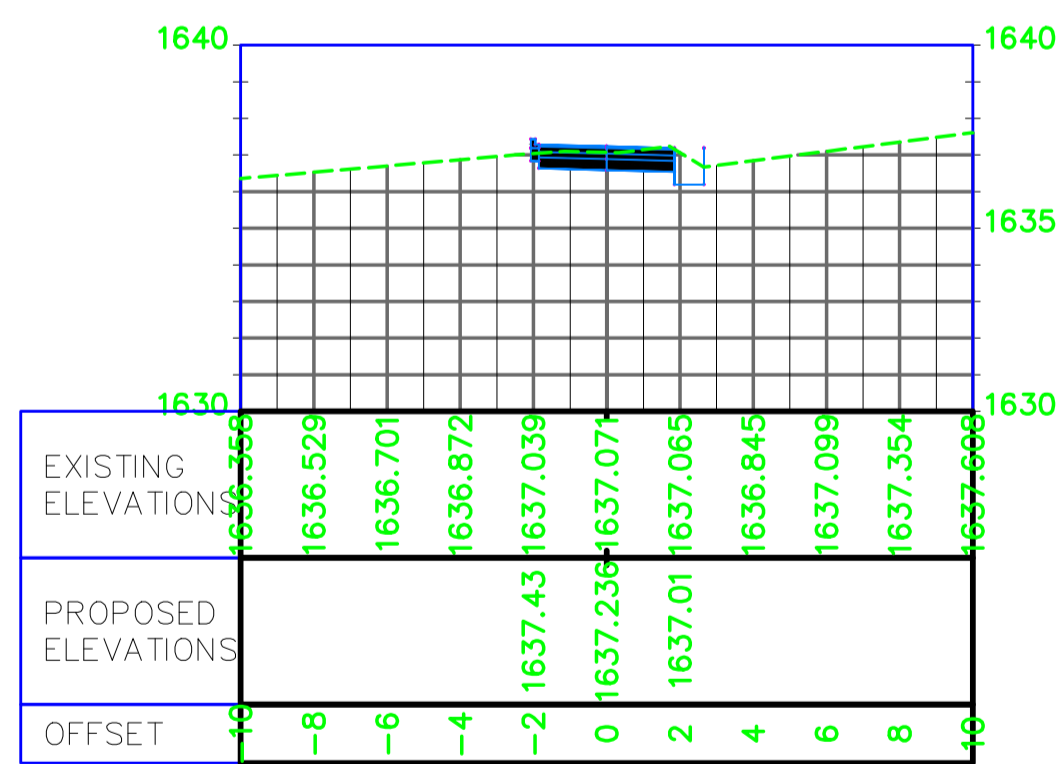
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0+220.00



SPRING VALLEY SETTLEMNENT

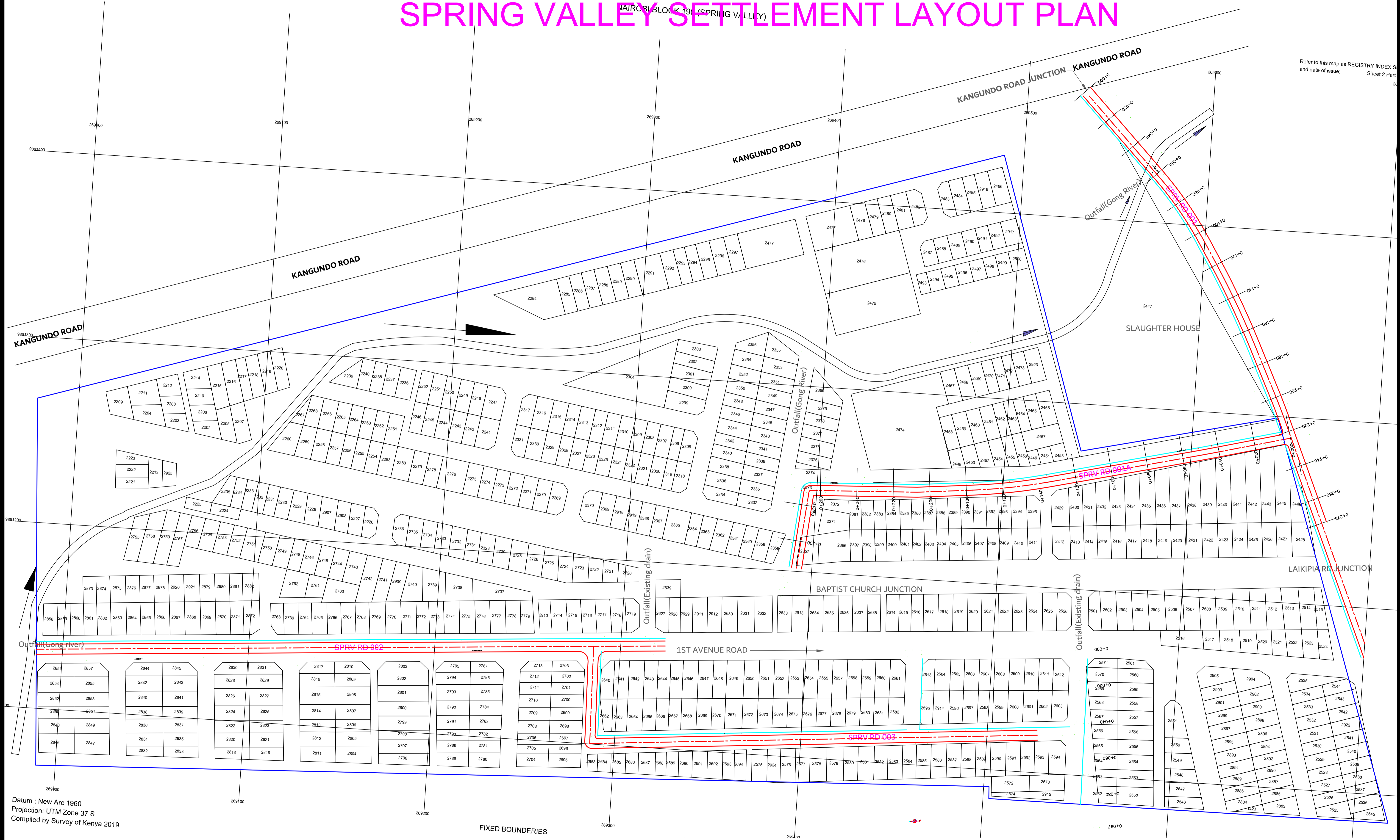
<p>CLIENT:</p>  <p>REPUBLIC OF KENYA</p>	<p>MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER:</p> 	<p>NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER:</p> <p>INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>  	<p>CONSULTANT:</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE:</p> <p>SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.</p>	<p>Drawing Title: SPRING VALLEY SETTLEMENT</p> <table border="1"> <tr> <td>Drg. No.</td> <td>Sheet No.</td> </tr> <tr> <td>Scale: 1:50 1:100</td> <td>Date: FEBRUARY 2024</td> </tr> <tr> <td>APPROVED BY</td> <td>ENG. IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG. PNG</td> <td>DRAWN BY</td> <td>SM</td> </tr> </table>	Drg. No.	Sheet No.	Scale: 1:50 1:100	Date: FEBRUARY 2024	APPROVED BY	ENG. IKWM	DESIGNED BY	LWK	CHECKED BY	ENG. PNG	DRAWN BY	SM	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>AMMENDMENTS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	Date	AMMENDMENTS			
Drg. No.	Sheet No.																									
Scale: 1:50 1:100	Date: FEBRUARY 2024																									
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK																							
CHECKED BY	ENG. PNG	DRAWN BY	SM																							
No.	Date	AMMENDMENTS																								

GENERAL LAYOUT

SPRING VALLEY SETTLEMENT LAYOUT PLAN

NAIROBI BLOCK 19 (SPRING VALLEY)

Refer to this map as REGISTRY INDEX S
and date of issue;
Sheet 2 Part
20



Datum : New Arc 1960
Projection: UTM Zone 37 S
Compiled by Survey of Kenya 2019

FIXED BOUNDARIES

CLIENT:

**MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT**

EMPLOYER:

**NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)**

FINANCIER:
**INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)**
 

CONSULTANT:

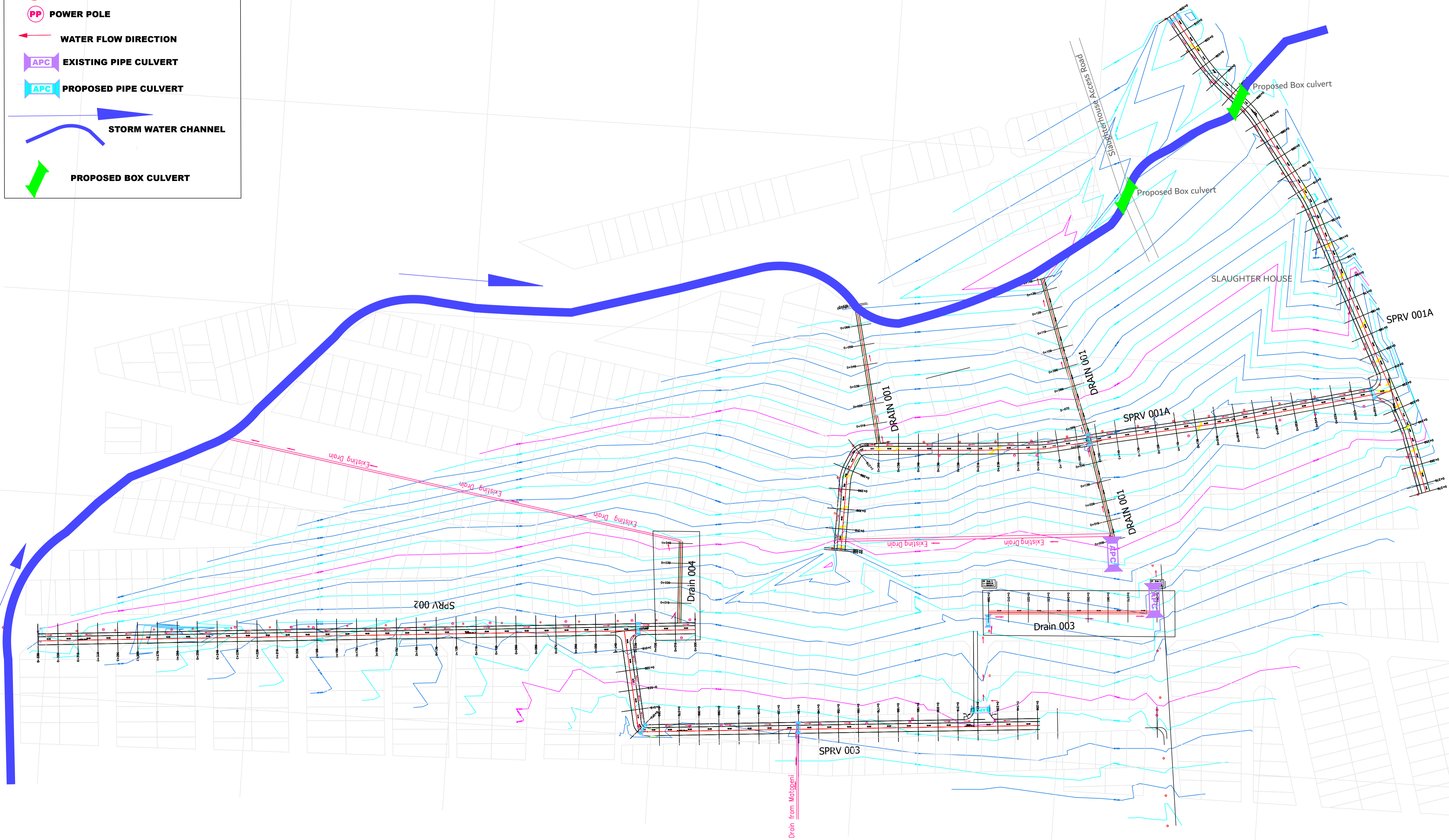
**Wanjohi
Mutonyi
Consult Ltd.**
 Engineers, Environmentalists . Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY**

Drawing Title: SPRING VALLEY SETTLEMENT LAYOUT PLAN.		REVISIONS	
Drg.No. WMCL/CR214/SPRVs/GLP/01 Sheet No. 1 of 2			
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Scale: 1:200	Stage: TENDER DRAWINGS		
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CHECKED BY: ENG.PNG	DRAWN BY: SM	No.	Date
		AMMENDMENTS	






KEY

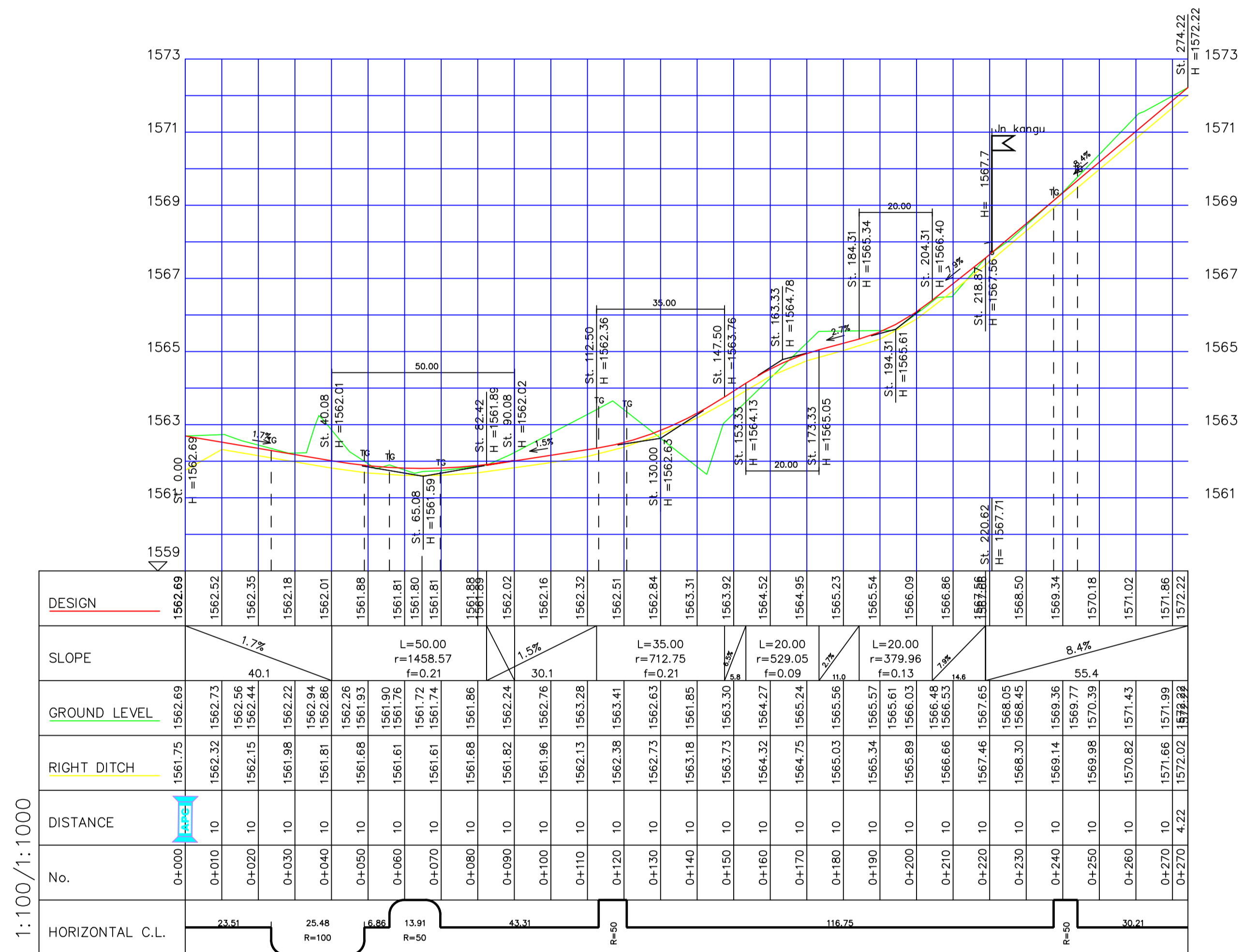
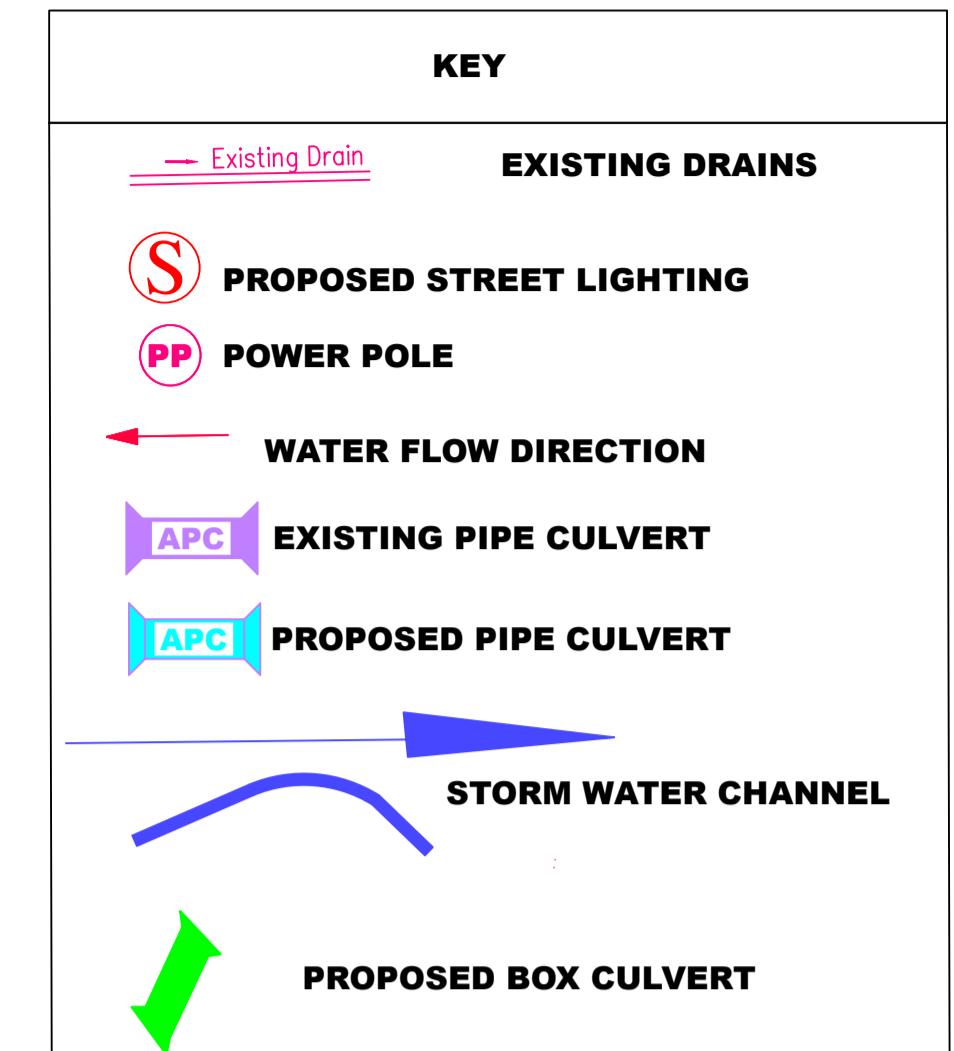
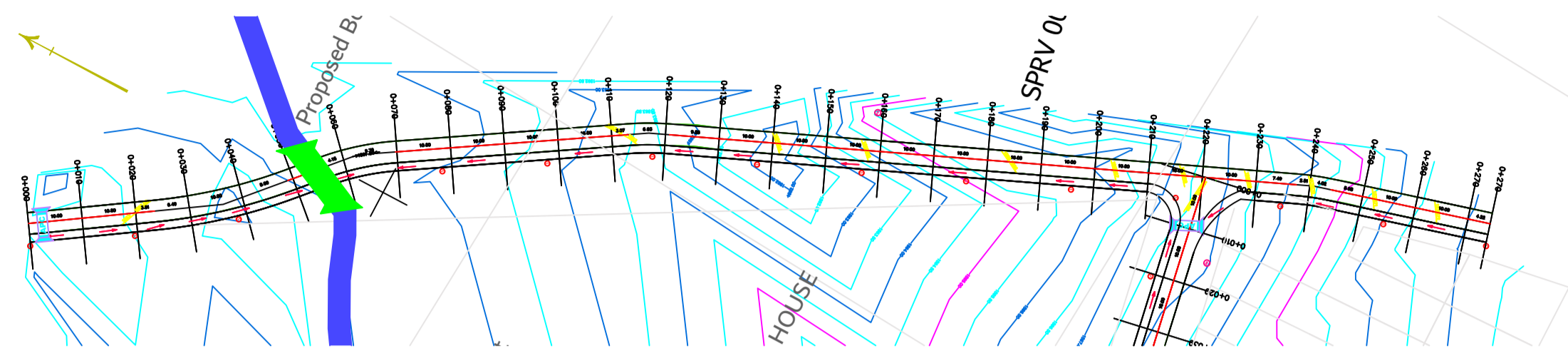
- Existing Drain
- EXISTING DRAINS**
- S** PROPOSED STREET LIGHTING
- PP** POWER POLE
- ← WATER FLOW DIRECTION
- APC** EXISTING PIPE CULVERT
- APC** PROPOSED PIPE CULVERT
- STORM WATER CHANNEL
- PROPOSED BOX CULVERT



CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)	FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD) 	CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.	Drawing Title: SPRING VALLEY SETTLEMENT: GENERAL LAYOUT PLAN		Drg. No. WMCL/CR214/SPRV/GLP/02 Sheet No. 2 of 2		Scale: 1:1000 Date: FEBRUARY 2024		Stage: TENDER DRAWINGS		APPROVED BY: ENG. IKWM DESIGNED BY: JKM		CHECKED BY: ENG. PNG DRAWN BY: JKM		REVISIONS	
					No	Date	AMMENDMENTS											

PLANS AND PROFILES

<p>CLIENT:</p>  <p>REPUBLIC OF KENYA</p> <p>MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER:</p>  <p>NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER:</p> <p>INTERNATIONAL DEVELOPMENT AGENCY(IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT(AFD)</p>  	<p>CONSULTANT:</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE:</p> <p>SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.</p>	<p>Drawing Title: PLAN AND PROFILES</p> <table border="1"> <tr> <td>Drg. No.</td> <td>Sheet No.</td> </tr> <tr> <td>Scale: 1:50 1:100</td> <td>Date: FEBRUARY:2024 Stage: TENDER DRAWINGS</td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> </tr> </table> <table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>No.</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Drg. No.	Sheet No.	Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS	APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	CHECKED BY	ENG.PNG	DRAWN BY	SM	REVISIONS		No.	Date				
Drg. No.	Sheet No.																								
Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS																								
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK																						
CHECKED BY	ENG.PNG	DRAWN BY	SM																						
REVISIONS																									
No.	Date																								



kangundo road jn-Lai

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **SPRING VALLEY SETTLEMENT: PLAN
& PROFILE**

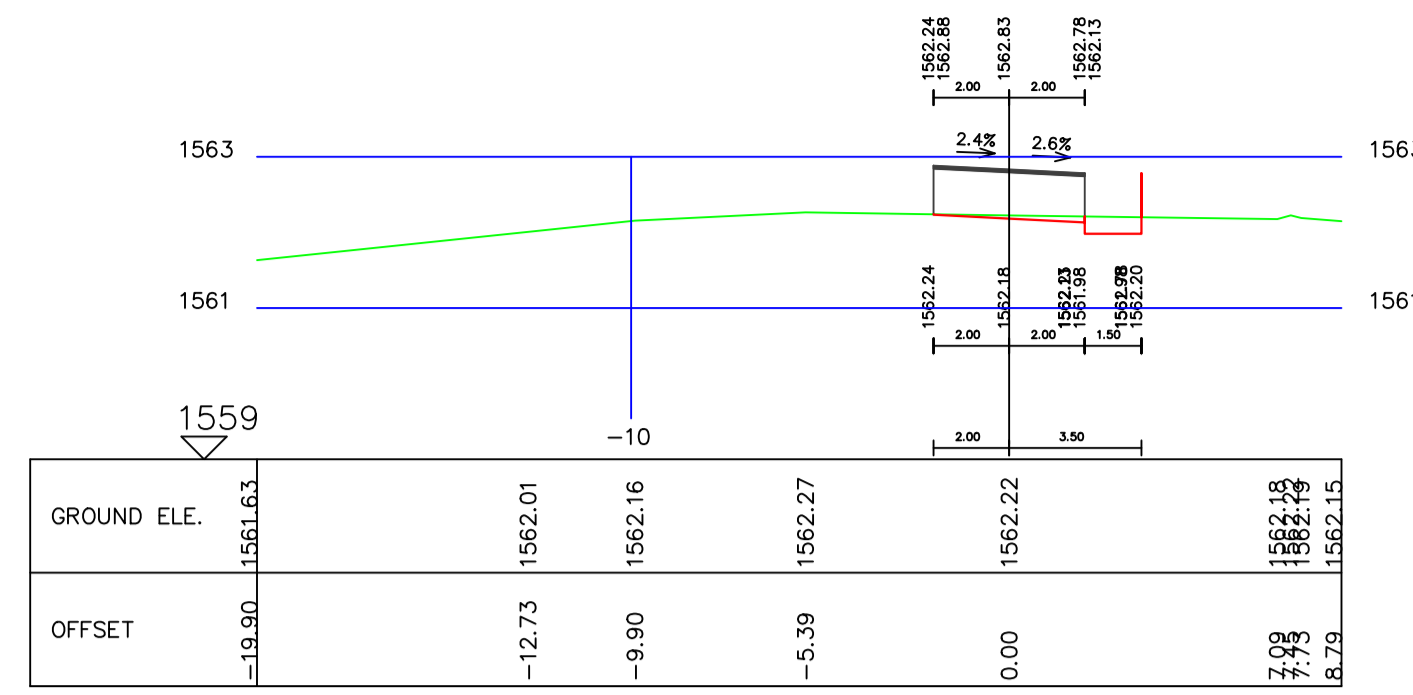
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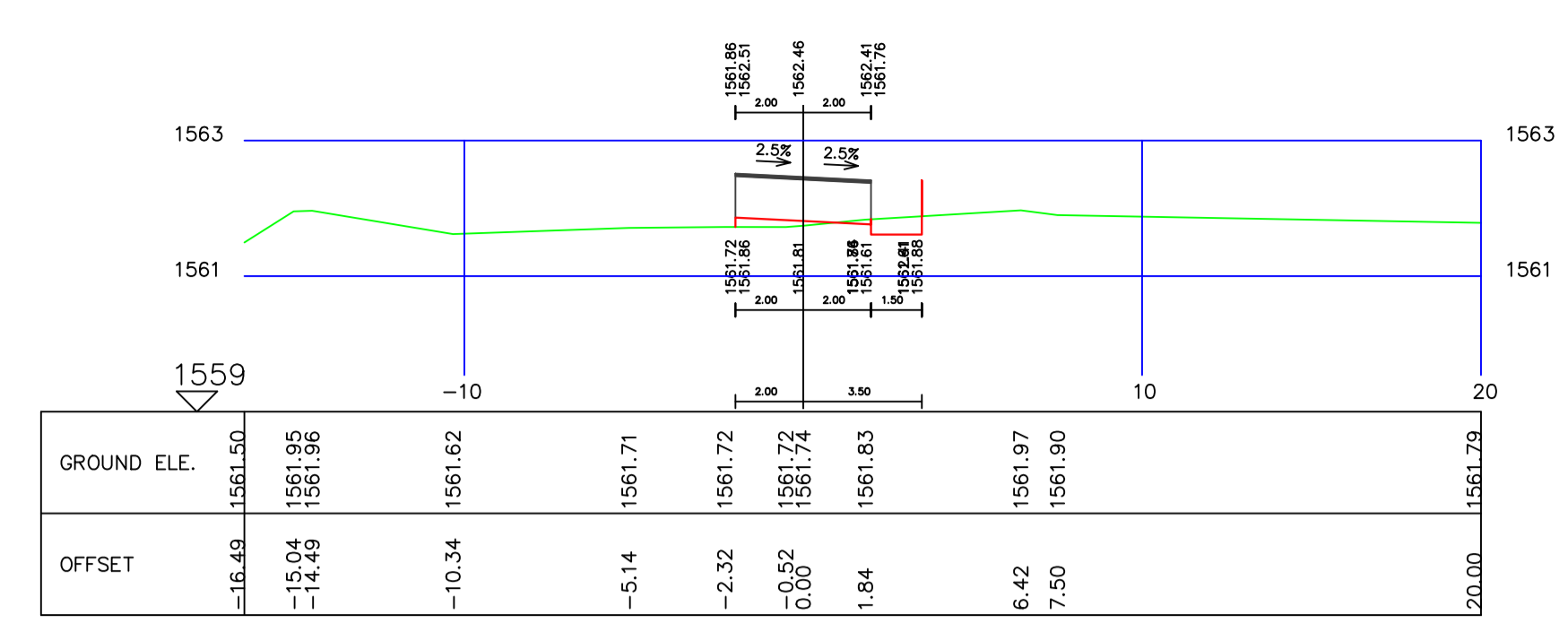
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REVISIONS

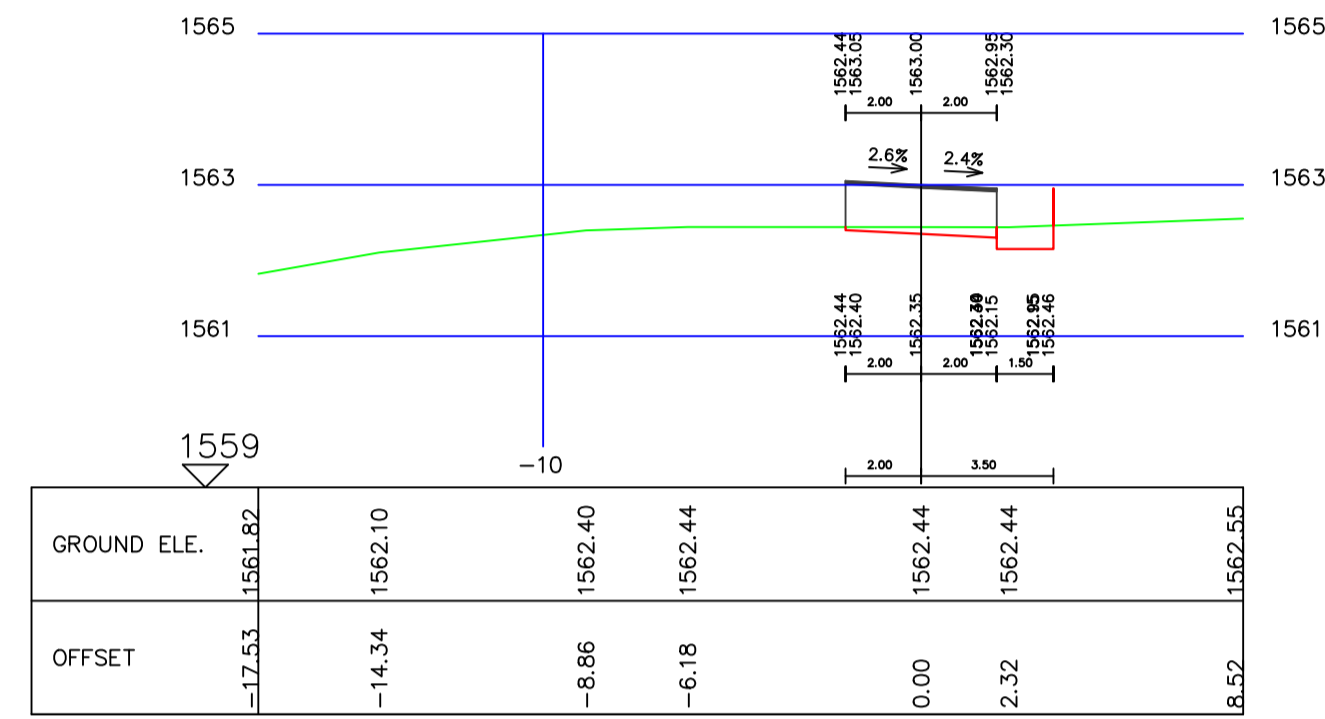
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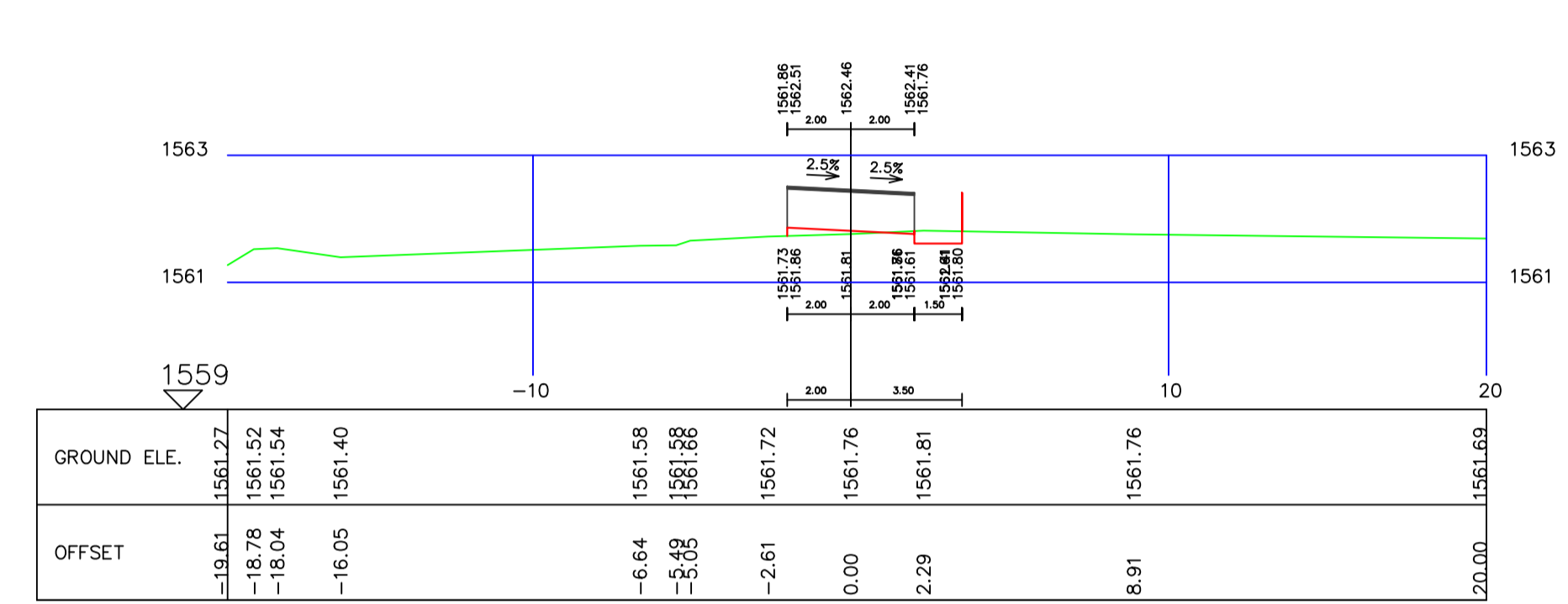
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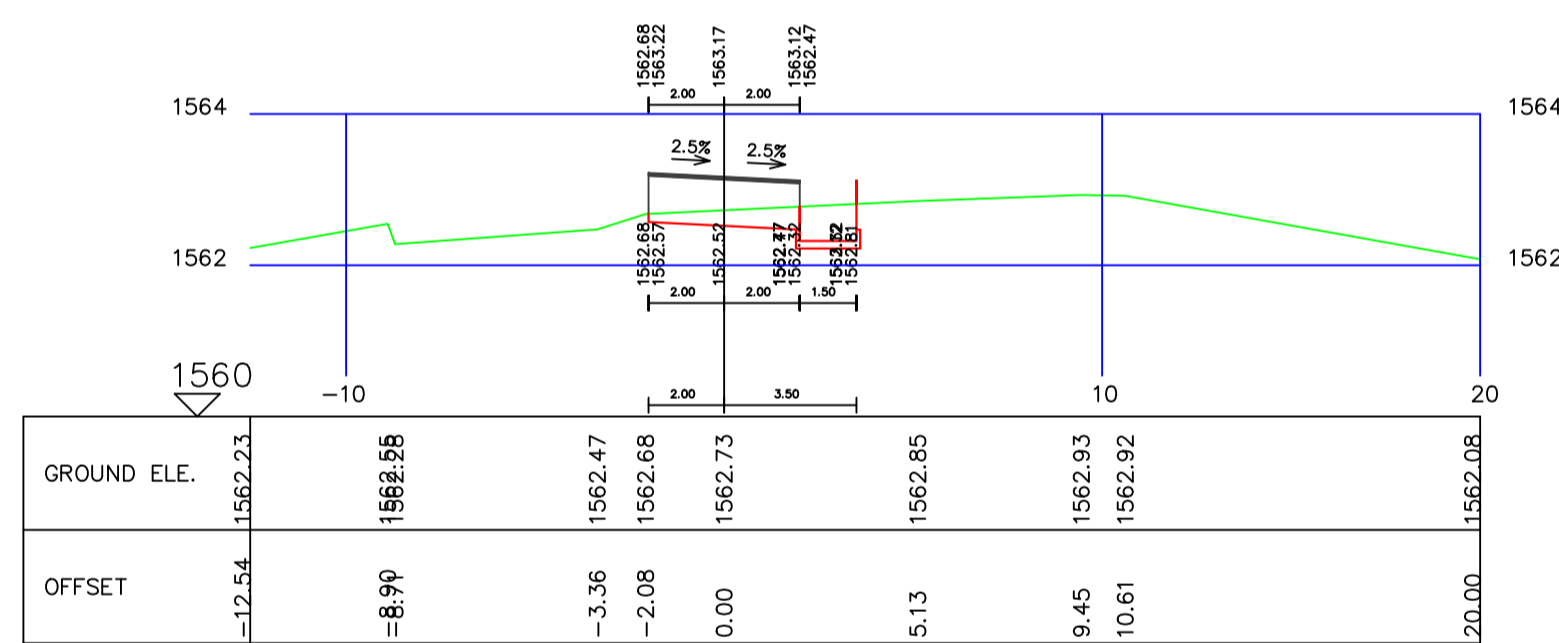
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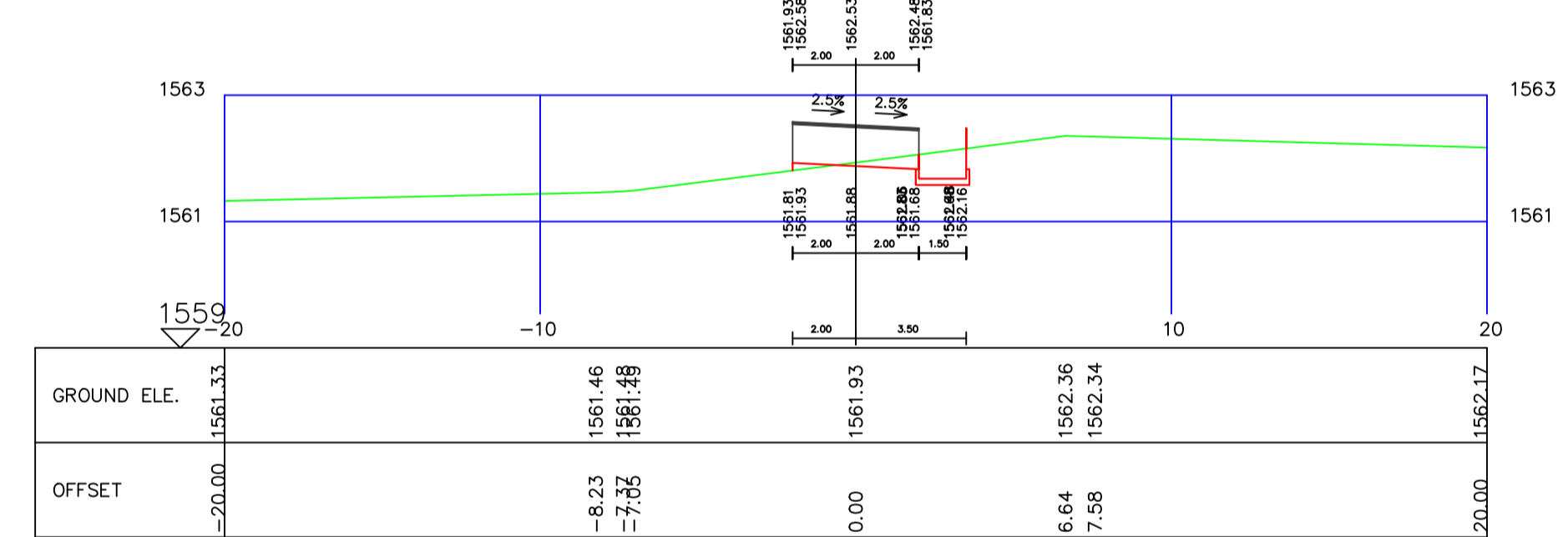
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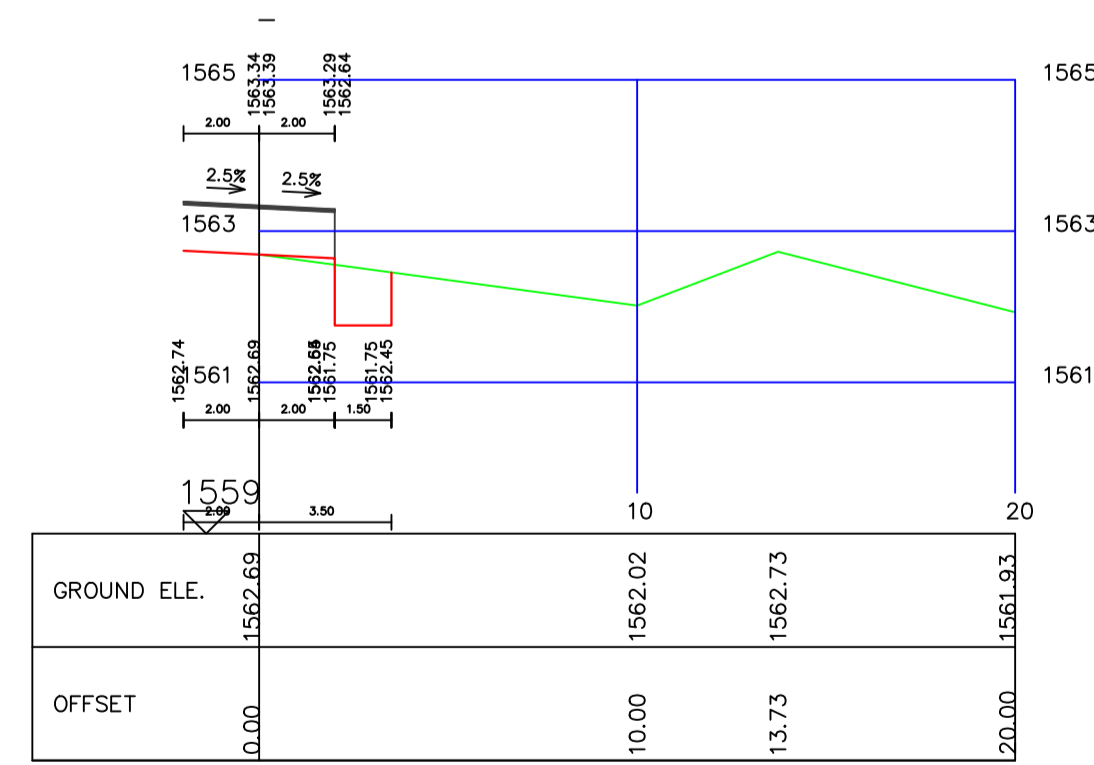
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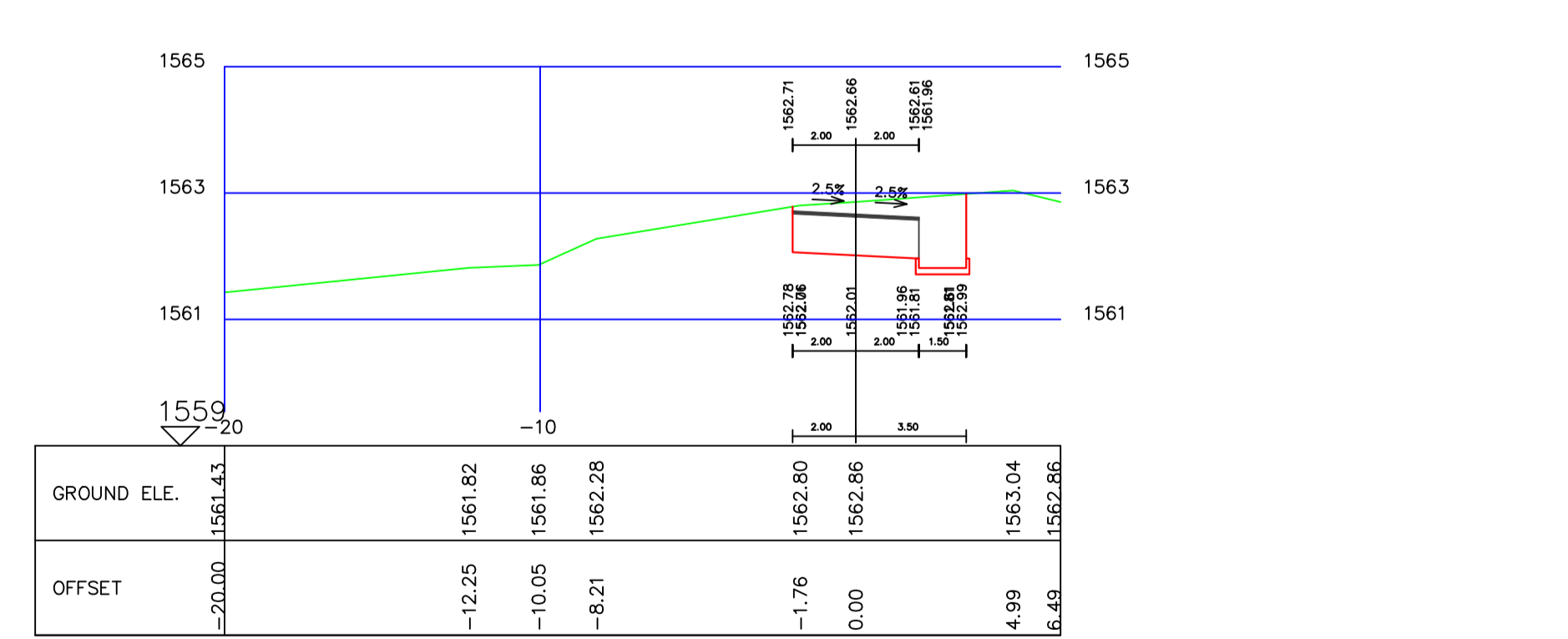
SECTION 0+010 St. 10 kangundo road jn-Lai



SECTION 0+050 St. 50 kangundo road jn-Lai



SECTION 0+000 St. 0 kangundo road jn-Lai



SECTION 0+040 St. 40 kangundo road jn-Lai

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:



CONSULTANT:



Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: **SPRING VALLEY SETTLEMENT: CROSS SECTIONS**

Drg. No. WMCL/CR214/SPRV/CRS/01 | Sheet No. 1 of 28

Scale: V 1:100 Date: FEBRUARY 2024

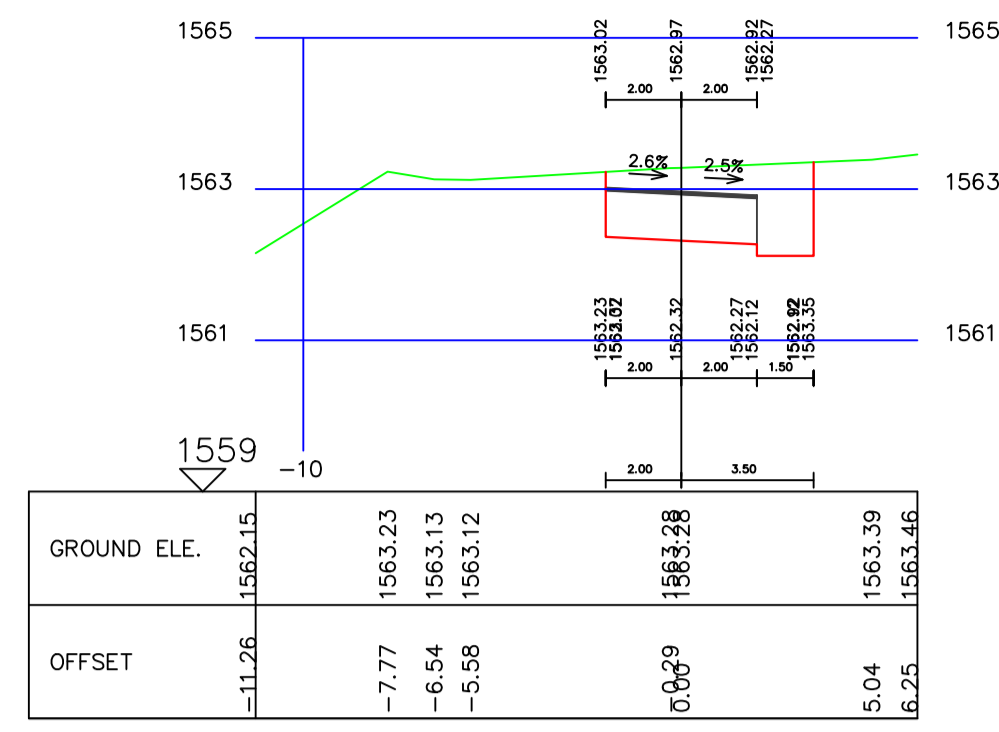
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APPROVED BY: ENG. IKWM DESIGNED BY: JKM

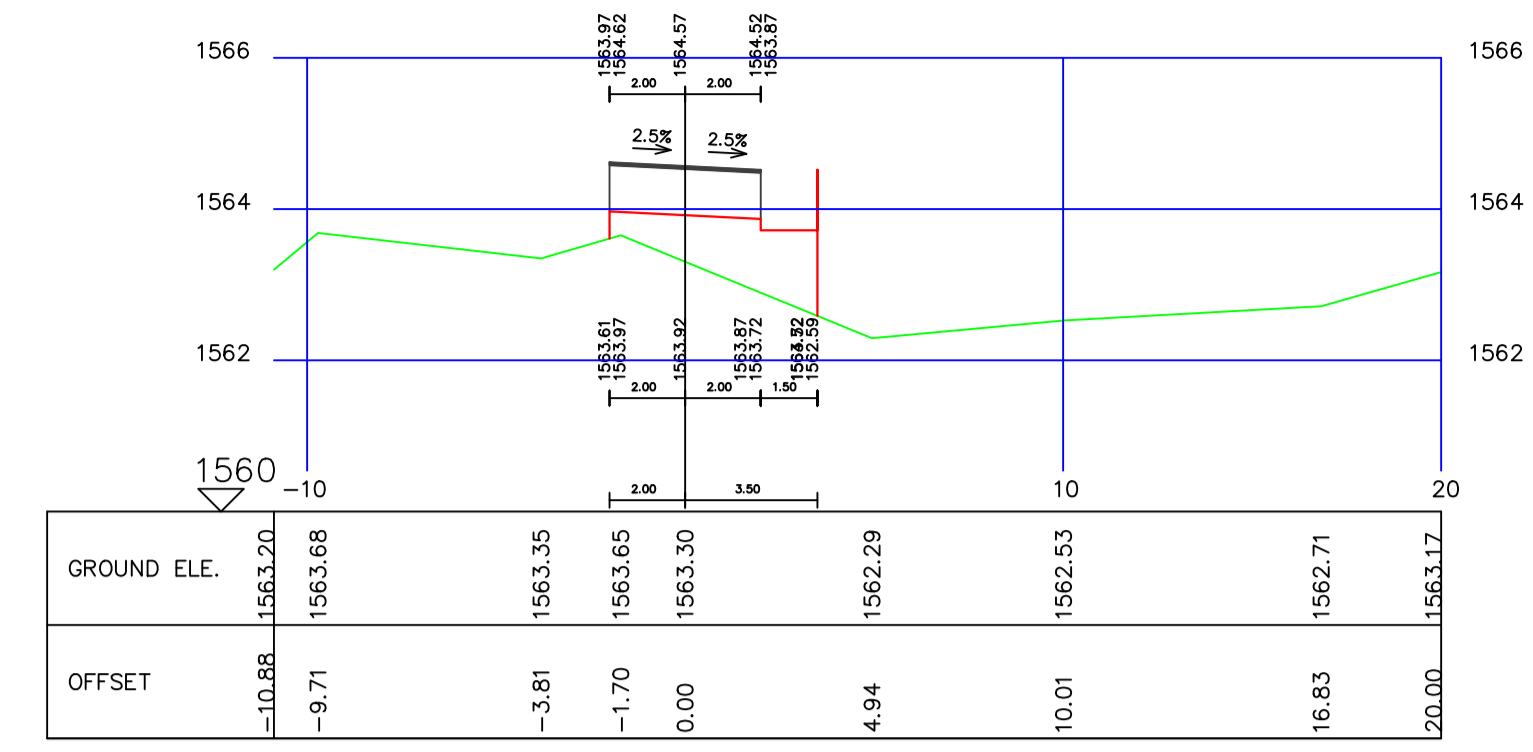
CHECKED BY: ENG. PNG DRAWN BY: JKM

REVISIONS

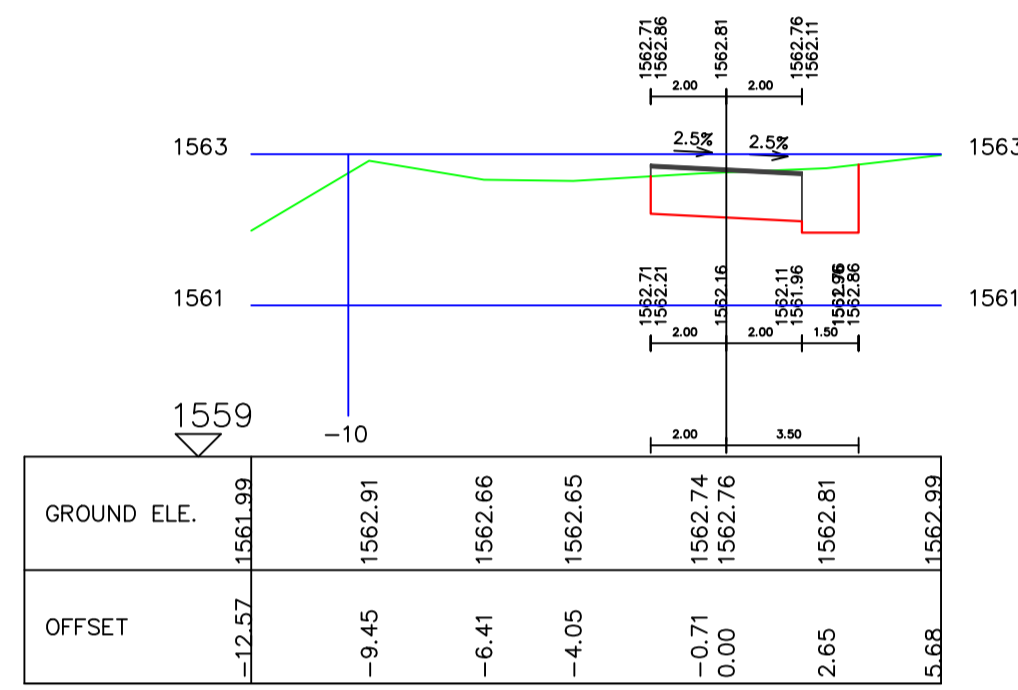
No. Date AMMENDMENTS



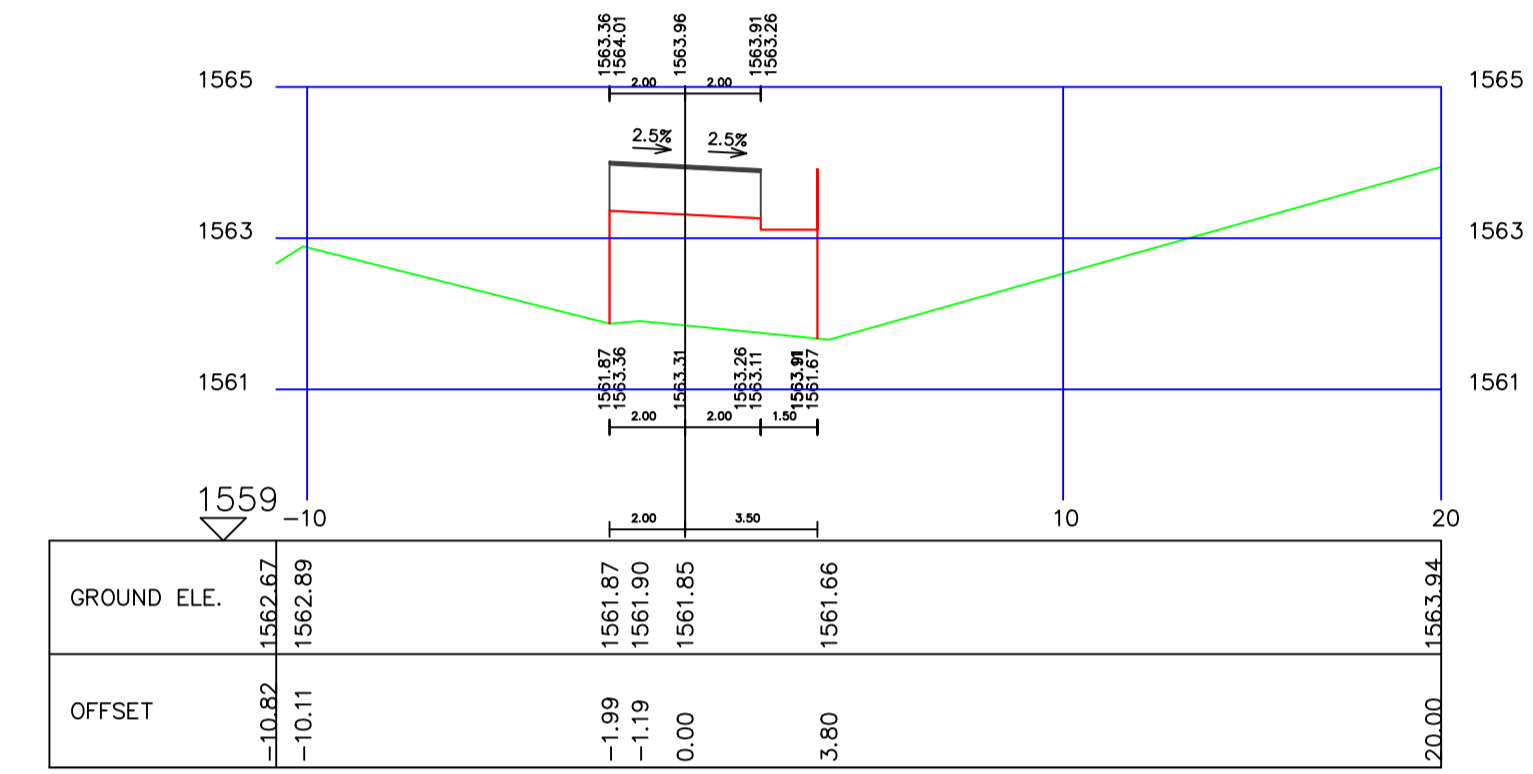
SECTION 0+110 St. 110 kangundo road jn-Lai



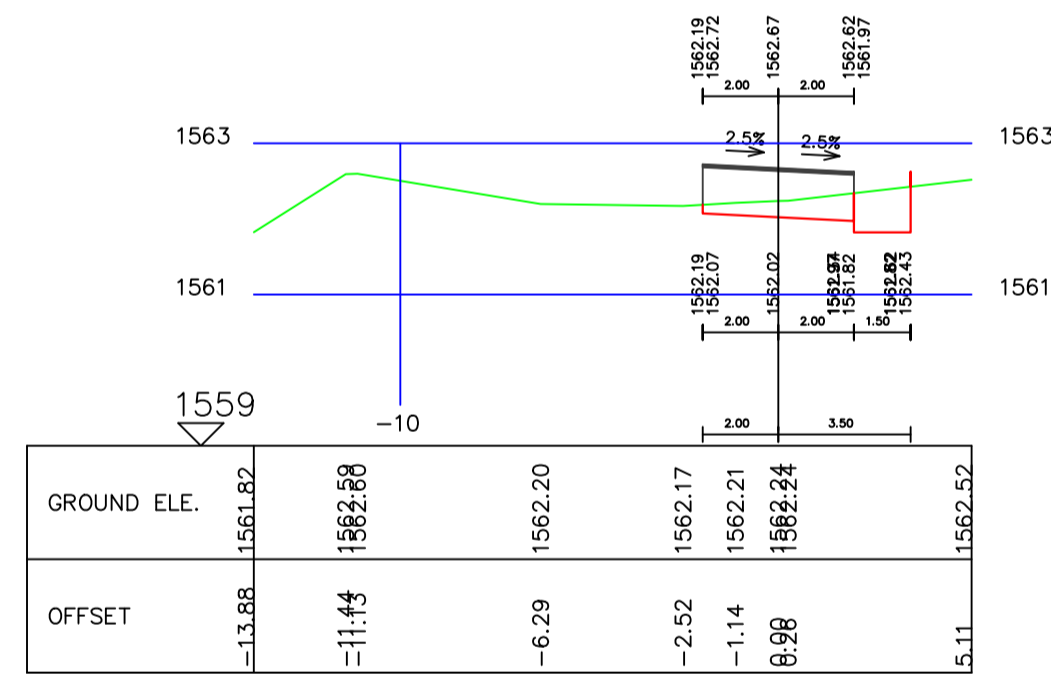
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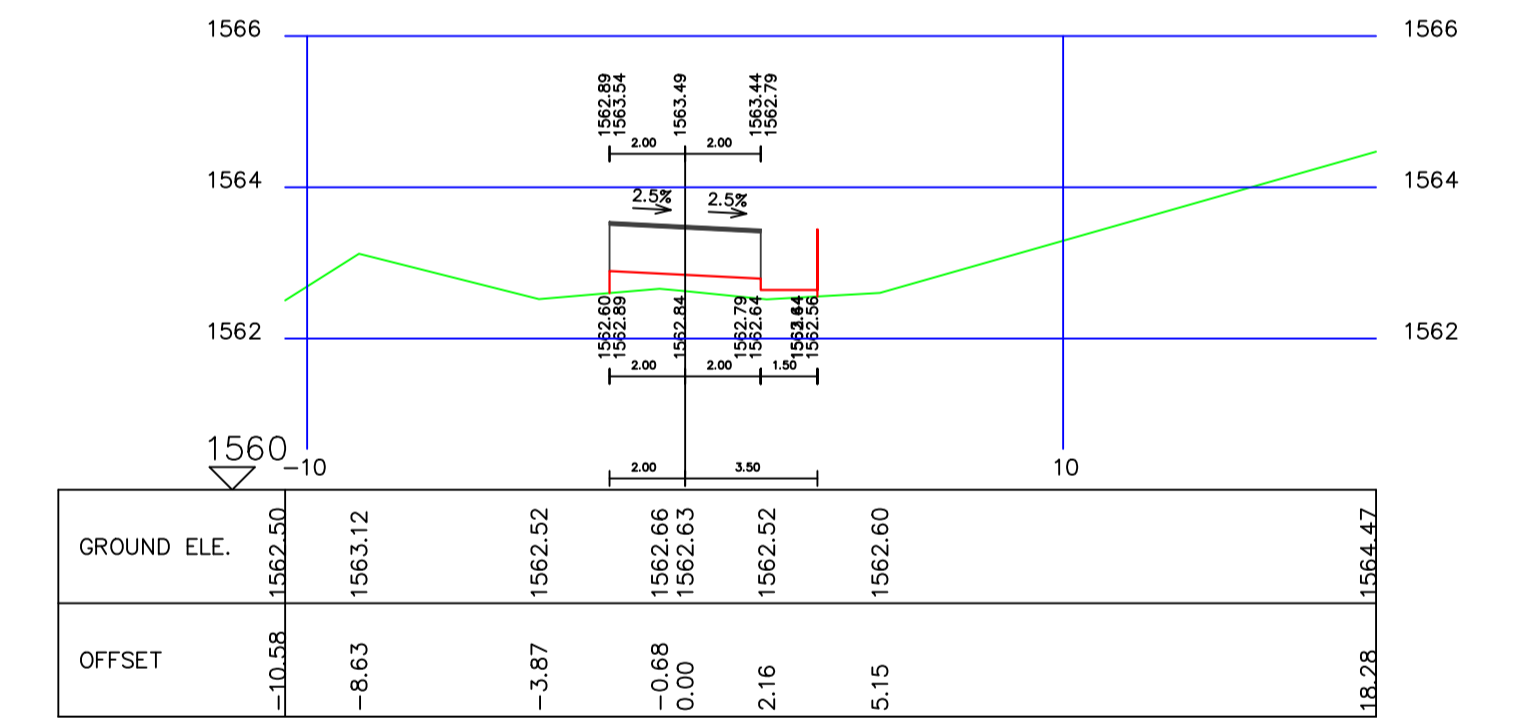
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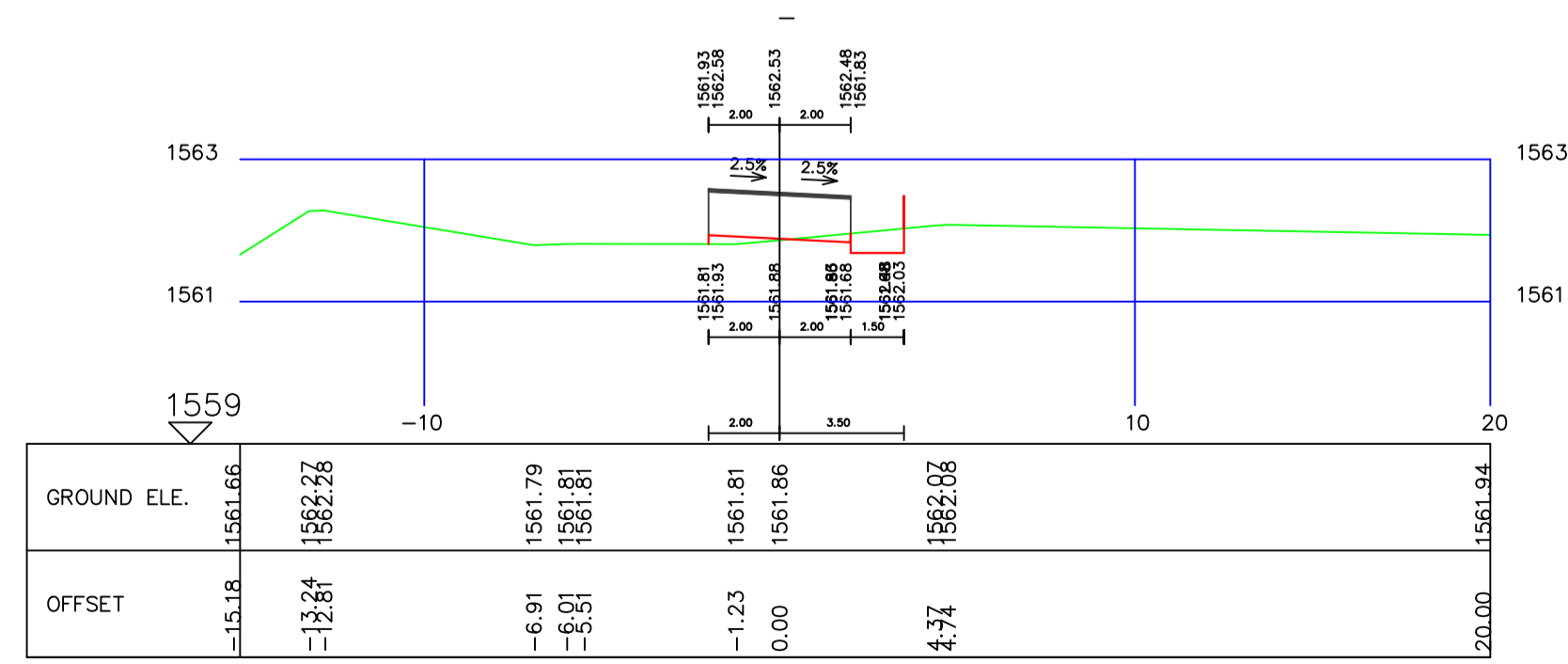
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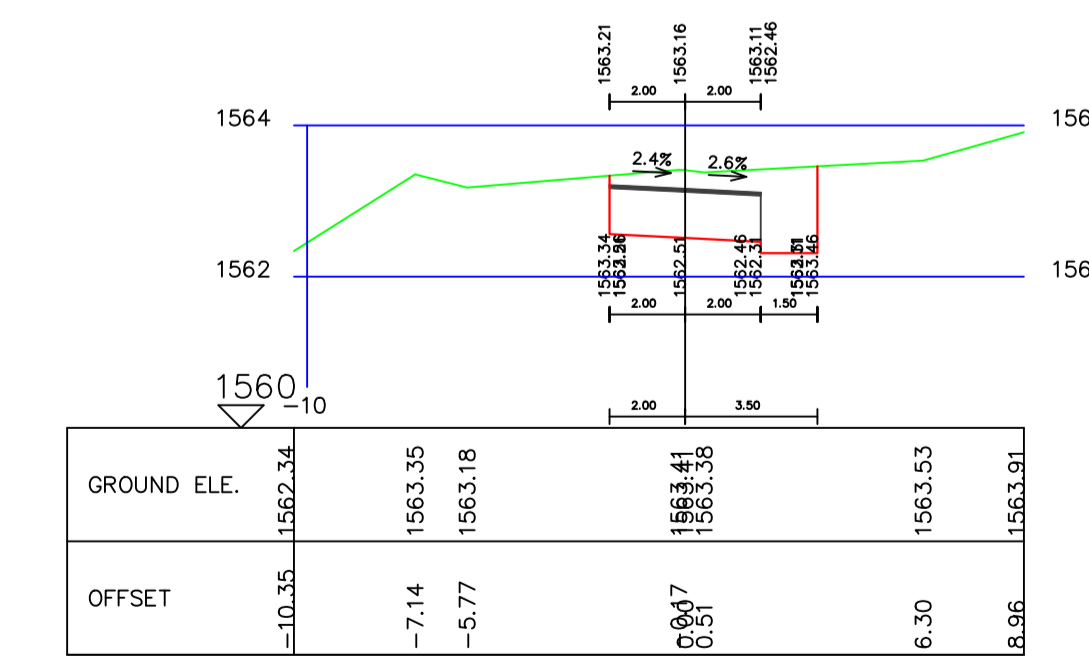
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SECTION 0+130 St. 130 kangundo road jn-Lai



SECTION 0+080 St. 80 kangundo road jn-Lai



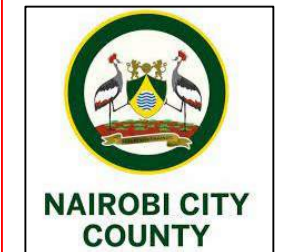
SECTION 0+120 St. 120 kangundo road jn-Lai

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

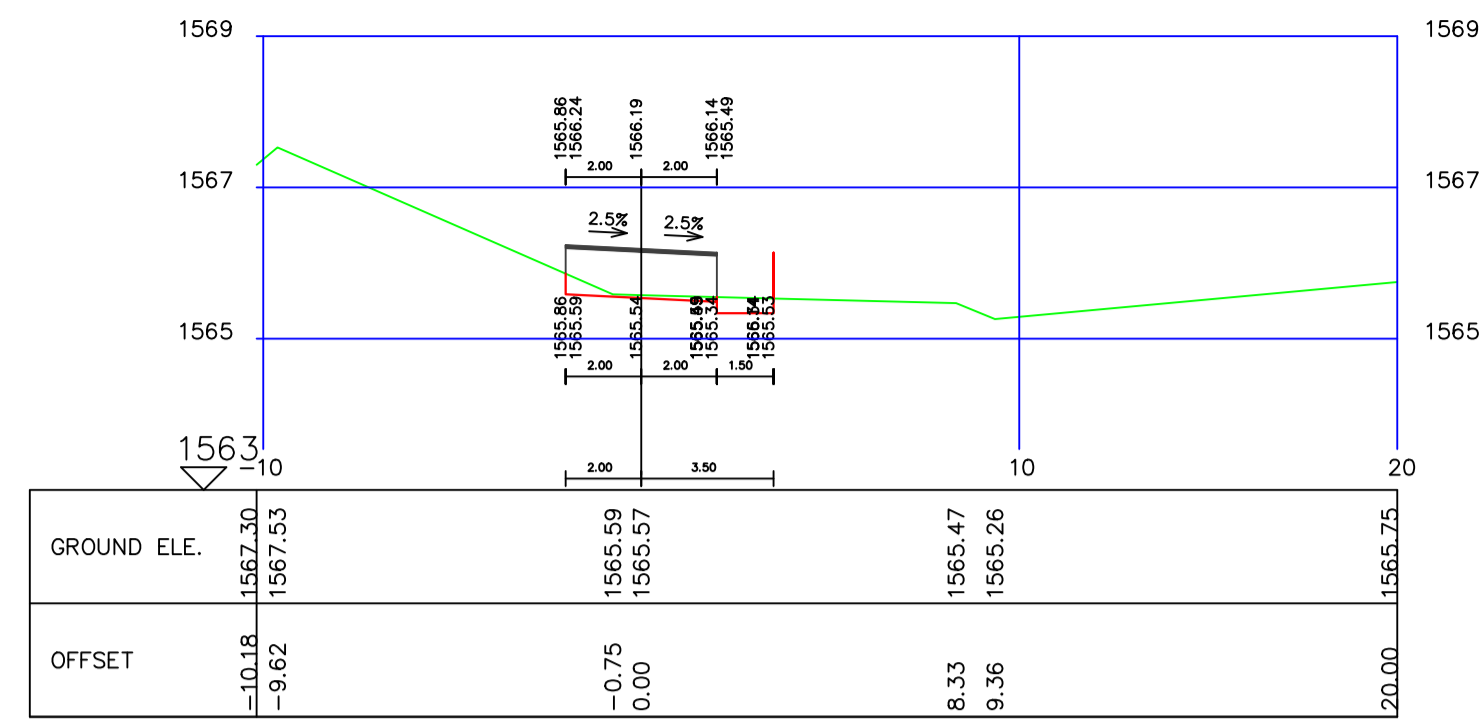
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

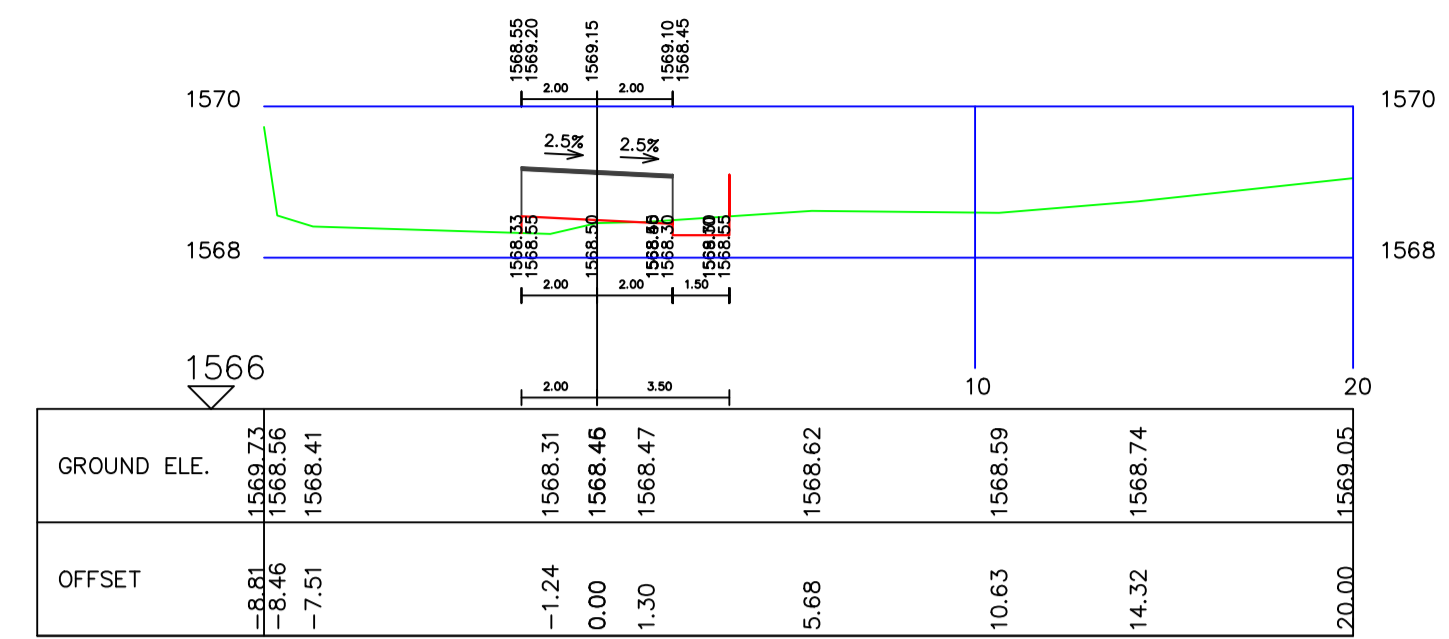
Drg. No. WMCL/CR214/SPRV/CRS/02	Sheet No. 2 of 28
Scale: V 1:100	Date: FEBRUARY 2024
H 1:200	Stage: TENDER DRAWINGS
APPROVED BY: ENG. IKWM	DESIGNED BY: JK M
CHECKED BY: ENG. PNG	DRAWN BY: JK M

REVISIONS

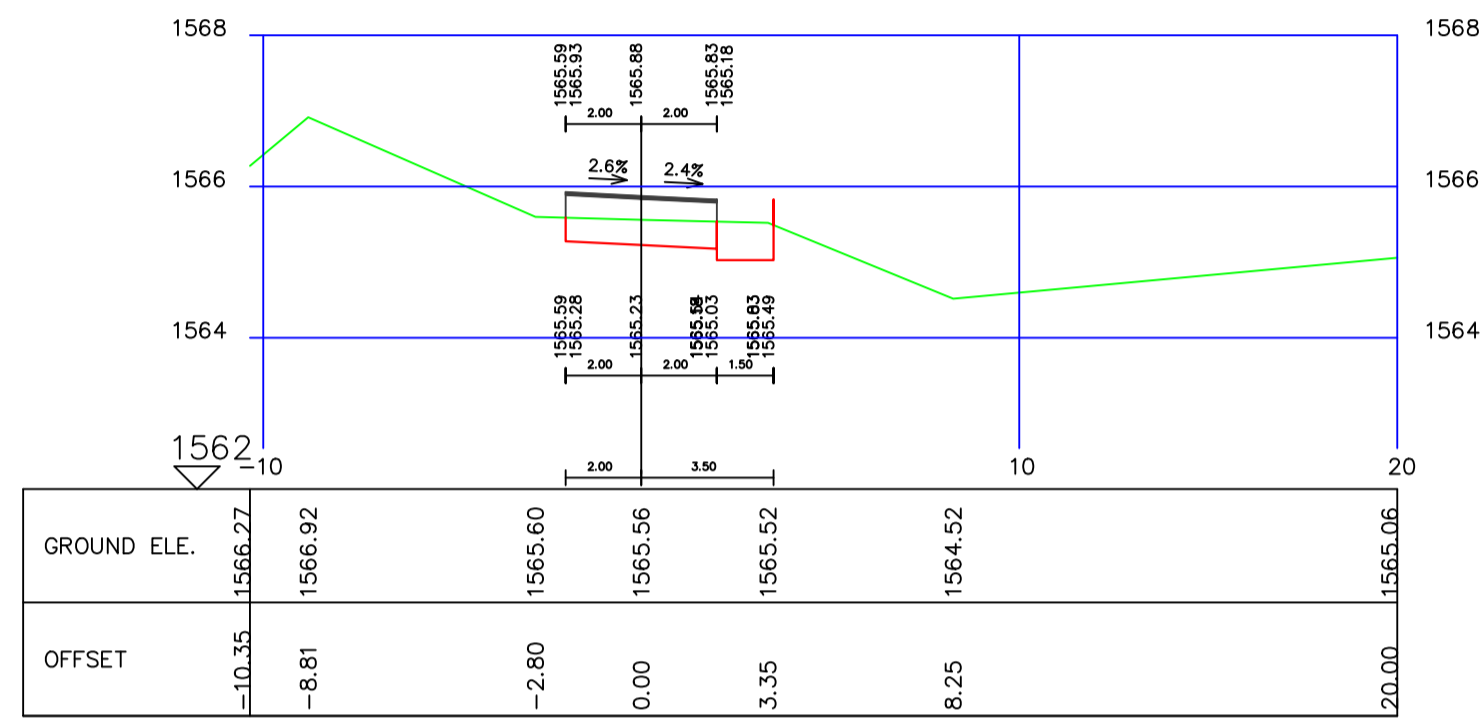
No Date AMMENDMENTS



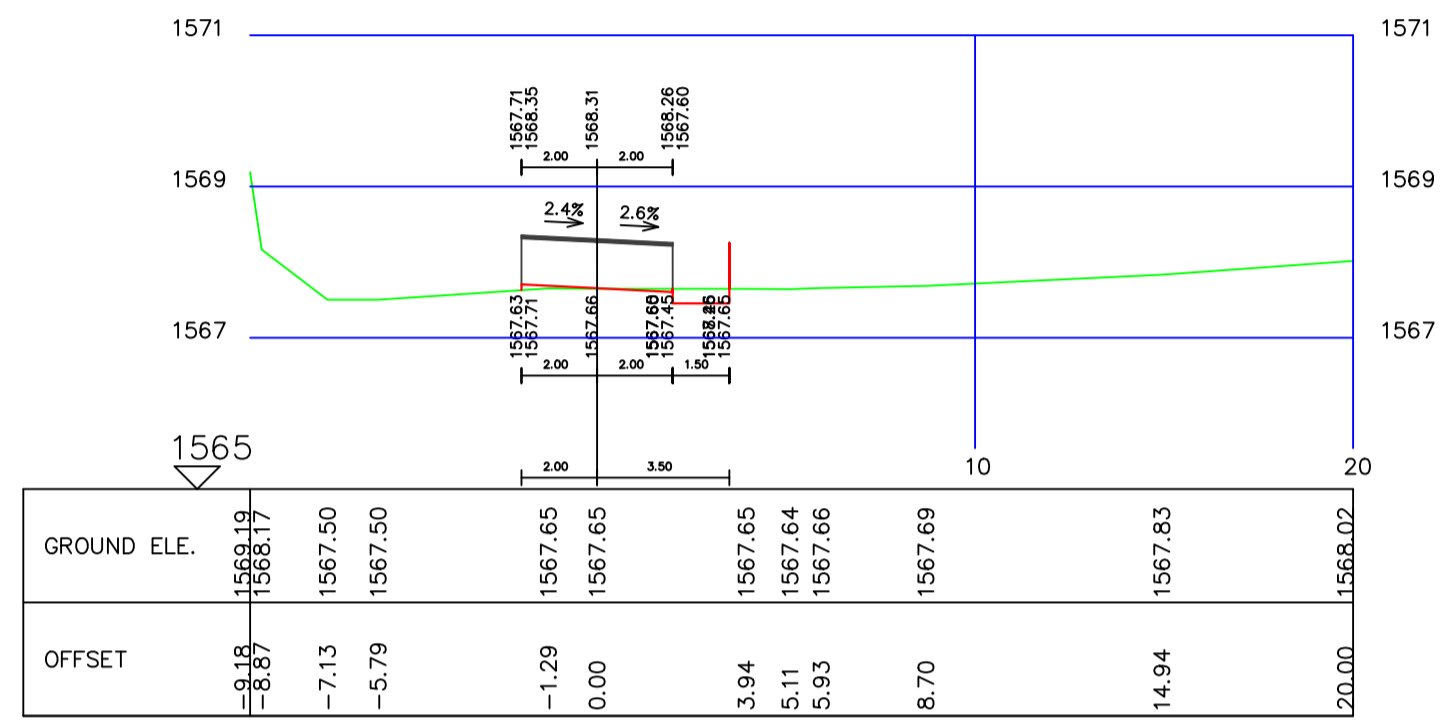
SECTION 0+190 St. 190 kangundo road jn-Lai



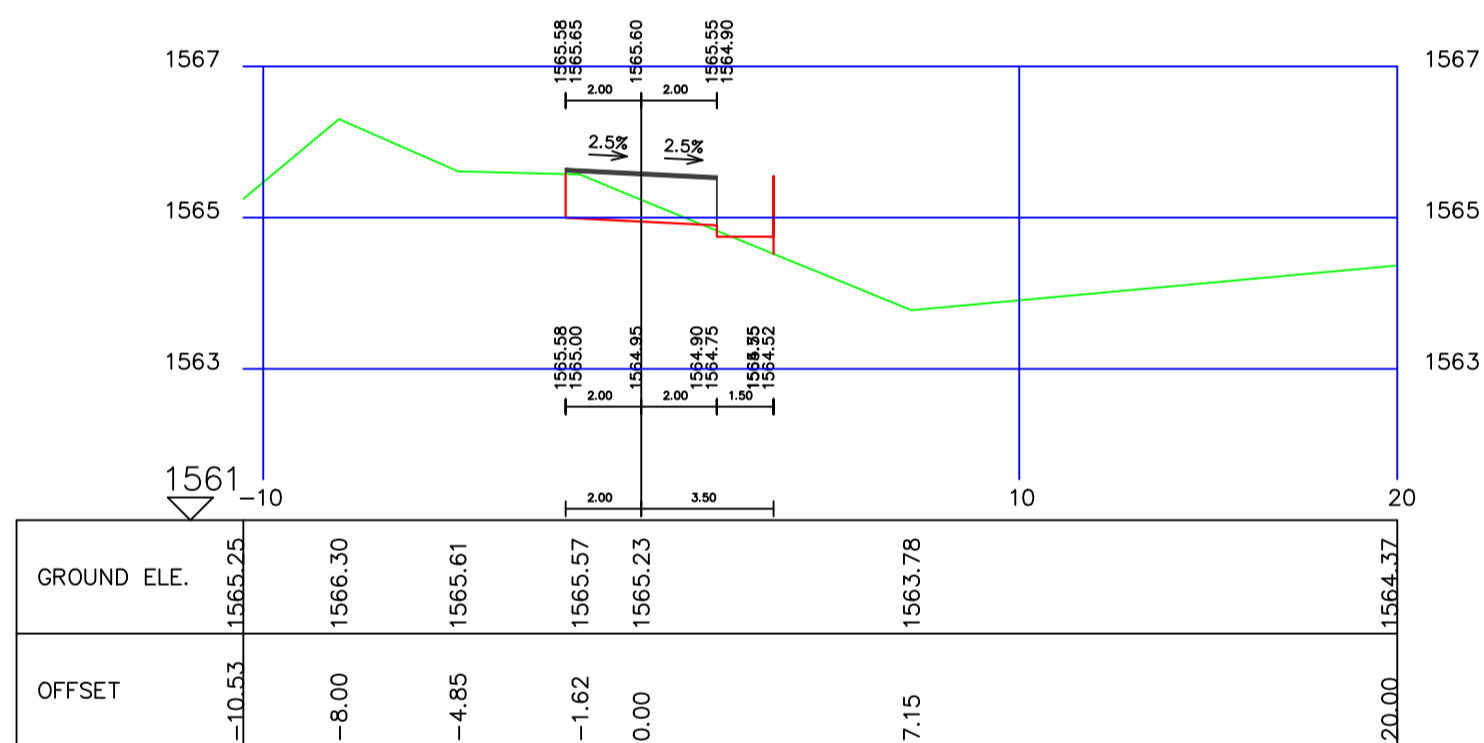
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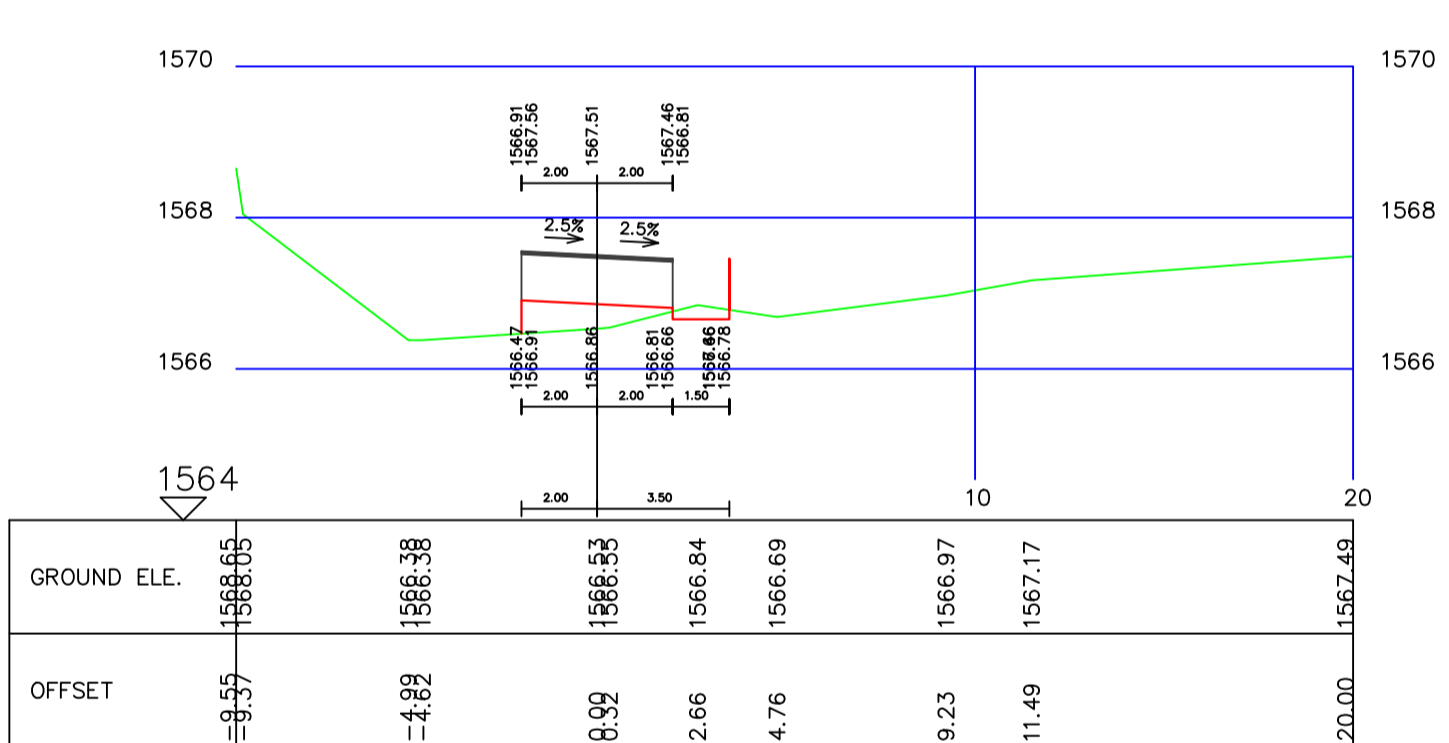
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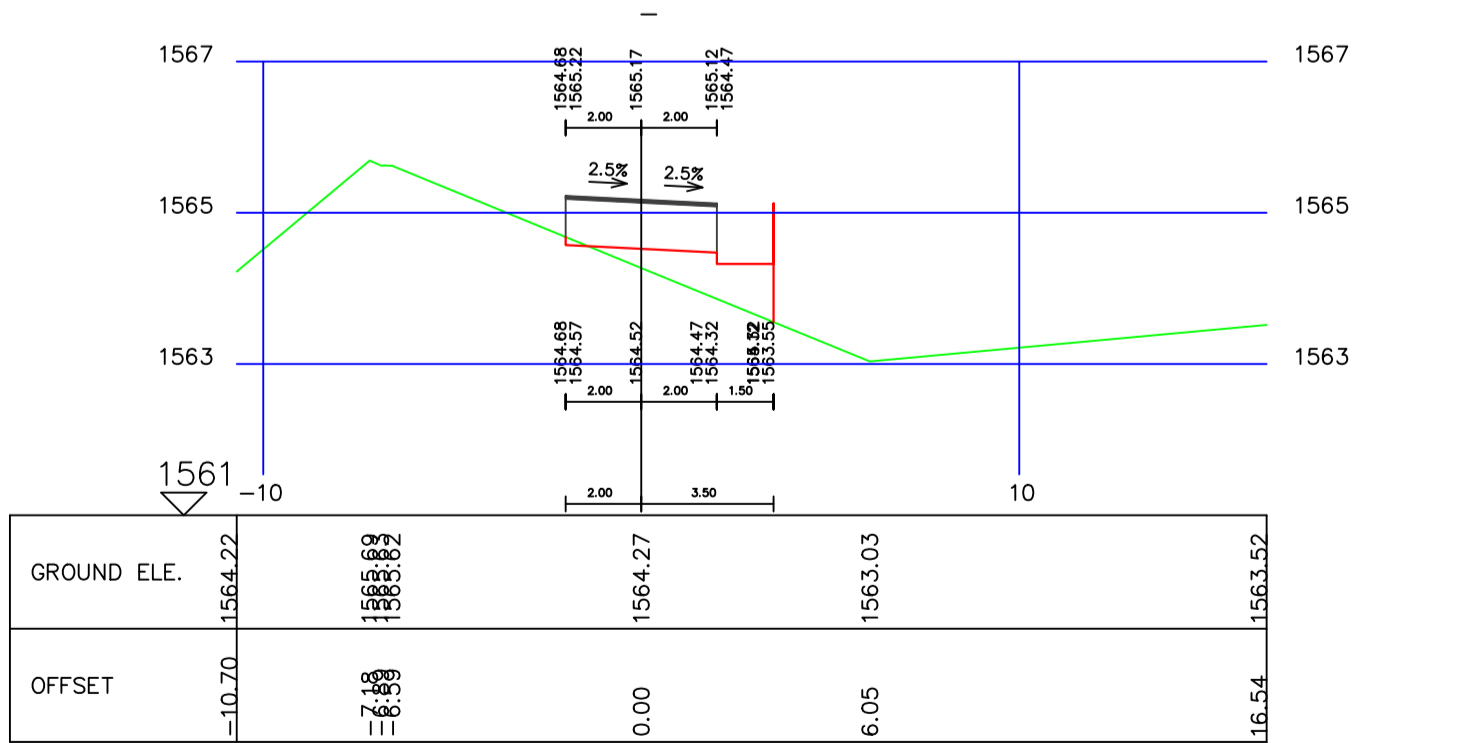
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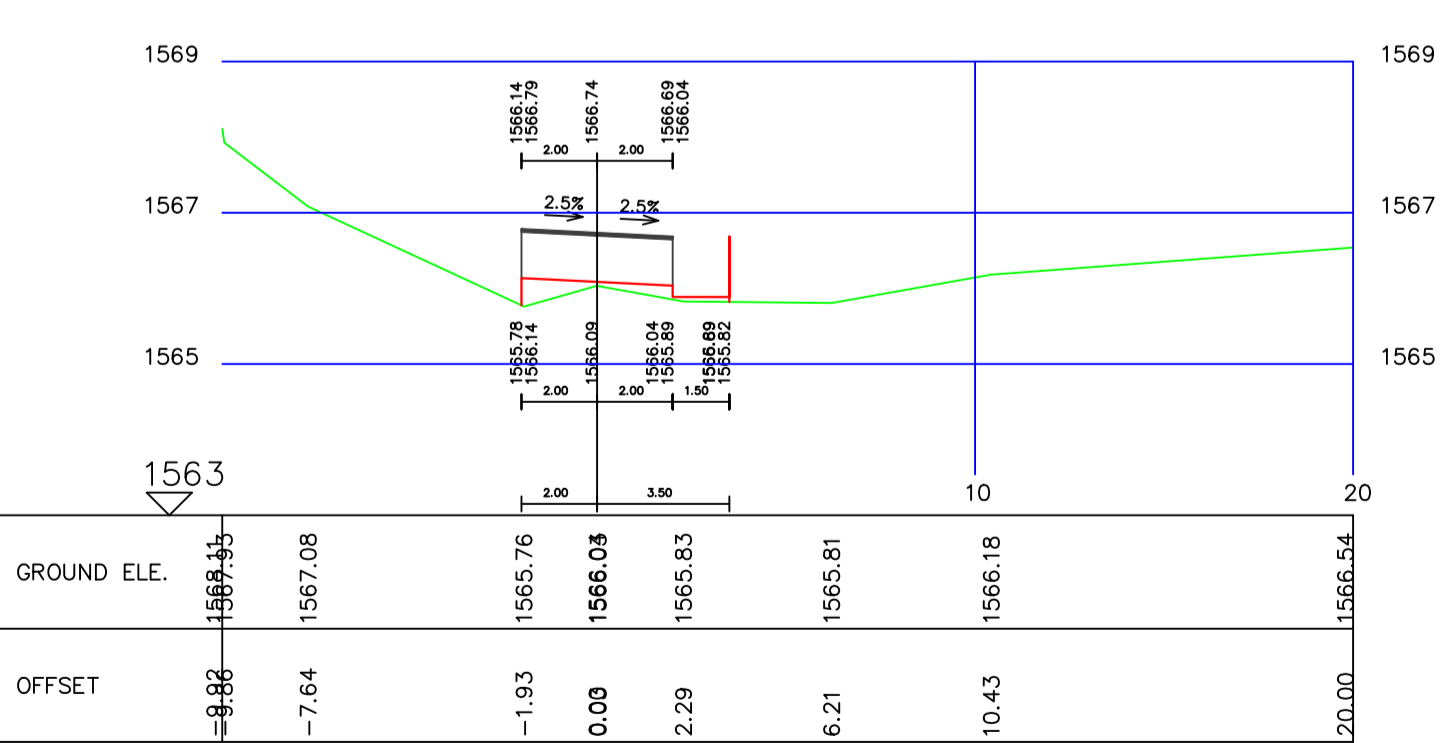
SECTION 0+170 St. 170 kangundo road jn-Lai



SECTION 0+210 St. 210 kangundo road jn-Lai



SECTION 0+160 St. 160 kangundo road jn-Lai



SECTION 0+200 St. 200 kangundo road jn-Lai

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Drg. No. WMCL/CR214/SPRV/CRS/03 | Sheet No. 3 of 28

Scale: V 1:100 Date: FEBRUARY 2024

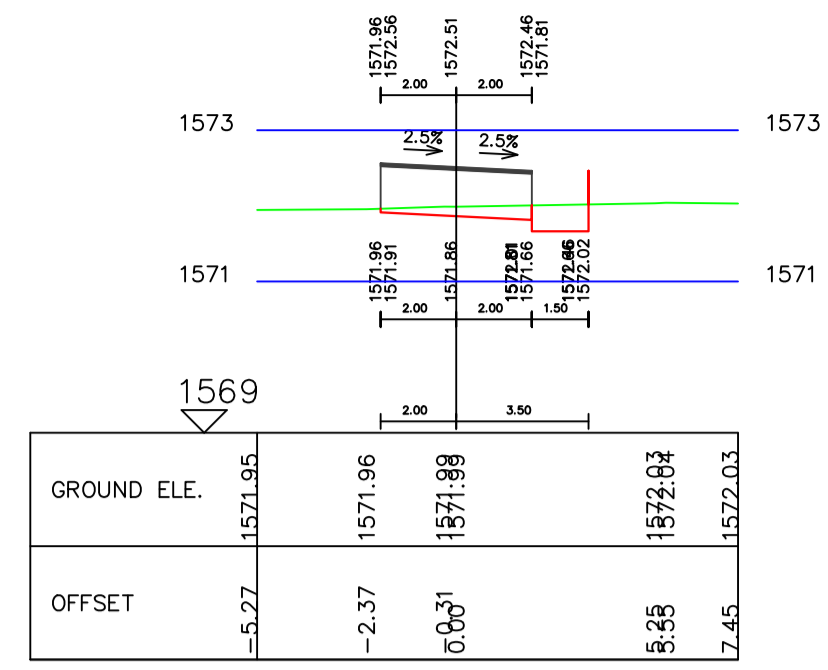
H 1:200 Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: JKM

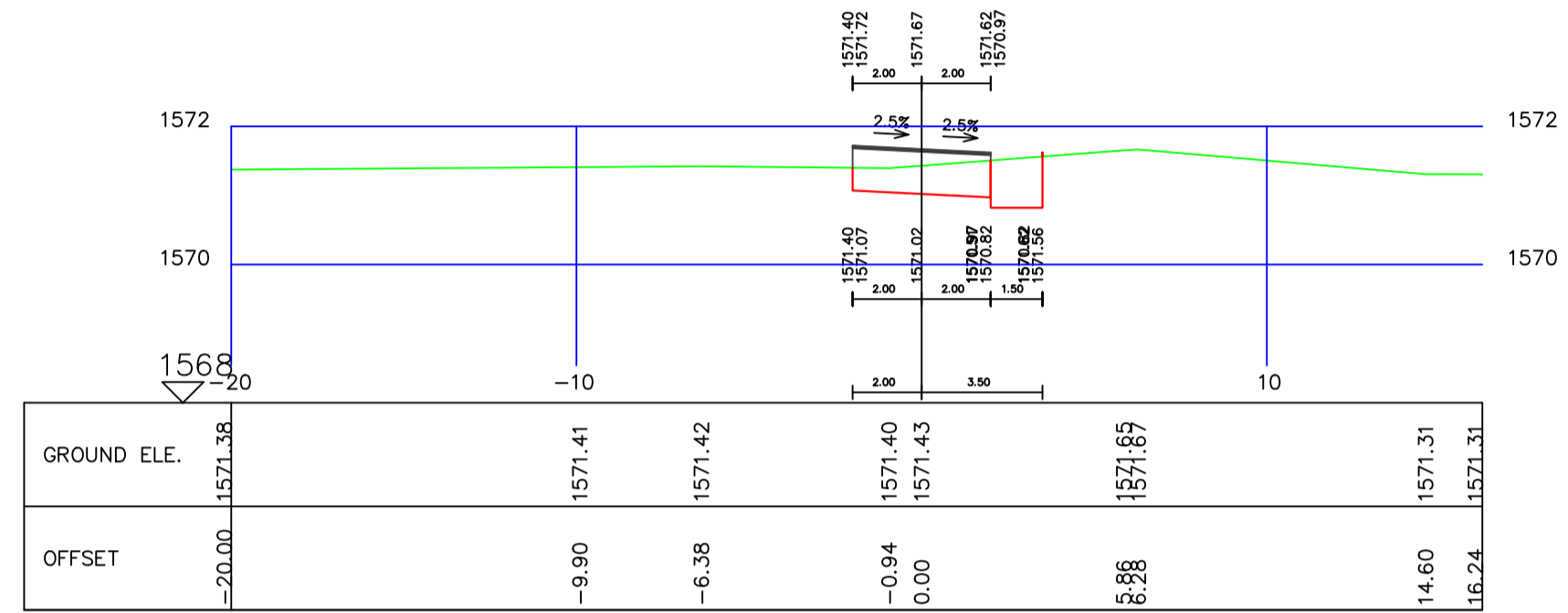
CHECKED BY: ENG. PNG DRAWN BY: JKM

REVISIONS

No	Date	AMMENDMENTS

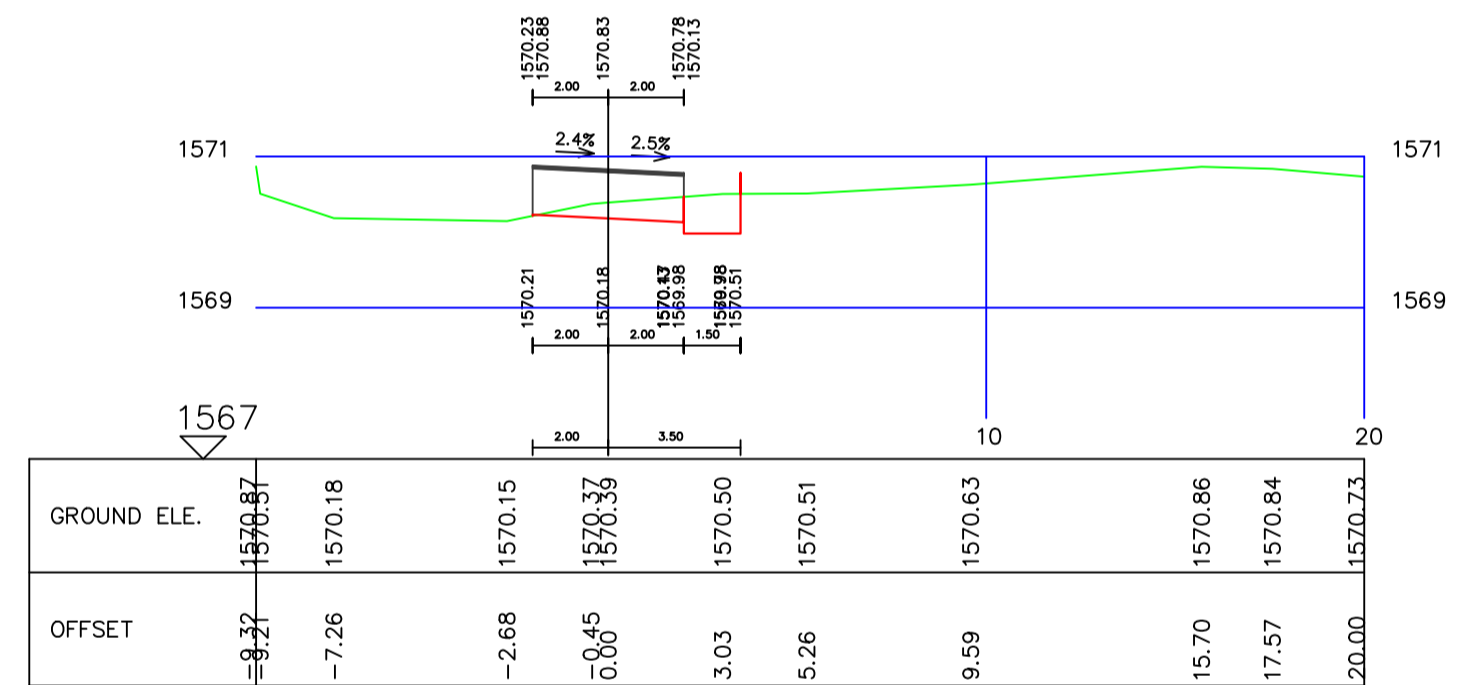


SECTION 0+270 on Kangundo Road jn-Lai



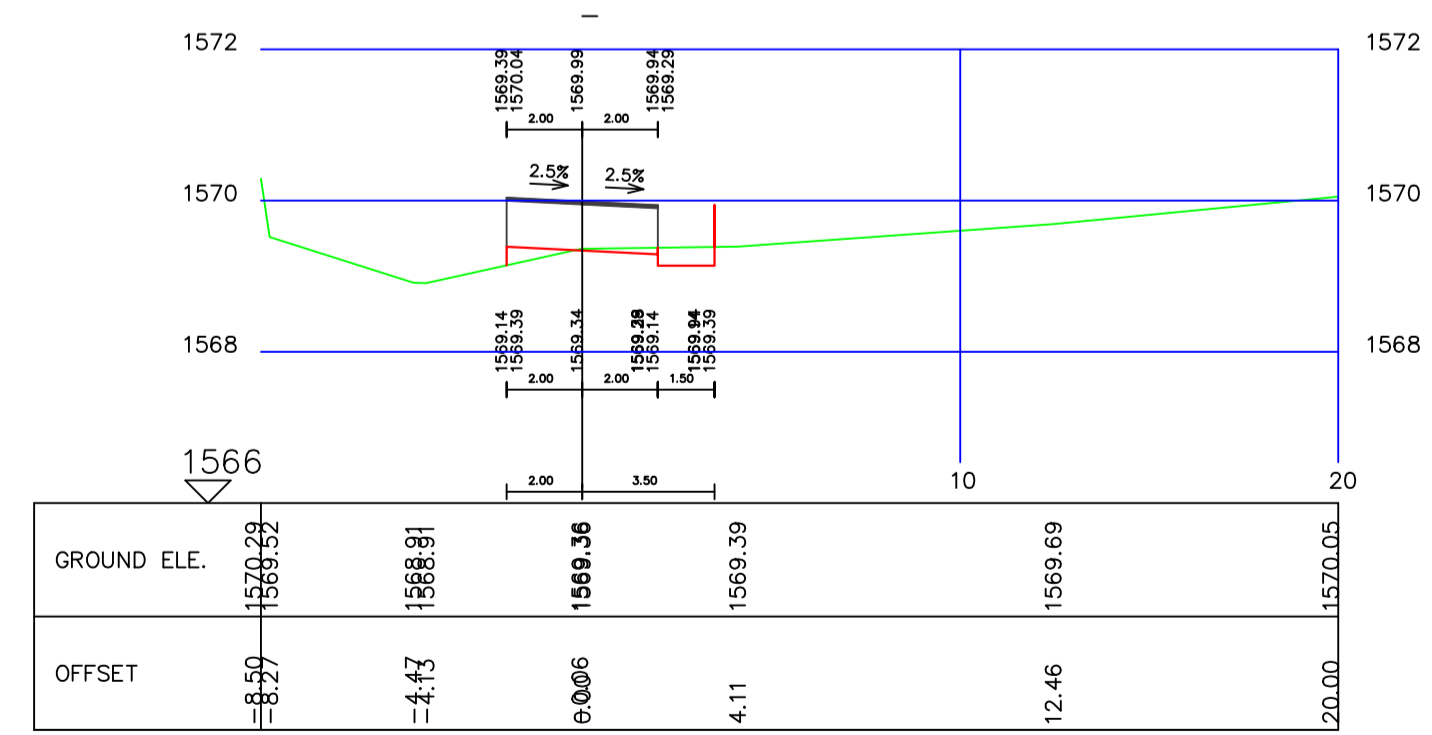
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kangundo road jn-Lai



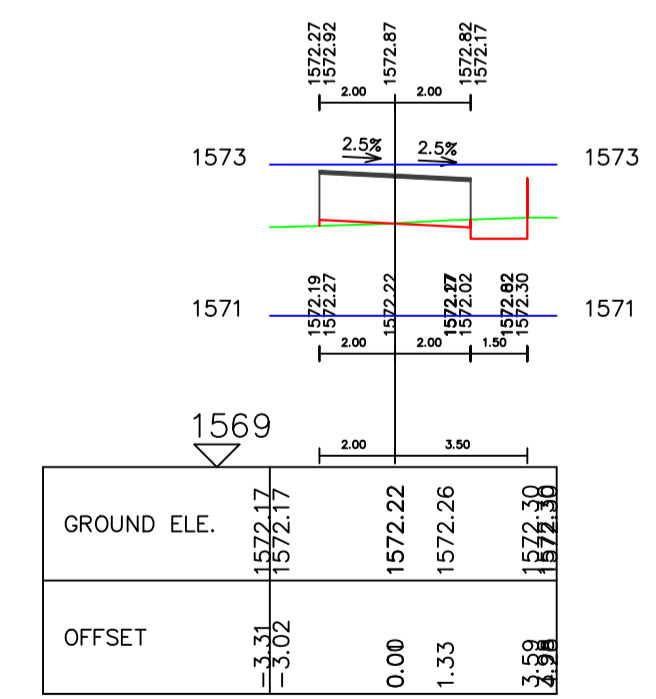
SECTION 0+250 St. 250

kangundo road jn-Lai



SECTION 0+240 St. 240

kangundo road jn-Lai



SECTION 0+270 on Kangundo Road St. 274.22

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Drg. No. WMCL/CR214/SPRV/CRS/04 | Sheet No. 4 of 28

Scale: V 1:100 Date: FEBRUARY 2024

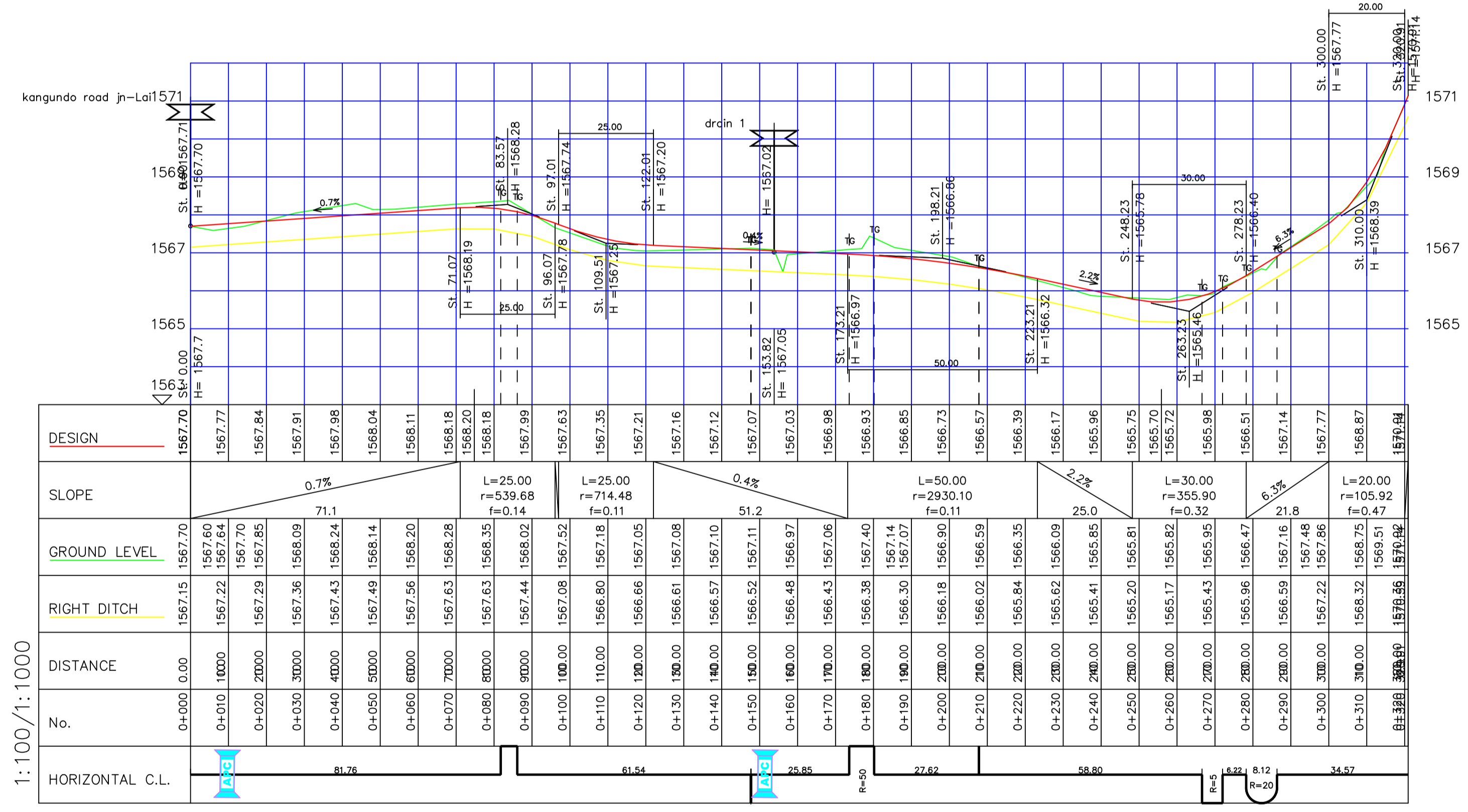
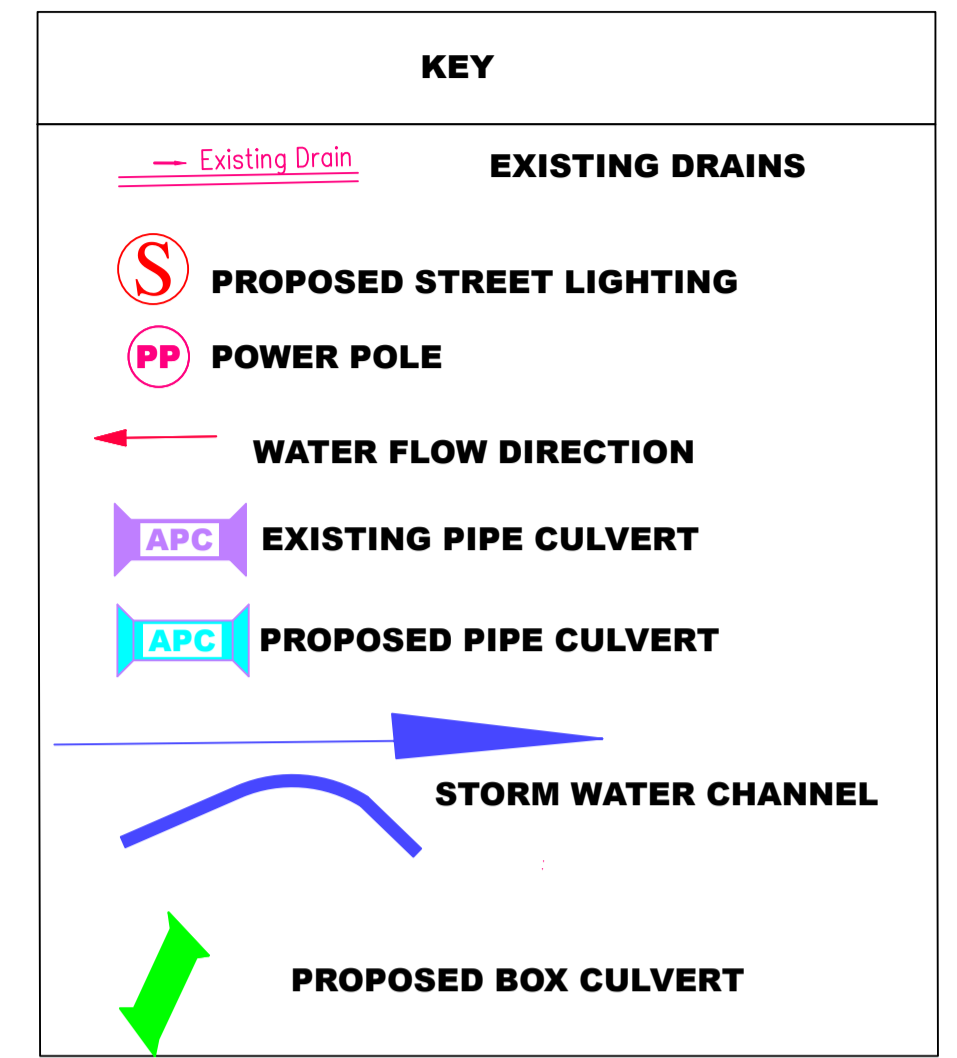
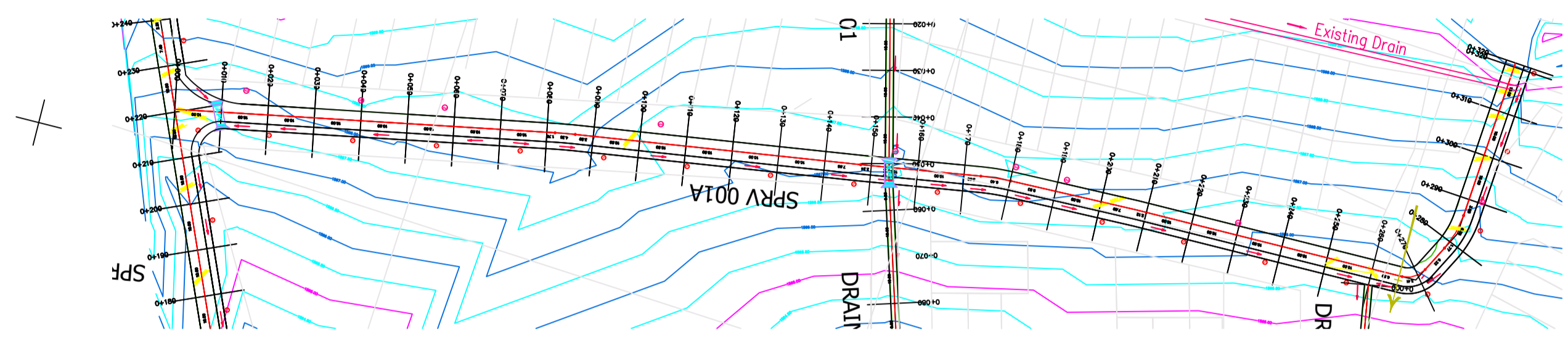
H 1:200 Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: JKM

CHECKED BY: ENG. PNG DRAWN BY: JKM

REVISIONS

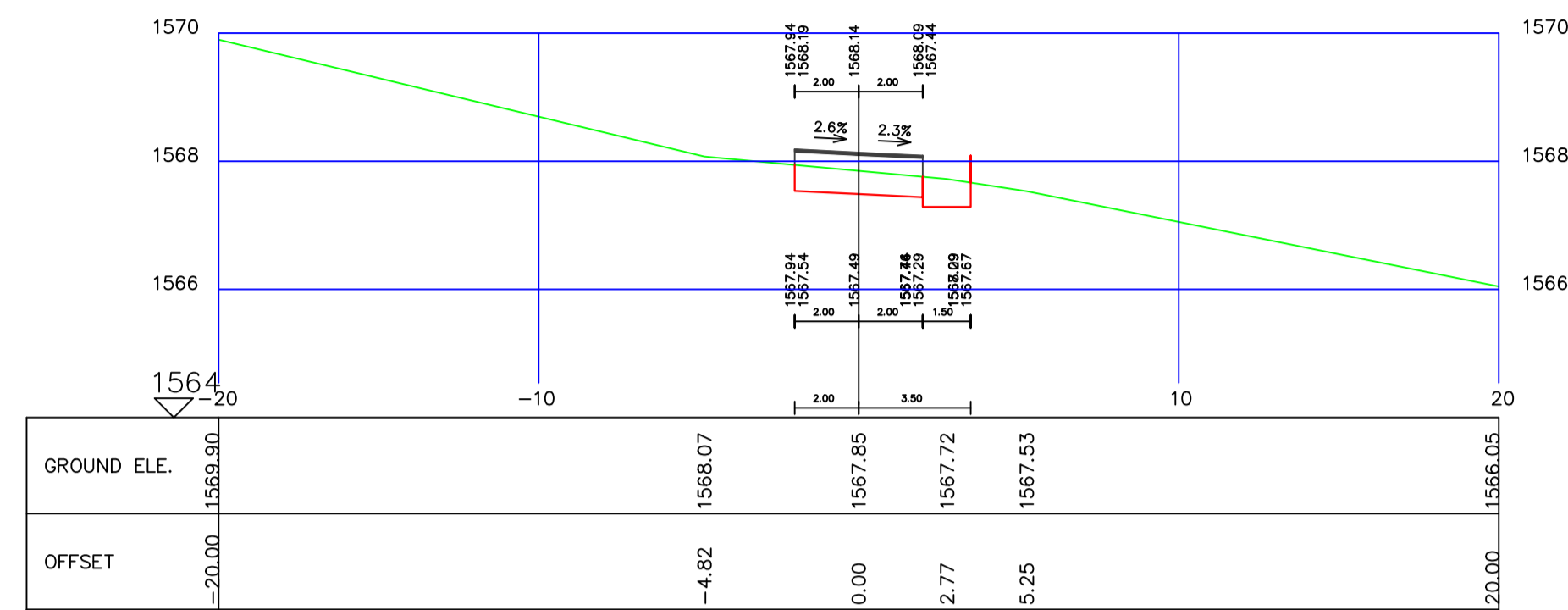
No	Date	AMMENDMENTS



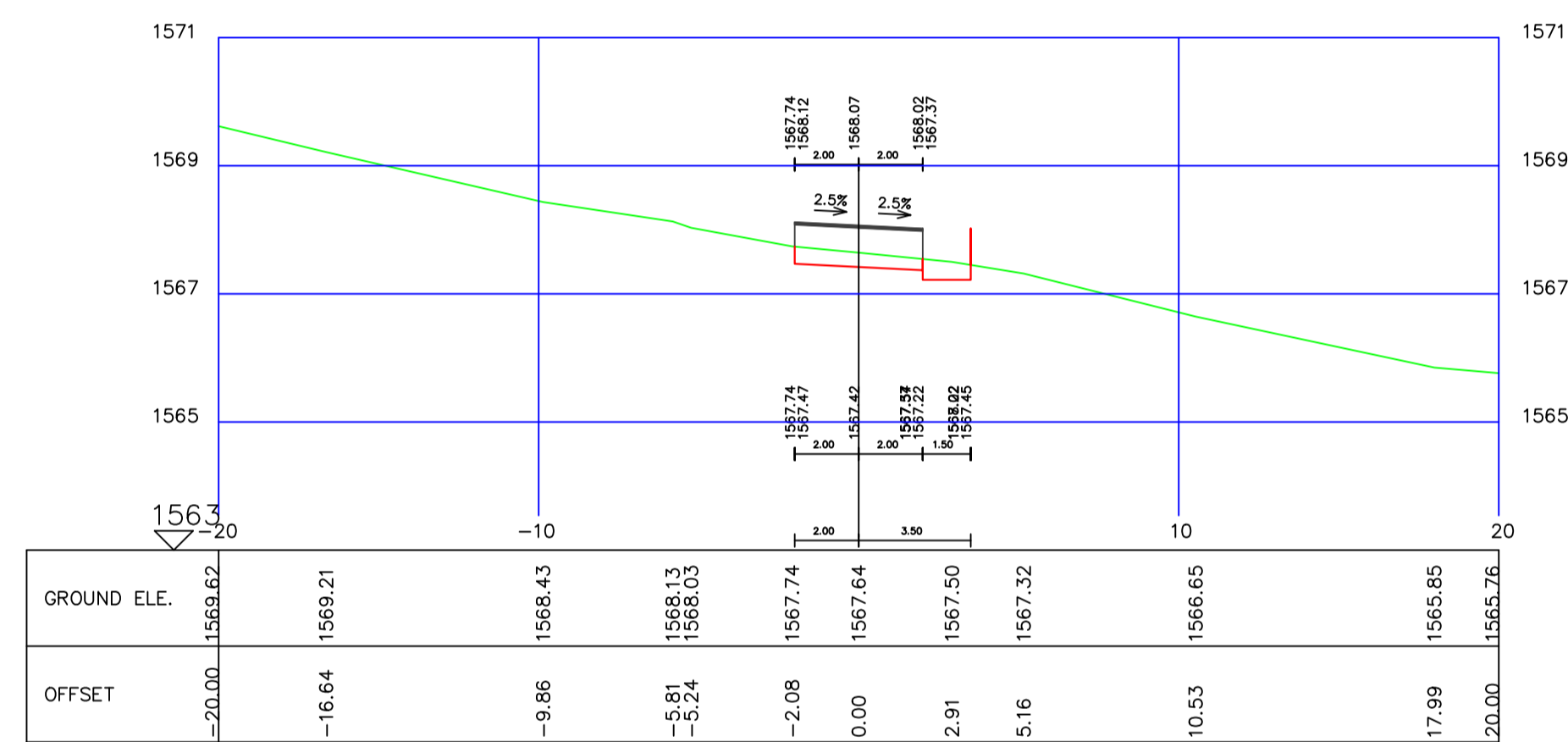
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Jn kangu

