SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT

LIST OF DRAWINGS

S.N.	DRAWING NO.	DRAWING TITLE	NO. OF SHEETS	PAGE NO.
	1	**GENERAL DRAWINGS**		
1	GD-LO-01	LOCATION MAP	1	1
2	GD-PL-01	GENERAL PROJECT LAYOUT	1	2
	2	**CIVIL DRAWINGS**		
	2.1	RIVER DIVERSION		
3	CD-RD-01(REV-01)	STAGE- I RIVER DIVERSION (ALREADY BUILT)	3	3-5
4	CD-RD-02	STAGE- II RIVER DIVERSION	2	6-7
	2.2	HEADWORKS AND DESANDING BASIN		
5	CD-HW-01(REV-01)	HEADWORKS LAYOUT PLAN	1	8
6	CD-HW-02	DIVERSION HEADWORKS PLAN	1	9
7	CD-HW-02(Additional)	DIVERSION HEADWORKS PLAN (ALREADY BUILT-HATCHED PORTION)		10
8	CD-HW-03	HEADWORKS: GENERAL PLAN, L-SECTION	1	17
9	CD-HW-04	DIVERSION HEADWORKS: SECTION AT WEIR AND UNDERSLUICE	1	11
10	CD-HW-04(ADDITIONAL)	DIVERSION HEADWORKS: SECTION AT WEIR AND UNDERSLUICE (ALREADY BUILT-HATCHED PORTION)	3	12-14
11	CD-HW-05(REV-01)	HEADWORKS: SECTIONAL ELEVATION	1	15
12	CD-HW-06(REV-01)	HEADWORKS: GENERAL SECTIONS	1	16
13	CD-HW-	HARDSTONE LINING	1	18
14	CD-HW-07	HEADWORKS- INTAKE STRUCTURES: SECTIONAL PLANS	2	19-20
15	CD-HW-08	HEADWORKS- INTAKE STRUCTURES: SECTIONS	3	21-23
16	CD-HW-09	SETTLING BASIN- PLAN, L-SECTION	1	24
17	CD-HW-10	SETTLING BASIN- SECTIONS	3	25-27
18	CD-HW-11(REV-01)	HEADPOND, FLUSHING CANAL & POWER INTAKE: PLAN, L-SECTION	4	28-31
19	CD-HW-12	FISHLADDER: PLAN; L-SECTION, SECTIONAL ELEVATION	1	32
20	CD-HW-13	RIVERTRAINING WORKS & FLOOD WALLS PLAN, SECTIONS	4	33-36
	2.3	**SURGETANK, PENSTOCK AND ANCHOR BLOCKS**		
21	CD-ST-01(REV-01)	SURGETANK AND PENSTOCK- PLAN & SECTIONS	1	37
22	CD-ST-02(REV-01)	SURGETANK AND PENSTOCK- PLAN & SECTIONS	1	38
23	CD-ST-03(REV-01)	SURGETANK AND PENSTOCK- PLAN & SECTIONS	1	39
24	CD-ST-04	SURGE CONDUIT TUNNEL SUPPORT SECTION	1	40
25	CD-ST-05	RIVER PROTECTION PLAN AND SECTION	1	41
26	CD-ST-06(REV-01)	SURGE TANK TO POWERHOUSE: PLAN AND SECTION	1	42
27	CD-PS-01	PENSTOCK- PLAN & SECTIONS	2	43-44
28	CD-AB-01,02, &03	ANCHOR BLOCK DETAILS	3	45-47
	2.4	POWERHOUSE AND TAILRACE CULVERT		

S.N.	DRAWING NO.	DRAWING TITLE	NO. OF SHEETS	PAGE NO.
29	CD-PH-01(REV-01)	POWERHOUSE AREA- LAYOUT PLAN	1	48
30	CD-PH-02(REV-01)	POWERHOUSE LAYOUT PLAN & SECTIONS	4	49-52
31	CD-PH-03(REV-01)	TAILRACE - PLAN AND SECTIONS	2	58-59
32	CD-PH-04	SWITCHYARD- LAYOUT PLAN AND SECTIONS	1	52
33	CD-PH-05	POWERHOUSE BUILDING: PLAN & SECTIONS	4	60-63
34	CD-PH-06	MSOV BUILDING: PLAN & SECTIONS	1	64
	2.5	**BUILDING AND AUXILIARY STRUCTURES**		
35	CD-BA-01	HEADWORKS CONTROL BUILDING DRAWING	5	65-69
36	CD-BA-02	GUARD HOUSE	1	70
37	CD-BA-03	POWERHOUSE OFFICE BUILDING	2	71-72
38	CD-BA-04	FIREFIGHTING WATERTANK AND PUMPHOUSE	1	73
	2.6	**INSTRUMENTATION DRAWINGS**		
39	CD-IN-01(REV-01)	INSTRUMENTATION DRAWING-HEADWORKS	1	74
	3	**STRUCTURAL DRAWINGS**		
40	RF-HW-01	DAM REINFORCEMENT DRAWINGS	2	75-81
41	RF-HW-02	INTAKE REINFORCEMENT DRAWINGS	1	82
42	RF-HW-03	APPROACH CULVERT REINFORCEMENT DRAWINGS	1	83
43	RF-HW-04	SETTLING BASIN REINFORCEMENT DRAWINGS	1	84
44	RF-HW-05	HEADPOND AND POWER INTAKE REINFORCEMENT DRAWINGS	1	85
45	RF-HW-06	RETAINING WALL REINFORCEMENT DRAWINGS	2	86-87
46	RF-CB-01	HEADWORKS CONTROL BUILDING REINFORCEMENT DRAWINGS	7	88-94
47	RF-ST-PD-01	SURGETANK – PILES DETAIL	1	95
48	RF-ST-STR-01	SURGETANK STRUCTURAL DESIGN	1	96
49	ST-10	SURGETANK REINFORCEMENT DRAWINGS SECTION	1	97
50	RF-ST-STR-02	SURGETANK -TRUSS DETAIL	1	98
51	RF-ST-STR-03	SURGETANK -TRUSS DETAIL	1	99
52	RF-PH-01	POWERHOUSE REINFORCEMENT DRAWINGS	7	100-106
53	RF-PH-02	POWERHOUSE CONTROL BUILDING REINFORCEMENT DRAWINGS	3	107-109
54	RF-PH-03	POWERHOUSE OFFICE BUILDING REINFORCEMENT DRAWINGS	9	110-118
55	RF-TC-01(REV-01)	TAILRACE CANAL REINFORCEMENT DRAWINGS	14	119-132
	4	**OTHER DRAWINGS**		
56	CD-CP-01	CONSTRUCTION PLANNING FOR HEADWORKS	2	133-134
57	CD-CP-02	CONSTRUCTION PLANNING FOR POWERHOUSE AREA	1	135
58	CD-TD-01	TYPICAL DRAWINGS- ROAD	2	136-137

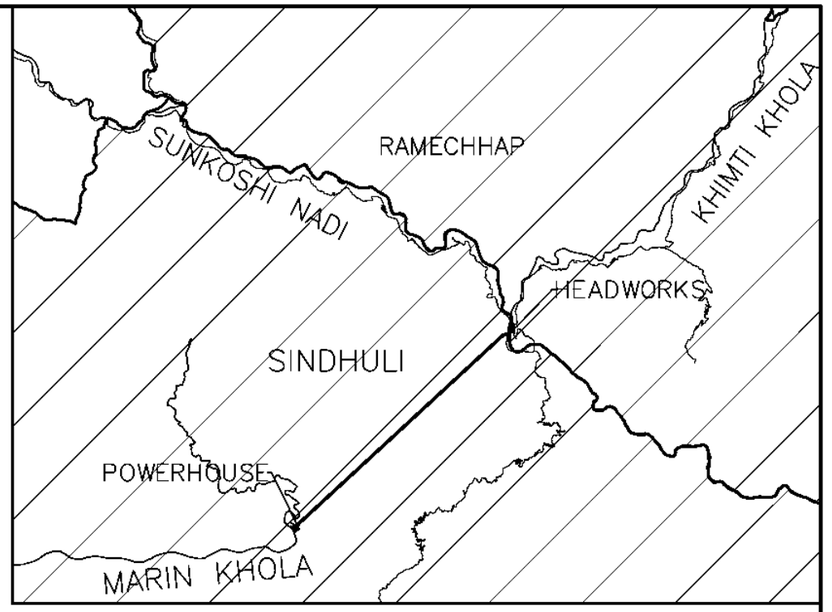
SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT

LIST OF DRAWINGS

S.N.	DRAWING NO.	DRAWING TITLE	NO. OF SHEETS	PAGE NO.
	5	**HYDROMECHANICAL DRAWINGS**		
59	HM-GT-01	SPILLWAY RADIAL GATE	1	138
60	HM-GT-02	SLUICE RADIAL GATE	1	139
61	HM-GT-03	INTAKE GATE	1	140
62	HM-GT-04	TRASH PASSAGE GATE	1	141
63	HM-GT-05	GRAVEL FLUSHING GATE	1	142
64	HM-GT-06	SETTLING BASIN OUTLET GATE	1	143
65	HM-GT-07	GRAVEL FLUSHING GATE	1	144
66	HM-GT-08	HRT INSPECTION BULKHEAD GATE	1	145
67	HM-GT-09	DRAFT TUBE GATE	1	146
68	HM-GT-10	TAILRACE EMERGENCY GATE	1	147
69	HM-ST-01	SPILLWAY STOPLOG	1	148
70	HM-ST-02	SLUICE STOPLOG	1	149
71	HM-ST-03	INTAKE STOPLOG	1	150
72	HM-ST-04	TRASH PASSAGE STOPLOG	1	151
73	HM-ST-05	GRAVEL FLUSHING STOPLOG	1	152
74	HM-ST-06	FISHLADDER STOPLOG	1	153
75	HM-ST-07	SETTLING BASIN FLUSHING STOPLOG	1	154
76	HM-TR-01	INTAKE COARSE TRASHRACK	1	155
77	HM-TR-02	HRT INLET FINE TRASHRACK	1	156
78	HM-TR-03	SURGEPOND FINE TRASHRACK	1	157
79	HM-PP-01	STEEL PIPE, ACCESSORIES AND WELDING	1	158
	6	**ELECTROMECHANICAL DRAWINGS**		
	6.1	ELECTRICAL DRAWINGS		
80	EL-SY-01	SYMBOLS AND LEGENDS	1	159
81	EL-SLD-01	ELECTRICAL SINGLE LINE DIAGRAM	1	160
82	EL-LI-01	PROTECTION DRAWING (LINE)	1	161
83	EL-UN-01	PROTECTION DIAGRAM (UNIT 1)	1	162
84	EL-LV-01	11/0.4 KV SINGLE LINE DIAGRAM	1	163
85	EL-DC-01	DC SINGLE LINE DIAGRAM	1	164
86	EL-CTR-01	AUTOMATION AND CONTROL SYSTEM ARCHITECTURE	1	165
87	EL-LAY-01	SUBSTATION LAYOUT	1	166
88	EL-SEC-01	SECTIONAL DRAWINGS OF SWITCHYARD	1	167
	6.2	**MECHANICAL DRAWINGS**		
[illegible]	ME-DD-01	SCHEMATIC DIAGRAM FOR DRAINAGE AND DEWATERING SYSTEM	1	168
90	ME-AS-01	SCHAMATIC DIAGRAM FOR LP COMPRESSED AIR SYSTEM	1	169
91	ME-WS-01	SCHAMATIC DIAGRAM FOR COOLING WATER SYSTEM	1	170
92	ME-FF-01	SCHAMATIC DIAGRAM FOR FIREFIGHTING SYSTEM	1	171
93	ME-OF-01	SCHAMATIC_DIAGRAM_OIL_FILTERATION_SYSTEM	1	172
94		BP HIGHWAY DIVERSION ROAD AND REALIGNMENT	133	173-304
95		HATTITAR LAND RECLAMATION	6	305-310
96		SINGLE LINE DIAGRAM FOR CONSTRUCTION POWER SUPPLY SYSTEM	1	311
97		CONSTRUCTION MATERIAL SITE	2	312-313

Government of Nepal, Ministry of Energy, Water Resources and Irrigation, Department of Water Resources and Irrigation, Sunkoshi Marin Diversion Multipurpose Project, Sindhuli

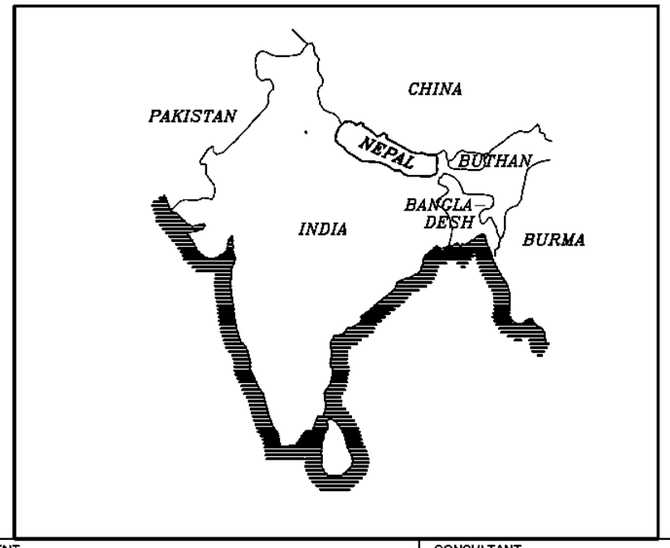
N



INDIA

Mahakali River
Chameliya Nadi
Rangun Gad
Seti Nadi
Tinau Gad
Chuwa Khola
Mugu Karnali River
SUDURPASCHIM
KARNALI
Tila Nadi
Bheri Nadi
Thulabheri
Mahendra Rajmarga (MRM)
Karnali Nadi
Mangalsena Nadi
Babai Nadi
Rapti Nadi
Shangda Nadi
Mahendra Rajmarga (MRM)
PROVINCE 5
Ganga Nadi
Budhigad Khola
Seti Nadi
Modi Khola
Marsyandi Nadi
GANDAKI
Burhi Gandaki River
Ropti Nadi
KaliGandaki Nadi
Trishuli River
Trishuli River
Indrawati Nadi
BAGMATI
Bagmati Nadi
Sunkoshi Nadi
Tamakoshi Nadi
Khimti Khola
Likhu Khola
Rolwaling Khola
Dudhkoshi Nadi
Arun Nadi
Barun Nadi
Gruwae Kola
PROVINCE 1
Kamala Nadi
PROVINCE 2
Triyuga Nadi
Mahendra Rajmarga (MRM)
Tamor Nadi
Mahendra Rajmarga (MRM)
Mechi Nadi
CHINA
INDIA
INDIA

PROJECT LOCATION

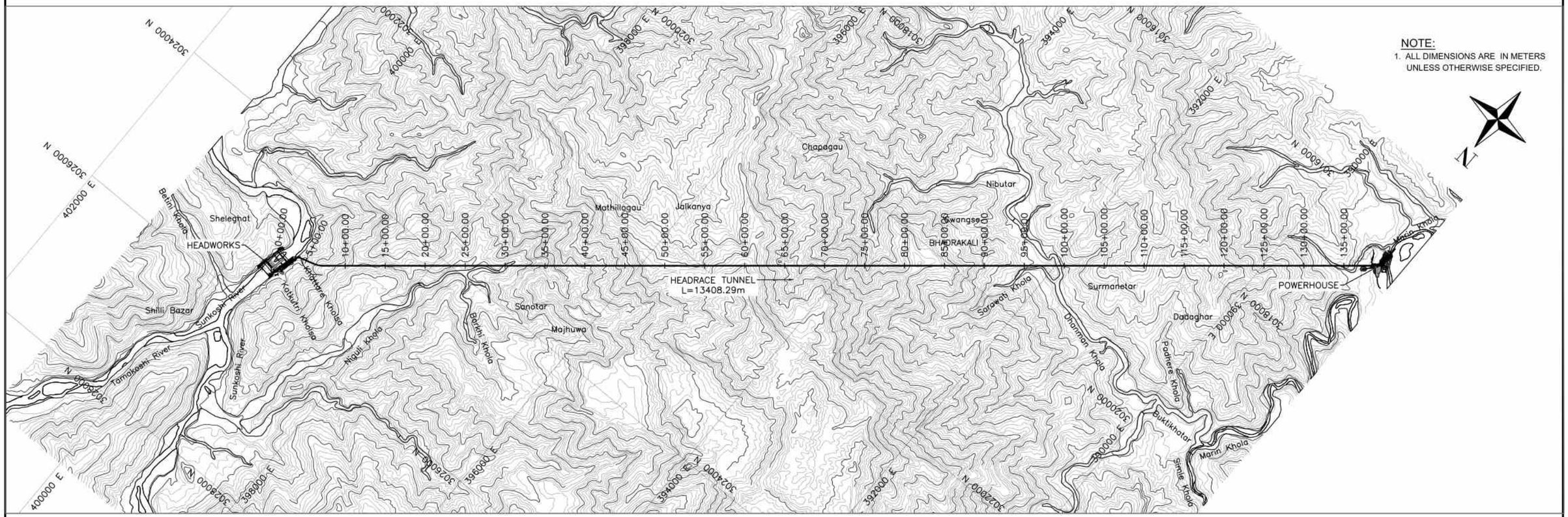


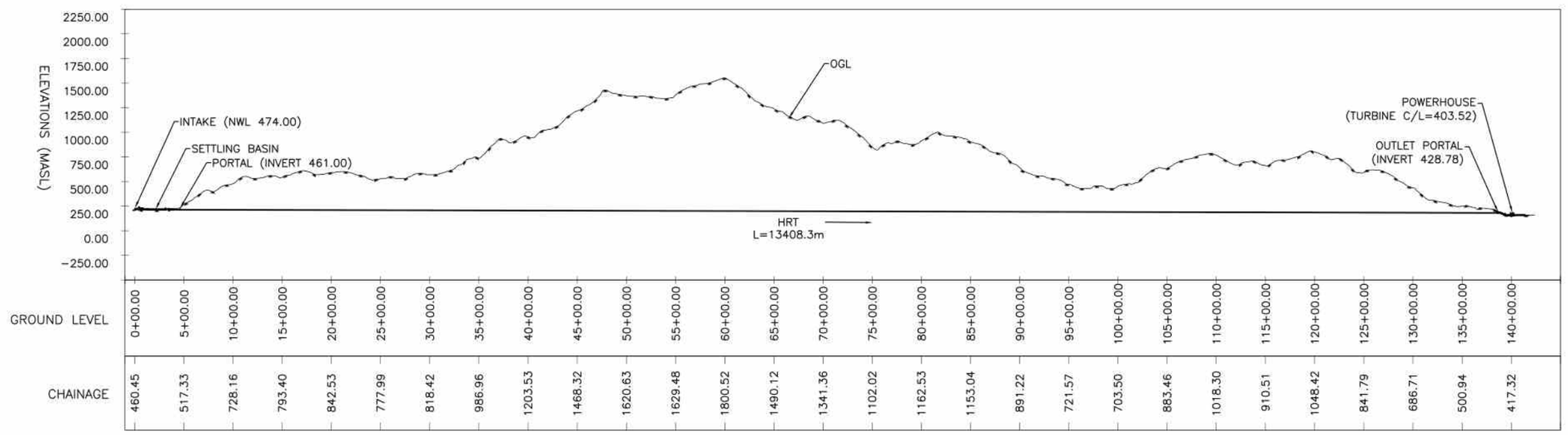
0 12500 25000 50000 75000 100000 125000m

SCALE 1:2500000

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	LOCATION MAP
		CHECKED BY			CHECKED BY			DRAWING NUMBER	GD-LO-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	SCALE - AS SHOWN

NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

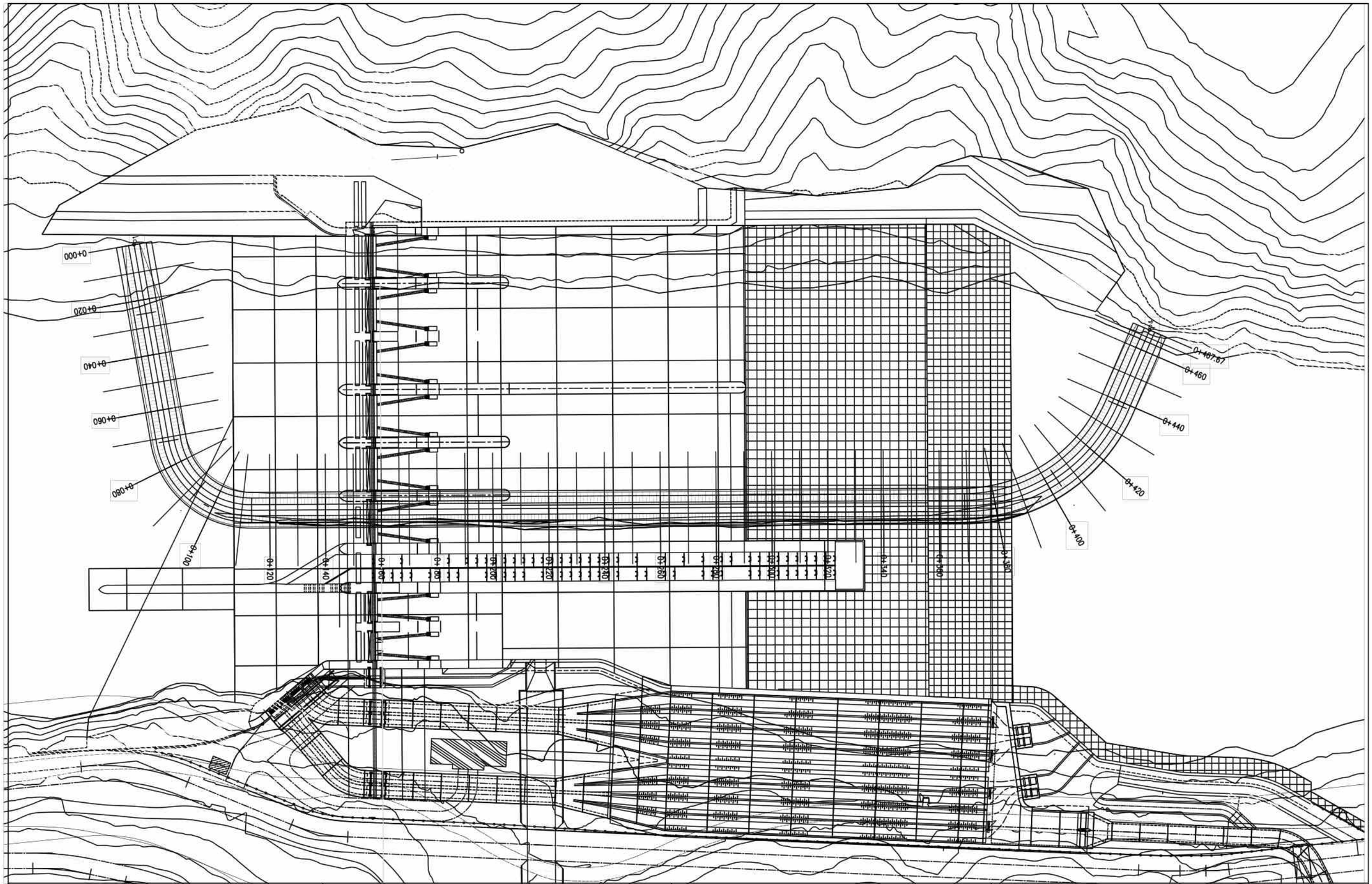




0 250 500 1000 1500 2000

SCALE 1:50000

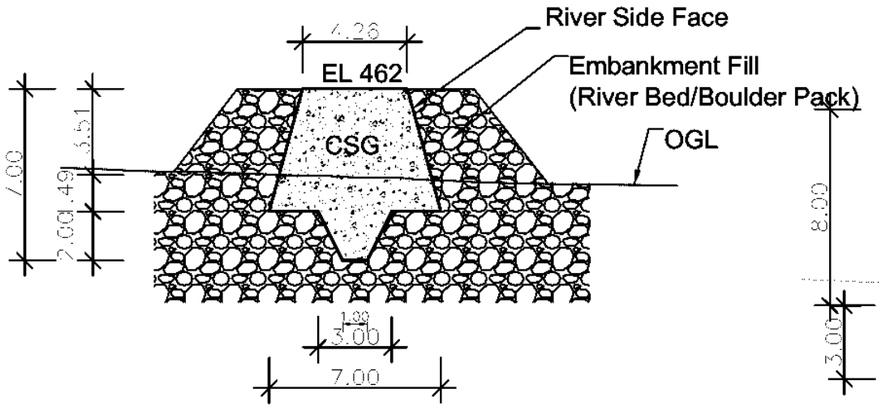
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	GENERAL PROJECT LAYOUT
		CHECKED BY			CHECKED BY			DRAWING NUMBER	GD-PL-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	SCALE 1: 50000



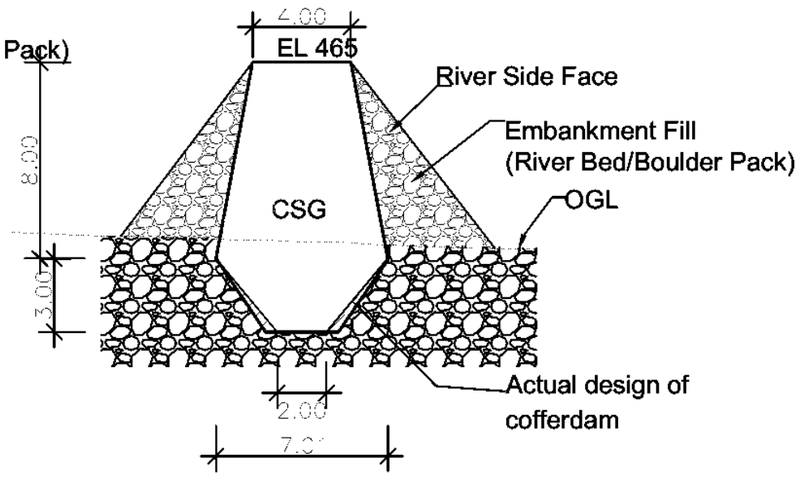
CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE SMEC Aemay Jade Consult Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	STAGE -1 RIVER DIVERSION: PLAN AND PROFILE
		PREPARED BY			DRAWING NUMBER	CD-RD-01( )
		CHECKED BY			SHEET NO:	1
		APPROVED BY			SCALE:	SCALE - 1:1250

Government of Nepal, Ministry of Energy, Water Resources and Irrigation, Department of Water Resources and Irrigation, Sunkoshi Marin Diversion Multipurpose Project, Sindhuli

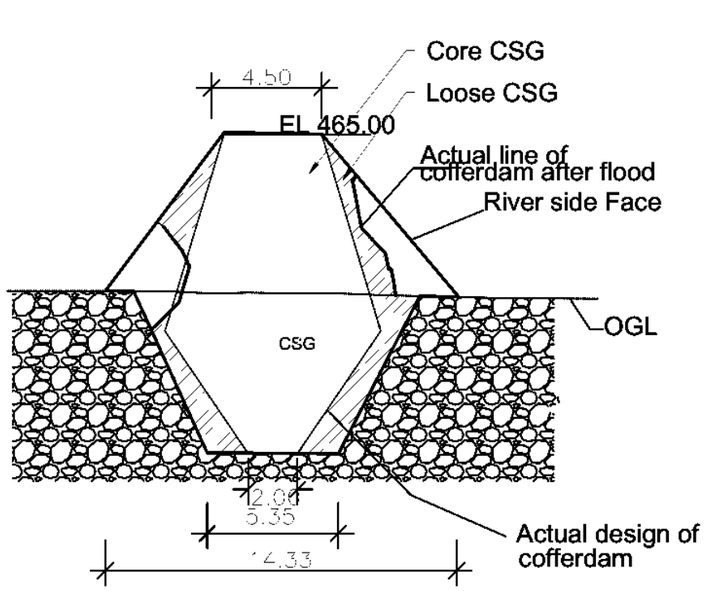
0+000 to 0+015



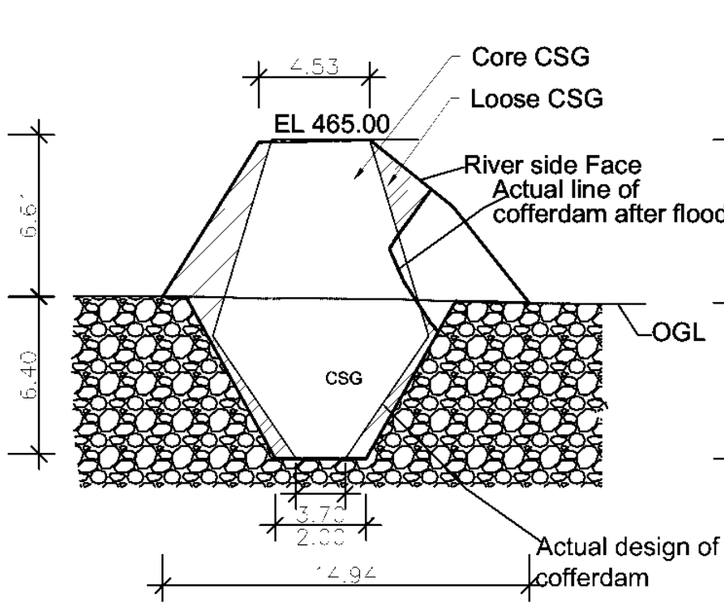
0+015 to 0+080



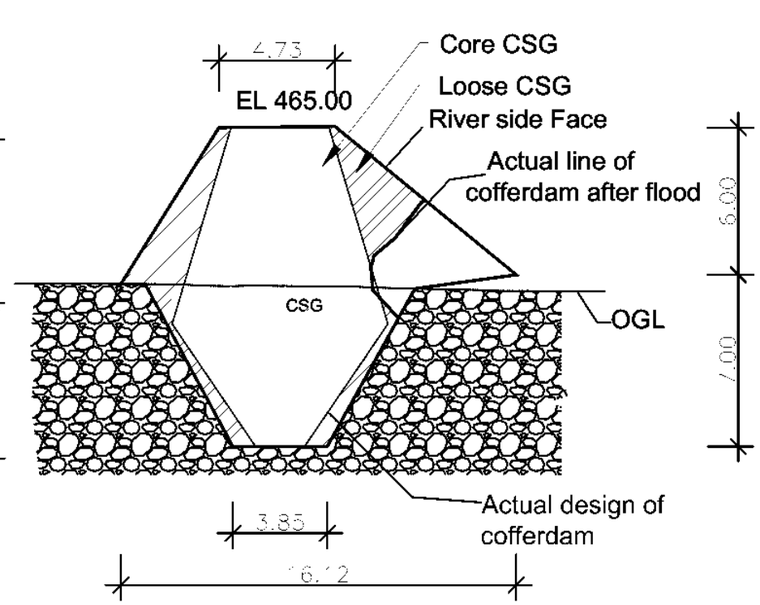
0+100.00



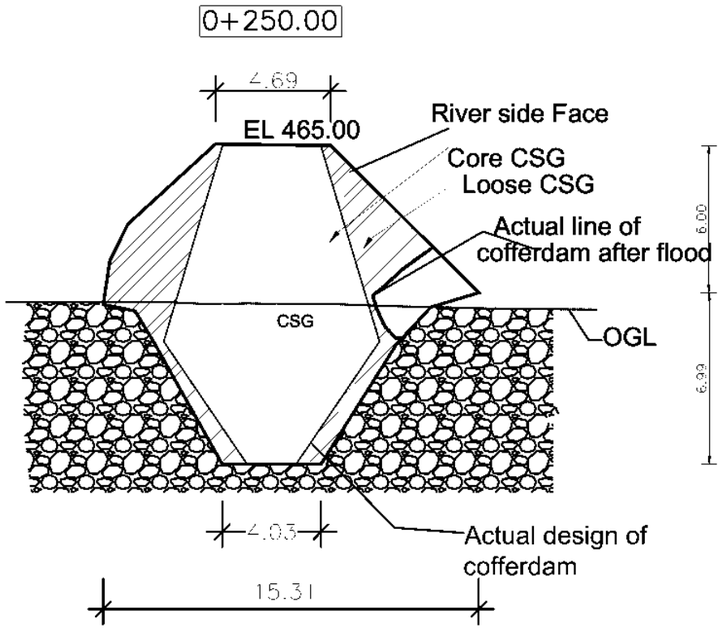
0+150.00

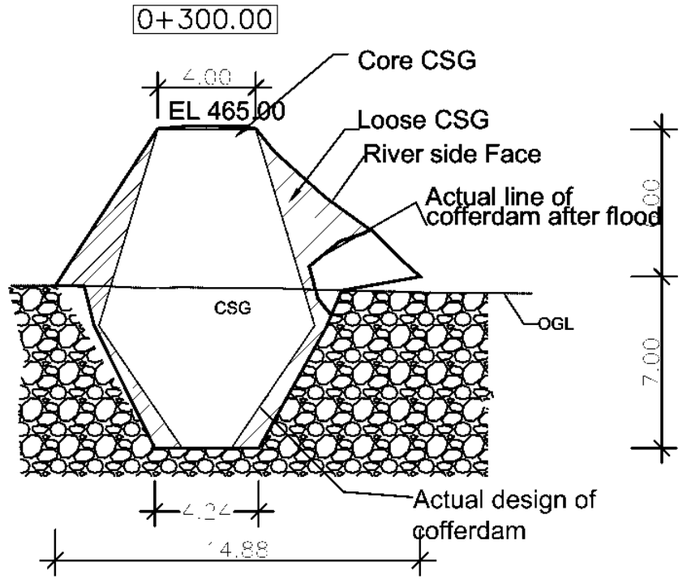


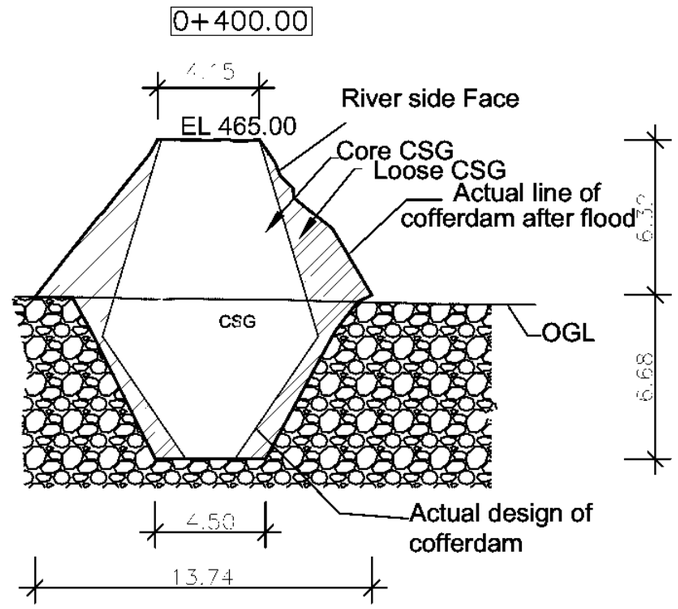
0+200.00

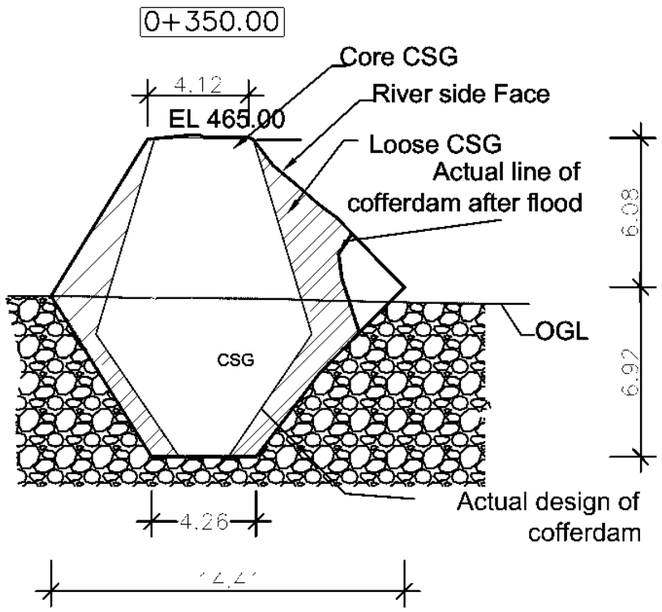


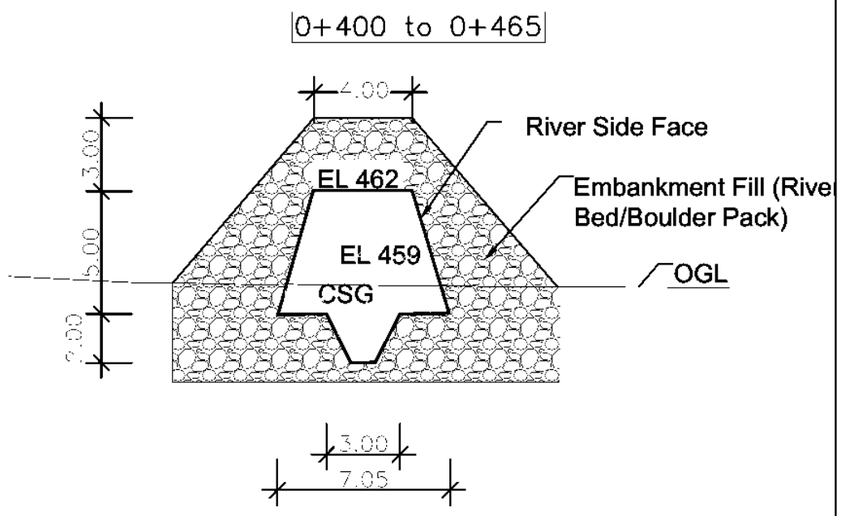
CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	STAGE -1 RIVER DIVERSION:SECTION
		PREPARED BY			DRAWING NUMBER	CD-RD-01(REV-01)
		CHECKED BY			SHEET NO:	2
		APPROVED BY			SCALE:	1:250



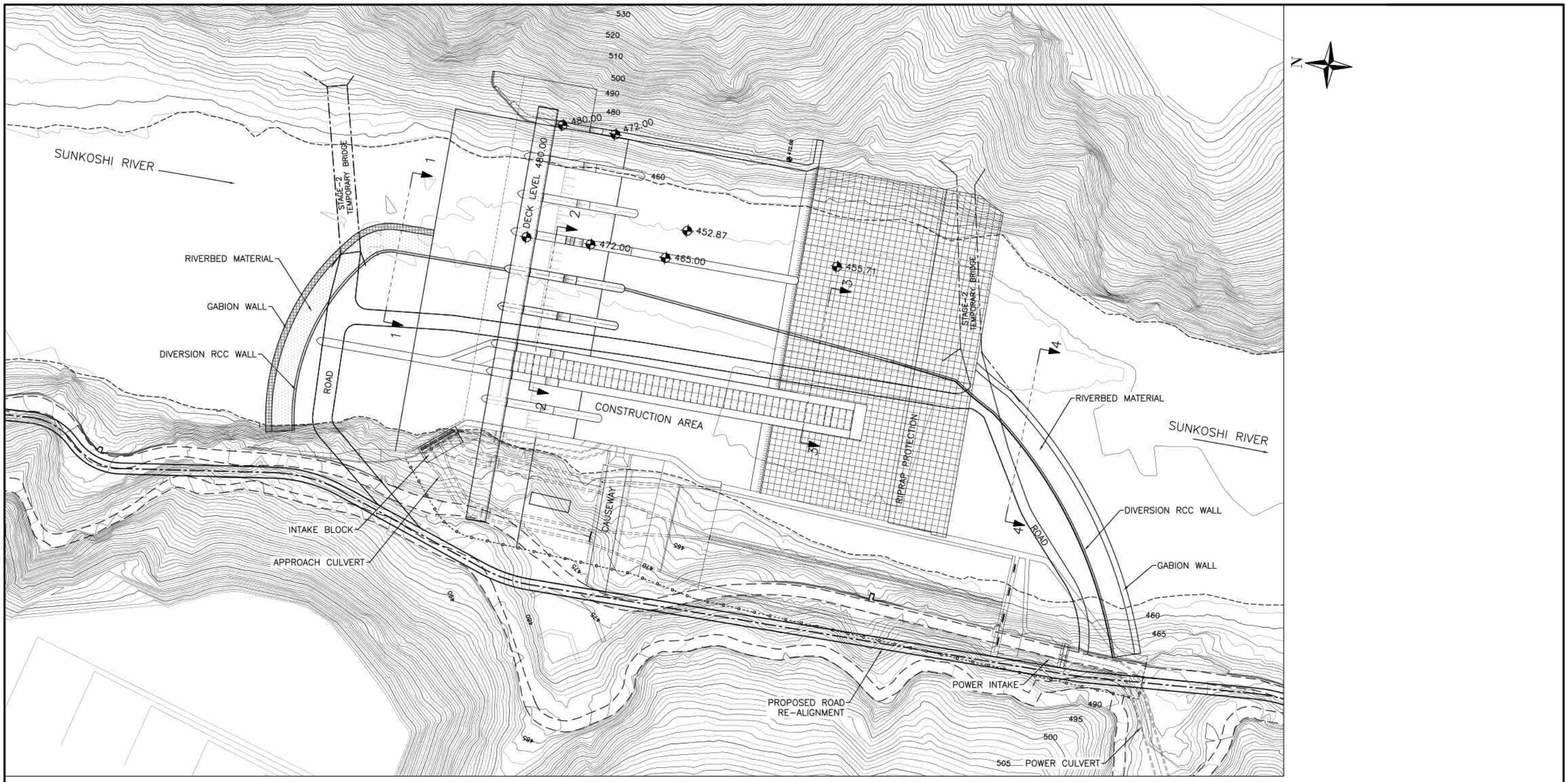


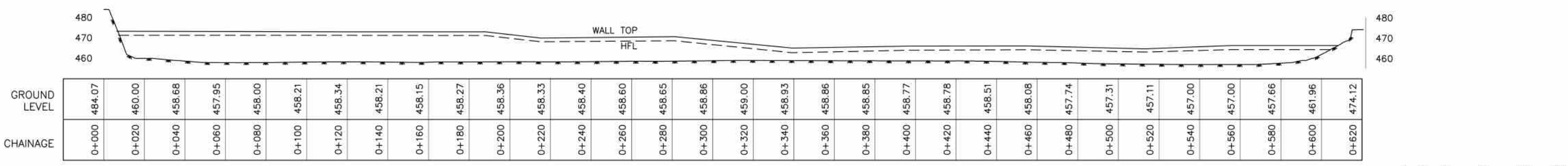






CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	STAGE -1 RIVER DIVERSION:SECTION
		PREPARED BY			DRAWING NUMBER	CD-RD-01(REV-01)
		CHECKED BY			SHEET NO:	3
		APPROVED BY			SCALE:	1:250

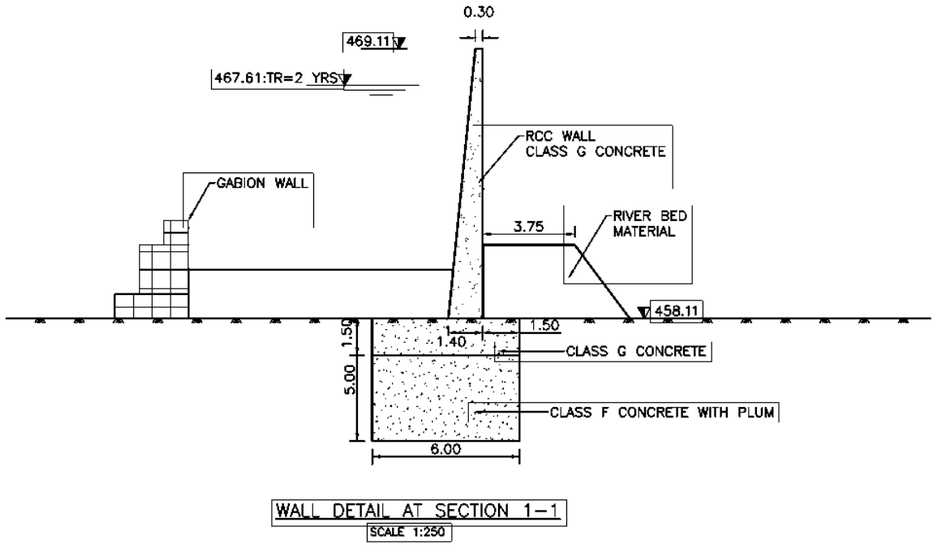

SUNKOSHI RIVER
STAGE-2 TEMPORARY BRIDGE
DECK LEVEL 480.00
RIVERBED MATERIAL
GABION WALL
DIVERSION RCC WALL
ROAD
CONSTRUCTION AREA
RIPRAP PROTECTION
INTAKE BLOCK
APPROACH CULVERT
CAUSEWAY
PROPOSED ROAD RE-ALIGNMENT
POWER INTAKE
POWER CULVERT
480.00
472.00
452.87
465.00
455.71
530
520
510
500
490
480
460
465
495
505
N


480
470
460
WALL TOP
HFL

| | | |

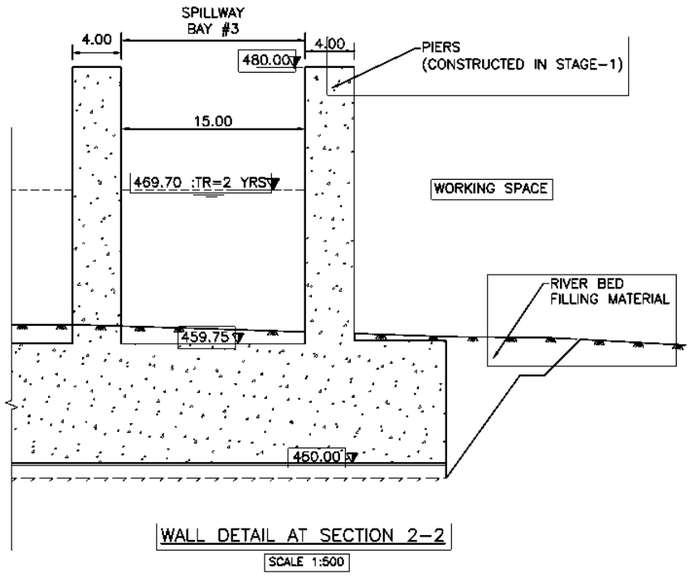
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



WALL DETAIL AT SECTION 1–1

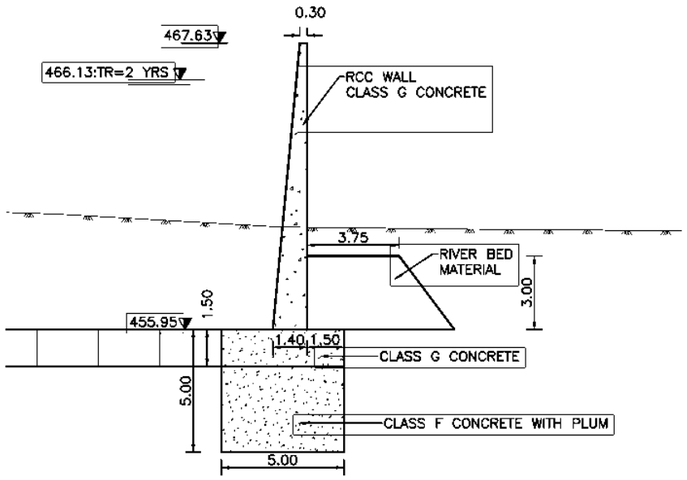
SCALE 1:250



WALL DETAIL AT SECTION 2–2

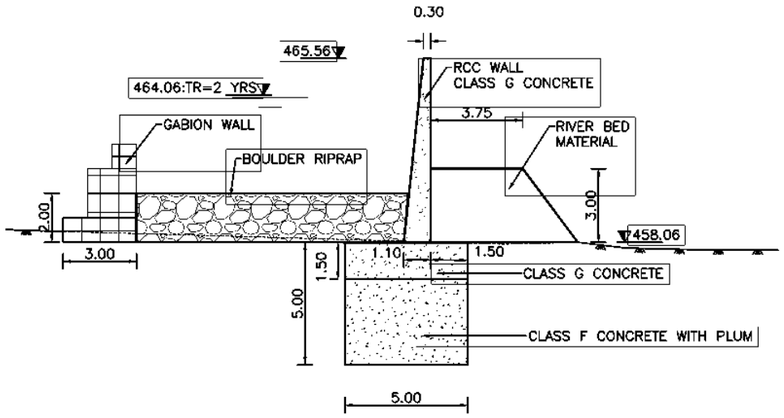
SCALE 1:500

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
F	C12/15(X0)	BLINDING CONCRETE
G	C16/20(XC2)	TEMPORARY WORK CONCRETE



WALL DETAIL AT SECTION 3–3

SCALE 1:250



WALL DETAIL AT SECTION 4–4

SCALE 1:250

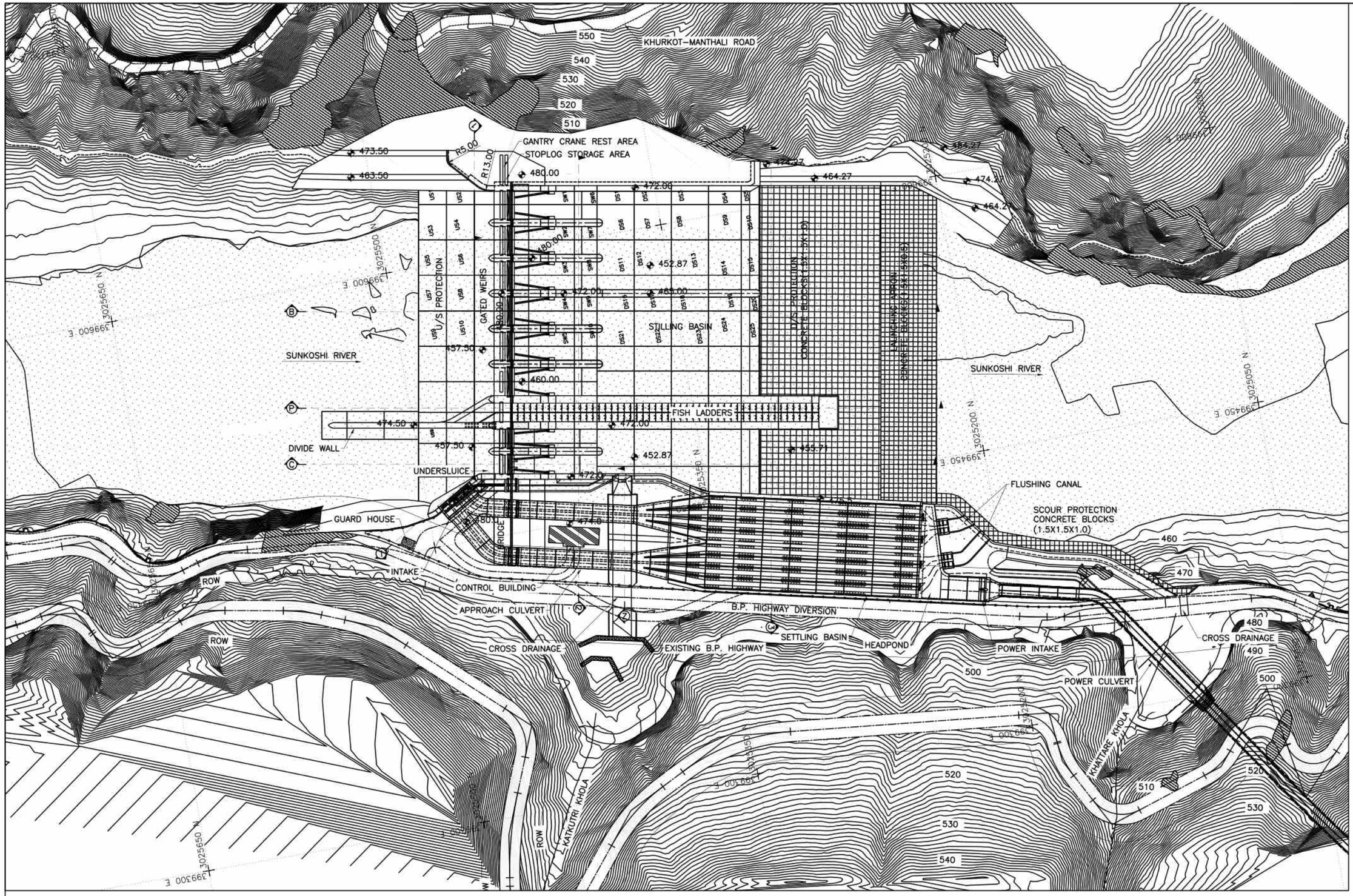
0 2.5 5 10 15 20

SCALE 1:500

0 1.25 2.5 5 7.5 10

SCALE 1:250

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	STAGE -1 RIVER DIVERSION:TYPICAL WALL SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-RD-02
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	2
					APPROVED BY			SCALE:	SCALE - AS SHOWN



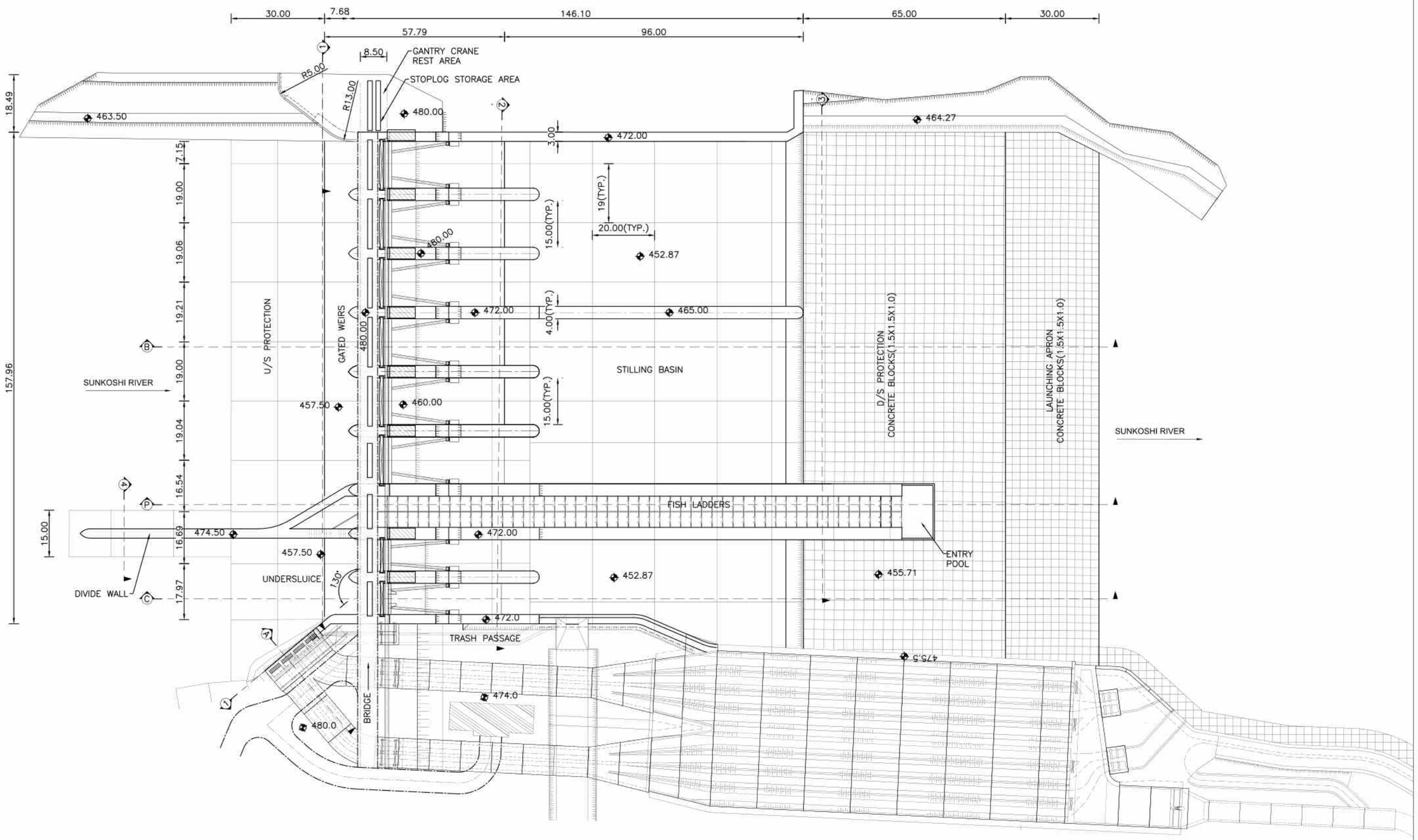
HEADWORKS LAYOUT PLAN

SCALE 1:2000

0 10 20 40 60 80

SCALE 1:2000

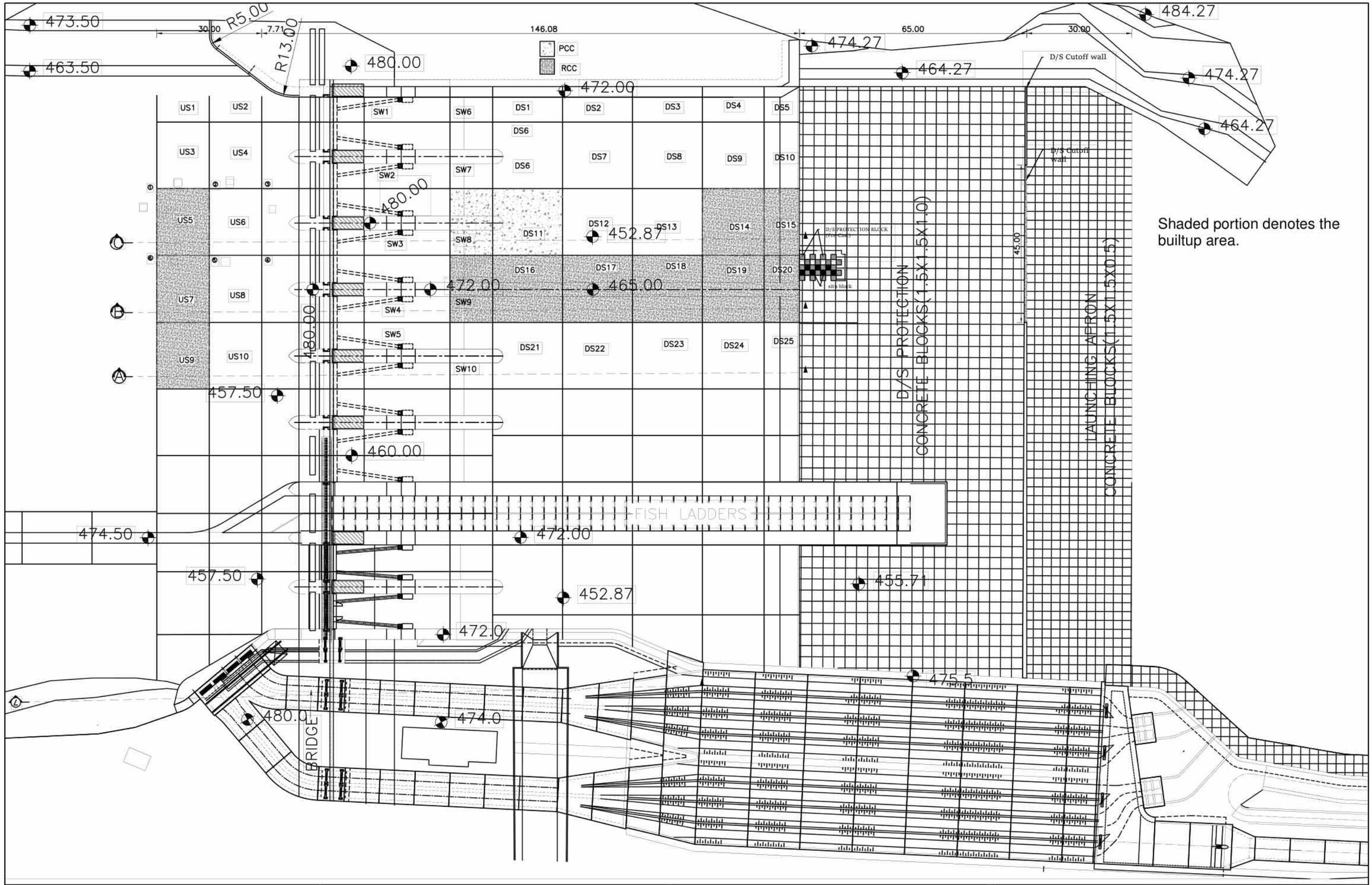
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	DIVERSION HEADWORKS: PLAN
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-01(REV-01)
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE 1: 2000



DIVERSION HEADWORKS PLAN

SCALE 1:1250

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	DIVERSION HEADWORKS: PLAN
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-02
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE 1: 1250



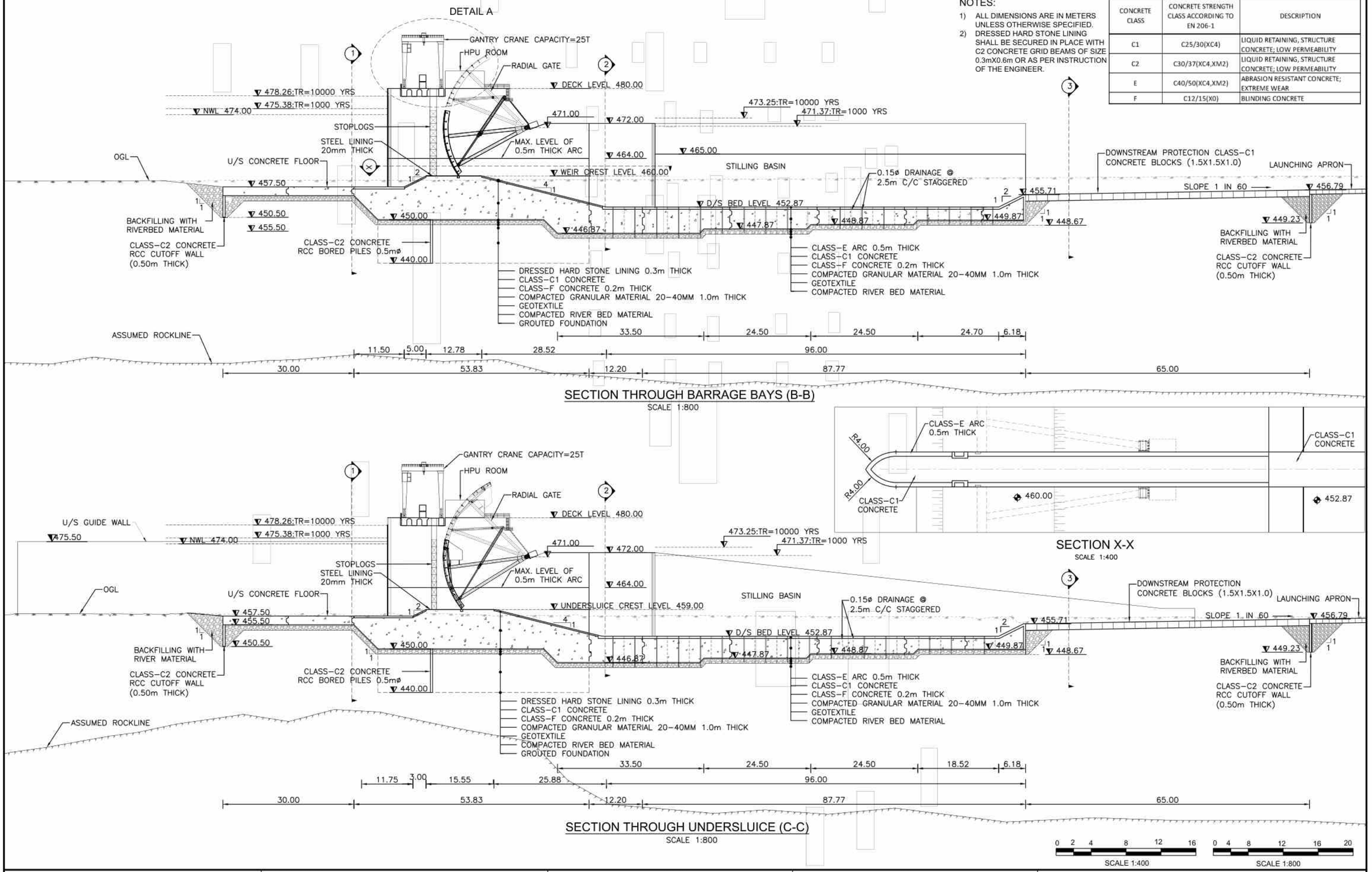
Shaded portion denotes the builtup area.

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	DIVERSION HEADWORKS:PLAN
		PREPARED BY			DRAWING NUMBER	CD-HW-02(Additional)
		CHECKED BY			SHEET NO:	1
		APPROVED BY			SCALE:	1:750

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) DRESSED HARD STONE LINING SHALL BE SECURED IN PLACE WITH C2 CONCRETE GRID BEAMS OF SIZE 0.3mX0.6m OR AS PER INSTRUCTION OF THE ENGINEER.

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE



SECTION THROUGH BARRAGE BAYS (B-B)

SCALE 1:800

SECTION X-X

SCALE 1:400

SECTION THROUGH UNDERSLUICE (C-C)

SCALE 1:800

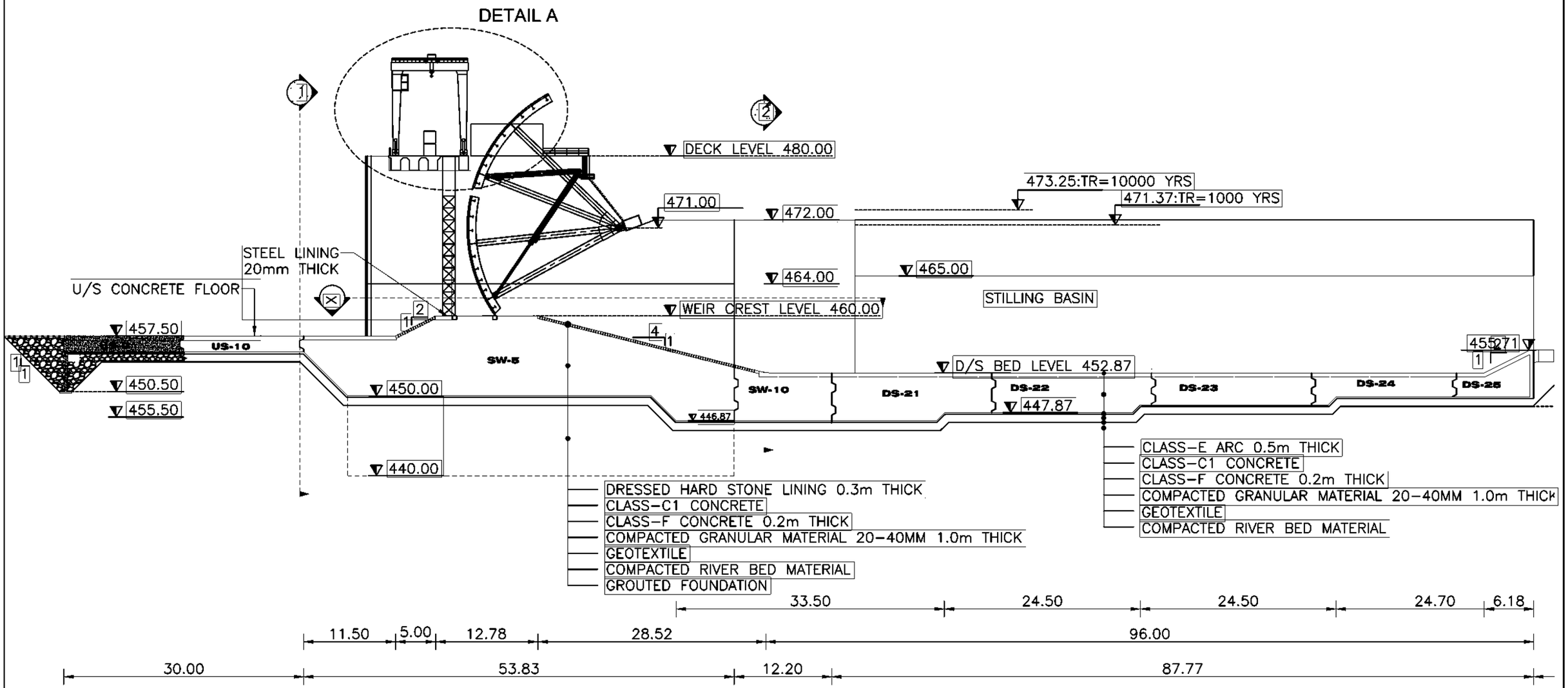
0 2 4 8 12 16 — SCALE 1:400

0 4 8 12 16 20 — SCALE 1:800

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SECTION AT WEIR AND SECTION AND UNERSLUICE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-04
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE - 1:800

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) HATCHED ORTION ALREADY BUILT

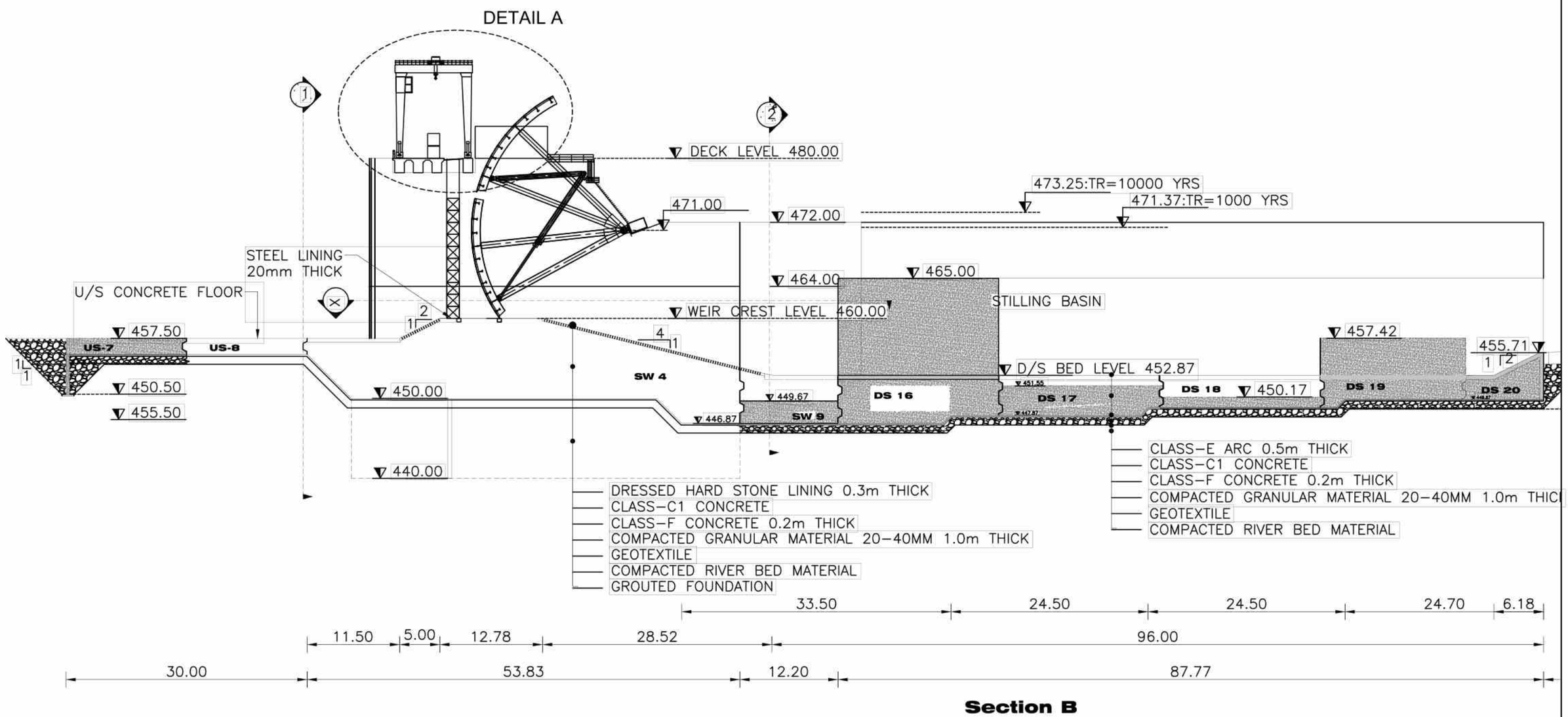


Section A

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	SECTION AT WEIR AND SECTION AND UNDERSLUICE
		PREPARED BY			DRAWING NUMBER	CD-HW-04(Additional)
		CHECKED BY			SHEET NO:	1
		APPROVED BY			SCALE:	AS SHOWN

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) Shaded porton denotes builtup area



Section B

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION KOKAS-II MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	SECTION AT WEIR AND SECTION AND UNDERSLUICE
		PREPARED BY			DRAWING NUMBER	CD-HW-04(Additional)
		CHECKED BY			SHEET NO:	2
		APPROVED BY			SCALE:	AS SHOWN

NOTES:
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) Shaded portion denotes builtup area.

LAUNCHING APRON
(1.5*1.5*0.5)m
456.79
449.23
1
1

D/S CUTOFF WALL

DETAIL A

DECK LEVEL 480.00
473.25:TR=10000 YRS
471.37:TR=1000 YRS
471.00
472.00
464.00
465.00
STILLING BASIN
WEIR CREST LEVEL 460.00
STEEL LINING
20mm THICK
U/S CONCRETE FLOOR
457.50
US-6
450.50
455.50
450.00
440.00
SW-3
SW-8
DS-11
DS-12
DS-13
D/S BED LEVEL 452.87
447.87
446.87
455.71

DRESSED HARD STONE LINING 0.3m THICK
CLASS-C1 CONCRETE
CLASS-F CONCRETE 0.2m THICK
COMPACTED GRANULAR MATERIAL 20-40MM 1.0m THICK
GEOTEXTILE
COMPACTED RIVER BED MATERIAL
GROUTED FOUNDATION

CLASS-E ARC 0.5m THICK
CLASS-C1 CONCRETE
CLASS-F CONCRETE 0.2m THICK
COMPACTED GRANULAR MATERIAL 20-40MM 1.0m THICK
GEOTEXTILE
COMPACTED RIVER BED MATERIAL

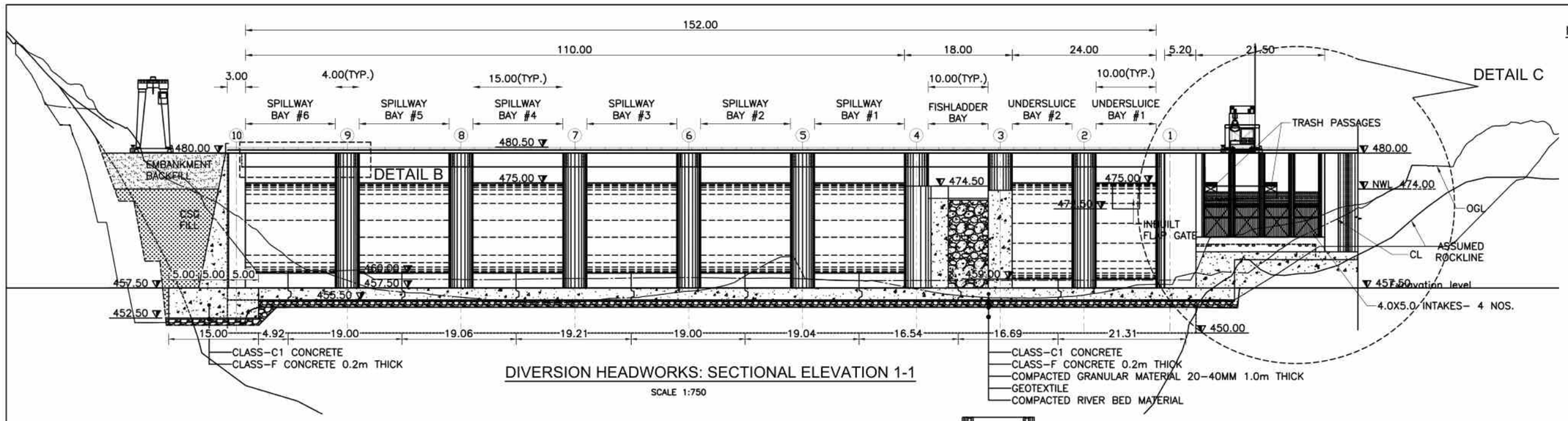
33.50 | 24.50 | 24.50 | 24.70 | 6.18
11.50 | 5.00 | 12.78 | 28.52 | 96.00
30.00 | 53.83 | 12.20 | 87.77

Section C

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	SECTION AT WEIR AND SECTION AND UNDERSLUICE
		PREPARED BY			DRAWING NUMBER	CD-HW-04(Additional)
		CHECKED BY			SHEET NO:	3
		APPROVED BY			SCALE:	AS SHOWN

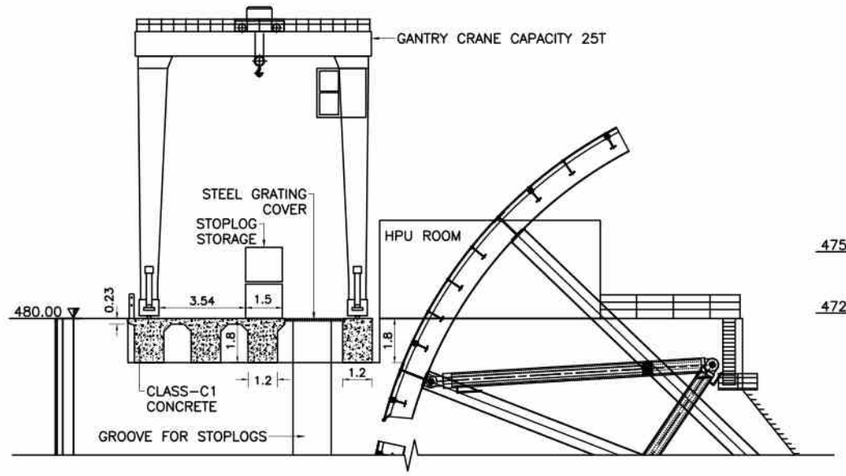
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



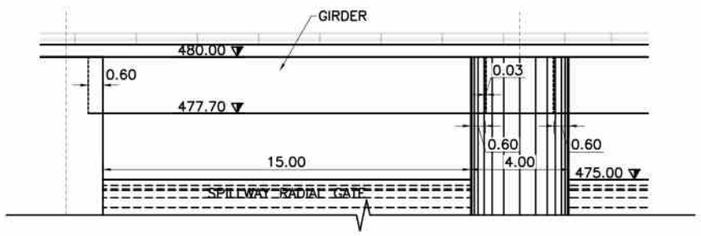
DIVERSION HEADWORKS: SECTIONAL ELEVATION 1-1

SCALE 1:750



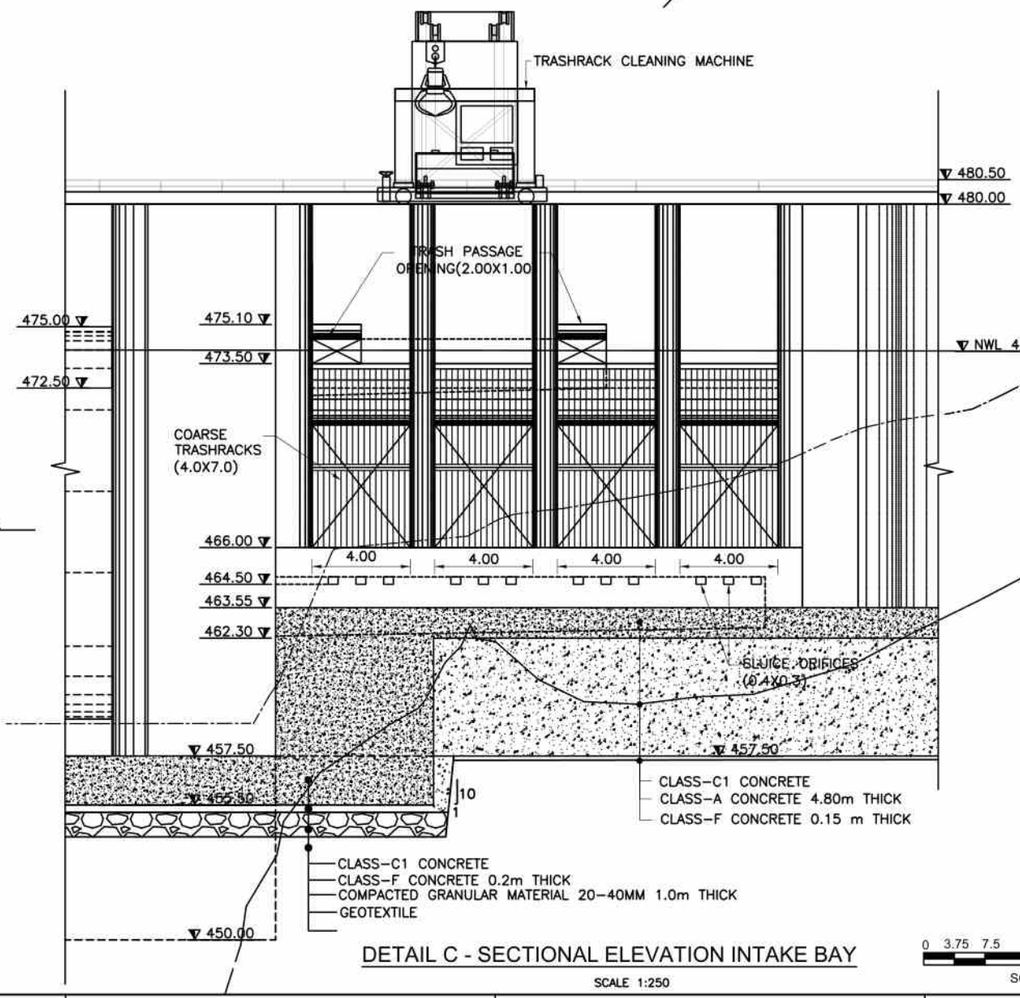
DETAIL A - BRIDGE & GANTRY CRANE GIRDER

SCALE 1:250



DETAIL B - BRIDGE GIRDER (TYP.)

SCALE 1:250



DETAIL C - SECTIONAL ELEVATION INTAKE BAY

SCALE 1:250

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
A	C20/25(XC1)	MASS CONCRETE, LOW PREMEABILITY
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE

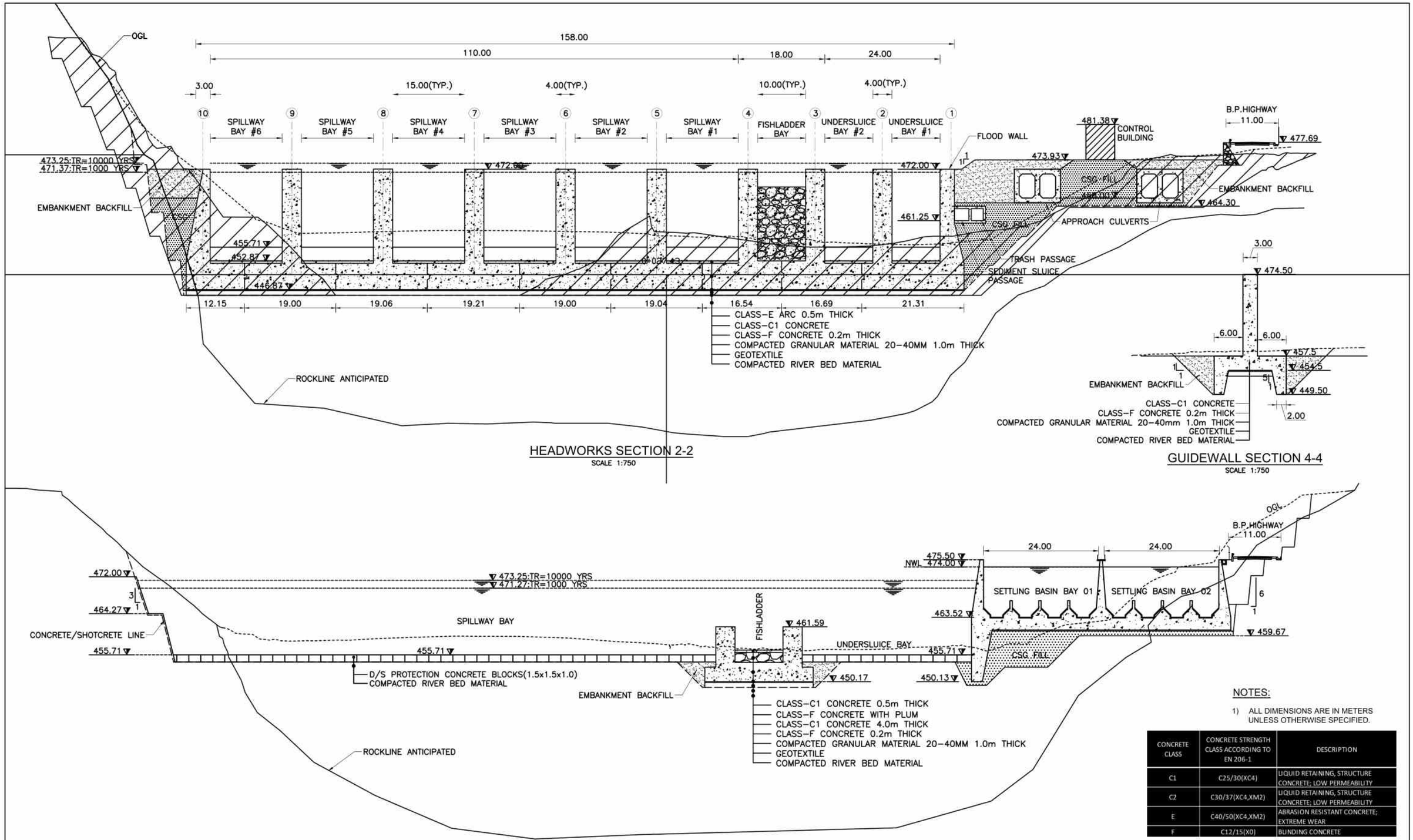
0 3.75 7.5 15 22.5 30
SCALE 1:750

0 1.25 2.5 5 7.5 10
SCALE 1:250

CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
PROJECT
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	BARRAGE & INTAKE- SECTIONAL ELEVATION
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-05(REV-01)
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
			APPROVED BY			SCALE:	AS SHOWN



NOTES:

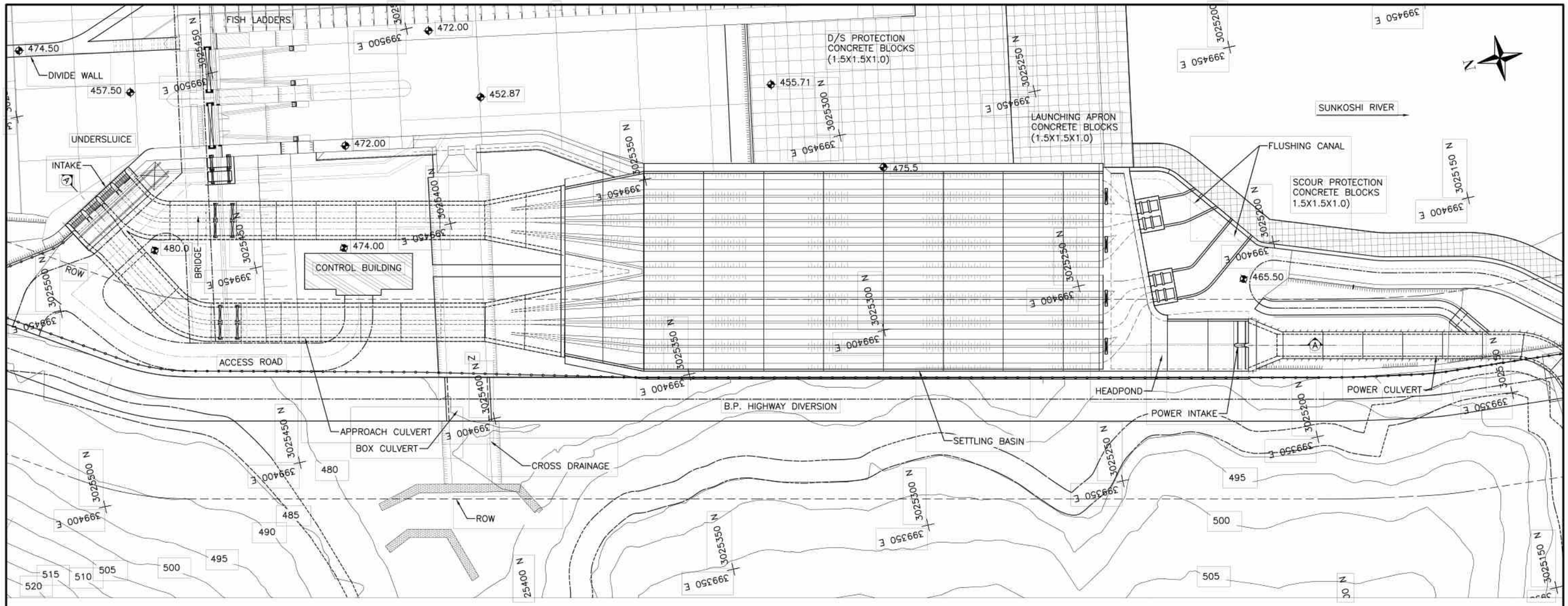
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

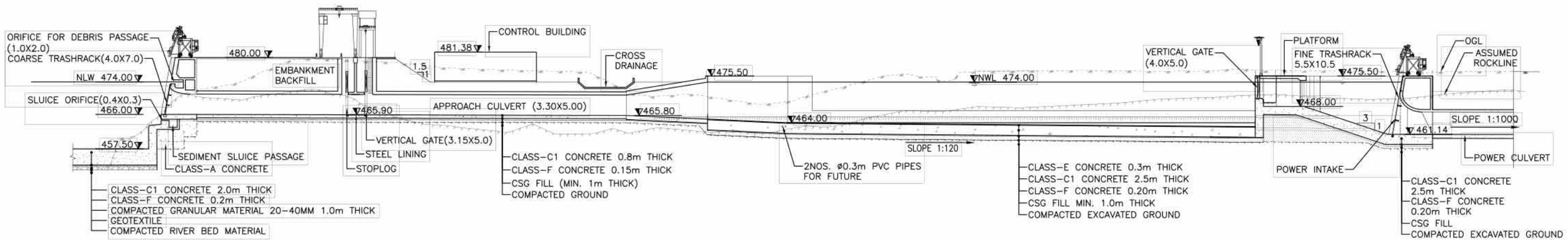
CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE

CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HEADWORKS: GENERAL SECTIONS
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-06(REV-01)
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
			APPROVED BY			SCALE:	AS SHOWN





CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
A	C20/25(XC1)	MASS CONCRETE, LOW PREMEABILITY
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE

HEADWORK PLAN & PROFILE A-A

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0 5 10 20 30 40

SCALE 1:1000

CLIENT

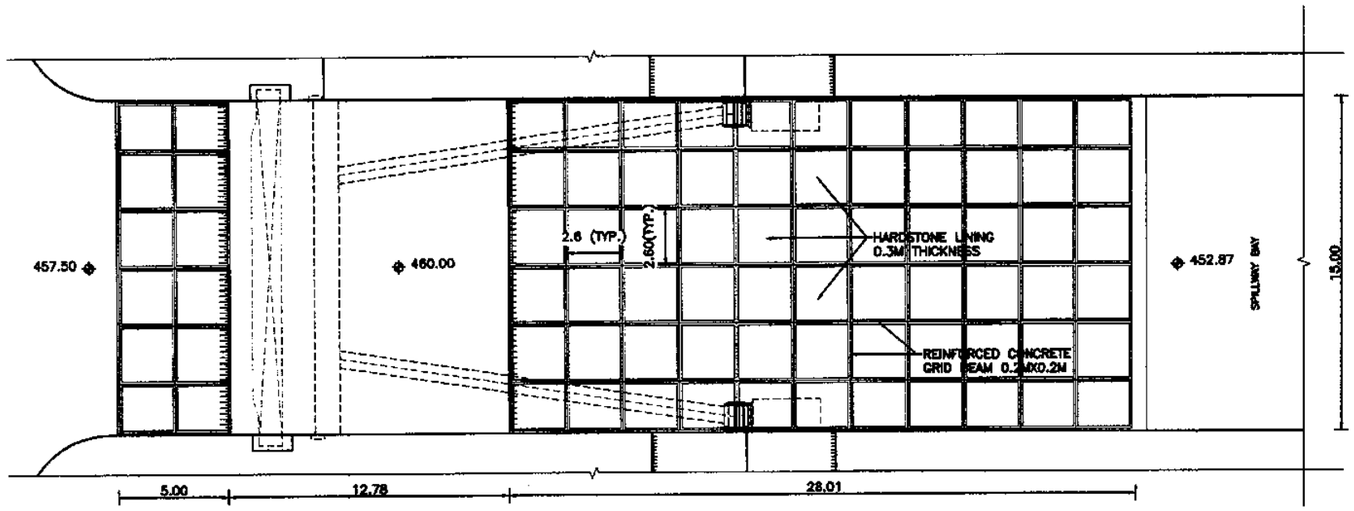
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

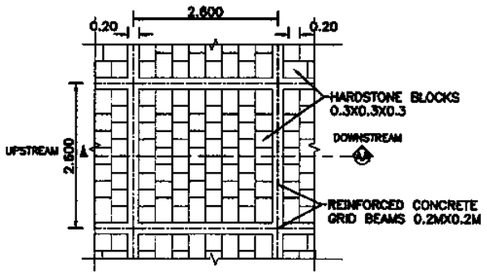
DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

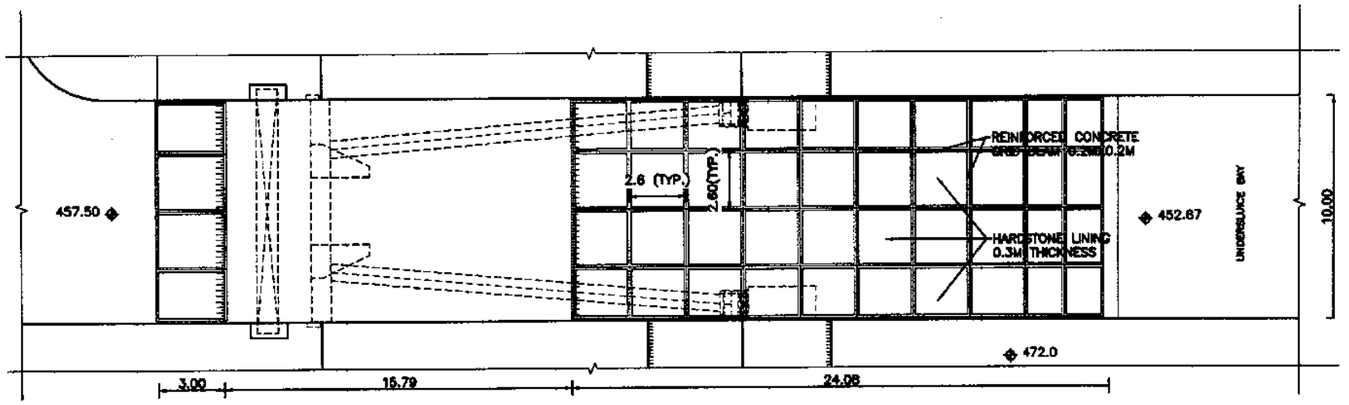
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HEADWORK GENERAL PLAN & SECTION
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-03
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
			APPROVED BY			SCALE:	SCALE - 1:1000