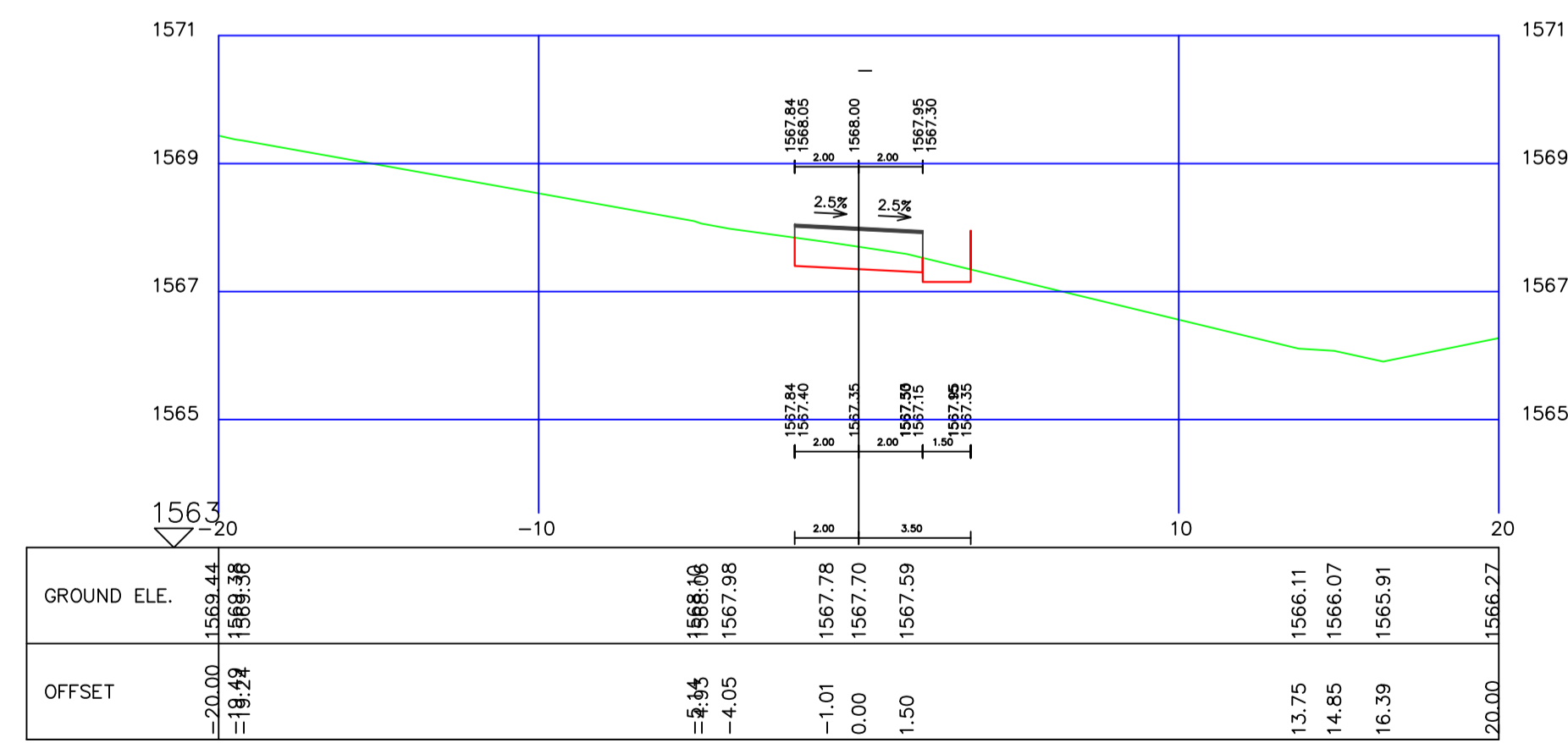
CLIENT: 	EMPLOYER: 	FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD) 	CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.	Drawing Title: SPRING VALLEY SETTLEMENT: PLAN & PROFILE		Drg. No. WMCL/CR214/SPRV/PP/02 Sheet No. 2of7		Scale: V 1:100 Date: FEBRUARY 2024		H 1:1000 Stage: TENDER DRAWINGS		APPROVED BY: ENG.IKWM DESIGNED BY: JKM		CHECKED BY: ENG.PNG DRAWN BY: JKM		No. Date AMMENDMENTS	
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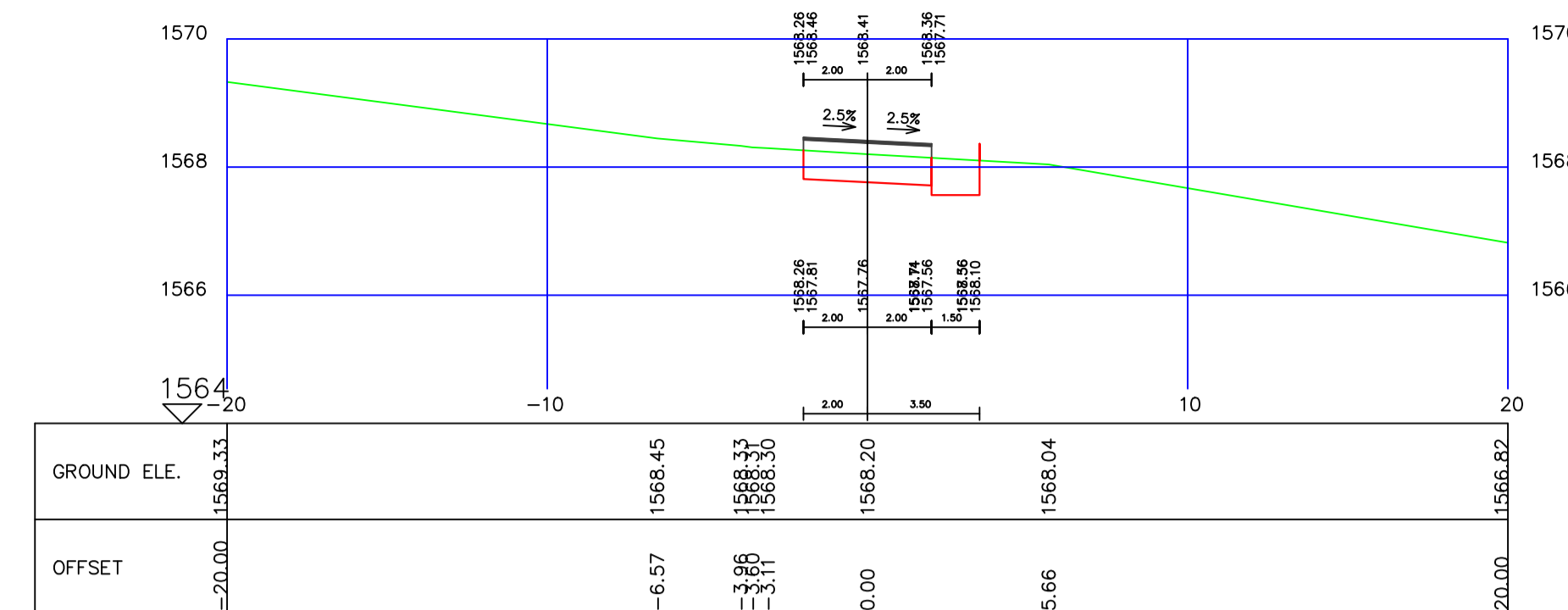
SECTION 0+020 St. 20 Jn kangu



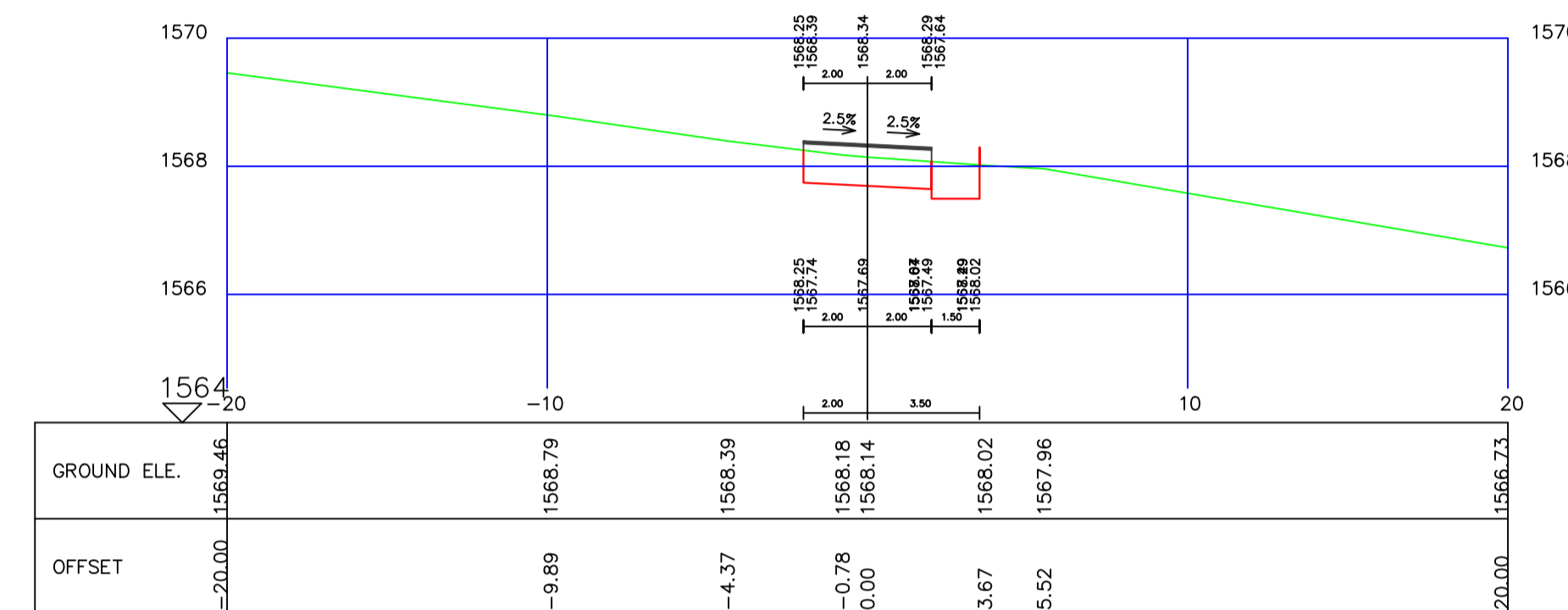
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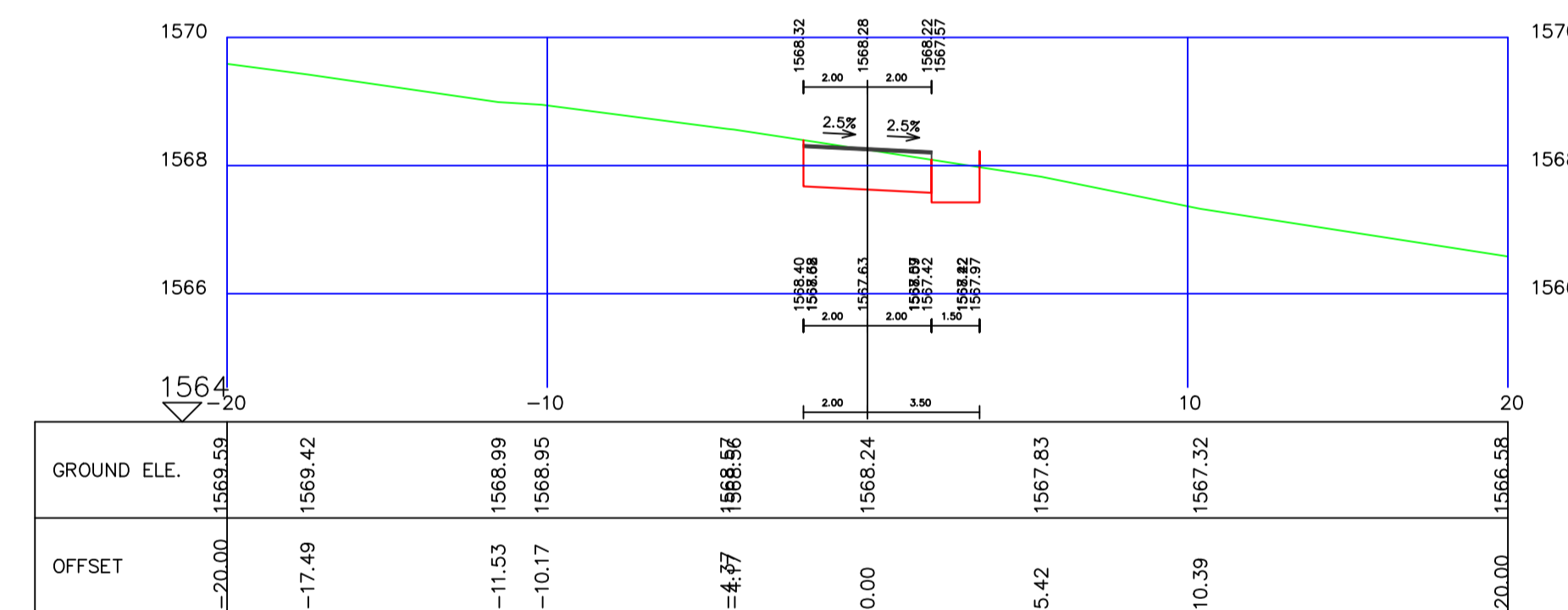
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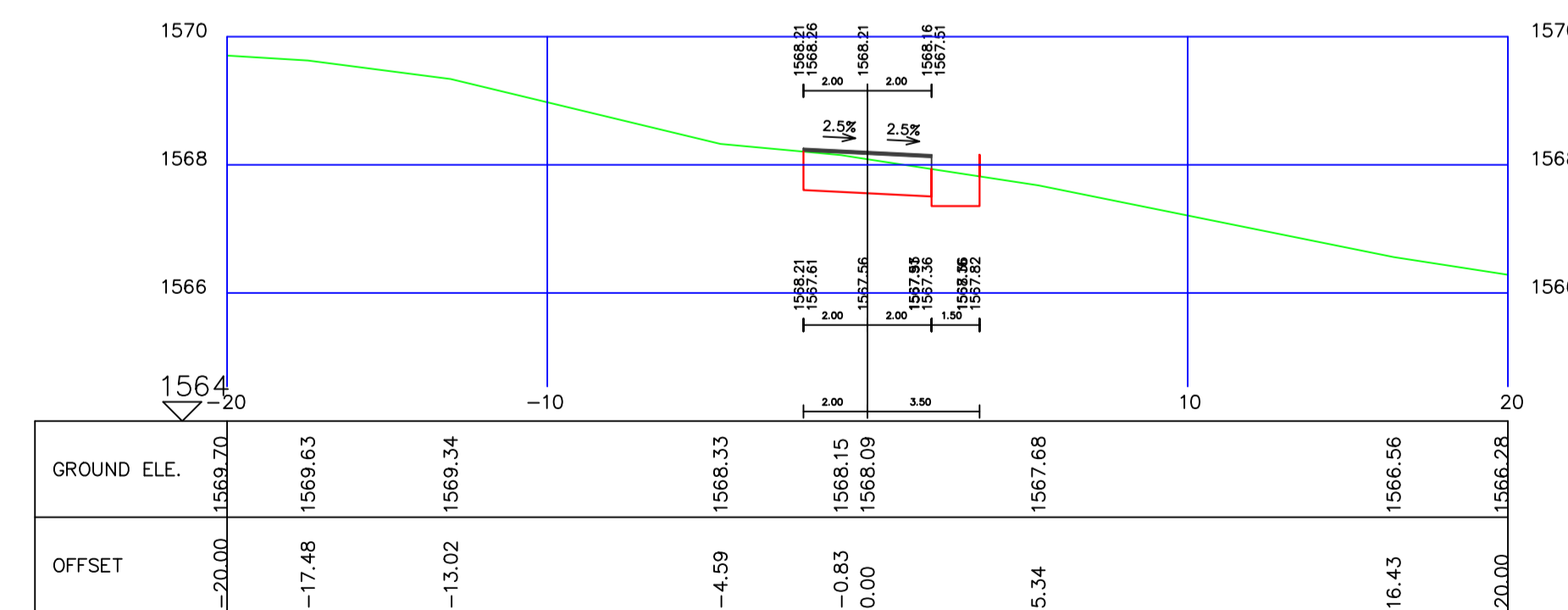
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SECTION 0+050 St. 50 Jn kangu



SECTION 0+040 St. 40 Jn kangu



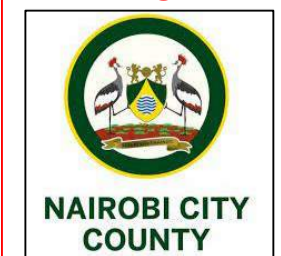
SECTION 0+030 St. 30 Jn kangu

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:



INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Dr. No. WMCL/CR214/SPRV/CRS/05 | Sheet No. 5 of 28

Scale: V 1:100 Date: FEBRUARY 2024

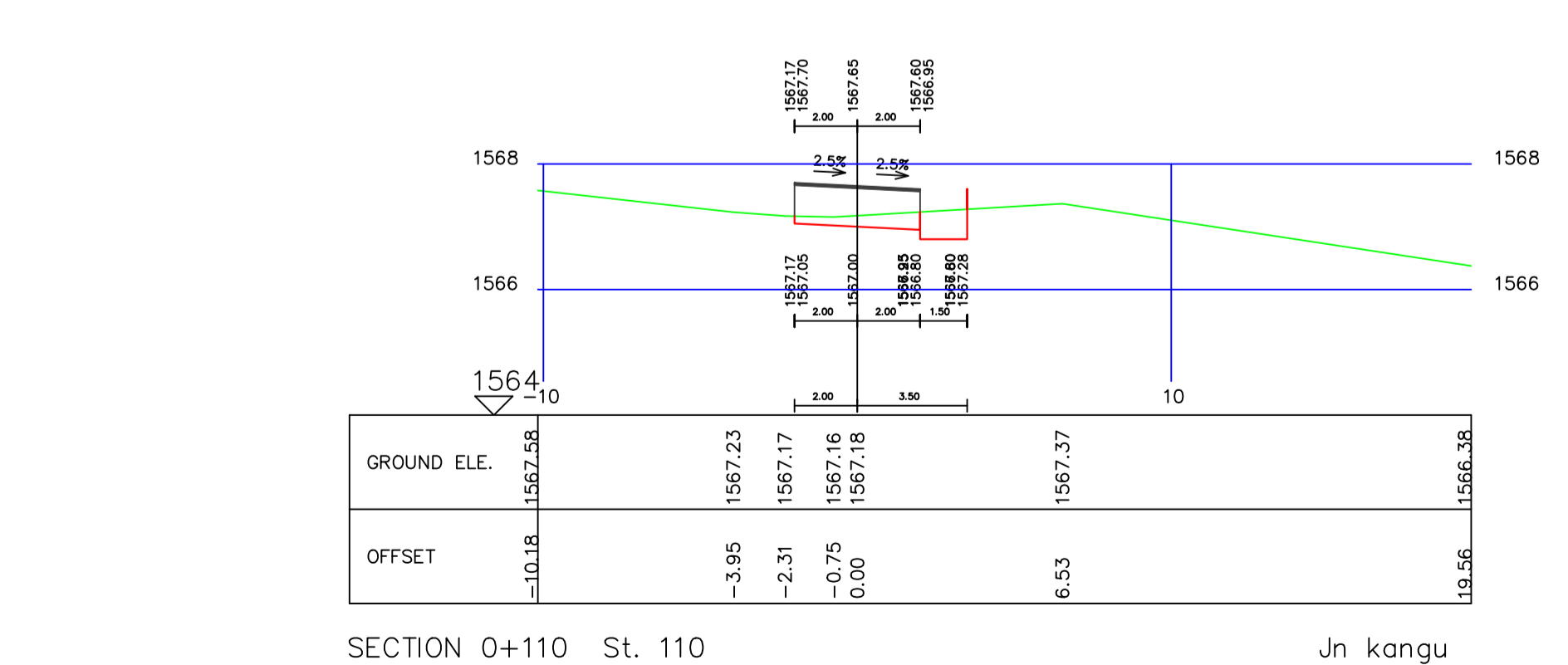
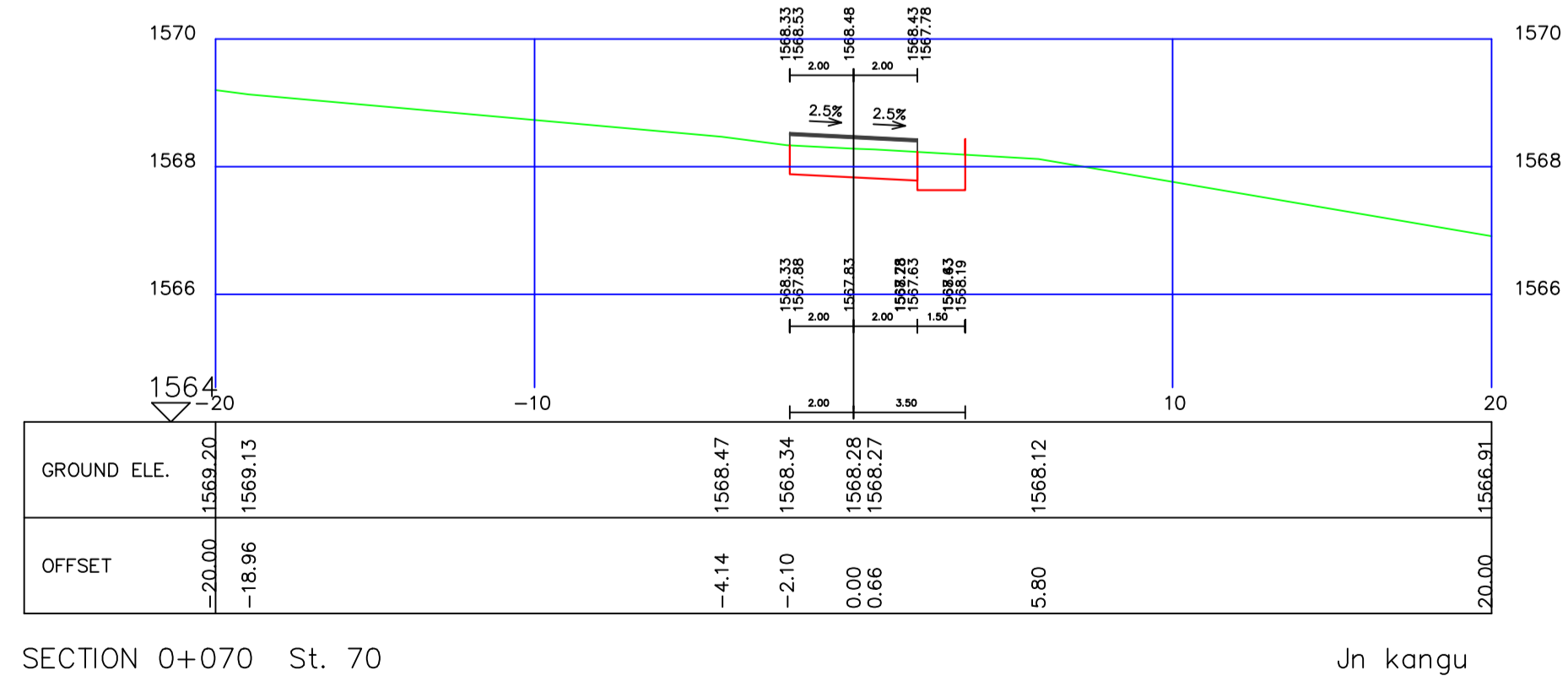
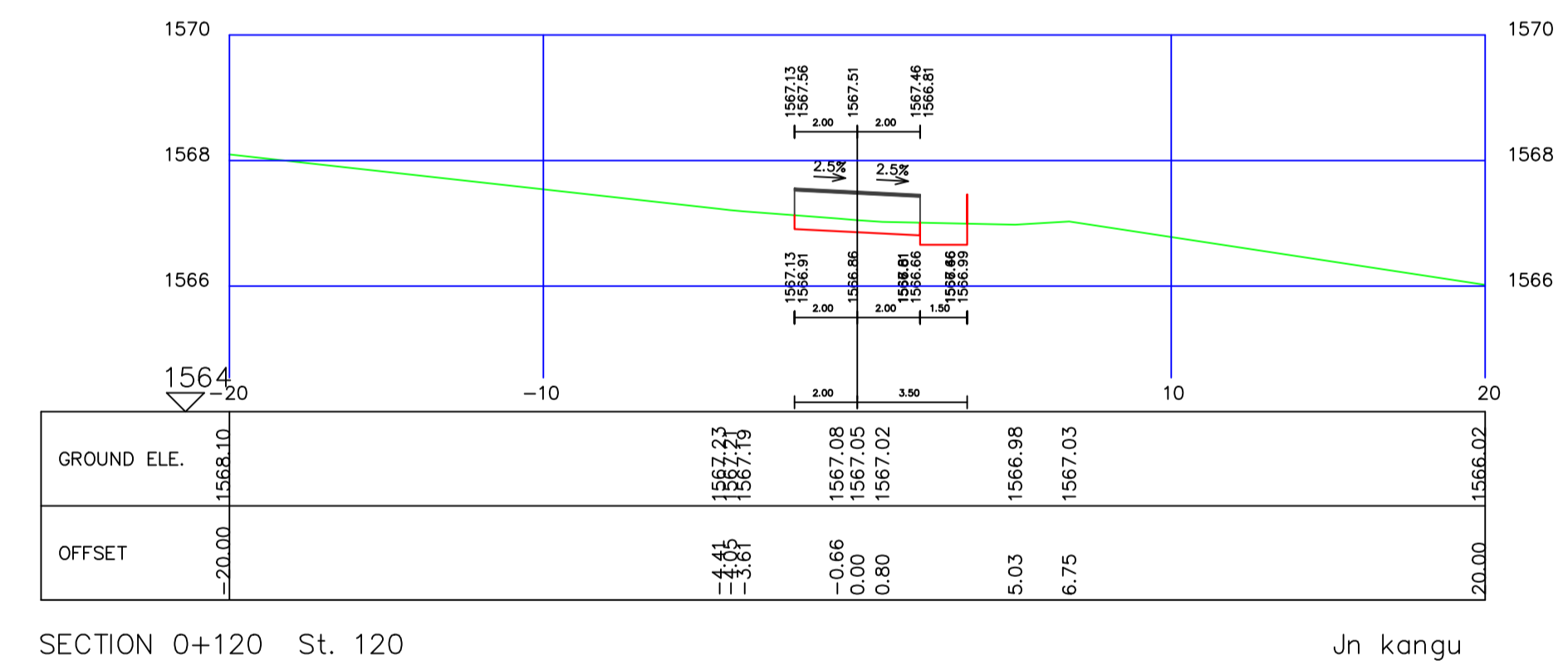
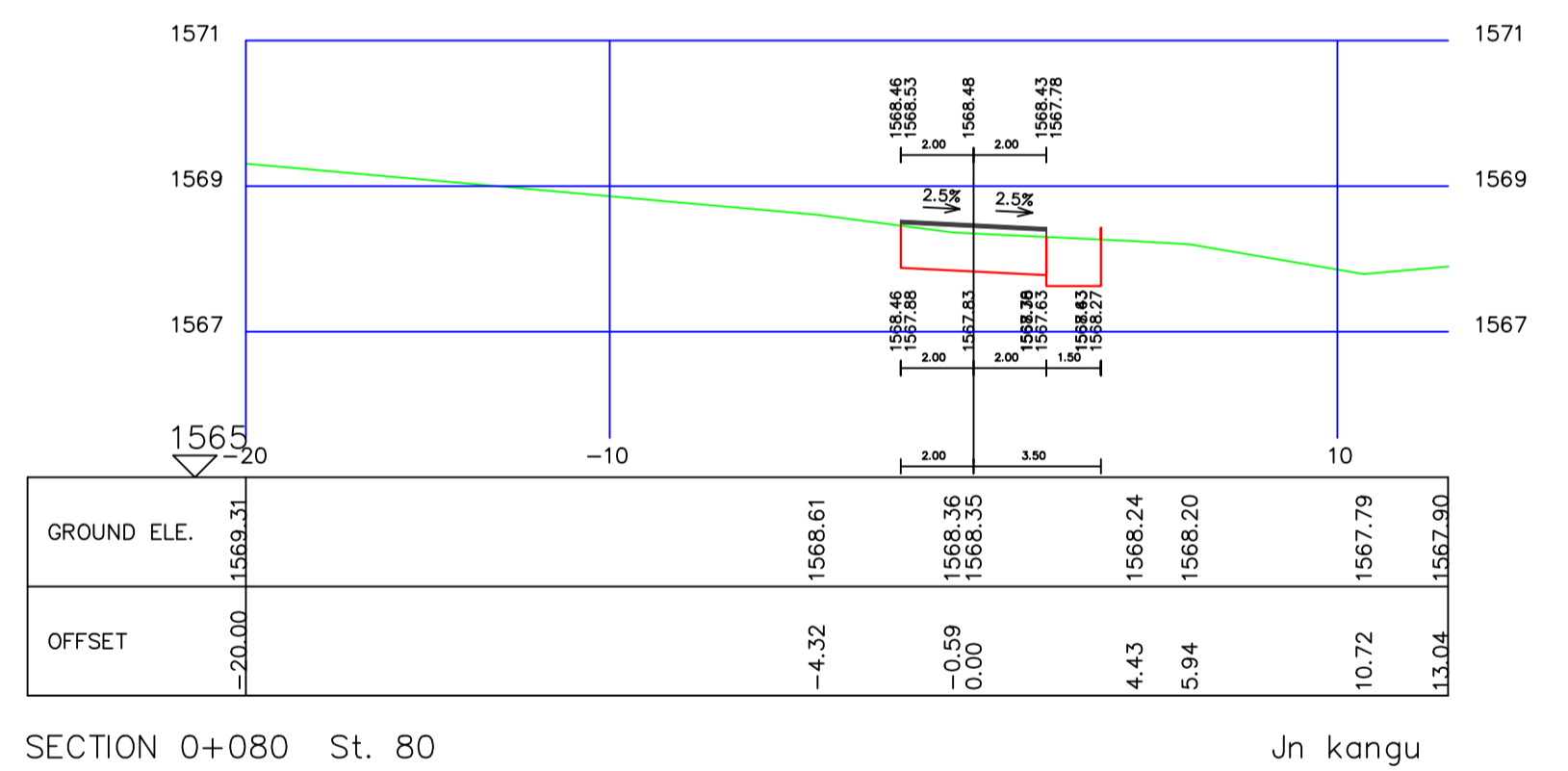
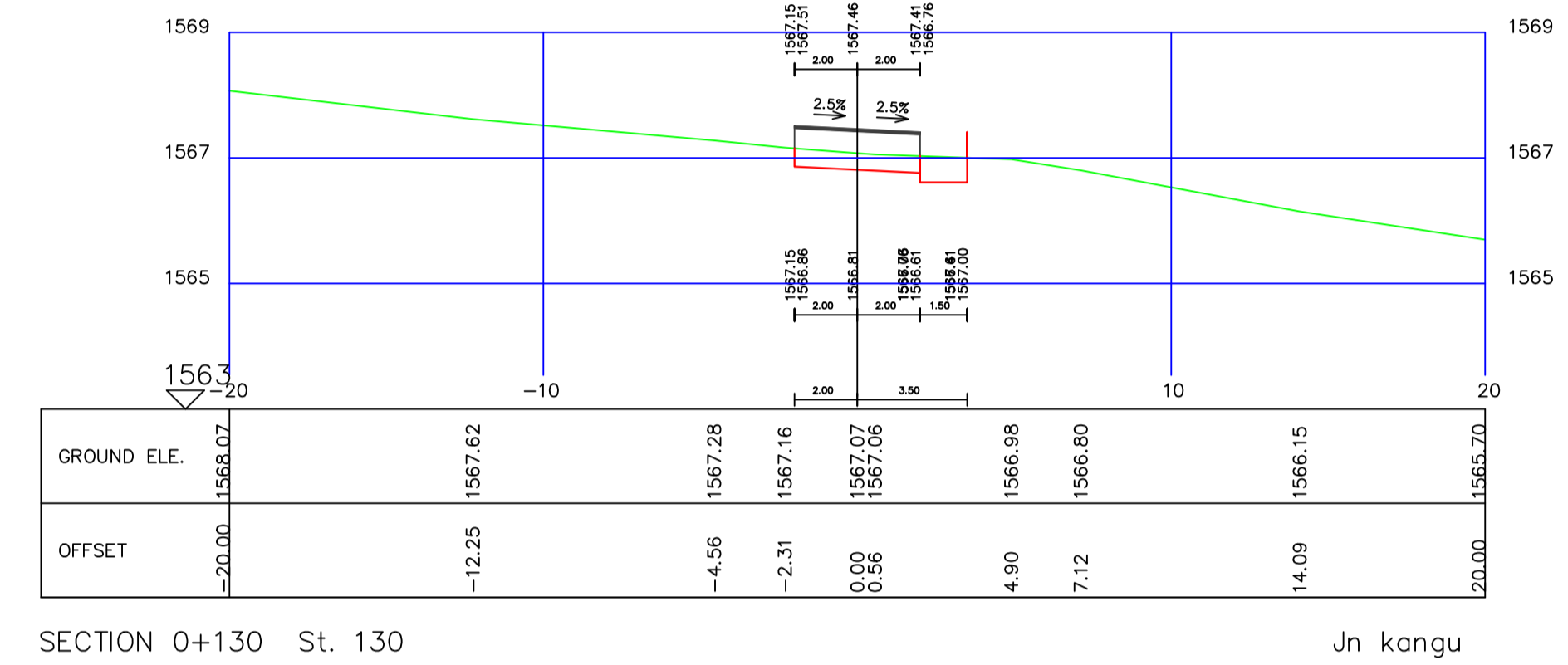
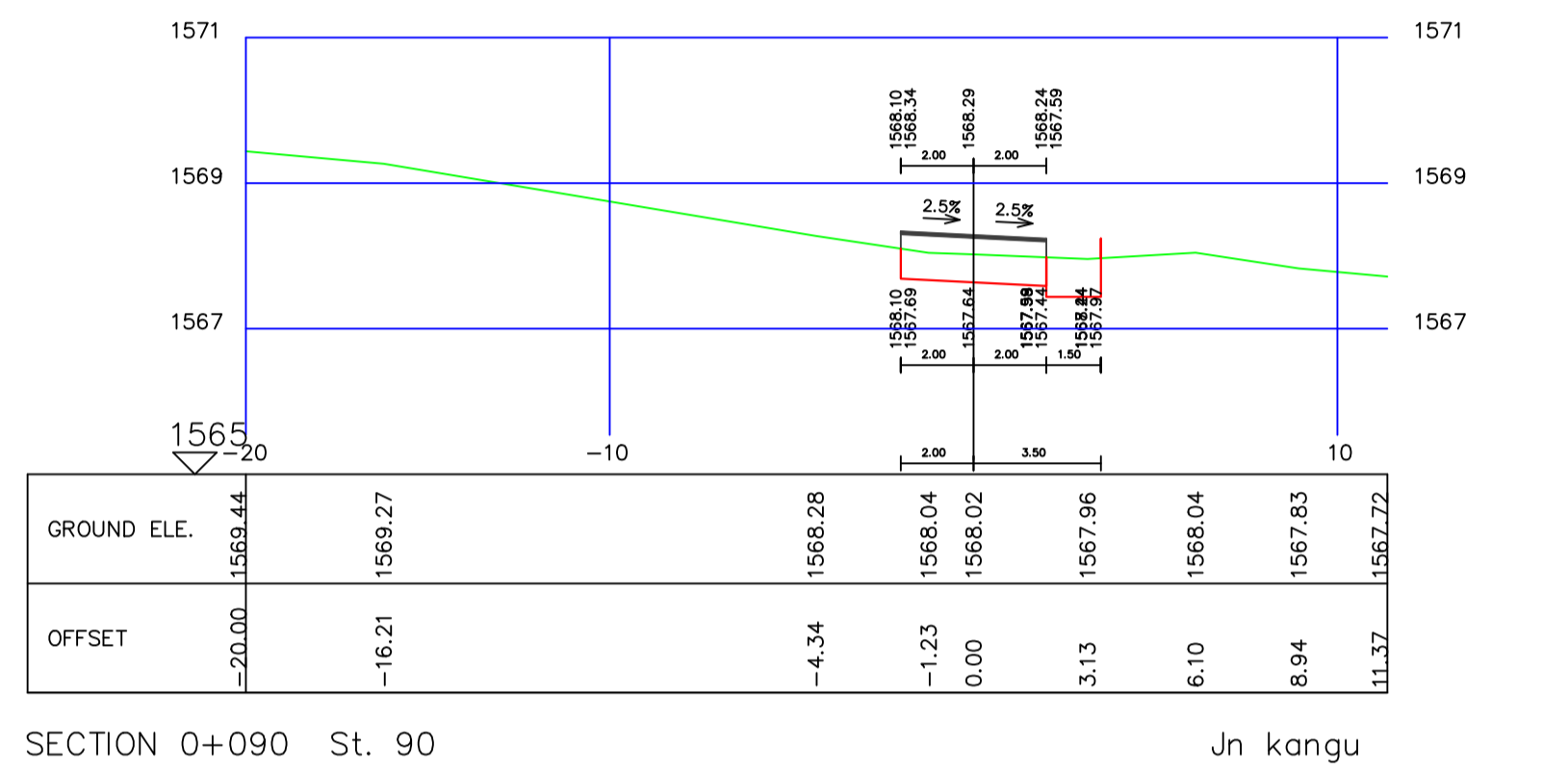
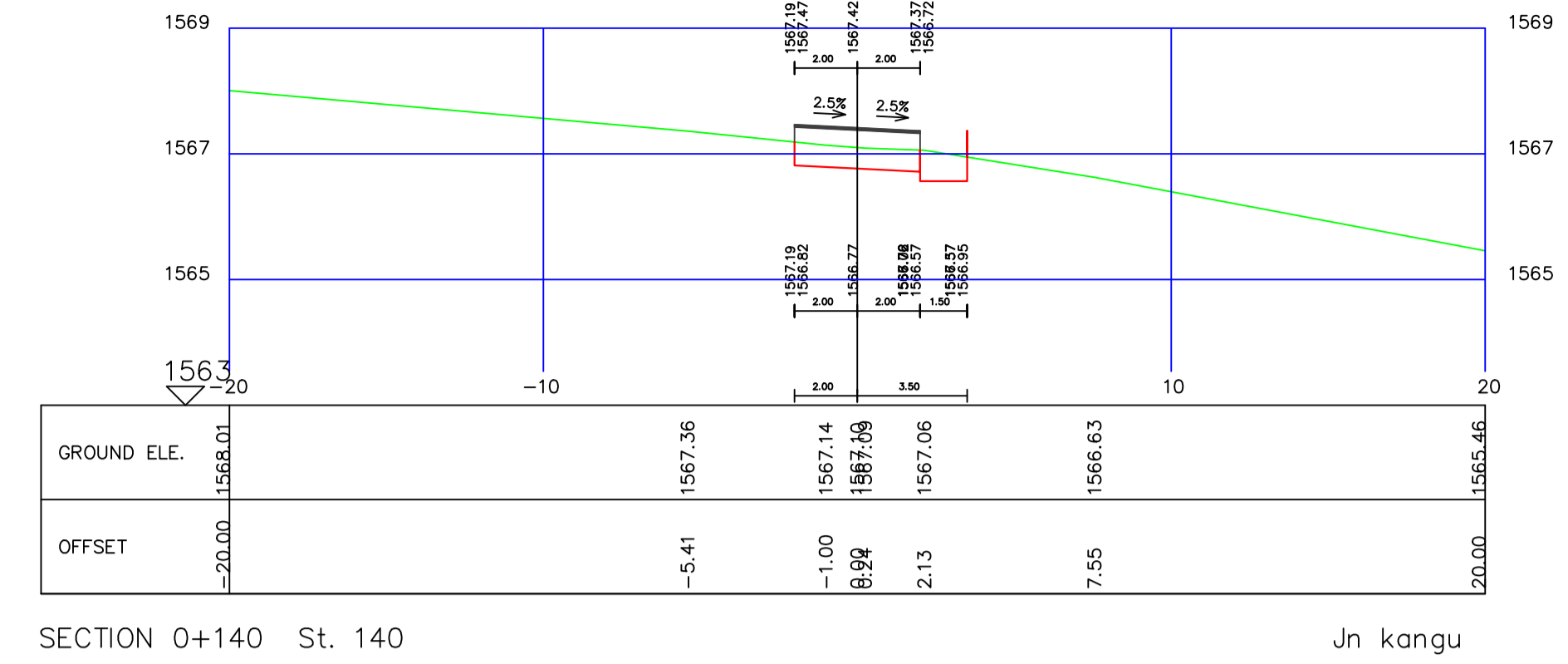
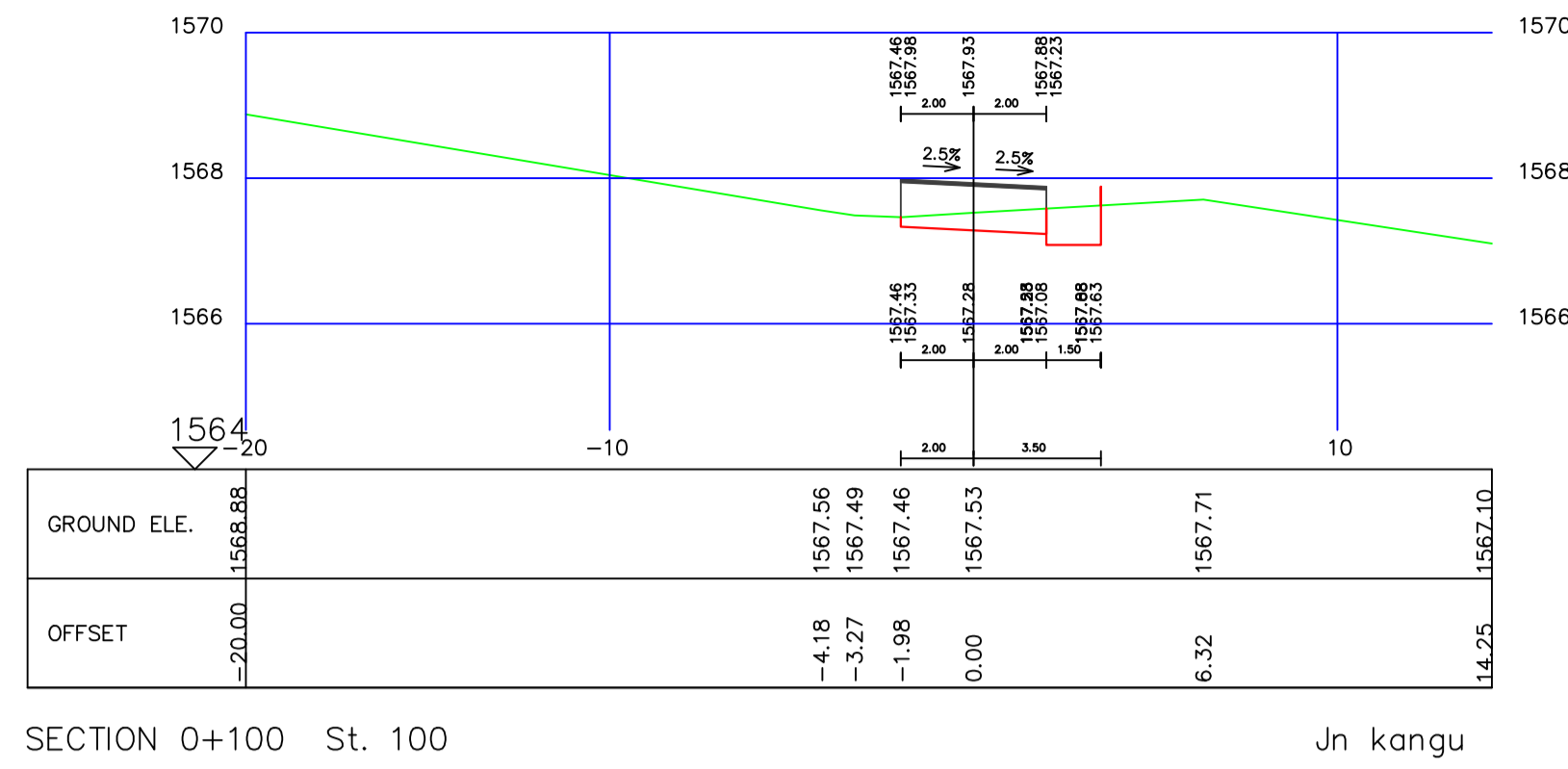
H 1:200 Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: JKM

CHECKED BY: ENG. PNG DRAWN BY: JKM

REVISIONS

No	Date	AMMENDMENTS



CLIENT:
MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



EMPLOYER:
NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)
THE WORLD BANK
AFD



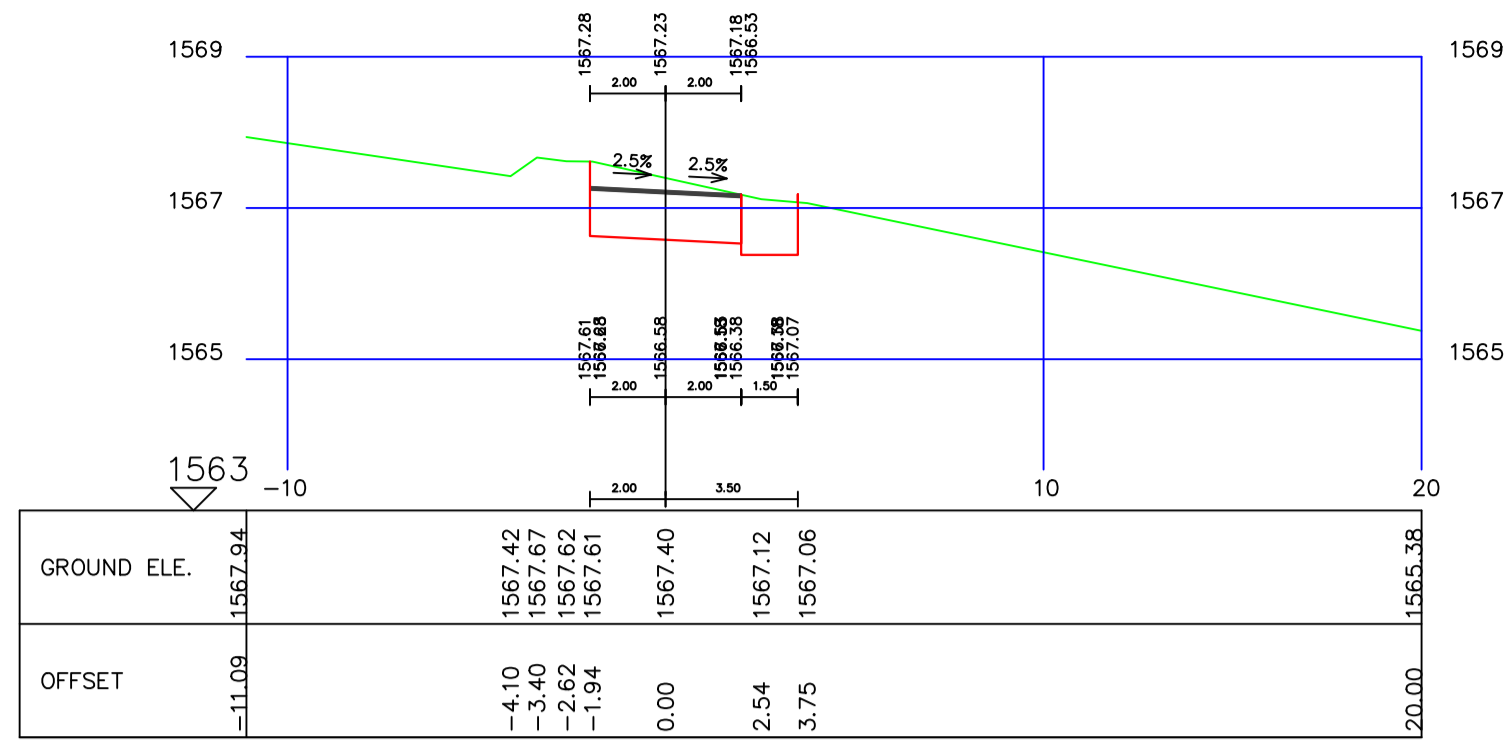
CONSULTANT:
**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

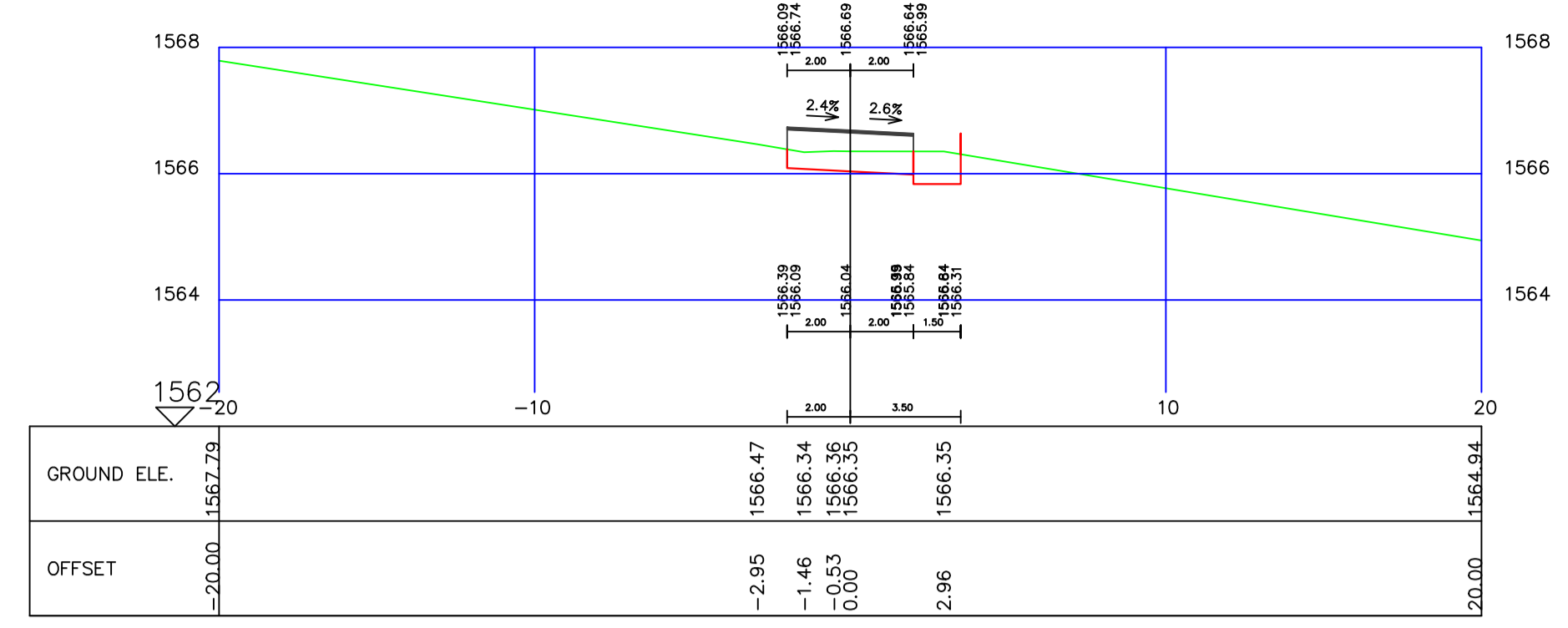
Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**
Drg. No. WMCL/CR214/SPRV/CRS/06 | Sheet No.6 of 28
Scale: V 1:100 | Date: FEBRUARY 2024
H 1:200 | Stage: TENDER DRAWINGS
APPROVED BY: ENG.IKWM | DESIGNED BY: JKM
CHECKED BY: ENG.PNG | DRAWN BY: JKM

REVISIONS

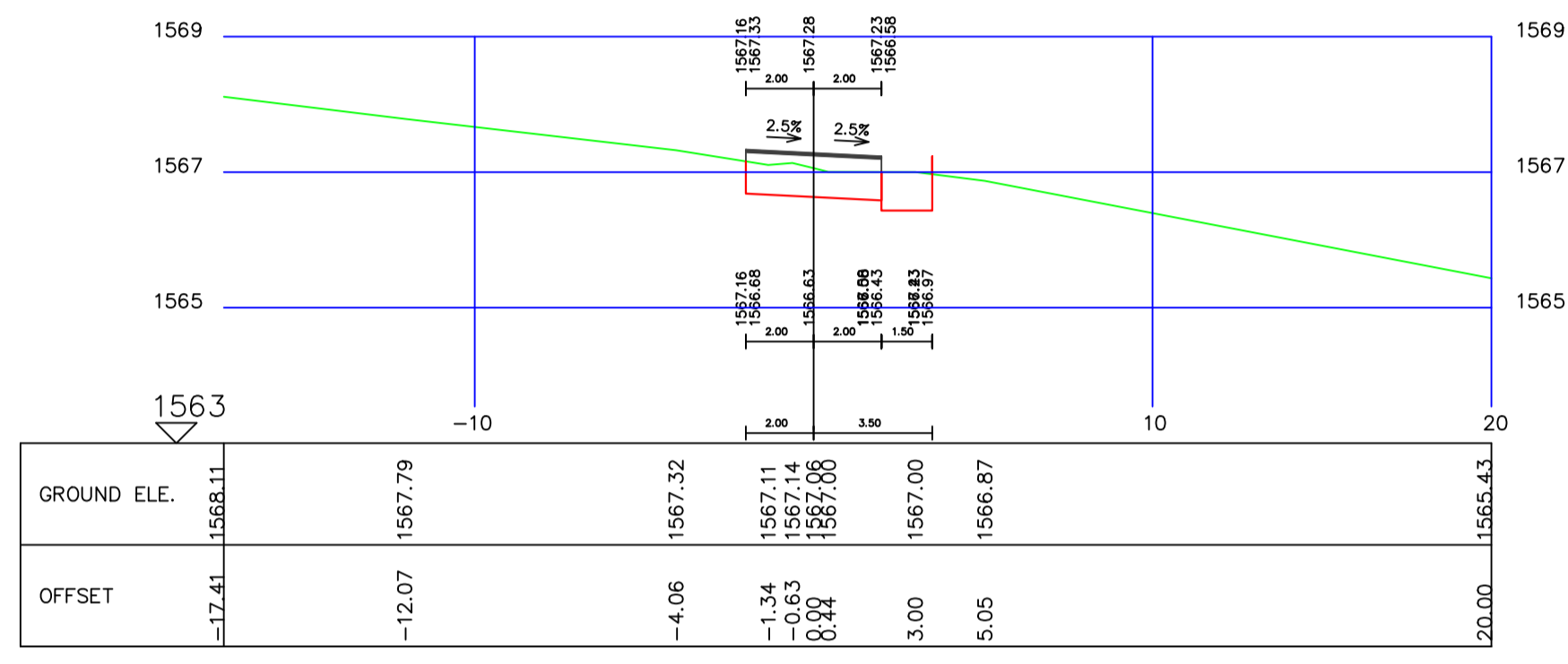
No | Date | AMMENDMENTS



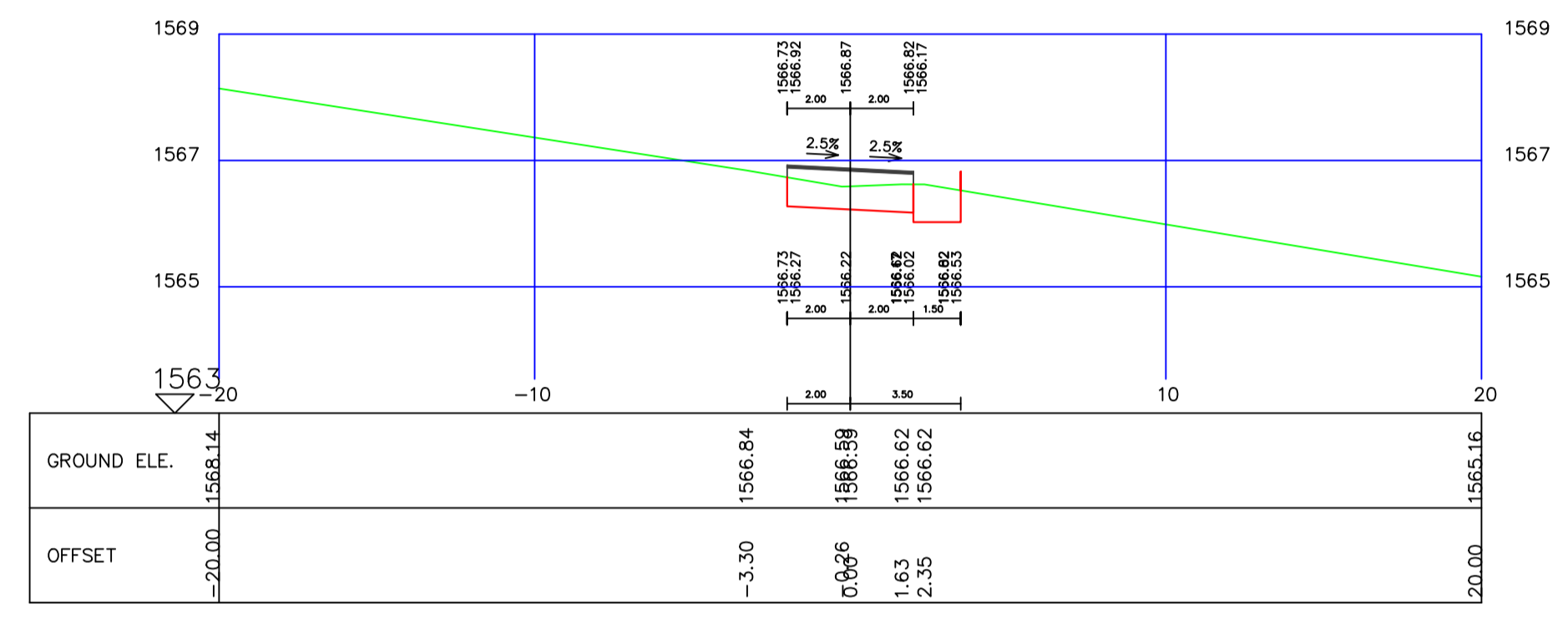
SECTION 0+180 St. 180 Jn kangu



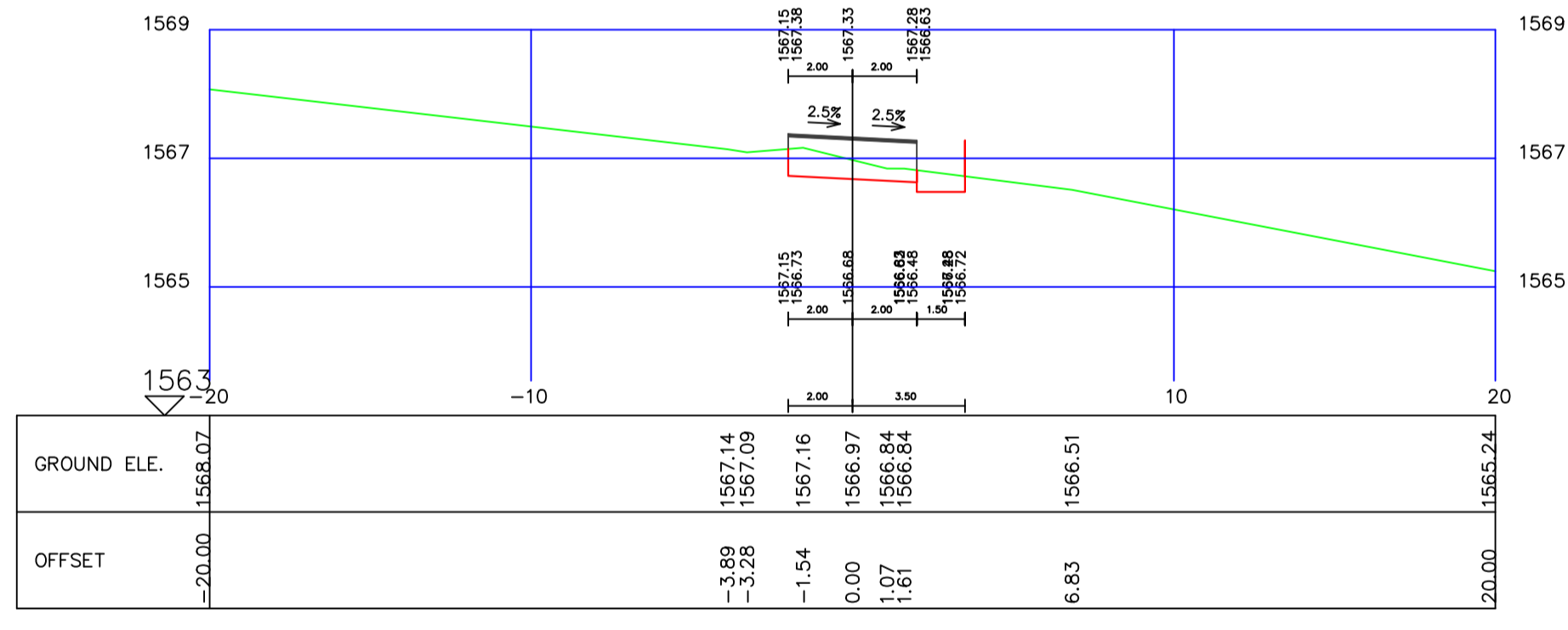
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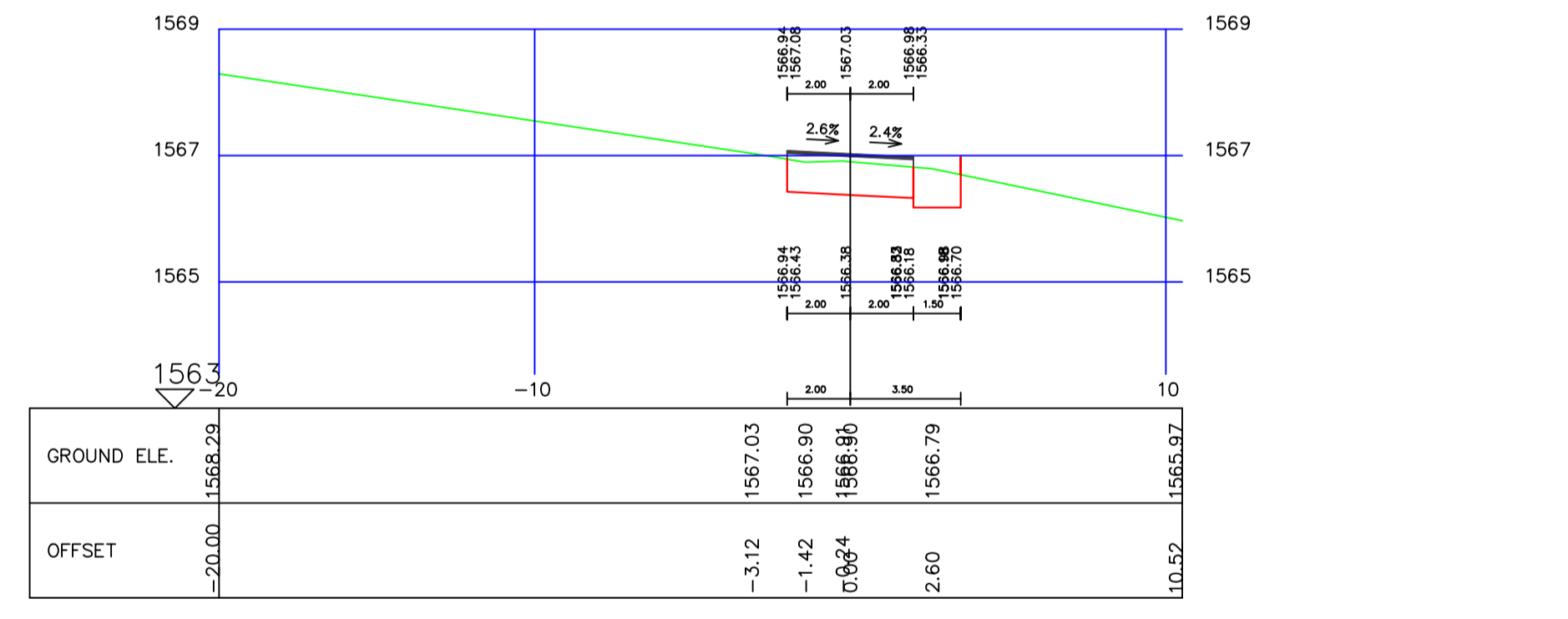
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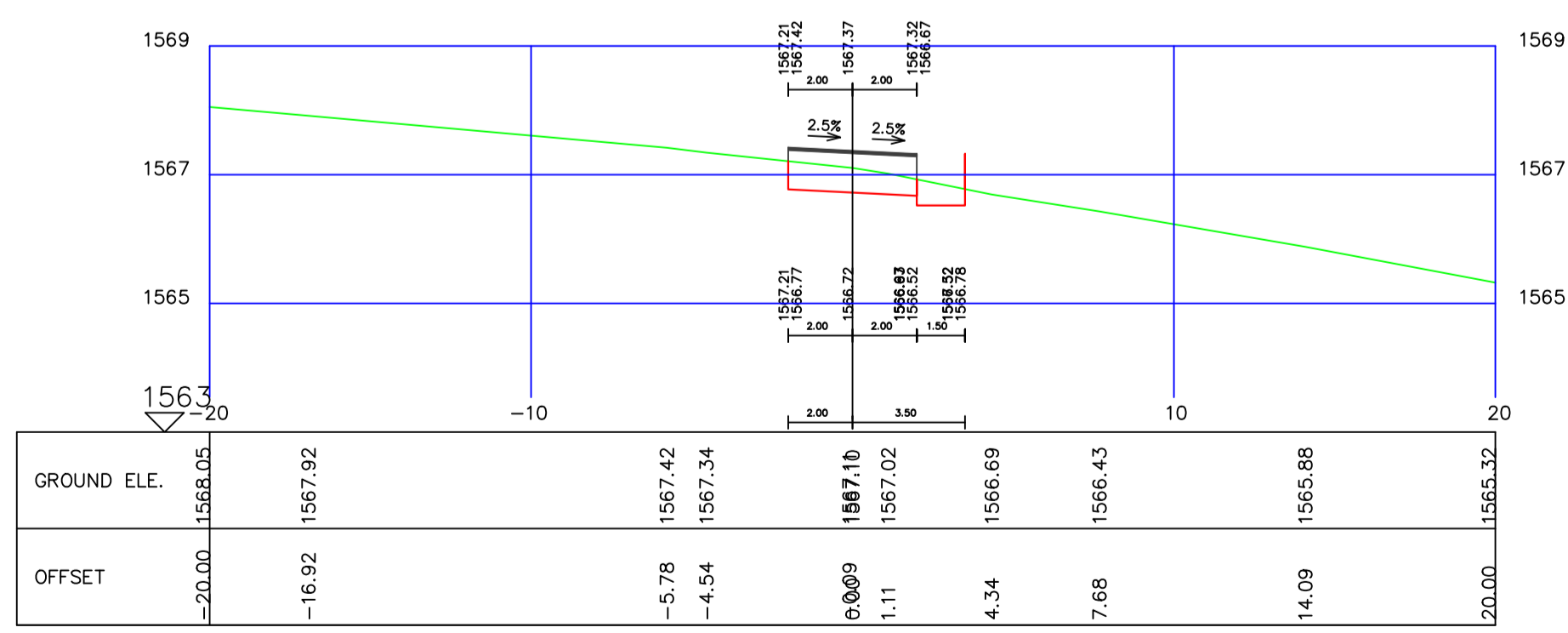
SECTION 0+210 St. 210 Jn kangu



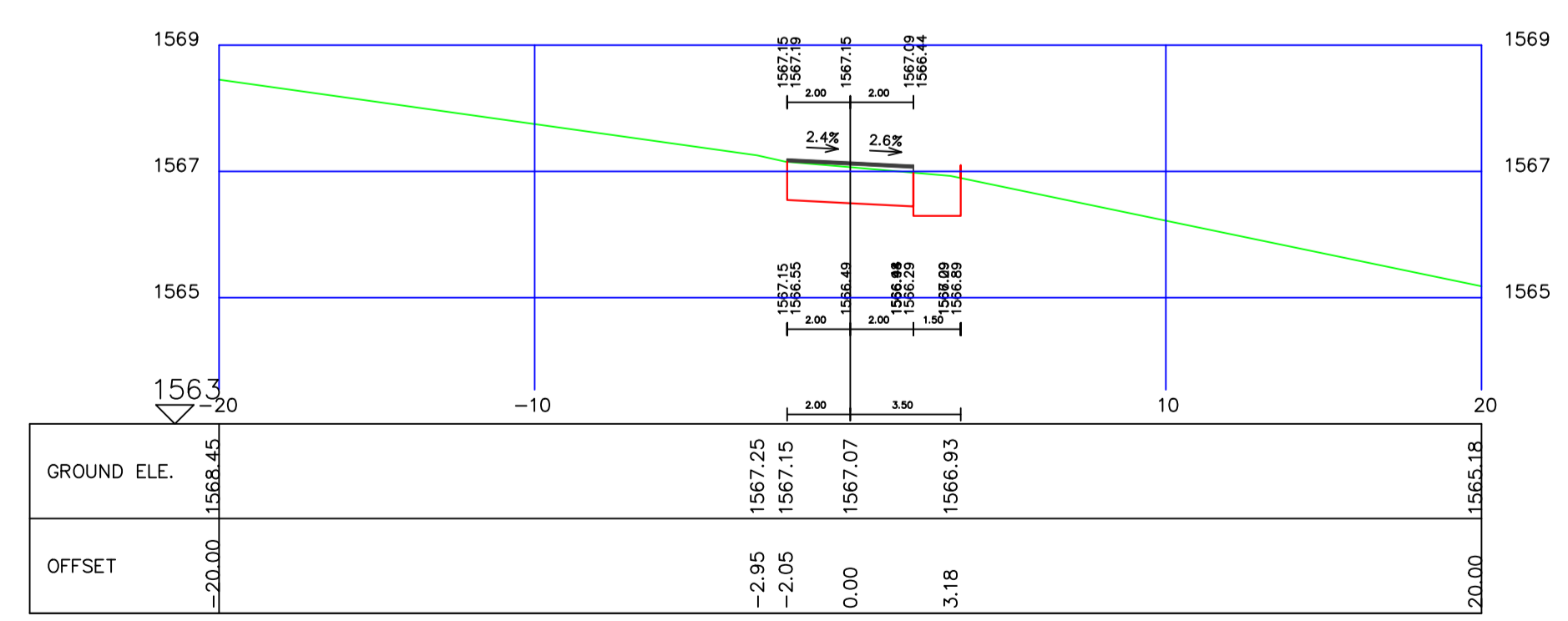
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SECTION 0+200 St. 200 Jn kangu

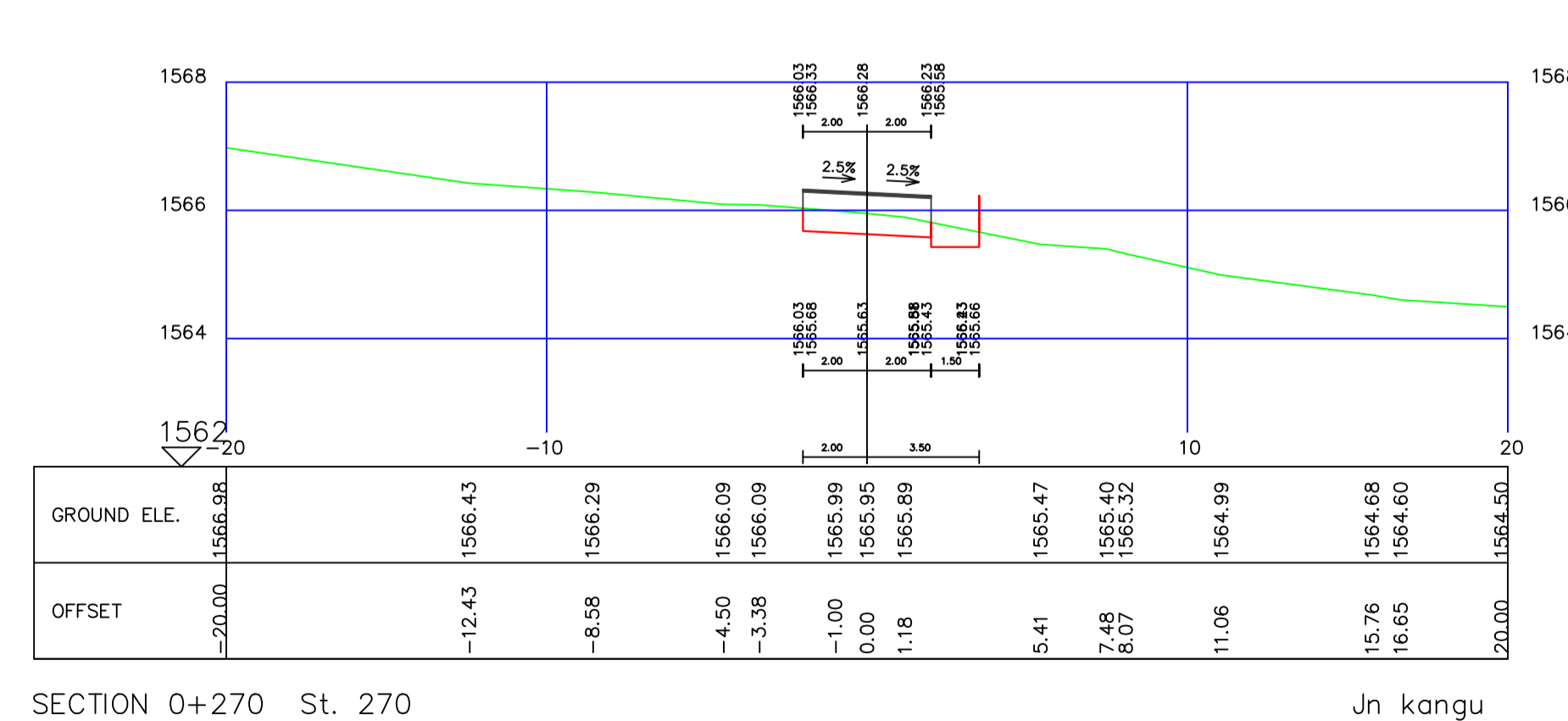
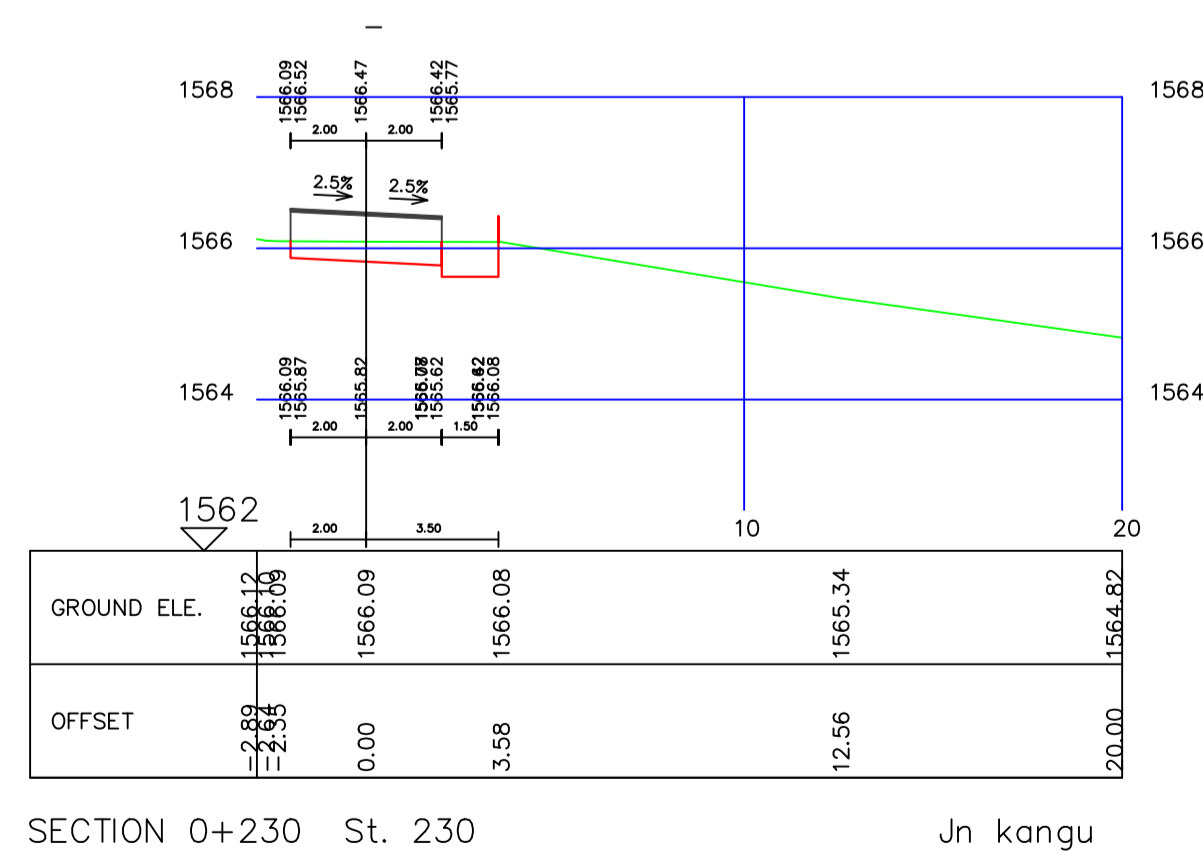
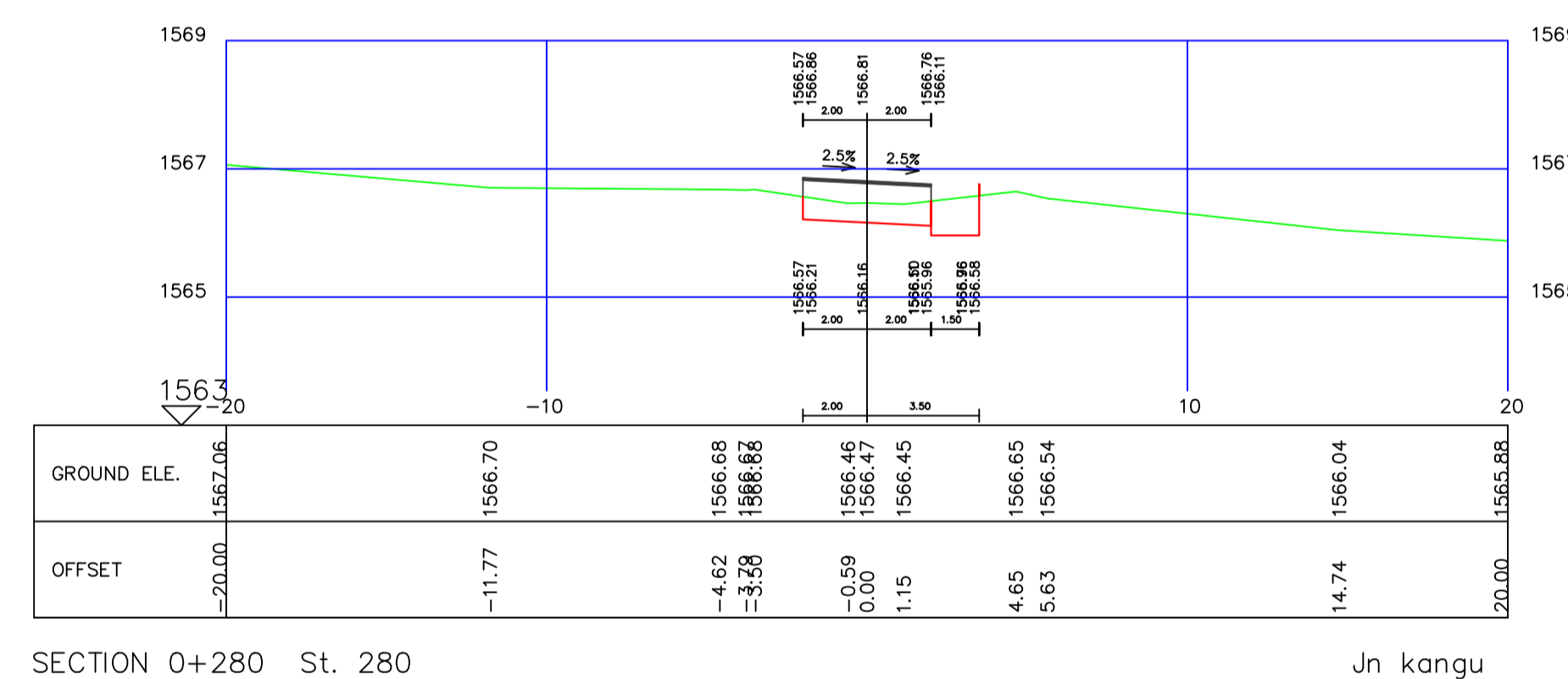
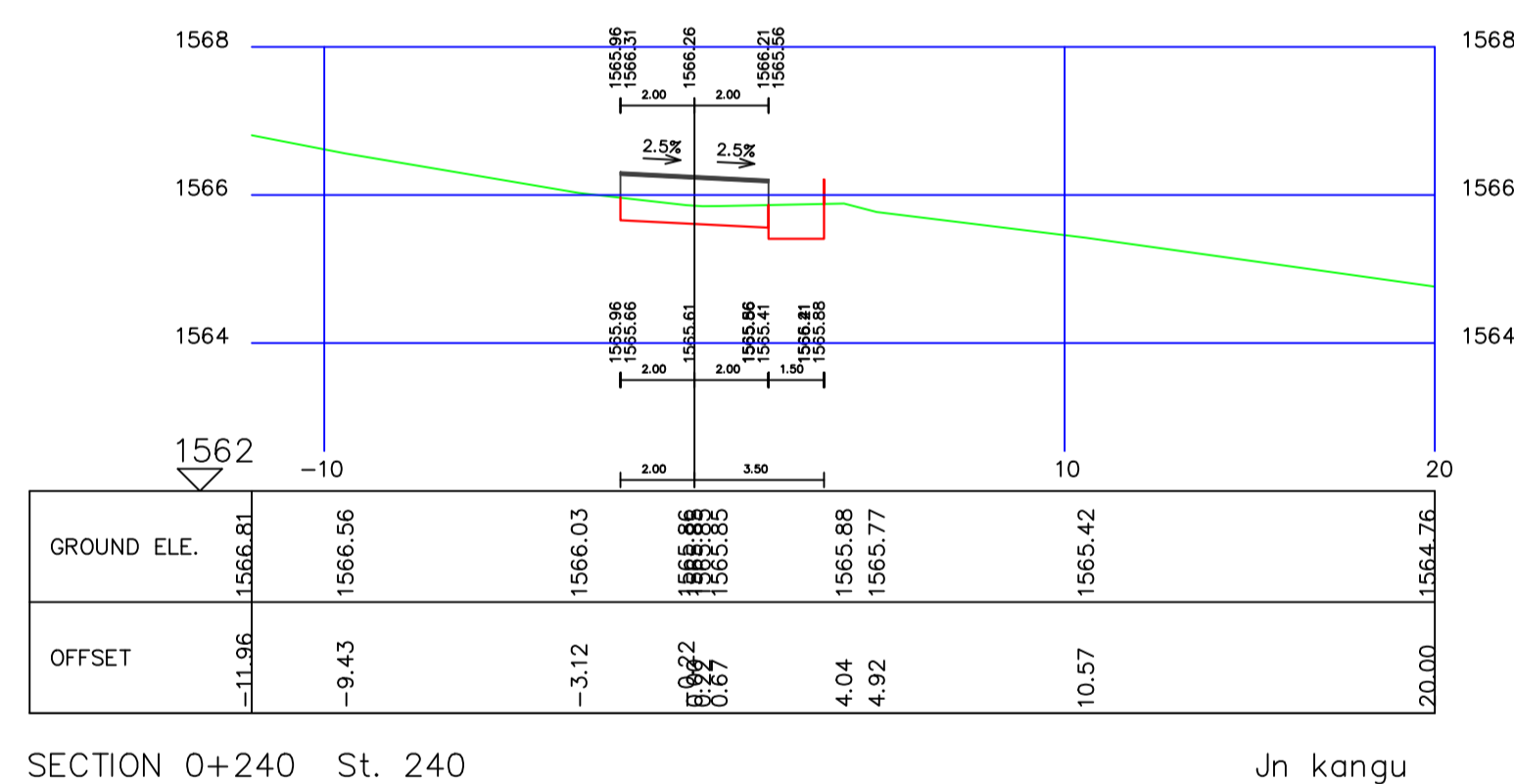
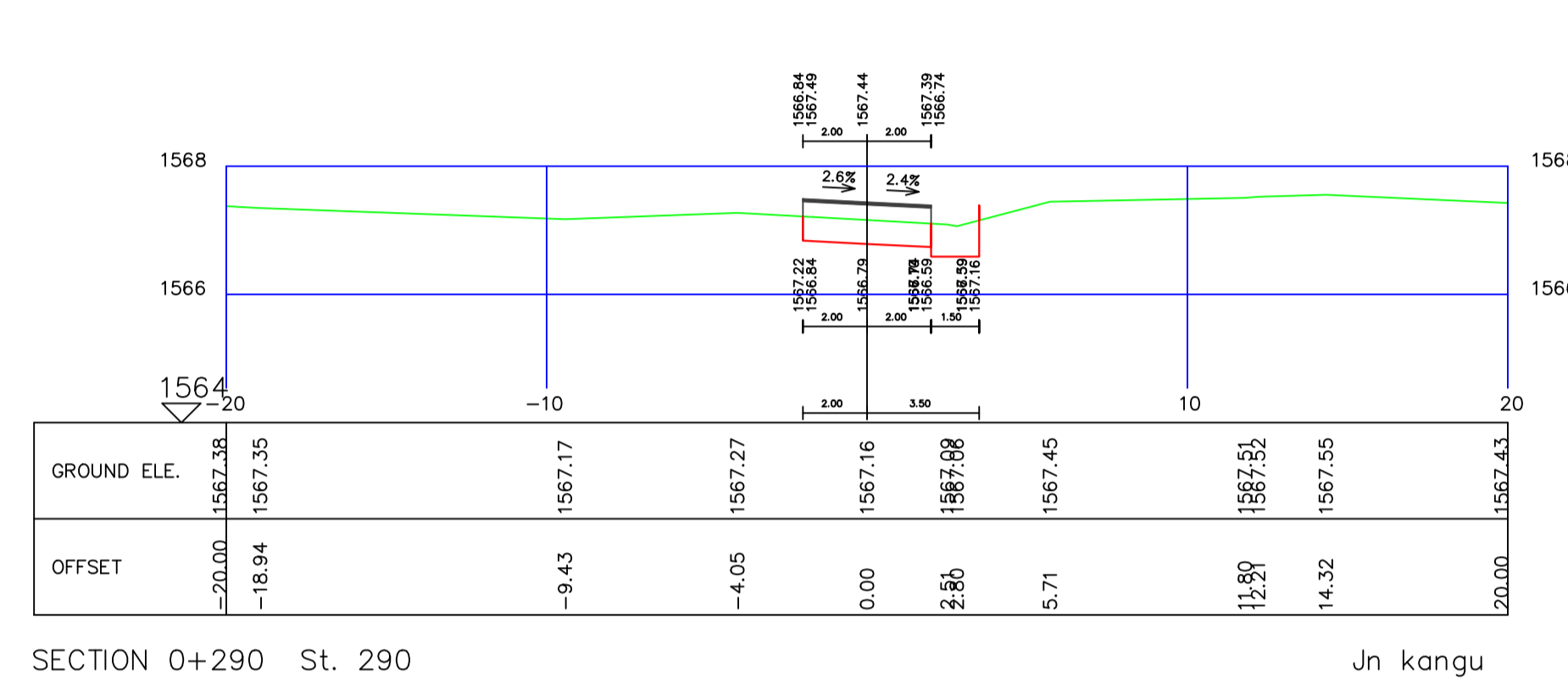
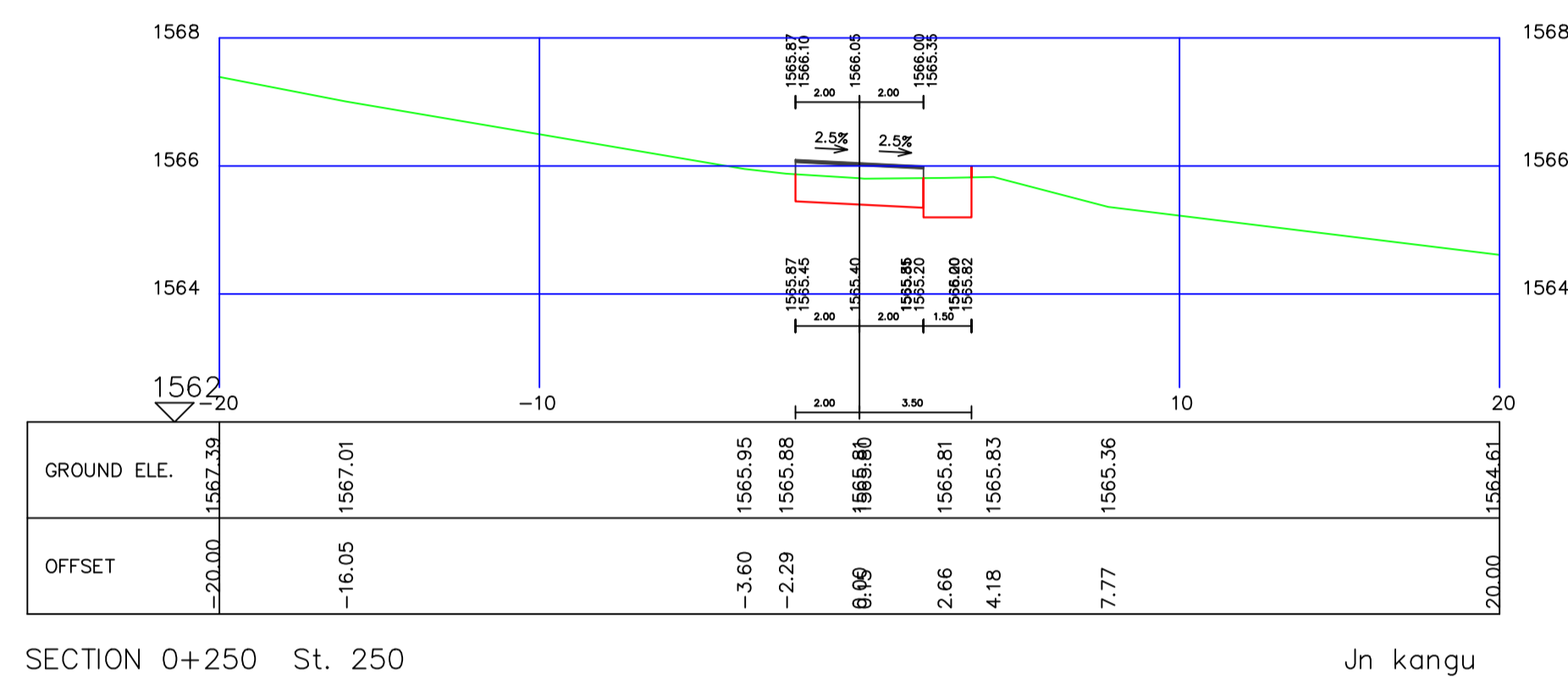
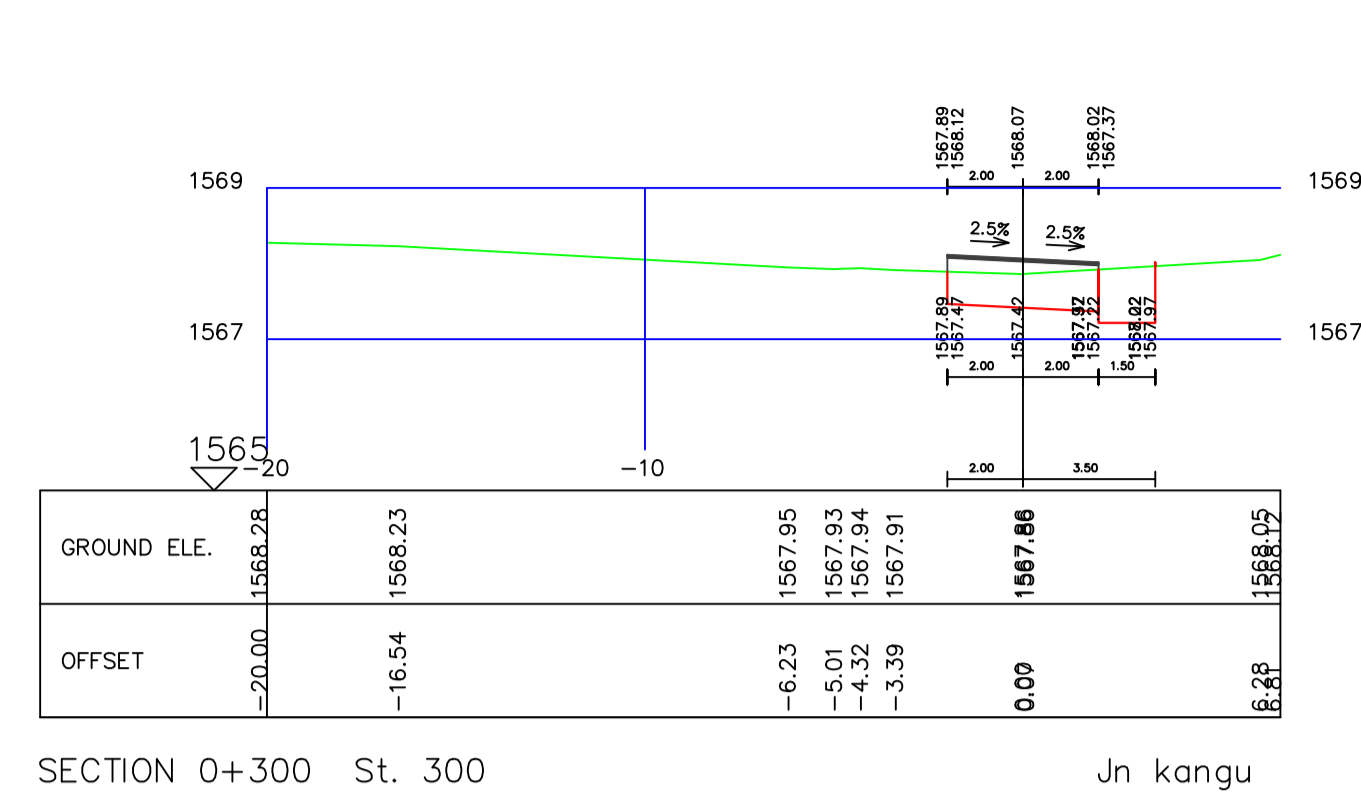
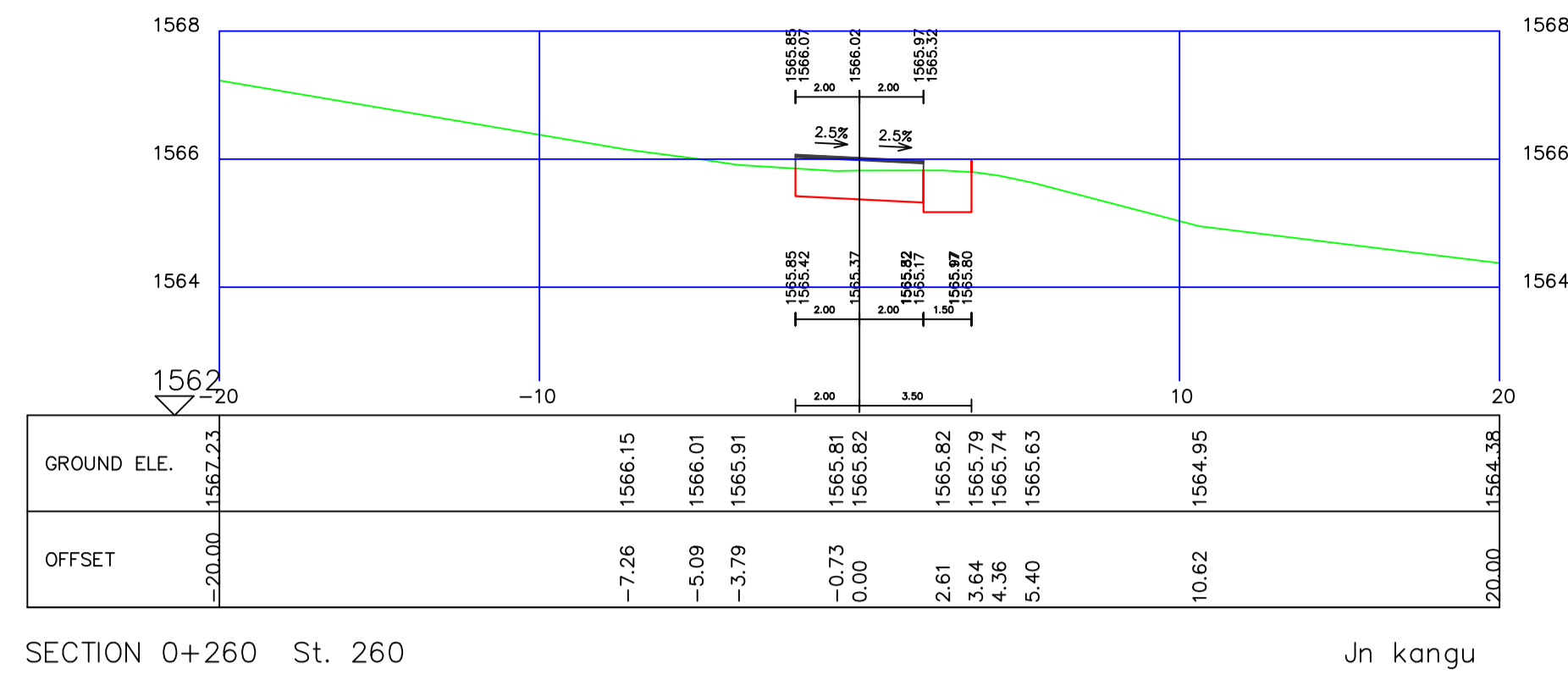


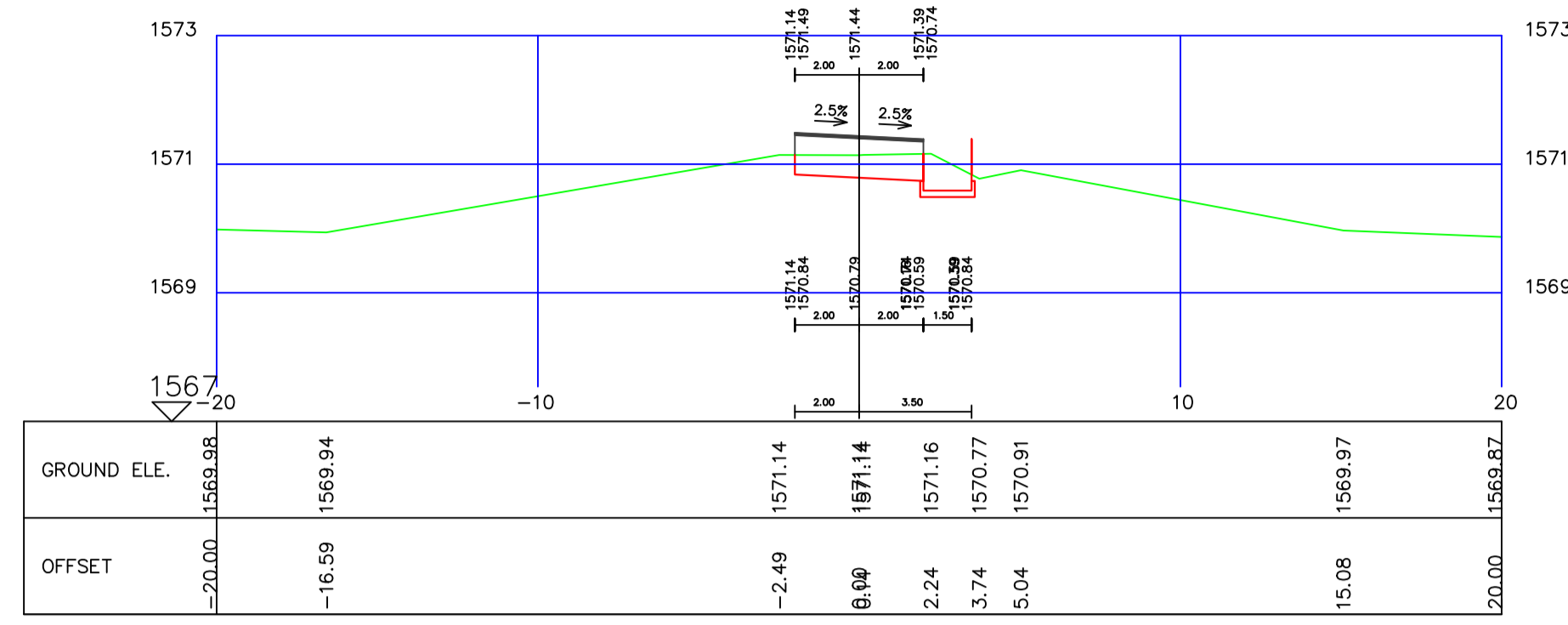
SECTION 0+150 St. 150 Jn kangu



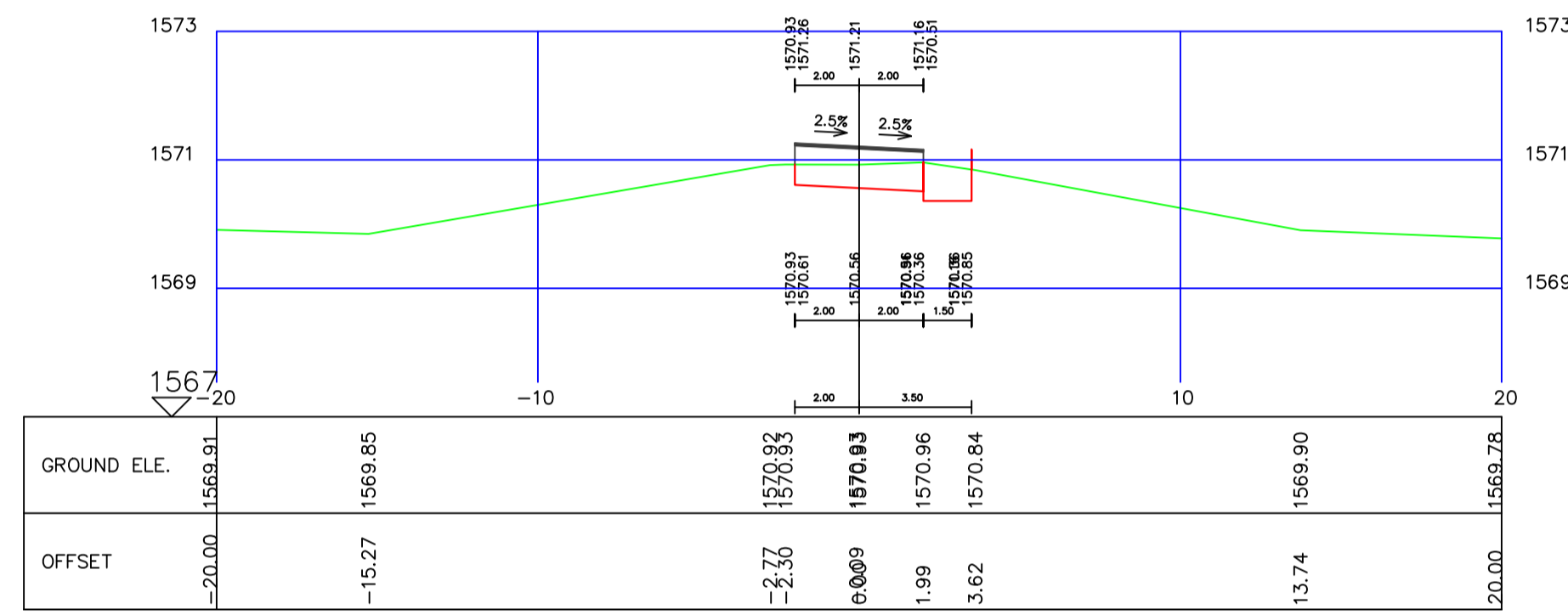
SECTION 0+190 St. 190 Jn kangu

<p>CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY(IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT(AFD)</p>	<p>CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS ,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.</p>	<p>Drawing Title: SPRING VALLEY SETTLEMENT: CROSS SECTIONS</p>		<p>Sheet No.7of28</p>		<p>REVISIONS</p>					
					<p>Scale: V 1:100 Date: FEBRUARY 2024</p>		<p>Stage: TENDER DRAWINGS</p>		<p>APPROVED BY: ENG.IKWM DESIGNED BY: JKM</p>		<p>CHECKED BY: ENG.PNG DRAWN BY: JKM</p>		<p>No. Date AMMENDMENTS</p>	
					<p>Scale: H 1:200</p>		<p>APPROVED BY: ENG.IKWM DESIGNED BY: JKM</p>		<p>CHECKED BY: ENG.PNG DRAWN BY: JKM</p>		<p>No. Date AMMENDMENTS</p>		<p>No. Date AMMENDMENTS</p>	
					<p>Scale: H 1:200</p>		<p>APPROVED BY: ENG.IKWM DESIGNED BY: JKM</p>		<p>CHECKED BY: ENG.PNG DRAWN BY: JKM</p>		<p>No. Date AMMENDMENTS</p>		<p>No. Date AMMENDMENTS</p>	

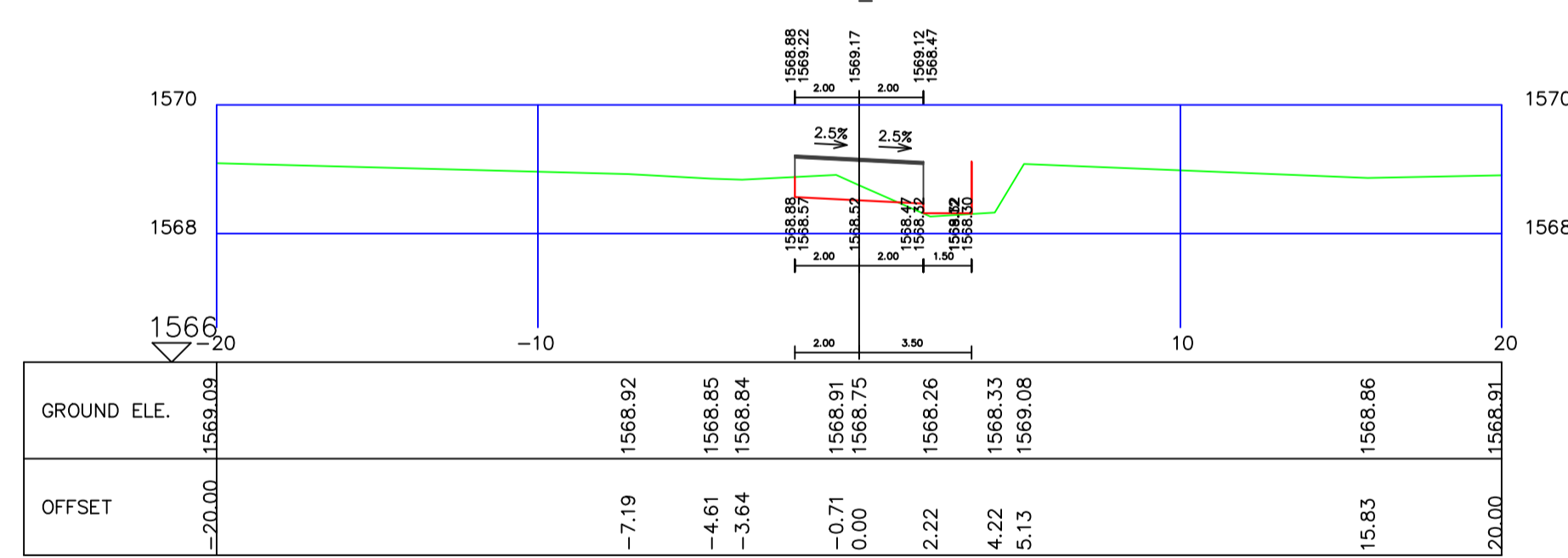




SECTION 0+320 St. 320.91 Jn kangu



SECTION 0+320 St. 320 Jn kangu



SECTION 0+310 St. 310 Jn kangu

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

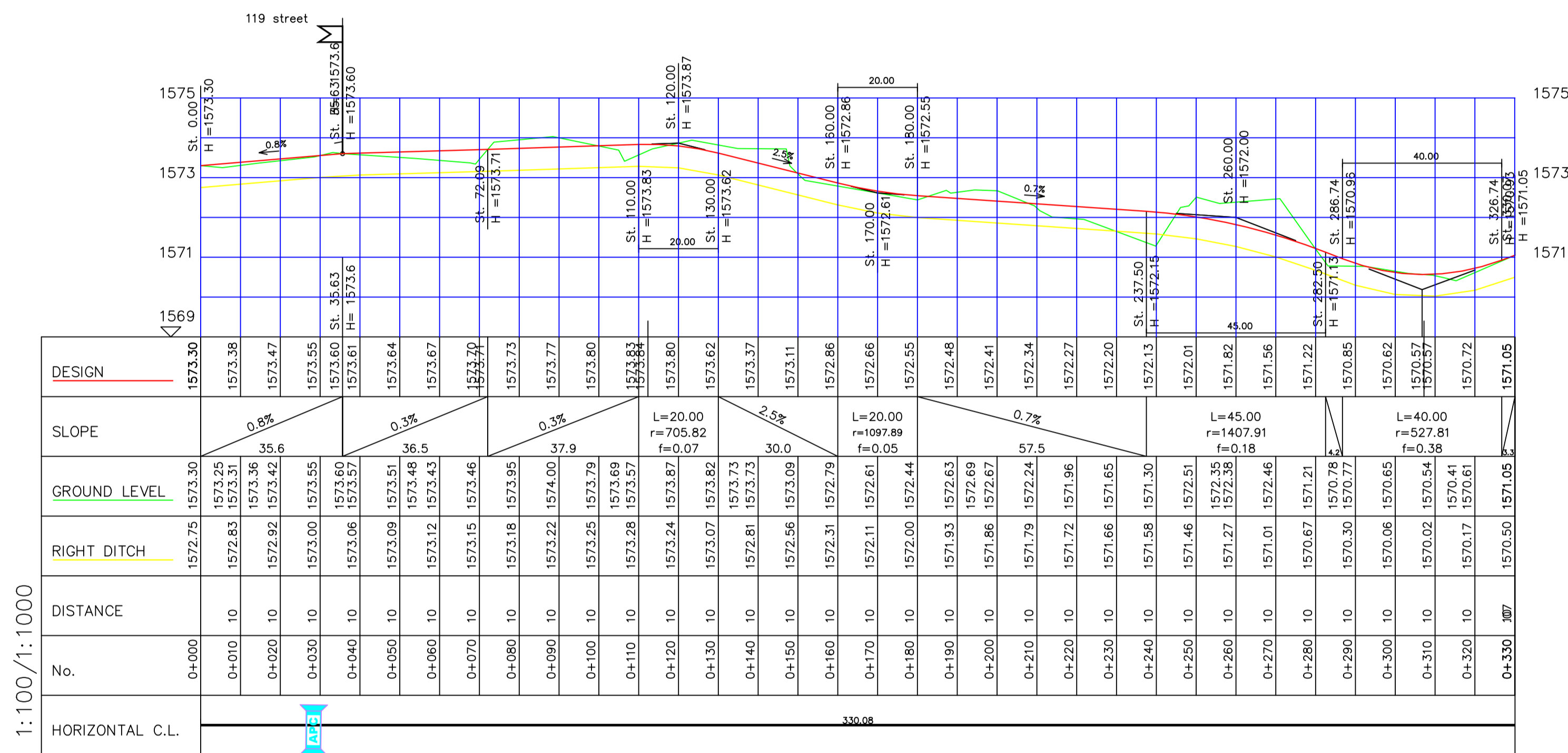
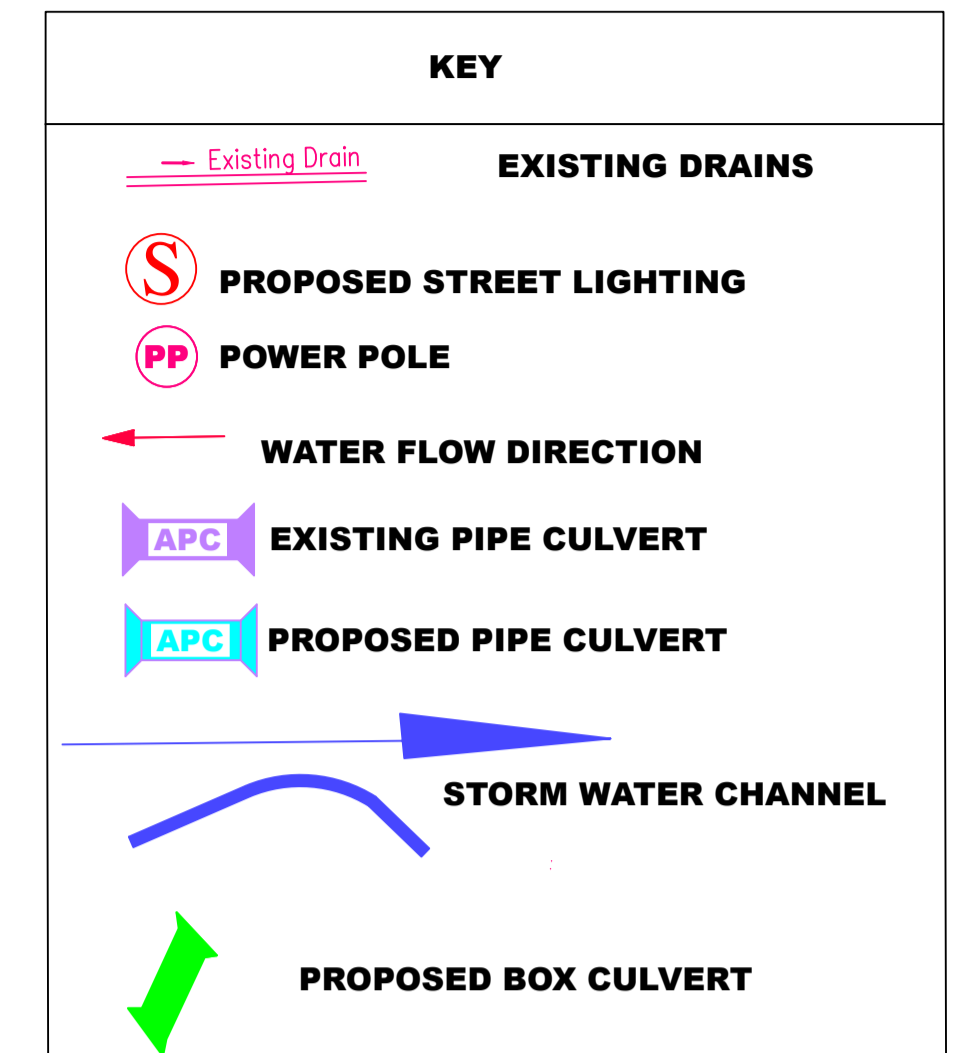
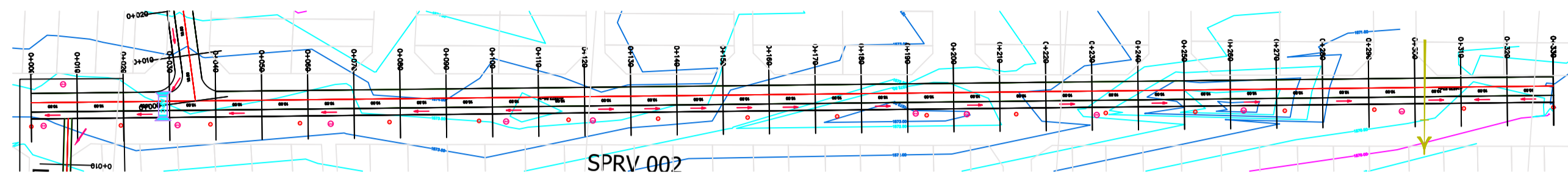
PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Drg. No. WMCL/CR214/SPRV/CRS/09	Sheet No. 9 of 28
Scale: V 1:100	Date: FEBRUARY 2024
H 1:200	Stage: TENDER DRAWINGS
APPROVED BY: ENG. IKWM	DESIGNED BY: JKM
CHECKED BY: ENG. PNG	DRAWN BY: JKM

REVISIONS

No	Date	AMMENDMENTS



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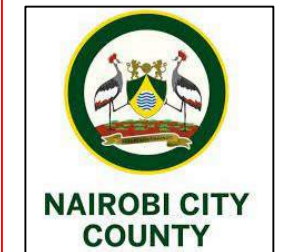
1st Avenue