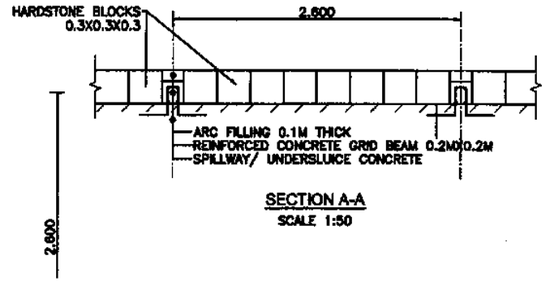




HARDSTONE LINING DETAIL

SCALE 1:100





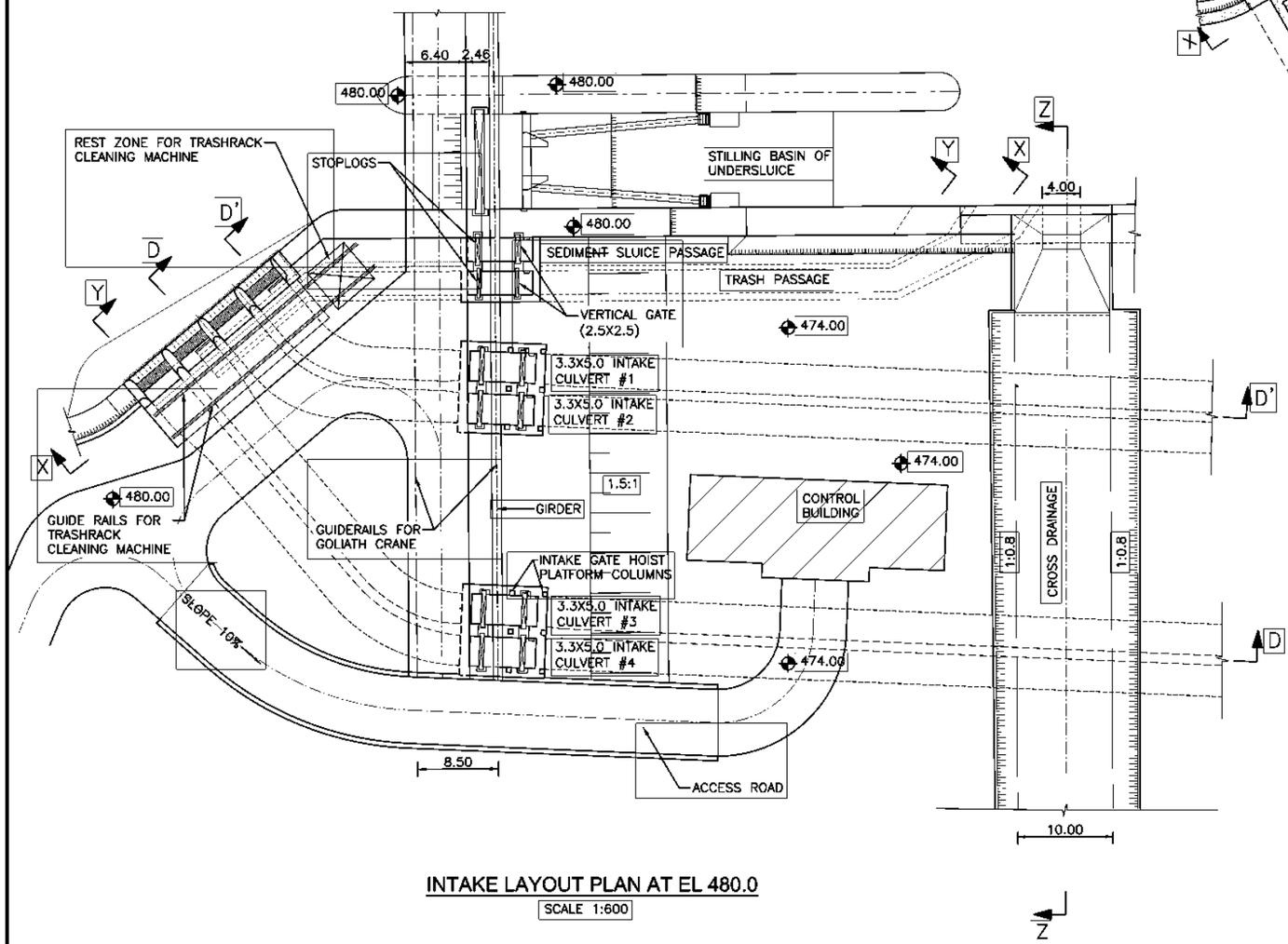
SECTION A-A

SCALE 1:50

HARDSTONE LINING: UNDERSLUICES AND SPILLWAYS

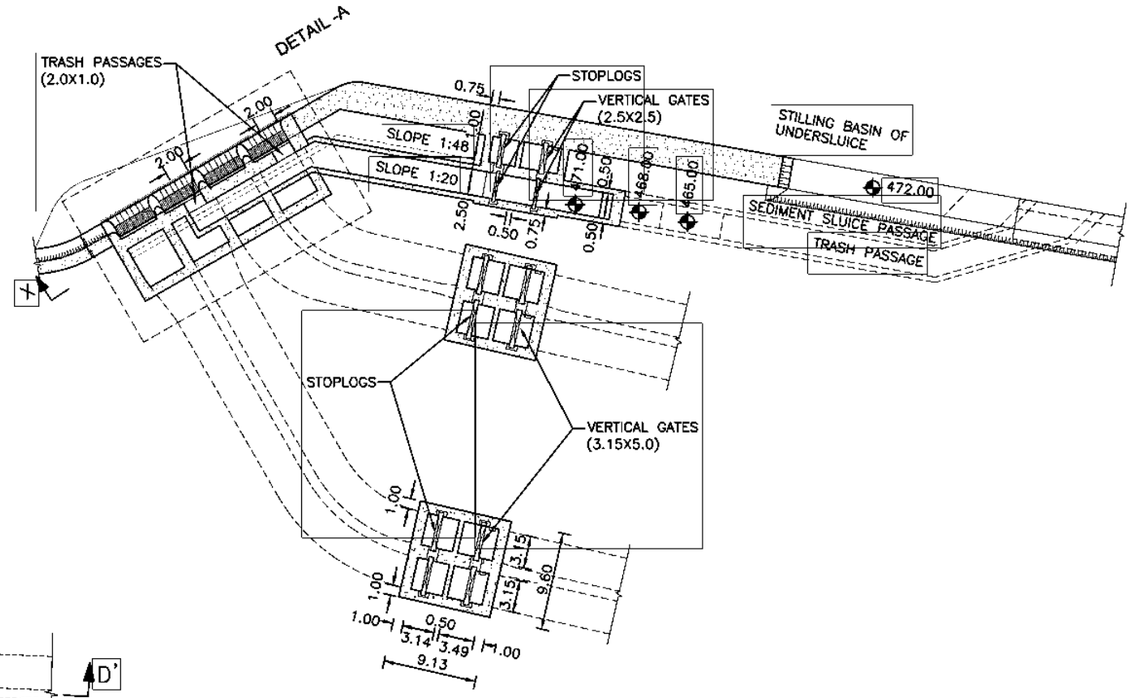
SCALE 1:250

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	HARDSTONE LINING
		PREPARED BY			DRAWING NUMBER	CD-HW
		CHECKED BY			SHEET NO:	1
		APPROVED BY			SCALE:	AS SHOWN



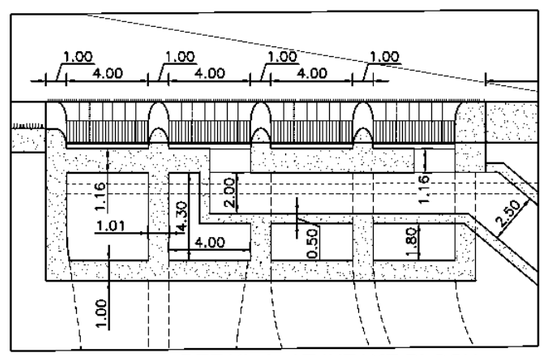
INTAKE LAYOUT PLAN AT EL 480.0

SCALE 1:600



SECTIONAL PLAN AT EL 473.50

SCALE 1:600



DETAIL-A AT INTAKE BLOCK

SCALE 1:300

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0 1.5 3 6 9 12

SCALE 1:300

0 3 6 12 18 24

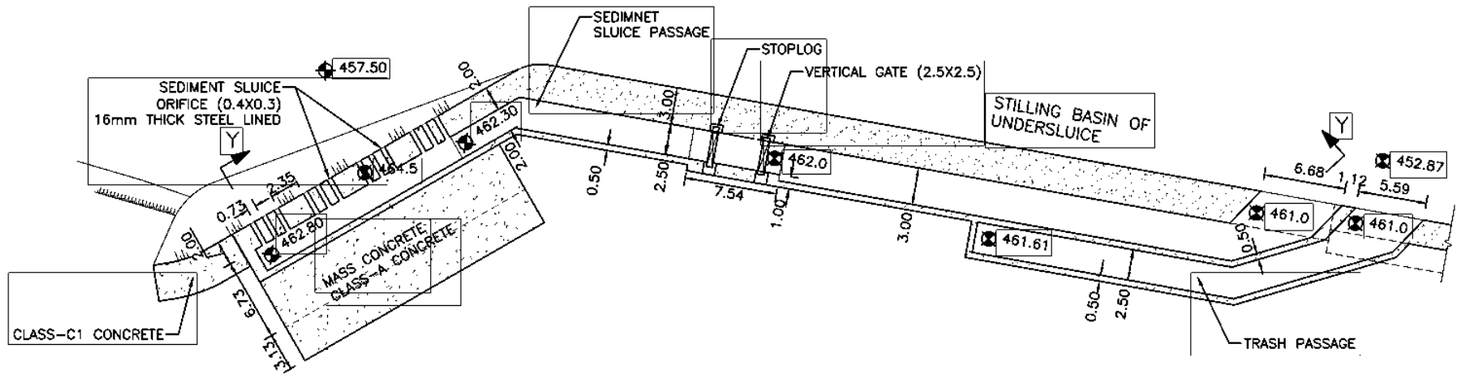
SCALE 1:600

CLIENT	CONSULTANT	PROJECT
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	

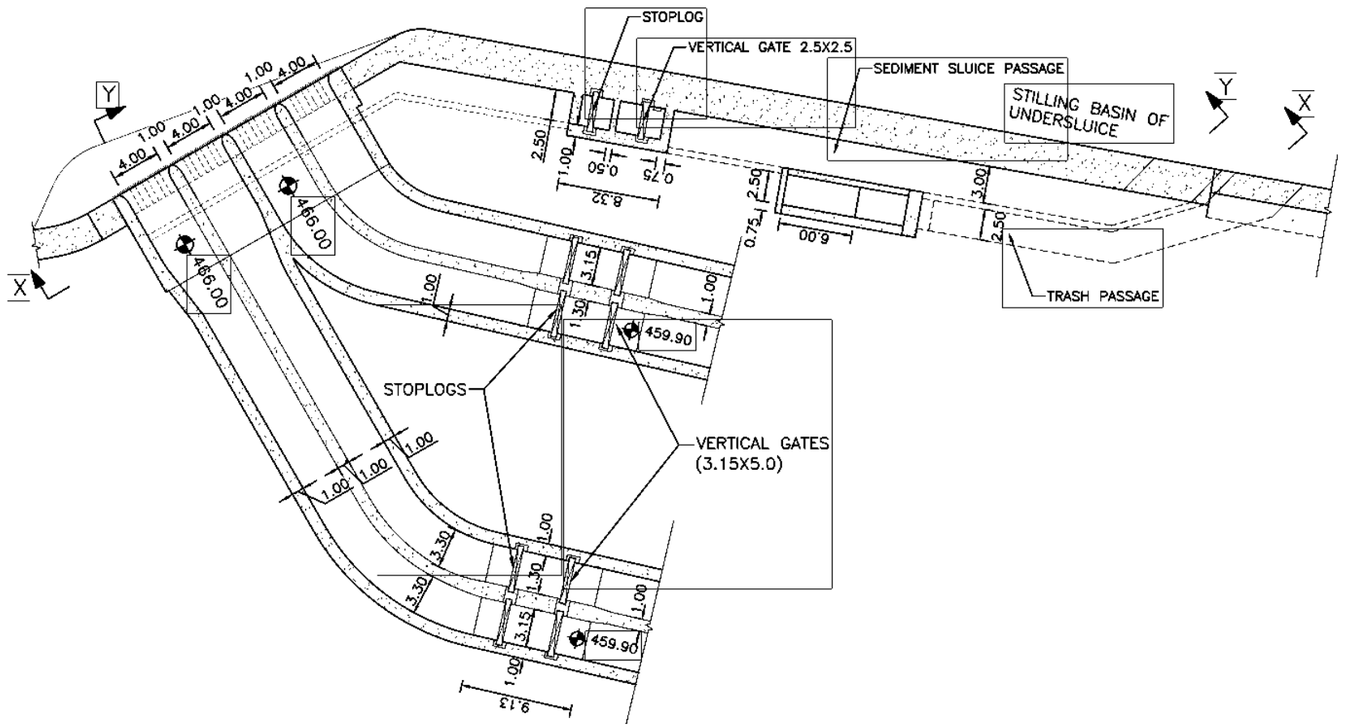
PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	INTAKE- SECTIONAL PLANS
DRAWING NUMBER	CD-HW-07
SHEET NO:	01
SCALE:	SCALE - 1:600



SECTIONAL PLAN AT Y'-Y'



SECTIONAL PLAN AT EL 466.00

NOTES:

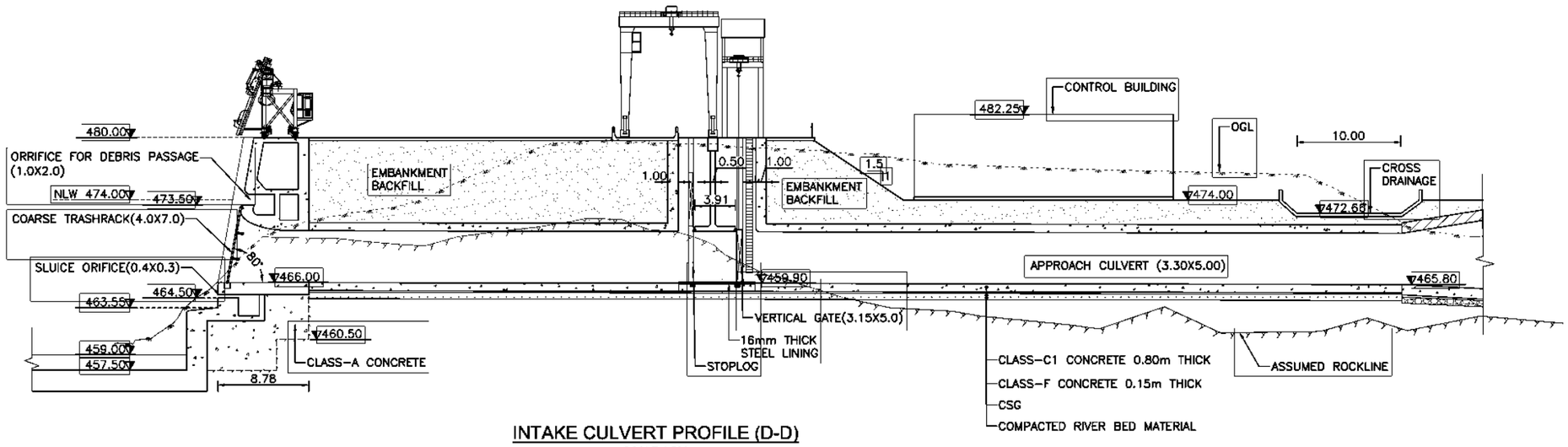
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0 2.5 5 10 15 20

SCALE 1:500

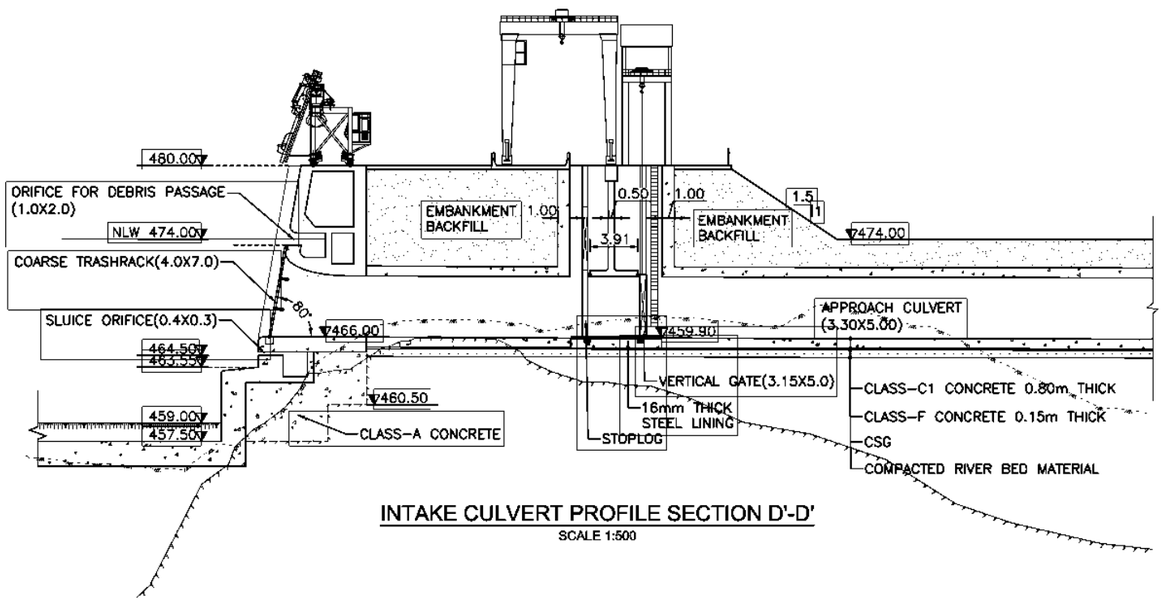
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: SUNKOSHI-3 DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	INTAKE- SECTIONAL PLANS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-07
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	02
					APPROVED BY			SCALE:	SCALE - 1:500

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
A	C20/25(XC1)	MASS CONCRETE, LOW PREMEABILITY
B	C20/25(XC2)	EXPOSURE TO ATMOSPHERE; WET, RARELY DRY
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE



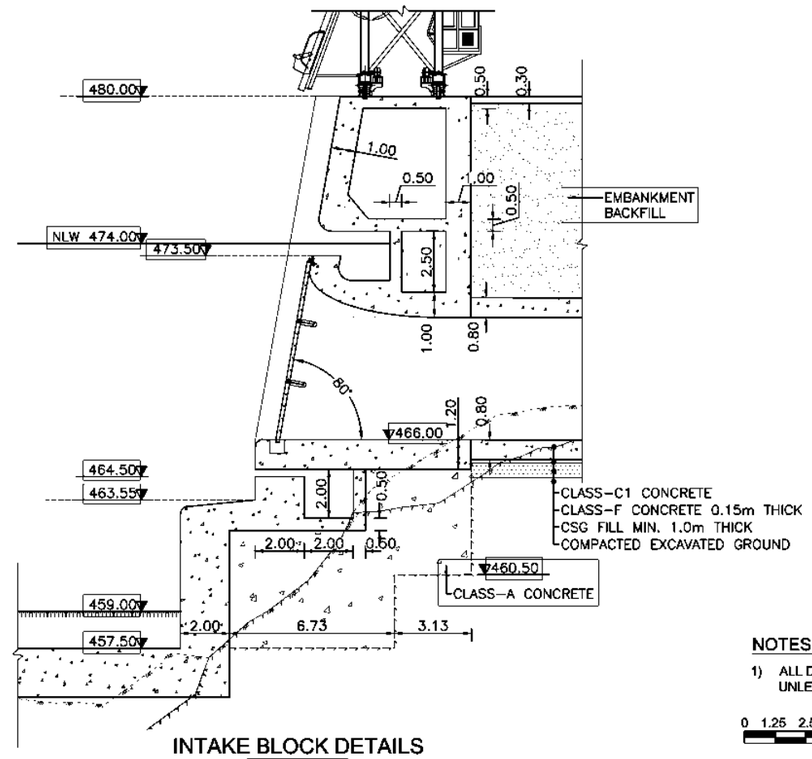
INTAKE CULVERT PROFILE (D-D)

SCALE 1:500



INTAKE CULVERT PROFILE SECTION D'-D'

SCALE 1:500



INTAKE BLOCK DETAILS

SCALE 1:250

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

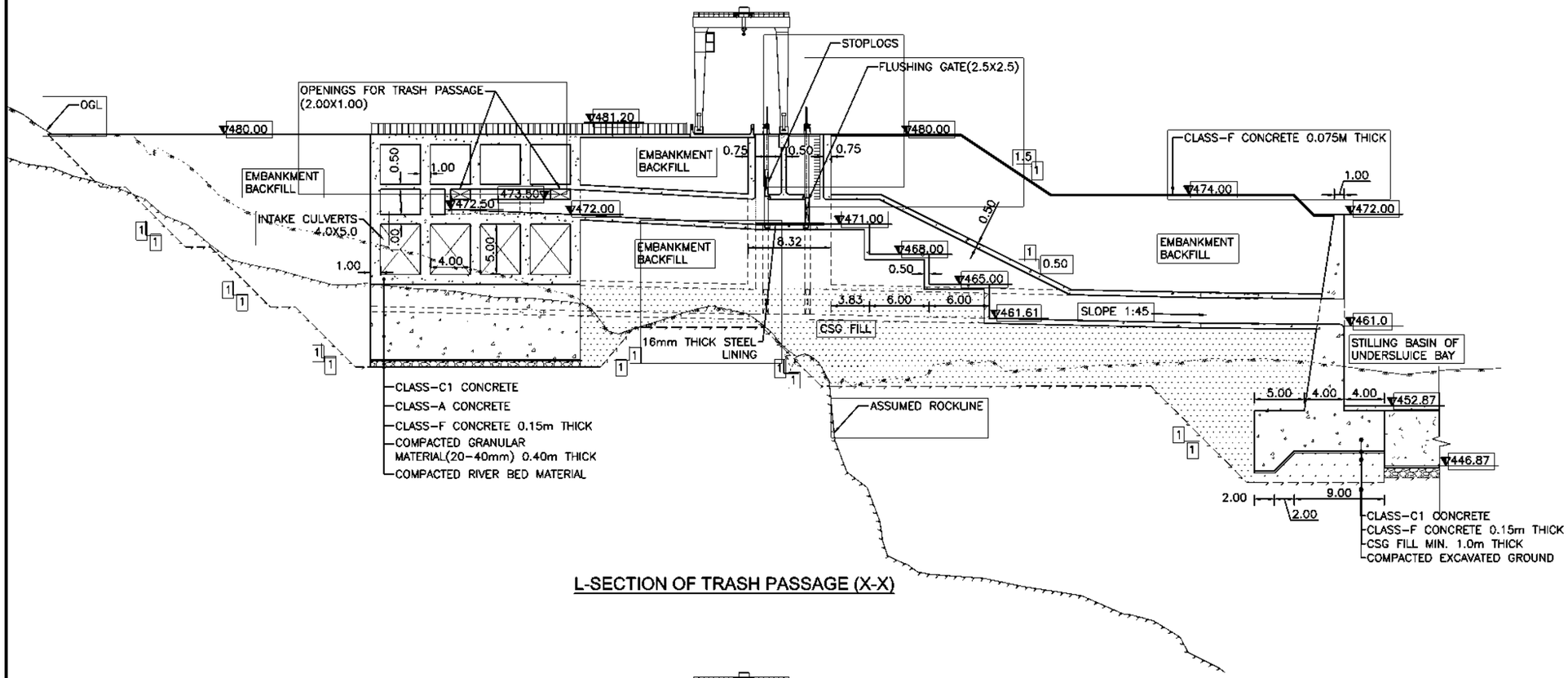
0 1.25 2.5 5 7.5 10

SCALE 1:250

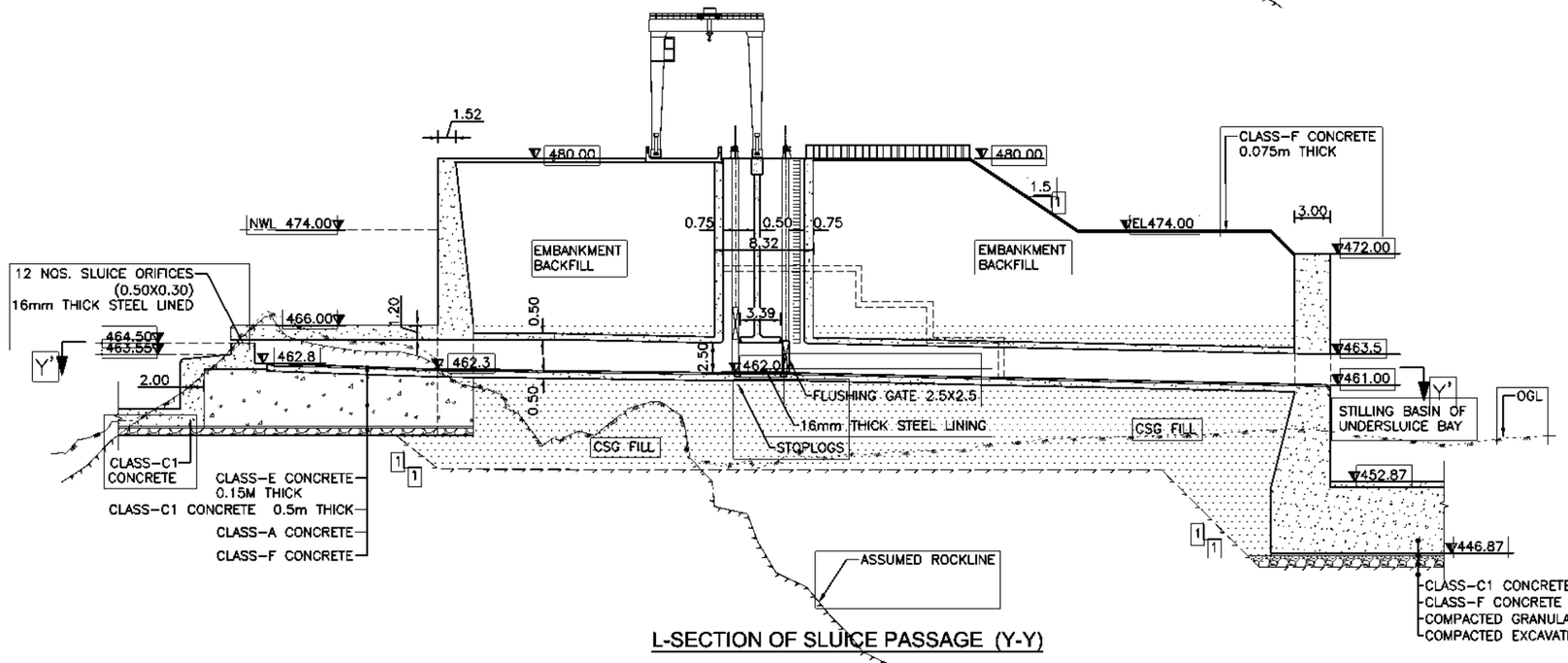
0 2.5 5 10 15 20

SCALE 1:500

CLIENT	GOVERNMENT OF NEPAL OF ENERGY, WATER RESOURCES AND IRRIGATION MEN OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	CONSULTANT	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	PROJECT	NAME	SIGN	DWRI	NAME	SIGN	DRAWING DETAIL	
				CHECKED BY			CHECKED BY			DRAWING TITLE:	INTAKE: SECTIONS
				RECOMMENDED BY			RECOMMENDED BY			DRAWING NUMBER	CD-HW-08
							APPROVED BY			SHEET NO:	01
										SCALE:	SCALE - 1:500



L-SECTION OF TRASH PASSAGE (X-X)



L-SECTION OF SLUICE PASSAGE (Y-Y)

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
A	C20/25(XC1)	MASS CONCRETE, LOW PREMEABILITY
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0 2.5 5 10 15 20

SCALE 1:500

CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

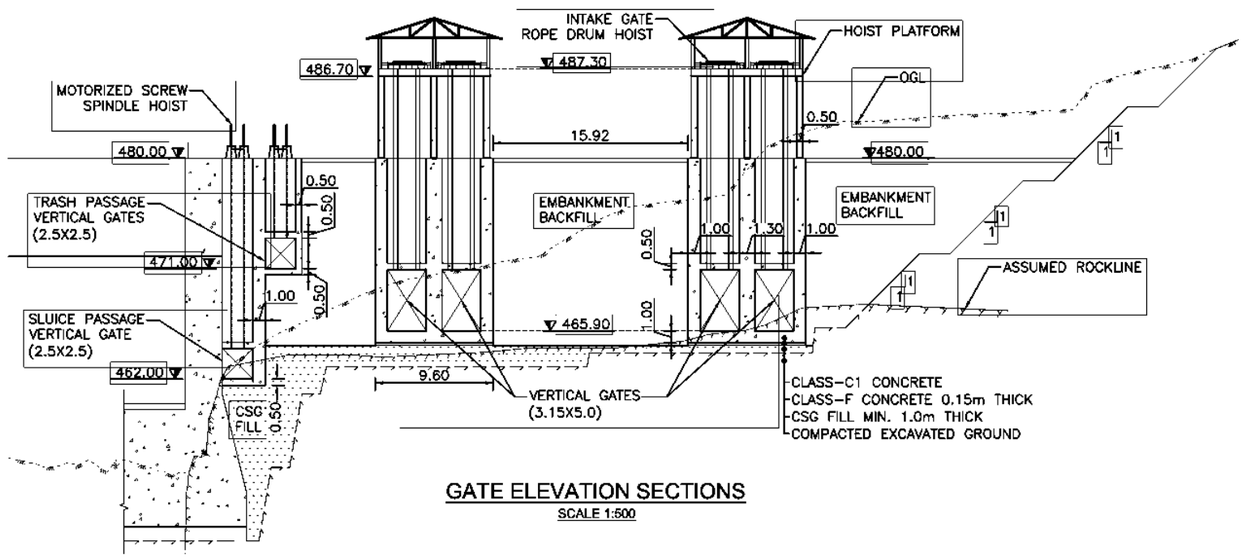
CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

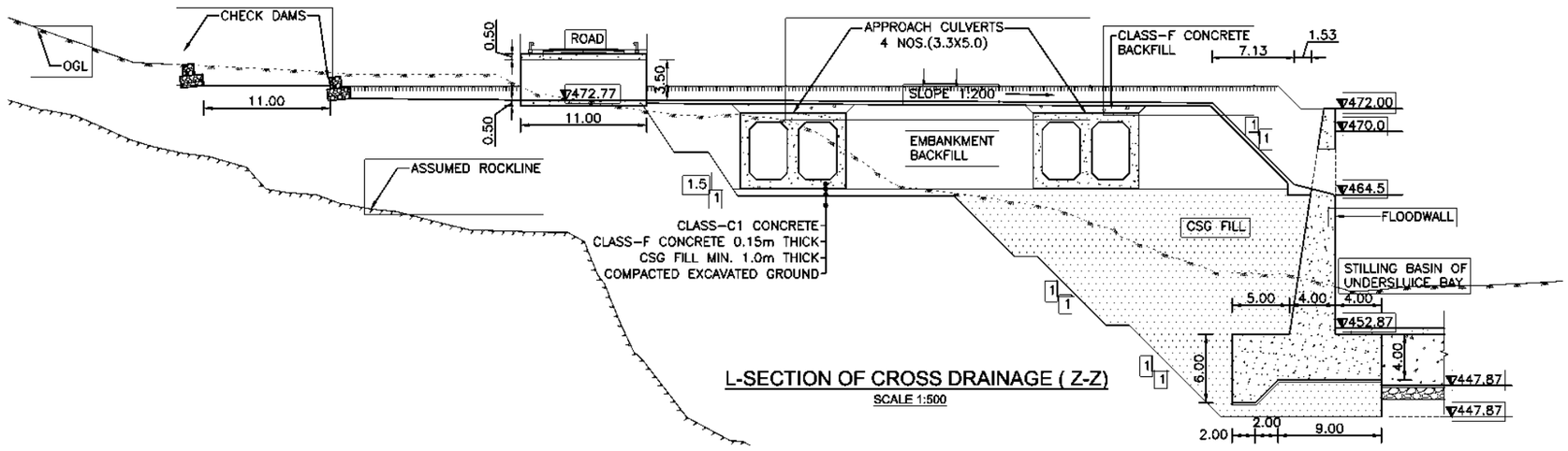
DRAWING DETAIL	
DRAWING TITLE:	INTAKE: SECTIONS
DRAWING NUMBER	CD-HW-08
SHEET NO:	02
SCALE:	SCALE - 1:500

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
A	C20/25(XC1)	MASS CONCRETE, LOW PREMEABILITY
B	C20/25(XC2)	EXPOSURE TO ATMOSPHERE; WET, RARELY DRY
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE



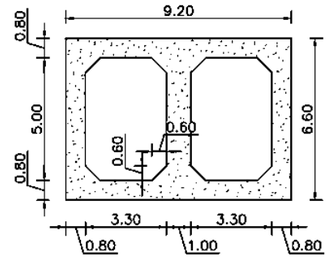
GATE ELEVATION SECTIONS

SCALE 1:500



L-SECTION OF CROSS DRAINAGE (Z-Z)

SCALE 1:500



APPROACH CULVERT DETAILS

SCALE 1:250

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

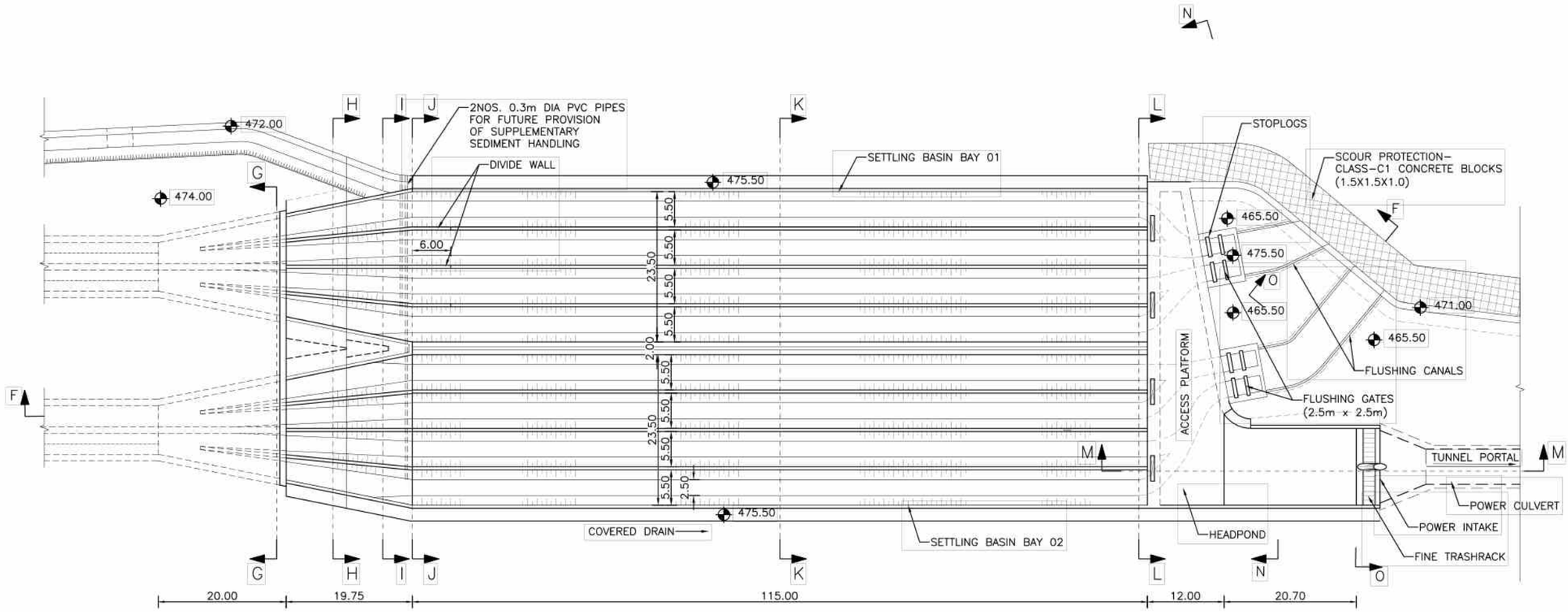
0 1.25 2.5 5 7.5 10

SCALE 1:250

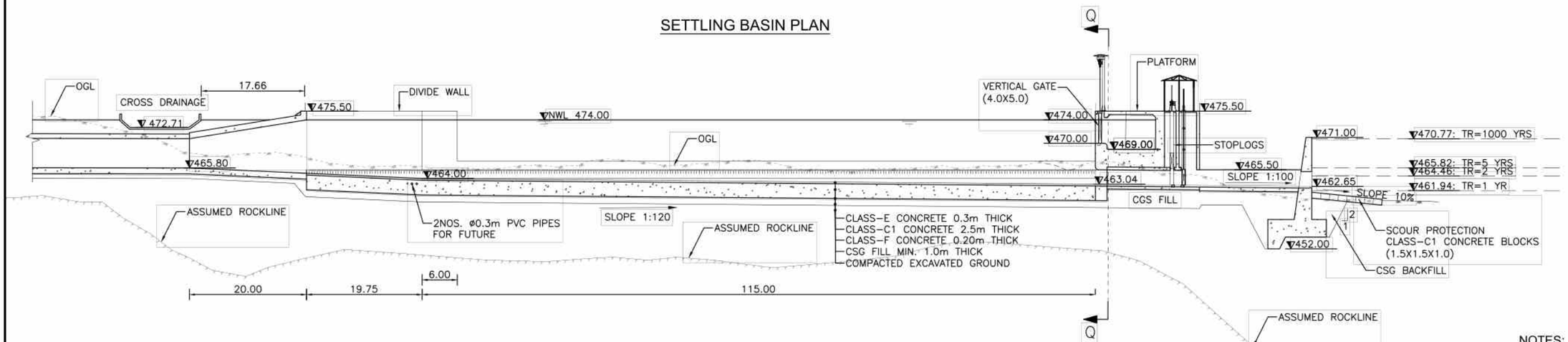
0 2.5 5 10 15 20

SCALE 1:500

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUPERVISION OF DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	INTAKE: SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-08
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	03
					APPROVED BY			SCALE:	SCALE - 1:500



SETTLING BASIN PLAN



SETTLING BASIN L-SECTION (F-F)

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0 3.75 7.5 15 22.5 30

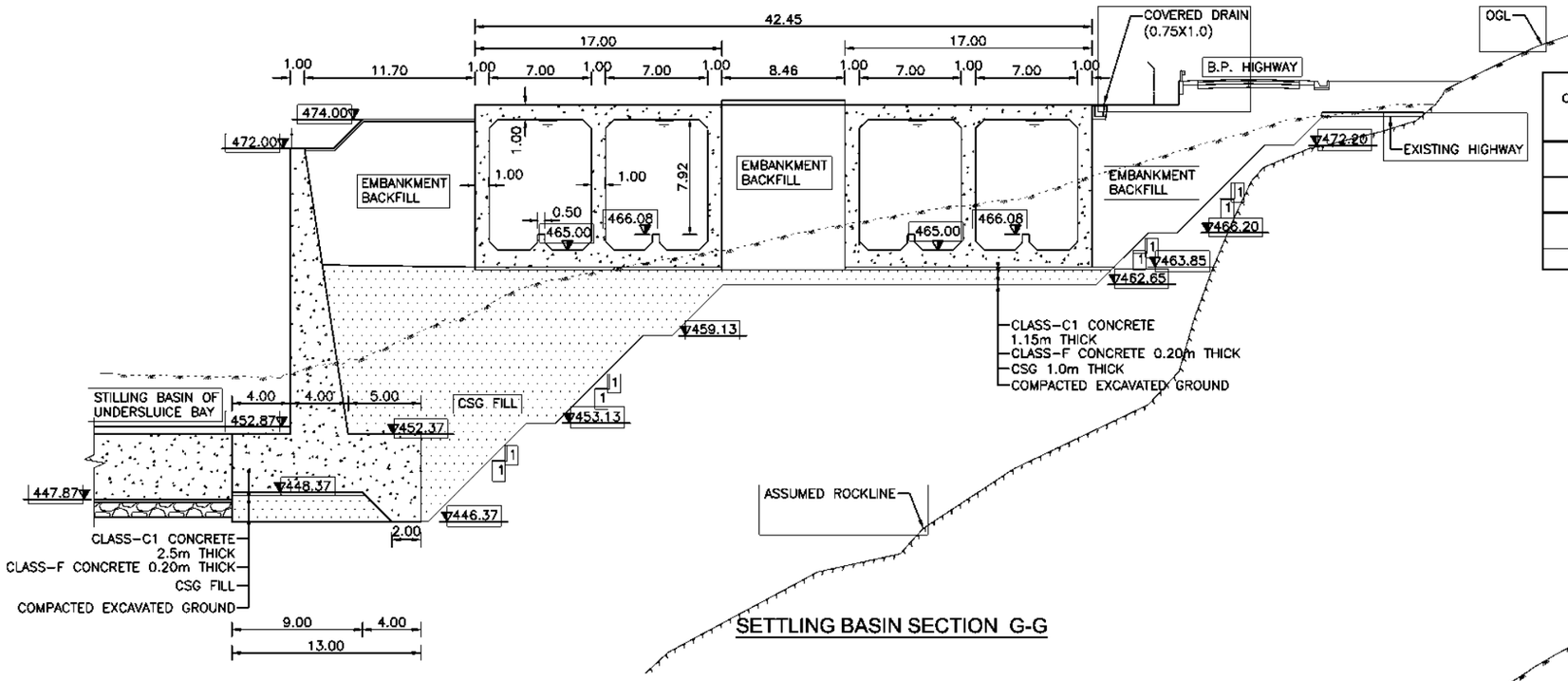
SCALE 1:750

CLIENT: GOVERNMENT OF NEPAL, MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION, DEPARTMENT OF WATER RESOURCES AND IRRIGATION; DIVERSION MULTIPURPOSE PROJECT, SINDHULI, NEPAL	CONSULTANT: NEA ENGINEERING COMPANY LTD., TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	PROJECT	NAME	SIGN	DWRI	NAME	SIGN	DRAWING DETAIL	
		CHECKED BY			CHECKED BY			DRAWING TITLE:	SETLLING BASIN PLAN AND SECTION
		RECOMMENDED BY			RECOMMENDED BY			DRAWING NUMBER	CD-HW-09
					APPROVED BY			SHEET NO:	1
								SCALE:	SCALE - 1:750

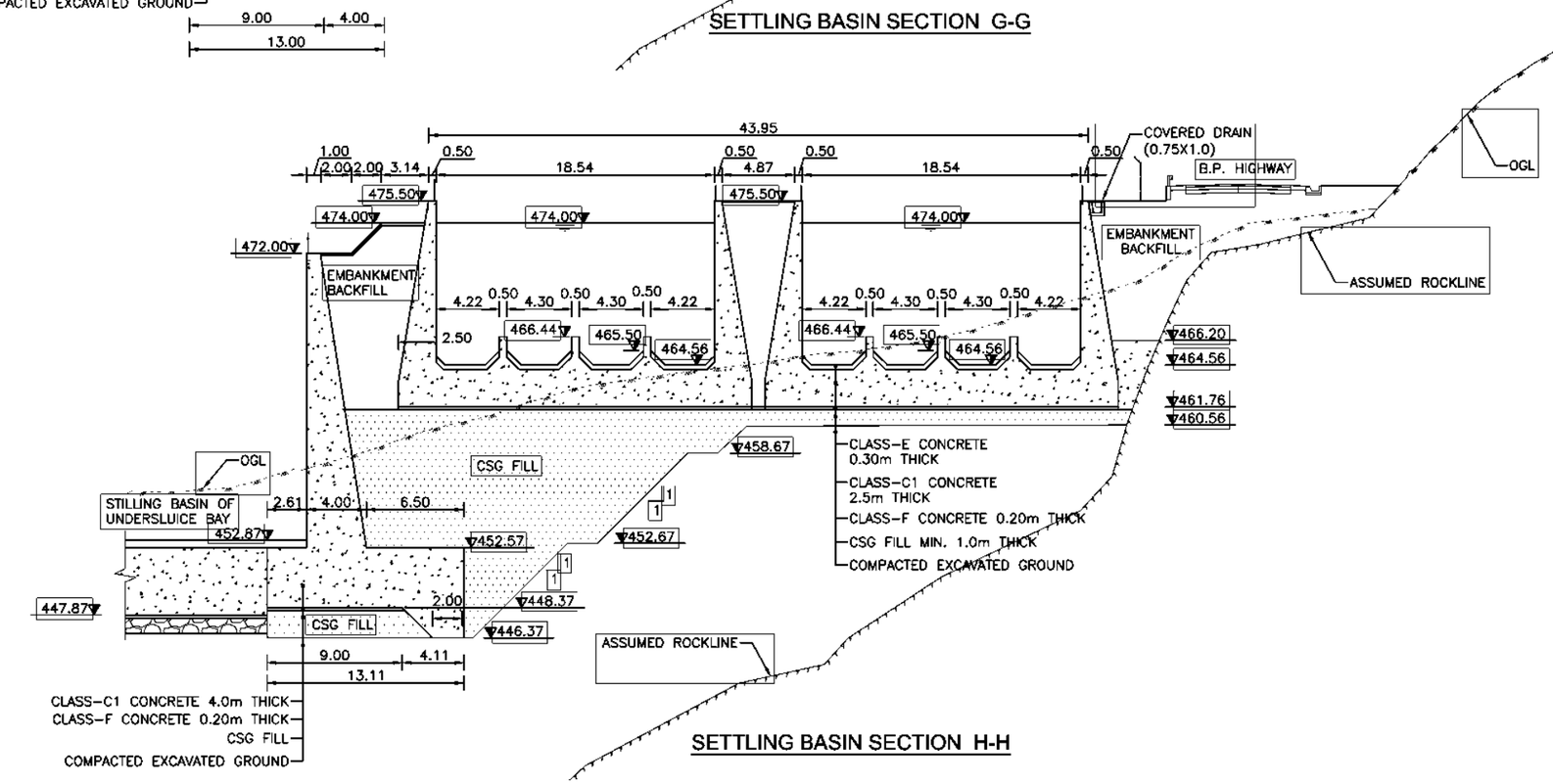
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) GROUTING MAYBE REQUIRED TO TREAT POOR FOUNDING STRATA
3) THICKNESS OF CSG VARY DEPENDING ON LOCATION AND CONDITION OF BED ROCK OR SOIL STRUCTURE

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE



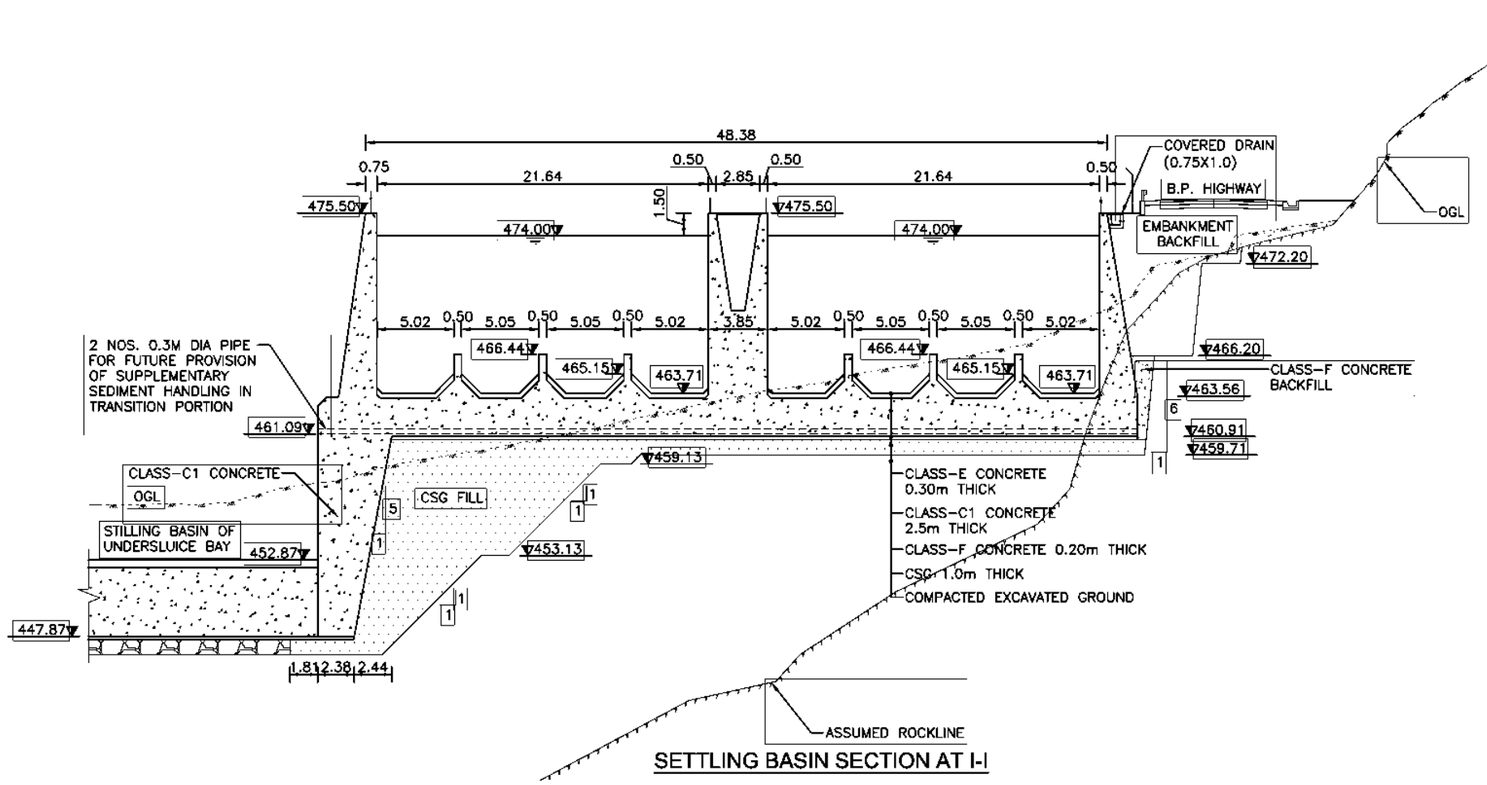
SETTLING BASIN SECTION G-G



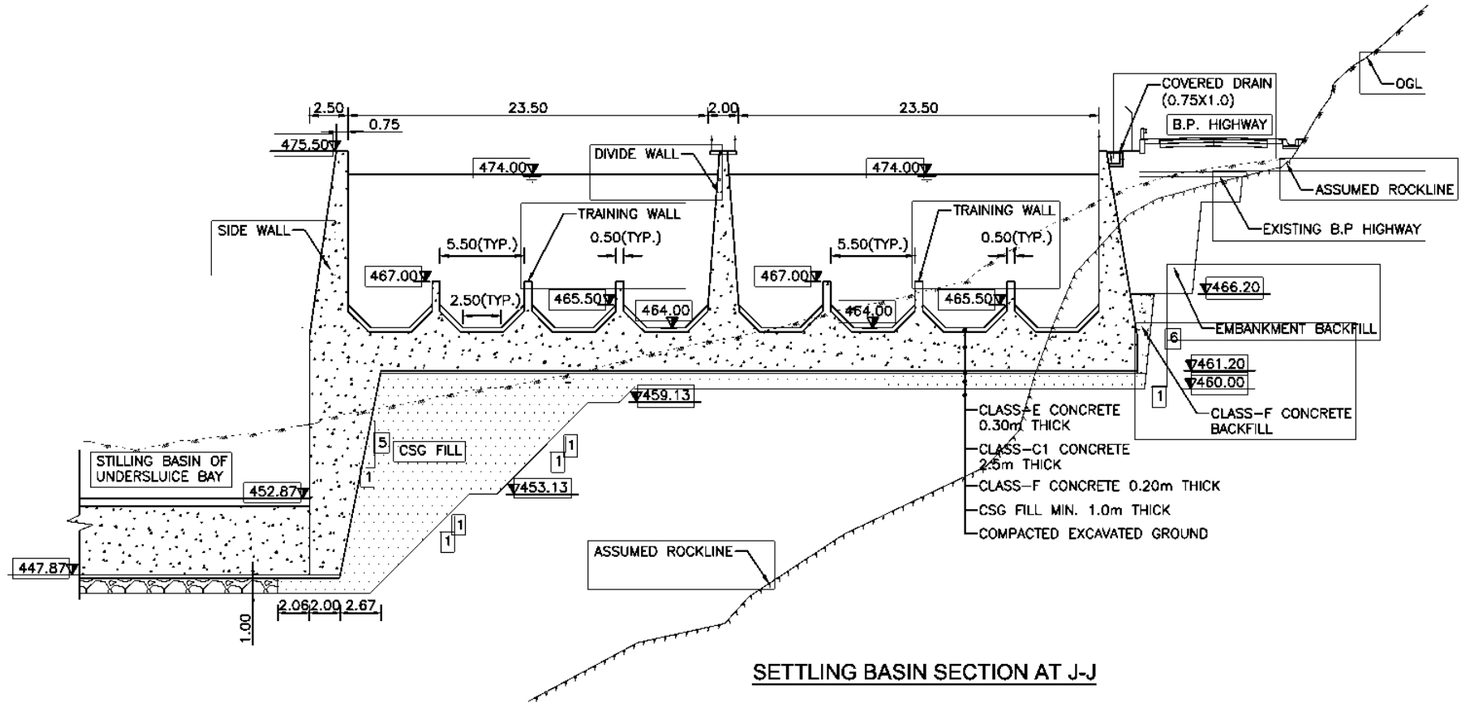
SETTLING BASIN SECTION H-H

0 2 4 8 12 16
SCALE 1:400

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SETTLING BASIN SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-10
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	01
					APPROVED BY			SCALE:	SCALE - 1:250



SETTLING BASIN SECTION AT I-I



SETTLING BASIN SECTION AT J-J

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) GROUTING MAYBE REQUIRED TO TREAT POOR FOUNDING STRATA
3) THICKNESS OF CSG VARY DEPENDING ON LOCATION AND CONDITION OF BED ROCK OR SOIL STRUCTURE

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE

0 2 4 8 12 16
SCALE 1:400

CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
PROJECT: DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

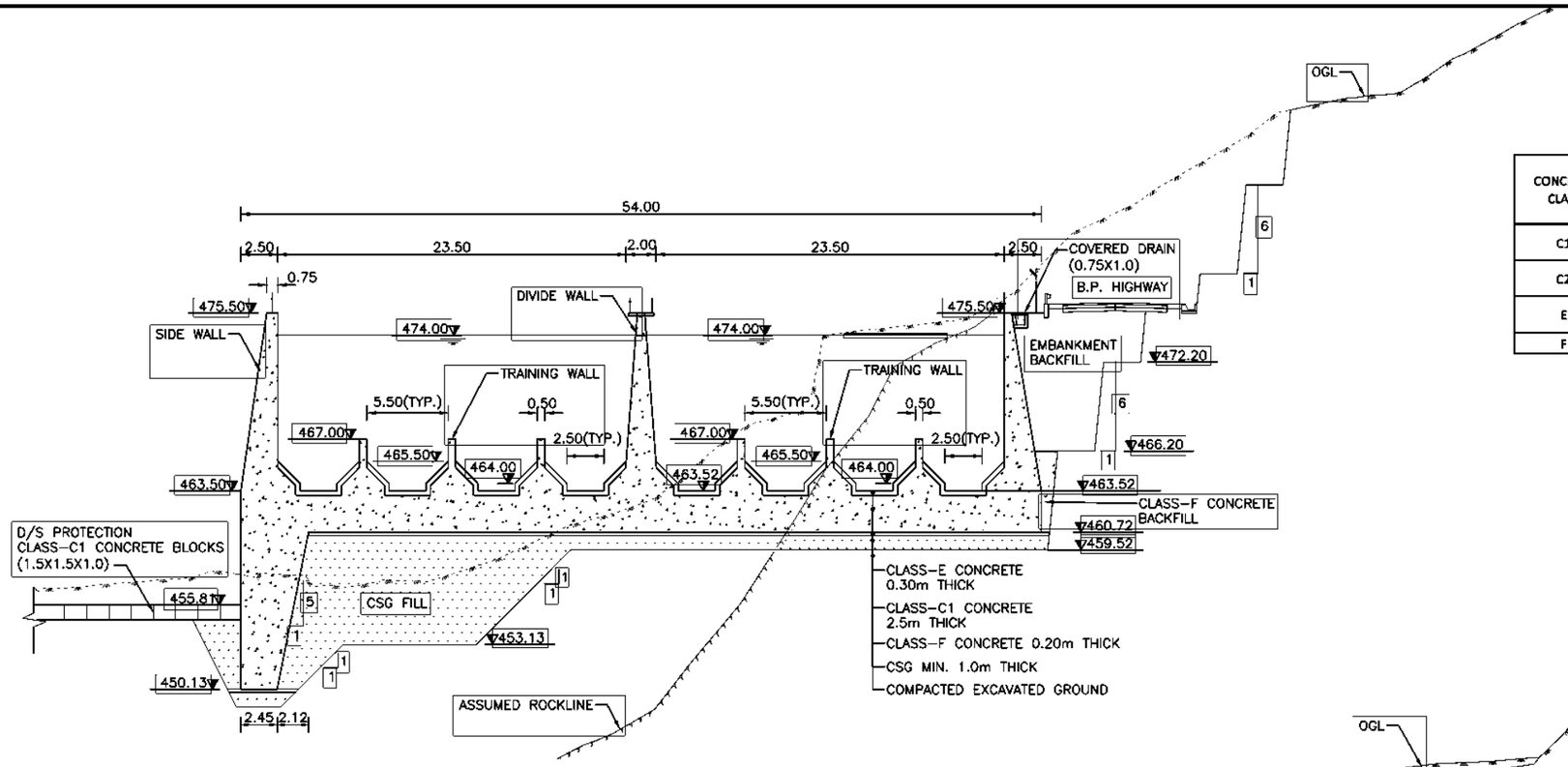
CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SETTLING BASIN SECTIONS
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-10
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	02
			APPROVED BY			SCALE:	SCALE - 1:400

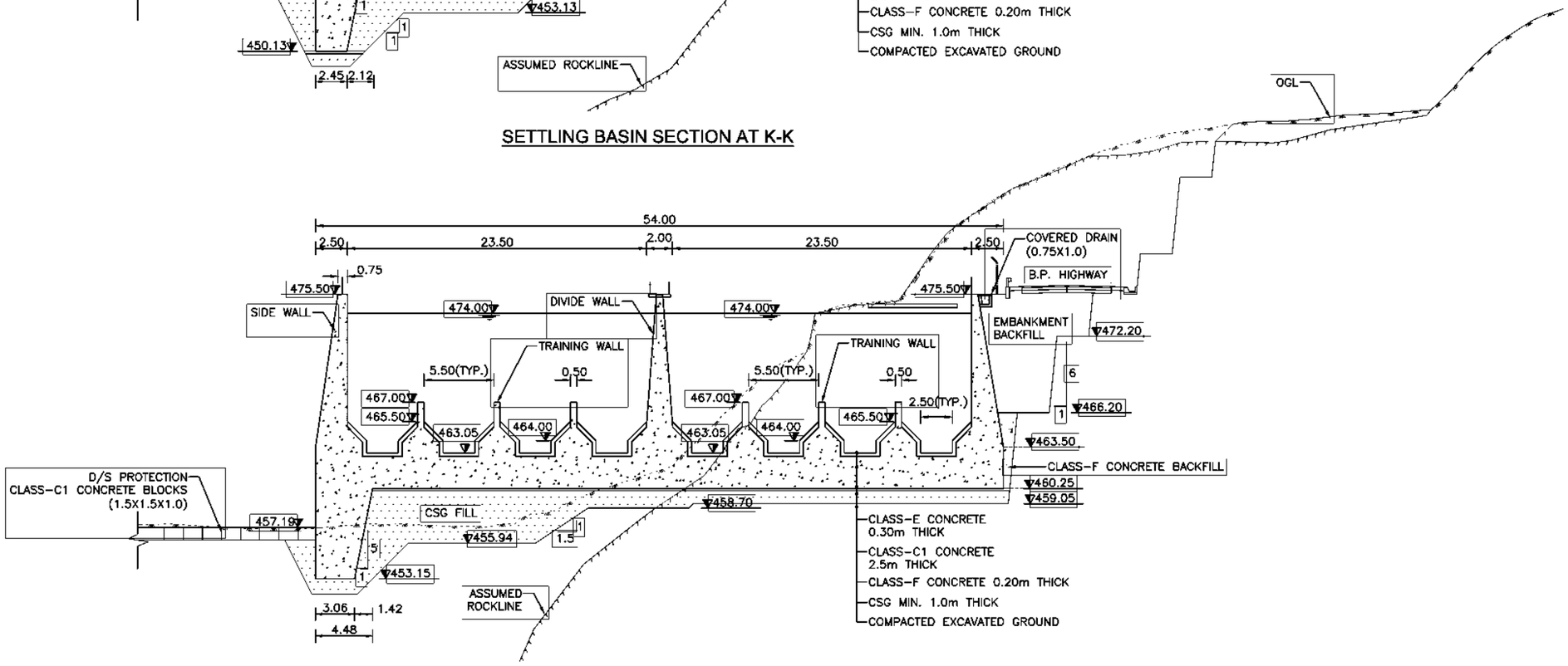
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) GROUTING MAYBE REQUIRED TO TREAT POOR FOUNDING STRATA
3) THICKNESS OF CSG VARY DEPENDING ON LOCATION AND CONDITION OF BED ROCK OR SOIL STRUCTURE

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE



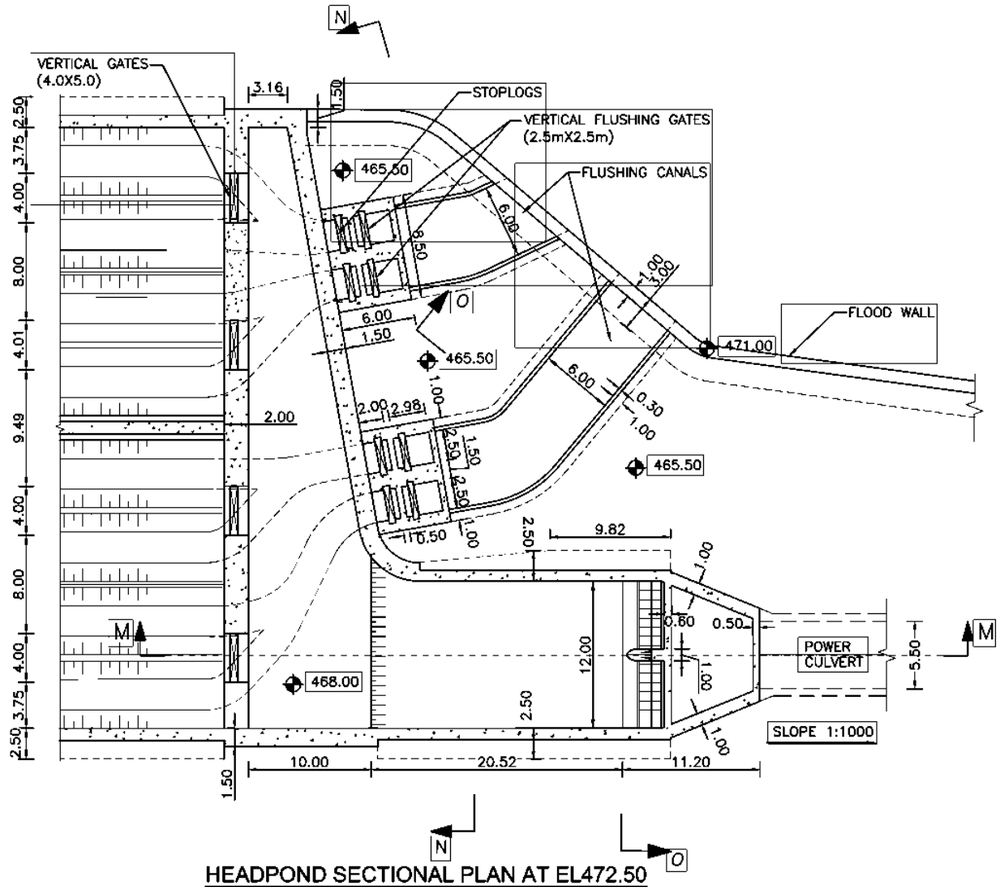
SETTLING BASIN SECTION AT K-K



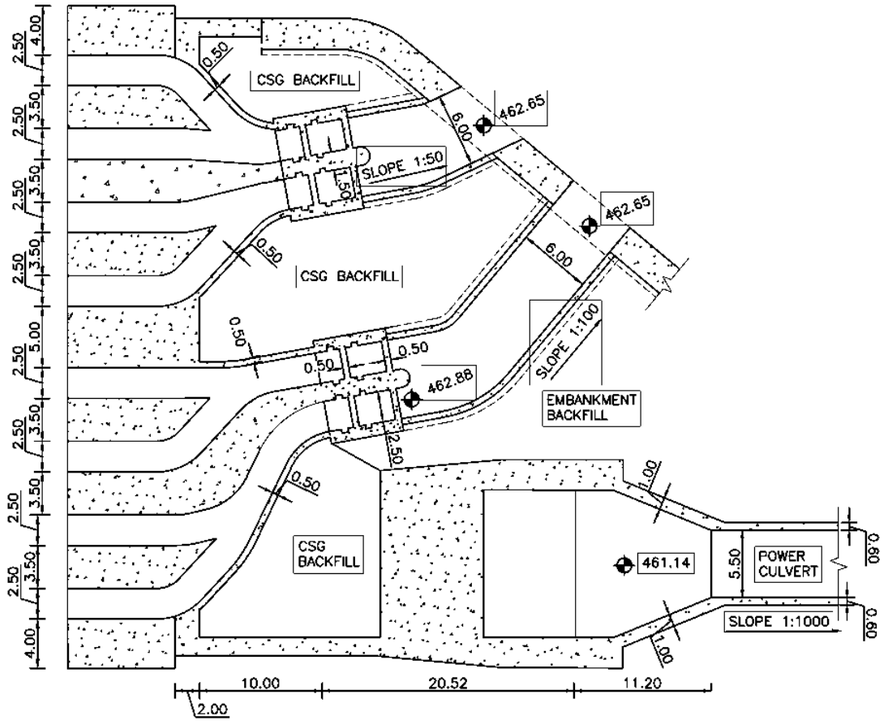
SETTLING BASIN SECTION AT L-L

0 2 4 8 12 16
SCALE 1:400

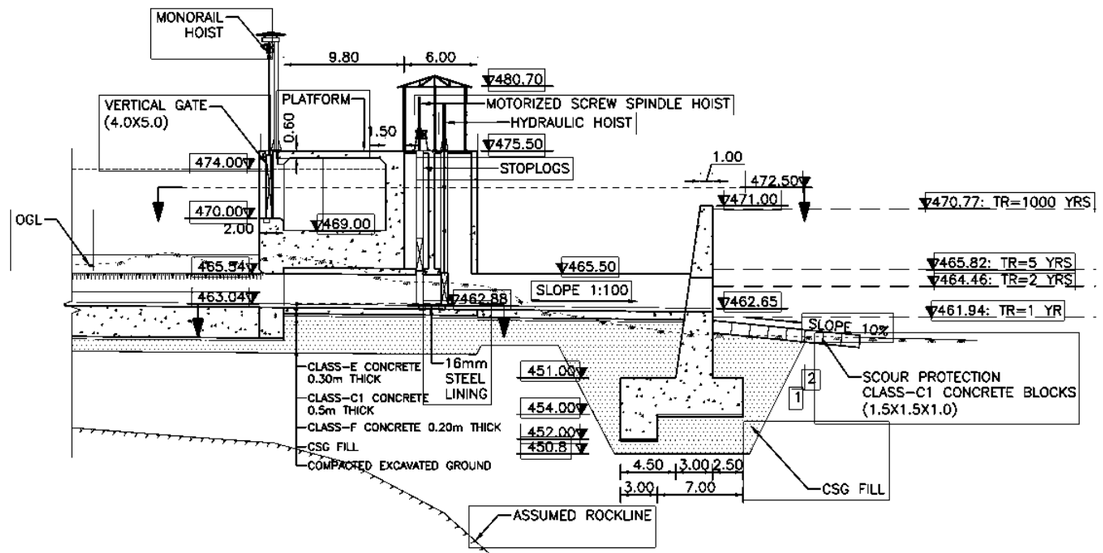
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNSARI MORANG DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SETTLING BASIN SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-10
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	03
					APPROVED BY			SCALE:	SCALE - 1:400



HEADPOND SECTIONAL PLAN AT EL472.50



SECTIONAL PLAN AT EL463.04



FLUSHING CANAL PROFILE

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) GROUTING MAYBE REQUIRED TO TREAT POOR FOUNDING STRATA
3) THICKNESS OF CSG VARY DEPENDING ON LOCATION AND CONDITION OF BED ROCK OR SOIL STRUCTURE

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE

0 2.5 5 10 15 20

SCALE 1:500

CLIENT

GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION
DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

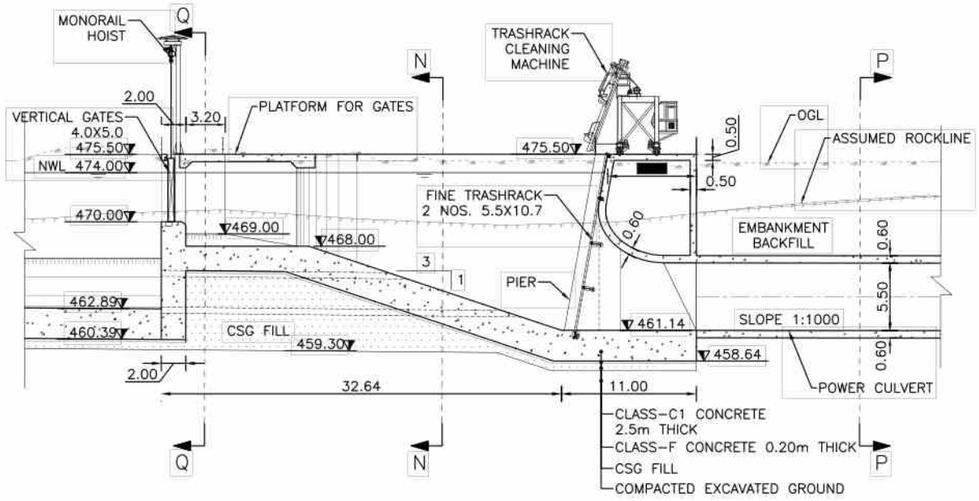
DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

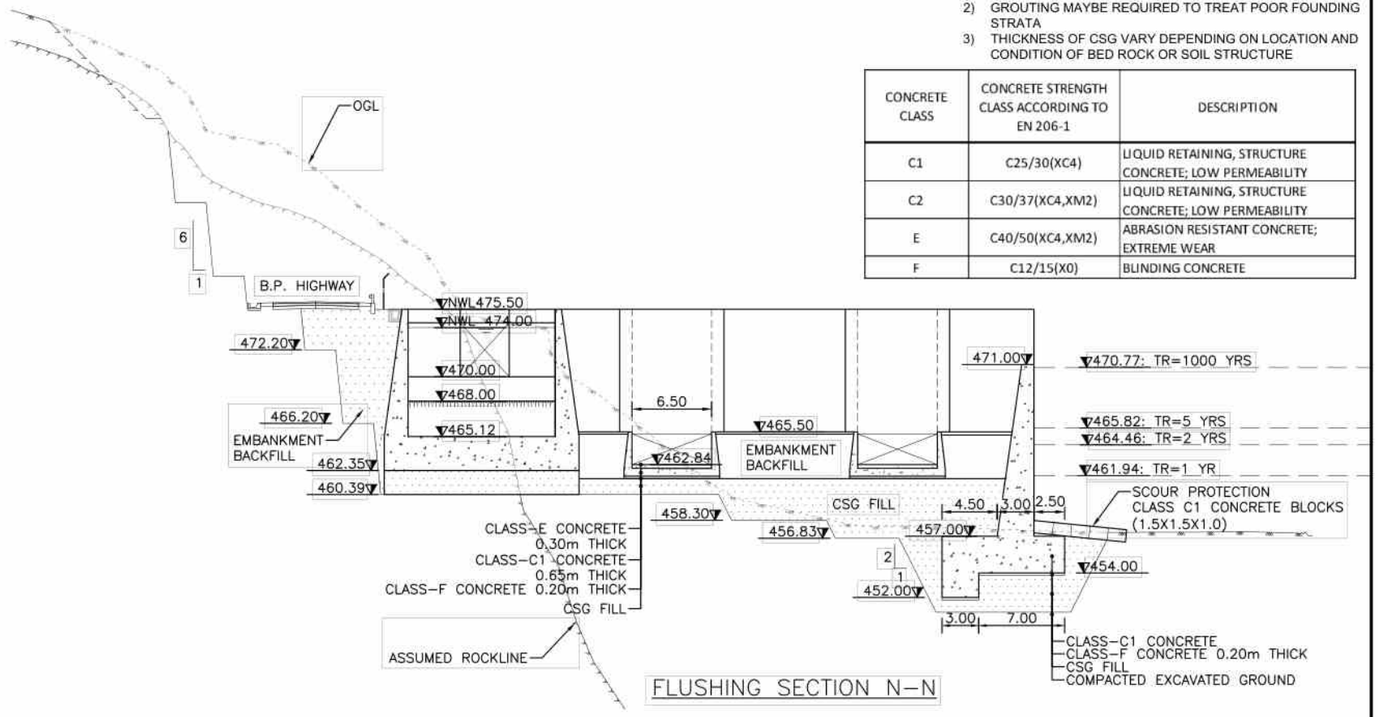
DRAWING DETAIL	
DRAWING TITLE:	HEADPOND, FLUSHING CANAL, POWER INTAKE SECTIONS
DRAWING NUMBER	CD-HW-11
SHEET NO:	01
SCALE:	SCALE - 1:500

NOTES:

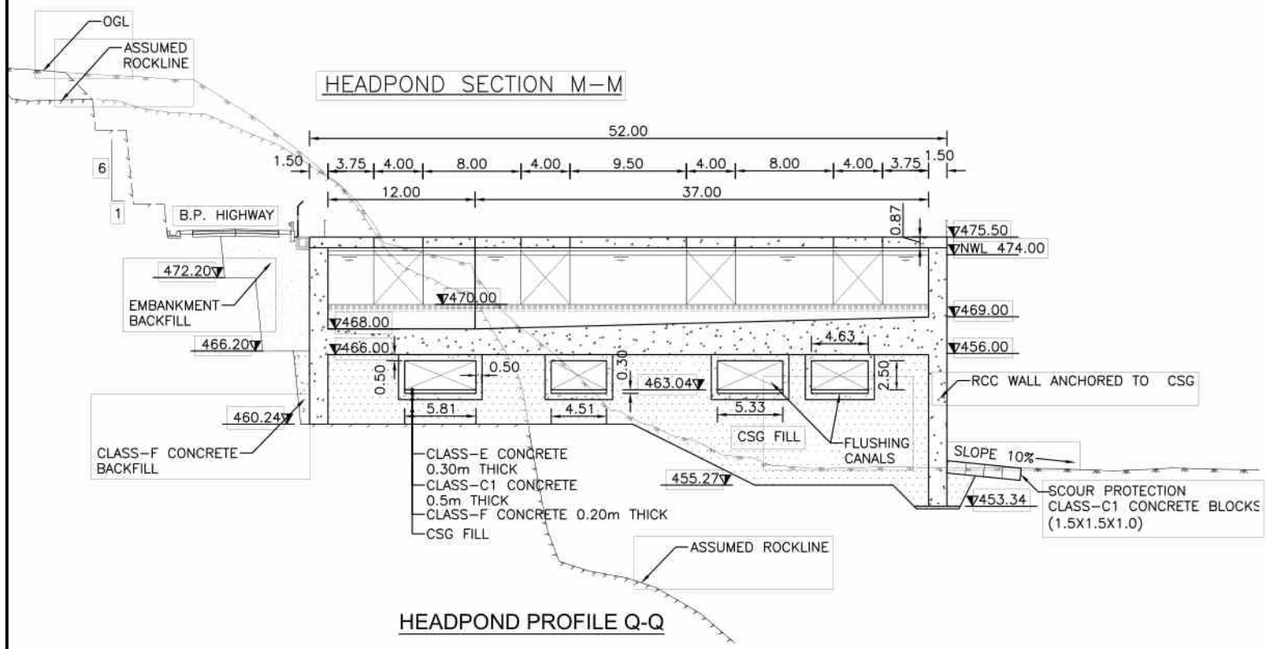
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) GROUTING MAYBE REQUIRED TO TREAT POOR FOUNDING STRATA
3) THICKNESS OF CSG VARY DEPENDING ON LOCATION AND CONDITION OF BED ROCK OR SOIL STRUCTURE

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE





FLUSHING SECTION N–N



HEADPOND SECTION M–M

HEADPOND PROFILE Q-Q

POWER INTAKE SECTION O-O

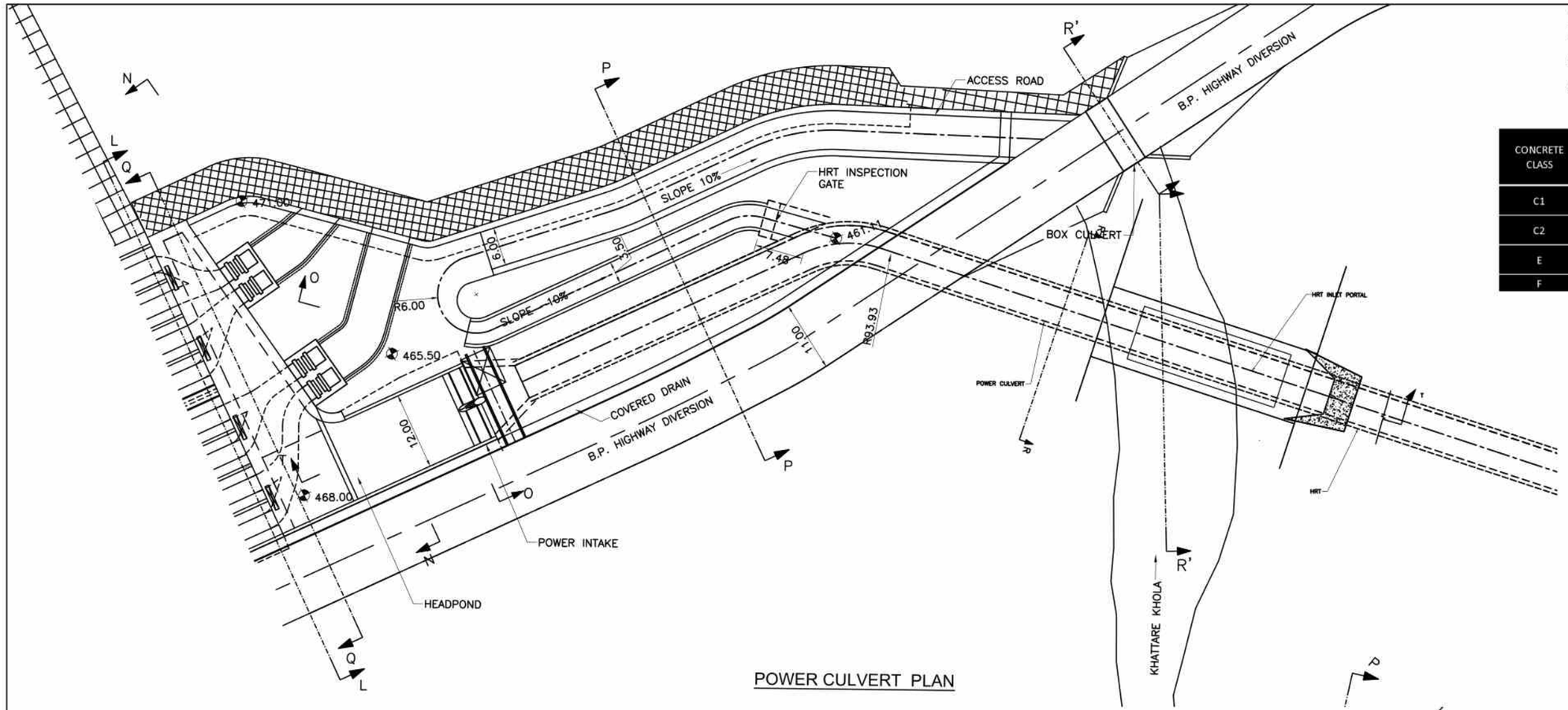
0 2.5 5 10 15 20
SCALE 1:500

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HEADPOND, FLUSHING CANAL, POWER INTAKE SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-11
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	02
					APPROVED BY			SCALE:	SCALE - 1:500

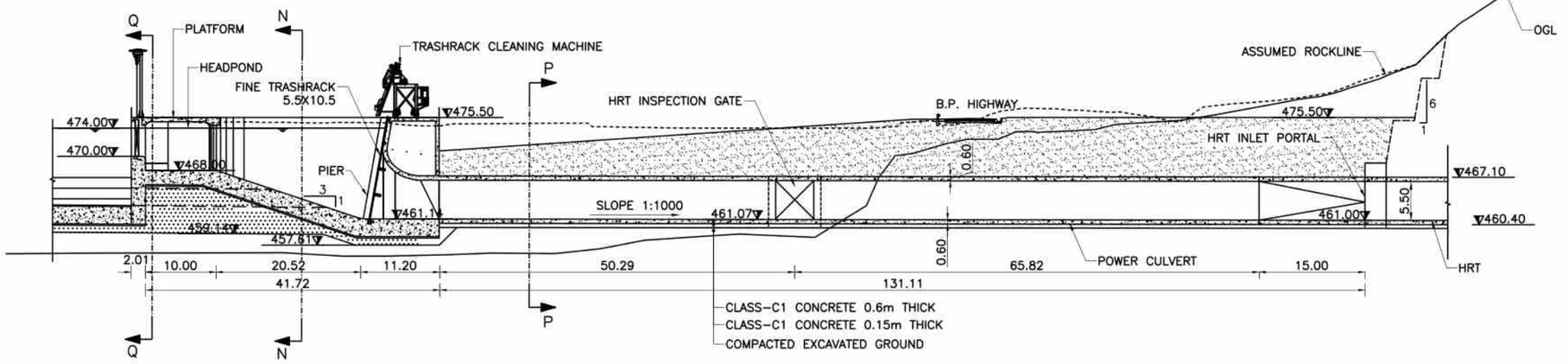
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) GROUTING MAYBE REQUIRED TO TREAT POOR FOUNDING STRATA
3) THICKNESS OF CSG VARY DEPENDING ON LOCATION AND CONDITION OF BED ROCK OR SOIL STRUCTURE

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE



POWER CULVERT PLAN



POWER CULVERT SECTION T-T

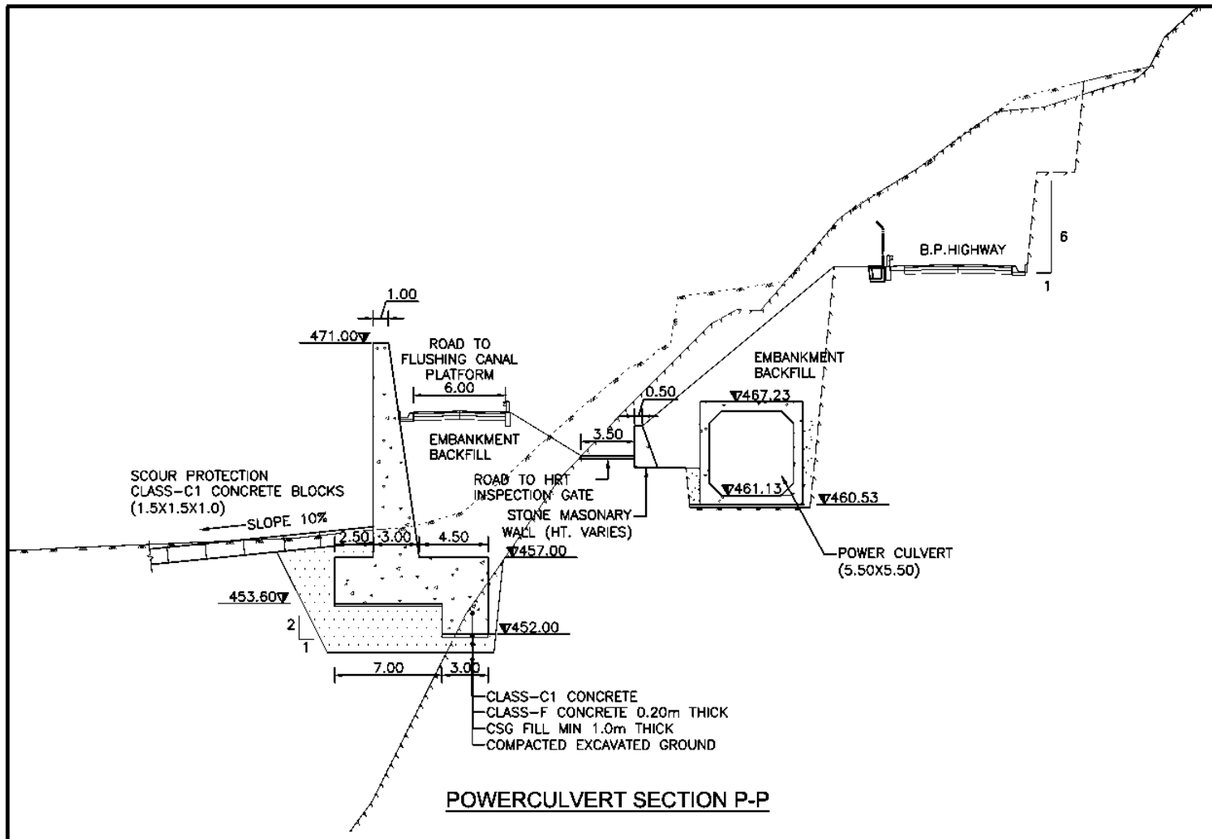
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

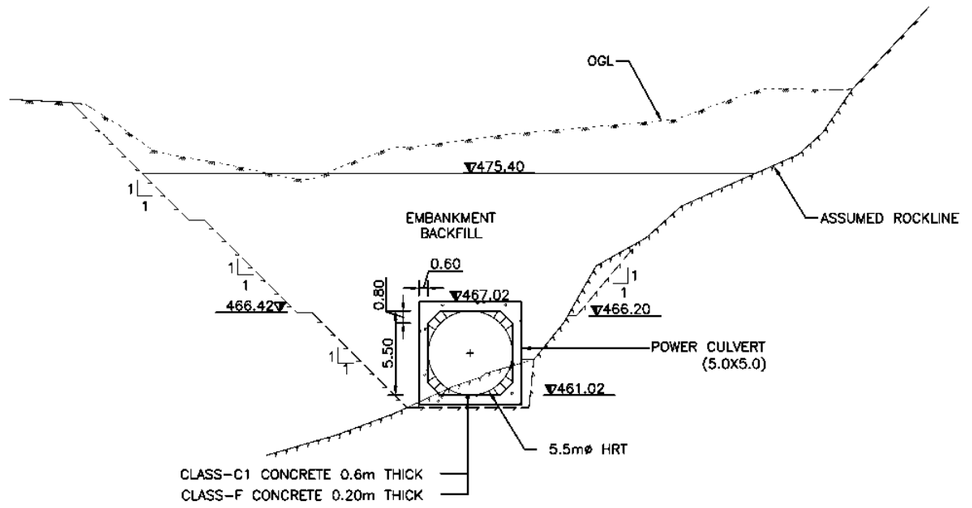
0 3.75 7.5 15 22.5 30

SCALE 1:750

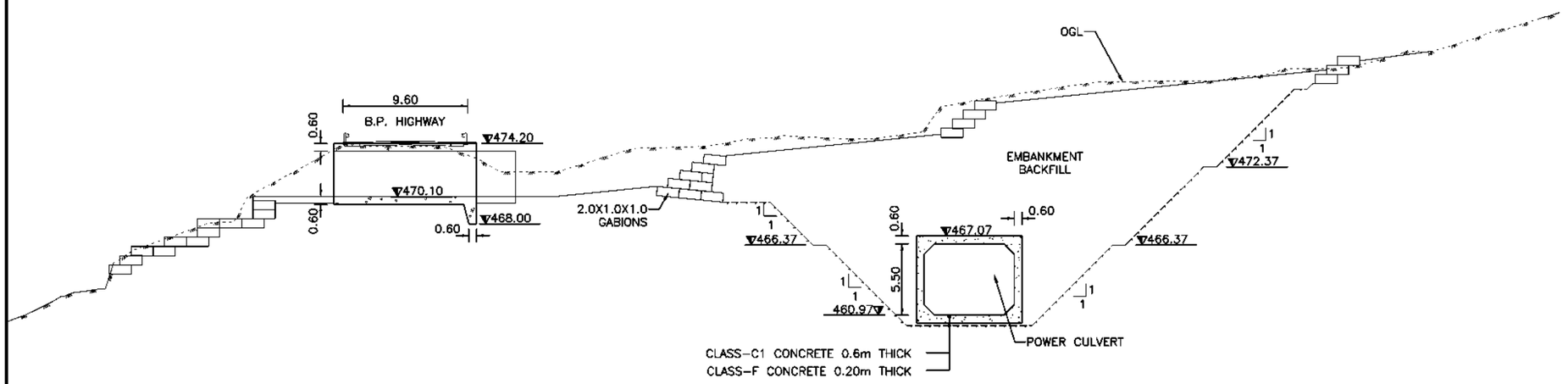
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SINDHULI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SETLLING BASIN PLAN AND SECTION
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-11(REV-01)
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	03
					APPROVED BY			SCALE:	SCALE - 1:750



POWERCULVERT SECTION P-P



POWER CULVERT SECTION R-R



POWER CULVERT SECTION R'-R'

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) GROUTING MAYBE REQUIRED TO TREAT POOR FOUNDING STRATA
3) THICKNESS OF CSG VARY DEPENDING ON LOCATION AND CONDITION OF BED ROCK OR SOIL STRUCTURE

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BLINDING CONCRETE

0 2.5 5 10 15 20

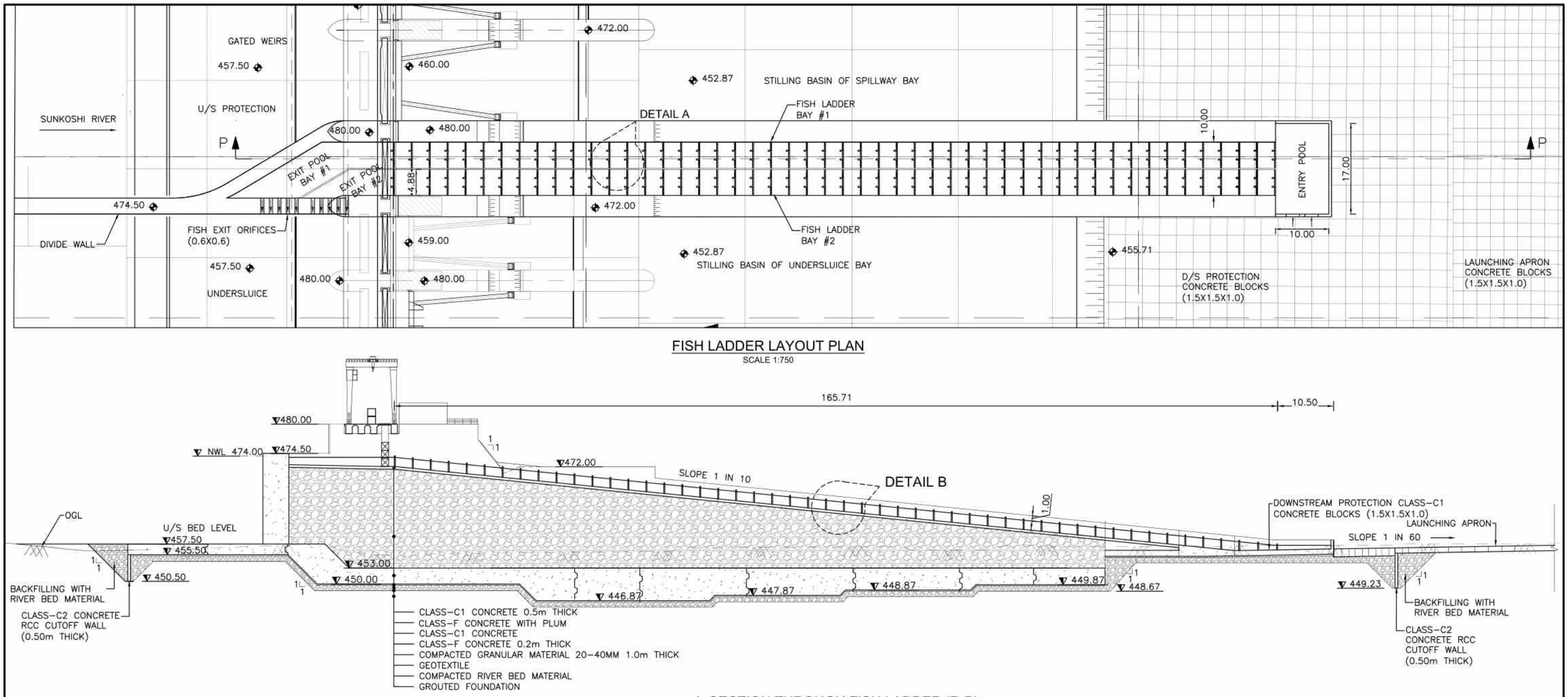
SCALE 1:500

CLIENT	GOVERNMENT OF NEPAL OF ENERGY, WATER RESOURCES AND IRRIGATION MEN OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	
CONSULTANT	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	HEADPOND, FLUSHING CANAL, POWER INTAKE SECTIONS
DRAWING NUMBER	CD-HW-11
SHEET NO:	04
SCALE:	SCALE - 1:500

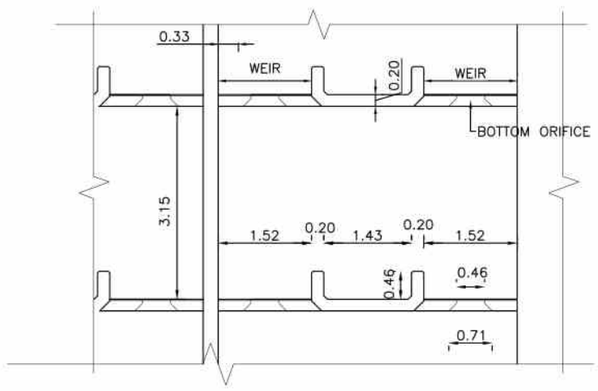


FISH LADDER LAYOUT PLAN

SCALE 1:750

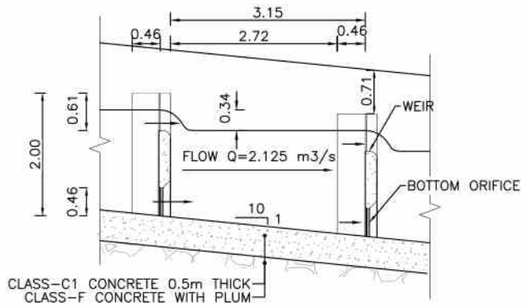
L-SECTION THROUGH FISH LADDER (P-P)

SCALE 1:750



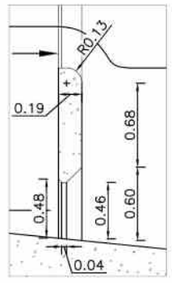
DETAIL AT A

SCALE 1:100



DETAIL AT B

SCALE 1:100



WEIR & ORIFICE DETAILS

SCALE 1:50

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
E	C40/50(XC4,XM2)	ABRASION RESISTANT CONCRETE; EXTREME WEAR
F	C12/15(X0)	BUNDING CONCRETE