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)
THE WORLD BANK
AFD

CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

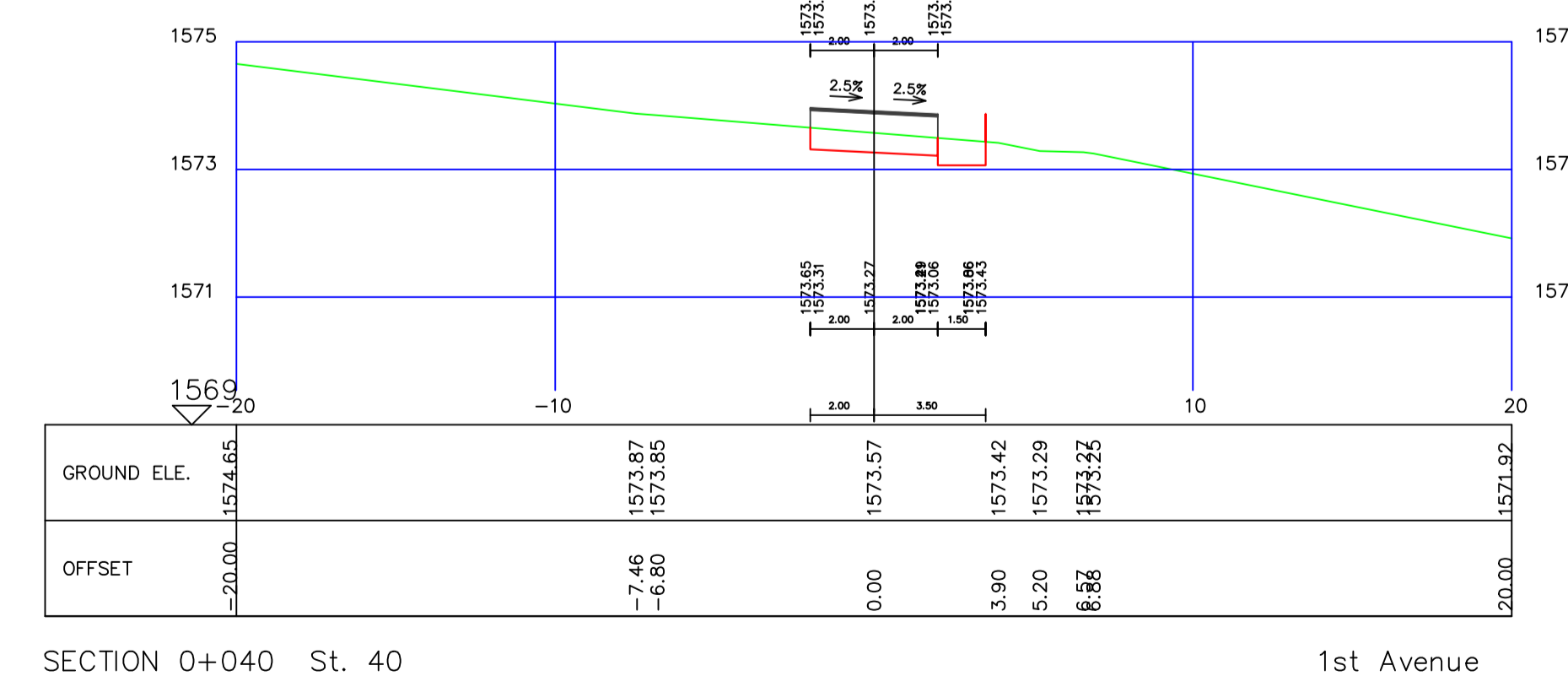
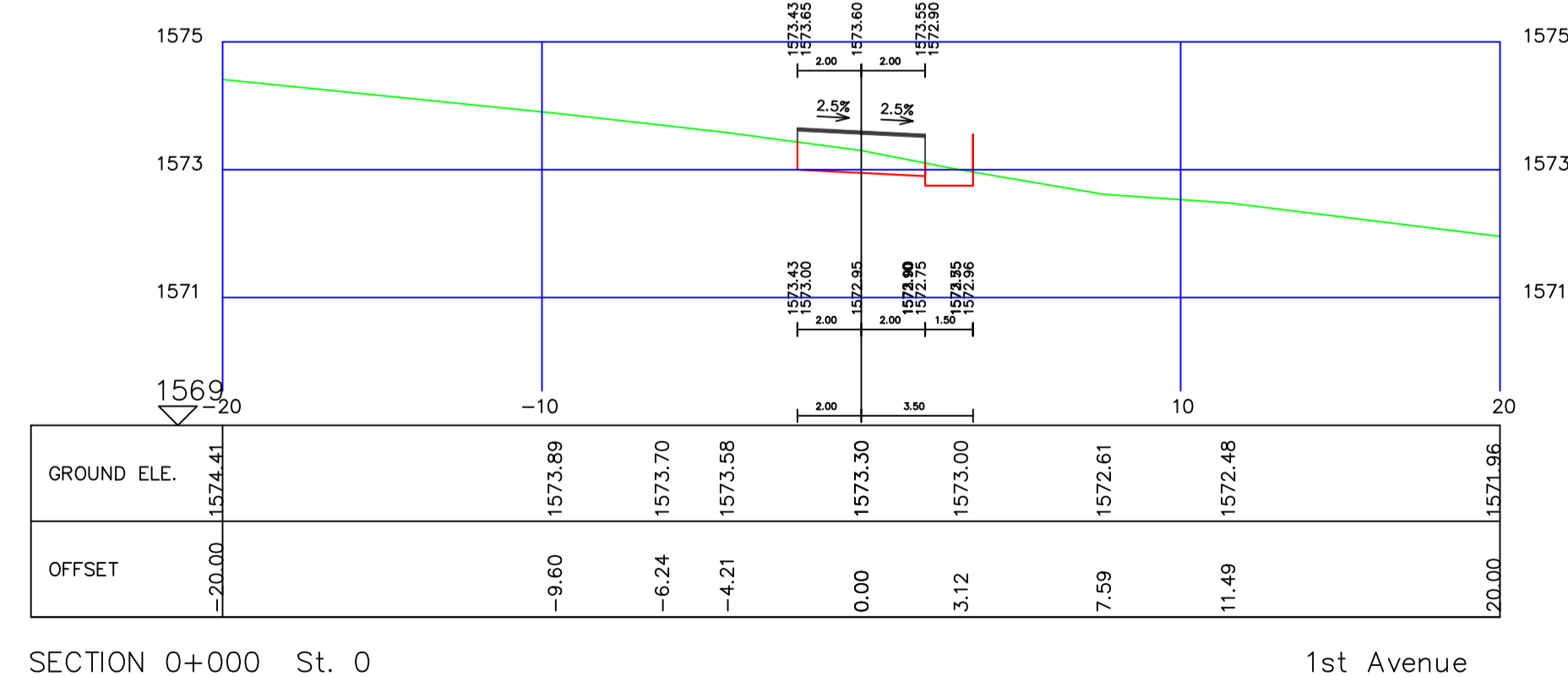
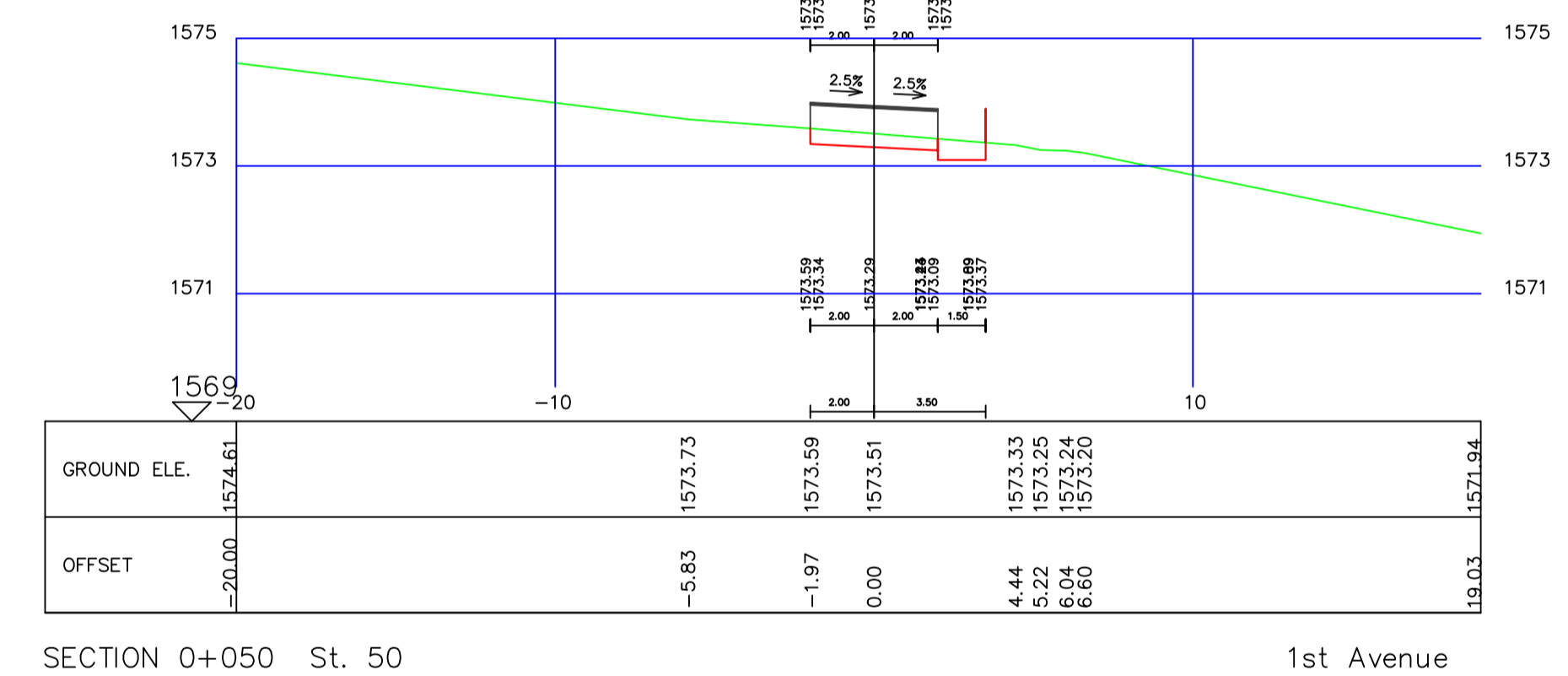
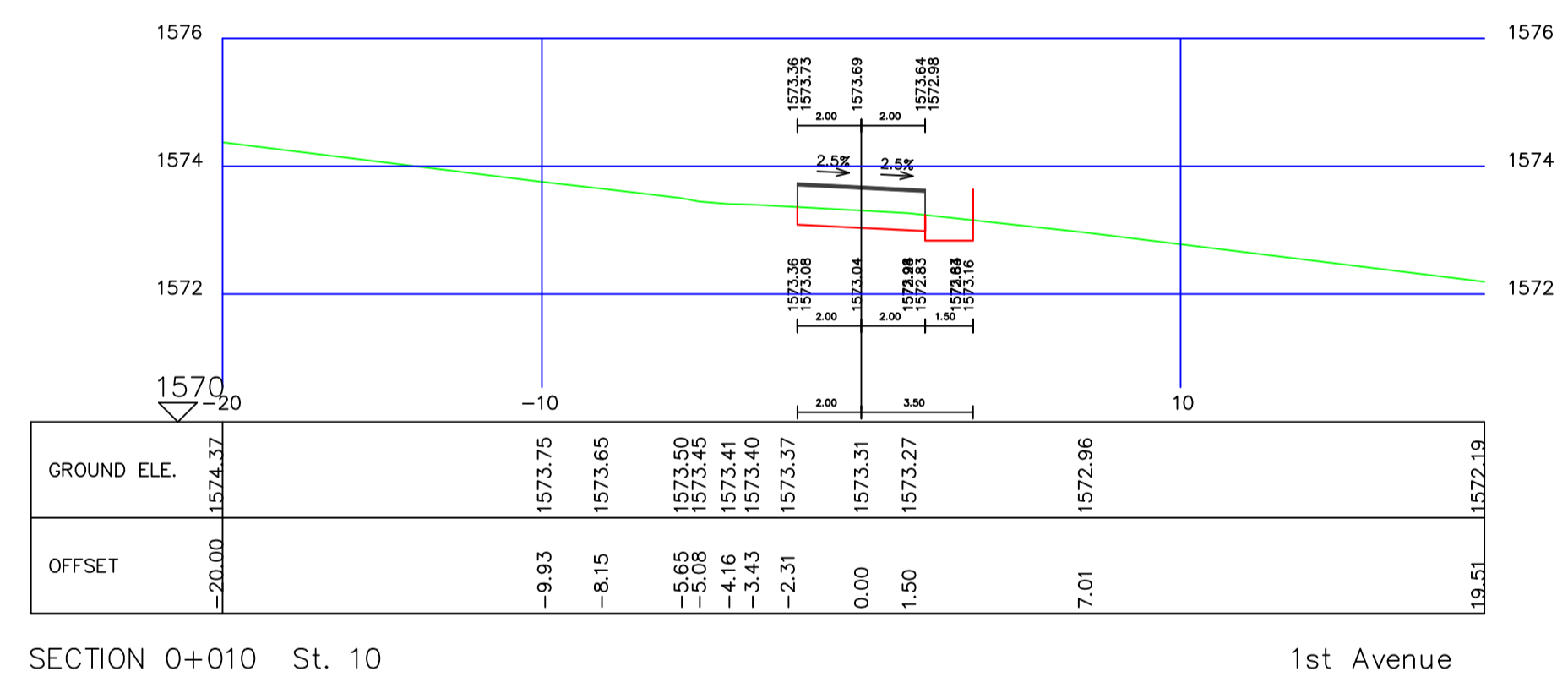
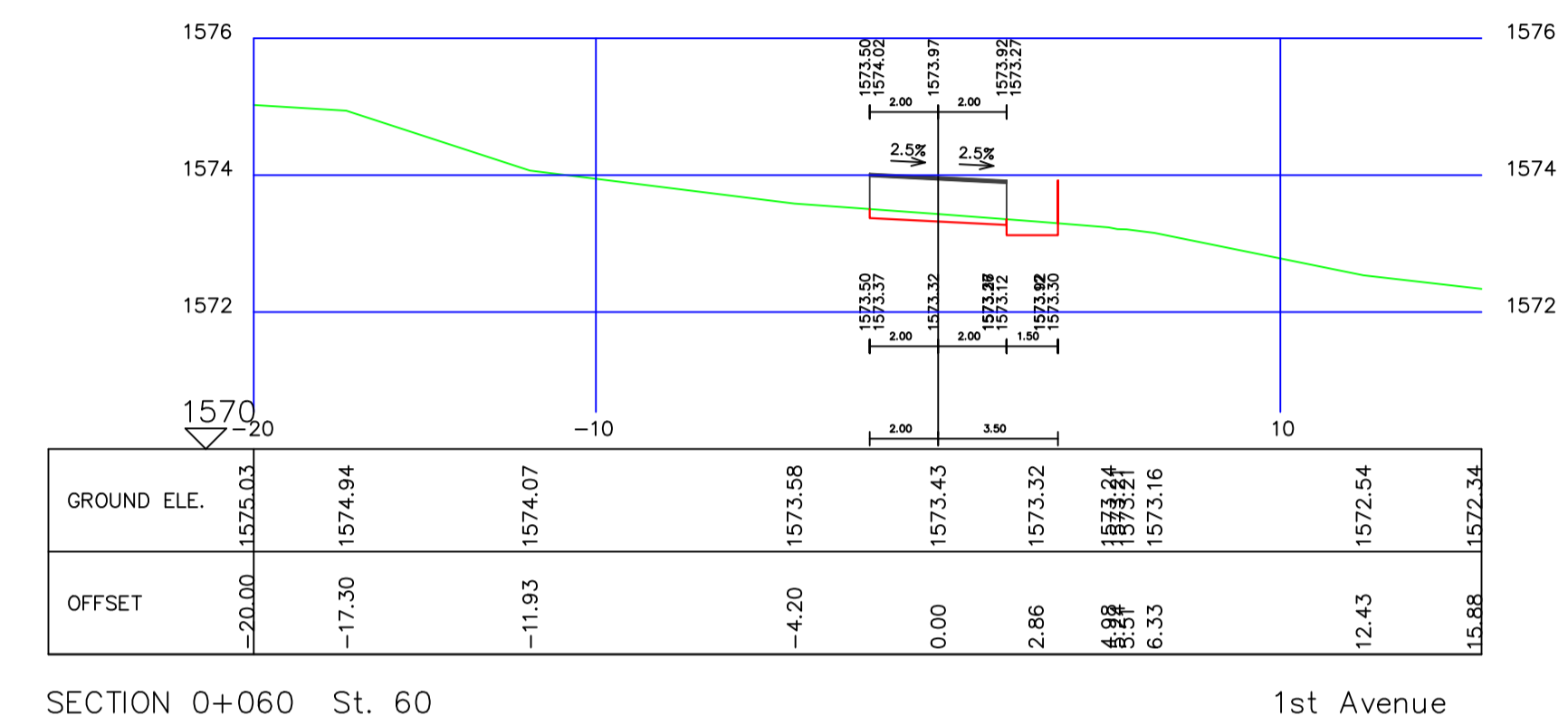
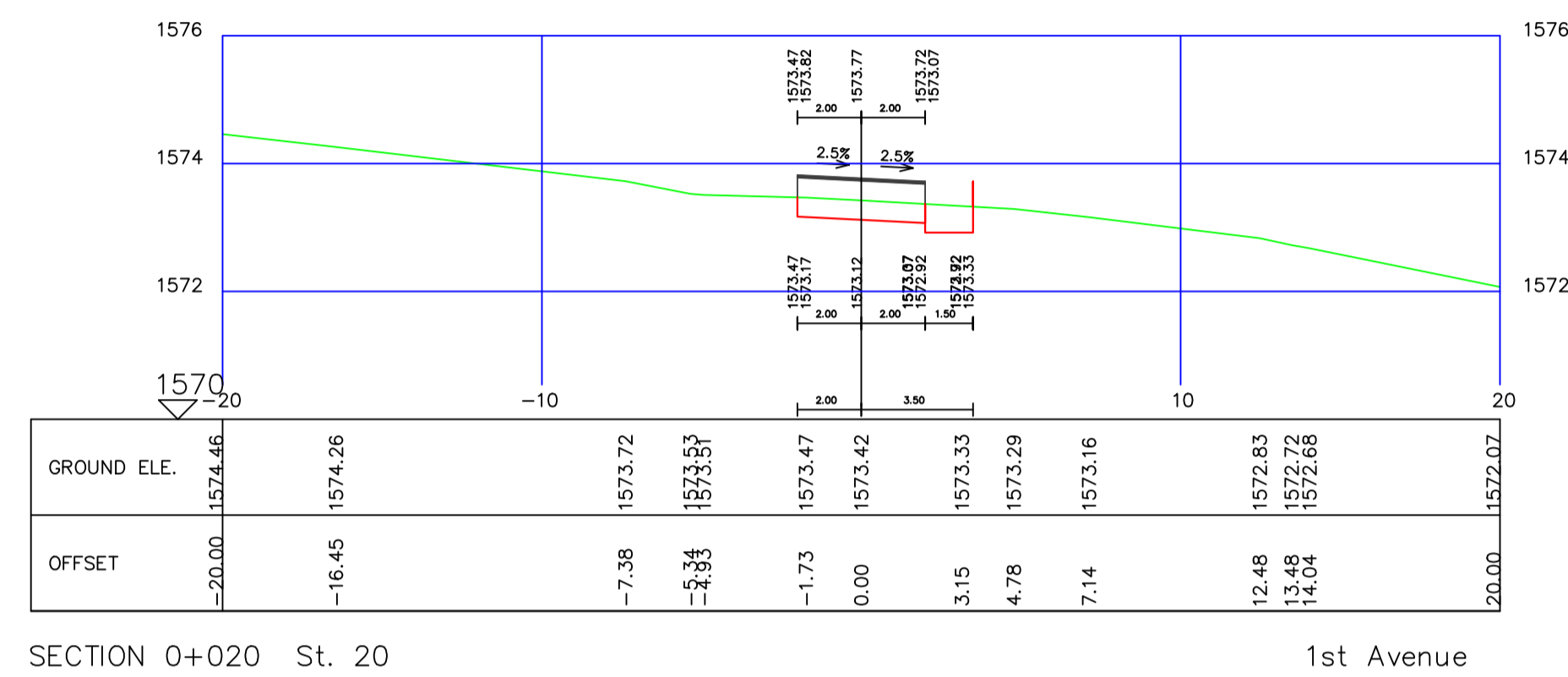
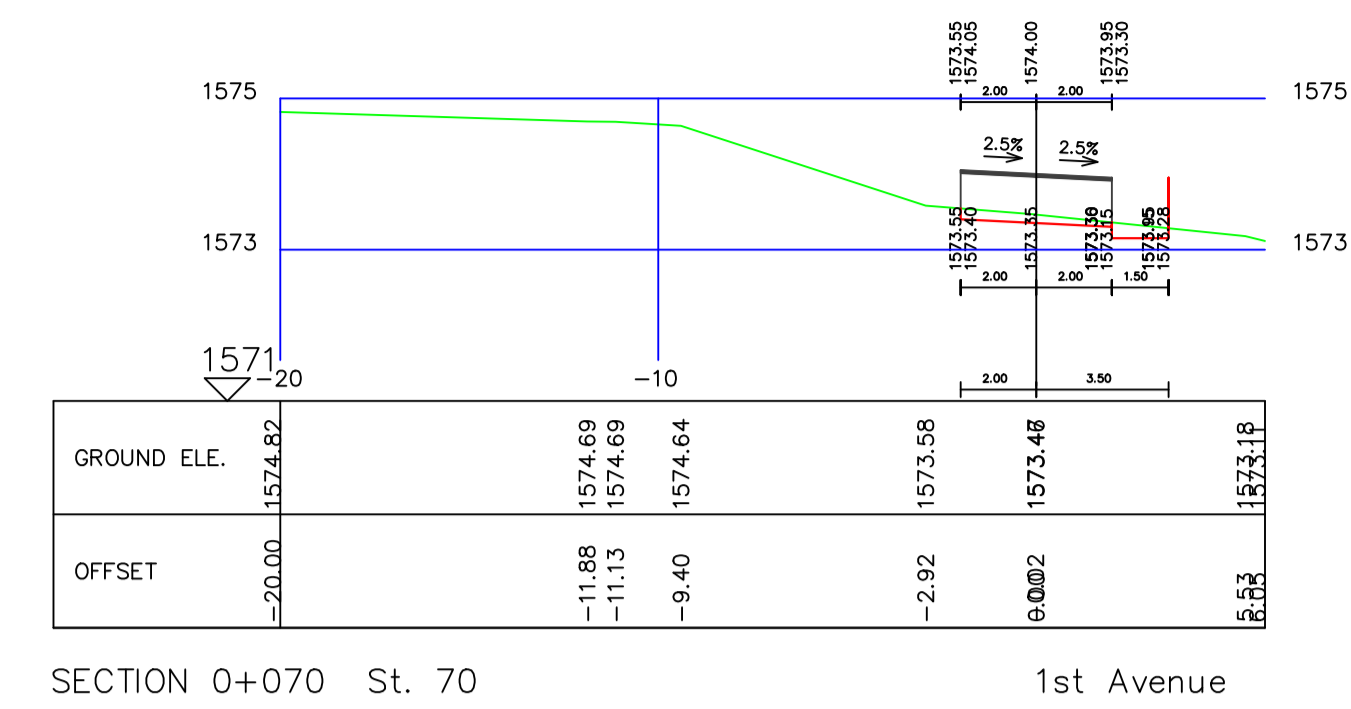
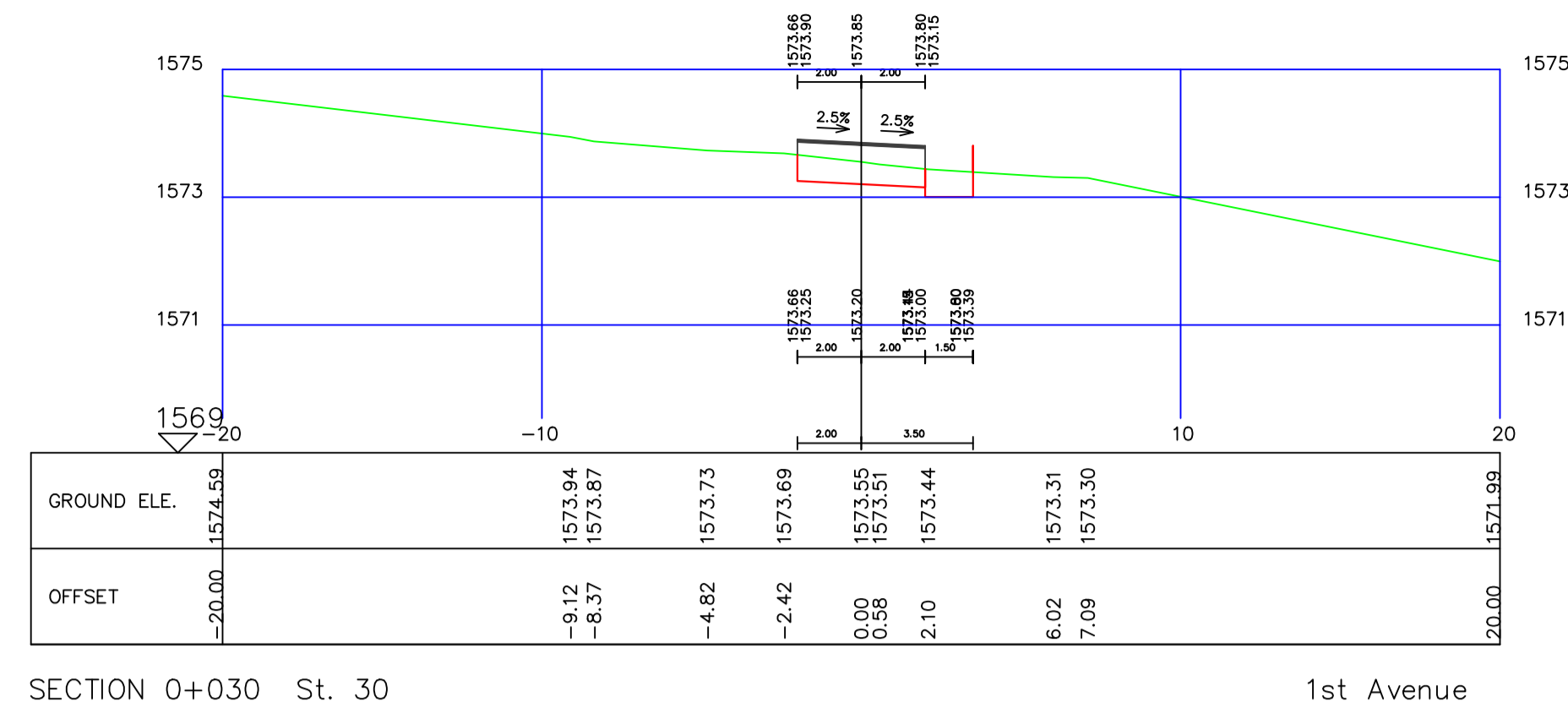
PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: **SPRING VALLEY SETTLEMENT: PLAN & PROFILE**

Drg. No. WMCL/CR214/SPRV/PP/03	Sheet No. 3of7
Scale: V 1:100	Date: FEBRUARY 2024
H 1:1000	Stage: TENDER DRAWINGS
APPROVED BY: ENG.IKWM	DESIGNED BY: JKM
CHECKED BY: ENG.PNG	DRAWN BY: JKM

REVISIONS

No	Date	AMMENDMENTS



CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)
THE WORLD BANK
AFD

CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

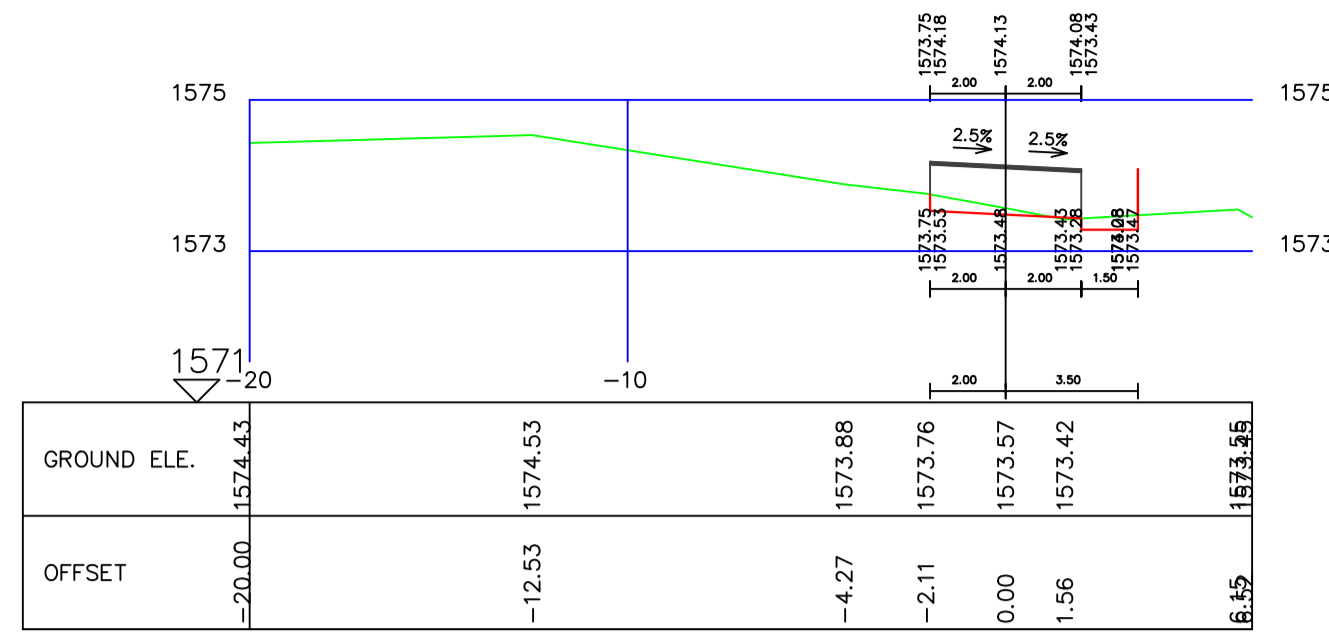
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

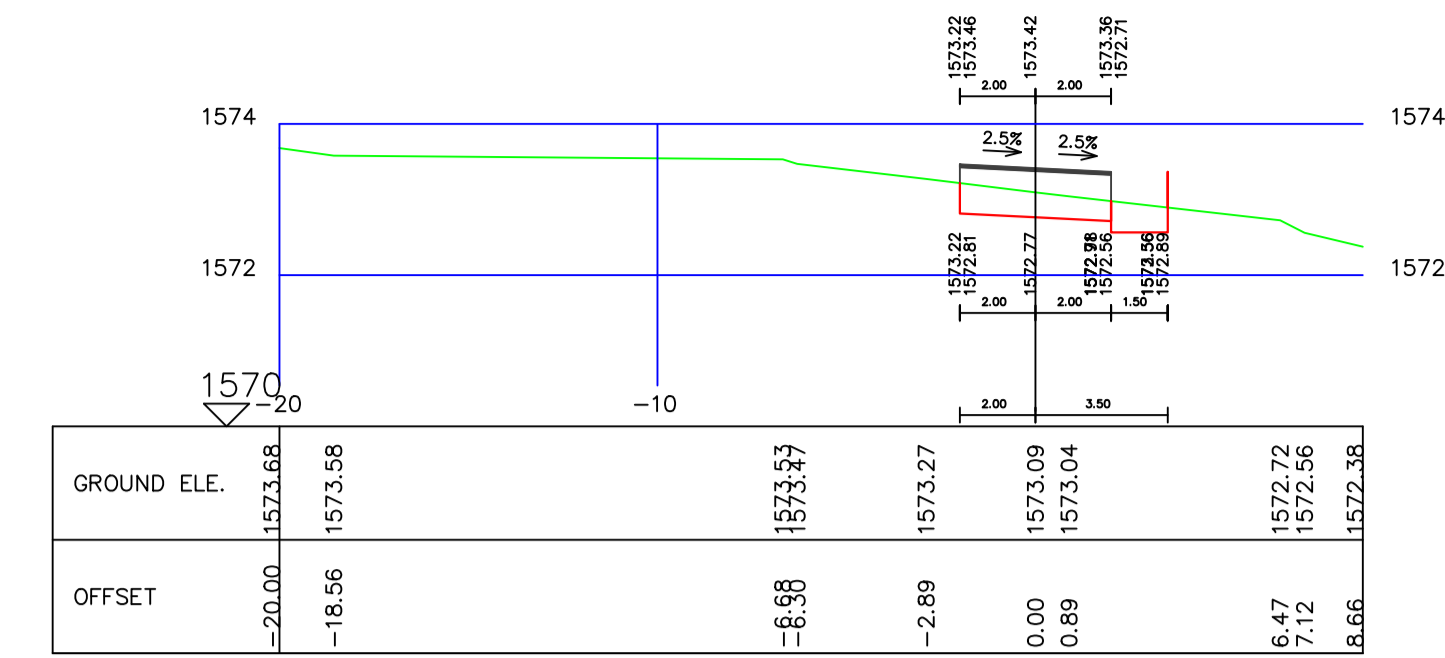
Drg. No. WMCL/CR214/SPRV/CRS/10 | Sheet No10of28
Scale: V 1:100 | Date: FEBRUARY 2024
H 1:200 | Stage: TENDER DRAWINGS
APPROVED BY: ENG.IKWM | DESIGNED BY: JKM
CHECKED BY: ENG.PNG | DRAWN BY: JKM

REVISIONS

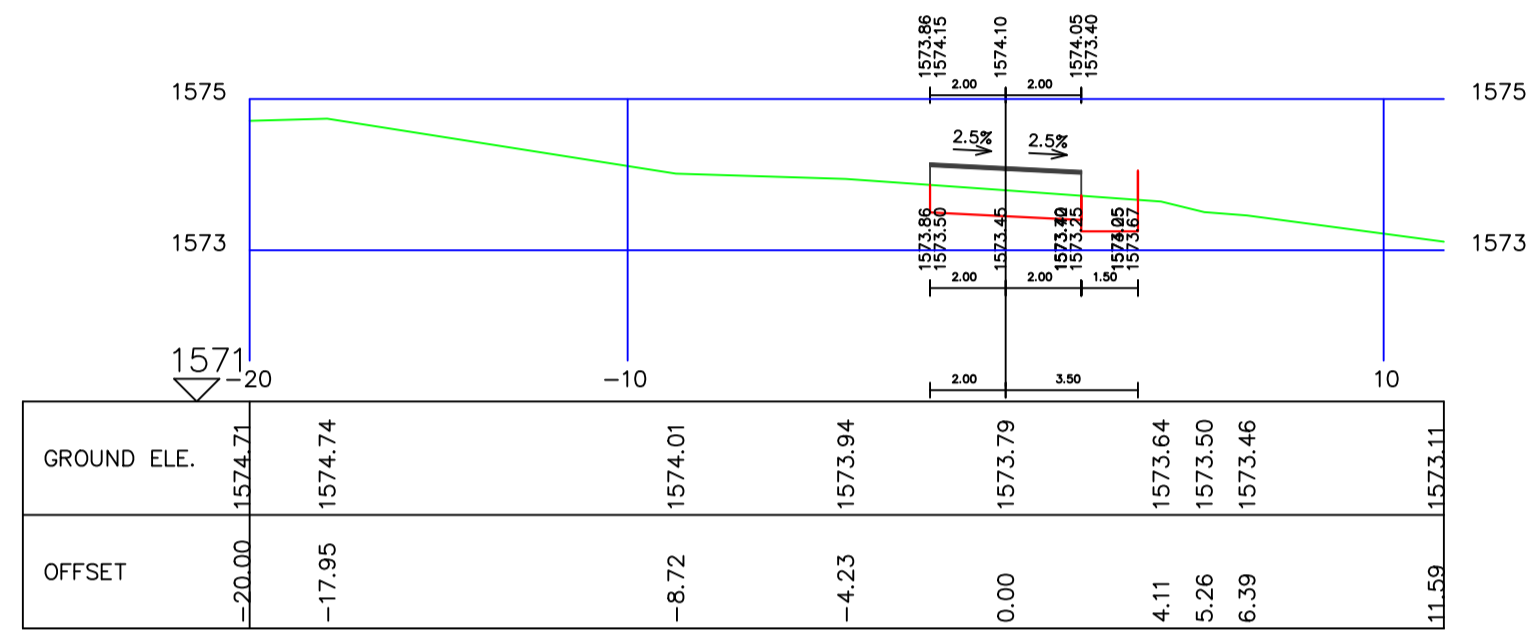
No | Date | AMMENDMENTS



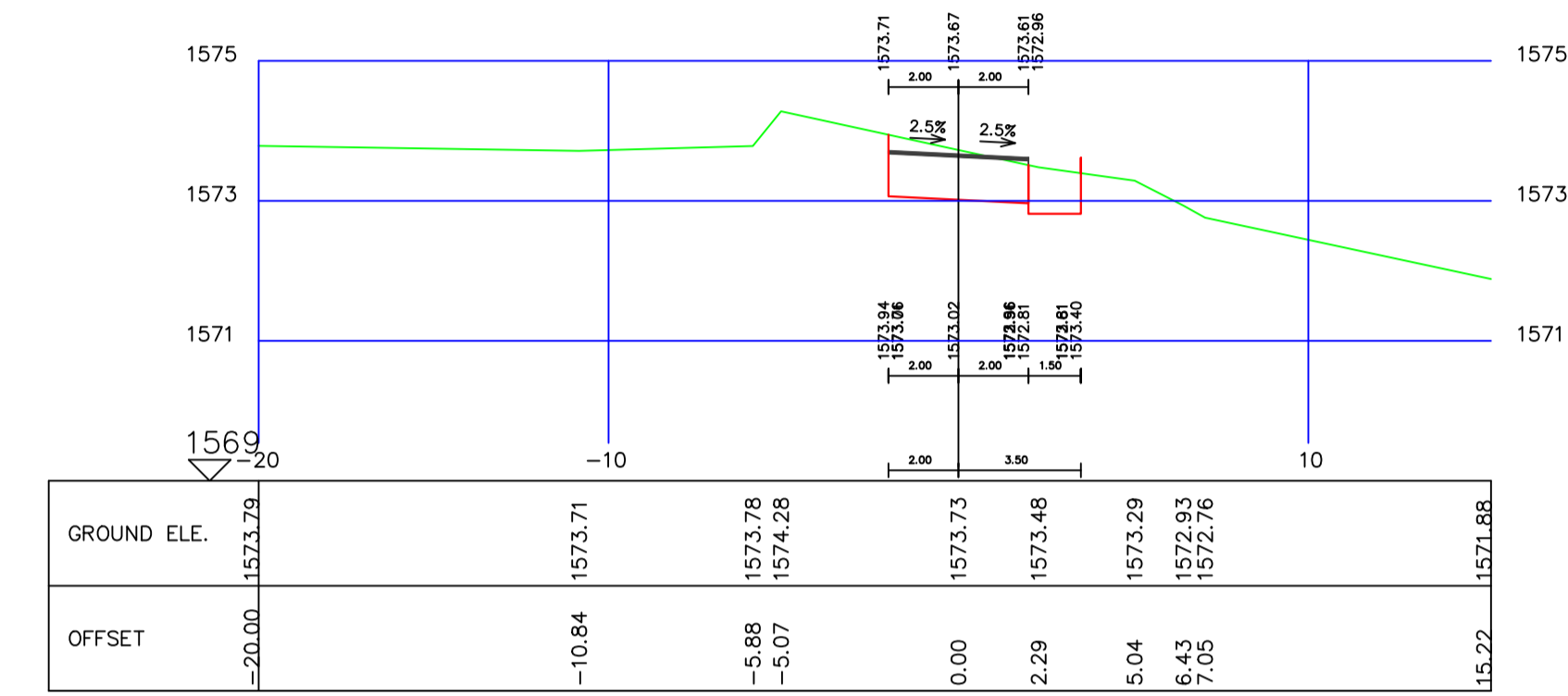
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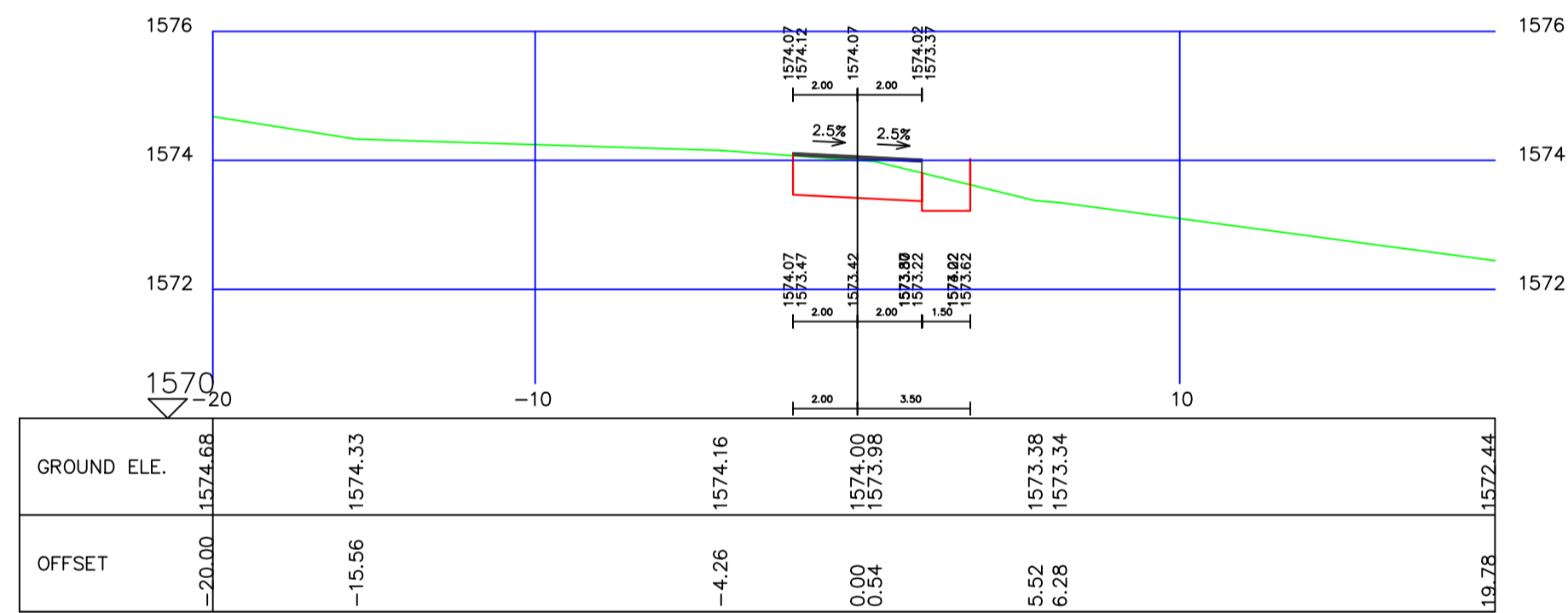
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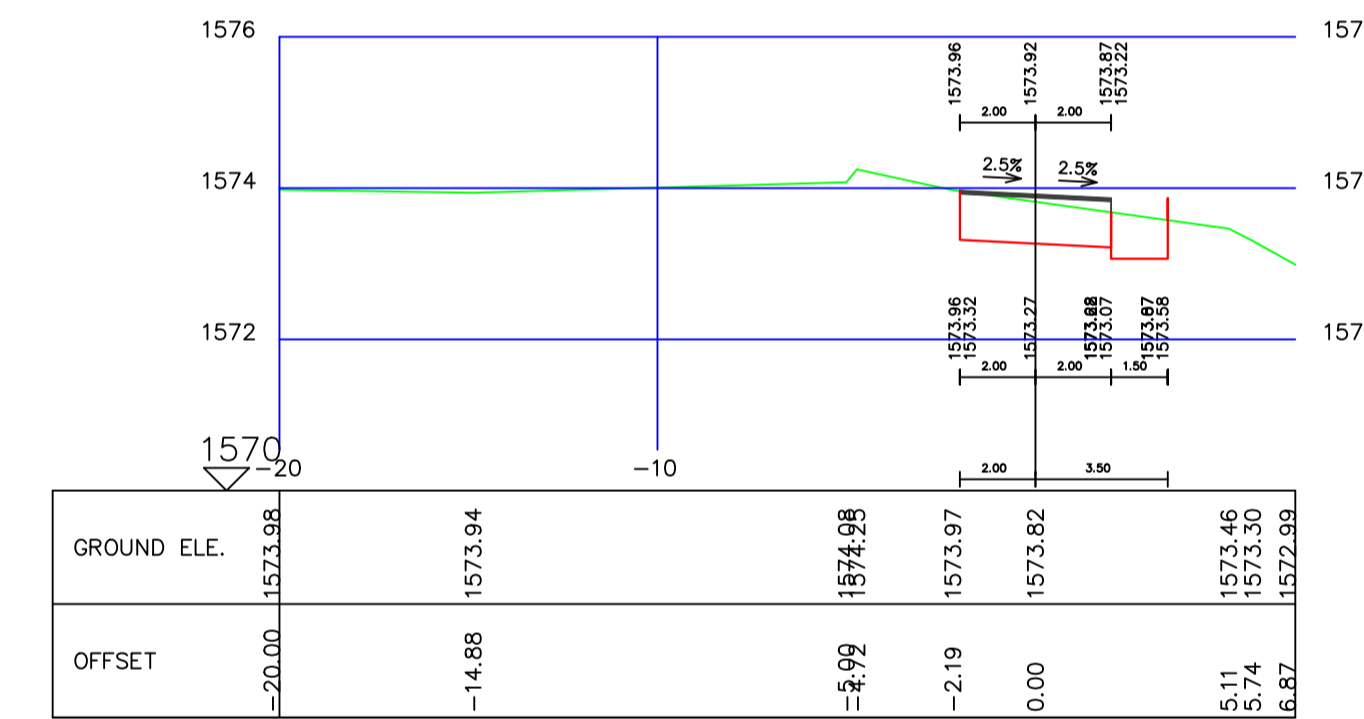
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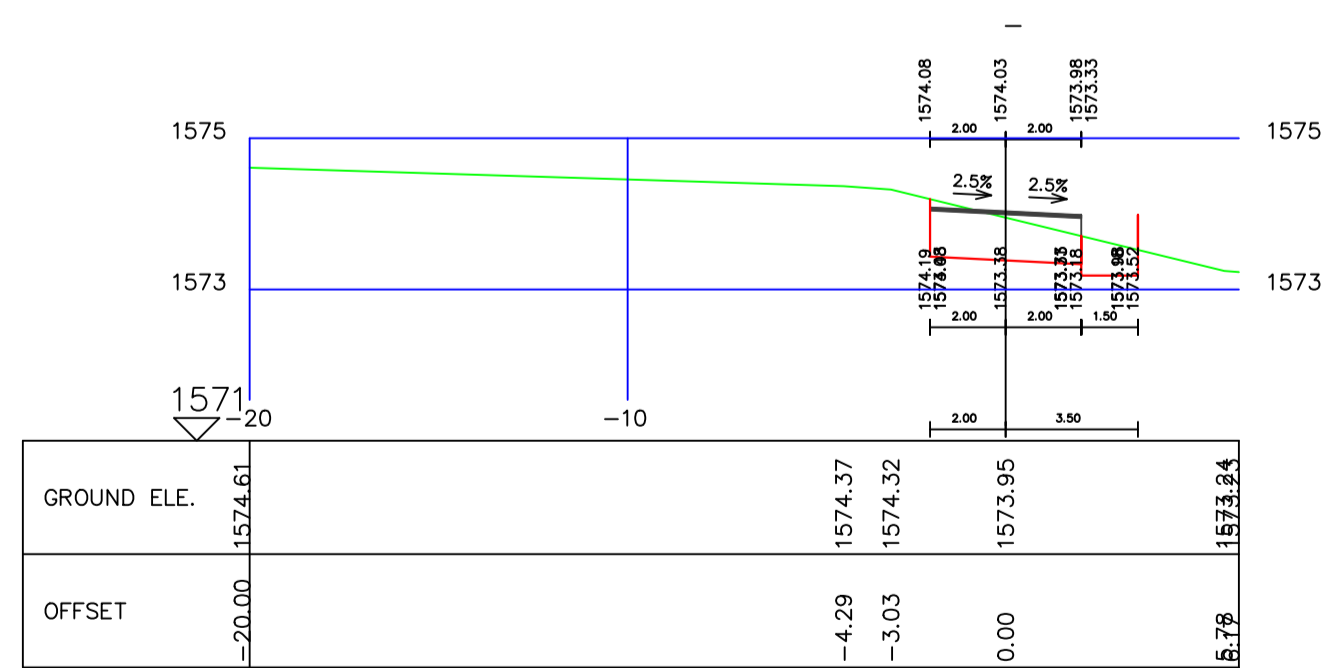
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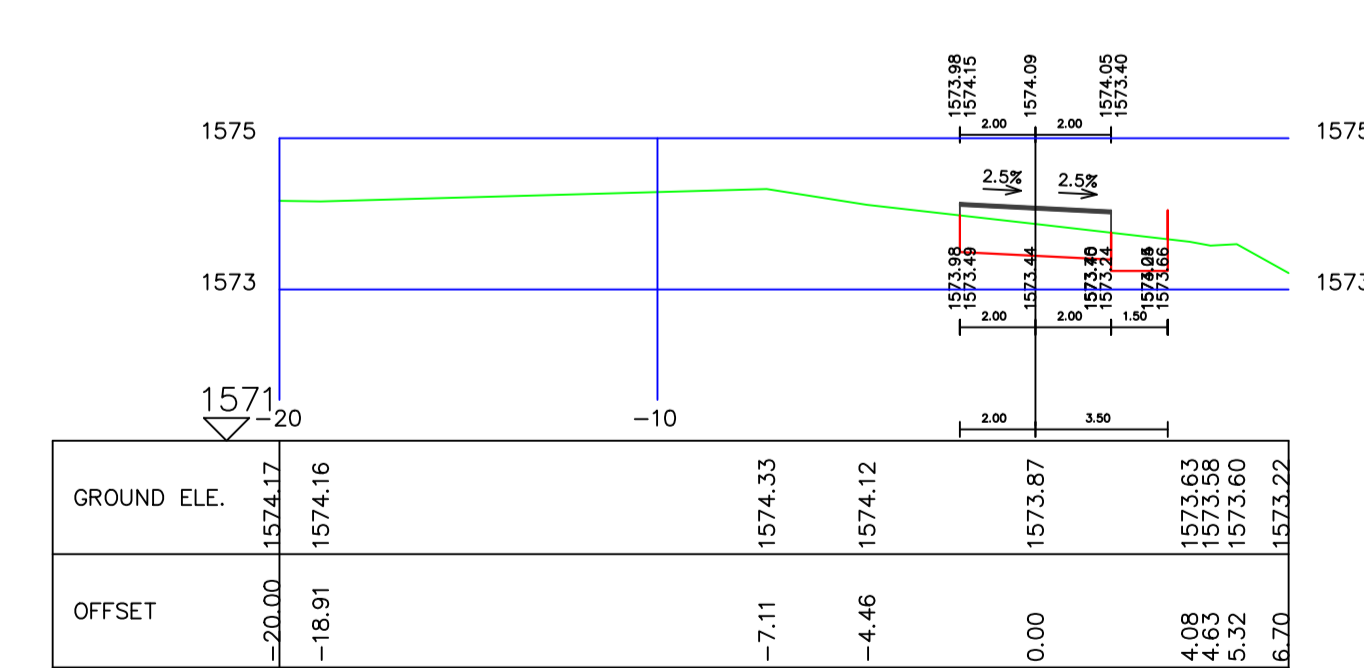
SECTION 0+090 St. 90 1st Avenue



SECTION 0+130 St. 130 1st Avenue



SECTION 0+080 St. 80 1st Avenue



SECTION 0+120 St. 120 1st Avenue

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)
THE WORLD BANK

CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

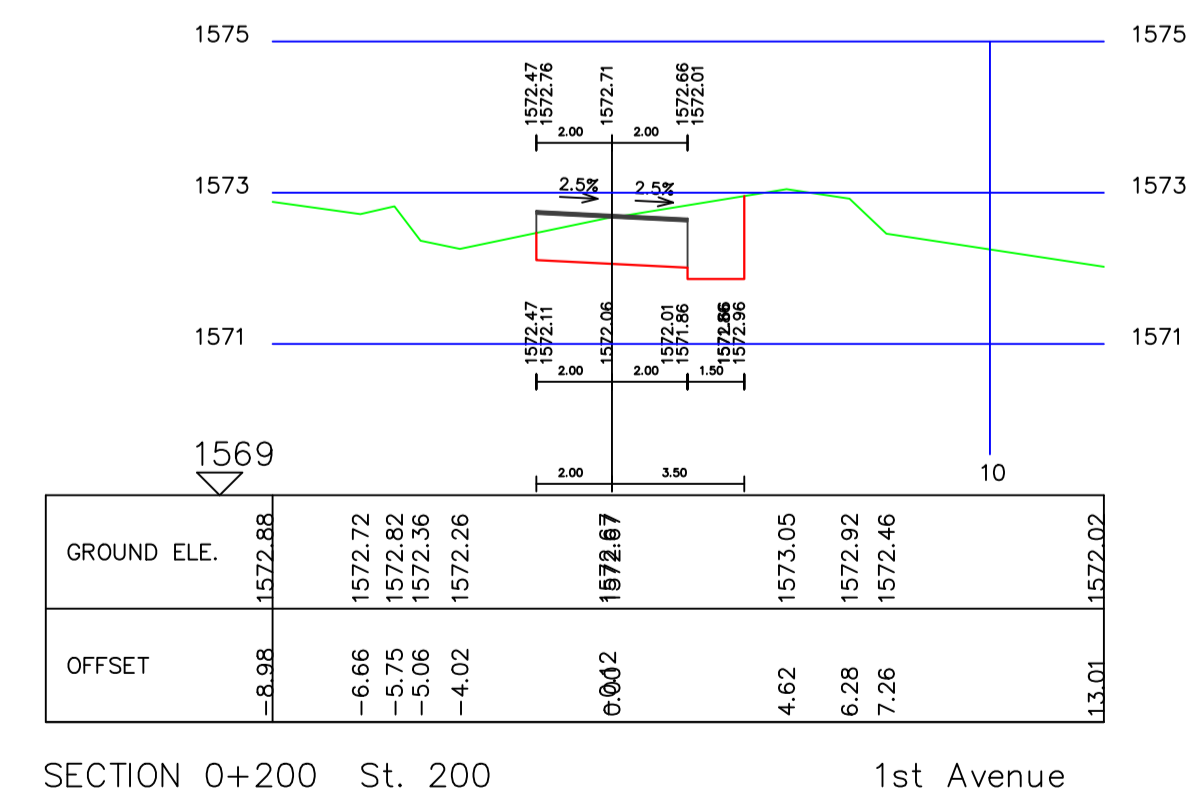
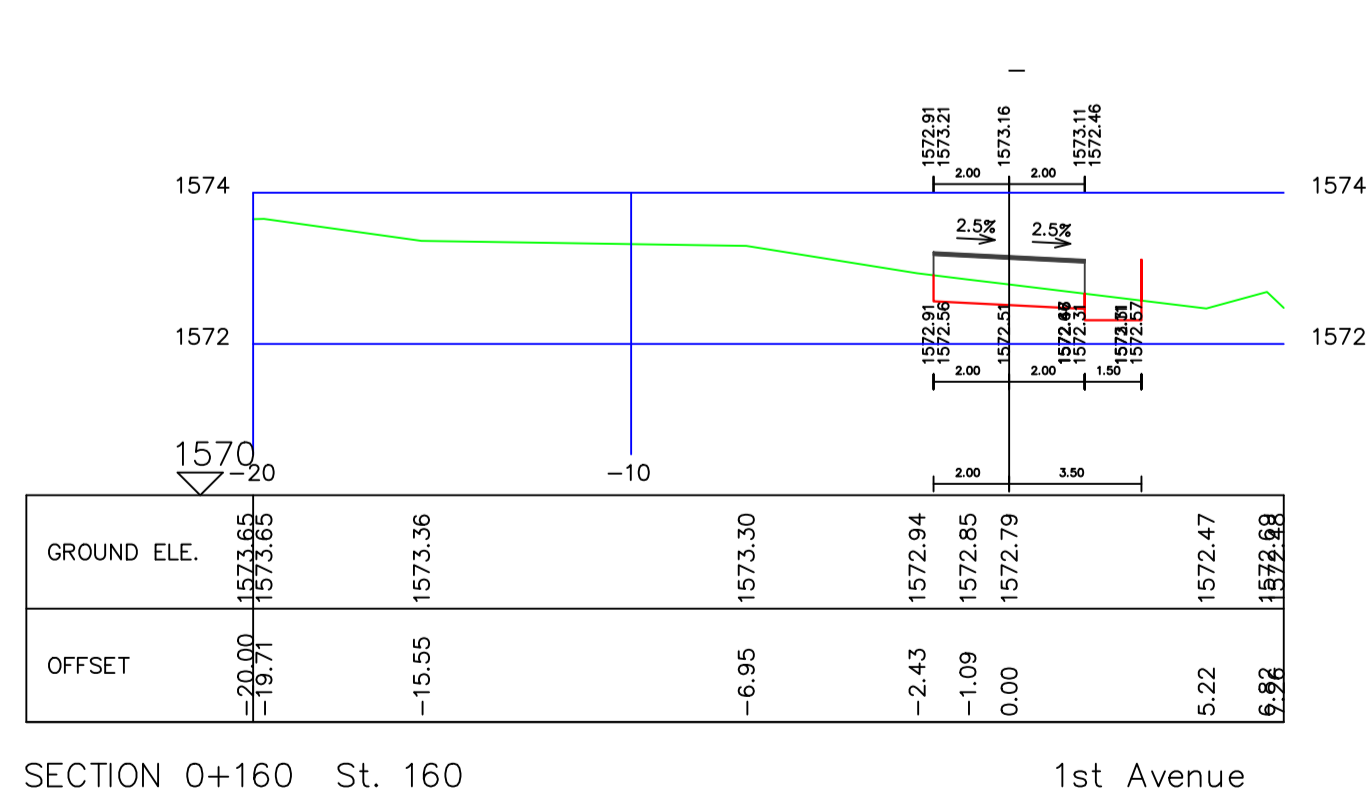
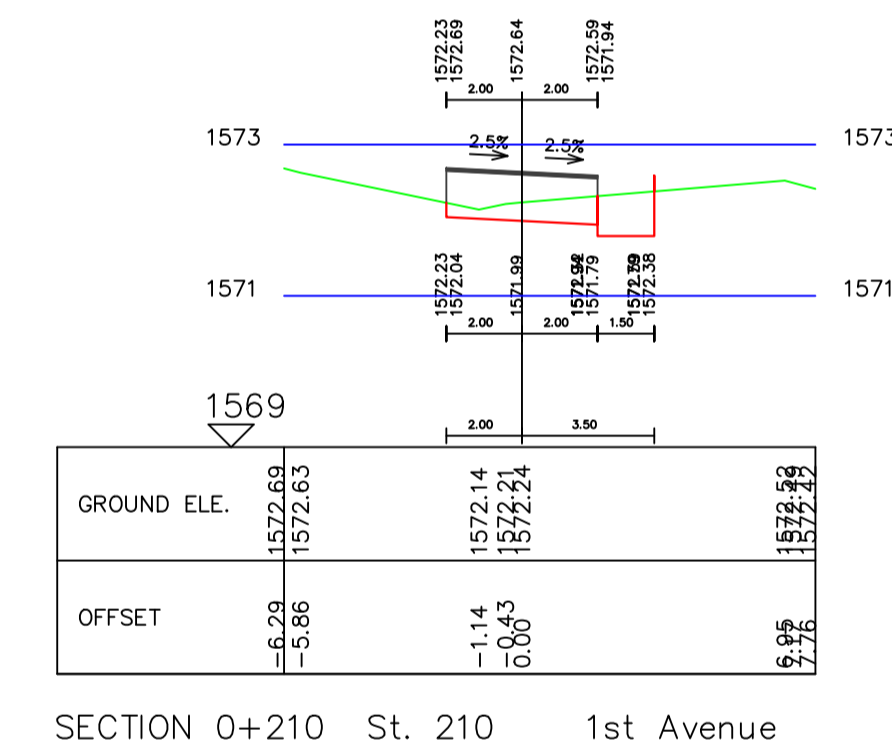
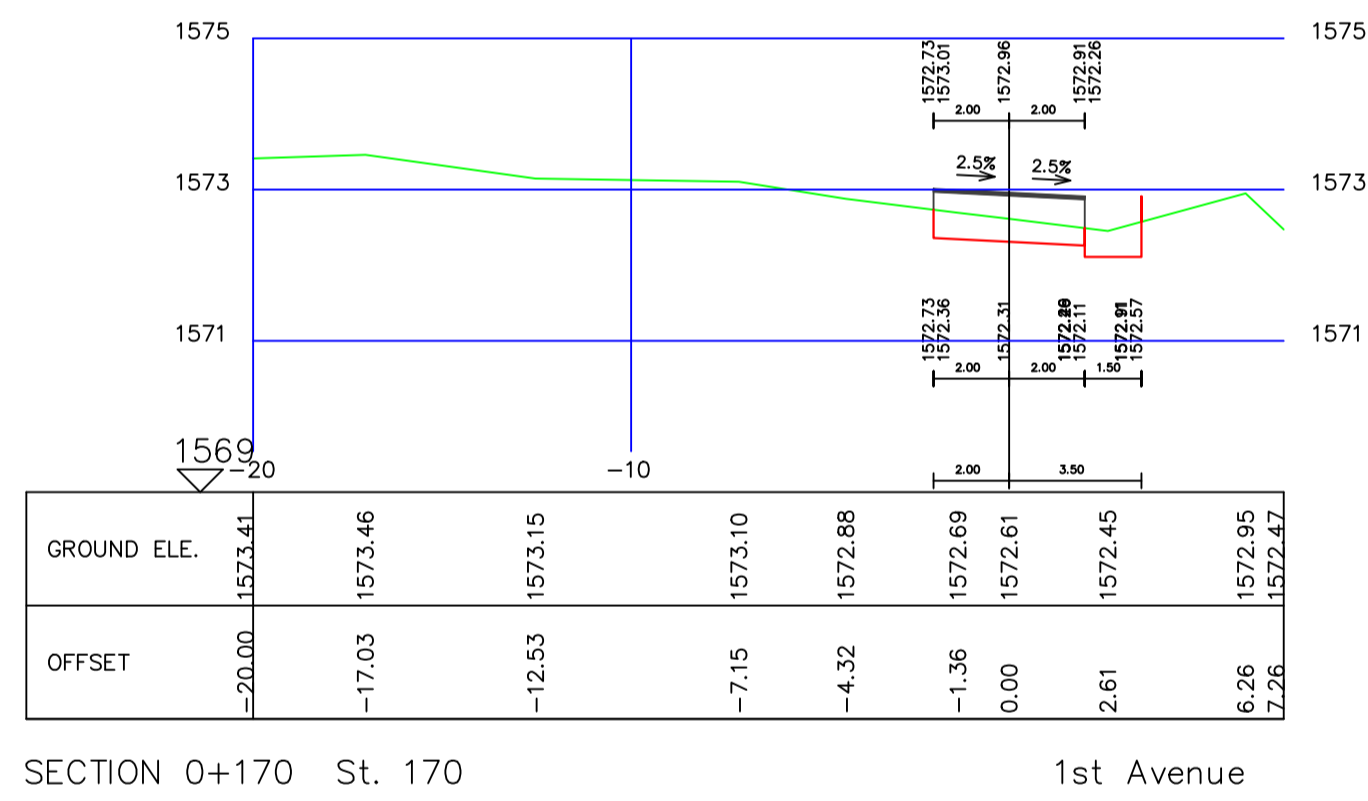
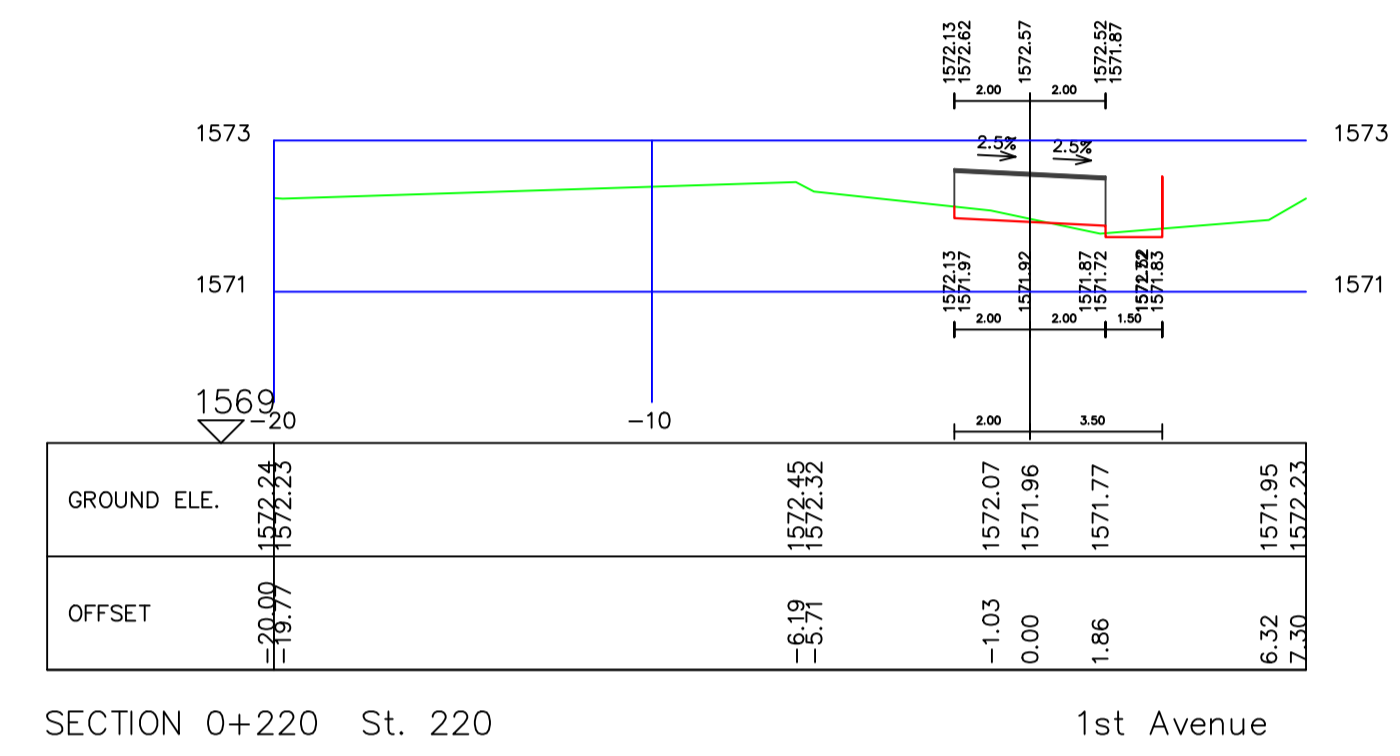
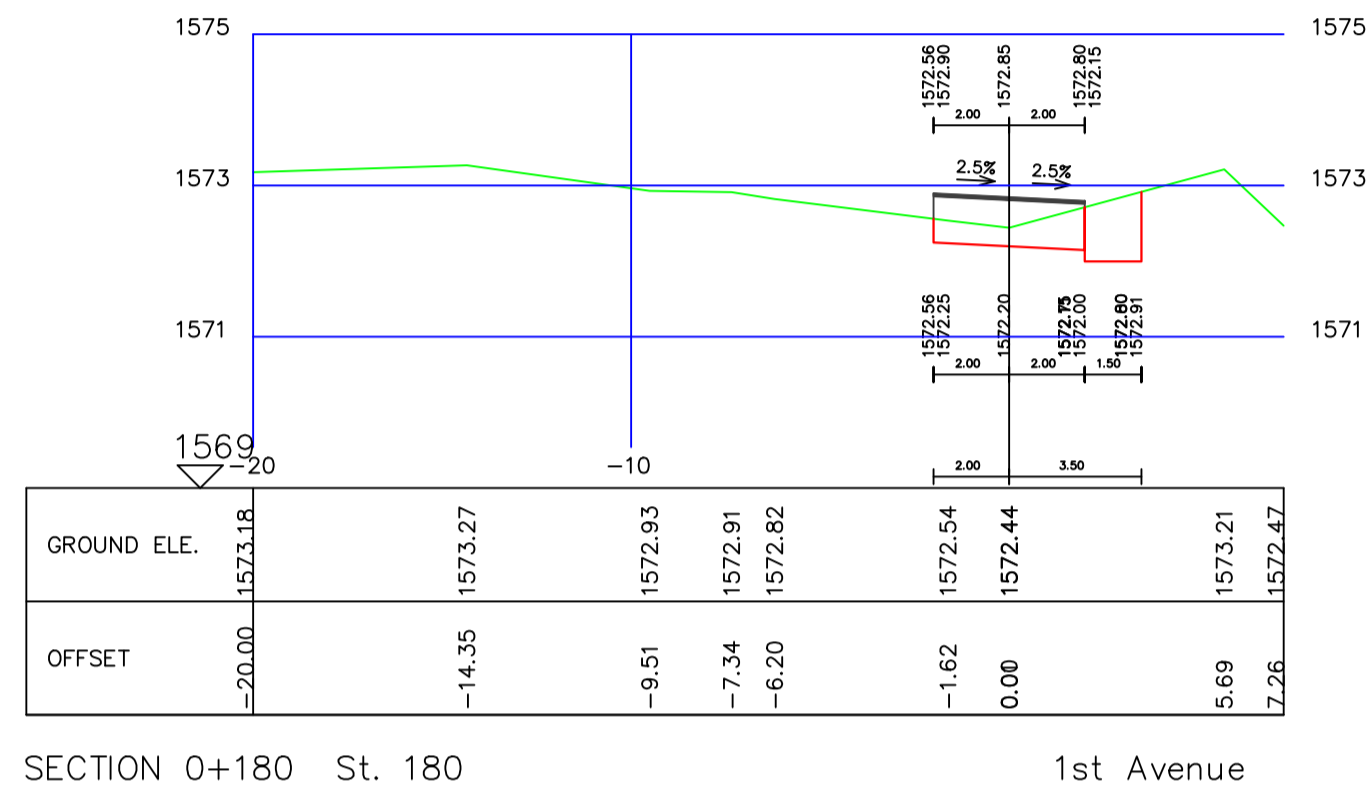
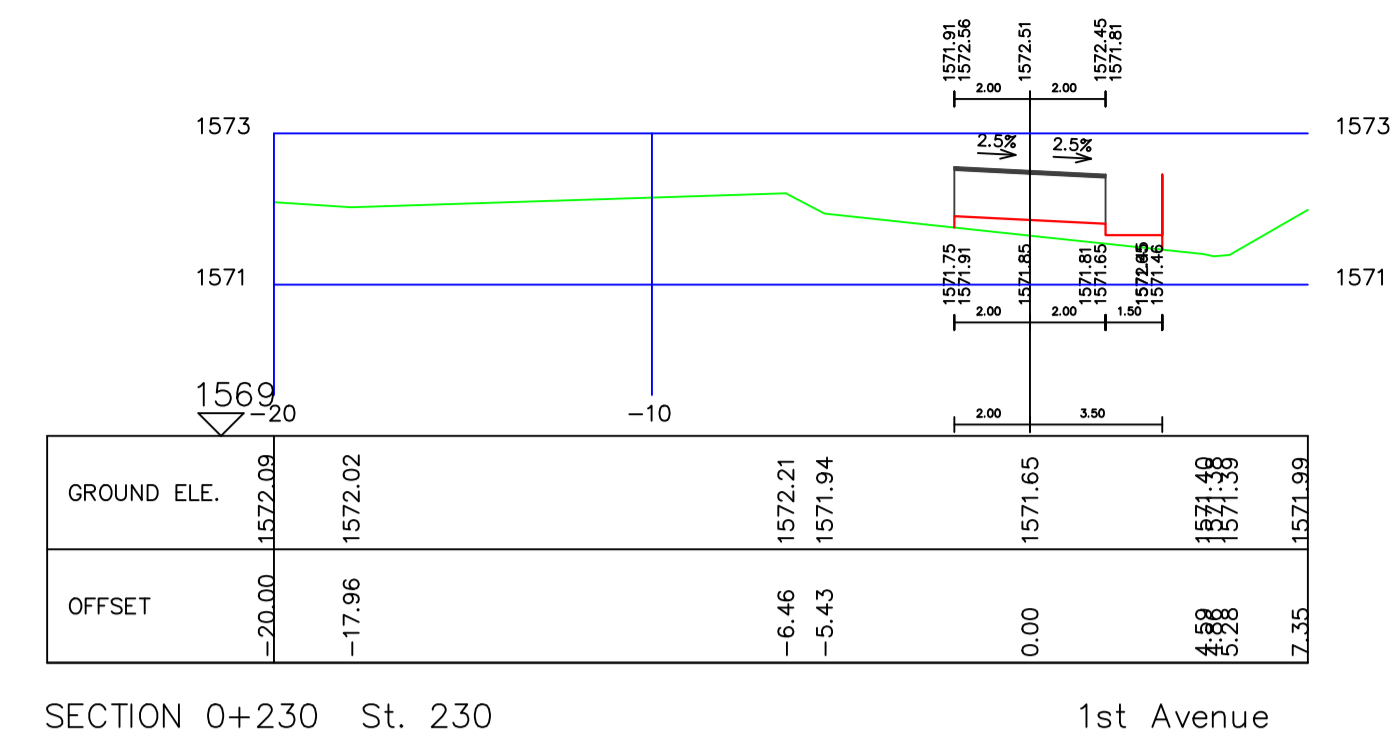
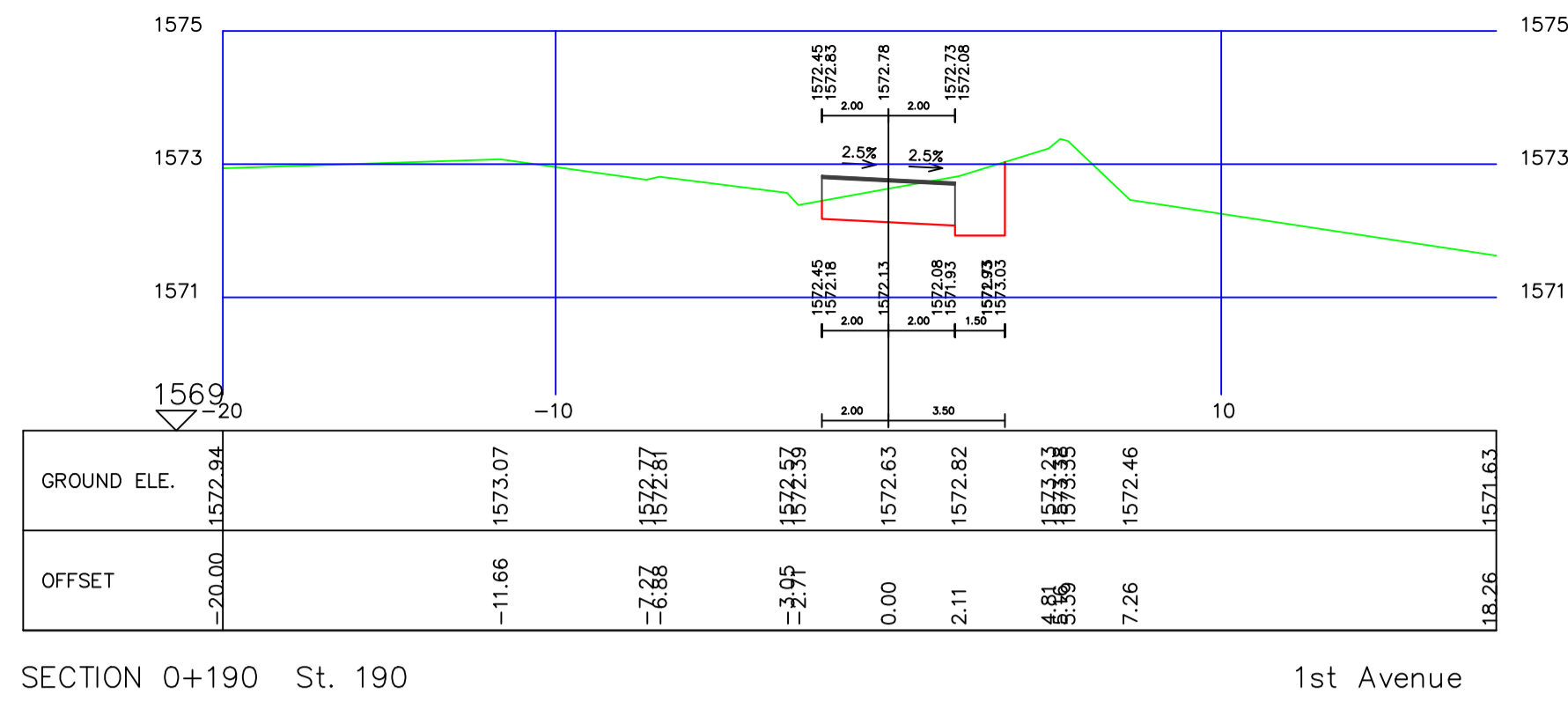
PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Drg. No. WMCL/CR214/SPRV/CRS/11	Sheet No.11 of 28
Scale: V 1:100	Date: FEBRUARY 2024
H 1:200	Stage: TENDER DRAWINGS
APPROVED BY: ENG.IKWM	DESIGNED BY: JKJ
CHECKED BY: ENG.PNG	DRAWN BY: JKJ

REVISIONS

No	Date	AMMENDMENTS
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CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Drg. No. WMCL/CR214/SPRV/CRS/12 Sheet No12of28

Scale: V 1:100 Date: FEBRUARY 2024

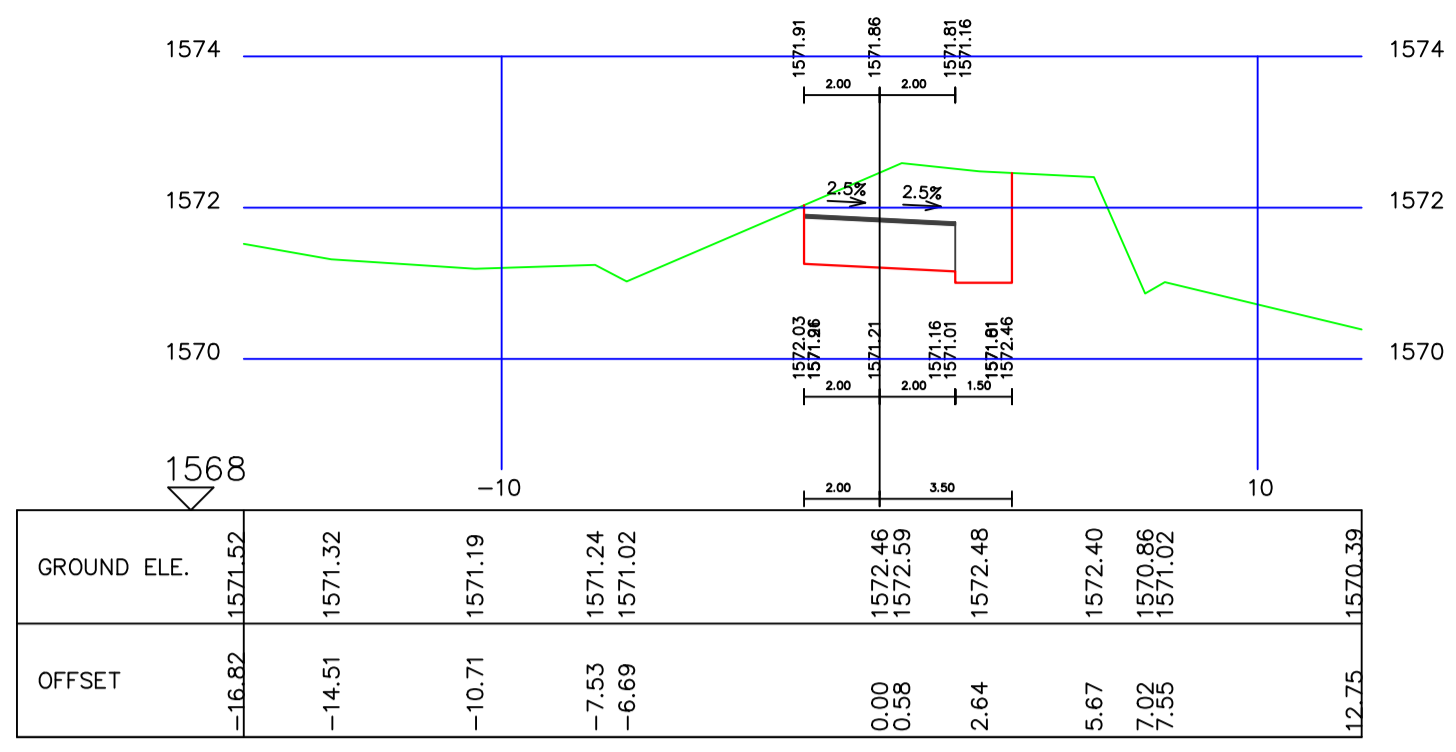
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APPROVED BY: ENG.IKWM DESIGNED BY: JKM

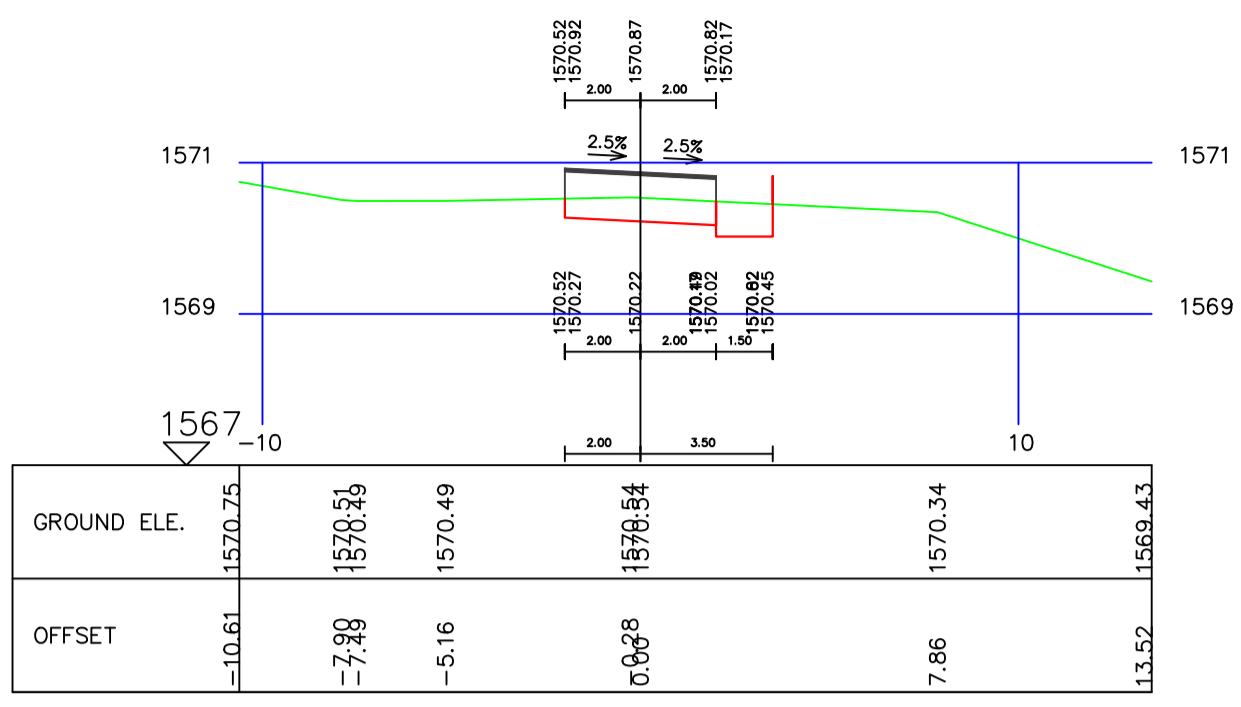
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REVISIONS

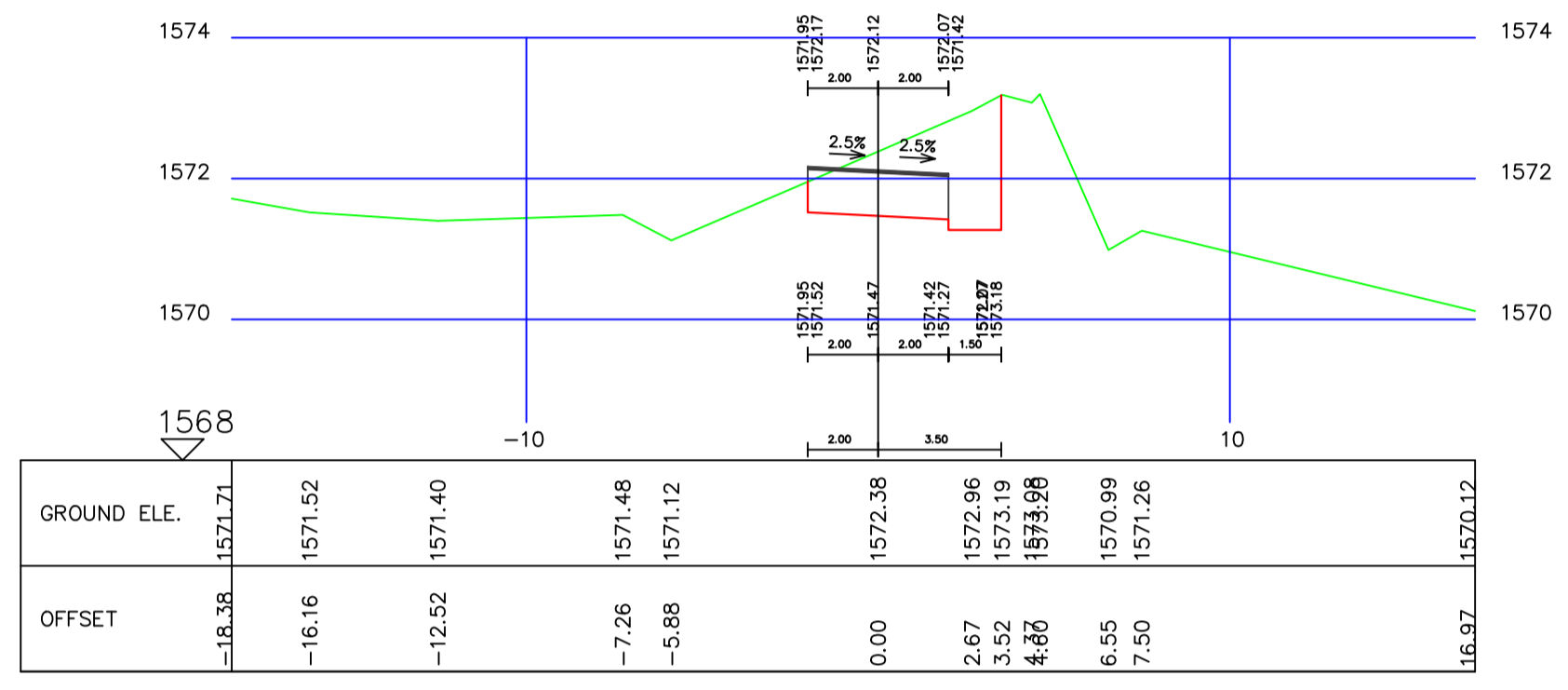
No	Date	AMMENDMENTS



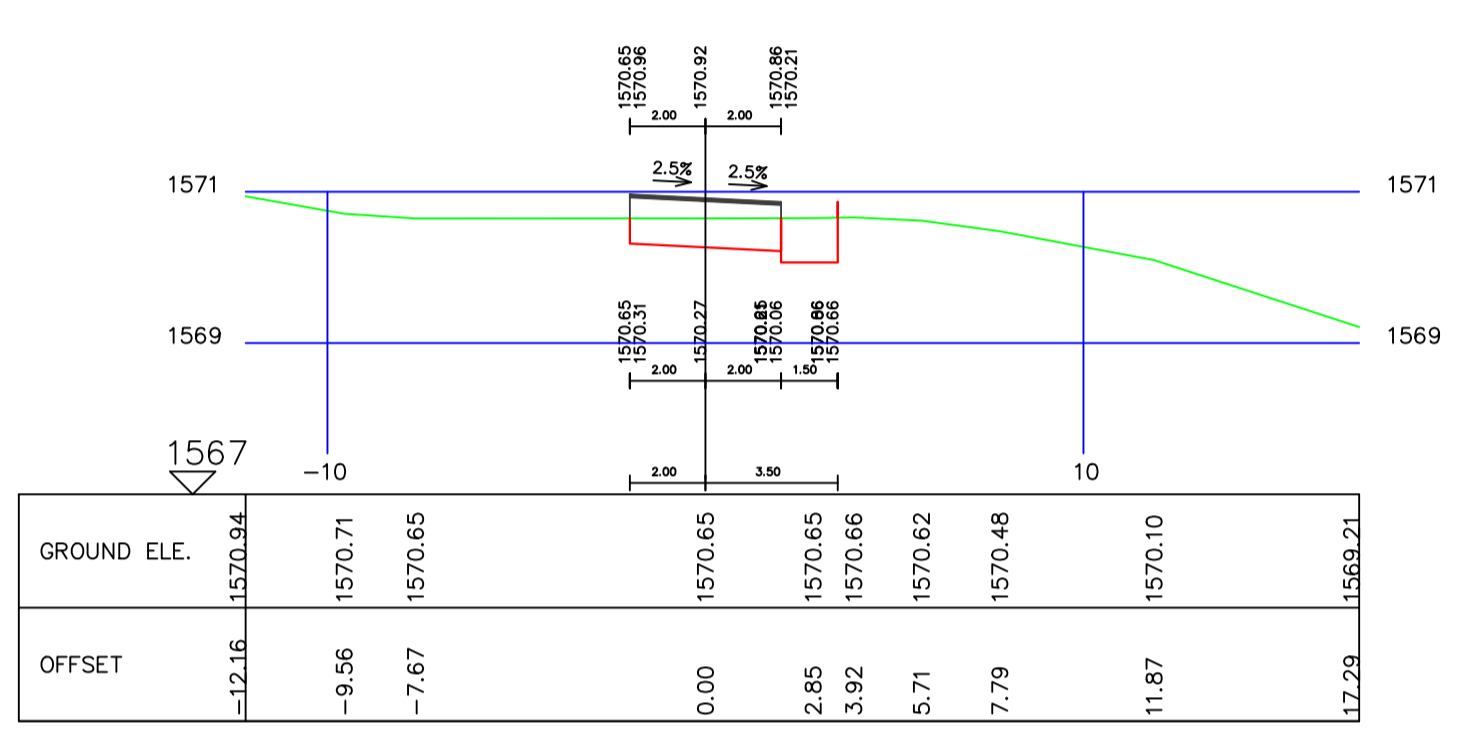
SECTION 0+270 St. 270 1st Avenue



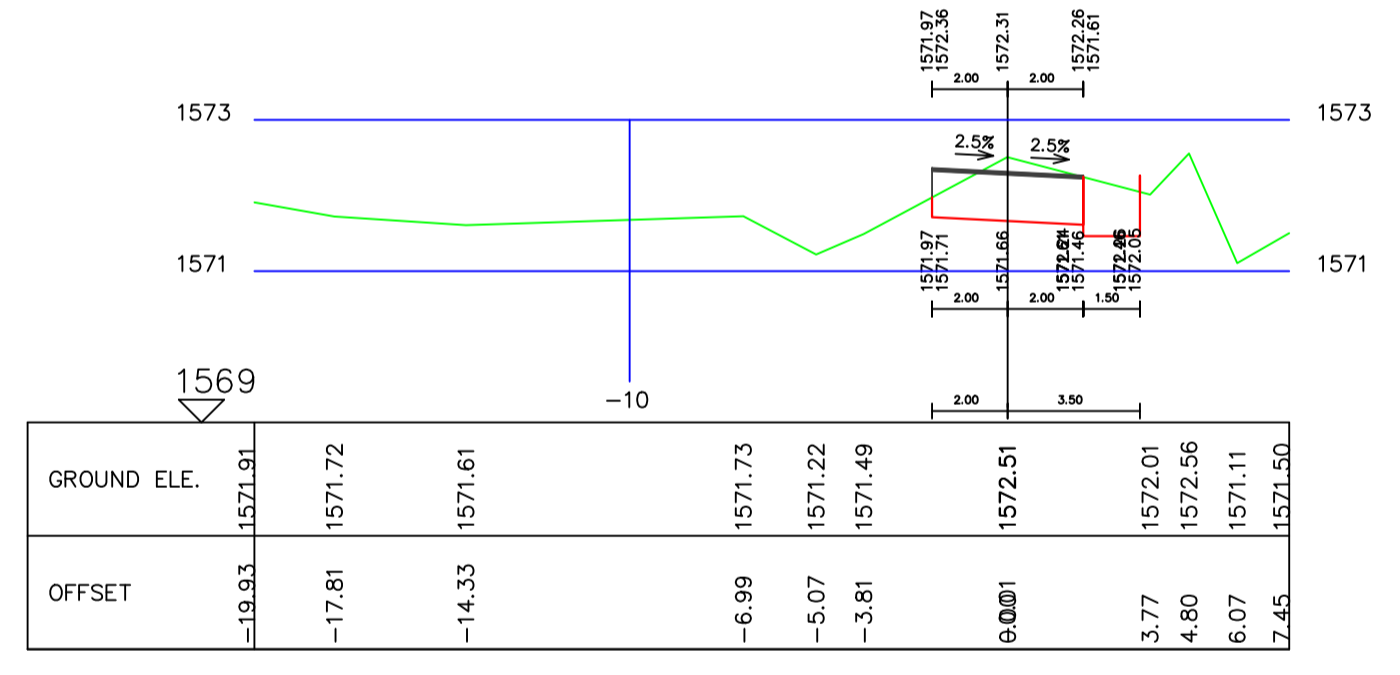
SECTION 0+310 St. 310 1st Avenue



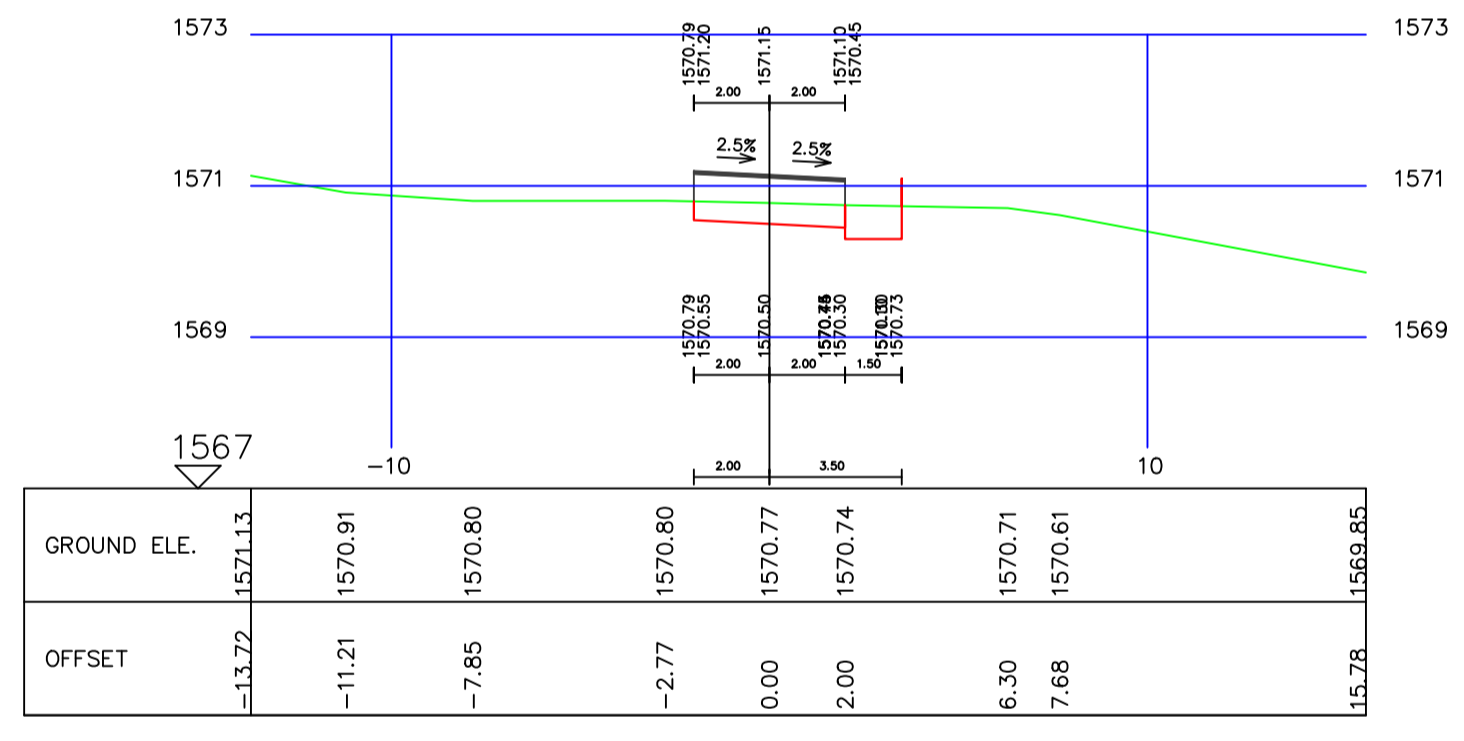
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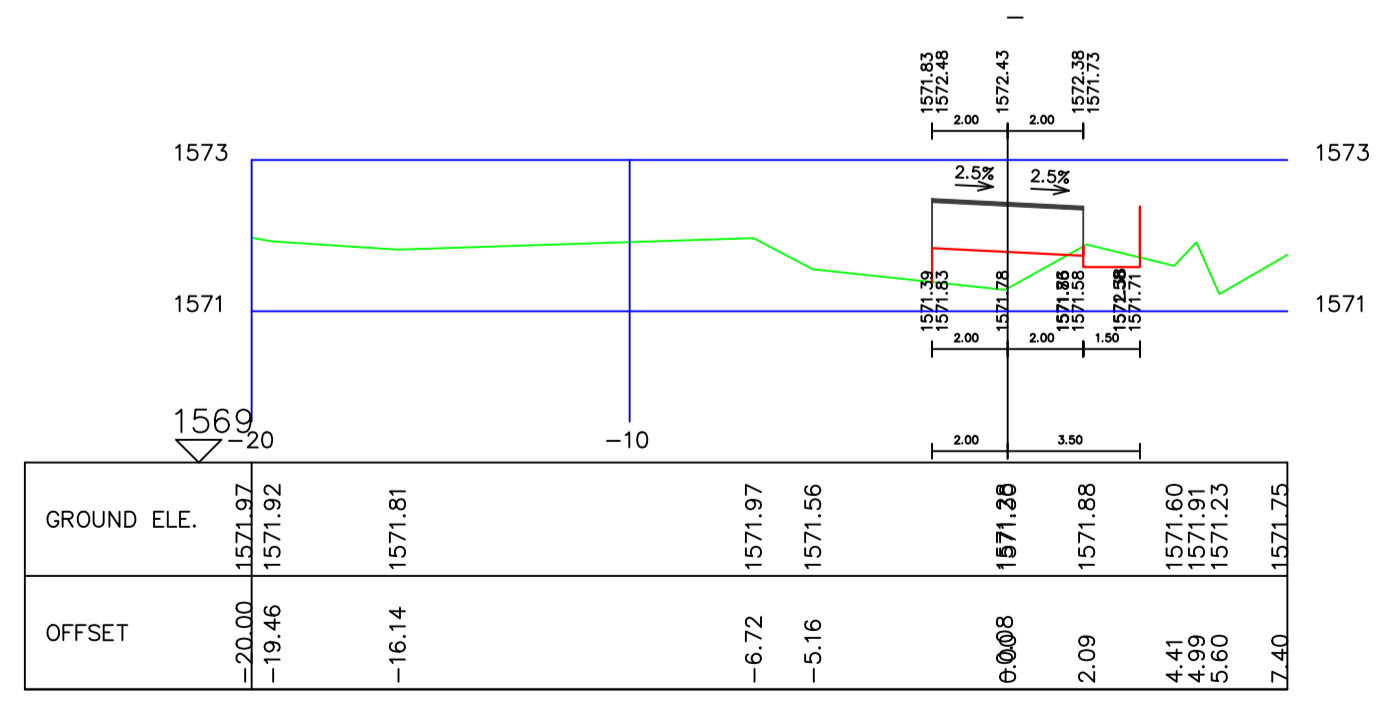
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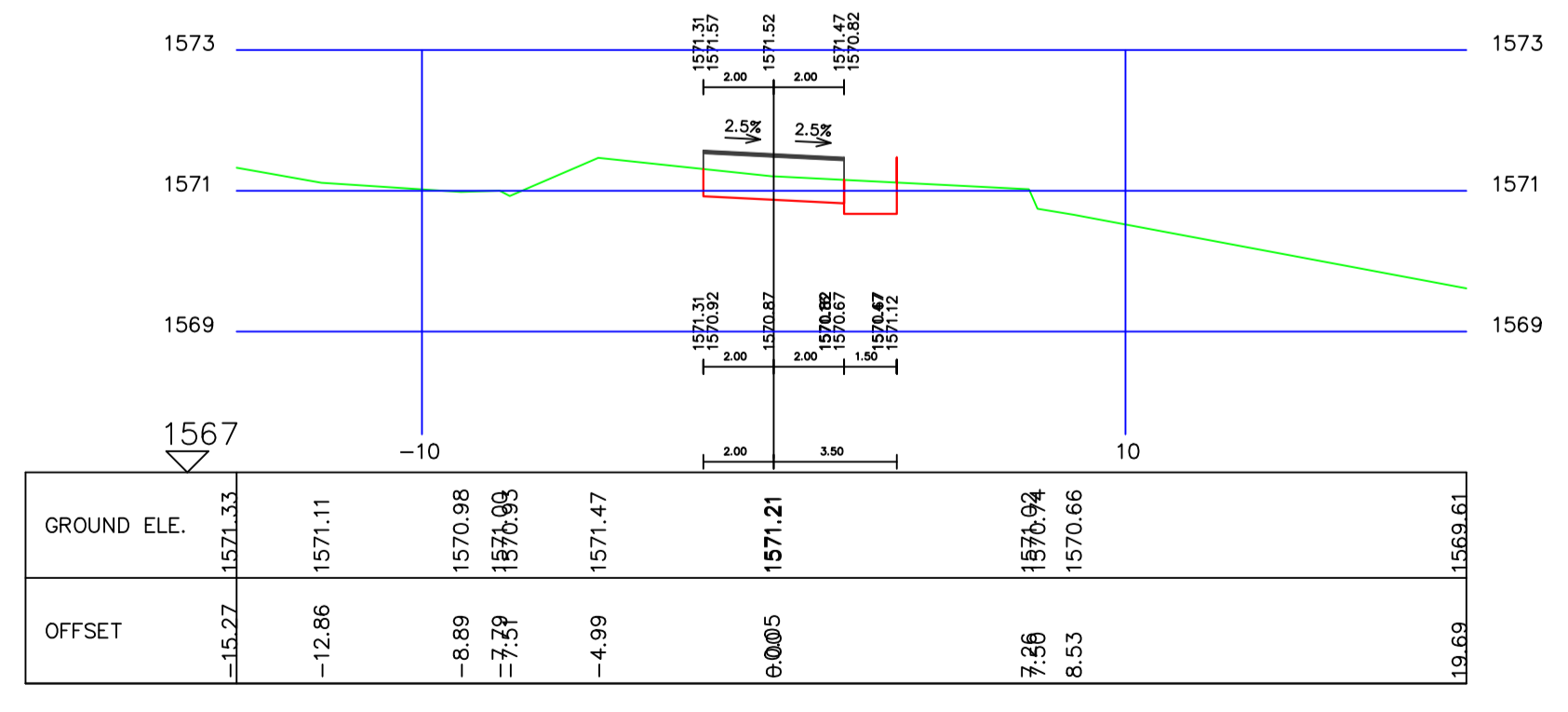
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SECTION 0+290 St. 290 1st Avenue

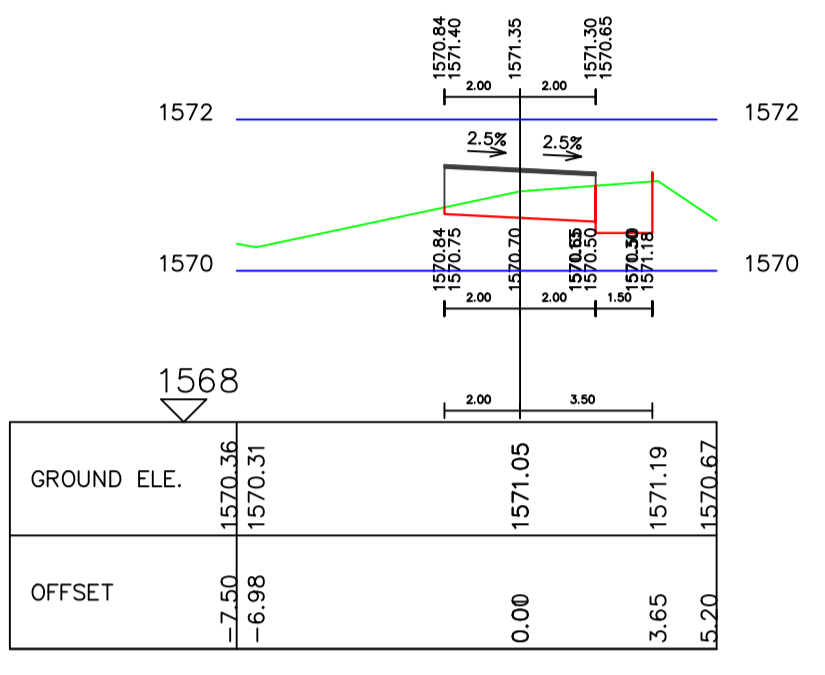


SECTION 0+240 St. 240 1st Avenue

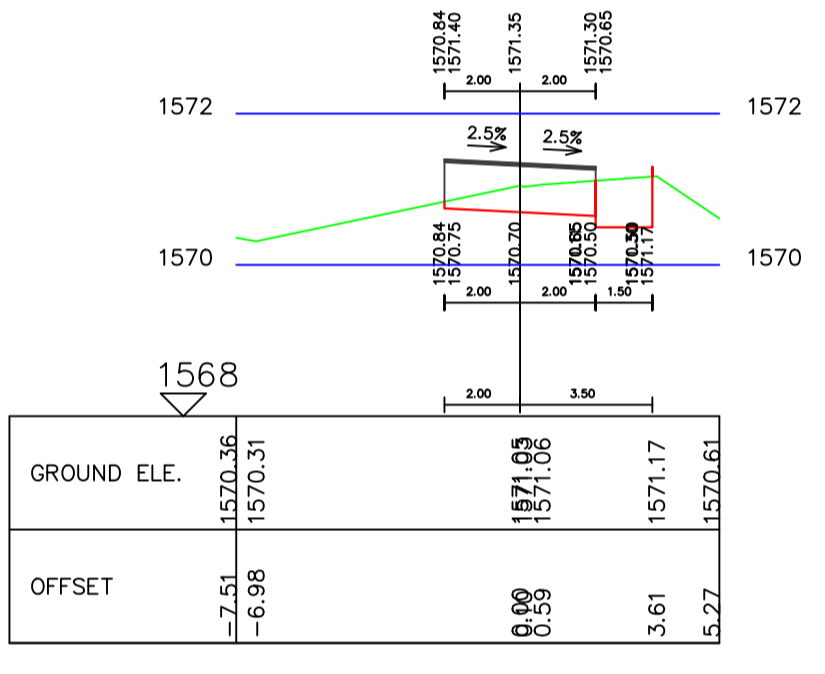


SECTION 0+280 St. 280 1st Avenue

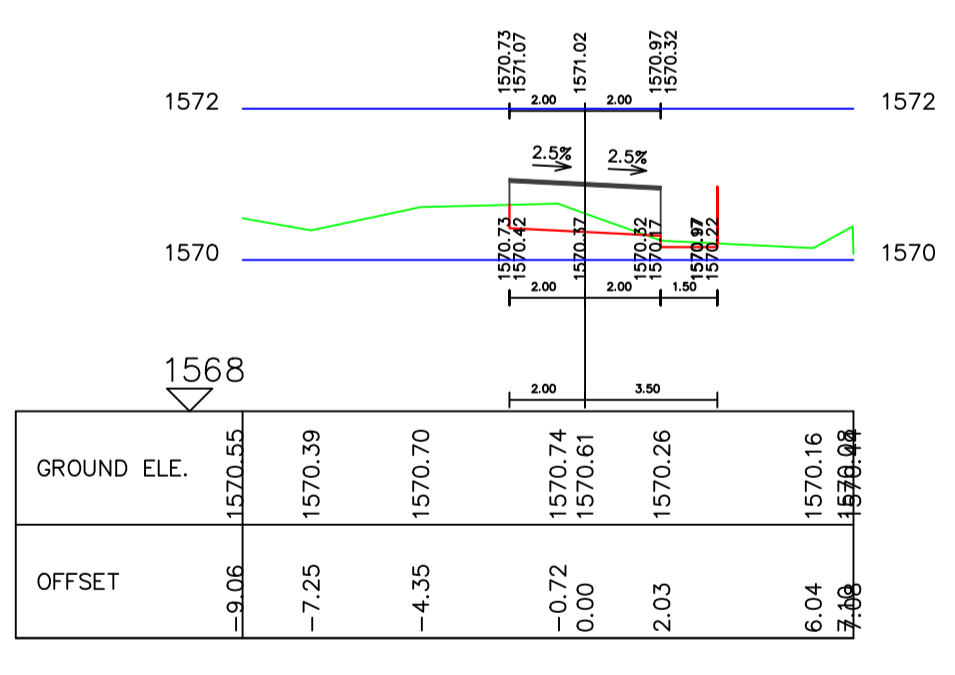
CLIENT: 	EMPLOYER: 	FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	CONSULTANT: 	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.	Drawing Title: SPRING VALLEY SETTLEMENT: CROSS SECTIONS		REVISIONS	
					Drg. No. WMCL/CR214/SPRV/CRS/13 Sheet No 13 of 28 Scale: V 1:100 Date: FEBRUARY 2024 H 1:200 Stage: TENDER DRAWINGS	APPROVED BY: ENG. IKWM DESIGNED BY: JKM CHECKED BY: ENG. PNG DRAWN BY: JKM		No Date AMMENDMENTS



SECTION 0+330 St. 330.01st Avenue



SECTION 0+330 St. 330 1st Avenue



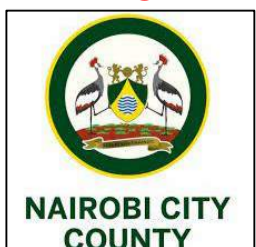
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CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

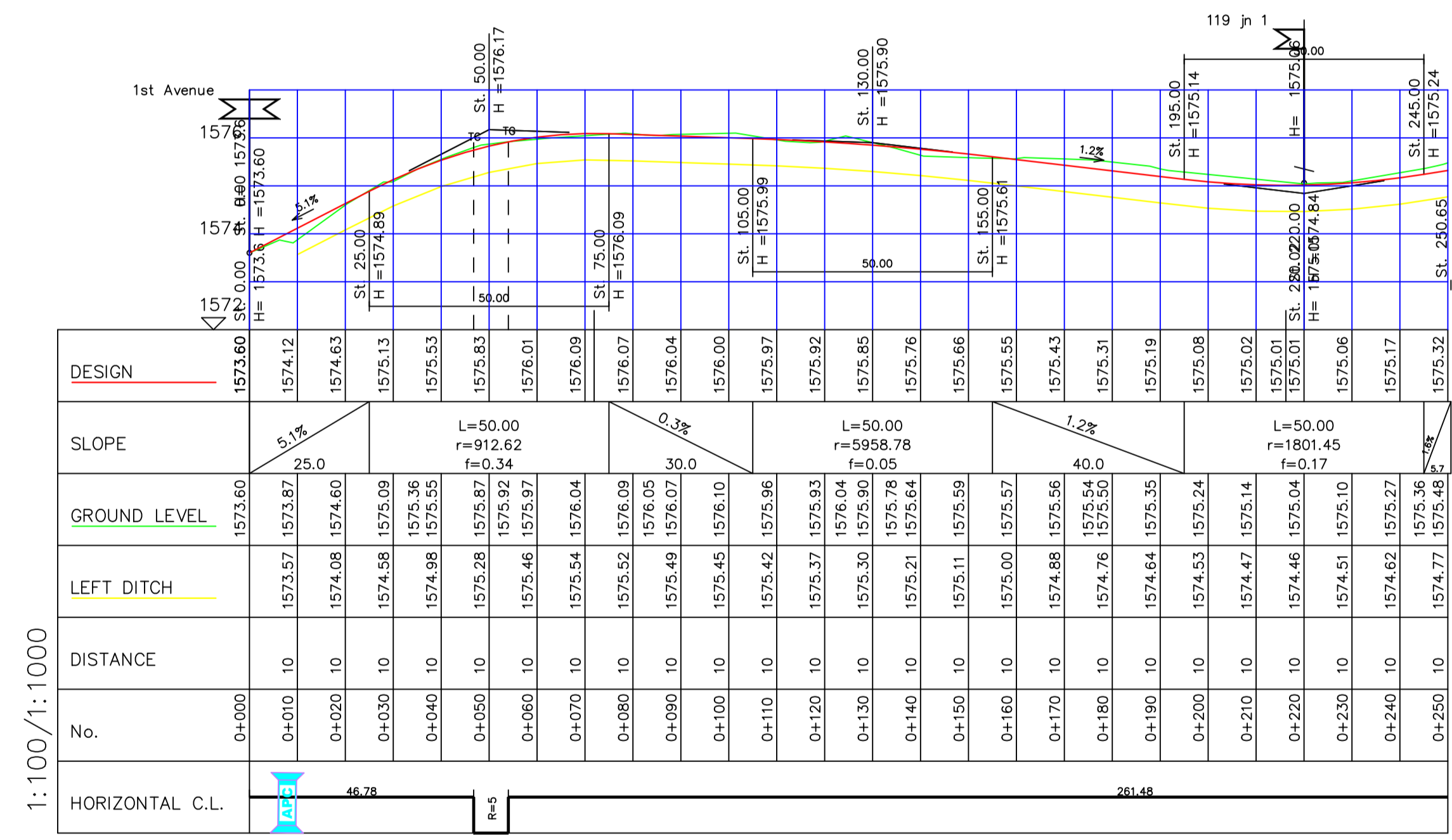
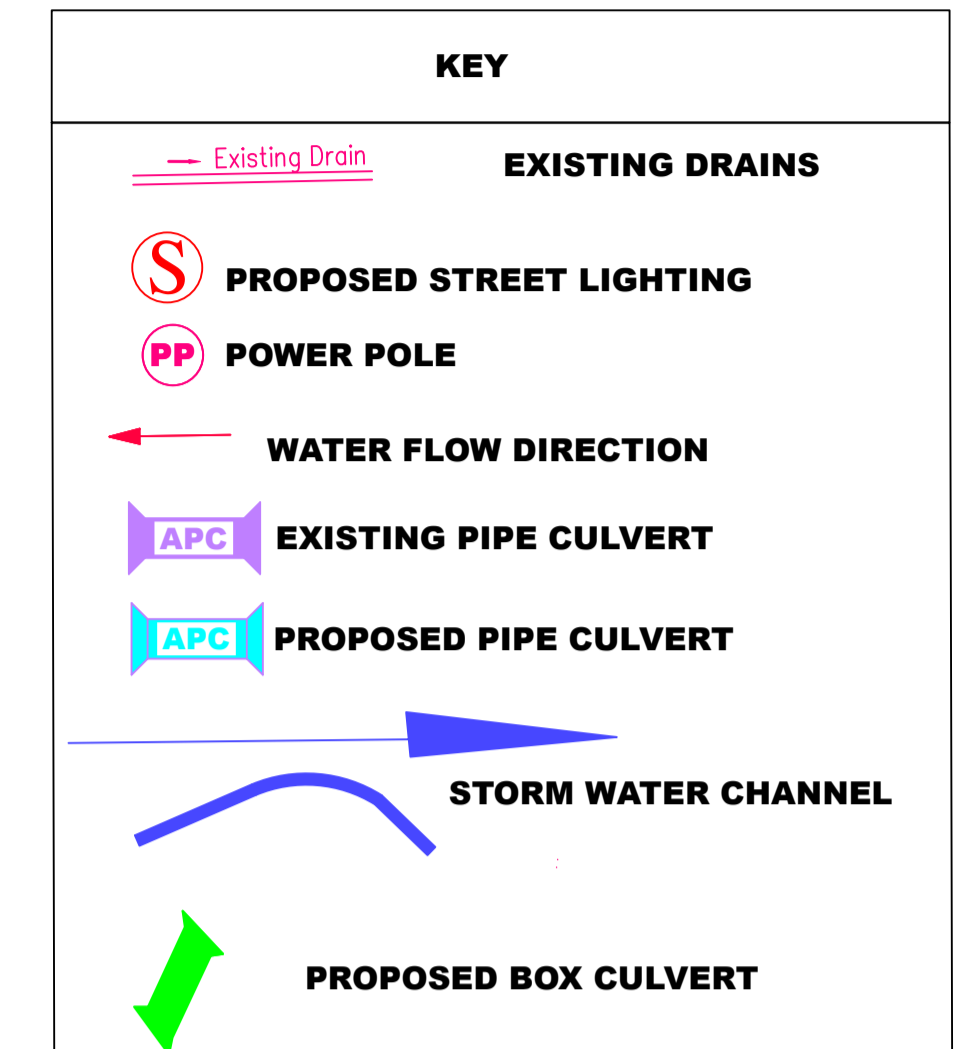
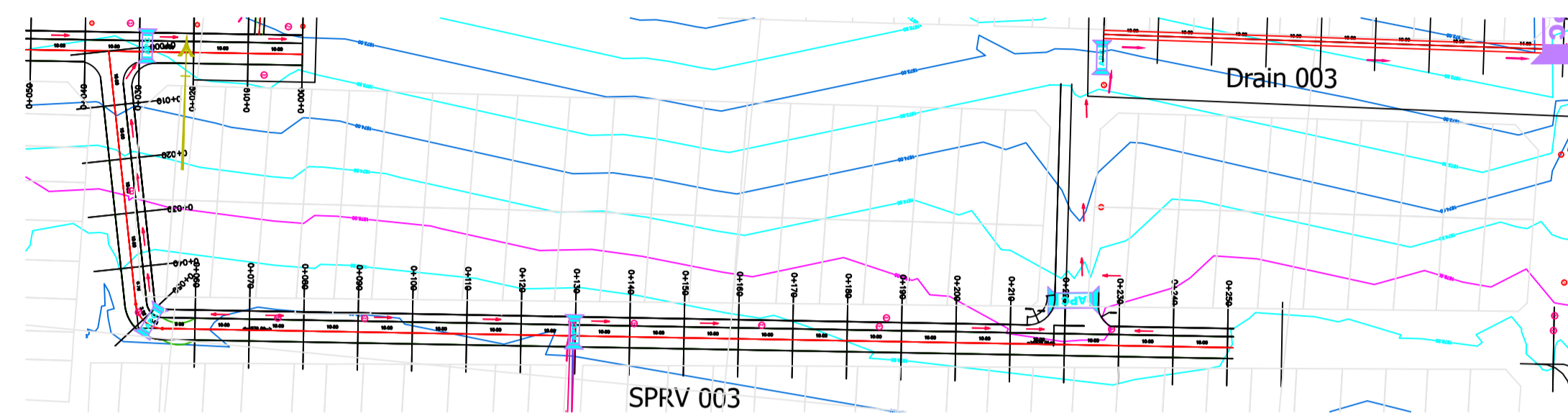
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Drg. No. WMCL/CR214/SPRV/CRS/14 Sheet No 14 of 28	
Scale: V 1:100	Date: FEBRUARY 2024
H 1:200	Stage: TENDER DRAWINGS
APPROVED BY: ENG. IKWM	DESIGNED BY: JKM
CHECKED BY: ENG. PNG	DRAWN BY: JKM

REVISIONS

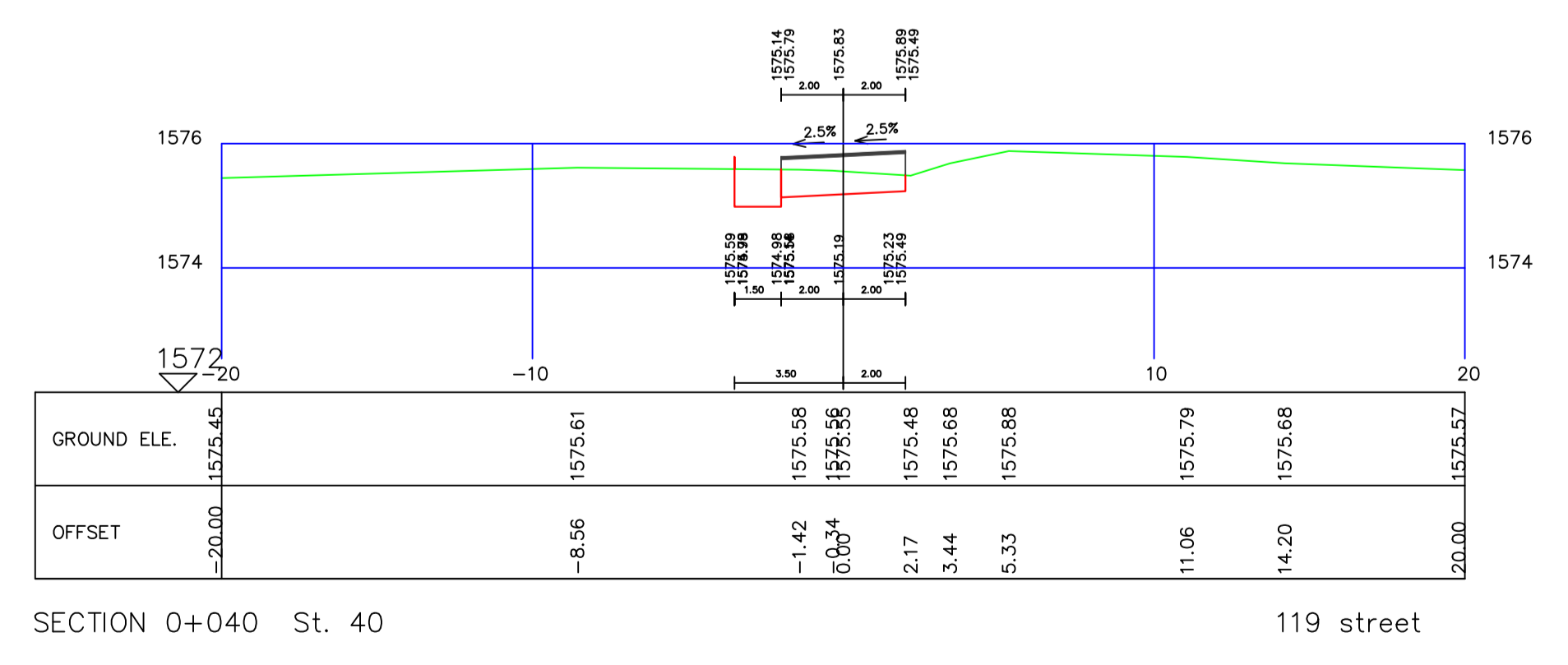
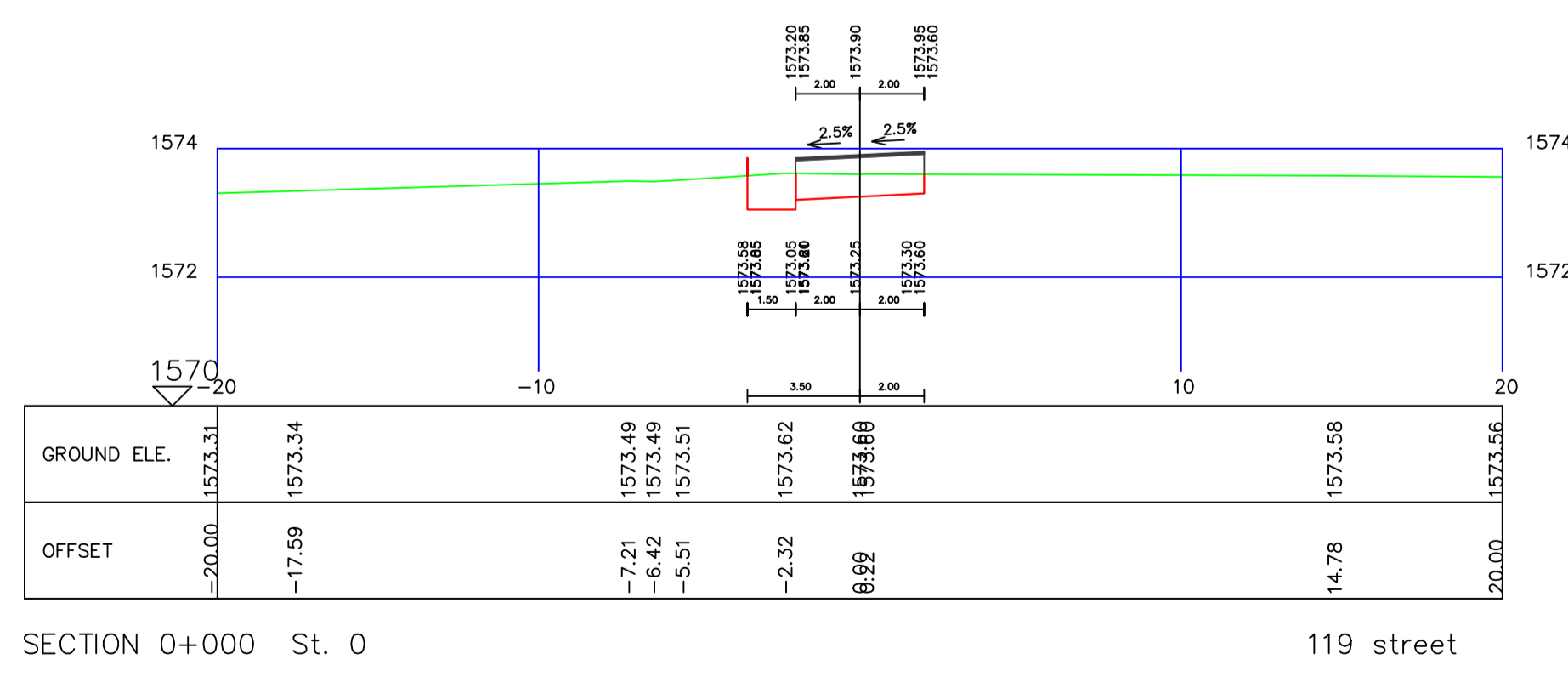
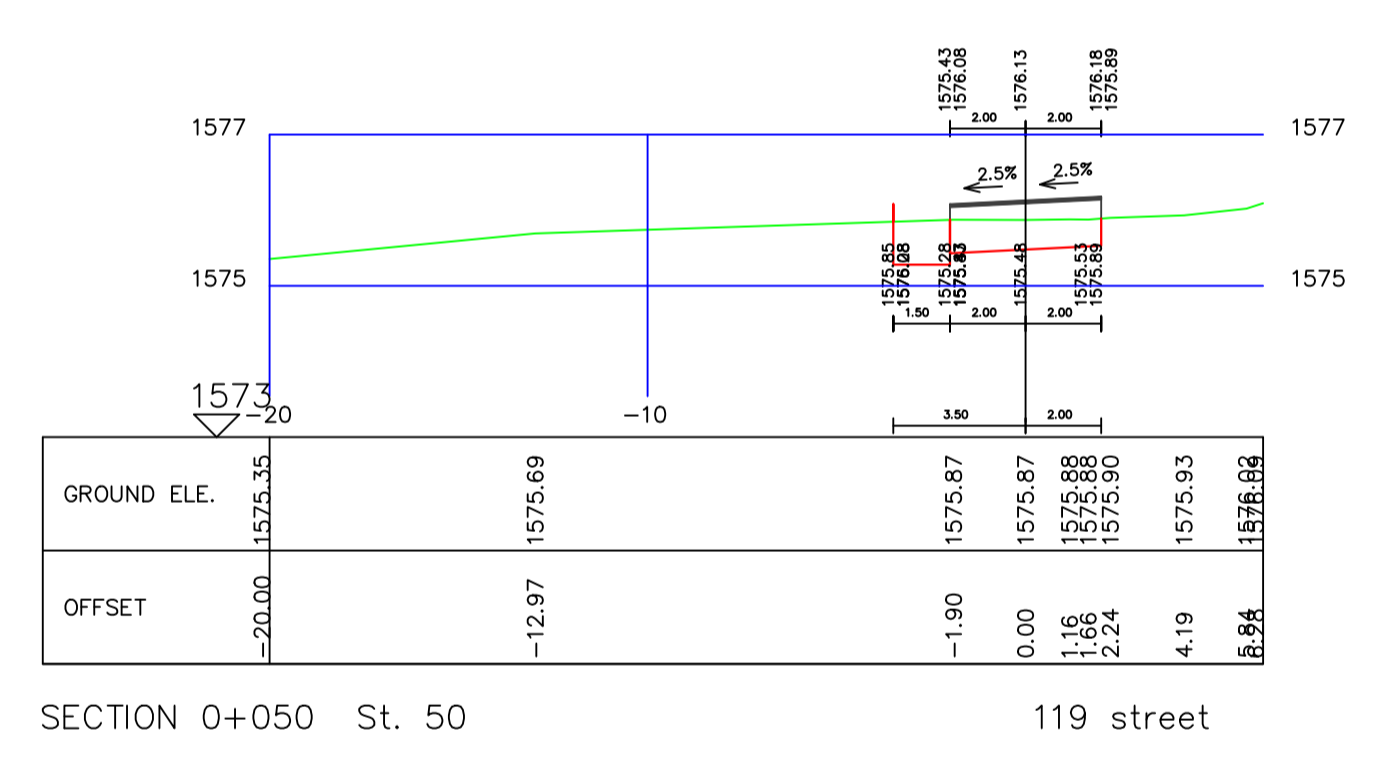
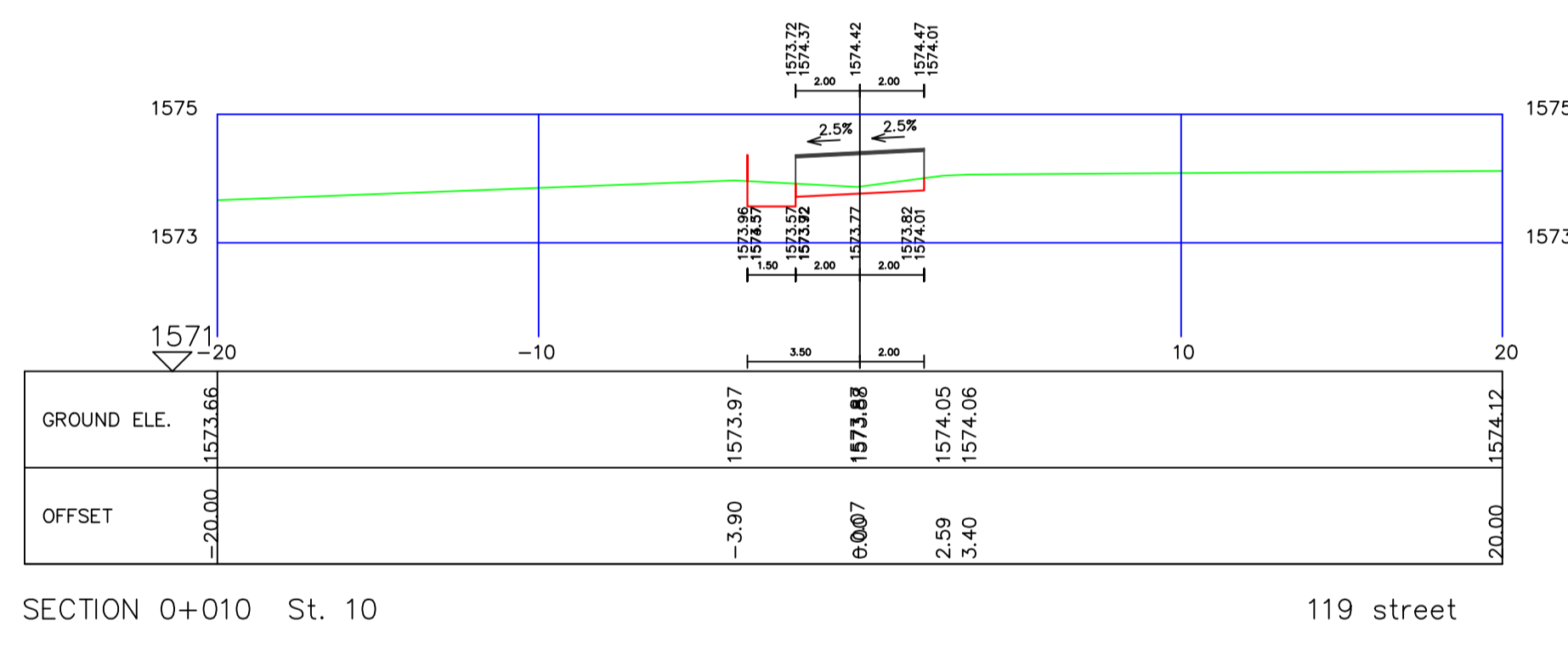
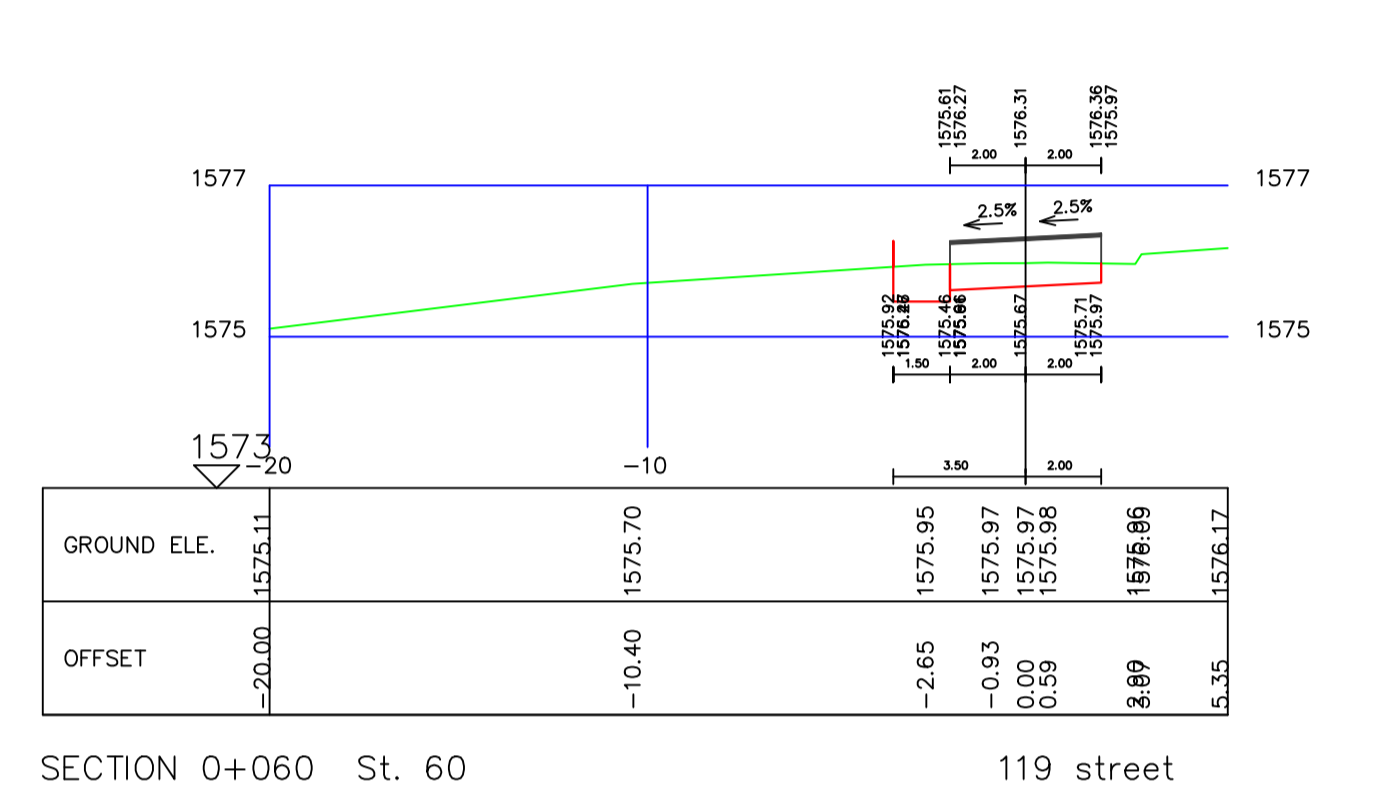
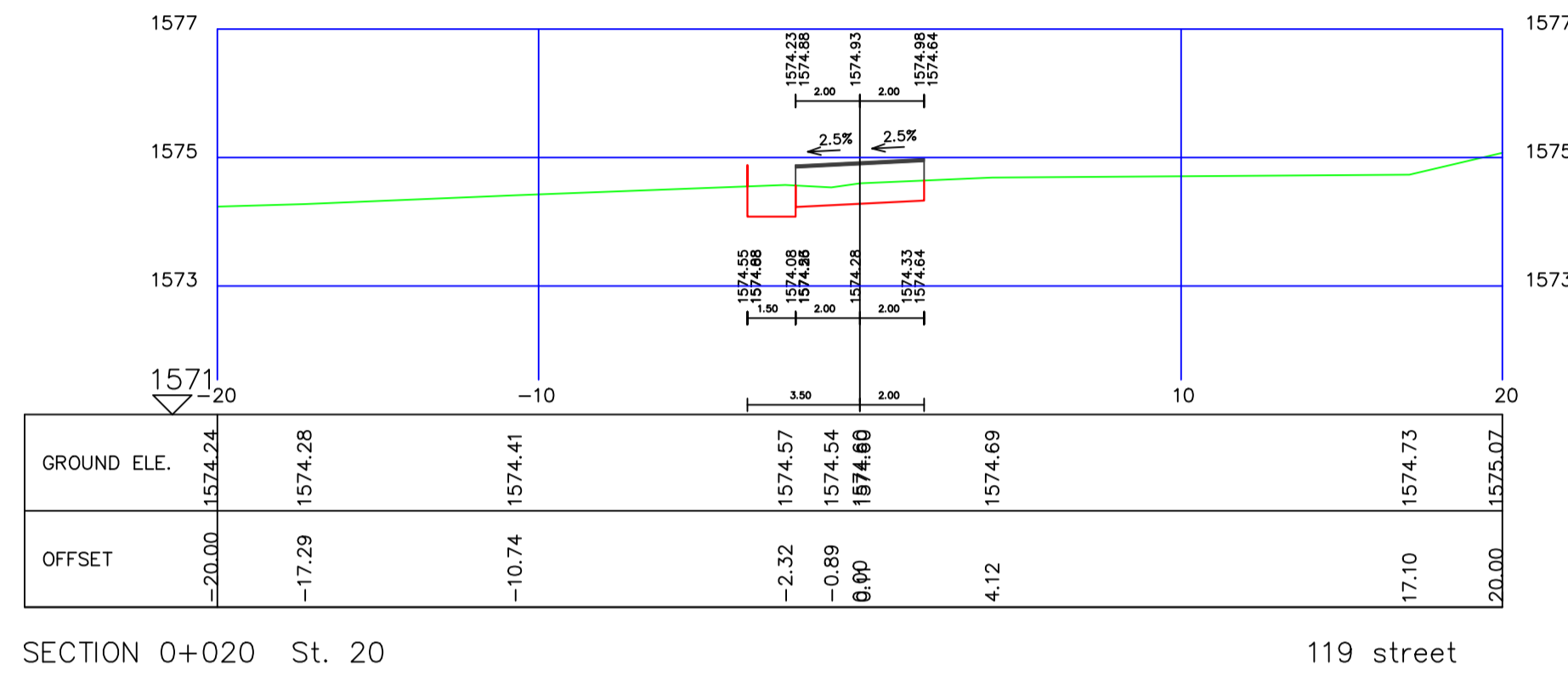
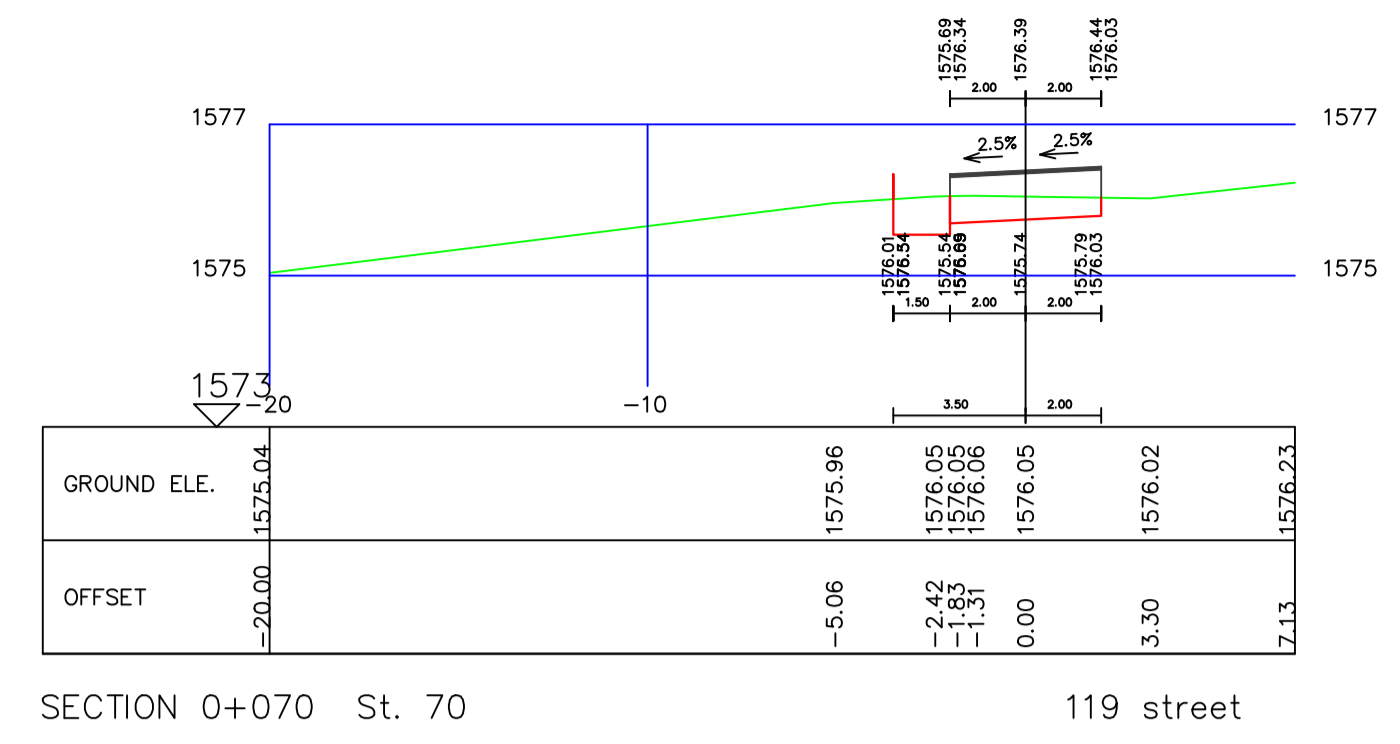
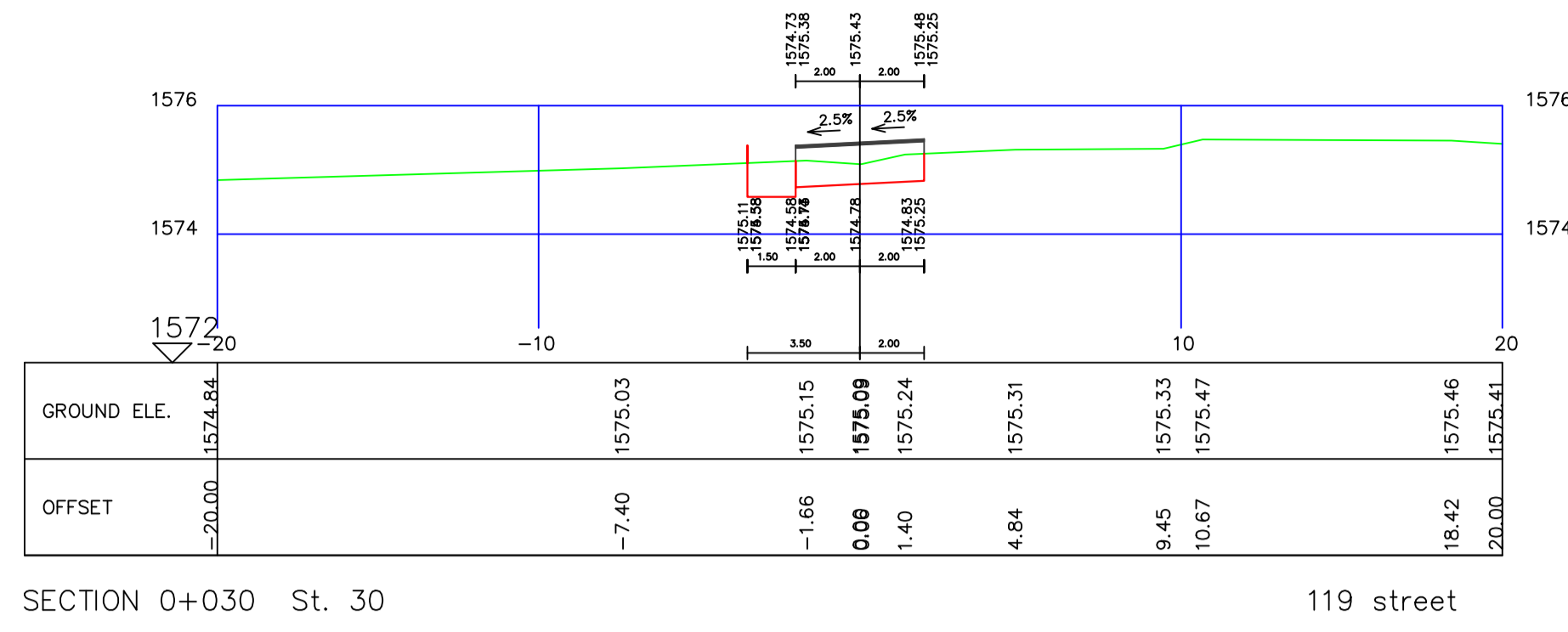
No	Date	AMMENDMENTS

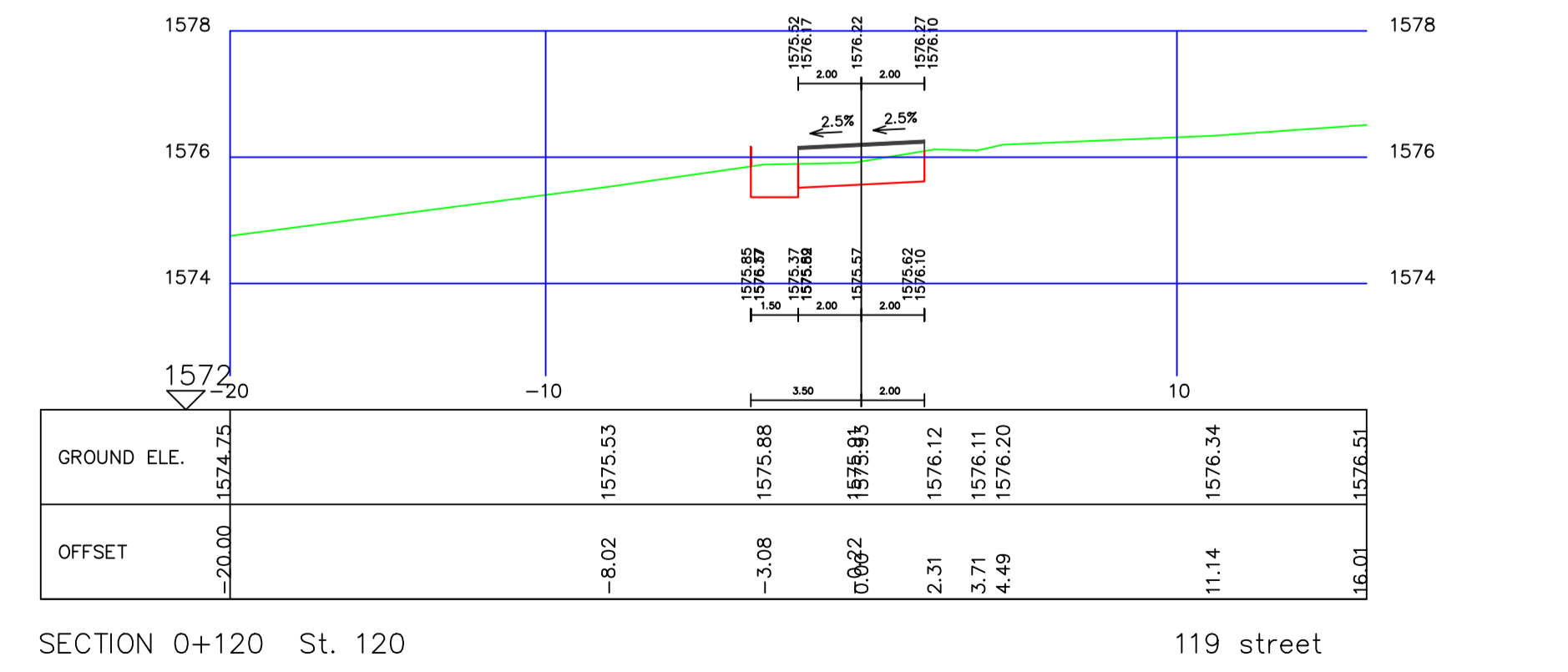
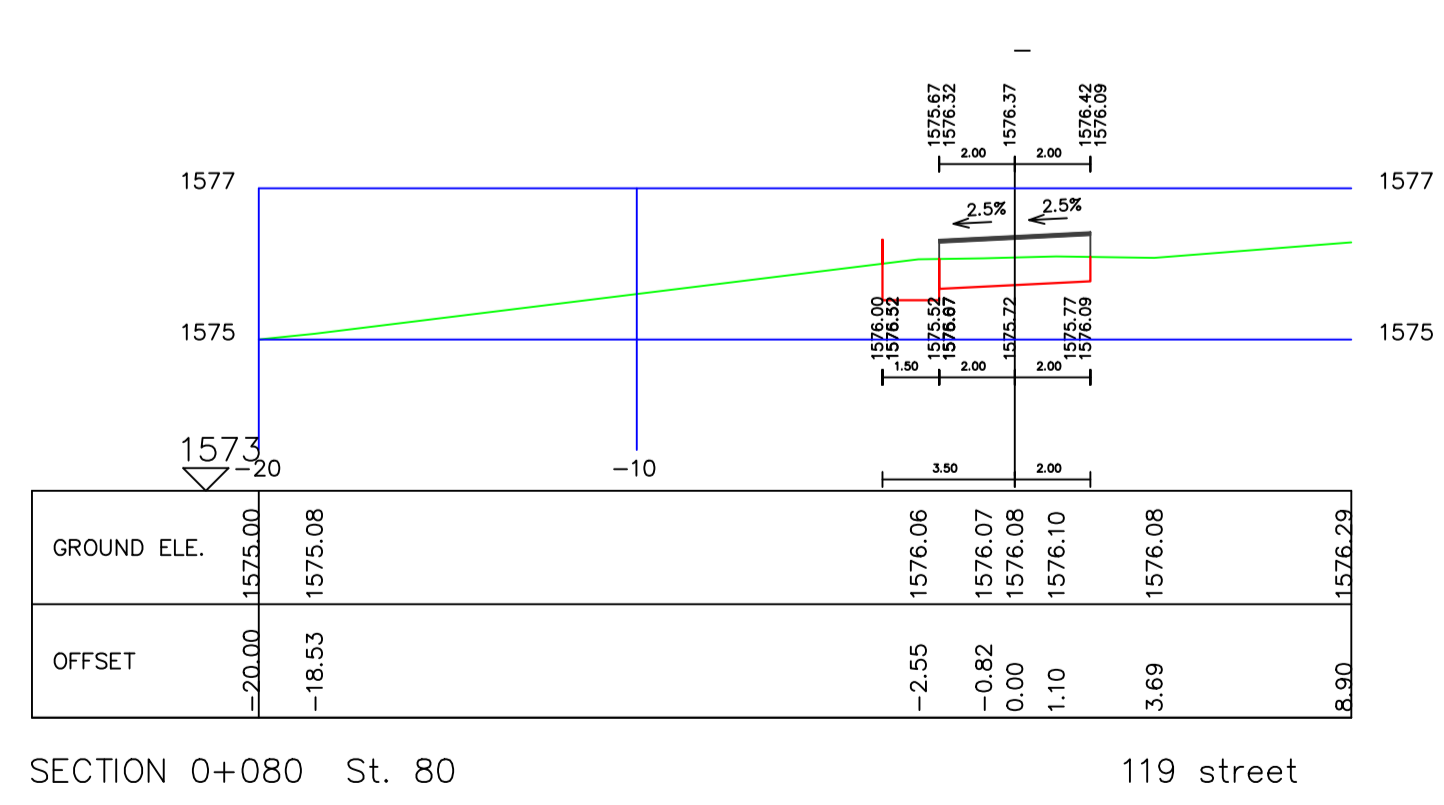
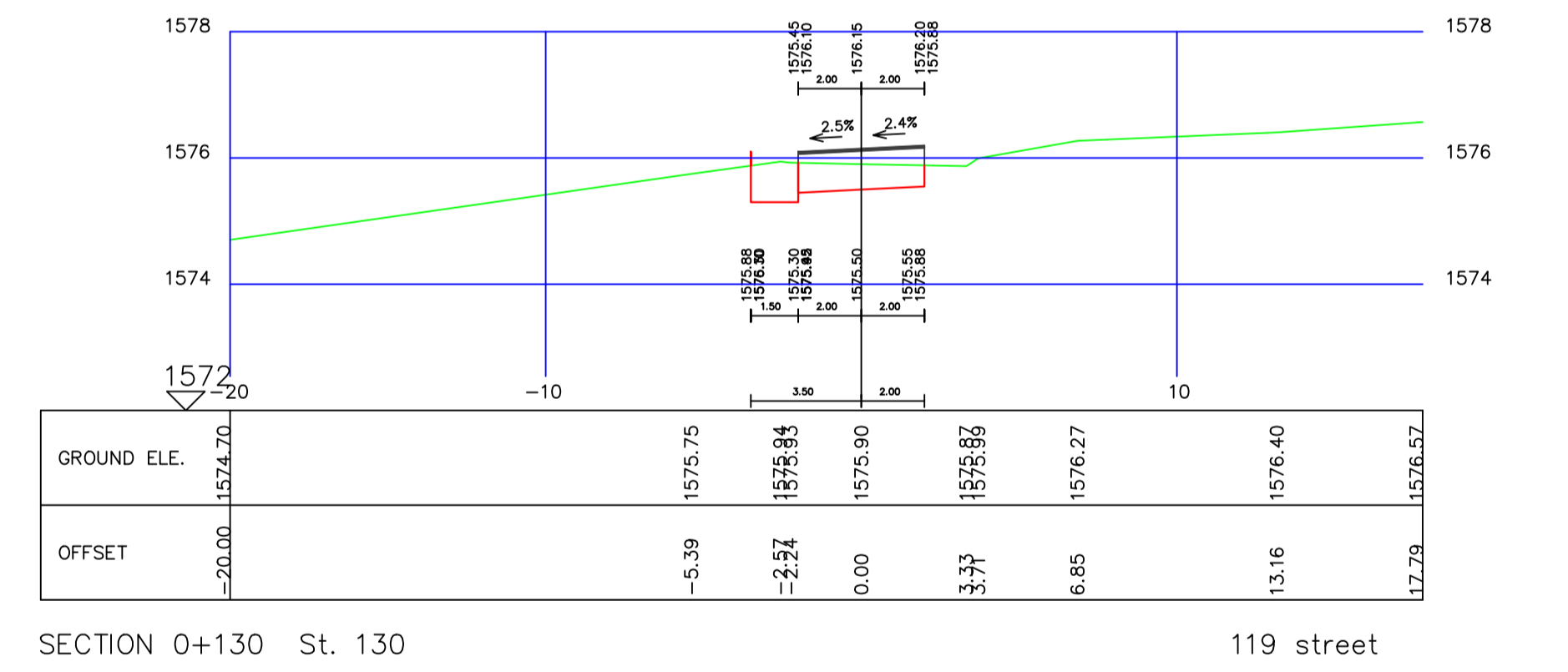
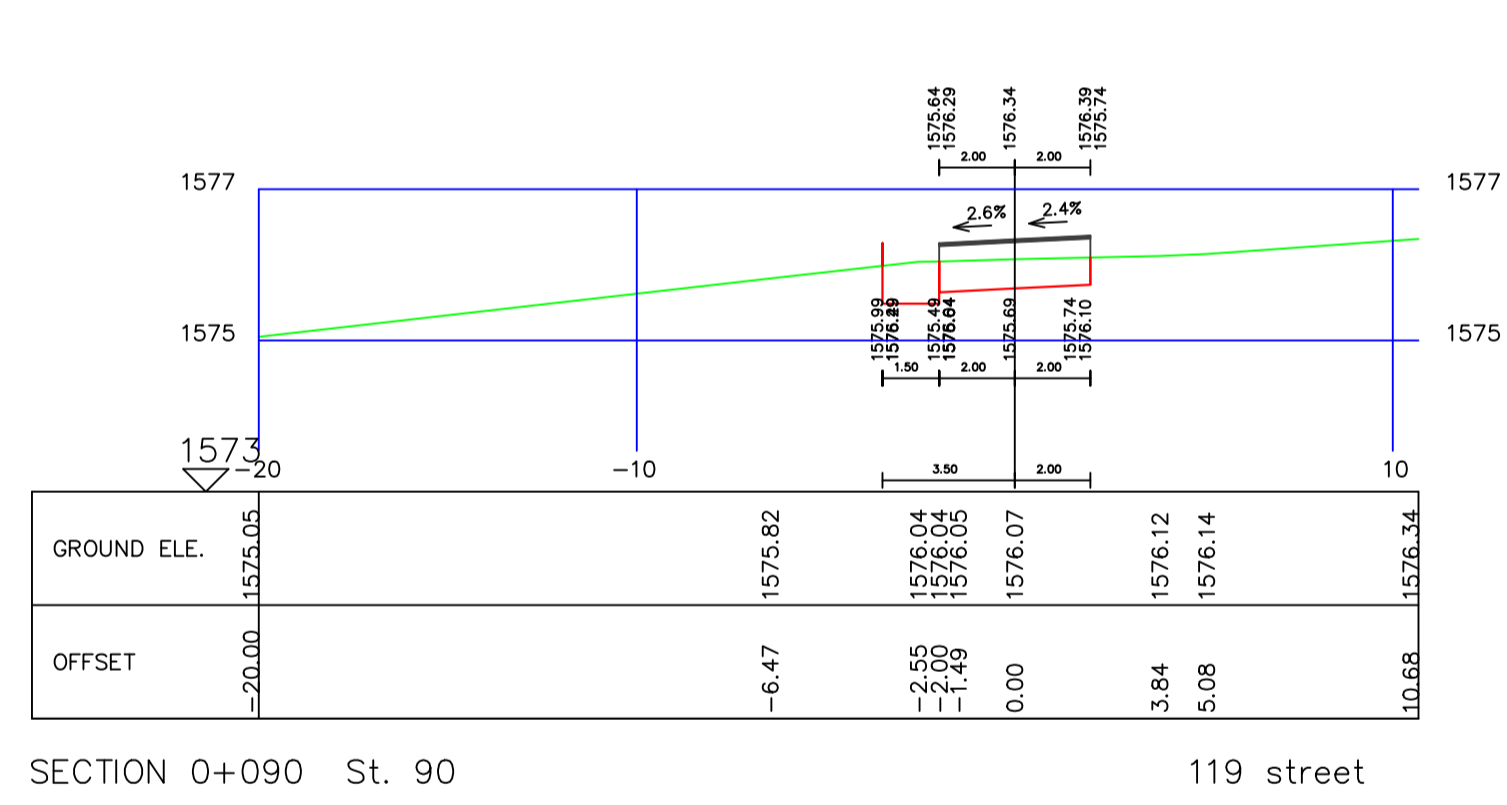
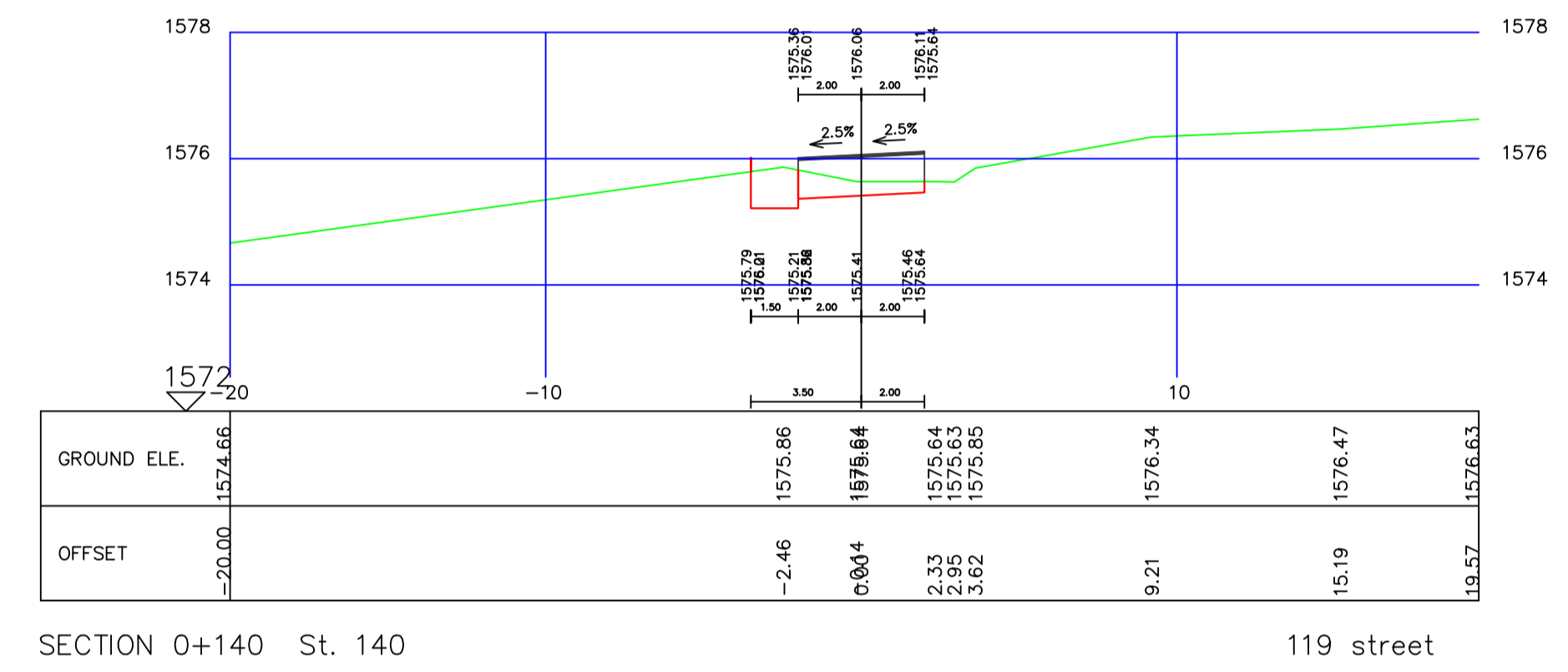
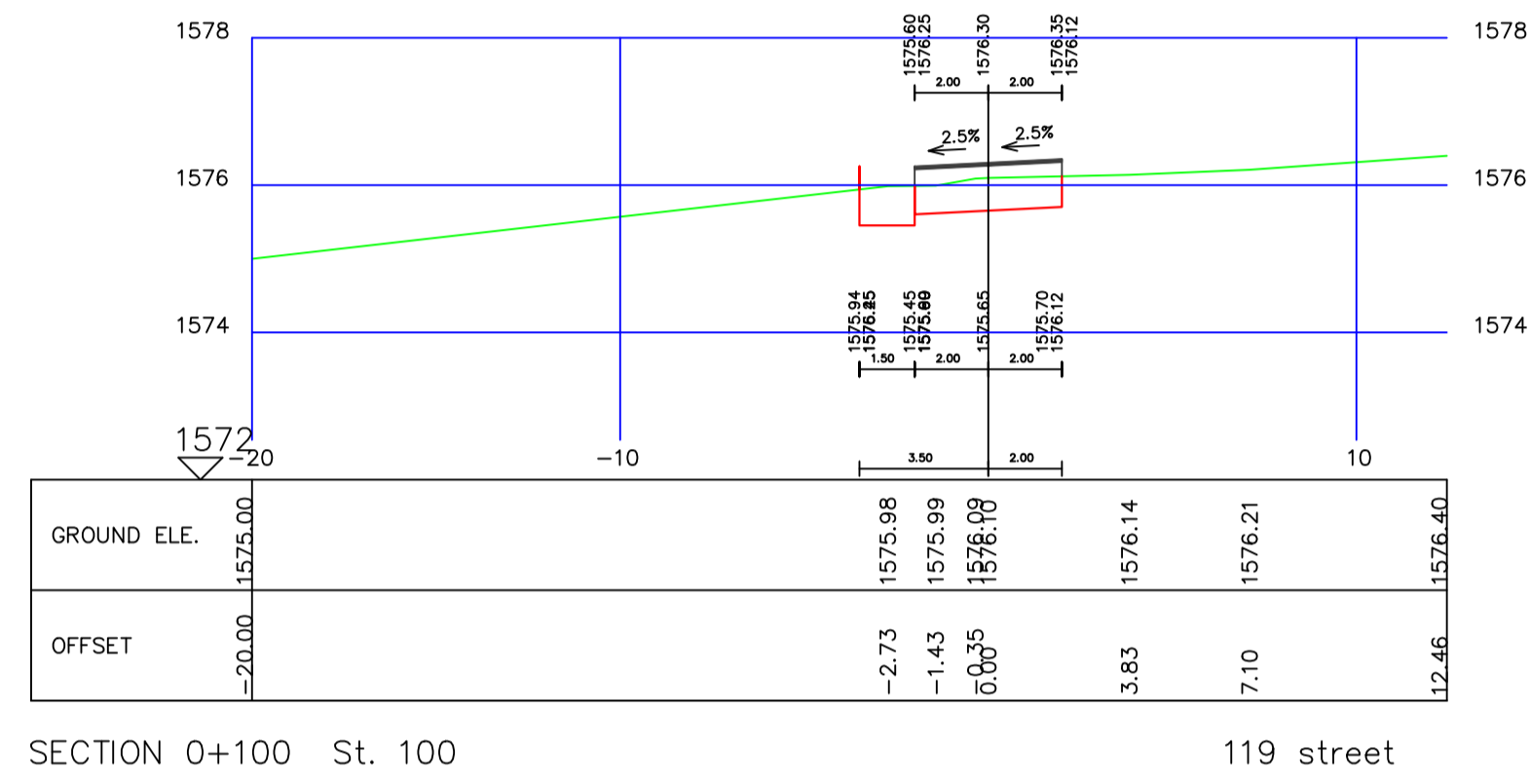
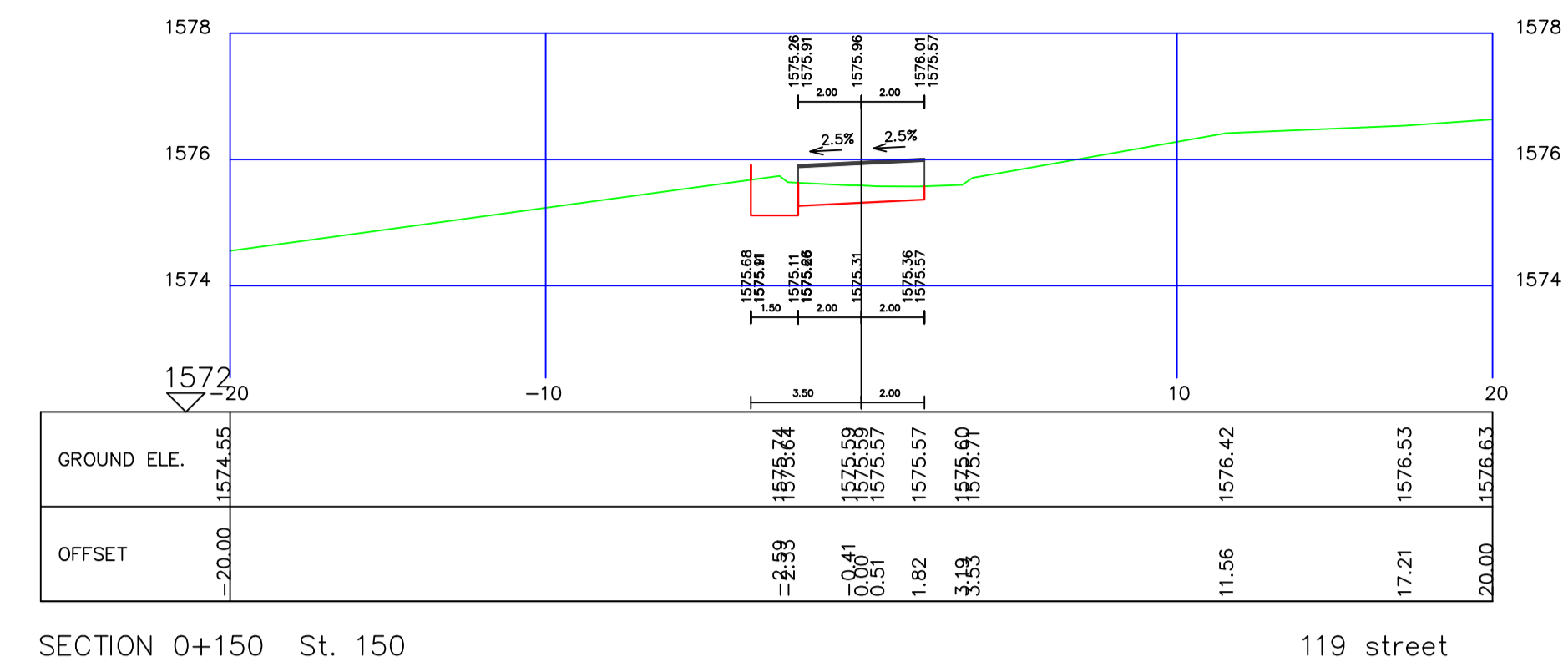
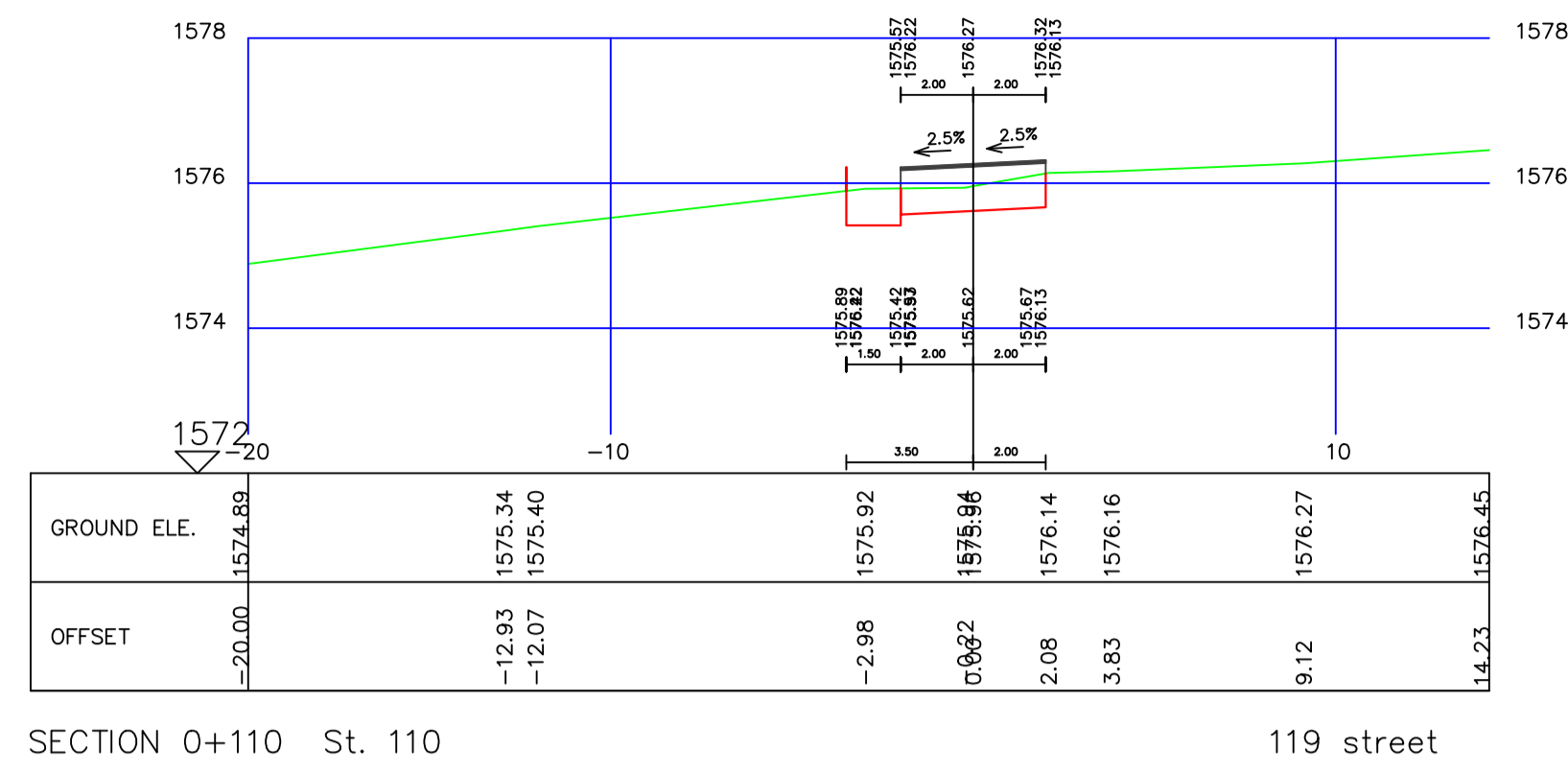


1:100/1:1000

119 street

CLIENT: 	EMPLOYER: 	FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD) 	CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.	Drawing Title: SPRING VALLEY SETTLEMENT: PLAN & PROFILE		REVISIONS	
					Drg. No. WMCL/CR214/SPRV/PP/04 Sheet No. 4 of 7 Scale: V 1:100 Date: FEBRUARY 2024 H 1:1000 Stage: TENDER DRAWINGS	APPROVED BY: ENG. IKWM DESIGNED BY: JKM CHECKED BY: ENG. PNG DRAWN BY: JKM	No. Date AMMENDMENTS	





CLIENT:
MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



EMPLOYER:
NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)
THE WORLD BANK
AFD



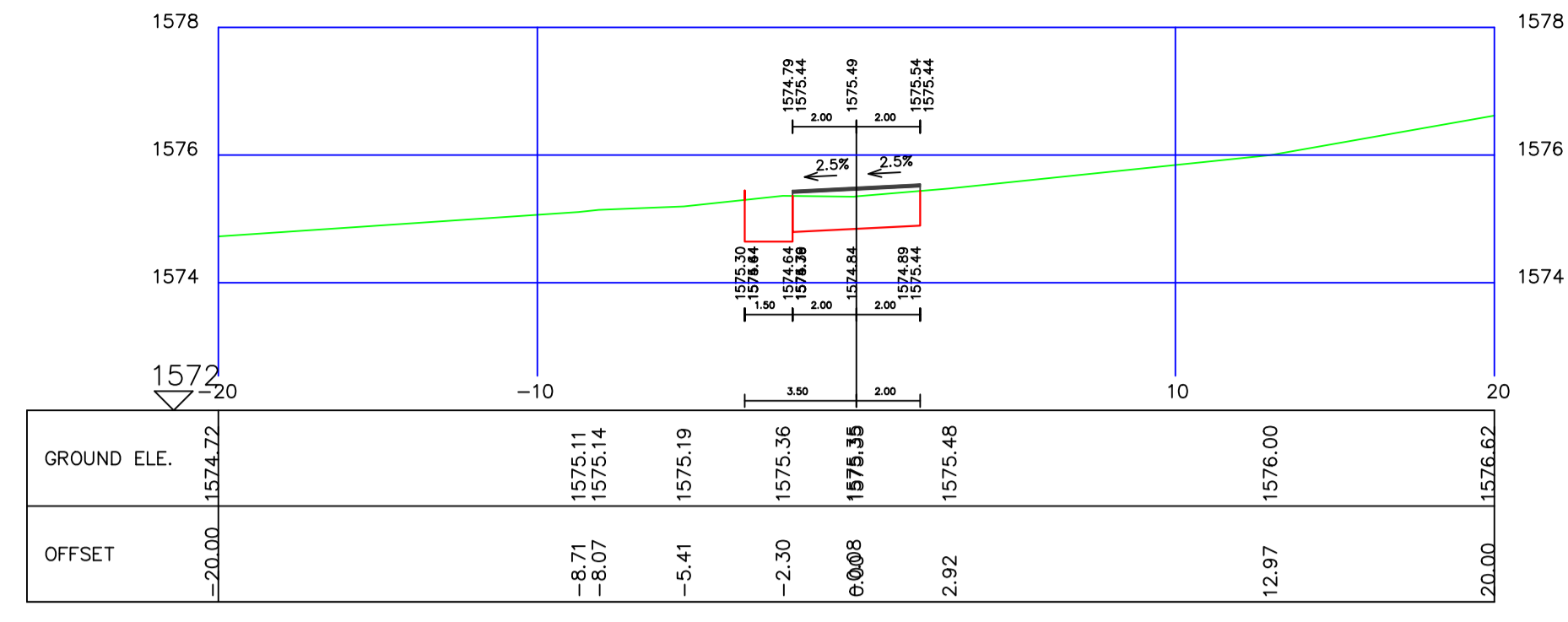
CONSULTANT:
**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

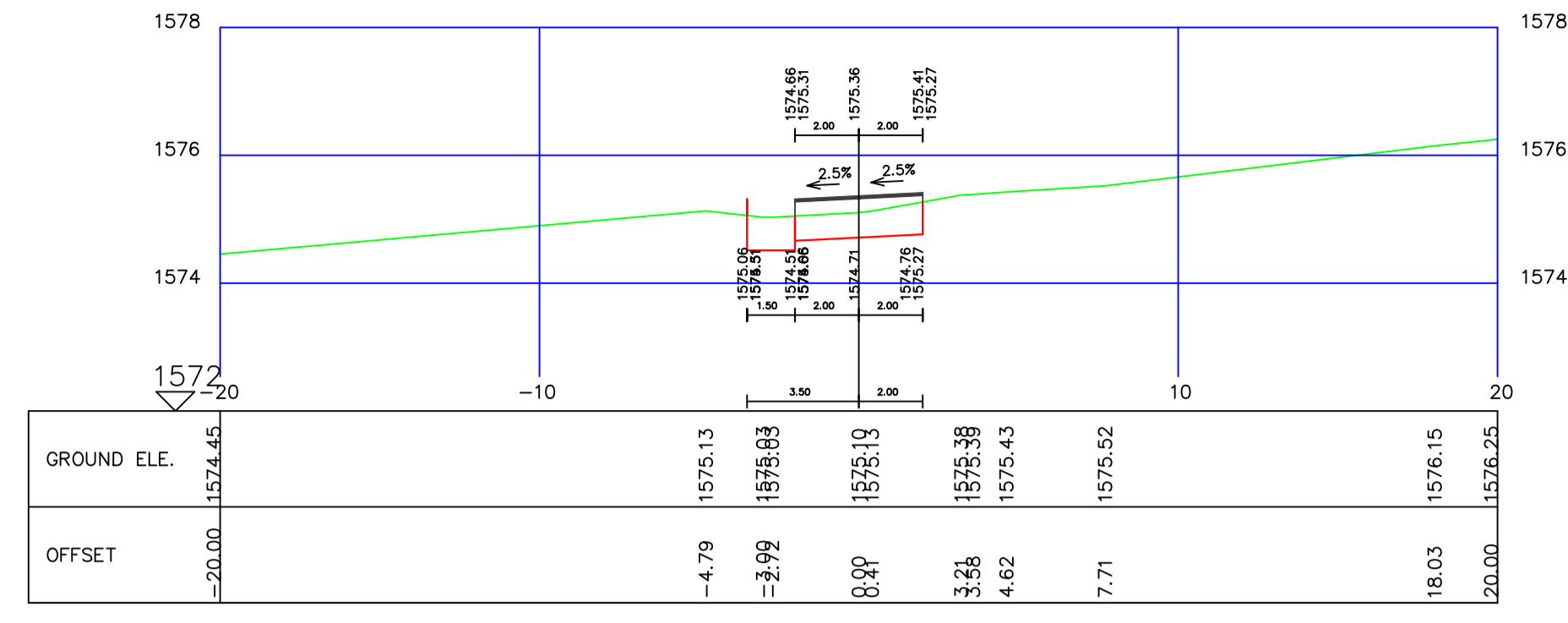
Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**
Drg. No. WMCL/CR214/SPRV/CRS/16 | Sheet No16of28
Scale: V 1:100 | Date: FEBRUARY 2024
H 1:200 | Stage: TENDER DRAWINGS
APPROVED BY: ENG.IKWM | DESIGNED BY: JKM
CHECKED BY: ENG.PNG | DRAWN BY: JKM

REVISIONS

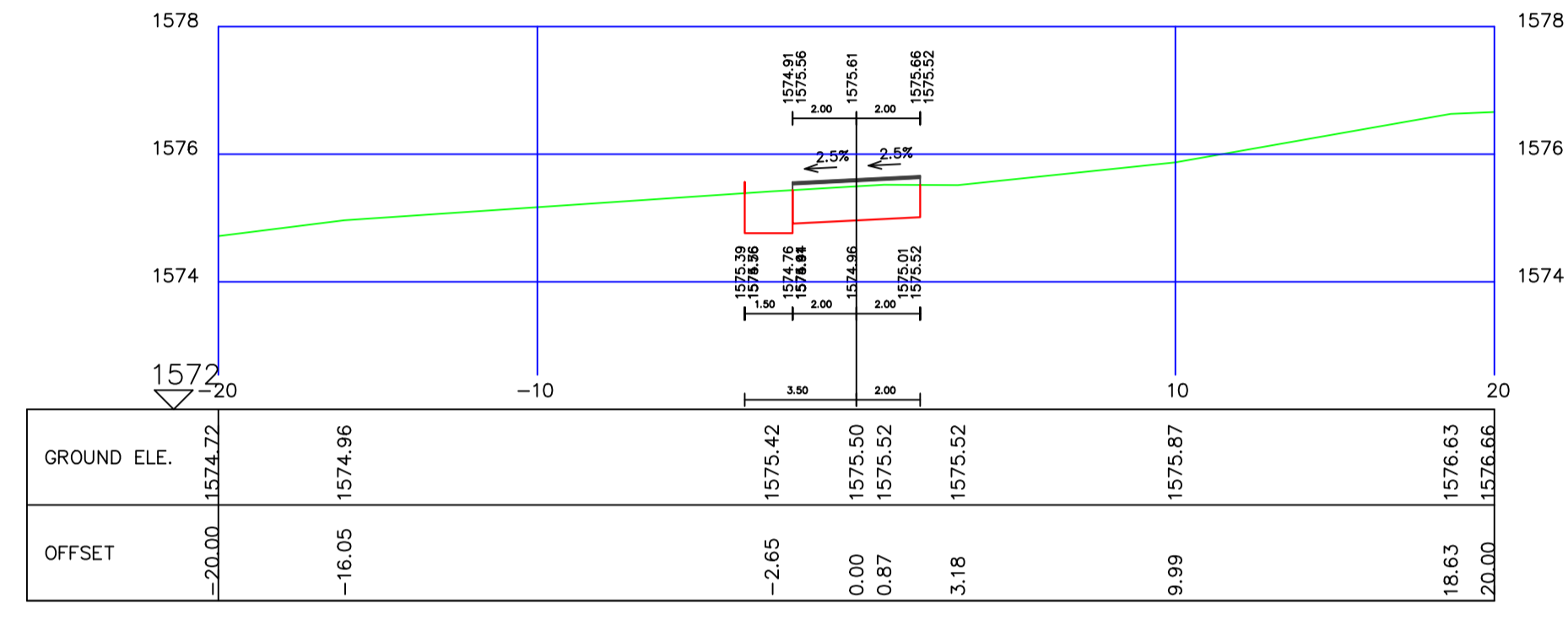
No | Date | AMMENDMENTS



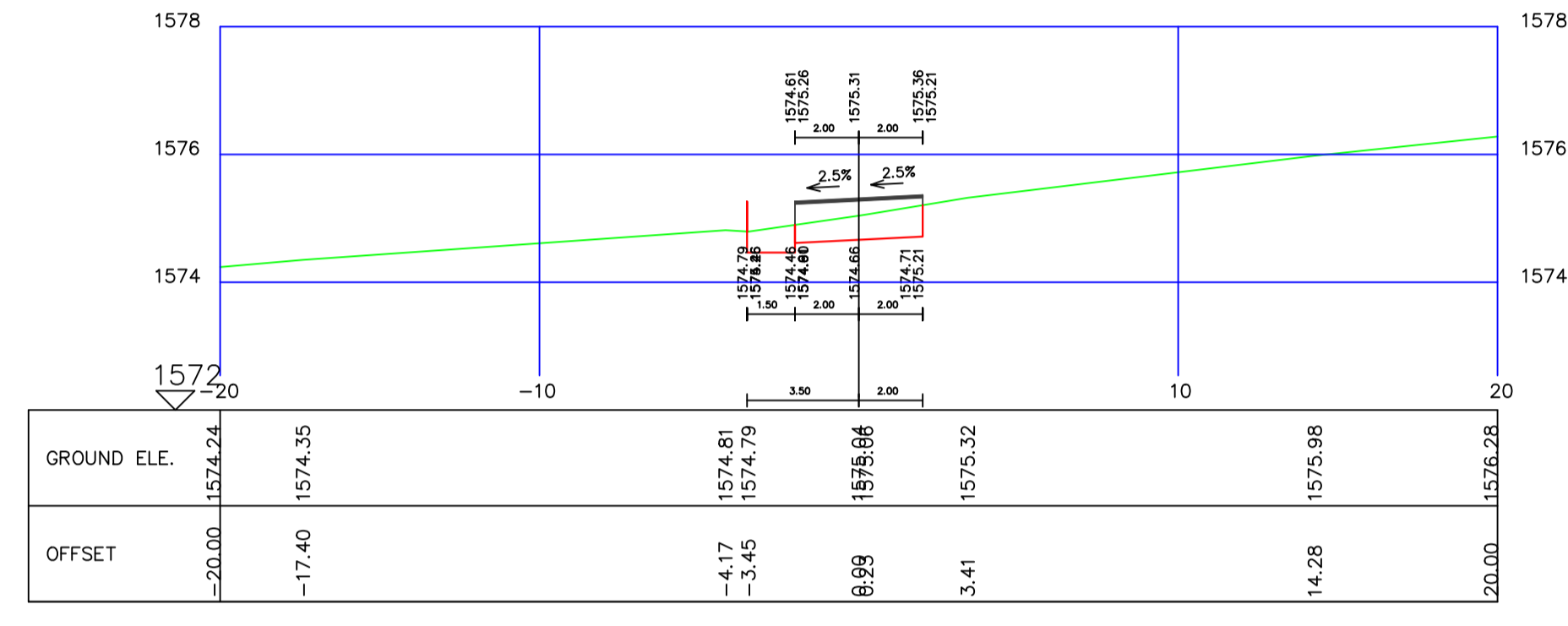
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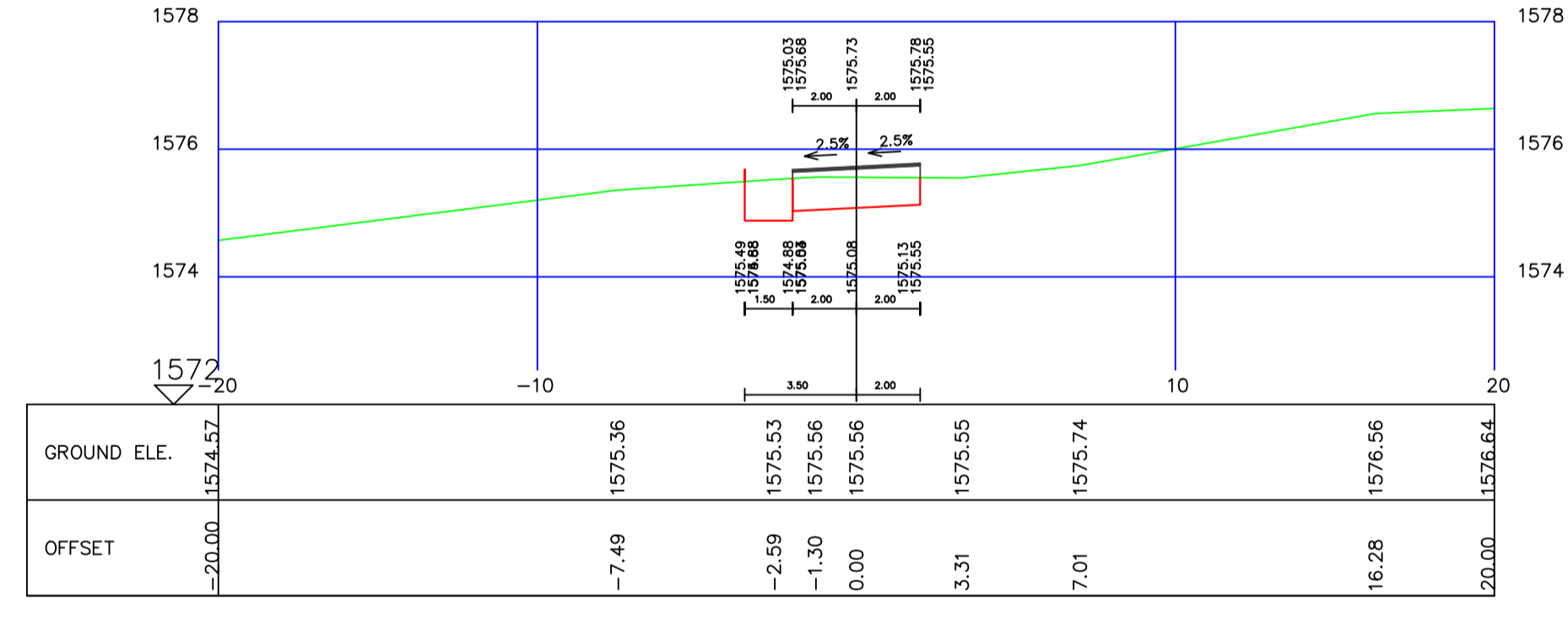
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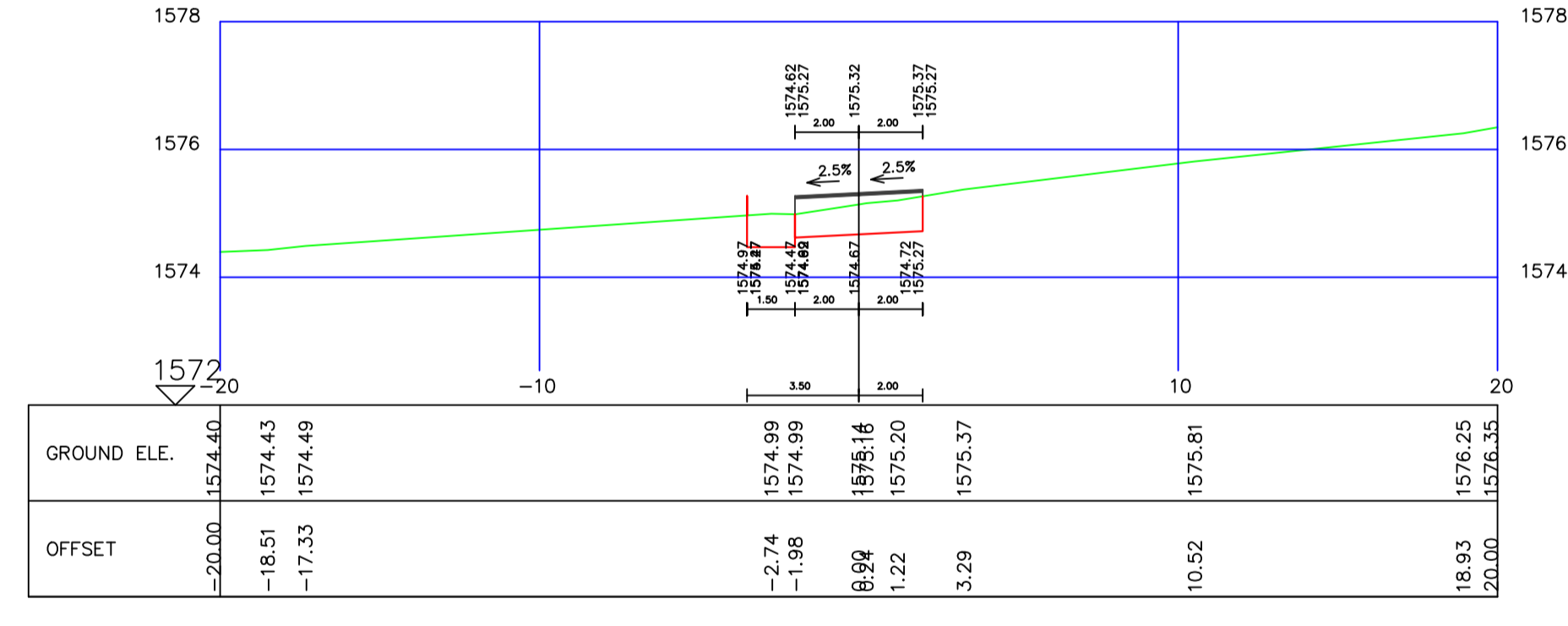
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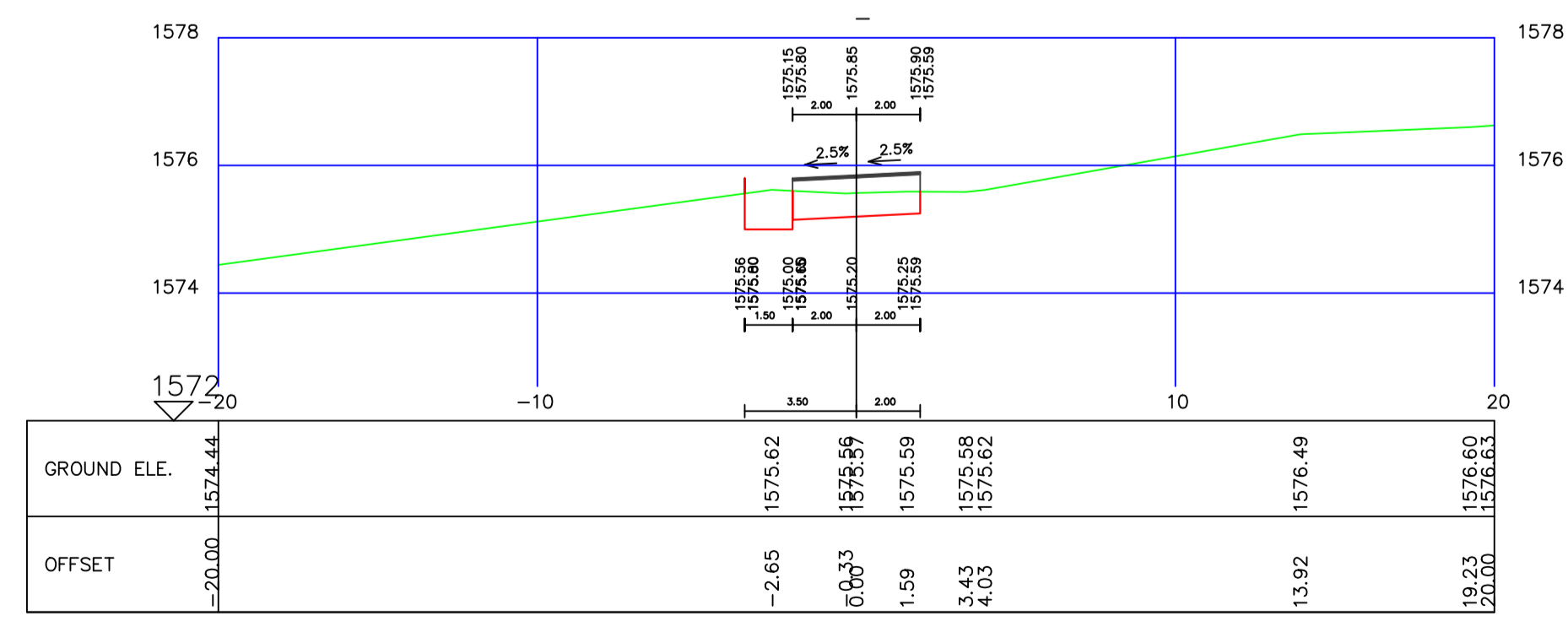
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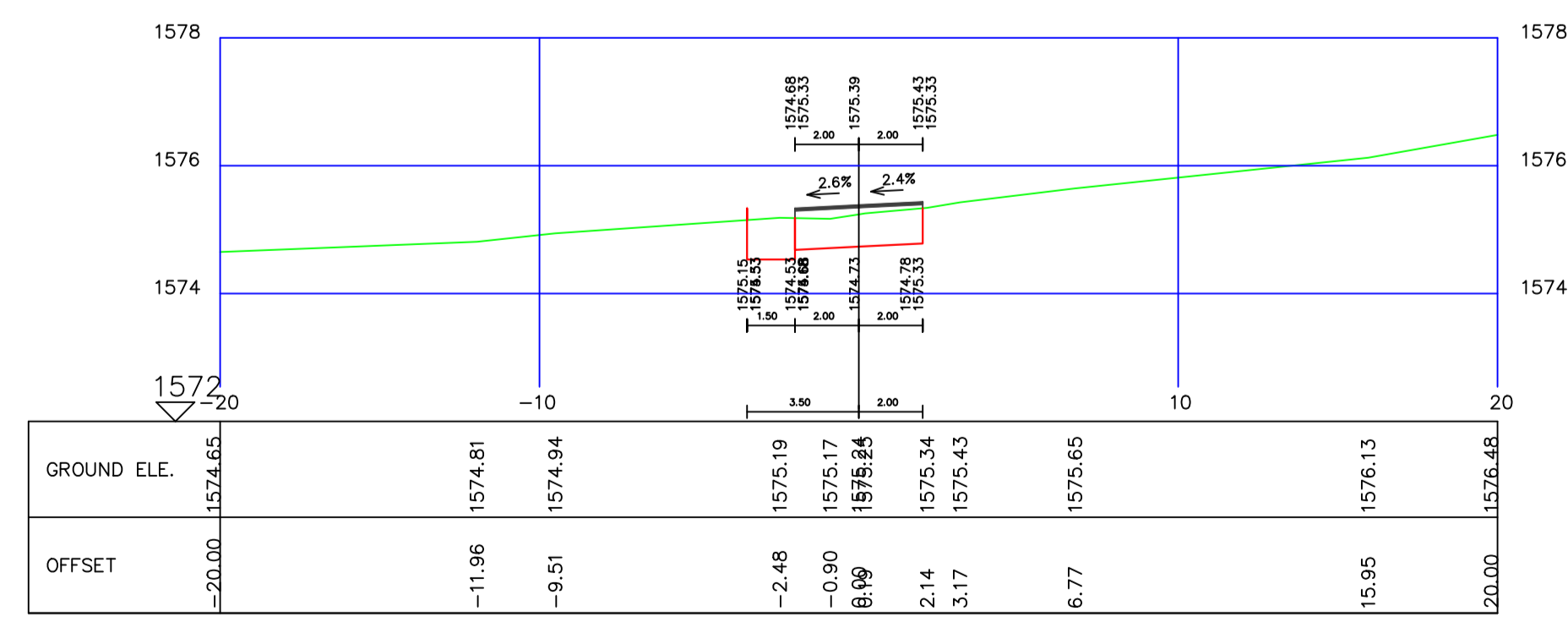
SECTION 0+170 St. 170 119 street



SECTION 0+210 St. 210 119 street



SECTION 0+160 St. 160 119 street



SECTION 0+200 St. 200 119 street

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)
THE WORLD BANK

CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

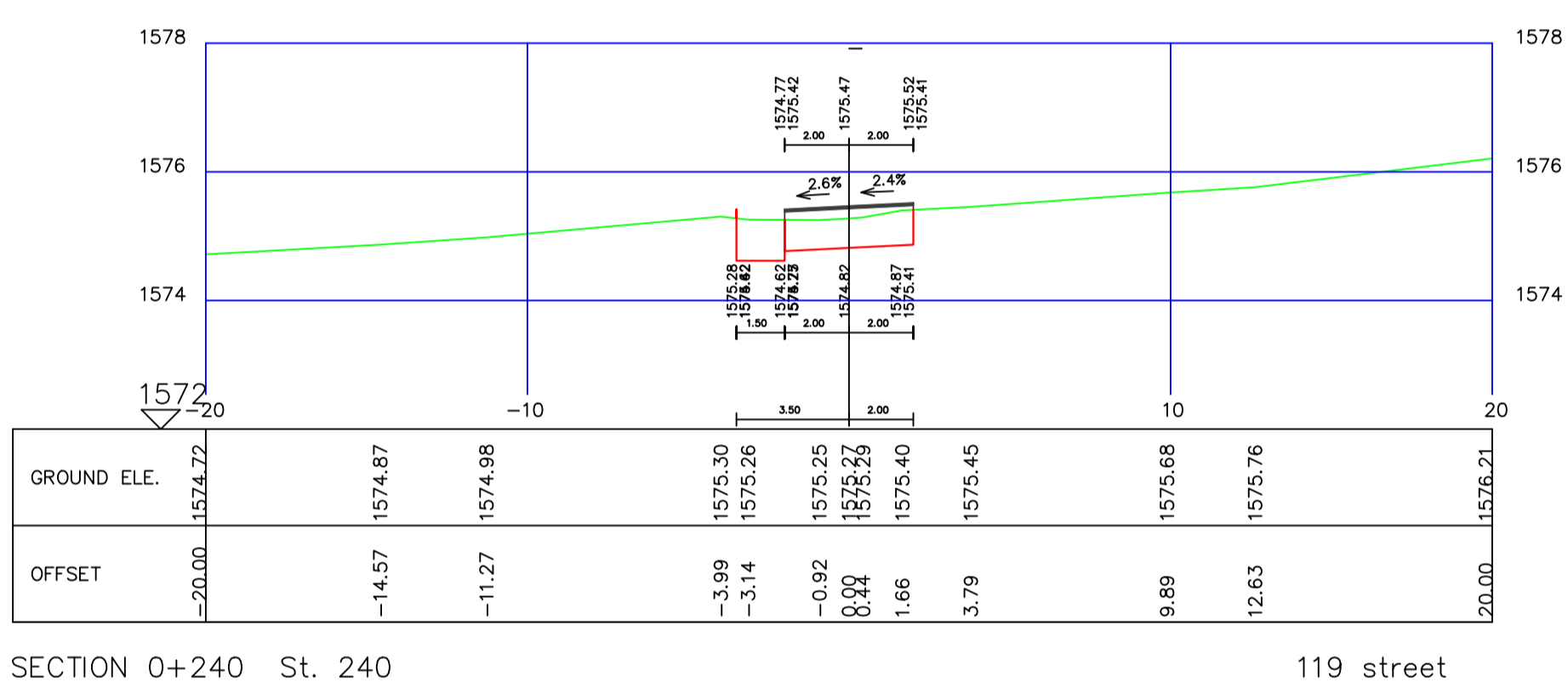
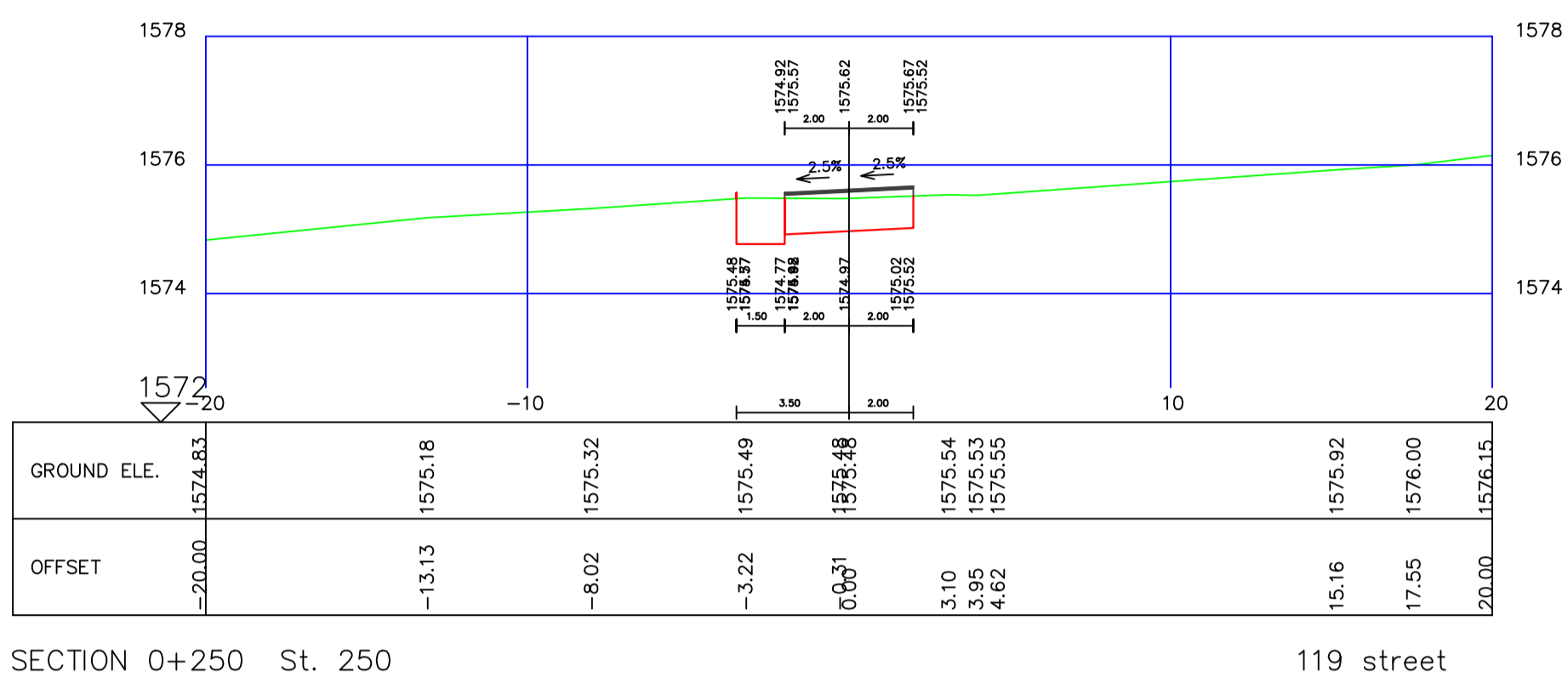
PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

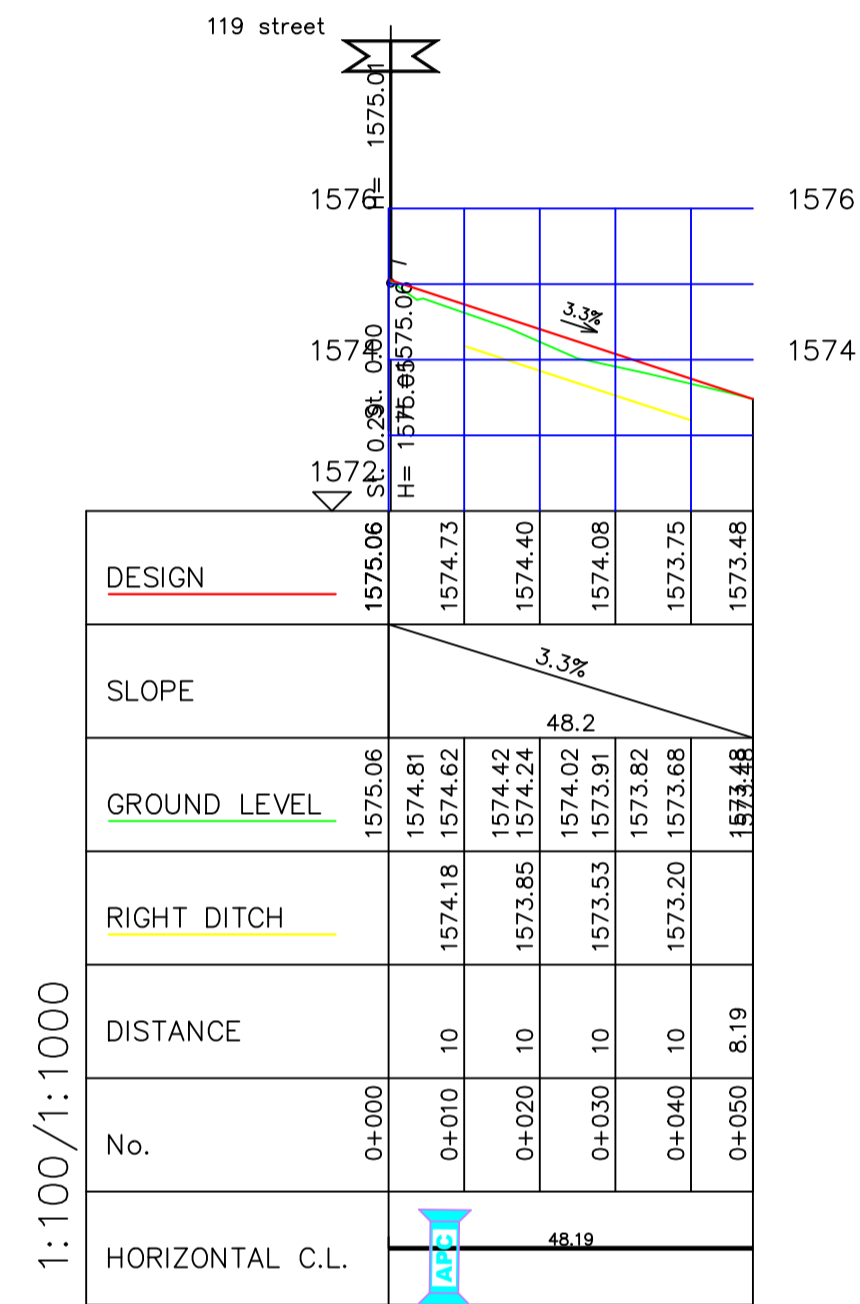
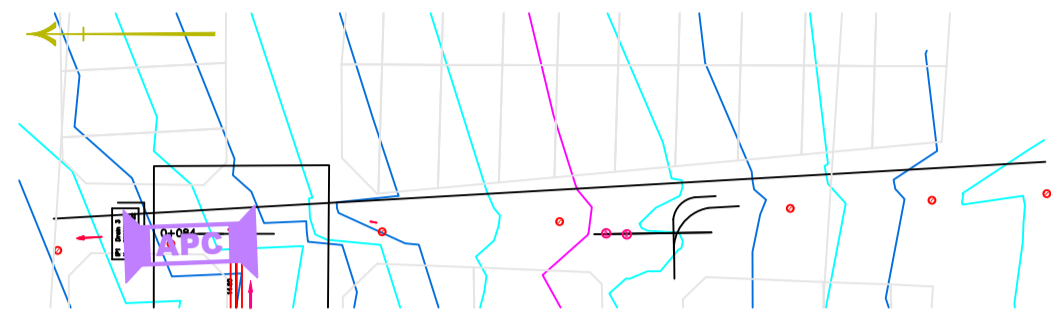
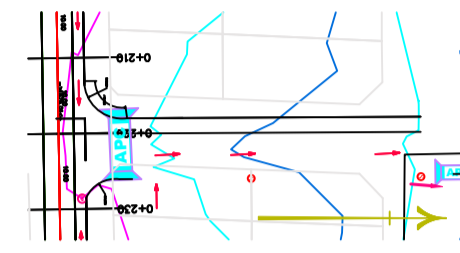
Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Drg. No. WMCL/CR214/SPRV/CRS/17 | Sheet No 17 of 28
Scale: V 1:100 Date: FEBRUARY 2024
H 1:200 Stage: TENDER DRAWINGS
APPROVED BY: ENG. IKWM DESIGNED BY: JKM
CHECKED BY: ENG. PNG DRAWN BY: JKM

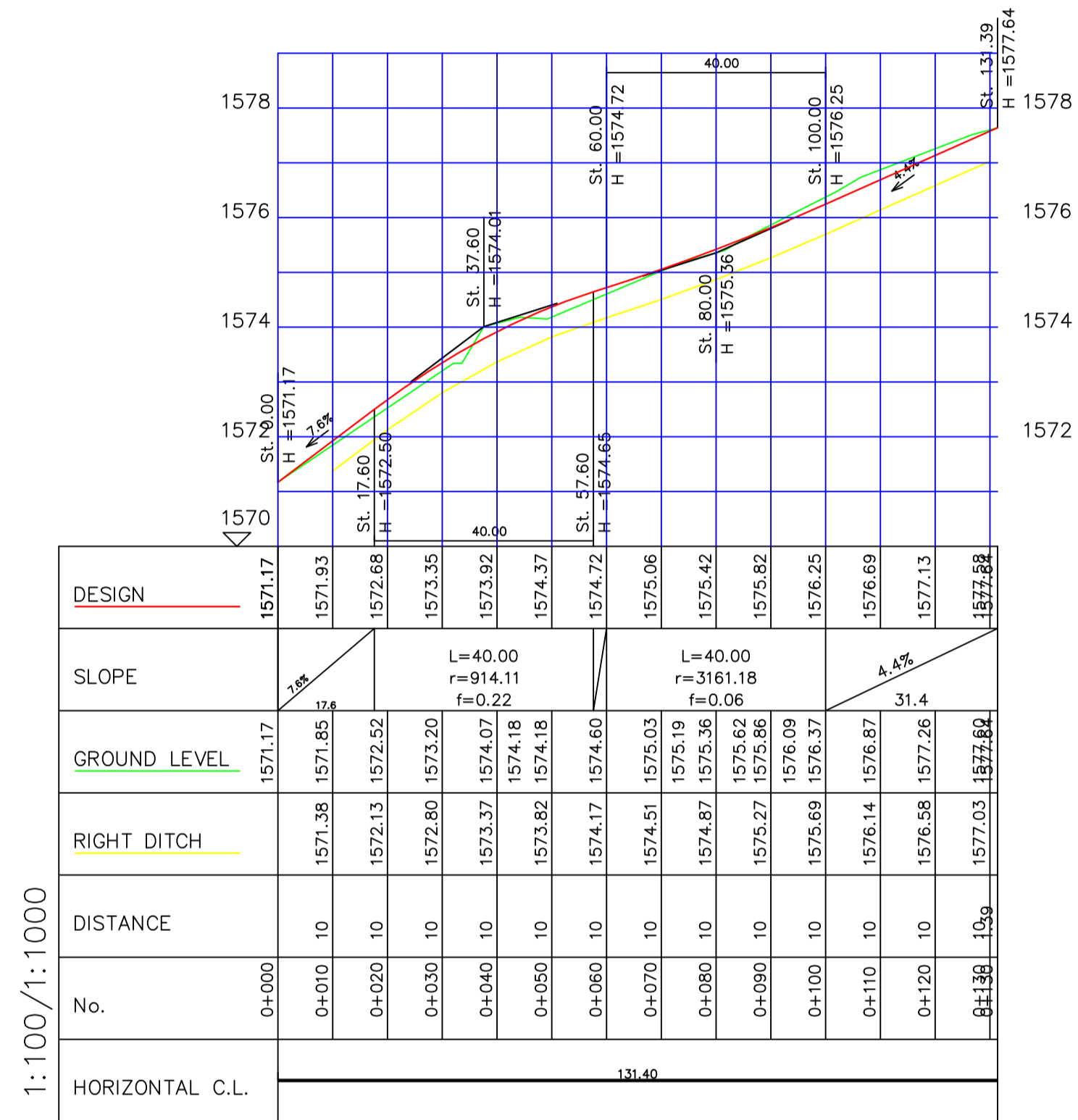
REVISIONS

No Date AMMENDMENTS

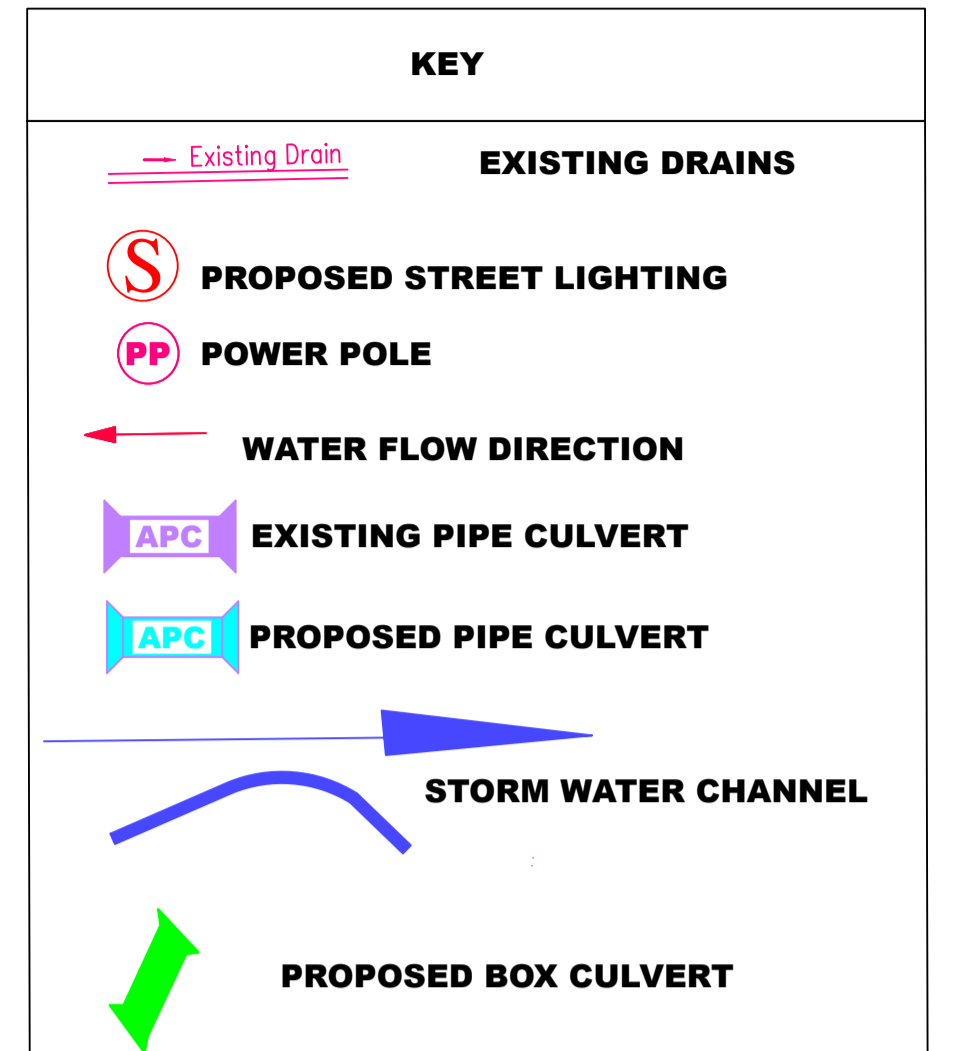




119 jn 1



119 jn 2



CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: **SPRING VALLEY SETTLEMENT: PLAN
& PROFILE**

Drg. No. WMCL/CR214/SPRV/PP/05 Sheet No. 5of7

Scale: V 1:100 Date: FEBRUARY 2024

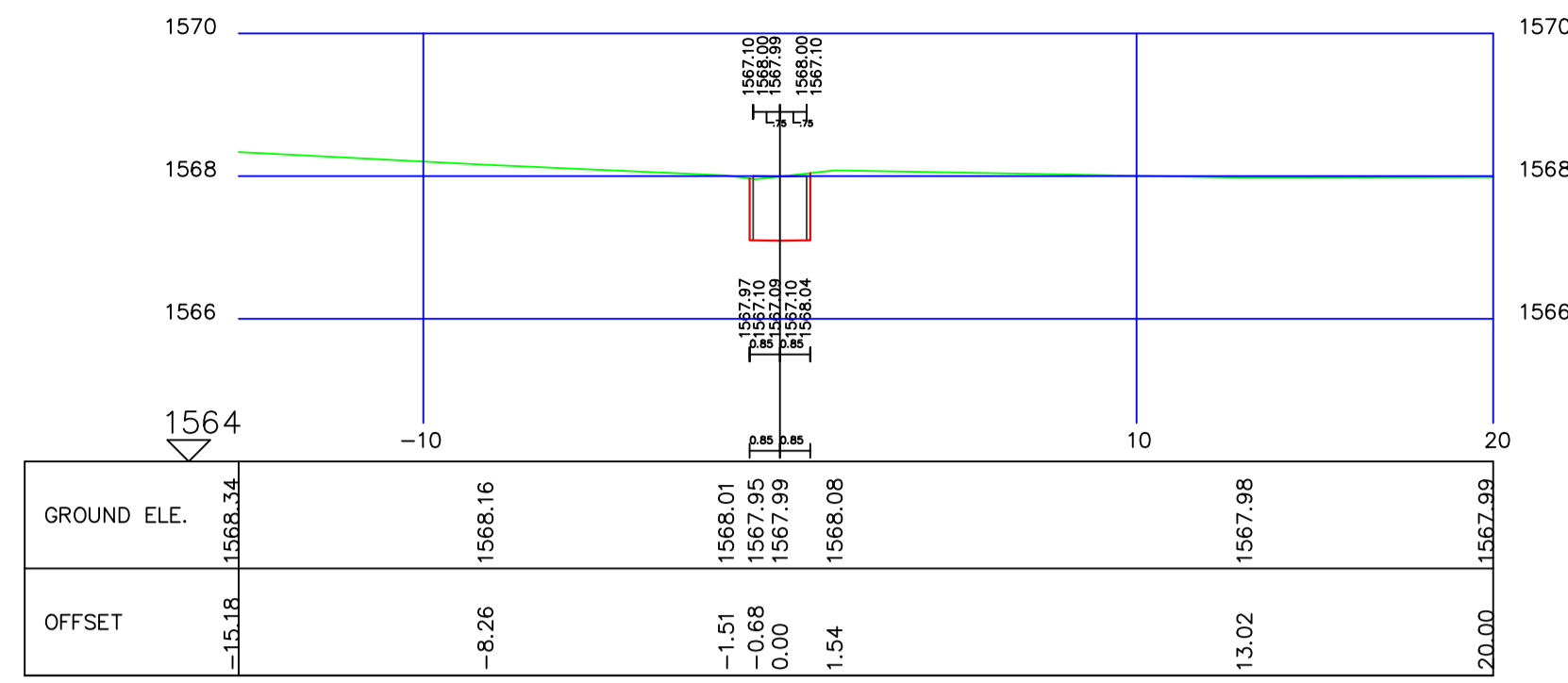
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APPROVED BY: ENG.IKWM DESIGNED BY: JKM

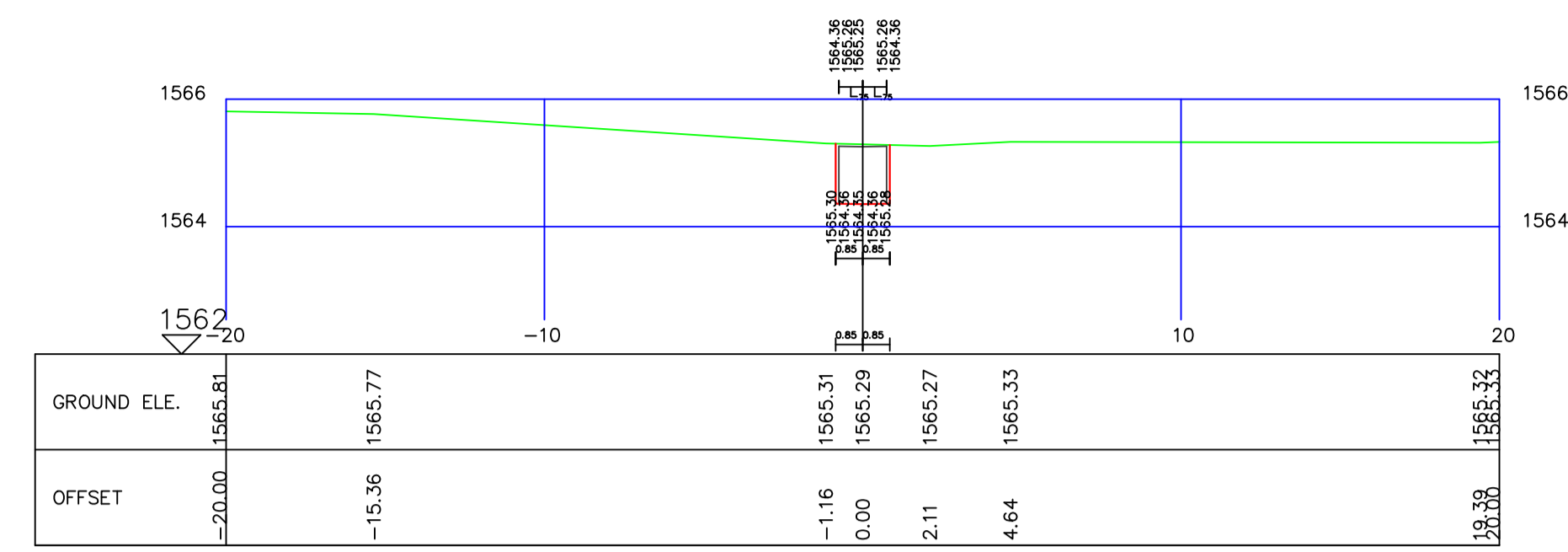
CHECKED BY: ENG.PNG DRAWN BY: JKM

REVISIONS

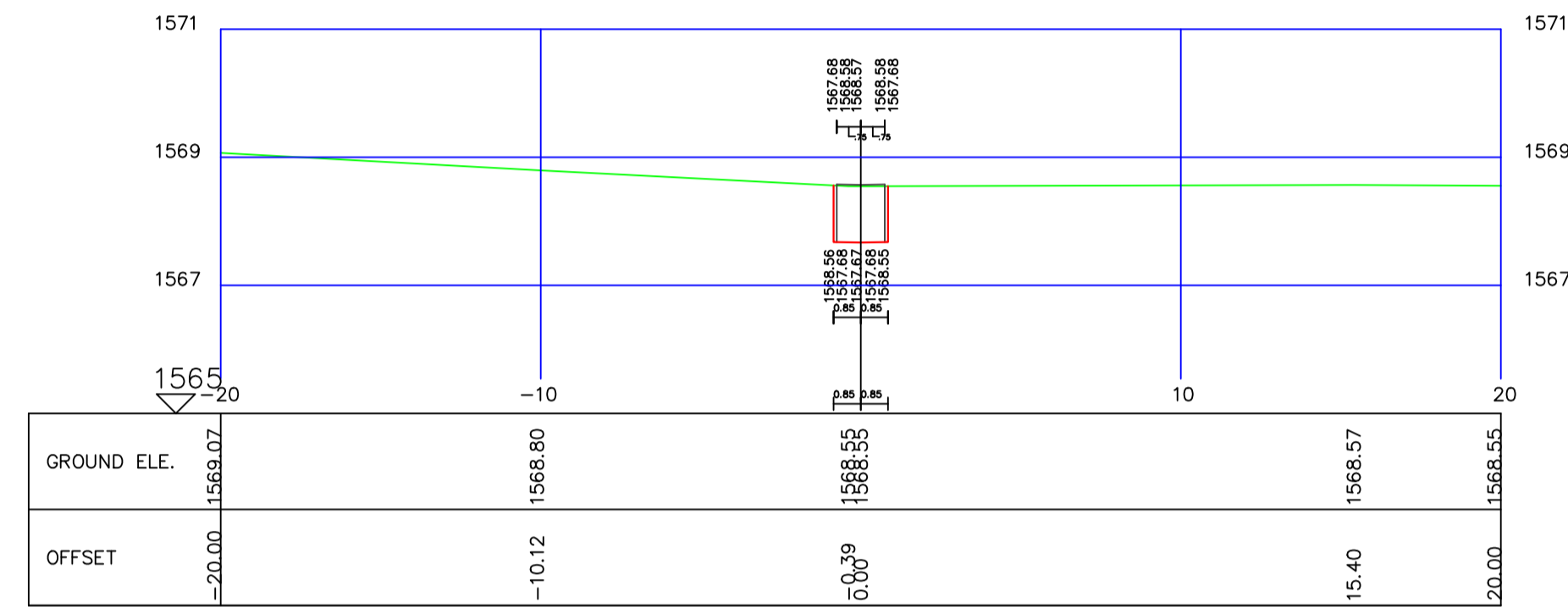
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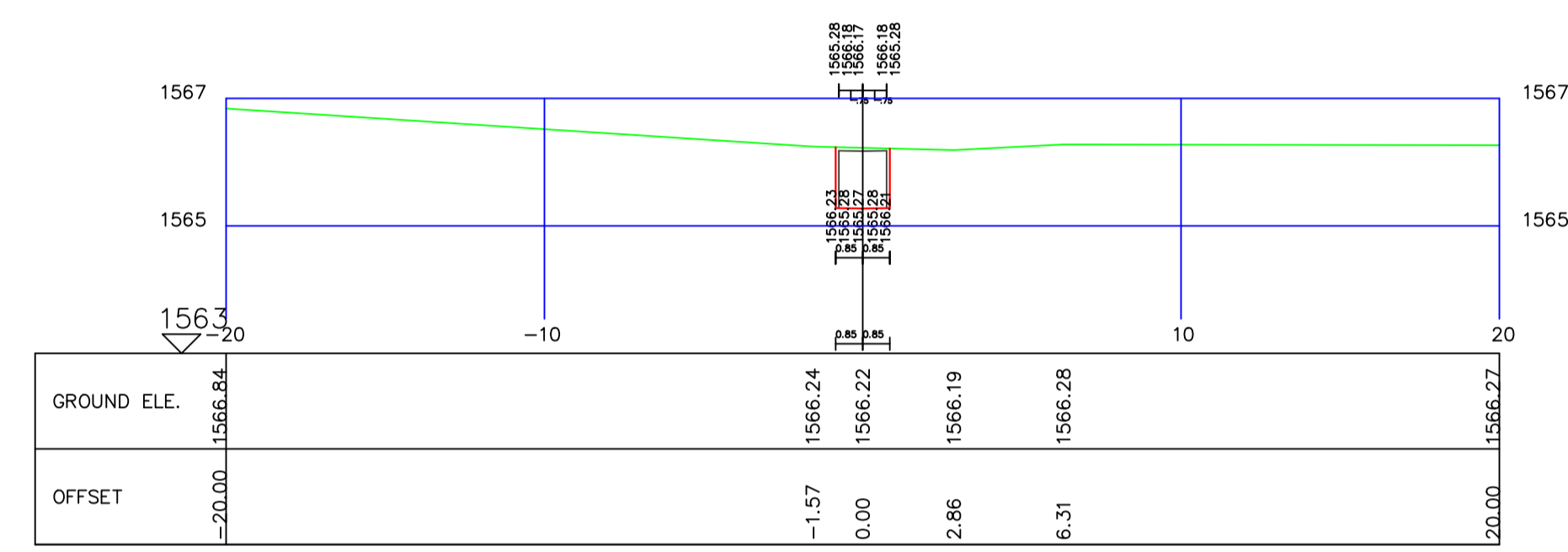
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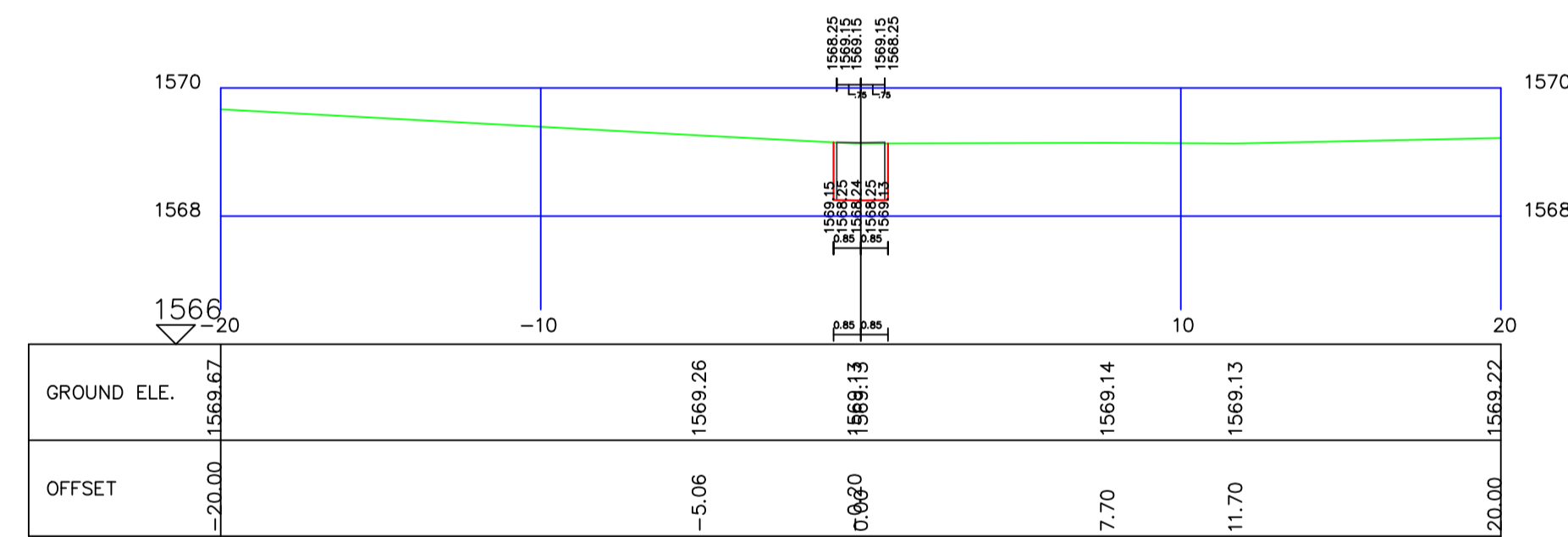
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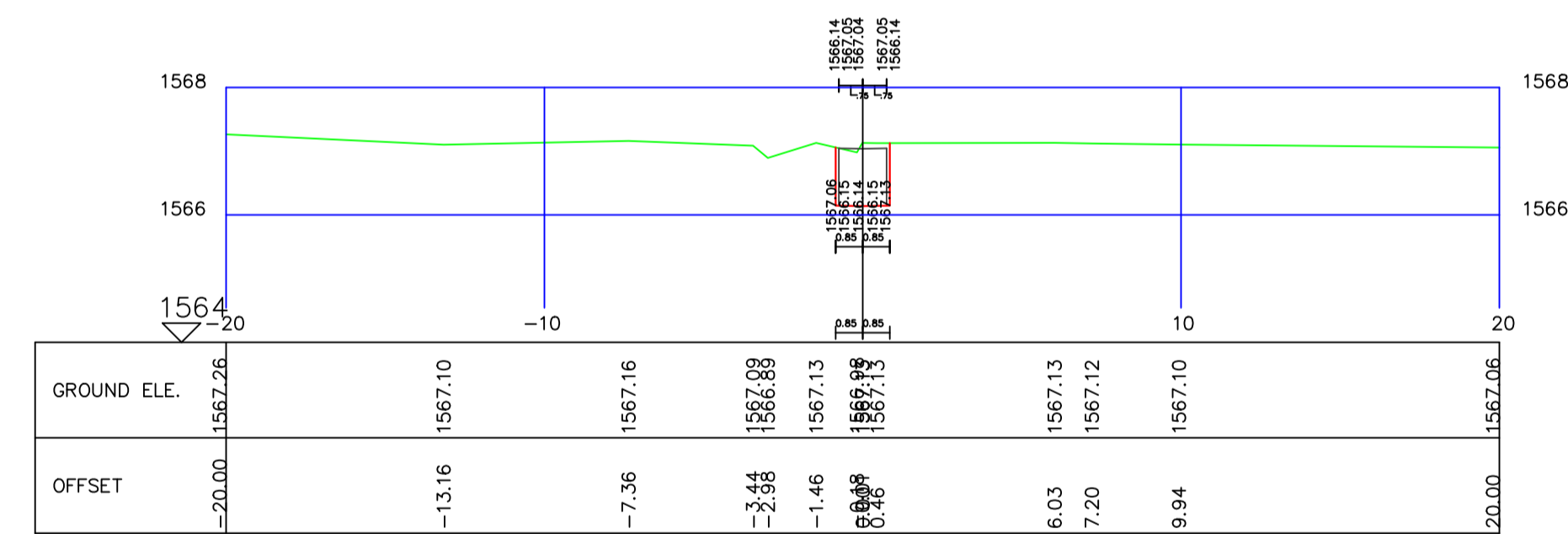
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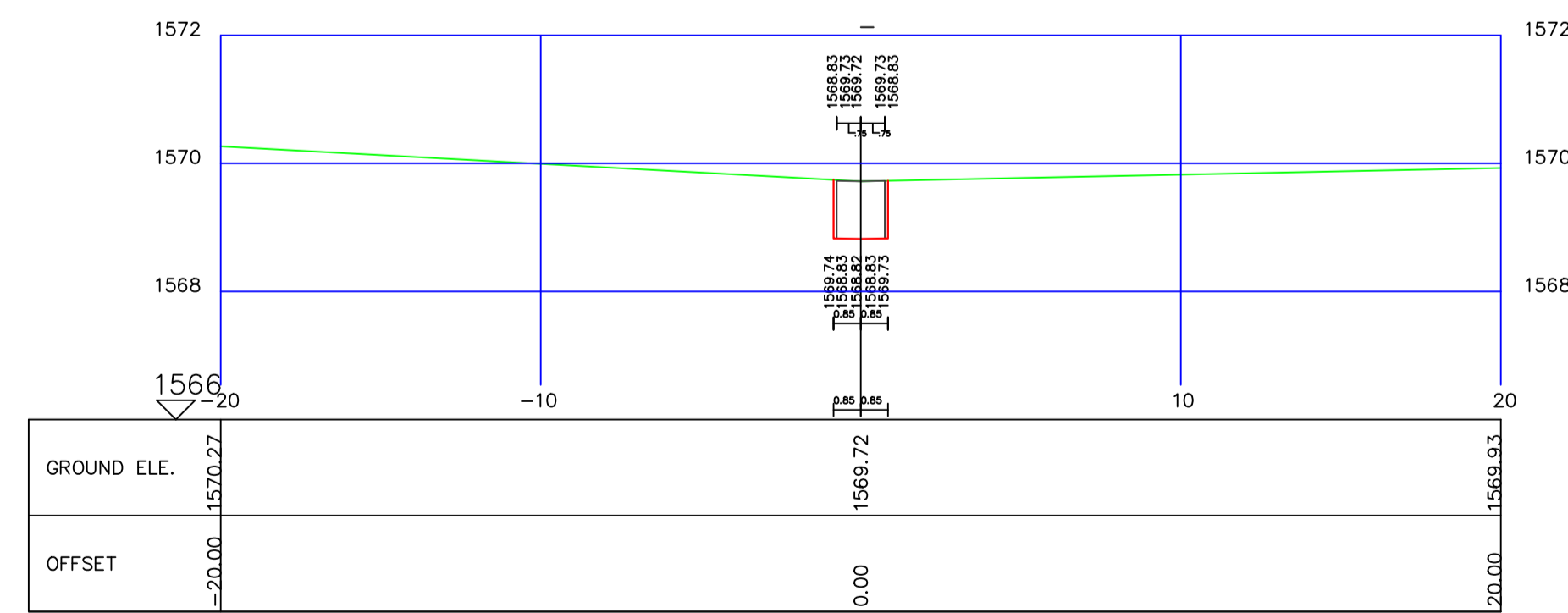
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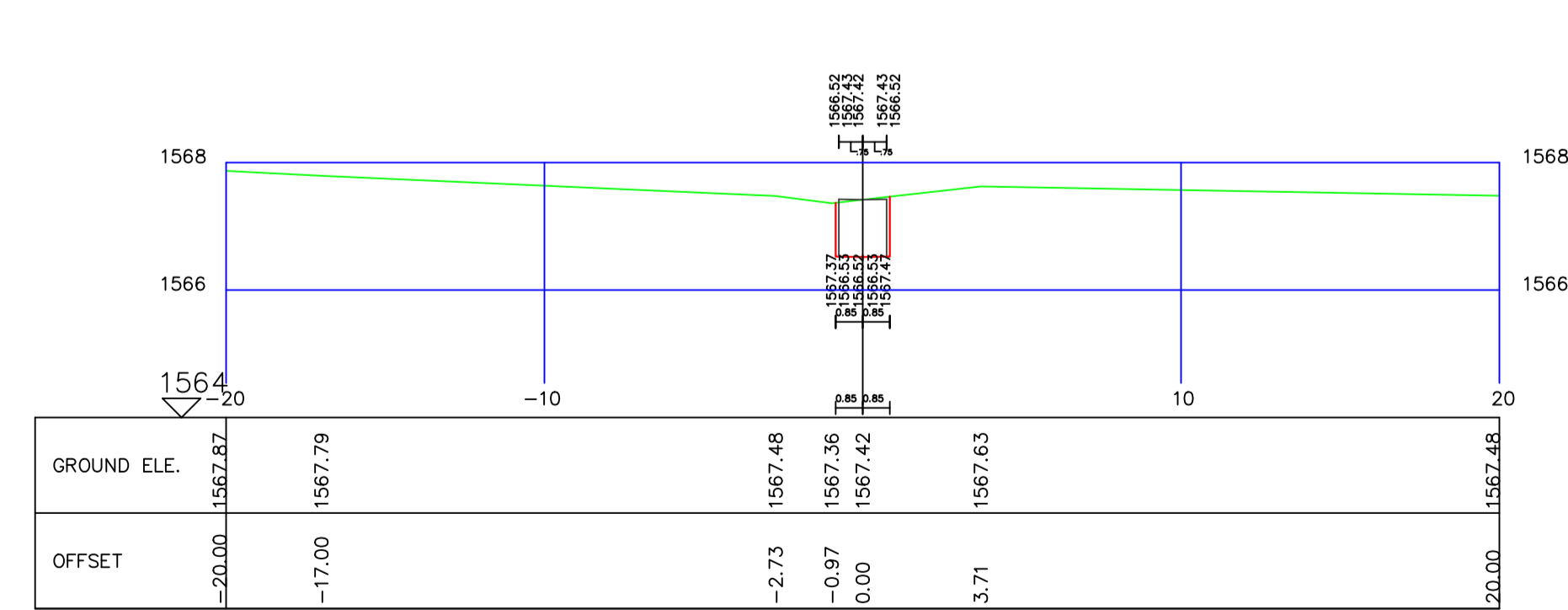
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SECTION 0+050 St. 50 drain 1



SECTION 0+000 St. 0 drain 1



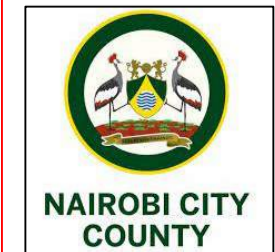
SECTION 0+040 St. 40 drain 1

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

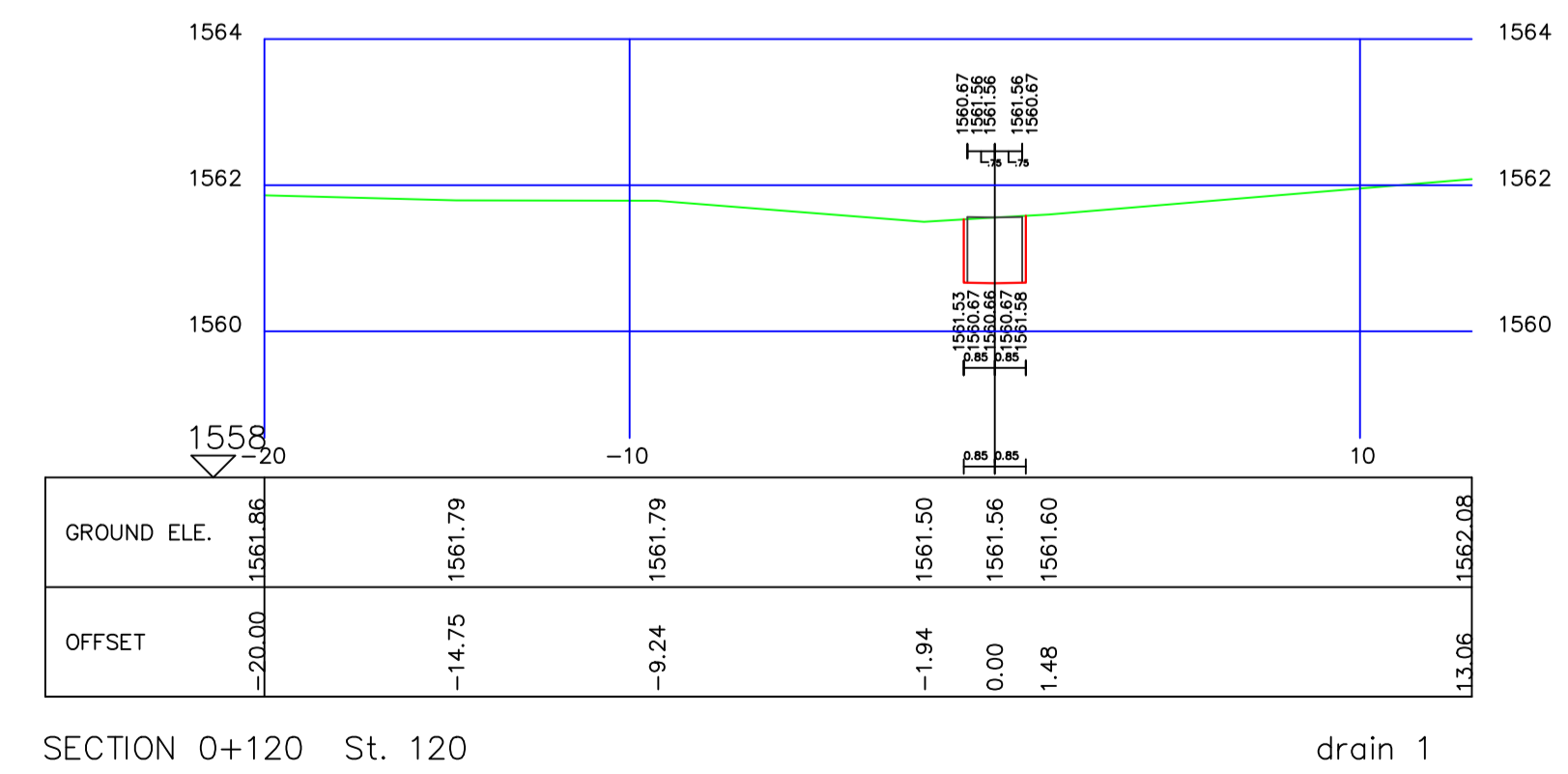
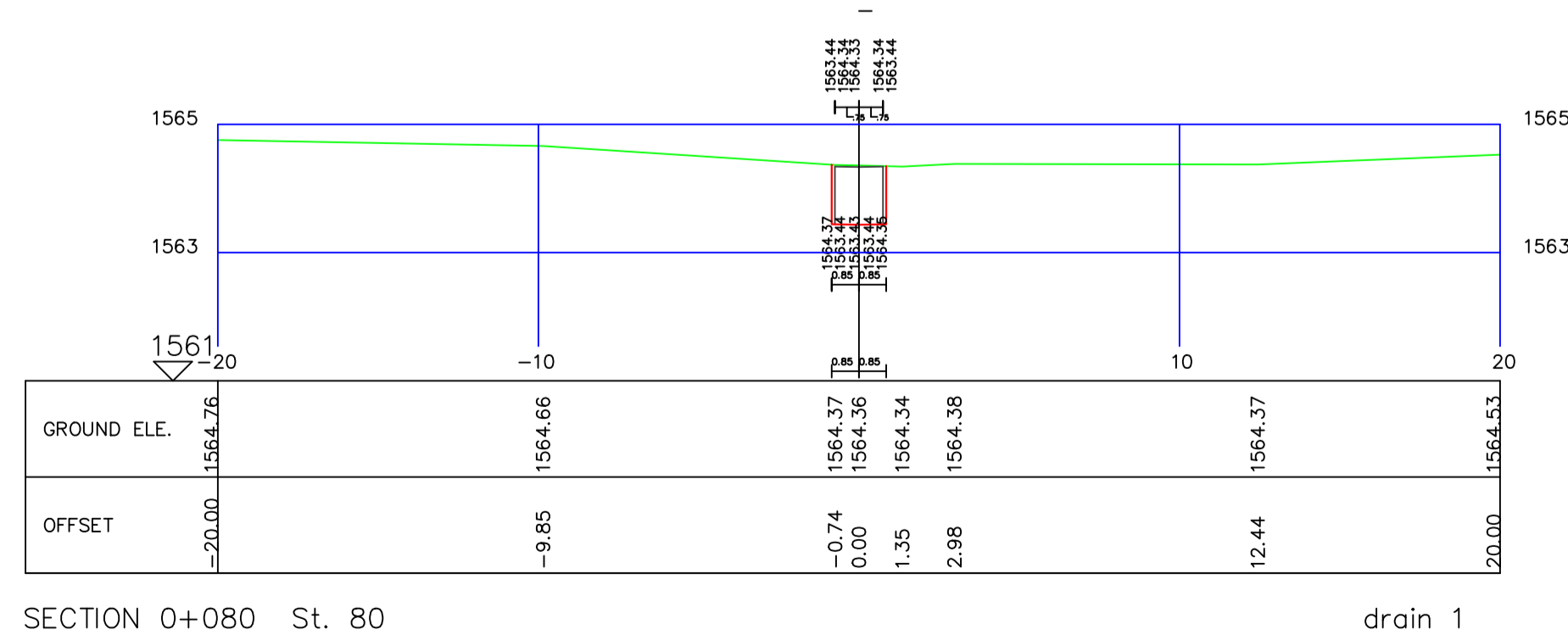
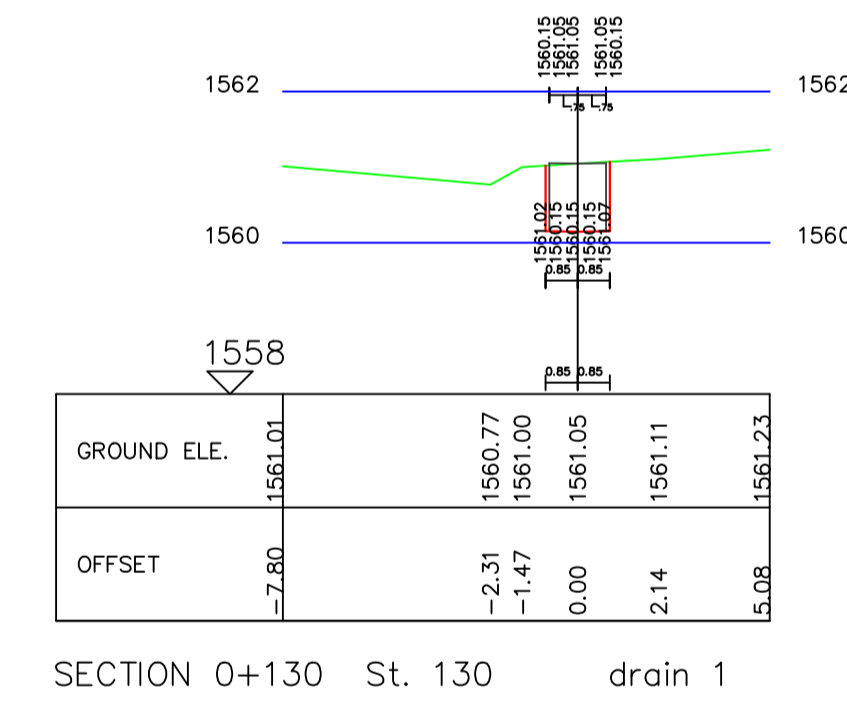
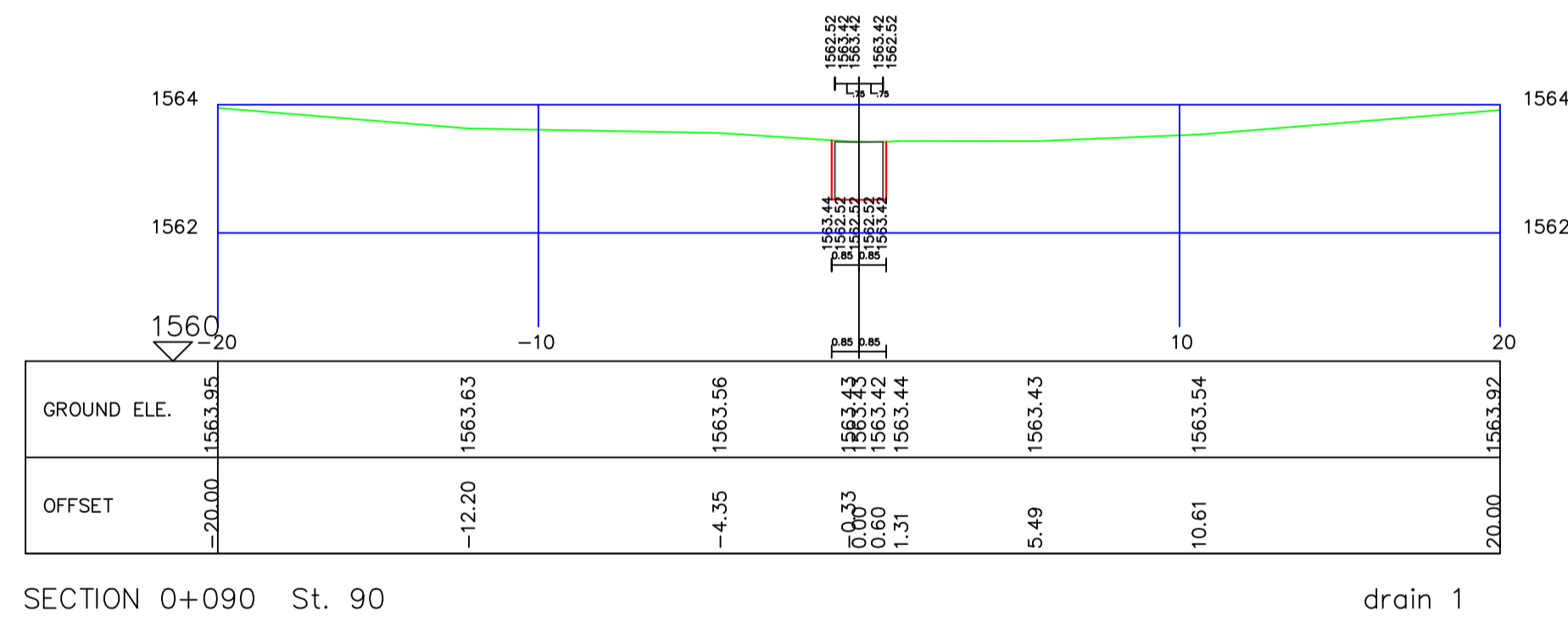
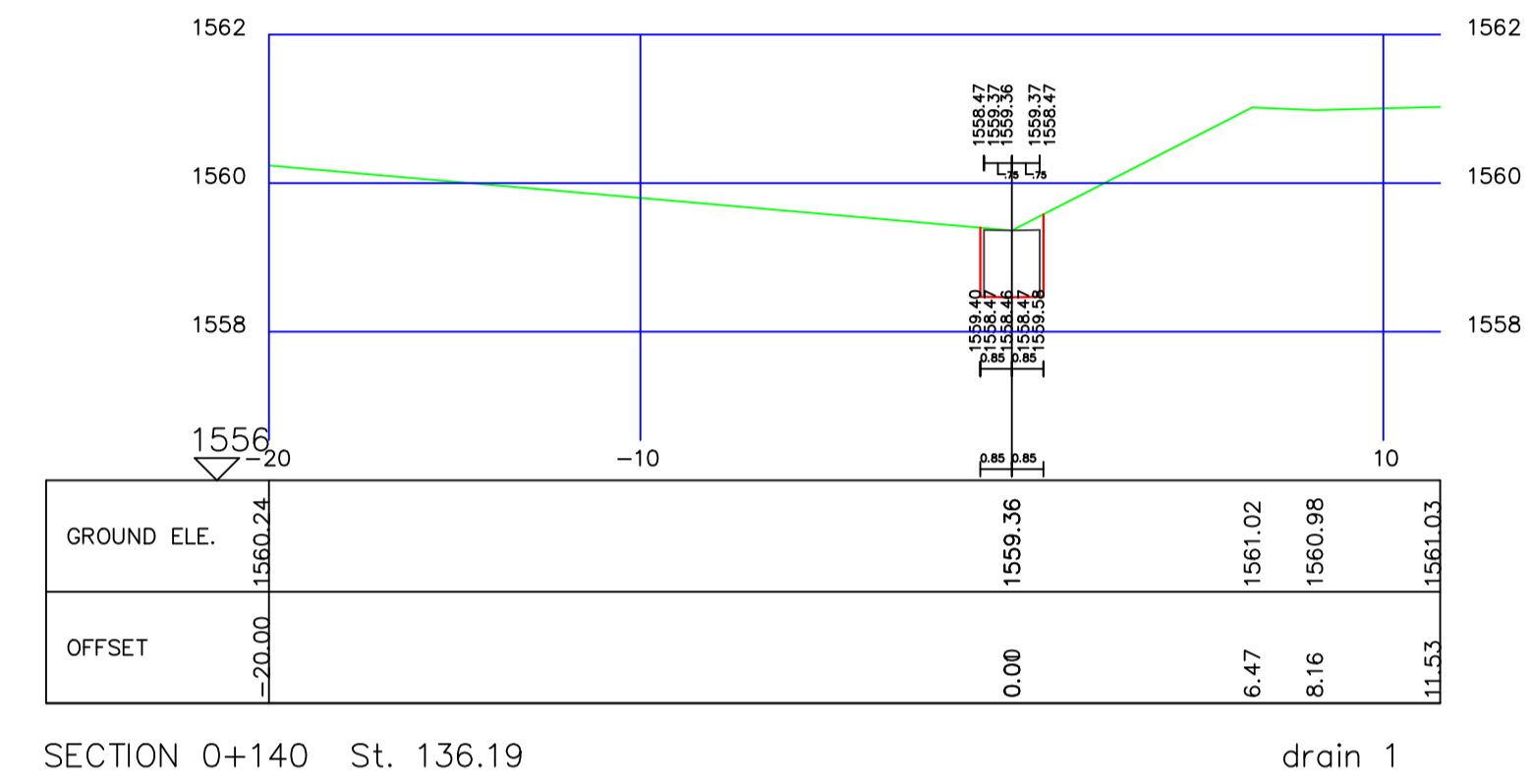
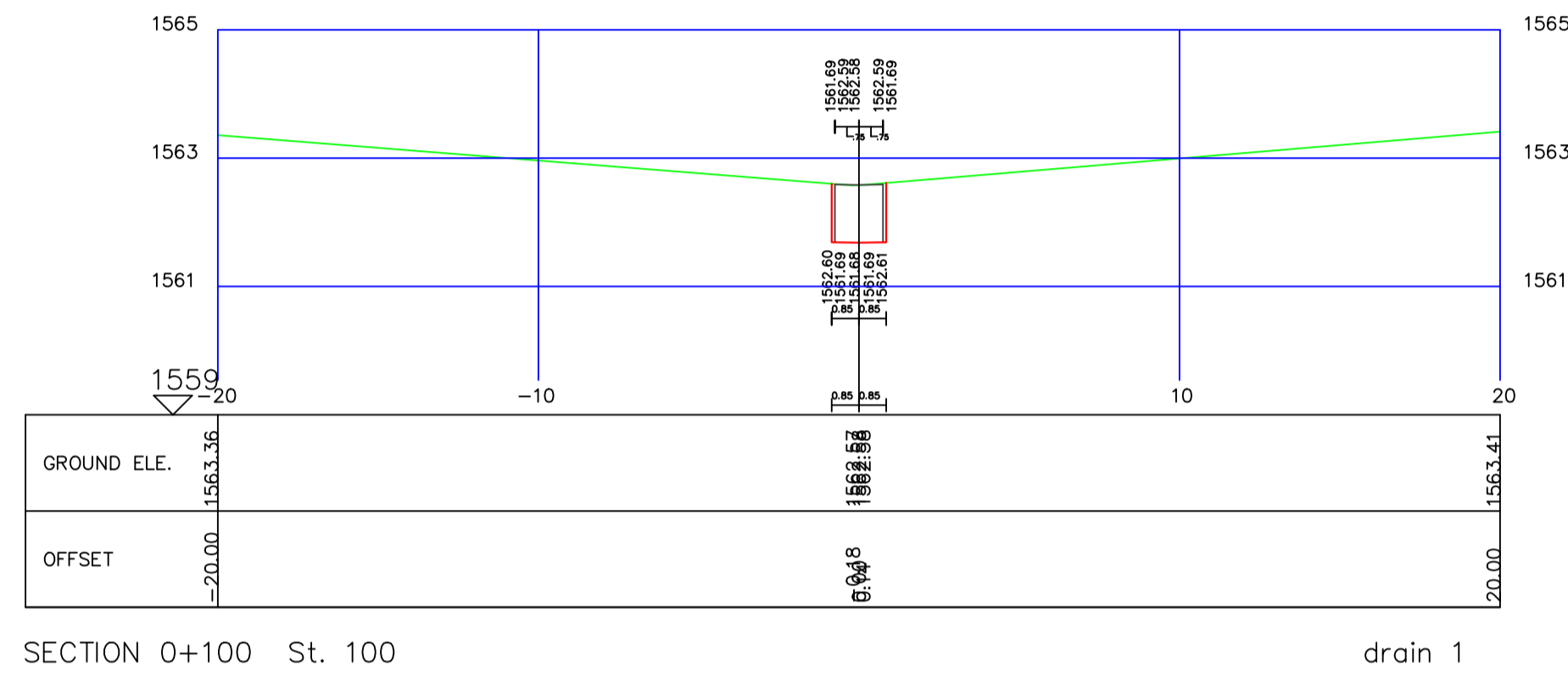
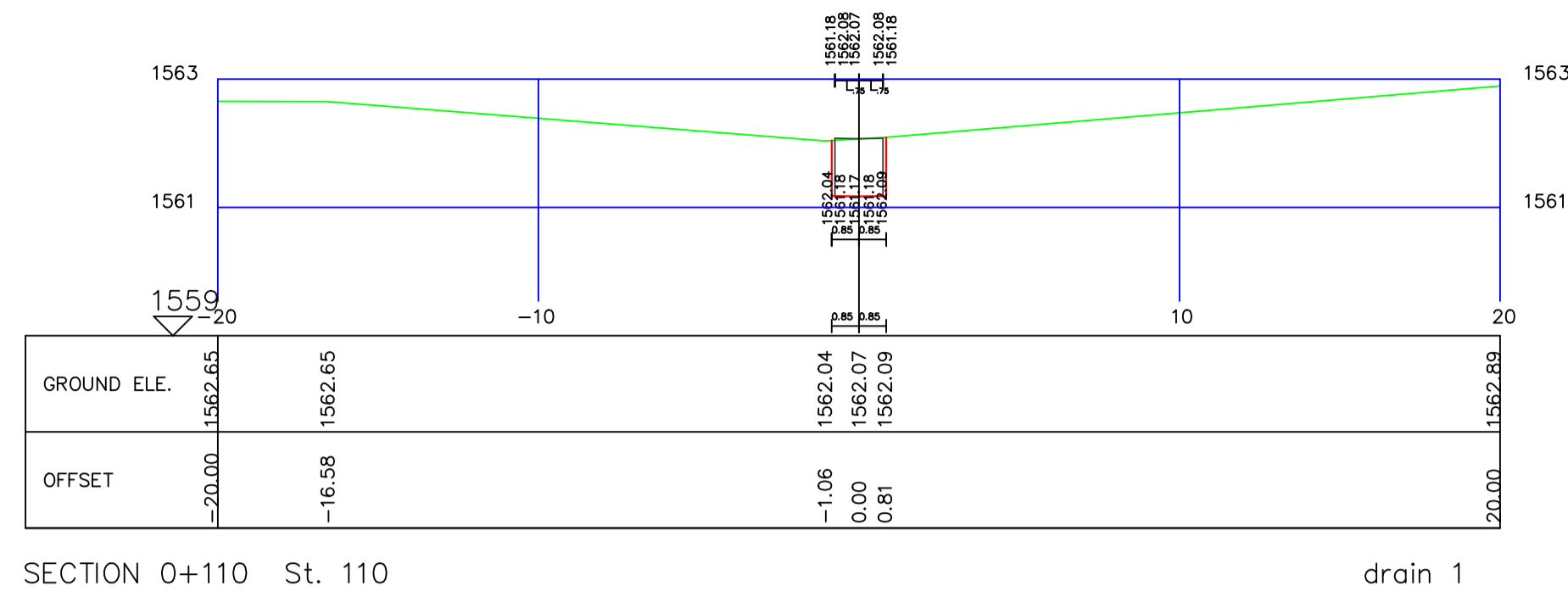
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.