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

SUNKOSHI DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

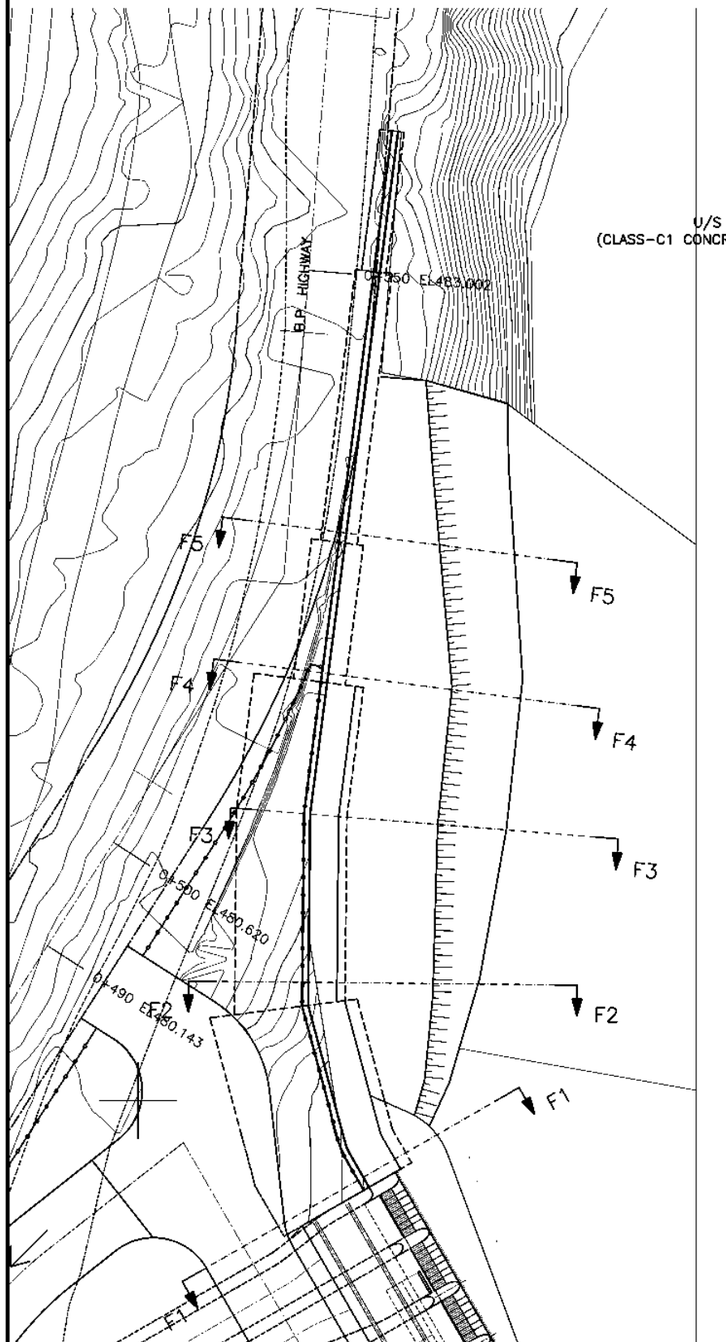
CONSULTANT

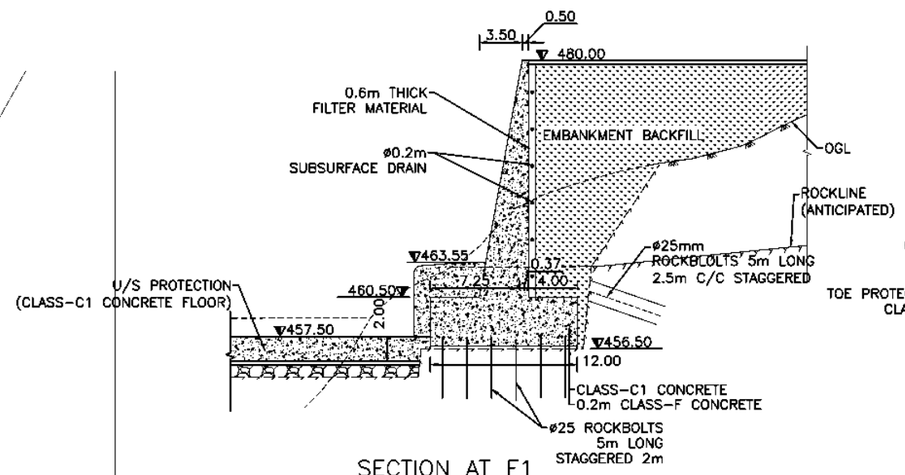
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

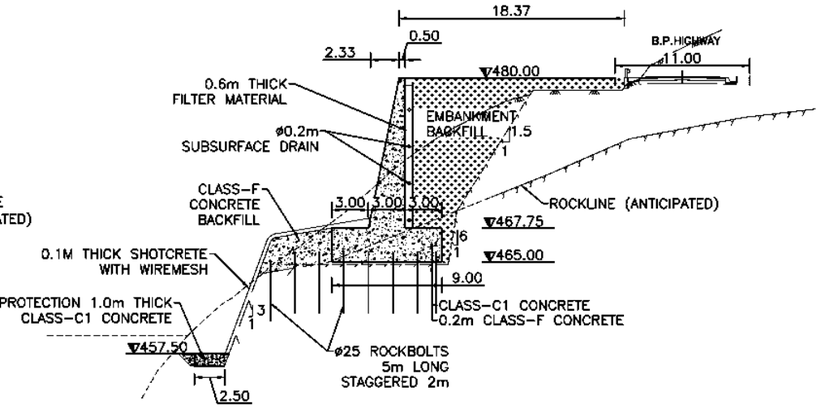
DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	FISH LADDER
DRAWING NUMBER	CD-HW-12
SHEET NO:	1
SCALE:	AS SHOWN

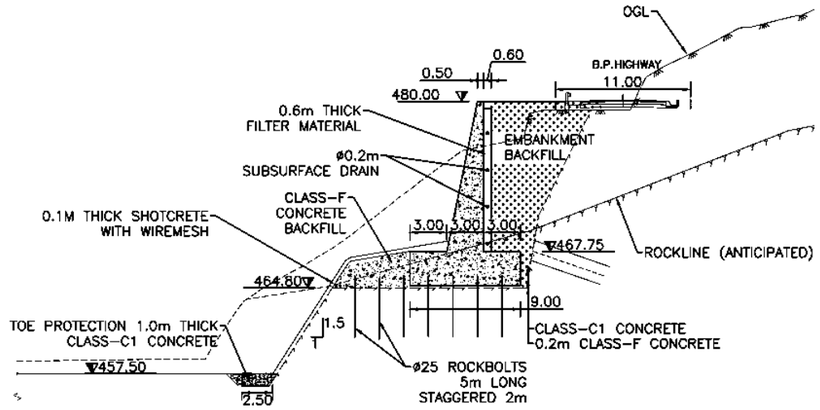




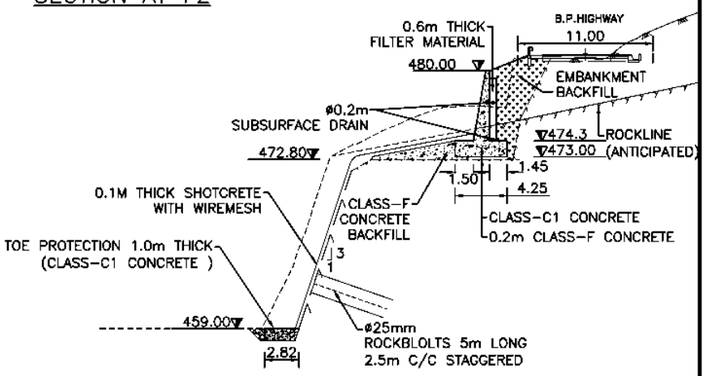
SECTION AT F1



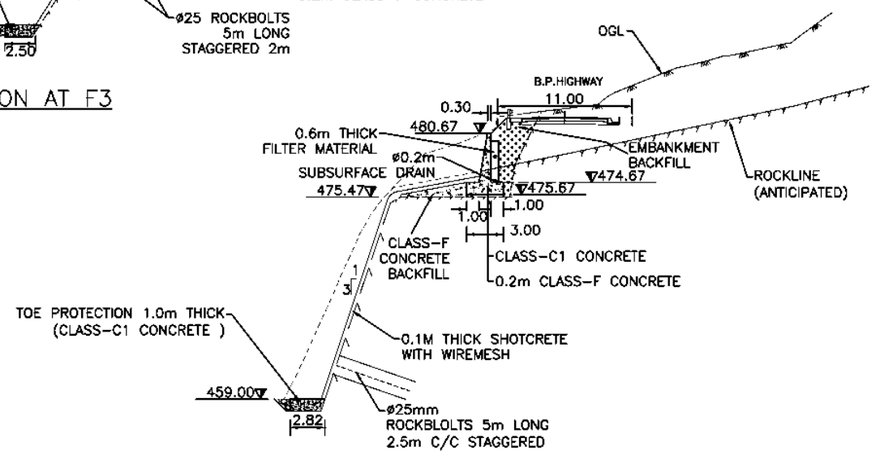
SECTION AT F2



SECTION AT F3



SECTION At F4



SECTION At F5

1
1

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) SLOPE DEVOPMENT SHALL BE CARRIED OUT AFTER 2ND STAGE WORKS
3) SLOPE PROTECTION WORKS SHOULD BE VERIFIED AFTER ASSESSMENT OF ROCKMASS CHARACTERISTICS

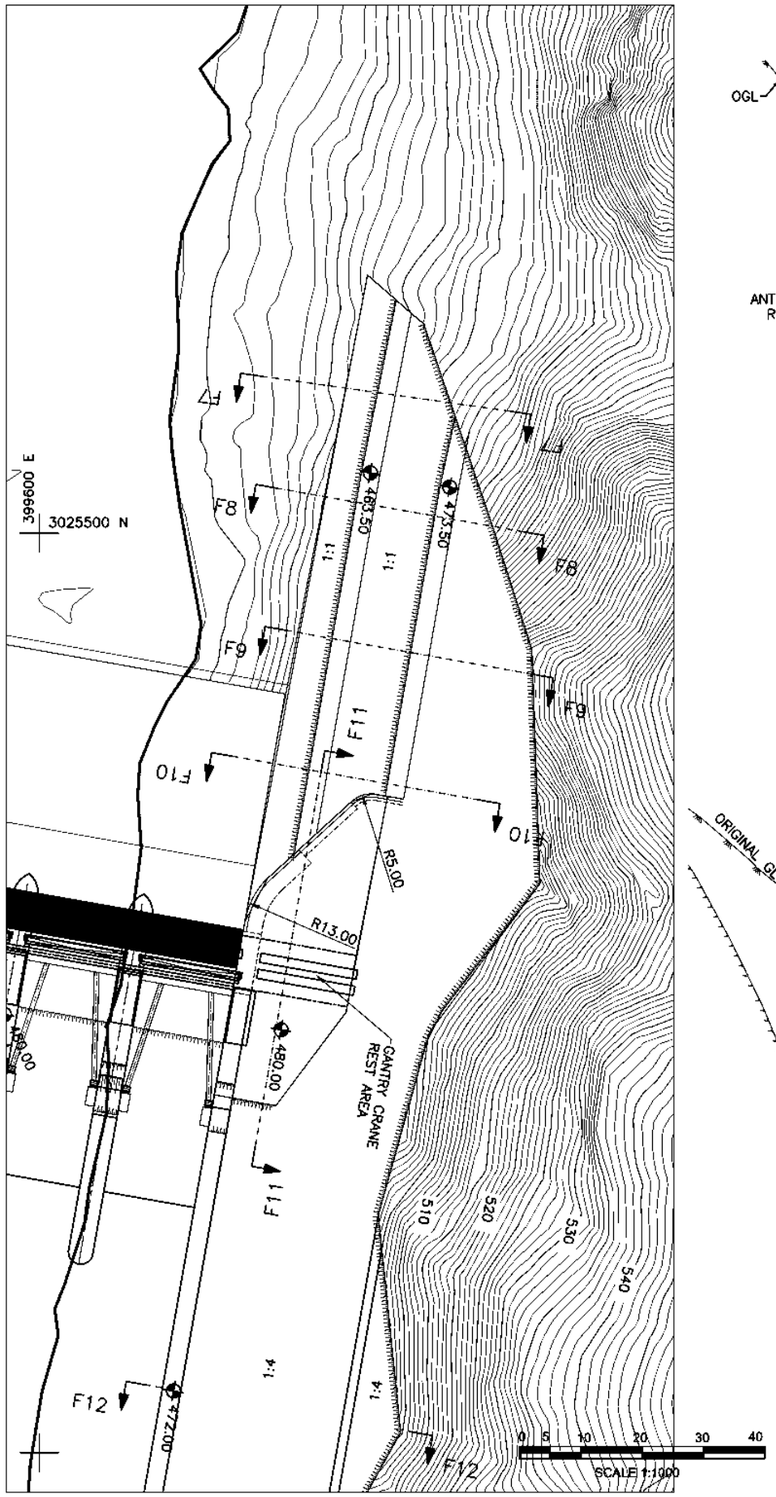
CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
F	C12/15(X0)	BLINDING CONCRETE

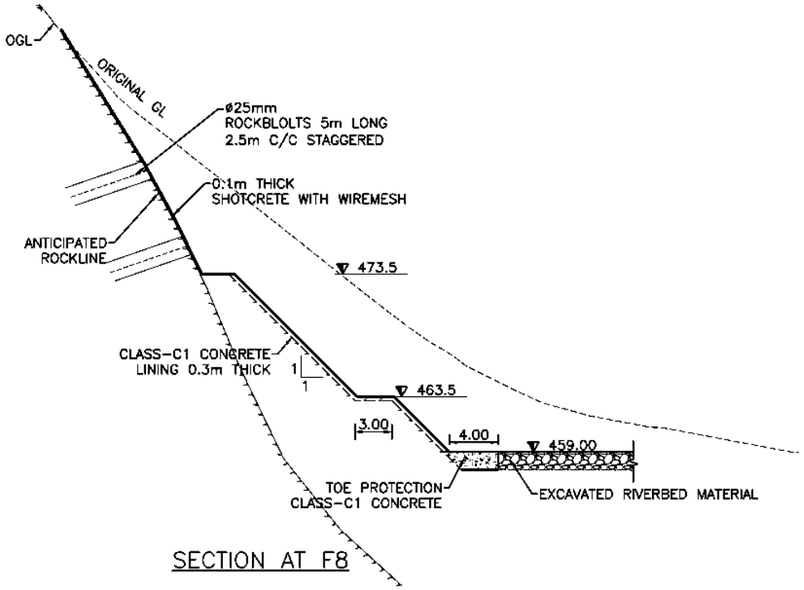
0 2.5 5 10 15 20
SCALE 1:500

CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SINDHULI DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

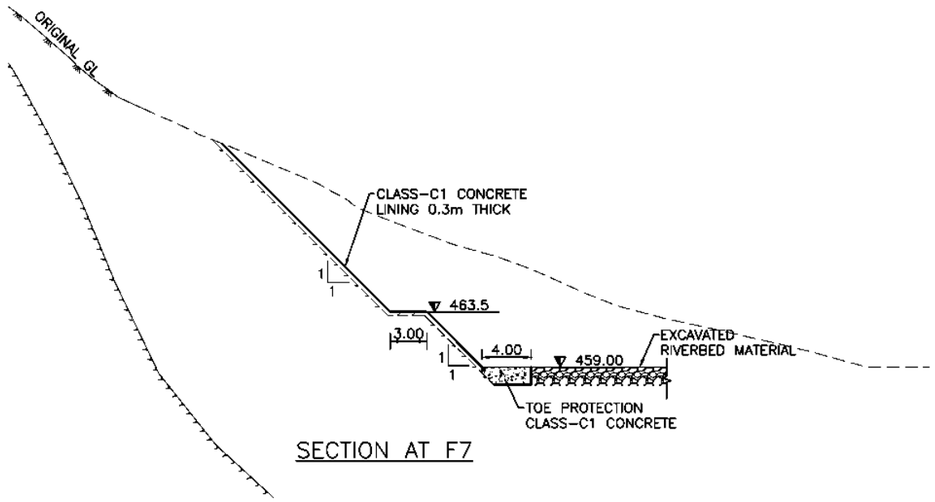
CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	GUIDE WALL SECTION RIGHT BANK
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-13
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	01
			APPROVED BY			SCALE:	SCALE 1: 500





SECTION AT F8

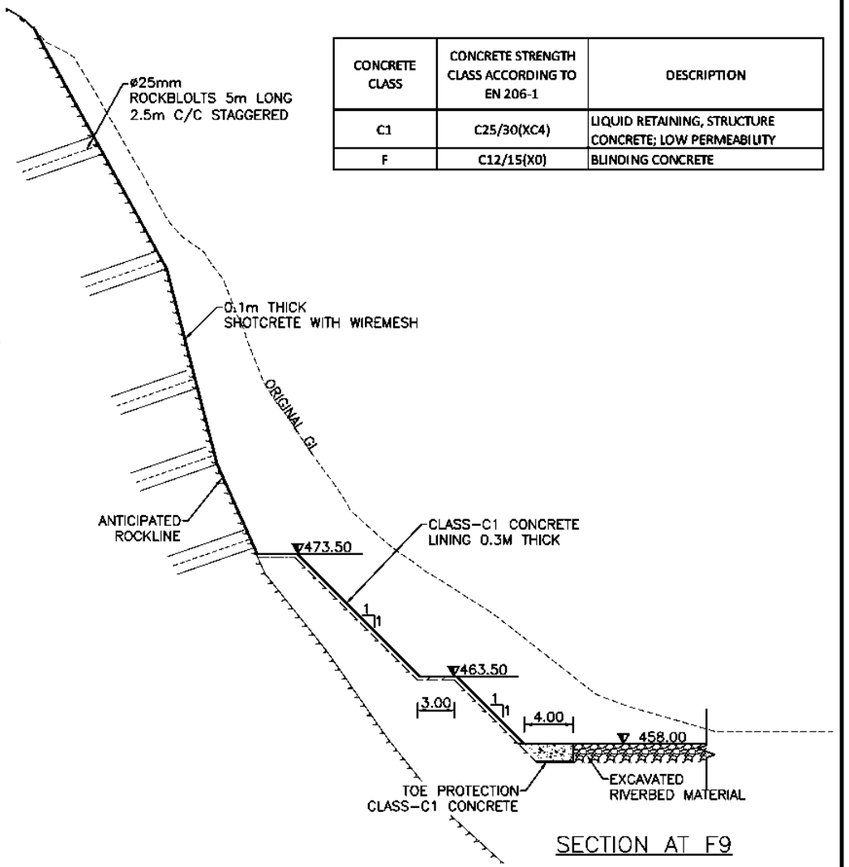


SECTION AT F7

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) SLOPE DEVOPMENT SHALL BE CARRIED OUT AFTER 2ND STAGE WORKS
3) SLOPE PROTECTION WORKS SHOULD BE VERIFIED AFTER ASSESSMENT OF ROCKMASS CHARACTERISTICS

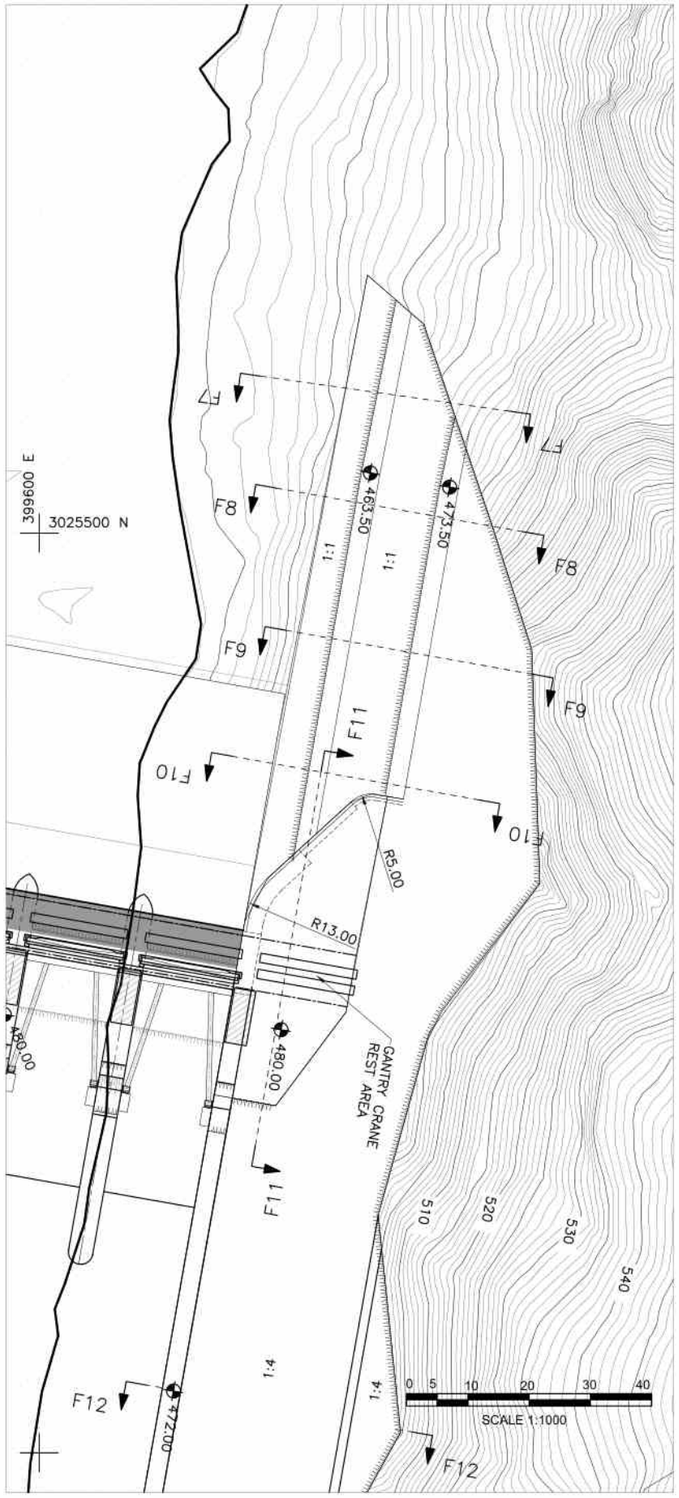
CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
F	C12/15(X0)	BLINDING CONCRETE



SECTION AT F9

0 2.5 5 10 15 20
SCALE 1:500

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	GUIDE PLAN AND SECTION LEFT BANK
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-13
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	02
					APPROVED BY			SCALE:	SCALE 1: 500



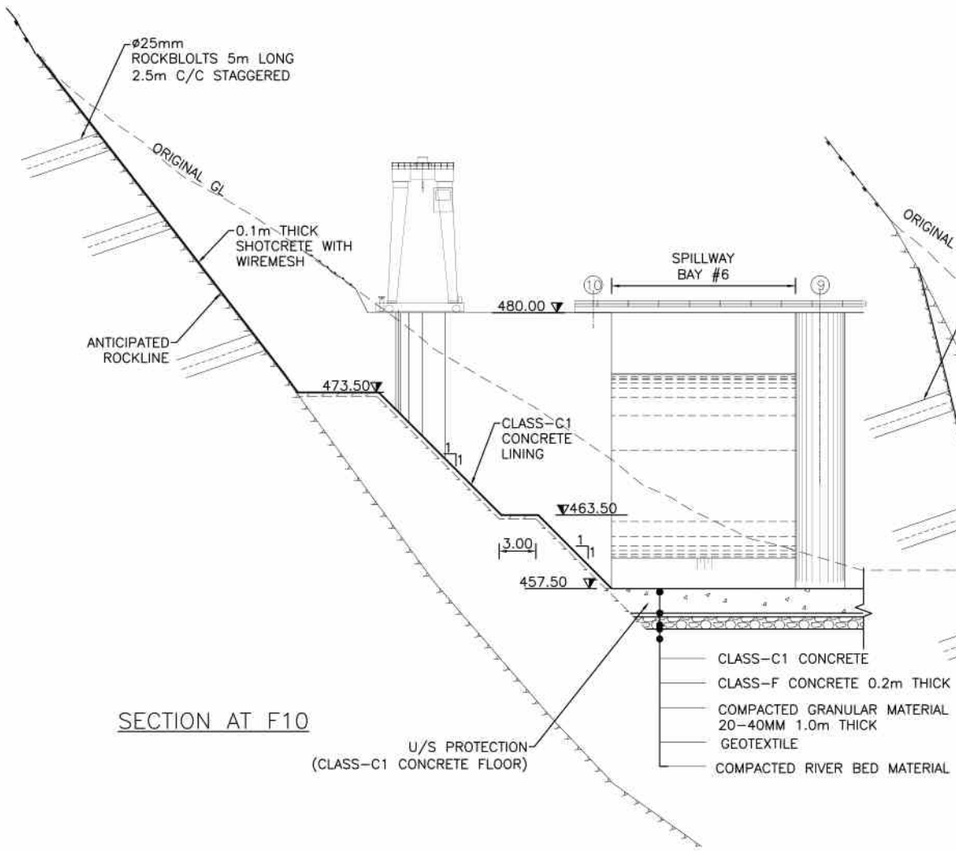
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) SLOPE DEVOPMENT SHALL BE CARRIED OUT AFTER 2ND STAGE WORKS
3) SLOPE PROTECTION WORKS SHOULD BE VERIFIED AFTER ASSESSMENT OF ROCKMASS CHARACTERISTICS

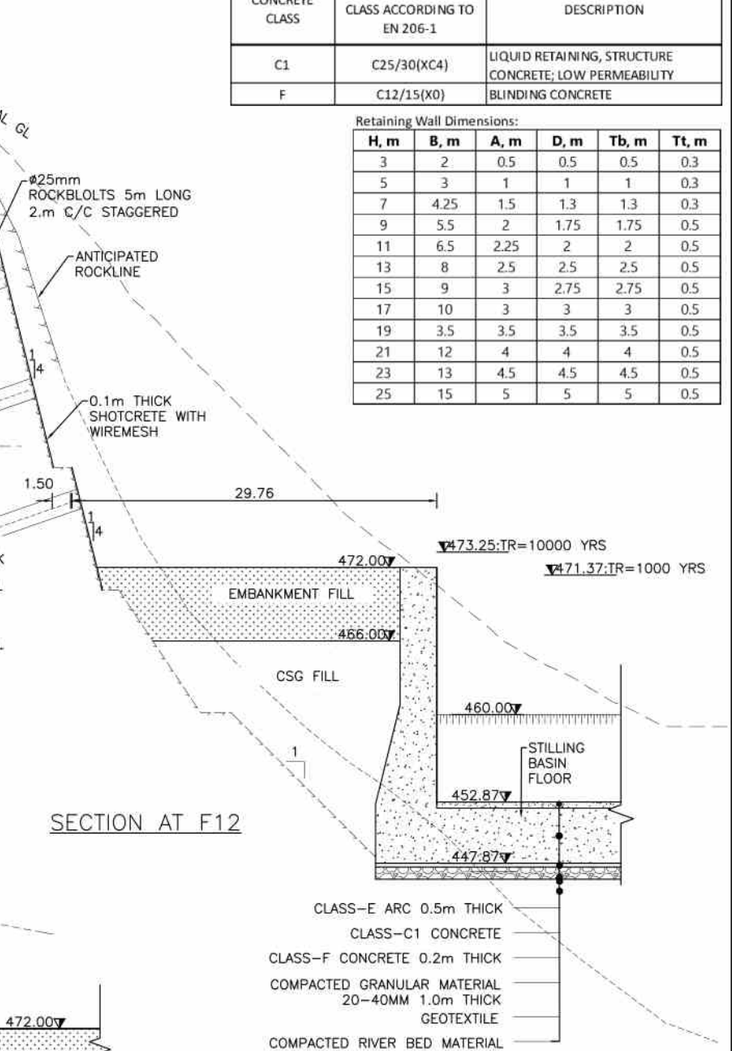
CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
F	C12/15(X0)	BLINDING CONCRETE

Retaining Wall Dimensions:

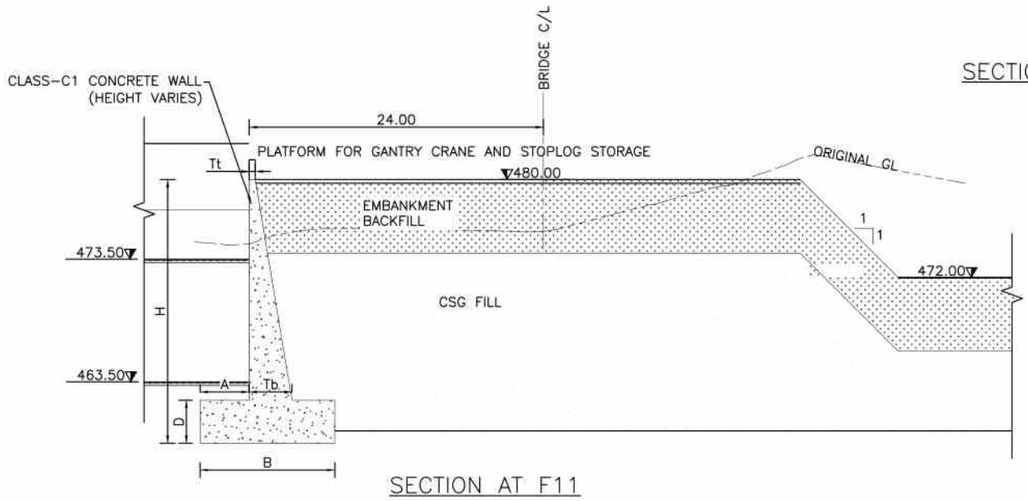
H, m	B, m	A, m	D, m	Tb, m	Tt, m
3	2	0.5	0.5	0.5	0.3
5	3	1	1	1	0.3
7	4.25	1.5	1.3	1.3	0.3
9	5.5	2	1.75	1.75	0.5
11	6.5	2.25	2	2	0.5
13	8	2.5	2.5	2.5	0.5
15	9	3	2.75	2.75	0.5
17	10	3	3	3	0.5
19	3.5	3.5	3.5	3.5	0.5
21	12	4	4	4	0.5
23	13	4.5	4.5	4.5	0.5
25	15	5	5	5	0.5



SECTION AT F10



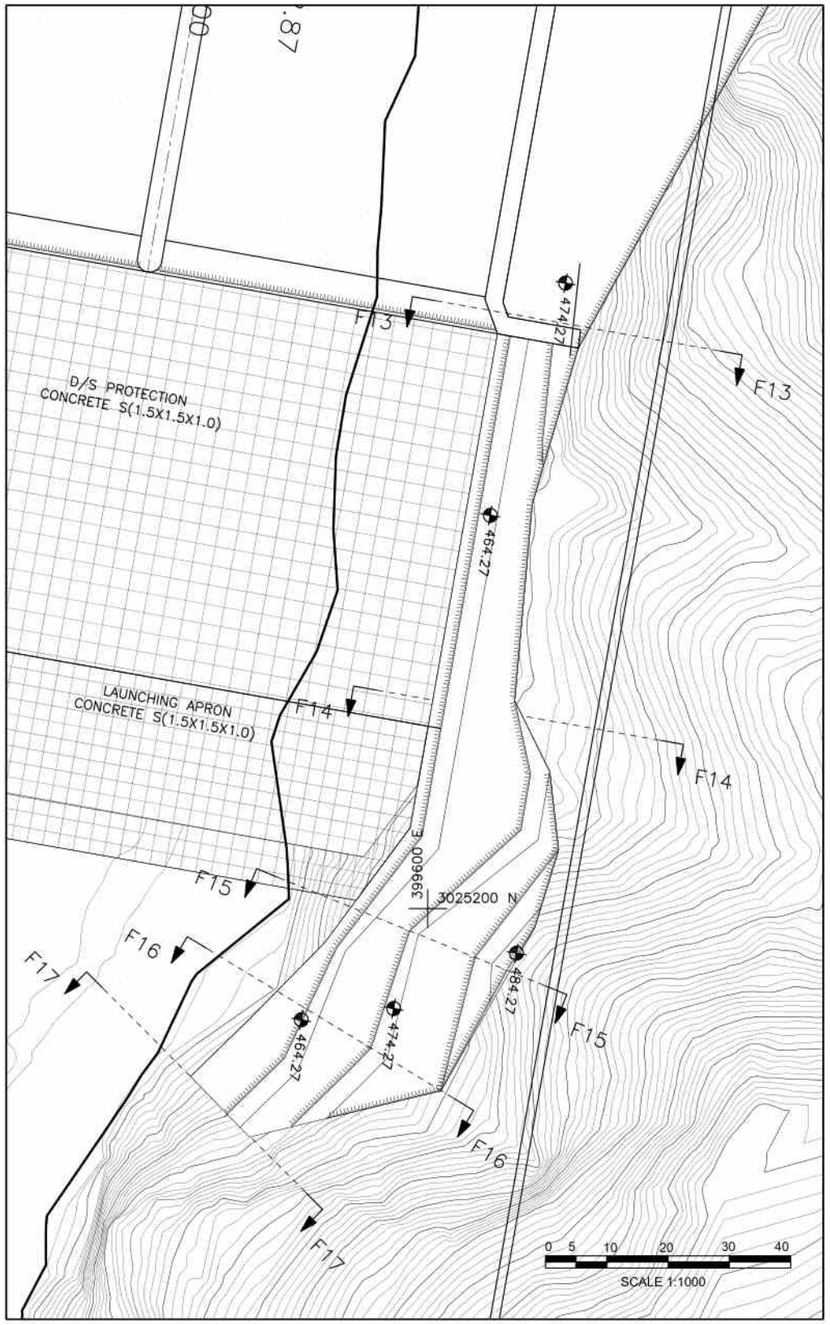
SECTION AT F12

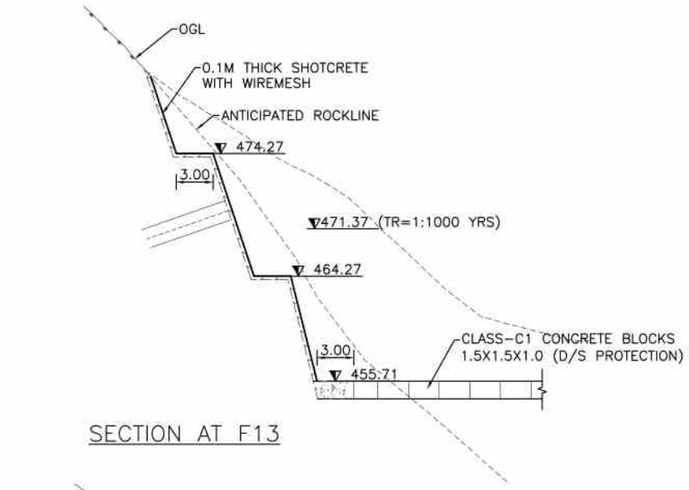


SECTION AT F11

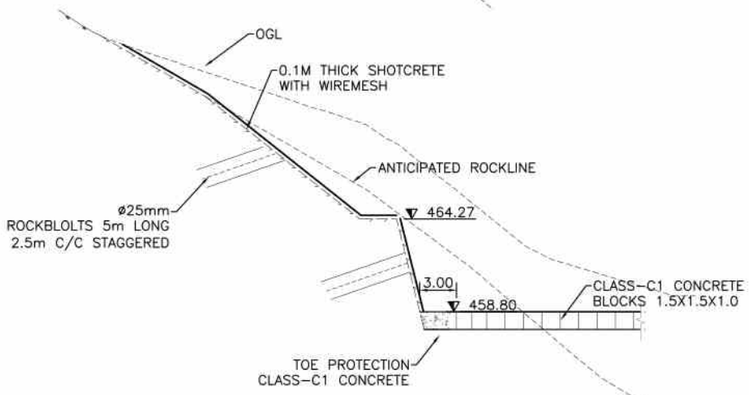
0 2.5 5 10 15 20
SCALE 1:500

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	GUIDE PLAN AND SECTION LEFT BANK
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-HW-13
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	03
					APPROVED BY			SCALE:	SCALE 1: 500

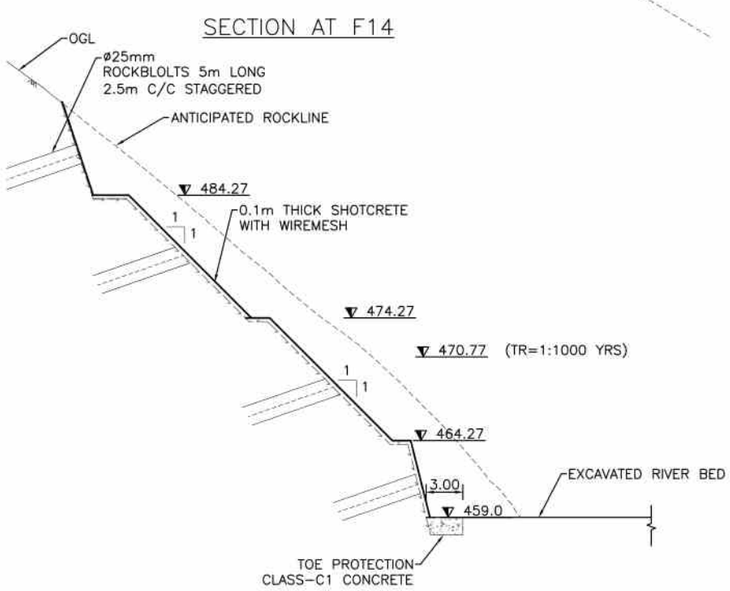




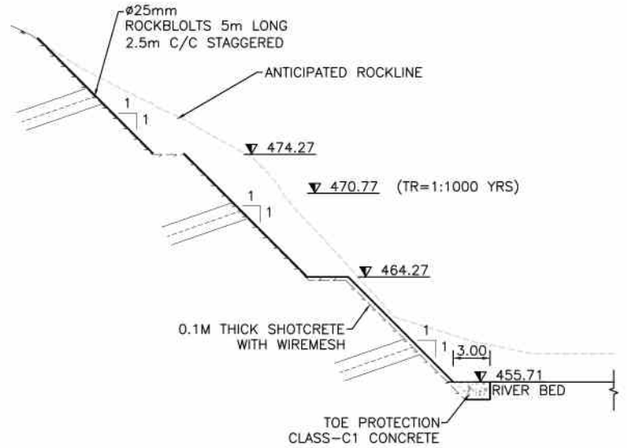
SECTION AT F13



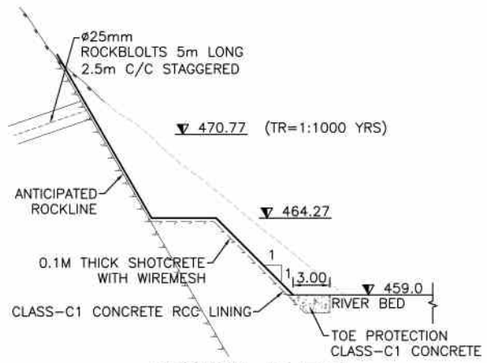
SECTION AT F14



SECTION AT F15



SECTION AT F16



SECTION AT F17

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) SLOPE DEVOPMENT SHALL BE CARRIED OUT AFTER 2ND STAGE WORKS
3) SLOPE LINING SHOULD BE VERIFIED AFTER ASSESSMENT OF ROCKMASS CHARACTERISTICS

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
F	C12/15(X0)	BLINDING CONCRETE

0 2.5 5 10 15 20
SCALE 1:500

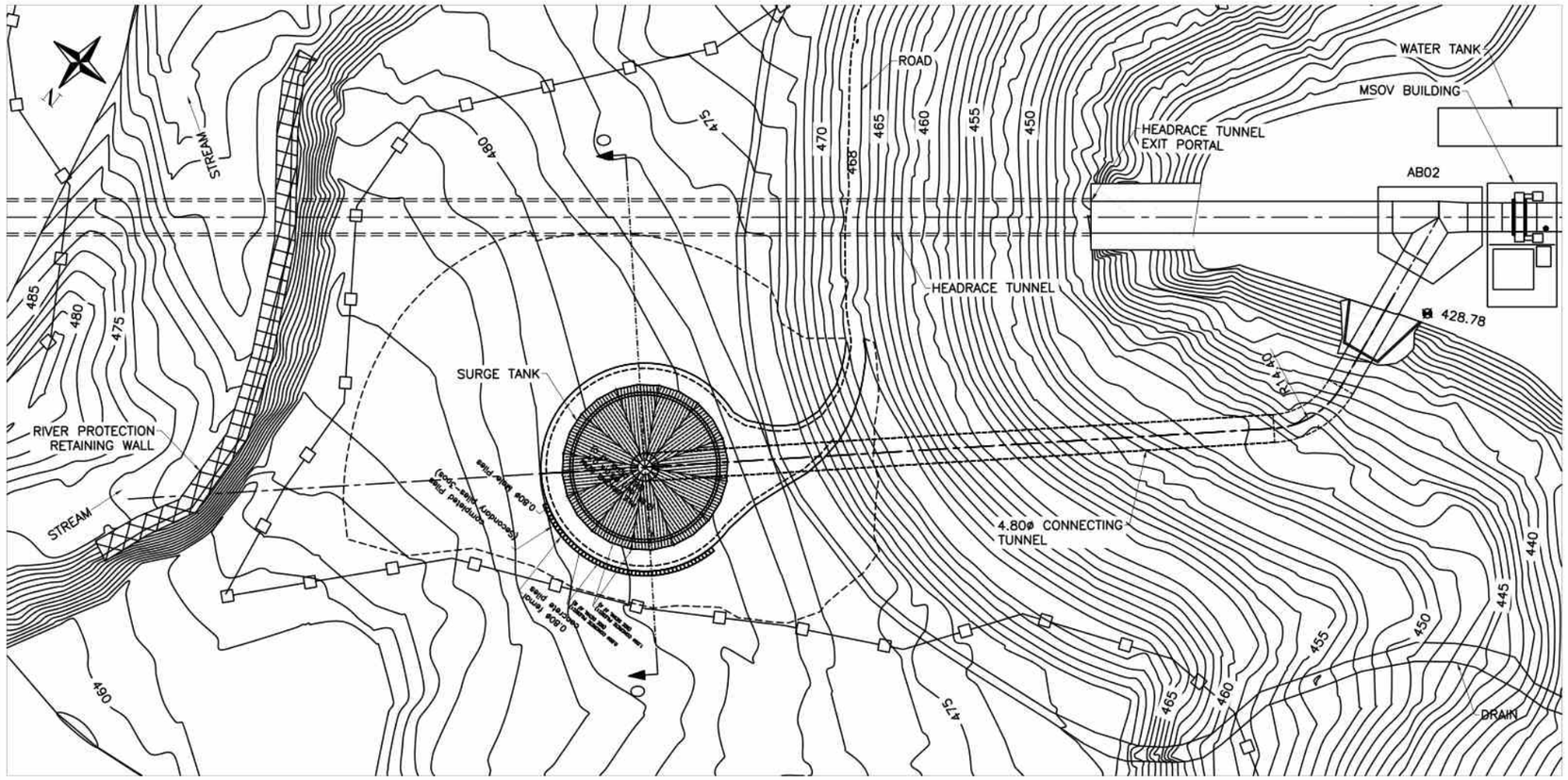
CLIENT
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MENT OF WATER RESOURCES AND IRRIGATION
DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

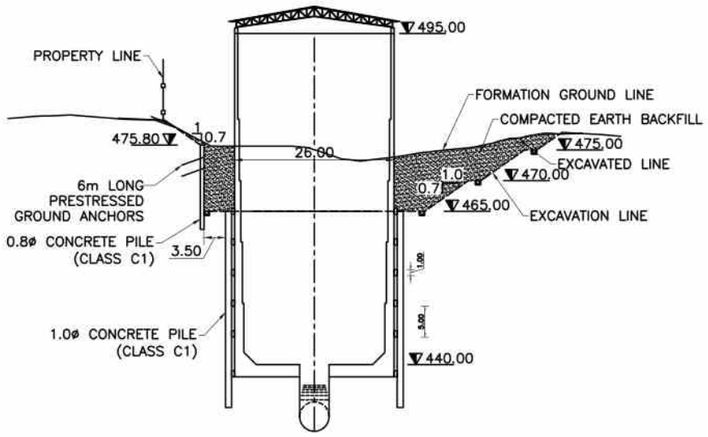
DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	GUIDE PLAN AND SECTION LEFT BANK
DRAWING NUMBER	CD-HW-13
SHEET NO:	04
SCALE:	SCALE 1: 500

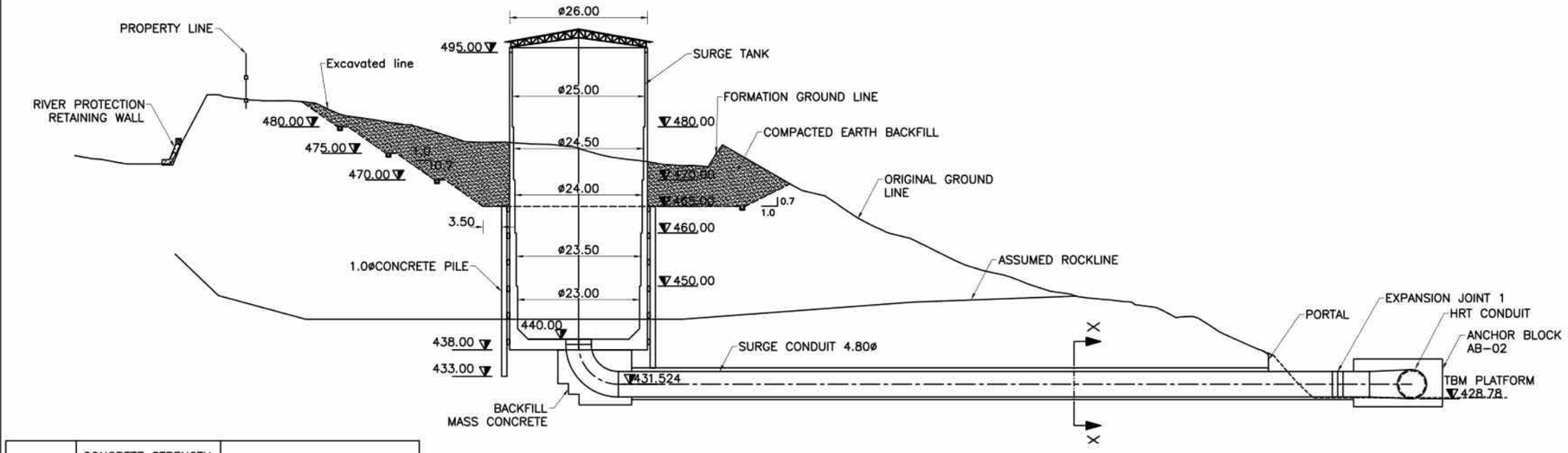


SURGE TANK PLAN

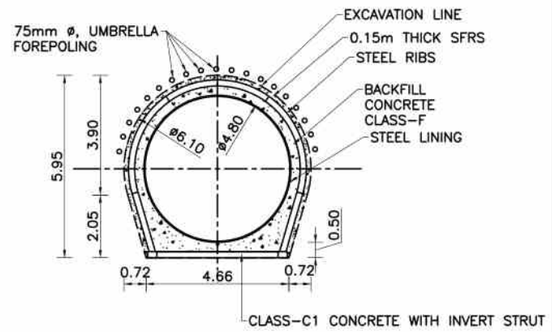
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) THE ROCKLINE ASSUMED ARE BASED ON AVAILABLE INVESTIGATION AND SHALL BE CONFIRMED PRIOR TO CONSTRUCTION.
3) THE PILE DIAMETER, DEPTH AND CAPACITY SHALL BE VERIFIED FROM FIELD VISIT.
4) THE PRESTRESSED GROUTED GROUND ANCHOR'S CAPACITY SHALL BE CONFIRMED THROUGH IN-SITU TESTS AS PER SPECIFICATION OR THE ENGINEER'S INSTRUCTION AND SUBJECT TO THE ENGINEER'S APPROVAL. THE ANCHOR INSTALLATION SHALL FOLLOW THE MANUFACTURER'S INSTRUCTION OR SPECIFICATION (WHICHEVER IS APPLICABLE) AND SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.
5) DURING CONSTRUCTION OPERATIONS, TEMPORARY BRACING AND/OR SHORING SHALL BE PROVIDED WHEREVER NECESSARY TO SUPPORT ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED INCLUDING EQUIPMENT AND THE OPERATION OF SAME. SUCH BRACING AND/OR SHORING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY.
6) THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE CONSTRUCTION LOAD IMPOSED UPON FOUNDATIONS AND UNDERLYING STRUCTURES. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF STRUCTURAL ELEMENTS AT ANY TIME DURING CONSTRUCTION.
7) ROCKBOLTS MAY BE USED IN CONJUNCTION WITH STEEL RIBS AS PER INSTRUCTION BY THE ENGINEER
8) SUITABLE ELASTOMERIC JOINT MATERIAL SHALL BE PROVIDED AT THE CONTACT SURFACE BETWEEN THE RCC BORE PILES AND THE BOTTOM 2.5M THICH SLAB.



SECTION O-O ACROSS SURGE TANK



SECTION ALONG SURGE CONDUIT



TYPICAL SURGE CONDUIT SECTION X-X
SCALE 1:200

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY

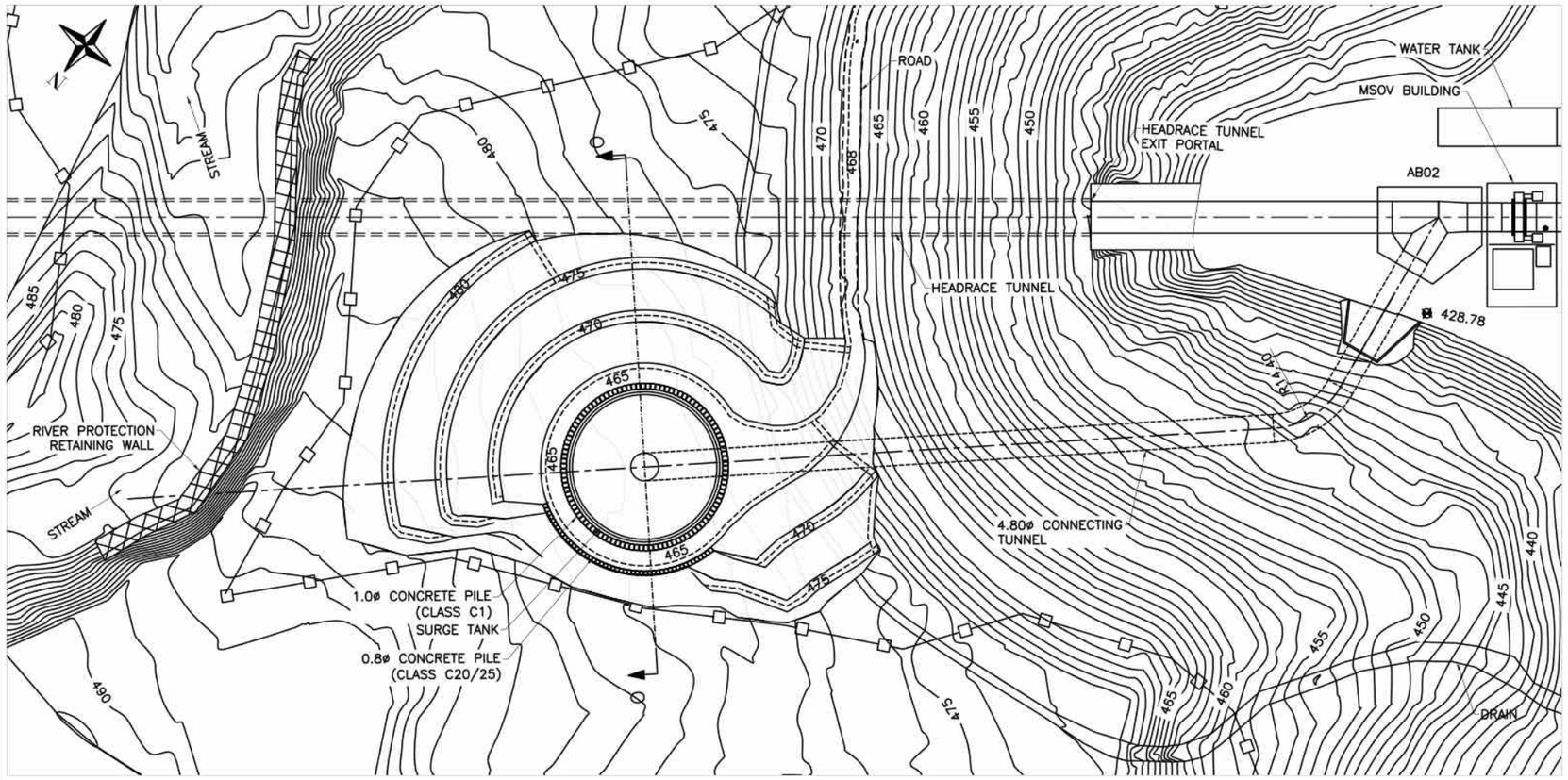
0 1 2 4 6 8
SCALE 1:200

0 5 10 20 30 40
SCALE 1:1000

CLIENT
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGETANK - FINAL PLAN AND SECTIONS
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-01(REV-01)
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
			APPROVED BY			SCALE:	1:1000

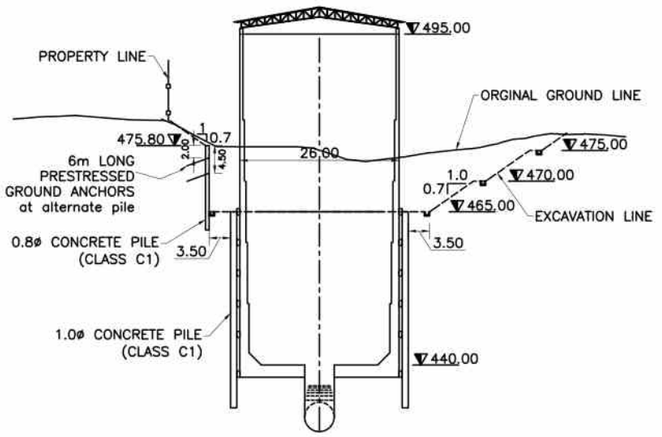


SURGE TANK PLAN

SCALE 1:1000

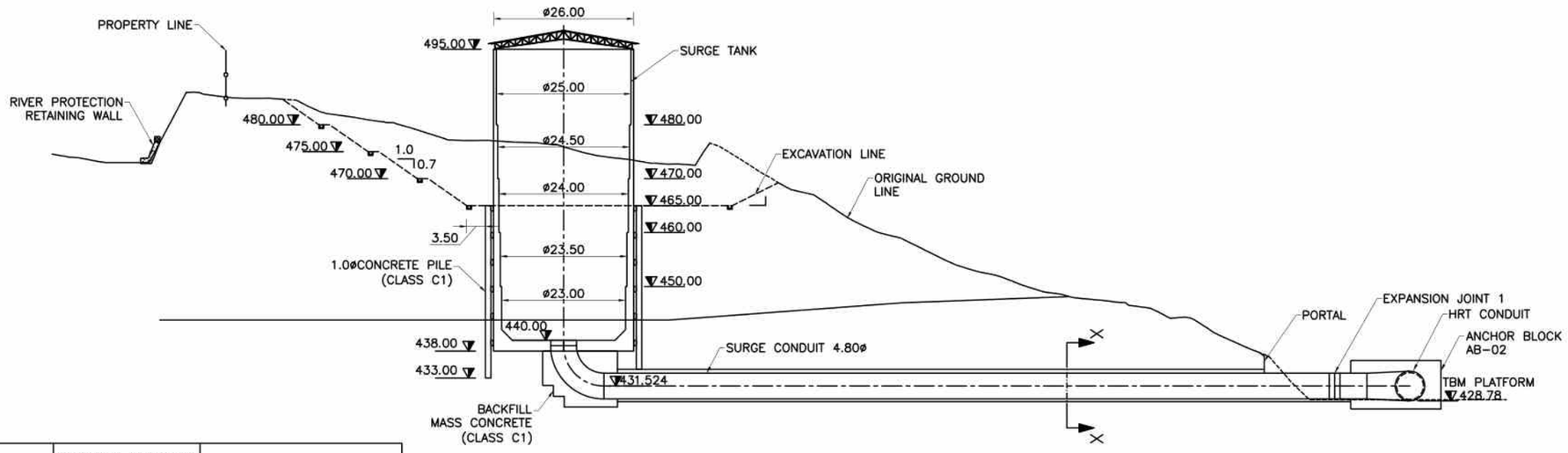
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) THE ROCKLINE ASSUMED ARE BASED ON AVAILABLE INVESTIGATION AND SHALL BE CONFIRMED PRIOR TO CONSTRUCTION.
3) THE PILE DIAMETER, DEPTH AND CAPACITY SHALL BE VERIFIED FROM FIELD VISIT.
4) THE PRESTRESSED GROUTED GROUND ANCHOR'S CAPACITY SHALL BE CONFIRMED THROUGH IN-SITU TESTS AS PER SPECIFICATION OR THE ENGINEER'S INSTRUCTION AND SUBJECT TO THE ENGINEER'S APPROVAL. THE ANCHOR INSTALLATION SHALL FOLLOW THE MANUFACTURER'S INSTRUCTION OR SPECIFICATION (WHICHEVER IS APPLICABLE) AND SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.
5) DURING CONSTRUCTION OPERATIONS, TEMPORARY BRACING AND/OR SHORING SHALL BE PROVIDED WHEREVER NECESSARY TO SUPPORT ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED INCLUDING EQUIPMENT AND THE OPERATION OF SAME. SUCH BRACING AND/OR SHORING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY.
6) THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE CONSTRUCTION LOAD IMPOSED UPON FOUNDATIONS AND UNDERLYING STRUCTURES. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF STRUCTURAL ELEMENTS AT ANY TIME DURING CONSTRUCTION.
7) ROCKBOLTS MAY BE USED IN CONJUNCTION WITH STEEL RIBS AS PER INSTRUCTION BY THE ENGINEER
8) SUITABLE ELASTOMERIC JOINT MATERIAL SHALL BE PROVIDED AT THE CONTACT SURFACE BETWEEN THE RCC BORE PILES AND THE BOTTOM 2.5M THICH SLAB.
9) WORK HAS BEEN COMPLETED ALL PRIMARY PILE & SECONDARY PILE NO. 42, 44 & 46 - (FIRST STAGE PILE)



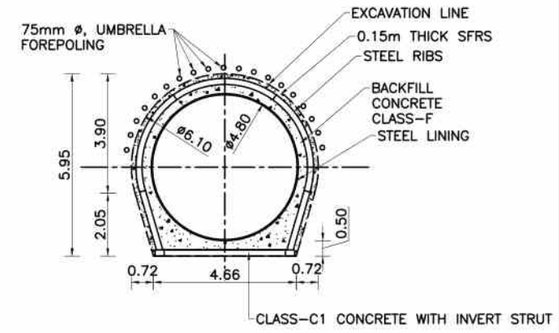
SECTION O-O

SCALE 1:1000



SECTION ALONG SURGE CONDUIT

SCALE 1:750



TYPICAL SURGE CONDUIT SECTION X-X

SCALE 1:200

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY

0 1 2 4 6 8

SCALE 1:200

0 5 10 20 30 40

SCALE 1:1000

CLIENT

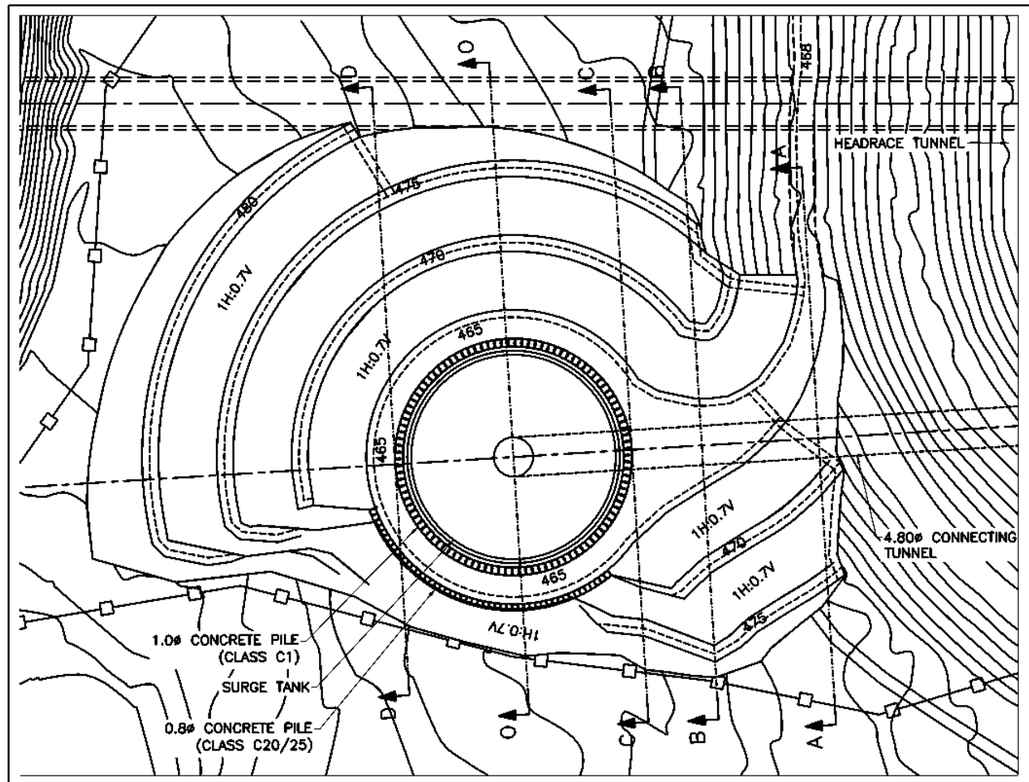
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
TMENT OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

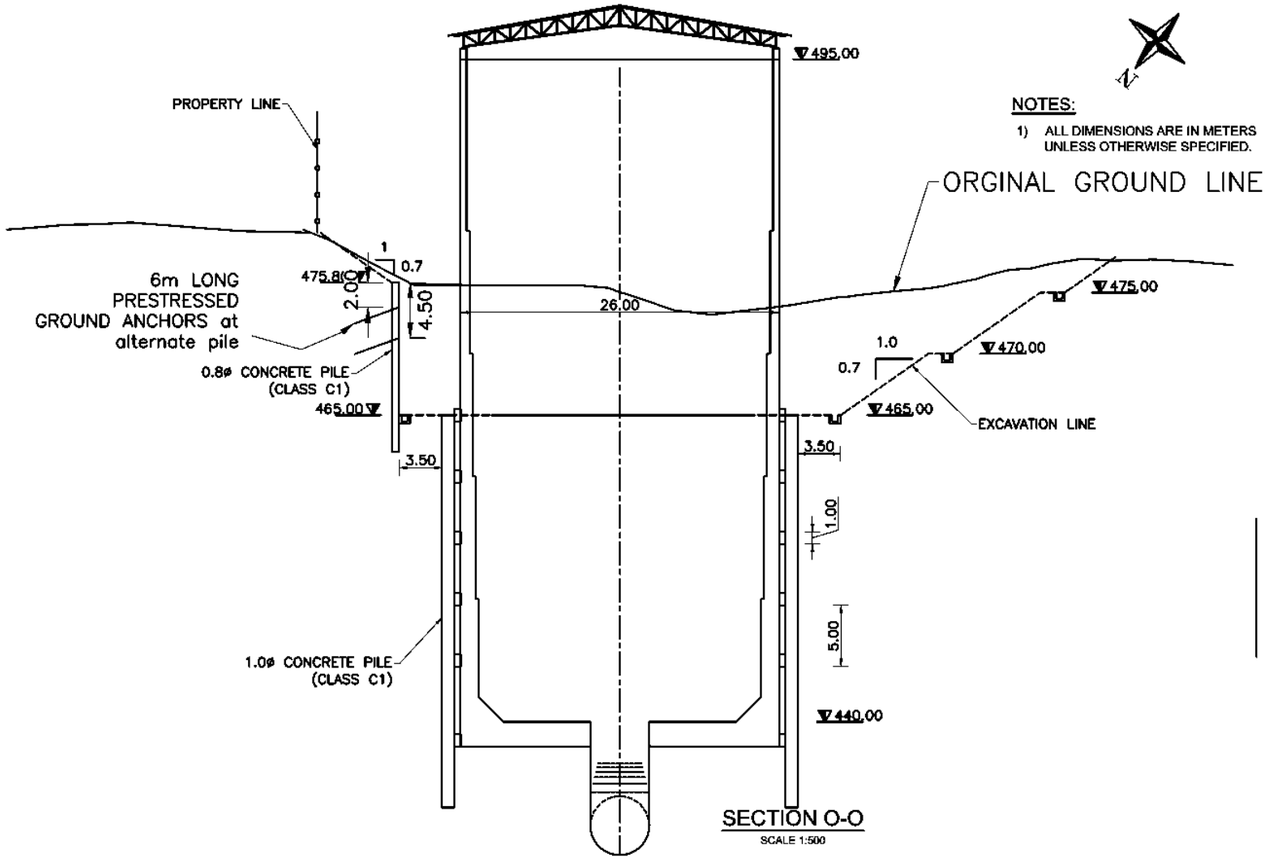
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGETANK EXCAVATION - PLAN AND SECTIONS
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-02(REV-01)
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	2
			APPROVED BY			SCALE:	AS SHOWN



SURGE TANK EXCAVATION PLAN

SCALE 1:750

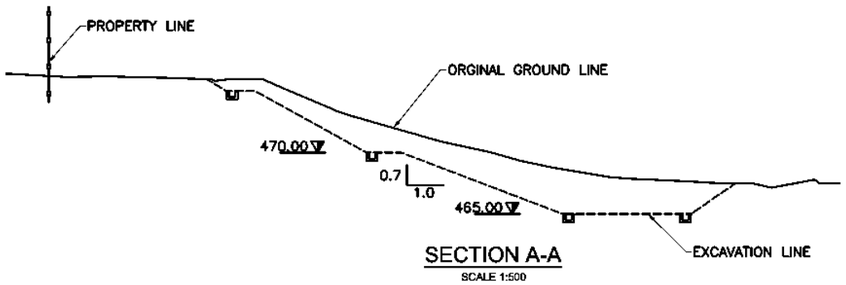


NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

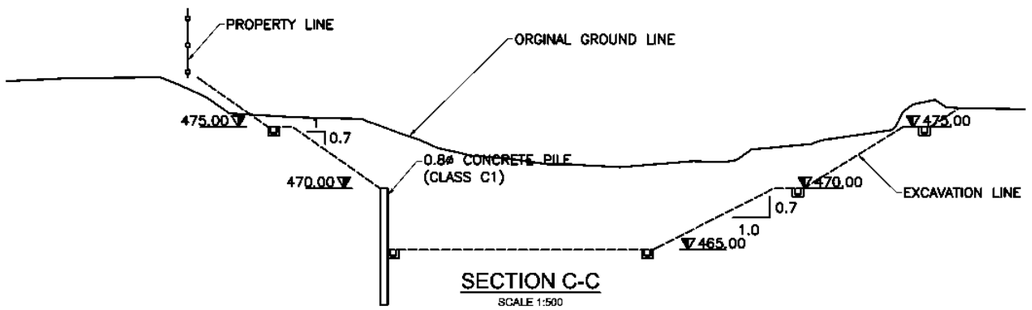
SECTION O-O

SCALE 1:500



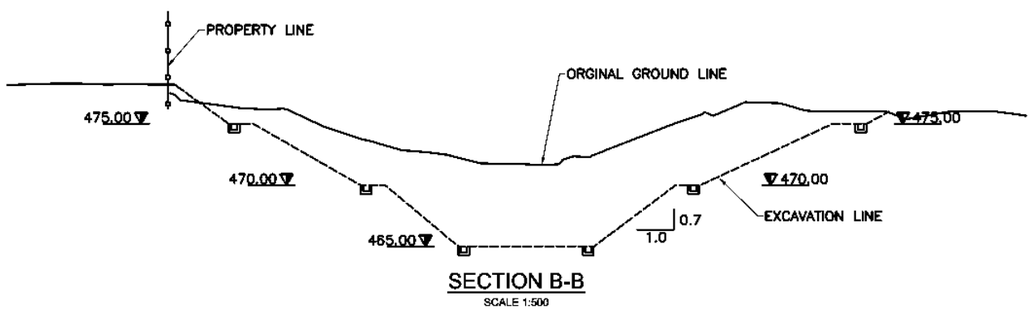
SECTION A-A

SCALE 1:500



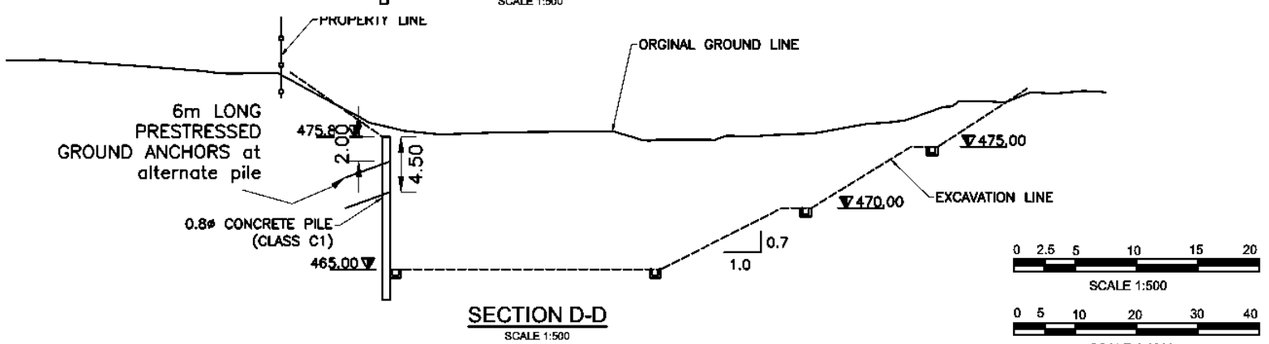
SECTION C-C

SCALE 1:500



SECTION B-B

SCALE 1:500



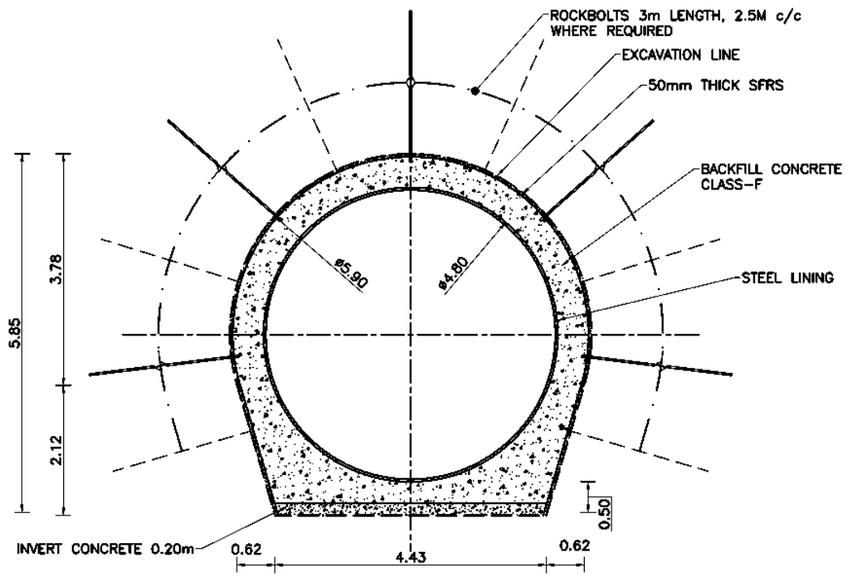
SECTION D-D

SCALE 1:500

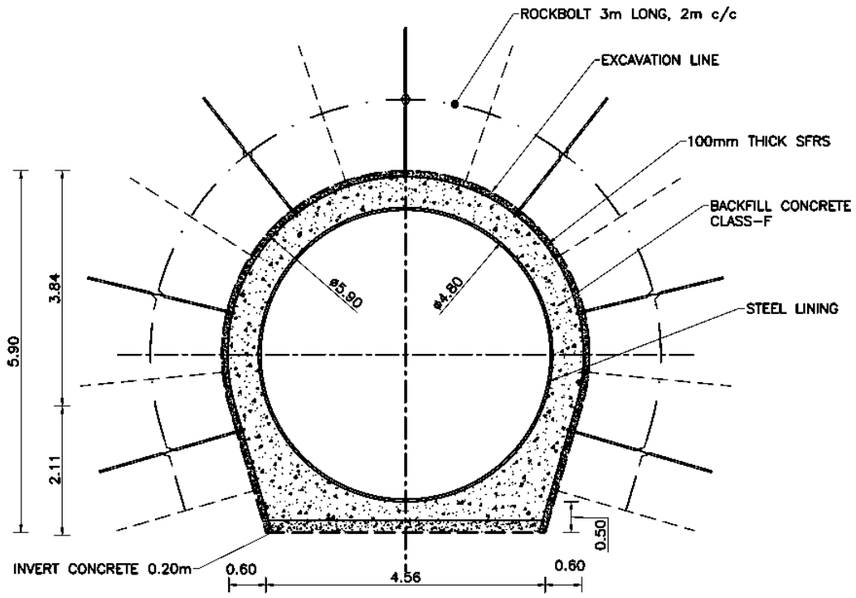
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SURKHET MULTIPURPOSE DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGE TANK EXCAVATION - PLAN AND SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-03(REV-01)
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	03
					APPROVED BY			SCALE:	SCALE AS SHOWN

NOTES:

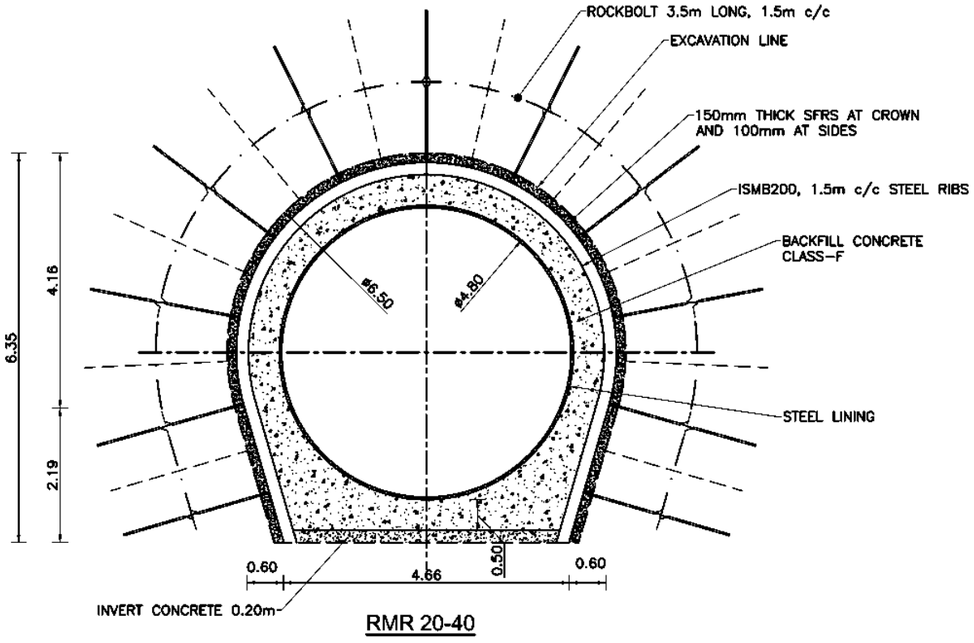
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



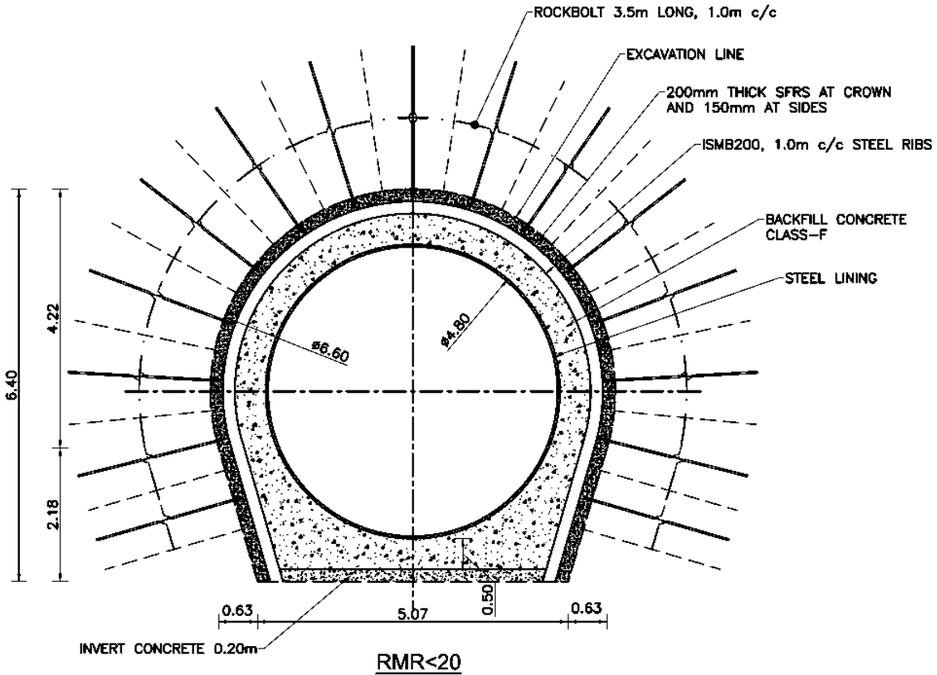
RMR>60



RMR 40-60



RMR 20-40

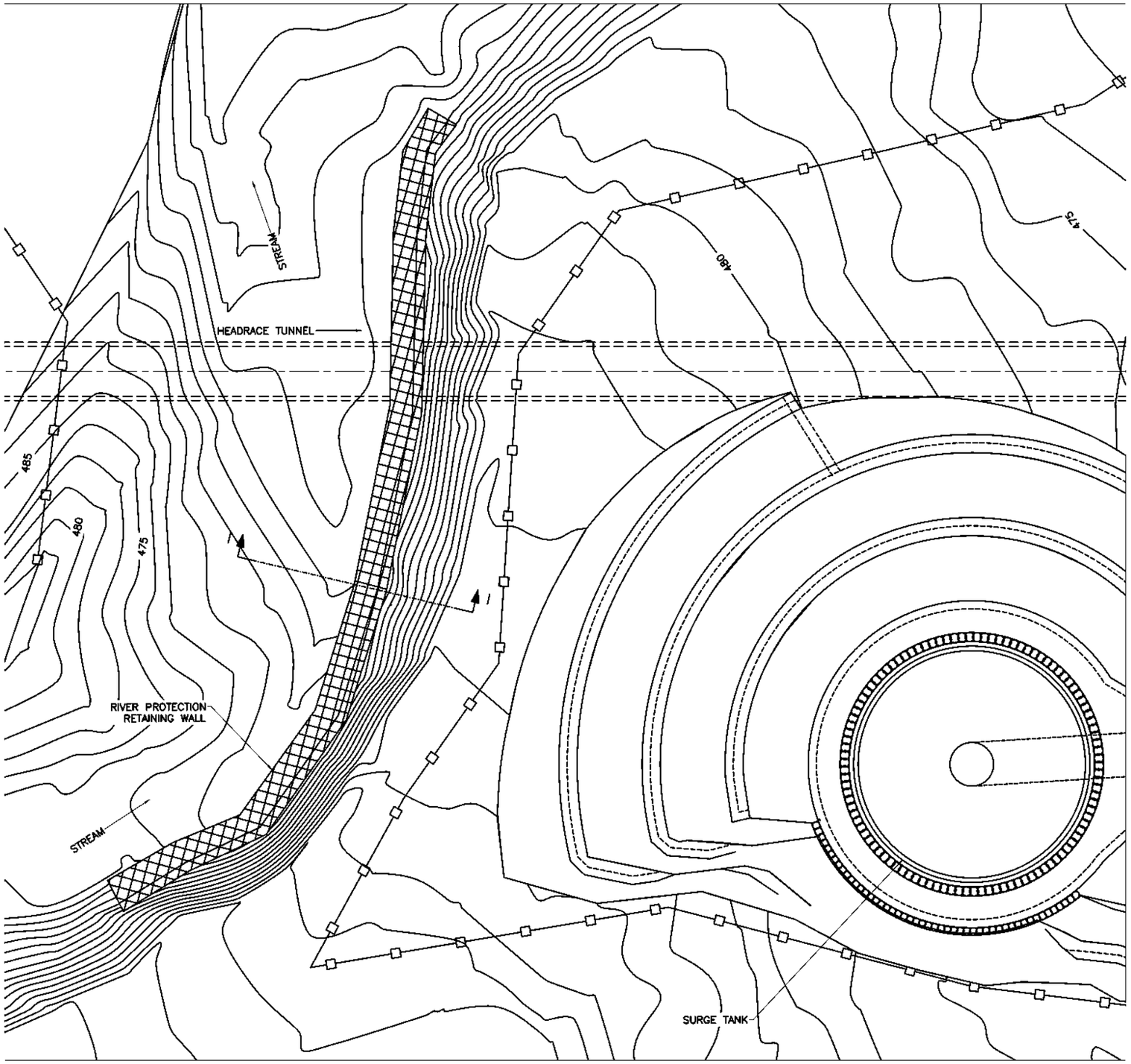


RMR<20

0 0.5 1 2 3 4

SCALE 1:100

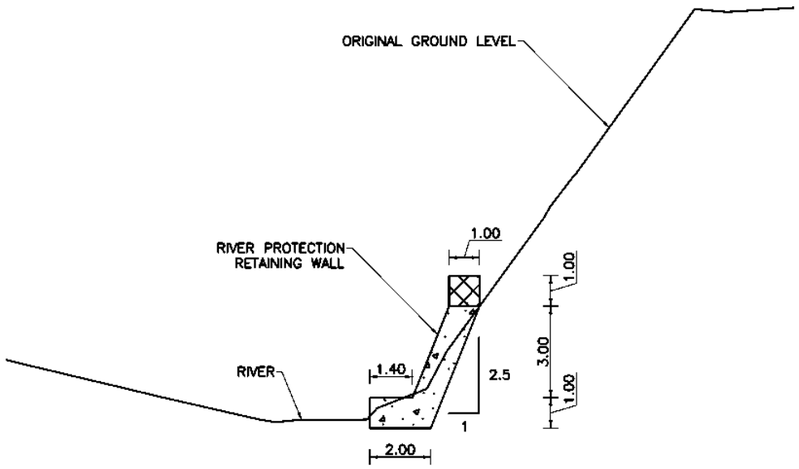
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SURGE CONDUIT TUNNEL DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGE CONDUIT TUNNEL SUPPORT SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-04
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	1:100



RIVER PROTECTION PLAN
SCALE 1:500

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

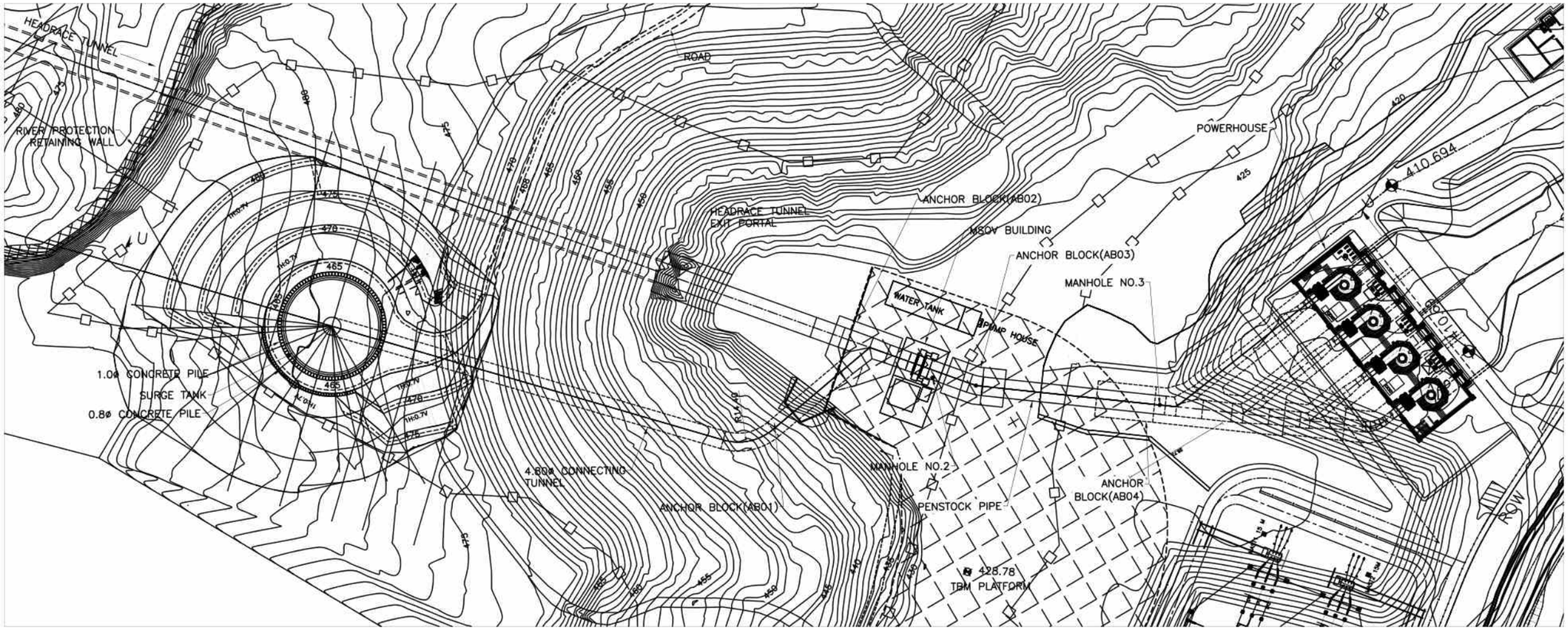


TYPICAL RETAINING WALL SECTION I–I
SCALE 1:200

0 1 2 4 6 8
SCALE 1:200

0 2.5 5 10 15 20
SCALE 1:500

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: SUPAIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	RIVER PROTECTION - PLAN AND SECTION
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-05
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	AS SHOWN

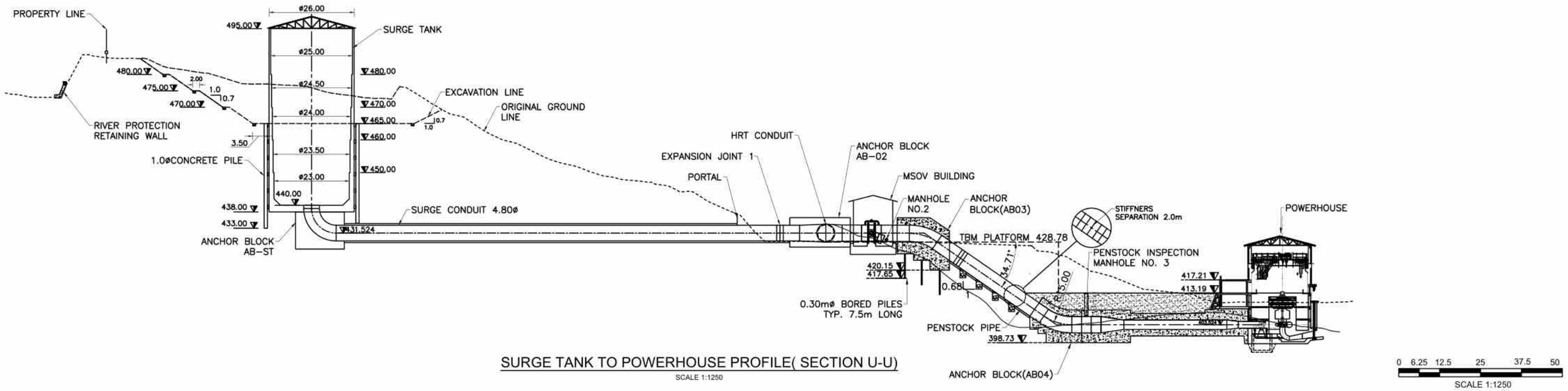


SURGE TANK TO POWERHOUSE PLAN

SCALE 1:1250

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



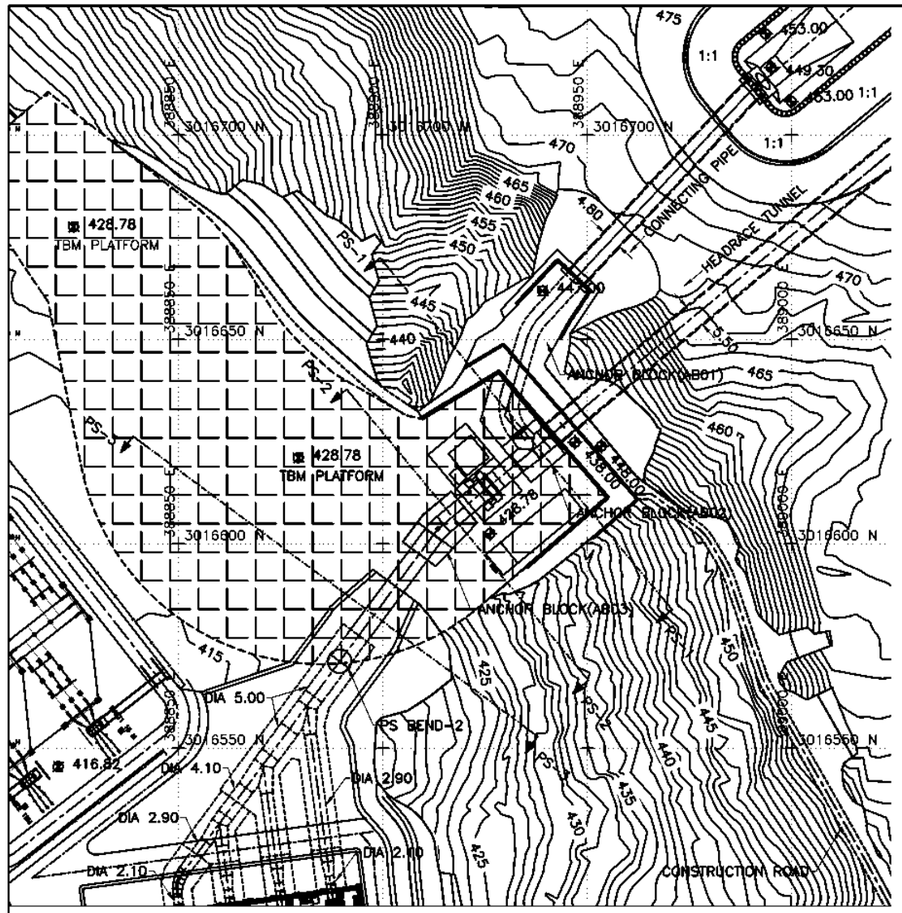
SURGE TANK TO POWERHOUSE PROFILE(SECTION U-U)

SCALE 1:1250

0 6.25 12.5 25 37.5 50

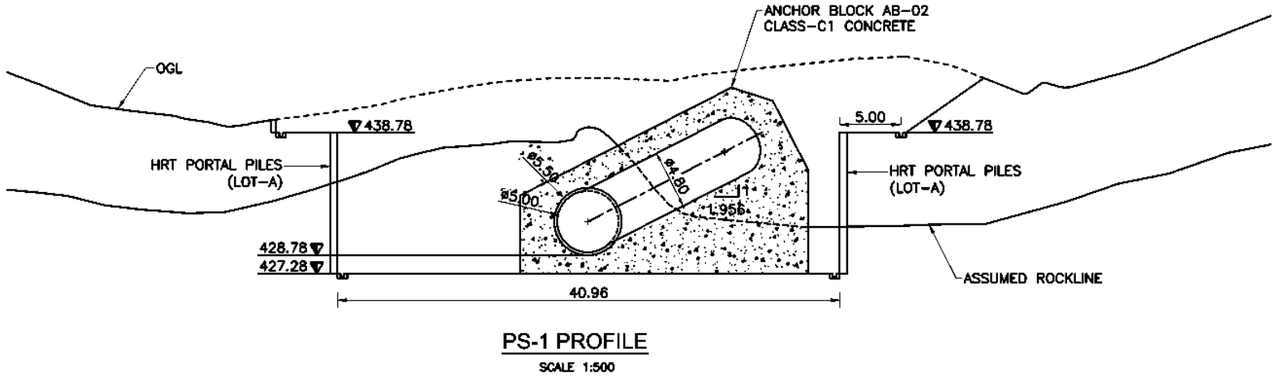
SCALE 1:1250

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUPERVISION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGETANK TO POWERHOUSE, PLAN AND L-SECTION
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-06(REV-01)
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	1:1250



PLAN

SCALE 1:1500

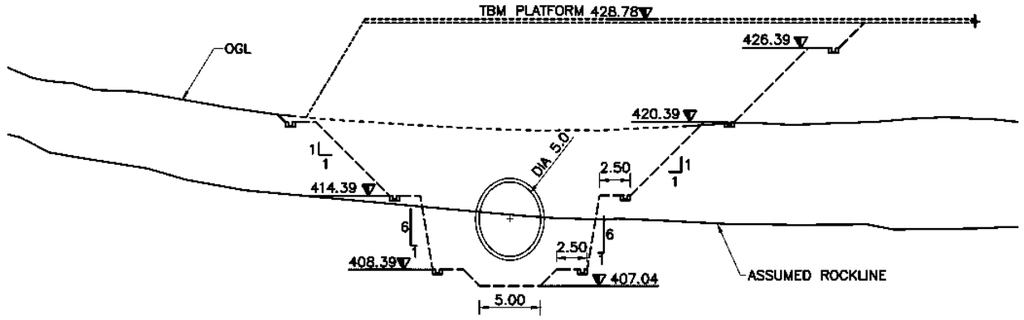


PS-1 PROFILE

SCALE 1:500

PS-2 PROFILE

SCALE 1:500



PS-3 PROFILE

SCALE 1:500

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY

0 2.5 5 10 15 20

SCALE 1:500

0 7.5 15 30 45 60

SCALE 1:1500

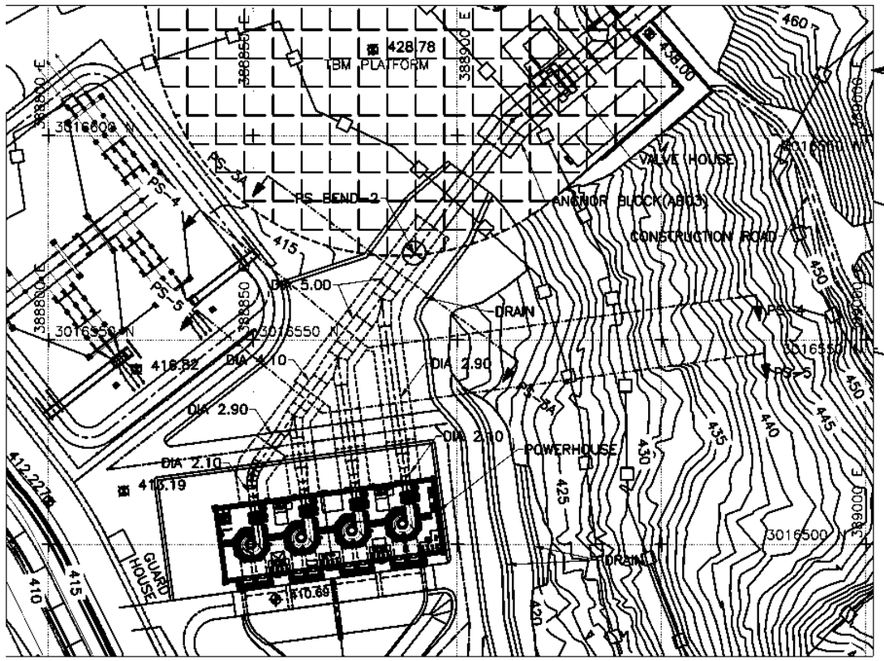
CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

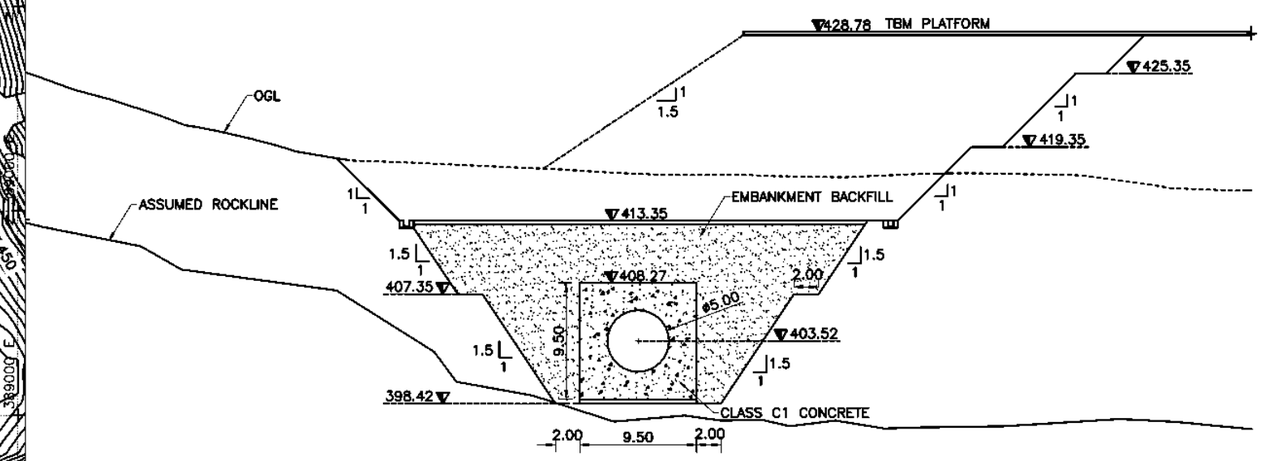
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

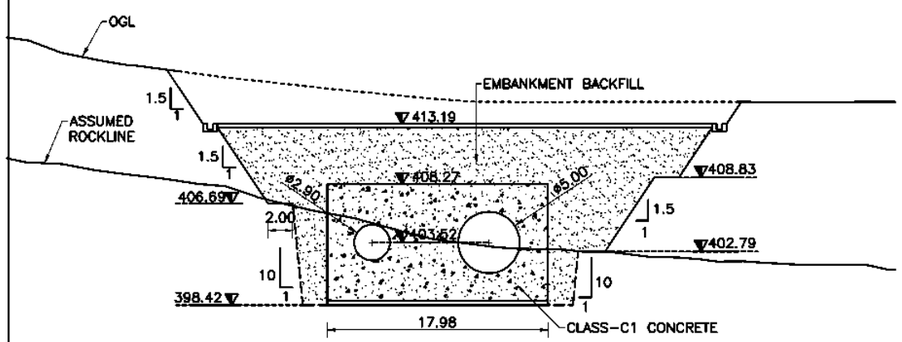
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	PENSTOCK - PLAN & SECTIONS
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-PS-01
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
			APPROVED BY			SCALE:	SCALE- AS SHOWN