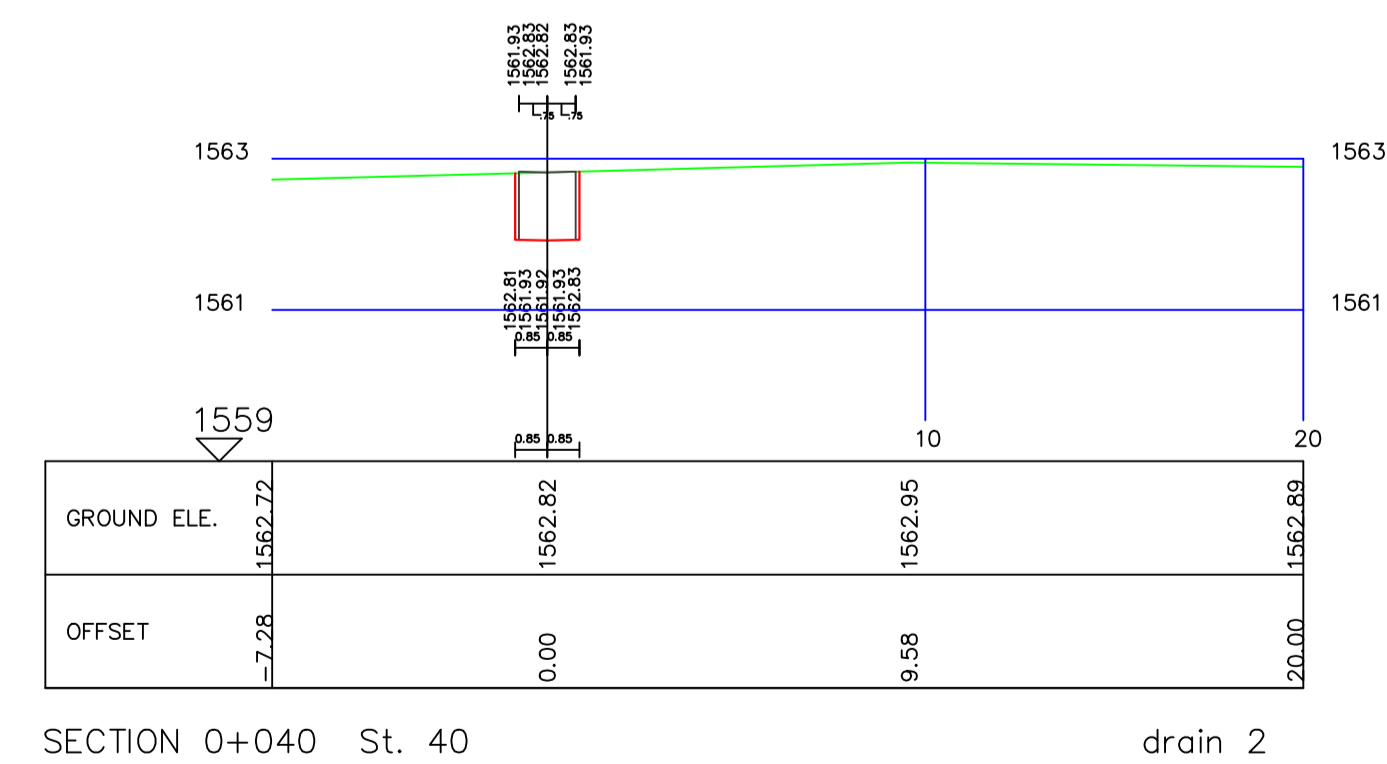
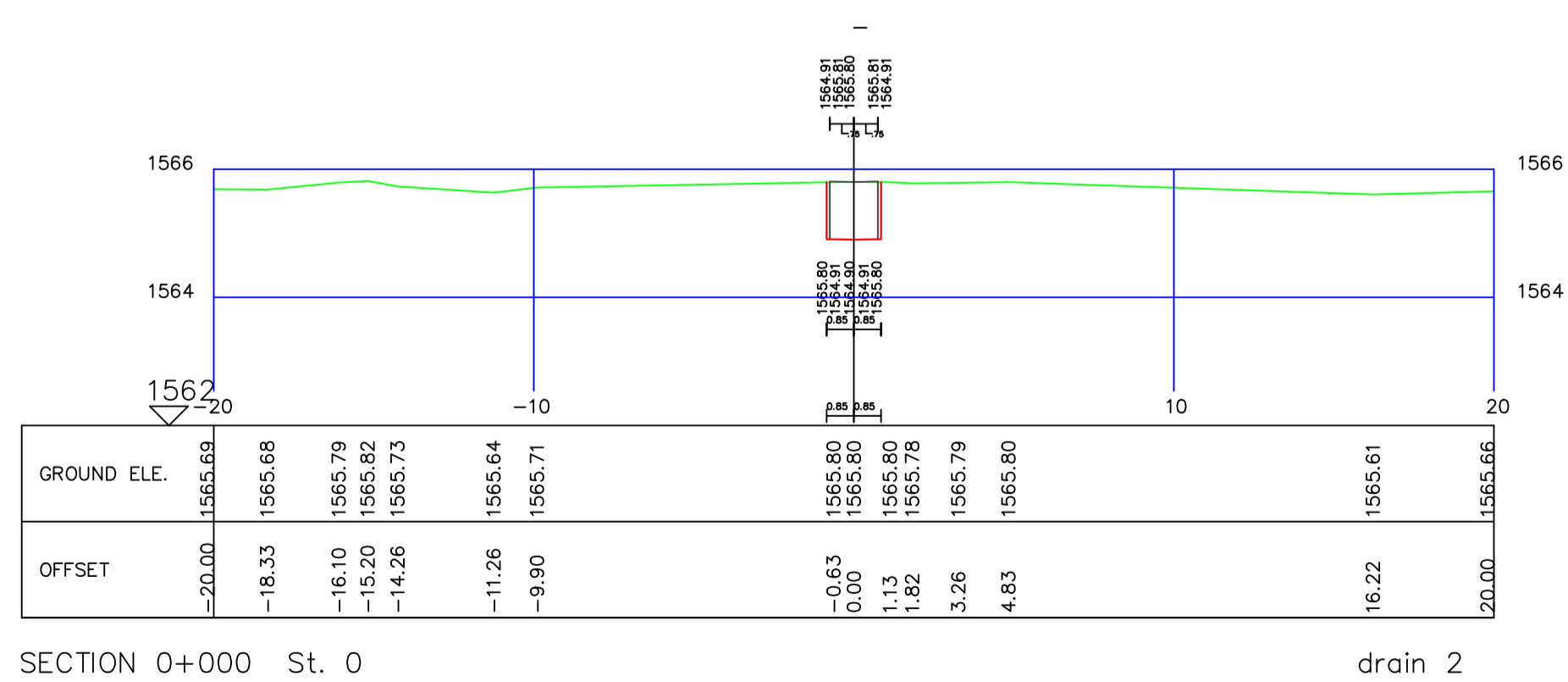
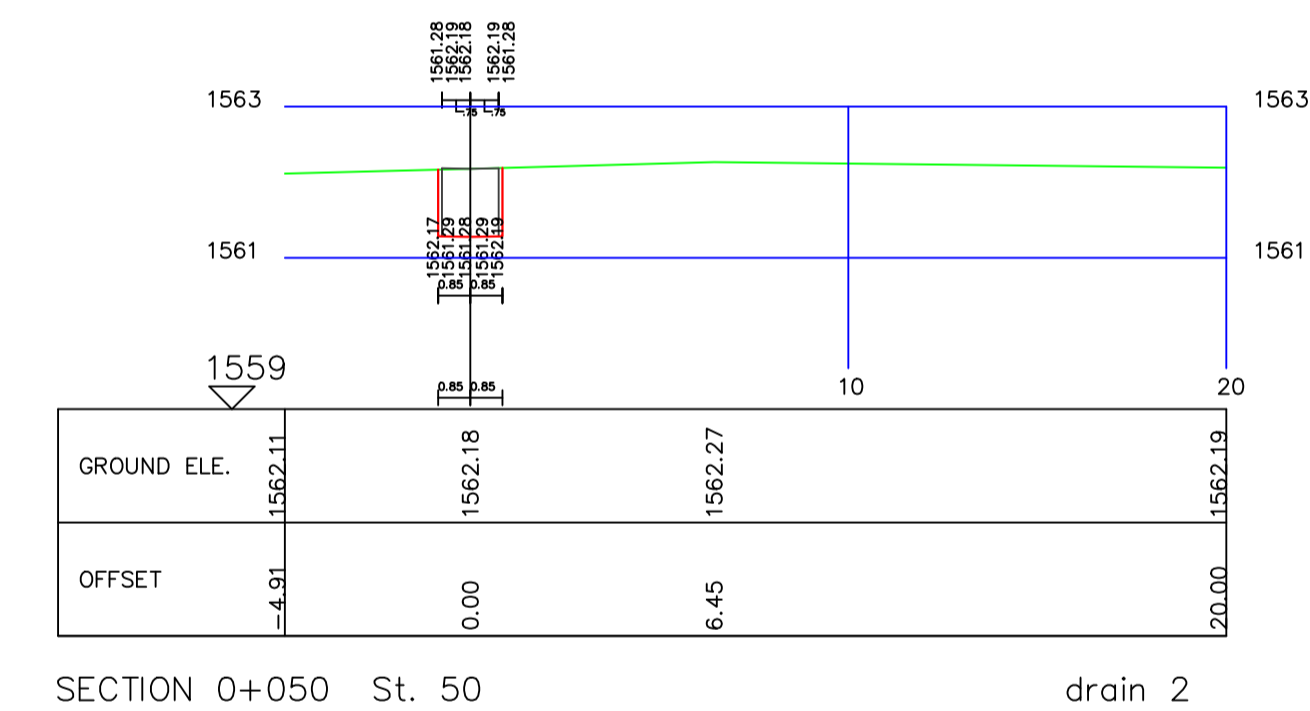
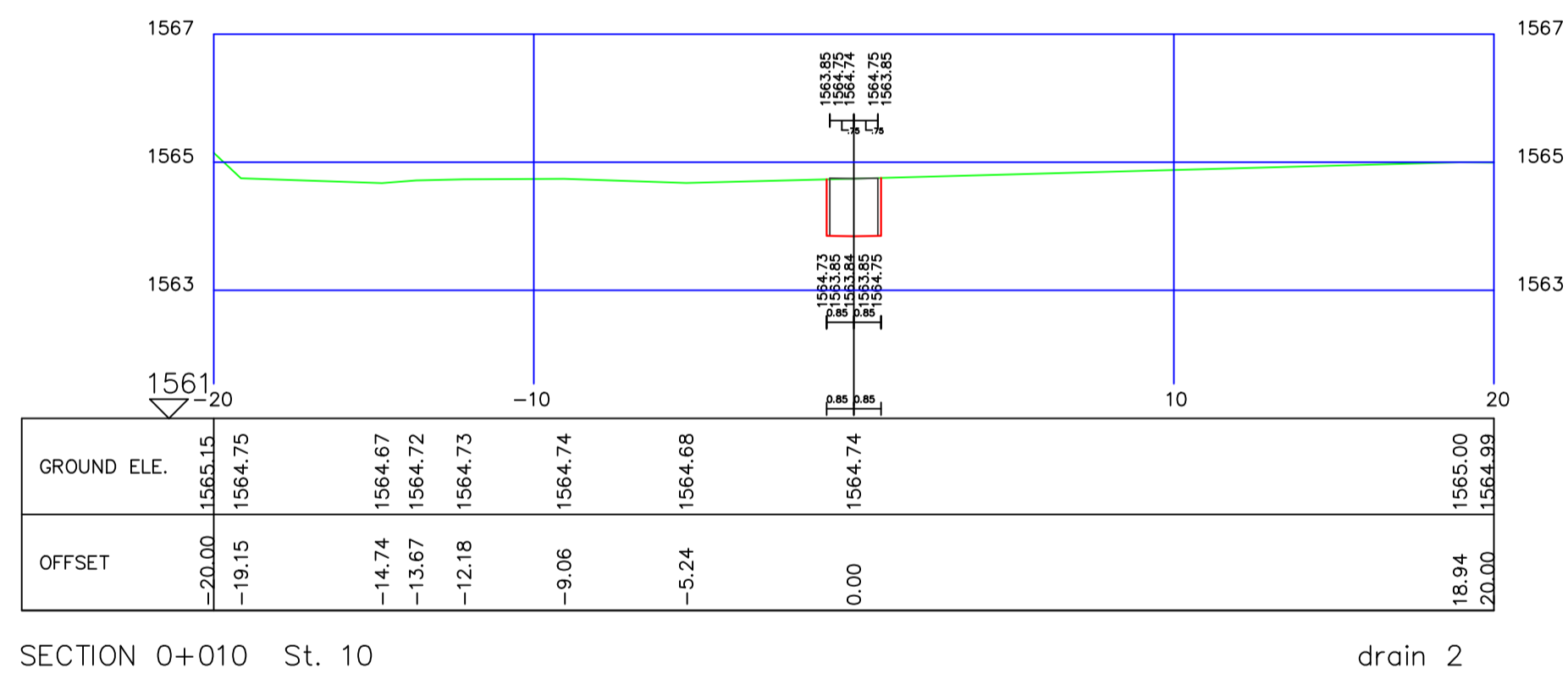
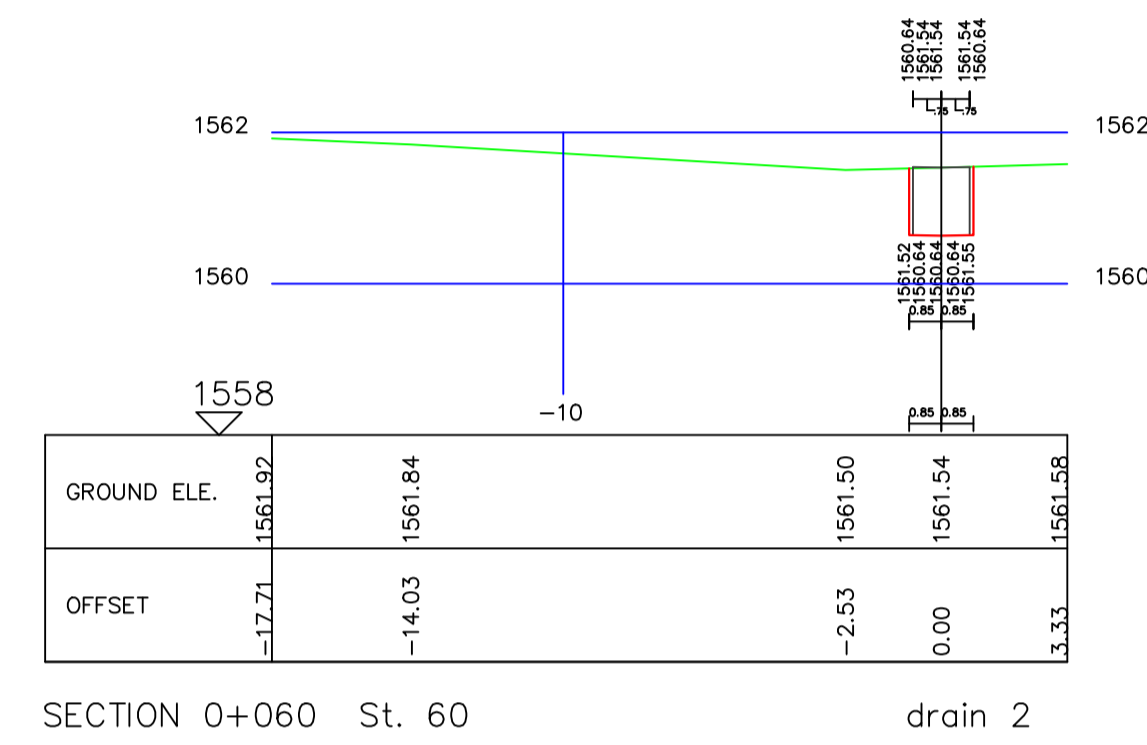
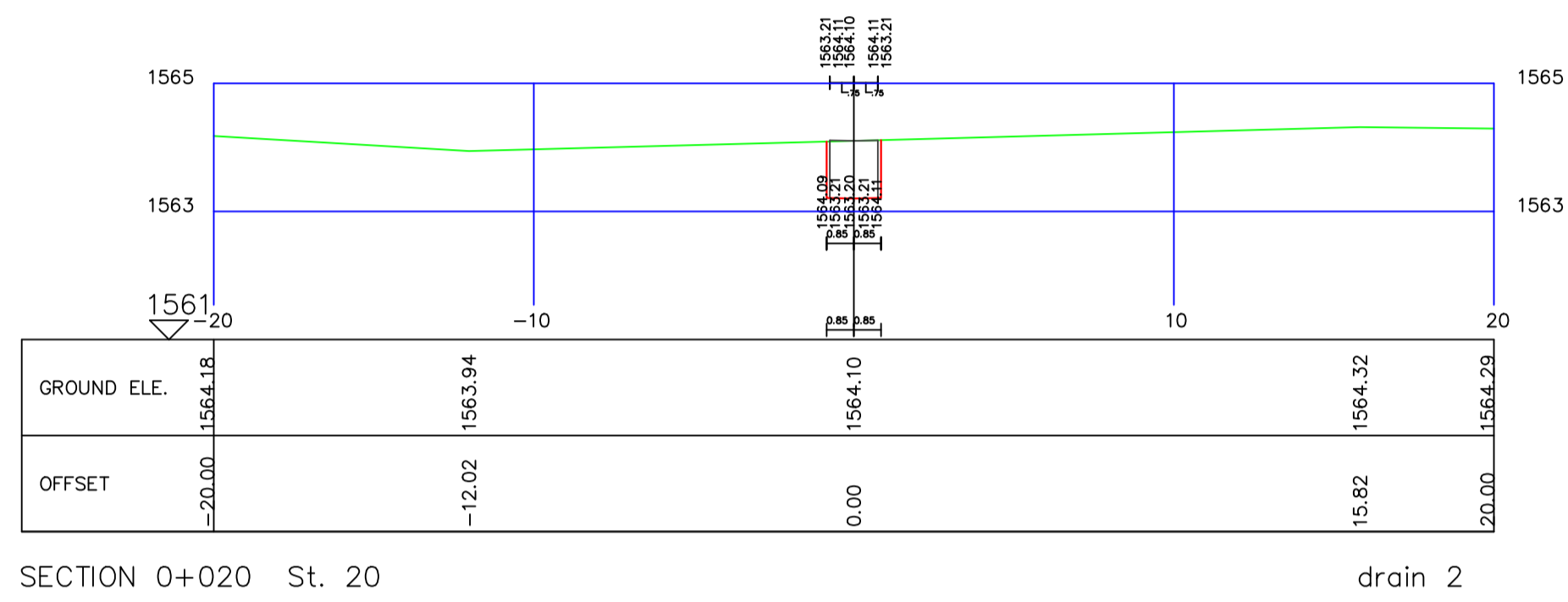
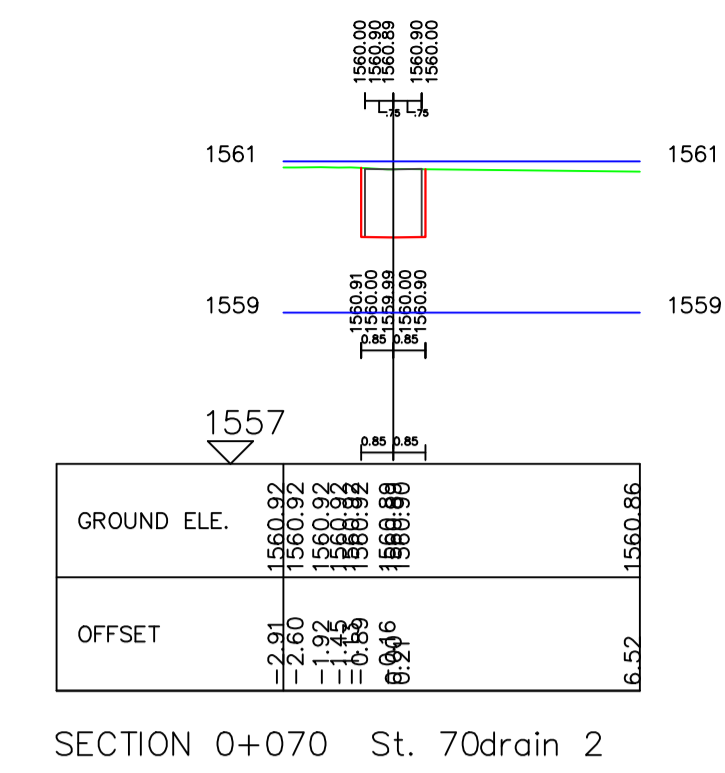
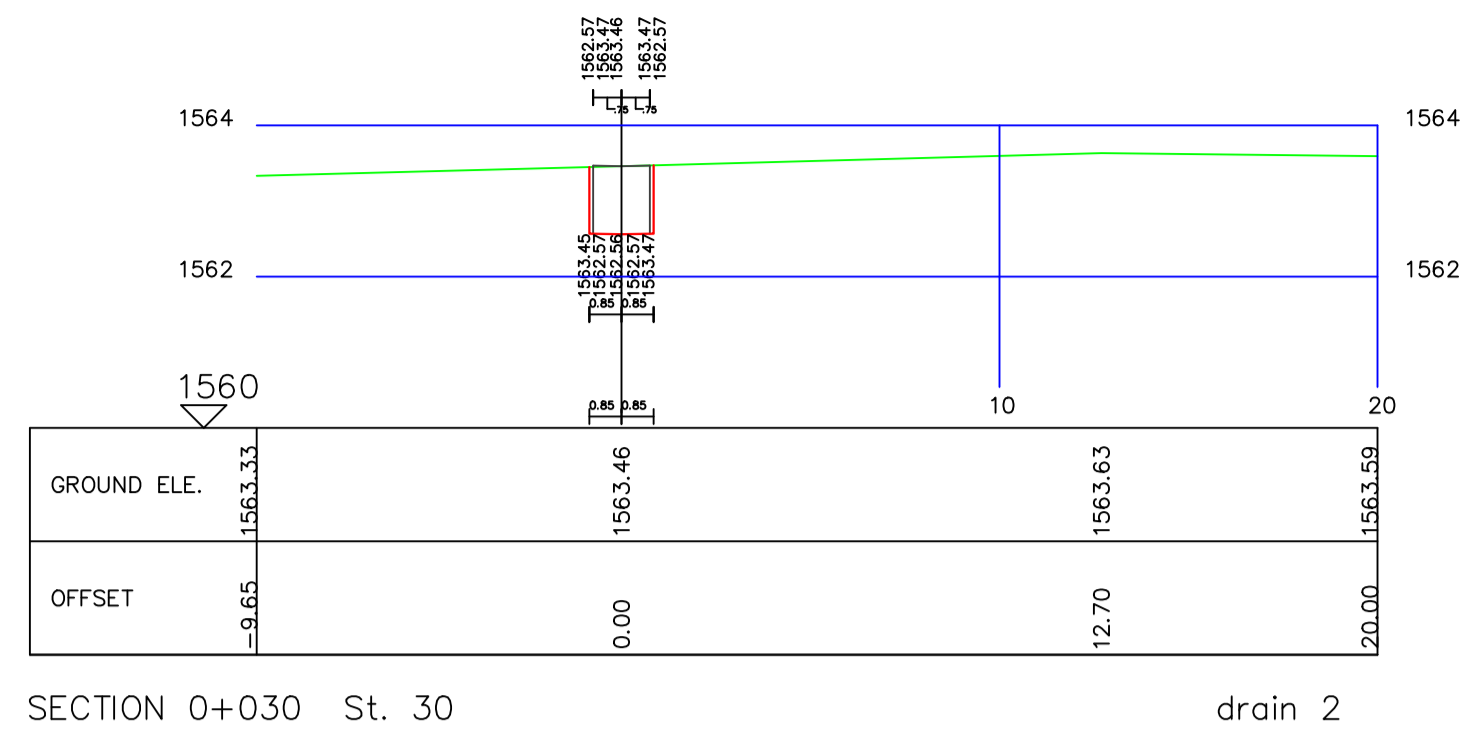
Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

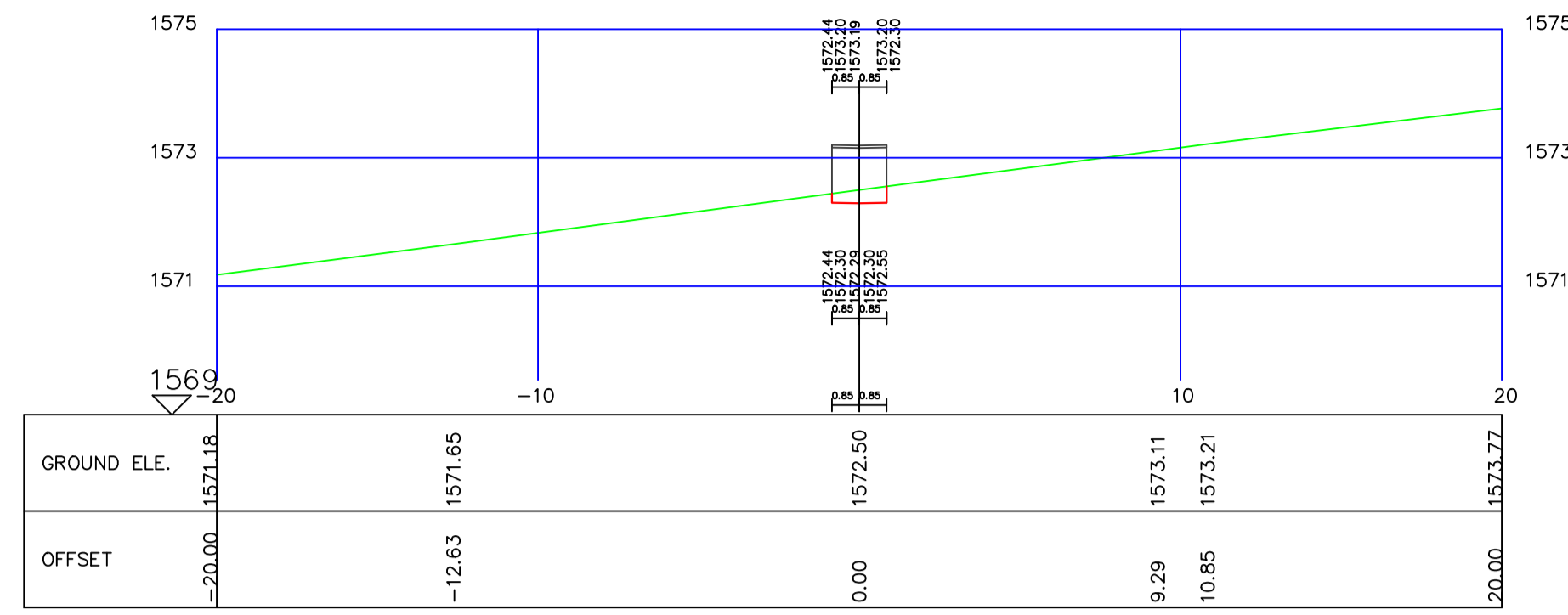
Drg. No.	WMCL/CR214/SPRV/CRS/23	Sheet	No23of28
Scale:	V 1:100	Date:	FEBRUARY 2024
	H 1:200	Stage:	TENDER DRAWINGS
APPROVED BY	ENG.IKWM	DESIGNED BY	JKM
CHECKED BY	ENG.PNG	DRAWN BY	JKM

REVISIONS

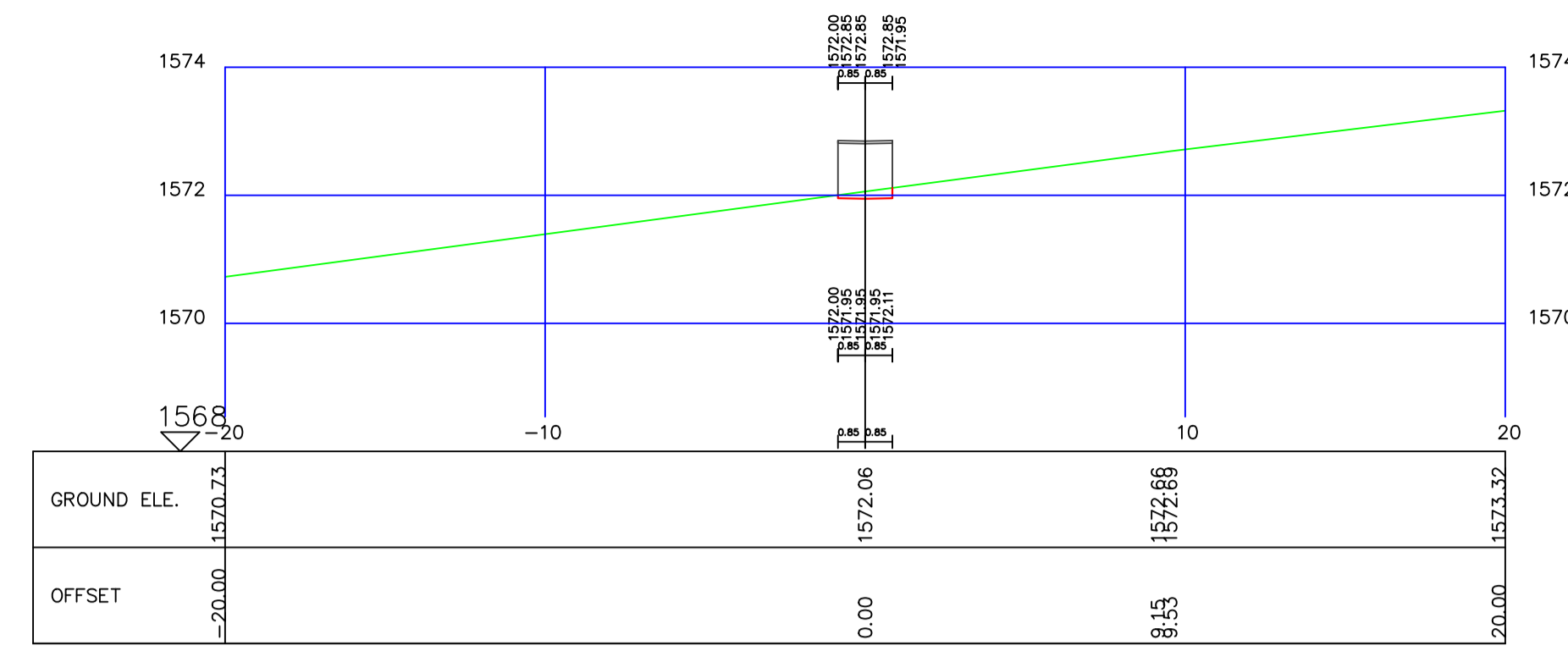
No	Date	AMMENDMENTS



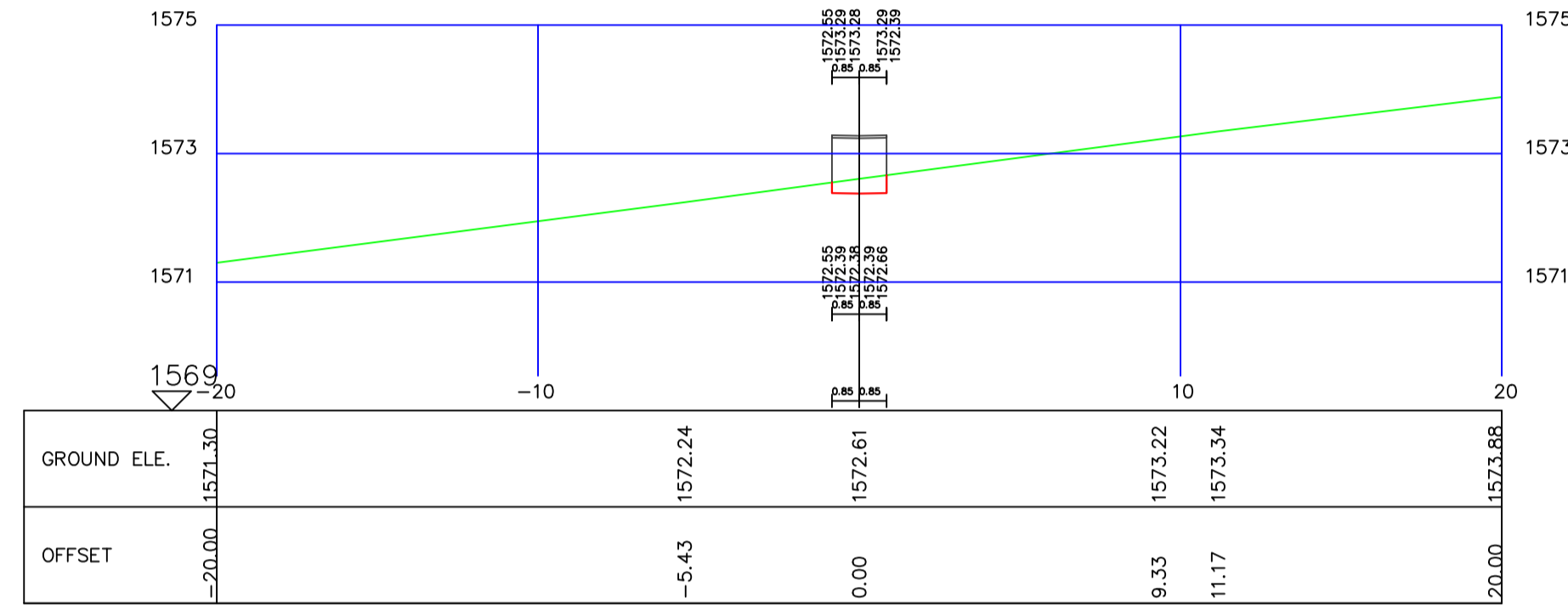




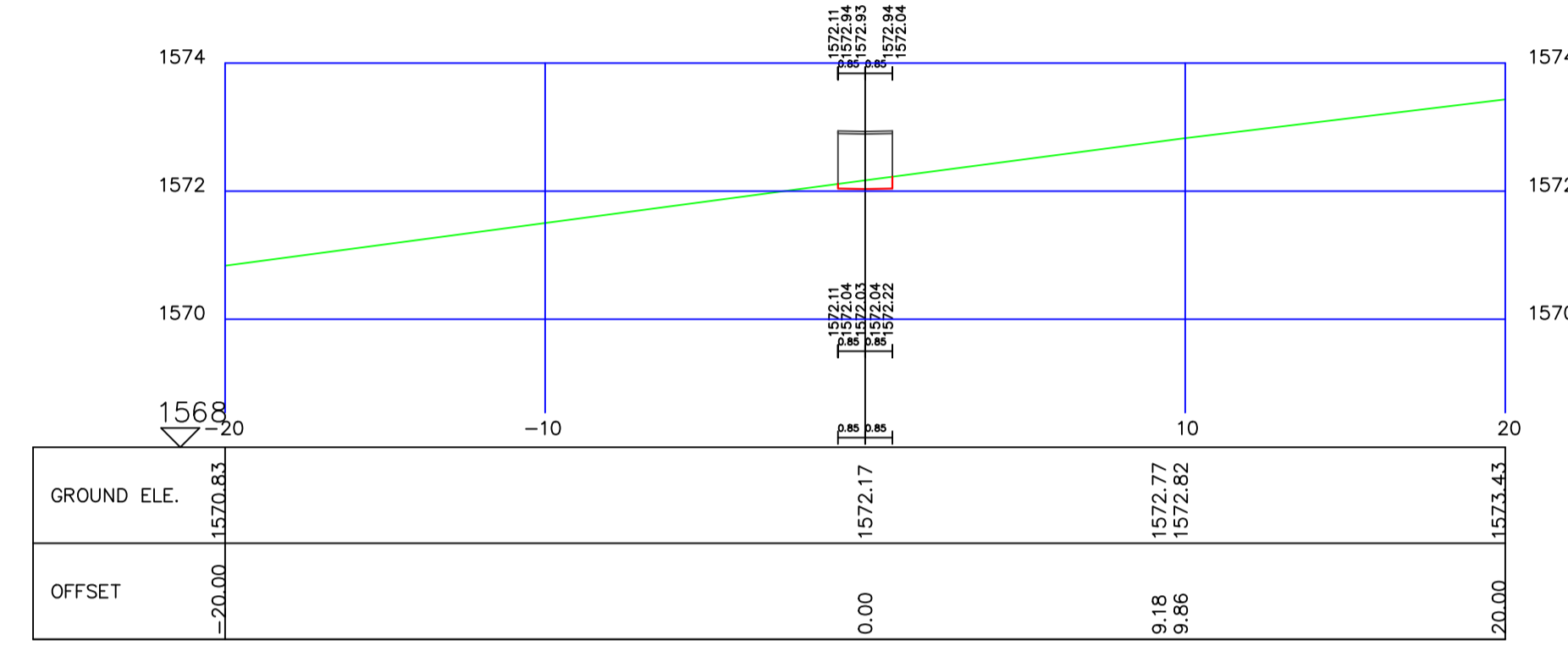
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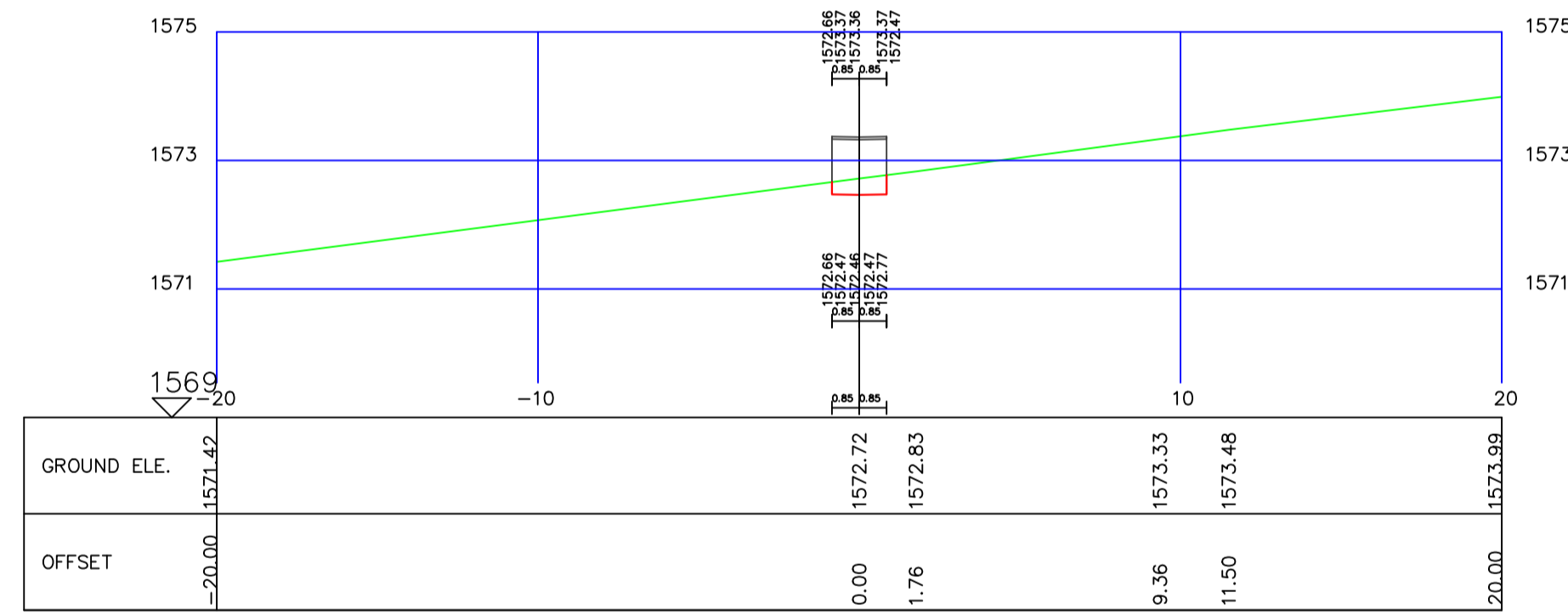
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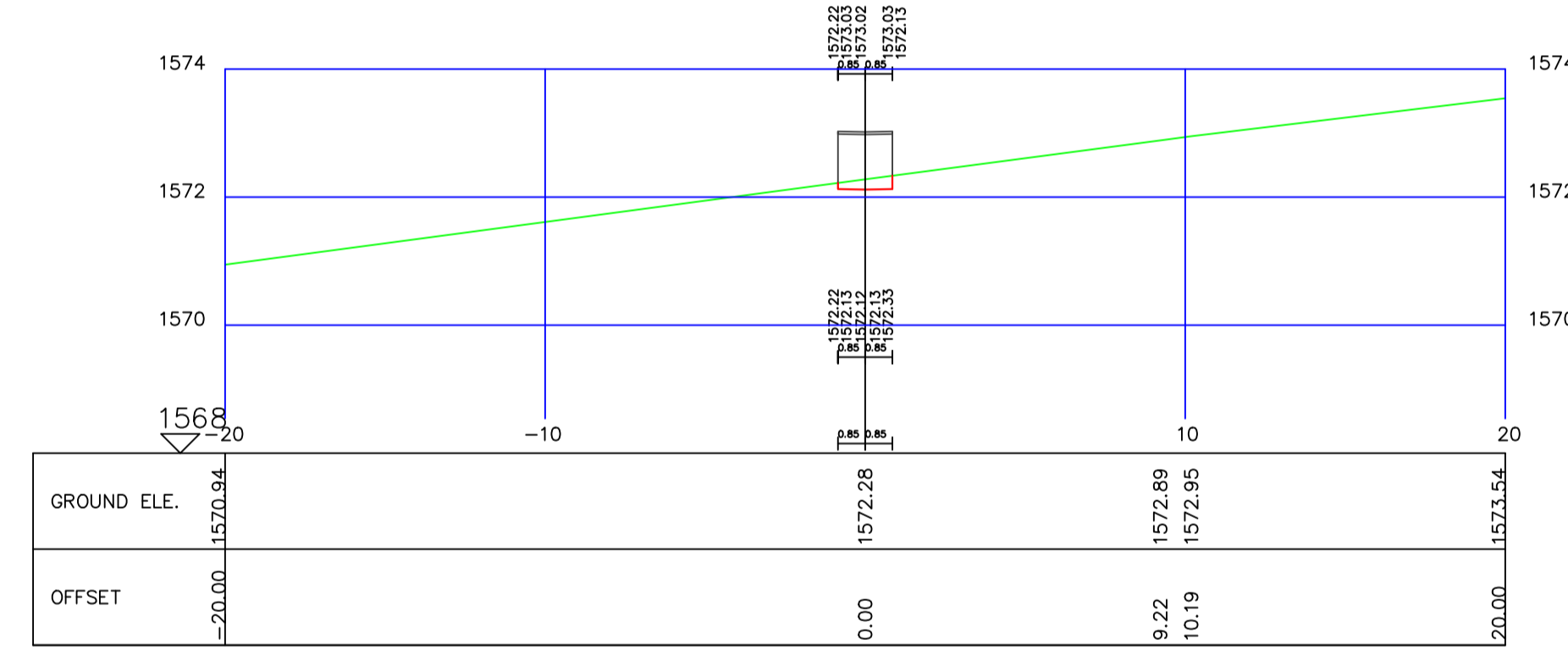
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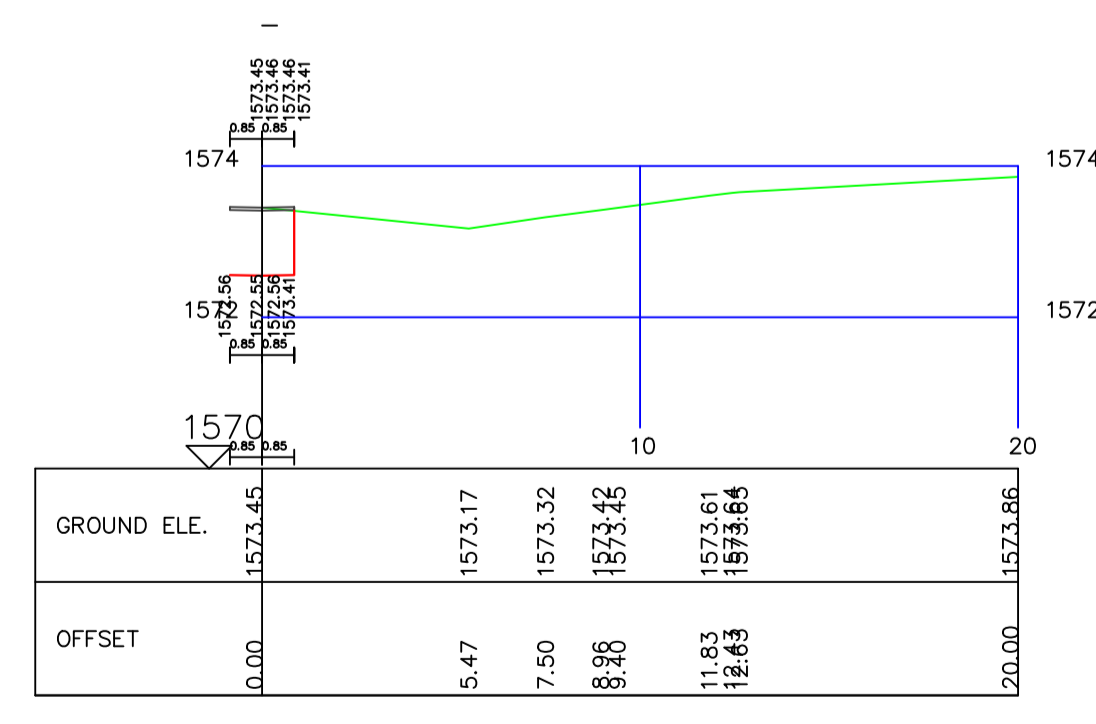
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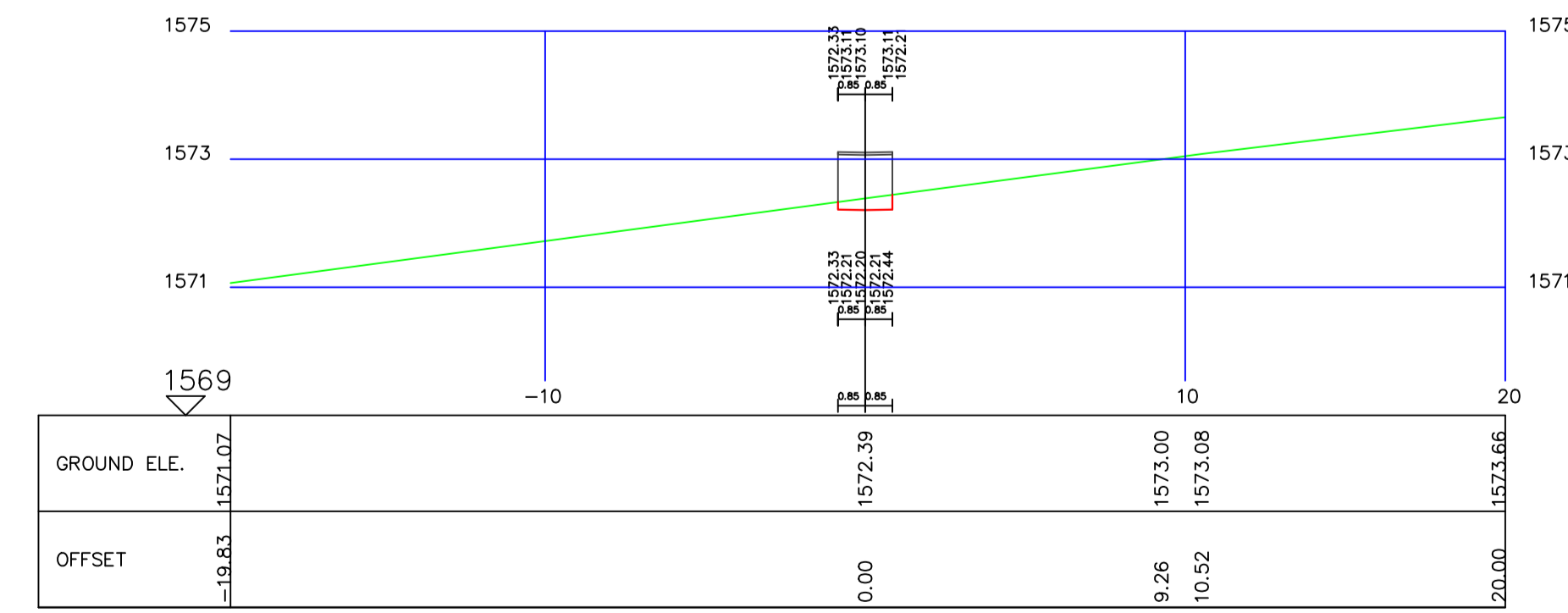
SECTION 0+010 St. 10 Drain 3



SECTION 0+050 St. 50 Drain 3



SECTION 0+000 St. 0 Drain 3



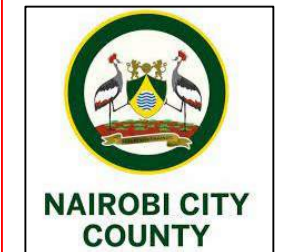
SECTION 0+040 St. 40 Drain 3

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Drg. No.WMCL/CR214/SPRV/CRS/26 | Sheet No26of28

Scale: V 1:100 Date: FEBRUARY 2024

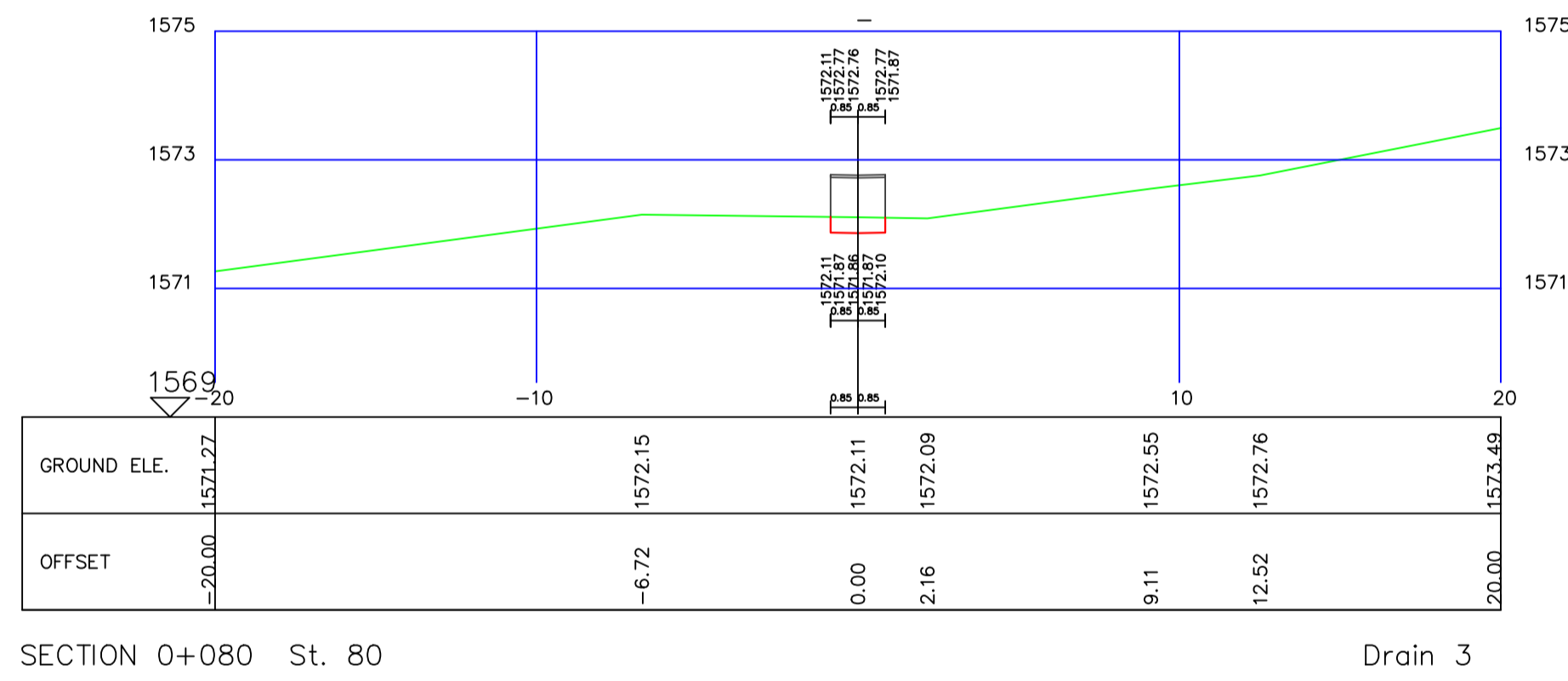
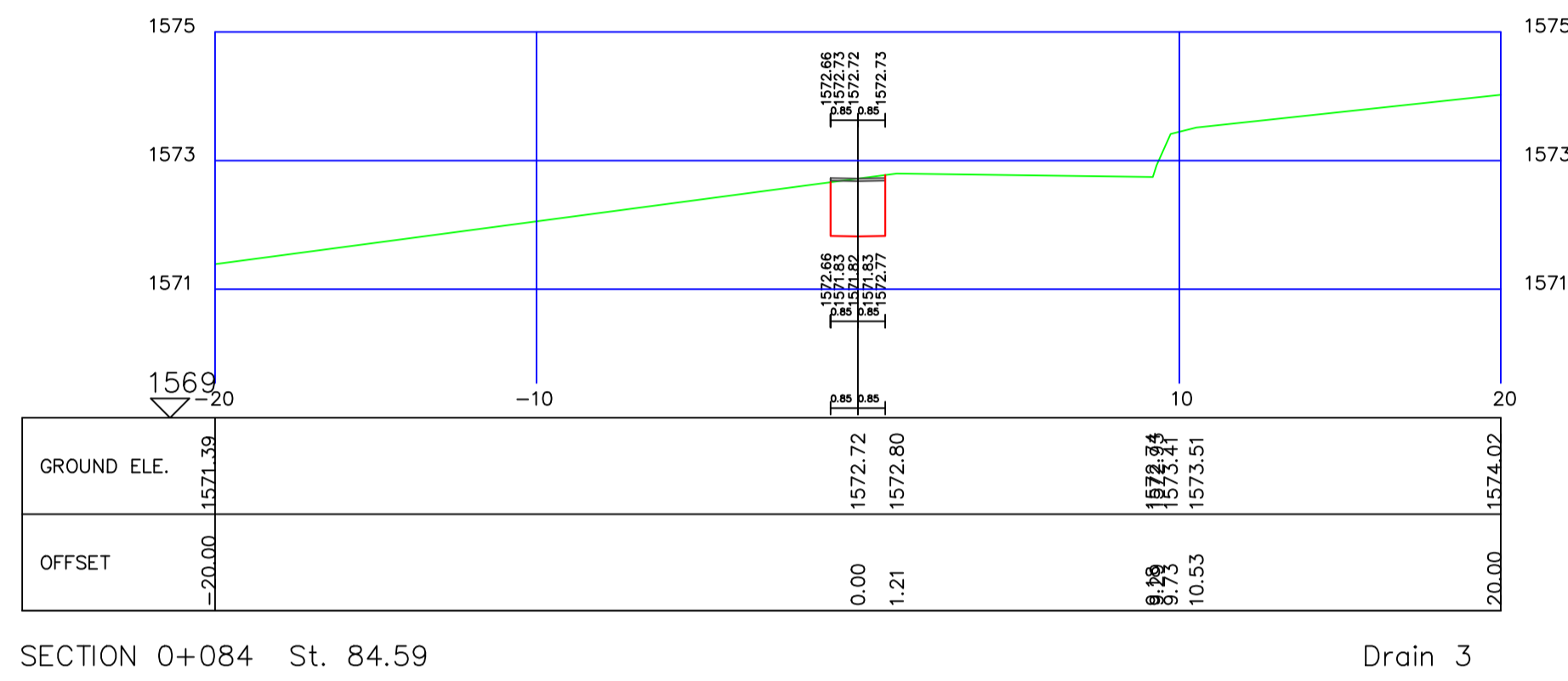
H 1:200 Stage: TENDER DRAWINGS

APPROVED BY: ENG.IKWM DESIGNED BY: JKM

CHECKED BY: ENG.PNG DRAWN BY: JKM

REVISIONS

No	Date	AMMENDMENTS

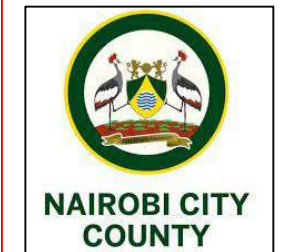


CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
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P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **SPRING VALLEY SETTLEMENT:
CROSS SECTIONS**

Drg. No. WMCL/CR214/SPRV/CRS/27 | Sheet No 27 of 28

Scale: V 1:100 Date: FEBRUARY 2024

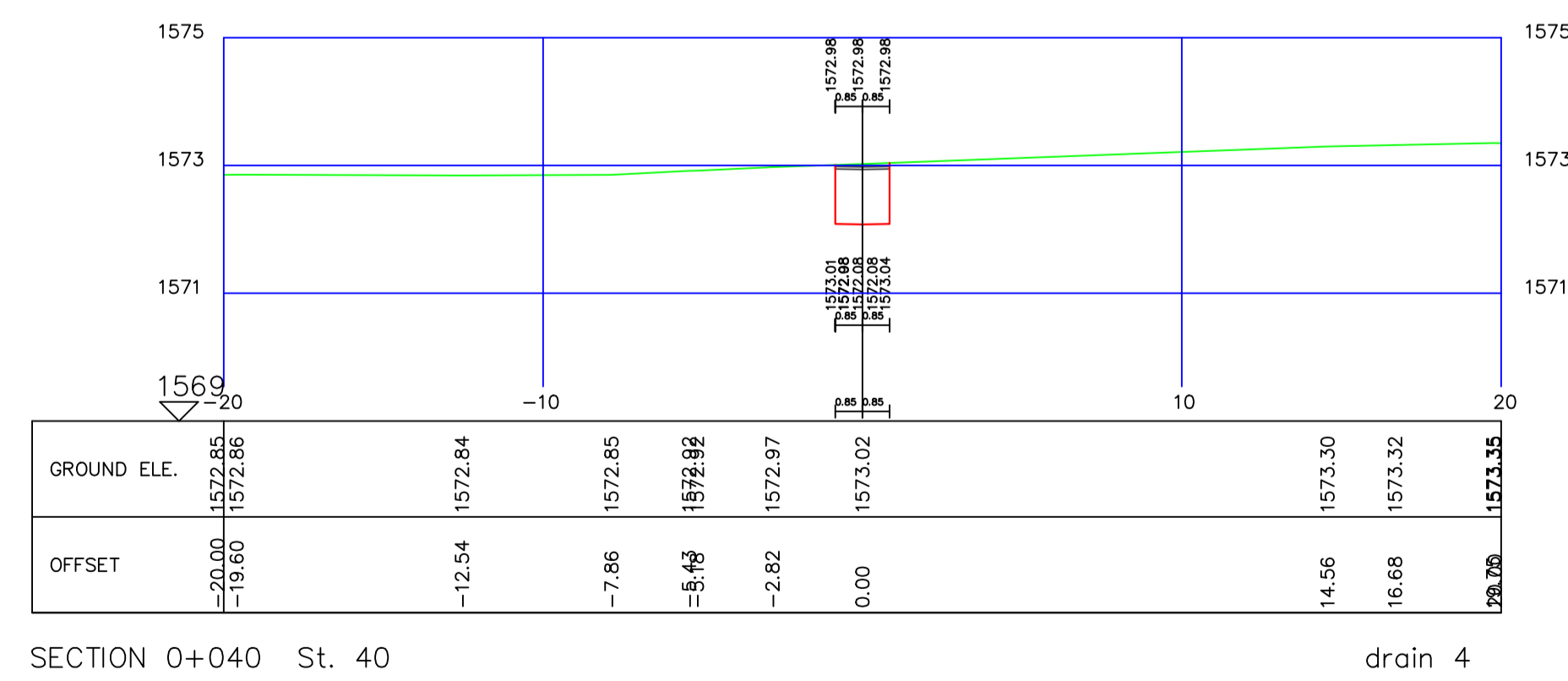
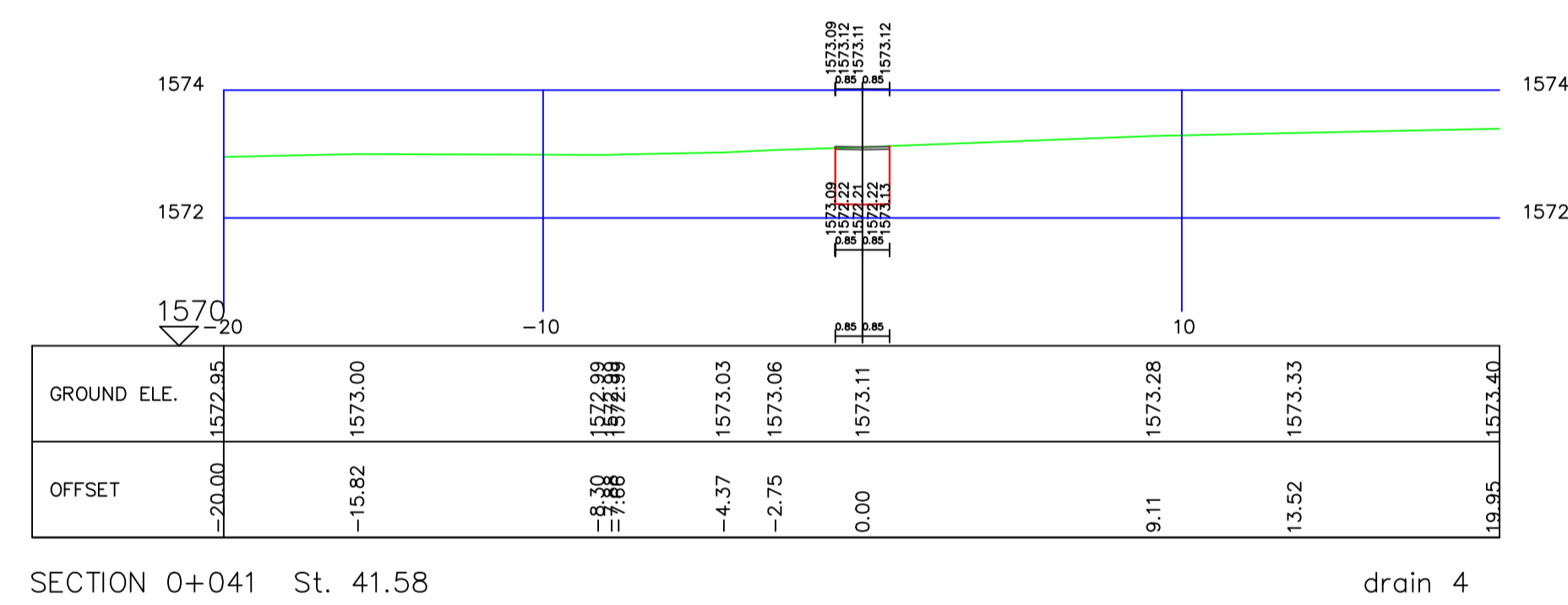
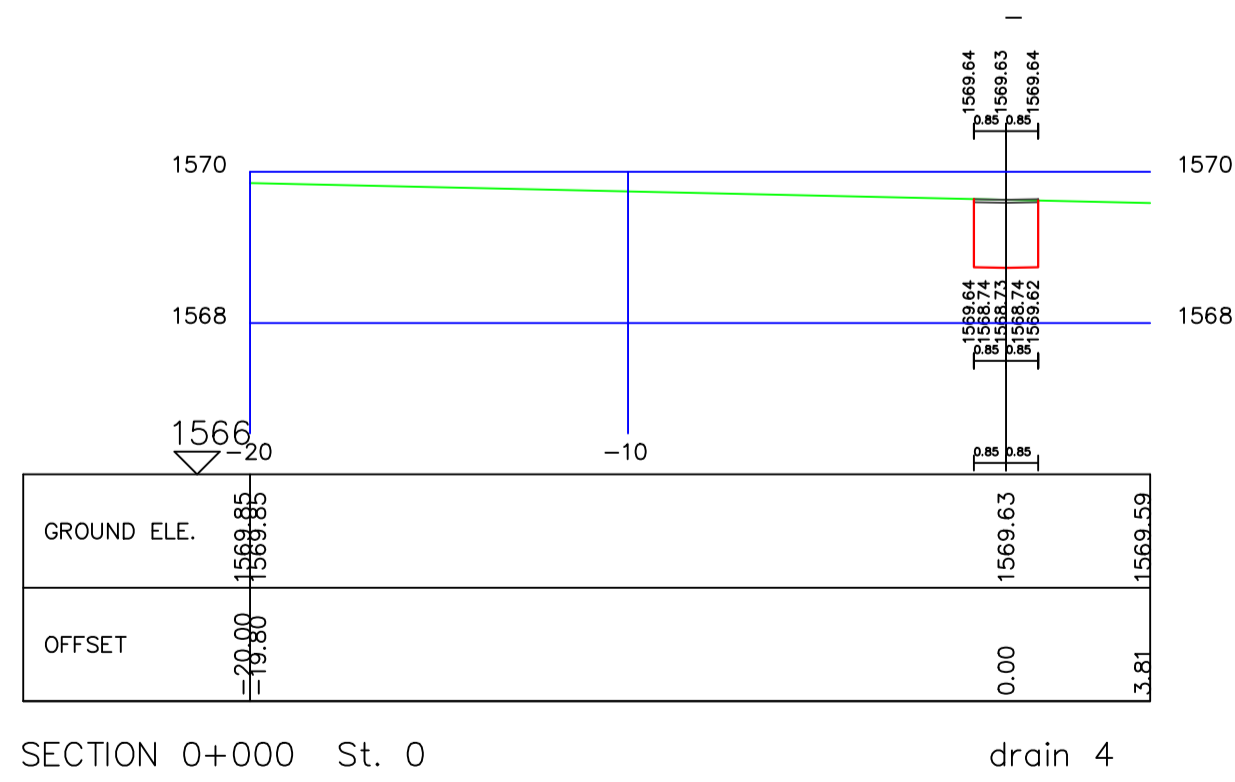
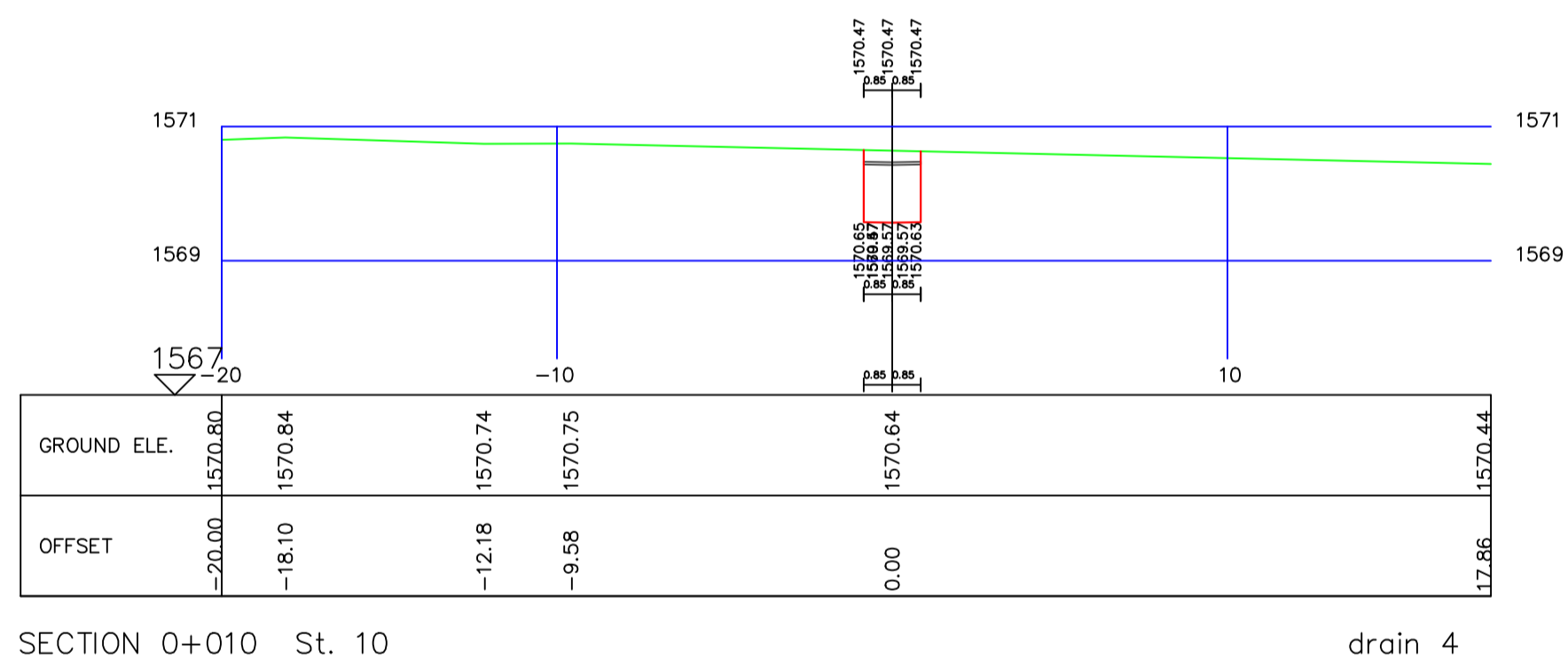
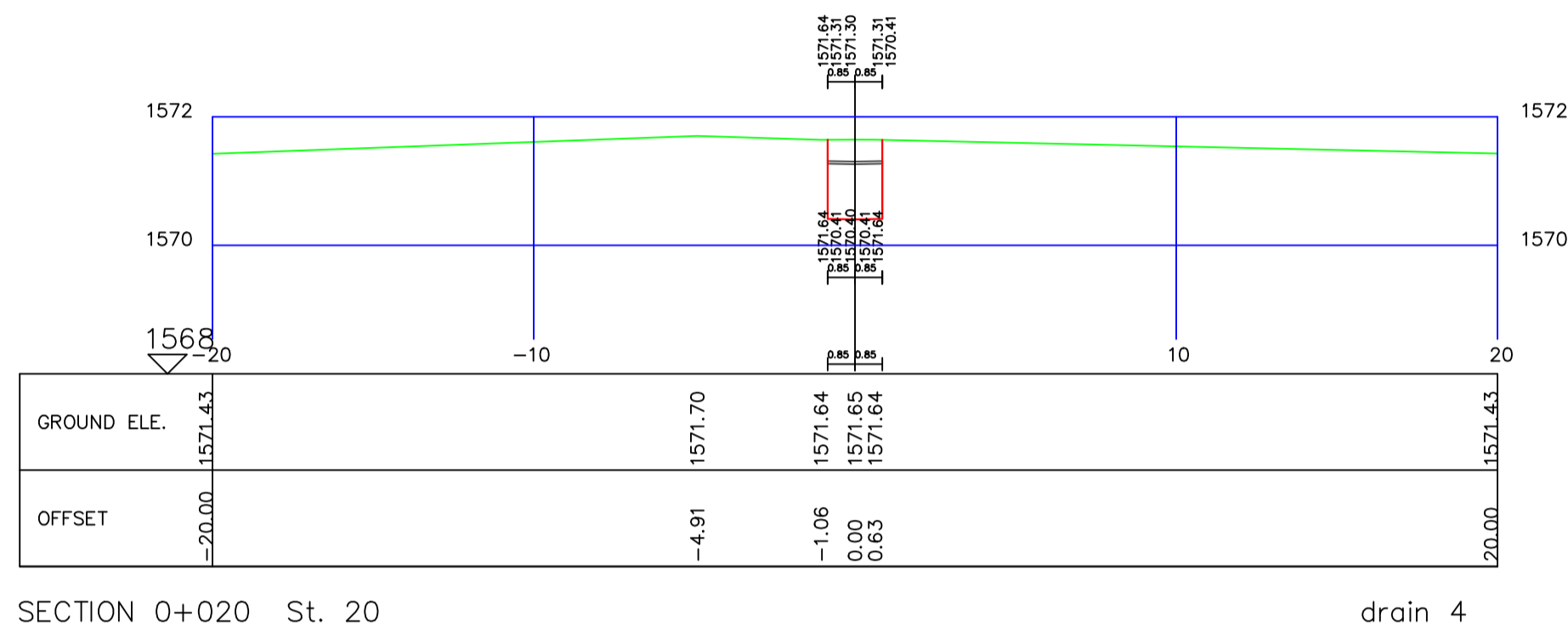
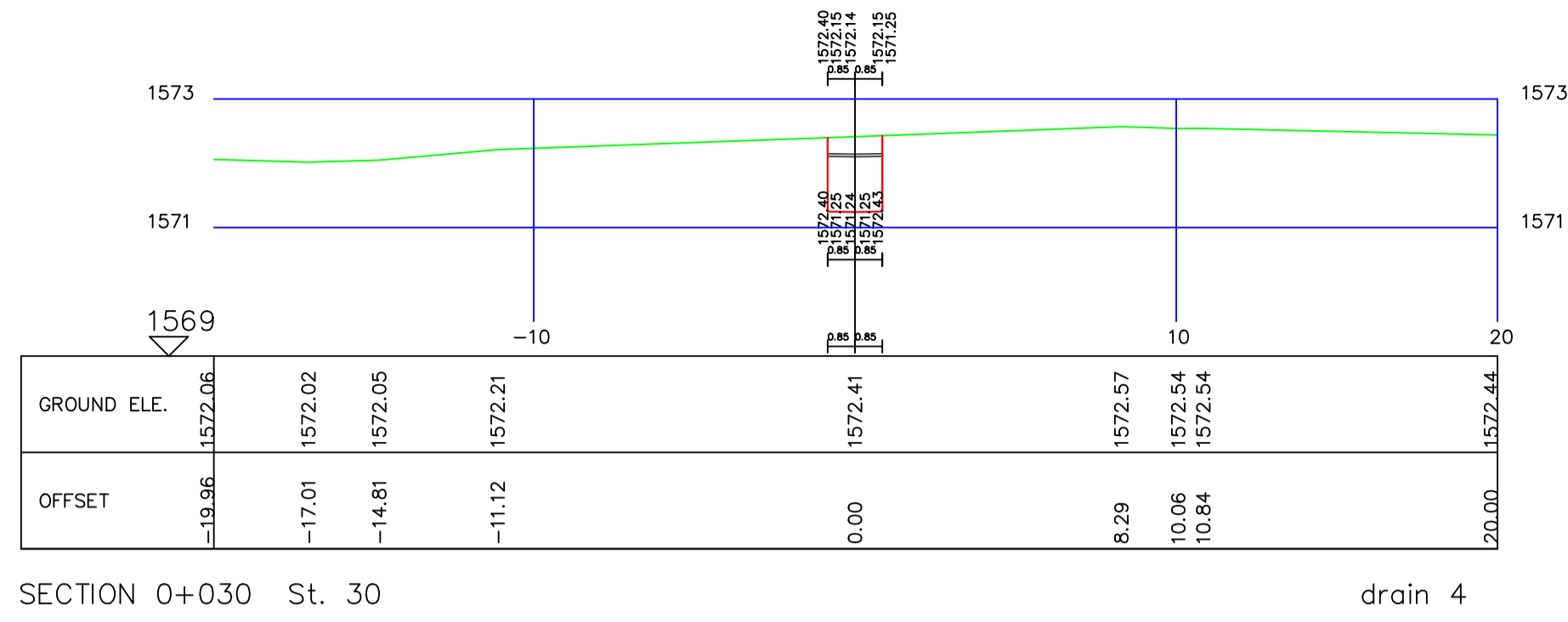
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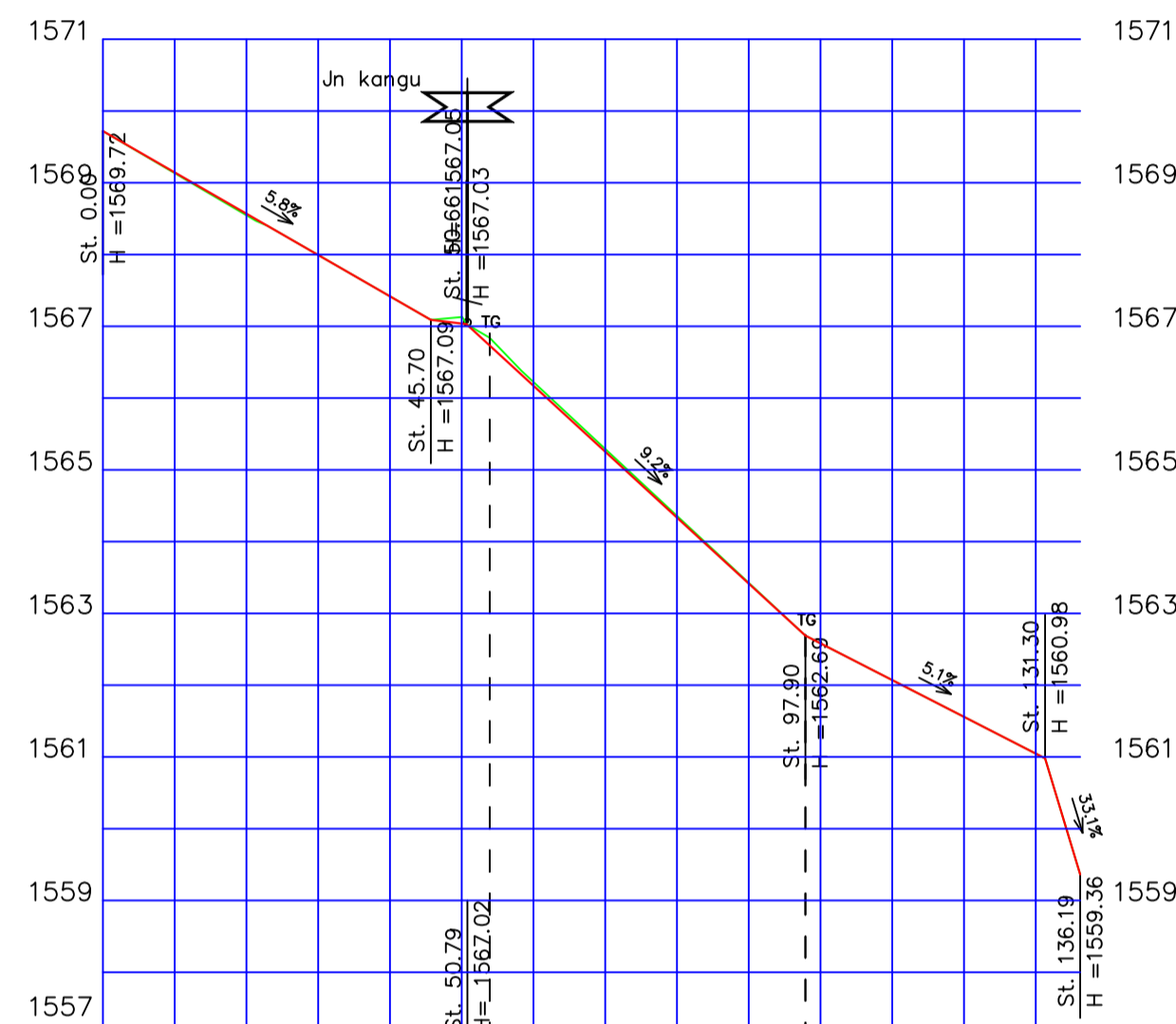
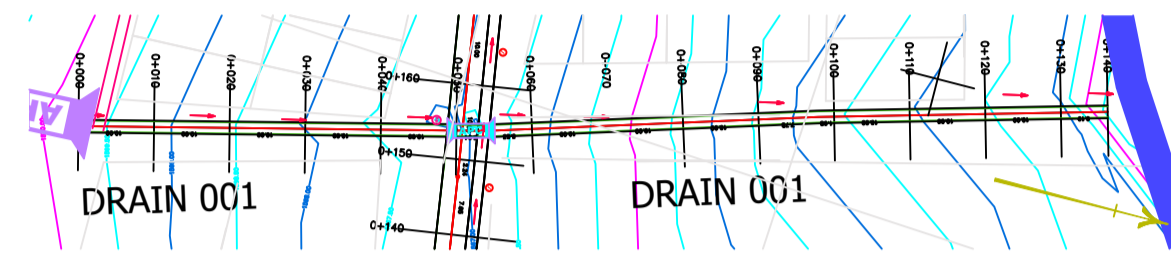
APPROVED BY: ENG. IKWM DESIGNED BY: JKM

CHECKED BY: ENG. PNG DRAWN BY: JKM

REVISIONS

No	Date	AMMENDMENTS

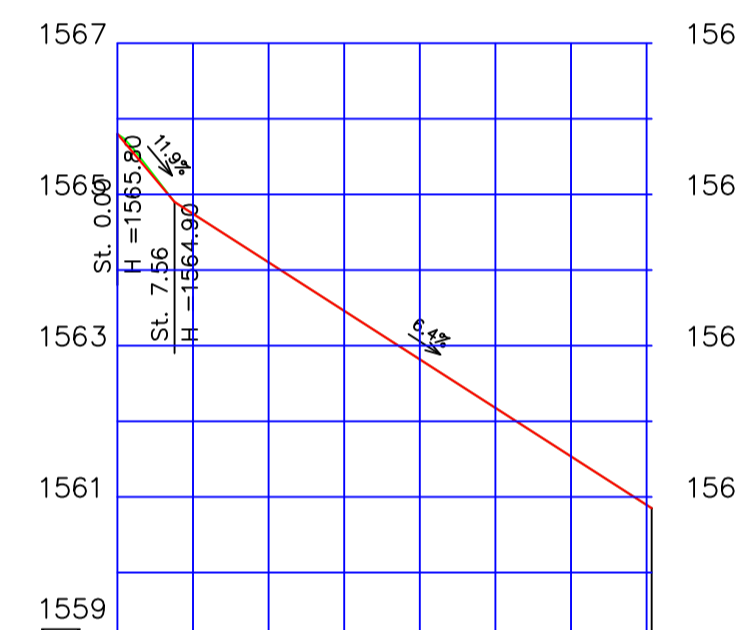
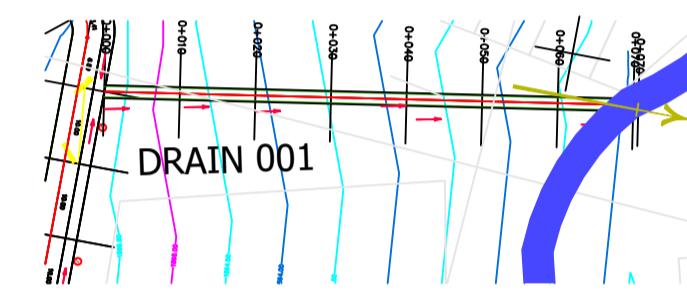




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GROUND LEVEL	1569.72	1569.13	1568.55	1567.99	1567.42	1567.09	1567.13	1566.22	1565.29	1564.36	1563.43	1562.58	1562.07	1561.56	1561.05	1559.36	1559.36	
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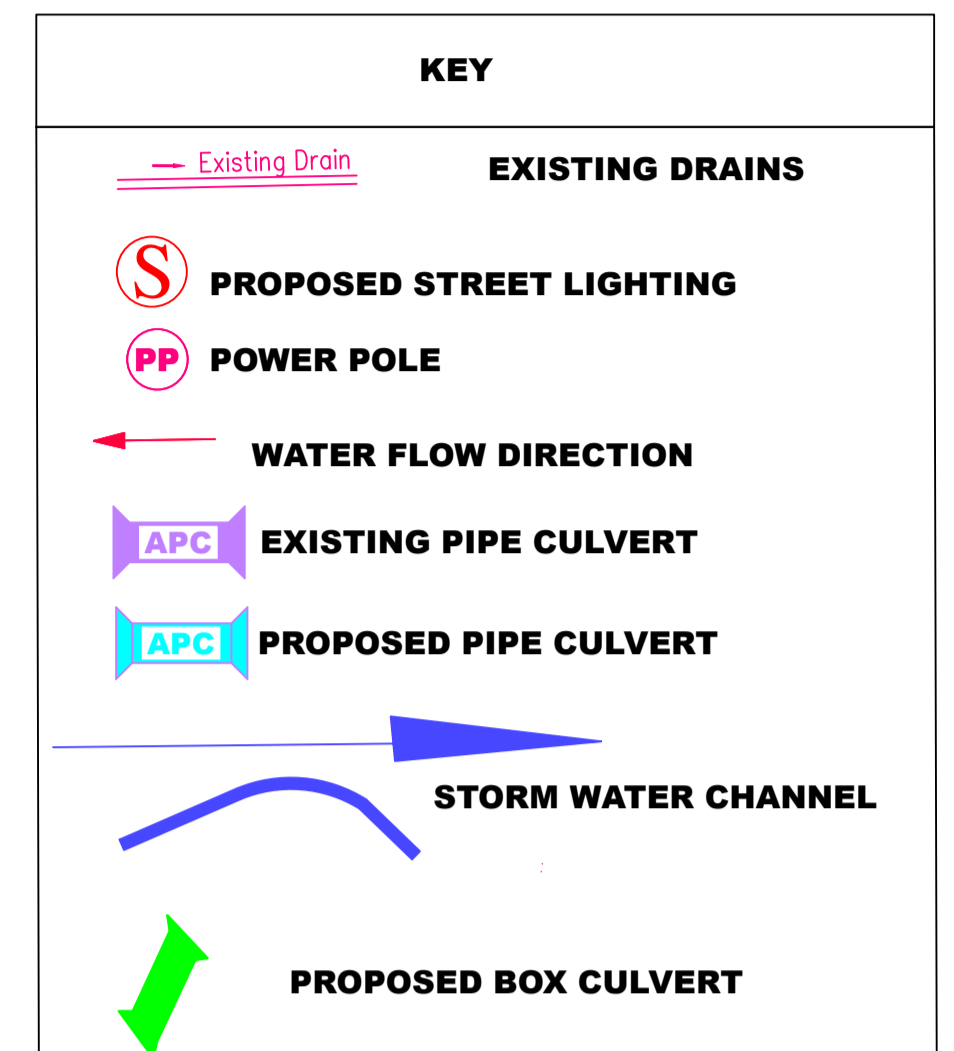
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drain 2

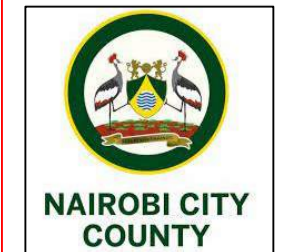


CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(KAYOLE SPRING VALLEY SETTLEMENT) IN NAIROBI COUNTY.**

Drawing Title: **SPRING VALLEY SETTLEMENT: PLAN
& PROFILE**

Drg. No. WMCL/CR214/SPRV/PP/06 | Sheet No. 6 of 7
Scale: V 1:100 | Date: FEBRUARY 2024
H 1:1000 | Stage: TENDER DRAWINGS




APPROVED BY: ENG. JKWM | DESIGNED BY: JKM

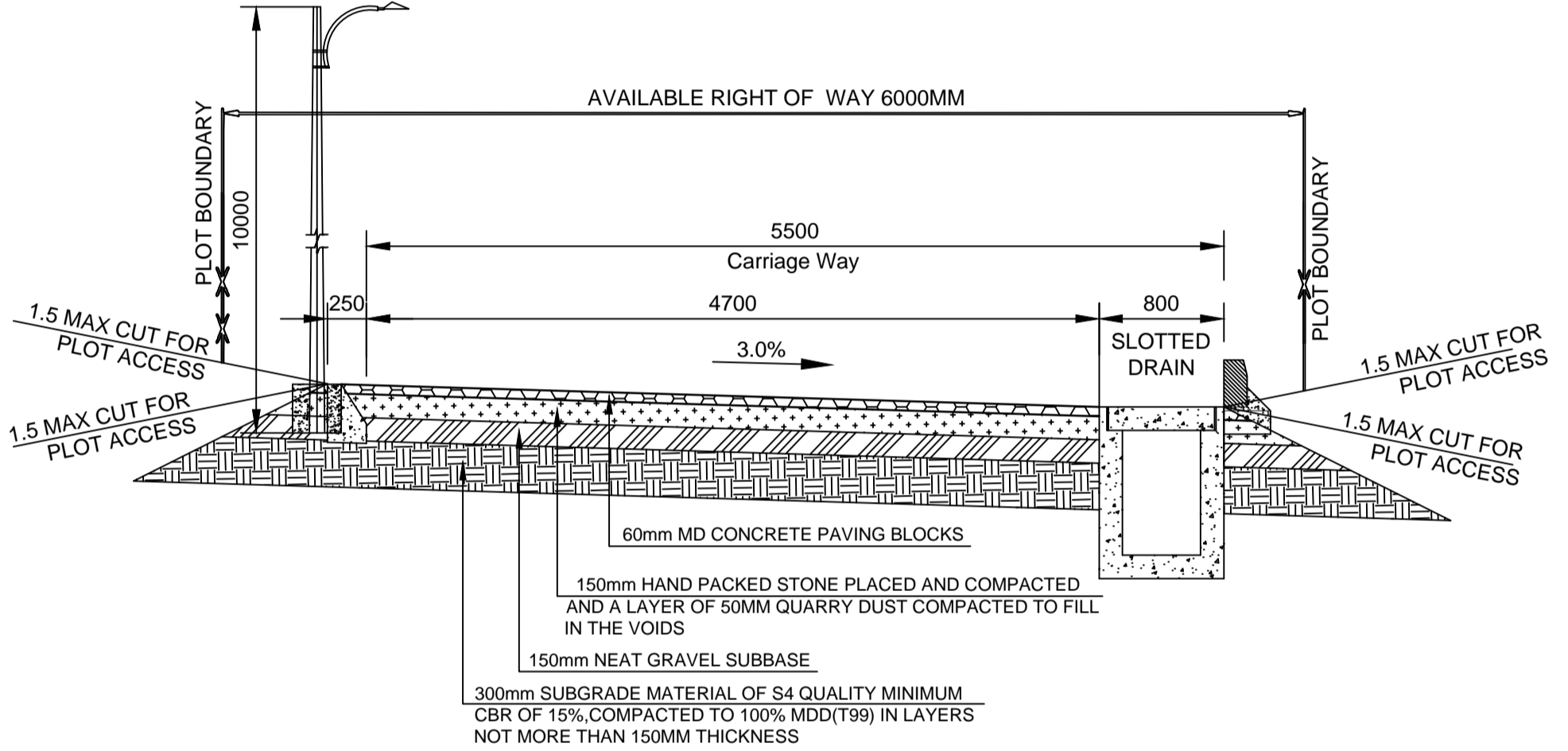
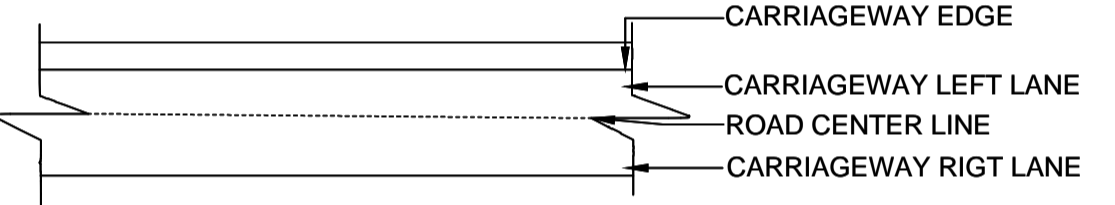
CHECKED BY: ENG. PNG | DRAWN BY: JKM

REVISIONS

No | Date | AMMENDMENTS

STANDARD DETAILS

 CLIENT:	MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	EMPLOYER:  NAIROBI CITY COUNTY GOVERNMENT (NCCG)	FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)  	CONSULTANT:  Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.	Drawing Title: STANDARD DETAILS. <table border="1"> <tr> <td>Drg. No.</td> <td>Sheet No.</td> </tr> <tr> <td>Scale: 1:50 1:100</td> <td>Date: FEBRUARY:2024 Stage: TENDER DRAWINGS</td> </tr> <tr> <td>APPROVED BY</td> <td>ENG. IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG. PNG</td> <td>DRAWN BY</td> <td>SM</td> </tr> </table>	Drg. No.	Sheet No.	Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS	APPROVED BY	ENG. IKWM	DESIGNED BY	LWK	CHECKED BY	ENG. PNG	DRAWN BY	SM	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>No.</th> <th>Date</th> <th>AMMENDMENTS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS			No.	Date	AMMENDMENTS						
Drg. No.	Sheet No.																														
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CHECKED BY	ENG. PNG	DRAWN BY	SM																												
REVISIONS																															
No.	Date	AMMENDMENTS																													

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
 <p style="text-align: center;">CROSS SECTION TYPE 3 SCALE 1:50 CARRIAGE WAY - 5.5 METRES INCLUSIVE OF 0.8M WIDE MOTORABLE DRAIN</p>	<p>TWO WAY CARRIAGEWAY, SINGLE LANES EACH 2.75 METRES INCLUSIVE OF THE COVERED SLOTTED MOTORABLE CONCRETE DRAINS</p> 	<p>HURUMA FIRE VICTIMS HRM RD 02 HRM RD 03</p>



CLIENT:
MINISTRY OF LANDS,
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EMPLOYER:
NAIROBI CITY
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(NCCG)



FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

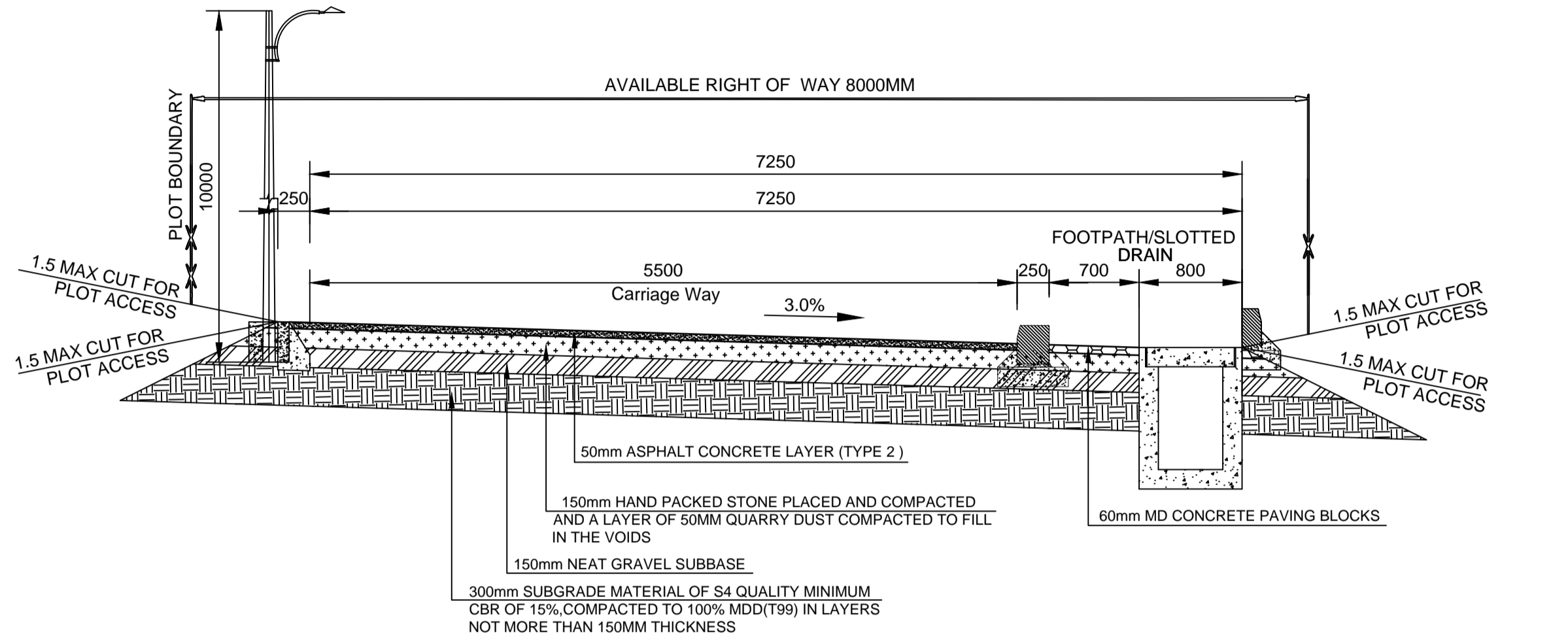
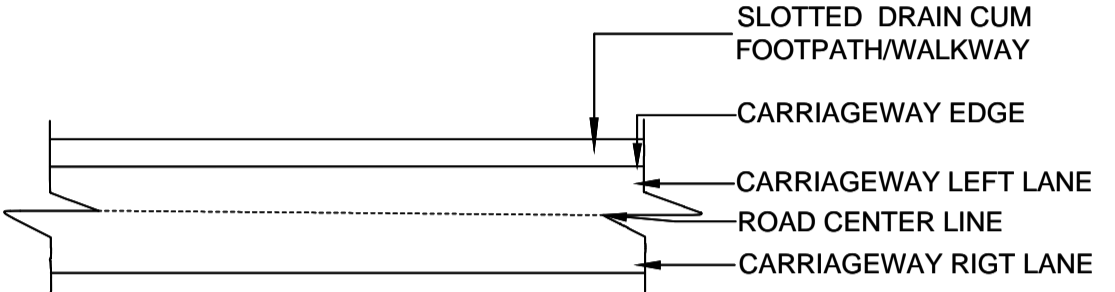
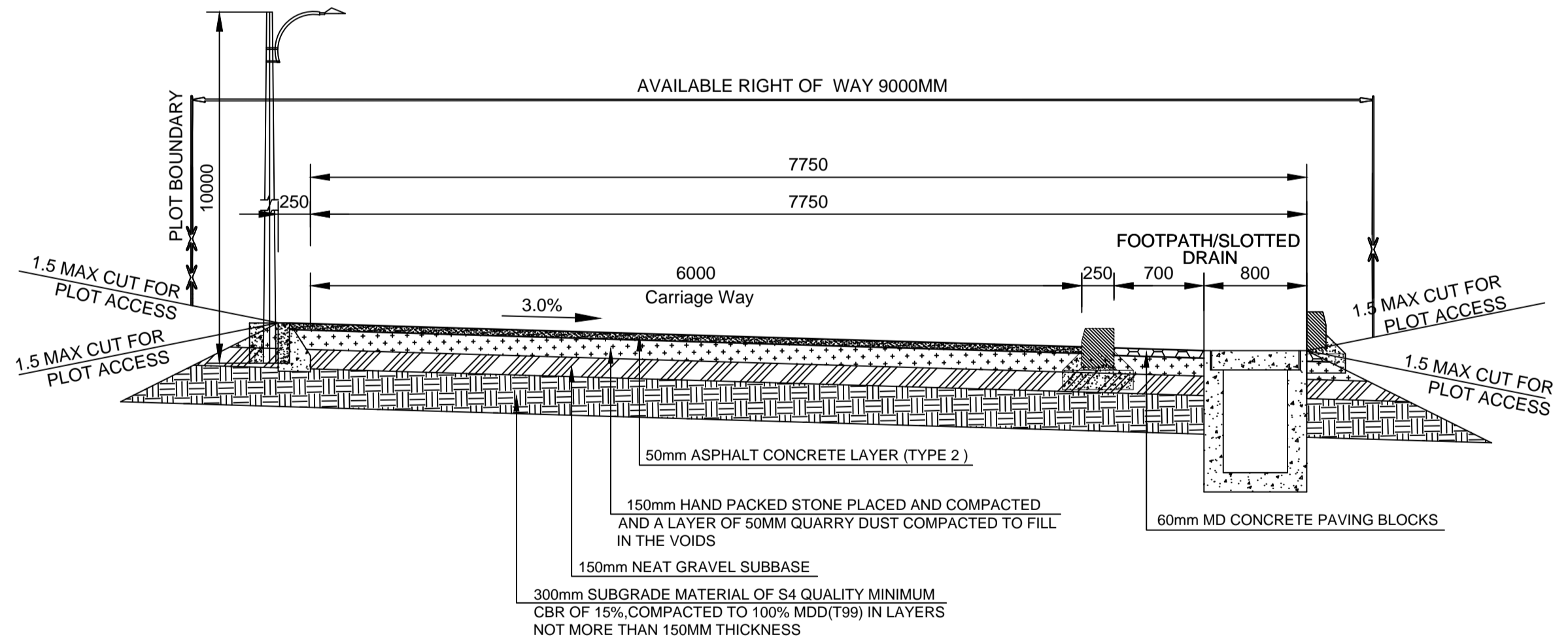
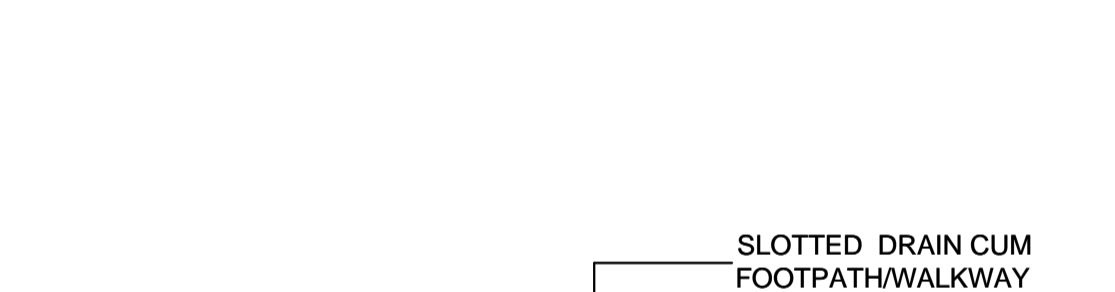


CONSULTANT:
Wanjohi
Mutonyi
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Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY

Drawing Title: HURUMA FIRE SETTLEMENT ROAD CROSS SECTIONS 1.			
Drg. No. WMCL/CR214/RC/01	Sheet No. 1 of 8		
Scale: 1:10	Date: FEBRUARY:2024		
1:200	Stage: TENDER DRAWINGS		
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM

REVISIONS		
No.	Date	AMMENDMENTS

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
 <p style="text-align: center;">CROSS SECTION TYPE 2 SCALE 1:50 CARRIAGE WAY - 5.5 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 2.75METERS 1.5METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p> 	<p style="text-align: center;">HURUMA FIRE VICTIMS HRM RD 01</p>
 <p style="text-align: center;">CROSS SECTION TYPE 1 SCALE 1:50 CARRIAGE WAY - 6.0 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 3.0METERS 1.5METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p> 	<p style="text-align: center;">HURUMA FIRE VICTIMS HRM RD 04 HRM RD 06</p>

CLIENT:



**MINISTRY OF LANDS,
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EMPLOYER:



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COUNTY
GOVERNMENT
(NCCG)**

FINANCIER:

**INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)**



CONSULTANT:



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Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY**

Drawing Title: **HURUMA FIRE SETTLEMENT
ROAD CROSS SECTIONS 2.**

Drg. No. WMCL/CR214/RC/02 Sheet No. 2 of 8

Scale: 1:10 Date: FEBRUARY:2024

1:200 Stage: TENDER DRAWINGS

APPROVED BY ENG.IKWM DESIGNED BY LWK

CHECKED BY ENG.PNG DRAWN BY SM

REVISIONS

No.	Date	AMMENDMENTS

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
<p style="text-align: center;">CROSS SECTION TYPE 4 SCALE 1:50</p> <p style="text-align: center;">CARRIAGE WAY - 4.5 METRES INCLUSIVE OF 0.8M WIDE MOTORABLE DRAIN</p>	<p>ONE WAY CARRIAGEWAY, SINGLE LANE OF 4.5METRES INCLUSIVE OF THE COVERED SLOTTED MOTORABLE CONCRETE DRAINS</p> <p style="text-align: right;">CARRIAGEWAY EDGE CARRIAGEWAY ONE-WAY</p>	<p style="text-align: center;">HURUMA FIRE VICTIMS HRM RD 07</p>

CLIENT:



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EMPLOYER:



**NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)**

FINANCIER:

**INTERNATIONAL DEVELOPMENT
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FRANÇAISE DE DÉVELOPPEMENT(AFD)**



CONSULTANT:



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Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY**

Drawing Title: **HURUMA FIRE SETTLEMENT
ROAD CROSS SECTIONS 3.**

Drg. No. WMCL/CR214/RC/02 Sheet No. 3 of 8

Scale: 1:10 Date: FEBRUARY:2024

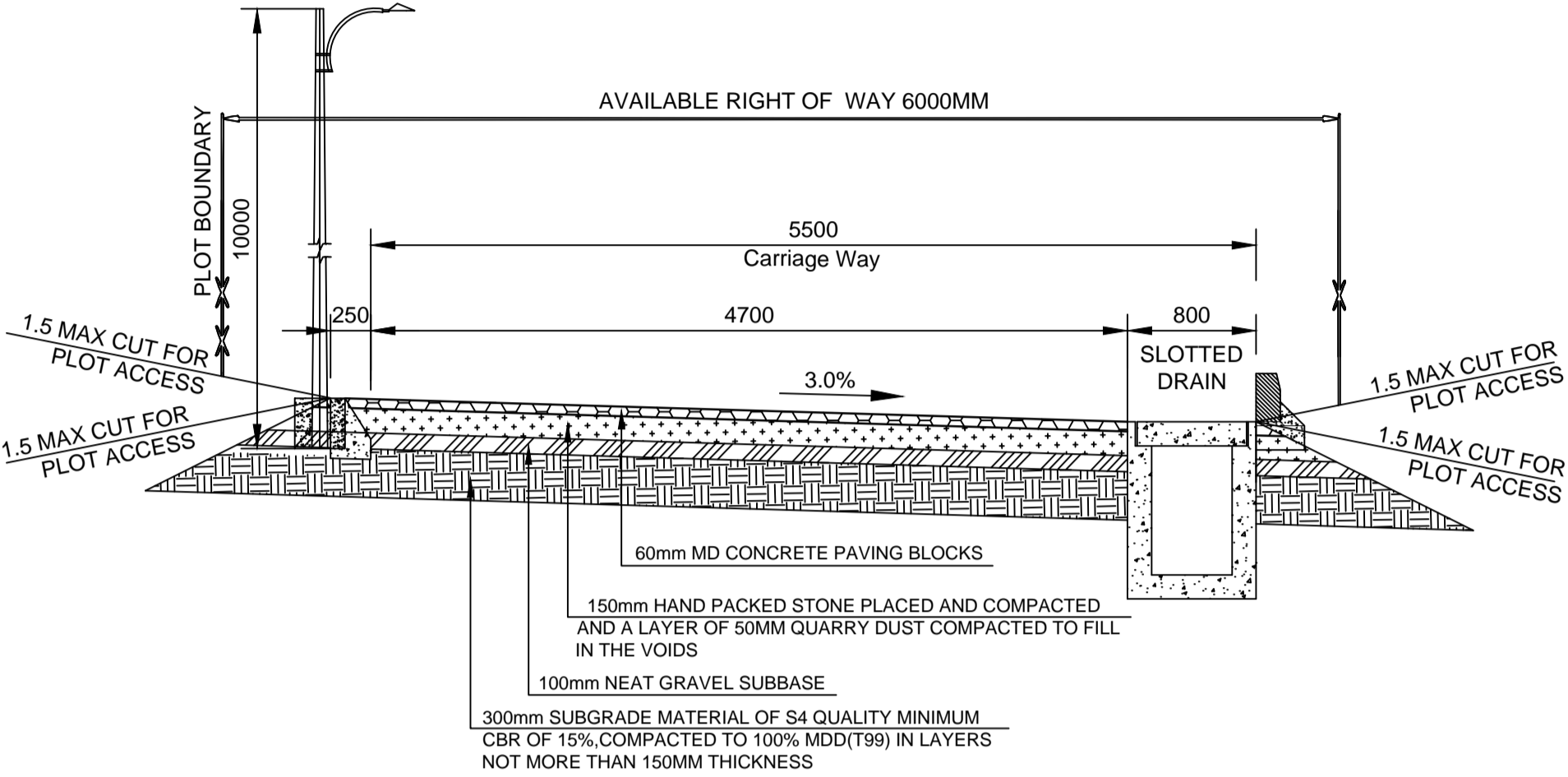
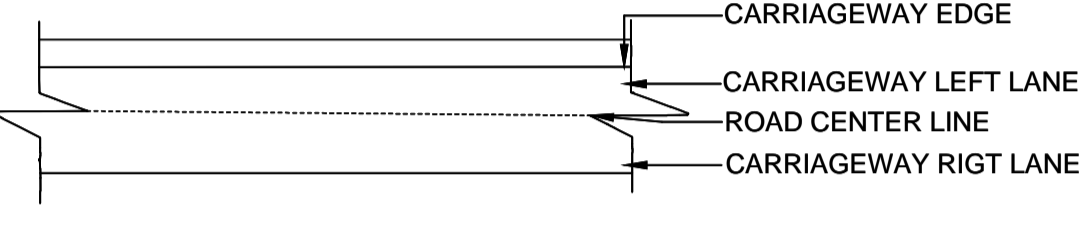
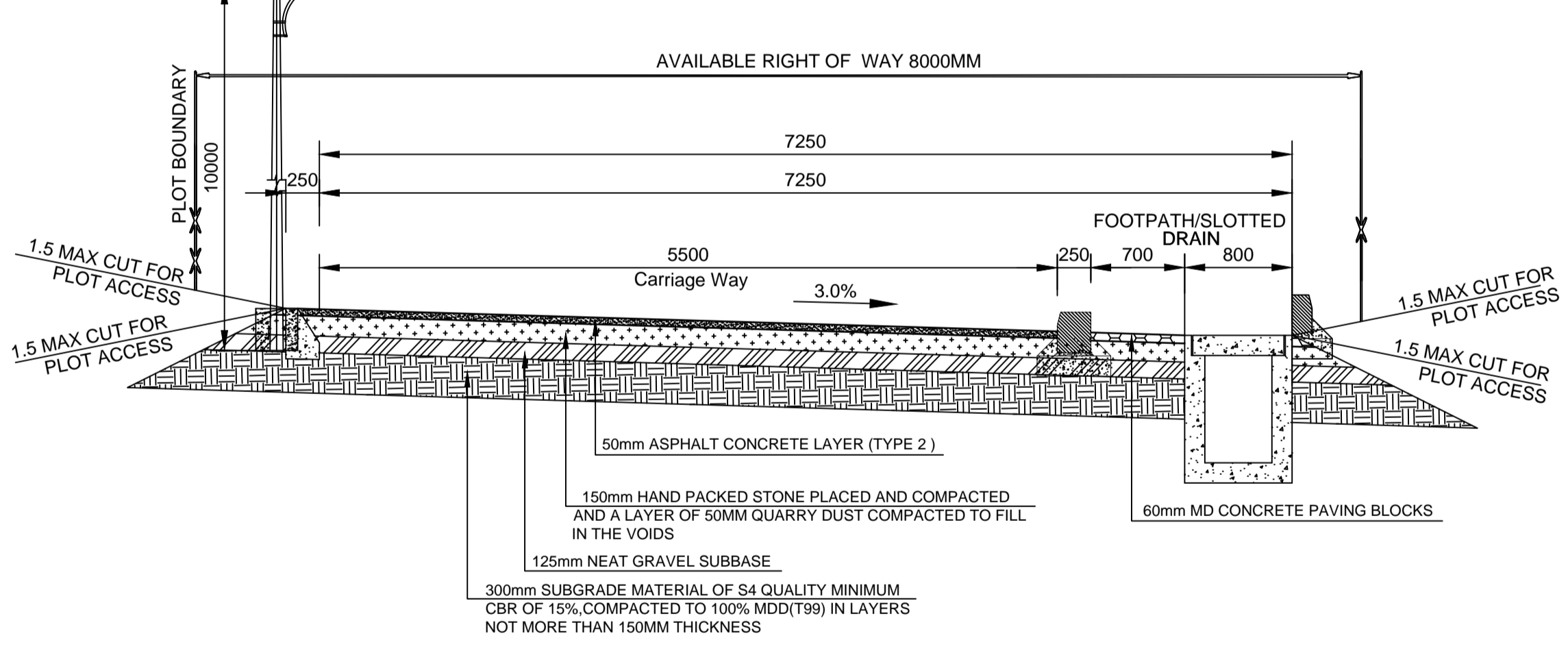
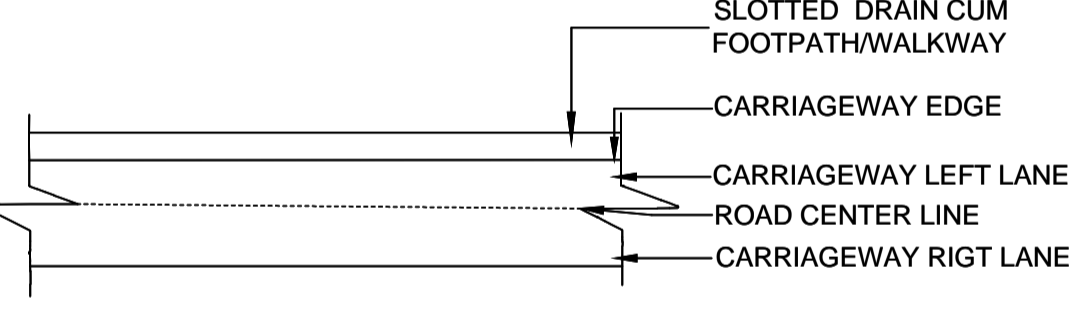
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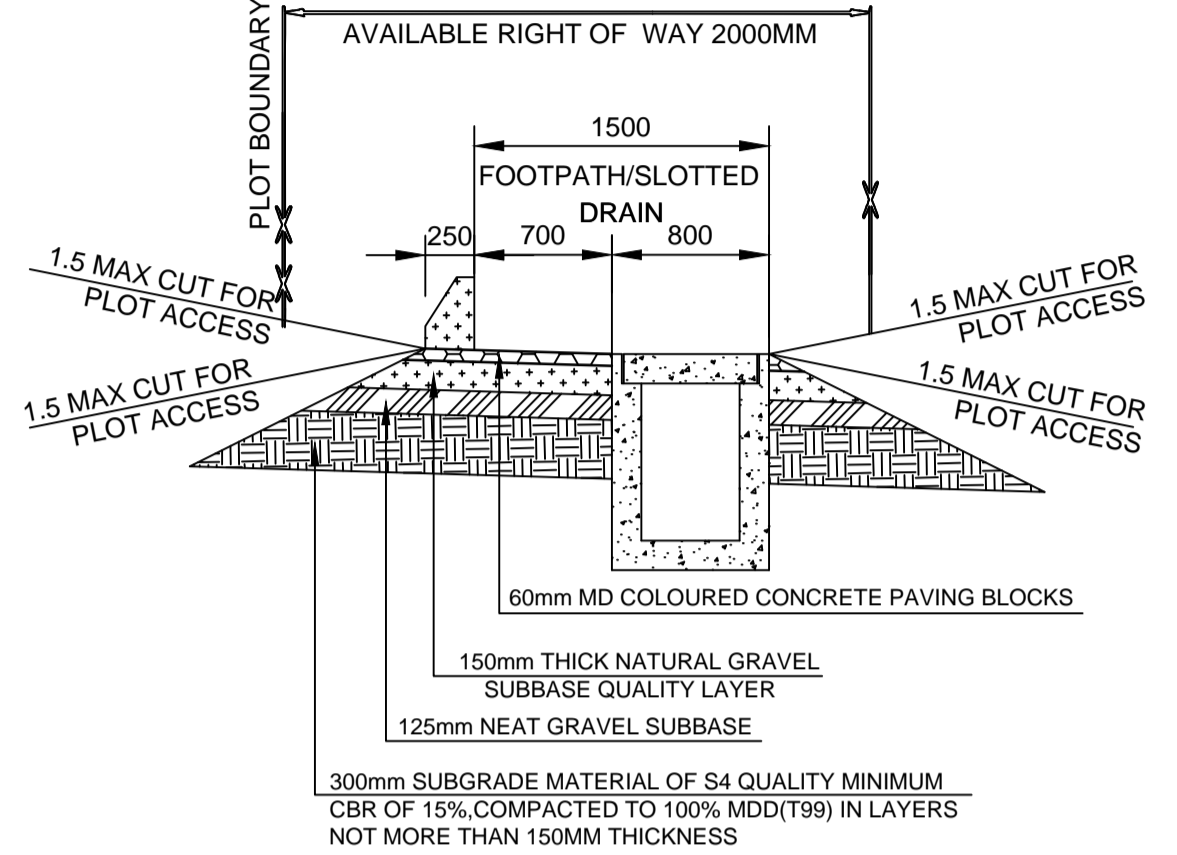
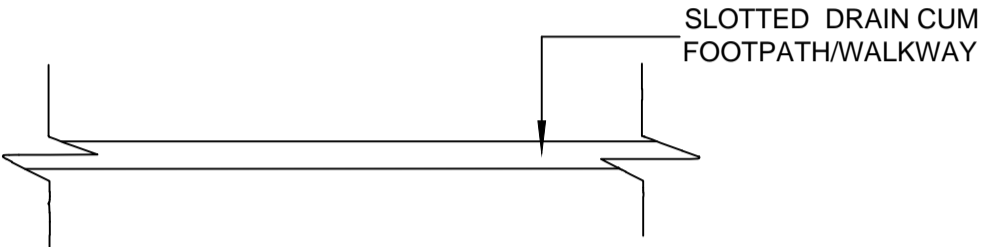
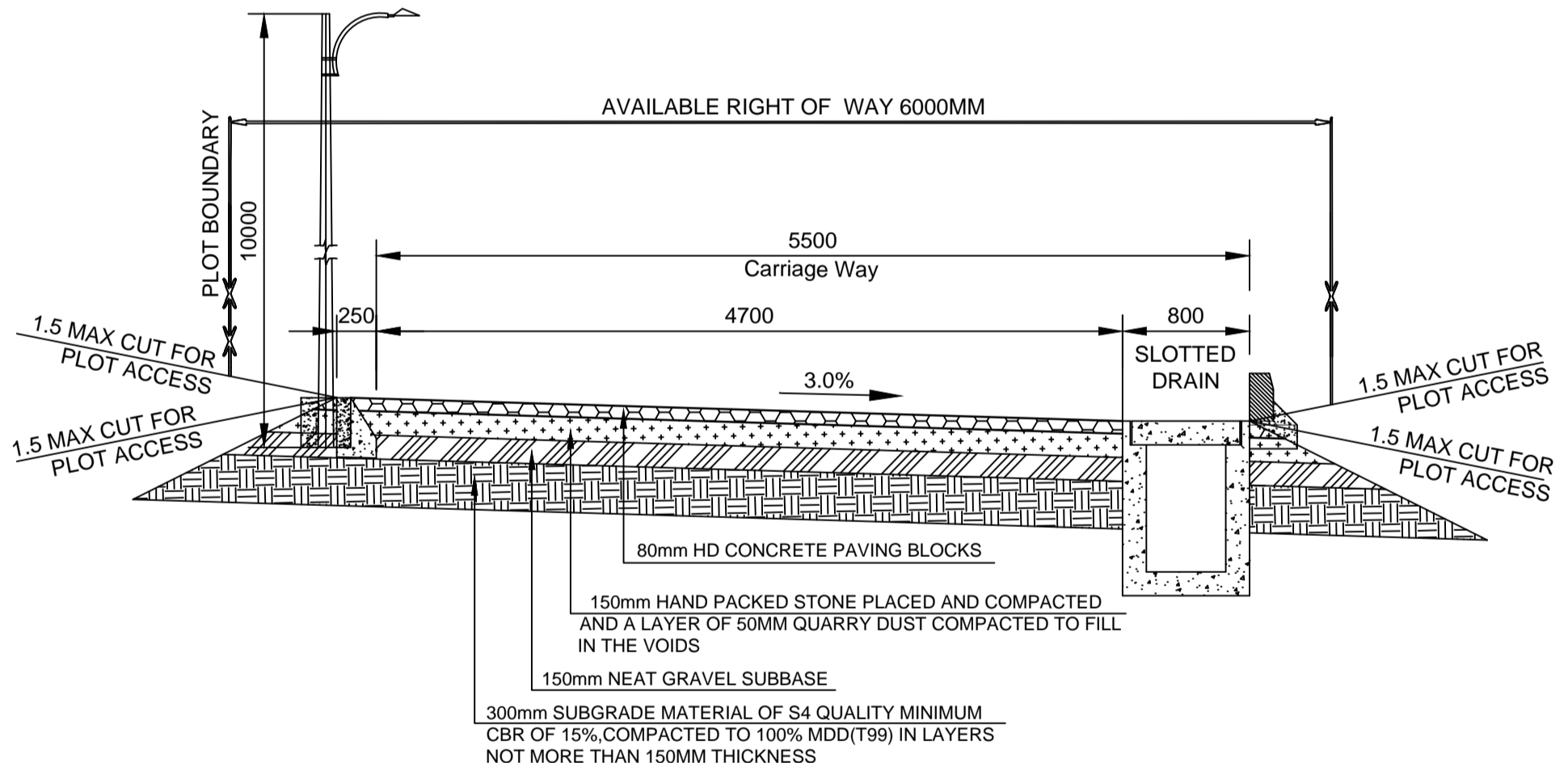
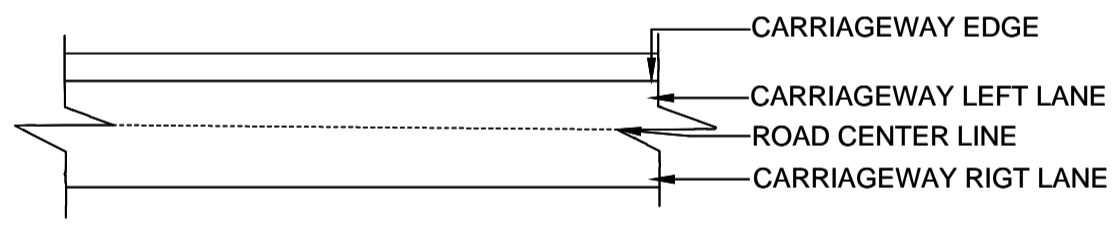
APPROVED BY ENG.IKWM DESIGNED BY LWK

CHECKED BY ENG.PNG DRAWN BY SM

REVISIONS

No.	Date	AMMENDMENTS

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
 <p style="text-align: center;">CROSS SECTION TYPE 3 SCALE 1:50 CARRIAGE WAY - 5.5 METRES INCLUSIVE OF 0.8M WIDE MOTORABLE DRAIN</p>	<p>TWO WAY CARRIAGEWAY, SINGLE LANES EACH 2.75 METRES INCLUSIVE OF THE COVERED SLOTTED MOTORABLE CONCRETE DRAINS</p> 	<p style="text-align: center;">MATOPENI A1-SANFORD RD 01 PORTFOLIO-KASYOKA RD 02A PORTFOLIO-SOKONI RD 03</p>
 <p style="text-align: center;">CROSS SECTION TYPE 2 SCALE 1:50 CARRIAGE WAY - 5.5 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 2.75METERS 1.5METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p> 	<p style="text-align: center;">MATOPENI SANFORD-BOSTON RD 01A PORTFOLIO-MAIN RD 02</p>

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
 <p style="text-align: center;">TYPES OF CROSS SECTIONS SCALE 1:50 FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>1.5METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p>  <p style="text-align: center;">SLOTTED DRAIN CUM FOOTPATH/WALKWAY</p>	<p style="text-align: center;">MATHARE FIRE VICTIMS MFV FT 01 MFV FT 02 MFV FT 03 MFV FT 04</p>
 <p style="text-align: center;">CROSS SECTION TYPE 3 SCALE 1:50 CARRIAGE WAY - 5.5 METRES INCLUSIVE OF 0.8M WIDE MOTORABLE DRAIN</p>	<p>TWO WAY CARRIAGEWAY, SINGLE LANES EACH 2.75 METRES INCLUSIVE OF THE COVERED SLOTTED MOTORABLE CONCRETE DRAINS</p>  <p style="text-align: center;">CARRIAGEWAY EDGE CARRIAGEWAY LEFT LANE ROAD CENTER LINE CARRIAGEWAY RIGT LANE</p>	<p style="text-align: center;">MATHARE FIRE VICTIMS MFV RD 01</p>

CLIENT:



**MINISTRY OF LANDS,
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URBAN DEVELOPMENT**

EMPLOYER:



**NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)**

FINANCIER:

**INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)**



CONSULTANT:



**Wanjohi
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Consult Ltd.**
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY**

Drawing Title: **MATHARE FIRE VICTIMS SETTLEMENT**

ROAD CROSS SECTIONS 1.