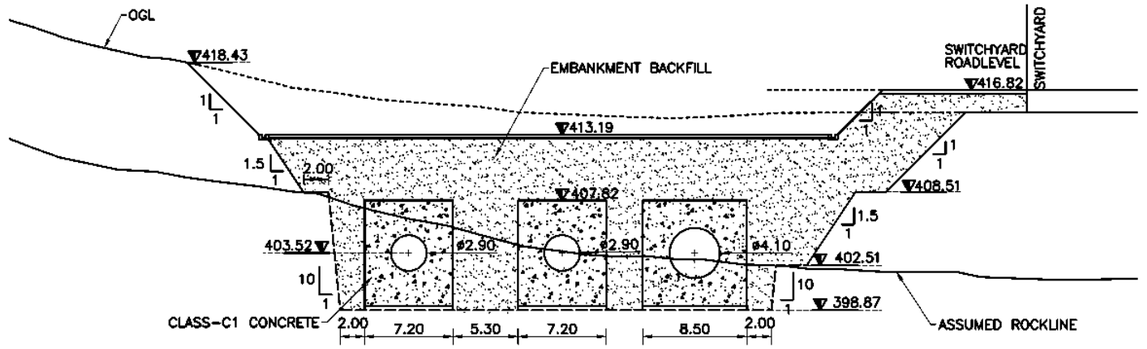
PLAN
SCALE 1:1500



PS-3A PROFILE
SCALE 1:500



PS-4 PROFILE
SCALE 1:500



PS-5 PROFILE
SCALE 1:500

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY

0 2.5 5 10 15 20
SCALE 1:500

0 7.5 15 30 45 60
SCALE 1:1500

CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	PENSTOCK - PLAN & SECTIONS
DRAWING NUMBER	CD-PS-01
SHEET NO:	2
SCALE:	SCALE- AS SHOWN

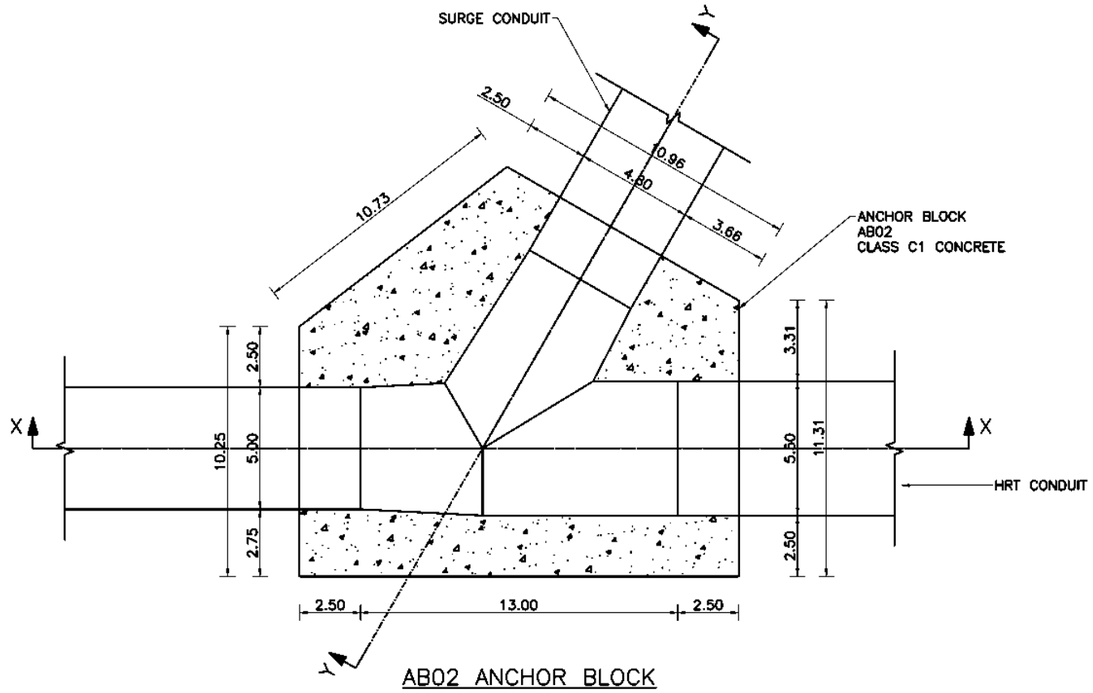
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

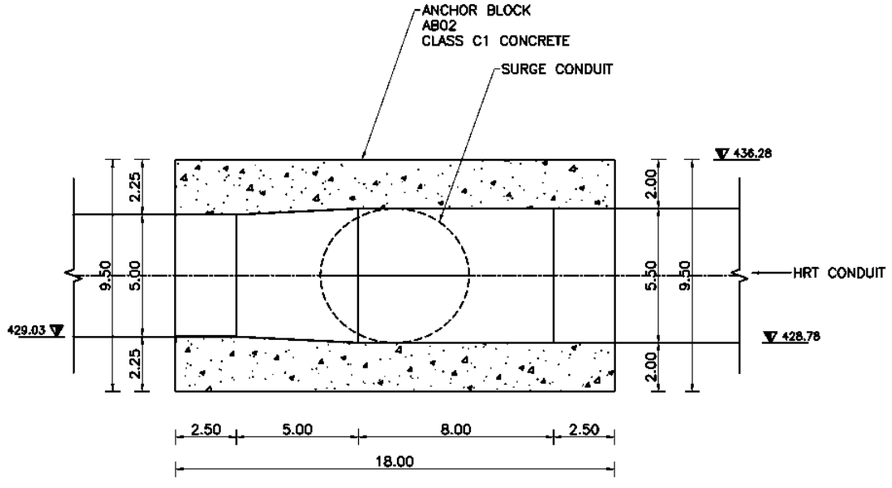
NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

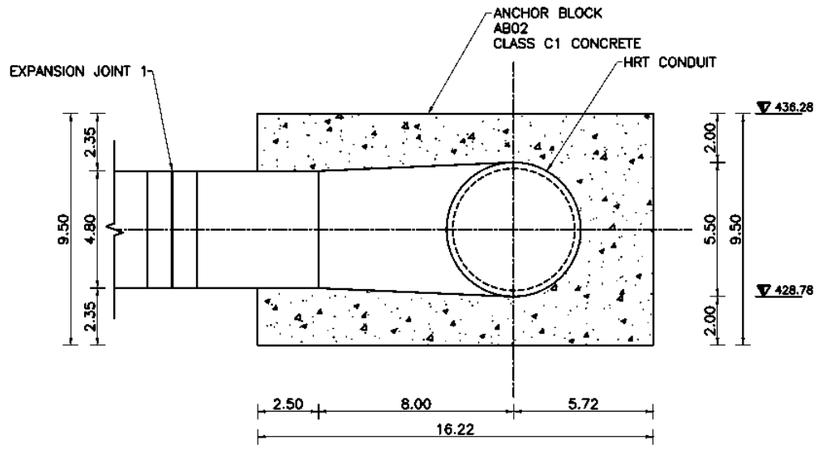
CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY



AB02 ANCHOR BLOCK
SECTIONAL PLAN
SCALE 1:250



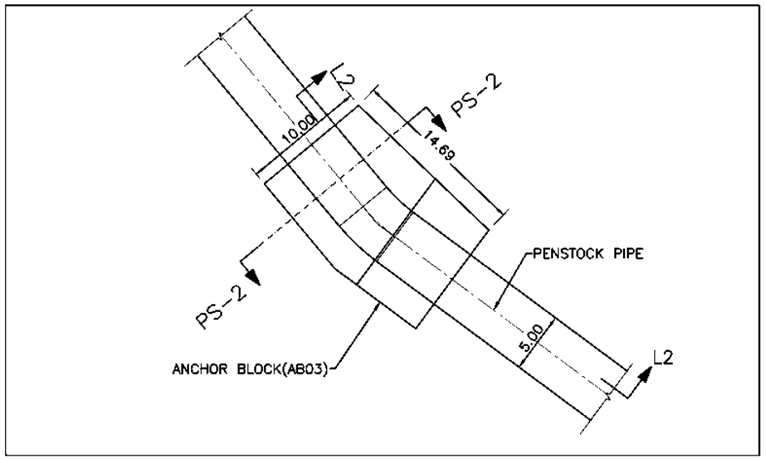
AB02 ANCHOR BLOCK
SECTION AT X-X
SCALE 1:250



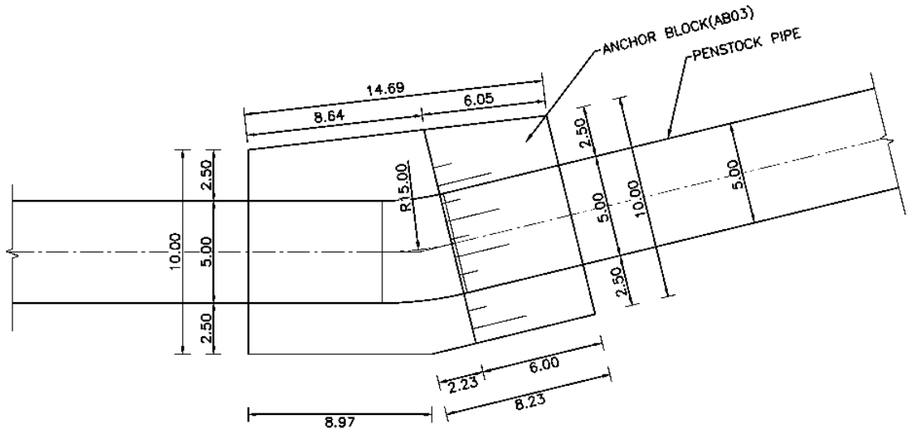
AB02 ANCHOR BLOCK
SECTION AT Y-Y
SCALE 1:250

0 1.25 2.5 5 7.5 10
SCALE 1:250

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGETANK - ANCHOR BLOCK SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-AB-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	1:250

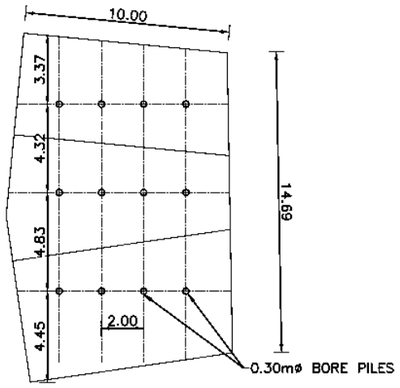


PLAN
SCALE 1:500

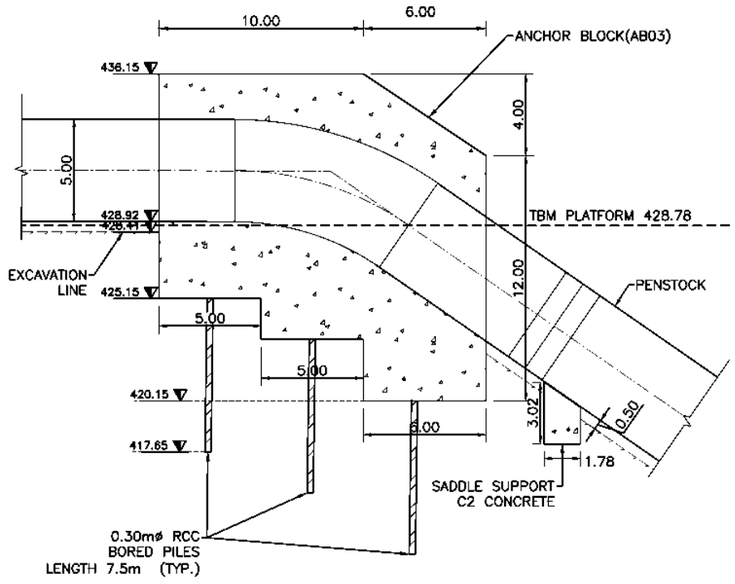


ANCHOR BLOCK (AB03)– PLAN
SCALE 1:300

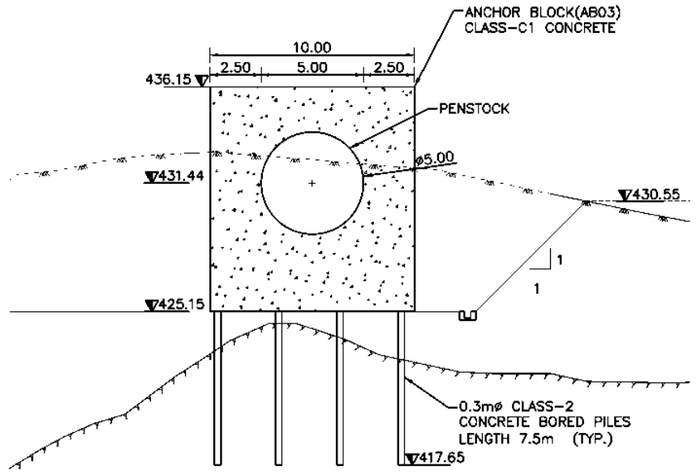
CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206–1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY



MICRO PILE PLAN
SCALE 1:300



L2 PROFILE
SCALE 1:300



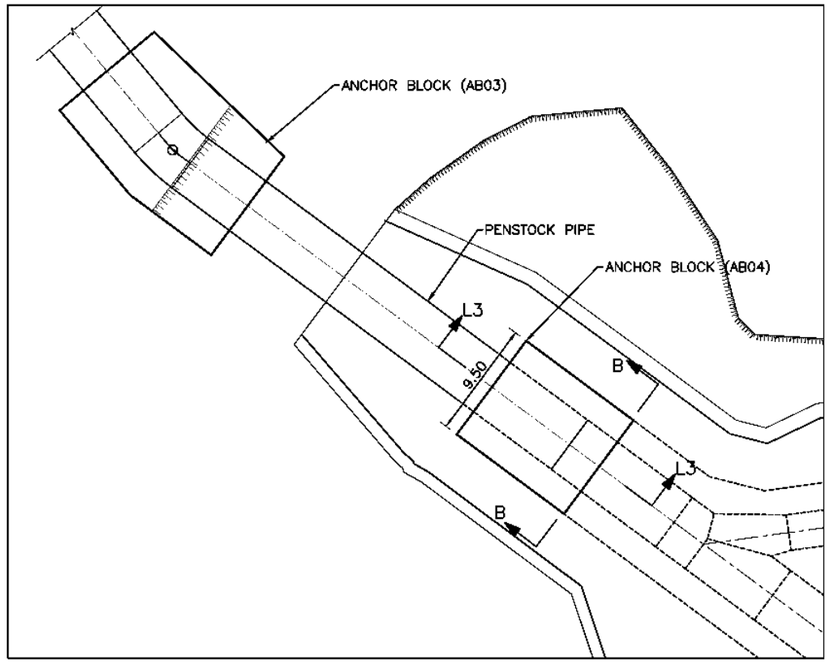
PS–2 PROFILE
SCALE 1:300

NOTES:
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0 1.5 3 6 9 12
SCALE 1:300

0 2.5 5 10 15 20
SCALE 1:500

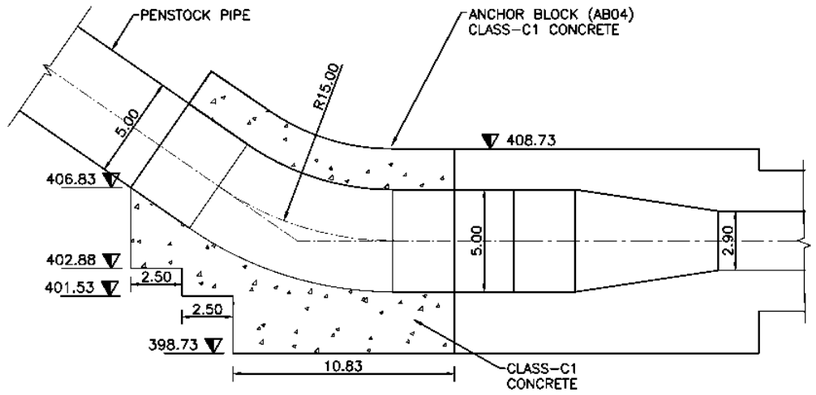
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	ANCHOR BLOCK DETAILS- AB03
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-AB-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	03
					APPROVED BY			SCALE:	SCALE - AS SHOWN



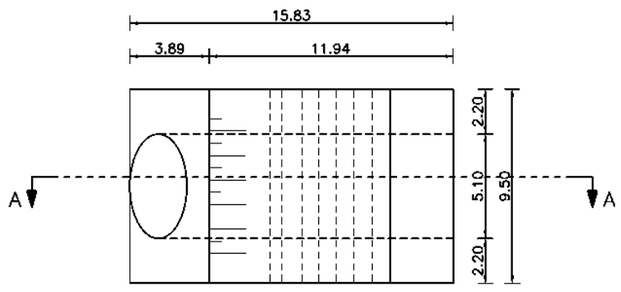
ANCHOR BLOCK (AB04) LAYOUT
SCALE 1:500

N

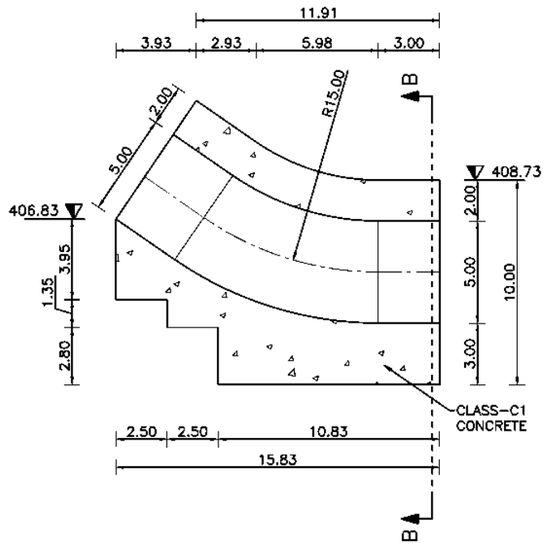
CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY



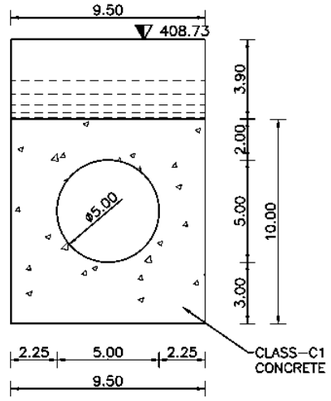
L3 PROFILE
SCALE 1:500



ANCHOR BLOCK PLAN (AB04)
SCALE 1:300



AB04 PROFILE A-A
SCALE 1:300



SECTION B-B
SCALE 1:300

NOTES:
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0 1.5 3 6 9 12
SCALE 1:300

0 2.5 5 10 15 20
SCALE 1:500

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	ANCHOR BLOCK DETAILS- AB04
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-AB-04
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	04
					APPROVED BY			SCALE:	SCALE - AS SHOWN

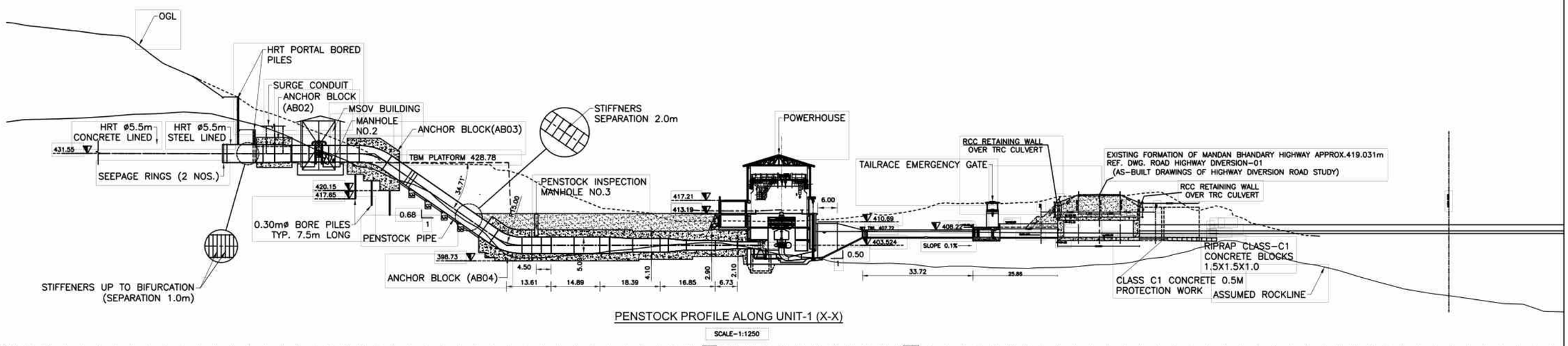
ANCHOR BLOCK(AB02)
MSOV BUILDING
WATER TANK (240CUM)
PUMP HOUSE
AB02
WATER TANK
PUMP HOUSE
ANCHOR BLOCK(AB03)
PENSTOCK PIPE
POWERHOUSE
GUARD HOUSE
OFFICE BUILDING
HIGHWAY
ANCHOR BLOCK(AB01)
MANHOLE NO.2
AB03
AB04
MANHOLE NO.3
ANCHOR BLOCK(AB04)
TBM PLATFORM
428.78
426.78
410.694
410.00
409.00
412.10
415.00
413.19
416.82
SWITCHYARD
(80.30X69.00m)
ROW
TAILRACE CANAL
16.00m WIDTH (TYP.)
GUARD HOUSE
HIGHWAY
ROW
415
410
1:1
2:1
1:2
1:1.5
R14.40

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUPER MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	POWERHOUSE-AREA LAYOUT AND PLAN & SECTION
		PREPARED BY			DRAWING NUMBER	CD-PH-01(REV-01)
		CHECKED BY			SHEET NO:	1
		APPROVED BY			SCALE:	AS SHOWN

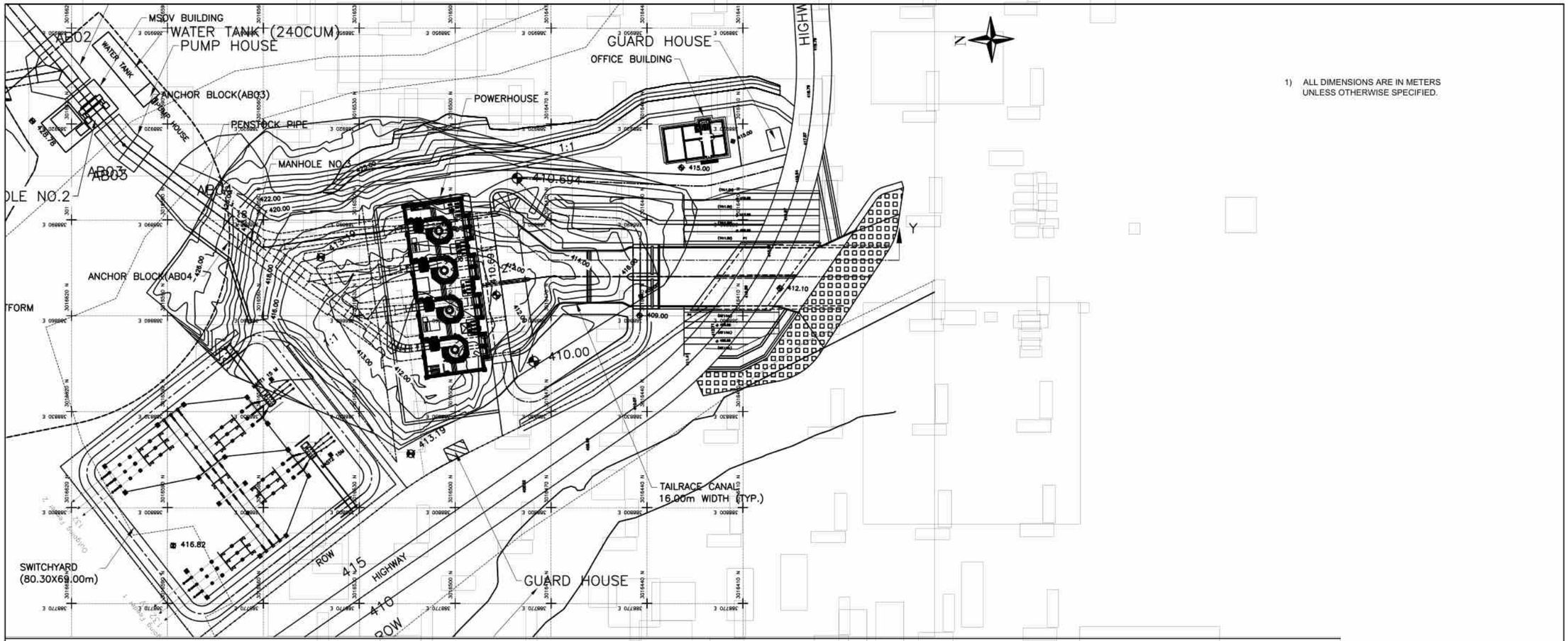


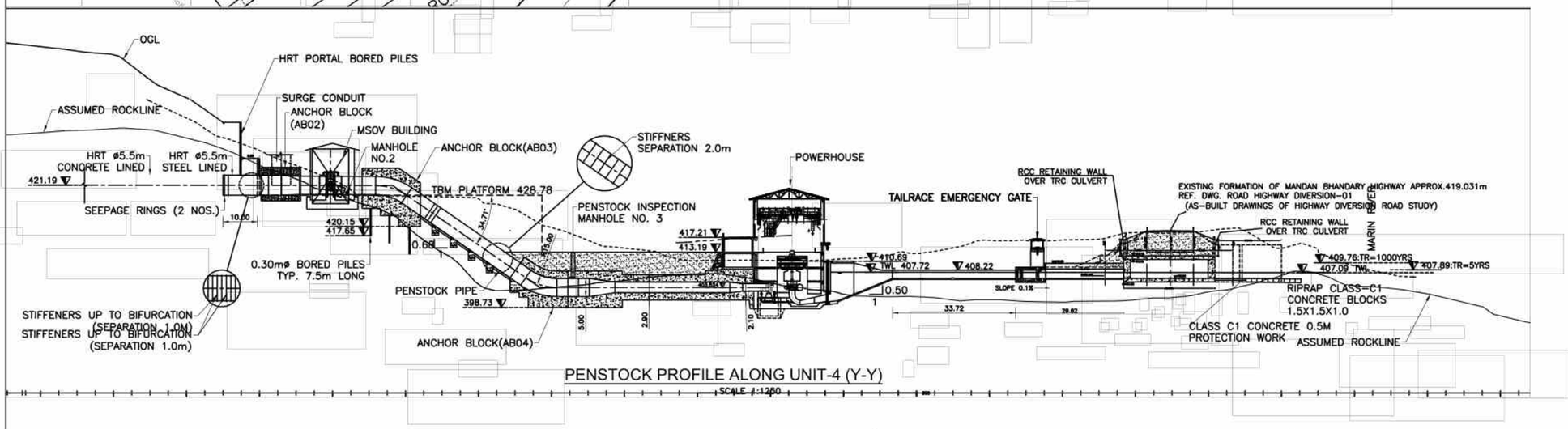


PENSTOCK PROFILE ALONG UNIT-1 (X-X)

SCALE-1:1250

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	POWERHOUSE AREA-LAYOUT PLAN & L-SECTION
		PREPARED BY			DRAWING NUMBER	CD-PH-02(REV-01)
		CHECKED BY			SHEET NO:	1
		APPROVED BY			SCALE:	AS SHOWN

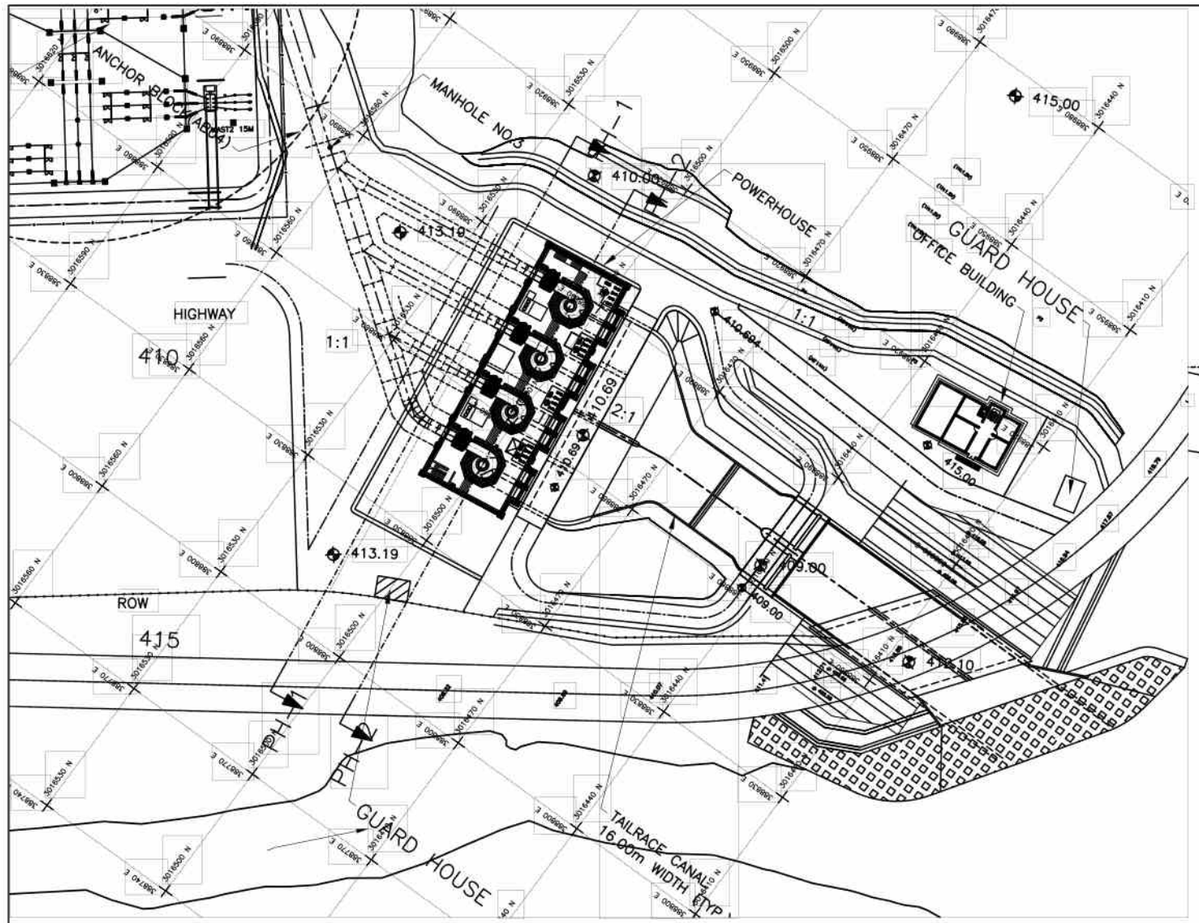


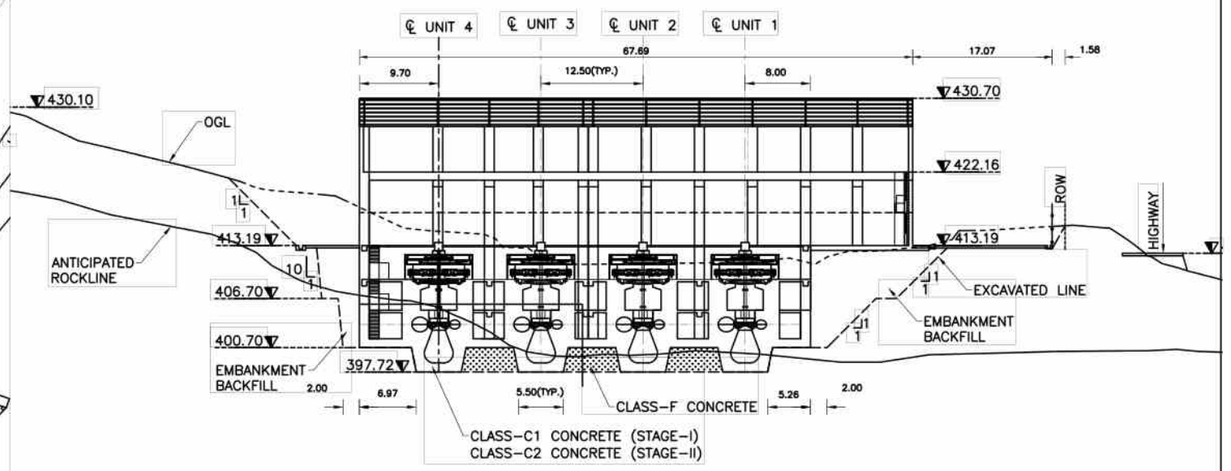


PENSTOCK PROFILE ALONG UNIT-4 (Y-Y)

SCALE 1:1250

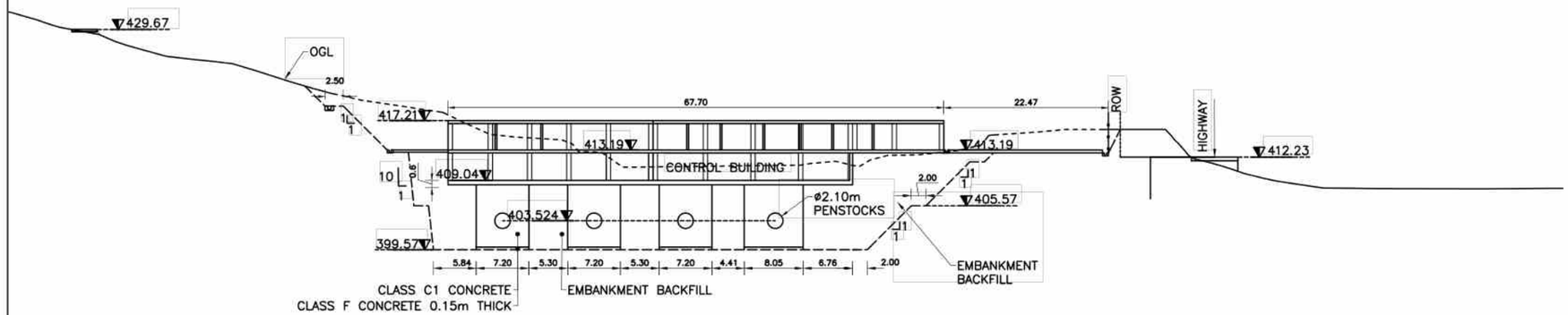
CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE SMEC Emay Jade Consult Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	POWERHOUSE AREA-LAYOUT PLAN & L-SECTION
		PREPARED BY			DRAWING NUMBER	CD-PH-02(REV-01)
		CHECKED BY			SHEET NO:	2
		APPROVED BY			SCALE:	AS SHOWN





PH-2 PROFILE

SCALE 1:750



PH-1 PROFILE

SCALE 1:750

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

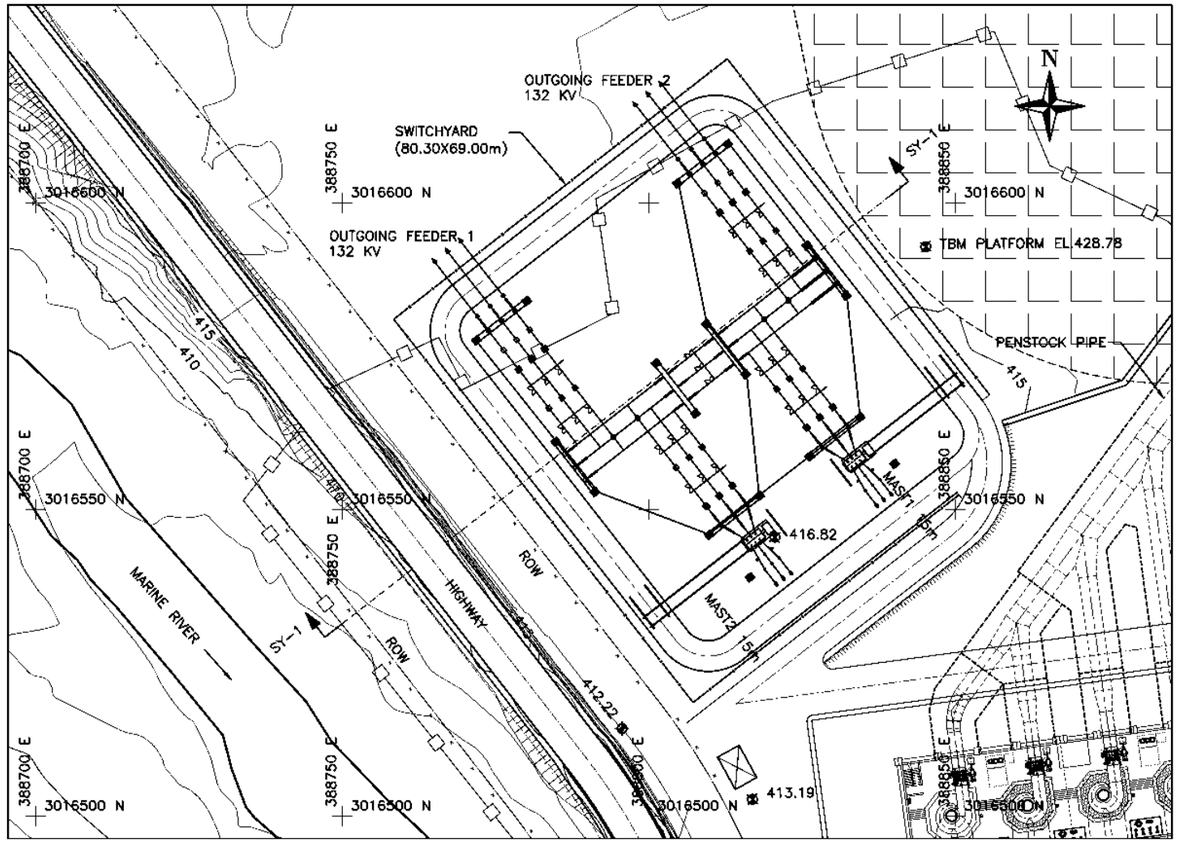
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

SMEC-EMAY-JADE-CMS in association with ECoCODE

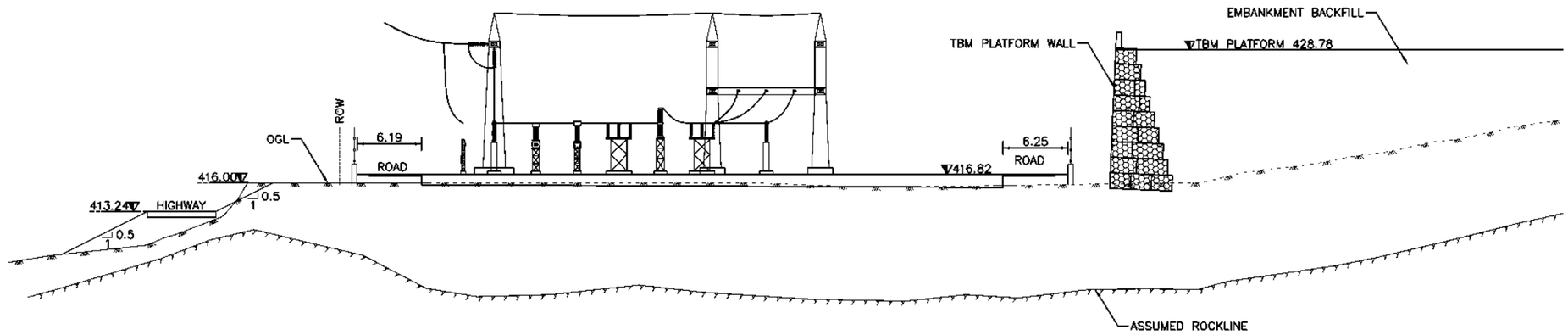
Member of the Surbana Jurong Group

SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
	NAME	SIGN	DRAWING TITLE:	POWERHOUSE - GENERAL PLAN & SECTIONS
PREPARED BY			DRAWING NUMBER	CD-PH-02(REV-01)
CHECKED BY			SHEET NO:	3
APPROVED BY			SCALE:	SCALE - AS SHOWN



PLAN

SCALE 1:1000



SWITCHYARD AREA-PROFILE SY1-SY1

SCALE 1:500

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

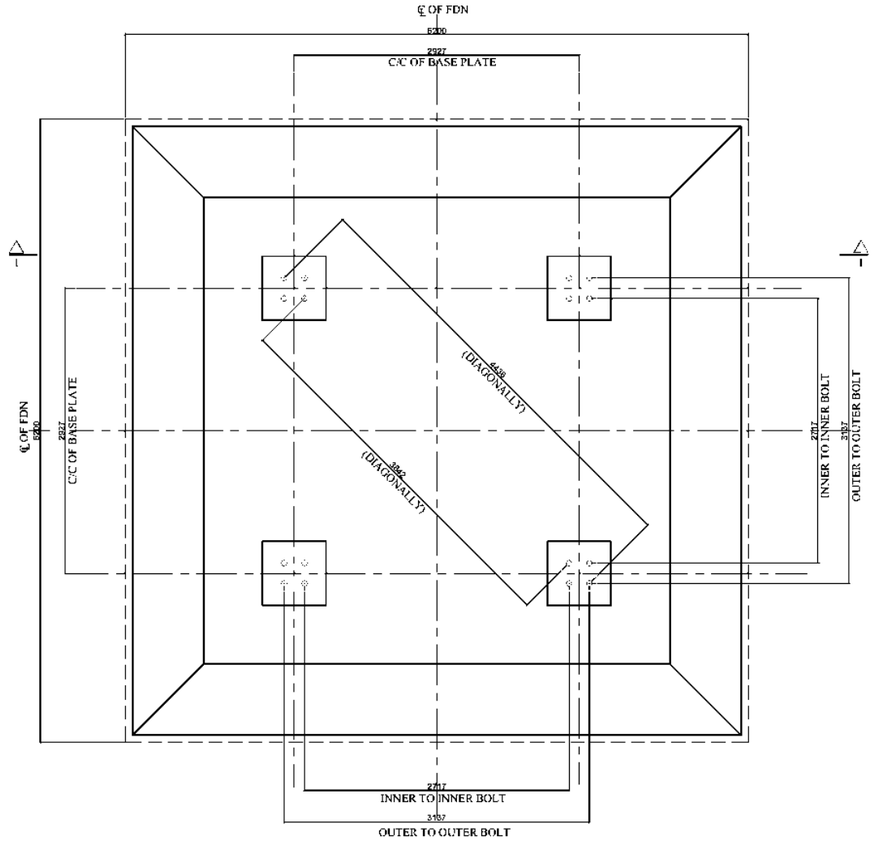
0 2.5 5 10 15 20

SCALE 1:500

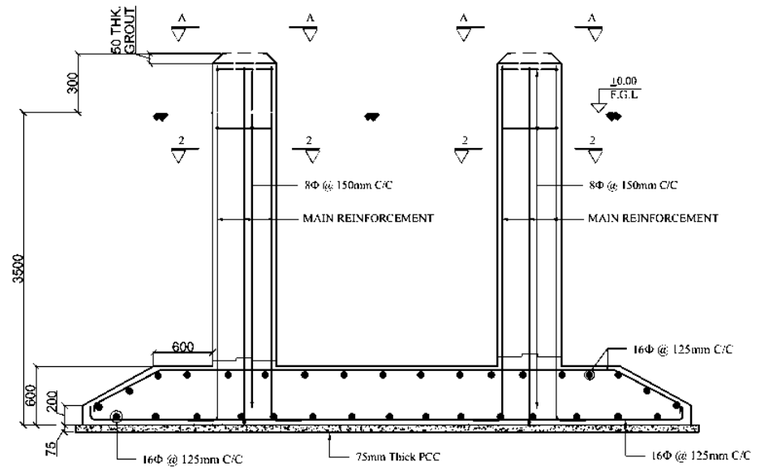
0 5 10 20 30 40

SCALE 1:1000

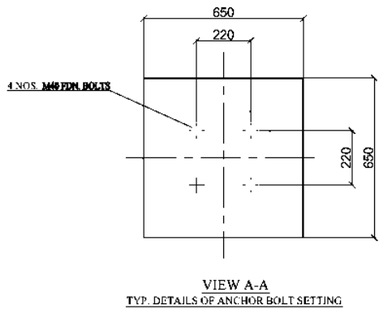
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUPERVISION OF SINDHULI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SWITCHYARD - LAYOUT PLAN AND SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-PH-04
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE - AS SHOWN



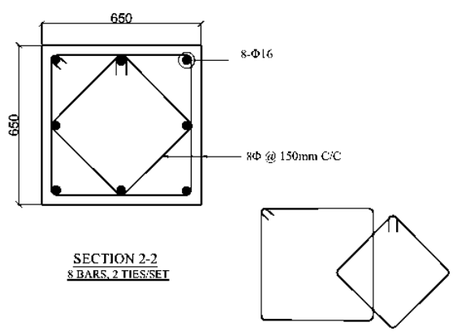
FOUNDATION PLAN



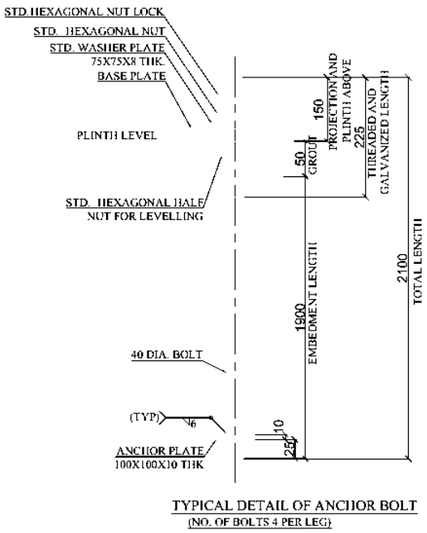
SECTION 1-1



VIEW A-A
TYP. DETAILS OF ANCHOR BOLT SETTING



SECTION 2-2
8 BARS, 2 TIES/SET

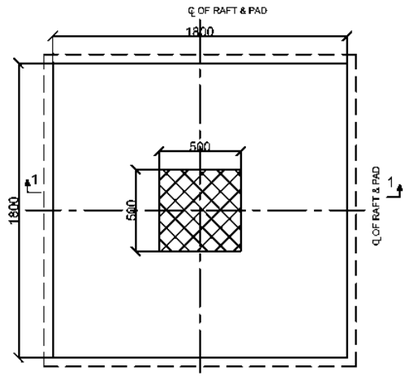


TYPICAL DETAIL OF ANCHOR BOLT
(NO. OF BOLTS 4 PER LEG)

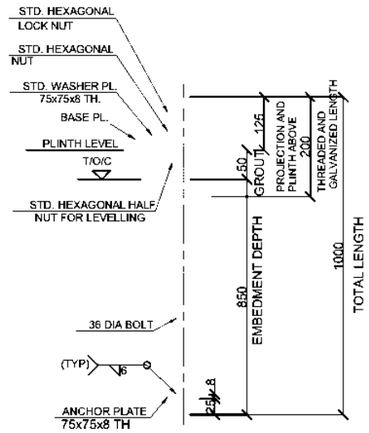
NOTES:

1) ALL DIMENSIONS ARE IN MILIMETERS UNLESS OTHERWISE SPECIFIED.
2) DO NOT SCALE OBJECTS. REFER TO THE LABELED DIMENSIONS.

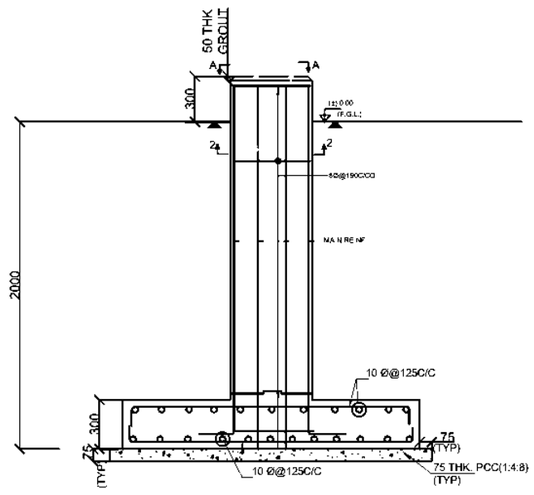
CLIENT: GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SMDMP DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	CONSULTANT: NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	PROJECT		DRAWN DRAWN	DESIGNED DESIGNED	TITLE SMDMP Gantry_Structure Foundation_Details
		ORIGINAL SIZE A3	REPORT STATUS	DRAFTING CHECK DRAFTING_CHECK	DESIGN CHECK DESIGN_CHECK	
		CONTRACT NUMBER:	REV REVISION	APPROVED APPROVED	DRAWING NO. DRAWING_NO	



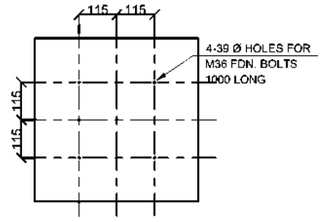
FOUNDATION PLAN
(1:25)



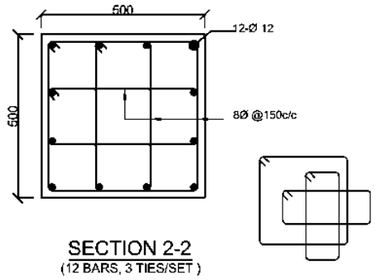
TYP. DETAIL OF ANCHOR BOLT
(NO. OF BOLTS 4)



SECTION 1-1
(1:25)



VIEW : A-A
(TYP. DETAILS OF BASE PLATE)
(1:20)

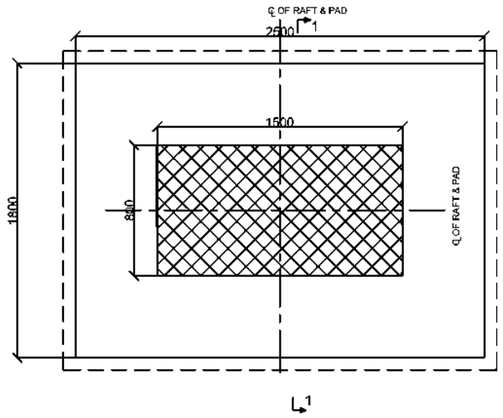


SECTION 2-2
(12 BARS, 3 TIES/SET)
(1:20)

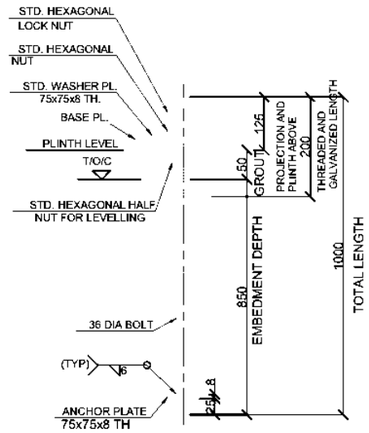
NOTES:

1) ALL DIMENSIONS ARE IN MILIMETERS UNLESS OTHERWISE SPECIFIED.
2) DO NOT SCALE OBJECTS. REFER TO THE LABELED DIMENSIONS.

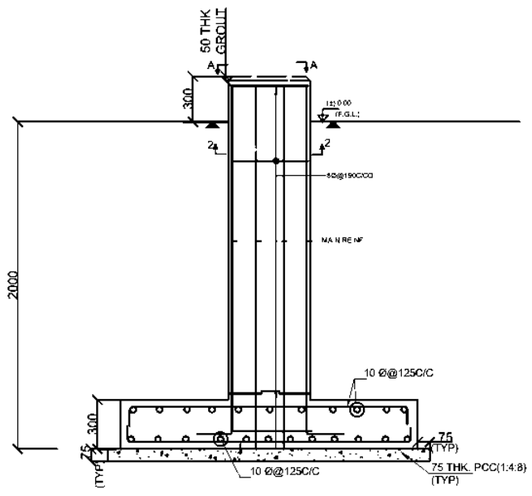
CLIENT: GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SMALL WATER RESOURCES MAHAKALI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	CONSULTANT NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	PROJECT		DRAWN DRAWN	DESIGNED DESIGNED	TITLE SMDMP EQUIPMENT_SUPPORT_STRUCTURE FOUNDATION_DETAILS FOR-CT,VT,BPI,LA,CB
		ORIGINAL SIZE A3	REPORT STATUS	DRAFTING CHECK DRAFTING_CHECK	DESIGN CHECK DESIGN_CHECK	
		CONTRACT NUMBER:	REV REVISION	APPROVED APPROVED	DRAWING NO. DRAWING_NO	



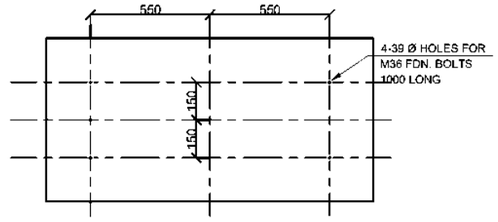
FOUNDATION PLAN



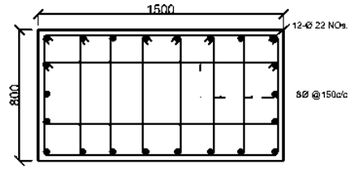
TYP. DETAIL OF ANCHOR BOLT
(NO. OF BOLTS 4)



SECTION 1-1



VIEW : A-A
(TYP. DETAILS OF BASE PLATE)

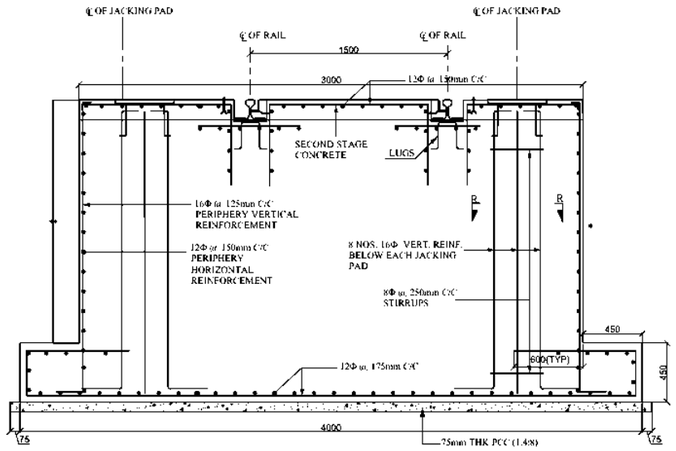


SECTION 2-2

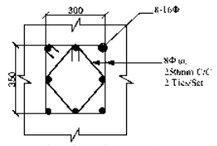
NOTES:

1) ALL DIMENSIONS ARE IN MILIMETERS UNLESS OTHERWISE SPECIFIED.
2) DO NOT SCALE OBJECTS. REFER TO THE LABELED DIMENSIONS.

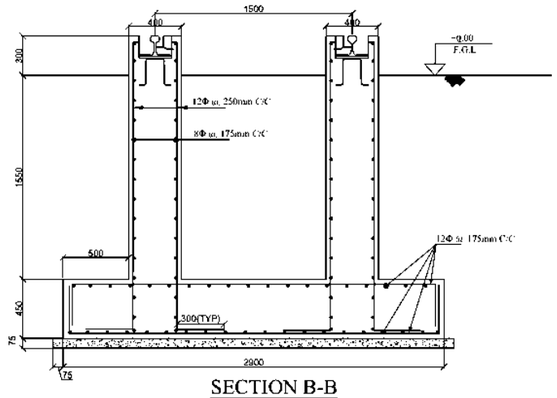
CLIENT: GOVERNMENT OF NEPAL, MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION, DEPARTMENT OF WATER RESOURCES AND IRRIGATION, SMDMP, SMALL WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT, SINDHULI, NEPAL	CONSULTANT: NEA ENGINEERING COMPANY LTD., TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	PROJECT		DRAWN / DRAWN	DESIGNED / DESIGNED	TITLE: SMDMP, EQUIPMENT_SUPPORT_STRUCTURE, FOUNDATION_DETAILS, ISOLATOR
		ORIGINAL SIZE A3	REPORT STATUS	DRAFTING CHECK / DRAFTING_CHECK	DESIGN CHECK / DESIGN_CHECK	
		CONTRACT NUMBER:	REV REVISION	APPROVED / APPROVED	DRAWING NO. / DRAWING_NO	



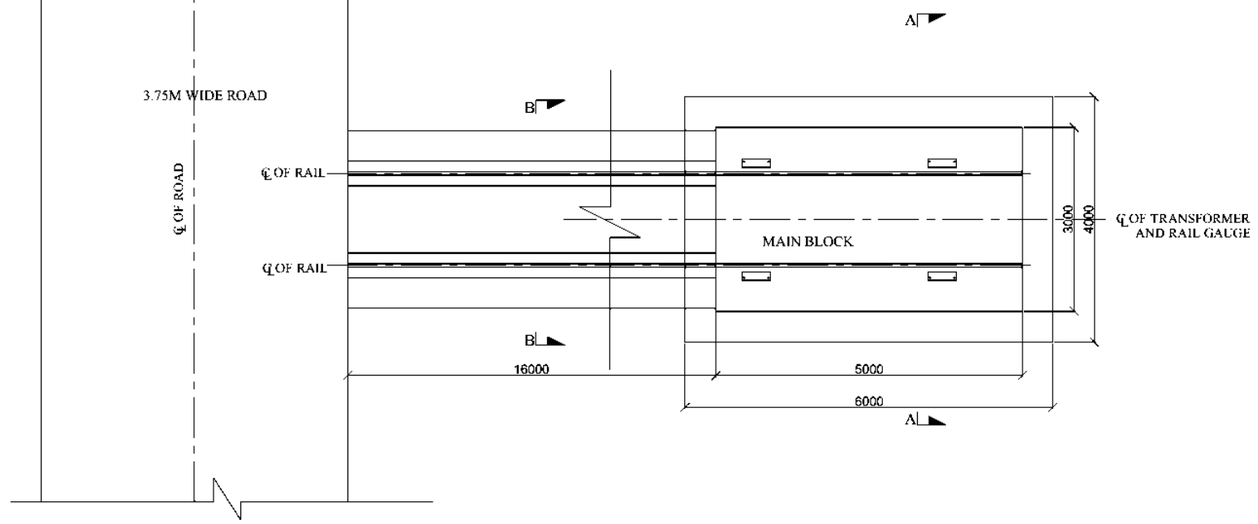
SECTION A-A



SECTION R-R



SECTION B-B



NOTES:

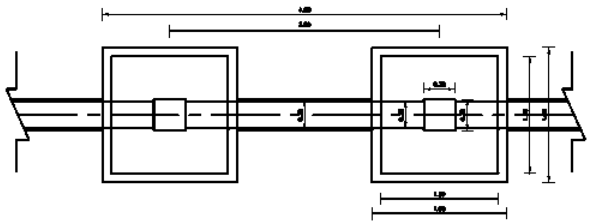
1) ALL DIMENSIONS ARE IN MILIMETERS UNLESS OTHERWISE SPECIFIED.
2) DO NOT SCALE OBJECTS. REFER TO THE LABELED DIMENSIONS.

NOTES:-

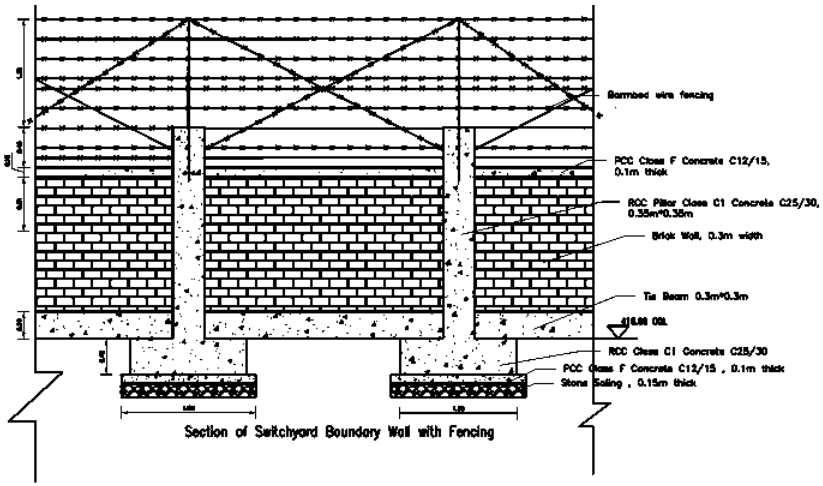
1. PL (PLINTH LEVEL) SHALL BE AT 300mm ABOVE FGL.
2. FGL DENOTES FINISHED GRADE LEVEL (BOTTOM OF GRAVEL)
3. R.C.C GRADE SHALL BE M25 CONFORMING TO IS:456.
4. LEAN CONCRETE MIX SHALL BE 1:3:6.
5. CLEAR COVER OF REINFORCEMENT SHALL BE AS BELOW,
   a) BOTTOM PAD - 50mm
   b) COLUMN - 50mm AT SIDES, 25mm AT TOP.
   c) WALL - 40mm AT SIDES, 25mm AT TOP.
6. LAP ANCHOR LENGTH FOR COLUMN VERTICAL REINFORCEMENT SHALL BE OF 50 TIMES THE DIAMETER OF THE BAR FROM THE PAD-COLUMN JUNCTION.
7. REINFORCEMENT USED SHALL BE HYSD BARS CONFORMING TO IS:1786-1987 (Fe-500)
8. FOUNDATION BOLTS SHALL BE PLACED IN POSITION DURING CONCRETING.
9. THE SOIL AROUND FOUNDATION SHALL BE WELL COMPACTED.
10. ALLOWABLE SAFE BEARING CAPACITY OF SOIL = 13 T/SQ.M AT FOUNDING LEVEL.
11. DO NOT SCALE DRAWINGS.

CLIENT: RASTRIYA PRASARAN GRID COMPANY LIMITED, DISTRICT COORDINATION COMMITTEE BUILDING, KATHMANDU, NEPAL	CONSULTANT: NEA ENGINEERING COMPANY LTD., TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	PROJECT		DRAWN: NKC	DESIGNED: NKC
		ORIGINAL SIZE: A3	REPORT STATUS	DRAFTING CHECK: NWK	DESIGN CHECK: NWK
		CONTRACT NUMBER:	REV	APPROVED	DRAWING NO.

TITLE: SMDMP
TRANSFORMER
TRANSFORMER FOUNDATION DETAILS



Plan of Switchyard Boundary Wall with Fencing

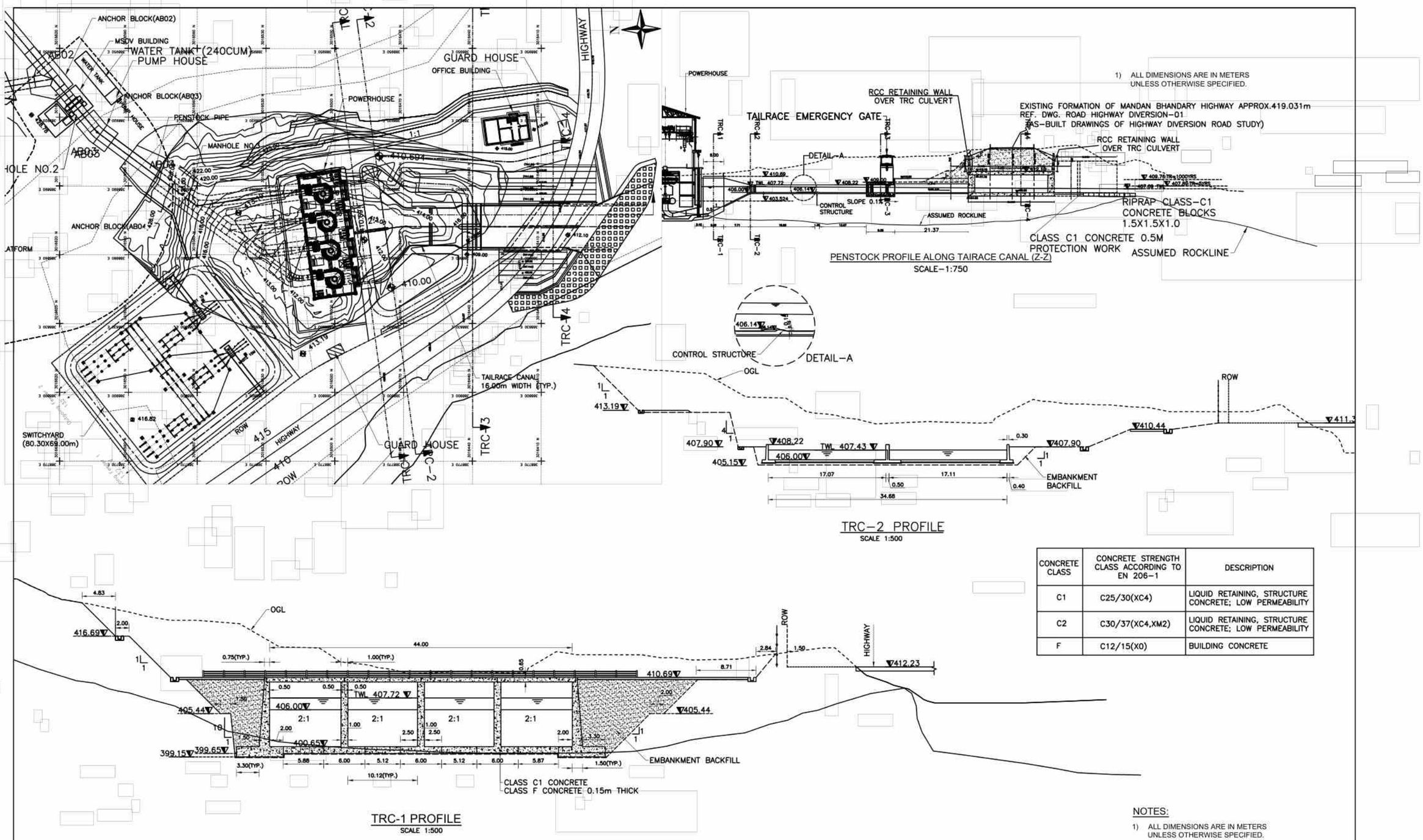


Section of Switchyard Boundary Wall with Fencing

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED

CLIENT		PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL			NAME	SIGN		NAME	SIGN	DRAWING TITLE	SWITCHYARD_BOUNDARY_WALL
		CHECKED BY	CHK		CHECKED BY	CHK		DRAWING NUMBER	
		RECOMMENDED BY	RECMD.		RECOMMENDED BY	RECMD		SHEET NO	
					APPROVED BY	APPRV.		SCALE	SCALE

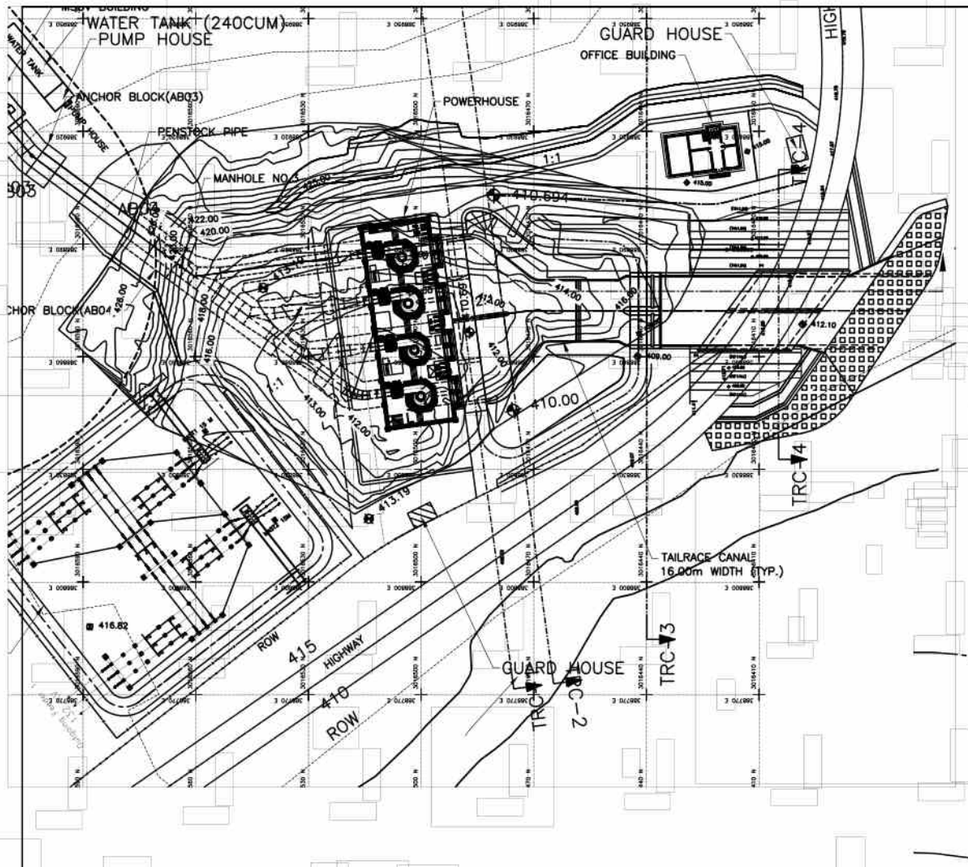


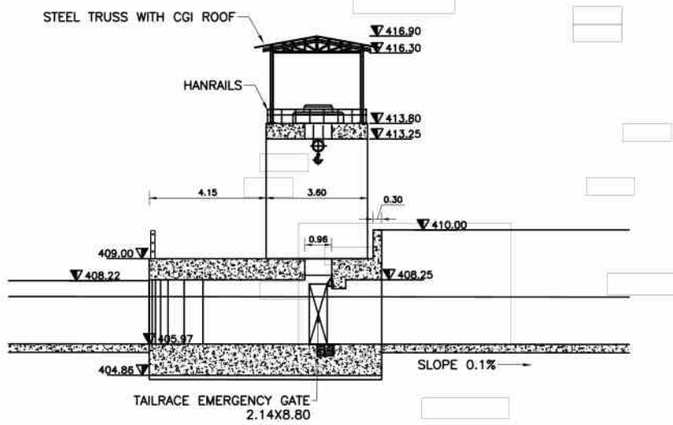
CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
F	C12/15(X0)	BUILDING CONCRETE

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

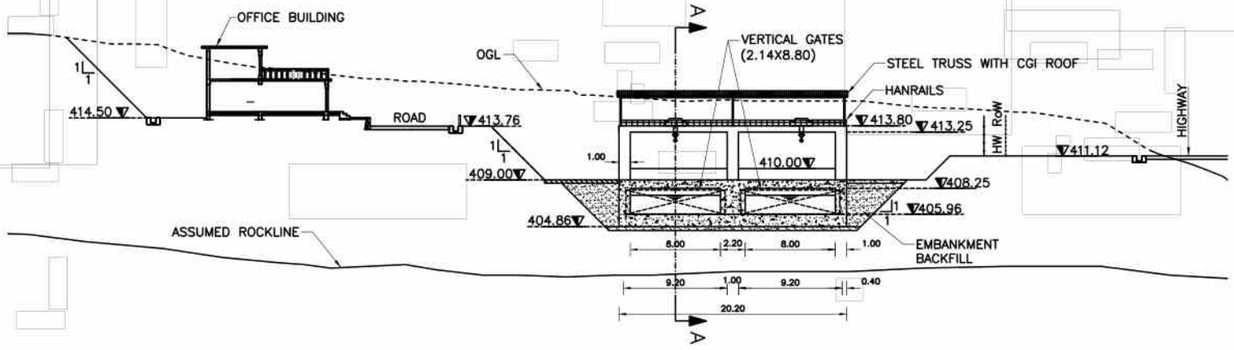
CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE SMEC Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	POWERHOUSE AREA-LAYOUT PLAN & L-SECTION
		PREPARED BY			DRAWING NUMBER	CD-PH-03(REV-01)
		CHECKED BY			SHEET NO:	1
		APPROVED BY			SCALE:	AS SHOWN





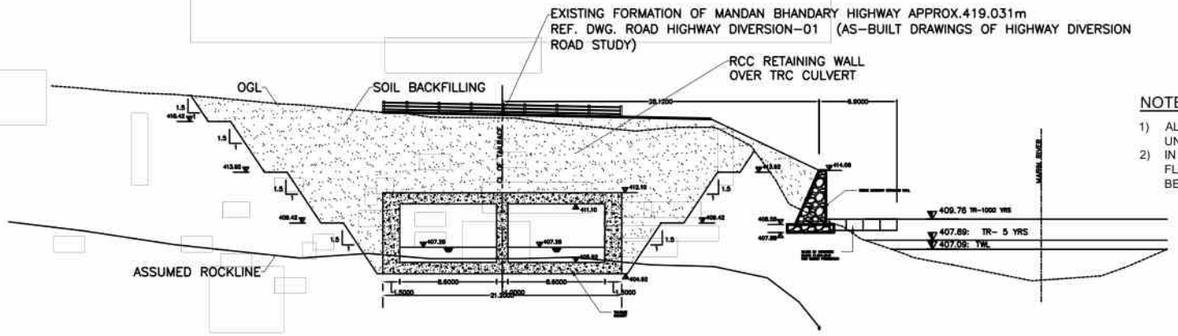
TAILRACE EMERGENCY GATE SECTION A-A

SCALE–1:200



TRC-3 PROFILE

SCALE 1:500



TRC-4 PROFILE

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206–1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
F	C12/15(X0)	BUILDING CONCRETE

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) IN ALL JOINTS WHERE WATER FLOWS OVER, WATERSTOPS SHALL BE PROVIDED.

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT

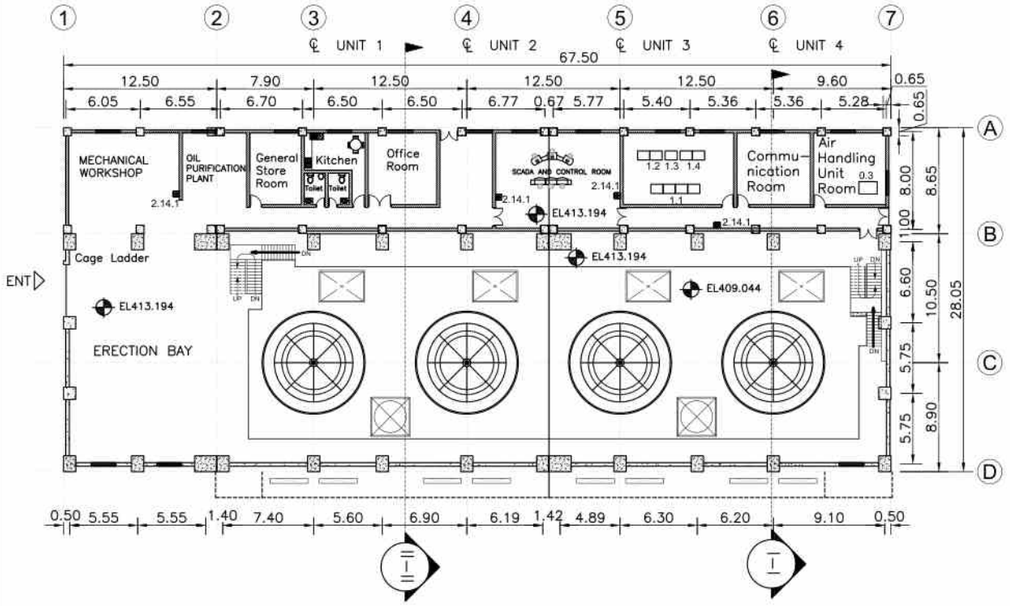
SINDHULI, NEPAL

CONSULTANT

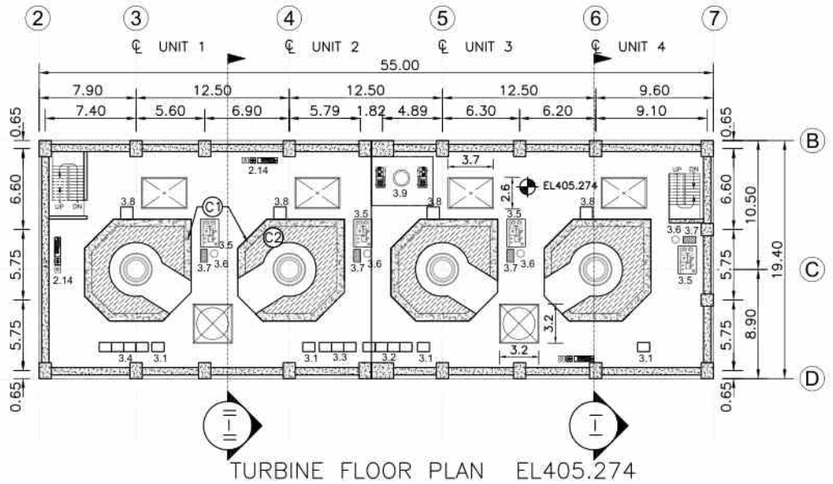
SMEC-EMAY-JADE-CMS in association with ECoCODE

SMEC Member of the Surbana Jurong Group

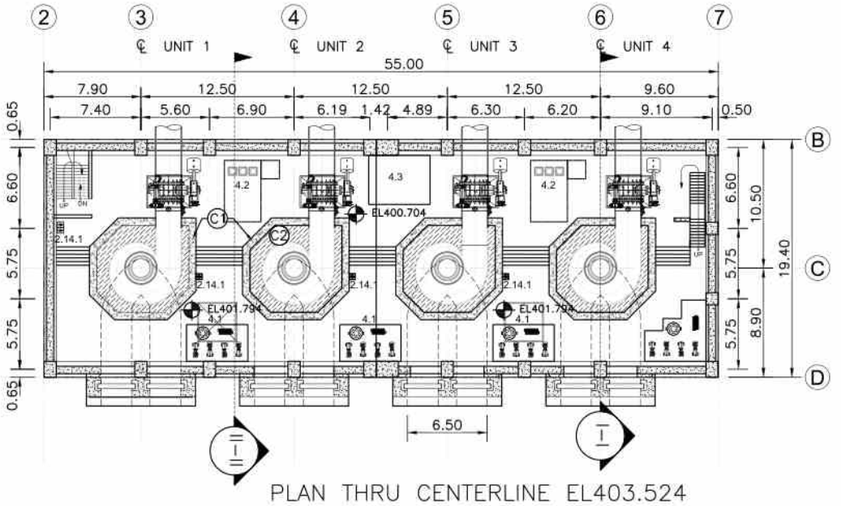
SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
	NAME	SIGN	DRAWING TITLE:	POWERHOUSE AREA-LAYOUT PLAN & L-SECTION
PREPARED BY			DRAWING NUMBER	CD-PH-03(REV-01)
CHECKED BY			SHEET NO:	2
APPROVED BY			SCALE:	AS SHOWN



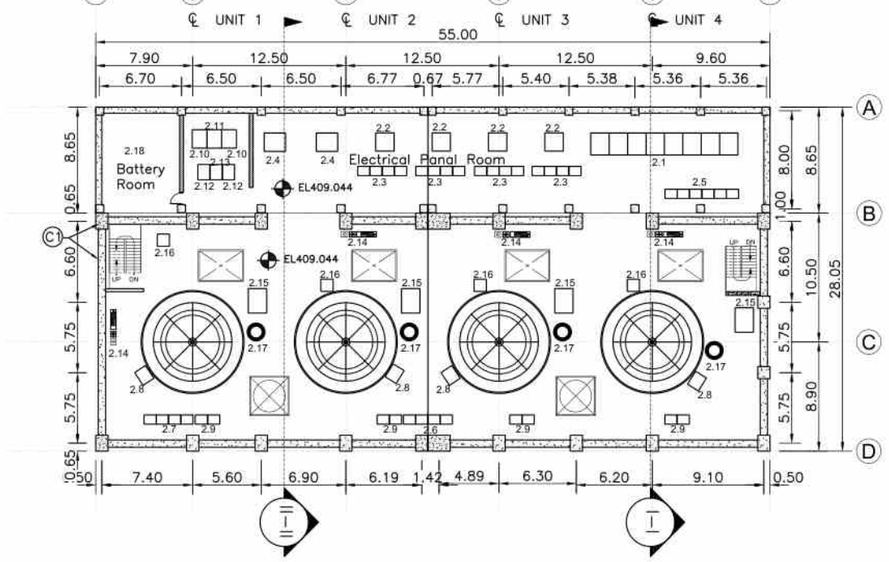
CONTROL ROOM FLOOR PLAN EL413.194



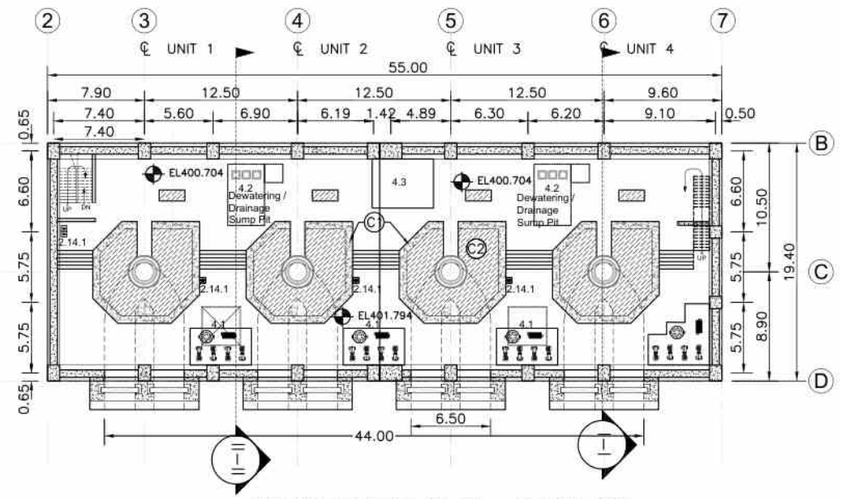
TURBINE FLOOR PLAN EL405.274



PLAN THRU CENTERLINE EL403.524



GENERATOR HALL FLOOR PLAN EL409.044



VALVE FLOOR PLAN EL401.794

NOTE:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0.1	Water Header Tank
0.2	Fire Pump House
0.3	Expansion Tank for Secondary Loop (Cooling)
1.1	Generator Protection Panel
1.2	Transformer Protection Panel
1.3	132 kV Busbar Protection Panel
1.4	132 kV Transmission Line Protection Panel
2.1	MV Switchgear Cubicles (11kV)
2.2	Excitation Transformers
2.3	Static Excitation System Cubicles
2.4	Station Transformers
2.5	LV Switchgear Cubicles (Main Switchboard)
2.6	Common MCC
2.7	Unit MCCs
2.8	Neutral Grounding Transformers
2.9	Unit Control Board
2.10	Battery Charger 1/2
2.11	DC Distribution Board – Main
2.12	Inverter 1/2
2.13	Emergency ACDB
2.14	Firefighting Stations
2.14.1	Portable Fire Extinguisher
2.15	Lube Oil Plants
2.16	High Pressure Plant
2.17	Secondary Air Receiver (Generator Brakes)
3.1	Governor Control Panel
3.2	Cooling Water Pump Motor Control Cubicles
3.3	Dewatering/Drainage Pump Motor Control Cubicles
3.4	Common MCC
3.5	Oil Pressure Unit
3.6	N2/Oil Accumulator
3.7	N2 Bank
3.8	Brake Dust Collector
3.9	Low Pressure Compressed Air Plant
4.1	Cooling Water Pump Stations
4.2	Dewatering Pump Stataions
4.3	Clean Water Plant

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206–1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY

0 2.5 5 10 15 20

SCALE 1:500

CLIENT

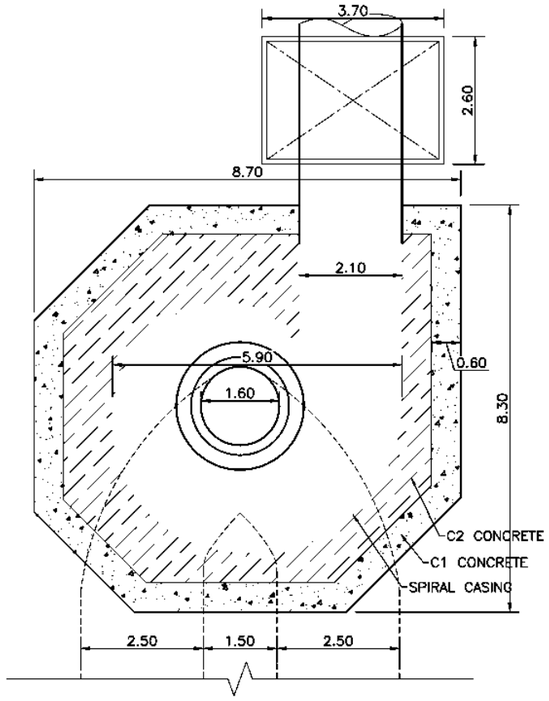
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

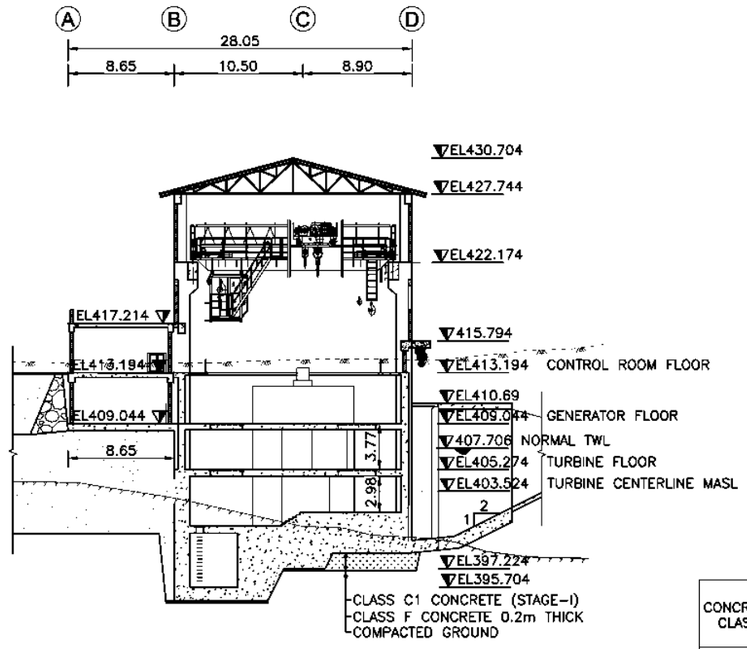
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	POWERHOUSE FLOOR PLAN
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-PH-05
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
			APPROVED BY			SCALE:	SCALE - 1:500



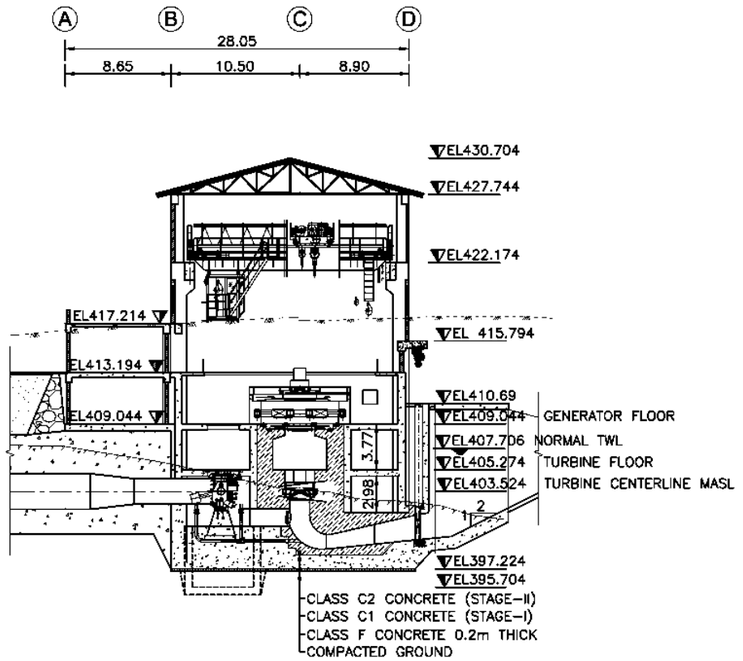
UNIT PLAN



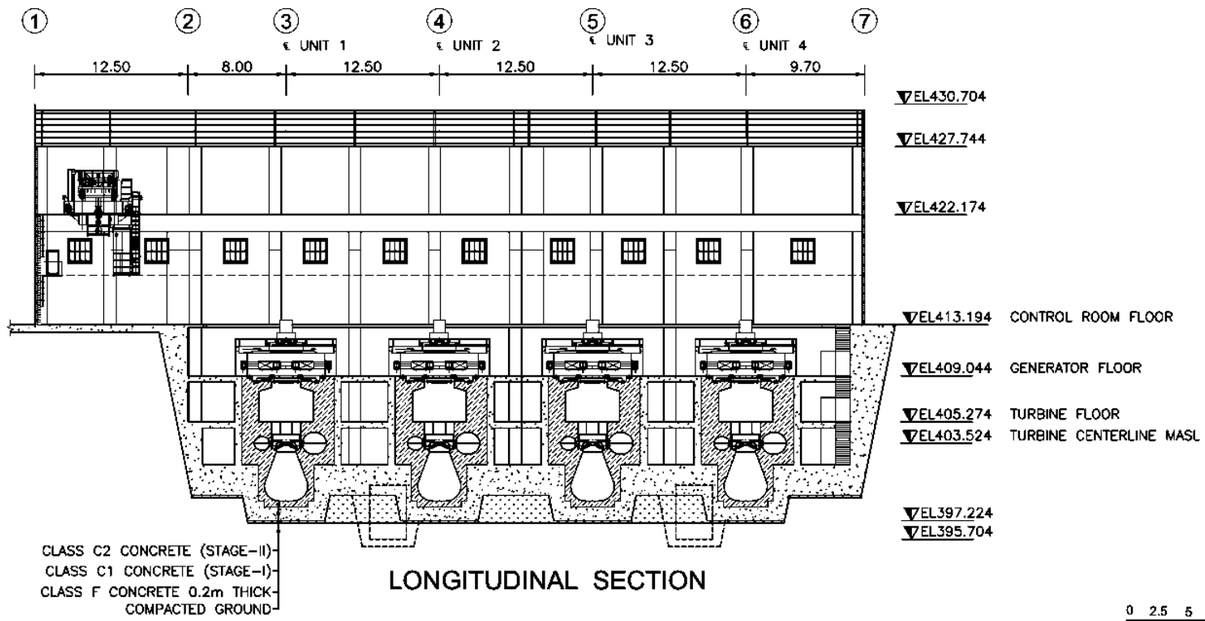
CROSS SECTION II-II

NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
C2	C30/37(XC4,XM2)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
F	C12/15(X0)	BLINDING CONCRETE



CROSS SECTION I-I



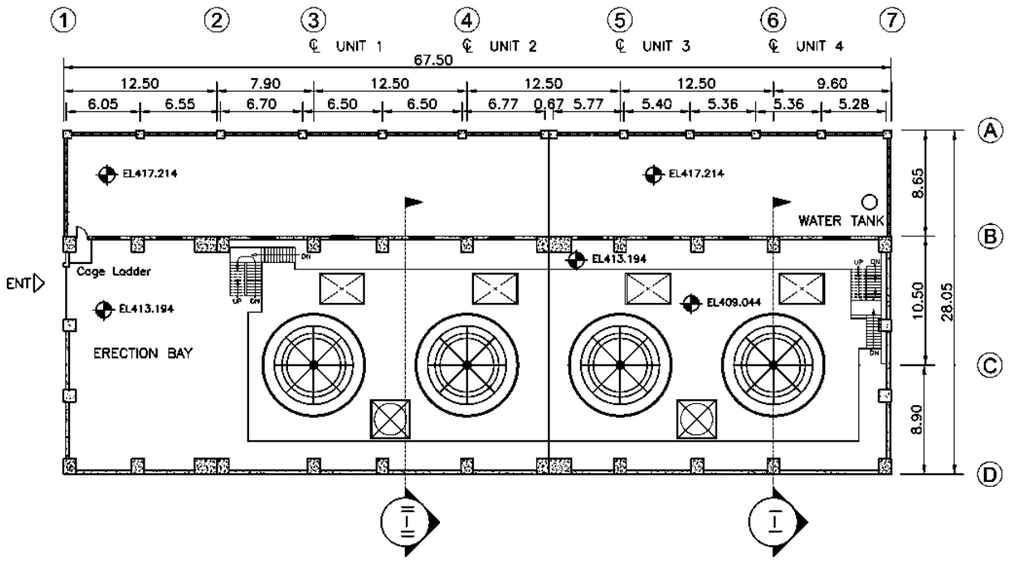
LONGITUDINAL SECTION

0 2.5 5 10 15 20
SCALE 1:500

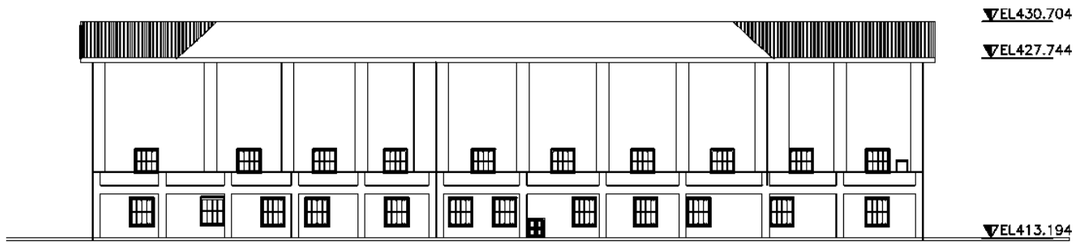
CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
PROJECT
SUPER MARSYANGDI DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

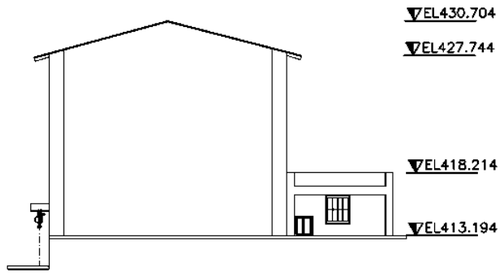
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	PH. PLAN CROSS SECTIONS & LONGITUDINAL SECTION
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-PH-05
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	2
			APPROVED BY			SCALE:	SCALE - 1:500



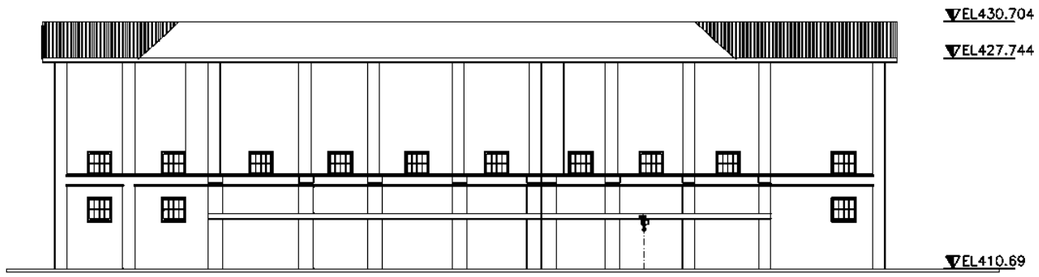
TERRACE FLOOR PLAN EL417.214



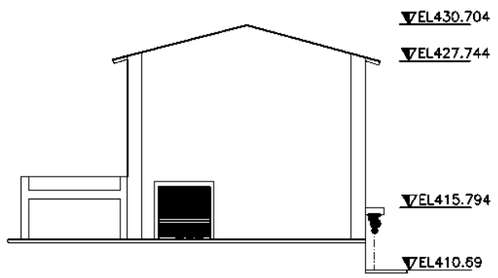
FRONT ELEVATION



SIDE ELEVATION



BACK ELEVATION

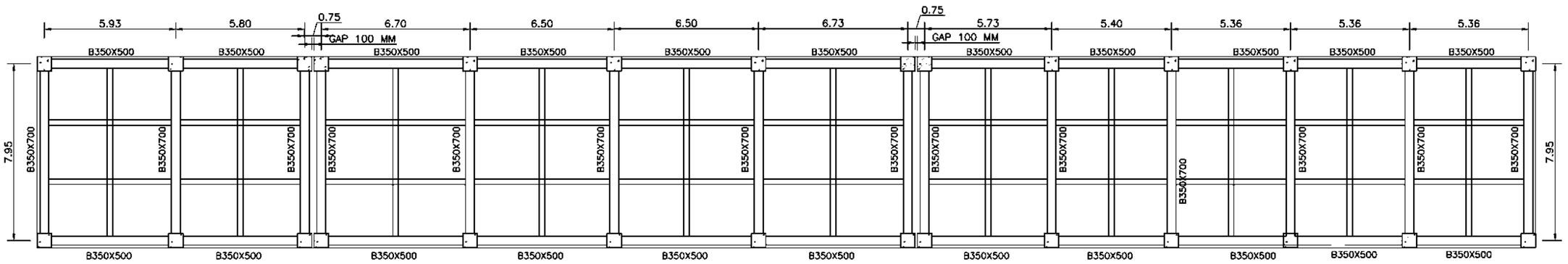


SIDE ELEVATION

NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

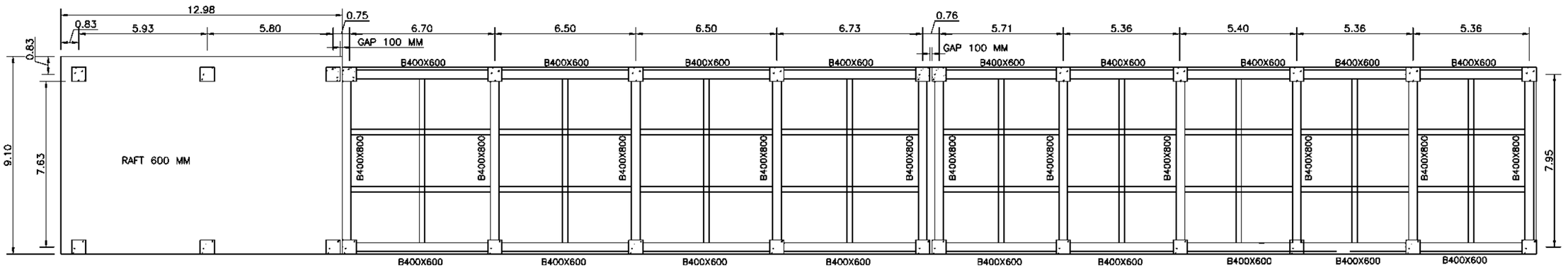
0 2.5 5 10 15 20
SCALE 1:500

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	POWERHOUSE TERRACE PLAN AND ELEVATIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-PH-05
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	3
					APPROVED BY			SCALE:	SCALE - 1:500



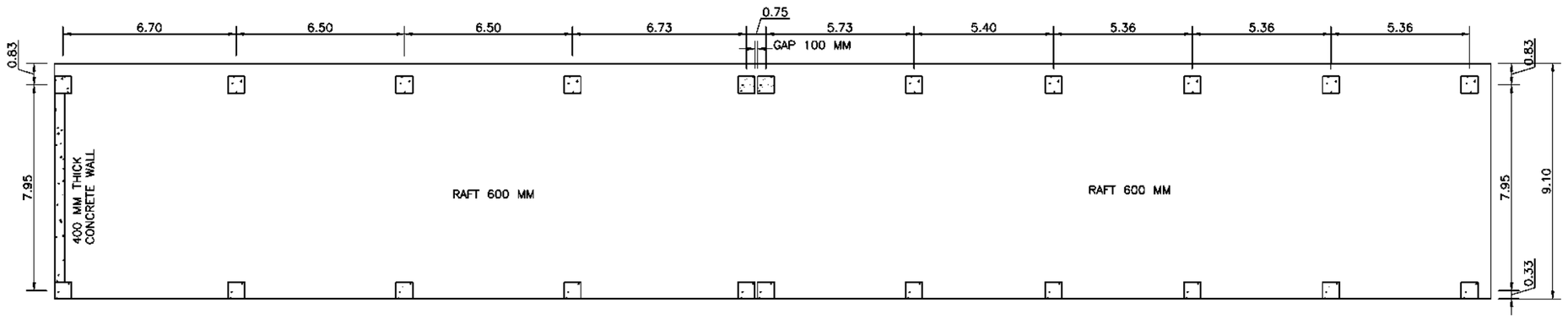
FRAMING PLAN AT EL417.214

SLAB: 150 MM
SECONDARY BEAM : 250 MM X 400 MM
COLUMN: 650 MM X 650 MM



FRAMING PLAN AT EL413.194

SLAB: 200 MM
SECONDARY BEAM : 250 MM X 500 MM
COLUMN: 650 MM X 650 MM



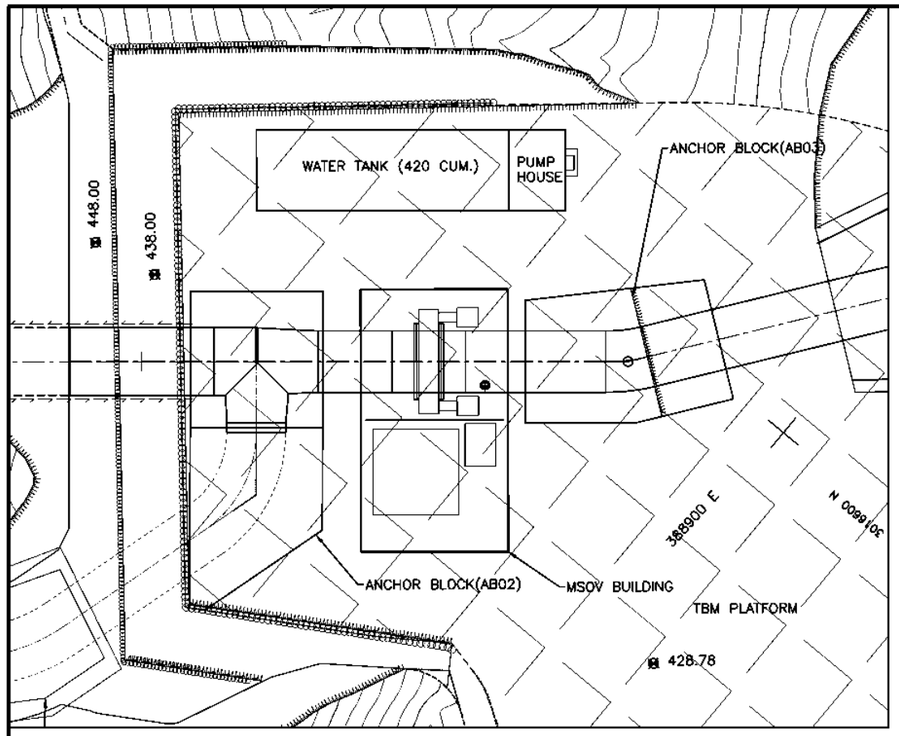
FRAMING PLAN AT EL409.044

SLAB: 200 MM
SECONDARY BEAM : 250 MM X 500 MM
COLUMN: 650 MM X 650 MM

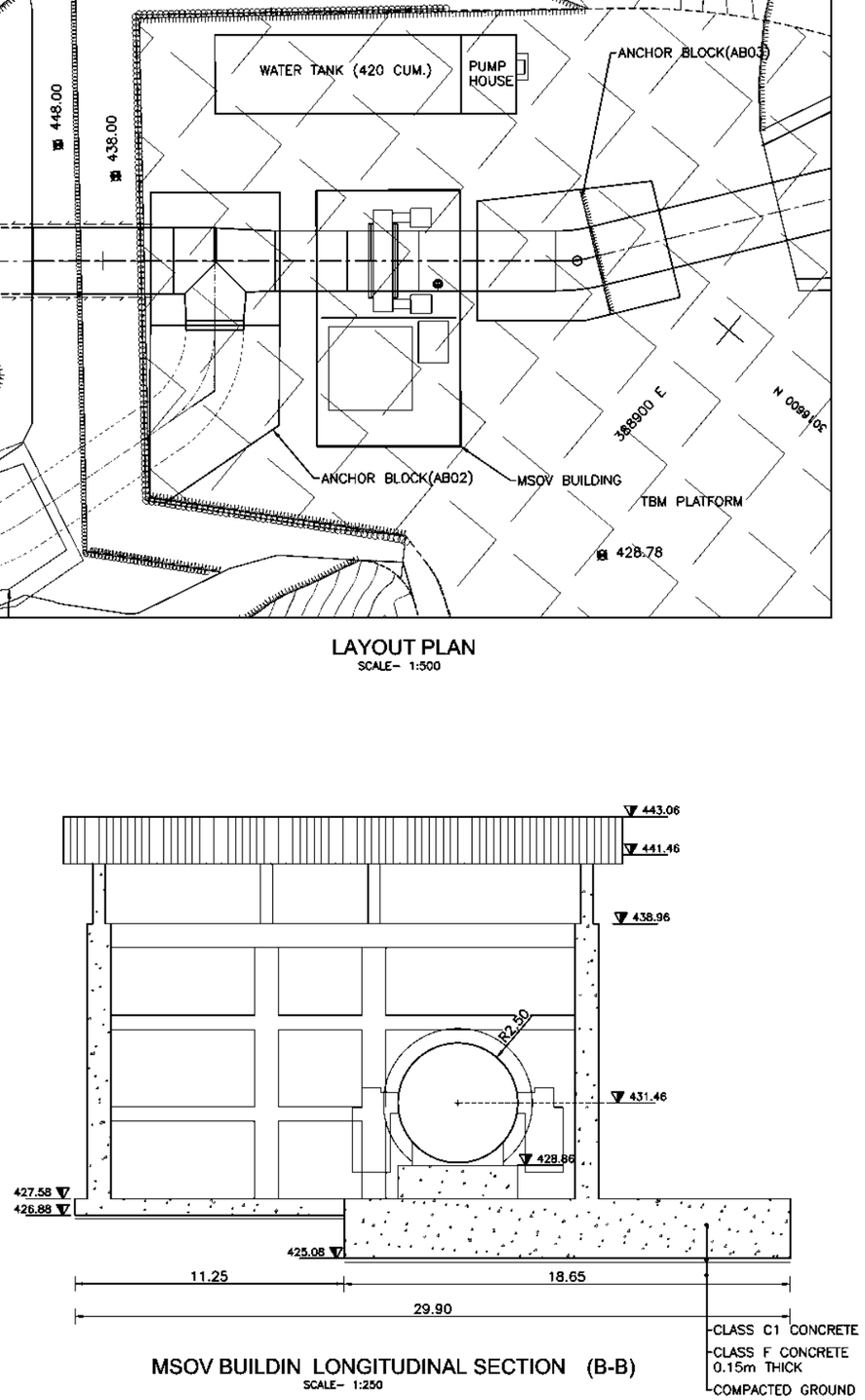
NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0 1 2 4 6 8
SCALE 1:200

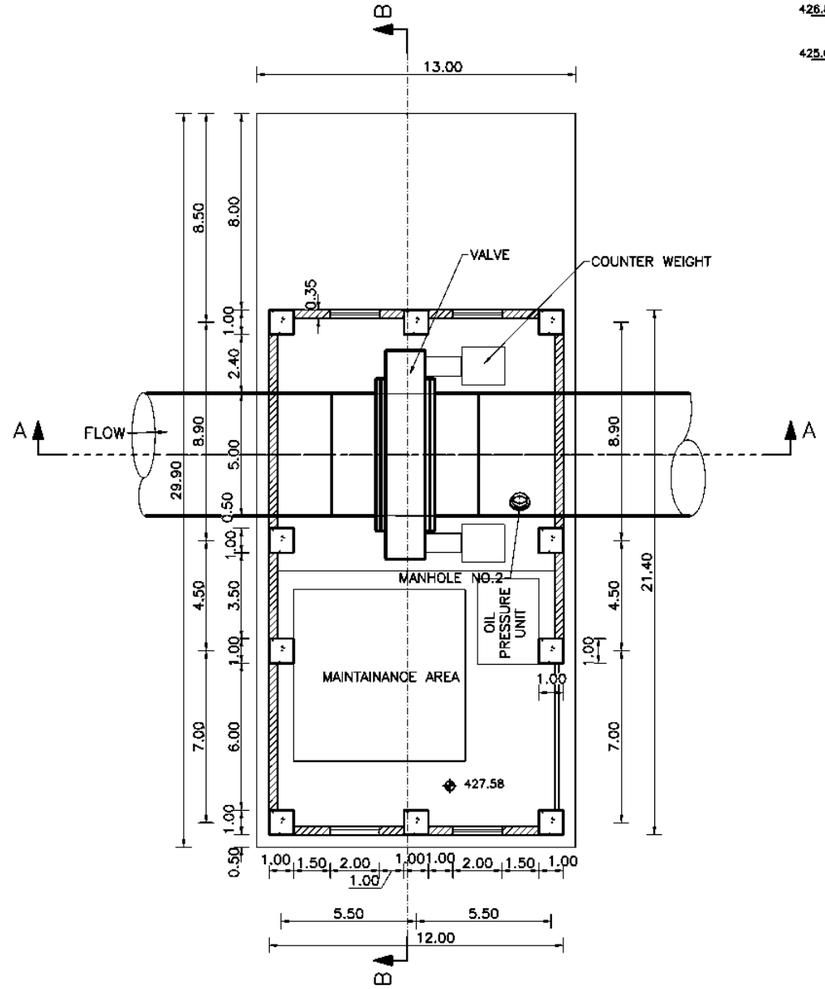
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	CONTROL BUILDING FRAMING PLAN
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-PH-05
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	4
					APPROVED BY			SCALE:	SCALE - 1:200



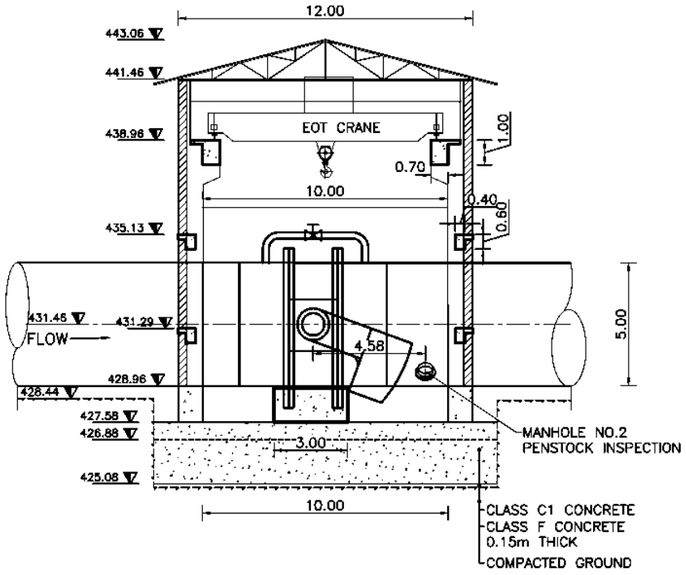
LAYOUT PLAN
SCALE- 1:500



MSOV BUILDIN LONGITUDINAL SECTION (B-B)
SCALE- 1:250



MSOV BUILDING PLAN
SCALE- 1:250



MSOV BUILDING CROSS SECTION (A-A)
SCALE- 1:250

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
F	C12/15(X0)	BUILDING CONCRETE

0 1.25 2.5 5 7.5 10
SCALE 1:250

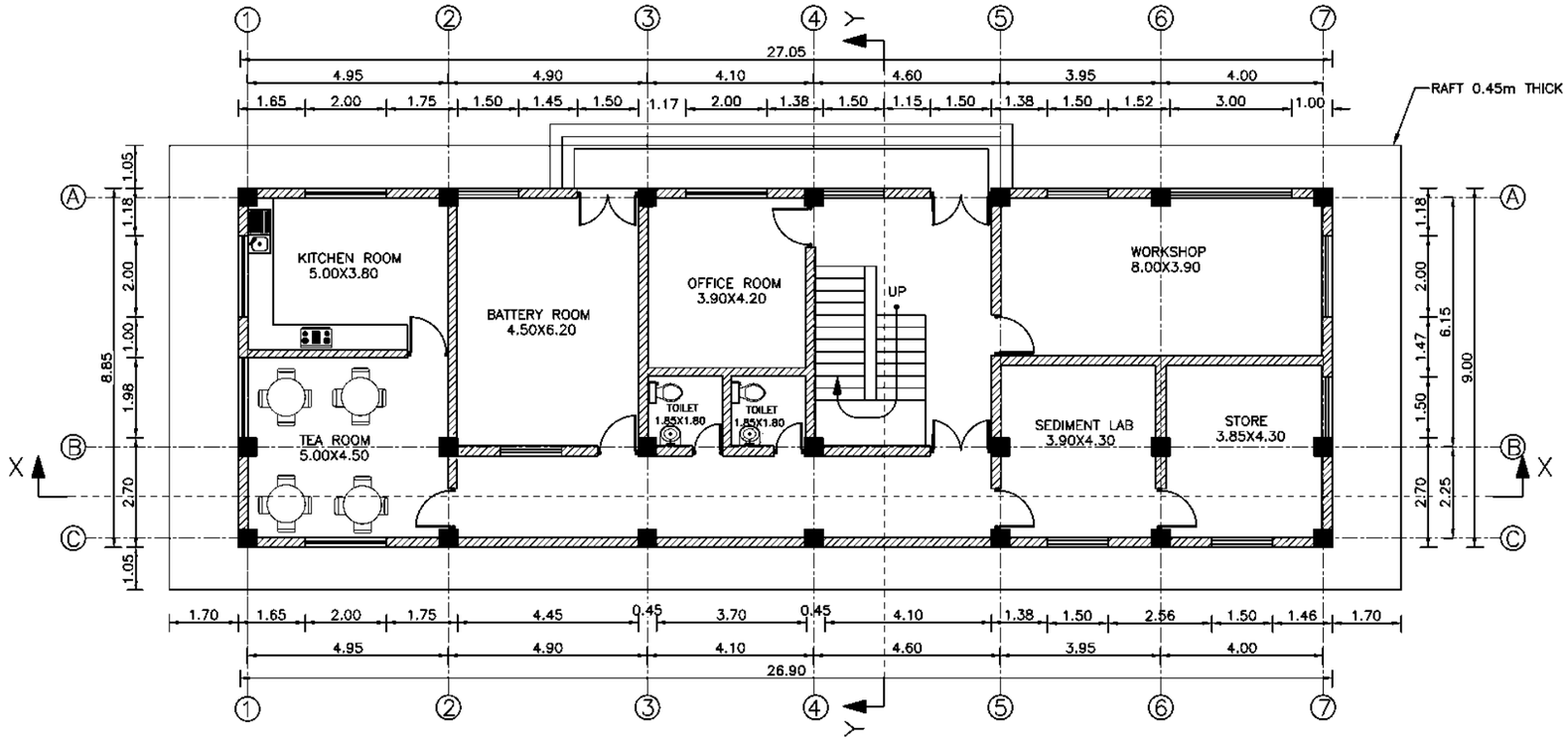
0 2.5 5 10 15 20
SCALE 1:500

CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

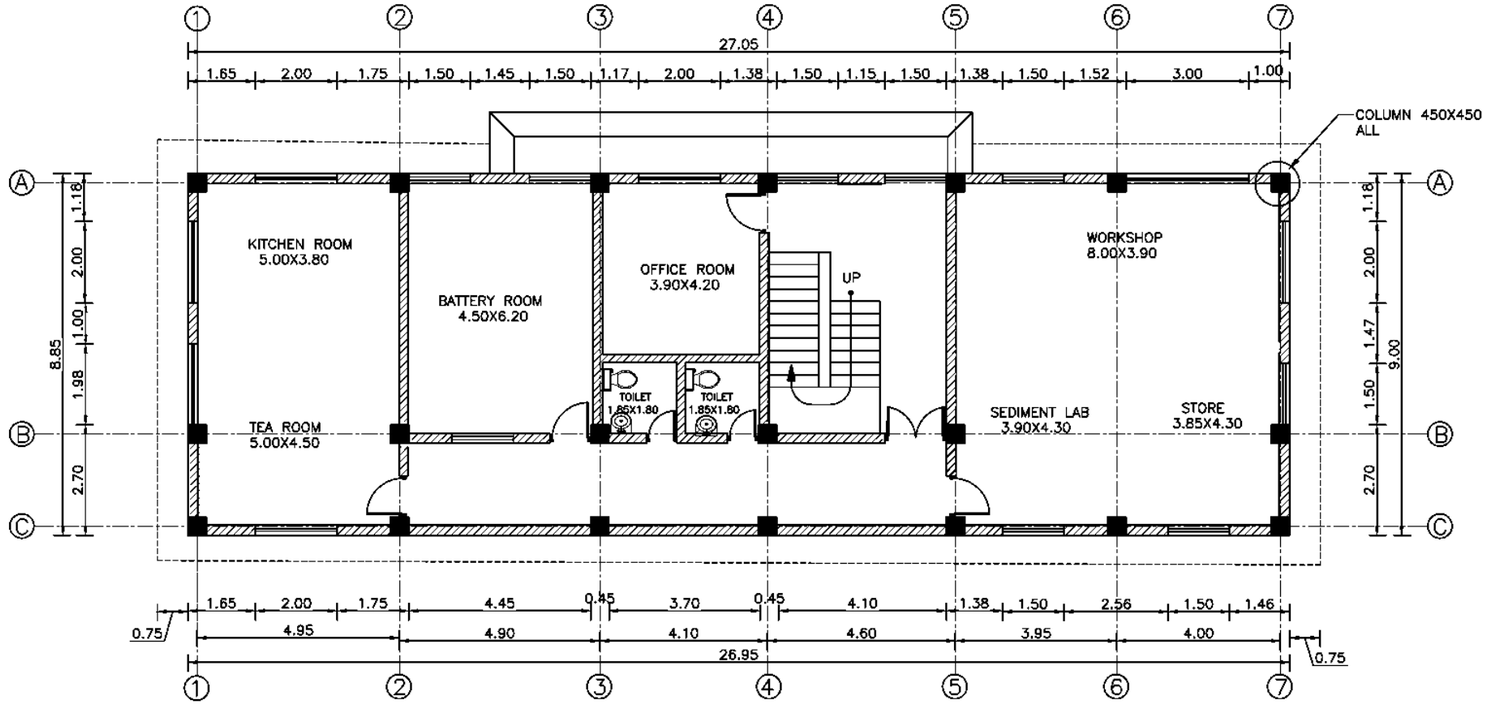
CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	MSOV BUILDING - PLAN & SECTIONS
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-PH-6
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
			APPROVED BY			SCALE:	SCALE - AS SHOWN

NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



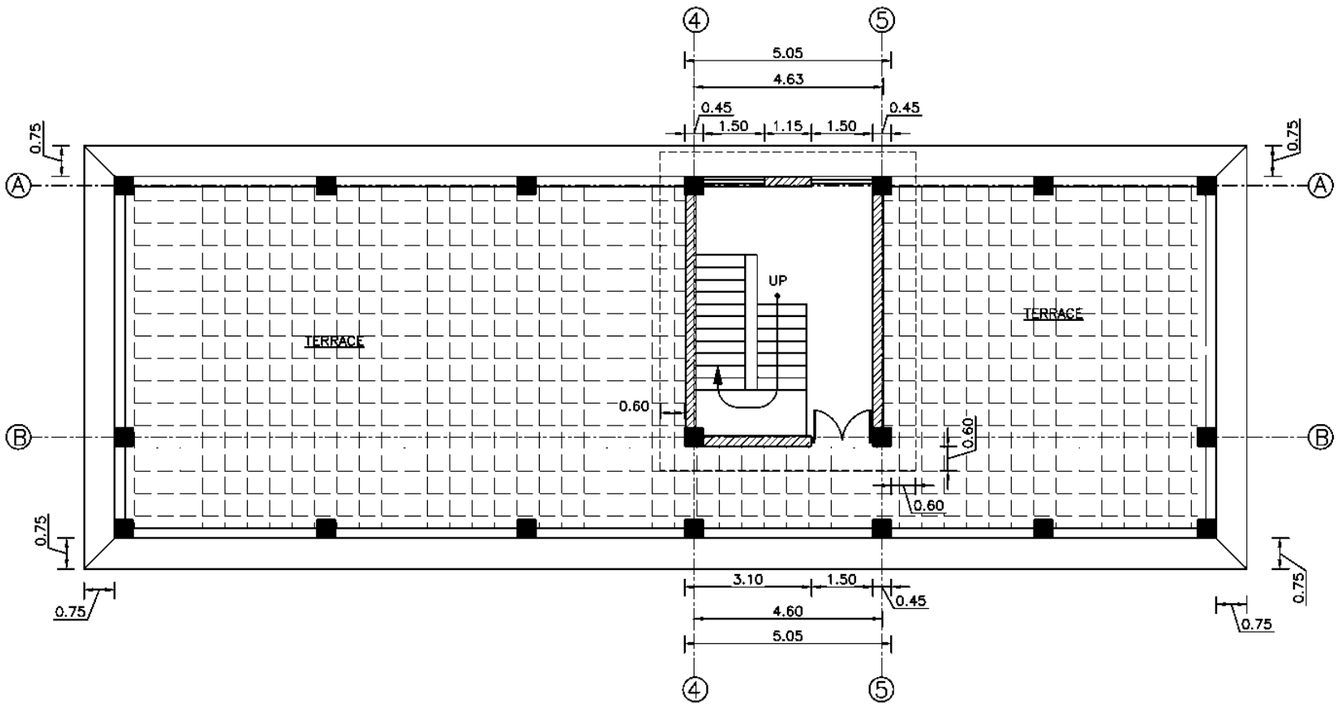
GROUND FLOOR PLAN EL 474.18



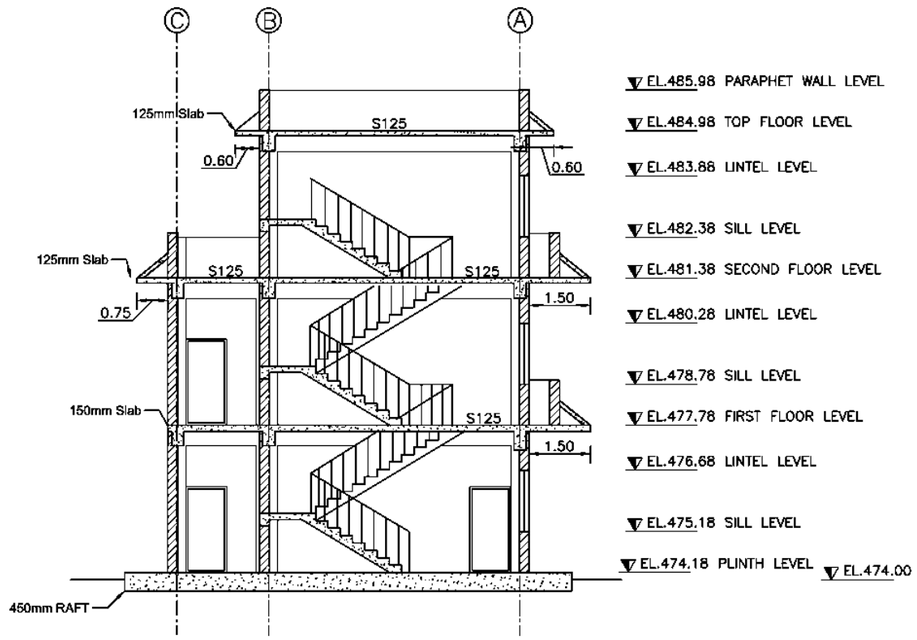
FIRST FLOOR PLAN EL477.78

0 0.75 1.5 3 4.5 6 7.5 m
Scale 1:150

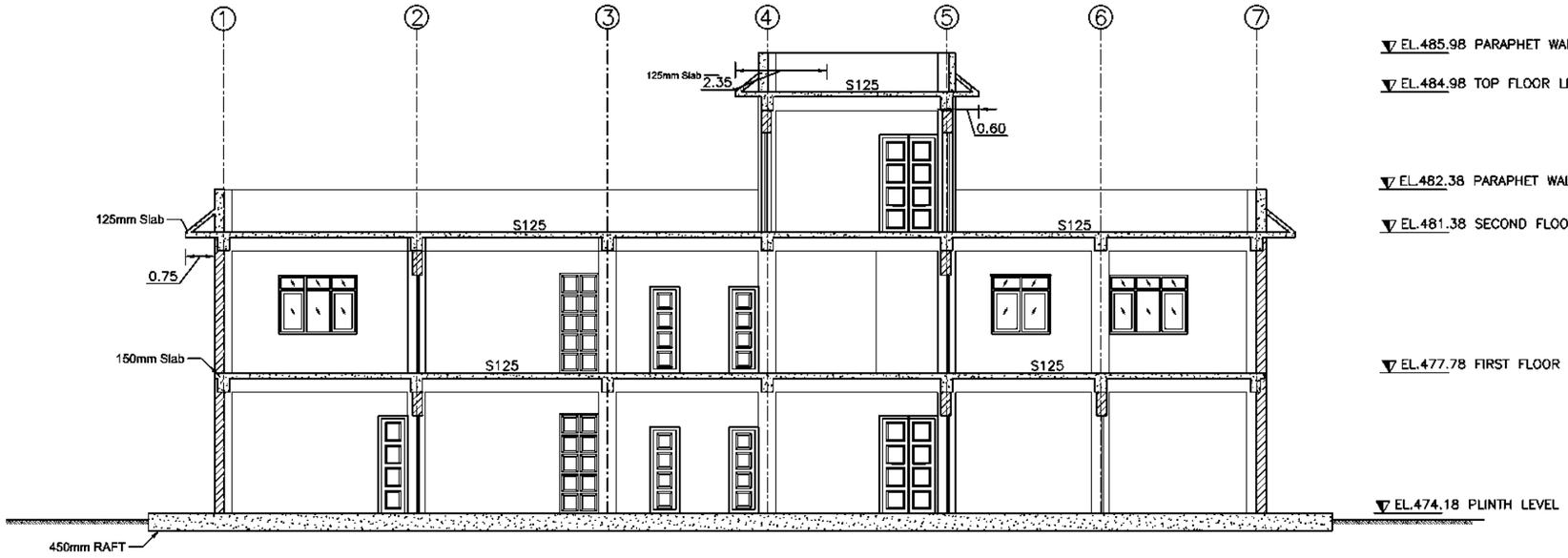
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HEADWORKS CONTROL BUILDING PLAN
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-BA-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE - 1:150



SECOND FLOOR PLAN EL481.38



SECTION Y–Y



SECTION X–X

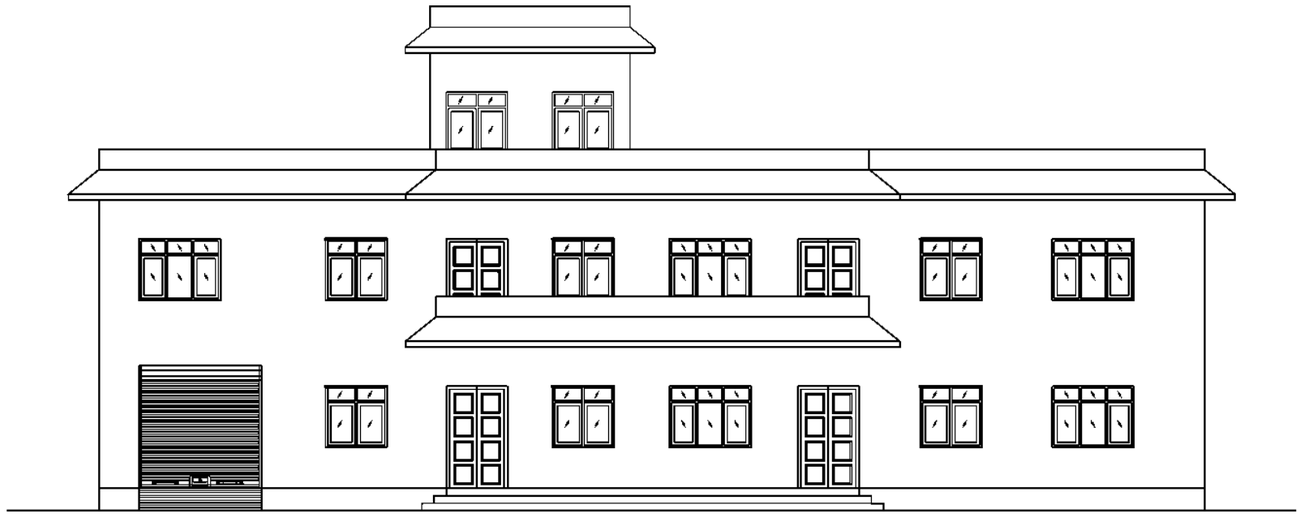
NOTE:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

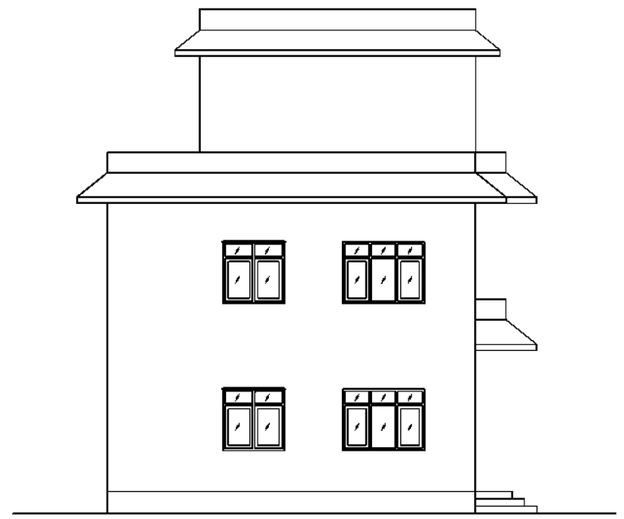
0 0.75 1.5 3 4.5 6 7.5 m

Scale 1:150

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNSARI MORANG DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HEADWORKS CONTROL BUILDING PLAN AND SECTIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-BA-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	2
					APPROVED BY			SCALE:	SCALE - 1:150



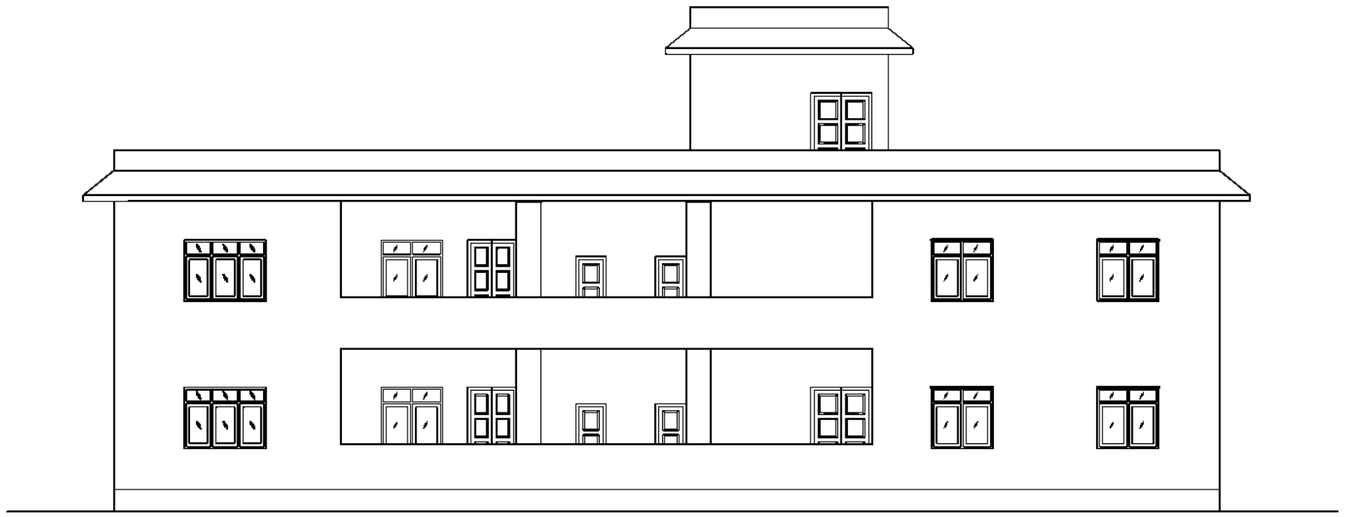
FRONT ELEVATION



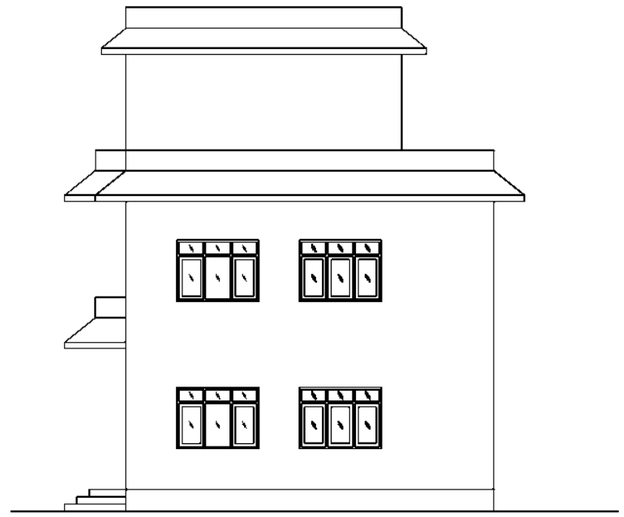
SIDE ELEVATION

NOTE:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



BACK ELEVATION



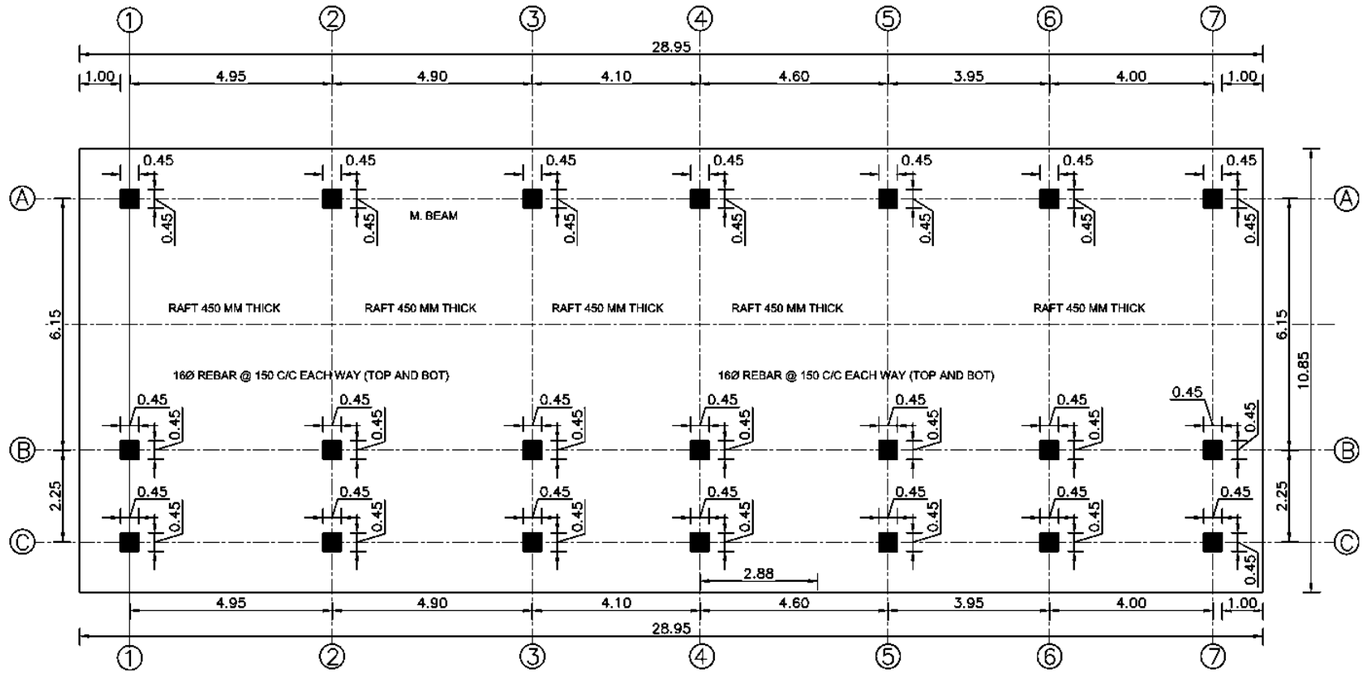
SIDE ELEVATION

0 0.75 1.5 3 4.5 6 7.5 m

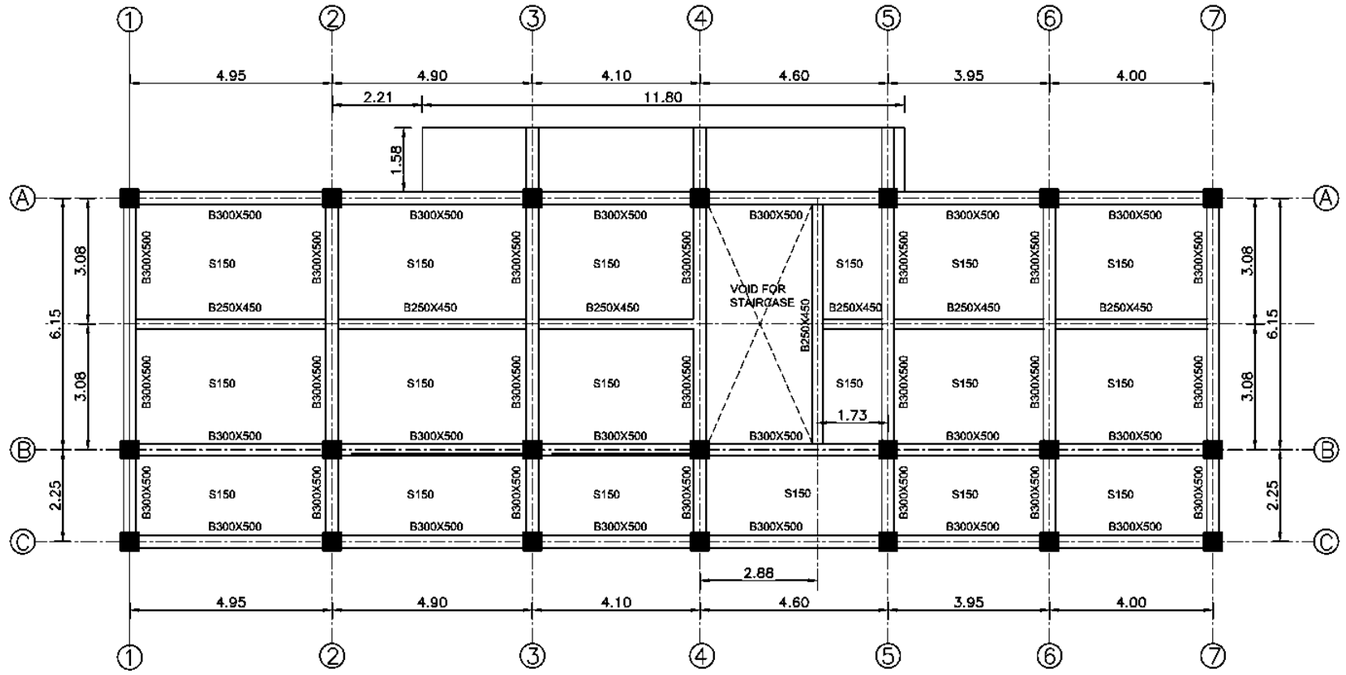
Scale 1:150

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: SINDHULI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HEADWORKS CONTROL BUILDING ELEVATIONS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-BA-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	3
					APPROVED BY			SCALE:	SCALE - 1:150

NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



GROUND FLOOR PLAN

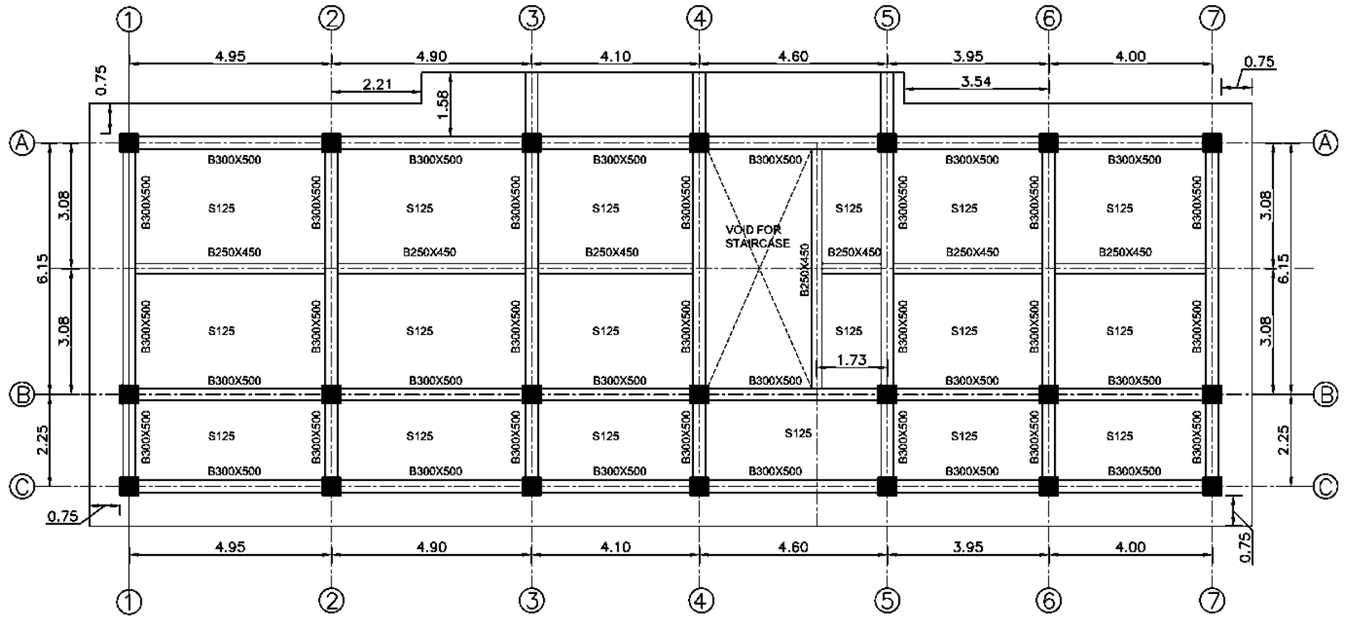


FIRST FLOOR PLAN

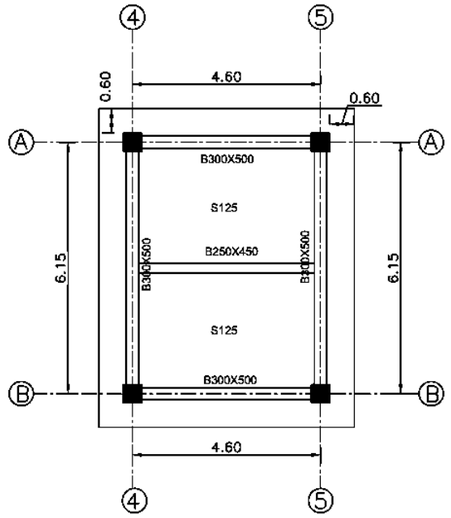
0 0.75 1.5 3 4.5 6 7.5 m
Scale 1:150

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNSARI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HEADWORKS CONTROL BUILDING- FRAMING PLAN
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-BA-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	4
					APPROVED BY			SCALE:	SCALE - 1:150

NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



SECOND FLOOR PLAN

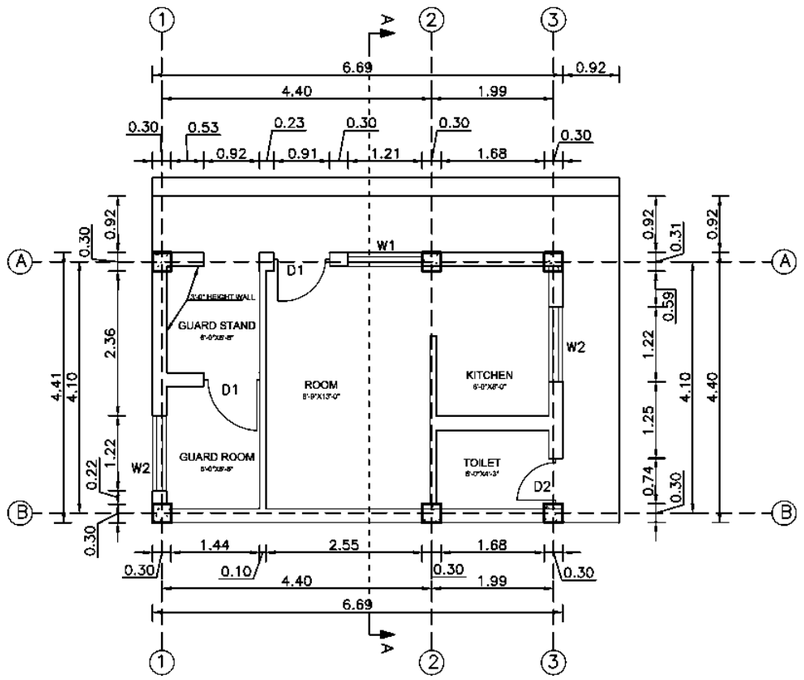


ROOF FLOOR PLAN

0 0.75 1.5 3 4.5 6 7.5 m
Scale 1:150

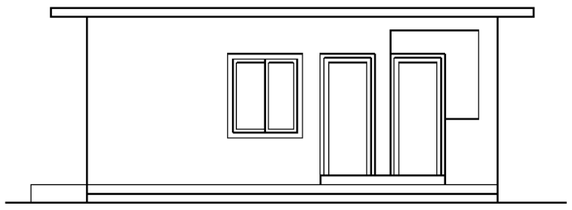
CLIENT: GOVERNMENT OF NEPAL, MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION, DEPARTMENT OF WATER RESOURCES AND IRRIGATION. PROJECT: SINDHULI DIVERSION MULTIPURPOSE PROJECT, SINDHULI, NEPAL	CONSULTANT: NEA ENGINEERING COMPANY LTD., TRADE TOWER, THAPATHALI, KATHMANDU, NEPAL	PROJECT			DWRI			DRAWING DETAIL	
			NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HEADWORKS CONTROL BUILDING- FRAMING PLAN
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-BA-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	5
					APPROVED BY			SCALE:	SCALE - 1:150

NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

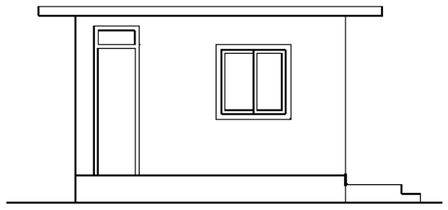


GUARD HOUSE BLOCK FLOOR PLAN
AREA: 29.514 sq.m.

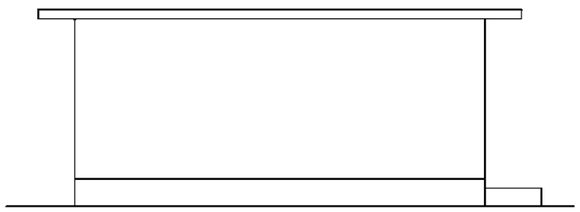
SECTION AT A–A



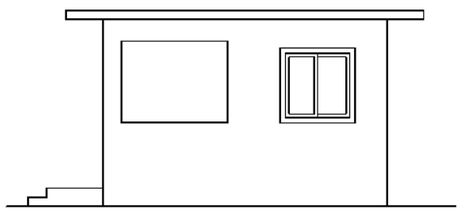
FRONT ELEVATION



RIGHT ELEVATION



BACK ELEVATION



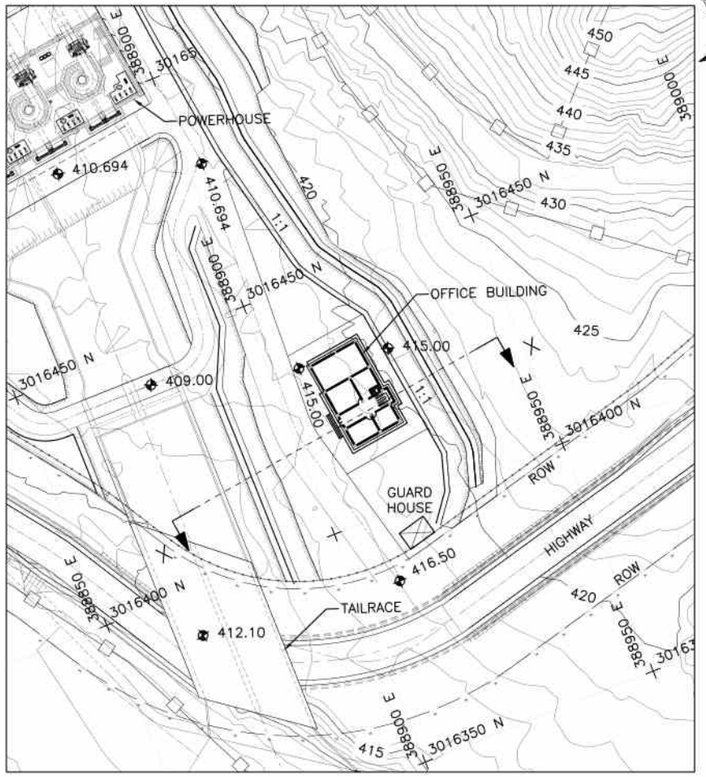
LEFT ELEVATION

OPENING SCHEDULE

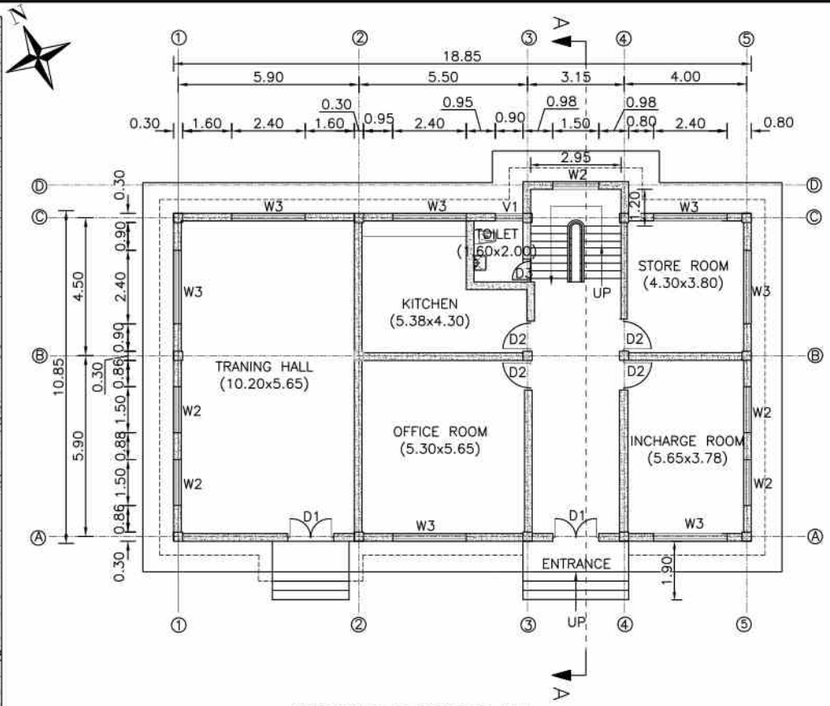
S.No	PARTICULARS	SYMBOL	SIZE	Nos
1.	DOOR	D1	0.9m X 2.133m	2
2.	DOOR	D2	0.762m X 2.438m	1
3.	WINDOW	W1	1.219m X 1.524m	1
4.	WINDOW	W2	1.219m X 1.219m	2

0 0.5 1 2 3 4
SCALE 1:100

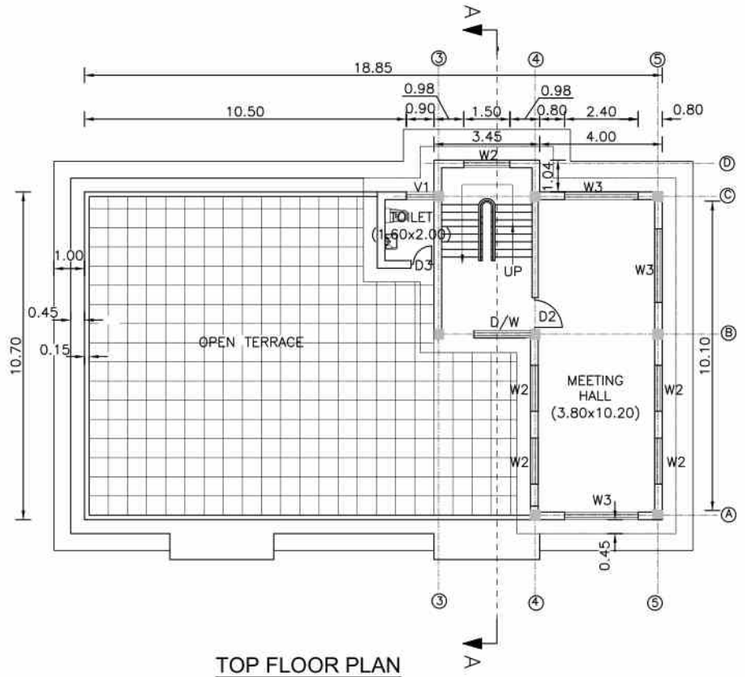
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	GUARD HOUSE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-BA-02
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE - 1:100



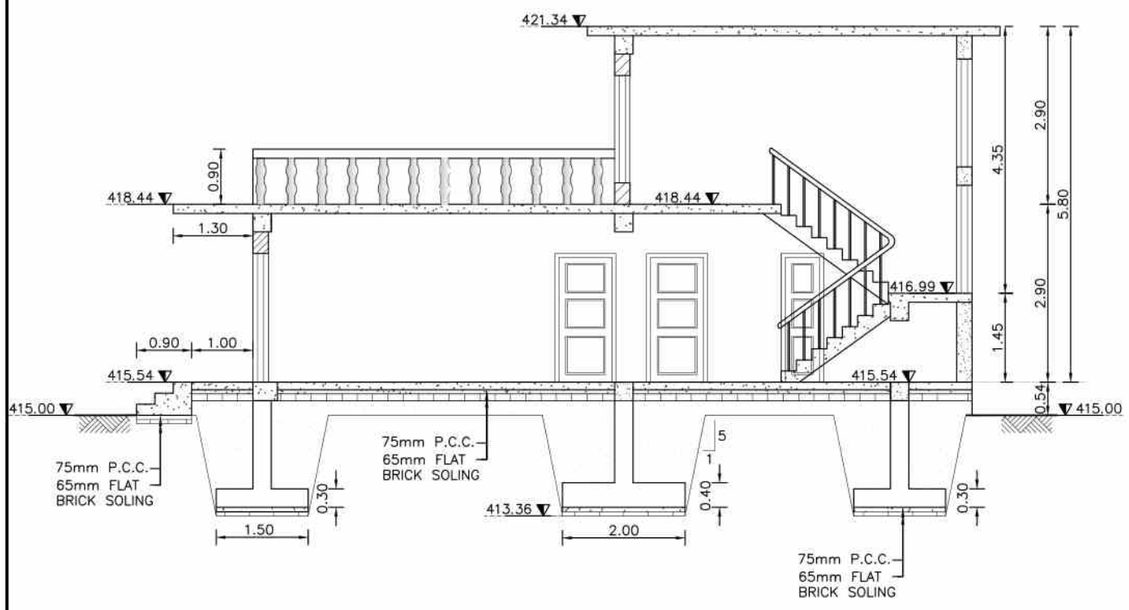
PLAN
SCALE 1:1250



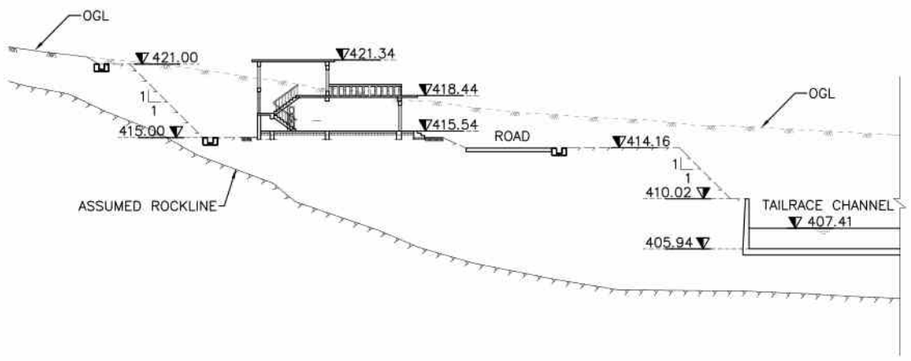
GROUND FLOOR PLAN
(OFFICE BUILDING)
SCALE: 1:200



TOP FLOOR PLAN
(OFFICE BUILDING)
SCALE: 1:200



SECTION AT A-A
SCALE: 1:100



PROFILE ALONG X-X - OFFICE BULDING
SCALE 1:500

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

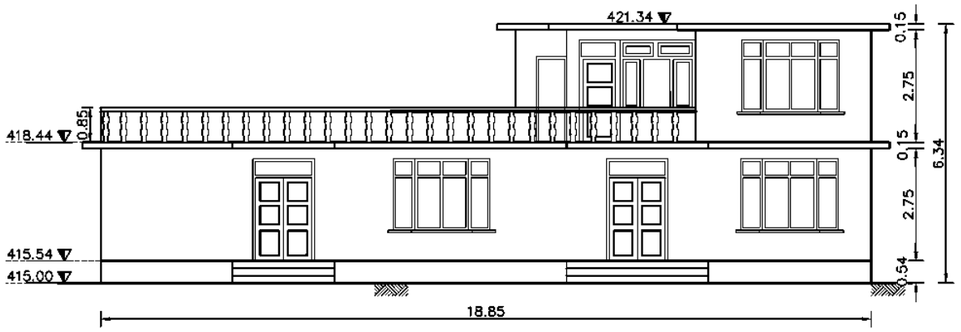
0 0.5 1 2 3 4
SCALE 1:100

0 1 2 4 6 8
SCALE 1:200

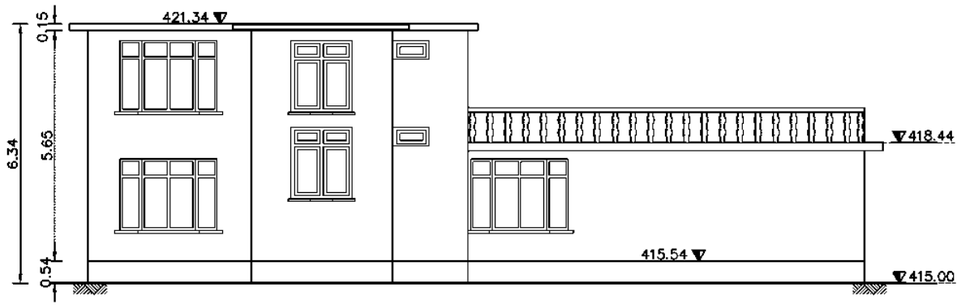
0 2.5 5 10 15 20
SCALE 1:500

0 6.25 12.5 25 37.5 50
SCALE 1:1250

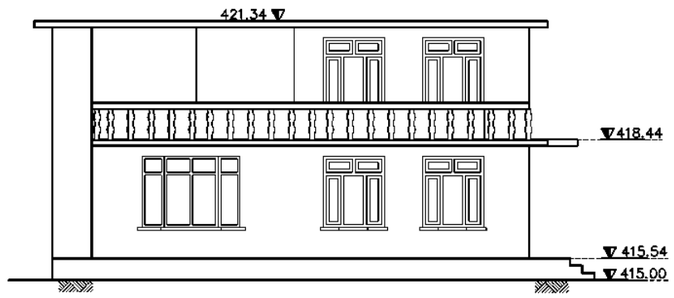
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNSARI MORANG DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	POWERHOUSE - OFFICE BUILDING PLAN, ELEVATION AND SECTION
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-BA-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	AS SHOWN



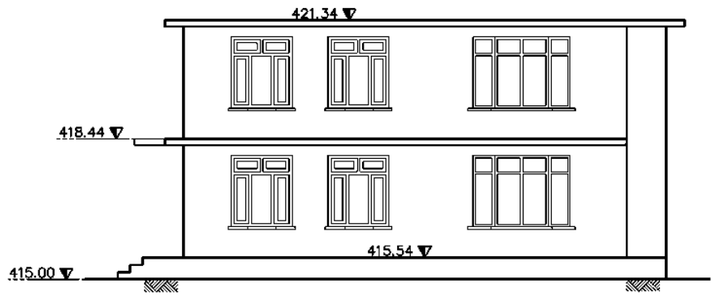
WEST ELEVATION



EAST ELEVATION



NORTH ELEVATION



SOUTH ELEVATION

OPENING SCHEDULE

S.No.	SYMBOL	DESCRIPTION	SIZE (LENGTH X BREADTH)	NUMBER
1	D1	PANEL DOOR	(1.5m x 2.5m)	2
2	D2	PANEL DOOR	(1.0m x 2.1m)	6
3	D3	PANEL DOOR	(0.75m x 2.1m)	2
4	W2	WINDOW	(1.50m x 1.75m)	10
5	W3	WINDOW	(2.40m x 1.75m)	10
6	V_1	VENTILATION	(0.9m x 0.45m)	2
7	DW	WINDOW	(1.7m x 1.75m)	1

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0 0.75 1.5 3 4.5 6

SCALE 1:150

CLIENT
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION
DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER, THAPATHALI,
KATHMANDU, NEPAL

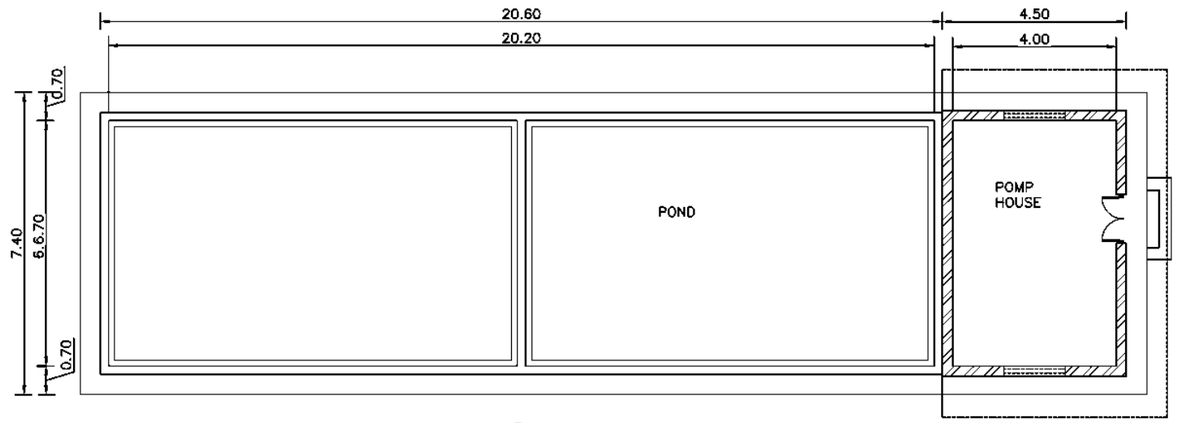
PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

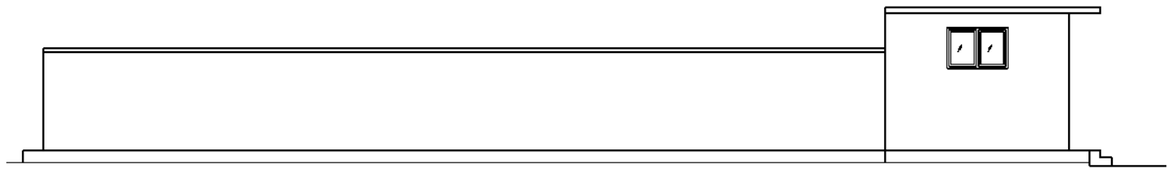
DRAWING DETAIL	
DRAWING TITLE:	POWERHOUSE - OFFICE BUILDING PLAN, ELEVATION AND SECTION
DRAWING NUMBER	CD-BA-03
SHEET NO:	2
SCALE:	SCALE 1: 150

NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

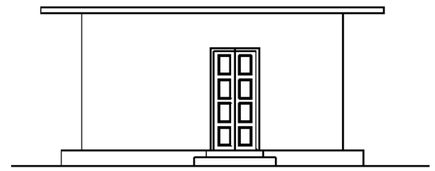
CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY
F	C12/15(X0)	BLINDING CONCRETE



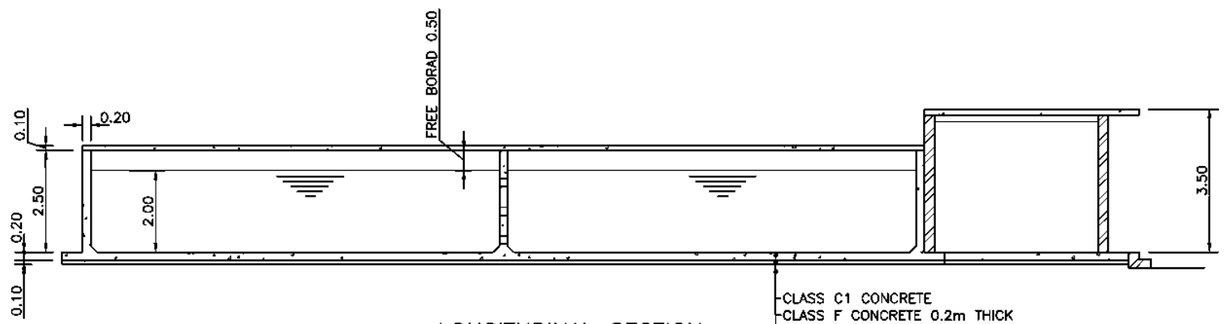
PLAN



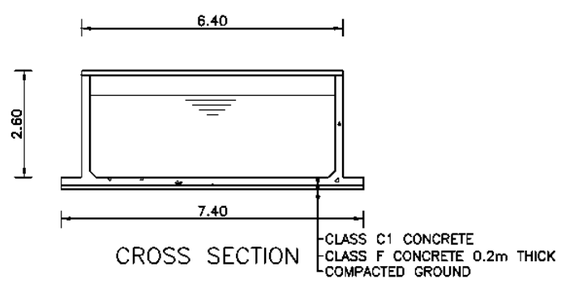
SIDE ELEVATION



FRONT ELEVATION



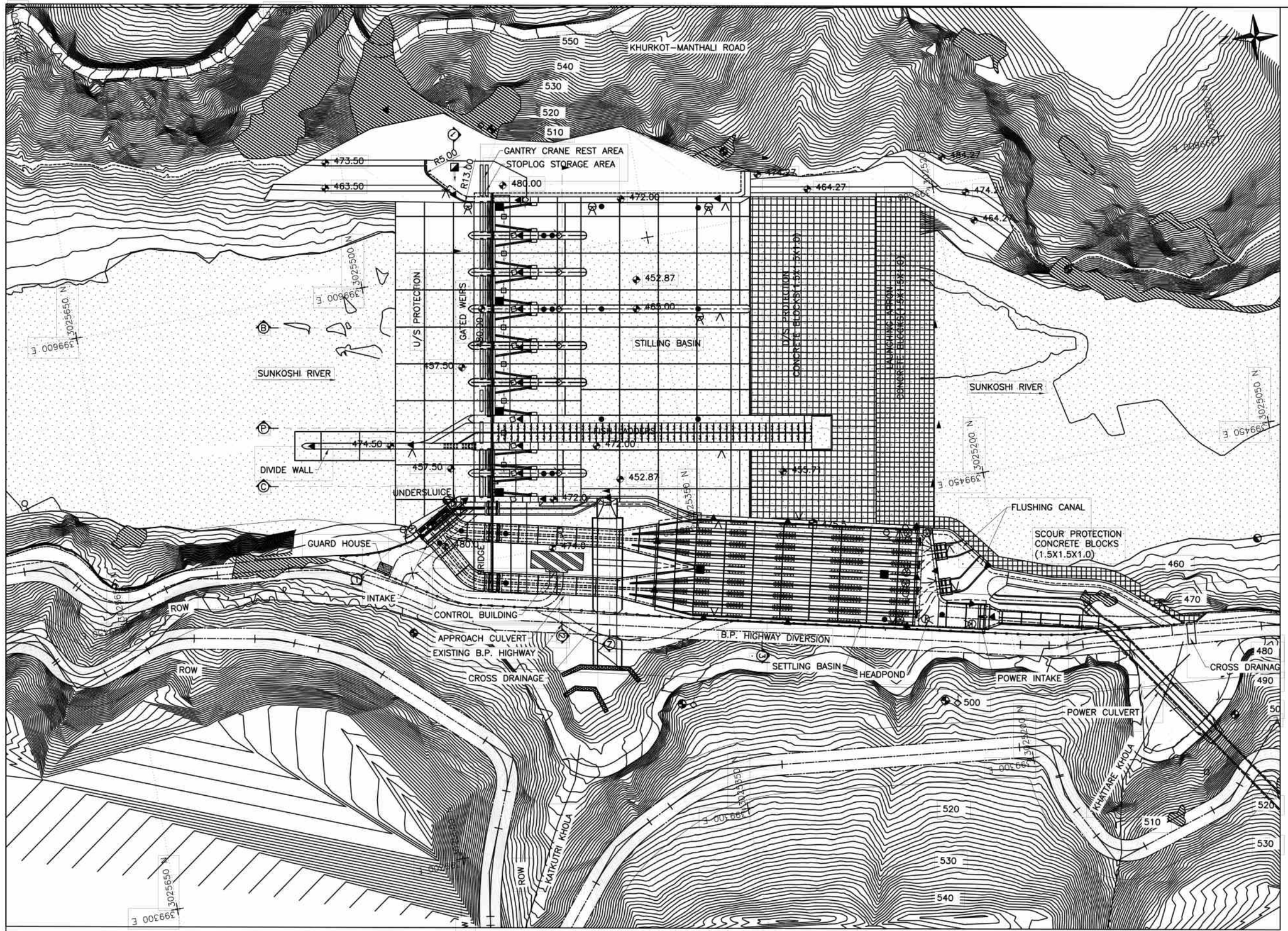
LONGITUDINAL SECTION



CROSS SECTION

0 0.75 1.5 3 4.5 6 7.5 m
Scale 1:150

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	FIRE FIGHTING WATER TANK & PUMP HOUSE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-BA-04
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE - 1:150



HEADWORKS LAYOUT PLAN

SCALE 1:2000

NOTES:

1) ALL INSTRUMENTATION EQUIPMENT SHALL BE OF APPROVED MANUFACTURER AND APPROVED INSTALLATION PROCEDURE SHALL BE FOLLOWED.
2) FINAL LOCATION OF BENCH MARKS, FIXED POINTS AND DEPTH OF EQUIPMENT SHALL BE AS DIRECTED BY THE ENGINEER.
3) ONE FLOOD GAUGE ON EACH OF TAMAKOSHI AND SUNKOSHI AT 3-5 KM US OF DAM AXIS OR WHEREVER APPROPRIATE.
4) ALL THE AUTOMATIC INSTRUMENT SHOULD HAVE READOUT UNITS.
5) CONTRACTOR SHOULD PREPARE THE LAYOUT OF ALL THE INSTRUMENT AND READOUT UNITS (DATA LOGGERS).
6) THE DATA RECORDER SHOULD HAVE SYSTEM TO ACCESS REMEDY WHEREVER POSSIBLE.

LEGEND:

SYM	INSTRUMENT	NOS.
●	PIEZOMETER	18
■	TEMPERATURE SENSOR	6
-□-	JOINT METER	
◆	BENCH MARK	7
	ACCELEROMETER	1
◑	AUTOMATED FLOOD GAUGE	4
▲	SETTLEMENT PEG	31
	WATER LEVEL STAFF GAUGE	80m
	STAND PIPE	
	STRAIN GAUGE	6
	INCLINOMETER	16
	SEDIMENT MEASUREMENT EQUIPMENT	5

0 10 20 40 60 80

SCALE 1:2000

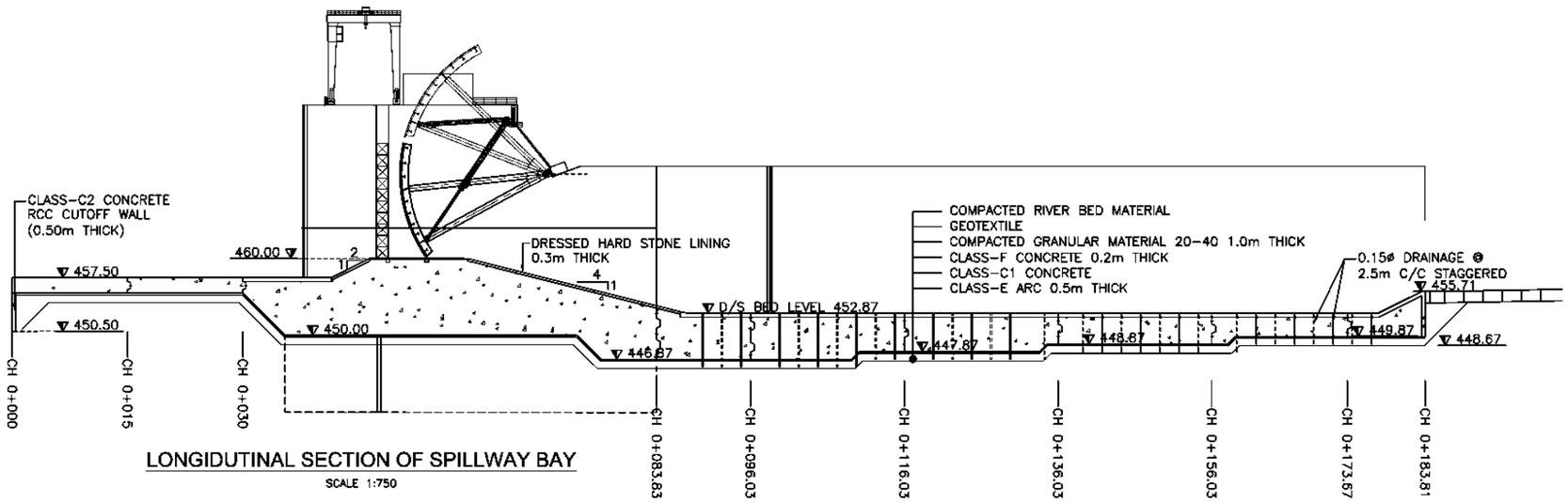
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	INSTRUMENTATION DRAWING - HEADWORKS
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-IN-01(REV-01)
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
			APPROVED BY			SCALE:	SCALE 1: 2000

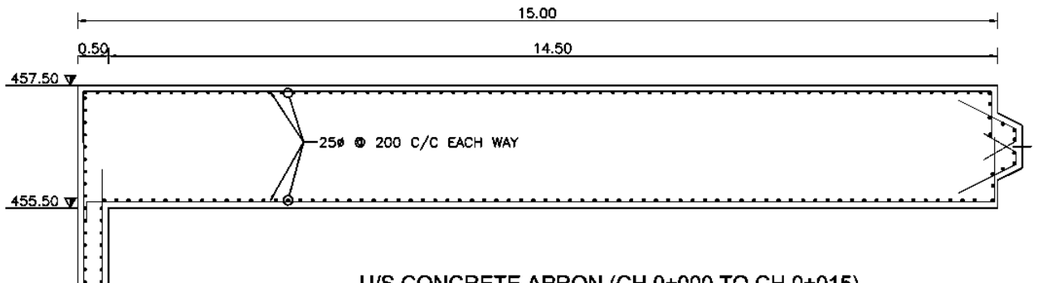
NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



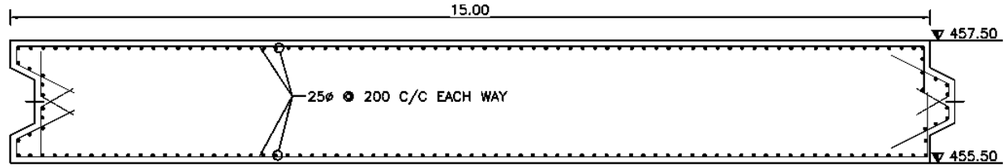
LONGIDUTINAL SECTION OF SPILLWAY BAY

SCALE 1:750



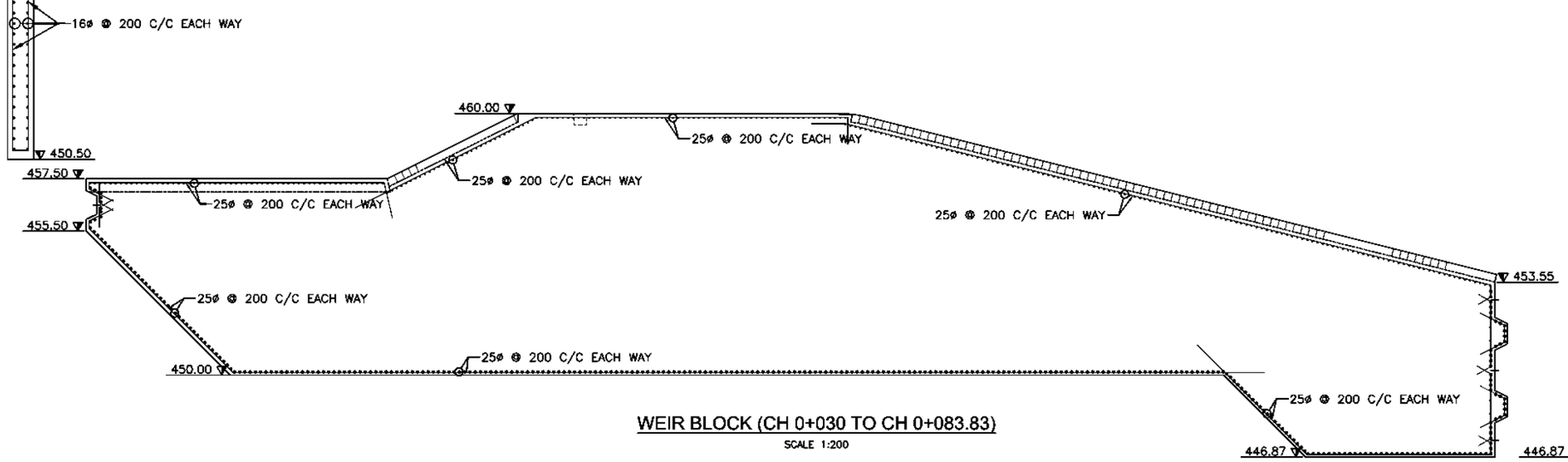
U/S CONCRETE APRON (CH 0+000 TO CH 0+015)

SCALE 1:100



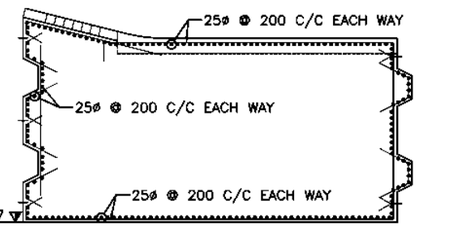
U/S CONCRETE APRON (CH 0+015 TO CH 0+030)

SCALE 1:100



WEIR BLOCK (CH 0+030 TO CH 0+083.83)

SCALE 1:200



WEIR BLOCK (CH 0+083.83) TO CH 096.03

SCALE 1:200

0 0.5 1 2 3 4

SCALE 1:100

0 0.75 1.5 3 4.5 6

SCALE 1:150

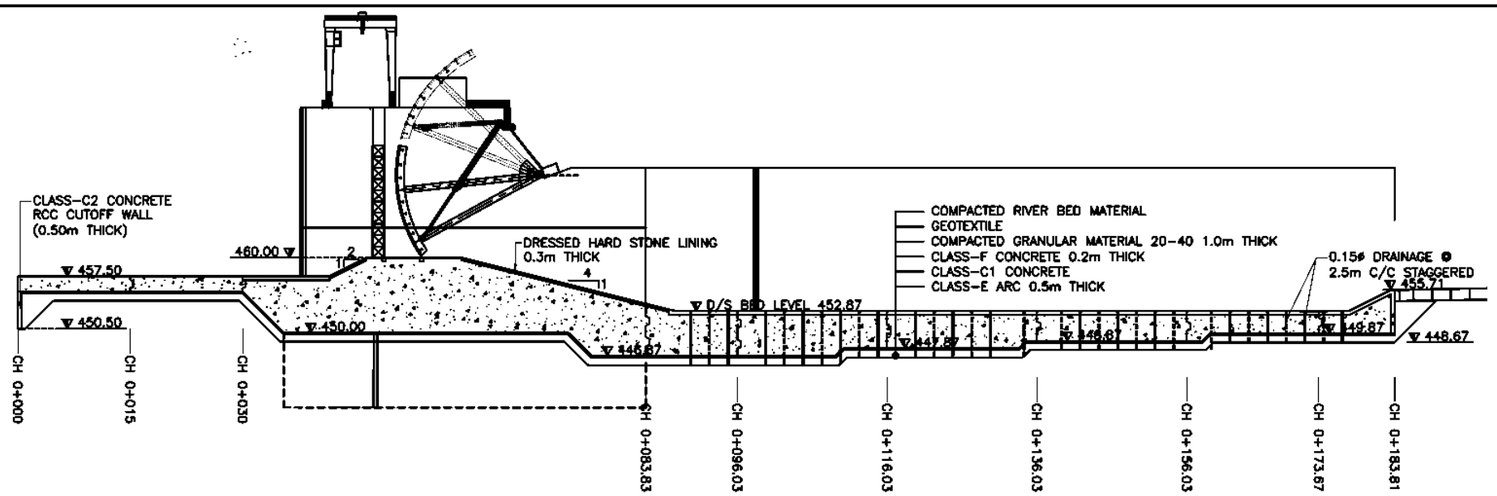
0 3.75 7.5 15 22.5 30

SCALE 1:750

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNWAL DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- BARRAGE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-HW-01
		RECOENDED BY			RECOENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	AS SHOWN

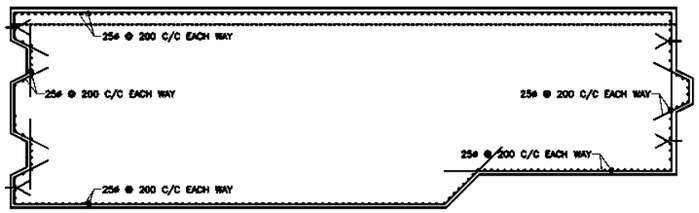
NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER
7) IF THERE IS CONFLICT BETWEEN LONGITUDINAL SECTION AND PLAN, THEN THE DIMENSION IN PLAN WILL PREVAIL.