Drg. No. WMCL/CR214/RC/05 Sheet No. 5 of 8

Scale: 1:10 Date: FEBRUARY:2024

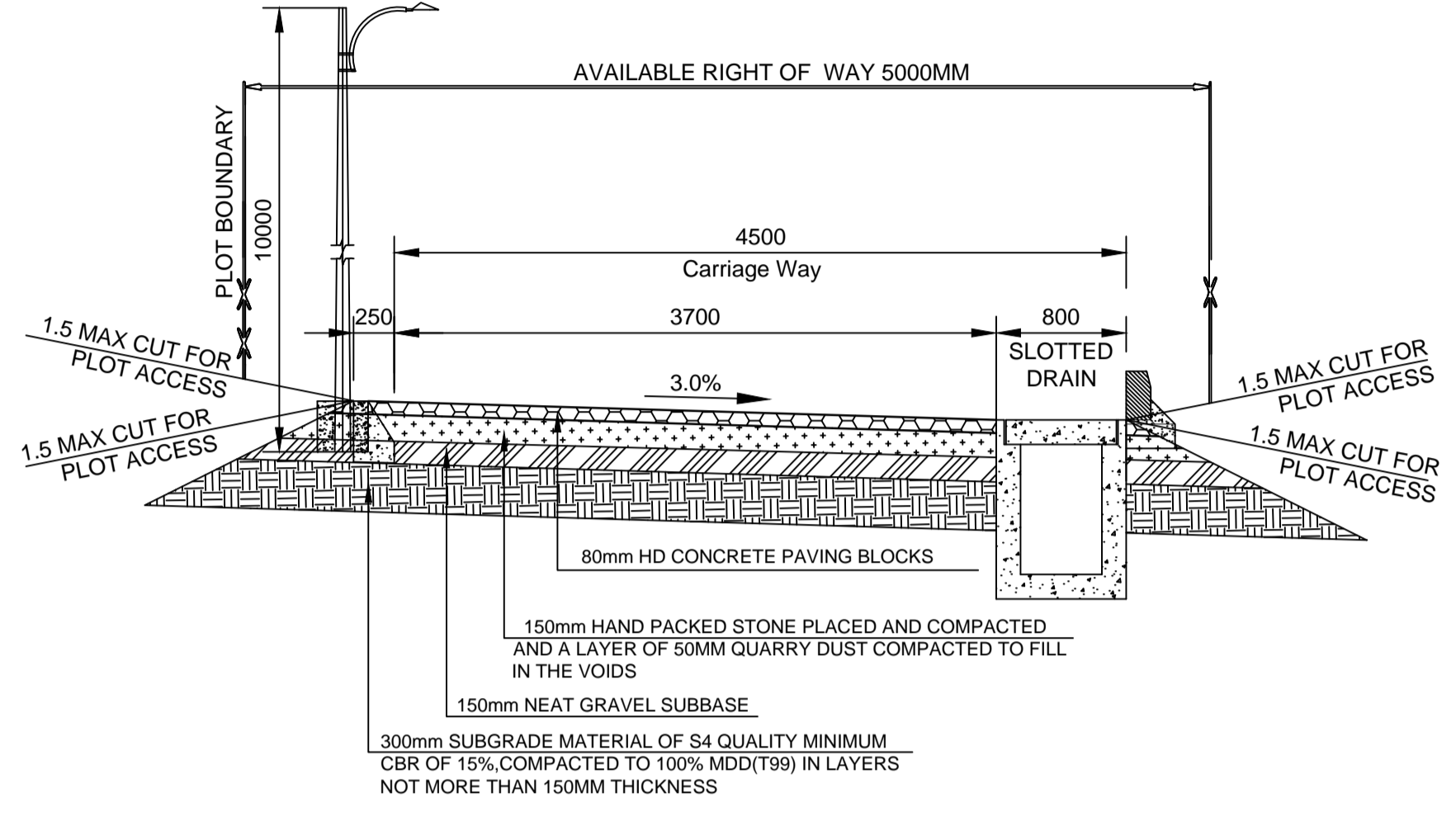
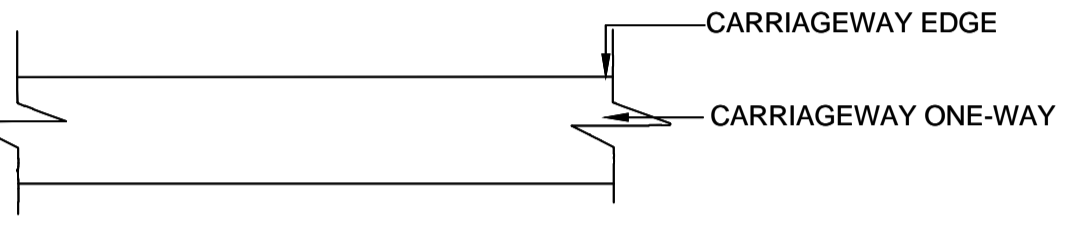
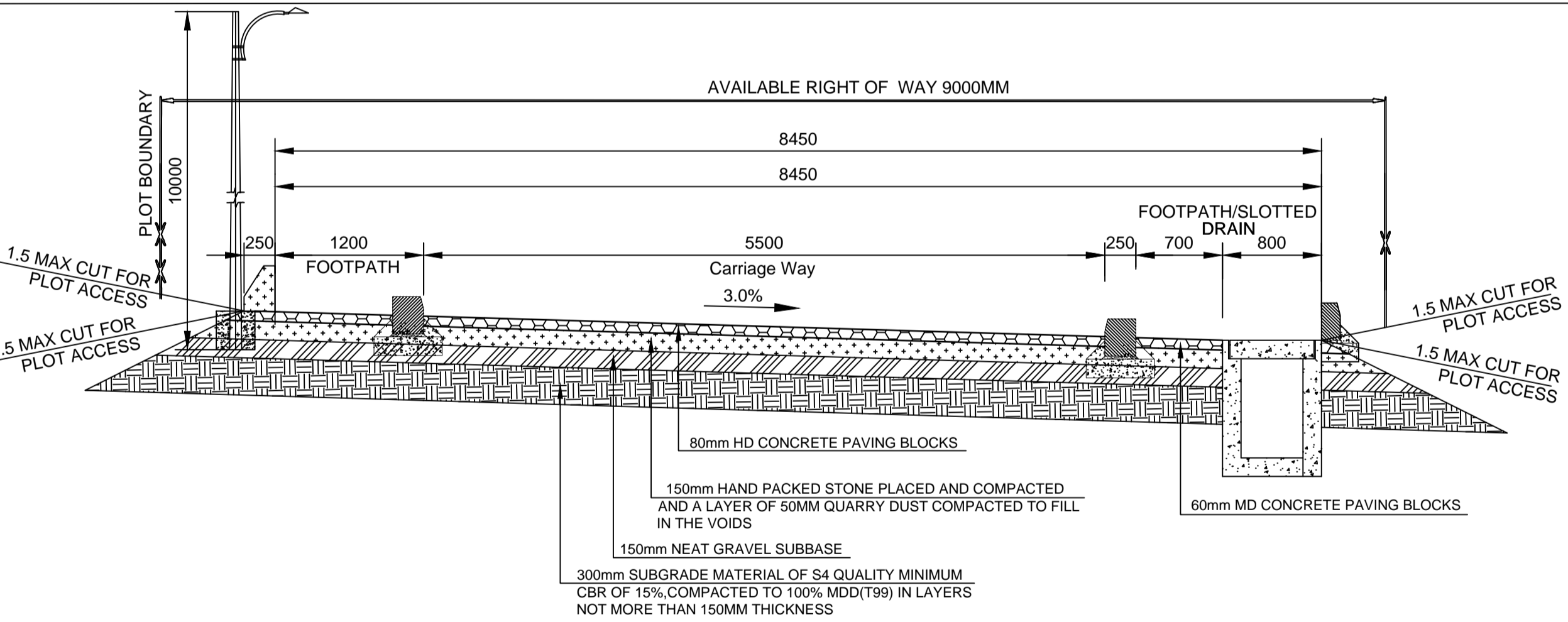
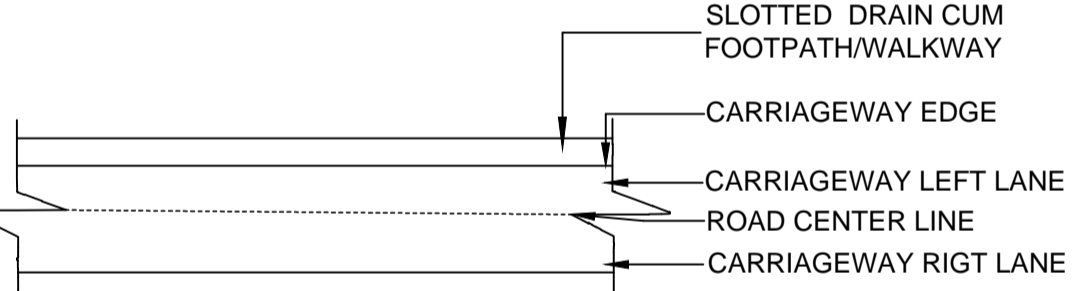
1:200 Stage: TENDER DRAWINGS

APPROVED BY ENG.IKWM DESIGNED BY LWK

CHECKED BY ENG.PNG DRAWN BY SM

REVISIONS

No.	Date	AMMENDMENTS

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
 <p style="text-align: center;">CROSS SECTION TYPE 4 SCALE 1:50</p> <p style="text-align: center;">CARRIAGE WAY - 4.5 METRES INCLUSIVE OF 0.8M WIDE MOTORABLE DRAIN</p>	<p>ONE WAY CARRIAGEWAY, SINGLE LANE OF 4.5METRES INCLUSIVE OF THE COVERED SLOTTED MOTORABLE CONCRETE DRAINS</p> 	<p>MATHARE FIRE VICTIMS MFV RD 02</p>
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CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)

CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

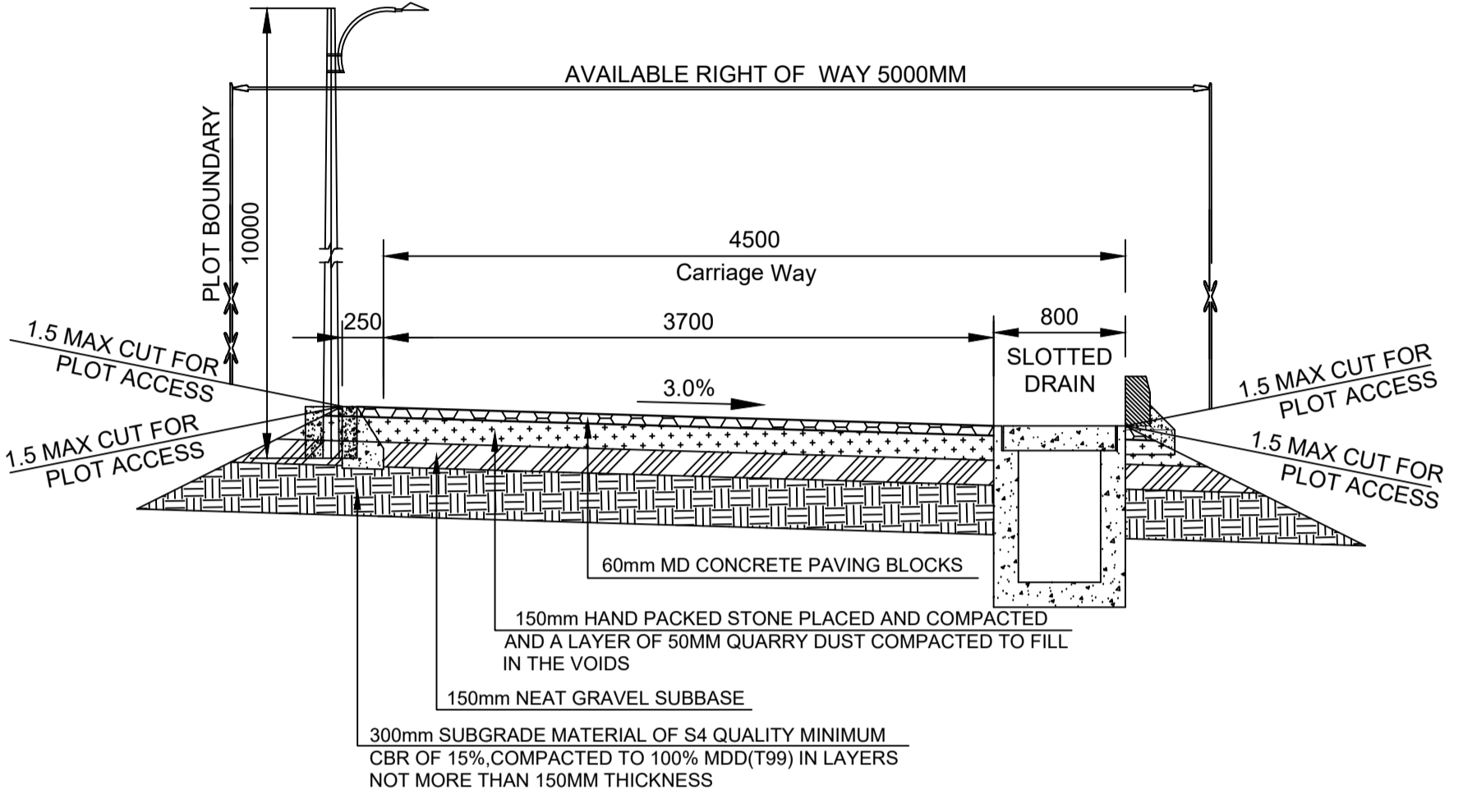
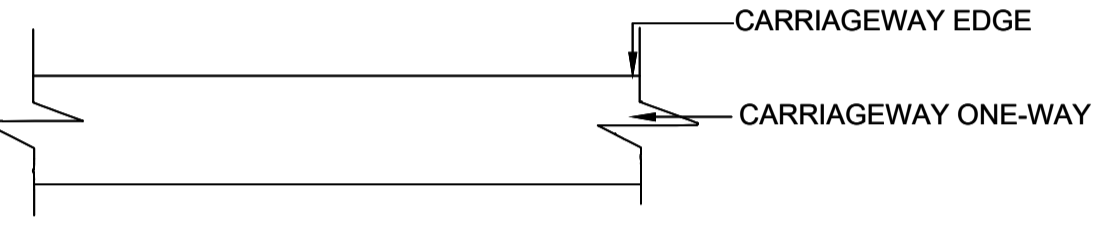
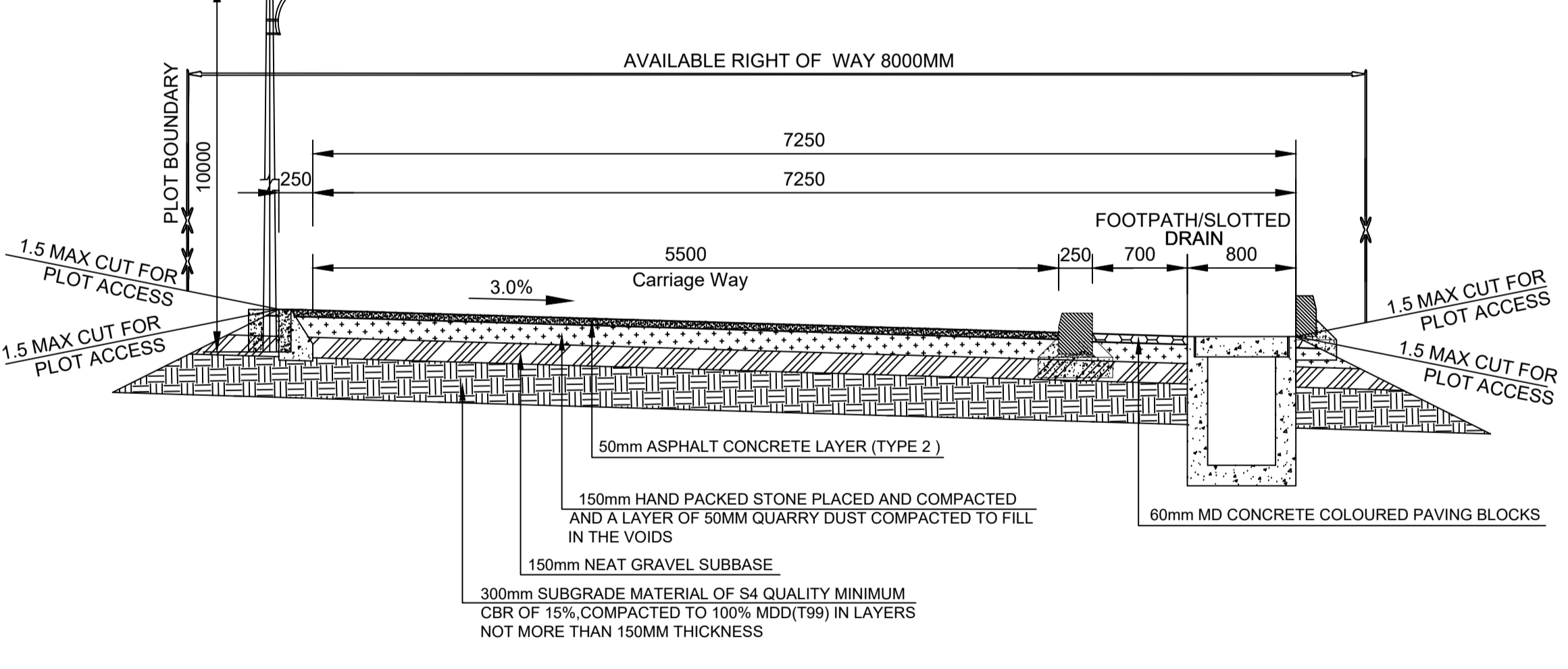
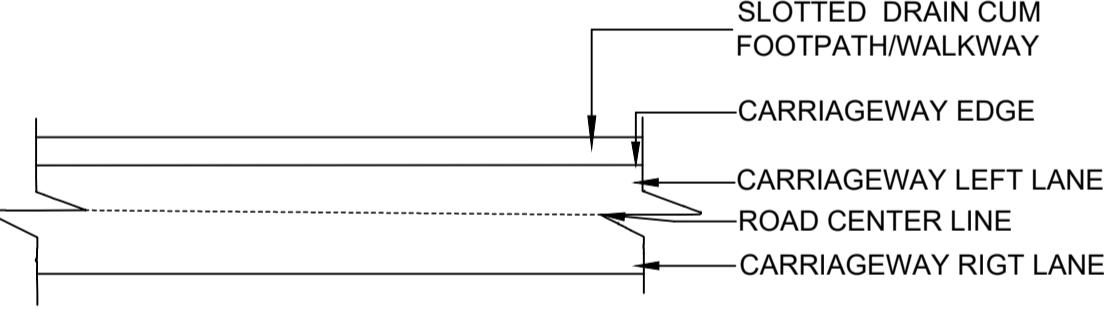
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY

Drawing Title: **MATHARE FIRE VICTIMS SETTLEMENT ROAD CROSS SECTIONS 2.**

Drg. No. WMCL/CR214/RC/06	Sheet No. 6 of 8		
Scale: 1:10	Date: FEBRUARY:2024		
1:200	Stage: TENDER DRAWINGS		
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM

REVISIONS

No.	Date	AMMENDMENTS
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TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
 <p style="text-align: center;">CROSS SECTION TYPE 4 SCALE 1:50</p> <p style="text-align: center;">CARRIAGE WAY - 4.5 METRES INCLUSIVE OF 0.8M WIDE MOTORABLE DRAIN</p>	<p>ONE WAY CARRIAGEWAY, SINGLE LANE OF 4.5METRES INCLUSIVE OF THE COVERED SLOTTED MOTORABLE CONCRETE DRAINS</p> 	<p style="text-align: center;">PUMWANI MAJENGO PMMJ RD 05</p>
 <p style="text-align: center;">CROSS SECTION TYPE 2 SCALE 1:50</p> <p style="text-align: center;">CARRIAGE WAY - 5.5 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 2.75METERS 1.5METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p> 	<p style="text-align: center;">PUMWANI MAJENGO PMMJ RD 01</p>

CLIENT:



**MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT**

EMPLOYER:



**NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)**

FINANCIER:

**INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)**



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY PACKAGE 2 LOT 1**

Drawing Title: **PUMWANI MAJENGO SETTLEMENT
ROAD CROSS SECTIONS 1.**

Drg. No. WMCL/CR214/RC/07 Sheet No. 7 of 8

Scale: 1:10 Date: APRIL:2024

1:200 Stage: TENDER DRAWINGS

APPROVED BY ENG.IKWM DESIGNED BY LWK

CHECKED BY ENG.PNG DRAWN BY SM

REVISIONS

No.	Date	AMMENDMENTS

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
<p style="text-align: center;">CROSS SECTION TYPE 1 SCALE 1:50 CARRIAGE WAY - 6.0 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 3.0METERS 1.5METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p>	<p>PUMWANI MAJENGO PMMJ RD 02 PMMJ RD 03</p>

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



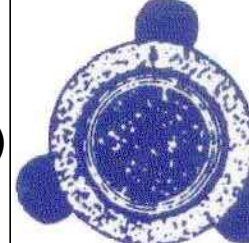
NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY PACKAGE 2 LOT 1

Drawing Title: PUMWANI MAJENGO SETTLEMENT
ROAD CROSS SECTIONS 2.

Drq. No. WMCL/CR214/RC/07A | Sheet No. 7A of 8

Scale: 1:10 | Date: FEBRUARY:2024

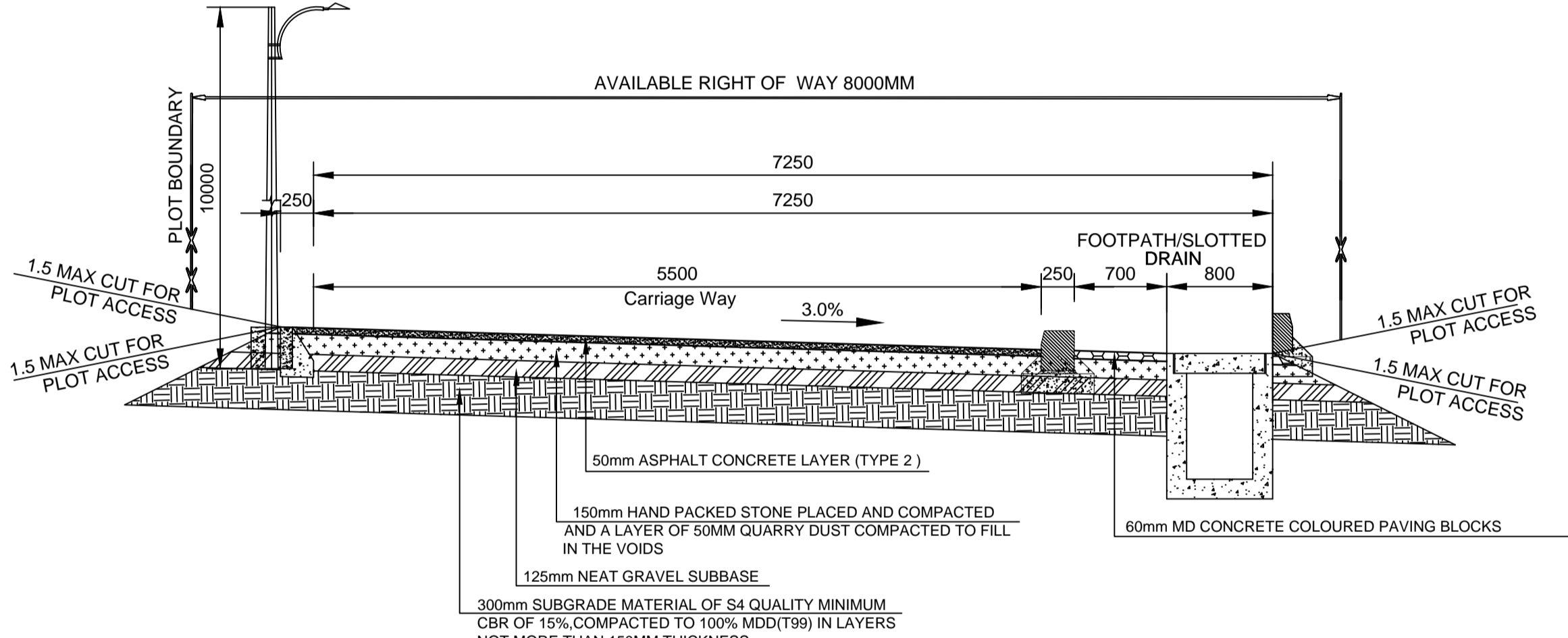
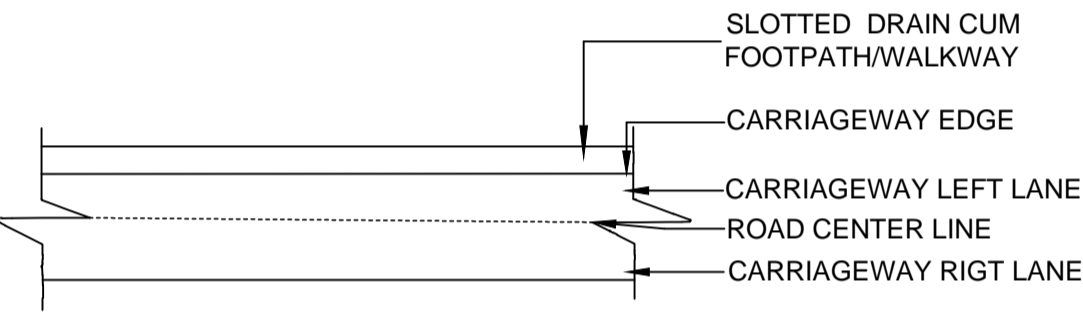
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APPROVED BY ENG.IKWM | DESIGNED BY LWK

CHECKED BY ENG.PNG | DRAWN BY SM

REVISIONS

No.	Date	AMMENDMENTS

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
 <p style="text-align: center;">CROSS SECTION TYPE 2 SCALE 1:50 CARRIAGE WAY - 5.5 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 2.75METERS 1.5METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p> 	<p style="text-align: center;">SPRING VALLEY SPRV RD 001 SPRV RD 002 SPRV RD 001A SPRV RD 003</p>

CLIENT:

MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:

NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY(IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT(AFD)



CONSULTANT:

**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY**

Drawing Title: **SPRING VALLEY SETTLEMENT
ROAD CROSS SECTIONS 1.**

Drg. No. WMCL/CR214/RC/08 Sheet No. 8 of 8

Scale: 1:10 Date: FEBRUARY:2024

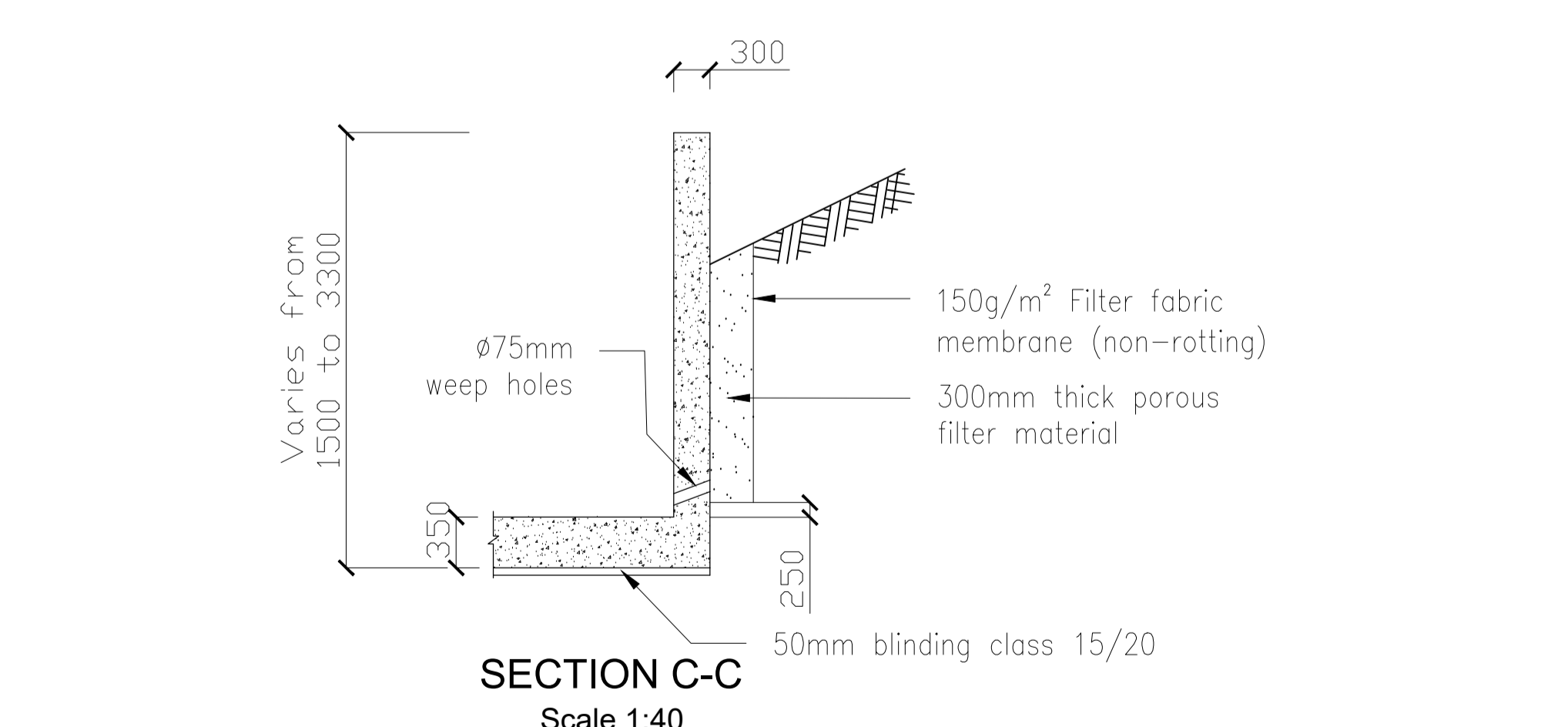
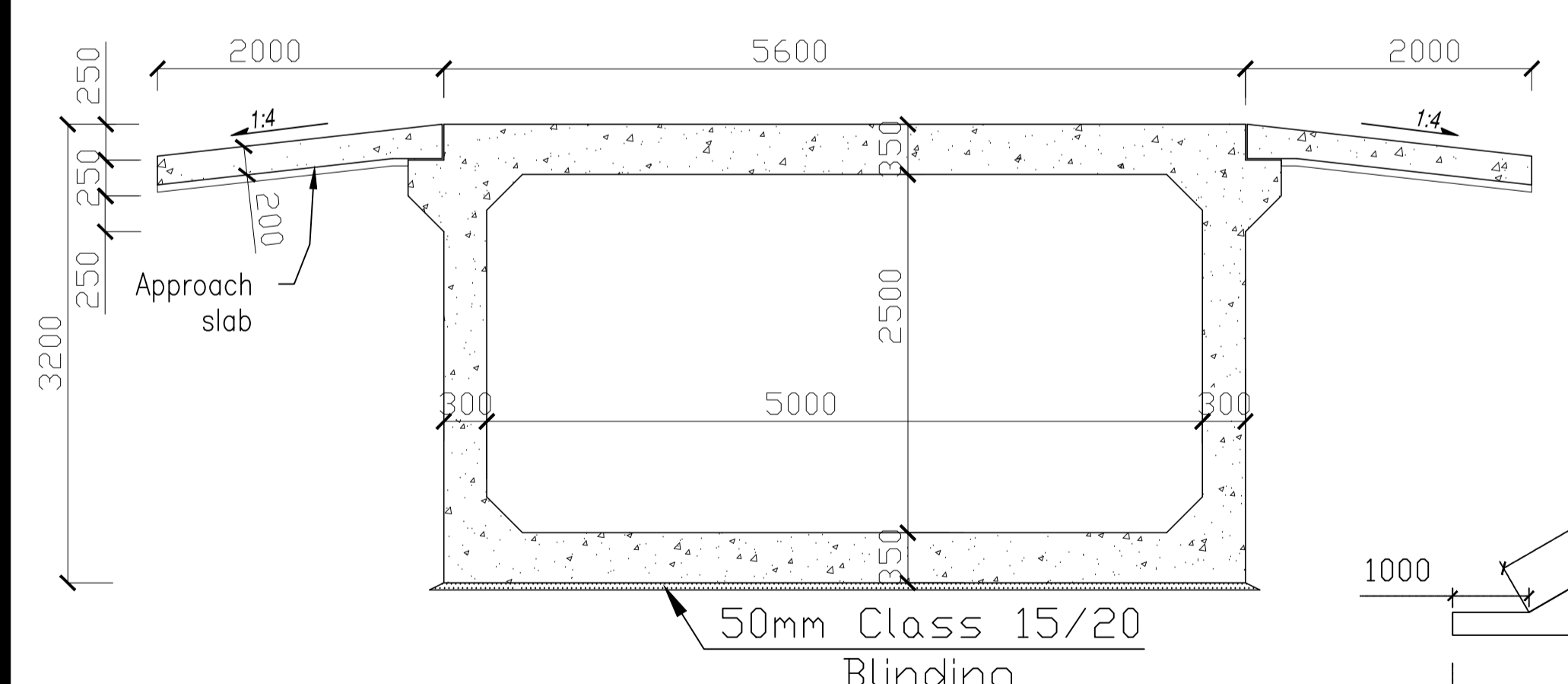
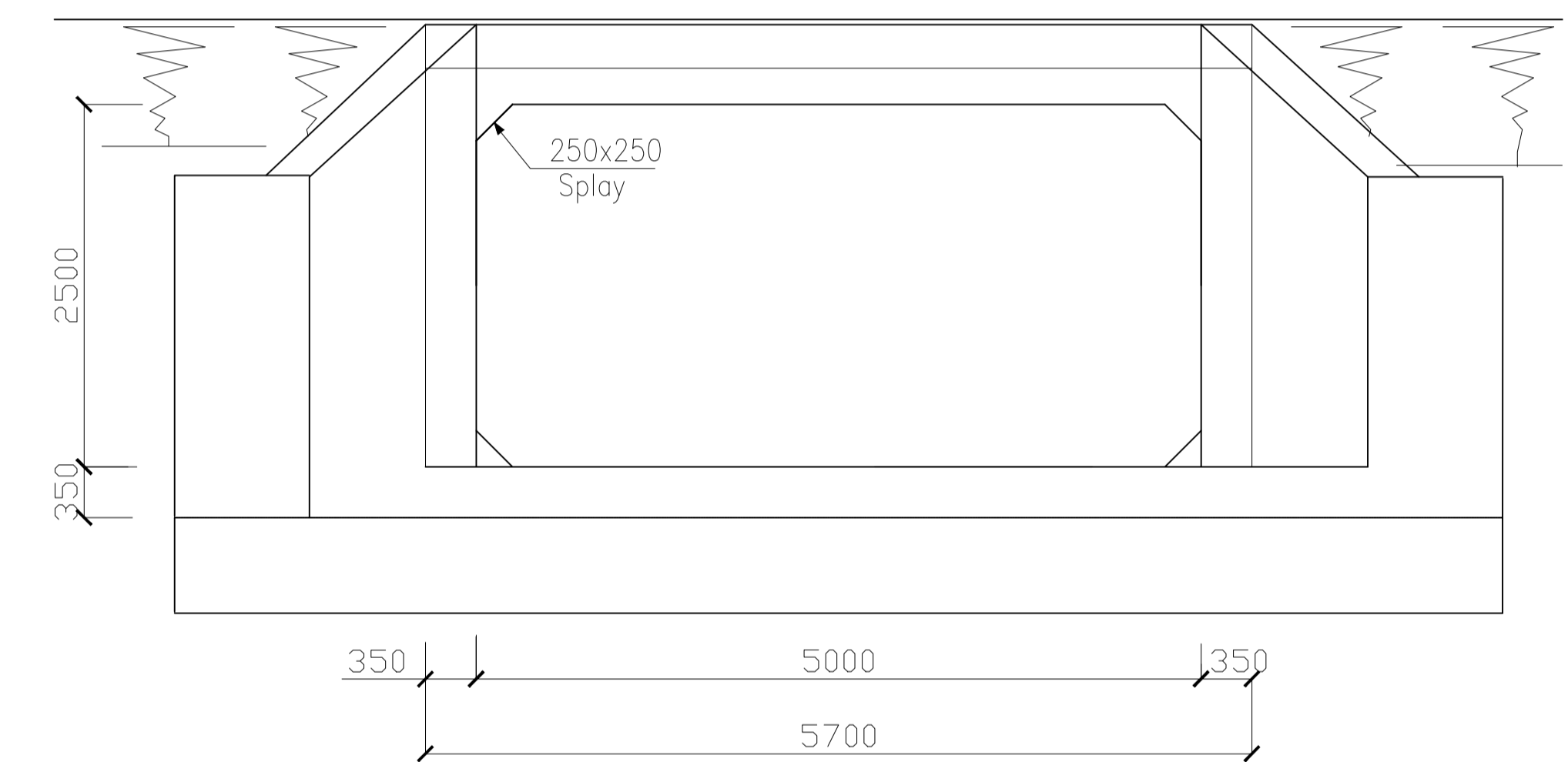
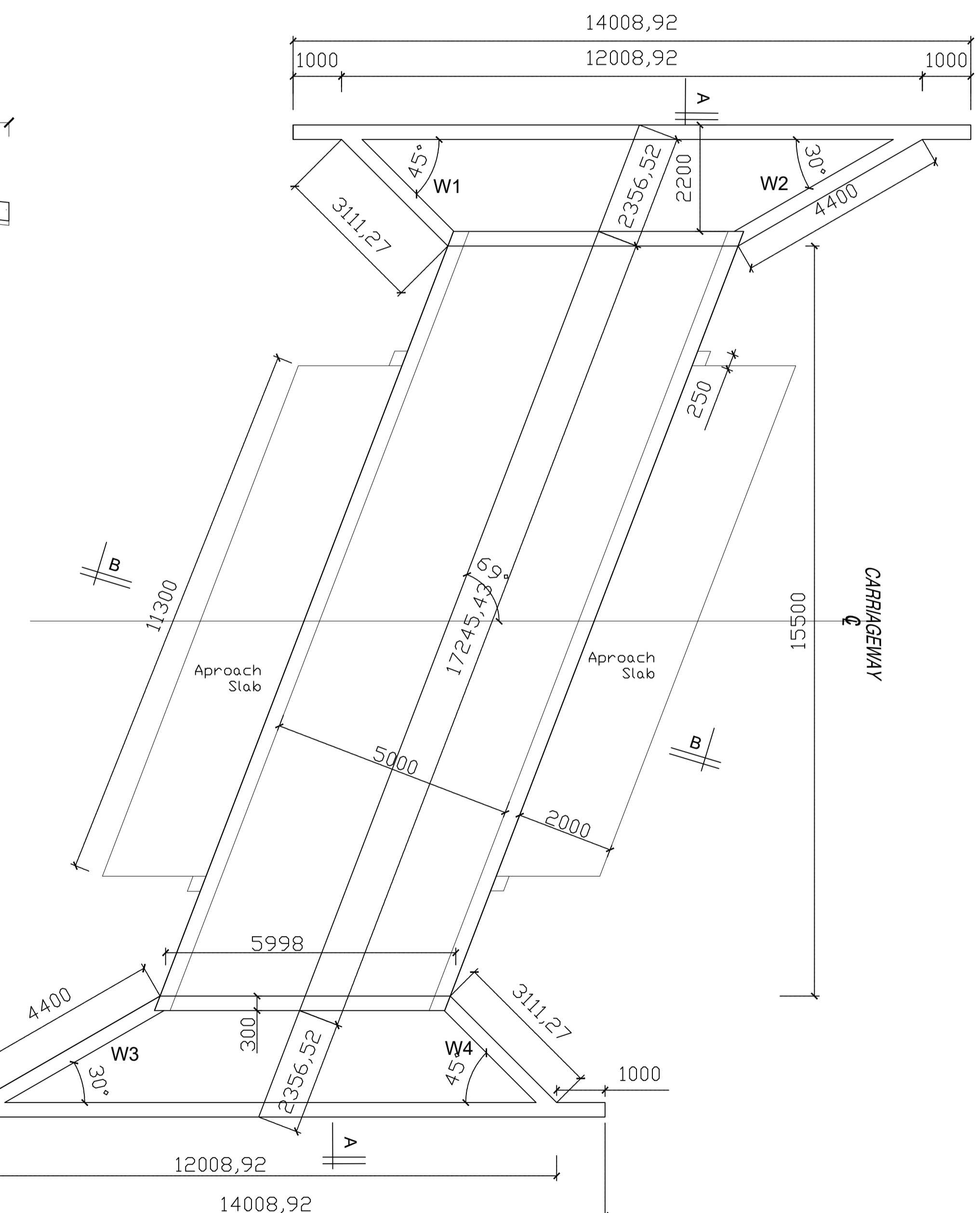
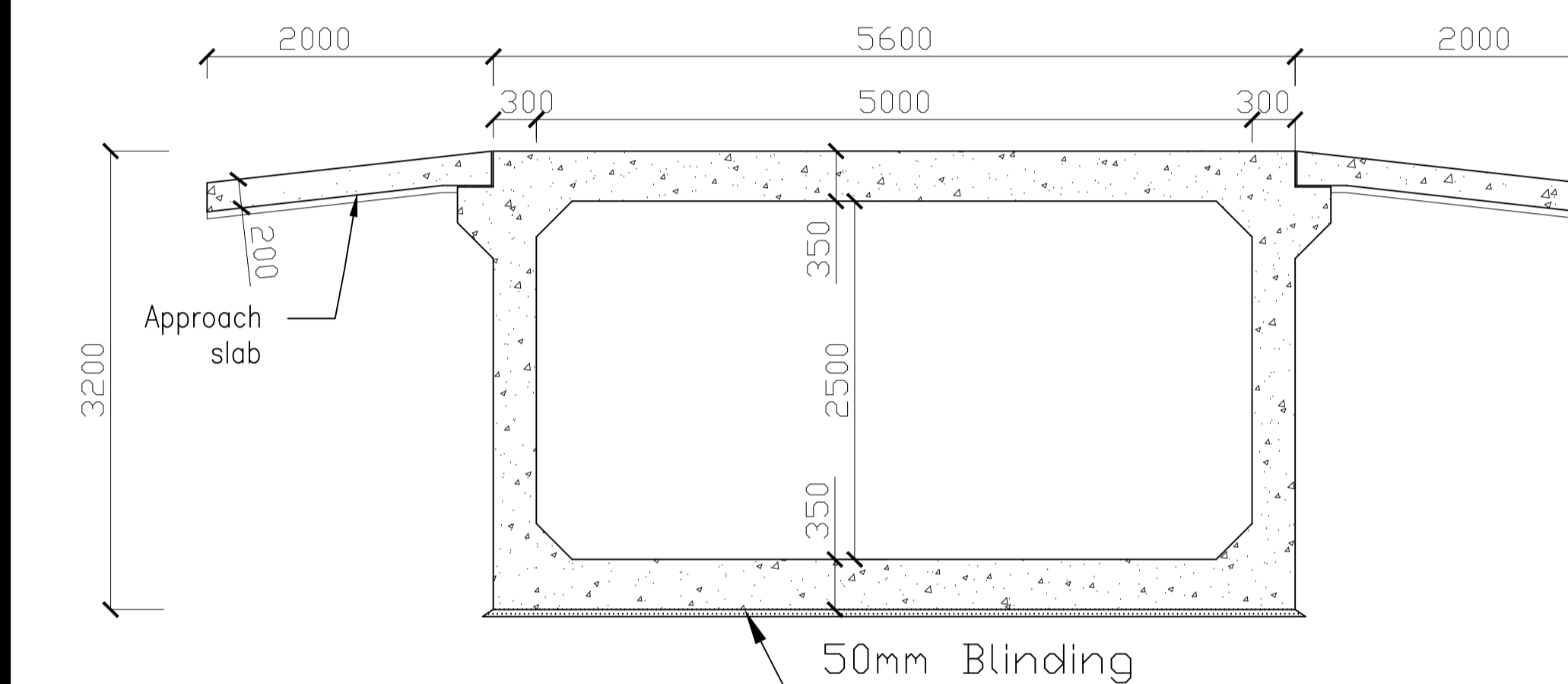
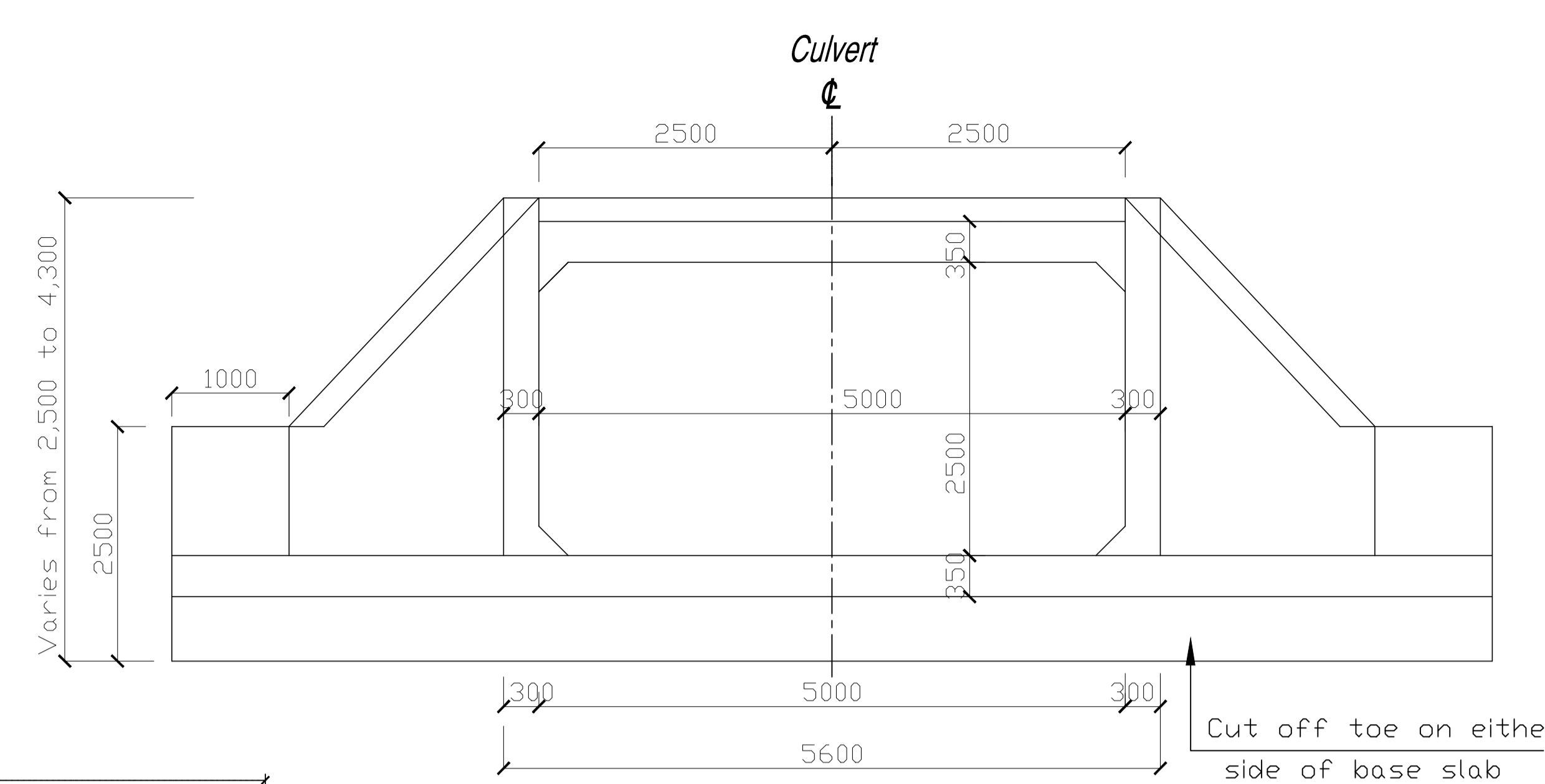
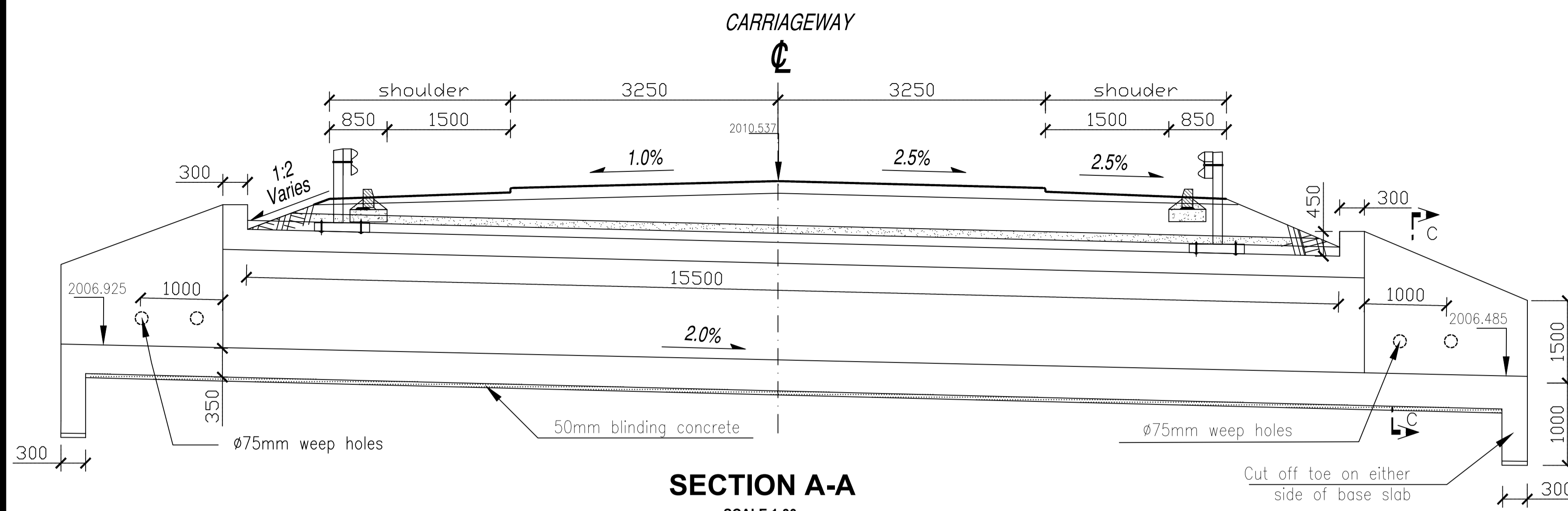
1:200 Stage: TENDER DRAWINGS

APPROVED BY ENG.IKWM DESIGNED BY LWK

CHECKED BY ENG.PNG DRAWN BY SM

REVISIONS

No. Date AMMENDMENTS



CLIENT: 	EMPLOYER: 	FINANCIER: 	CONSULTANT: 	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.	Drawing Title: 5.0x2.5m SINGLE CELL CONCRETE BOX CULVERT DETAILS		REVISIONS	
					Drg. No. WMCL/CR214/BC/01	Sheet No. 1 of 4	Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS

BAR BENDING SCHEDULE - BOX CULVERT

MEMBER	BAR MARK	BAR SPACING	TYPE & SIZE	NO. OF MEMBERS	NO. IN EACH	TOTAL NOS.	LENGTH (mm)	TOTAL LENGTH (m)	Weight (kg/m)	Weight (kg's)	SHAPE
BOX CULVERT BARREL	01	175	T12	02	99	198	5500	1089	0.89	969.21	
	02	100	T20	02	173	346	5525	1911.65	2.47	4721.776	
	03	150	T20	02	115	230	5500	1265	2.47	3124.55	
	04	175	T12	04	99	396	1530	605.88	0.89	539.2332	
	05	175	T12	02	99	198	3425	678.15	0.89	603.554	
	05A	250	T12	01	20	20	12000	240	0.89	213.6	
	05A1	250	T12	01	20	20	5850	117	0.89	104.13	
	05B	250	T12	01	20	20	12000	240	0.89	213.6	
	05B1	250	T12	01	20	20	5850	117	0.89	104.13	
	06A	250	T12	01	46	46	12000	552	0.89	491.28	
	06A1	250	T12	01	46	46	5850	269.1	0.89	239.499	
	06B	250	T12	01	20	20	12000	240	0.89	213.6	
	06B1	250	T12	01	20	20	7520	150.6	0.89	134.034	
01A	200	T12	04	7	28	5650	158.2	0.89	140.798		
03A	200	T20	04	7	28	5650	158.2	2.47	3124.55		
06C <small>(Bottom Slab Tie Beam)</small>	300	T12	02	20	40	1200	48	0.616	29.568		
						Culvert Barrel Weight (kg's, Tonnes)	12,233 kg's = 12.233 Tonnes				
						Bar Ø > T16 (kg's, Tonnes)	= 8.237 Tonnes				
						Bar Ø ≤ T16 (kg's, Tonnes)	= 3.996 Tonnes				

BAR BENDING SCHEDULE - BOX CULVERT

MEMBER	BAR MARK	BAR SPACING	TYPE & SIZE	NO. OF MEMBERS	NO. IN EACH	TOTAL NOS.	LENGTH (mm)	TOTAL LENGTH (m)	Weight (kg/m)	Weight (kg's)	SHAPE	
BOX CULVERT WING WALLS 1 & 4	07	200	T10	02	16	32	750	24	0.616	14.784		
	08	200	T12	02	32	64	3645	233.28	0.89	207.619		
	09	200	T12	02	16	32	8240	263.68	0.89	234.675		
	10	250	T12	02	12	24	3350	80.4	0.89	71.556		
	11	250	T12	02	16	32	1750	56	0.89	49.84		
	12	250	T12	02	10	20	1440	28.8	0.89	25.632		
	13	250	T12	02	10	20	1440	28.8	0.89	25.632		
	14	250	T12	02	10	20	1440	28.8	0.89	25.632		
	15	175	T12	02	2	4	4200	16.8	0.89	14.952		
							Wing walls 1 & 4 Weight (kg's, Tonnes)	670.3224 kg's = 0.6703 Tonnes				
							Bar Ø > T16 (kg's, Tonnes)	= 0.0 Tonnes				
							Bar Ø ≤ T16 (kg's, Tonnes)	= 0.6703 Tonnes				

BAR BENDING SCHEDULE - BOX CULVERT

MEMBER	BAR MARK	BAR SPACING	TYPE & SIZE	NO. OF MEMBERS	NO. IN EACH	TOTAL NOS.	LENGTH (mm)	TOTAL LENGTH (m)	Weight (kg/m)	Weight (kg's)	SHAPE	
BOX CULVERT WING WALLS 2 & 3	07A	200	T10	02	22	44	750	33	0.616	20.328		
	08A	200	T12	02	44	88	3645	320.76	0.89	285.4764		
	09A	200	T12	02	22	44	8240	362.56	0.89	322.6784		
	10A	250	T12	02	12	24	4600	110.40	0.89	98.256		
	11A	250	T12	02	18	36	2500	90.0	0.89	80.10		
	12A	250	T12	02	10	20	1440	28.8	0.89	25.632		
	13A	250	T12	02	10	20	1440	28.8	0.89	25.632		
	14A	250	T12	02	10	20	1440	28.8	0.89	25.632		
	15A	175	T12	02	2	4	5530	22.12	0.89	19.686		
							Wing walls 2 & 3 Weight (kg's, Tonnes)	903.4216 kg's = 0.9034 Tonnes				
							Bar Ø > T16 (kg's, Tonnes)	= 0.0 Tonnes				
							Bar Ø ≤ T16 (kg's, Tonnes)	= 0.90342 Tonnes				

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT:

Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY.

Drawing Title: 5.0x2.5m SINGLE CELL BOX CULVERT REINFORCEMENT BBS DETAIL 1

Drg. No. WMCL/CR214/BC/03	Sheet No. 3 of 4
Scale: 1:50	Date: FEBRUARY:2024
1:100	Stage: TENDER DRAWINGS
APPROVED BY: ENG.IKWM	DESIGNED BY: LWK
CHECKED BY: ENG.PNG	DRAWN BY: SM

REVISIONS

No.	Date	AMMENDMENTS

BAR BENDING SCHEDULE - BOX CULVERT

MEMBER	BAR MARK	BAR SPACING	TYPE & SIZE	NO. OF MEMBERS	NO. IN EACH	TOTAL NOS.	LENGTH (mm)	TOTAL LENGTH (m)	Weight (kg/m)	Weight (kg's)	SHAPE
BOX CULVERT APRON SLABS	16	250	T12	02	24	48	5865	281.52	0.89	250.5528	
	17	250	T12	02	13	26	2465	64.09	0.89	57.0401	
	17A	250	T12	02	8	16	2465	39.44	0.89	35.102	
	18	250	T12	02	20	40	8700	348	0.89	309.72	
						Apron Slabs Weight (kg's, Tonnes)		652.4145 kg's = 0.652 Tonnes			
						Bar Ø > T16 (kg's, Tonnes)		= 0.0 Tonnes			
						Bar Ø ≤ T16 (kg's, Tonnes)		= 0.652 Tonnes			
BOX CULVERT TOE WALLS	19A	175	T10	02	4	8	12000	96	0.616	59.136	
	19A1	175	T10	02	4	8	3650	29.2	0.616	17.9872	
	19B	175	T12	02	4	8	12000	96	0.89	85.40	
	19B1	175	T12	02	4	8	3650	29.2	0.89	25.988	
	20	250	T12	02	58	116	2520	292.32	0.89	260.1648	
							Toe Walls Weight (kg's, Tonnes)		448.716 kg's = 0.449Tonnes		
						Bar Ø > T16 (kg's, Tonnes)		= 0.0 Tonnes			
						Bar Ø ≤ T16 (kg's, Tonnes)		= 0.449 Tonnes			

BAR BENDING SCHEDULE - BOX CULVERT

MEMBER	BAR MARK	BAR SPACING	TYPE & SIZE	NO. OF MEMBERS	NO. IN EACH	TOTAL NOS.	LENGTH (mm)	TOTAL LENGTH (m)	Weight (kg/m)	Weight (kg's)	SHAPE	
BOX CULVERT HEAD WALLS	21	175	T12	02	2	4	6000	24	0.89	21.36		
	22	250	T12	02	24	48	1820	87.36	0.89	77.7504		
	23	175	T12	02	2	4	6000	24	0.89	21.36		
	24	175	T20	02	2	4	6000	24	2.47	59.28		
						Head Walls Weight (kg's, Tonnes)		179.7504 kg's = 0.1798 Tonnes				
						Bar Ø > T16 (kg's, Tonnes)		= 0.059 Tonnes				
						Bar Ø ≤ T16 (kg's, Tonnes)		= 0.1205Tonnes				
BOX CULVERT CUTOFF WING WALLS	25	200	T12	04	30	120	1650	198	0.89	176.22		
	26	200	T10	04	15	60	750	45	0.616	27.72		
	27	250	T12	04	10	40	1870	74.8	0.89	66.57		
							Cutoff Wing walls Weight (kg's, Tonnes)		270.512 kg's = 0.2751Tonnes			
							Bar Ø > T16 (kg's, Tonnes)		= 0.0 Tonnes			
						Bar Ø ≤ T16 (kg's, Tonnes)		= 0.2751 Tonnes				

BAR BENDING SCHEDULE - BOX CULVERT

MEMBER	BAR MARK	BAR SPACING	TYPE & SIZE	NO. OF MEMBERS	NO. IN EACH	TOTAL NOS.	LENGTH (mm)	TOTAL LENGTH (m)	Weight (kg/m)	Weight (kg's)	SHAPE
APPROACH SLAB AND SIT	28	150	T12	02	7	14	12000	168.0	0.890	149.52	
	29	300	T16	02	37	74	800	59.2	1.58	93.54	
	30	150	T12	02	79	158	2175	343.65	0.89	305.85	
	31	200	T12	02	11	22	11450	251.9	0.89	224.191	
	32	200	T12	02	56	112	2150	240.80	0.89	214.312	
						Approach Slab and Sit (kg's, Tonnes)		987.502 kg's = 0.988 Tonnes			

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
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Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

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PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY.

Drawing Title: 5.0x2.5m SINGLE CELL BOX CULVERT

REINFORCEMENT BBS DETAIL 2

Drg. No. WMCL/CR214/BC/04 Sheet No. 4 of 4

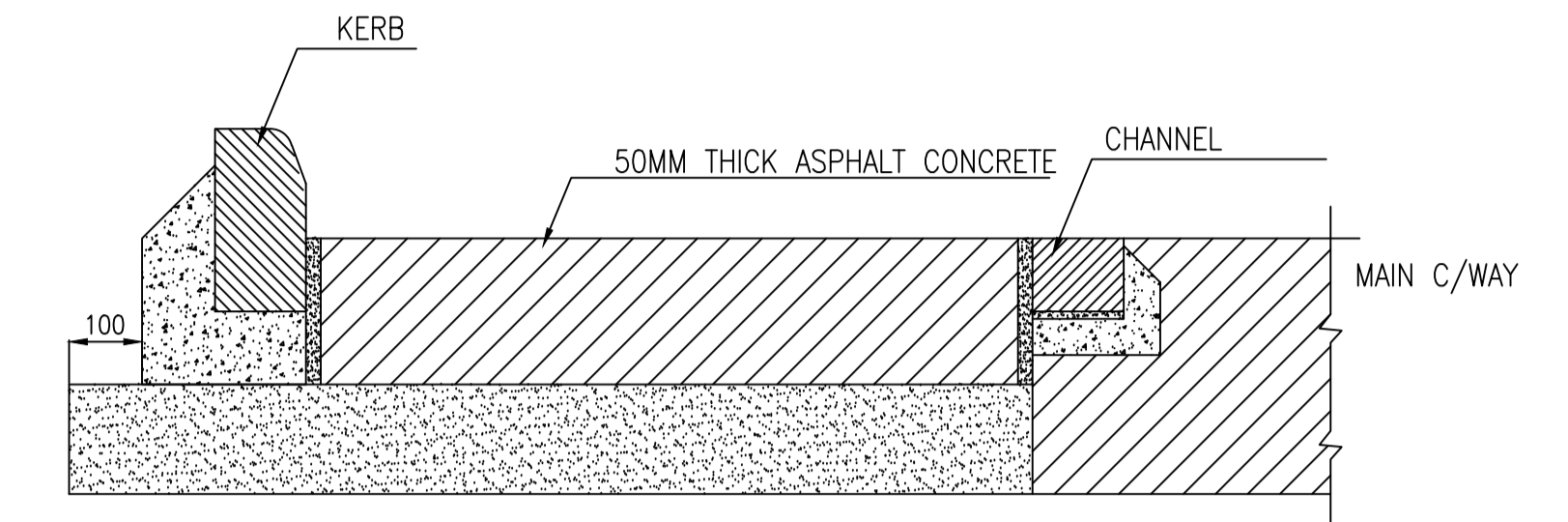
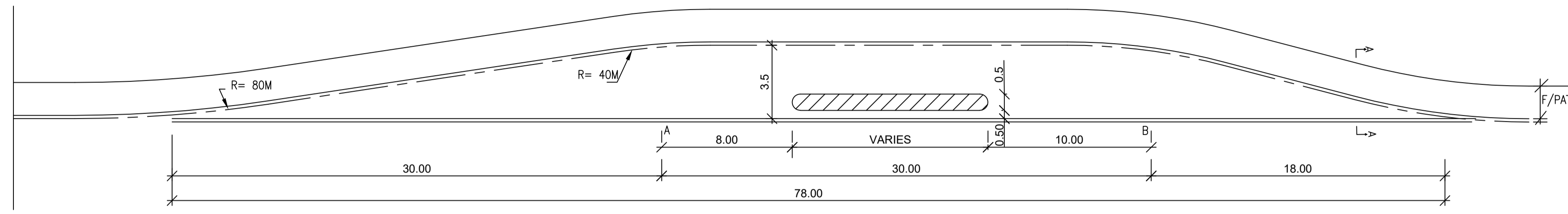
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1:100 Stage: TENDER DRAWINGS

APPROVED BY ENG. IKWM DESIGNED BY LWK

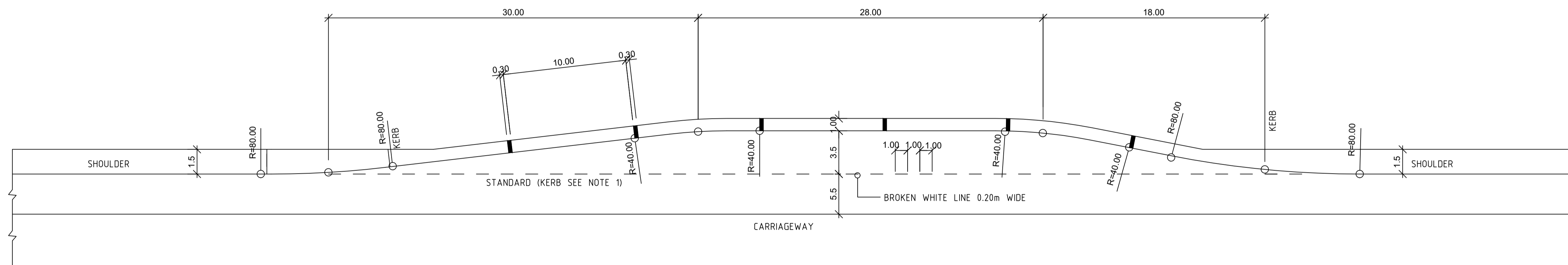
CHECKED BY ENG. PNG DRAWN BY SM No. Date AMMENDMENTS

REVISIONS



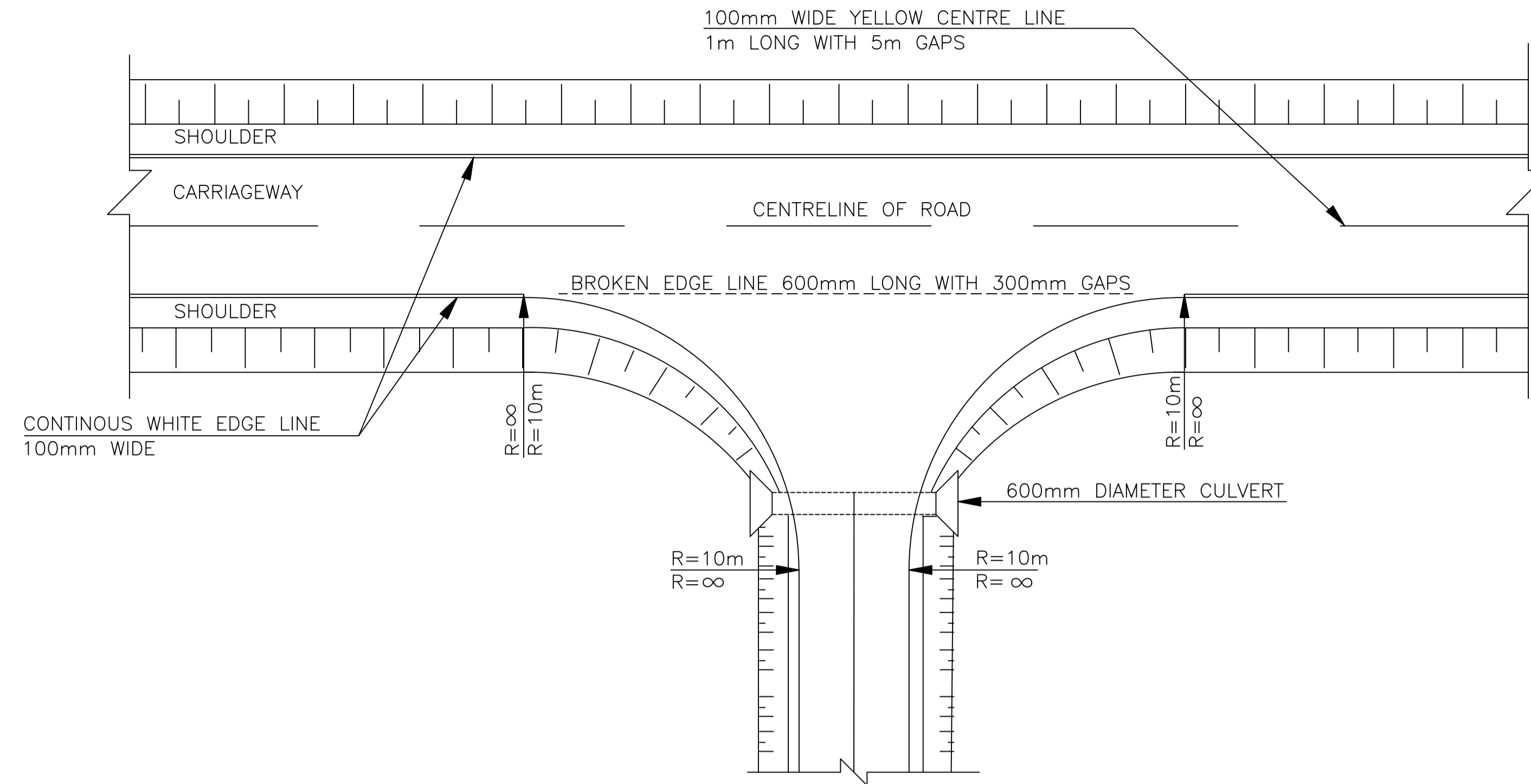
DETAILS OF STANDARD BUS LAY-BY
SCALE 1:200

SECTION A-A
SCALE 1:10



BUS-BAY DETAILS
1:200

<p>CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY(IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT(AFD)</p>	<p>CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY</p>	<p>Drawing Title: TYPICAL BUS BAY DETAILS.</p>		<p>REVISIONS</p>	
					<p>Drg. No. WMCL/CR214/SD/01</p>	<p>Sheet No. 1 of 12</p>	<p>Scale: 1:10</p>	<p>Date: FEBRUARY,2024</p>
<p>Scale: 1:200</p>	<p>Stage: TENDER DRAWINGS</p>	<p>CHECKED BY</p>	<p>ENG.PNG</p>	<p>DRAWN BY</p>	<p>SM</p>	<p>No.</p>	<p>Date</p>	<p>AMMENDMENTS</p>

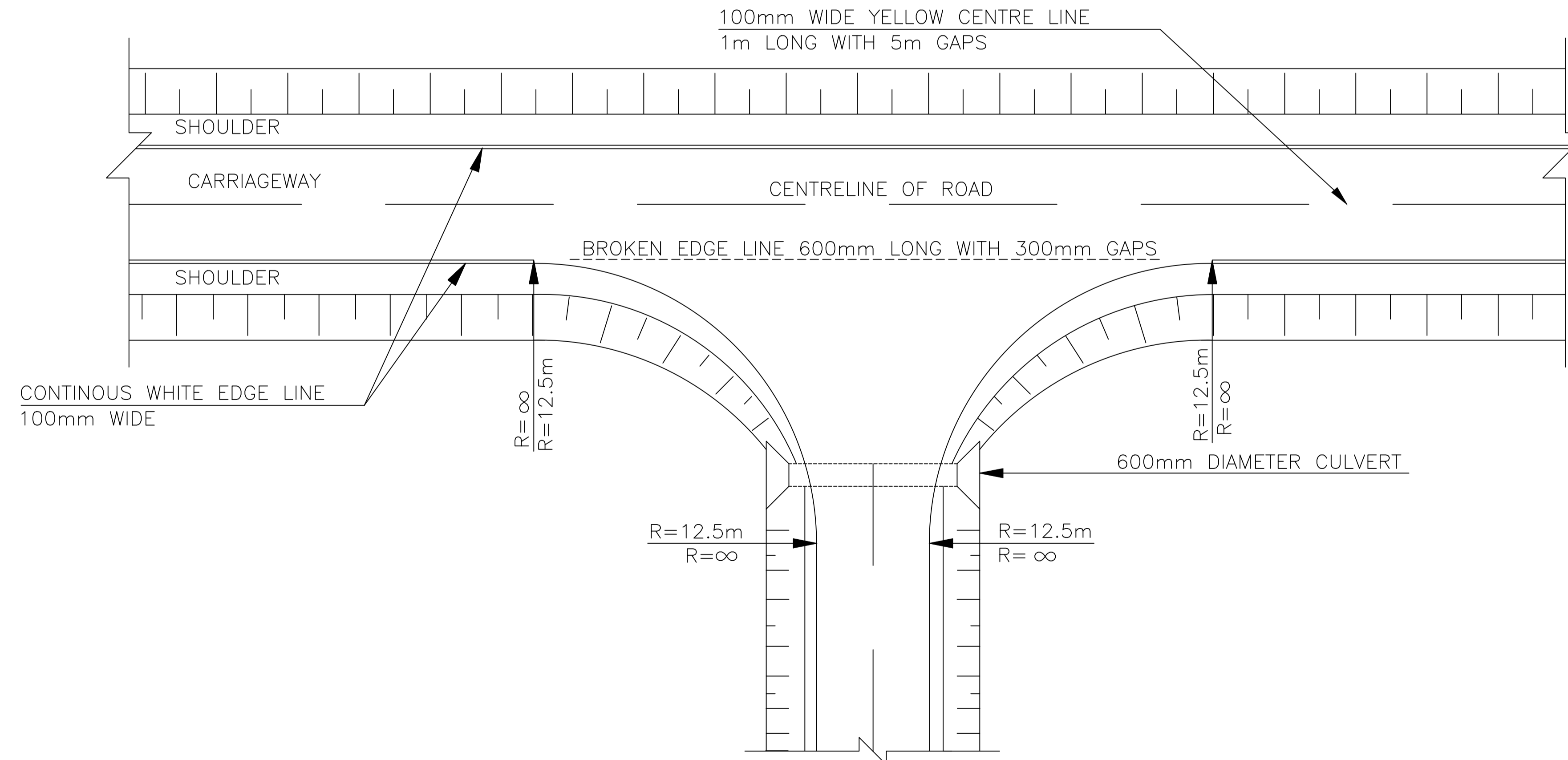


NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SHOWN.
2. THE ACTUAL LOCATION OF PRIVATE ACCESS TO BE AS DIRECTED

JUNCTION A : R=10M

SCALE 1:100



JUNCTION B : R=12.5M

SCALE 1:100

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
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PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY

Drawing Title: **TYPICAL JUNCTION DETAILS.**

Drg. No. WMCL/CR214/SD/02 Sheet No. 2 of 12

Scale: 1:10 Date: FEBRUARY 2024

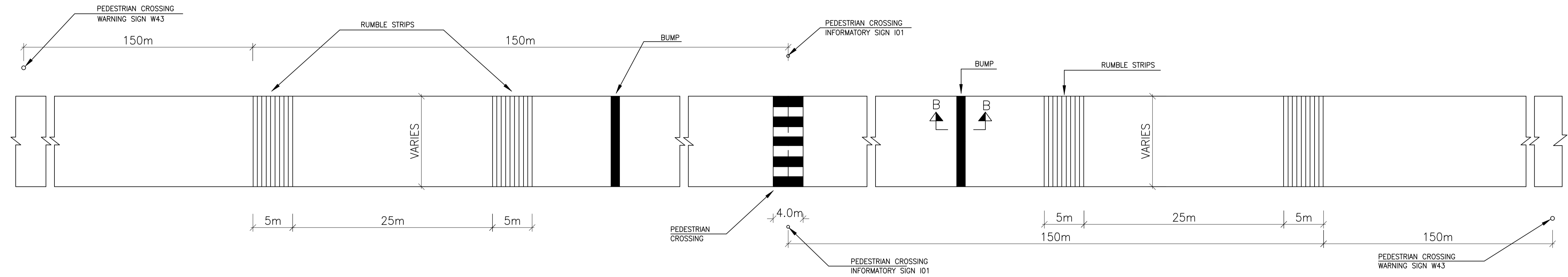
1:200 Stage: TENDER DRAWINGS

APPROVED BY ENG.IKWM DESIGNED BY LWK

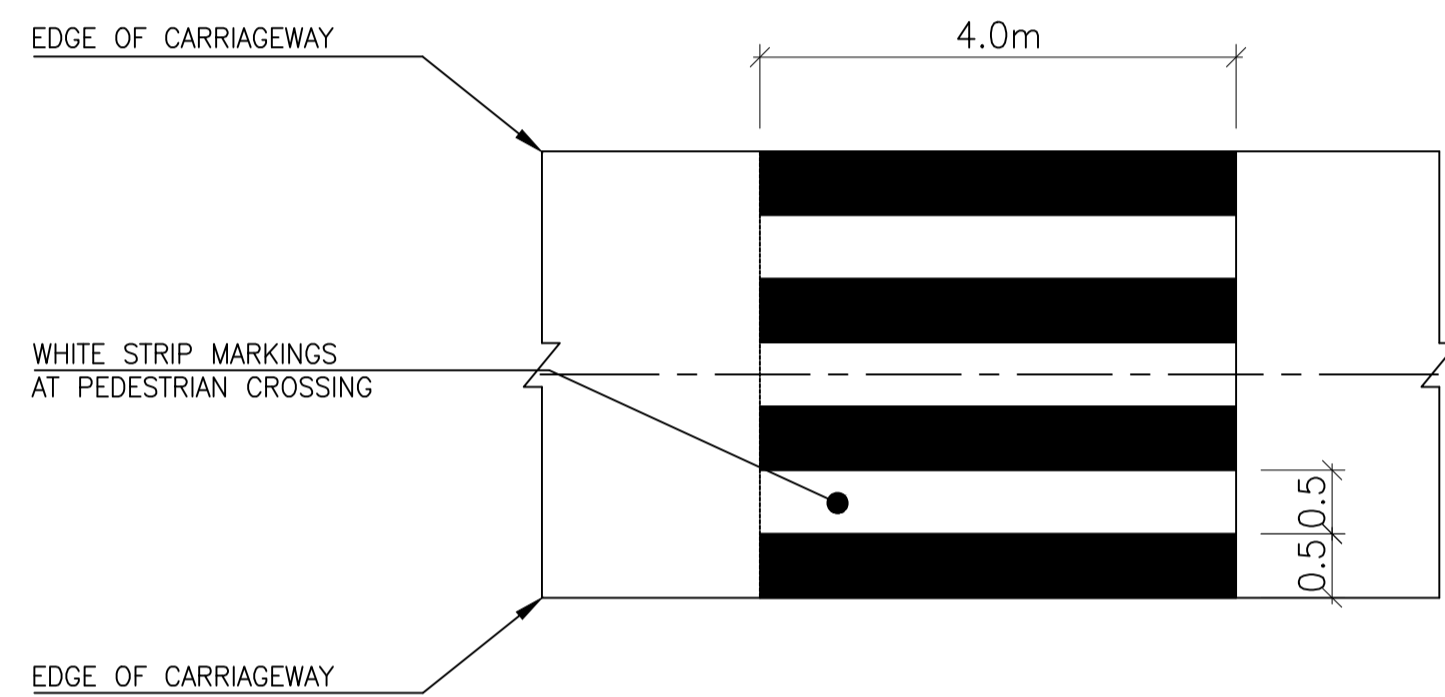
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REVISIONS

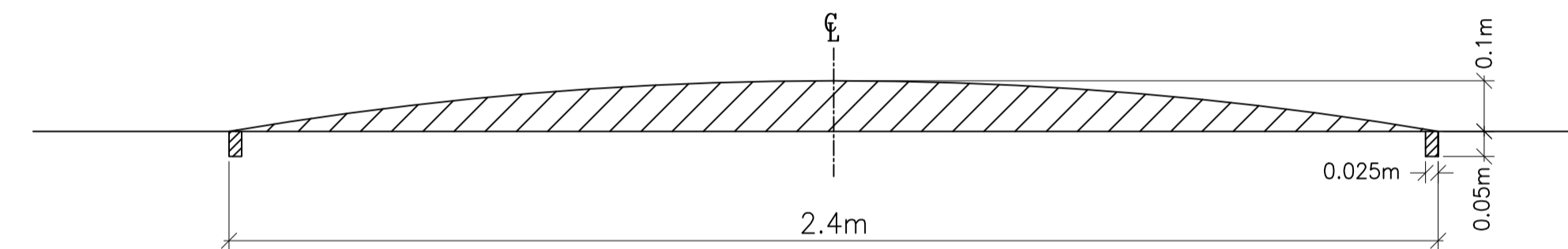
No.	Date	AMMENDMENTS



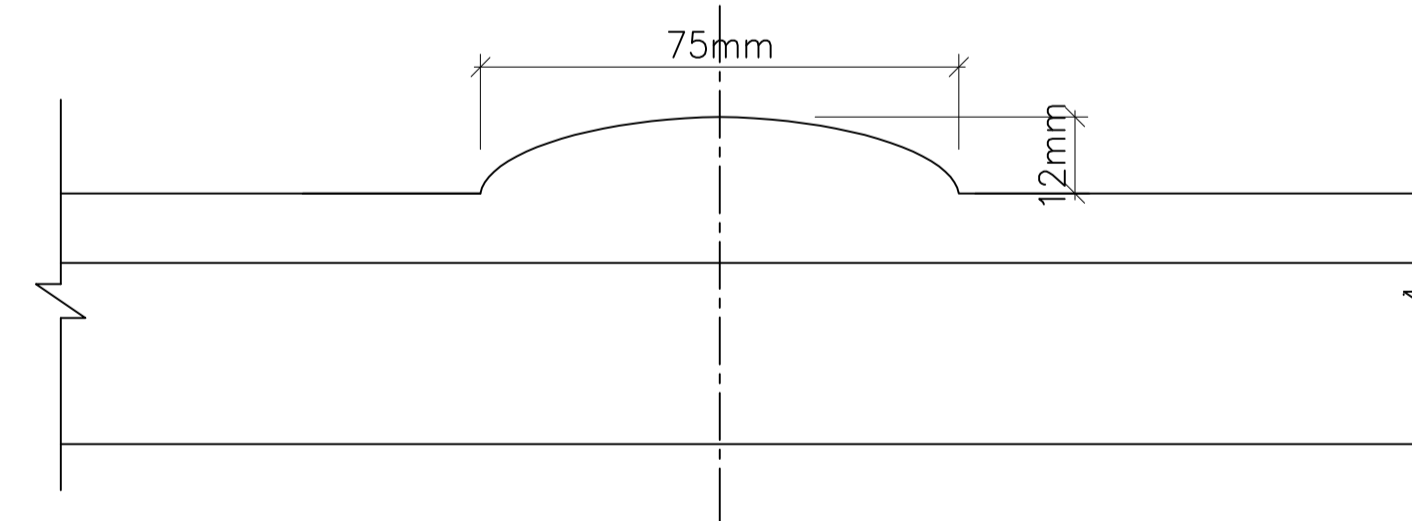
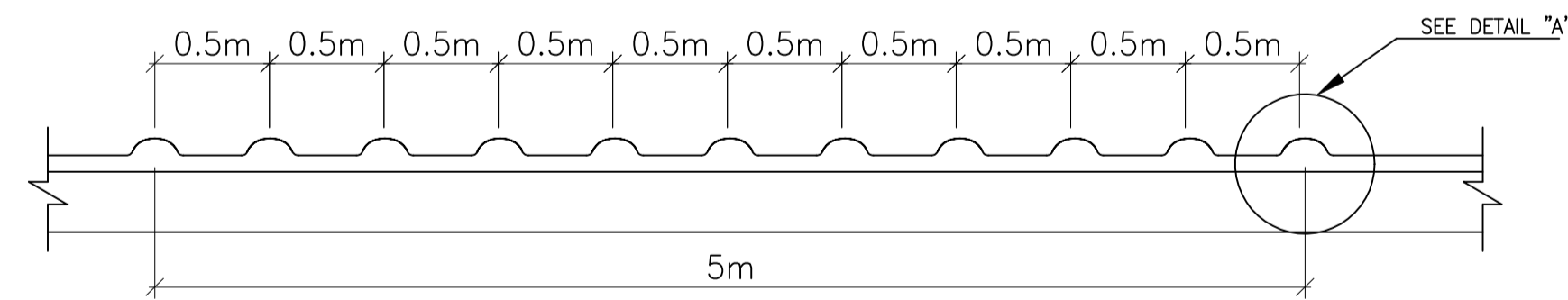
LAYOUT PLAN : RAISED PEDESTRIAN CROSSING
SCALE 1:150



ROAD MARKING FOR PEDESTRIAN CROSSING
SCALE 1:20



SECTION B-B
BUMP CROSSING DETAILS
SCALE 1:5



NOTES:

1. ALL UNITS ARE IN METRES UNLESS STATED OTHERWISE.
2. BUMP CROSSING TO BE CONSTRUCTED USING ASPHALT CONCRETE OR COLD PREMIX.
3. PEDESTRIAN CROSSING MARKINGS TO BE 0.5m WIDE STRIPS, 3.7m LONG AS SHOWN.
4. PEDESTRIAN CROSSING WARNING SIGNS SHALL BE INSTALLED 300m IN ADVANCE OF THE CROSSING AND INFORMATORY SIGN SHALL BE INSTALLED AT THE CROSSING ON EITHER SIDE.
5. TWO SETS OF RUMBLE STRIPS SHALL BE CONSTRUCTED ON EITHER SIDE OF THE RAISED CROSSING.
6. LOCATION FOR PEDESTRIAN CROSSING TO BE DETERMINED ON SITE.

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



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IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
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Drawing Title: TYPICAL ROAD SAFETY DETAILS.

Drg. No. WMCL/CR214/SD/03 Sheet No. 3 of 12

Scale: 1:10 Date: FEBRUARY:2024

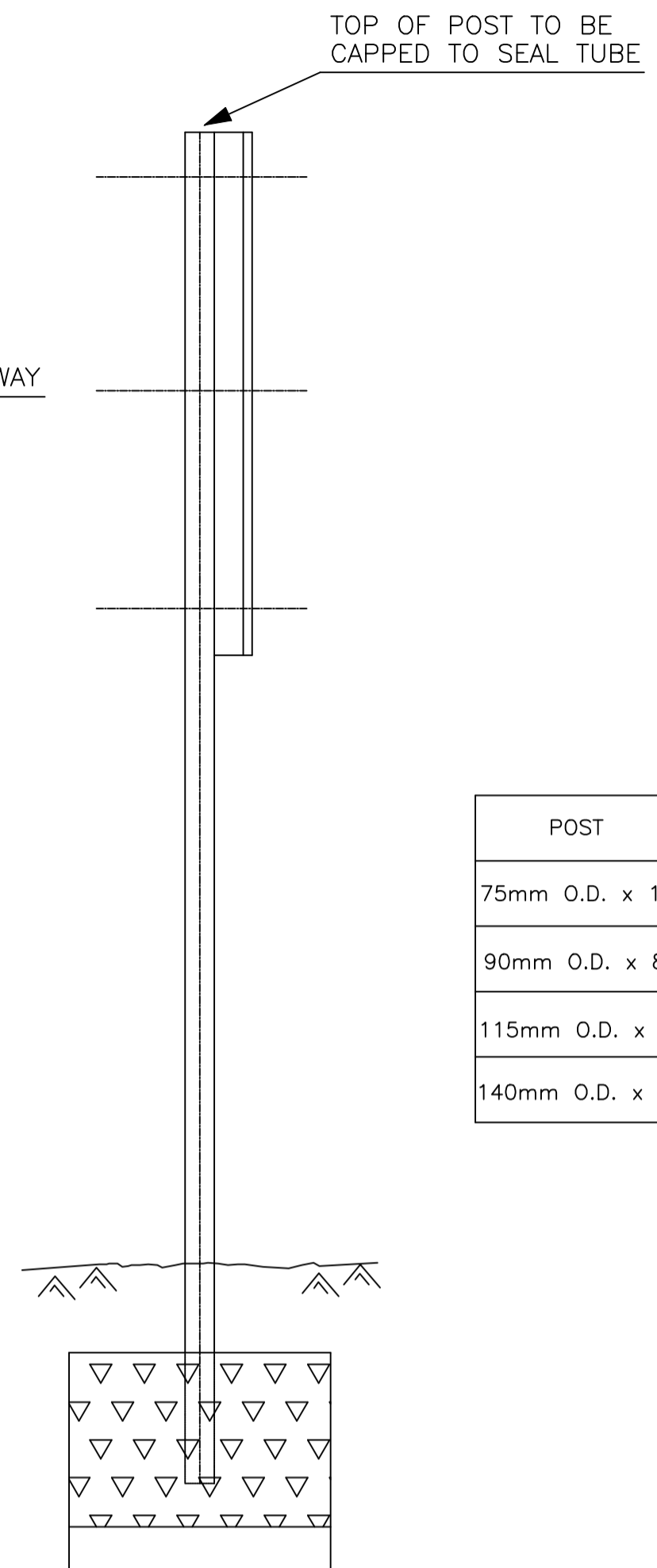
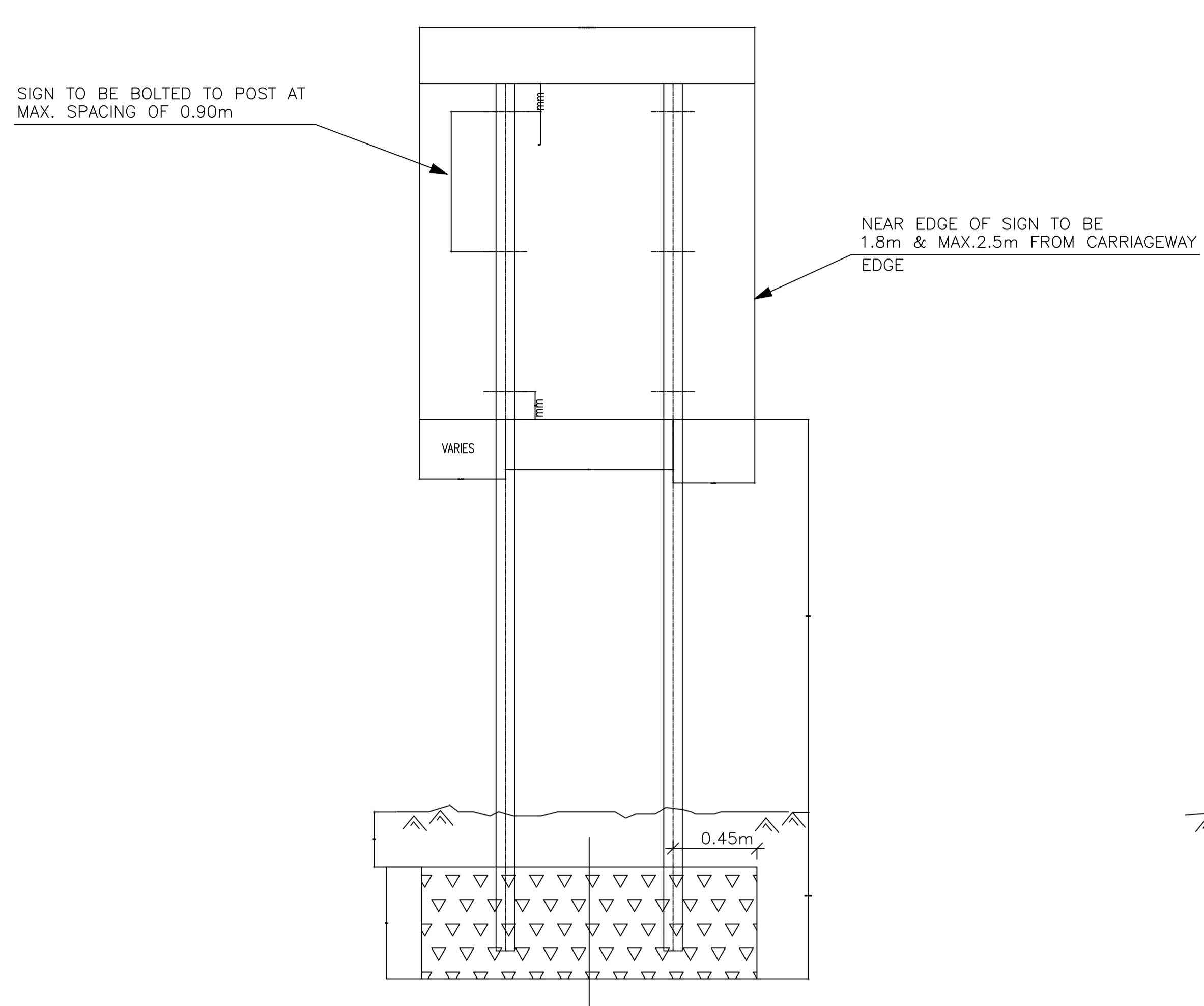
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APPROVED BY ENG. IKWM DESIGNED BY LWK

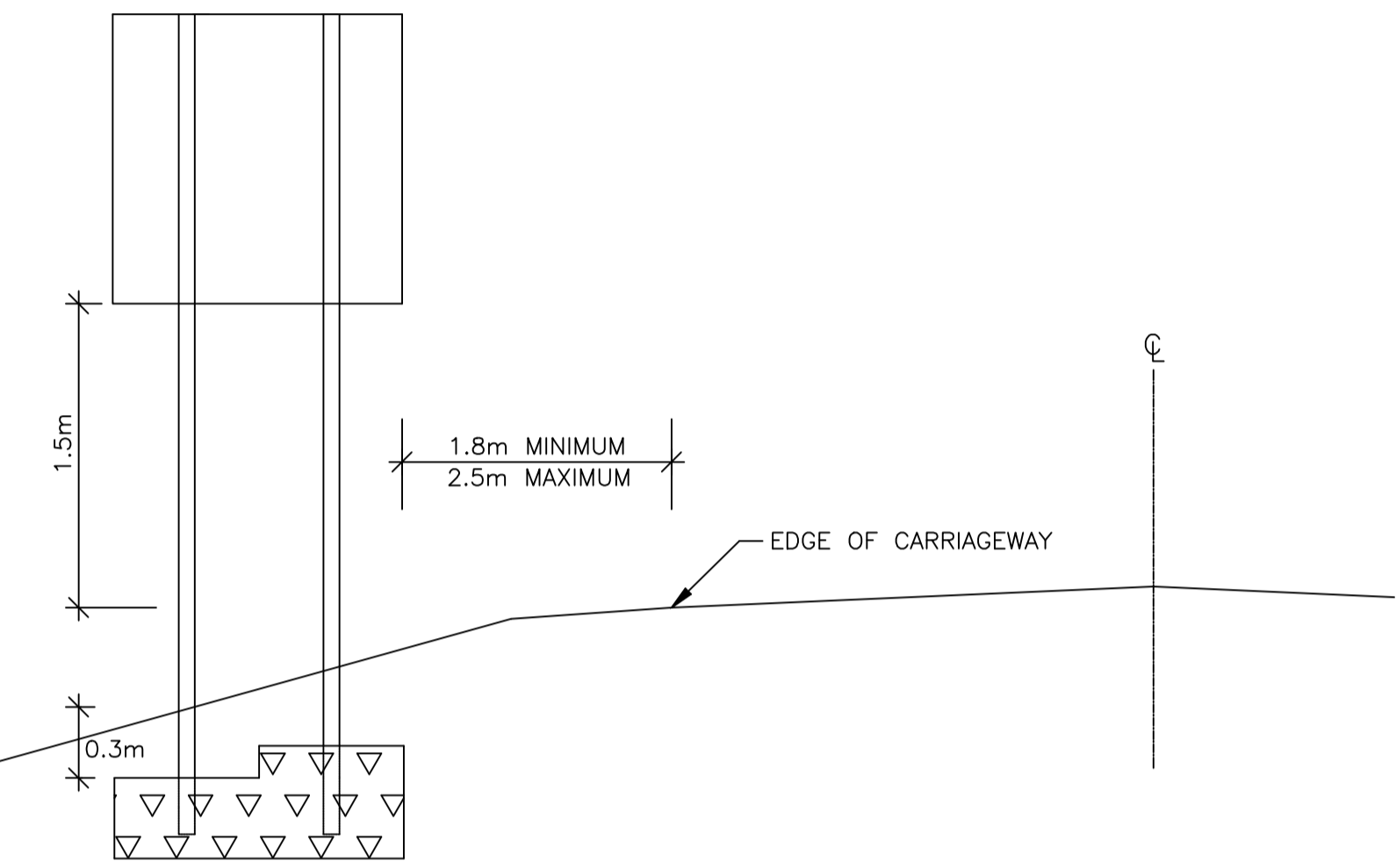
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REVISIONS

No.	Date	AMMENDMENTS

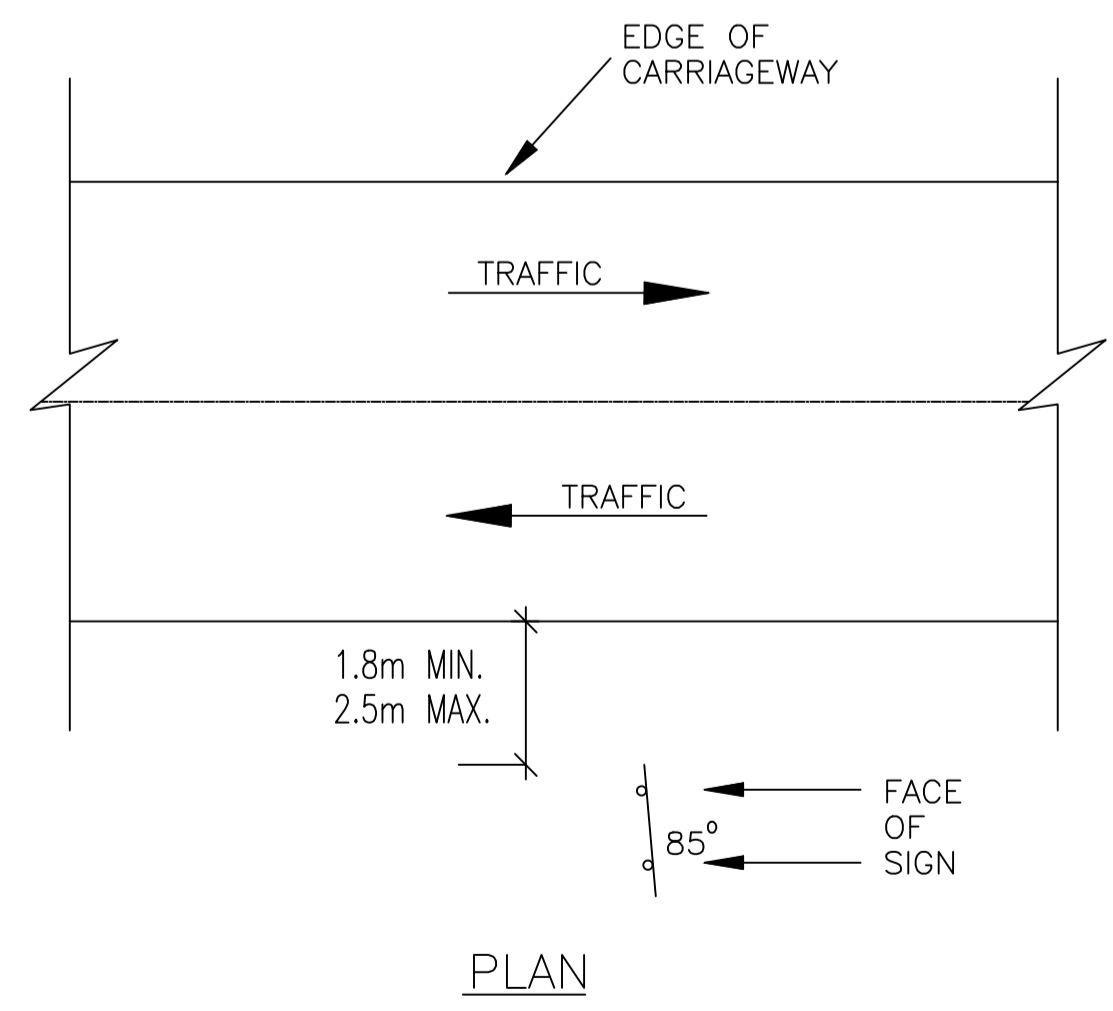
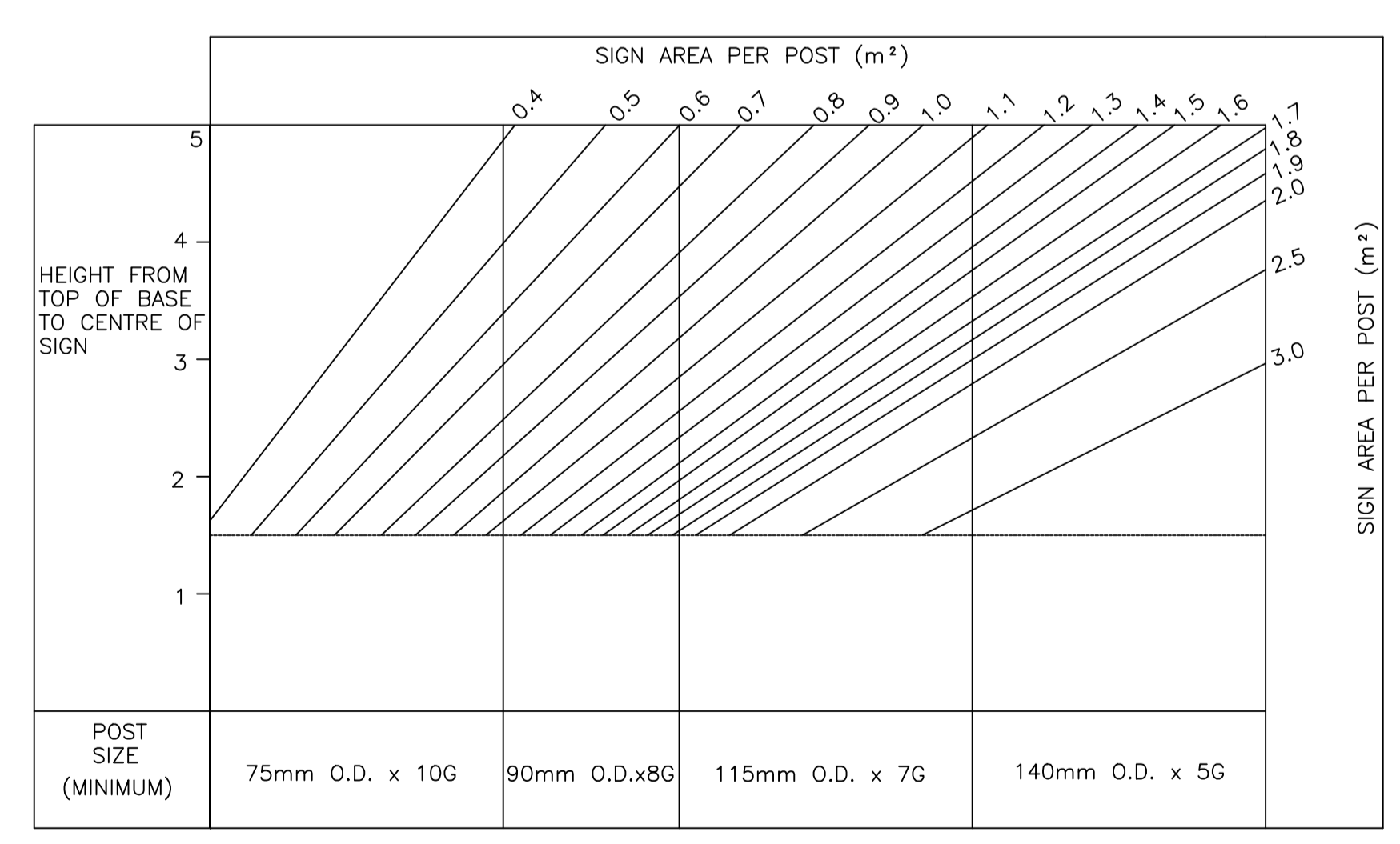


POST	DIMENSION 'X'
75mm O.D. x 10G	0.45
90mm O.D. x 8G	0.60
115mm O.D. x 7G	0.90
140mm O.D. x 5G	1.20



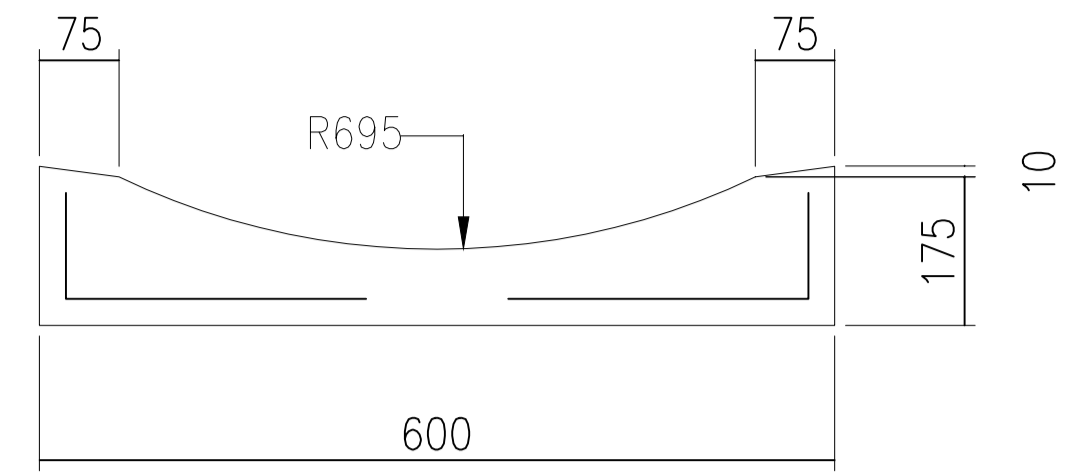
SIGN PLACEMENT
SCALE 1:50

STANDARD SIGN POST DETAILS
SCALE 1:20

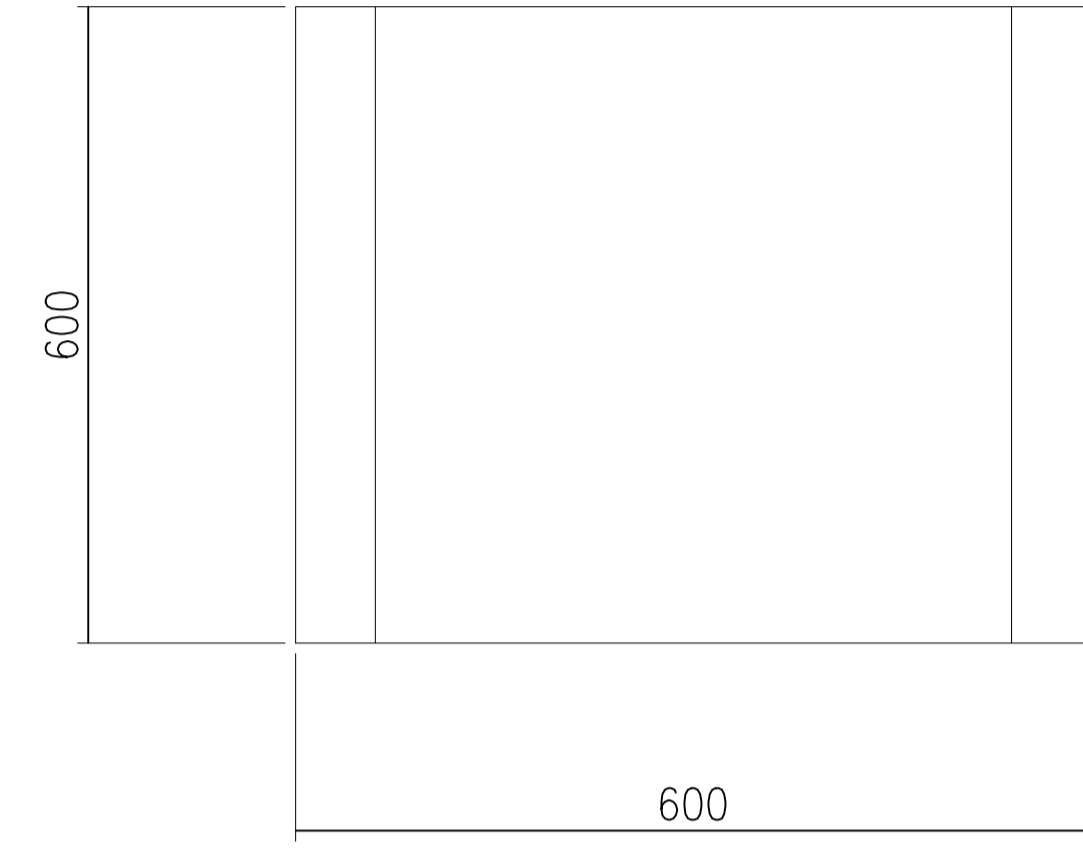


PLAN

- NOTES:
- WHERE POSTS ARE ON DIFFERENT LENGTH, FOOTING TO BE STEPPED AT POINT MIDWAY BETWEEN POSTS TO GIVE 0.3m COVER OF SOIL AT POST
 - FOOTING TO BE CLASS 15 CONCRETE
 - FOR A SINGLE POST THE SIZE IN THE CONCRETE FOOTING WILL BE 0.9m x 0.6m x'X'm
 - FOR PROHIBITORY, WARNING, MANDATORY AND PRIORITY SIGNS THE SIZE OF THE CONCRETE FOOTING WILL BE 0.45m x 0.45m
 - SIGN POST SHALL BE CYLINDRICAL, GALVANIZED WROUGHT IRON TUBES OR SIMILAR APPROVED BY THE ENGINEER, OF SIZES IN ACCORDANCE WITH THE DESIGN TABLE BELOW

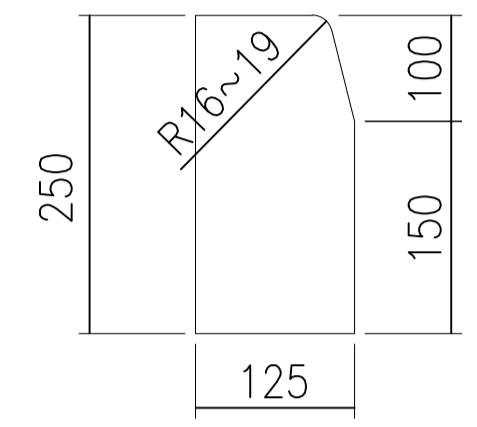


Section

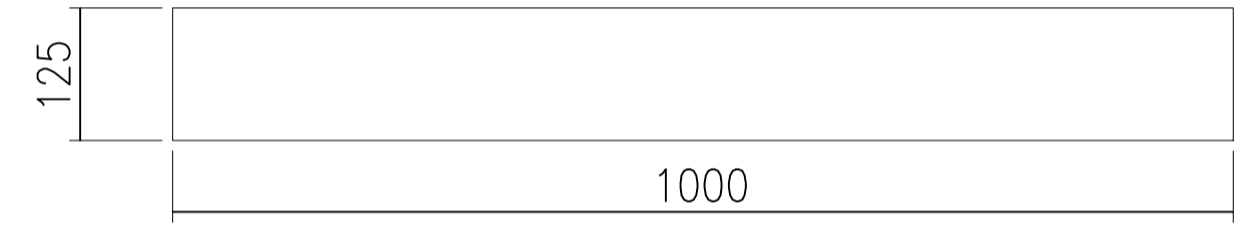


Plan

DISHED CHANNEL

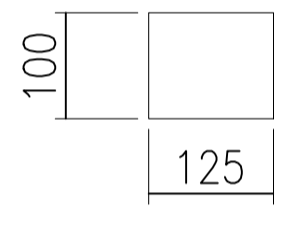


HALF BATTERED KERB

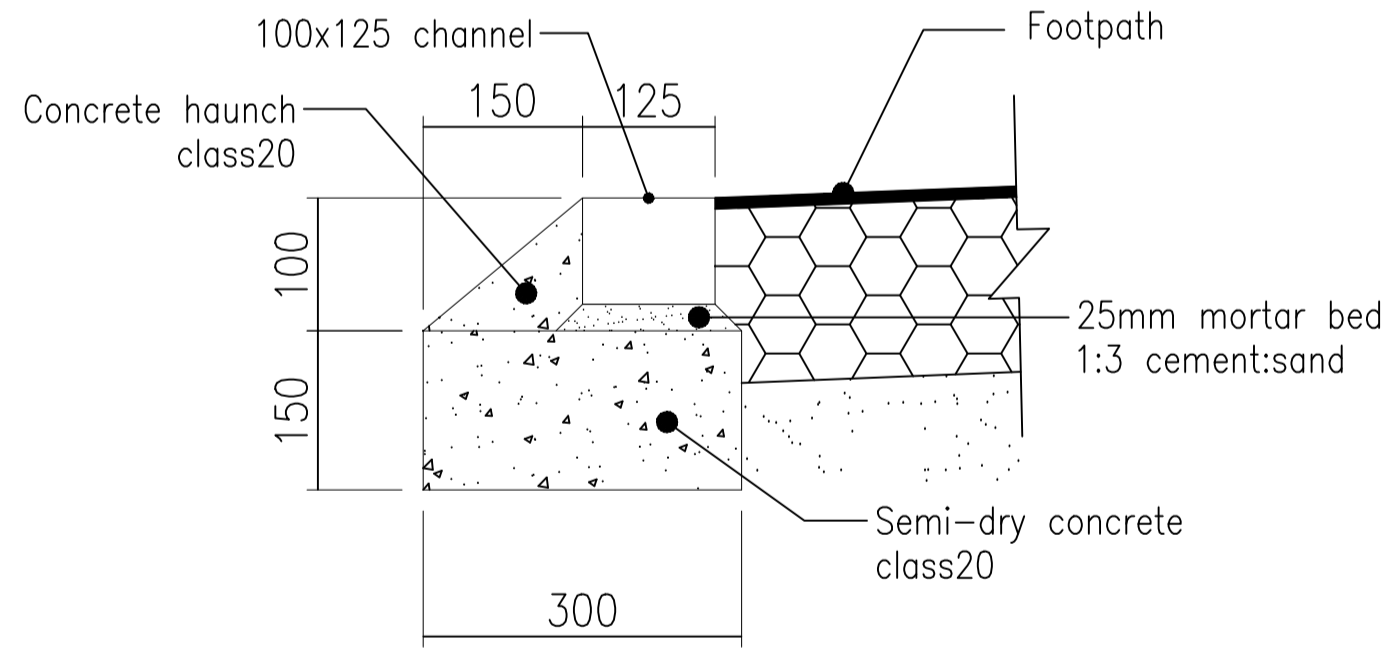


Plan

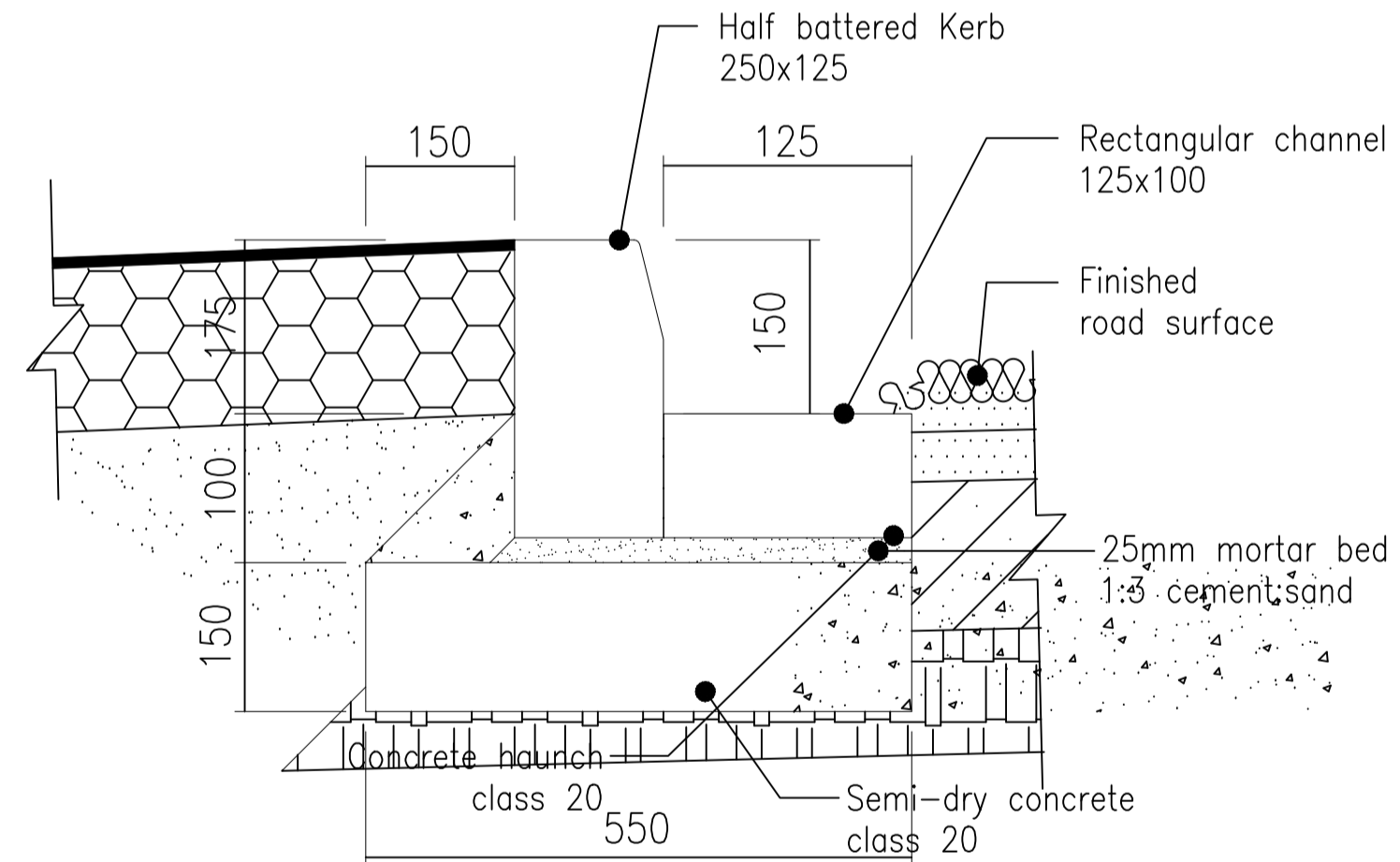
RECTANGULAR CHANNEL



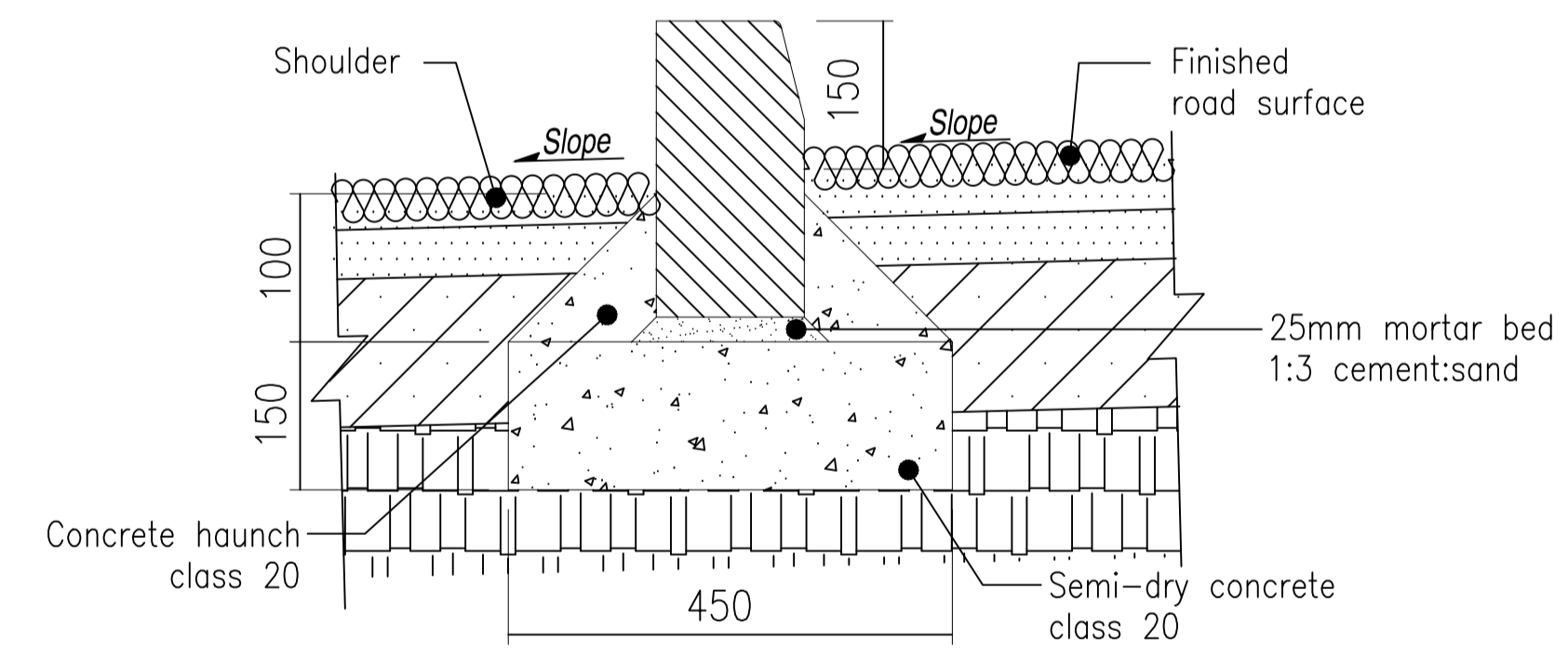
Section



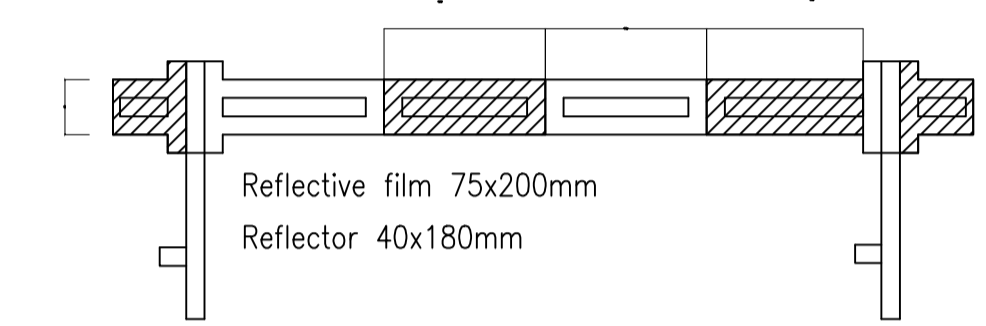
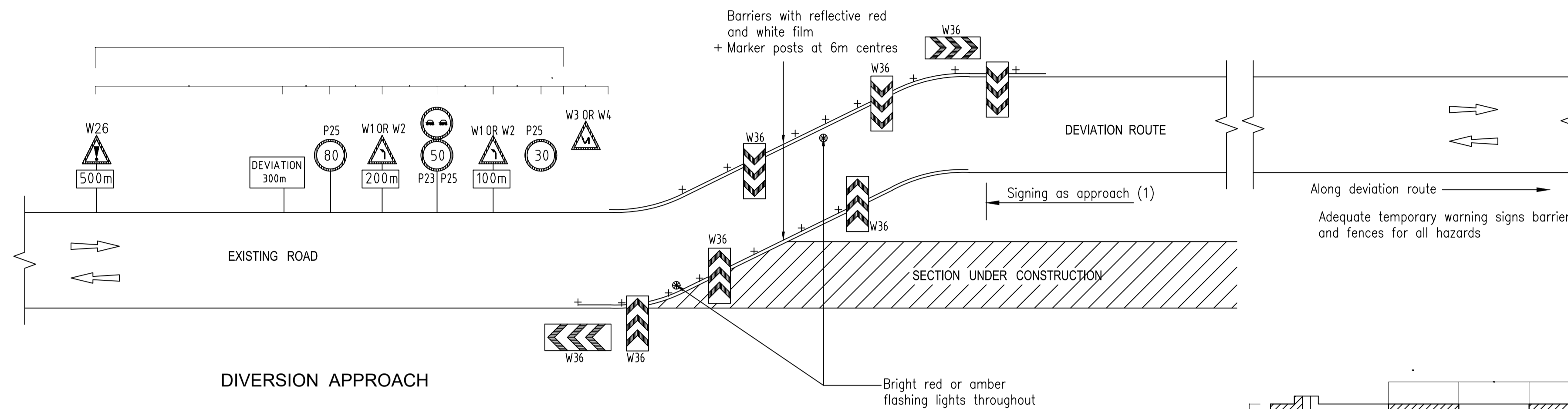
**TYPICAL BEDDING AND BACKING
DETAIL FOR CHANNELBLOCK**



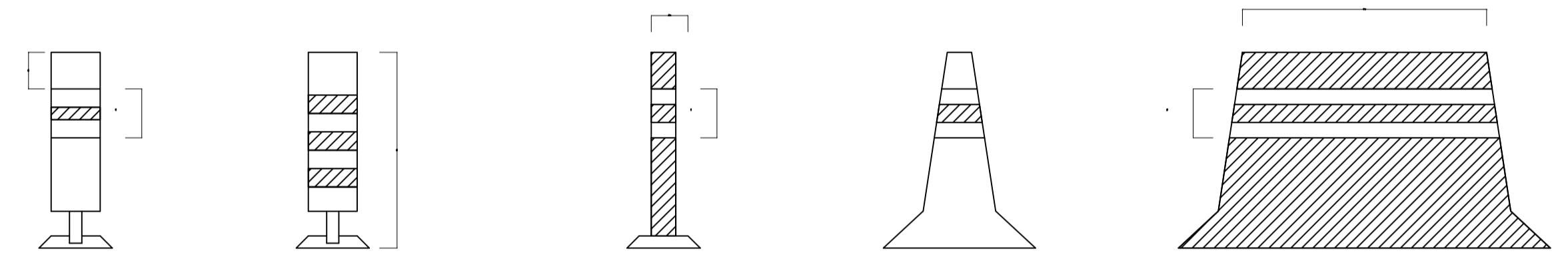
**TYPICAL BEDDING AND BACKING
DETAIL FOR KERB - ONE SIDE
RAISED FOOTPATH**



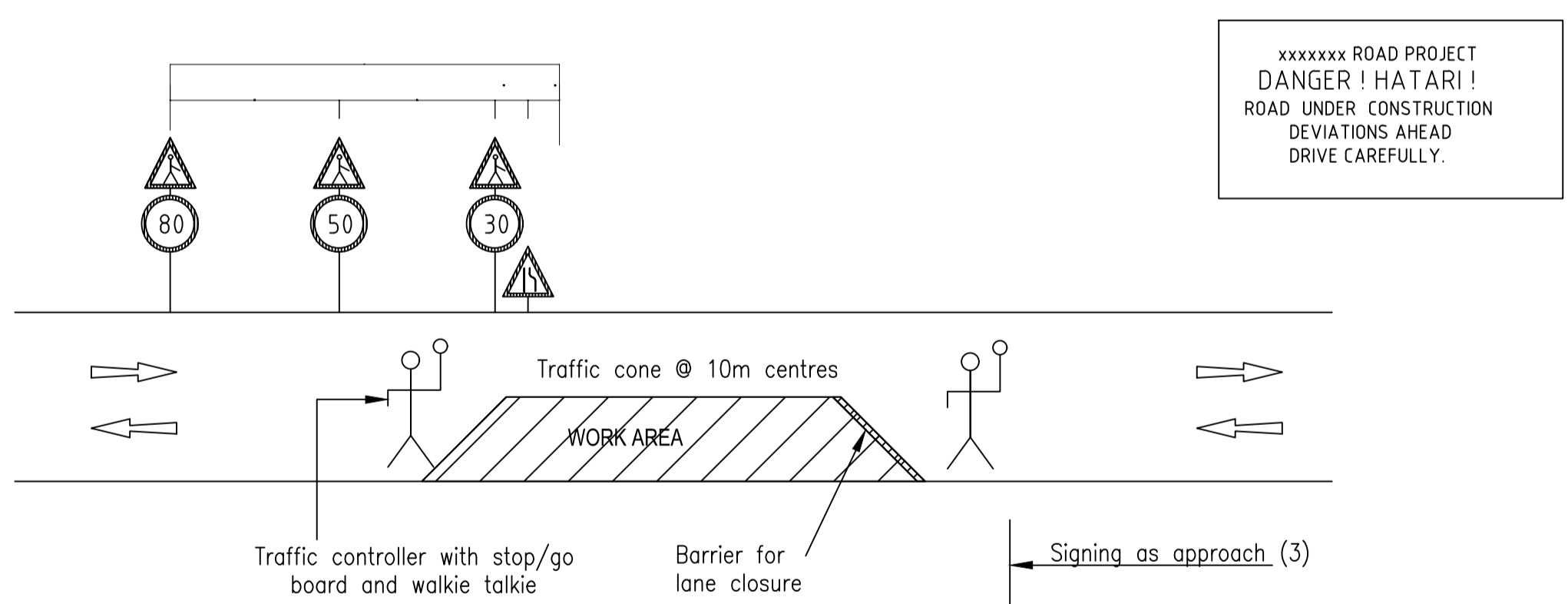
**TYPICAL BEDDING AND BACKING
DETAIL FOR KERB AT BUS STOP**



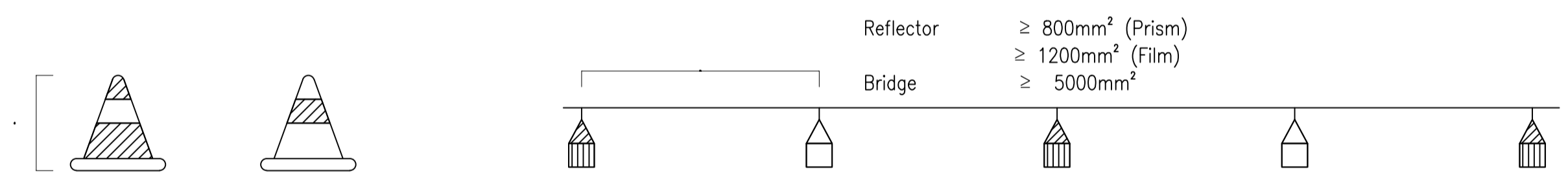
BARRIER



SAFETY POST

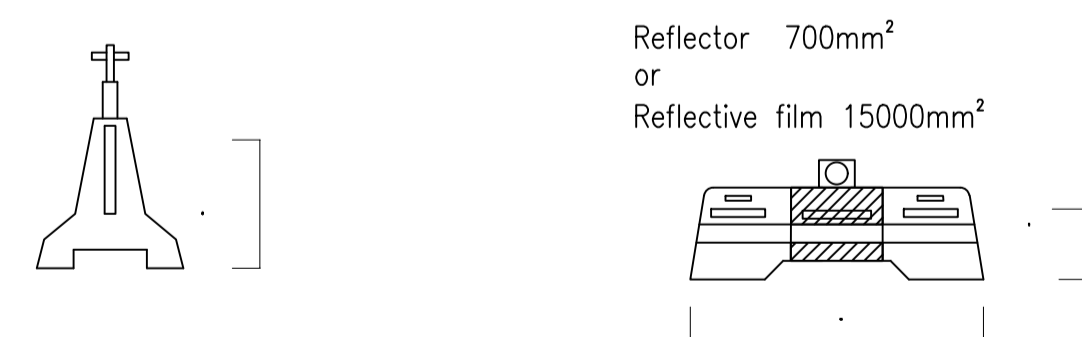


TEMPORARY LANE CLOSURES

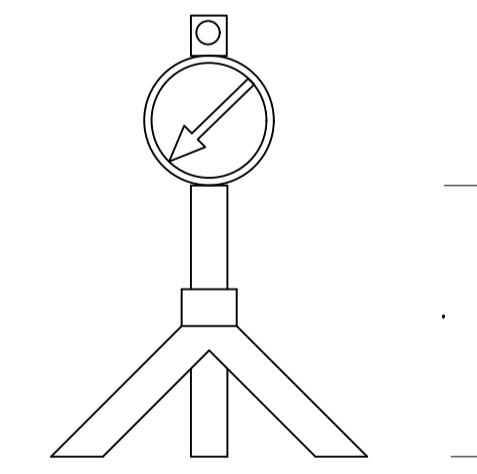


TRAFFIC CONE

WARNING ROPE (BETWEEN SAFETY POSTS)



CONCRETE SIGN BASE



SIGN ON TRIPOD

TYPES OF BARRIERS

- NOTES:**
1. All temporary signs must be retro-reflective
 2. Numbers, lettering and colours to be in accordance with the Manual of Traffic Signs in Kenya Part II (JUNE 1975)
 3. Marker posts to be unbreakable plastic or glass fibre vergemaster or similar
 4. All signs must be kept clean and visible at all times.
 5. Sketches shown on this drawing are the minimum requirements, signs may be varied or adjusted as directed by the Resident Engineer to suit each particular site
 6. Fences and barriers shall be provided as directed by the Resident Engineer to separate pedestrians and traffic where they will need to use road or deviation for access
 7. All works and temporary signs are to comply with the requirements of Section 9 of the Standard Specification

	W.1 Sharp left-hand bend ahead		W.18 Children crossing ahead		W.30 Distance indicators
	W.2 Sharp right-hand bend ahead		W.19 Section of road ahead frequented by cyclists		W.31 Location of rail crossing without barrier
	W.3 Sharp bends ahead first one to the left		W.20 Cattle crossing ahead		W.32 Location of rail crossing with at least two tracks
	W.4 Sharp bends ahead first one to the right		W.21 Section of road ahead frequented by wild animals		W.33 Arrow direction marking showing extremely dangerous change of direction
	W.5 Steep descent ahead		W.22 Road works in progress ahead		W.34 Exit from main road
	W.6 Steep ascent ahead		W.23 Traffic light signals ahead		W.35 Hazard demarcation
	W.7 Road narrows ahead		W.24 Low-flying aircraft crossing ahead		
	W.8 Road narrows (from ahead)		W.25 Two-way traffic ahead		
	W.9 Road narrows (from ahead)		W.26 Hazard ahead		
	W.10 River bank or quayside (without barrier) ahead		W.27 Road junction ahead		
	W.11 Uneven road surface ahead		W.28a Junction ahead, stop or give way		
	W.12 Severe bump ahead		W.28b Junction ahead with acceleration lane of a road from the right		
	W.13 Severe dip ahead		W.28c Junction ahead with acceleration lane of a road from the left		
	W.13a River-bend crossing (drift) ahead		W.28d Junction ahead with acceleration lane of a road from the left		
	W.14 Slippery road surface ahead		W.29 Junction ahead with acceleration lane of a road from the right		
	W.15 Road surface of loose stones ahead		W.30 Roundabout ahead		
	W.16 Danger of falling or falling rocks ahead		W.31 Railway crossing with barrier		
	W.17 Crossing for pedestrians ahead		W.32 Railway crossing without barrier		

WARNING SIGNS

	R.1 STOP and do not proceed into the junction until it is possible to proceed without causing danger or inconvenience to any other vehicle		R.2 GIVE WAY and if traffic is approaching from the right it is possible to proceed without causing danger or inconvenience to such traffic
--	--	--	---

PRIORITY SIGNS

	M.1 Requires all vehicles to turn to the left (The direction of the arrow may be reversed)		M.5b Requires all vehicles to pass to the right of the sign
	M.2 Requires all vehicles to travel straight ahead		M.6 Requires all vehicles to traverse roundabout in direction indicated by arrows
	M.3a Requires all vehicles to turn to the right at the next junction		M.7 Compulsory cycle track
	M.4a Requires all vehicles either to travel straight or to turn to the left at the next junction		M.10 Compulsory minimum speed
	M.4b Requires all vehicles either to travel straight or to turn to the right at the next junction		M.11 End of compulsory minimum speed
	M.5a Requires all vehicles to pass to the left of the sign		

MANDATORY SIGNS

	I.25 Toilets		I.34 No through road		I.43 Pass either side
	I.26 Parking place		I.35 In		I.45 First Aid Station
	I.30 Pedestrian crossing		I.37 Out		I.58 Ferry
	I.32 One way traffic		I.38 No Entry		S.2 Lifesaver
	I.33 One way traffic		I.39 No Exit		S.3 Chevrons
	I.40 Taxi				

STANDARD INFORMATORY SIGNS

	P.1 NO ENTRY. Entry forbidden to all vehicles		P.15 No entry for vehicles exceeding width shown		P.21 No right turn		P.27b Stop for children crossing
	P.2 ROAD CLOSED. Entry forbidden to all vehicles		P.16 No entry for vehicles exceeding height shown		P.22 No U-turn		P.28 Priority for on-coming traffic
	P.5 Entry forbidden for all bicycles		P.17 No entry for vehicles exceeding weight on one axle		P.23 Overtaking of four-wheeled vehicles prohibited		P.29 End of all prohibitions
	P.7 No entry for pedestrians		P.18 No entry for vehicles exceeding weight on one axle		P.24 Overtaking of goods vehicles prohibited		P.30 End of speed limit
	P.9 No entry for heavy carts		P.19 Driving vehicle less than 70m apart prohibited		P.25 Speed limit		P.32 Parking prohibited
	P.10 No entry for heavy trucks		P.20 No left turn		P.26 Sounding of horns or sirens prohibited		P.33 Parking or waiting prohibited
	P.11 No entry for heavy commercial vehicles		P.27a Stop at control post		P.39 Controlled parking zone		

PROHIBITORY SIGNS

KEY

BLUE	
BLACK	
RED	
WHITE	
YELLOW	
GREEN	

CLIENT:



MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY COUNTY GOVERNMENT (NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:

Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
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P.O. Box 21714-00505, Nairobi.