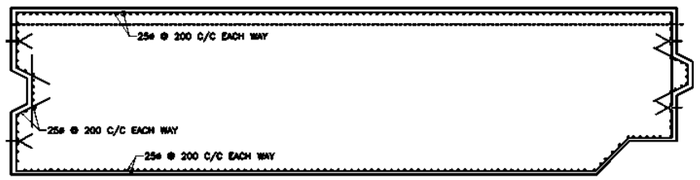
LONGIDUTINAL SECTION OF SPILLWAY BAY

SCALE 1:750



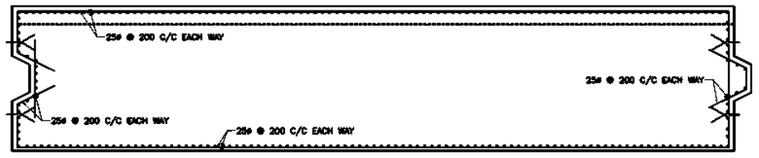
STILLING BASIN SLAB (CH 0+096.03 TO CH 0+116.03)

SCALE 1:100



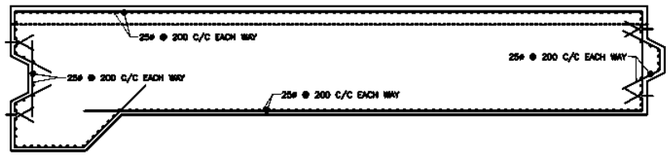
STILLING BASIN SLAB (CH 0+116.03 TO CH 0+136.03)

SCALE 1:100



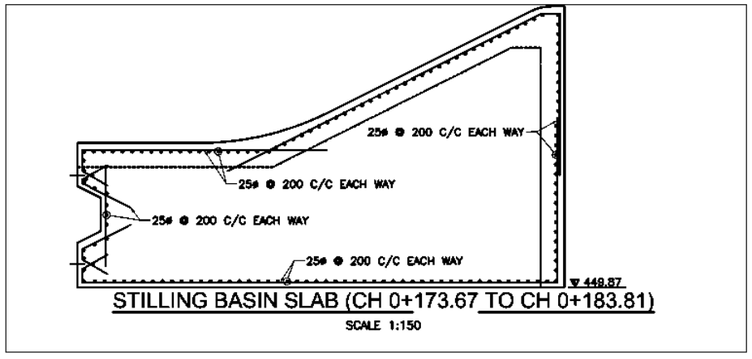
STILLING BASIN SLAB (CH 0+136.03 TO CH 0+156.03)

SCALE 1:100



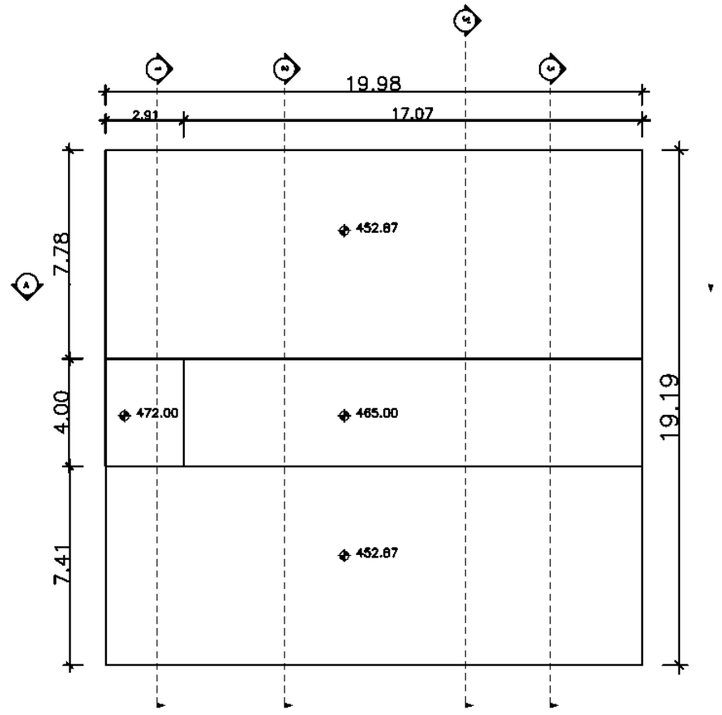
STILLING BASIN SLAB (CH 0+156.03 TO CH 0+173.67)

SCALE 1:100



STILLING BASIN SLAB (CH 0+173.67 TO CH 0+183.81)

SCALE 1:150



STILLING BASIN BLOCK 16 PLAN (CH 0+096.03 TO CH 0+116.03)

SCALE 1:200

0 3.75 7.5 15 22.5 30

SCALE 1:750

0 1 2 4 6 8

SCALE 1:200

0 0.5 1 2 3 4

SCALE 1:100

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

KOKAHI MARIN DIVERSION MULTIPURPOSE PROJECT

SINDHULI, NEPAL

CONSULTANT

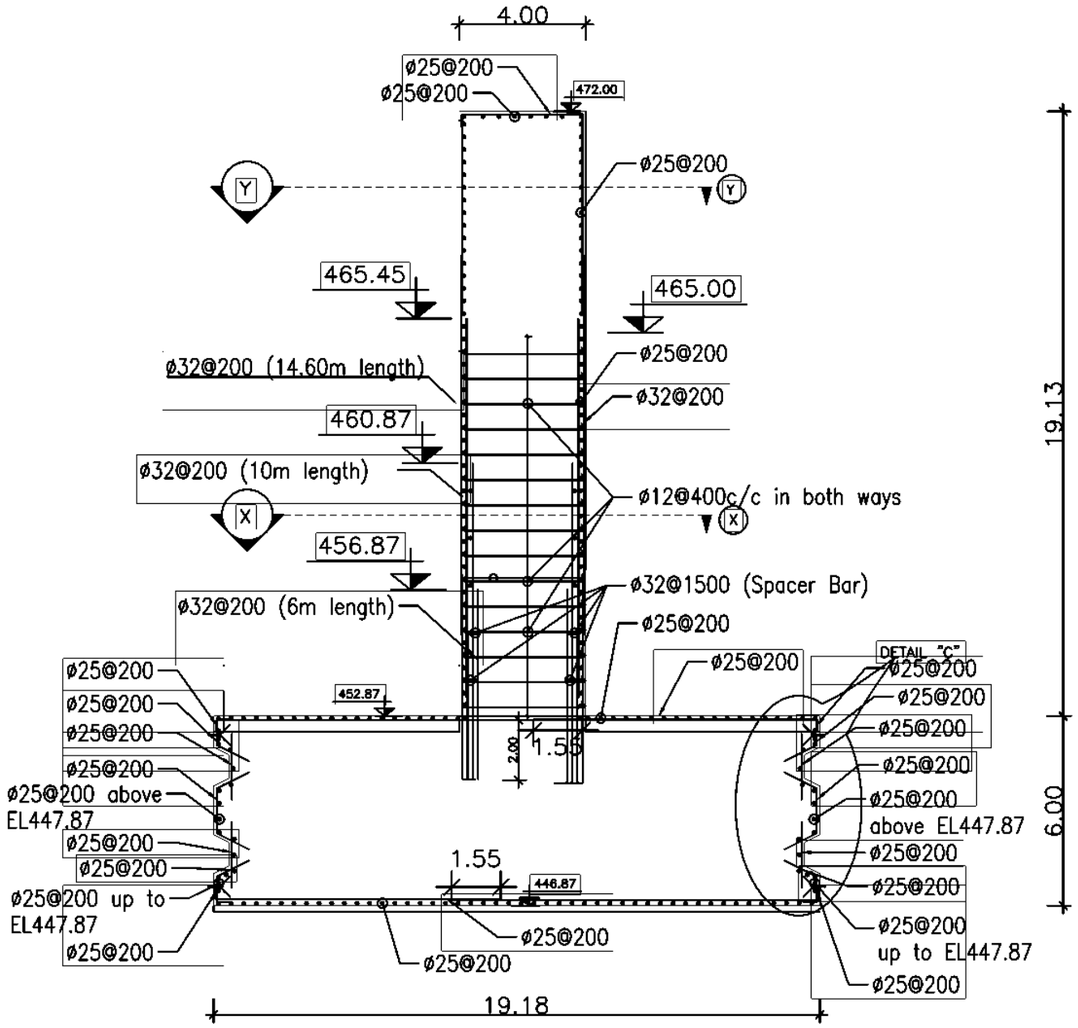
SMEC-EMAY-JADE-CMS in association with ECoCODE

SMEC Member of the Surbana Jurong Group

SMEC-EMAY-JADE-CMS in association with ECoCODE				DRAWING DETAIL	
	NAME		SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- BARRAGE
PREPARED BY				DRAWING NUMBER	RF-HW-01
CHECKED BY				SHEET NO:	1
APPROVED BY				SCALE:	AS SHOWN

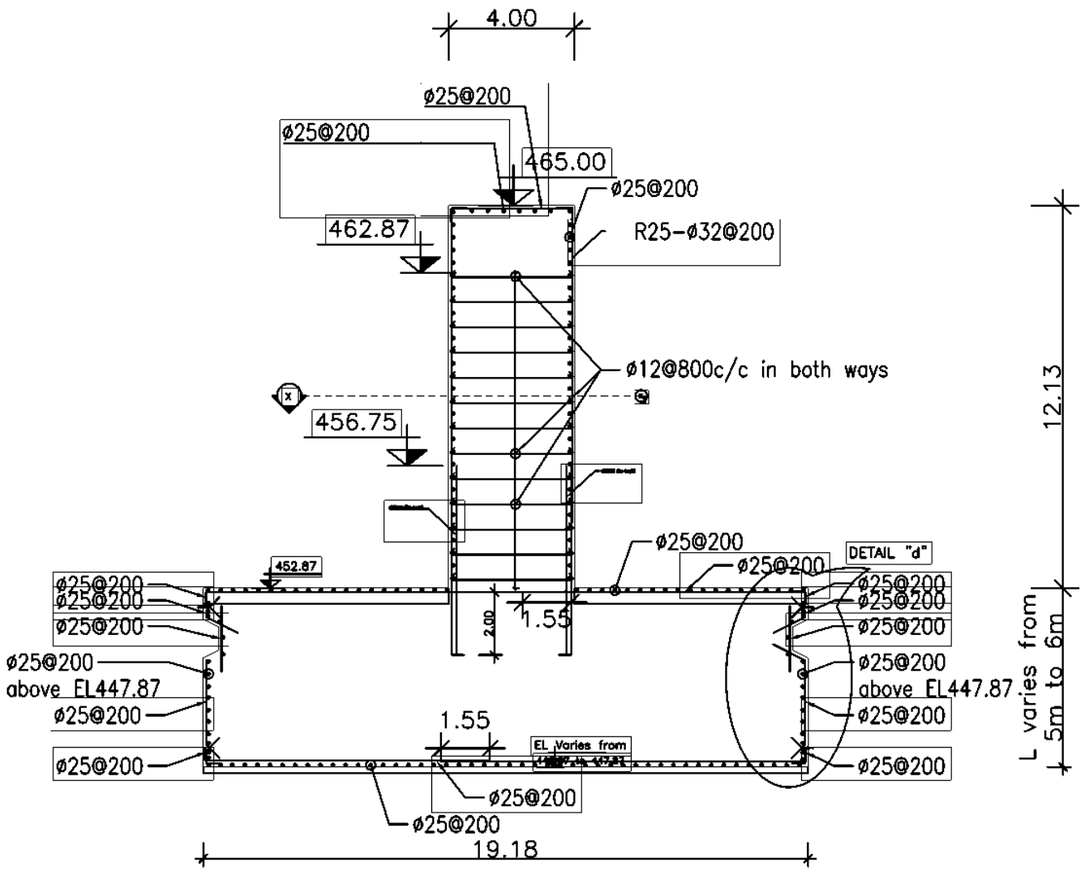
NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER


4.00
ø25@200
ø25@200
472.00
ø25@200
Y
Y
465.45
465.00
ø25@200
ø32@200 (14.60m length)
ø32@200
460.87
ø32@200 (10m length)
ø12@400c/c in both ways
X
X
456.87
ø32@1500 (Spacer Bar)
ø32@200 (6m length)
ø25@200
DETAIL "C"
ø25@200
ø25@200
ø25@200

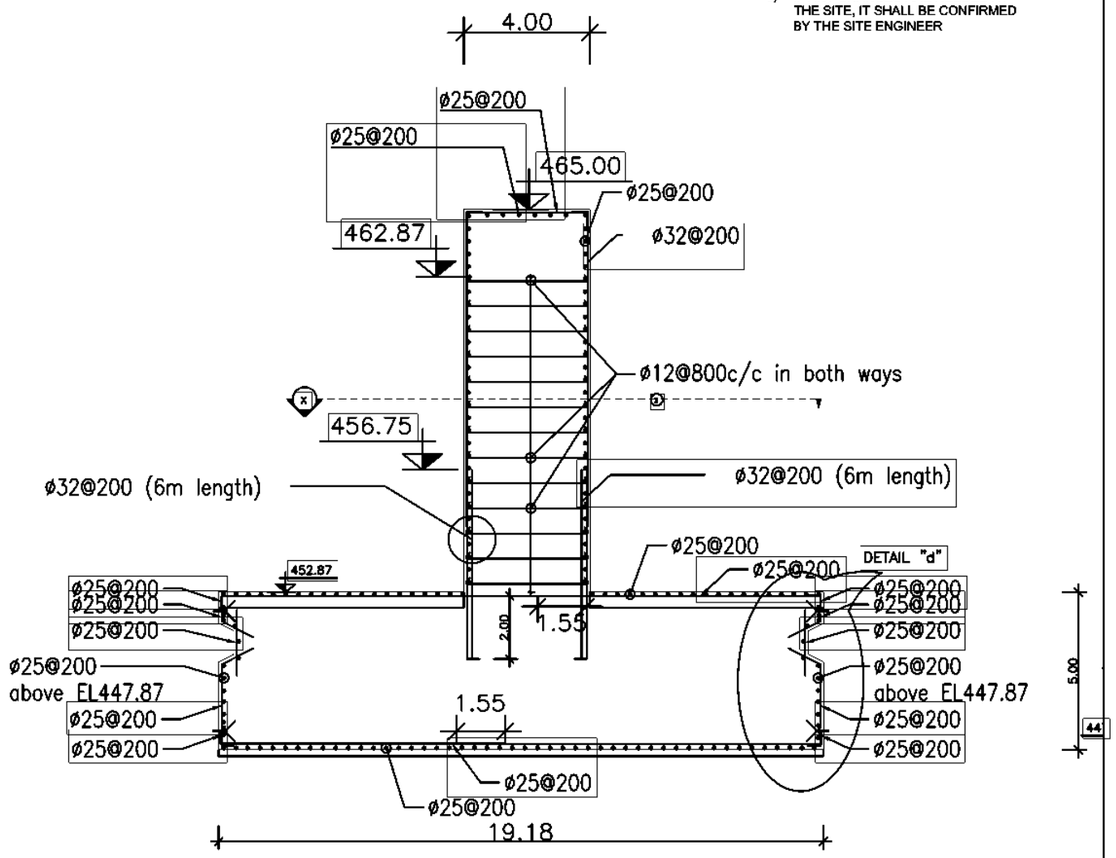
NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



SECTION 3'-3'

SCALE 1:200



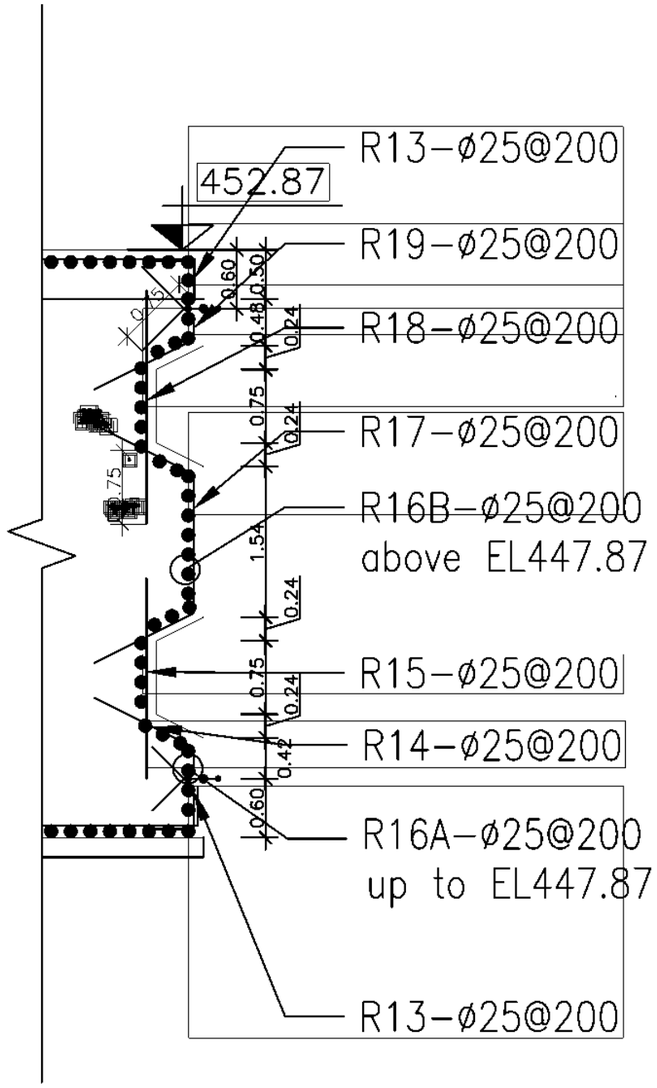
SECTION 3-3

SCALE 1:200

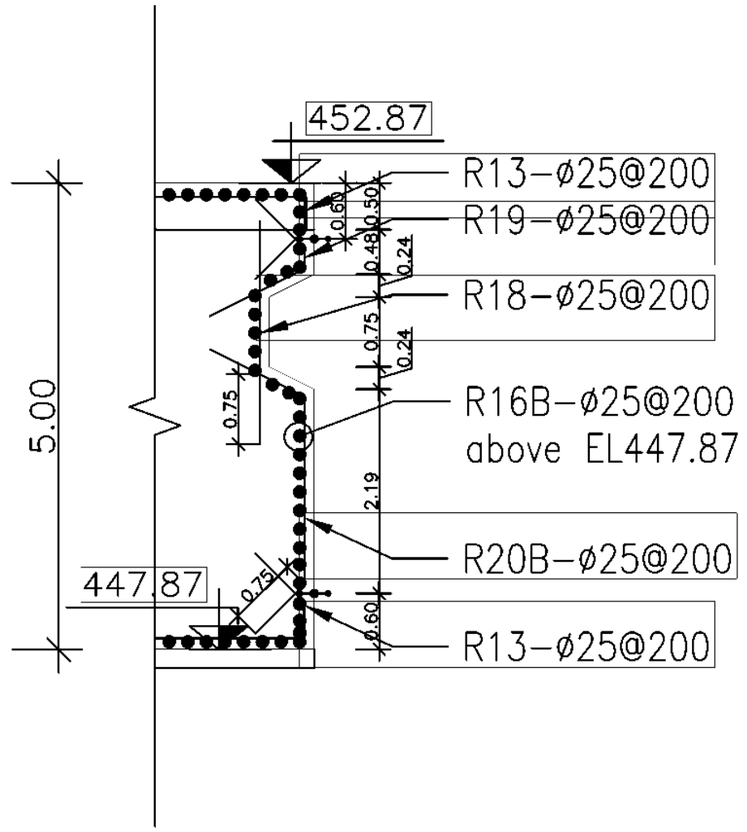
0 1 2 4 6 8

SCALE 1:200

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE SMEC Aemay Jade Consult Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- BARRAGE
		PREPARED BY			DRAWING NUMBER	RF-HW-01
		CHECKED BY			SHEET NO:	3
		APPROVED BY			SCALE:	AS SHOWN



Detail"C"
SCALE 1:50

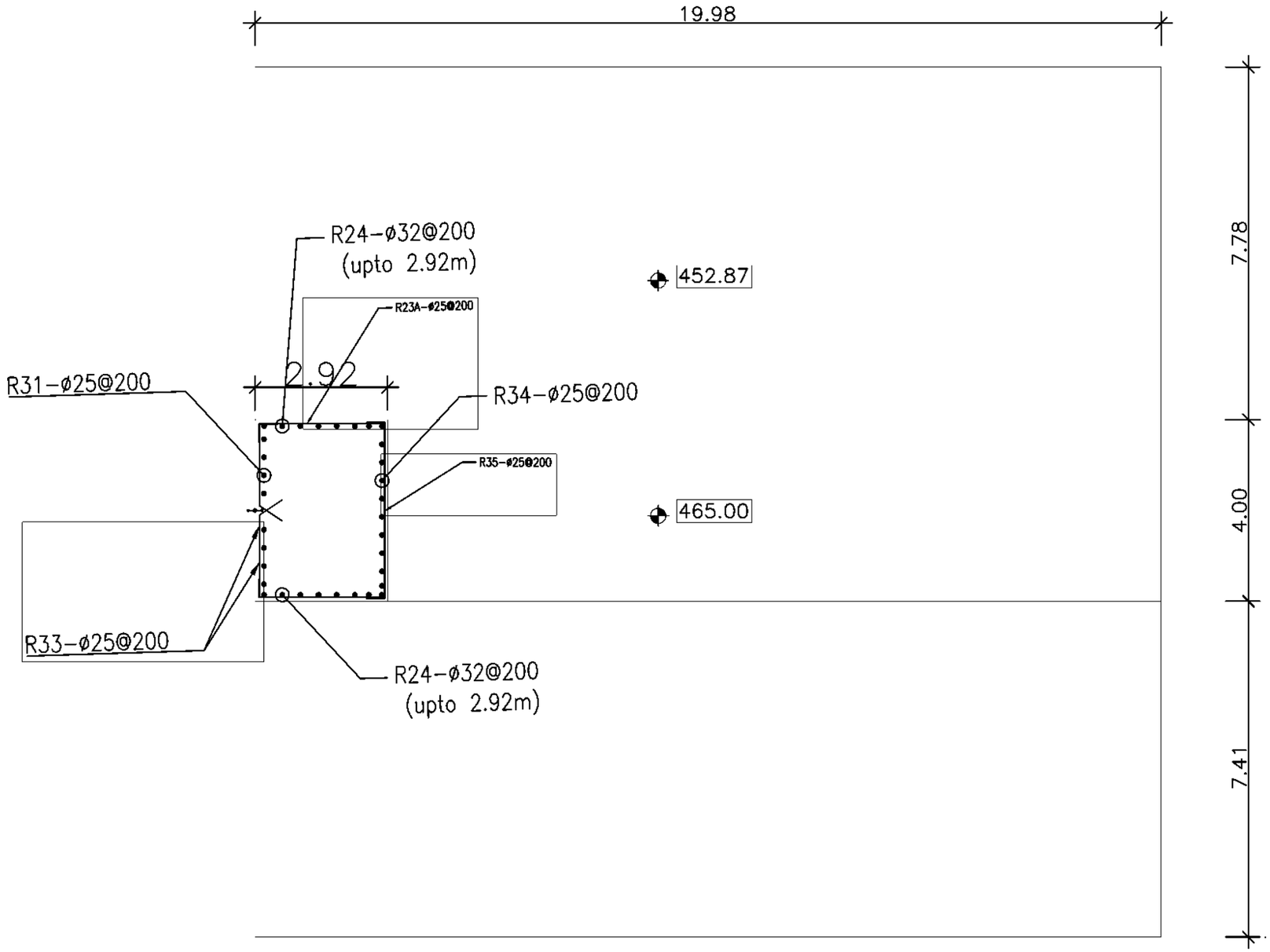


Detail"D"
SCALE 1:50

NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE SMEC Member of the Surbana Jurong Group Aemay jade CONSULT		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- BARRAGE
		PREPARED BY	KESHAB PARKI		DRAWING NUMBER	RF-HW-01
		CHECKED BY	DR. SUBIN DESAR		SHEET NO:	4
		APPROVED BY	TANACHARD RINSARNKIT JAROEN		SCALE:	AS SHOWN



NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER

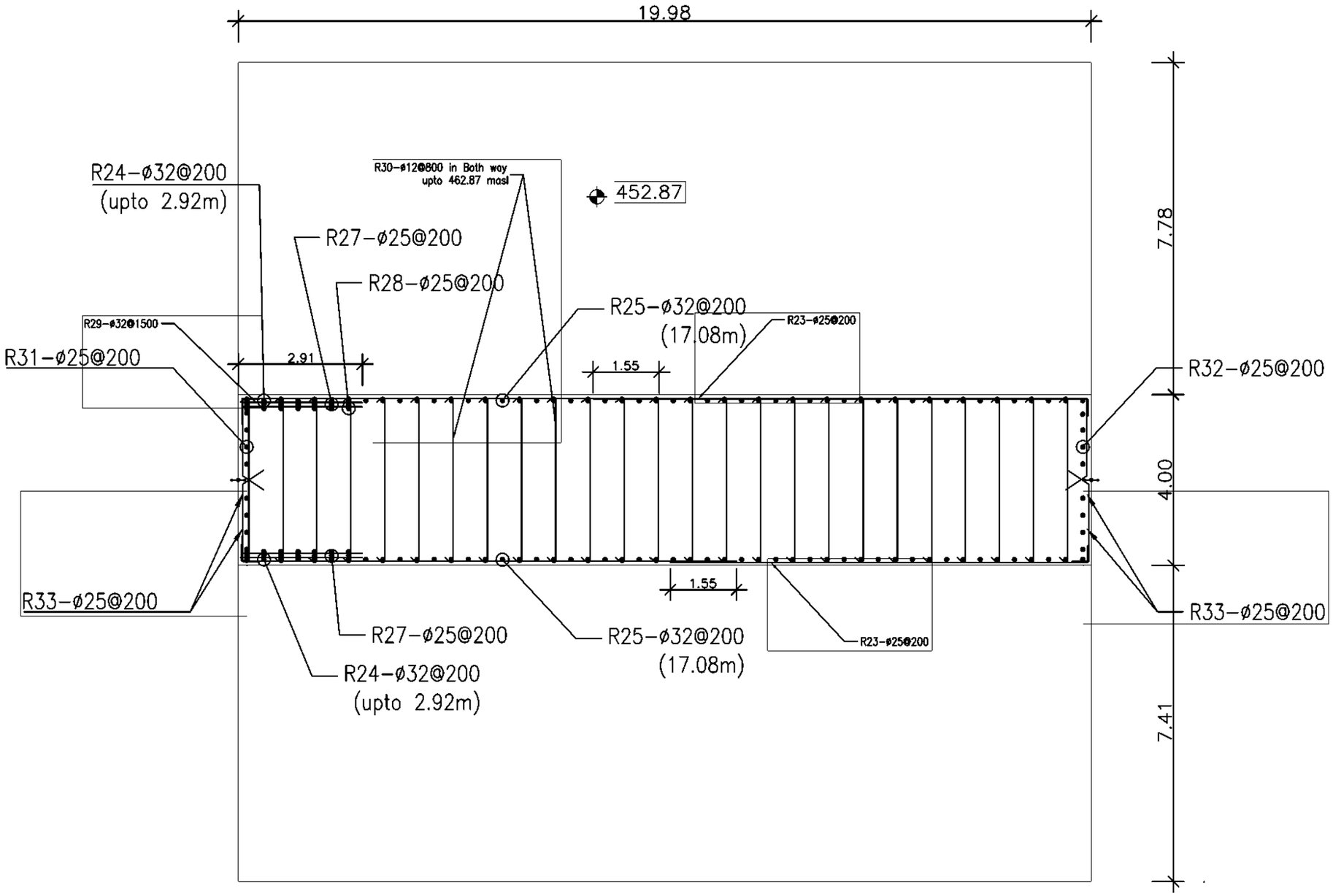
SECTION Y-Y

SCALE 1:100

CLIENT: GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION NAUMURE MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	CONSULTANT: SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group	SMEC-EMAY-JADE-CMS in association with ECoCODE		DRAWING DETAIL
			DRAWING TITLE:	REINFORCEMENT DRAWINGS- BARRAGE
PREPARED BY			DRAWING NUMBER	RF-HW-01
CHECKED BY			SHEET NO:	5
APPROVED BY			SCALE:	AS SHOWN

NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



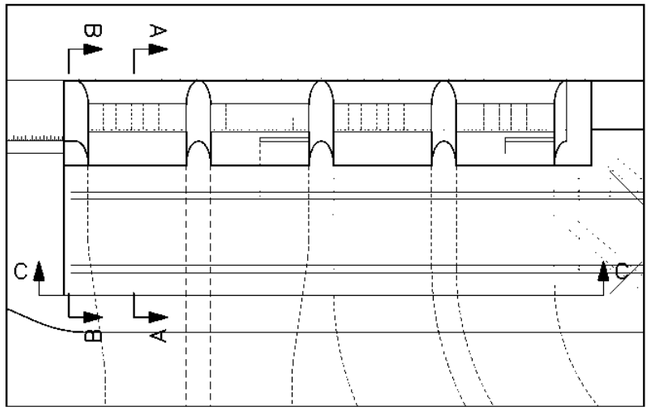
SECTION X-X

SCALE 1:100

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE SMEC Aemay jade CONSULT Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- BARRAGE
		PREPARED BY			DRAWING NUMBER	RF-HW-01
		CHECKED BY			SHEET NO:	6
		APPROVED BY			SCALE:	AS SHOWN

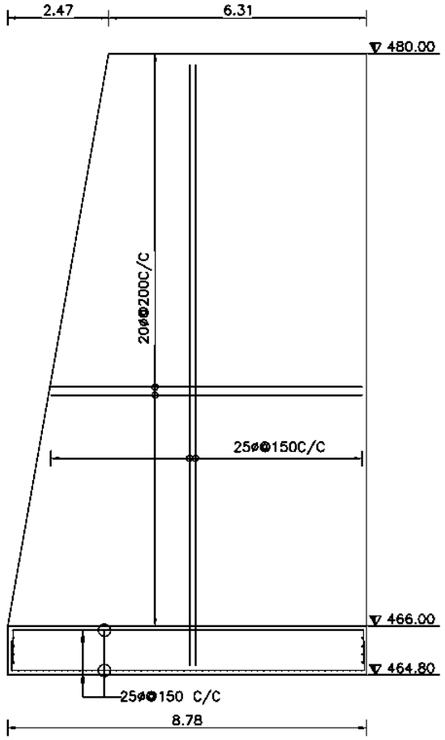
NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



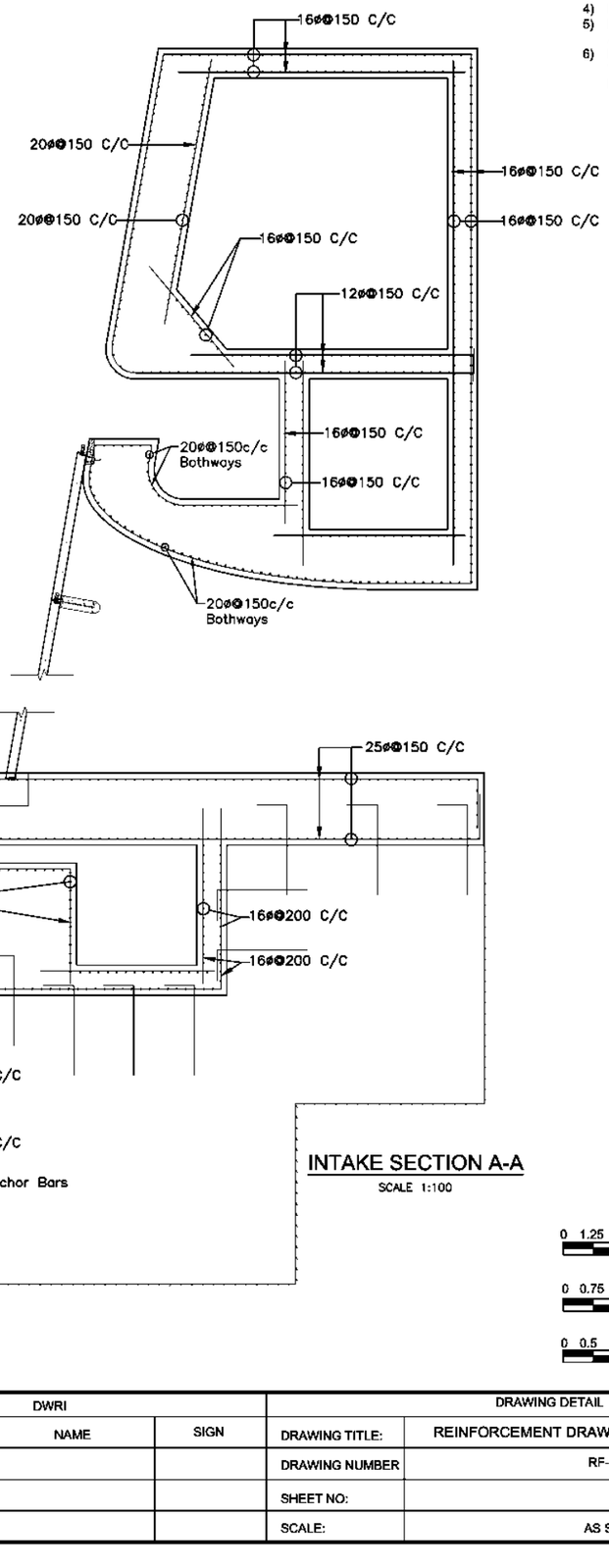
INTAKE STRUCTURE PLAN

SCALE 1:250



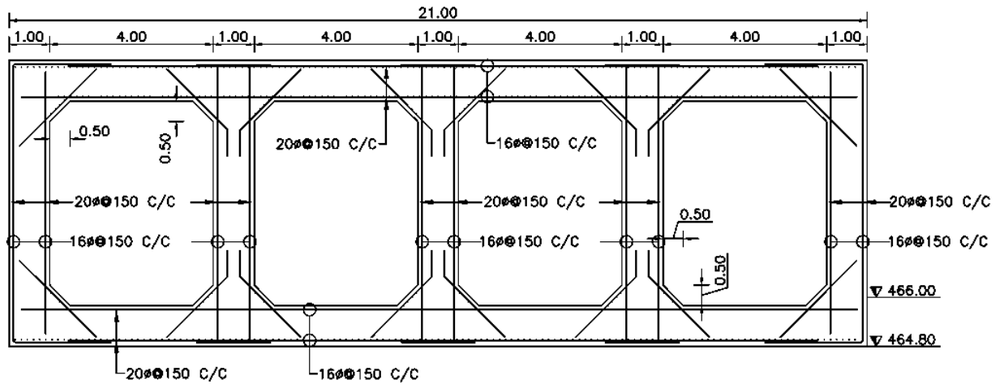
INTAKE SECTION B-B

SCALE 1:150



INTAKE SECTION A-A

SCALE 1:100



INTAKE BOX CULVERT (SECTION C-C)

SCALE 1:150

0 1.25 2.5 5 7.5 10
SCALE 1:250

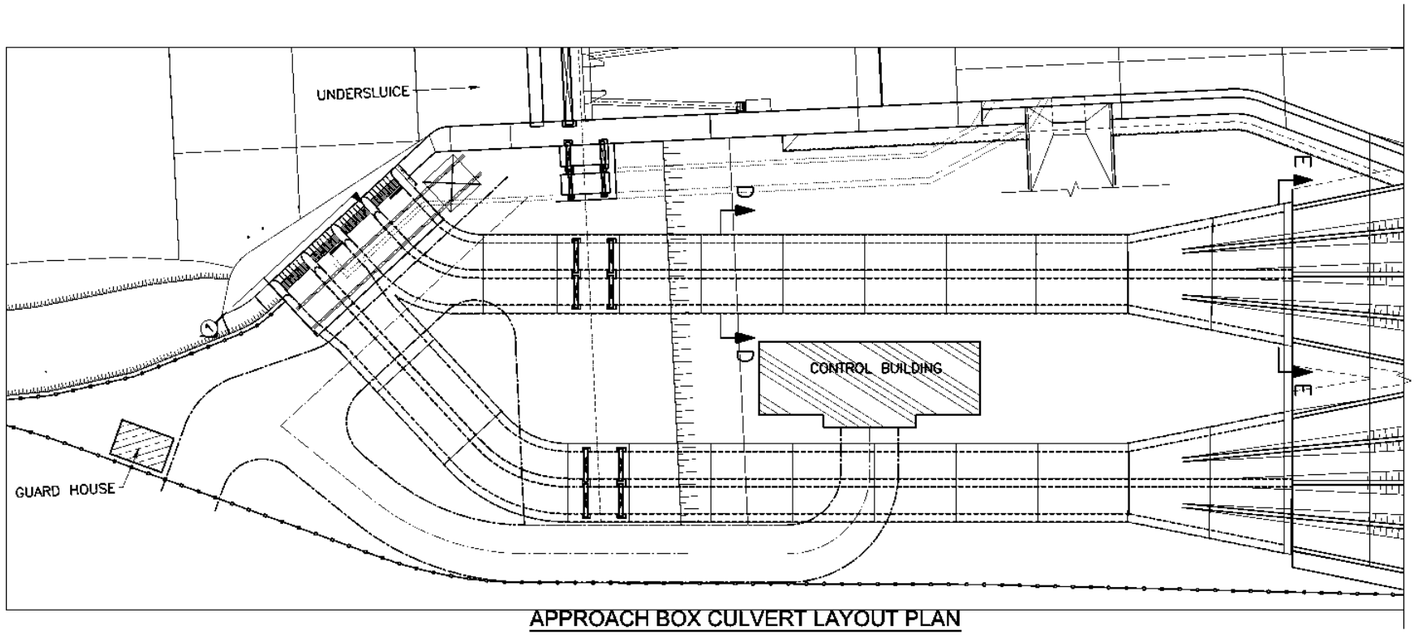
0 0.75 1.5 3 4.5 6
SCALE 1:150

0 0.5 1 2 3 4
SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: SINDHULI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- INTAKE STRUCTURE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-HW-02
		RECOENDED BY			RECOENDED BY			SHEET NO:	01
					APPROVED BY			SCALE:	AS SHOWN

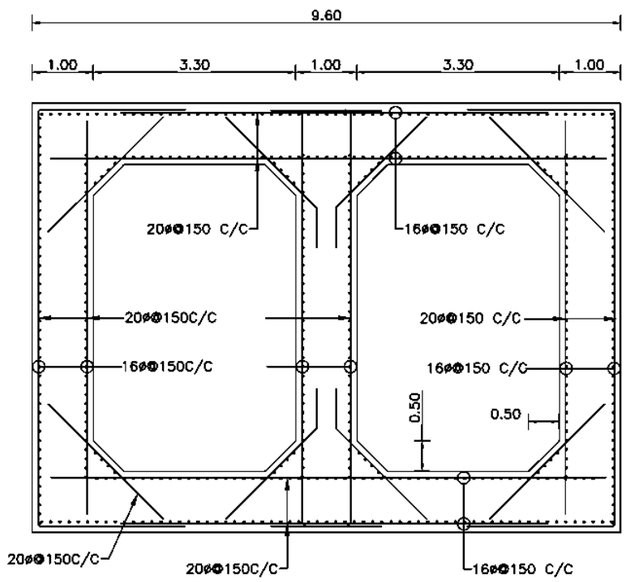
NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



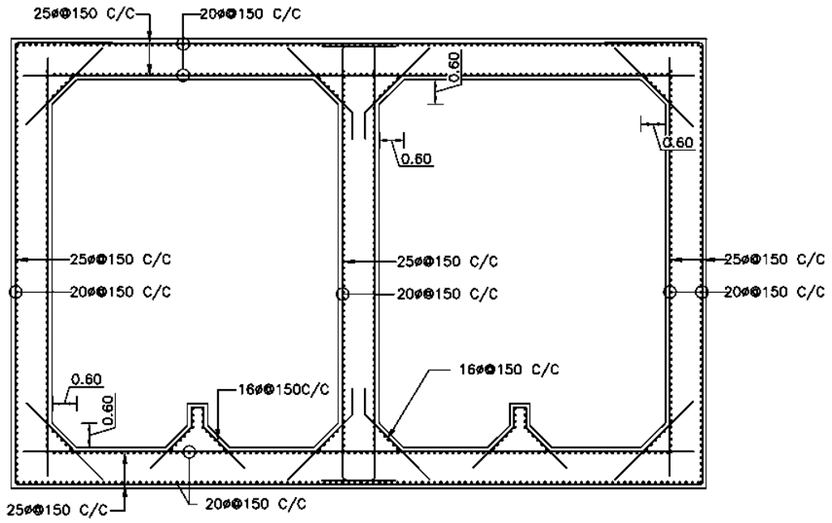
APPROACH BOX CULVERT LAYOUT PLAN

SCALE 1:750



APPROACH BOX CULVERT AT INLET (TYP.)

SCALE 1:150



APPROACH BOX CULVERT AT OUTLET

SCALE 1:150

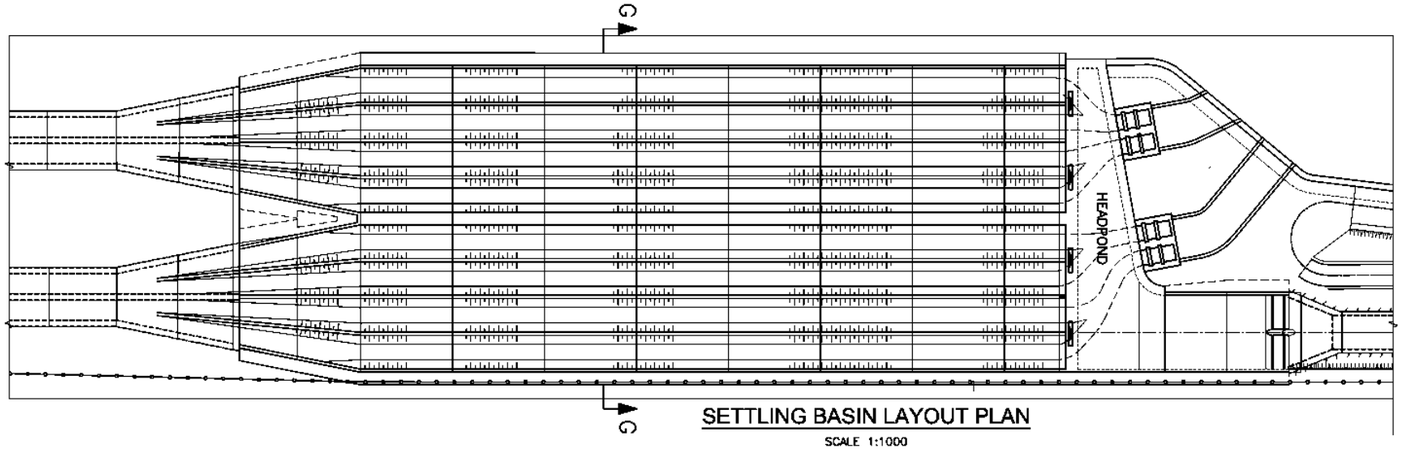
0 3.75 7.5 15 22.5 30

SCALE 1:750

0 0.75 1.5 3 4.5 6

SCALE 1:150

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- APPROACH CULVERTS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-HW-03
		RECOENDED BY			RECOENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	AS SHOWN

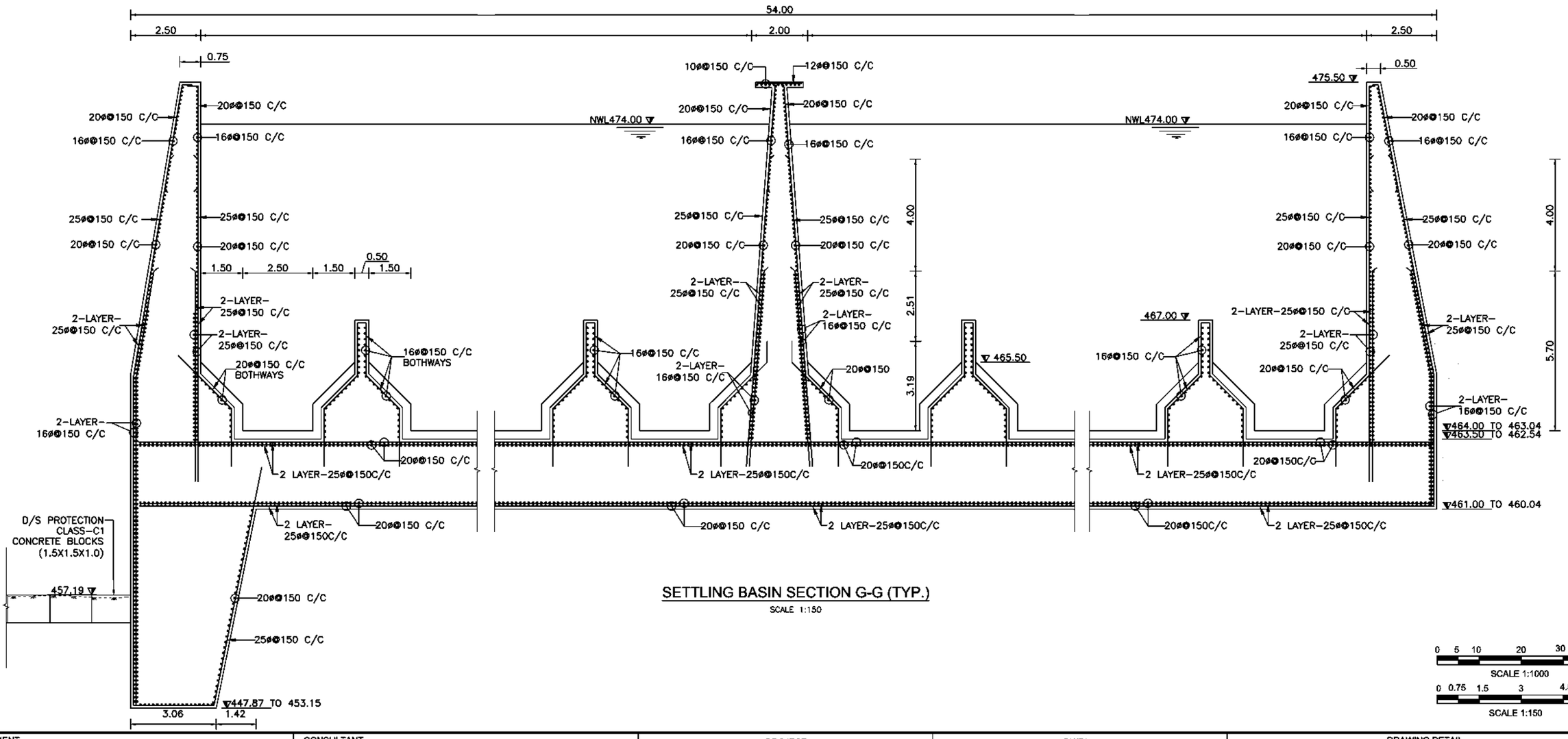


SETTLING BASIN LAYOUT PLAN

SCALE 1:1000

NOTES:

1) STRUCTURE CONCRETE- C25/ 30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



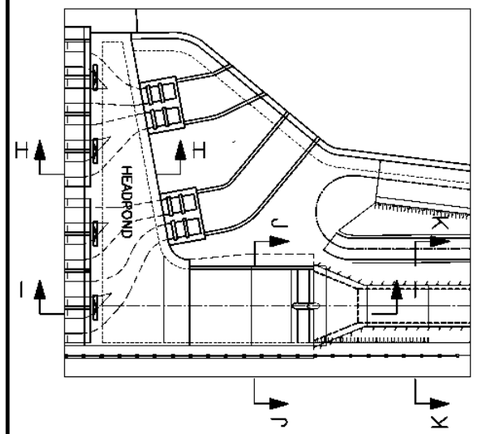
SETTLING BASIN SECTION G-G (TYP.)

SCALE 1:150

0 5 10 20 30 40
SCALE 1:1000

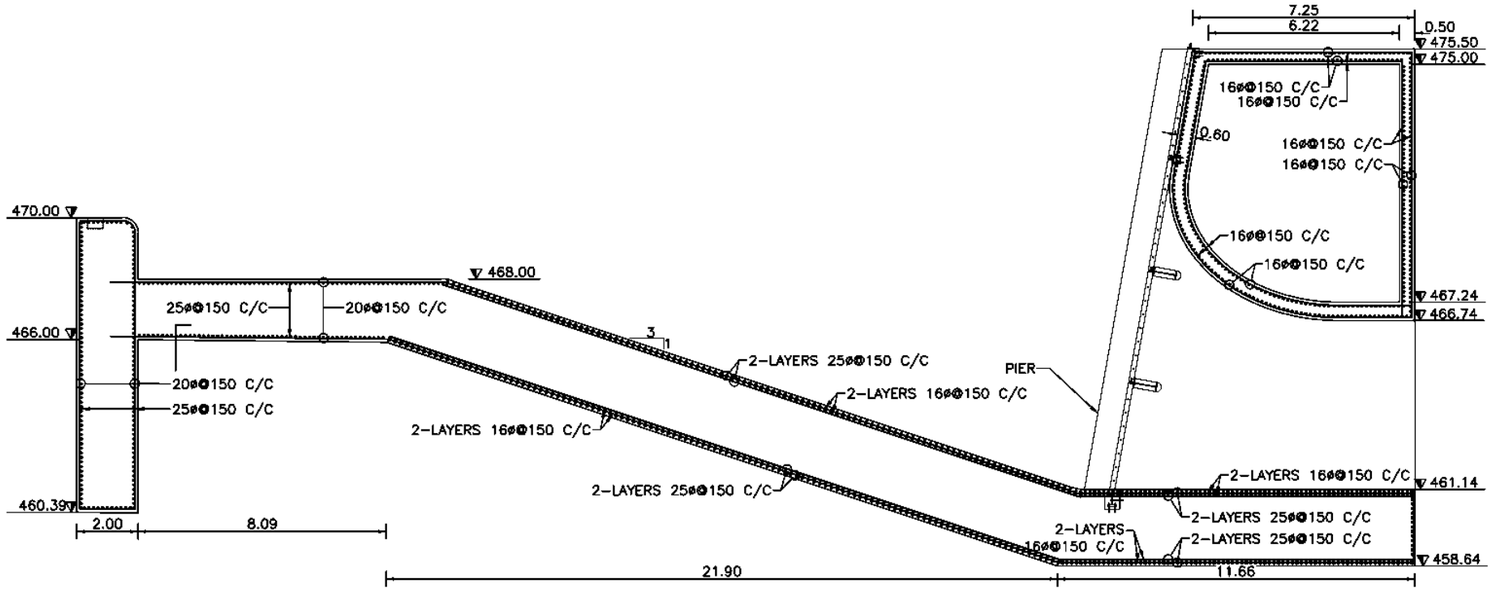
0 0.75 1.5 3 4.5 6
SCALE 1:150

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SECTIONAL OFFICE DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN		
		CHECKED BY			CHECKED BY			DRAWING TITLE:	REINFORCEMENT DRAWINGS- SETTLING BASIN
		RECOENDED BY			RECOENDED BY			DRAWING NUMBER	RF-HW-04
					APPROVED BY			SHEET NO:	1
								SCALE:	AS SHOWN



HEADPOND AND POWER INTAKE PLAN

SCALE 1:1000

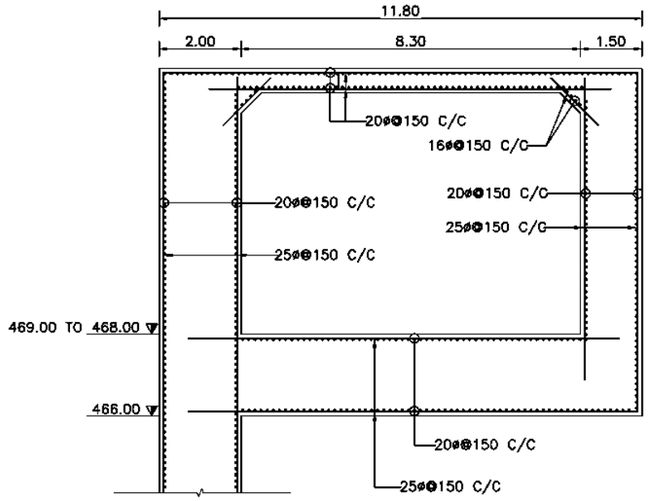


HEADPOND AND POWER INTAKE SECTION I-I

SCALE 1:200

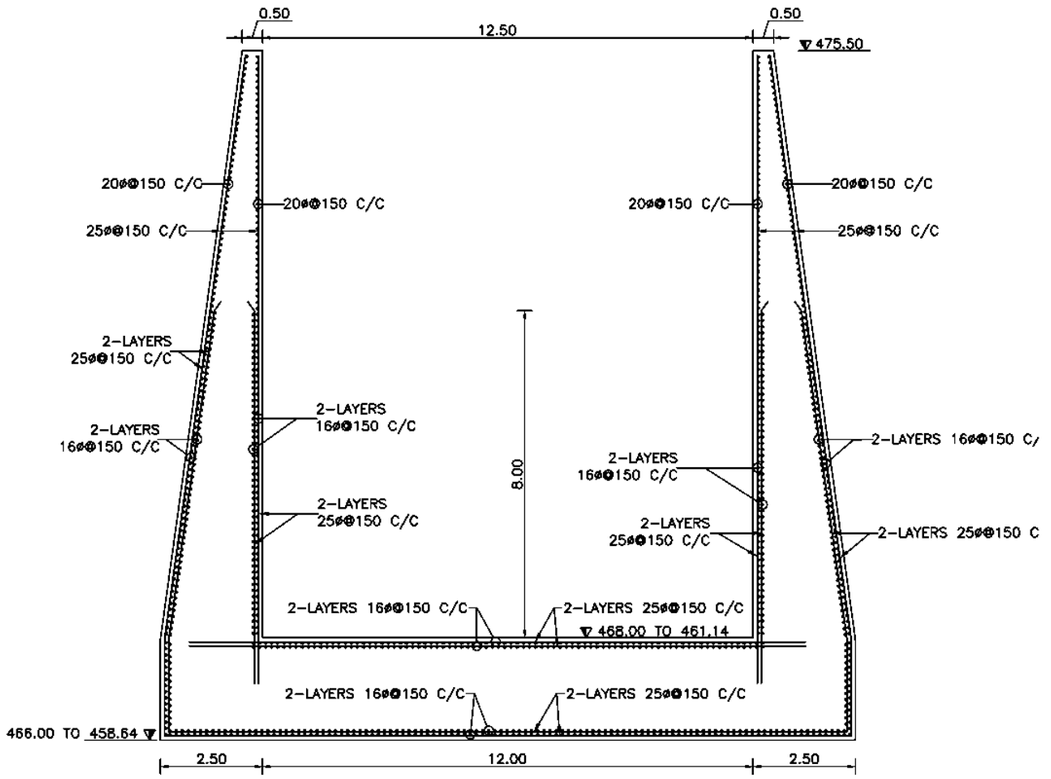
NOTES:

1) STRUCTURE CONCRETE- C25/ 30.
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



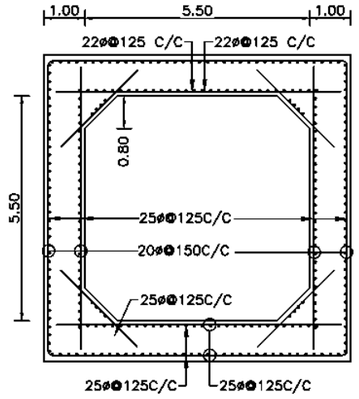
HEADPOND SECTION H-H

SCALE 1:150



POWERINTAKE SECTION J-J

SCALE 1:150



POWERCULVERT SECTION K-K

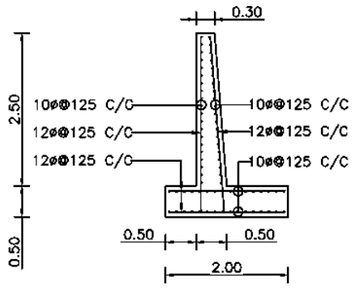
SCALE 1:150

0 5 10 20 30 40
SCALE 1:1000

0 1 2 4 6 8
SCALE 1:200

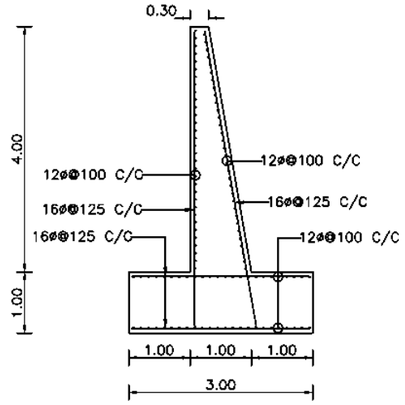
0 0.75 1.5 3 4.5 6
SCALE 1:150

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- HEADPOND; POWER INTAKE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-HW-05
		RECOENDED BY			RECOENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	AS SHOWN



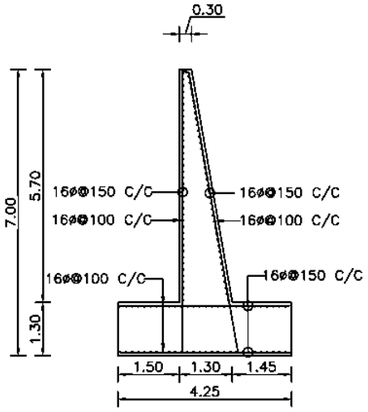
WALL HEIGHT 3M

SCALE 1:100



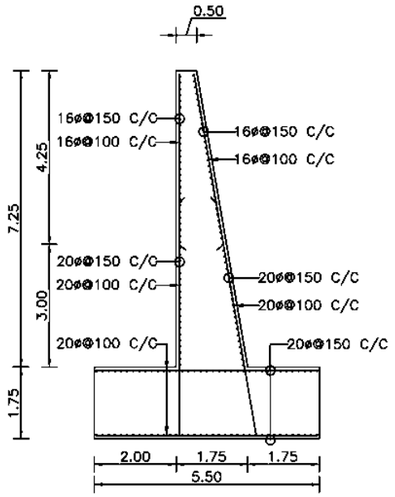
WALL HEIGHT 5M

SCALE 1:100



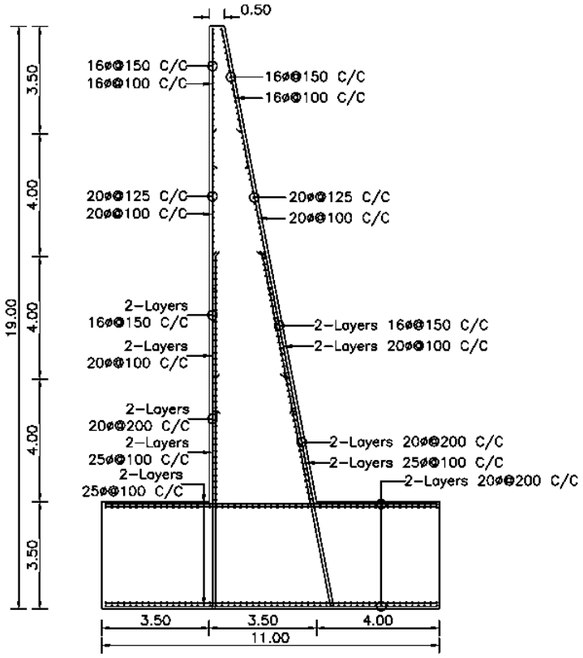
WALL HEIGHT 7M

SCALE 1:150



WALL HEIGHT 9M

SCALE 1:150

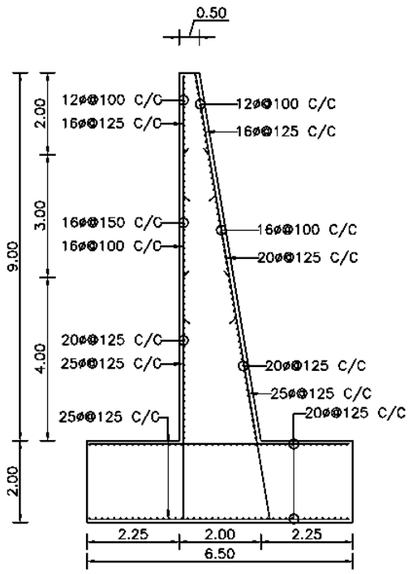


WALL HEIGHT 19M

SCALE 1:200

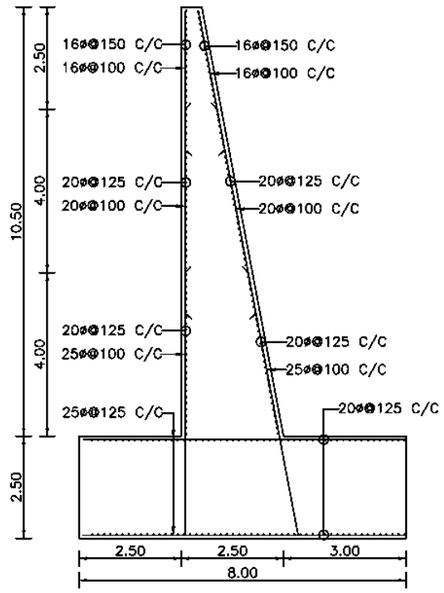
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



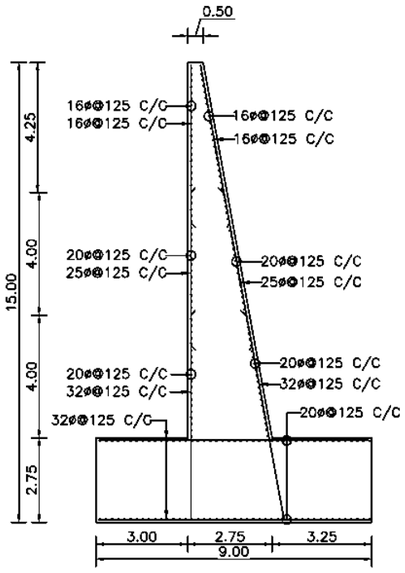
WALL HEIGHT 11M

SCALE 1:150



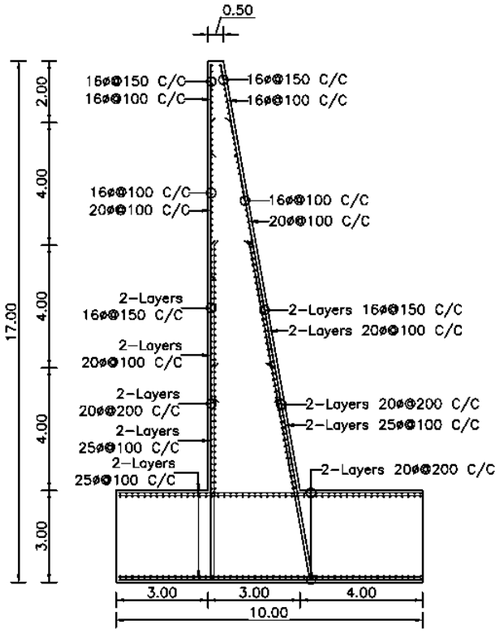
WALL HEIGHT 13M

SCALE 1:150



WALL HEIGHT 15M

SCALE 1:200



WALL HEIGHT 17M

SCALE 1:200

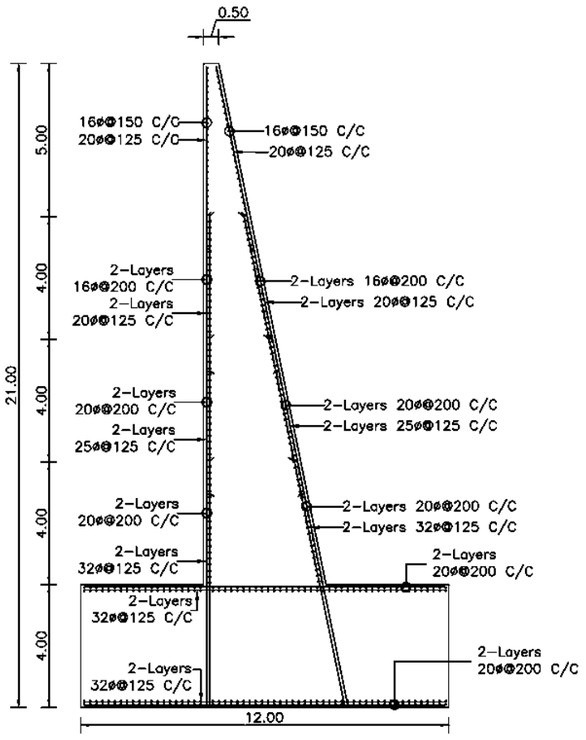
0 1 2 4 6 8

SCALE 1:200

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- RETAINING/FLOOD WALLS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-HW-06
		RECOENDED BY			RECOENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	AS SHOWN

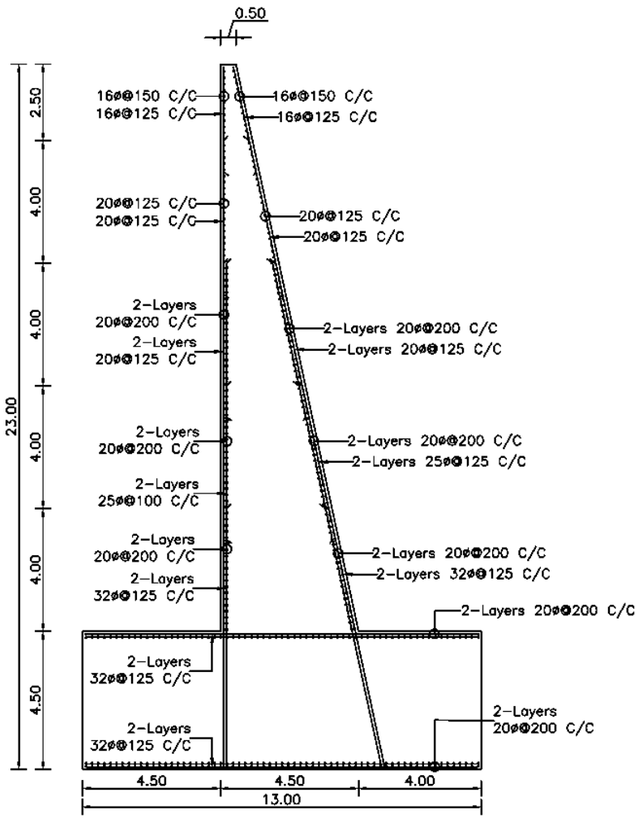
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



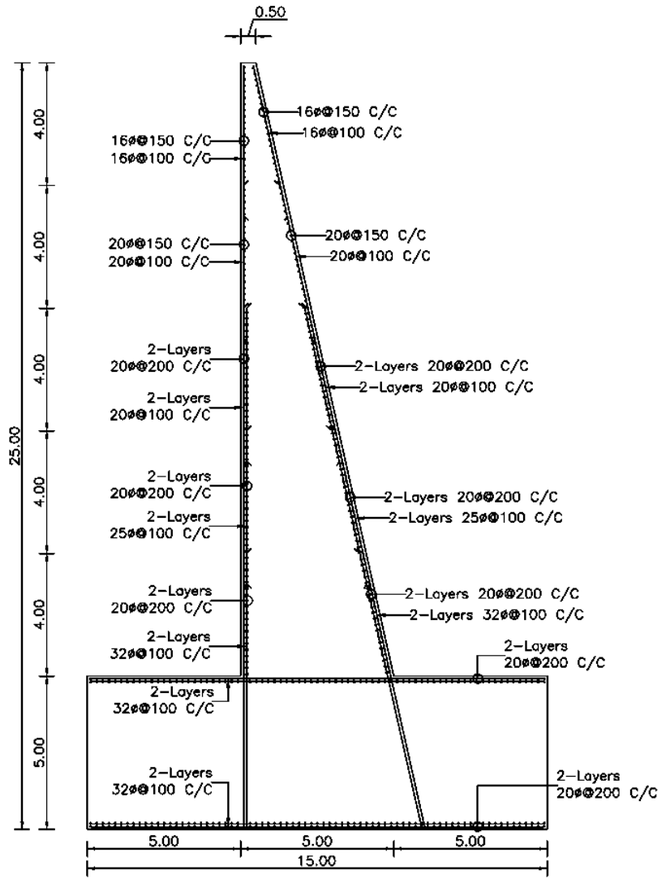
WALL HEIGHT 21M

SCALE 1:200



WALL HEIGHT 23M

SCALE 1:200



WALL HEIGHT 25M

SCALE 1:200

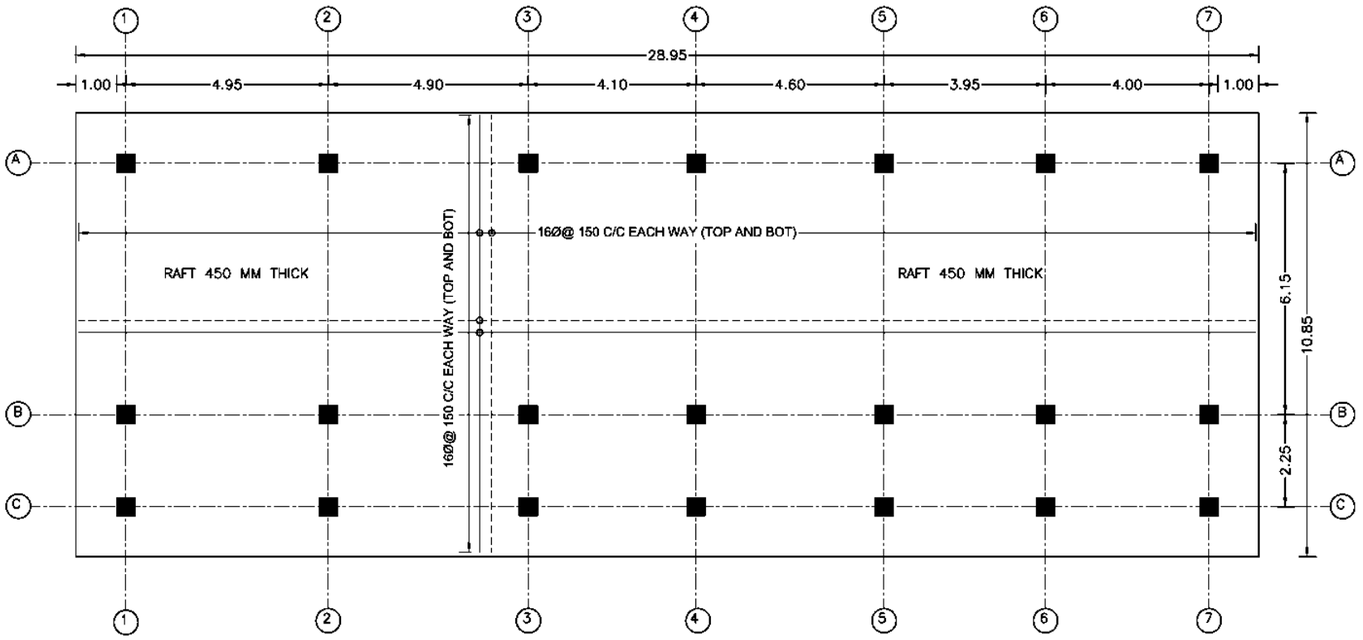
0 1 2 4 6 8

SCALE 1:200

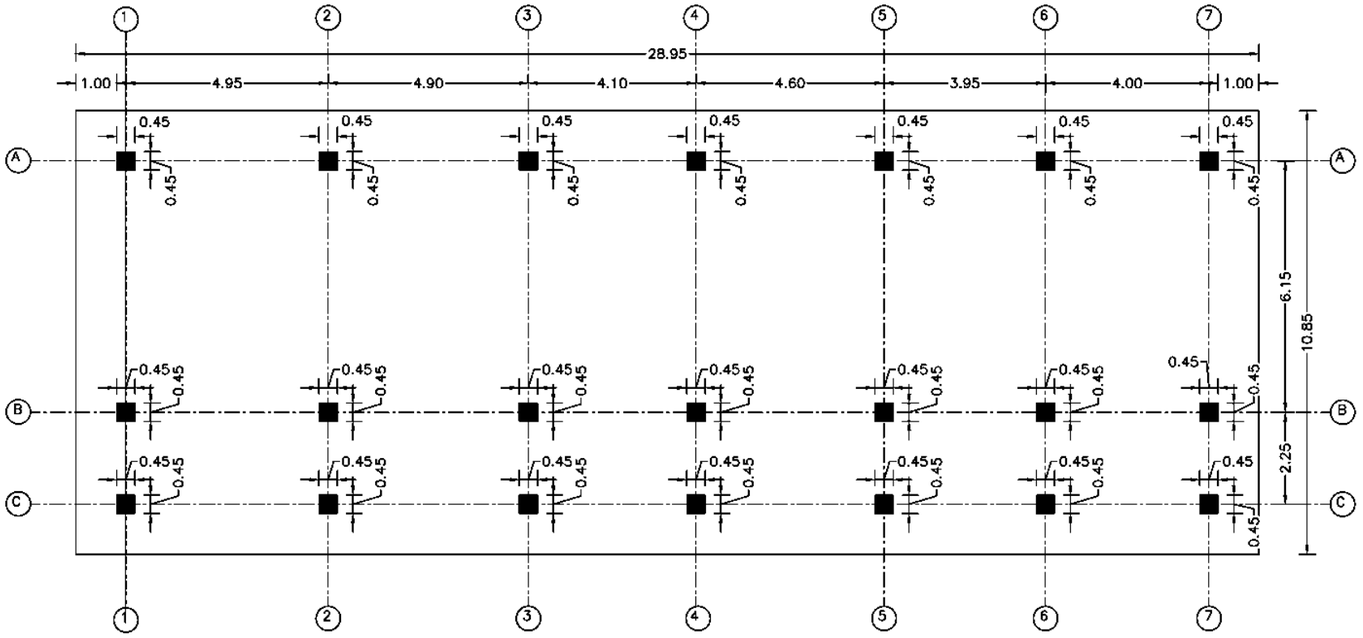
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SANDHULI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWINGS- RETAINING/FLOOD WALLS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-HW-06
		RECOENDED BY			RECOENDED BY			SHEET NO:	2
					APPROVED BY			SCALE:	AS SHOWN

NOTES:

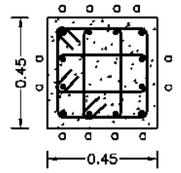
1) STRUCTURE CONCRETE- C25 /30
2) BLINDINGCONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



FOUNDATION PLAN
SCALE 1:150



COLUMN PLAN
SCALE 1:150

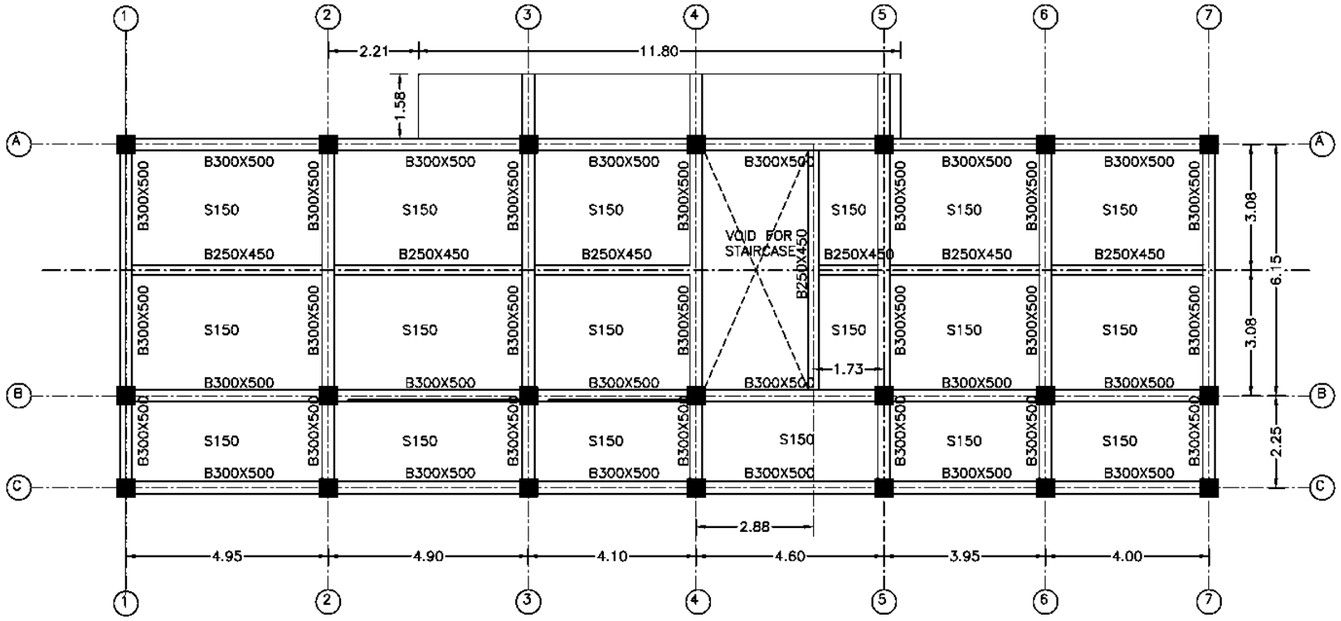
FLOOR / COLUMN	FOUNDATION TO FIRST FLOOR LEVEL	TIES
ALL	 a = 20ø REBAR	X– ZONE STIRRUPS SPACING @ 100 mm O.C. Y– ZONE STIRRUPS SPACING @ 100 mm O.C.  10ø Stirrups 10ø Stirrups 10ø Stirrups

Scale 1:150

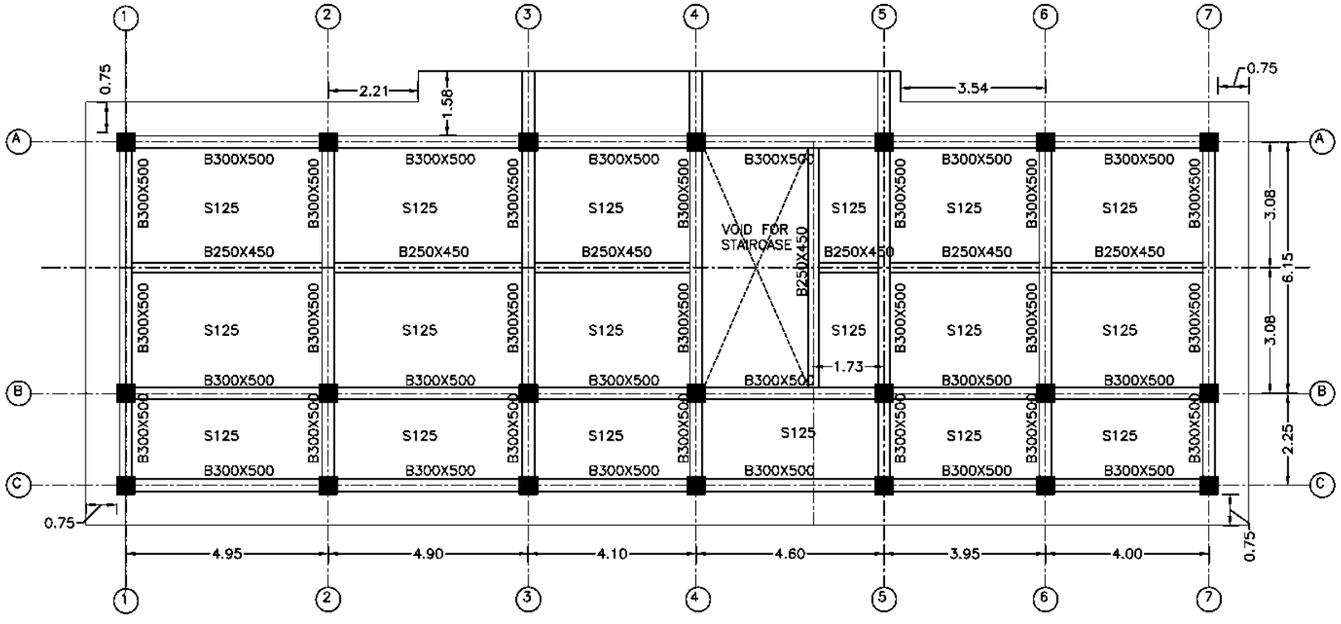
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNSARI MORANG DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-HEADWORKS CONTROL BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-CB-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE - 1:150

NOTES:

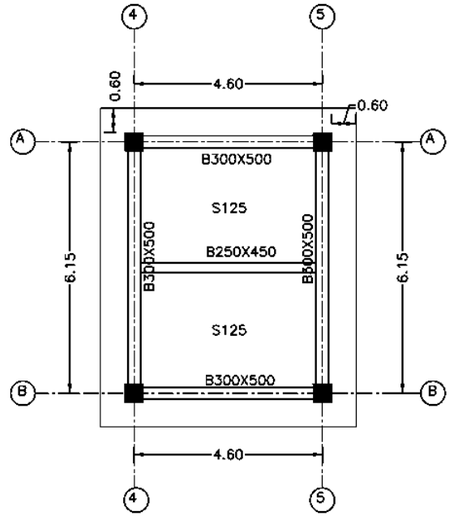
1) STRUCTURE CONCRETE- C25 /30
2) BLINDINGCONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



FIRST FLOOR BEAM PLAN
SCALE 1:150



SECOND FLOOR BEAM PLAN
SCALE 1:150



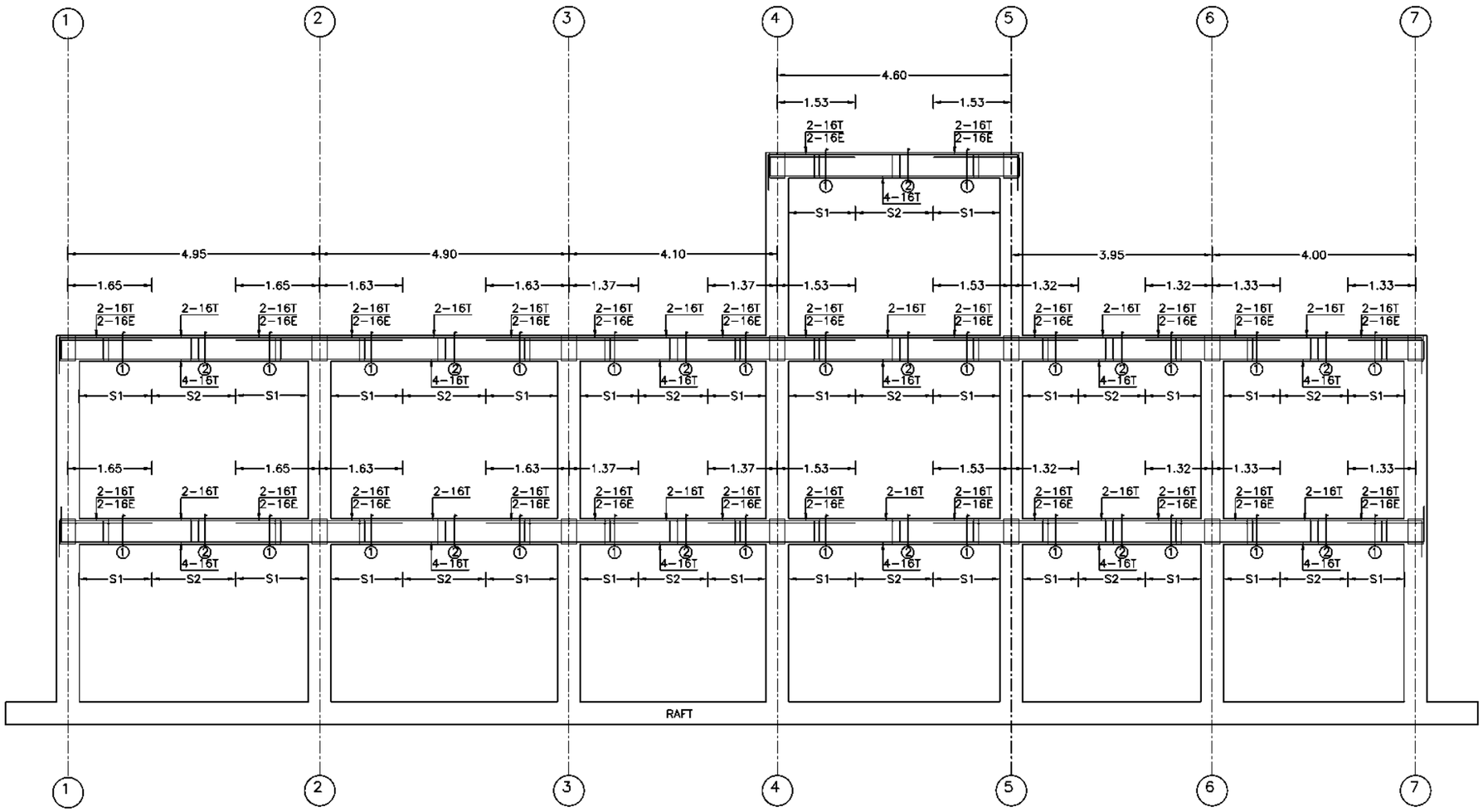
ROOF FLOOR BEAM PLAN
SCALE 1:150

0 0.75 1.5 3 4.5 6 7.5 m
Scale 1:150

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARKA DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN		
		CHECKED BY			CHECKED BY			DRAWING TITLE:	REINFORCEMENT DWG-HEADWORKS CONTROL BUILDING
		RECOMMENDED BY			RECOMMENDED BY			DRAWING NUMBER	RF-CB-01
					APPROVED BY			SHEET NO:	2
								SCALE:	SCALE - 1:150

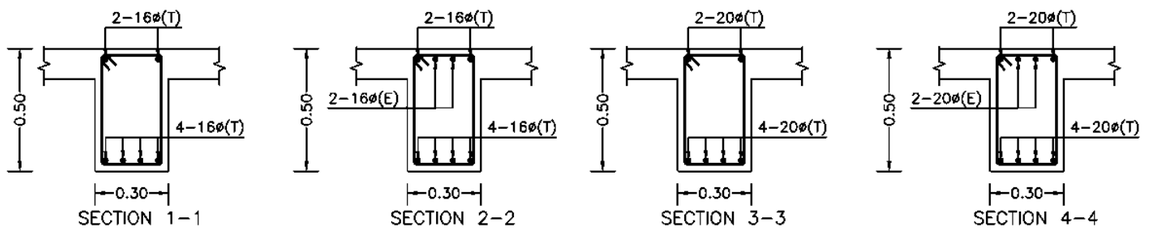
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDINGCONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



BEAM REINFORCEMENT DETAIL (GRID A-A)

SCALE 1:100



S1: 2L–10ø STIRRUPS @ 100 MM C/C
S2: 2L–10ø STIRRUPS @ 150 MM C/C

BEAM CROSS SECTIONS

SCALE 1:25

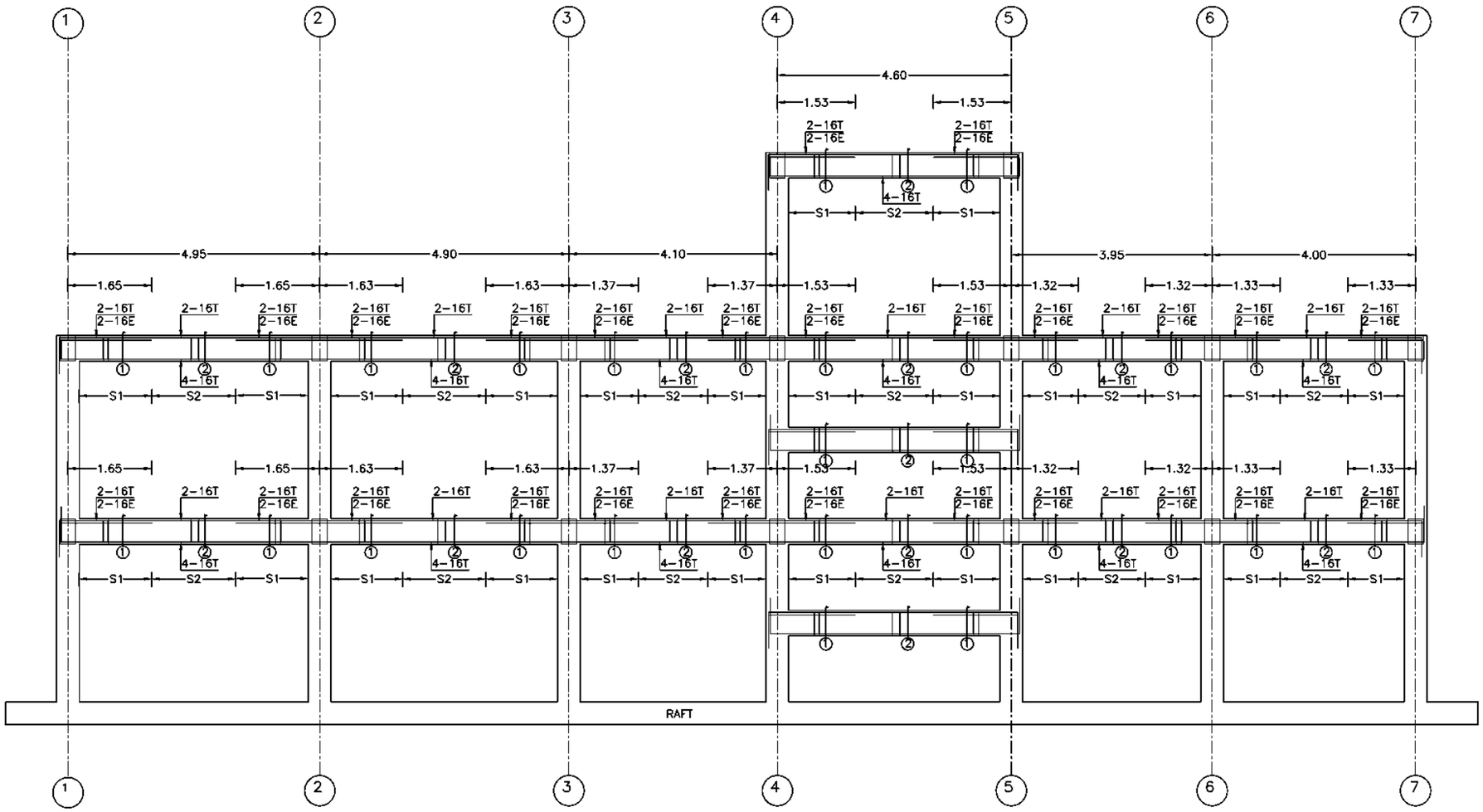
0 0.125 0.25 0.5 1 1.5
SCALE 1:25

0 0.5 1 2 3 4
SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNSARI MORANG DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-HEADWORKS CONTROL BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-CB-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	3
					APPROVED BY			SCALE:	AS SHOWN

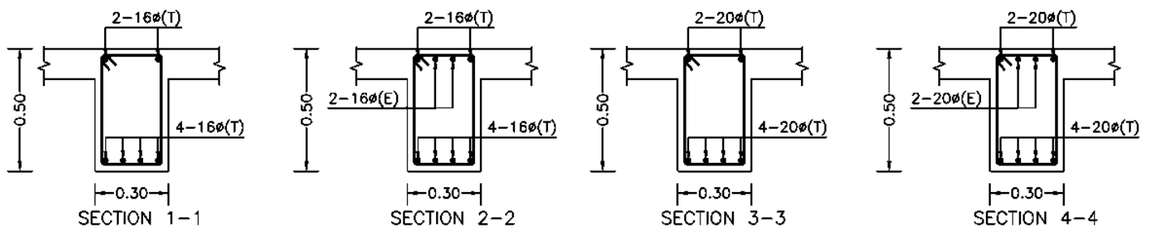
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDINGCONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



BEAM REINFORCEMENT DETAIL (GRID B-B)

SCALE 1:100



S1: 2L-10ø STIRRUPS @ 100 MM C/C
S2: 2L-10ø STIRRUPS @ 150 MM C/C

BEAM CROSS SECTIONS

SCALE 1:25

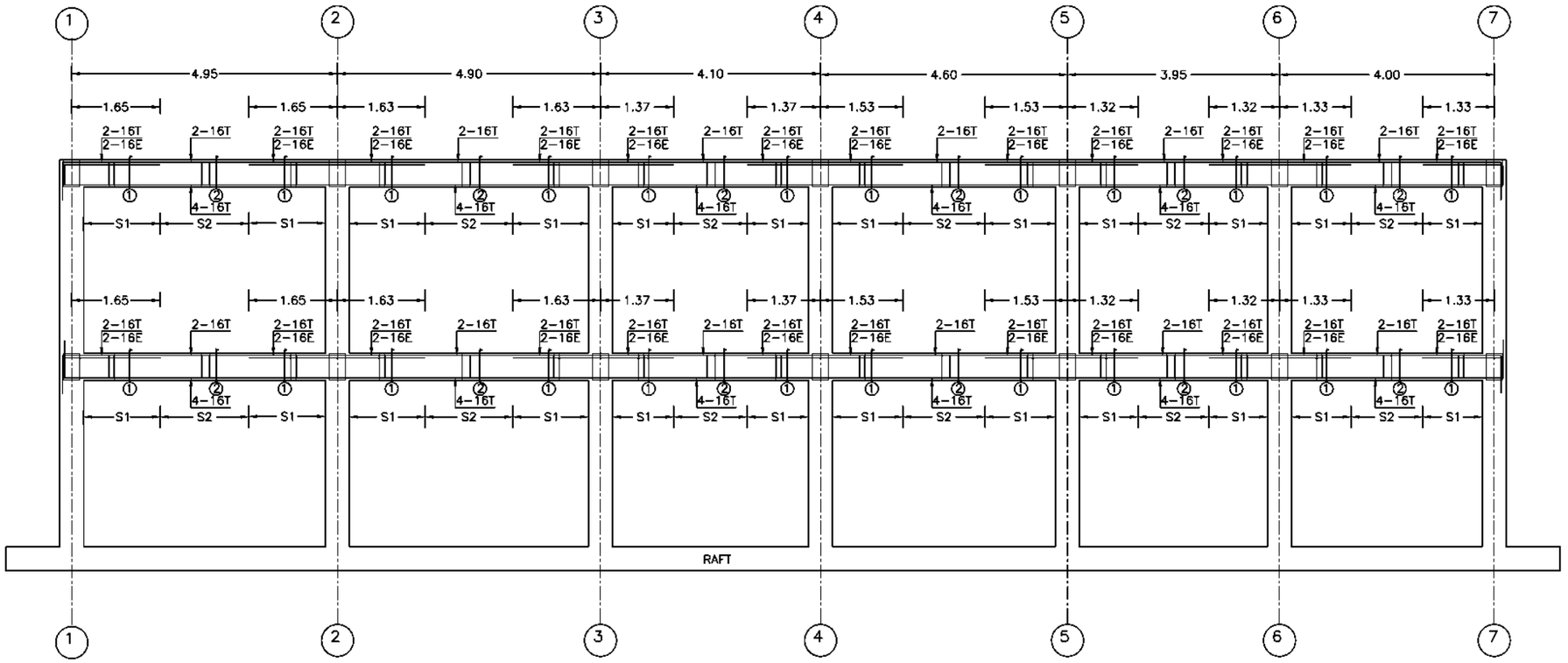
0 0.125 0.25 0.5 1 1.5
SCALE 1:25

0 0.5 1 2 3 4
SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-HEADWORKS CONTROL BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-CB-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	4
					APPROVED BY			SCALE:	AS SHOWN

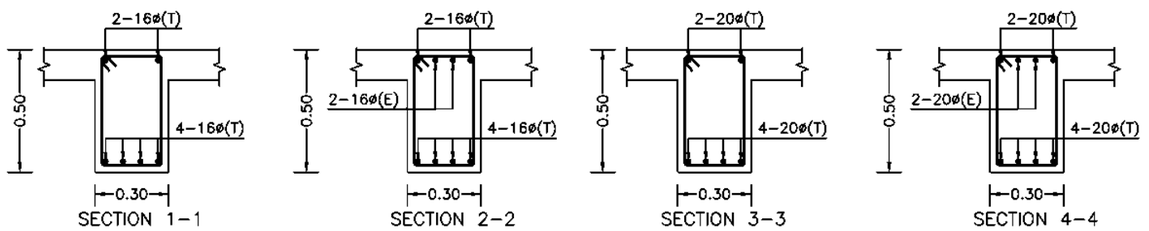
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDINGCONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



BEAM REINFORCEMENT DETAIL (GRID C-C)

SCALE 1:100



S1: 2L–10ø STIRRUPS @ 100 MM C/C
S2: 2L–10ø STIRRUPS @ 150 MM C/C

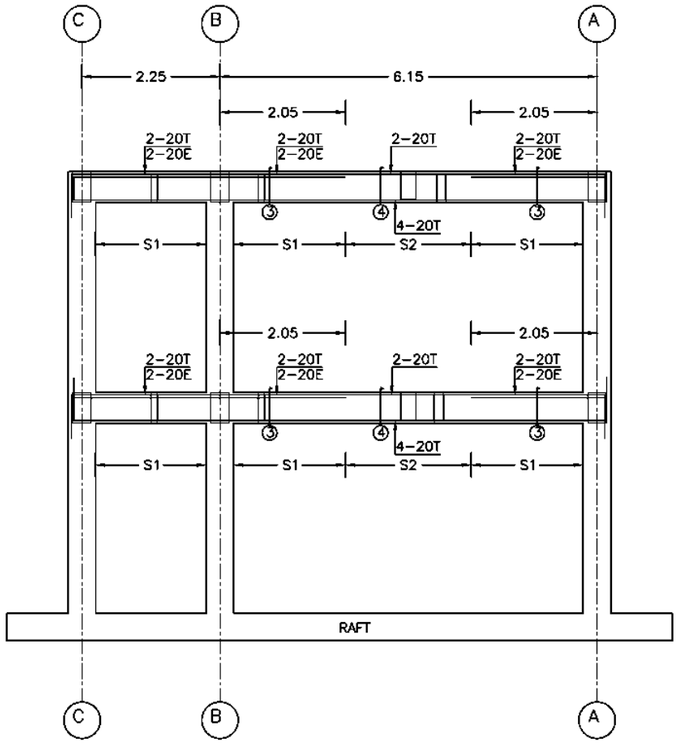
BEAM CROSS SECTIONS

SCALE 1:25

0 0.125 0.25 0.5 1 1.5
SCALE 1:25

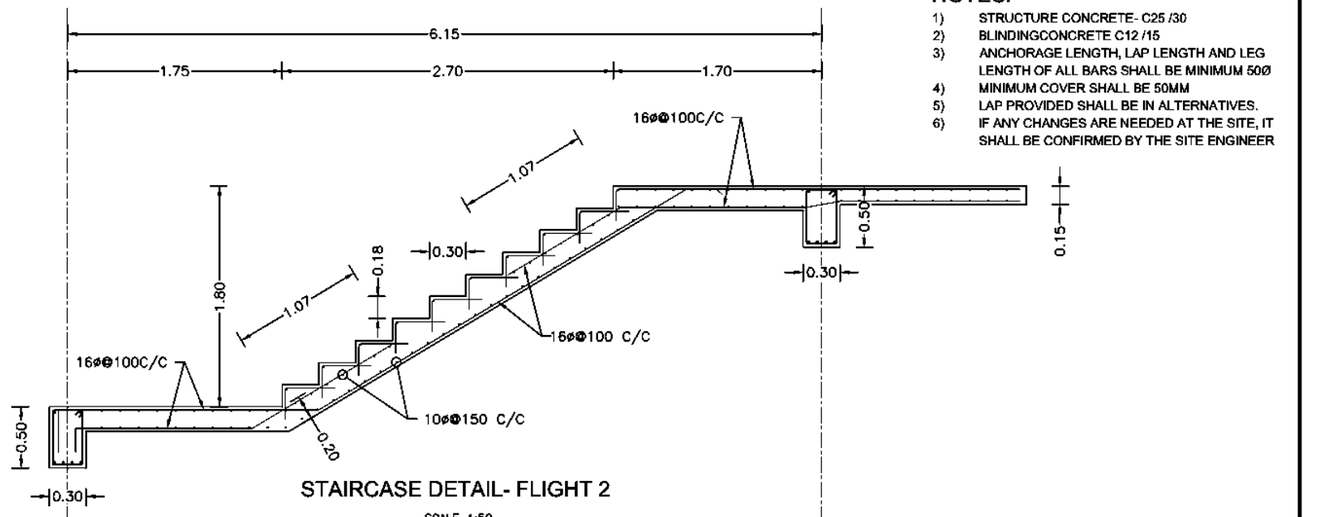
0 0.5 1 2 3 4
SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNSARI MORANG DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-HEADWORKS CONTROL BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-CB-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	5
					APPROVED BY			SCALE:	AS SHOWN



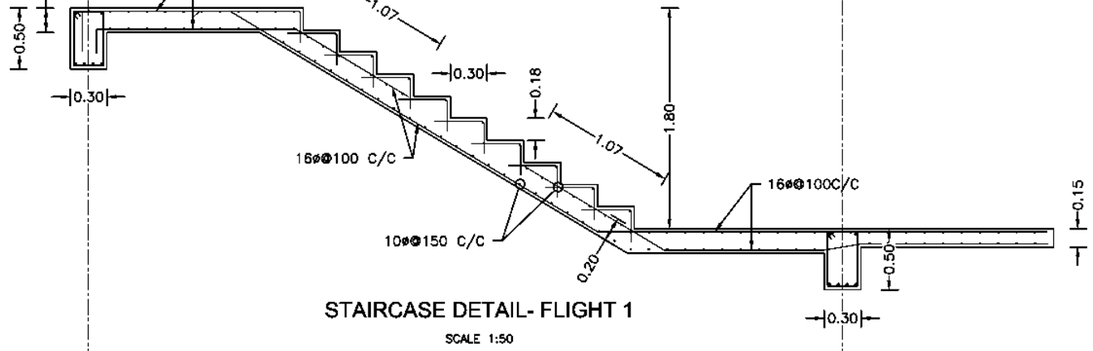
BEAM REINFORCEMENT DETAIL (GRID 1-1; 2-2)

SCALE 1:100



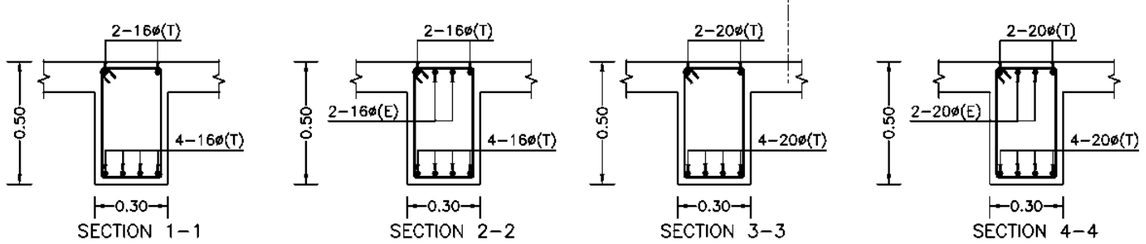
STAIRCASE DETAIL- FLIGHT 2

SCALE 1:50



STAIRCASE DETAIL- FLIGHT 1

SCALE 1:50



S1: 2L-10ø STIRRUPS @ 100 MM C/C
S2: 2L-10ø STIRRUPS @ 150 MM C/C

BEAM CROSS SECTIONS

SCALE 1:25

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDINGCONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER

0 0.125 0.25 0.5 1 1.5
SCALE 1:25

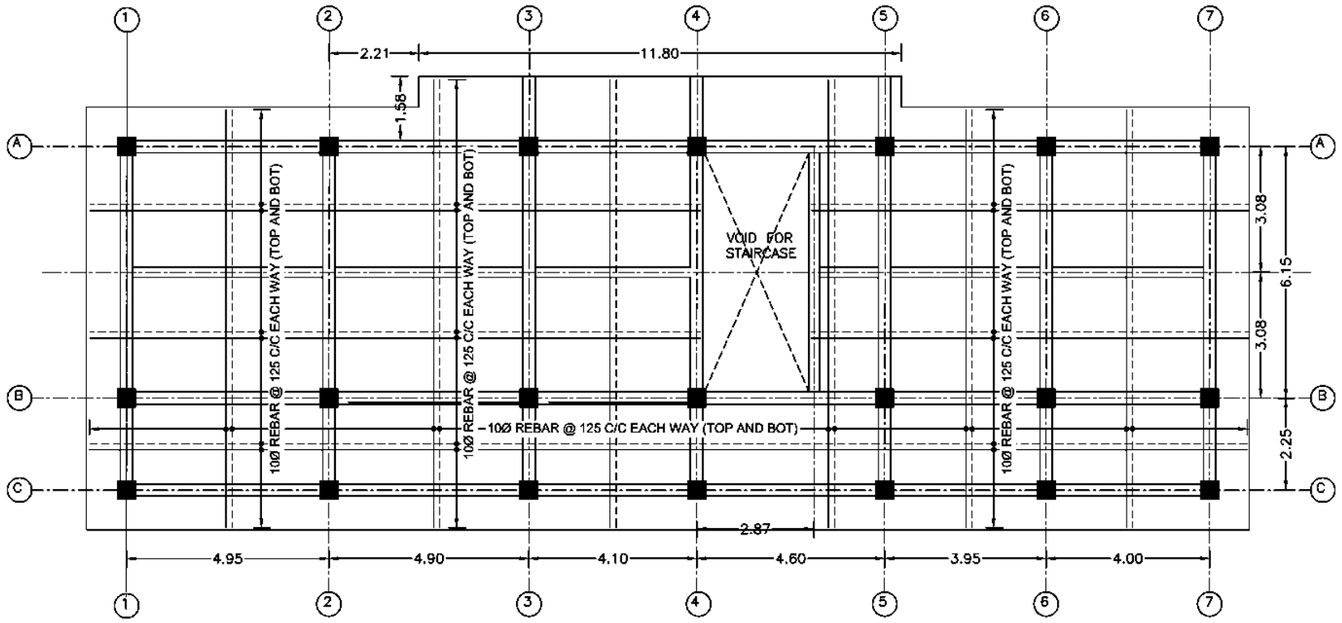
0 0.5 1 2 3 4
SCALE 1:100

0 0.75 1.5 3 4.5 6 7.5 m
SCALE 1:150

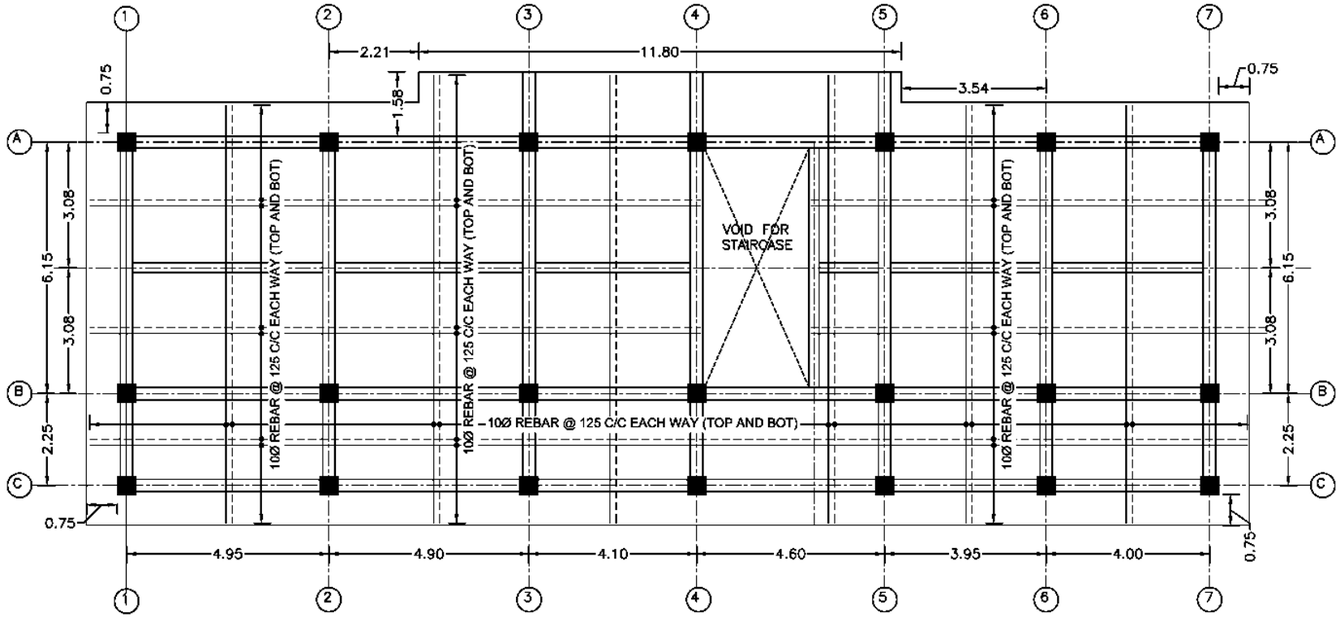
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL OF ENERGY, WATER RESOURCES AND IRRIGATION MEN OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-HEADWORKS CONTROL BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-CB-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	6
					APPROVED BY			SCALE:	AS SHOWN