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Drawing Title: DETAILED ROAD SIGNS.

Drg. No. WMCL/CR214/SD/07 Sheet No. 7 of 12

Scale: 1:10 Date: FEBRUARY 2024

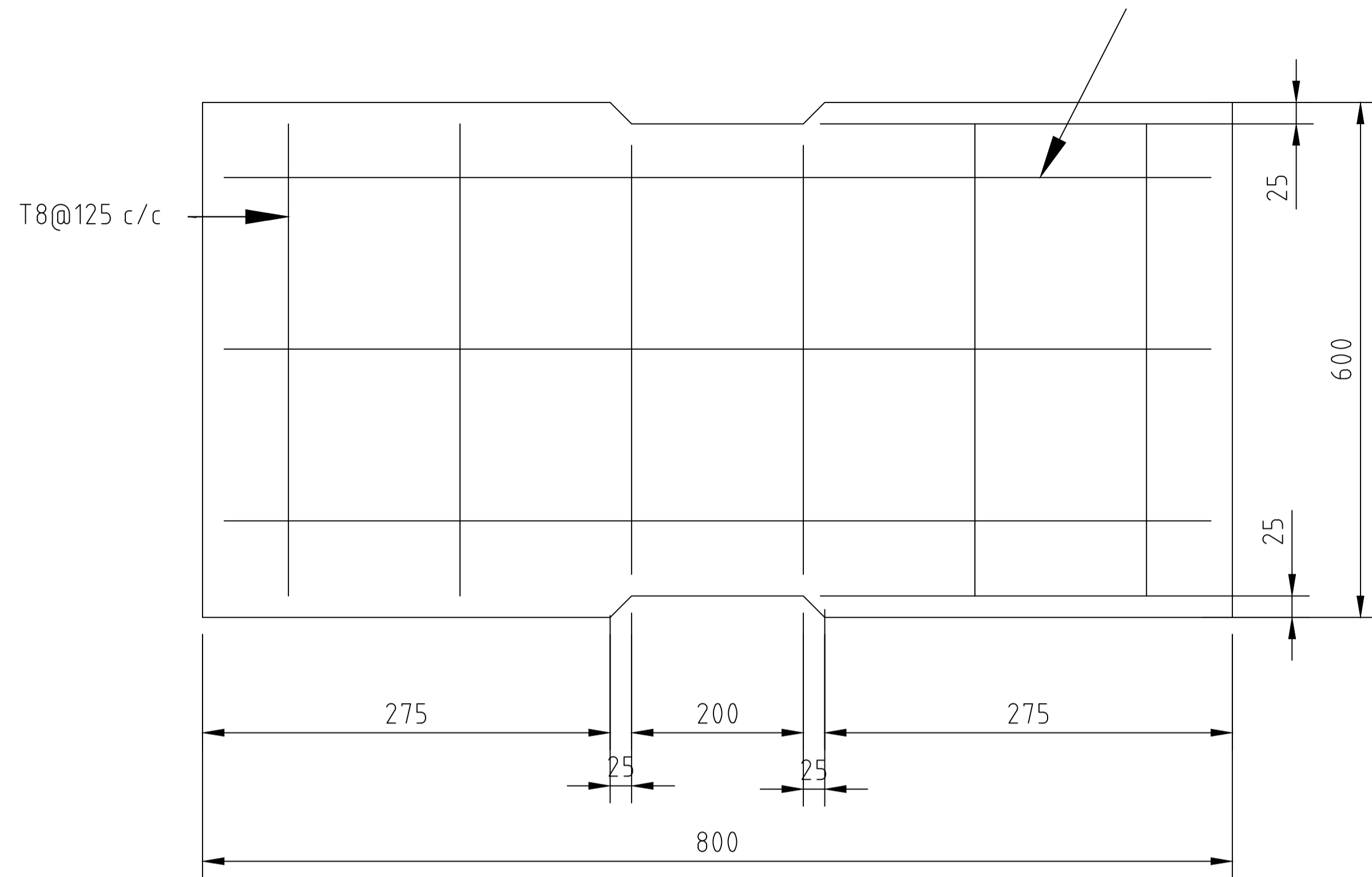
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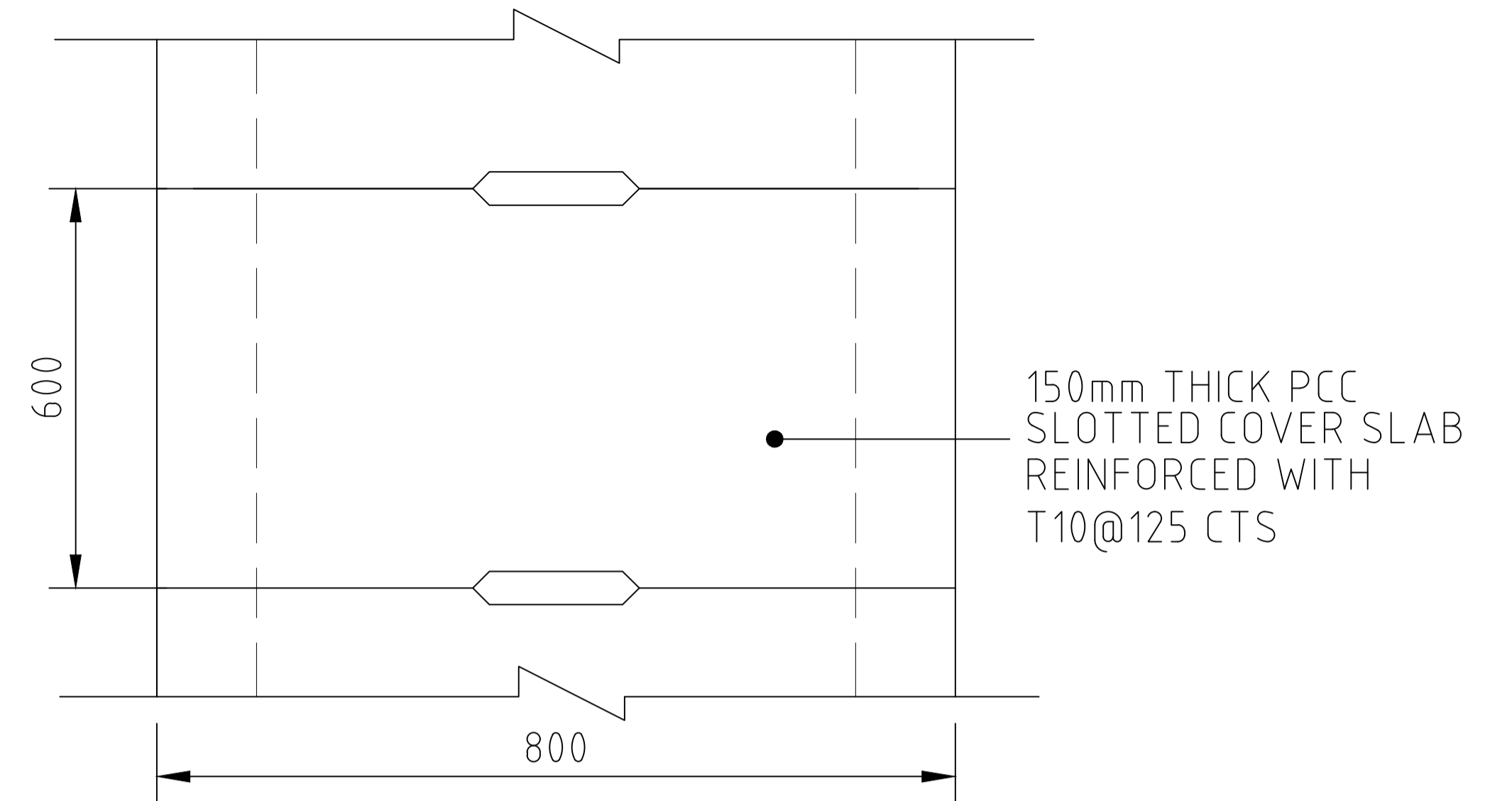
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REVISIONS

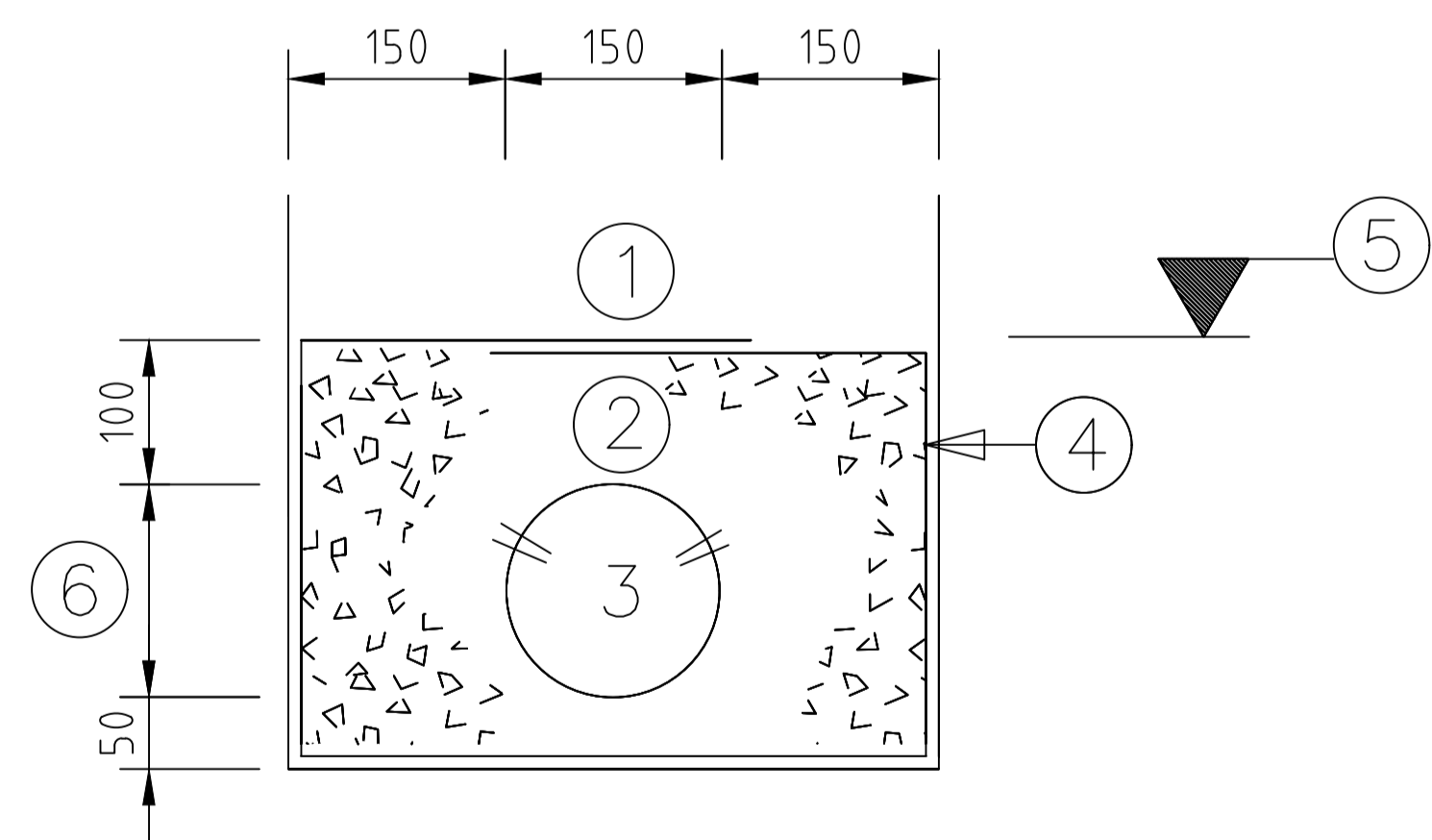
No.	Date	AMMENDMENTS



SECTION THROUGH COVER SLAB
SCALE 1:10



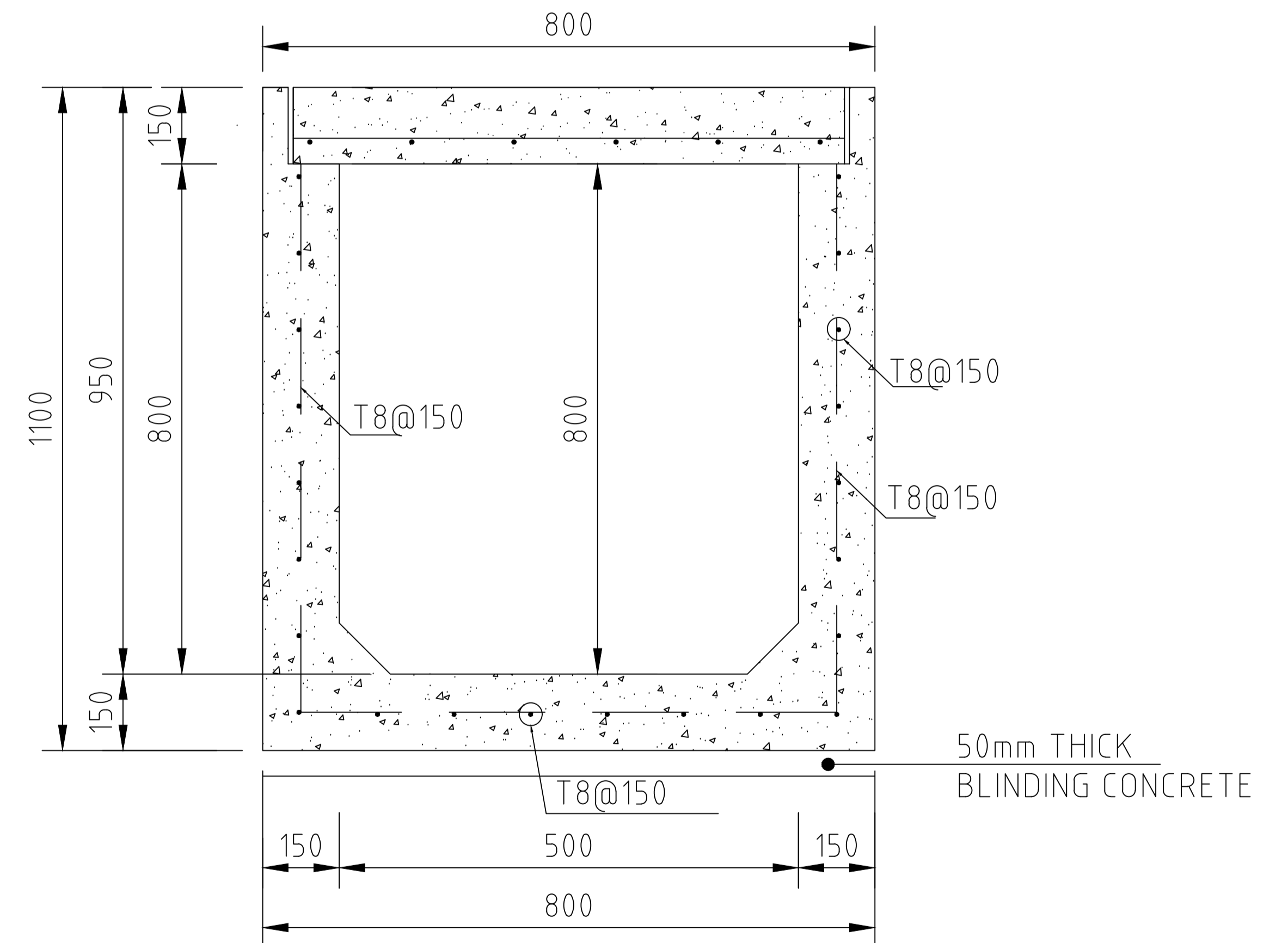
PLAN - SLOTTED INLET DRAIN
SCALE 1:10



SUBSOIL DRAIN WITH
SYNTHETIC FIBRE FILTER FABRIC
DETAILS
SCALE 1:10

No	DESCRIPTION
①	APPROVED COHESIVE SOIL BACK FILL
②	FILTER STONE : FINE OR COARSE GRADE AS REQUIRED.
③	PERFORATED SUBSOIL DRAINAGE PIPES.
④	SYNTHETIC FIBRE FILTER FABRIC
⑤	LEVEL TO WHICH SURROUNDING AREA IS TO BE DRAINED (WATER TABLE).
⑥	INTERNAL PIPE DIAMETER: 150mm.

NOTE:
LOCATION TO BE CONFIRMED ON SITE



SECTION THROUGH SLOTTED DRAIN
SCALE: 1:10

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



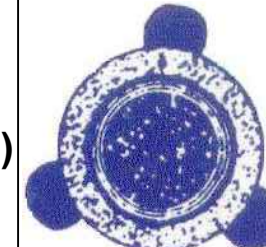
NAIROBI CITY
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FINANCIER:

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IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY

Drawing Title: DETAILED SLOTTED DRAIN AND
SUBSOIL DRAIN DETAILS.

Drg. No. WMCL/CR214/SD/08 Sheet No. 8 of 12

Scale: 1:10 Date: FEBRUARY 2024

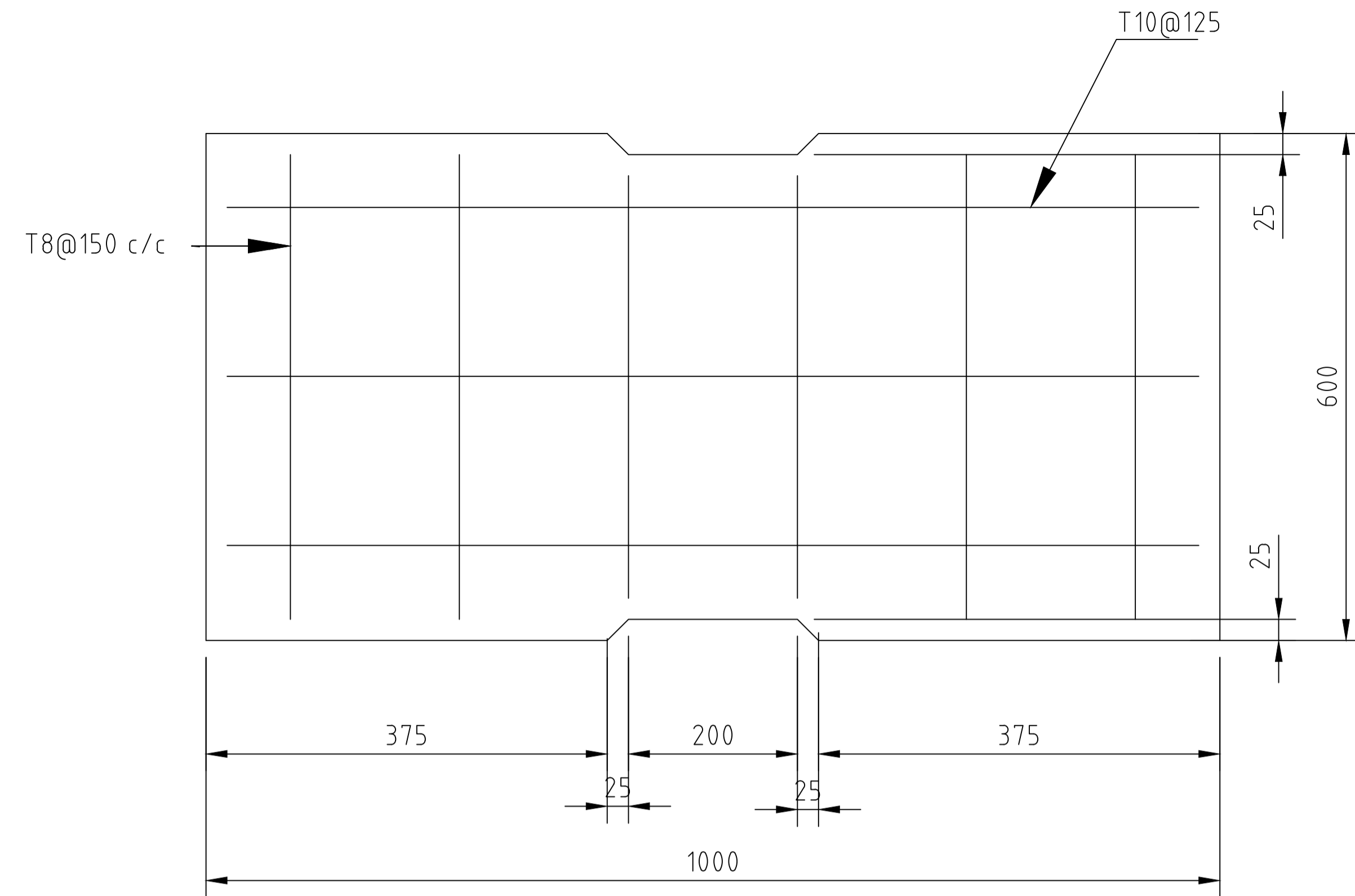
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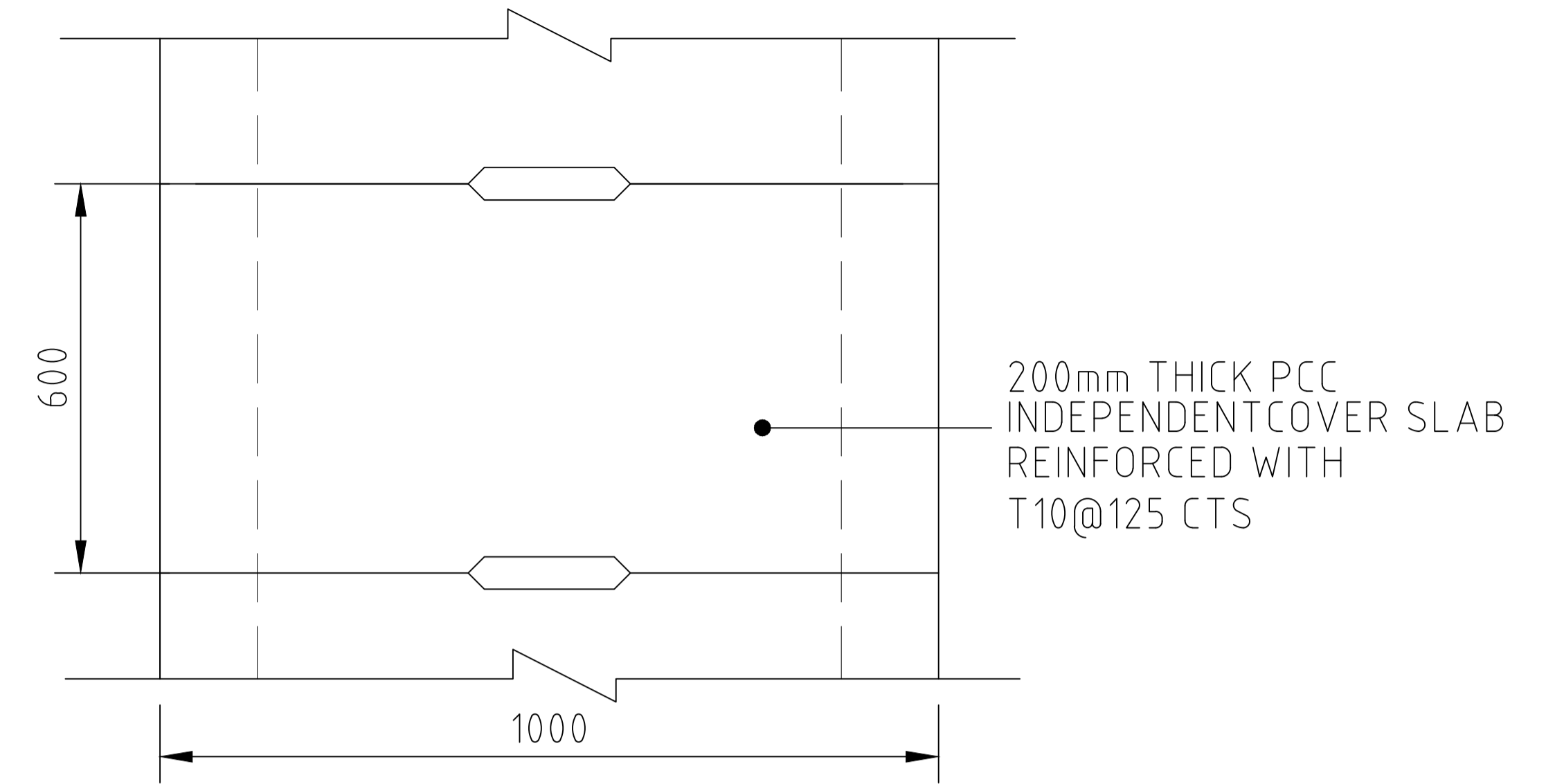
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REVISIONS

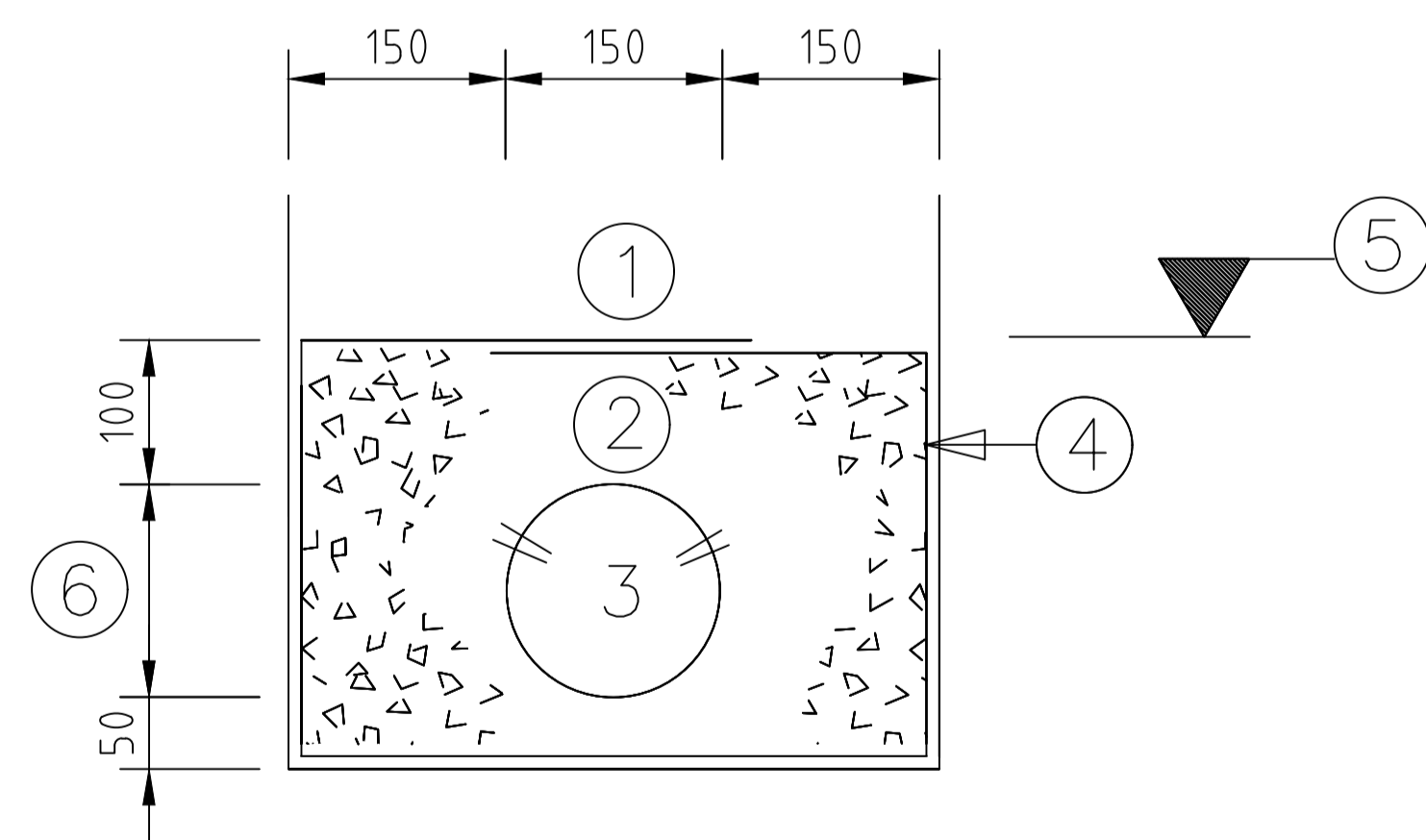
No. Date AMMENDMENTS



SECTION THROUGH COVER SLAB
SCALE 1:10



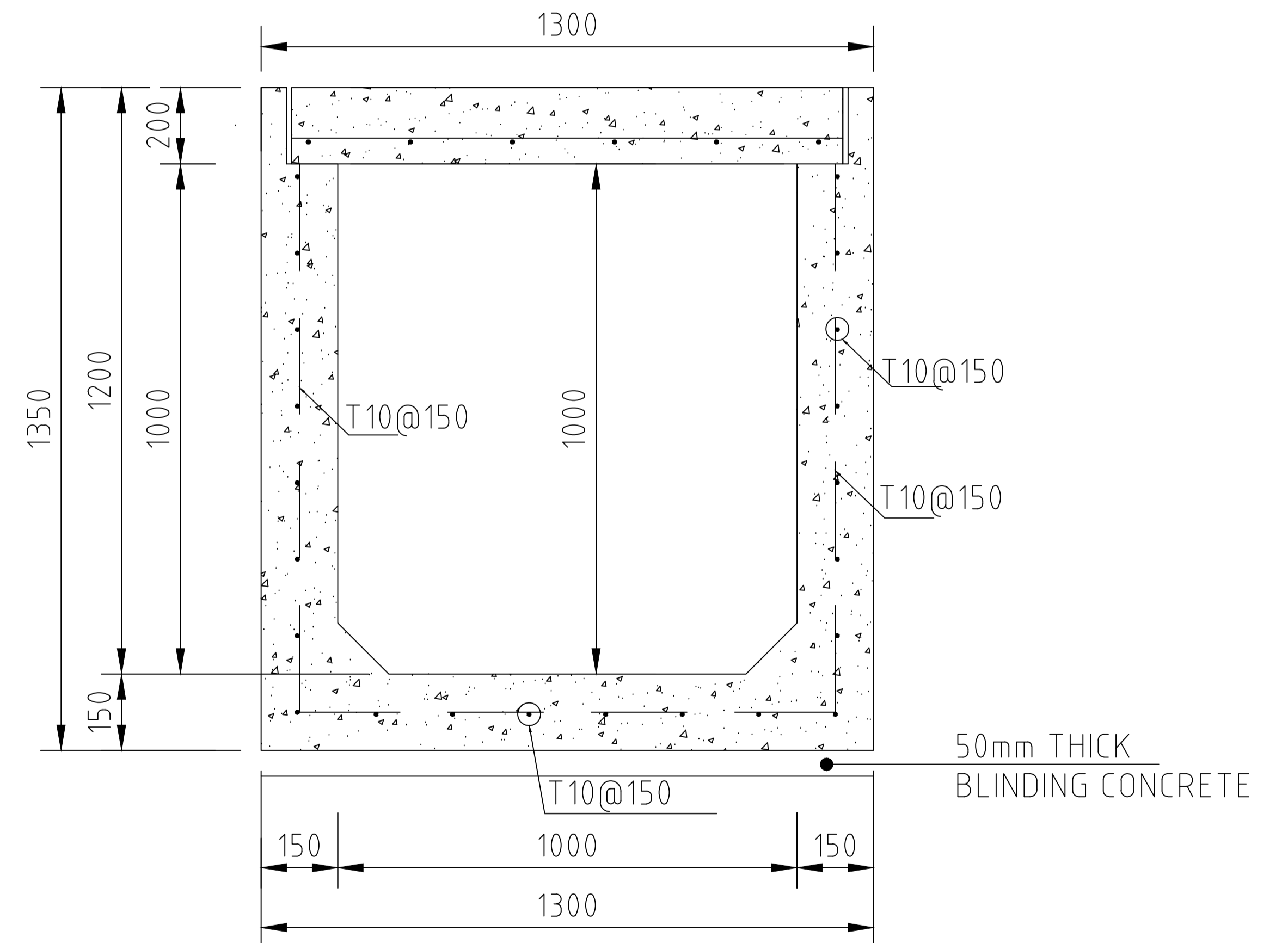
PLAN - INDEPENDENT DRAIN
SCALE 1:10



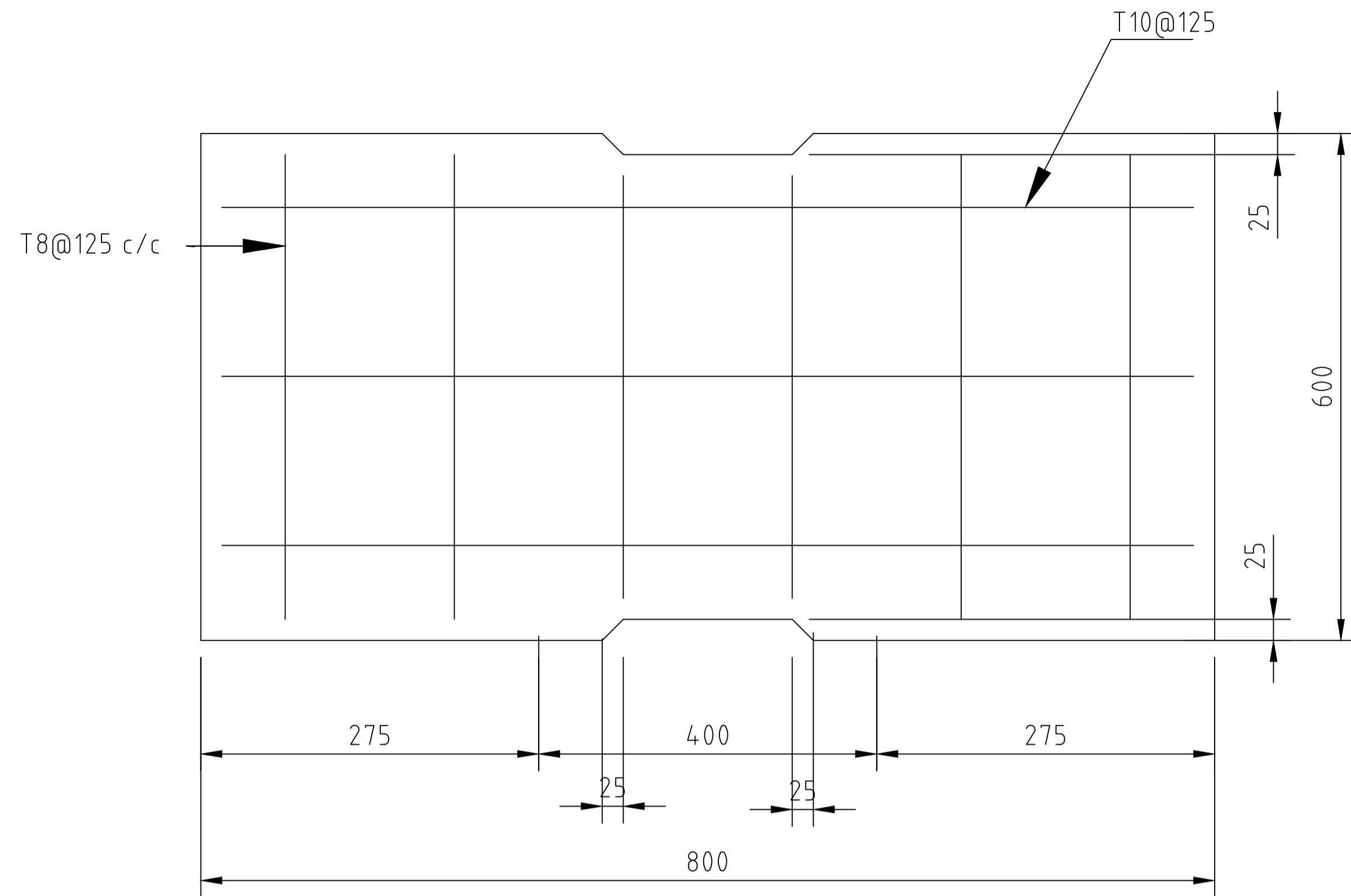
SUBSOIL DRAIN WITH
SYNTHETIC FIBRE FILTER FABRIC
DETAILS
SCALE 1:10

No	DESCRIPTION
①	APPROVED COHESIVE SOIL BACK FILL
②	FILTER STONE : FINE OR COARSE GRADE AS REQUIRED.
③	PERFORATED SUBSOIL DRAINAGE PIPES.
④	SYNTHETIC FIBRE FILTER FABRIC
⑤	LEVEL TO WHICH SURROUNDING AREA IS TO BE DRAINED (WATER TABLE).
⑥	INTERNAL PIPE DIAMETER: 150mm.

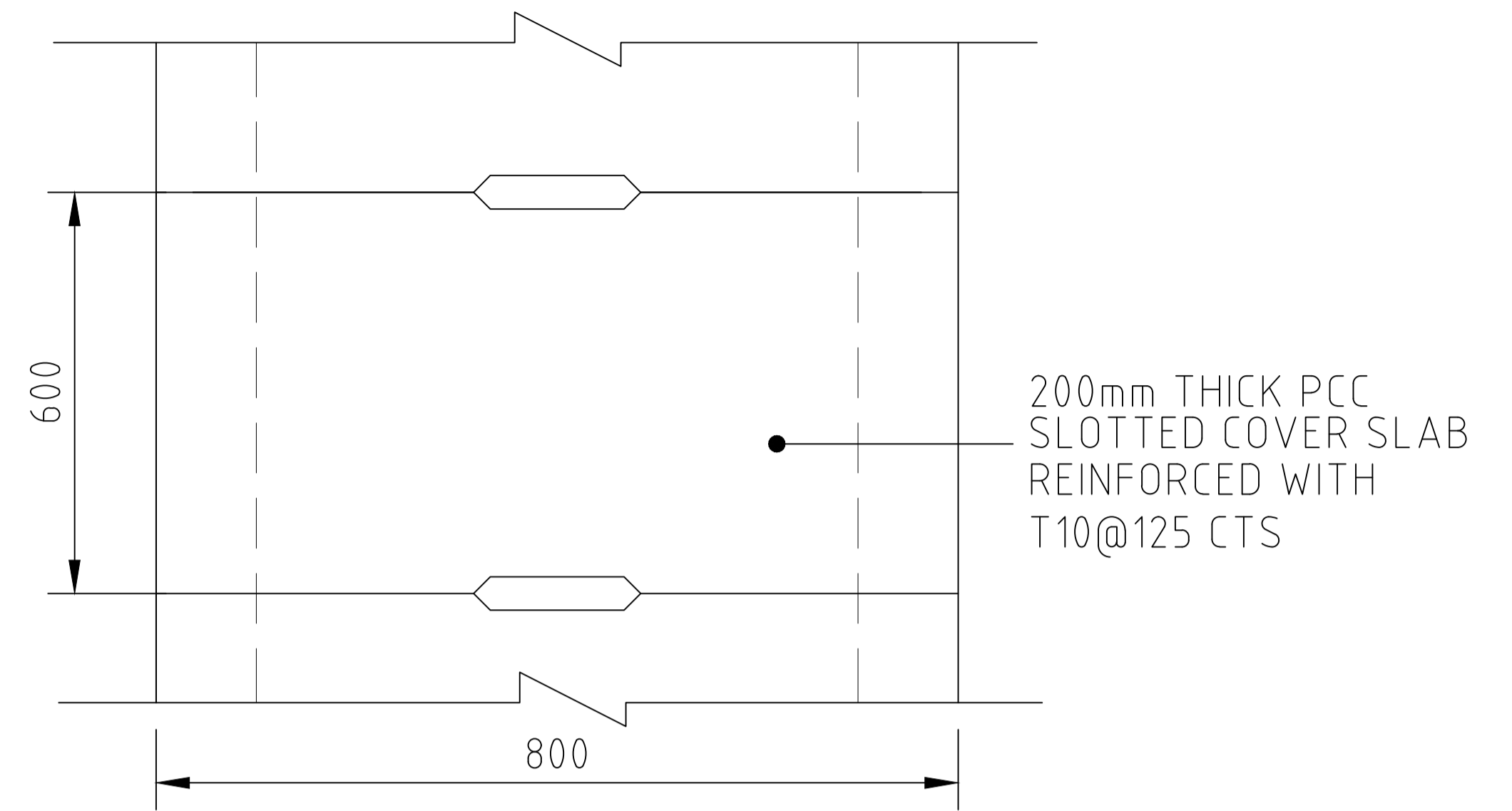
NOTE:
LOCATION TO BE CONFIRMED ON SITE



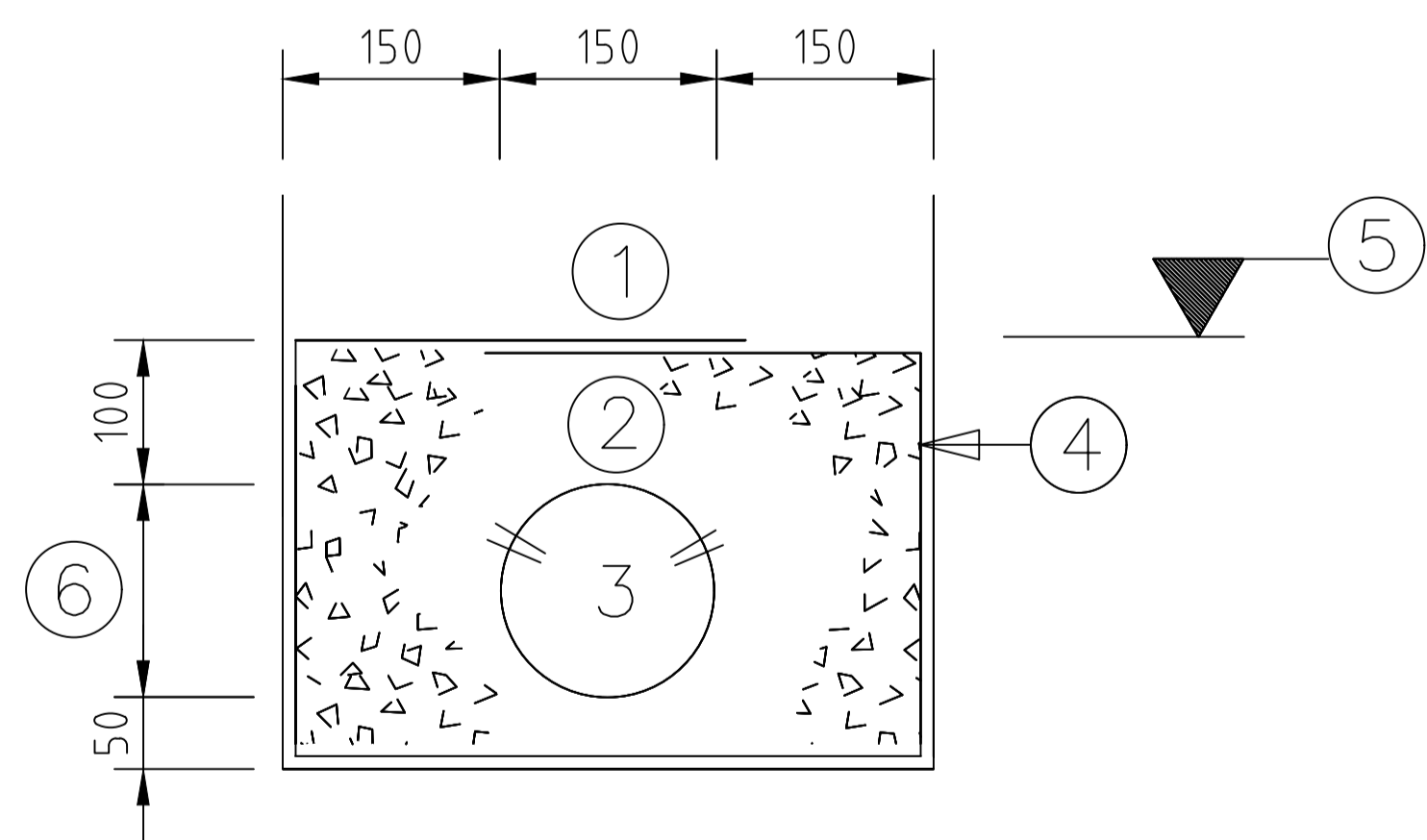
SECTION THROUGH INDEPENDENT DRAIN
SCALE 1:10



SECTION THROUGH COVER SLAB
SCALE 1:10



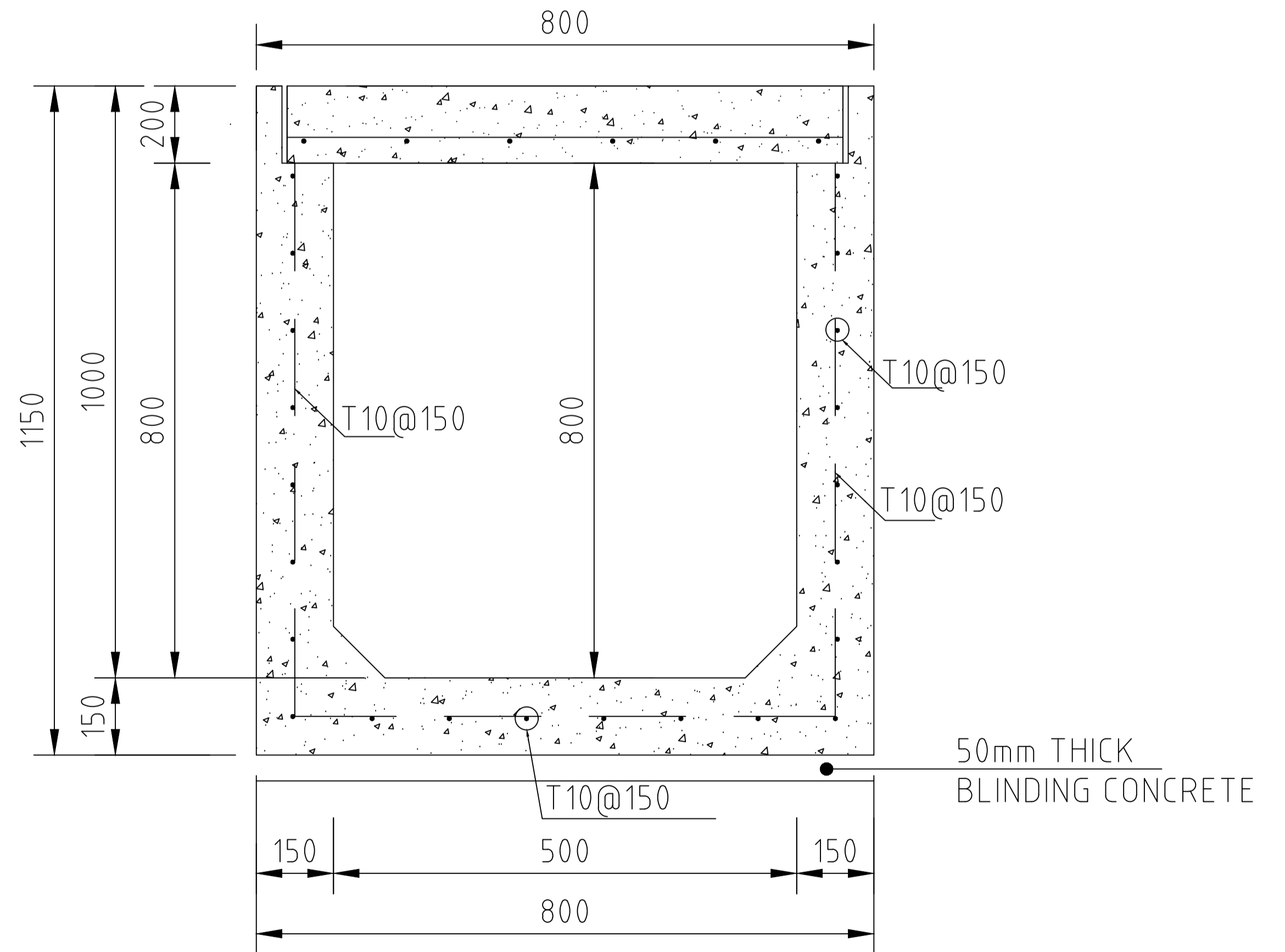
PLAN - SLOTTED MOTORABLE INLET DRAIN
SCALE 1:10



SUBSOIL DRAIN WITH
SYNTHETIC FIBRE FILTER FABRIC
DETAILS
SCALE 1:10

No	DESCRIPTION
①	APPROVED COHESIVE SOIL BACK FILL
②	FILTER STONE : FINE OR COARSE GRADE AS REQUIRED.
③	PERFORATED SUBSOIL DRAINAGE PIPES.
④	SYNTHETIC FIBRE FILTER FABRIC
⑤	LEVEL TO WHICH SURROUNDING AREA IS TO BE DRAINED (WATER TABLE).
⑥	INTERNAL PIPE DIAMETER: 150mm.

NOTE:
LOCATION TO BE CONFIRMED ON SITE



SECTION THROUGH SLOTTED MOTORABLE DRAIN
SCALE: 1:10

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

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THE WORLD BANK
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IN NAIROBI COUNTY

Drawing Title: MOTORABLE RECTANGULAR COVERED
DRAIN DETAILS FOR X-SECTION TYPES 3 & 4

Drg. No. WMCL/CR214/SD/08B Sheet No. 8B of 12

Scale: 1:10 Date: FEBRUARY 2024

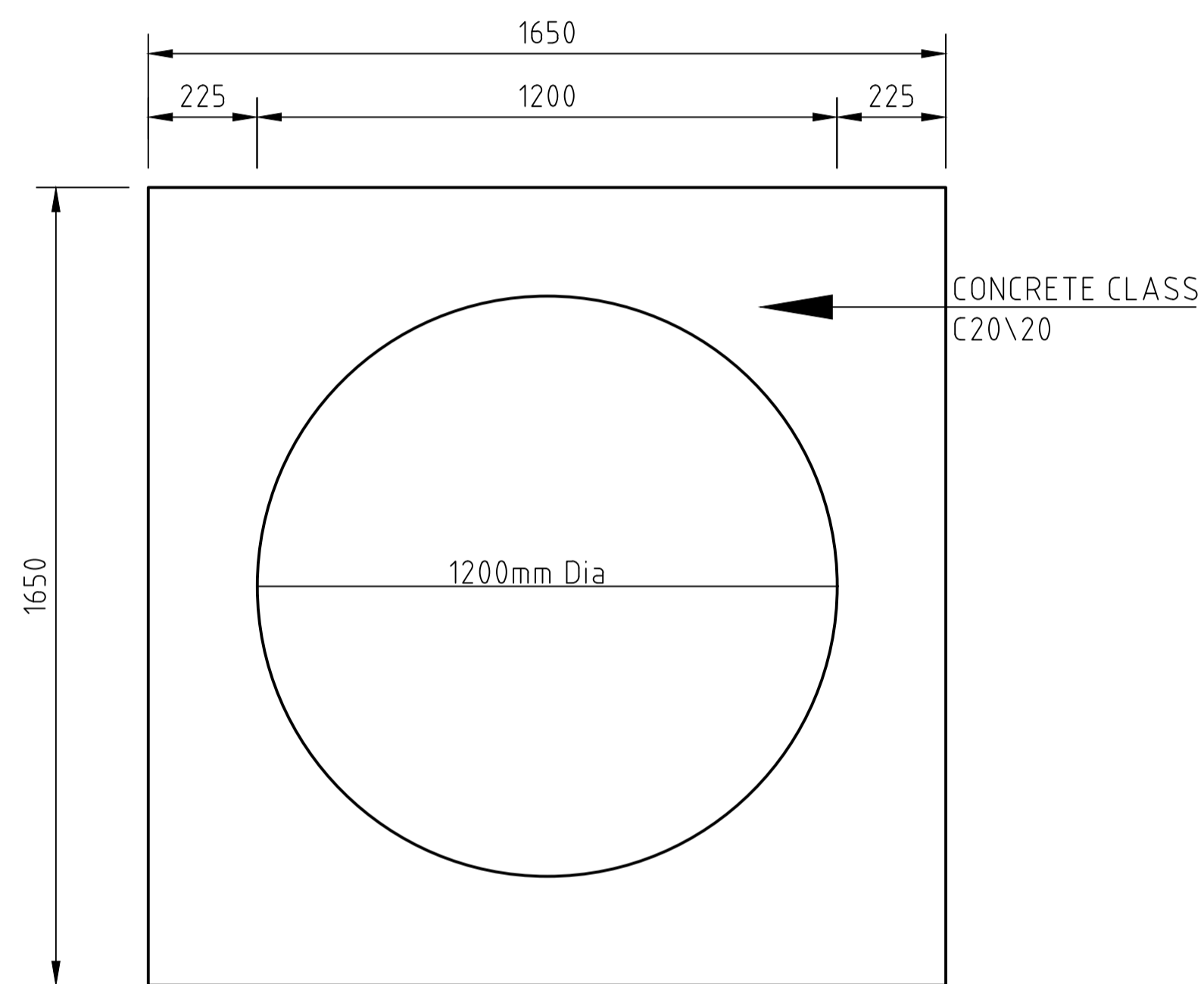
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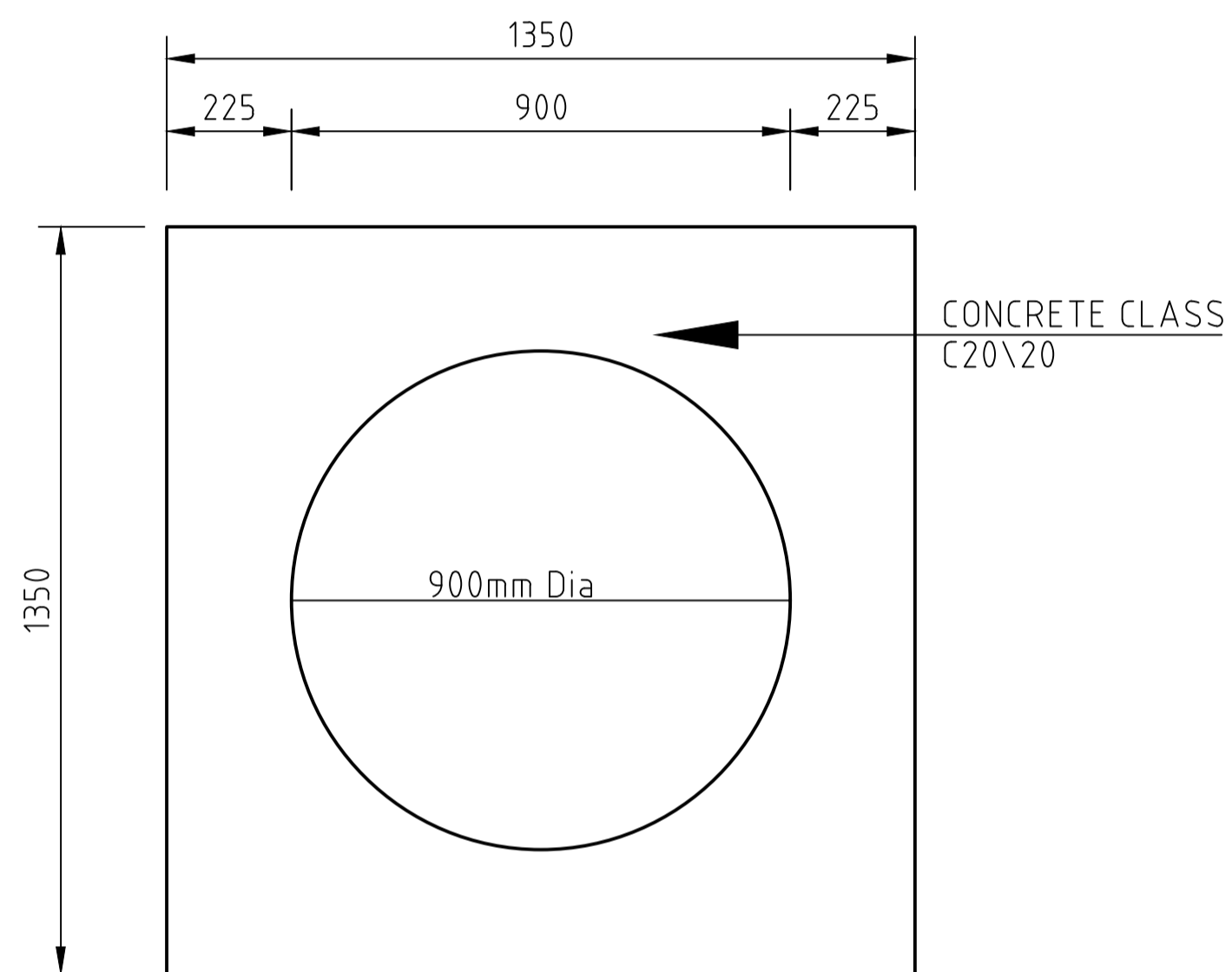
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REVISIONS

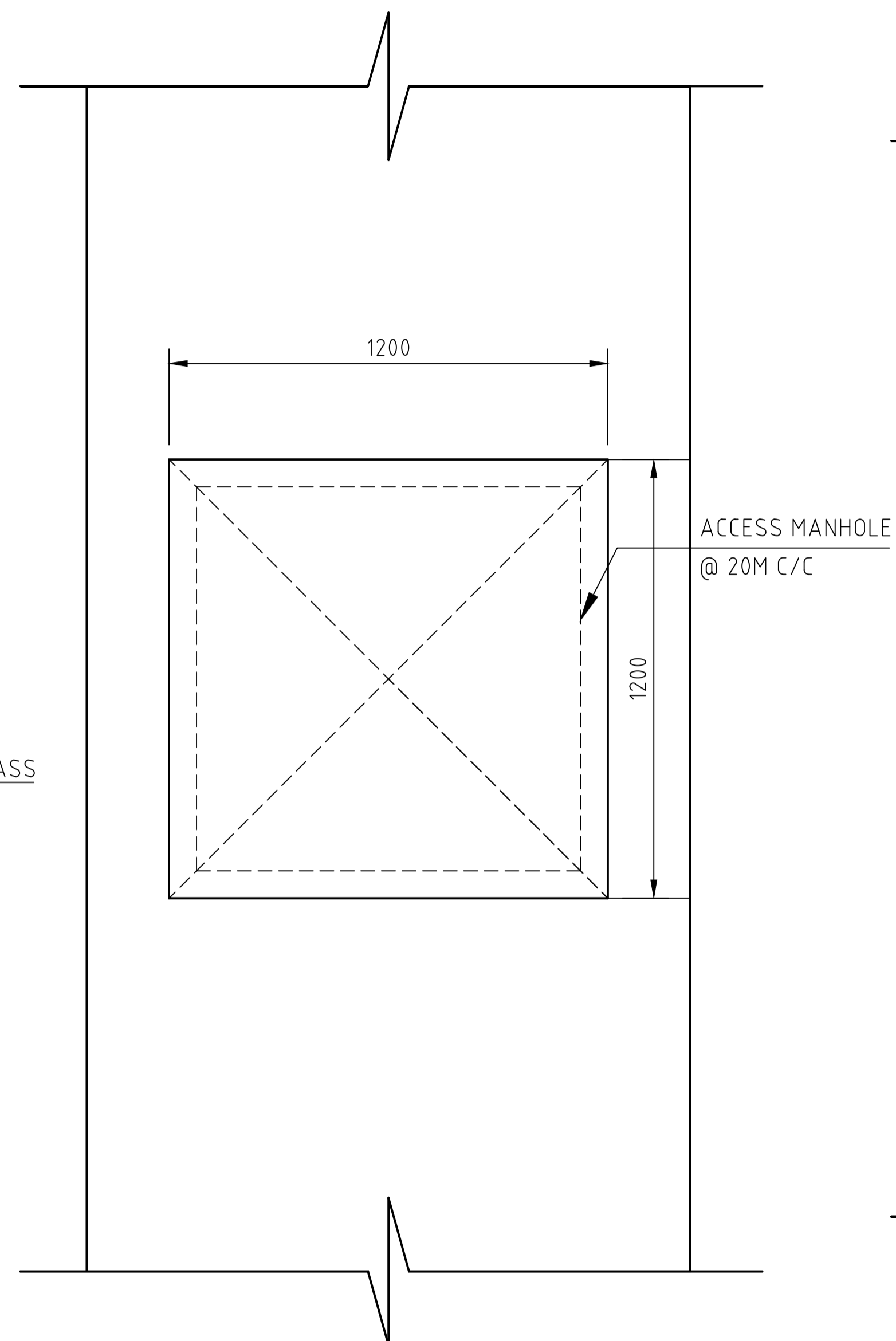
No. Date AMMENDMENTS



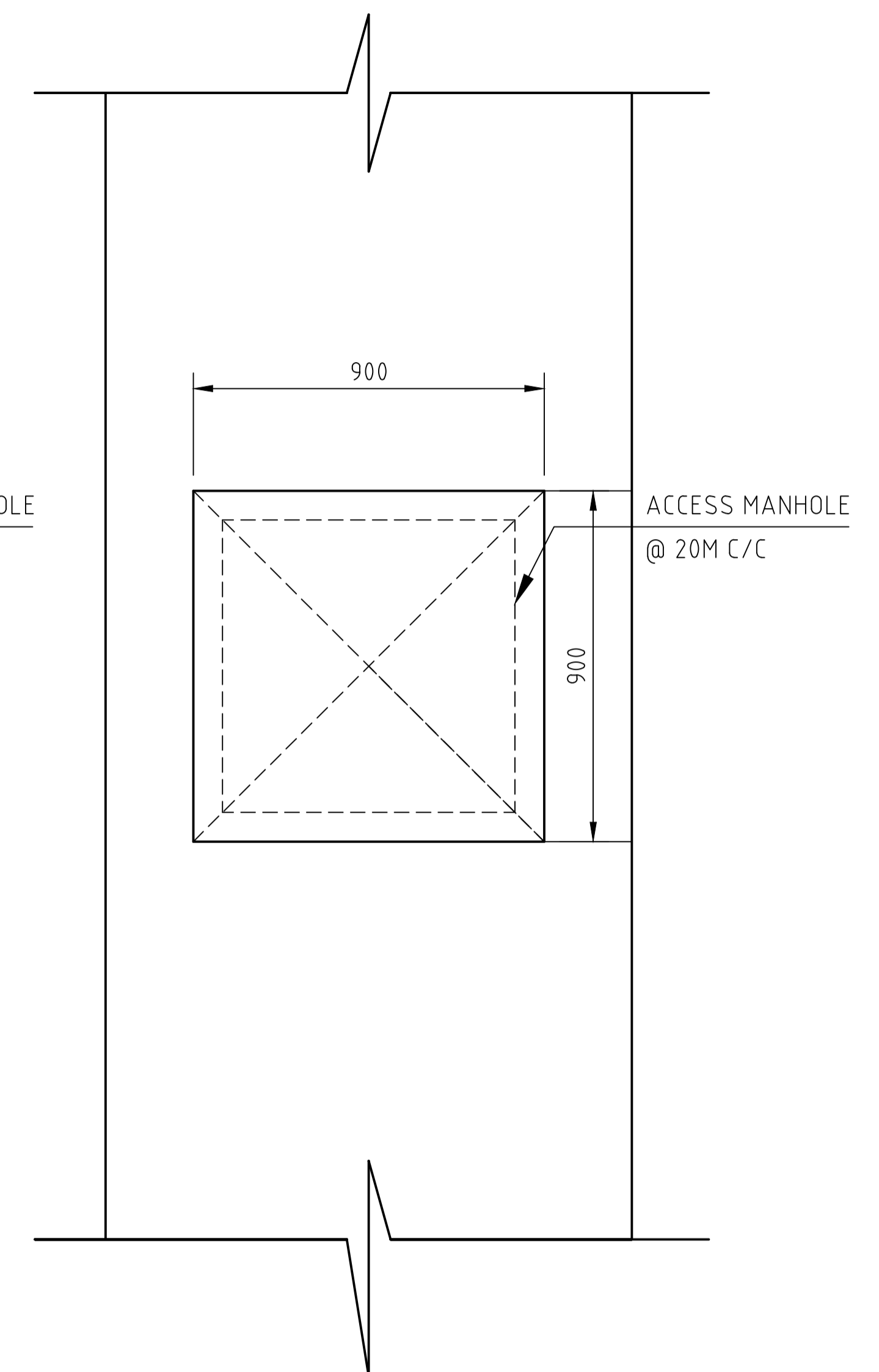
DEEP UNDERGROUND DRAIN DIA 1200mm
SCALE: 1:10



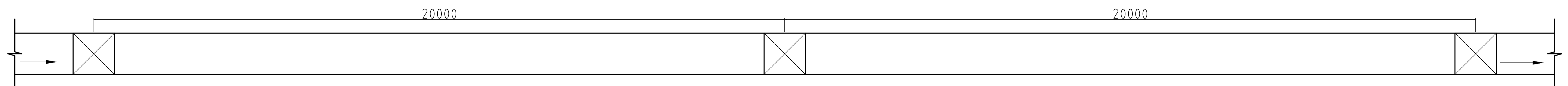
DEEP UNDERGROUND DRAIN DIA 900mm
SCALE: 1:10



ACCESS MANHOLE DETAILS
SCALE: 1:10



ACCESS MANHOLE DETAILS
SCALE: 1:10



MANHOLE SPACING ALONG THE ROAD
SCALE: 1:75



CLIENT:
MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY.

Drawing Title: DEEP UNDERGROUND DRAIN
DETAILS (MATOPENI).

Drg. No. WMCL/CR214/SD/08C Sheet No. 8 of 12

Scale: 1:10 Date: FEBRUARY:2024

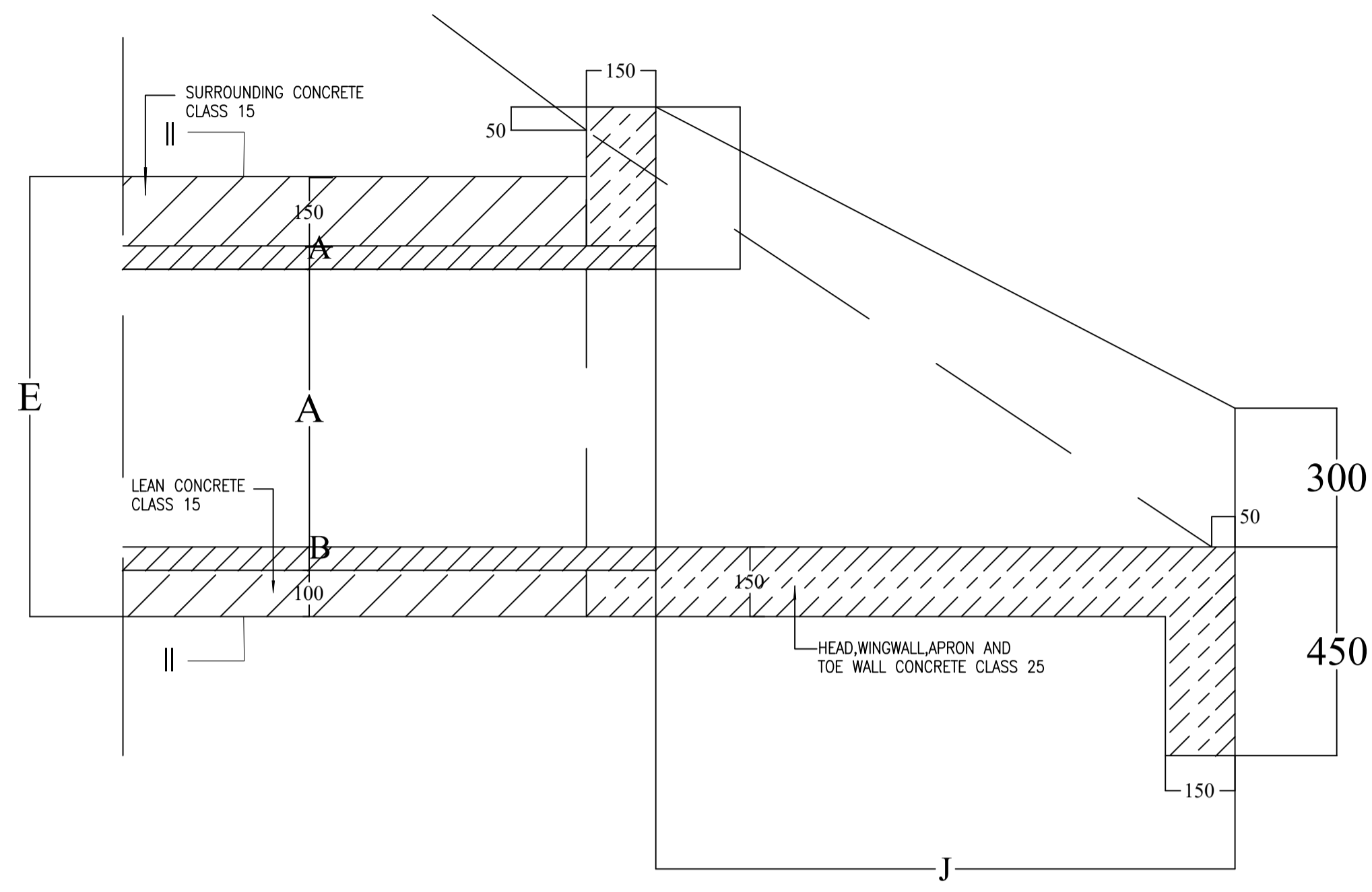
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APPROVED BY ENG.IKWM DESIGNED BY LWK

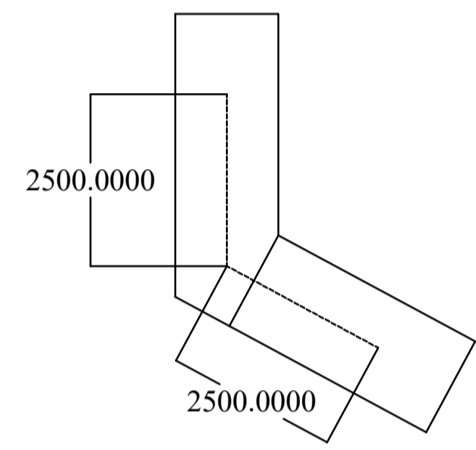
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REVISIONS

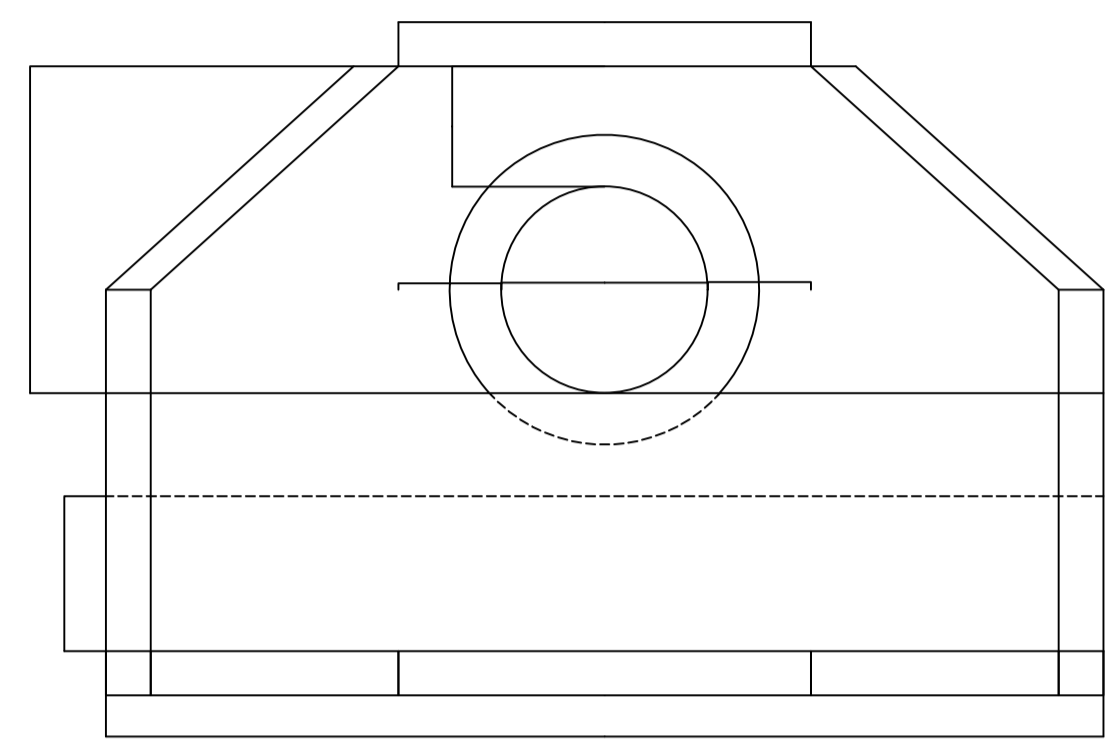
No.	Date	AMMENDMENTS



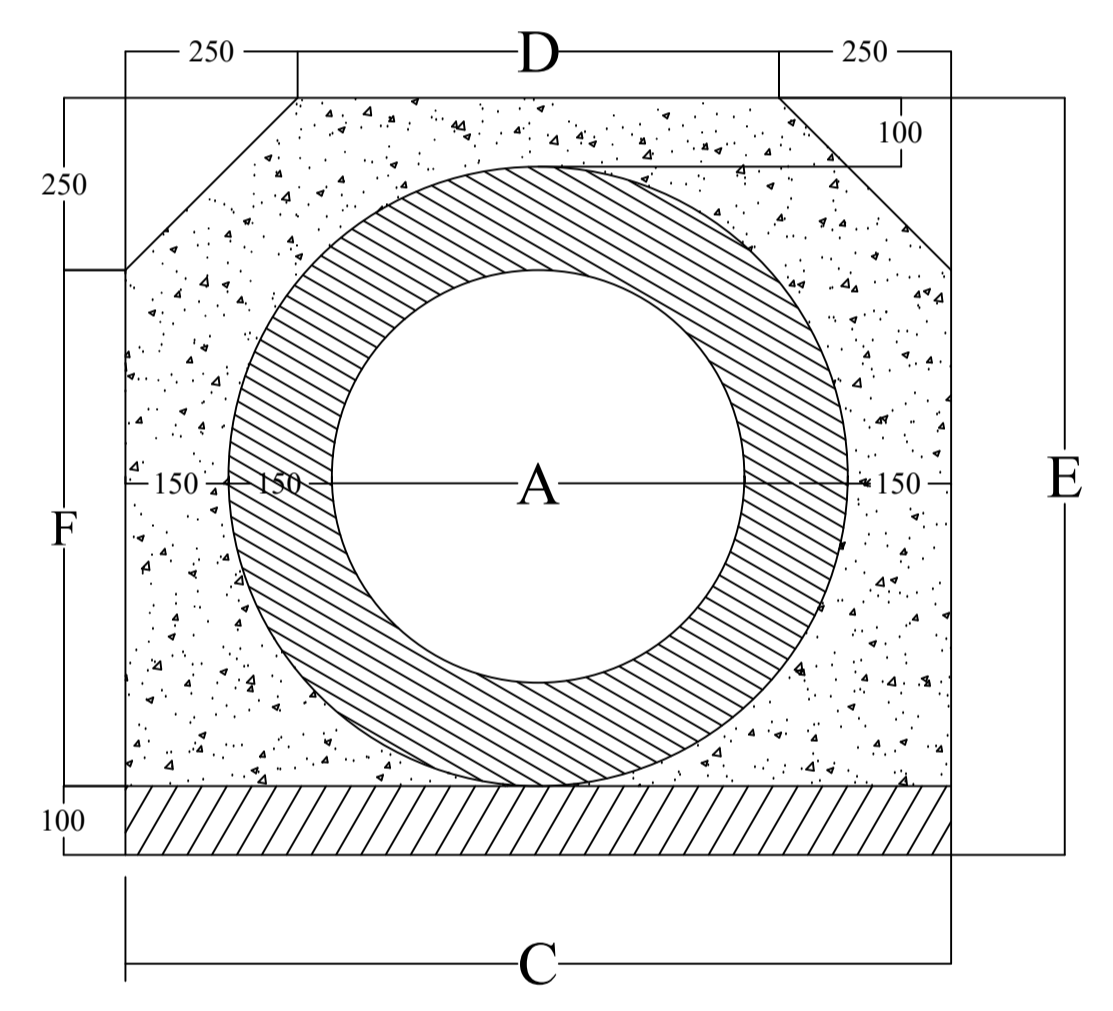
SECTION I-I



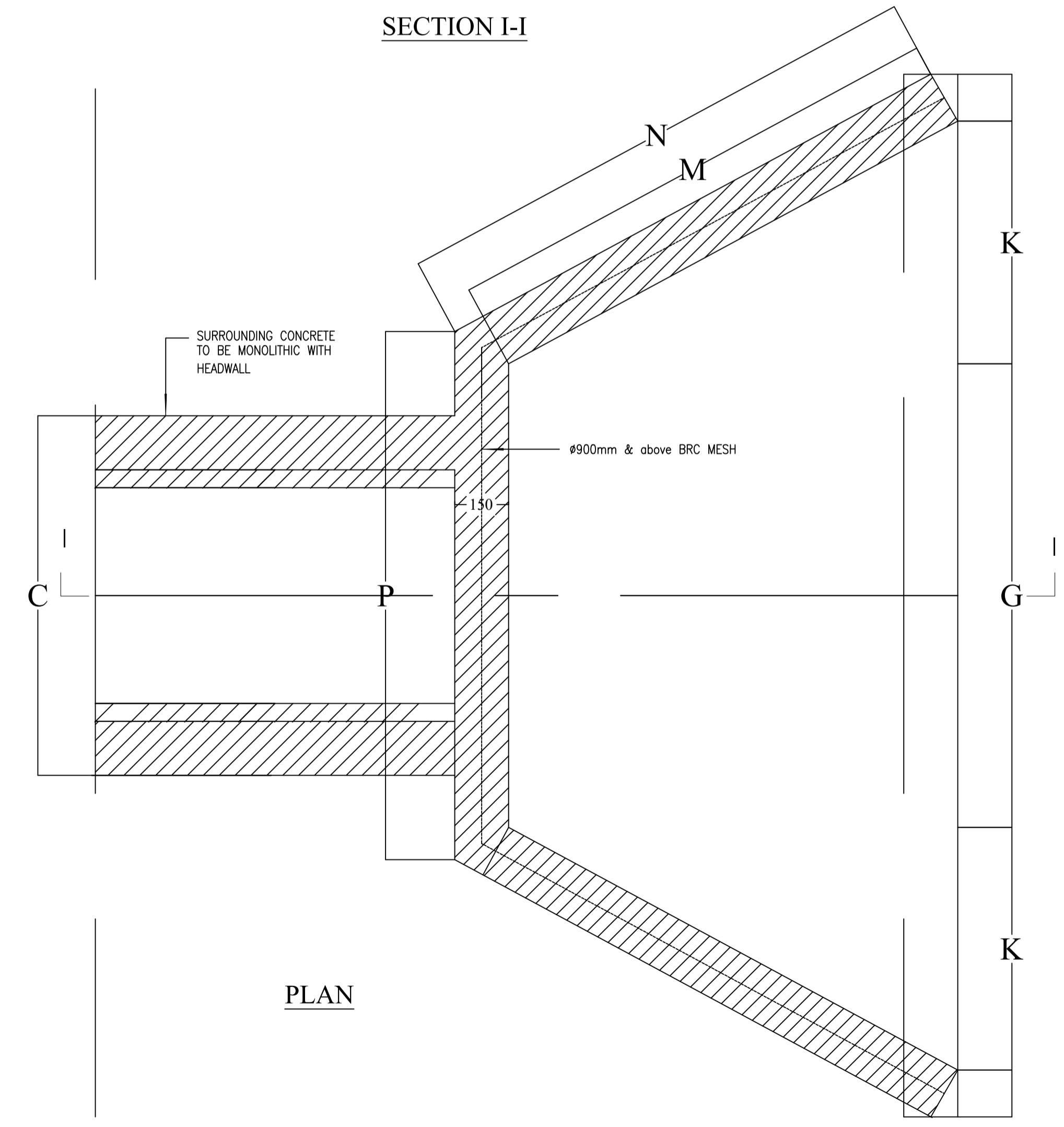
DOWELL BARS



FRONT ELEVATION



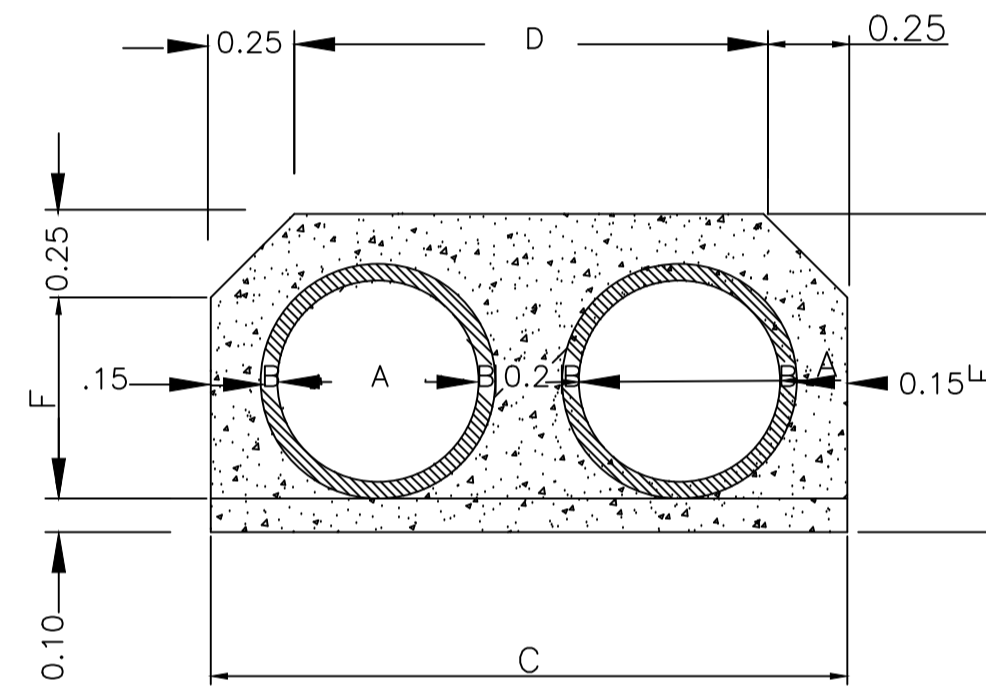
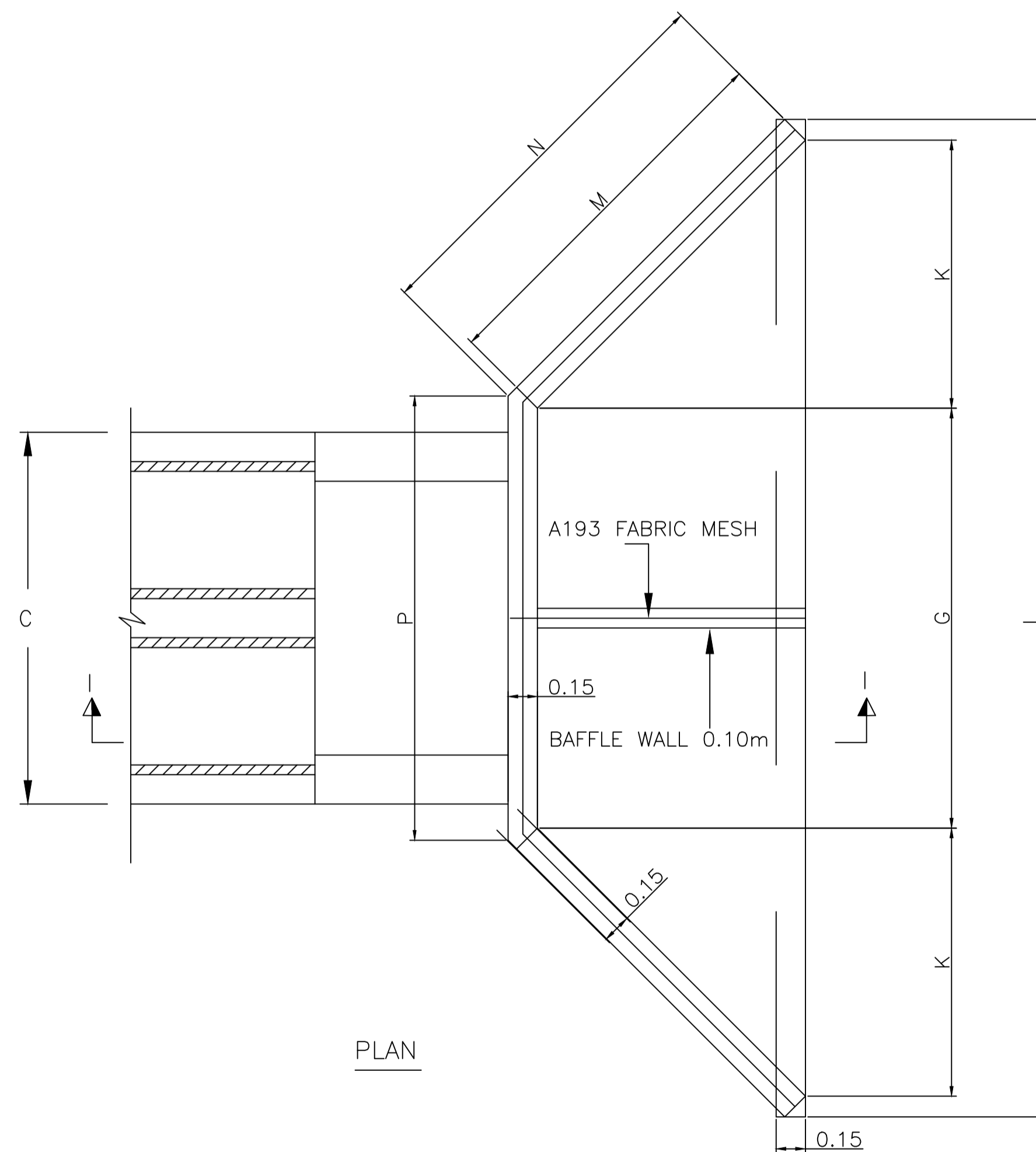
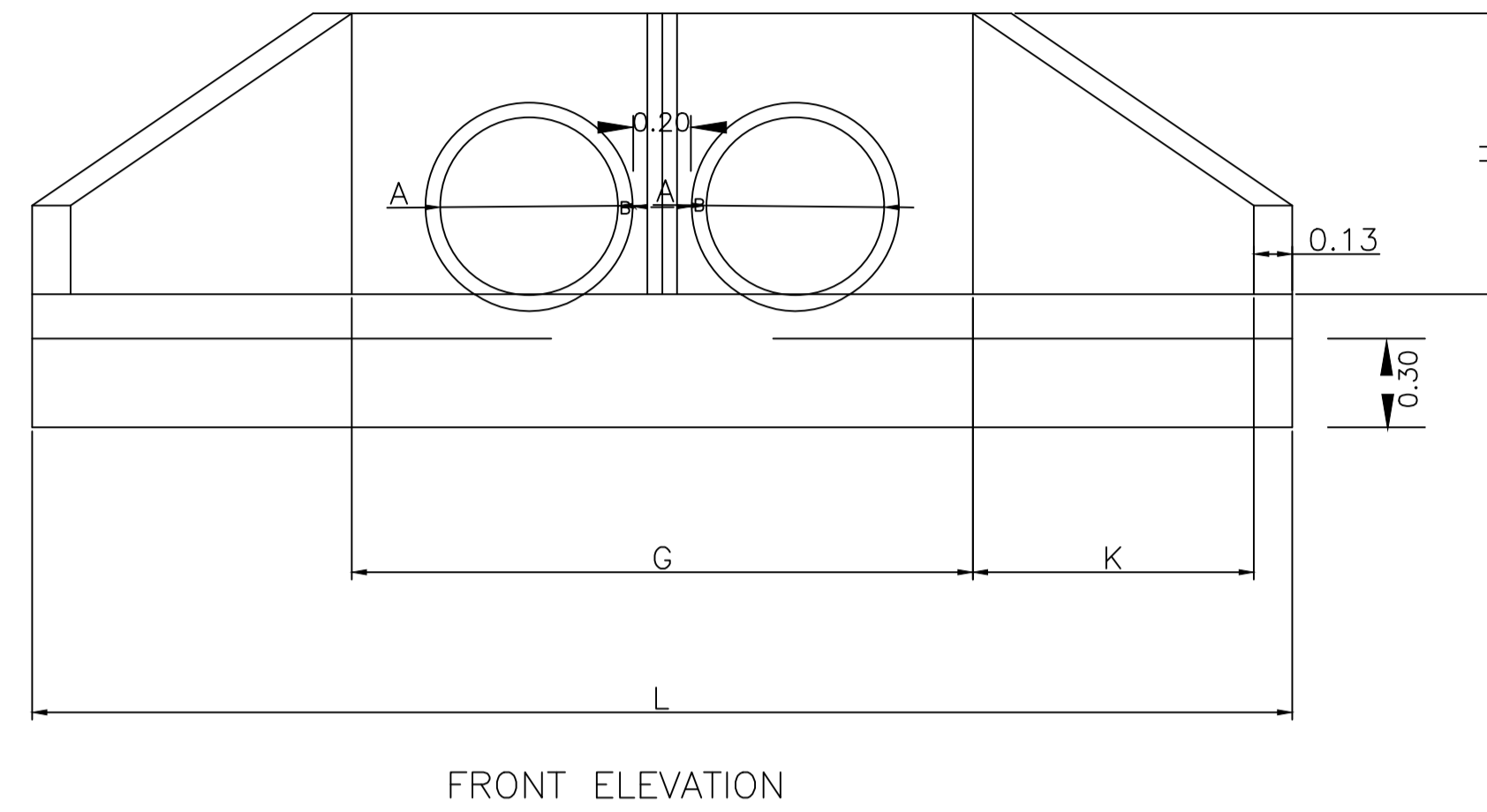
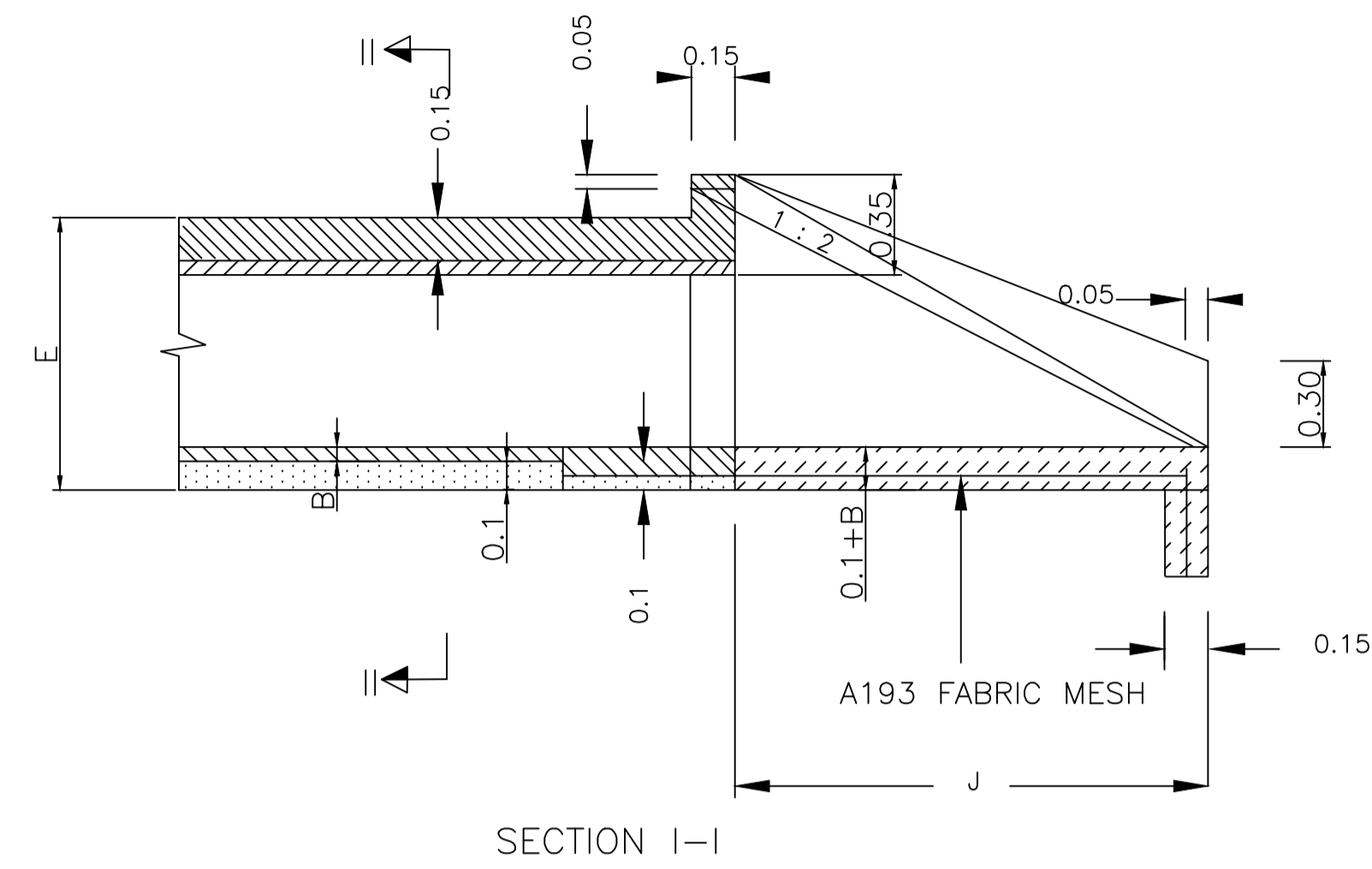
SECTION II-II



PLAN

CULVERT	A m	B m	C m	D m	E m	F m	G m	H m	J m	K m	L m	M m	N m	P m	CONCRETE CLASS 25 INLET & OUTLET	CONCRETE CLASS 15 SURROUND & BEAM PER RUNNING M
0.60m ϕ	0.60	0.05	1.00	0.50	0.95	0.60	1.20	0.95	1.25	0.72	2.90	1.44m	1.53	1.29	1.97m	0.50m
0.90m ϕ	0.90	0.07	1.34	0.84	1.29	0.94	1.50	1.25	1.70	0.98	3.72	1.96m	2.05	1.59	3.12m	0.82m

- NOTES
1. INLET AND OUTLET ARE ONLY REINFORCED WITH DOWELL BARS
 2. DOWELL BARS OF Y12 BARS TO BE POSITIONED AT \approx 0.20m SPACING
 3. THE SLOPE OF PIPE SHALL BE AS DIRECTED BY THE ENGINEER'S REPRESENTATIVE



NOTES

1. ALL FABRIC MESH REINFORCEMENT TO BE PLACED AS SHOWN
2. THE SLOPE OF THE PIPE SHALL BE DIRECTED BY THE ENGINEER'S REPRESENTATIVE
3. ALL DIMENSIONS ARE IN METRES
4. BAFFLE WALL TO BE CONSTRUCTED ONLY ON THE INLET SIDE
5. CONCRETE FOR HEADWALL, APRON, TOEWALL, BAFFLEWALL TO BE CLASS 25/20
6. CONCRETE FOR BLINDING AND SURROUND TO BE CLASS 15/20
7. CONCRETE SURROUND FOR 1.20m DIAMETER PIPE IS 0.20m AND NOT 0.15m
8. TABLE A SHOWS INCREMENTS IN DIMENSIONS AND QUANTITIES FOR EACH ADDITIONAL MULTIPLE PIPE
9. TABLE B SHOWS DIMENSIONS AND QUANTITIES FOR STANDARD TWIN CULVERTS
10. CONCRETE SURROUND SHALL AT ALL TIMES BE BELOW THE ROAD SUBGRADE UNLESS INSTRUCTED OTHERWISE BY THE ENGINEER.
11. THE LENGTH OF THE PIPE TO BE LAID SHALL AT ALL TIMES PROVIDE FOR ENTIRE ROAD CROSS SECTION.

TABLE A

CULVERT	ΔC m	ΔD m	ΔG m	ΔL m	ΔP m	ADDITIONAL CONCRETE CLASS 25/20 INLET & OUTLET	ADDITIONAL CONCRETE CLASS 15/40 SURROUND & BED per running m
0.60m DIAM.	0.90	0.90	0.90	0.30	0.90	0.80m ³	0.47m ³
0.90m DIAM.	1.28	1.28	1.28	1.28	1.28	2.13m ³	0.73m ³
1.20m DIAM.	1.60	1.60	1.60	1.60	1.60	3.38m ³	1.18m ³

TABLE B

CULVERT	A m	B m	C m	D m	E m	F m	G m	H m	J m	K m	L m	M m	N m	P m	ADDITIONAL CONCRETE CLASS 25/20 INLET & OUTLET	ADDITIONAL CONCRETE CLASS 15/40 SURROUND & BED per running m
0.60m DIAM.	0.60	0.05	1.90	1.40	0.95	0.60	2.10	0.95	1.65	0.95	4.26	1.91	2.00	2.27	3.26m ³	0.97m ³
0.90m DIAM.	0.90	0.09	2.66	2.16	1.33	0.98	2.74	1.25	2.25	1.30	5.60	2.60	2.69	2.91	6.10m ³	1.59m ³
1.20m DIAM.	1.20	0.10	3.40	2.90	1.70	1.35	3.36	1.55	2.85	1.65	6.92	3.29	3.38	3.55	9.24m ³	2.64m ³



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)
THE WORLD BANK

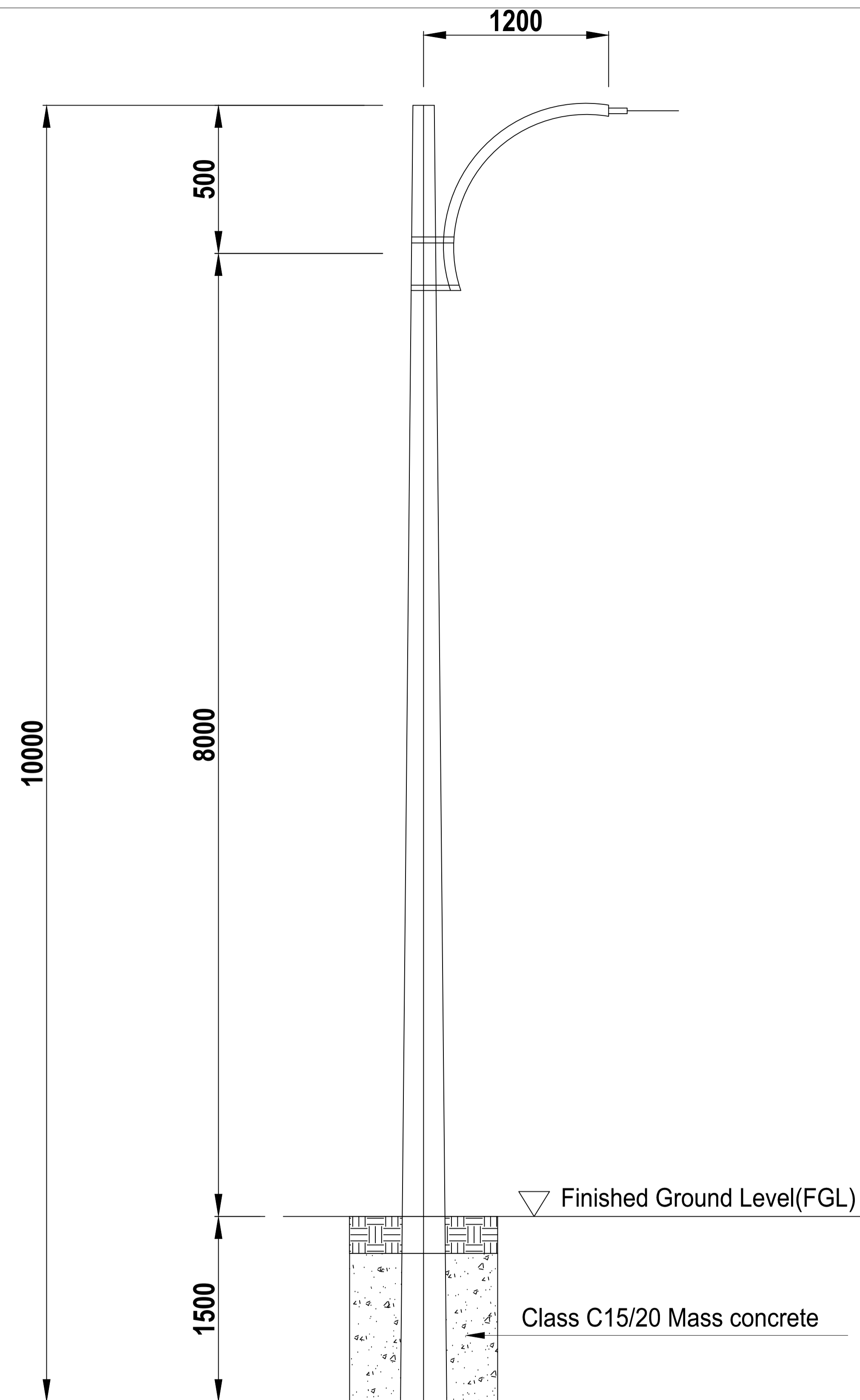
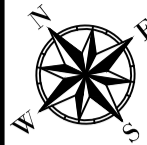
CONSULTANT:
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY

Drawing Title: DETAILED MULTIPLE PIPE CULVERT DETAILS.			
Drg. No. WMCL/CR214/SD/10	Sheet No. 10 of 12		
Scale: 1:10	Date: FEBRUARY:2024		
1:200	Stage: TENDER DRAWINGS		
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK
CHECKED BY	ENG. PNG	DRAWN BY	SM

REVISIONS

No.	Date	AMMENDMENTS



**10m high Tapering Concrete Lighting Pole with 1200 long bracket and arm,
0-deg tilt angle**

CLIENT:



MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT

EMPLOYER:



NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT:



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS,
DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
IN NAIROBI COUNTY

Drawing Title: STREET LITHTING POLE DETAILS.

Drg. No. WMCL/CR214/SD/12 Sheet No. 12 of 12

Scale: 1:10 Date: FEBRUARY:2024

1:200 Stage: TENDER DRAWINGS

APPROVED BY ENG.IKWM DESIGNED BY LWK

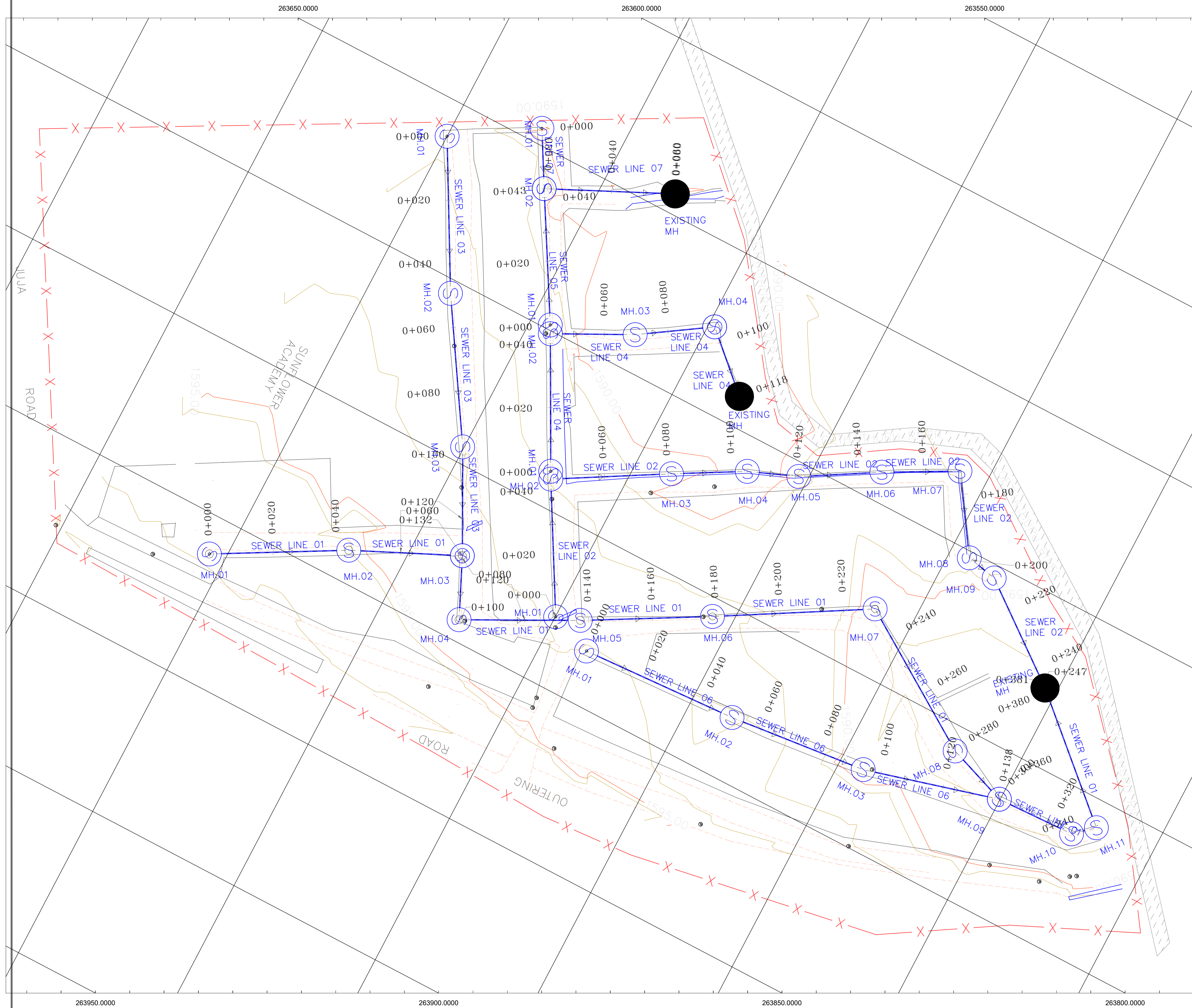
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REVISIONS

No.	Date	AMMENDMENTS

HURUMA FIRE VICTIMS SEWER DRAWINGS

 CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	 EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)	 FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY(IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT(AFD)	 CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN NAIROBI COUNTY.	Drawing Title: HURUMA FIRE VICTIMS SEWER DRAWINGS.		REVISIONS	
					Drg. No.	Sheet No.	Scale: 1:50 1:100	Date: FEBRUARY:2024 Stage: TENDER DRAWINGS



LEGEND

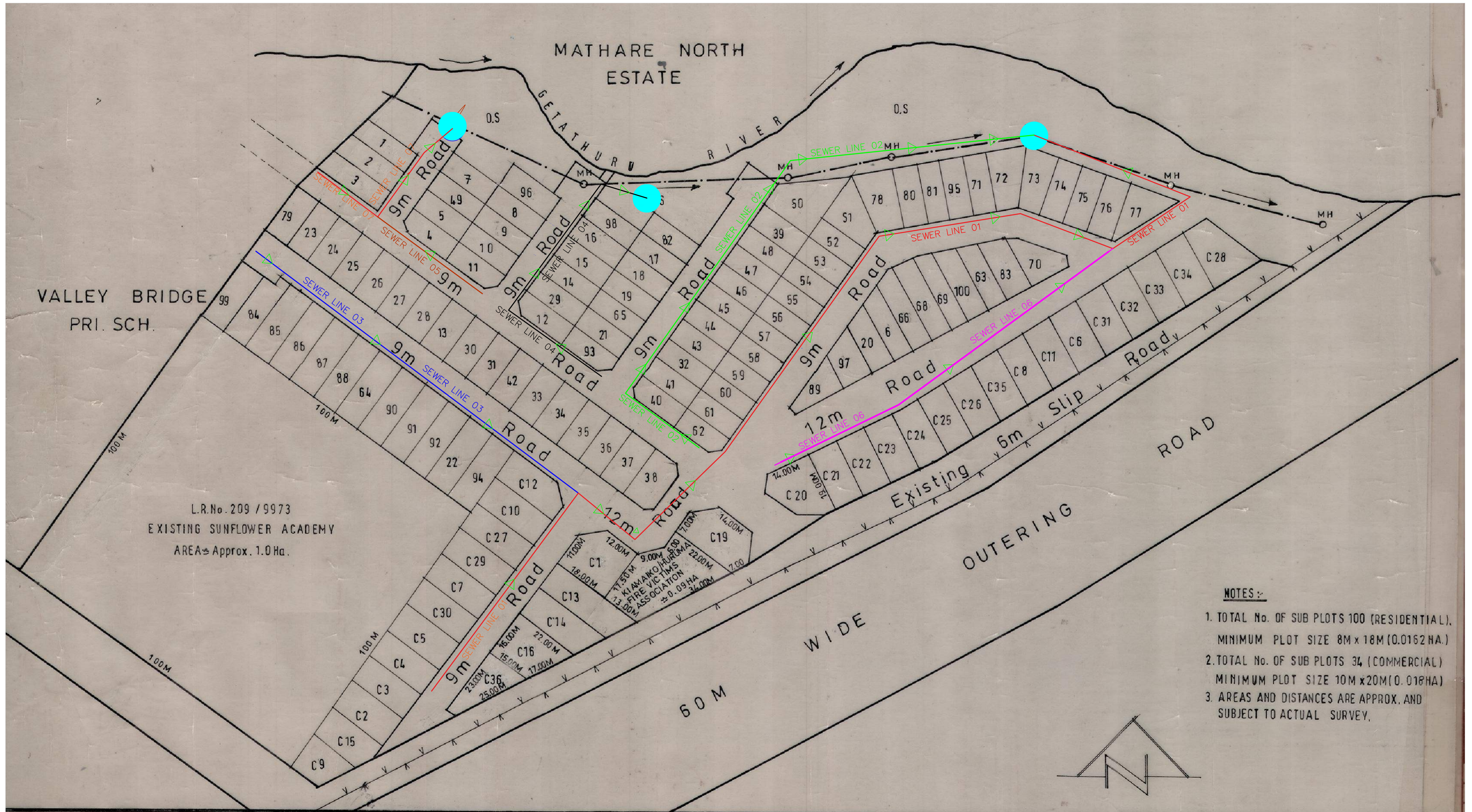
- Proposed Sewer Manhole
- Existing Sewer Manhole
- Proposed Sewer Line With Flow Direction
- Settlement Boundary
- Gethathuru River

PROPOSED SEWERLINE WITH LOCATION, PIPE DIA, TYPE & LENGTH

PROPOSED SEWERLINE	PIPE DIA & TYPE	LENGTH
Sewer Line 01	225 Dia. PCC	385m
Sewer Line 02	225 Dia. PCC	250m
Sewer Line 03	225 Dia. PCC	135m
Sewer Line 04	225 Dia. PCC	120m
Sewer Line 05	225 Dia. PCC	45m
Sewer Line 06	225 Dia. PCC	140m

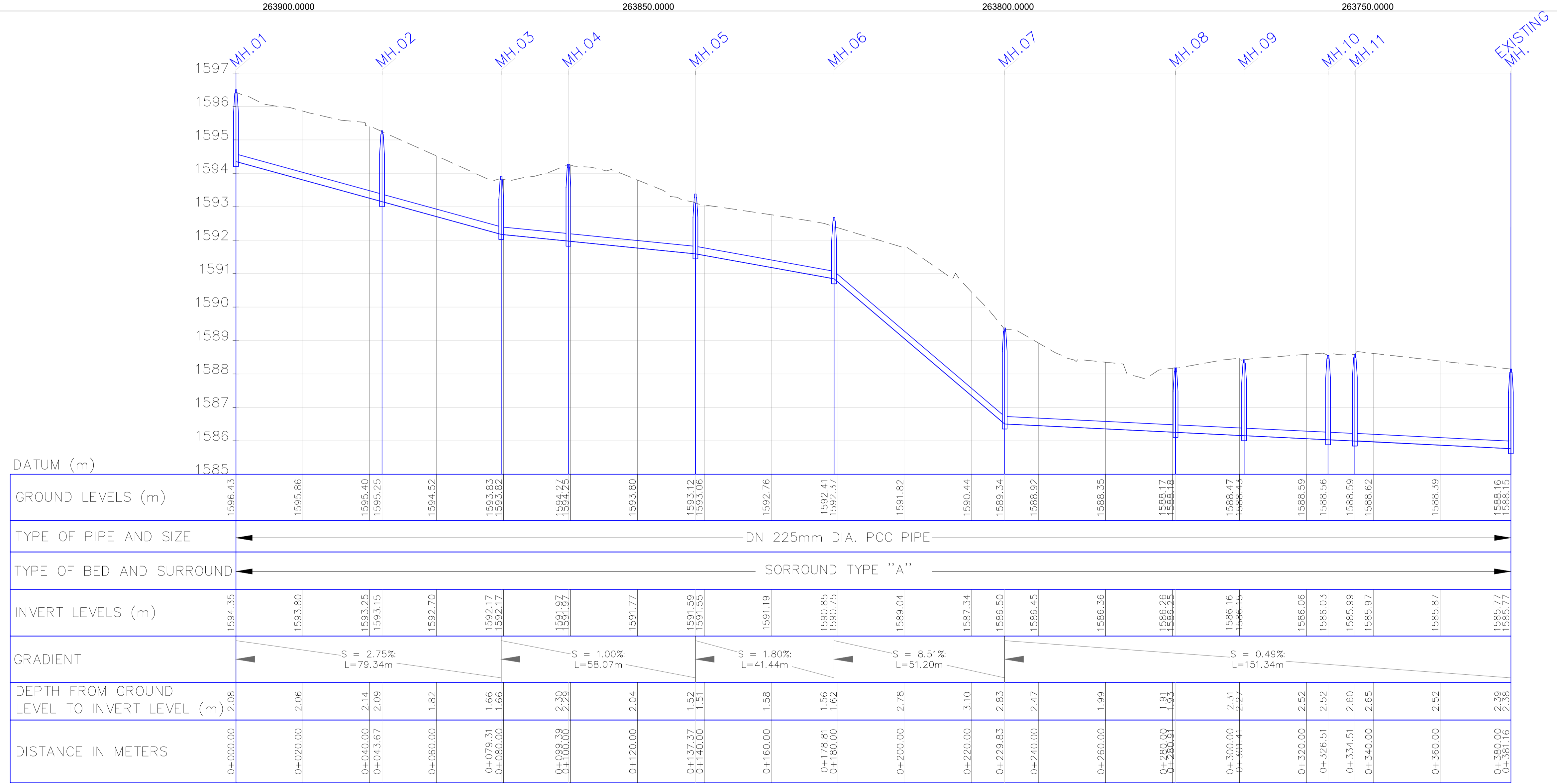
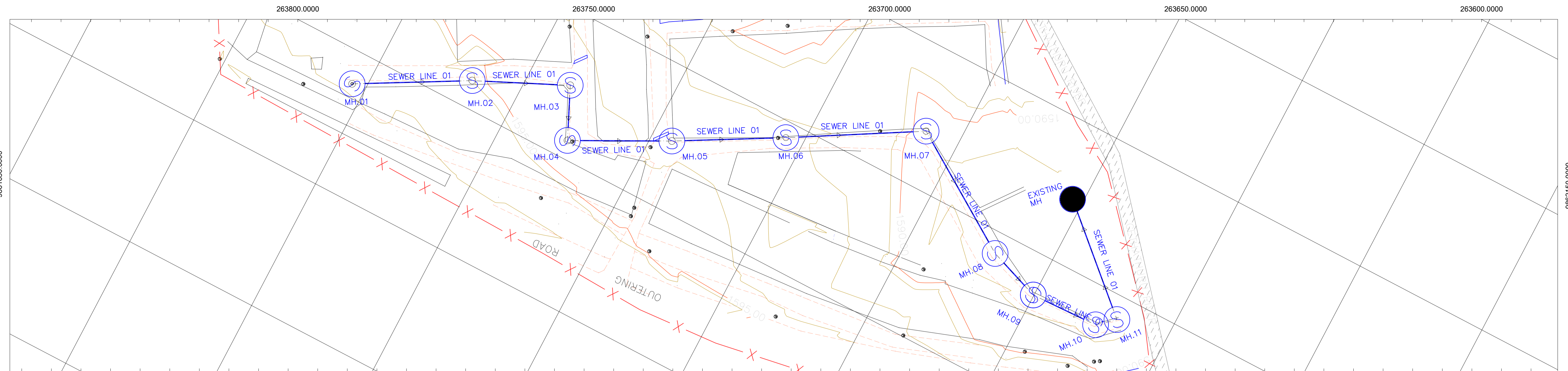
CLIENT: 	EMPLOYER: 	FINANCIER: 	CONSULTANT: 	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.
MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT	NAIROBI CITY COUNTY GOVERNMENT (NCCG)	INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD) 	Wanjohi Mutonyi Consult Ltd. <small>Engineers, Environmentalists, Project Managers</small> <small>Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</small>	Drawing Title: HURUMA FIRE VICTIMS SETTLEMENT: GENERAL LAYOUT PLAN

Drg. No. WMCLCR 214/SW01		Sheet		REVISIONS	
Scale: H: 1:2000	Date: FEBRUARY 2024				
V: 1:200	Stage: TENDER DRAWINGS				
APPROVED BY: ENG. IKWM	DESIGNED BY: JNK				
CHECKED BY: ENG. PNG	DRAWN BY: JNK	No.	Date	AMMENDMENTS	



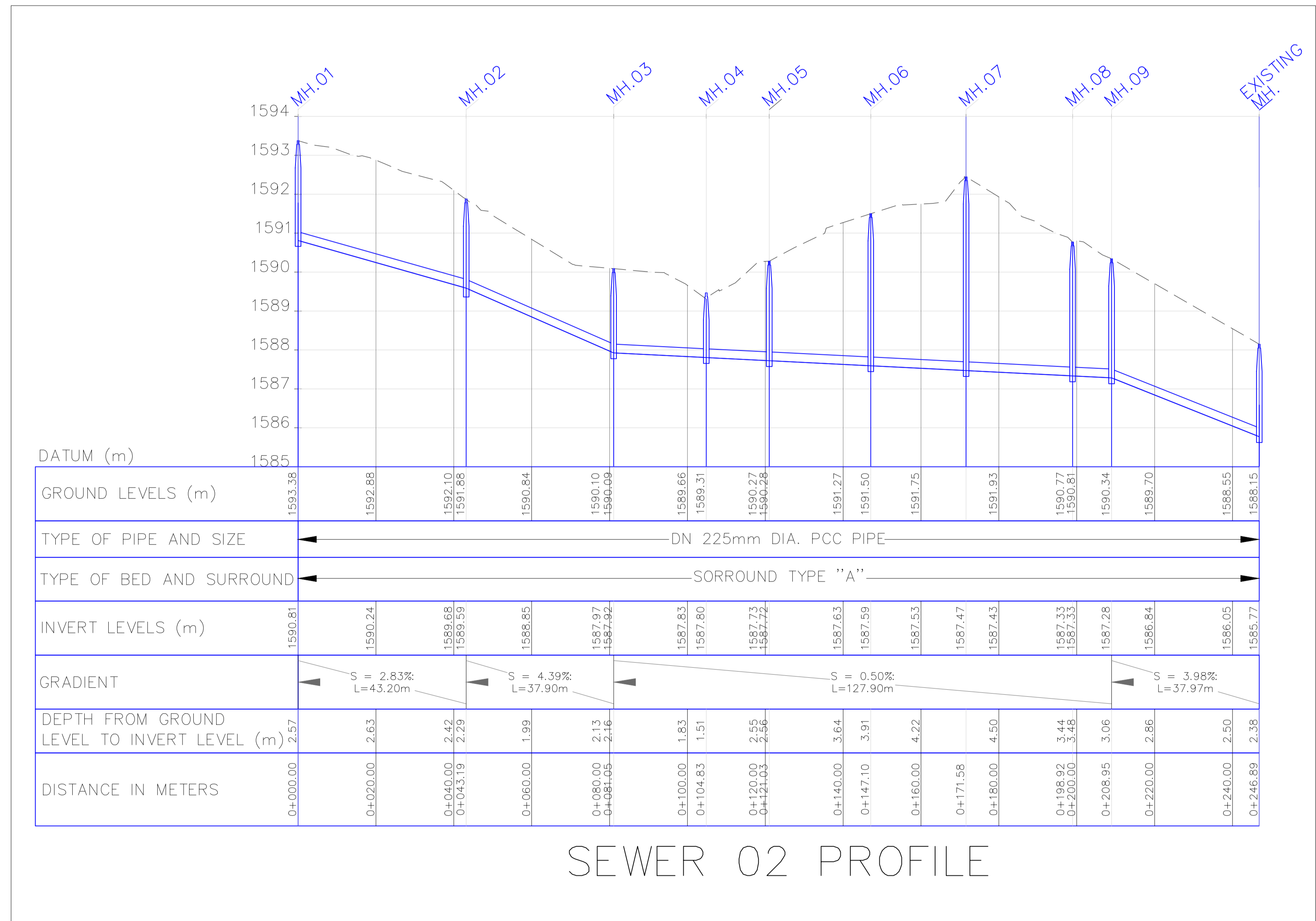
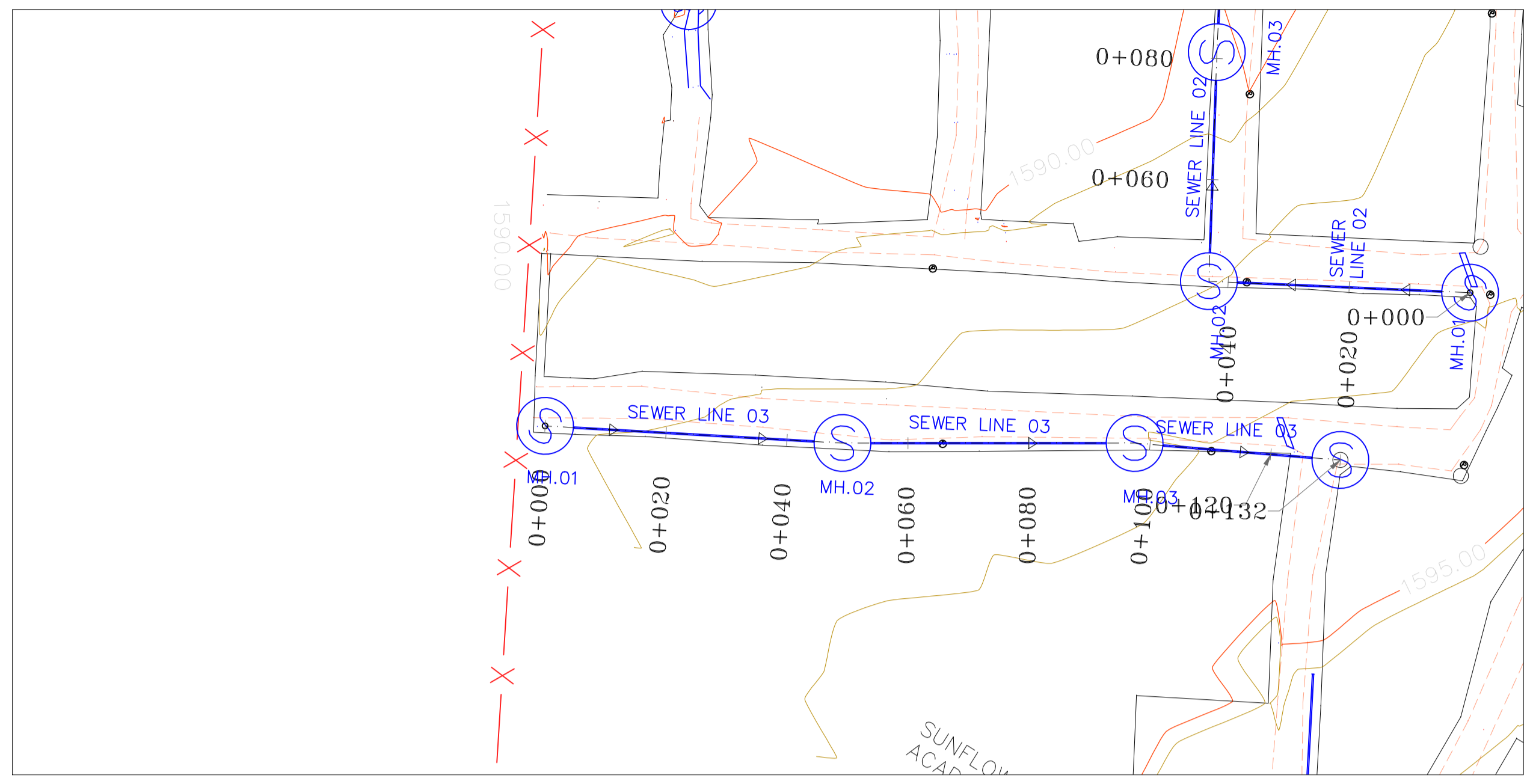
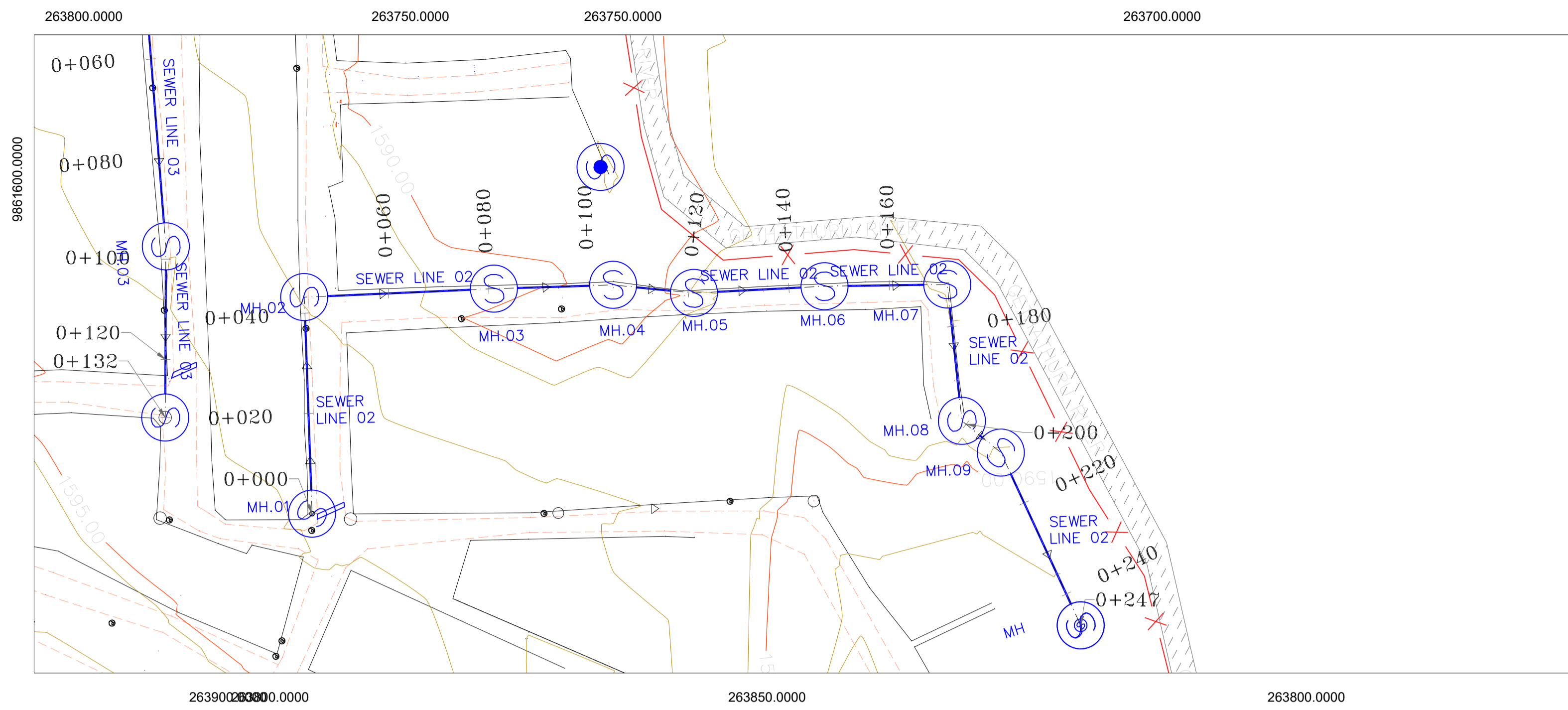
L.R.No. 209 / 9973
 EXISTING SUNFLOWER ACADEMY
 AREA ≈ Approx. 1.0 Ha.

- NOTES:**
1. TOTAL No. OF SUB PLOTS 100 (RESIDENTIAL),
 MINIMUM PLOT SIZE 8M x 18M (0.0152 HA.)
 2. TOTAL No. OF SUB PLOTS 34 (COMMERCIAL)
 MINIMUM PLOT SIZE 10M x 20M (0.018 HA.)
 3. AREAS AND DISTANCES ARE APPROX. AND
 SUBJECT TO ACTUAL SURVEY.

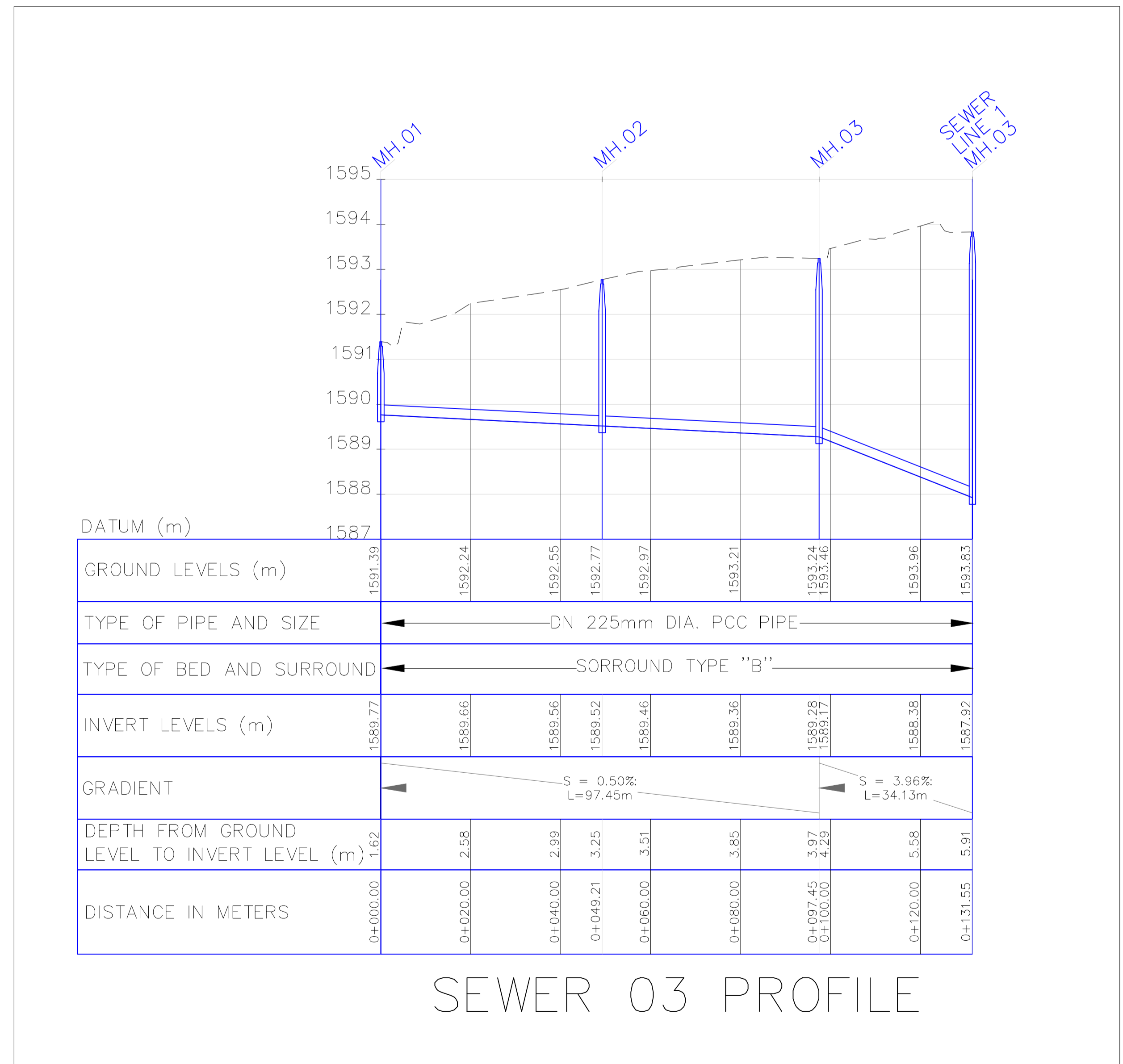


SEWER 01 PROFILE

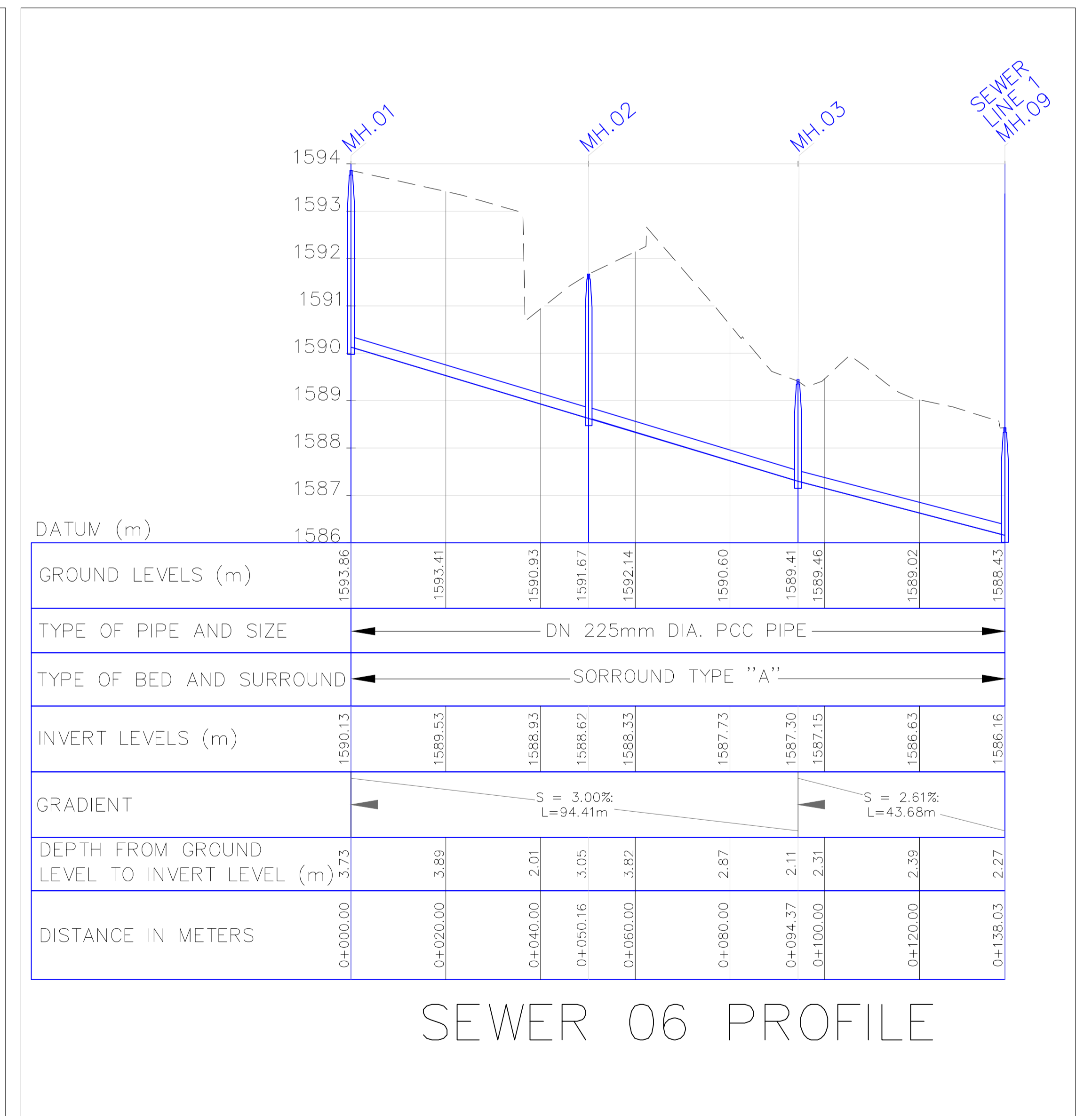
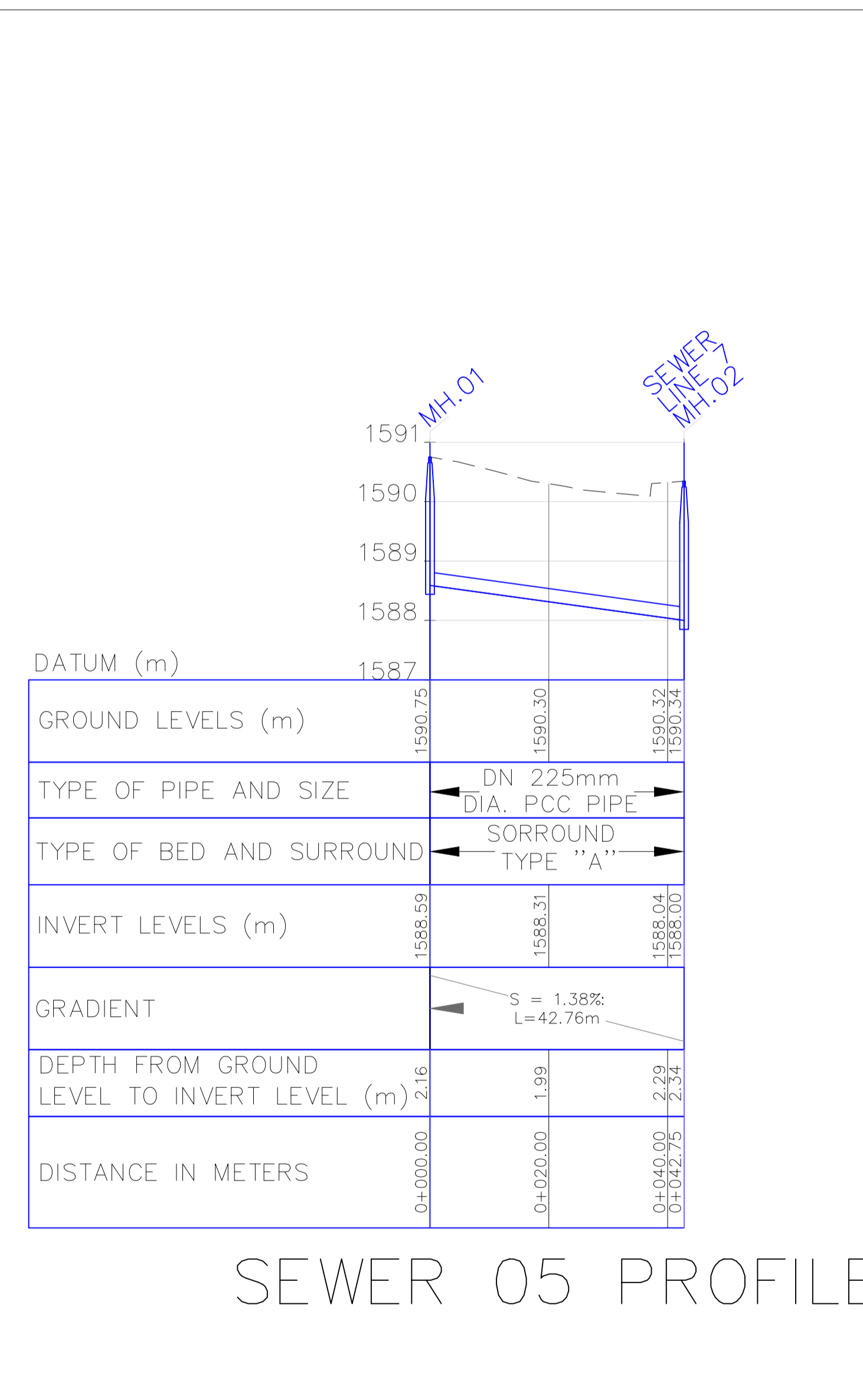
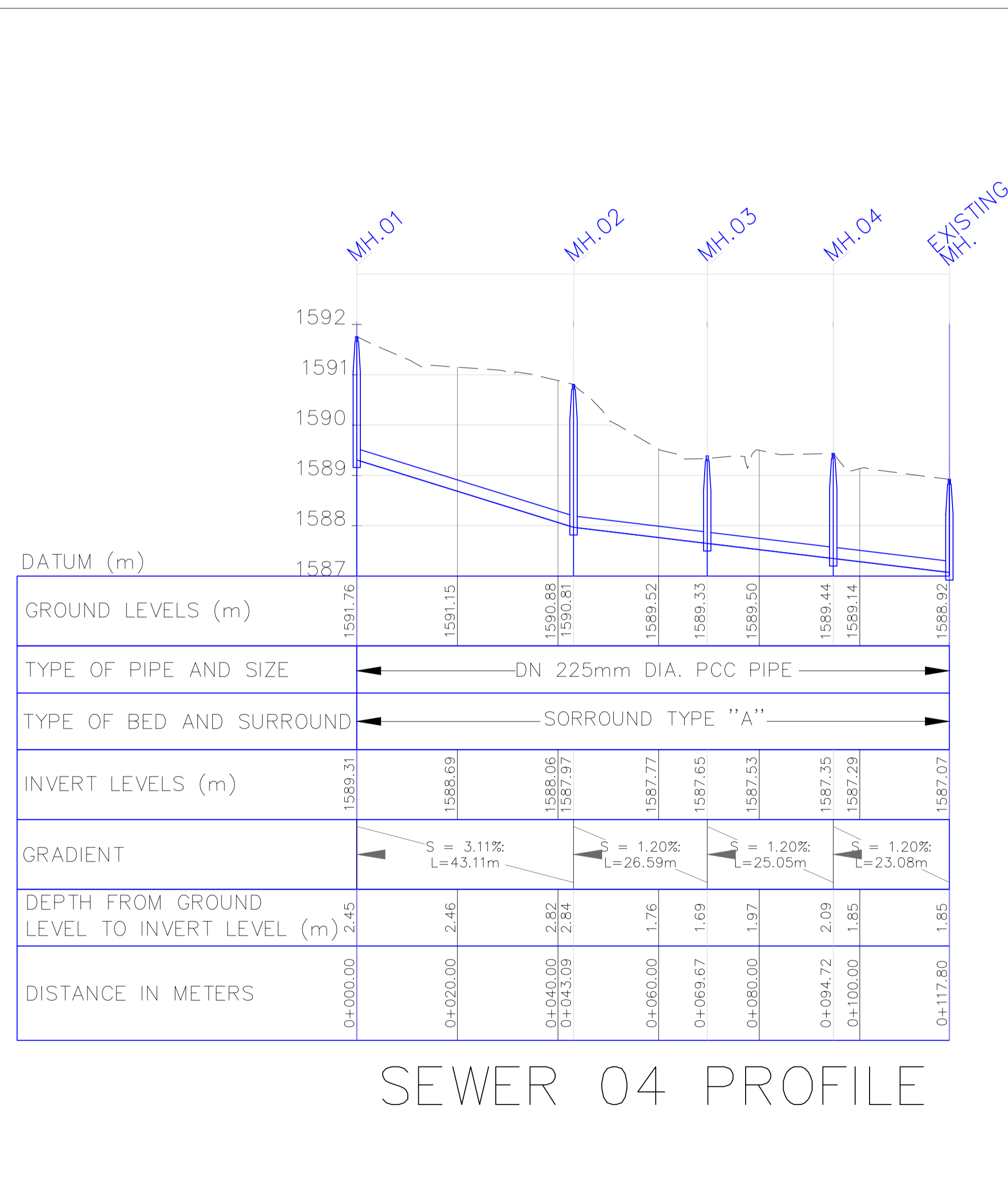
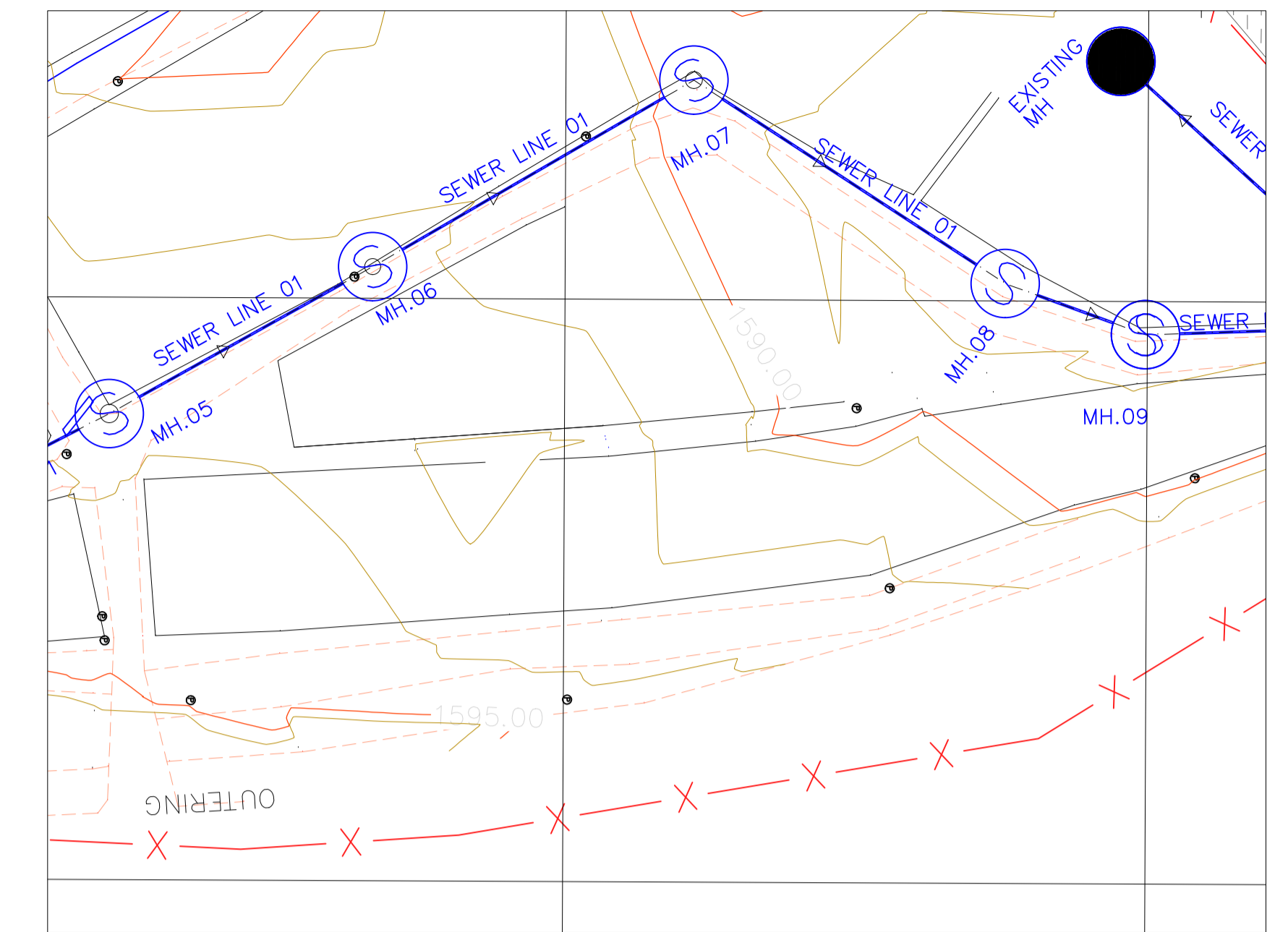
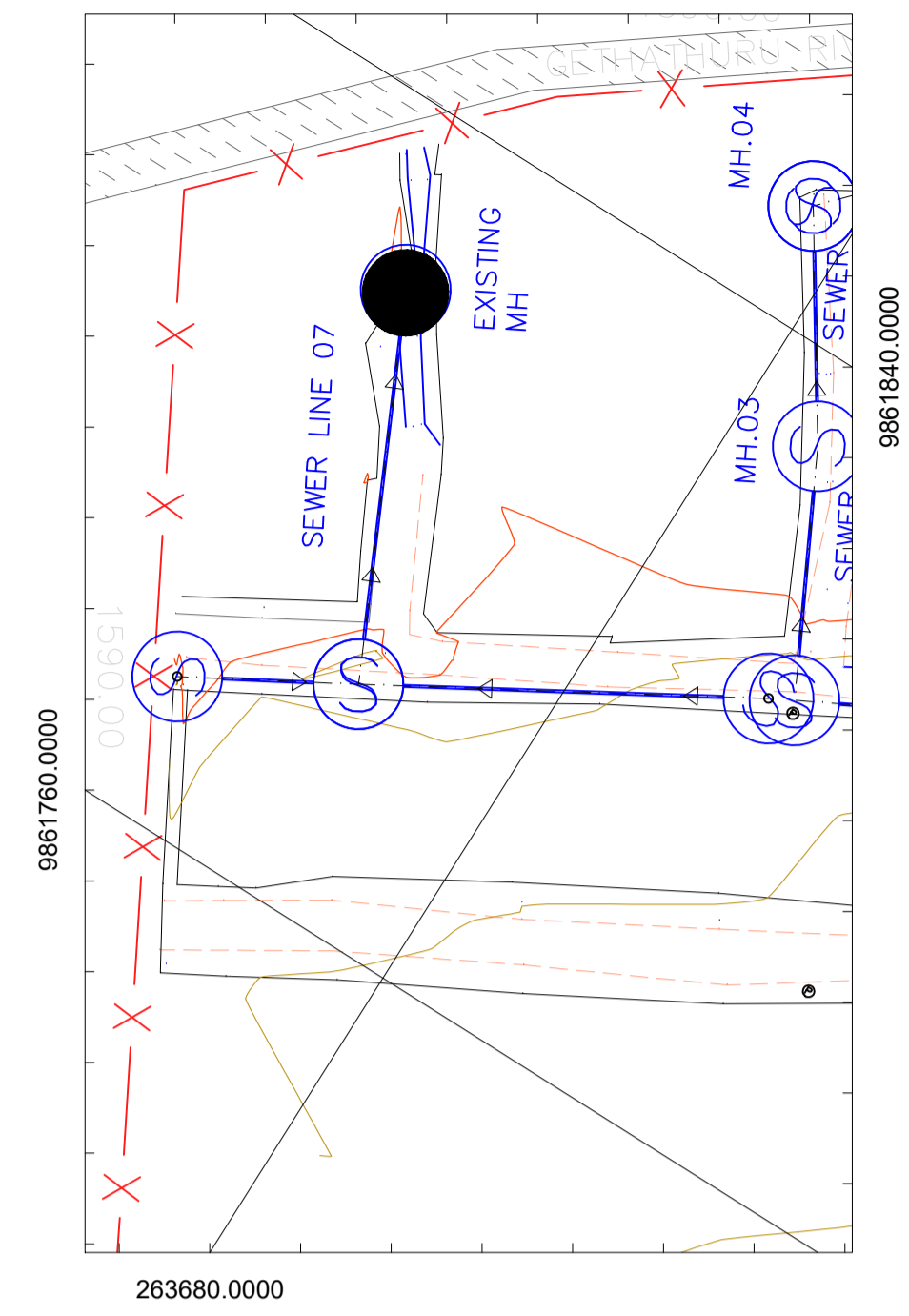
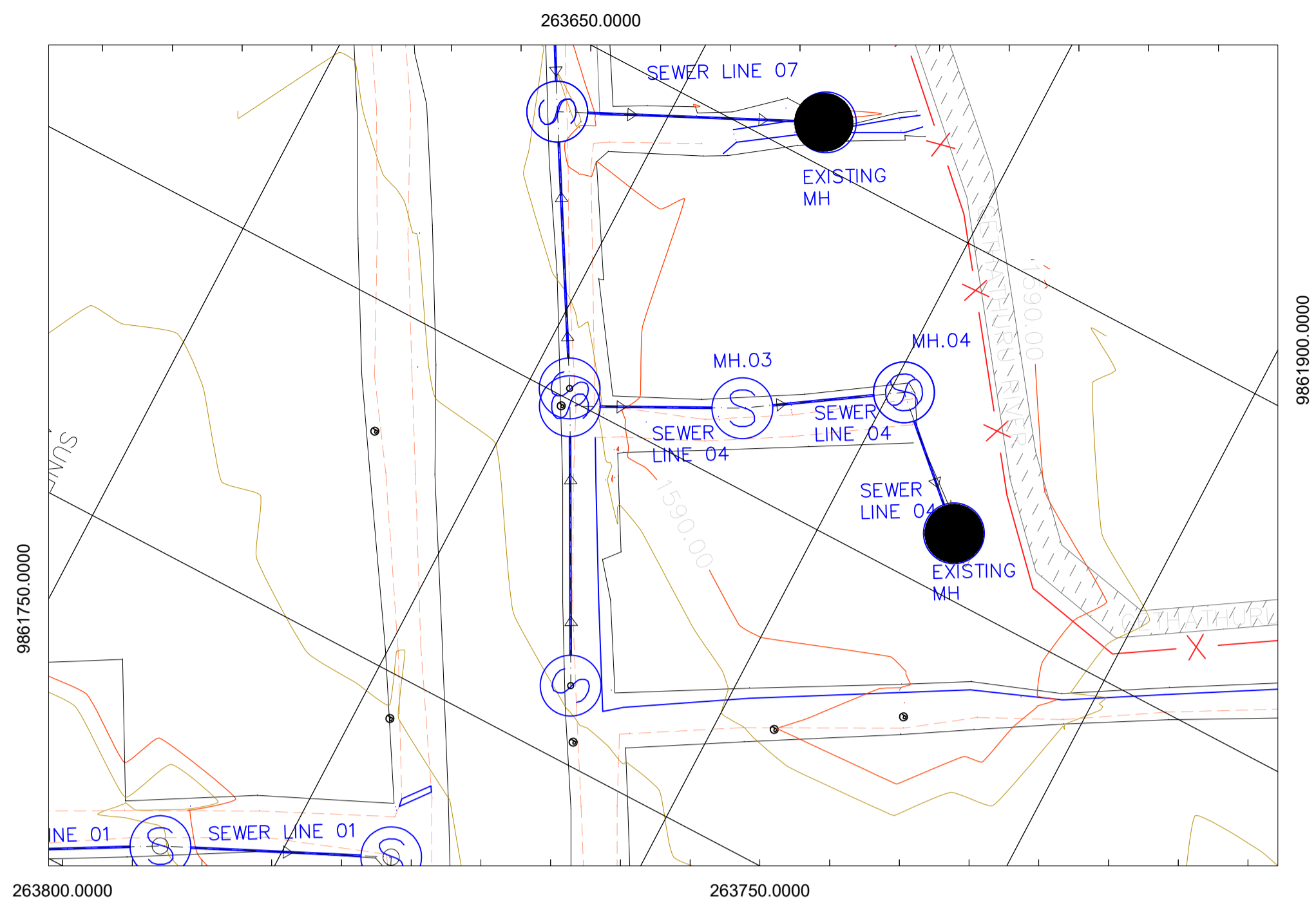
<p>CLIENT: MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT</p>	<p>EMPLOYER: NAIROBI CITY COUNTY GOVERNMENT (NCCG)</p>	<p>FINANCIER: INTERNATIONAL DEVELOPMENT AGENCY(IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT(AFD)</p>	<p>CONSULTANT: Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS ,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.</p>	<p>Drawing Title:HURUMA FIRE VICTIMS SETTLEMENT: SEWER LINE I: PLAN & PROFILE</p>		<p>REVISIONS</p>	
					<p>Drg. No. WMCLCR 214/SW03</p> <p>Scale:H: 1: 2000</p> <p>V: 1: 200</p> <p>APPROVED BY: ENK.IKW</p> <p>CHECKED BY: ENG.PNG</p>	<p>Sheet No.</p> <p>Date: FEBRUARY 2024</p> <p>Stage:TENDER DRAWINGS</p> <p>DESIGNED BY: JNK</p> <p>DRAWN BY: JNK</p>	<p>No</p> <p>Date</p> <p>AMMENDMENTS</p>	

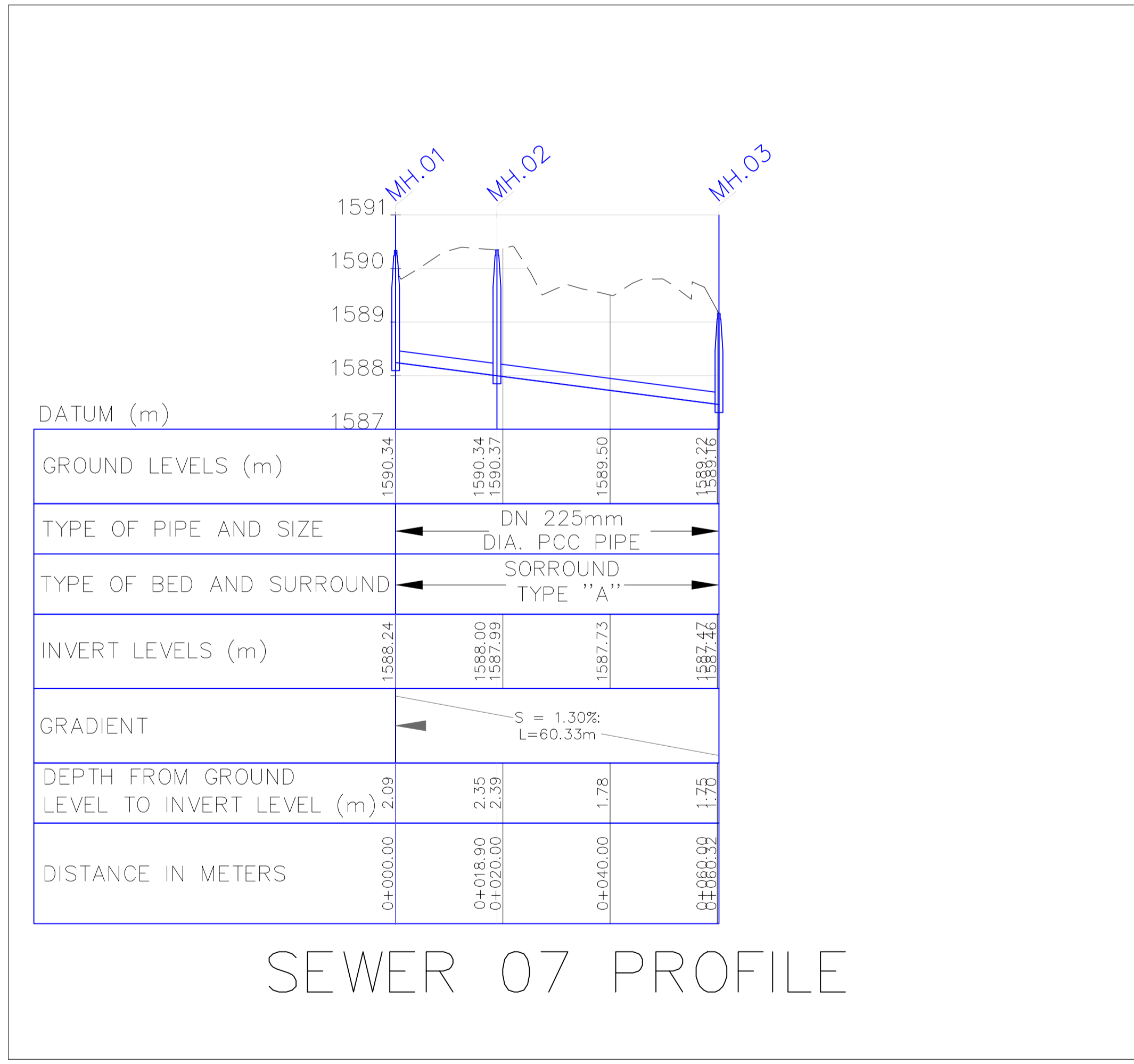
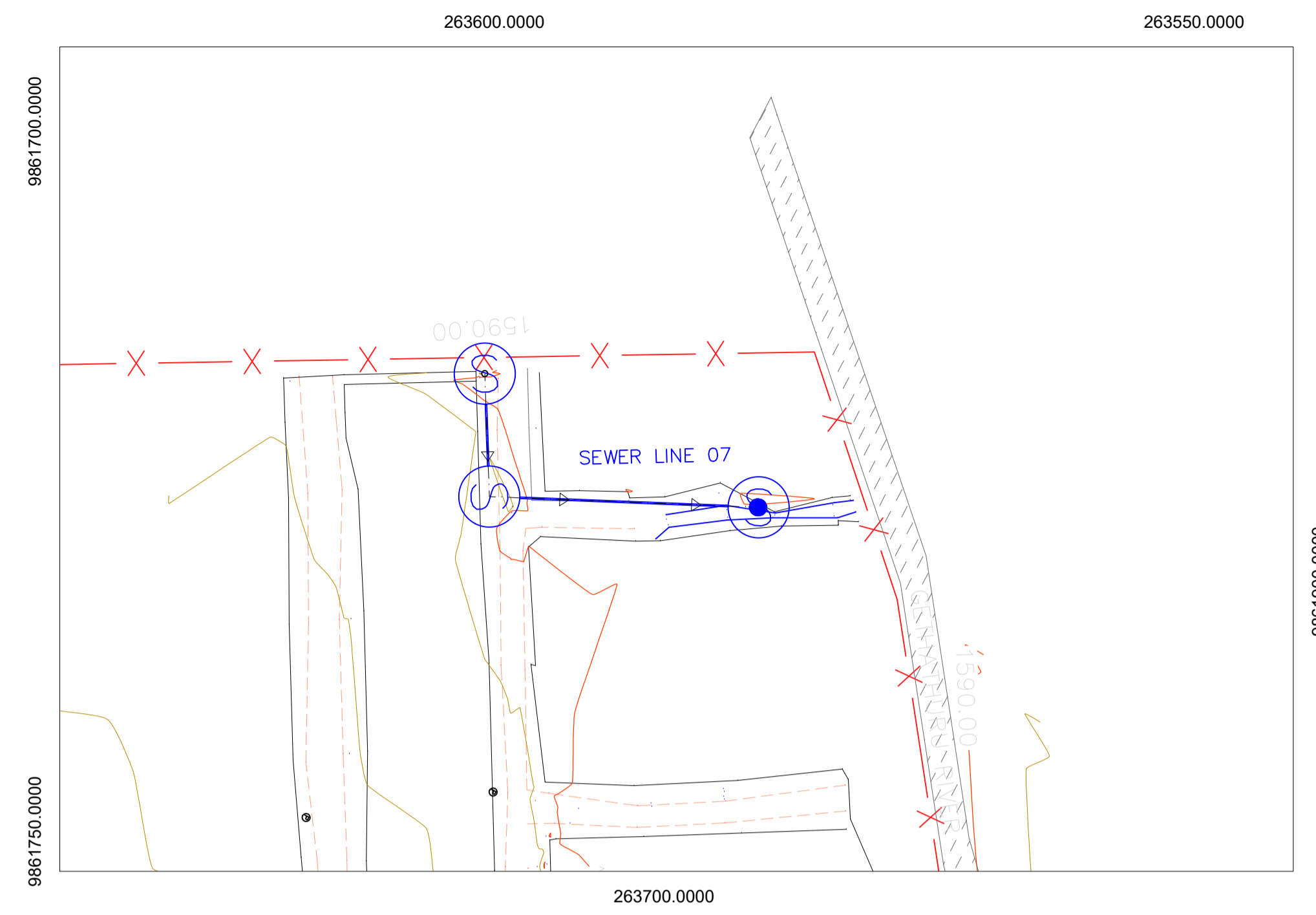


SEWER 02 PROFILE



SEWER 03 PROFILE

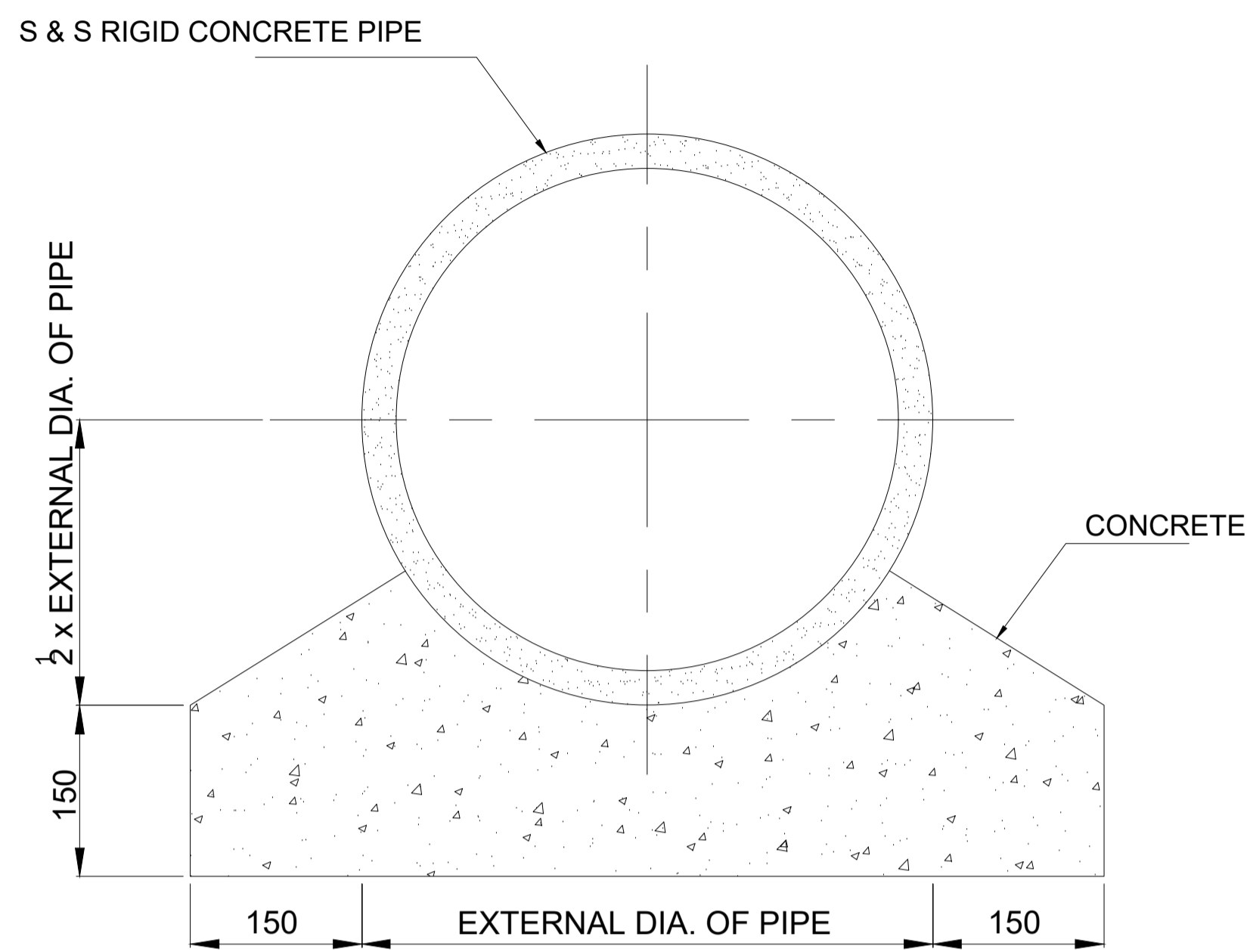




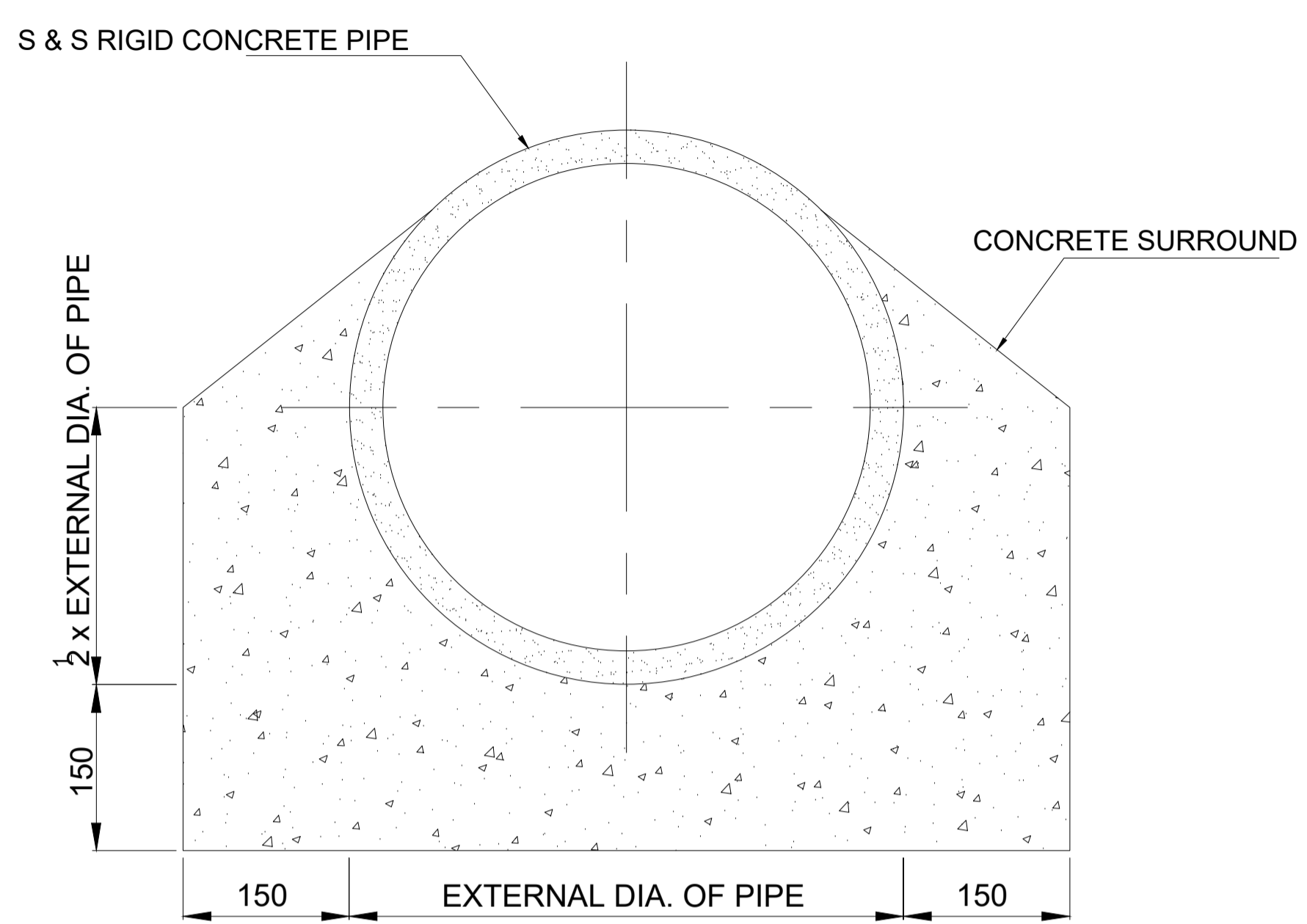
SETTING OUT DATA

Pipe Network: SEWER LINE 01							
Structure	Type	Size (m)	Material	Northing (m)	Easting (m)	Rim Ele (m)	Sump Elev (m)
MH-01	Circular	D:1.05	R.C	9861744.90	263811.60	1596.50	1594.35
MH-02	Circular	D:1.05	R.C	9861783.00	263790.27	1595.28	1593.15
MH-03	Circular	D:1.05	R.C	9861823.73	263793.47	1594.27	1591.97
MH-04	Circular	D:1.05	R.C	9861815.31	263775.24	1593.91	1592.17
MH-05	Circular	D:1.05	R.C	9861857.46	263776.00	1593.38	1591.59
MH-06	Circular	D:1.05	R.C	9861893.56	263755.66	1592.68	1590.85
MH-07	Circular	D:1.05	R.C	9861937.57	263729.87	1589.38	1586.50
MH-08	Circular	D:1.05	R.C	9862030.83	263758.32	1588.59	1585.99
MH-09	Circular	D:1.05	R.C	9862024.83	263763.62	1588.56	1586.03
MH-10	Circular	D:1.05	R.C	9861999.76	263764.56	1588.43	1586.15
MH-11	Circular	D:1.05	R.C	9861980.47	263757.61	1588.18	1586.25
EXIST-MH	Circular	D:1.05	R.C	9861996.21	263727.04	1588.15	1585.77
Pipe Network: SEWER LINE 02							
Structure	Type	Size (m)	Material	Northing (m)	Easting (m)	Rim Ele (m)	Sump Elev (m)
MH-01	Circular	D:1.05	R.C	9861850.12	263778.61	1593.38	1590.81
MH-02	Circular	D:1.05	R.C	9861941.05	263679.27	1592.45	1587.47
MH-03	Circular	D:1.05	R.C	9861828.69	263741.11	1591.88	1589.51
MH-04	Circular	D:1.05	R.C	9861919.54	263690.96	1591.50	1587.59
MH-05	Circular	D:1.05	R.C	9861956.27	263701.98	1590.77	1587.33
MH-06	Circular	D:1.05	R.C	9861966.10	263703.96	1590.34	1587.28
MH-07	Circular	D:1.05	R.C	9861897.12	263704.26	1590.28	1587.72
MH-08	Circular	D:1.05	R.C	9861861.40	263722.04	1590.09	1587.92
MH-09	Circular	D:1.05	R.C	9861882.10	263710.32	1589.47	1587.81
EXIST-MH	Circular	D:1.05	R.C	9861996.21	263727.04	1588.15	1585.77

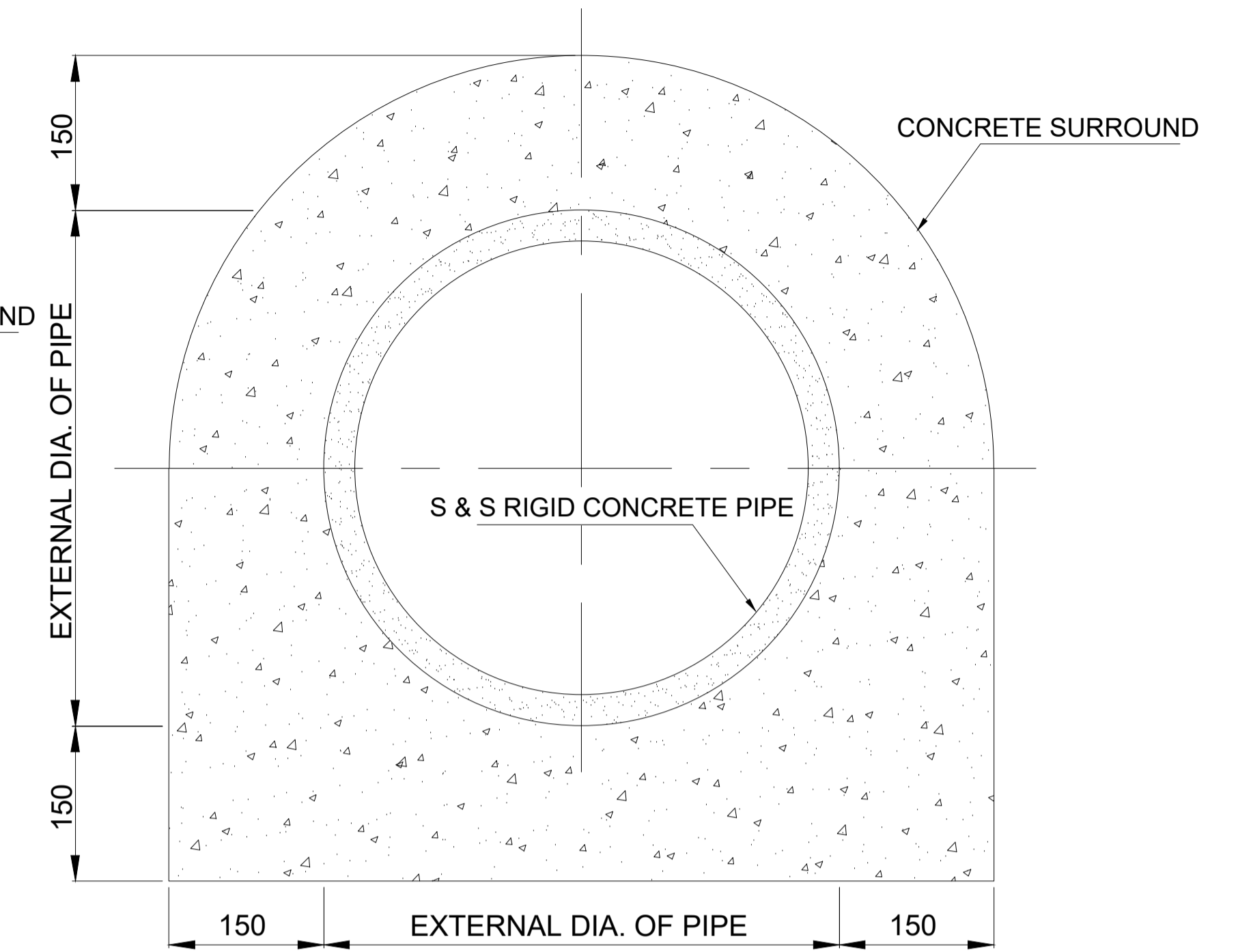
Pipe Network: SEWER 03							
Structure	Type	Size (m)	Material	Northing (m)	Easting (m)	Rim Ele (m)	Sump Elev (m)
MH-01	Circular	D:1.05	R.C	9861815.31	263775.24	1593.83	1587.92
MH-02	Circular	D:1.05	R.C	9861799.54	263745.00	1593.24	1589.28
MH-03	Circular	D:1.05	R.C	9861773.80	263704.20	1592.77	1589.52
MH-03-LN 1	Circular	D:1.05	R.C	9861749.99	263661.13	1591.39	1589.76
Pipe Network: SEWER 04							
Structure	Type	Size (m)	Material	Northing (m)	Easting (m)	Rim Ele (m)	Sump Elev (m)
MH-01	Circular	D:1.05	R.C	9861827.52	263738.95	1591.76	1589.31
MH-02	Circular	D:1.05	R.C	9861807.39	263700.85	1590.81	1587.97
MH-03	Circular	D:1.05	R.C	9861852.00	263675.00	1589.44	1587.35
MH-04	Circular	D:1.05	R.C	9861831.07	263688.75	1589.39	1587.65
EXIST-MH	Circular	D:1.05	R.C	9861868.94	263690.68	1588.92	1587.07
Pipe Network: SEWER 05							
Structure	Type	Size (m)	Material	Northing (m)	Easting (m)	Rim Ele (m)	Sump Elev (m)
MH-01	Circular	D:1.05	R.C	9861806.10	263698.45	1590.75	1588.59
MH-02 LN 7	Circular	D:1.05	R.C	9861784.55	263661.52	1590.34	1588.00
Pipe Network: SEWER 06							
Structure	Type	Size (m)	Material	Northing (m)	Easting (m)	Rim Ele (m)	Sump Elev (m)
MH-01	Circular	D:1.05	R.C	9861863.62	263783.58	1593.86	1590.13
MH-02	Circular	D:1.05	R.C	9861913.70	263780.82	1591.67	1588.62
MH-03	Circular	D:1.05	R.C	9861957.66	263776.17	1589.44	1587.30
MH-09 LN 1	Circular	D:1.05	R.C	9861999.76	263764.56	1588.43	1586.16
Pipe Network: SEWER LINE 07							
Structure	Type	Size (m)	Material	Northing (m)	Easting (m)	Rim Ele (m)	Sump Elev (m)
MH-01	Circular	D:1.05	R.C	9861784.55	263661.52	1590.34	1588.00
MH-02	Circular	D:1.05	R.C	9861775.15	263645.13	1590.34	1588.24
MH-03	Circular	D:1.05	R.C	9861821.96	263643.73	1589.16	1587.46



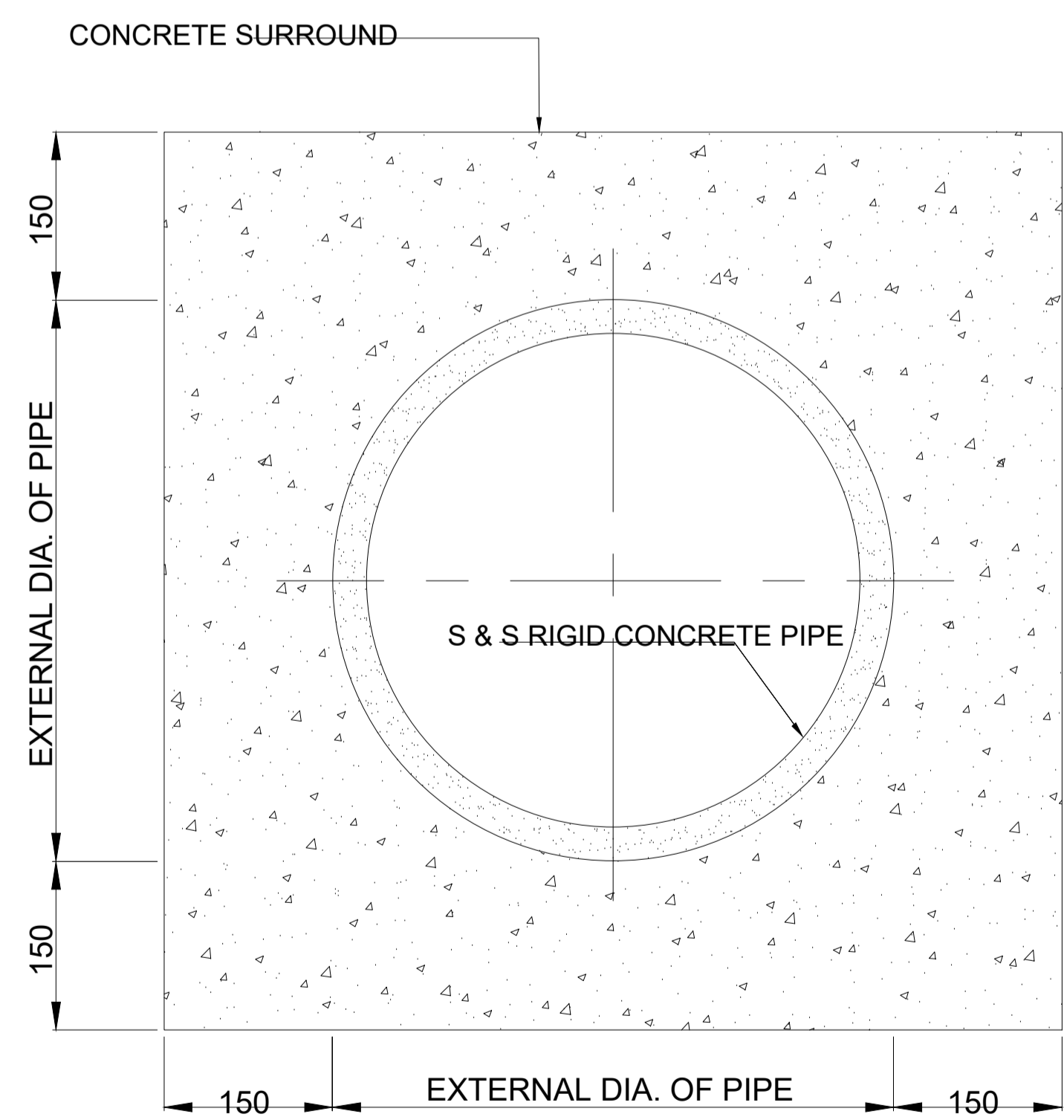
TYPE A



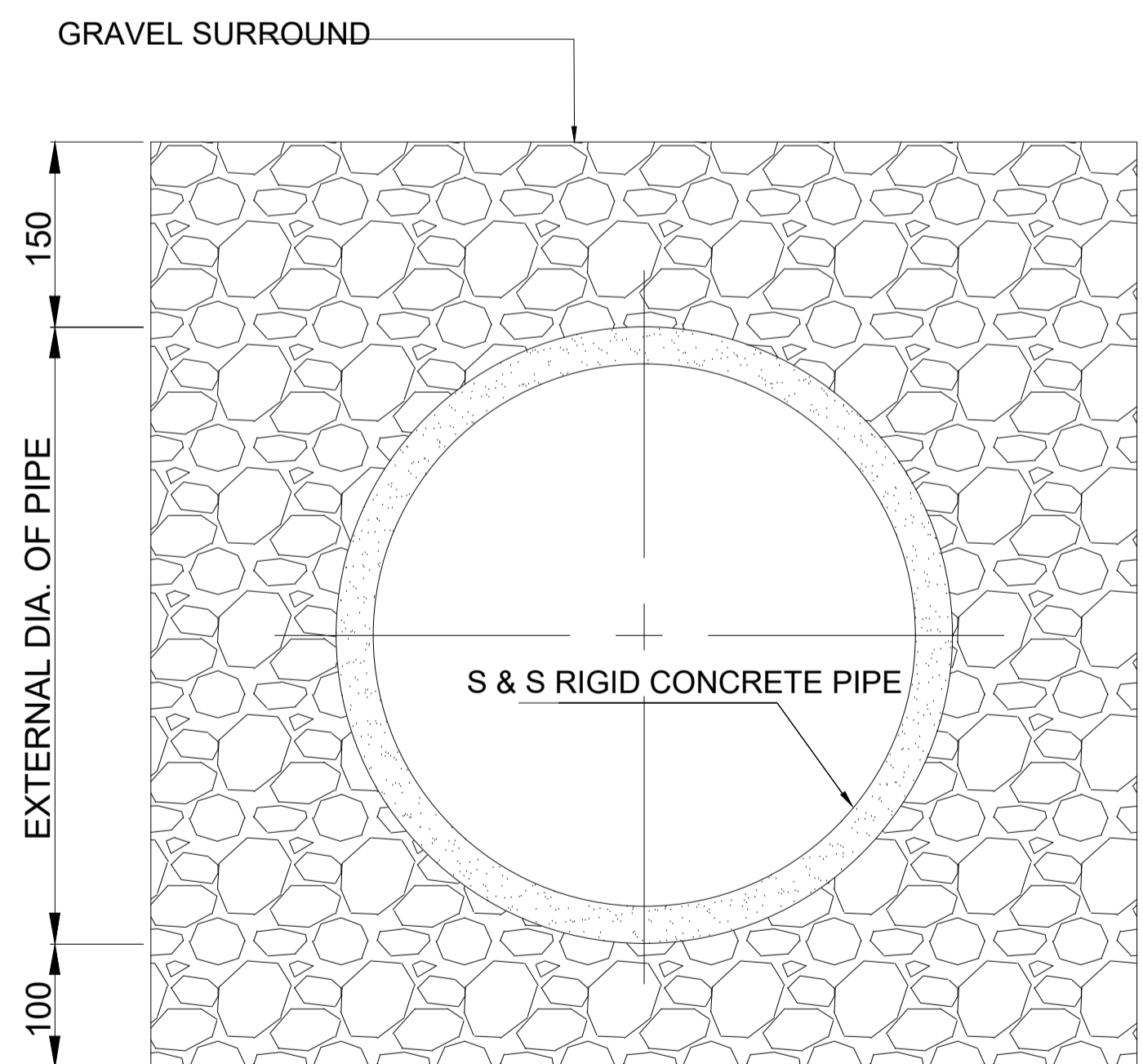
TYPE B



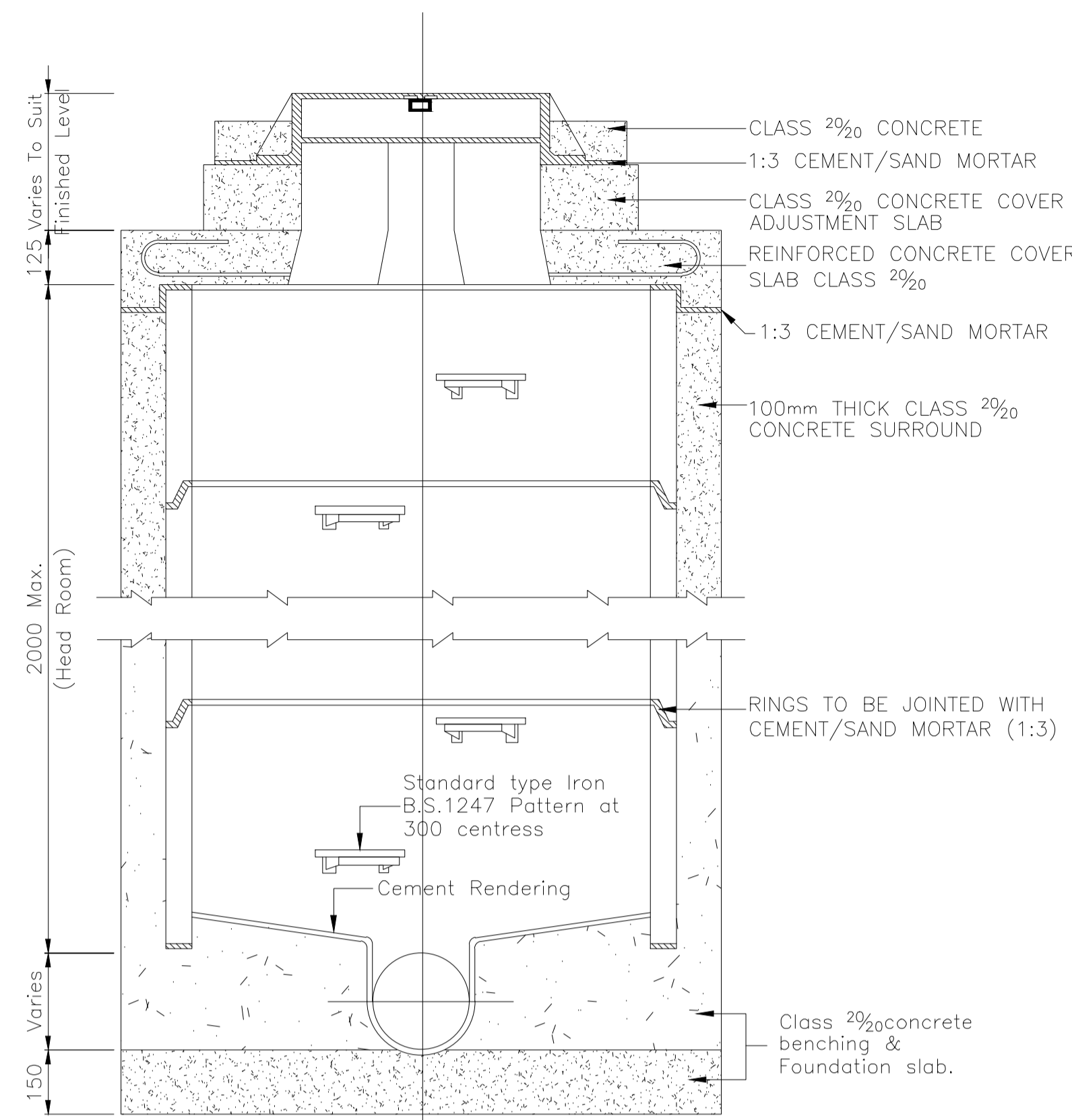
TYPE C



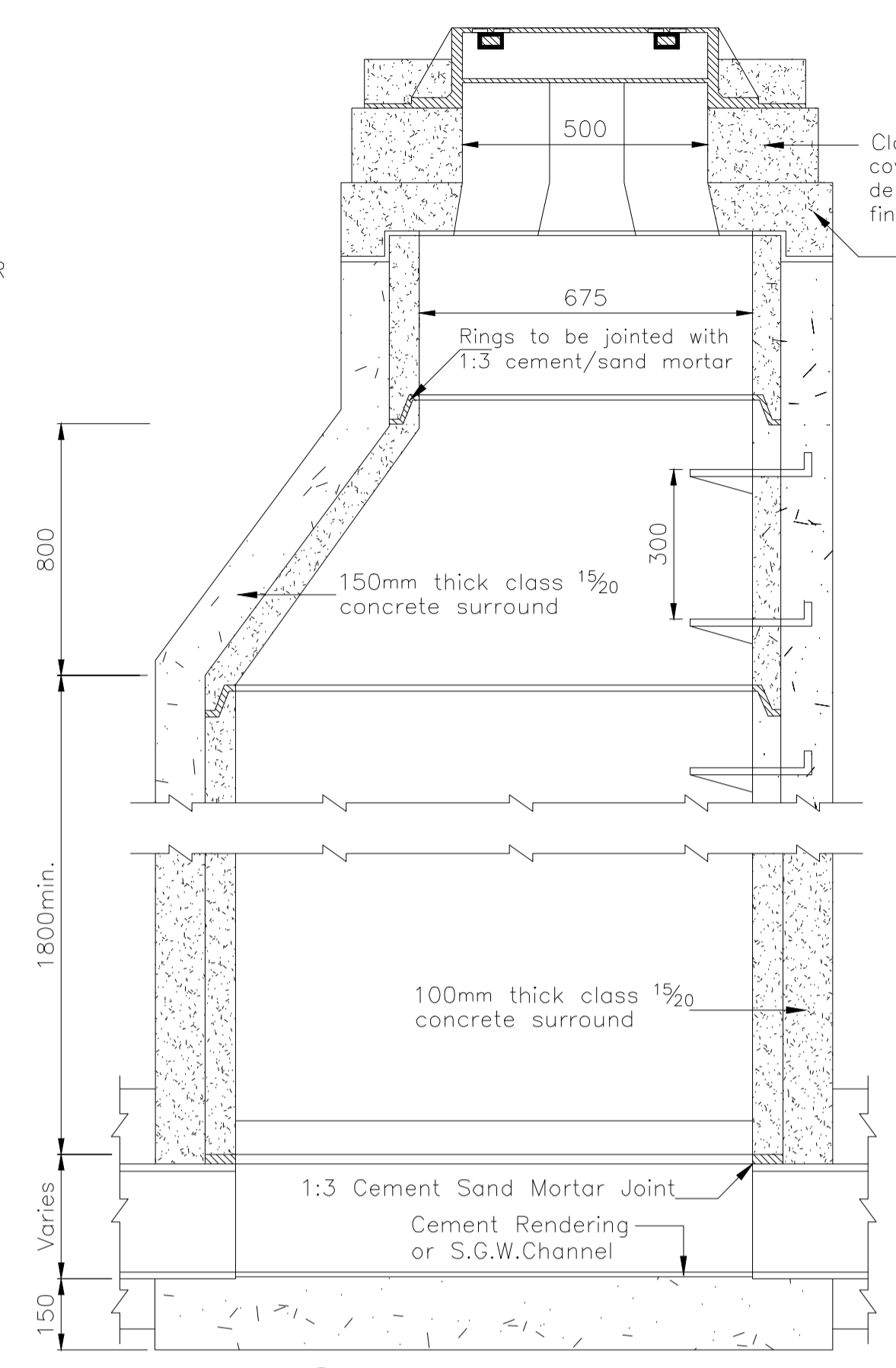
TYPE D



TYPE E

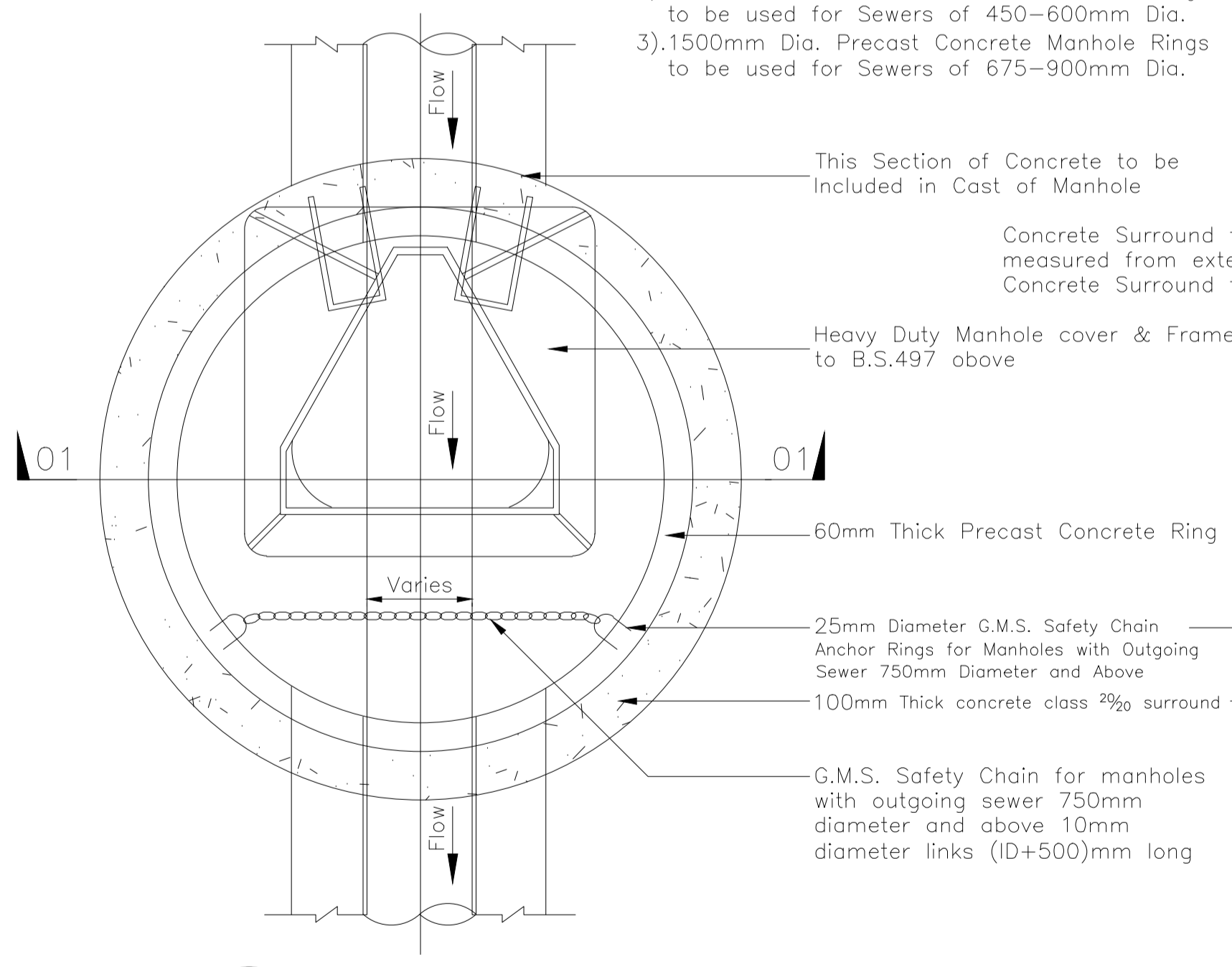


Section 1-1
STANDARD MANHOLE DETAILS
TYPE 'A'

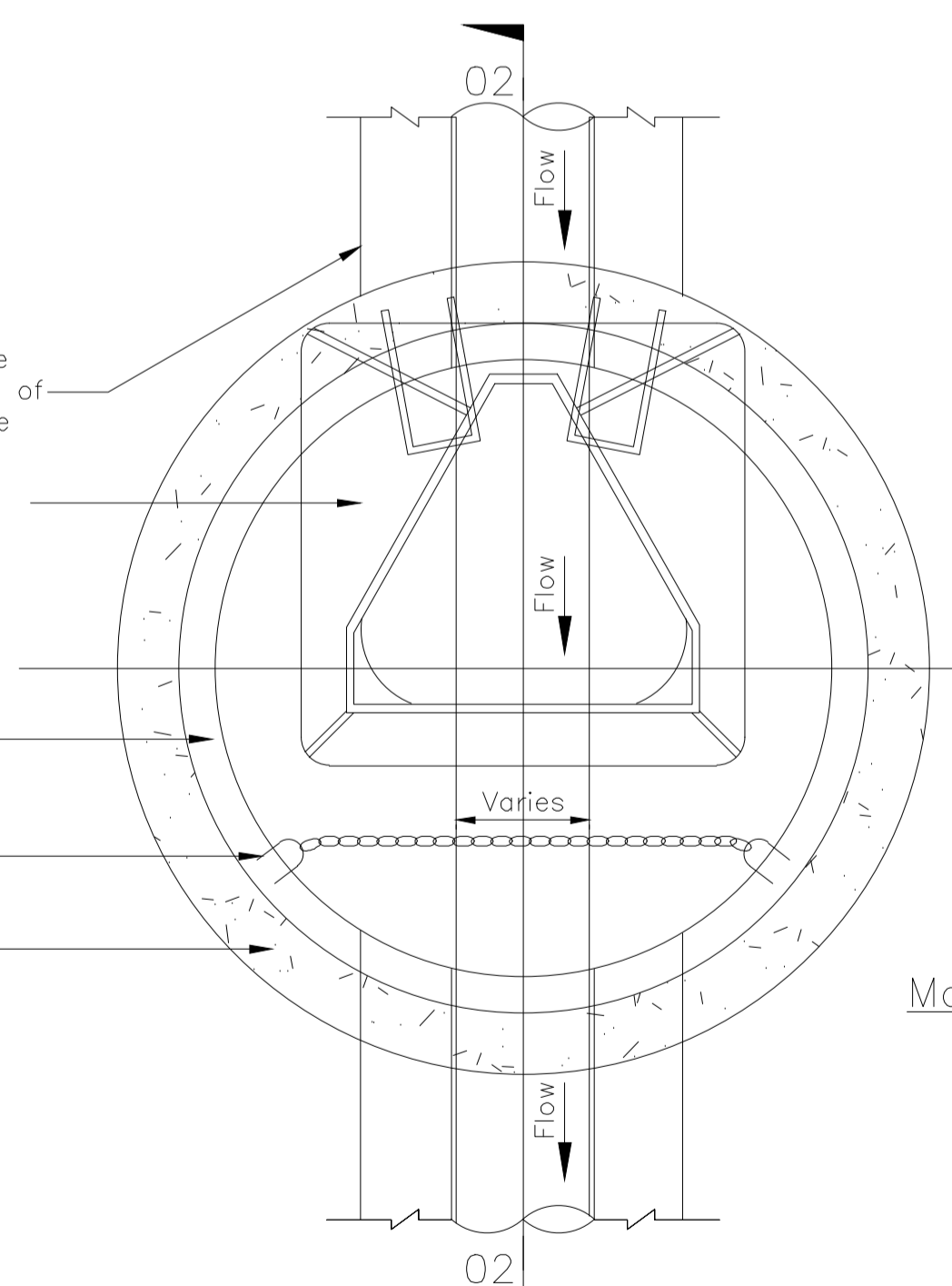


Section 2-2
STANDARD TAPERED MANHOLE DETAILS
TYPE 'B'

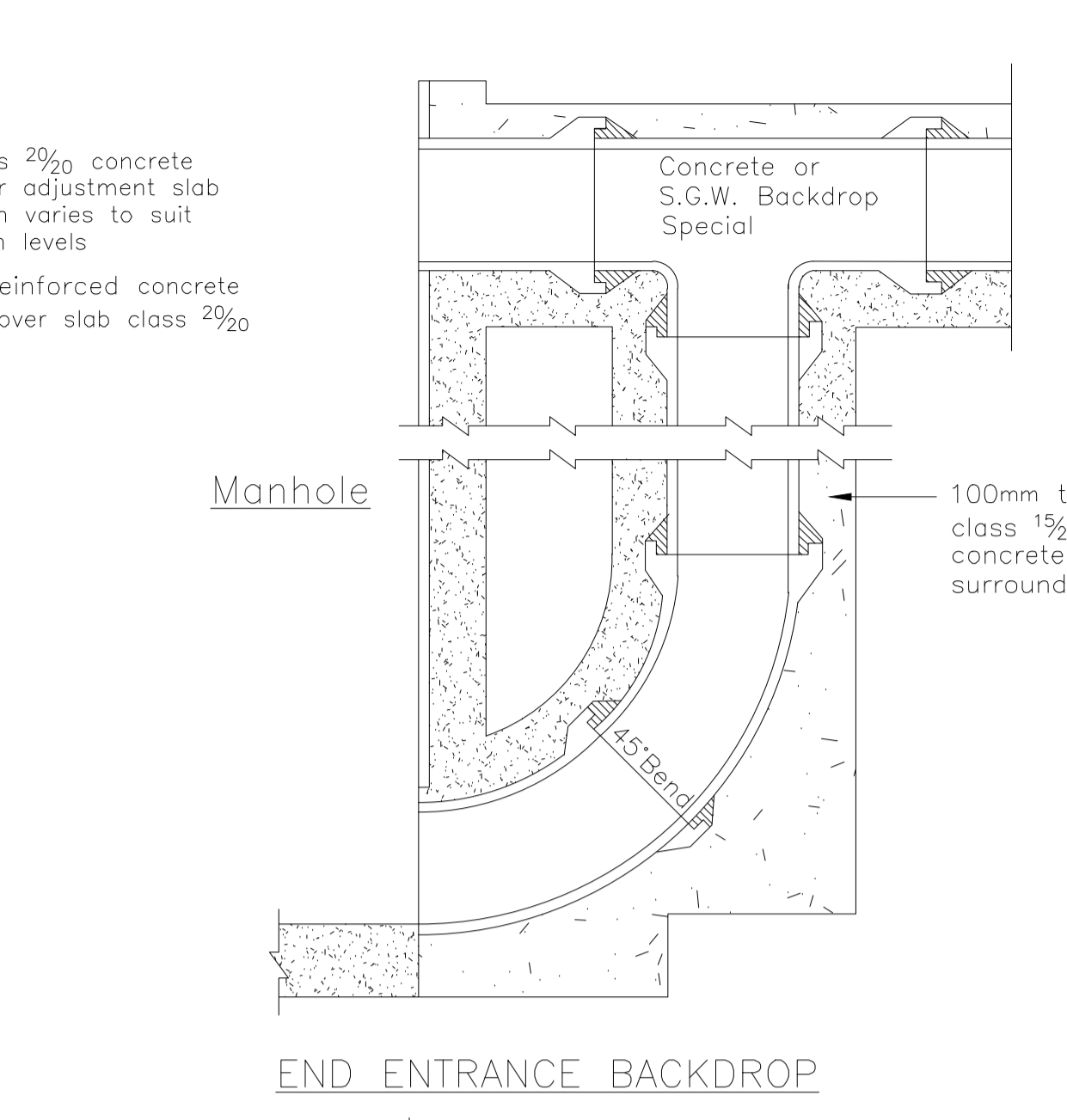
- NOTES.**
- 1).1050mm Dia. Precast Concrete Manhole Rings to be used for Sewers Upto and including 375mm Dia.
 - 2).1200mm Dia. Precast Concrete Manhole Rings to be used for Sewers of 450-600mm Dia.
 - 3).1500mm Dia. Precast Concrete Manhole Rings to be used for Sewers of 675-900mm Dia.



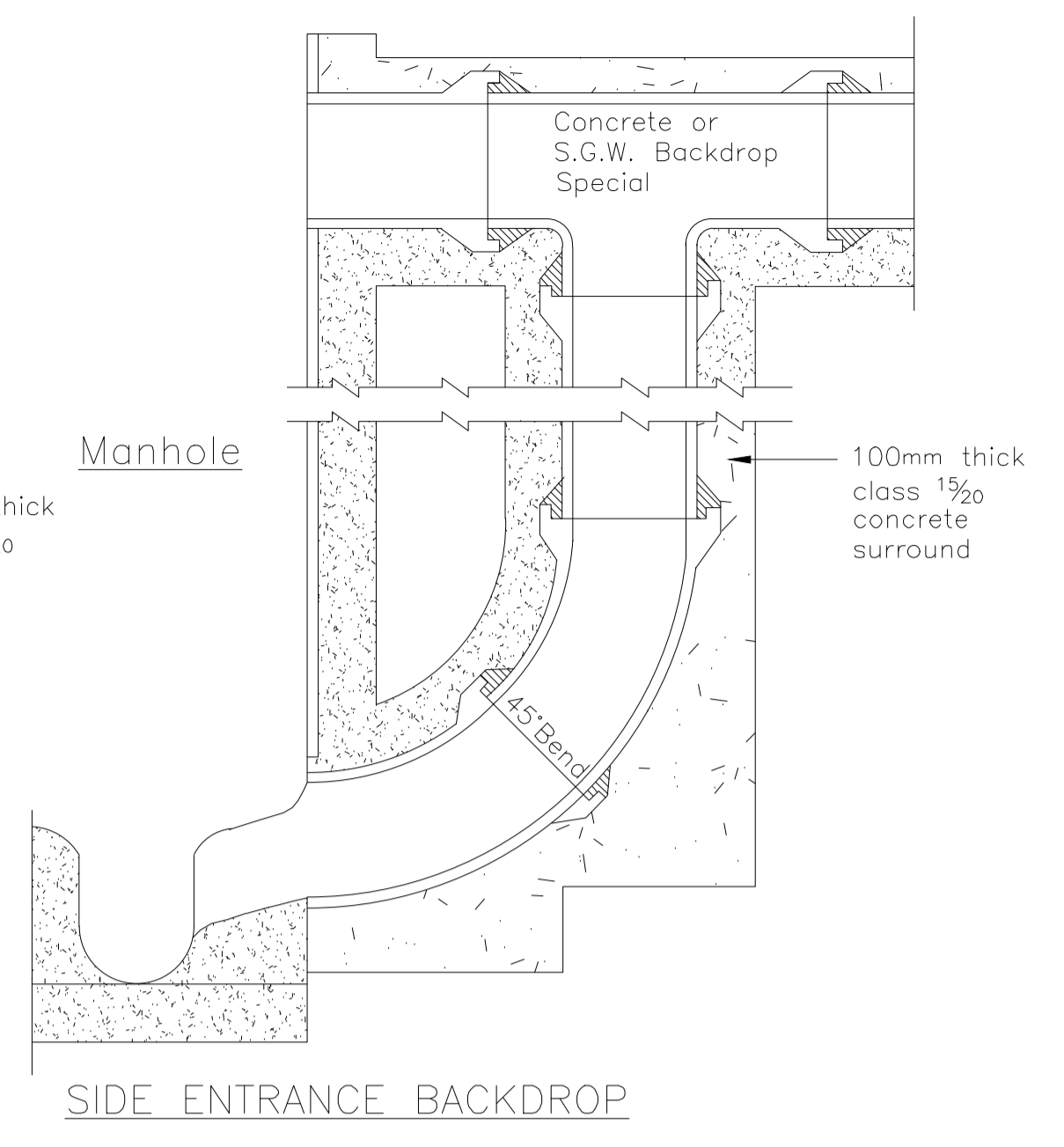
Sectional Plan 01
SCALE NTS



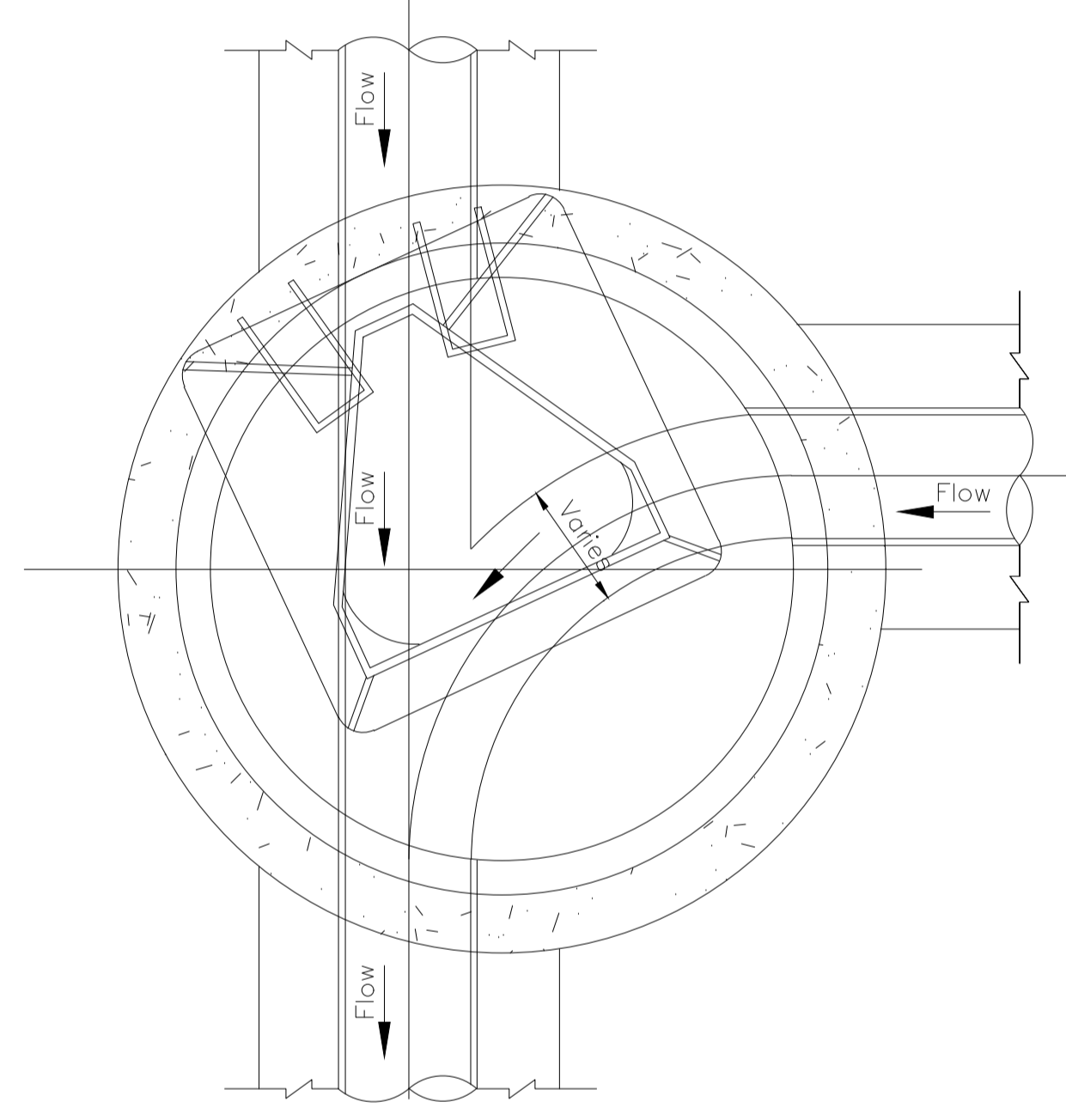
Sectional Plan 02
SCALE NTS



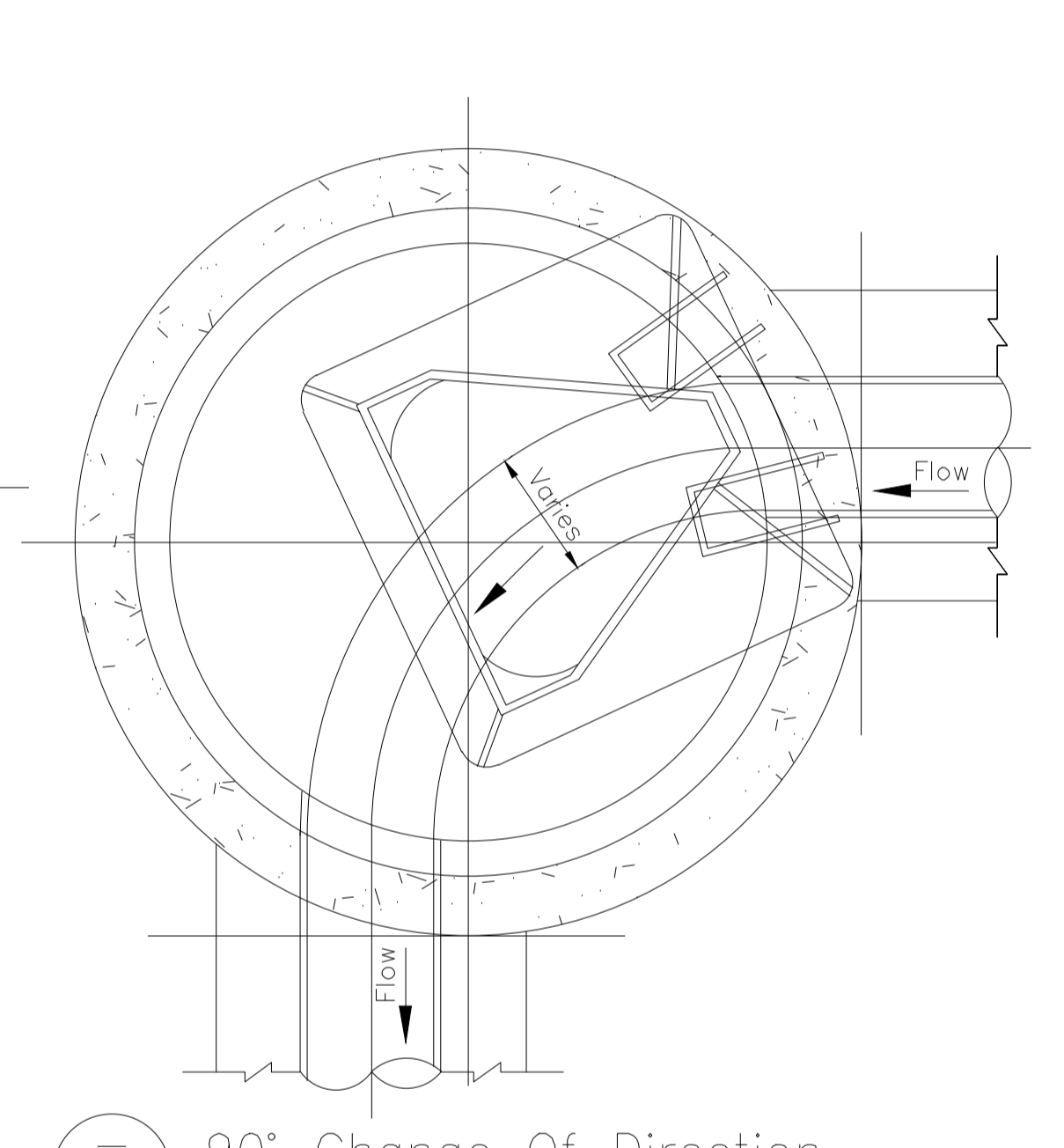
Manhole
END ENTRANCE BACKDROP



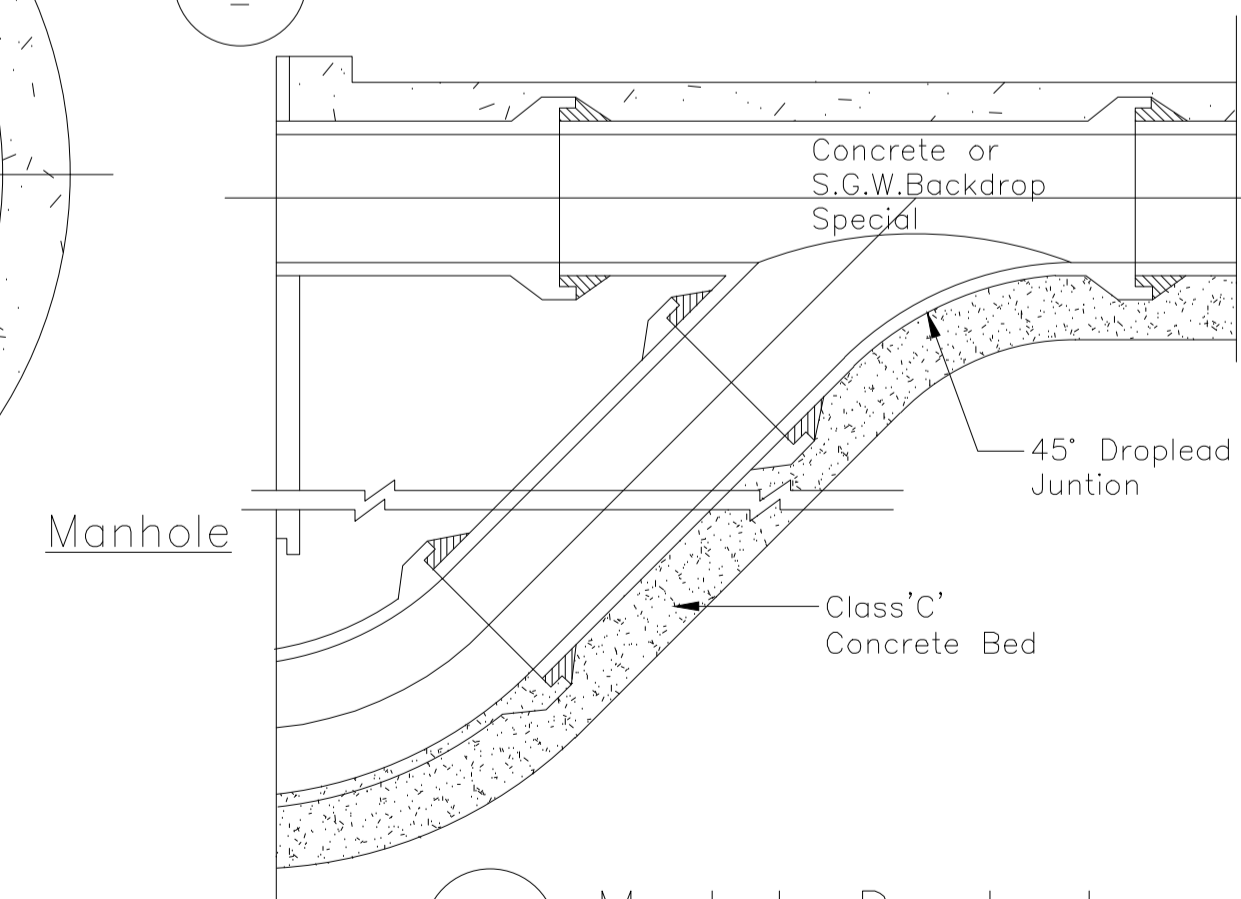
Manhole
SIDE ENTRANCE BACKDROP



90° Side Entrance

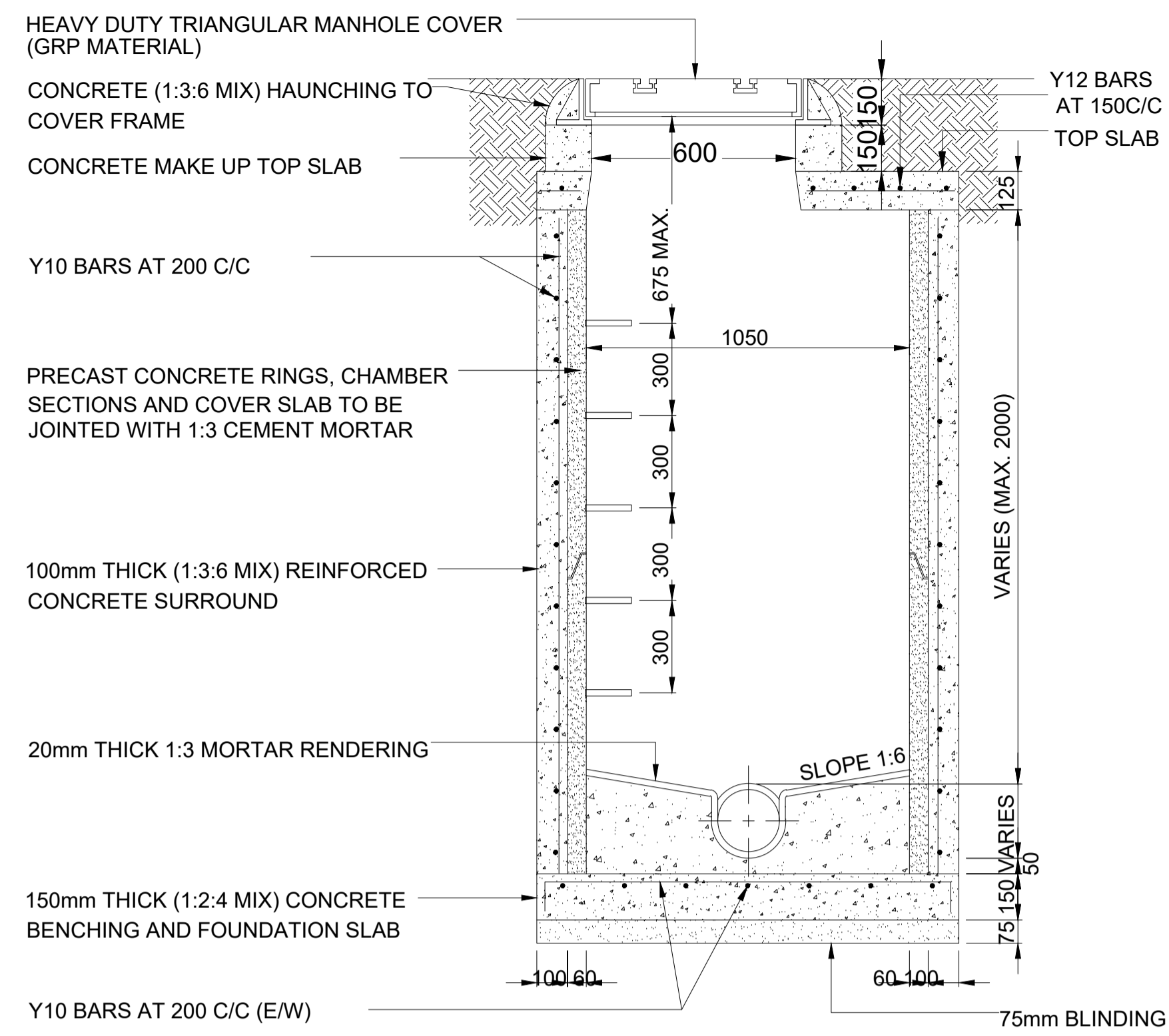


90° Change Of Direction

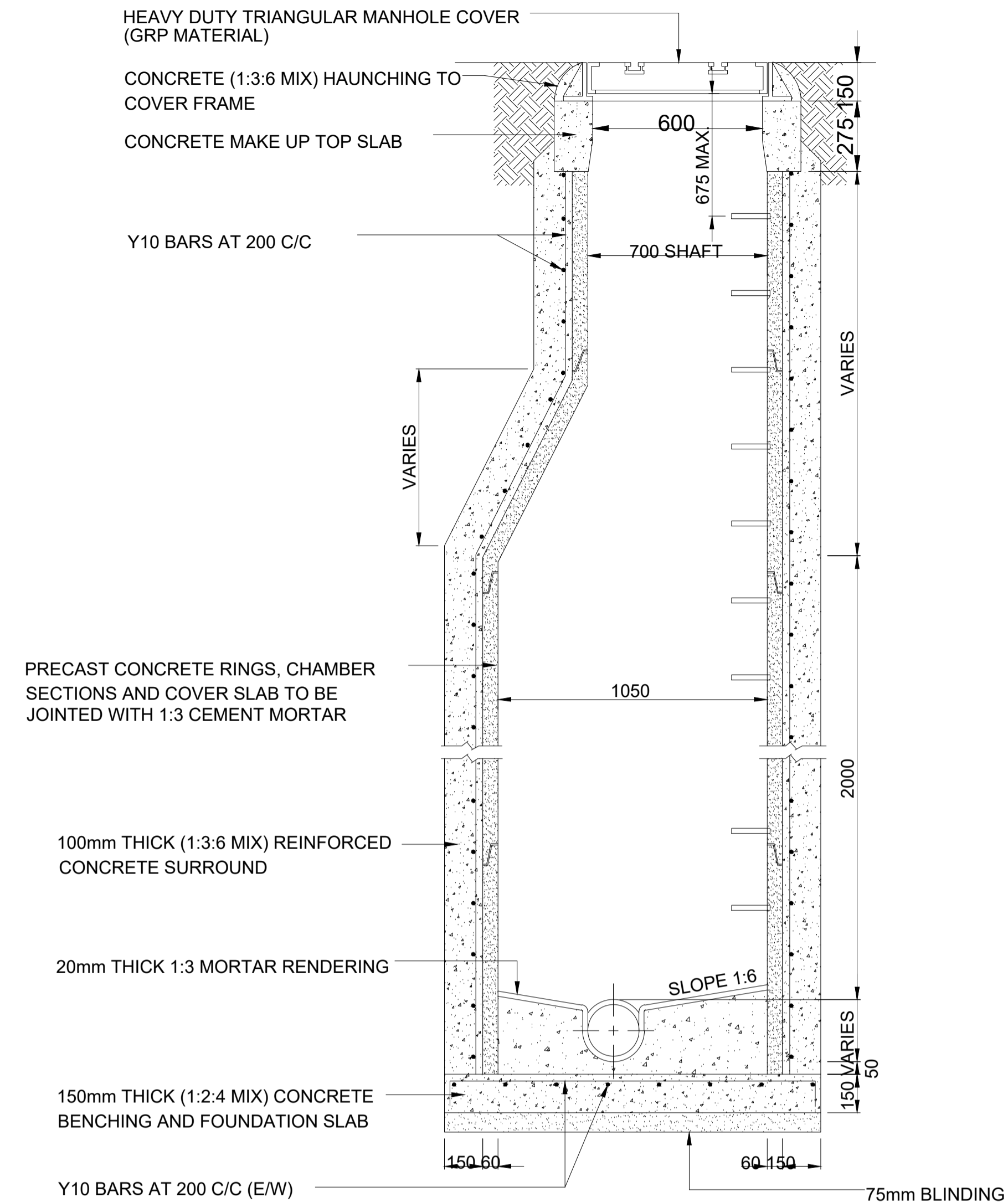


Manhole Droplead

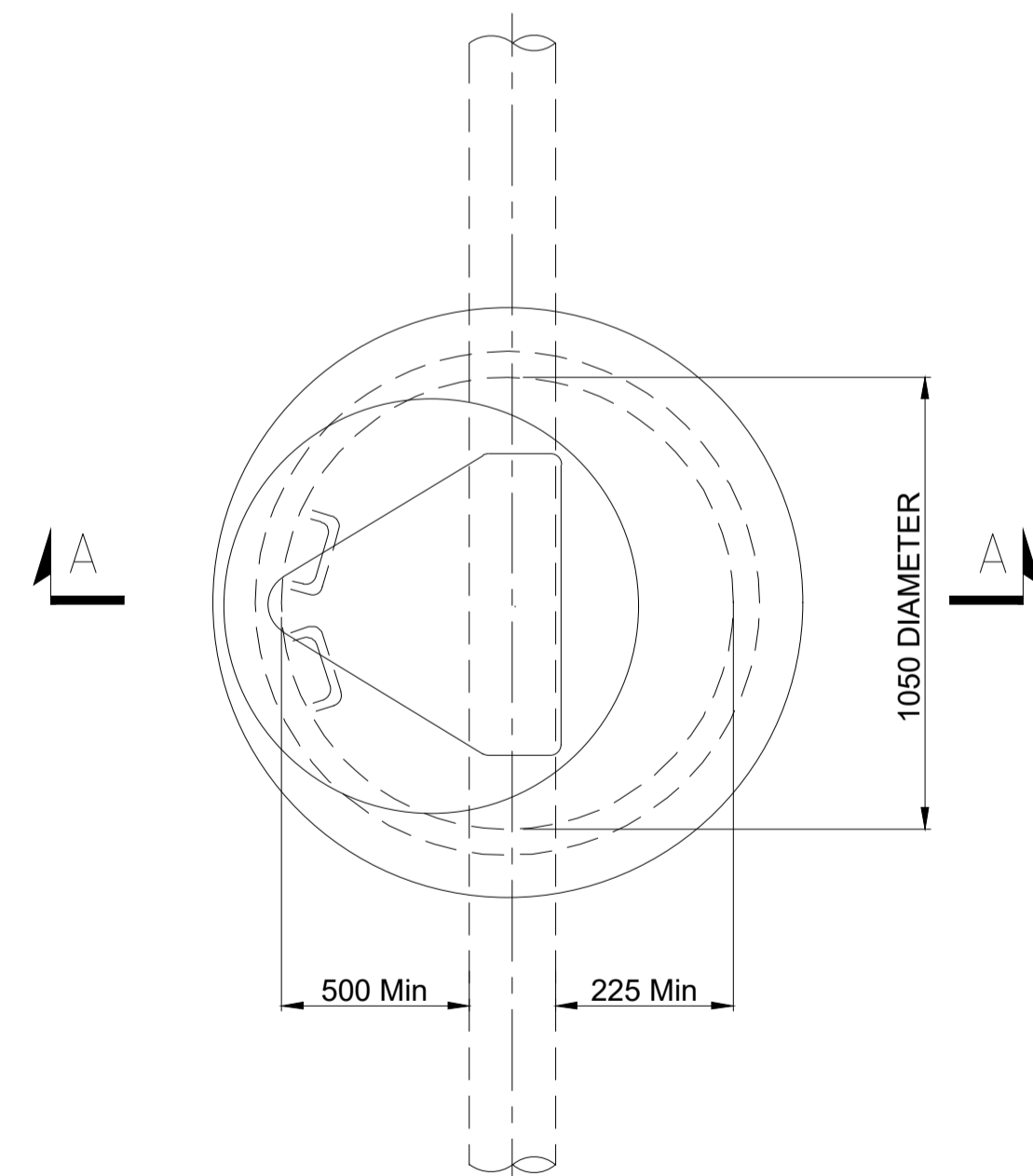
- NOTES.**
- 1.Sewer Diameters,Orientation,Depth of Manhole and Dimensions Shall Be as Noted on Sewer Plans and Profiles or as Directed by the Engineer.
 - 2.Unless Otherwise Noted on Sewer Profiles,Longitudinal Slopes of Channels in M.H.Shall Equal the Slopes of Incoming and Outgoing Sewer.
 - 3.Manhole Floor and Walls Shall be of Class'20'R.C;The Ceiling of class '25'R.C;and the Benching to be of Class'10'Mass Concrete.Shuttering for all Interior surfaces of M.H. shall be Wrought.
 - 4.In open Areas,surface of covers shall be horizontal.In roads and sidewalk,covers shall be concreted at the slope of road or sidewalk, flush with the surface.
 - 5.After construction,all C.I.Rings and Seats of Triangular type covers shall be greased.
 - 6.All step irons shall be painted with two coats of bituminous paint.
 - 7.Drawing to scale in A1 size.
 - 8.Only figured dimension to be taken from this drawing.
 - 9.Reinforcement 'Y' denotes high tensile squire twisted bars to relevant B.S.
 - 10.Reinforcement 'R' denotes Rounded Mild Steel Bars to relevant B.S.



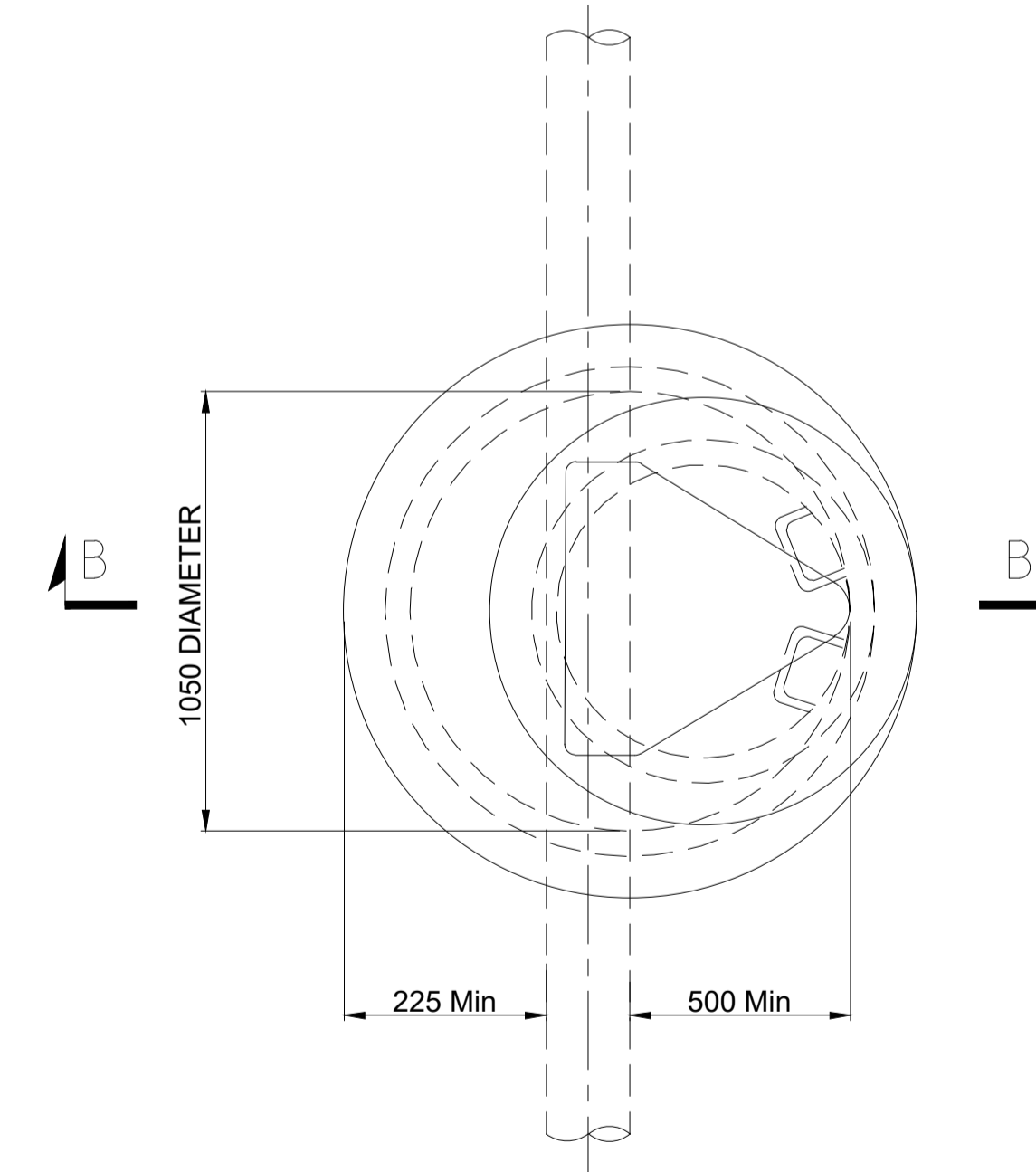
SECTION A-A



SECTION B-B



PLAN
MANHOLE TYPE I
SHALLOW DEPTH



PLAN
MANHOLE TYPE II
DEEP DEPTH



CLIENT:
MINISTRY OF LANDS,
PUBLIC WORKS,
HOUSING AND
URBAN DEVELOPMENT



EMPLOYER:
NAIROBI CITY
COUNTY
GOVERNMENT
(NCCG)

FINANCIER:
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)
THE WORLD BANK
AFD



CONSULTANT:
**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS
, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE
IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS
(HURUMA FIRE VICTIMS SETTLEMENT) IN NAIROBI COUNTY.

Drawing Title: HURUMA FIRE VICTIMS SETTLEMENT: MANHOLE DETAILS 02		REVISIONS	
Drg. No. WMCL/CR 214/SW/10	Sheet No.		
Scale: H: 1: 2000	Date: FEBRUARY 2024		
V: 1: 200	Stage: TENDER DRAWINGS		
APPROVED BY: ENG. IKWM	DESIGNED BY: JNK		
CHECKED BY: ENG. PNG	DRAWN BY: JNK	No	Date
			AMMENDMENTS