NOTES:

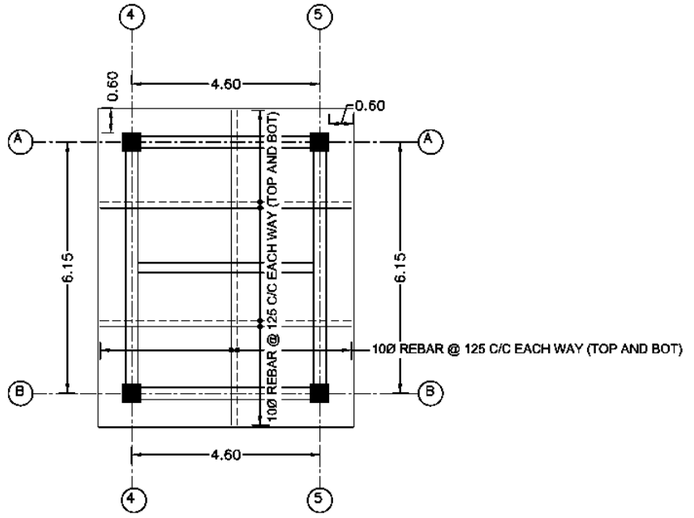
1) STRUCTURE CONCRETE- C25 /30
2) BLINDINGCONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



FIRST FLOOR SLAB REINFORCEMENTS
SCALE 1:150



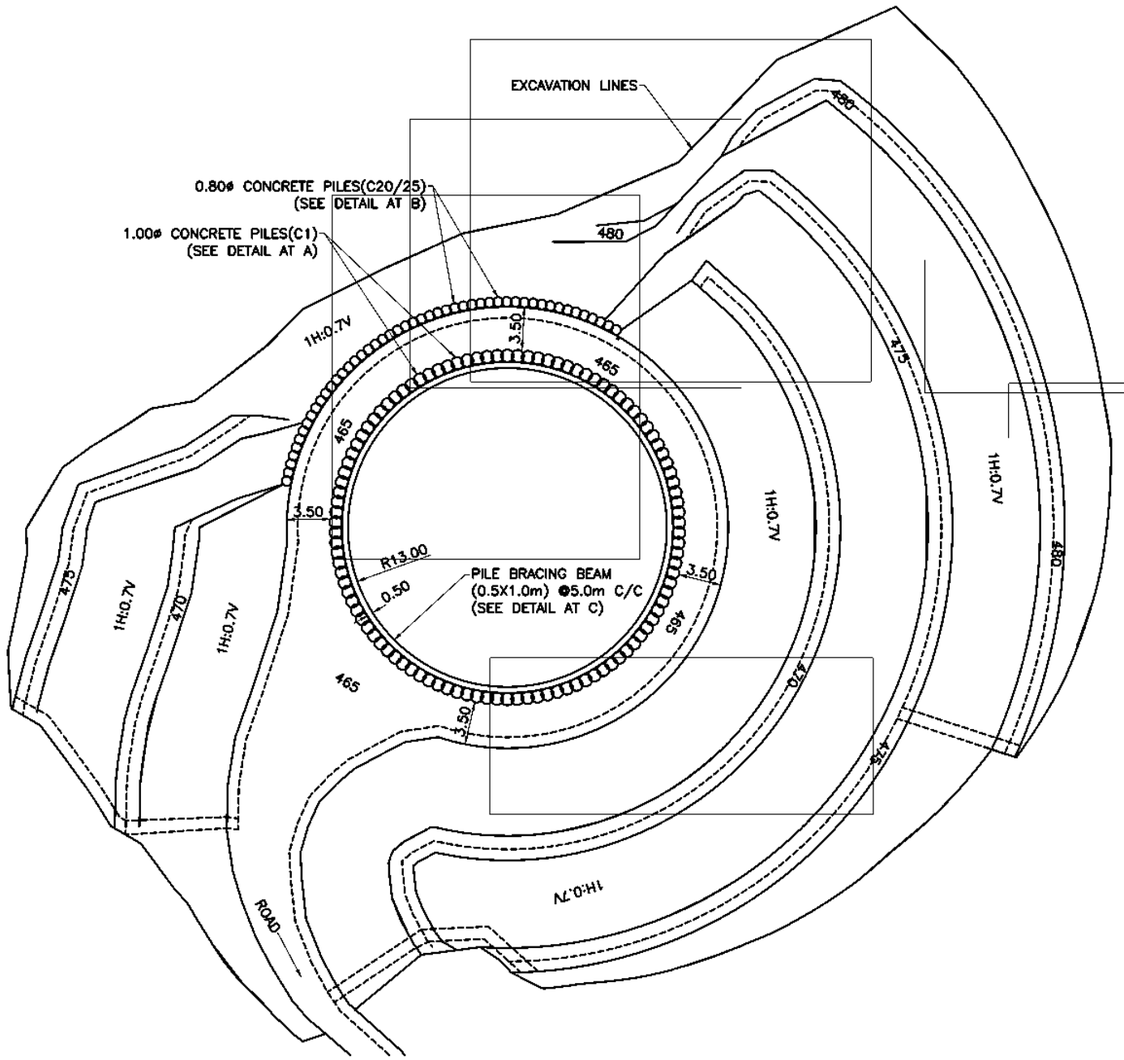
SECOND FLOOR SLAB REINFORCEMENTS
SCALE 1:150



ROOF FLOOR SLAB REINFORCEMENTS
SCALE 1:150

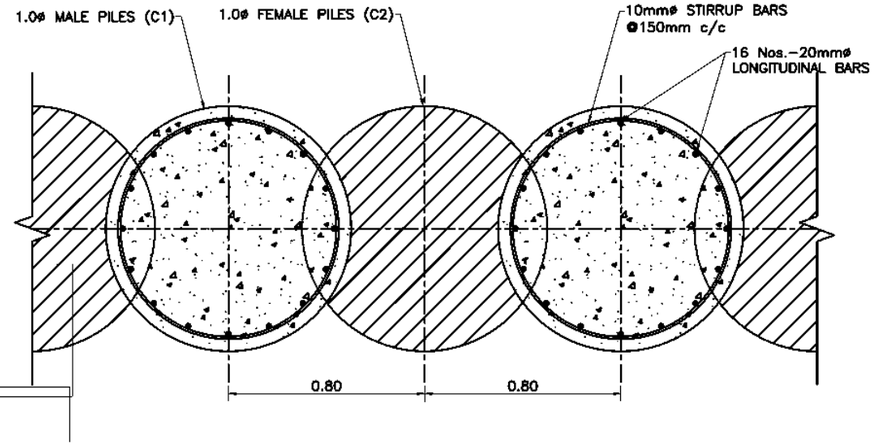
0 0.75 1.5 3 4.5 6 7.5 m
Scale 1:150

CLIENT	GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SOLUKHOLA IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	CONSULTANT	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	PROJECT	NAME	SIGN	DWRI	NAME	SIGN	DRAWING DETAIL	
				CHECKED BY			CHECKED BY			DRAWING TITLE:	REINFORCEMENT DWG-HEADWORKS CONTROL BUILDING
				RECOMMENDED BY			RECOMMENDED BY			DRAWING NUMBER	RF-CB-01
							APPROVED BY			SHEET NO:	7
										SCALE:	AS SHOWN



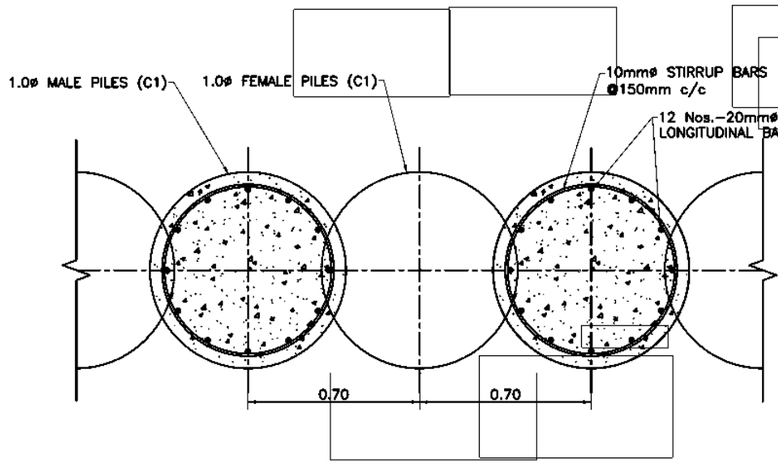
SURGE TANK EXCAVATION PLAN

SCALE 1:500



DETAIL A- PILE SECTION

SCALE 1:25

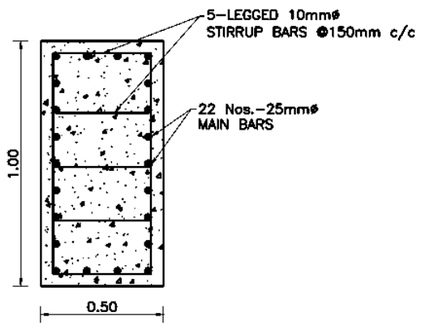


DETAIL B- PILE SECTION

SCALE 1:25

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) THE PILE DIAMETER, DEPTH AND CAPACITY SHALL BE VERIFIED FROM FIELD VISIT.
3) DURING CONSTRUCTION OPERATIONS, TEMPORARY BRACING AND/OR SHORING SHALL BE PROVIDED WHEREVER NECESSARY TO SUPPORT ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED INCLUDING EQUIPMENT AND THE OPERATION OF SAME. SUCH BRACING AND/OR SHORING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY.
4) THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE CONSTRUCTION LOAD IMPOSED UPON FOUNDATIONS AND UNDERLYING STRUCTURES. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF STRUCTURAL ELEMENTS AT ANY TIME DURING CONSTRUCTION.
5) SUITABLE ELASTOMERIC JOINT MATERIAL SHALL BE PROVIDED AT THE CONTACT SURFACE BETWEEN THE RCC BORE PILES AND THE BOTTOM 2.5M THICH SLAB.
6) WORK HAS BEEN COMPLETED FOR ALL PRIMARY FILE ANDSECONDARY FILE NO 42, 44 & 46 (THIS NOTE ONLY FOR DETAIL B



DETAIL C- PILE BRACING BEAM SECTION

SCALE 1:25

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206-1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY

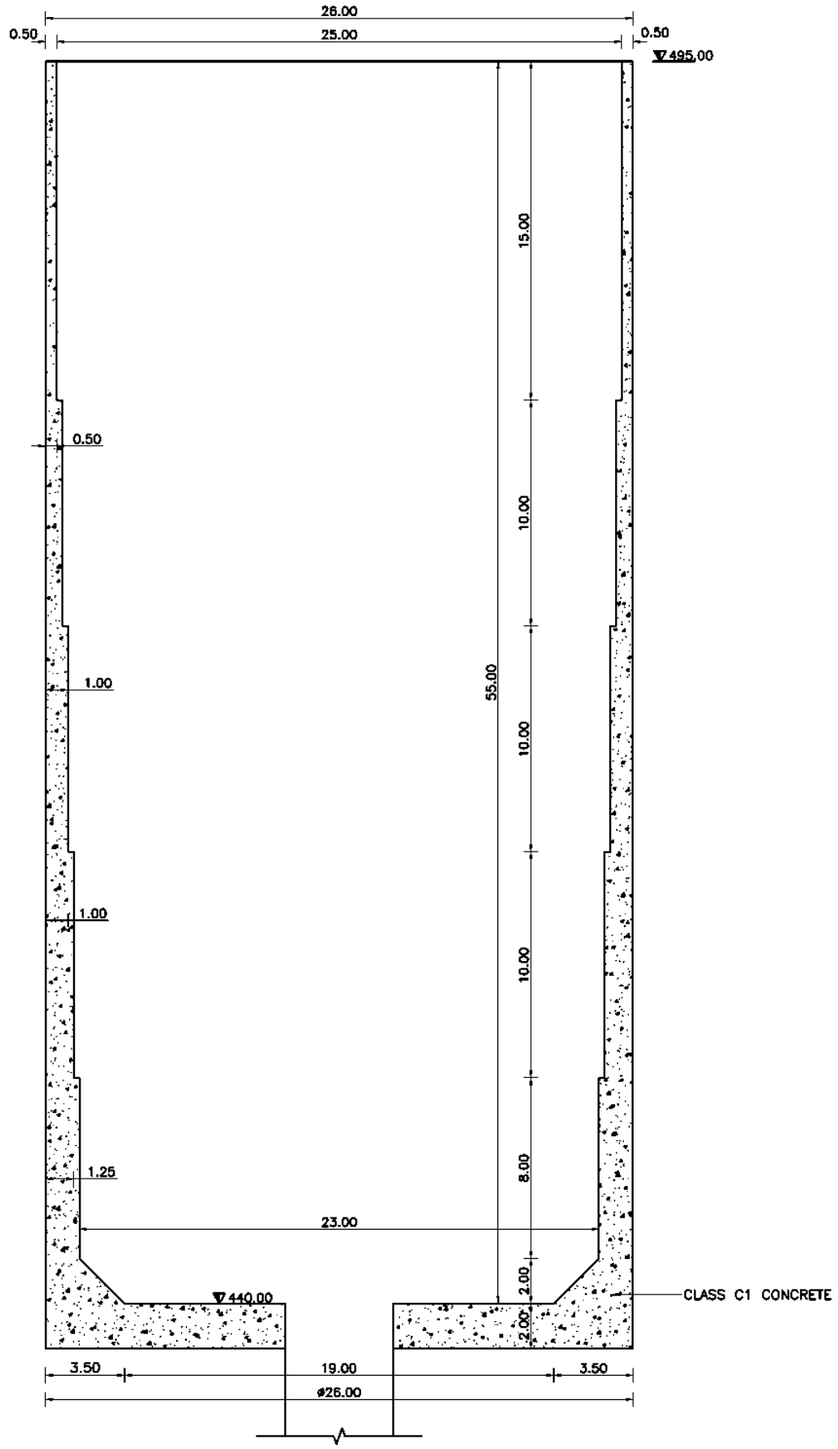
0 0.125 0.25 0.5 1 1.5

SCALE 1:25

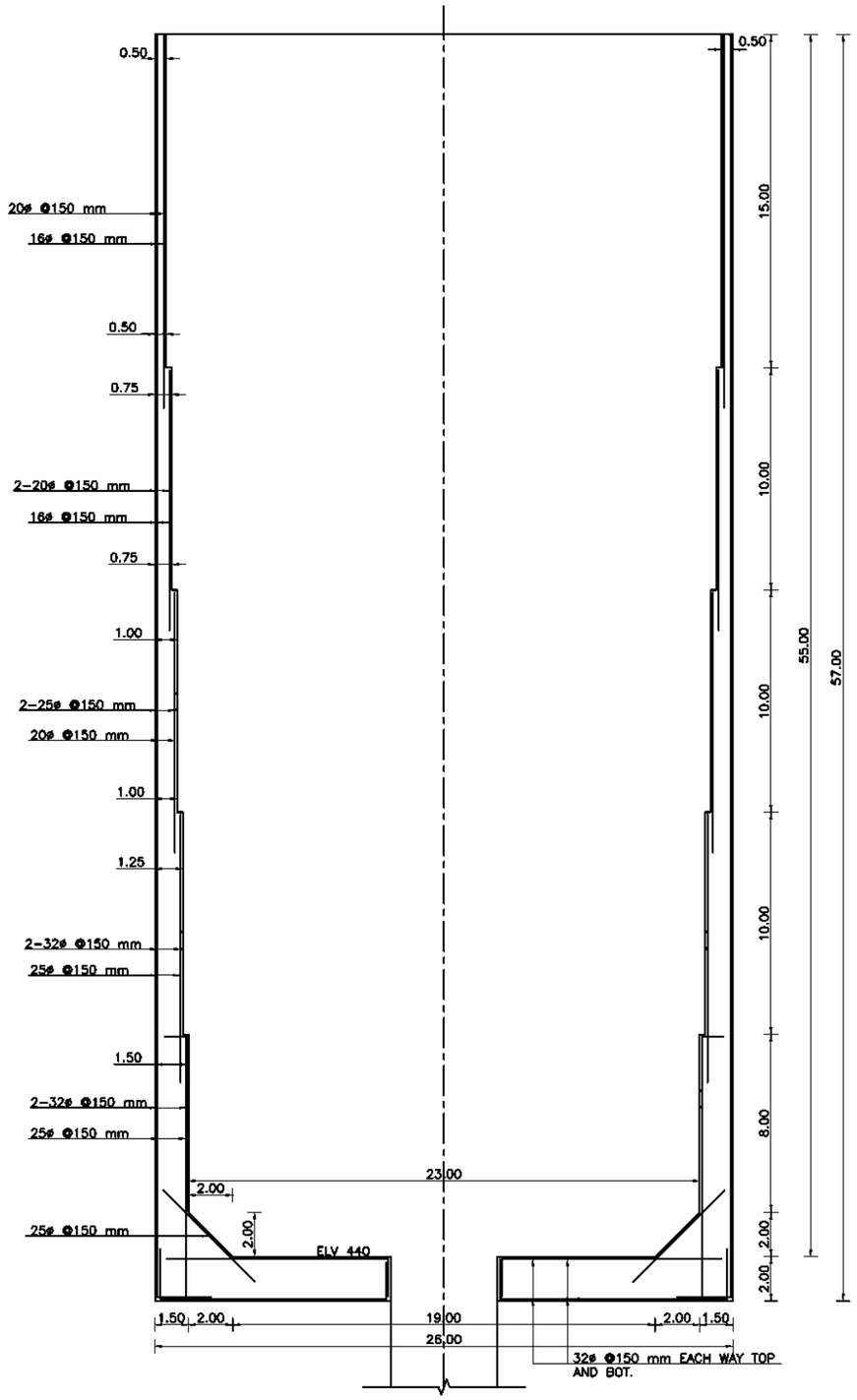
0 2.5 5 10 15 20

SCALE 1:500

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUPERVISION OF SINDHULI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGE TANK - PILES DETAILS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-PD-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	SCALE AS SHOWN



SURGE TANK L-SECTION



SURGE TANK REINFORCEMENT DRAWING

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

CONCRETE CLASS	CONCRETE STRENGTH CLASS ACCORDING TO EN 206–1	DESCRIPTION
C1	C25/30(XC4)	LIQUID RETAINING, STRUCTURE CONCRETE; LOW PERMEABILITY

0 1.25 2.5 5 7.5 10

SCALE 1:250

CLIENT

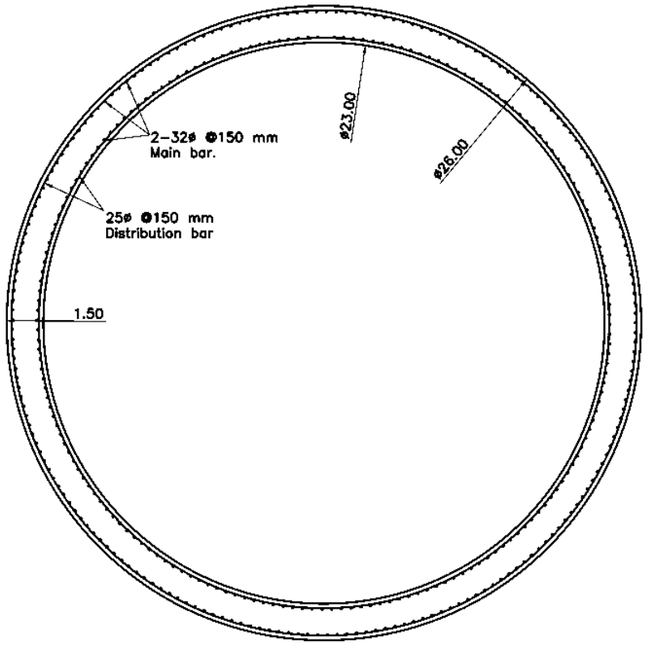
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

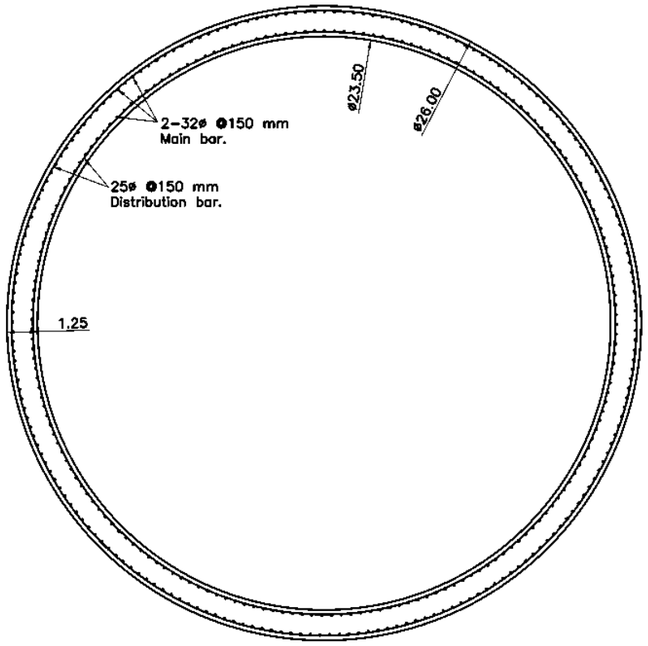
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

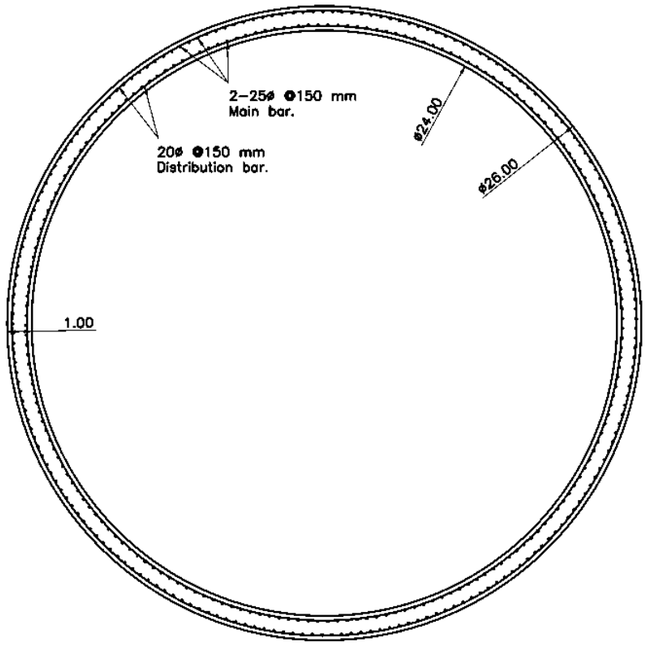
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGETANK - STRUCTURAL DRAWING
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-STR-01
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
			APPROVED BY			SCALE:	1:250



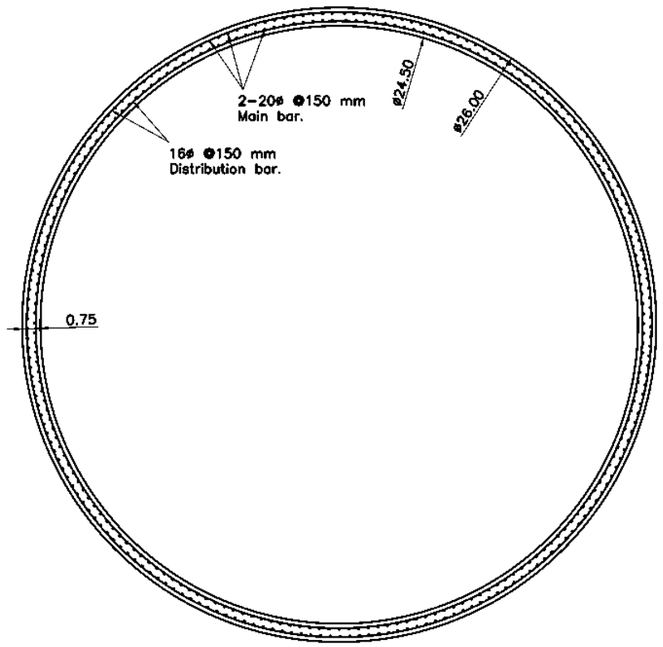
Section at A-A



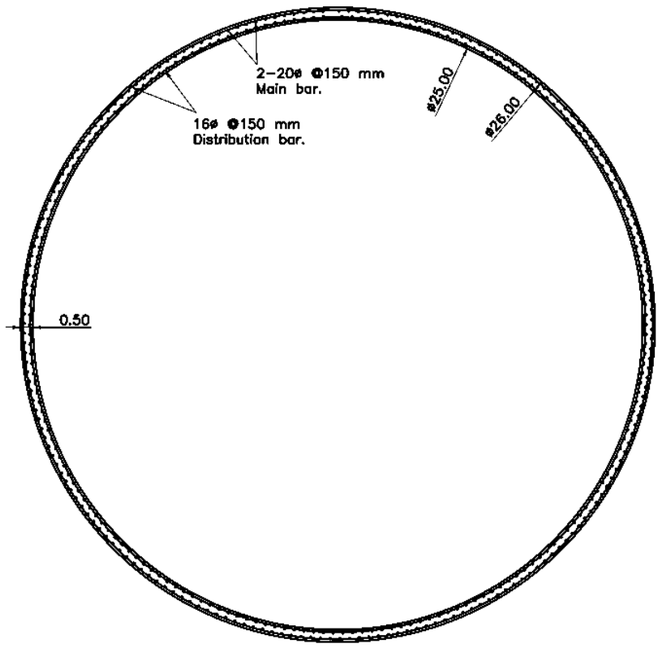
Section at B-B



Section at C-C



Section at D-D



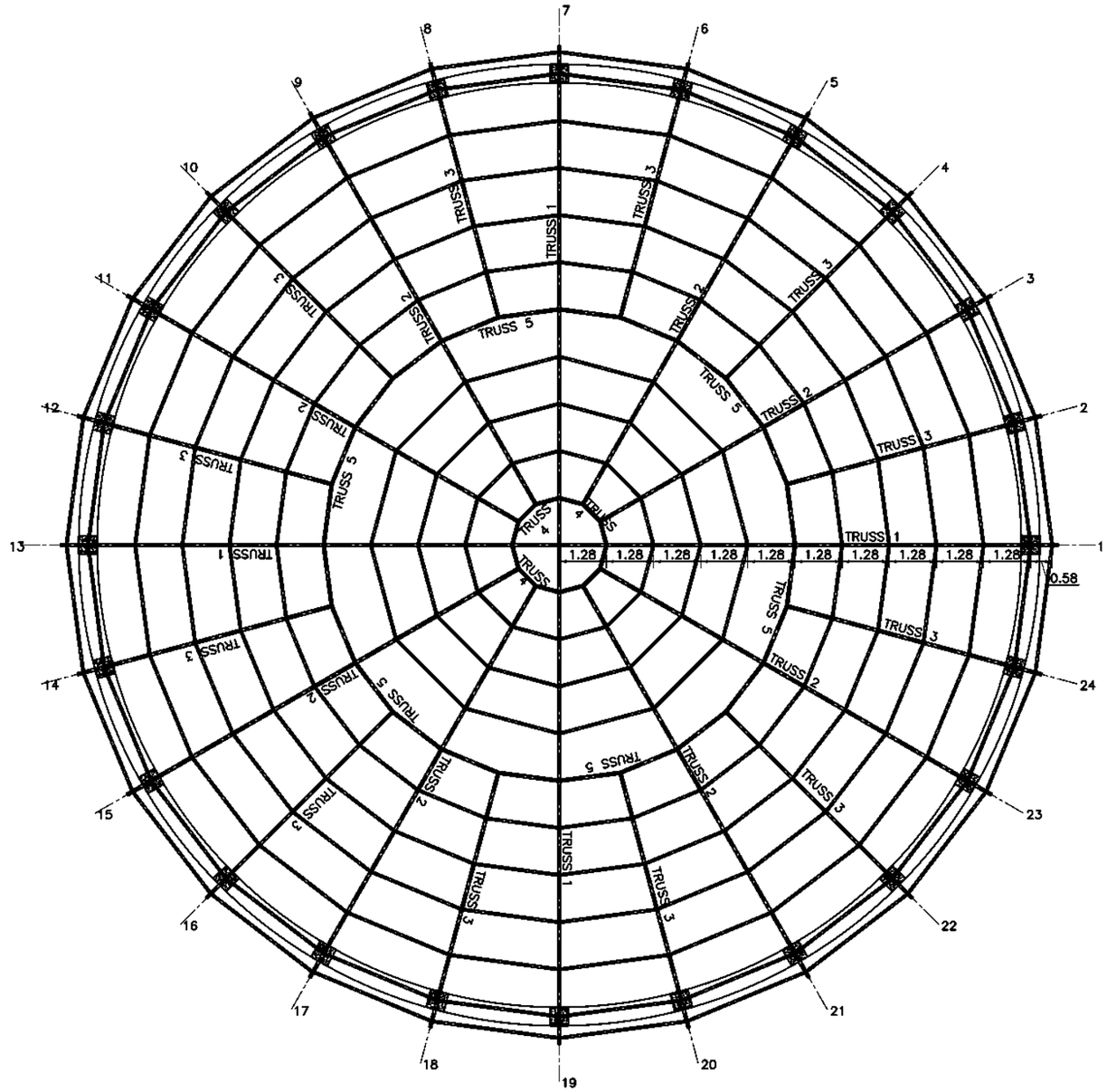
Section at E-E

0 1.25 2.5 5 7.5 10
SCALE 1:250

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: KARNALI-KAPAN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGE TANK - REINFORCEMENT DRAWING SECTION
		CHECKED BY			CHECKED BY			DRAWING NUMBER	ST-10
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	2/2
					APPROVED BY			SCALE:	1:250

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



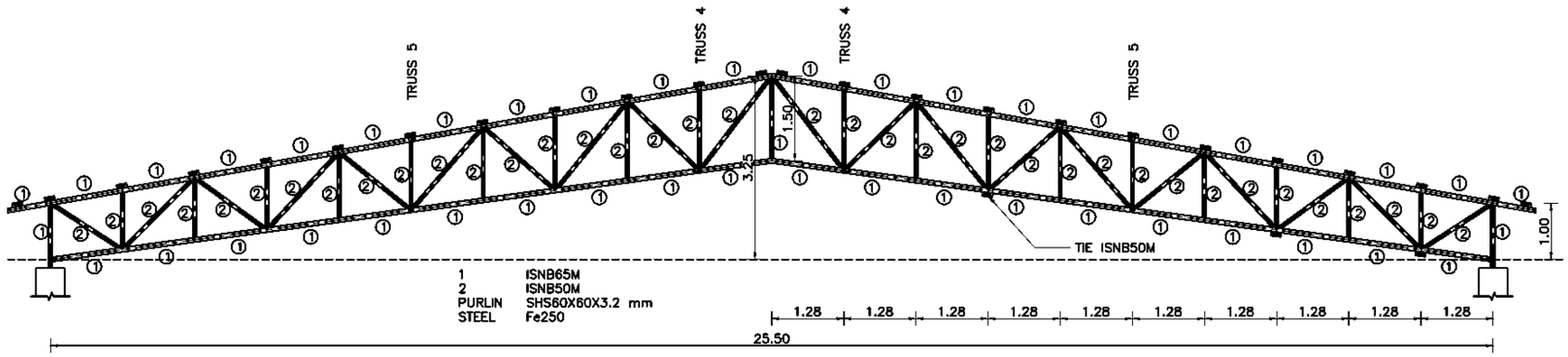
TRUSS PLAN

SCALE 1:150

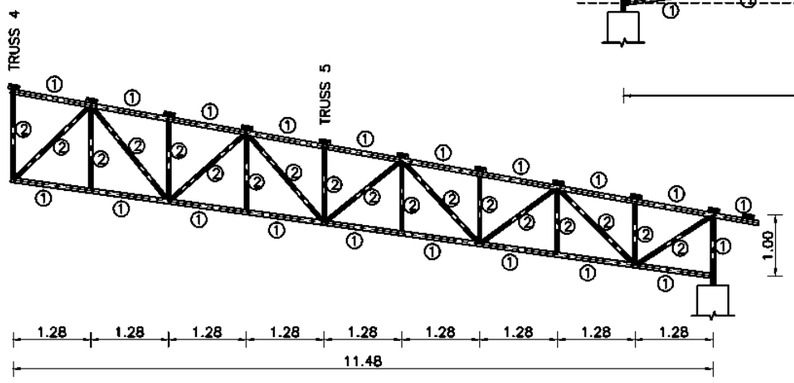
0 0.75 1.5 3 4.5 6

SCALE 1:150

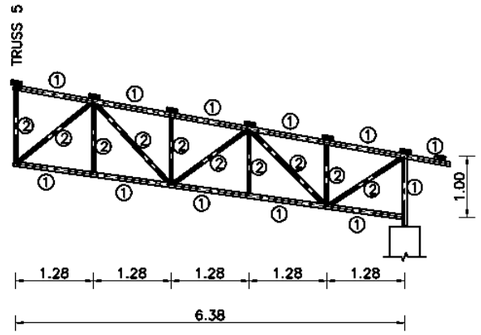
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SURGETANK DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGETANK - TRUSS DETAILS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-STR-02
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	1:150



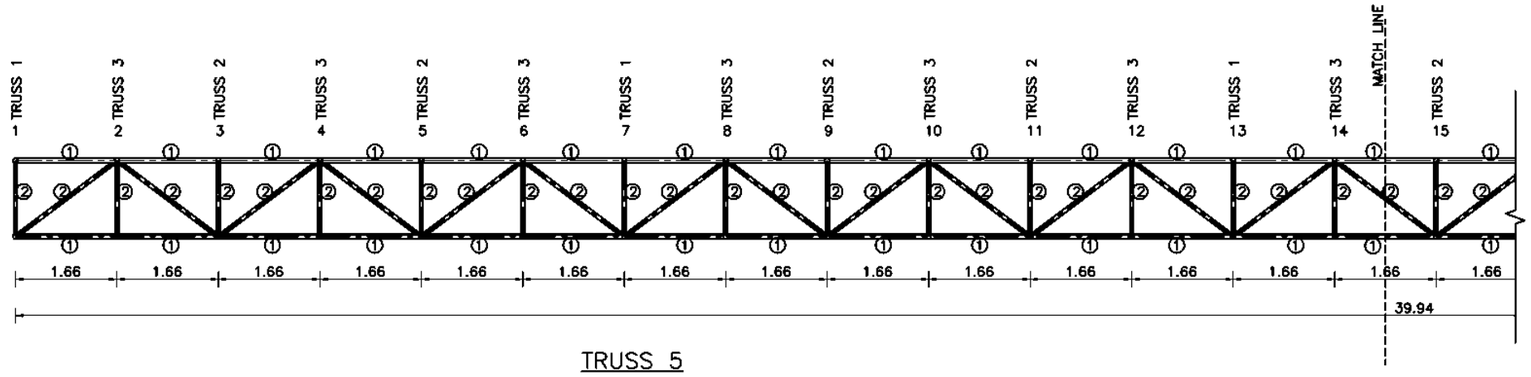
TRUSS 1



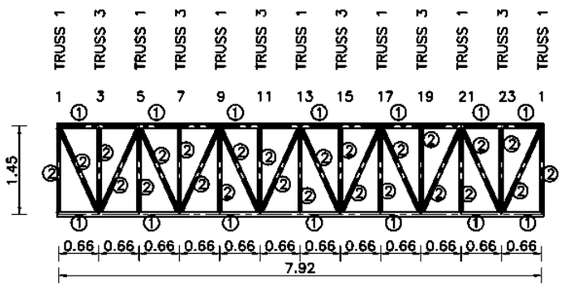
TRUSS 2



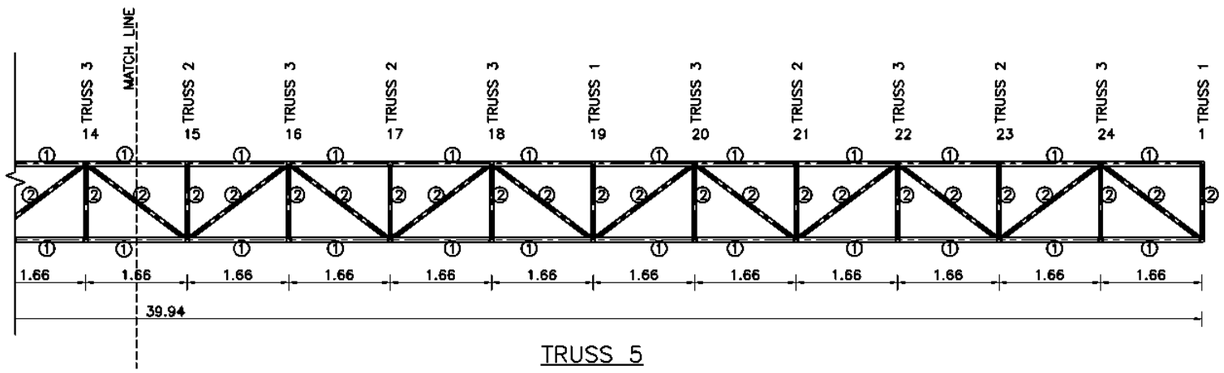
TRUSS 3



TRUSS 5



TRUSS 4



TRUSS 5

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

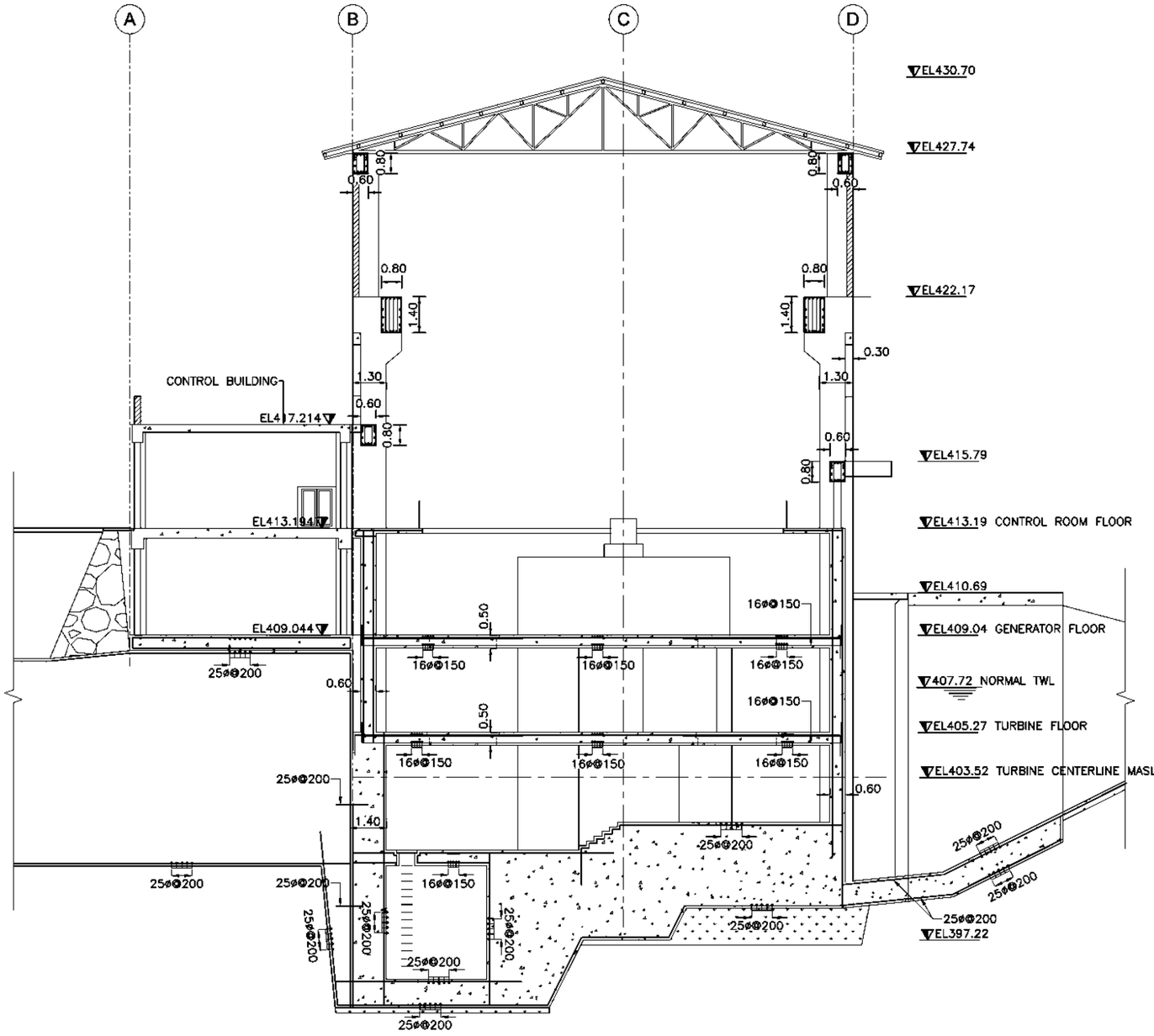
0 0.5 1 2 3 4

SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SURGETANK DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGETANK - TRUSS DETAILS
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-STR-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	1:100

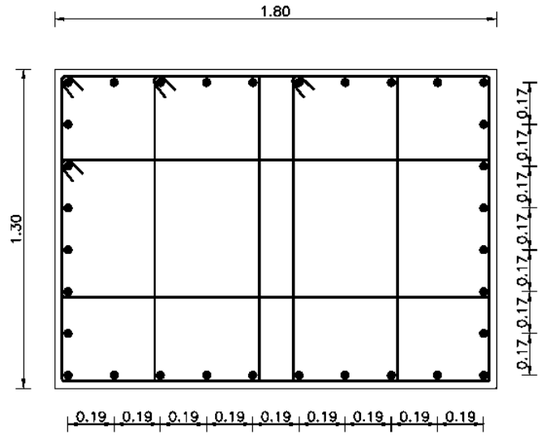
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



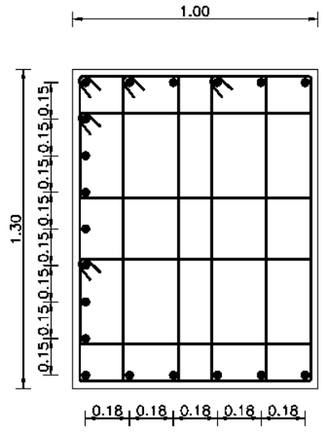
CROSS SECTION II-II

SCALE-1:200



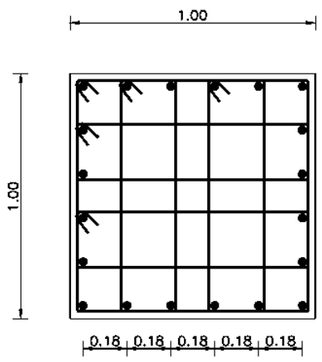
COLUMN 1800X1300

Scale 1:25



COLUMN 1000X1300

Scale 1:25



COLUMN 1000X1000

Scale 1:25

0 0.125 0.25 0.5 1 1.5

SCALE 1:25

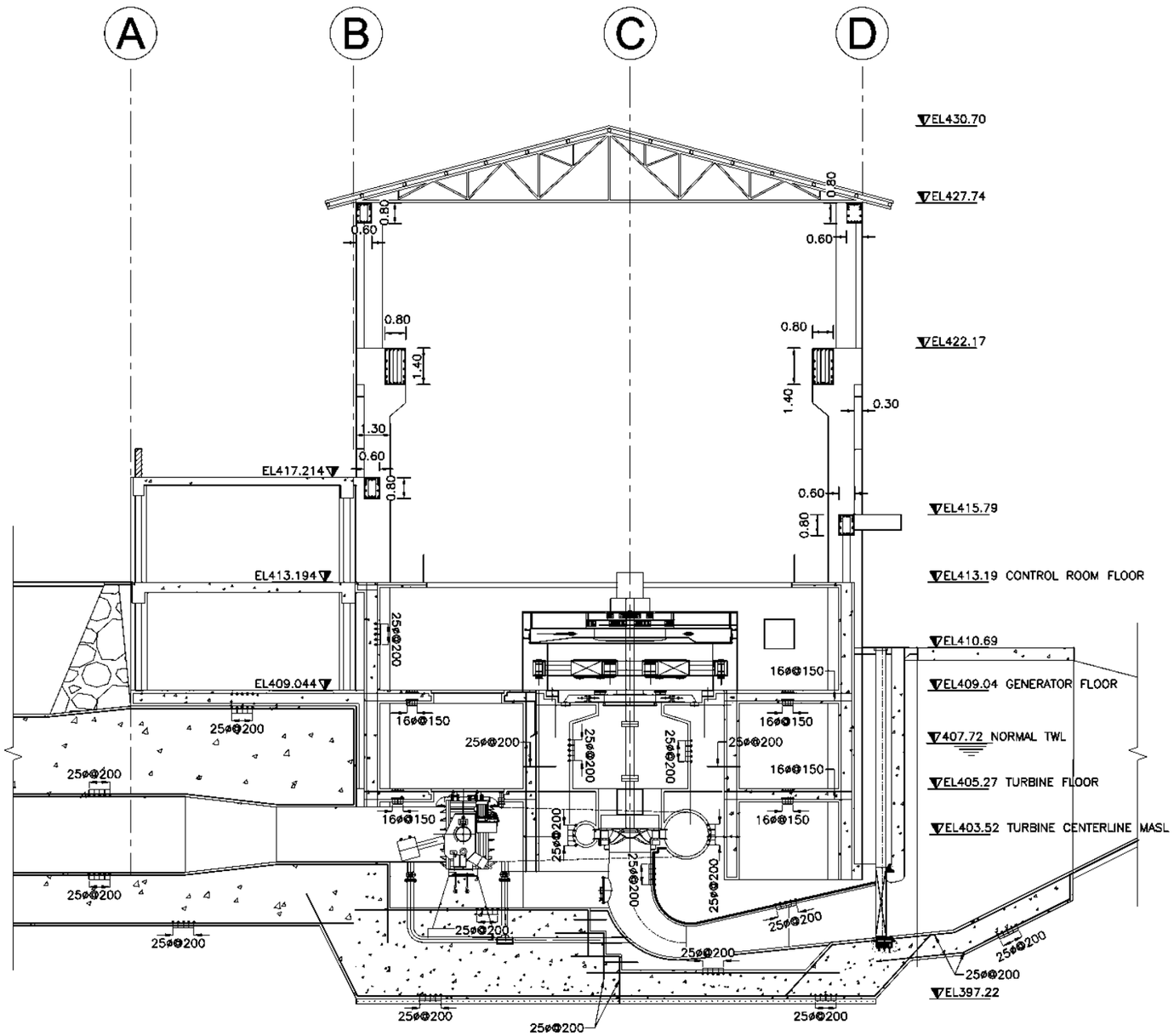
0 1 2 4 6 8

SCALE 1:200

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG- POWERHOUSE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-01
		RECOENDED BY			RECOENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE 1: 200 AND SCALE 1:25

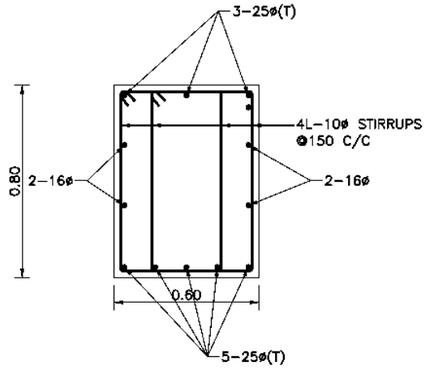
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



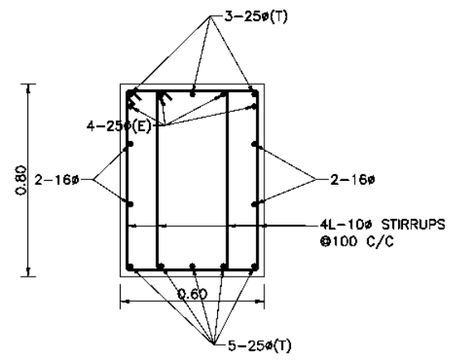
CROSS SECTION I-I

SCALE–1:200



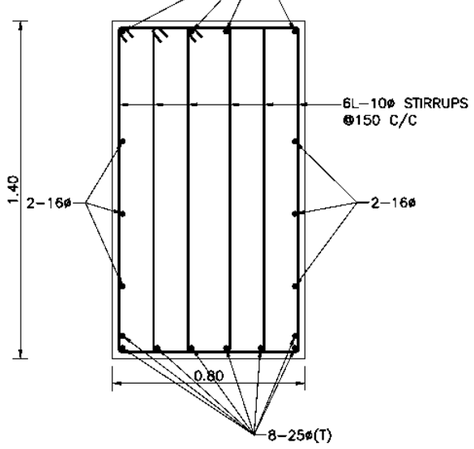
BEAM 600X800 SECTION AT MID

Scale 1:25



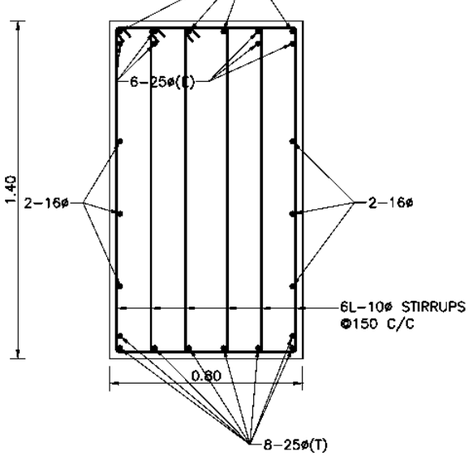
BEAM 600X800 SECTION AT END

Scale 1:25



BEAM 800X1400 SECTION AT MID

Scale 1:25



BEAM 800X1400 SECTION AT MID

Scale 1:25

0 0.125 0.25 0.5 1 1.5

SCALE 1:25

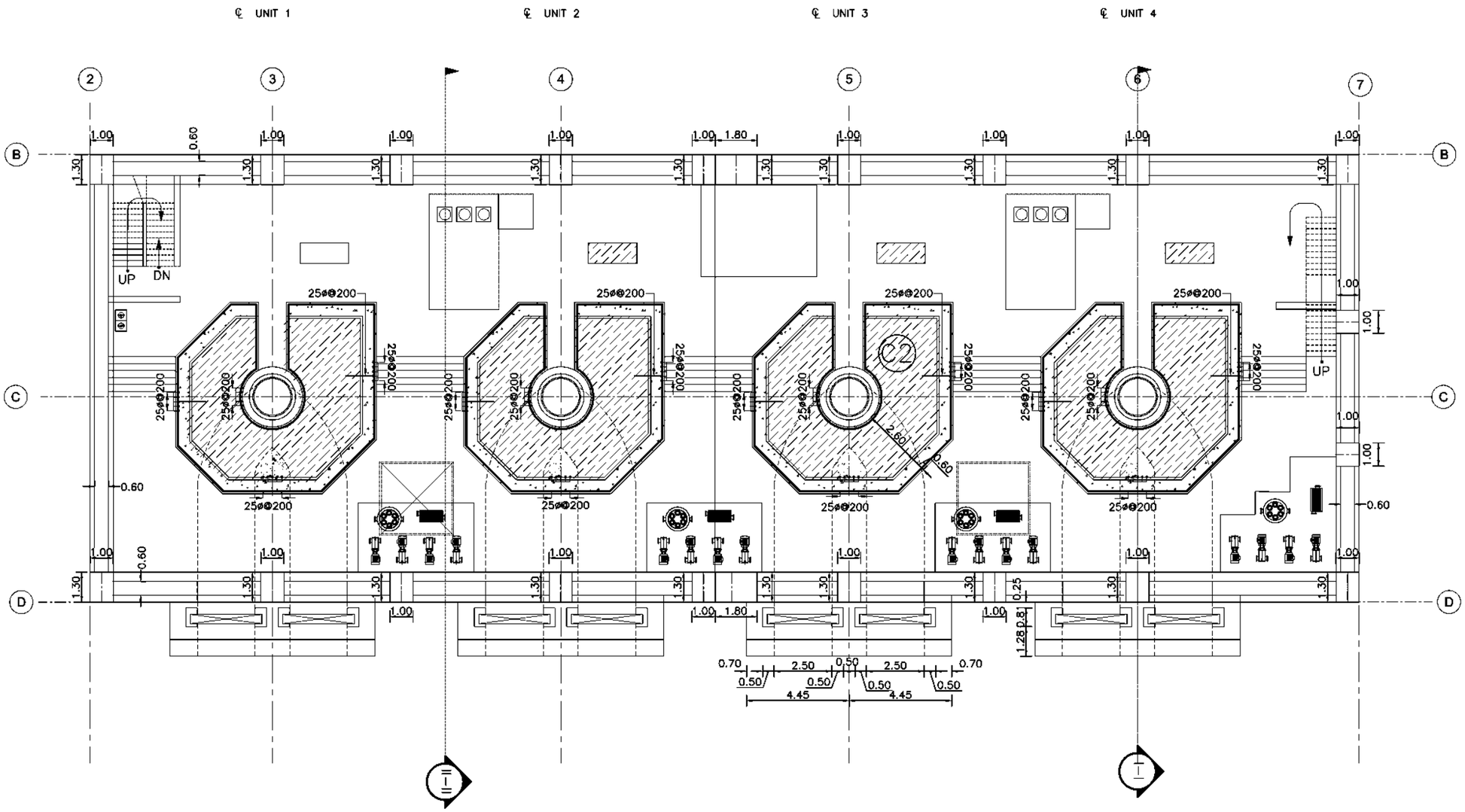
0 1 2 4 6 8

SCALE 1:200

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL OF ENERGY, WATER RESOURCES AND IRRIGATION MEN OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN		
		CHECKED BY			CHECKED BY			DRAWING TITLE:	REINFORCEMENT DWG- POWERHOUSE
		RECOENDED BY			RECOENDED BY			DRAWING NUMBER	RF-PH-01
					APPROVED BY			SHEET NO:	2
								SCALE:	SCALE 1: 200 AND SCALE 1:25

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



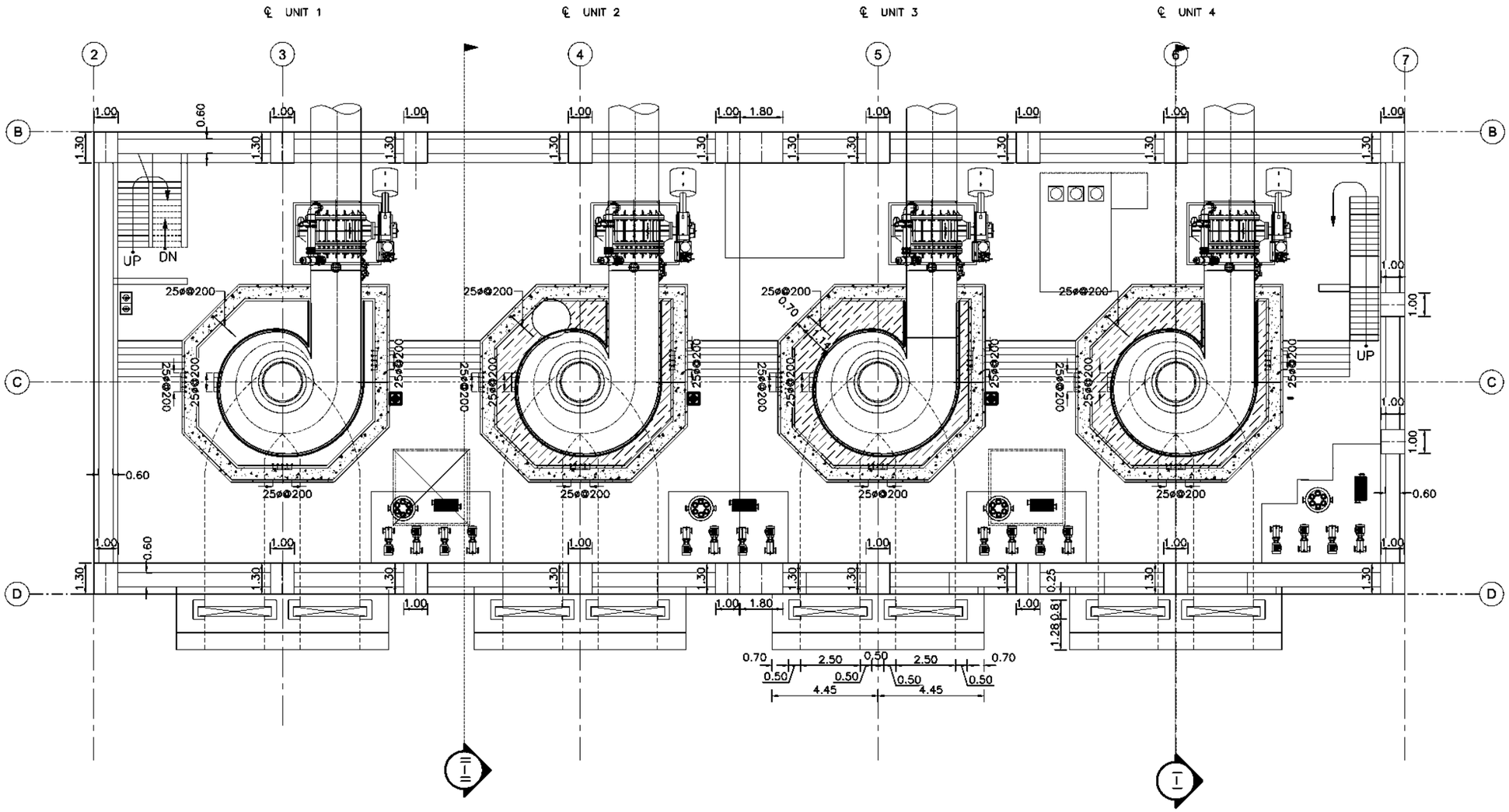
VALVE FLOOR PLAN EL401.794

0 1 2 4 6 8
SCALE 1:200

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG- POWERHOUSE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-01
		RECOENDED BY			RECOENDED BY			SHEET NO:	3
					APPROVED BY			SCALE:	SCALE 1: 200

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



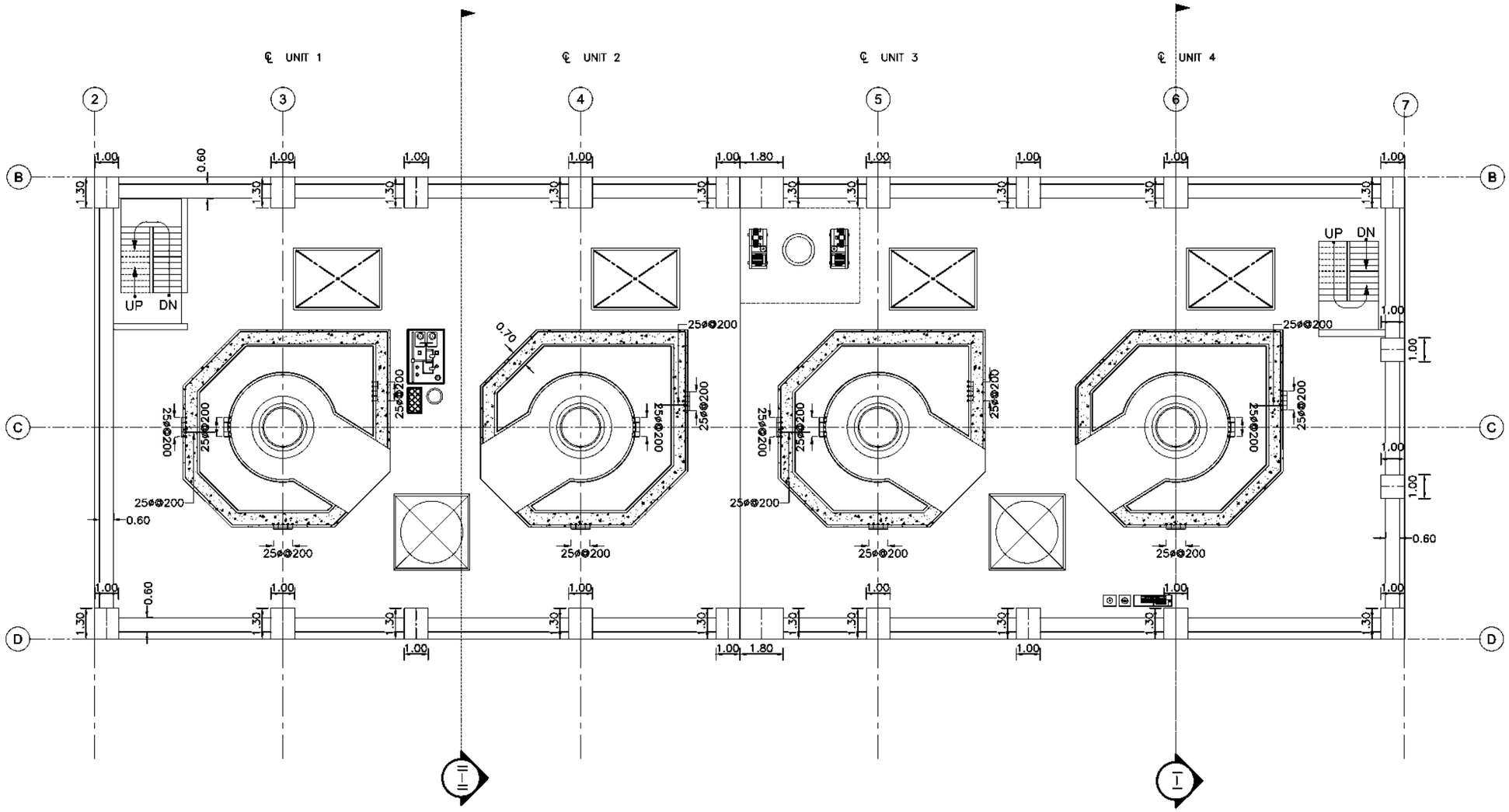
PLAN THRU CENTERLINE EL403.524

0 1 2 4 6 8
SCALE 1:200

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG- POWERHOUSE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-01
		RECOENDED BY			RECOENDED BY			SHEET NO:	4
					APPROVED BY			SCALE:	SCALE 1: 200

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



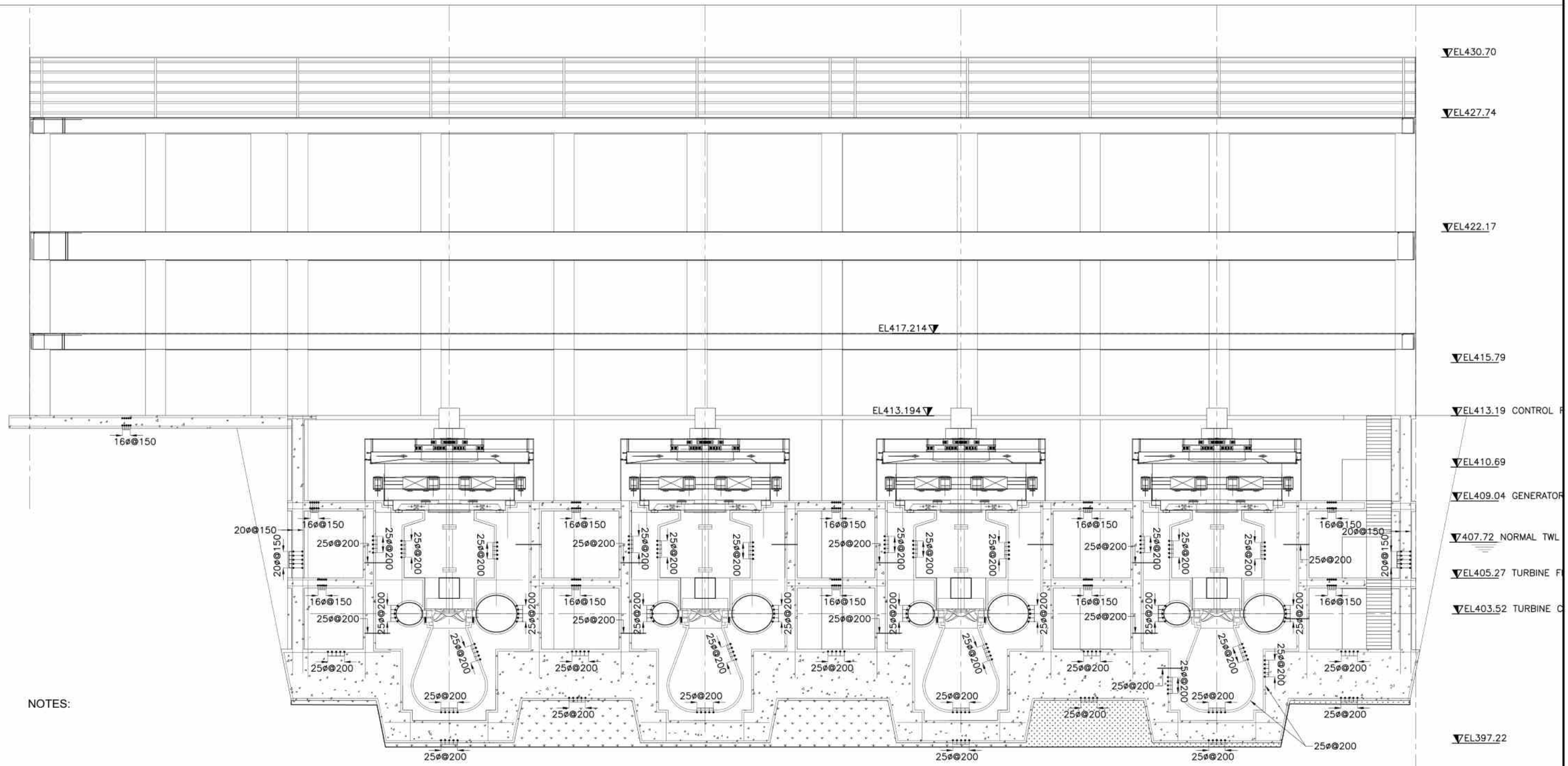
TURBINE FLOOR PLAN EL405.274

0 1 2 4 6 8
SCALE 1:200

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG- POWERHOUSE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-01
		RECOENDED BY			RECOENDED BY			SHEET NO:	5
					APPROVED BY			SCALE:	SCALE 1: 200

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



NOTES:

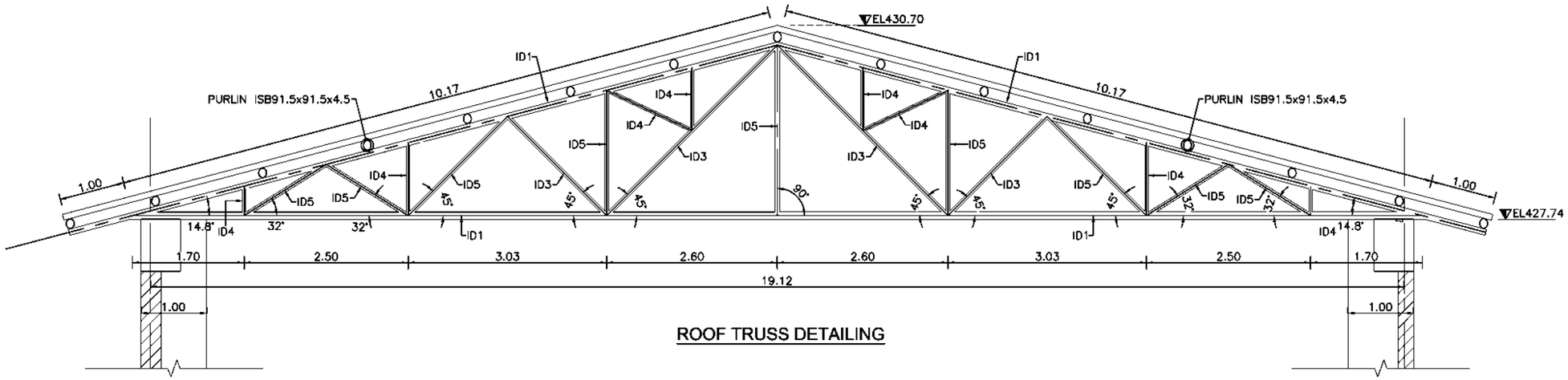
LONGITUDINAL SECTION

0 1 2 4 6 8
SCALE 1:200

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: SUNKOSHI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN		
		CHECKED BY			CHECKED BY			DRAWING TITLE:	REINFORCEMENT DWG- POWERHOUSE
		RECOENDED BY			RECOENDED BY			DRAWING NUMBER	RF-PH-01
					APPROVED BY			SHEET NO:	6
								SCALE:	SCALE 1: 200

NOTES:

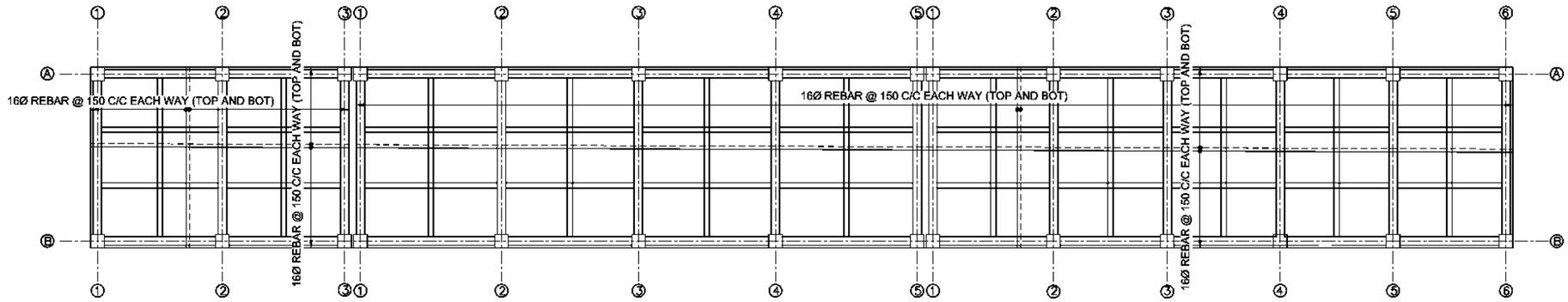
1) ALL DIMENSIONS IN THE DRAWINGS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



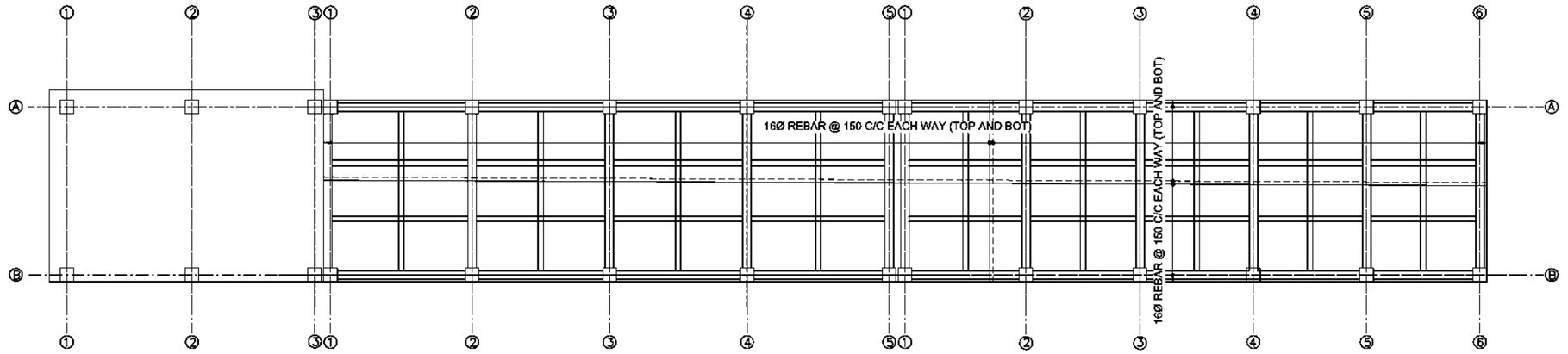
ROOF TRUSS DETAILING

STEEL SECTION TABLE	
I.D.	SECTION
1	ISNB90H
2	ISNB80H
3	ISNB32H
4	ISNB20M
5	ISNB25L

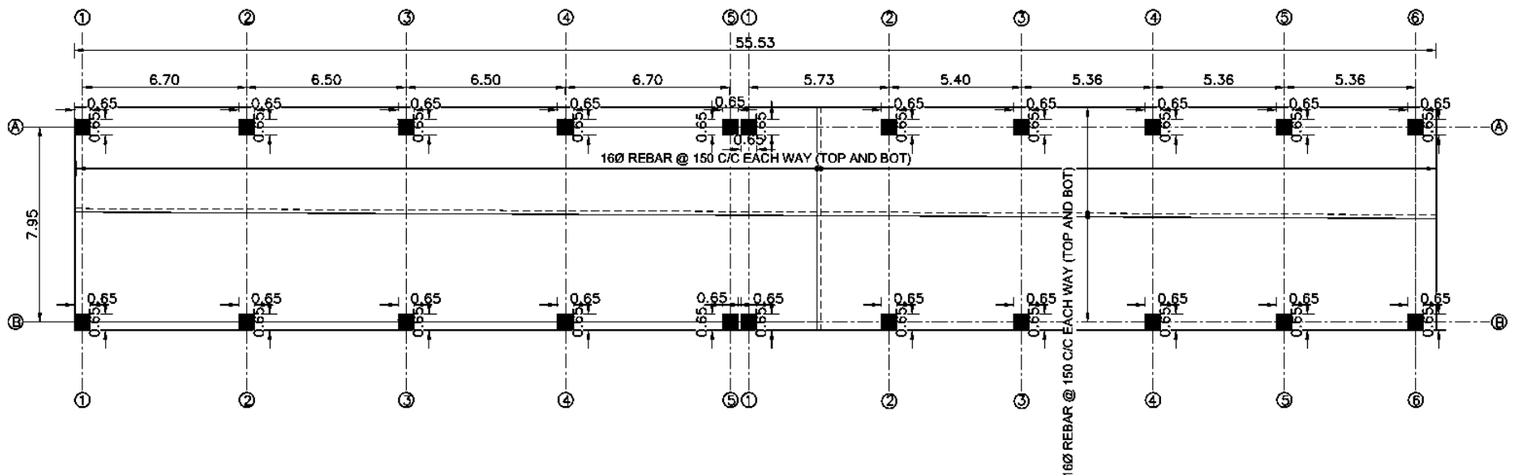
CLIENT	GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	CONSULTANT	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL	PROJECT			DWRI			DRAWING DETAIL	
					NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG- POWERHOUSE
				CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-01
				RECOENDED BY			RECOENDED BY			SHEET NO:	7
							APPROVED BY			SCALE:	SCALE 1: 75



FRAMING PLAN AT EL417.214



FRAMING PLAN AT EL413.194



COLUMN AND FOUNDATION PLAN

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER

0 1.25 2.5 5 7.5 10
SCALE 1:250

CLIENT
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION
DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

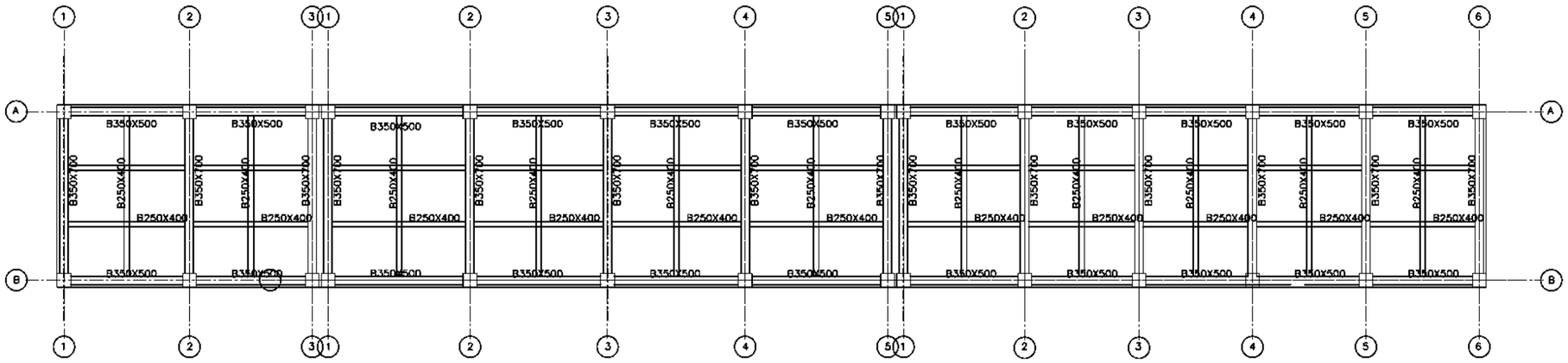
PROJECT		
	NAME	SIGN
CHECKED BY		
RECOENDED BY		

DWRI		
	NAME	SIGN
CHECKED BY		
RECOENDED BY		
APPROVED BY		

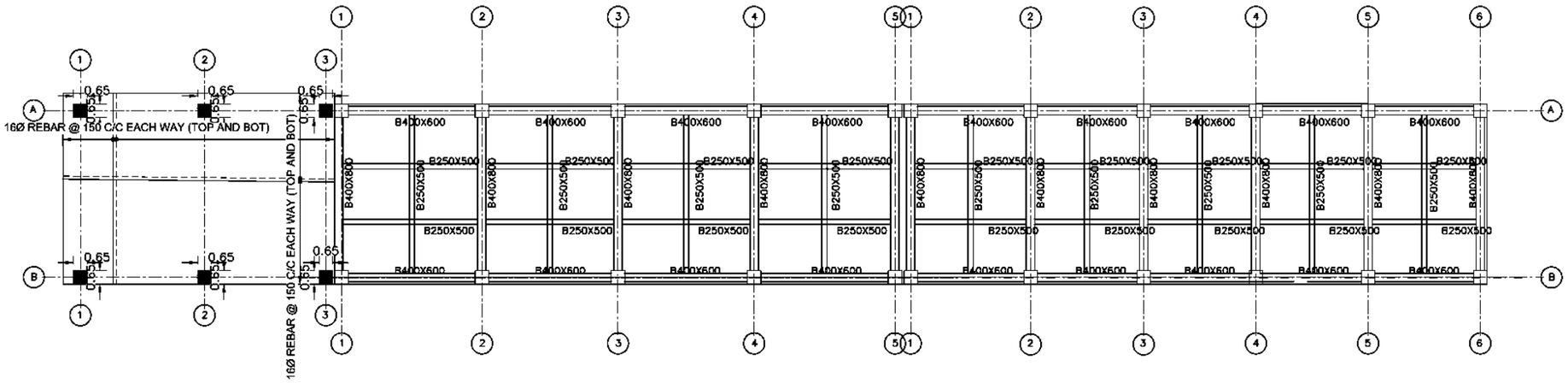
DRAWING DETAIL	
DRAWING TITLE:	REINFORCEMENT DWG- PH CONTROL BUILDING
DRAWING NUMBER	RF-PH-02
SHEET NO:	1
SCALE:	SCALE 1: 250

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



FRAMING PLAN AT EL417.214



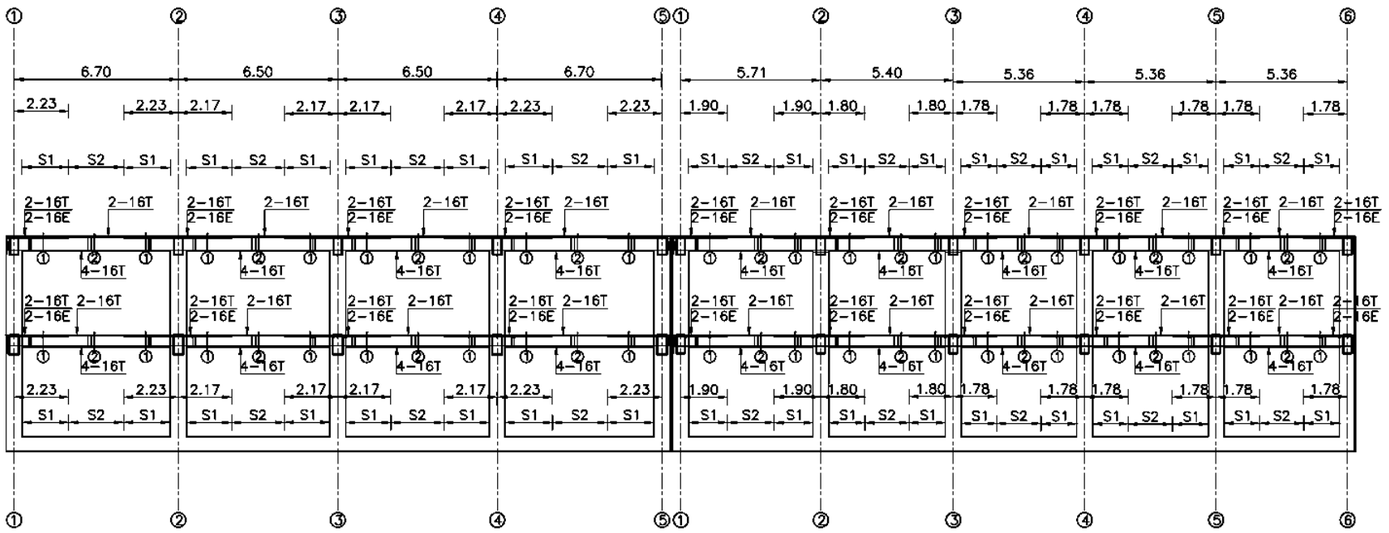
FRAMING PLAN AT EL413.194

0 1.25 2.5 5 7.5 10
SCALE 1:250

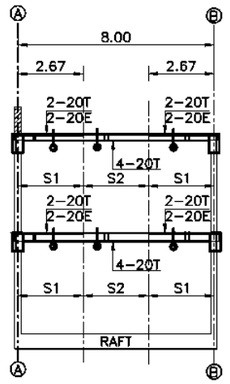
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG- PH CONTROL BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-02
		RECOENDED BY			RECOENDED BY			SHEET NO:	2
					APPROVED BY			SCALE:	SCALE 1: 250

NOTES:

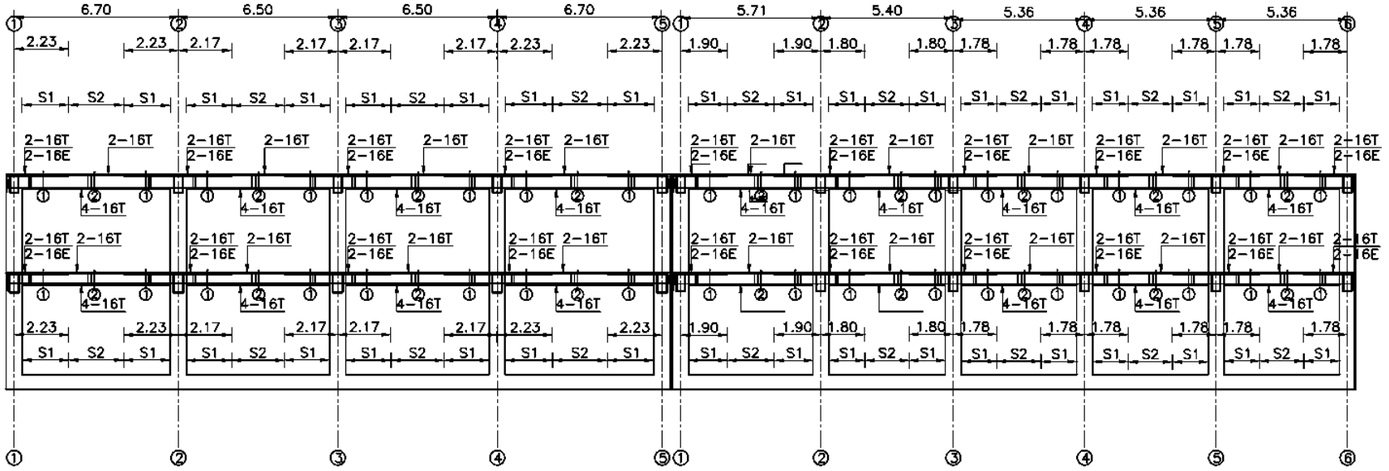
1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



BEAM REBAR DETAIL-GRID A-A



BEAM REBAR DETAIL-GRID 1-1, 2-2, 3-3, 4-4, 5-5, 6-6, 7-7



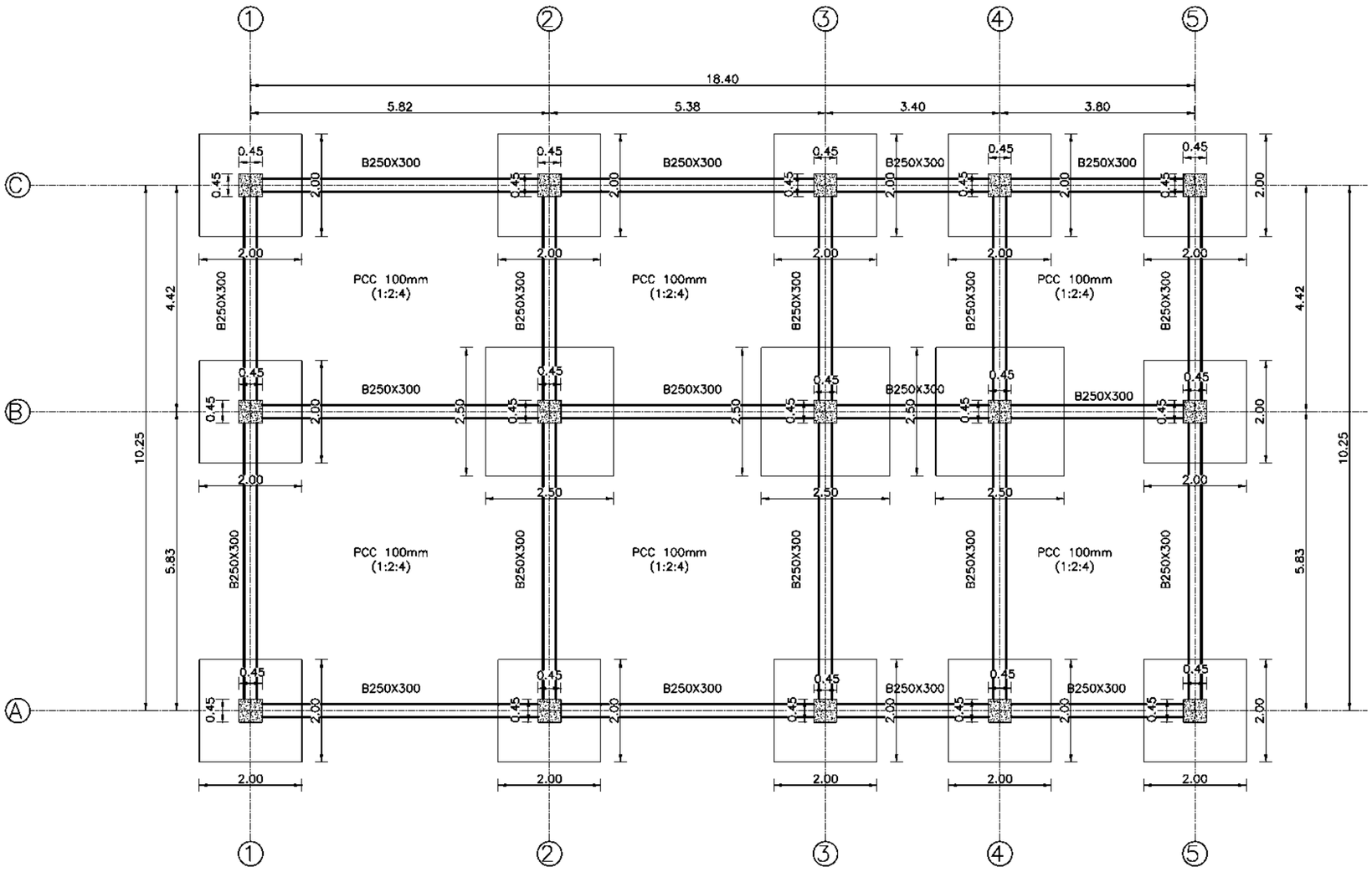
BEAM REBAR DETAIL-GRID B-B

0 1.25 2.5 5 7.5 10
SCALE 1:250

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNSARI MORANG DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG- PH CONTROL BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-02
		RECOENDED BY			RECOENDED BY			SHEET NO:	3
					APPROVED BY			SCALE:	SCALE 1: 250

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



FOUNDATION PLAN

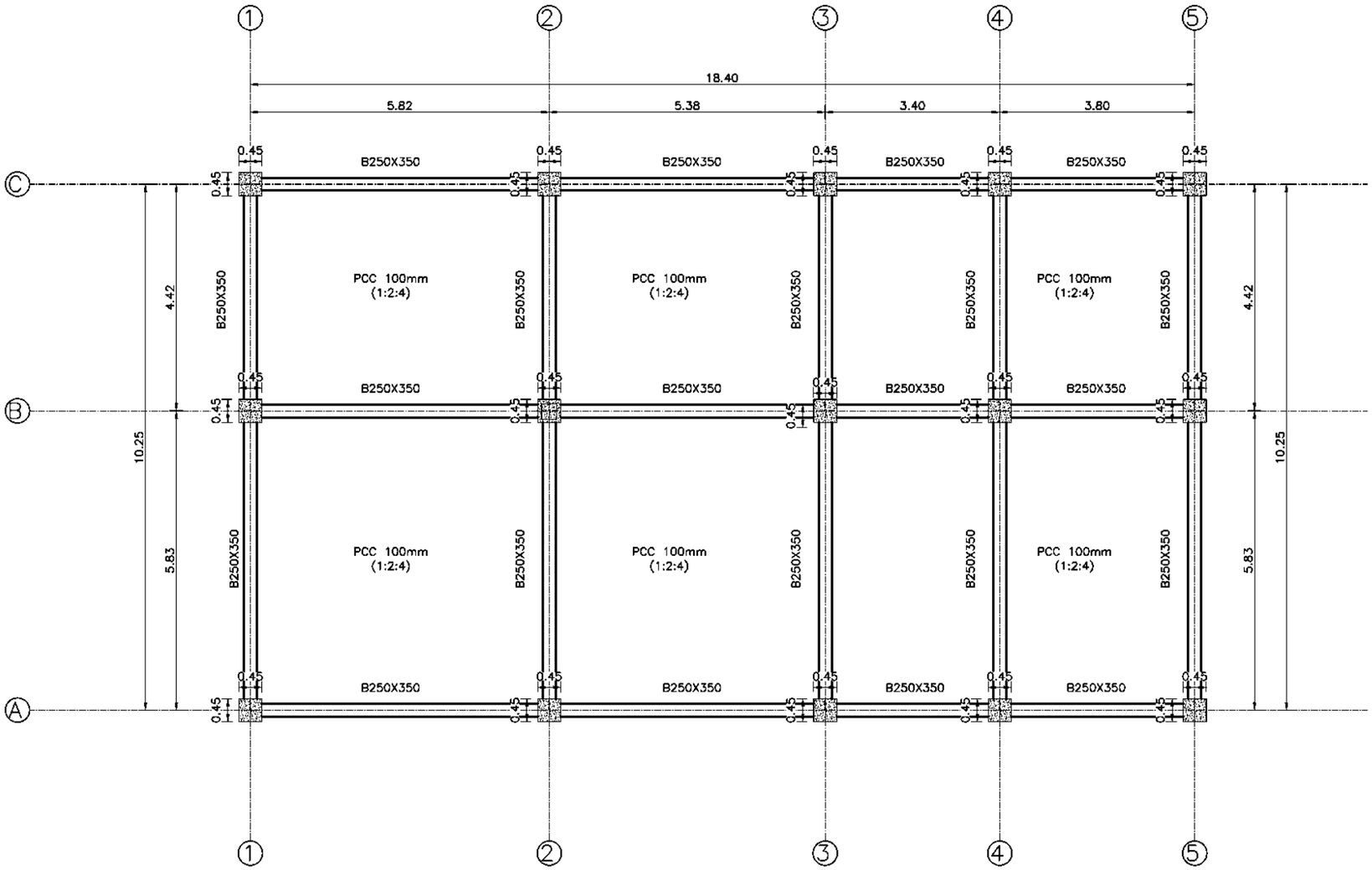
0 0.5 1 2 3 4

SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-PH OFFICE BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE 1: 100

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



BEAM FRAMING PLAN-GROUND FLOOR

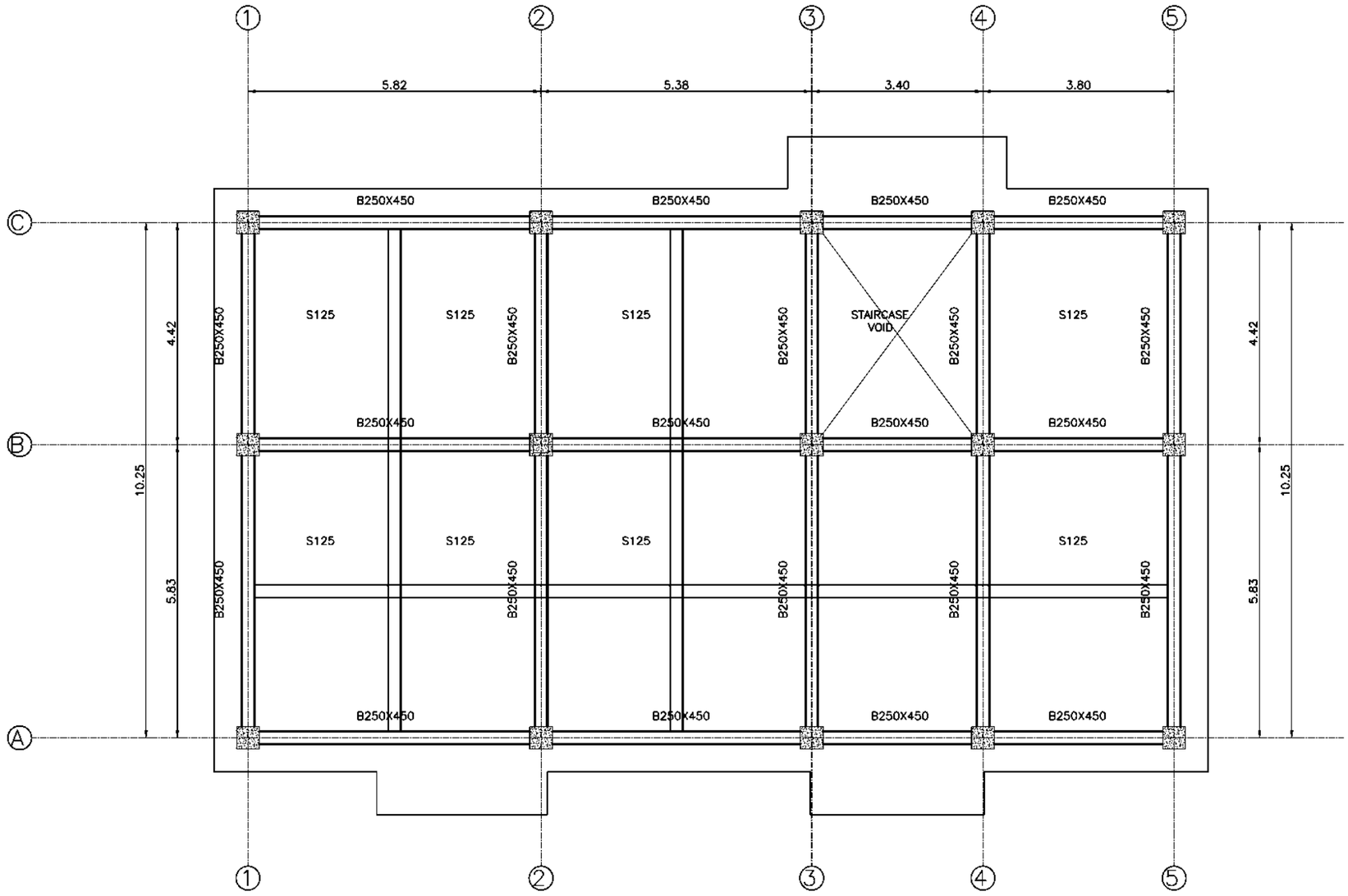
0 0.5 1 2 3 4

SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: SINDHULI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-PH OFFICE BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	2
					APPROVED BY			SCALE:	SCALE 1: 100

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



BEAM FRAMING PLAN-FIRST FLOOR

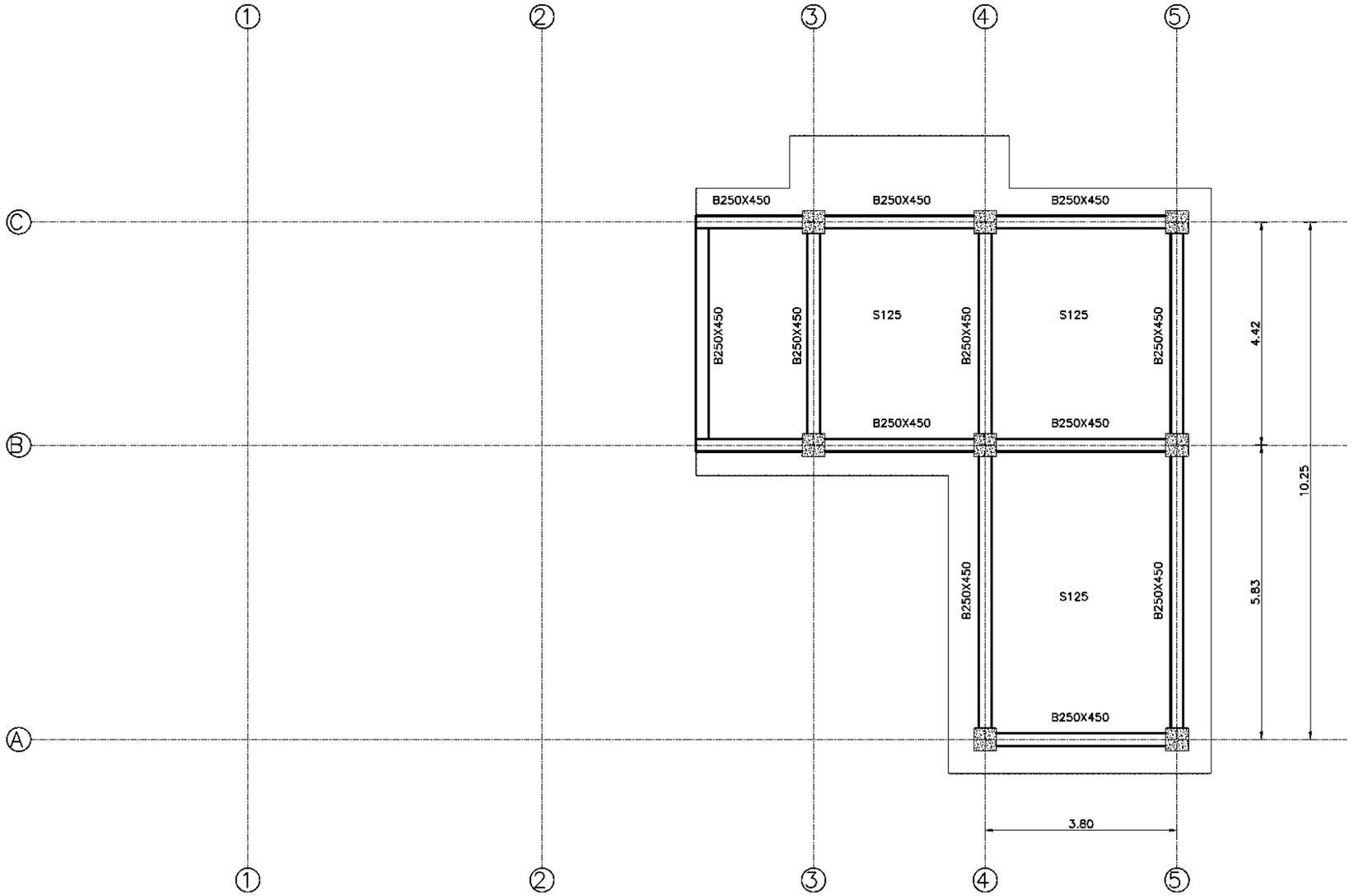
0 0.5 1 2 3 4

SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-PH OFFICE BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	3
					APPROVED BY			SCALE:	SCALE 1: 100

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



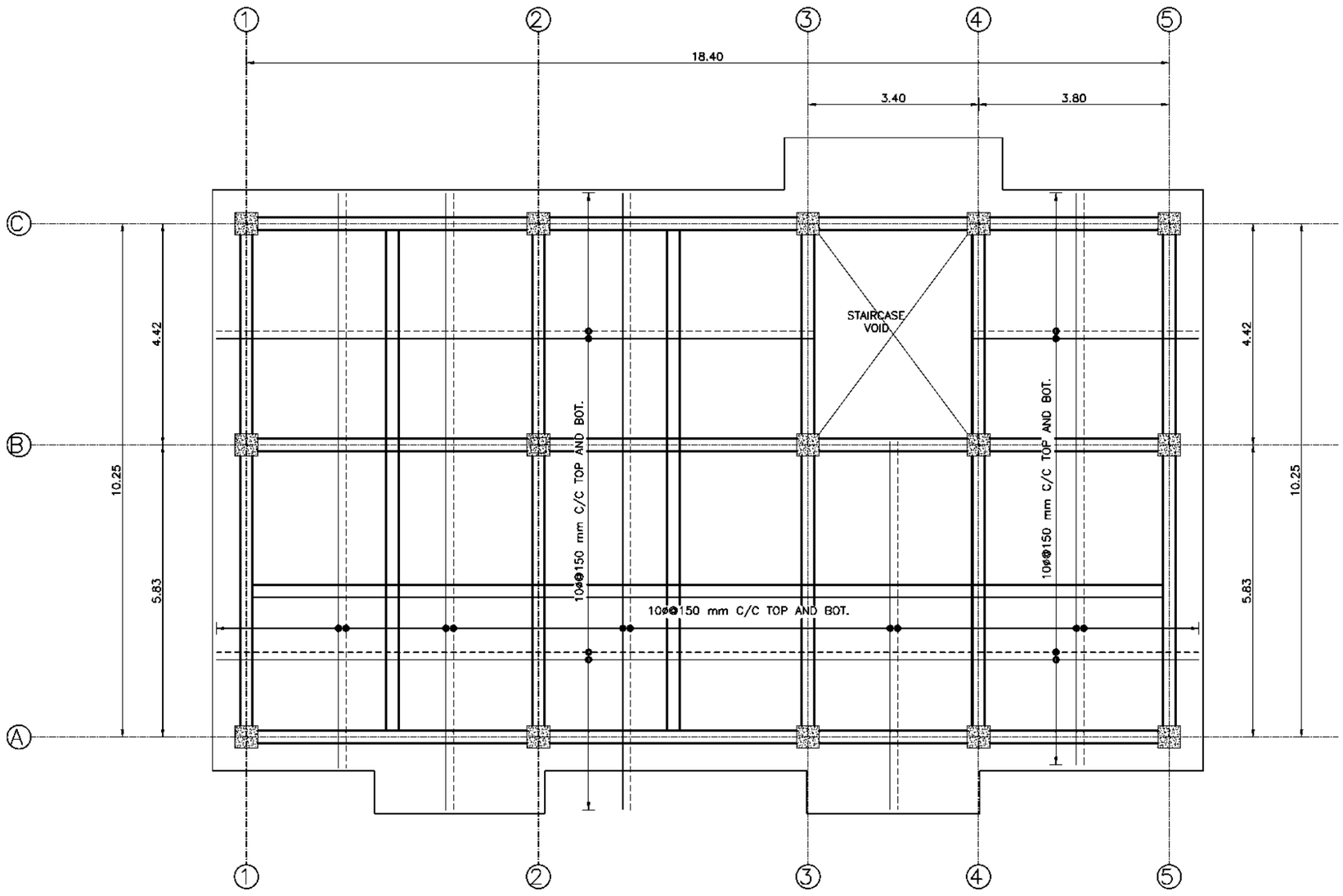
BEAM FRAMING PLAN-SECOND FLOOR

0 0.5 1 2 3 4
SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-PH OFFICE BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	4
					APPROVED BY			SCALE:	SCALE 1: 100

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



BEAM FRAMING PLAN-FIRST FLOOR

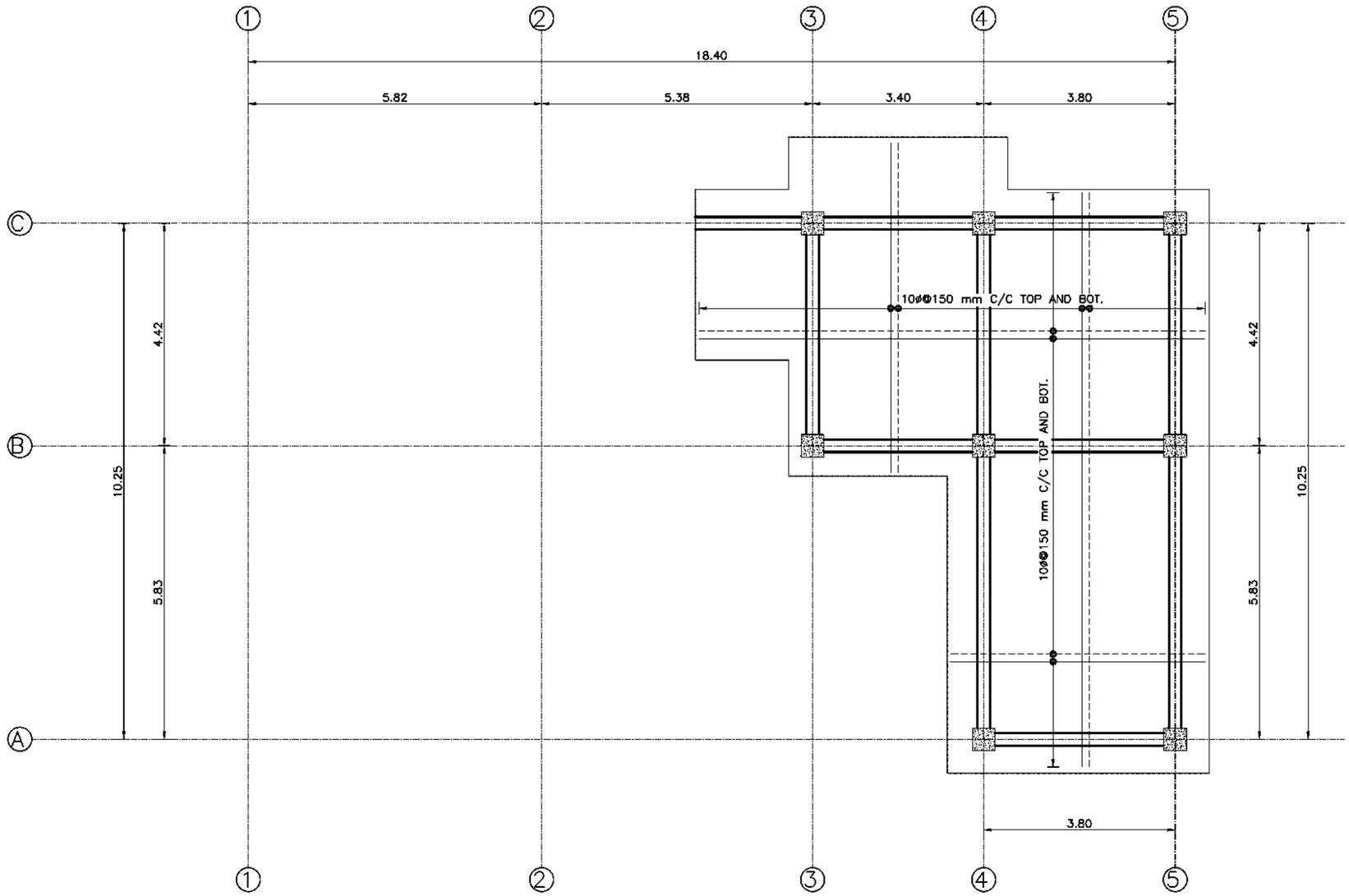
0 0.5 1 2 3 4

SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-PH OFFICE BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	5
					APPROVED BY			SCALE:	SCALE 1: 100

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER

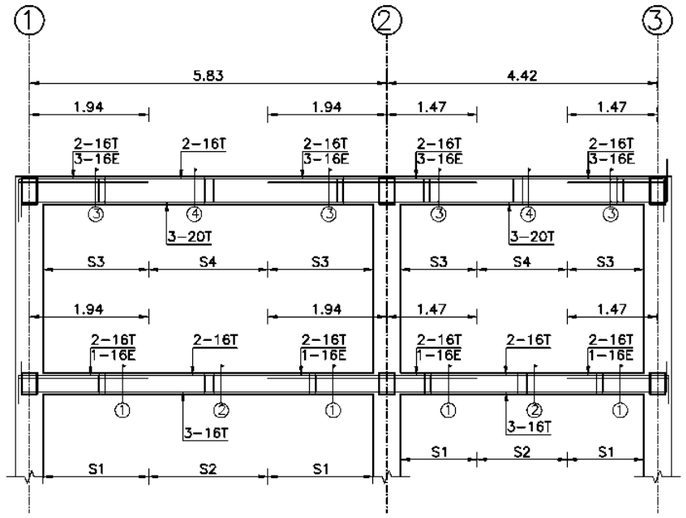


BEAM FRAMING PLAN-SECOND FLOOR

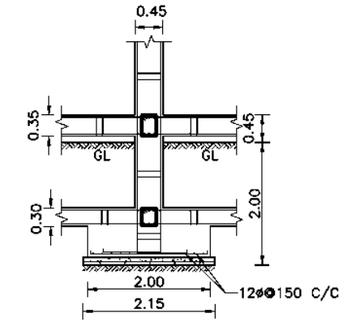
0 0.5 1 2 3 4

SCALE 1:100

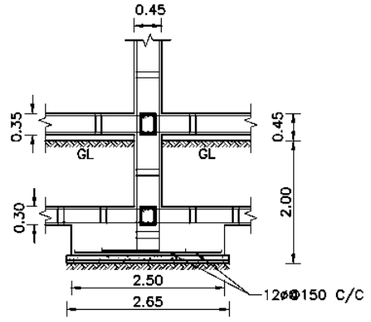
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-PH OFFICE BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	6
					APPROVED BY			SCALE:	SCALE 1: 100



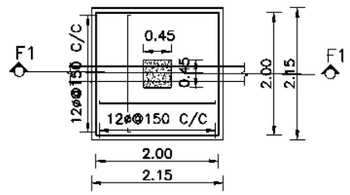
BEAM REBAR DETAIL-GRID 1-1, 2-2



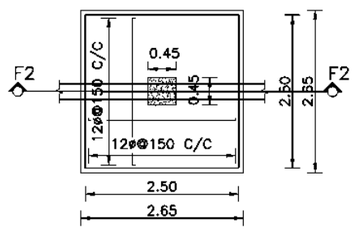
SECTION F1-F1



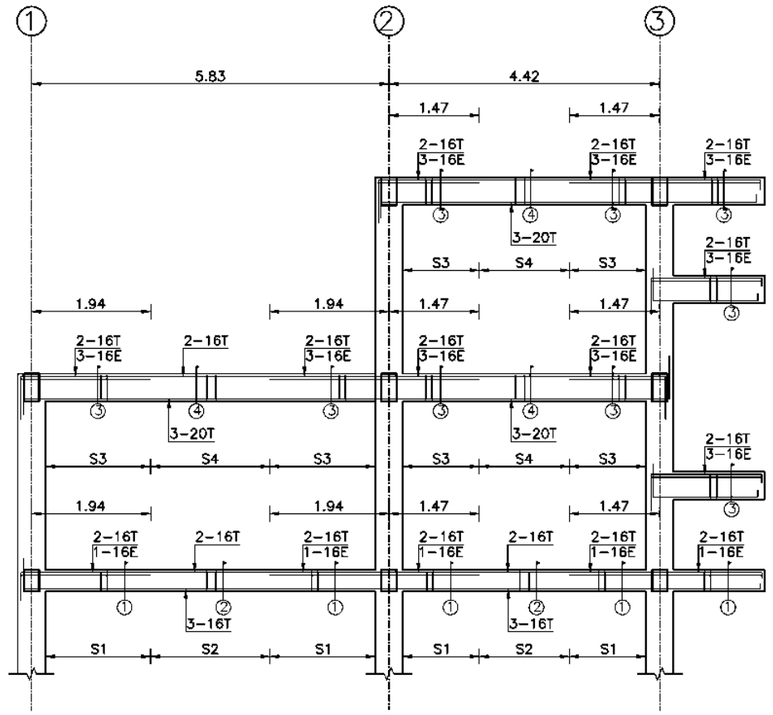
SECTION F1-F1



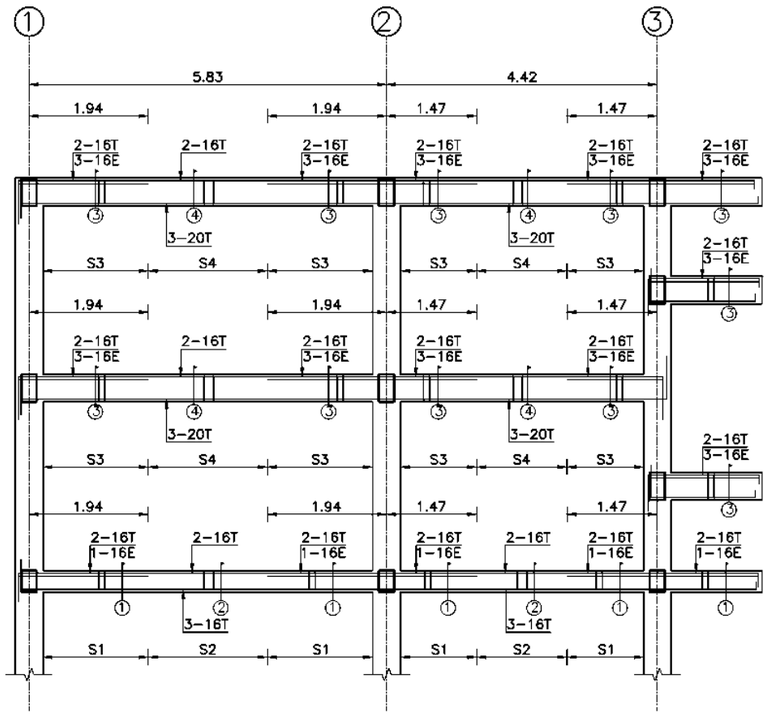
FOUNDATION DETAIL-F1



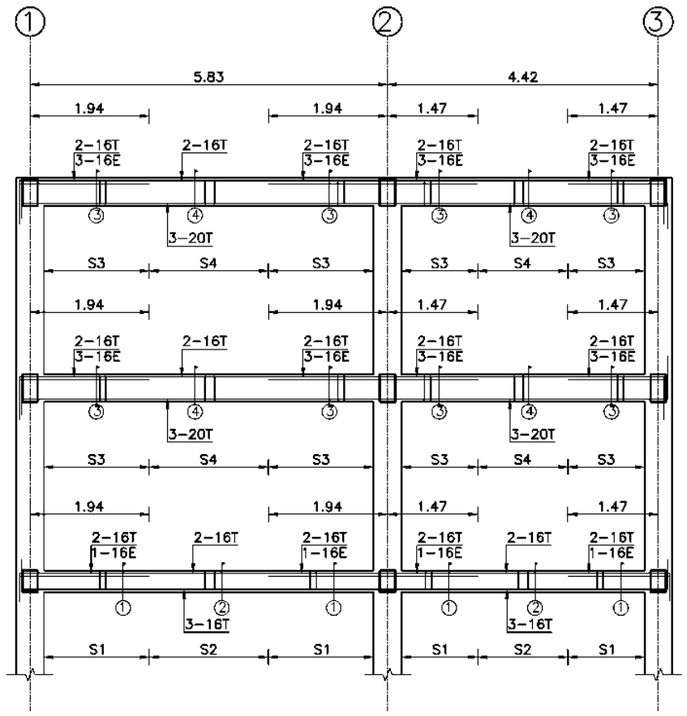
FOUNDATION DETAIL-F2



BEAM REBAR DETAIL-GRID 3-3



BEAM REBAR DETAIL-GRID 4-4



BEAM REBAR DETAIL-GRID 5-5

NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER

0 0.5 1 2 3 4

SCALE 1:100

CLIENT

GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

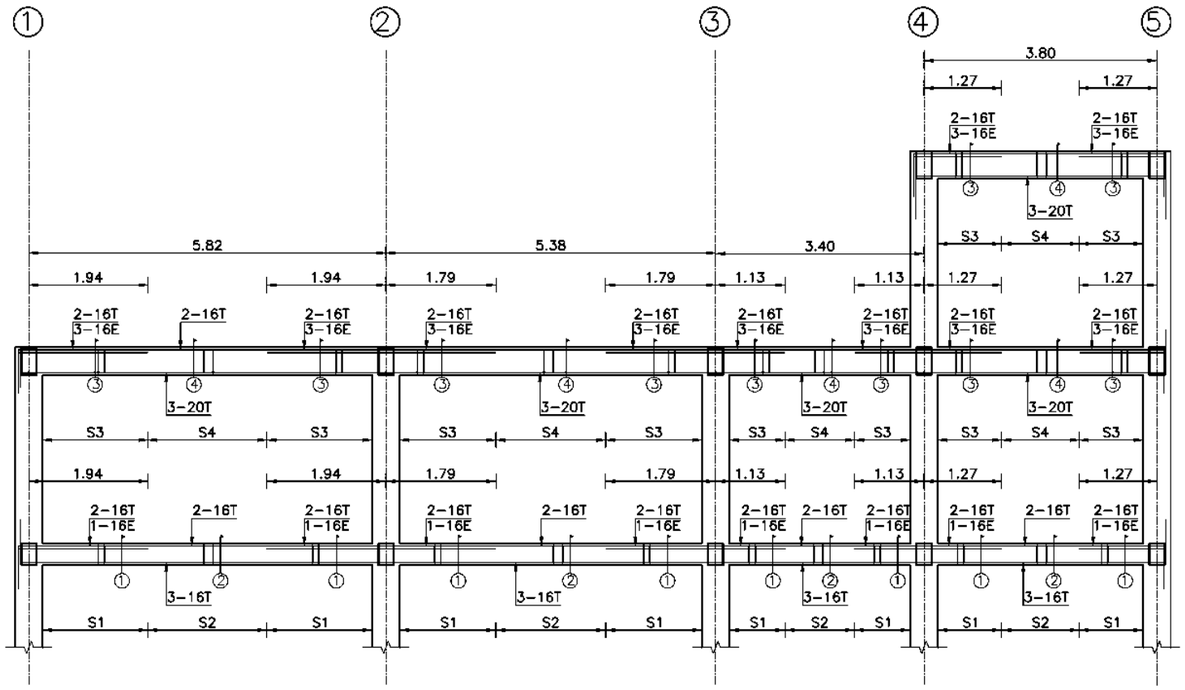
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

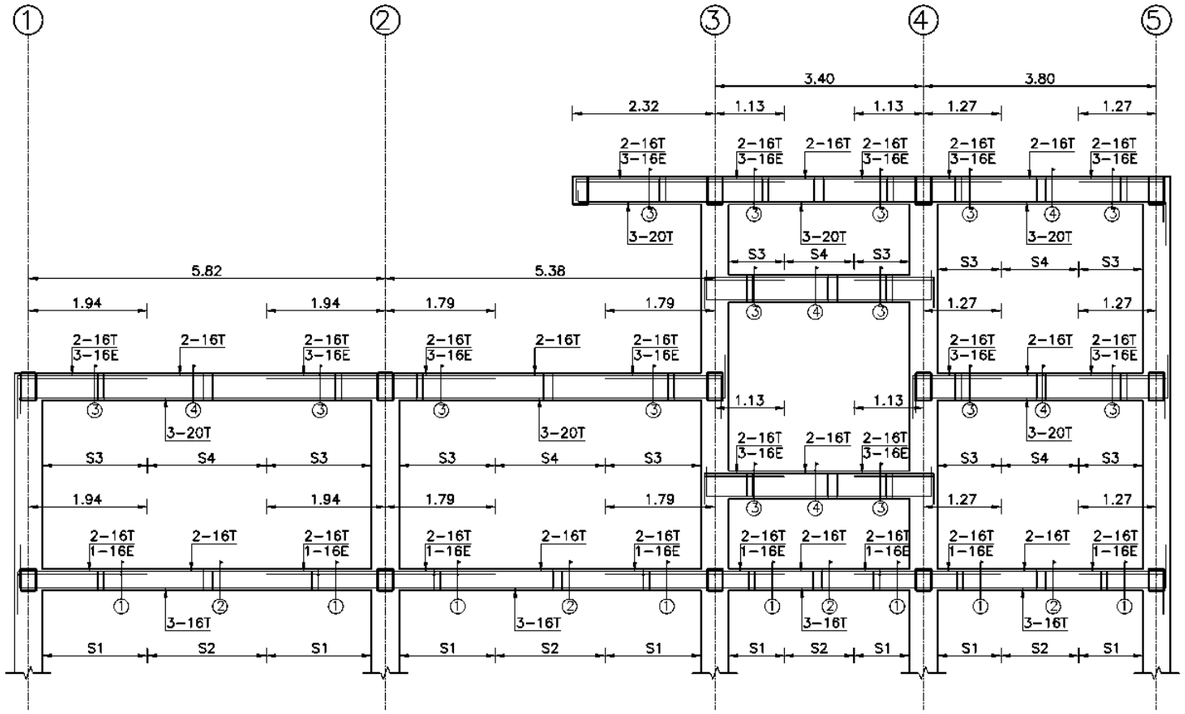
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-PH OFFICE BUILDING
CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-03
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	7
			APPROVED BY			SCALE:	SCALE 1: 100

NOTES:

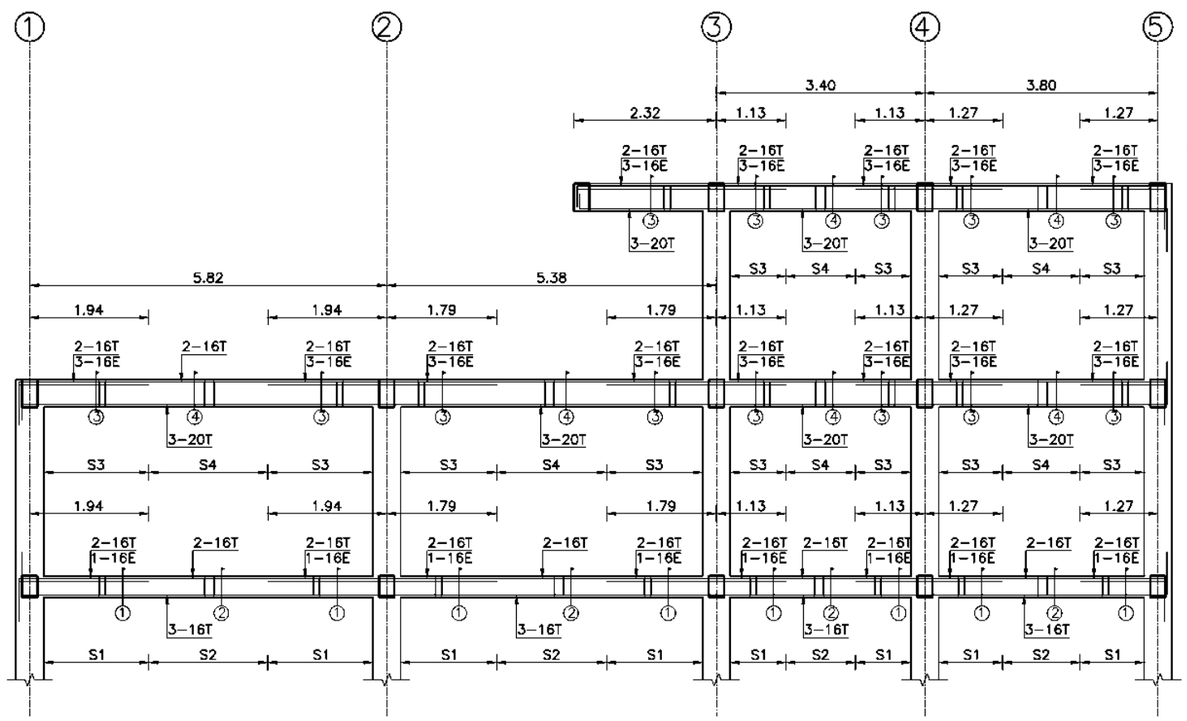
1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



BEAM REBAR DETAIL-GRID A-A



BEAM REBAR DETAIL-GRID C-C



BEAM REBAR DETAIL-GRID B-B

0 0.5 1 2 3 4

SCALE 1:100

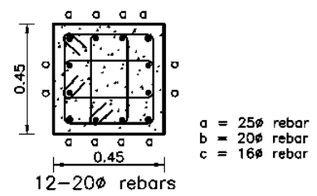
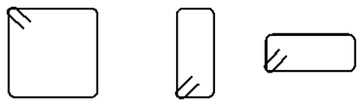
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-PH OFFICE BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	8
					APPROVED BY			SCALE:	SCALE 1: 100

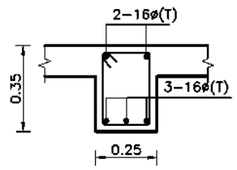
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER

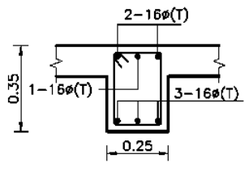
COLUMN DETAILS OF BUILDING

CONCRETE GRADE: C25, STEEL GRADE: Fe 500

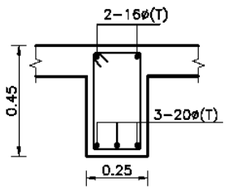
FLOOR / COLUMN	FOUNDATION TO FIRST FLOOR LEVEL	TIES
C1 ALL		



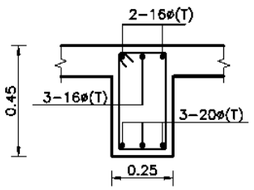
SECTION 1-1



SECTION 2-2



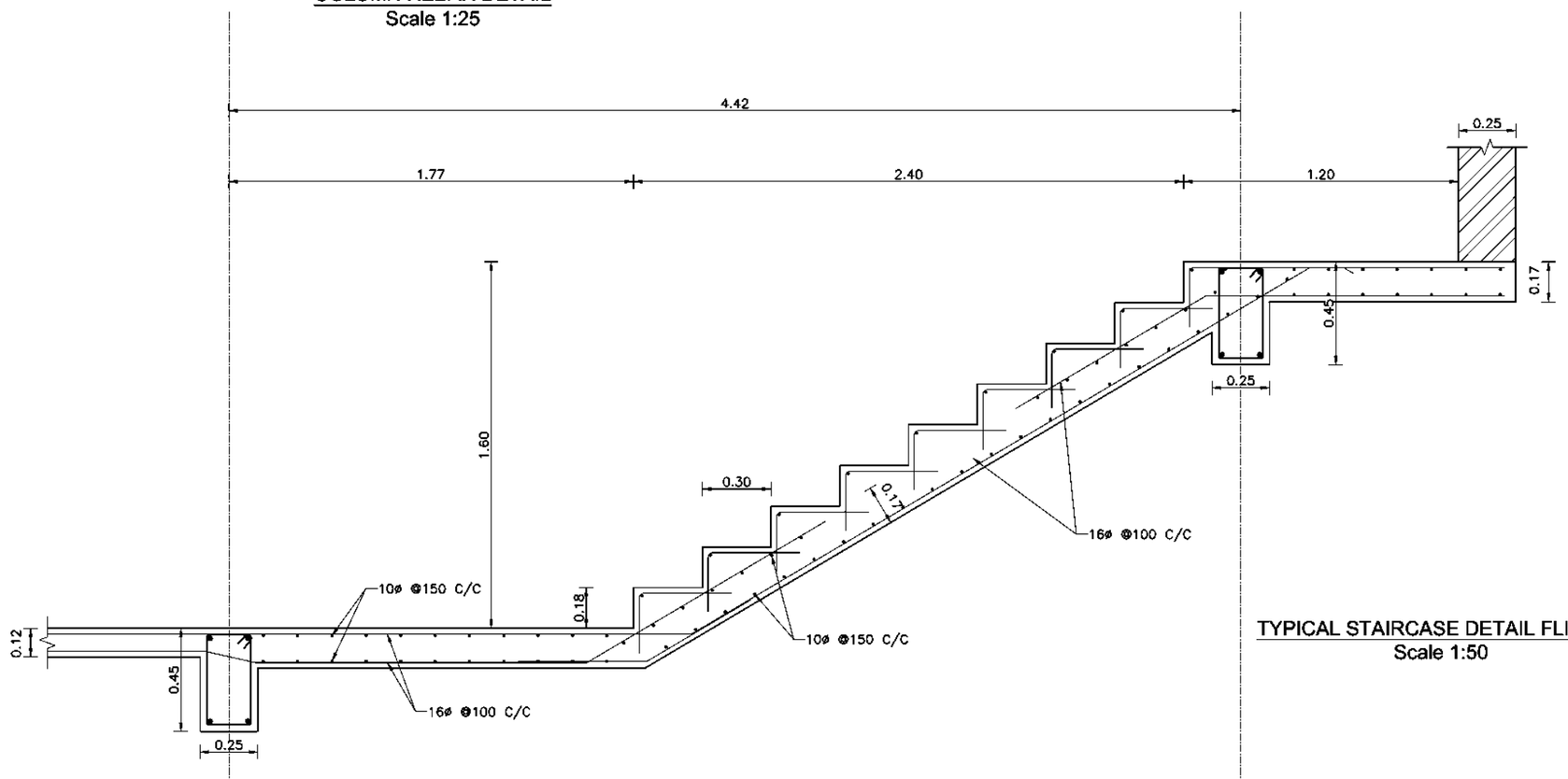
SECTION 3-3



SECTION 4-4

S1: 2L–8ø STIRRUPS @ 100 MM C/C
S2: 2L–8ø STIRRUPS @ 150 MM C/C
S3: 2L–10ø STIRRUPS @ 100 MM C/C
S4: 2L–10ø STIRRUPS @ 150 MM C/C

COLUMN REBAR DETAIL
Scale 1:25



TYPICAL STAIRCASE DETAIL FLIGHT 1
Scale 1:50

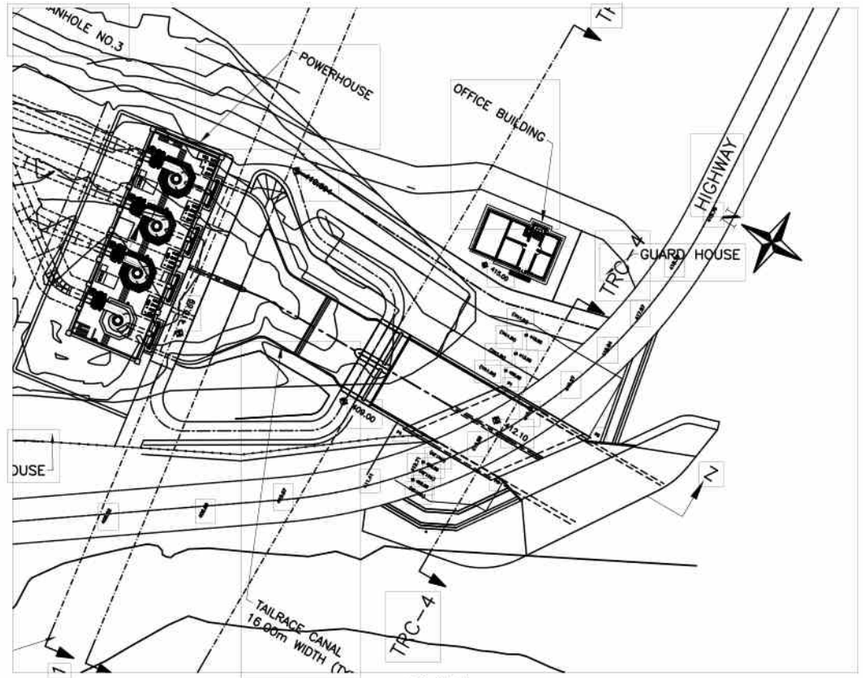
0 0.25 0.5 1 1.5 3
SCALE 1:50

0 0.125 0.25 0.5 1 1.5
SCALE 1:25

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DWG-PH OFFICE BUILDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-PH-03
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	9
					APPROVED BY			SCALE:	SCALE 1: 25

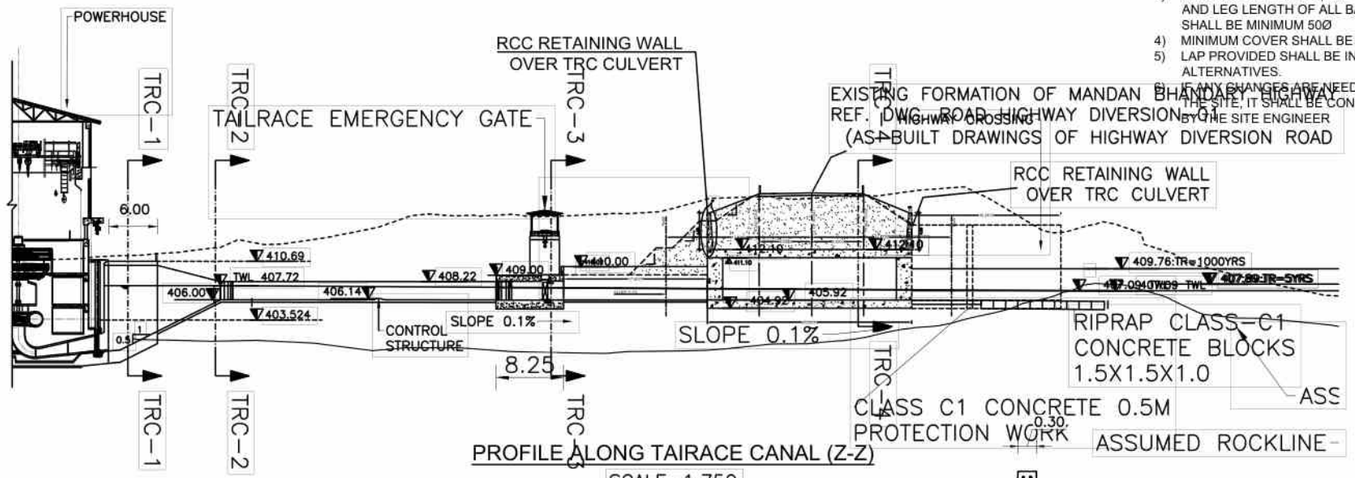
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



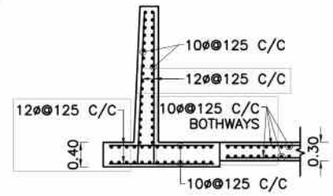
PLAN

SCALE 1:1500



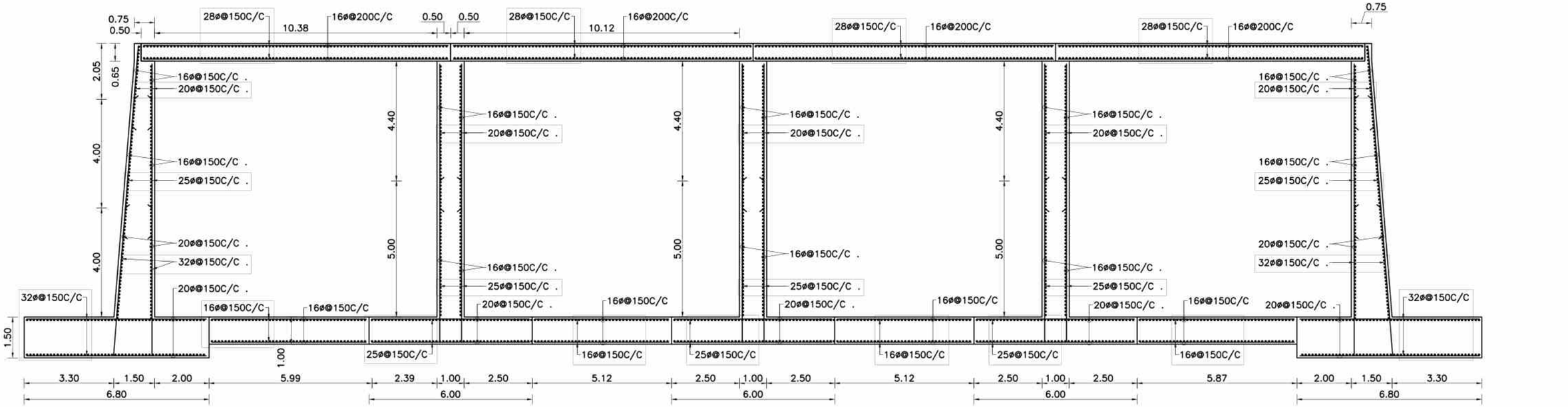
PROFILE ALONG TAIRACE CANAL (Z-Z)

SCALE-1:750



TAILRACE CANAL SECTION TRC-2

SCALE 1:100



TAILRACE CANAL SECTION TRC-1

SCALE 1:150

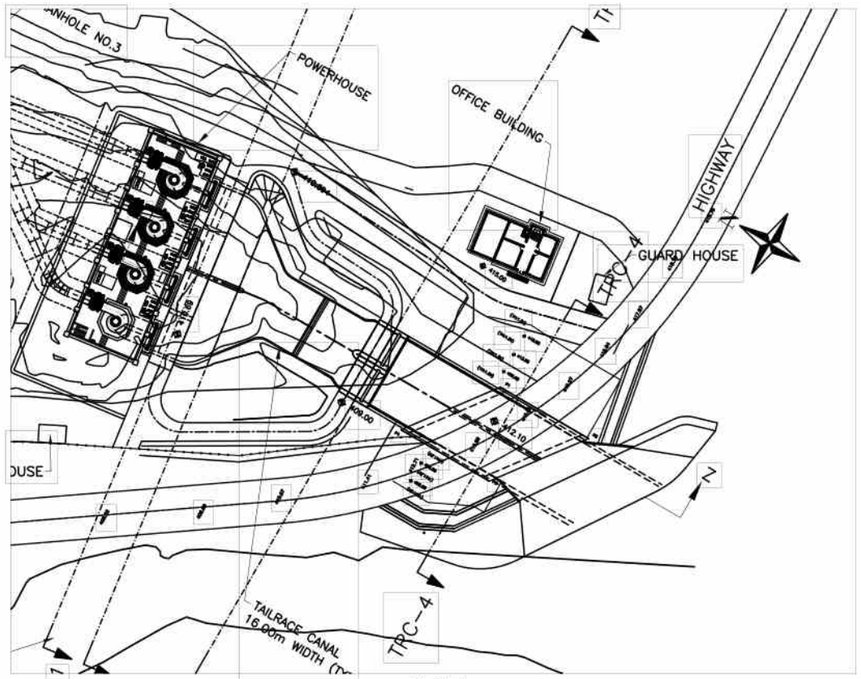
0 7.5 15 30 45 60 SCALE 1:1500

0 3.75 7.5 15 22.5 30 SCALE 1:750

0 0.75 1.5 3 4.5 6 SCALE 1:150

0 0.5 1 2 3 4 SCALE 1:100

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING- TAILRACE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-TC-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE - AS SHOWN

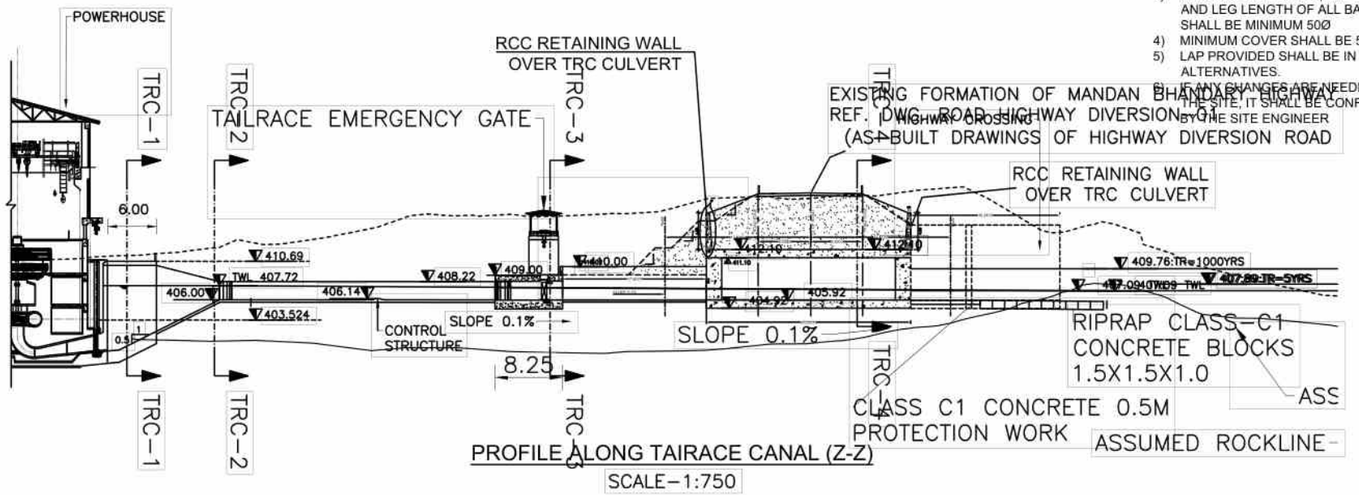


PLAN

SCALE 1:1500

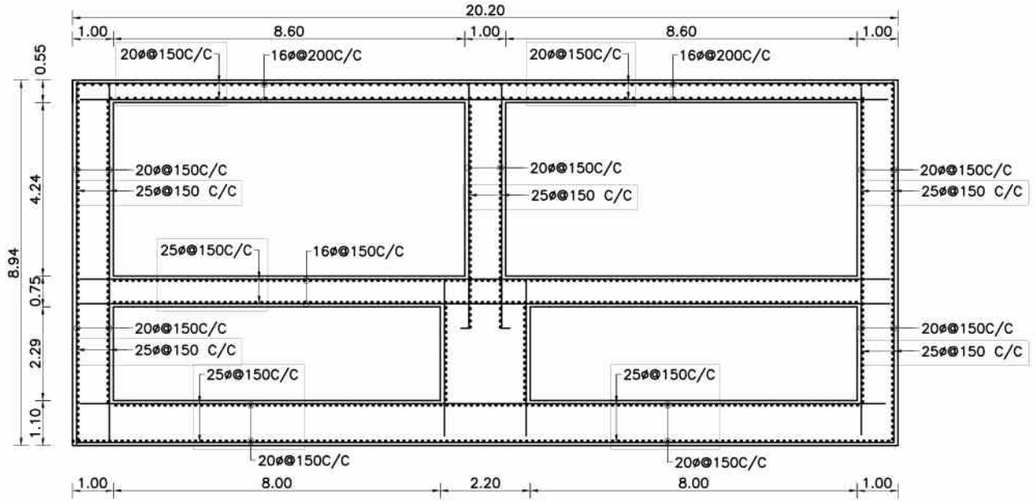
NOTES:

1) STRUCTURE CONCRETE- C25 /30
2) BLINDING CONCRETE C12 /15
3) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 50Ø
4) MINIMUM COVER SHALL BE 50MM
5) LAP PROVIDED SHALL BE IN ALTERNATIVES.
6) IF ANY CHANGES ARE NEEDED AT THE SITE, IT SHALL BE CONFIRMED BY THE SITE ENGINEER



PROFILE ALONG TAIRACE CANAL (Z-Z)

SCALE-1:750

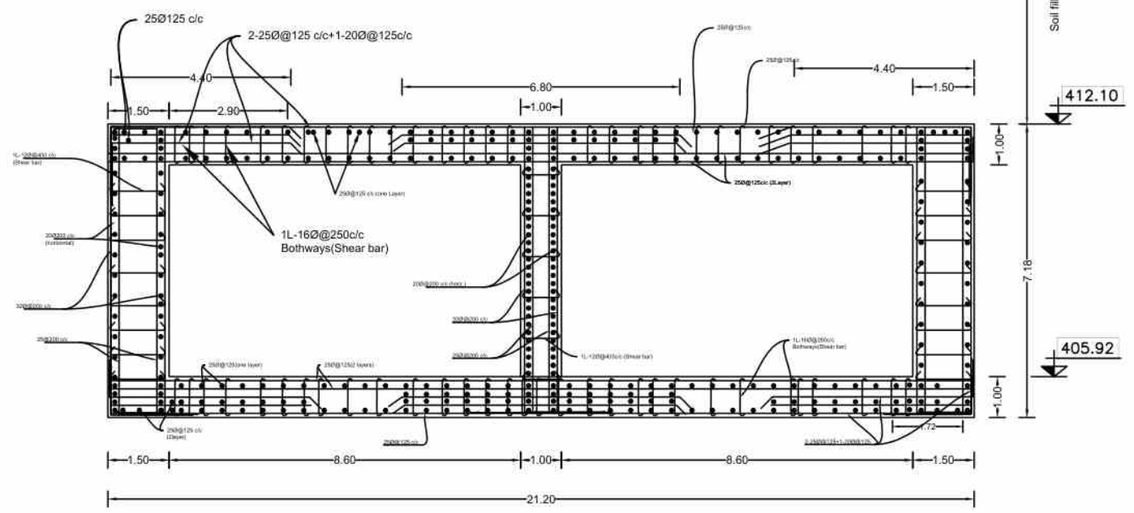


TAILRACE CANAL SECTION TRC-3

SCALE 1:150

TAILRACE CANAL SECTION TRC-4

SCALE 1:150

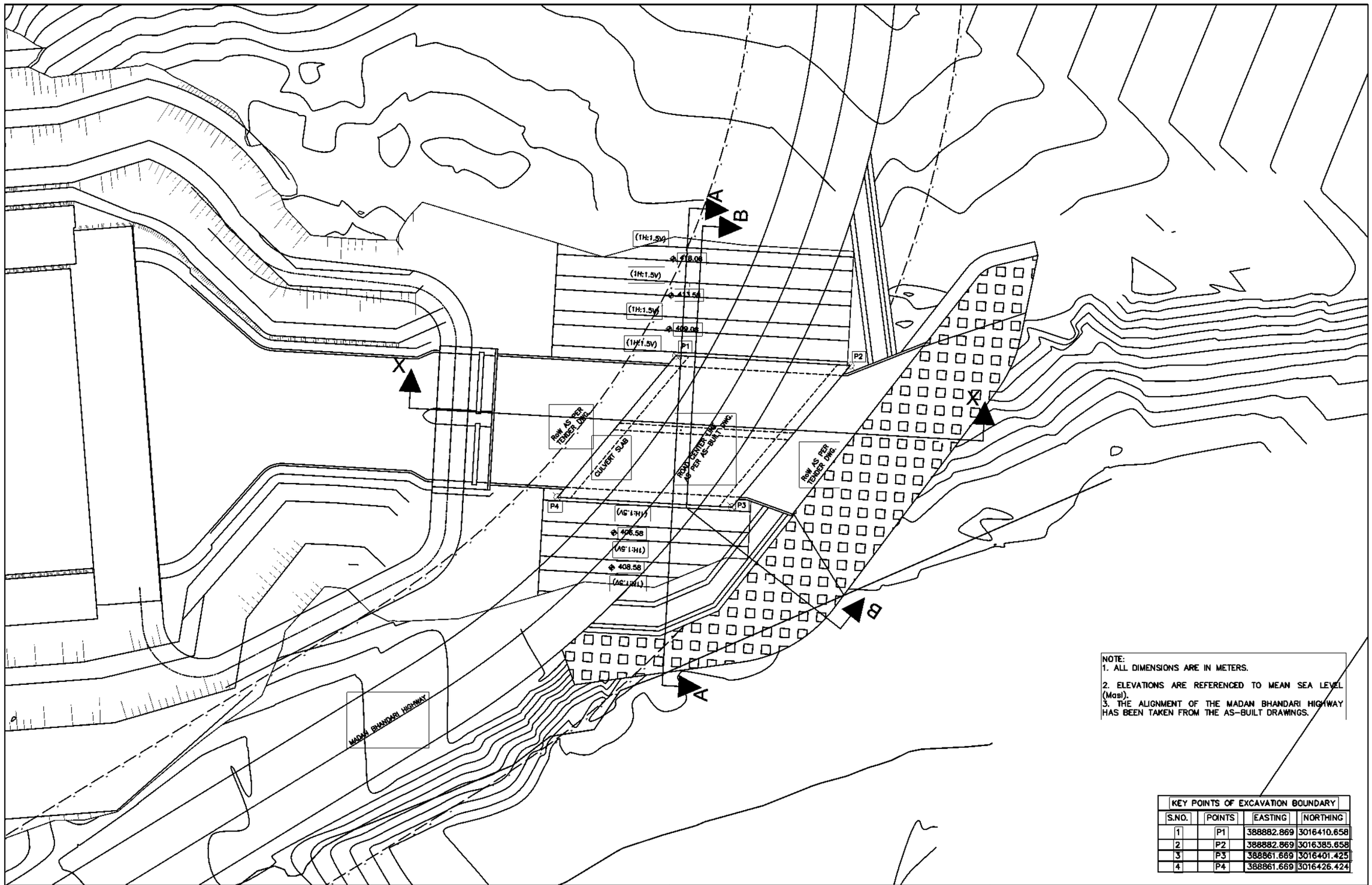


0 7.5 15 30 45 60
SCALE 1:1500

0 3.75 7.5 15 22.5 30
SCALE 1:750

0 0.75 1.5 3 4.5 6
SCALE 1:150

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SECTOR WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING- TAILRACE
		CHECKED BY			CHECKED BY			DRAWING NUMBER	RF-TC-01(REV-01)
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	2
					APPROVED BY			SCALE:	SCALE - AS SHOWN



NOTE:
1. ALL DIMENSIONS ARE IN METERS.

2. ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL (Masl).
3. THE ALIGNMENT OF THE MADAN BHANDARI HIGHWAY HAS BEEN TAKEN FROM THE AS-BUILT DRAWINGS.

KEY POINTS OF EXCAVATION BOUNDARY

S.NO.	POINTS	EASTING	NORTHING
1	P1	388882.869	3016410.658
2	P2	388882.869	3016385.658
3	P3	388861.669	3016401.425
4	P4	388861.669	3016426.424

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

ADUKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

SMEC-EMAY-JADE-CMS in association with ECoCODE

Member of the Surbana Jurong Group

SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
	NAME	SIGN		
PREPARED BY			DRAWING TITLE:	TAILRACE-04-PLAN
DESIGNED BY			DRAWING NUMBER	CD-PH-03
CHECKED BY			SHEET NO:	1 OF 3
			SCALE:	1:500

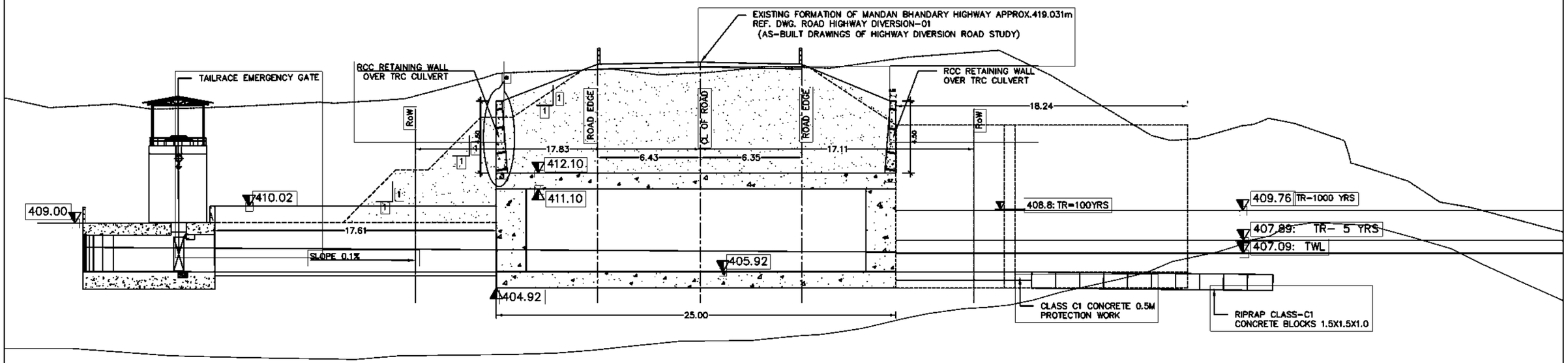
NOTE:
1. ALL DIMENSIONS ARE IN METERS.

2. ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL (Masl).

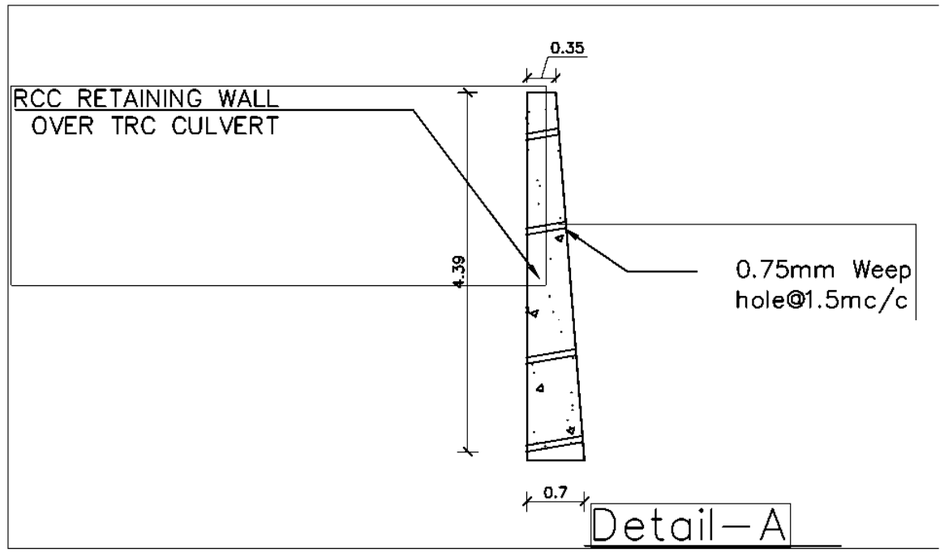
3. THE ALIGNMENT OF THE MADAN BHANDARI HIGHWAY HAS BEEN TAKEN FROM THE AS-BUILT DRAWINGS.

4. THE HEIGHT AND WIDTH OF THE WING WALL FOR THE TRC CULVERT SLAB SHALL BE DETERMINED AND CONFIRMED BY THE CONCERNED ENGINEER.

5. FOR SOIL RETAINED OVER THE TRC CULVERT SLAB, THE RCC RETAINING WALL SHALL BE DESIGNED AND CONFIRMED BY THE CONCERNED ENGINEER.



SECTION X-X



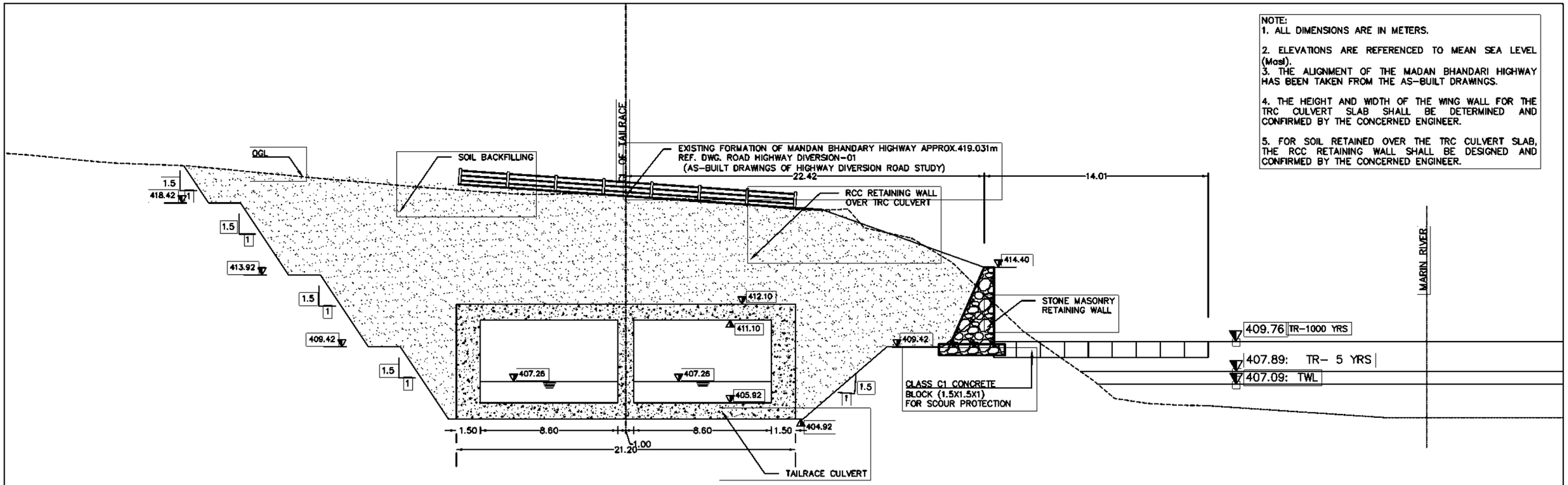
CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION MADAN BHANDARI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	TAILRACE-04-L-SECTION
		PREPARED BY			DRAWING NUMBER	CD-PH-03
		DESIGNED BY			SHEET NO:	2 OF 3
		CHECKED BY			SCALE:	1:250

NOTE:
1. ALL DIMENSIONS ARE IN METERS.

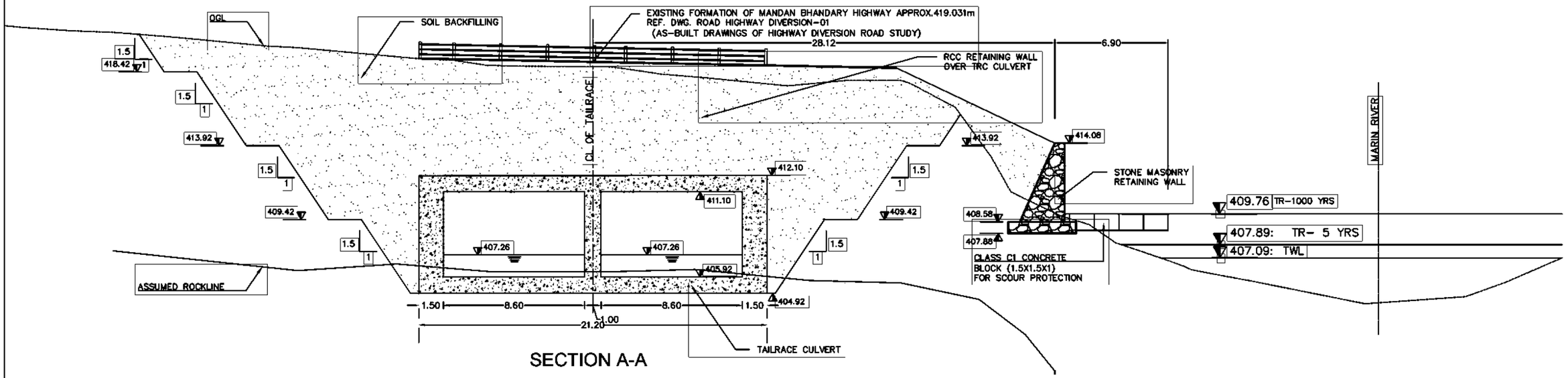
2. ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL (Masl).
3. THE ALIGNMENT OF THE MADAN BHANDARI HIGHWAY HAS BEEN TAKEN FROM THE AS-BUILT DRAWINGS.

4. THE HEIGHT AND WIDTH OF THE WING WALL FOR THE TRC CULVERT SLAB SHALL BE DETERMINED AND CONFIRMED BY THE CONCERNED ENGINEER.

5. FOR SOIL RETAINED OVER THE TRC CULVERT SLAB, THE RCC RETAINING WALL SHALL BE DESIGNED AND CONFIRMED BY THE CONCERNED ENGINEER.

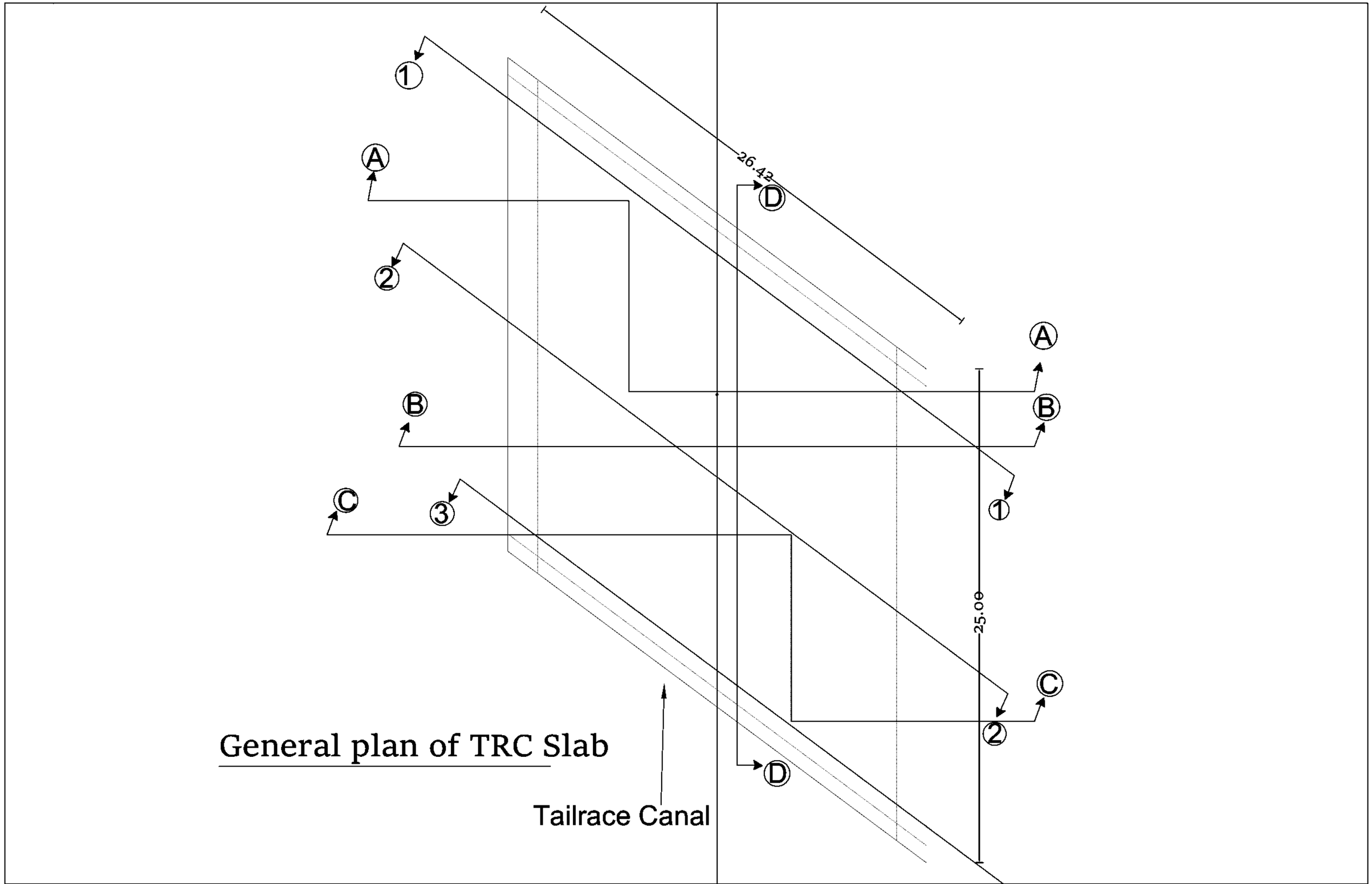


SECTION B-B



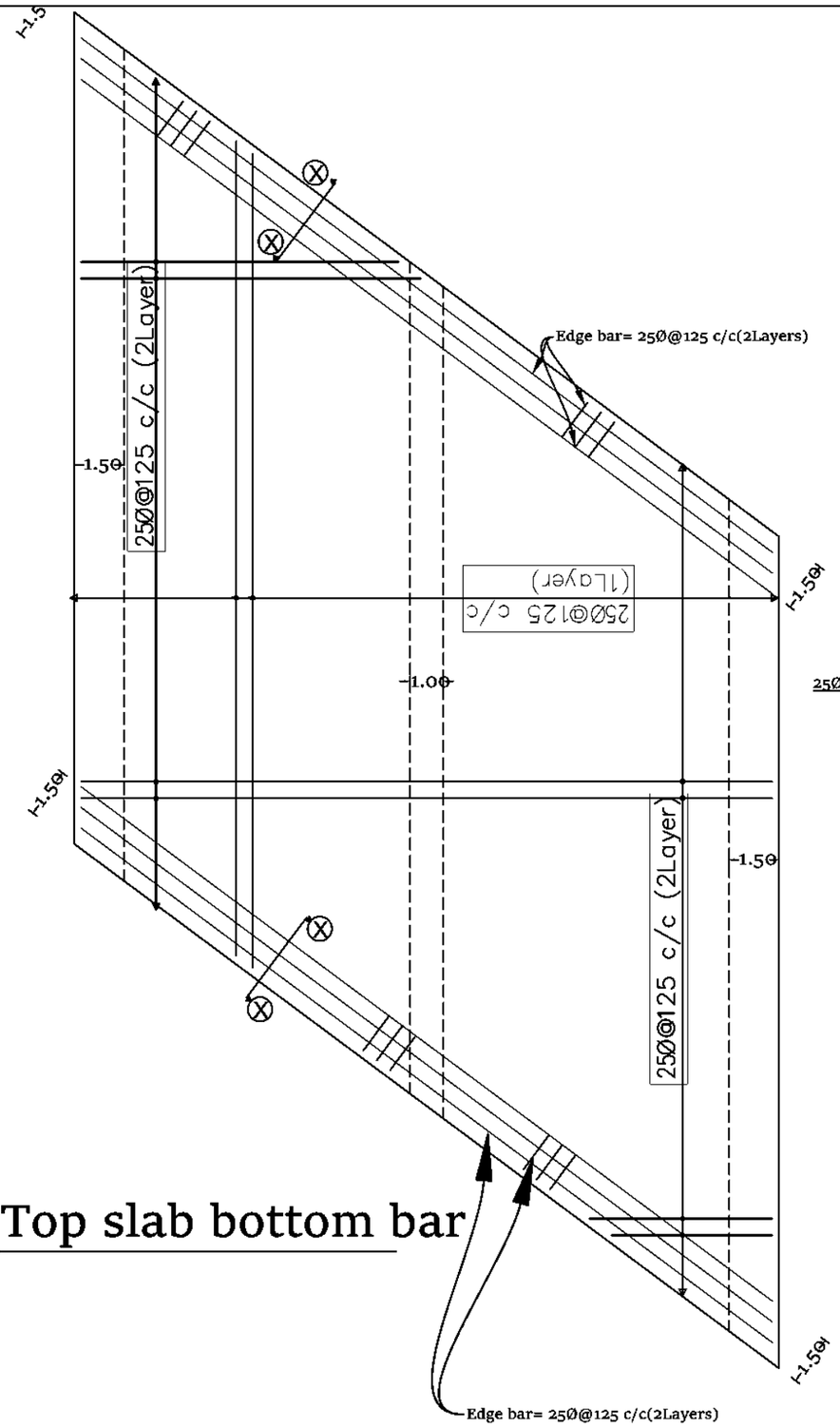
SECTION A-A

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE SMEC Aemay jade CONSULT Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	TAILRACE-04-SECTION
		PREPARED BY			DRAWING NUMBER	CD-PH-03
		DESIGNED BY			SHEET NO:	3 OF 3
		CHECKED BY			SCALE:	1:250

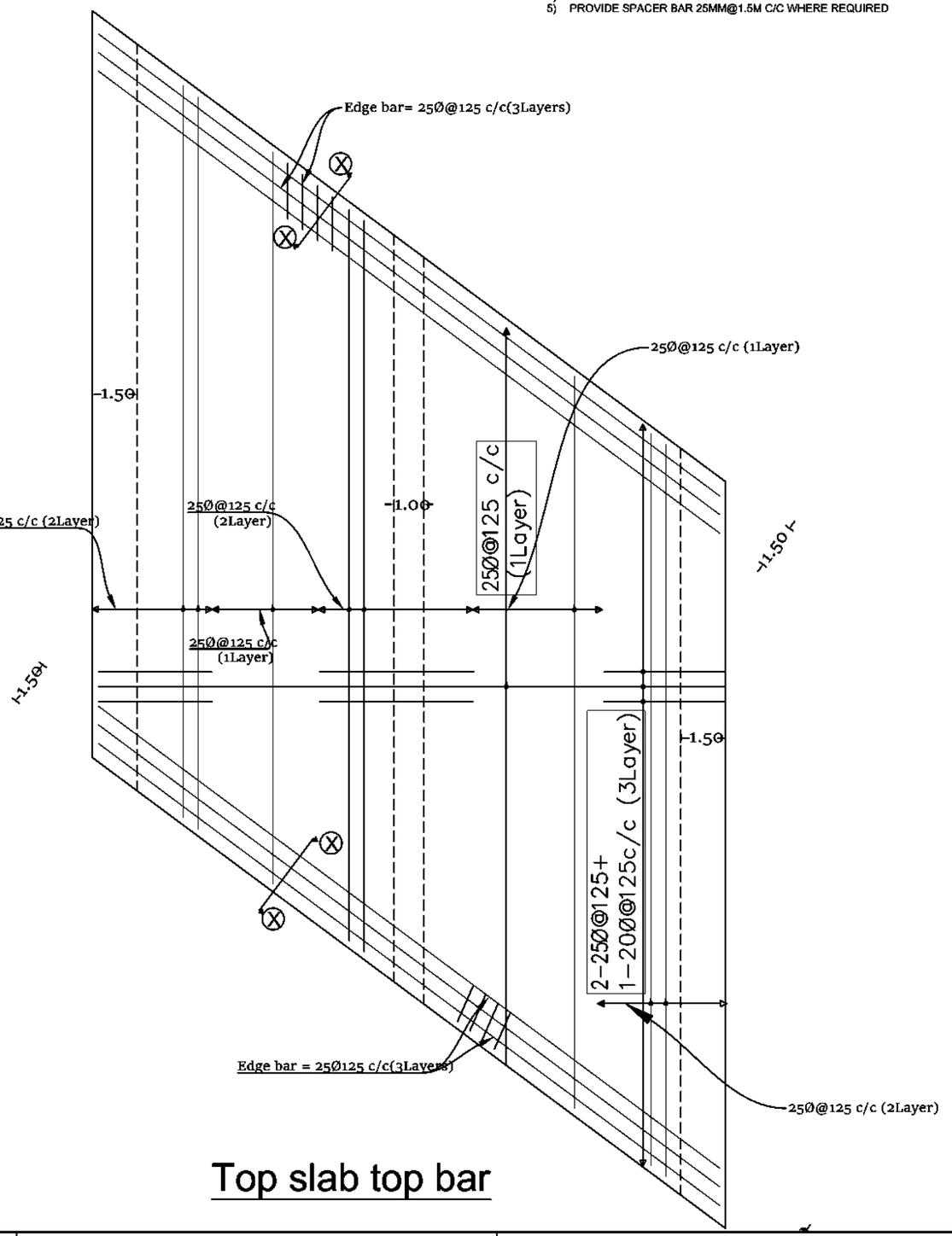


CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING -TAILRACE-04
		DRAWN BY			DRAWING NUMBER	RF-TC-01
		DESIGNED BY			SHEET NO:	1 of 11
		CHECKED BY			SCALE:	AS SHOWN

Note:
1) STRUCTURE CONCRETE- C25/M 30
2) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 60Ø
3) MINIMUM COVER SHALL BE 75MM
4) REINFORCEMENT GRADE Fe500
5) PROVIDE SPACER BAR 25MM@1.5M C/C WHERE REQUIRED



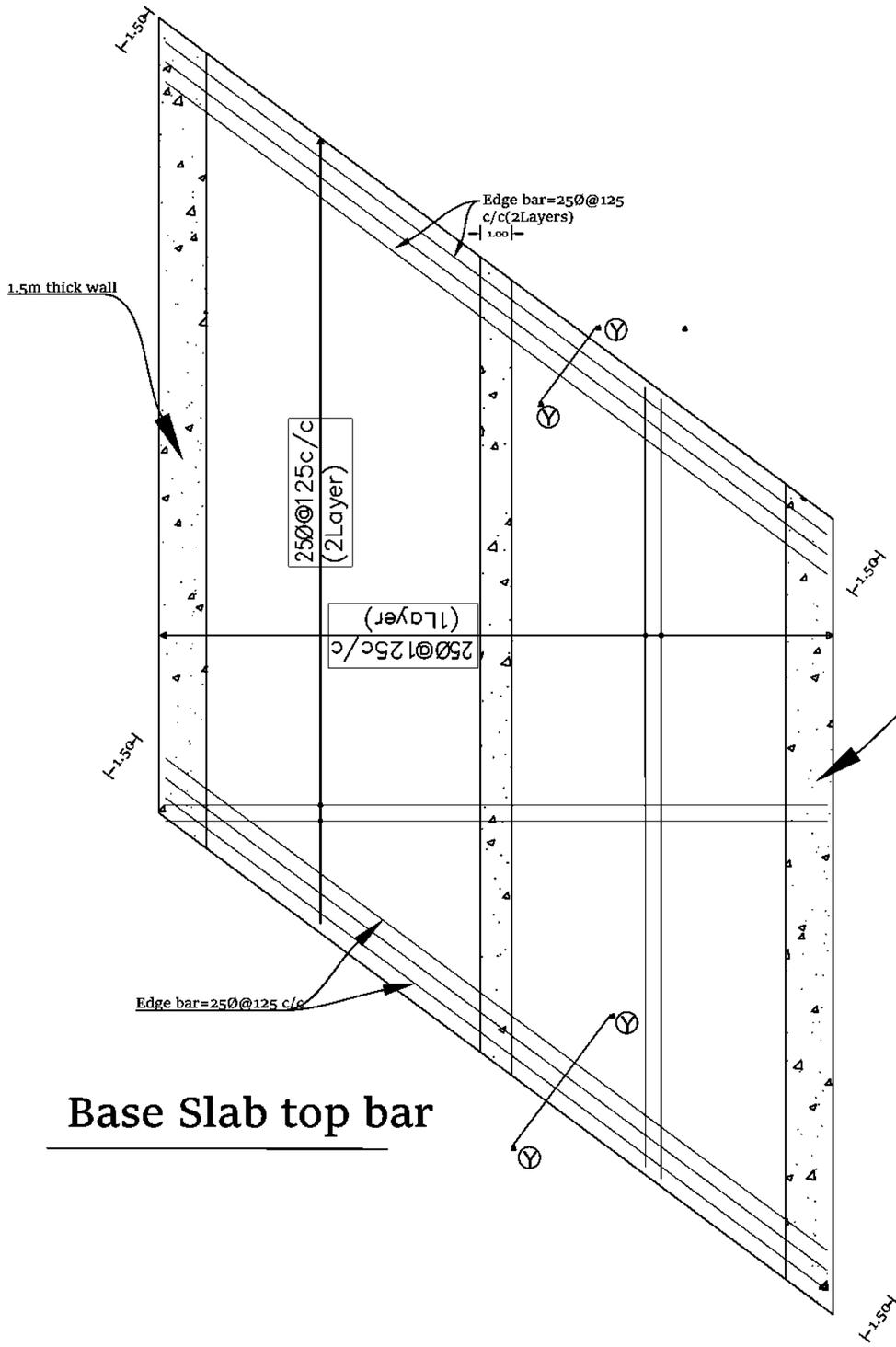
Top slab bottom bar



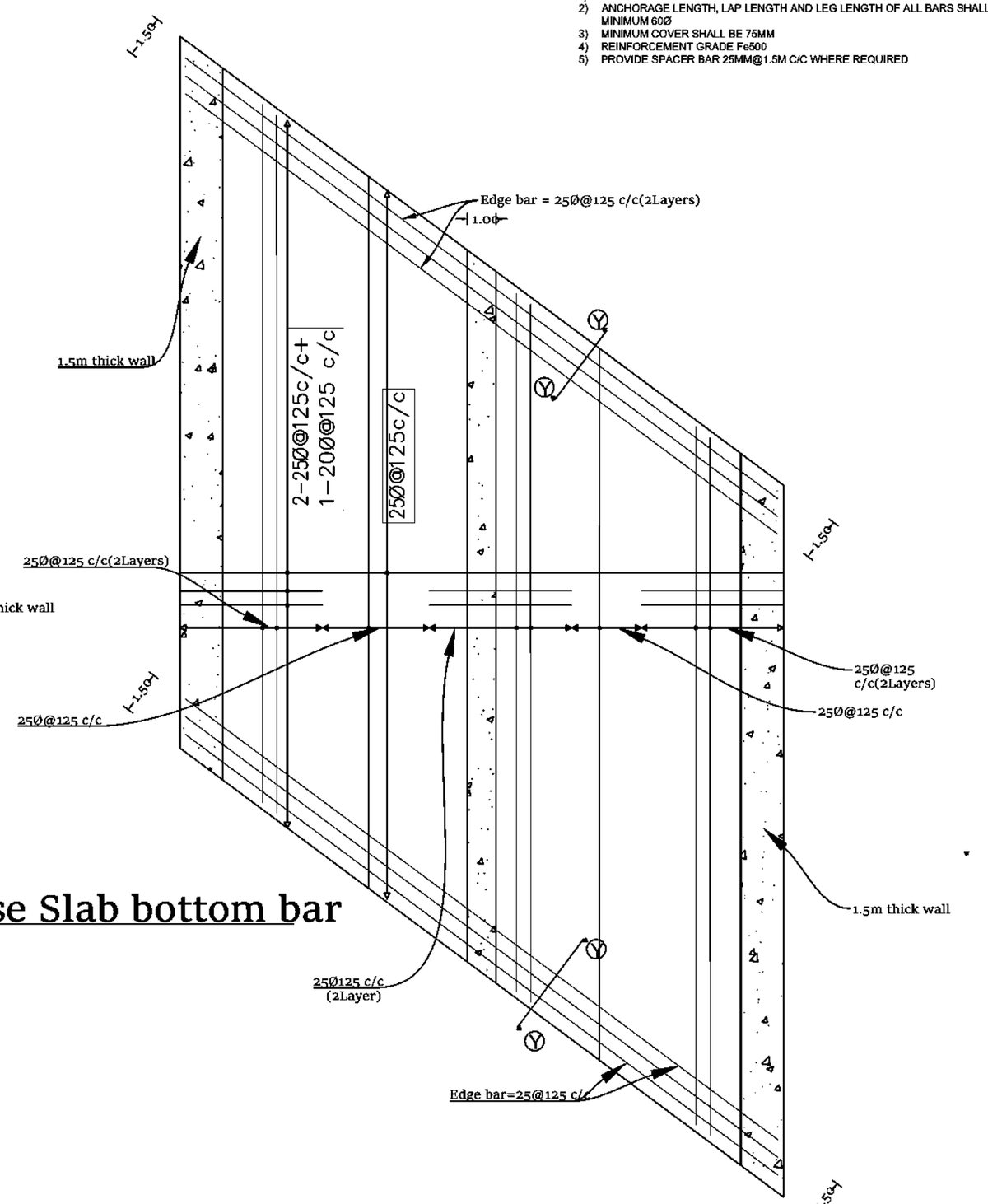
Top slab top bar

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION TAILROCK-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING -TAILRACE-04
		DRAWN BY			DRAWING NUMBER	RF-TC-01
		DESIGNED BY			SHEET NO:	2 of 11
		CHECKED BY			SCALE:	AS SHOWN

Note:
1) STRUCTURE CONCRETE- C25/M 30
2) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 60Ø
3) MINIMUM COVER SHALL BE 75MM
4) REINFORCEMENT GRADE Fe500
5) PROVIDE SPACER BAR 25MM@1.5M C/C WHERE REQUIRED



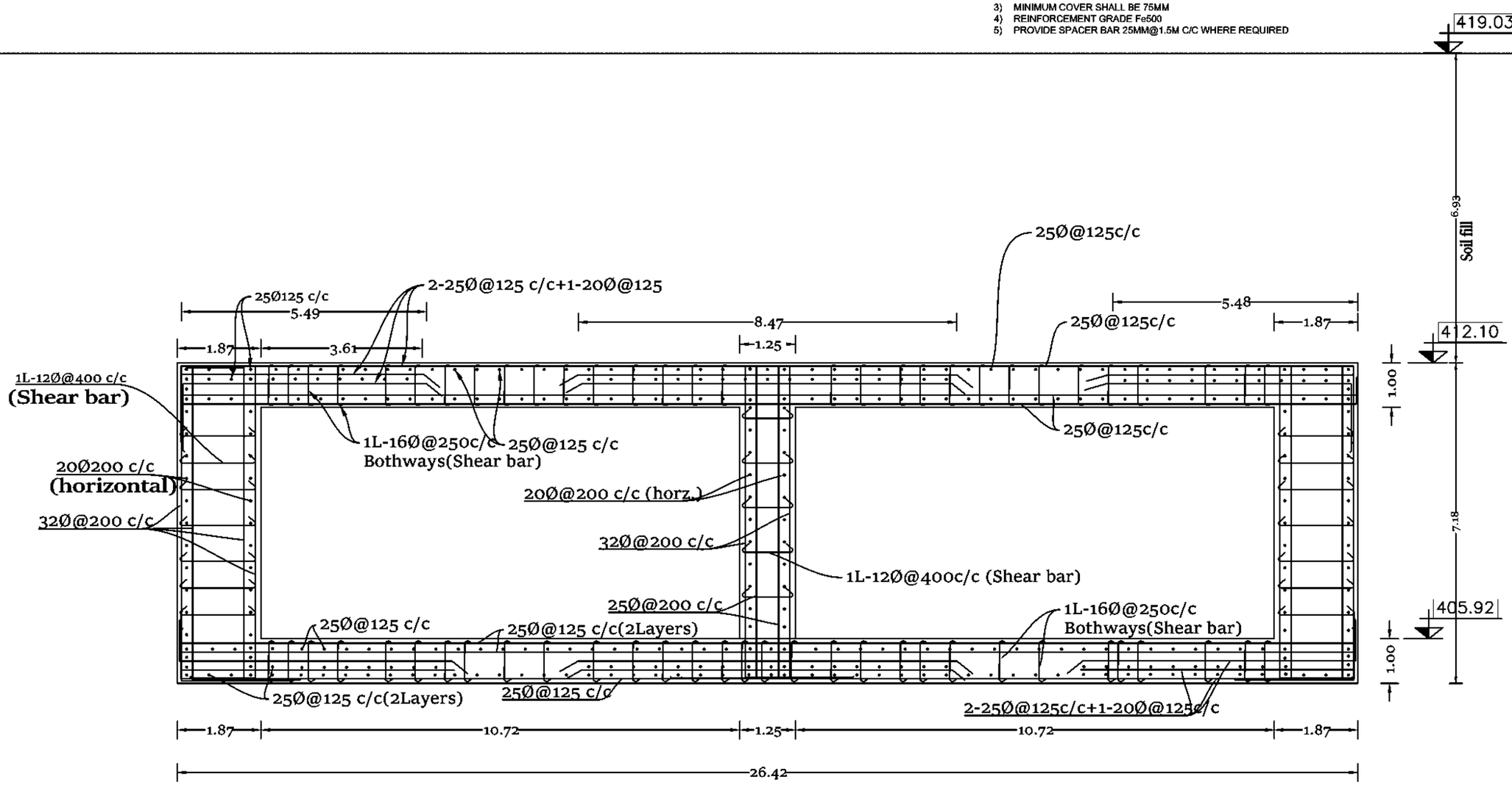
Base Slab top bar



Base Slab bottom bar

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION ARUN-4 MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING -TAILRACE-04
		DRAWN BY			DRAWING NUMBER	RF-TC-01
		DESIGNED BY			SHEET NO:	3 of 11
		CHECKED BY			SCALE:	AS SHOWN

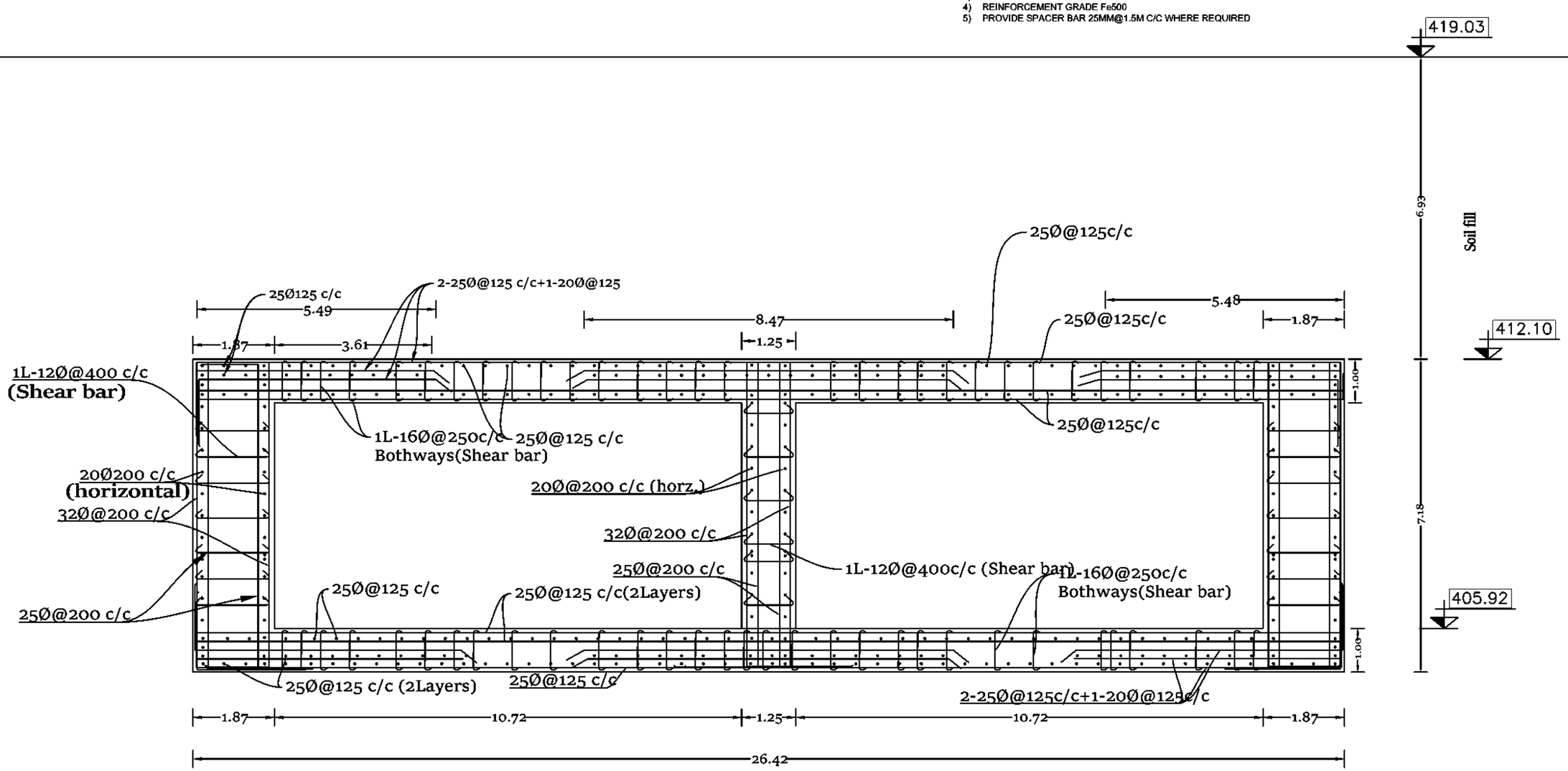
Note:
1) STRUCTURE CONCRETE- C25/M 30
2) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 60Ø
3) MINIMUM COVER SHALL BE 75MM
4) REINFORCEMENT GRADE Fe500
5) PROVIDE SPACER BAR 25MM@1.5M C/C WHERE REQUIRED



Section 1-1 & 3-3

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING -TAILRACE-04
		DRAWN BY			DRAWING NUMBER	RF-TC-01
		DESIGNED BY			SHEET NO:	4 of 11
		CHECKED BY			SCALE:	AS SHOWN

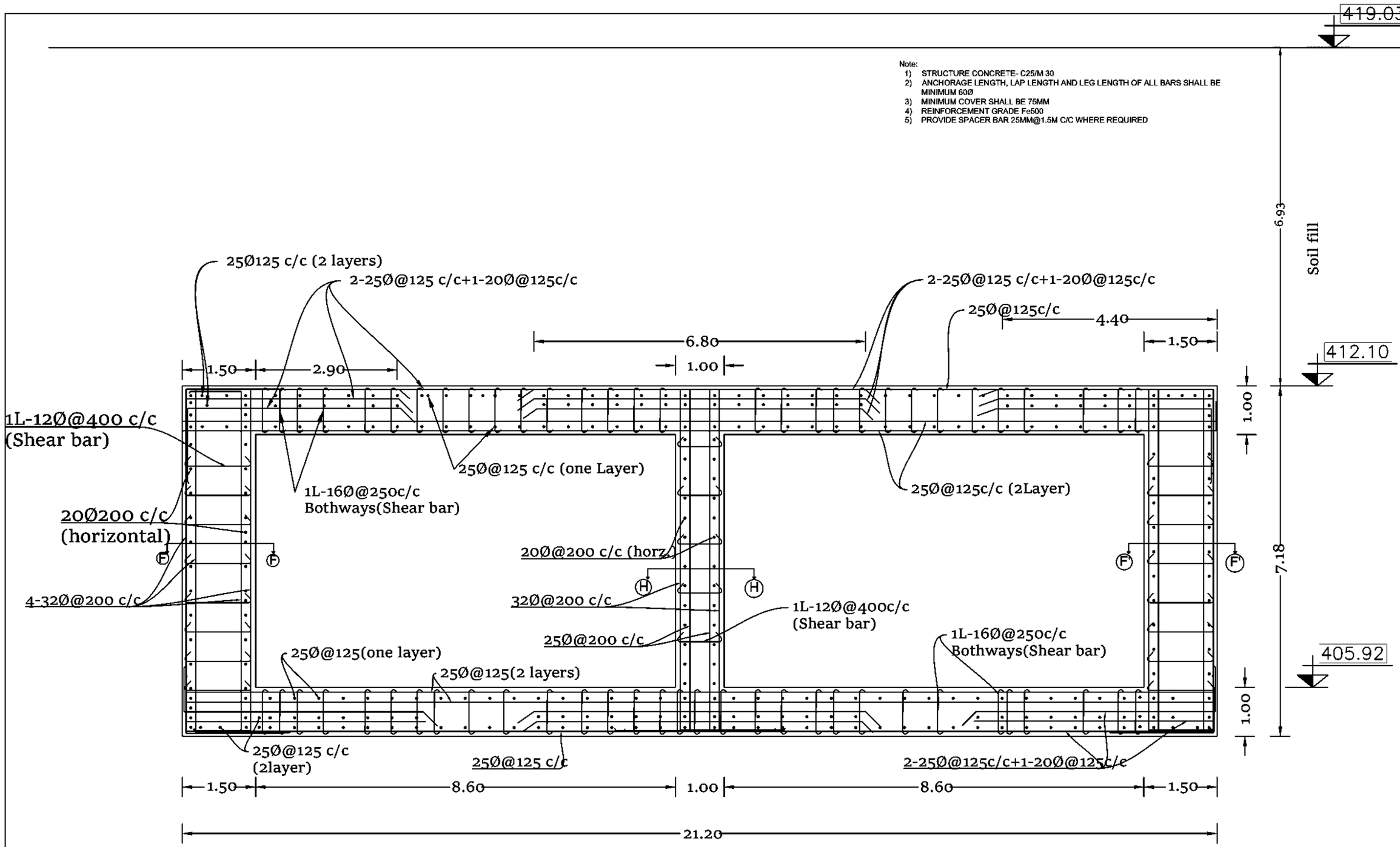
Note:
1) STRUCTURE CONCRETE- C25/M 30
2) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 60Ø
3) MINIMUM COVER SHALL BE 75MM
4) REINFORCEMENT GRADE Fe500
5) PROVIDE SPACER BAR 25MM@1.5M C/C WHERE REQUIRED



Section 2-2

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION KOKHAMARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING -TAILRACE-04
		DRAWN BY			DRAWING NUMBER	RF-TC-01
		DESIGNED BY			SHEET NO:	5 of 11
		CHECKED BY			SCALE:	AS SHOWN

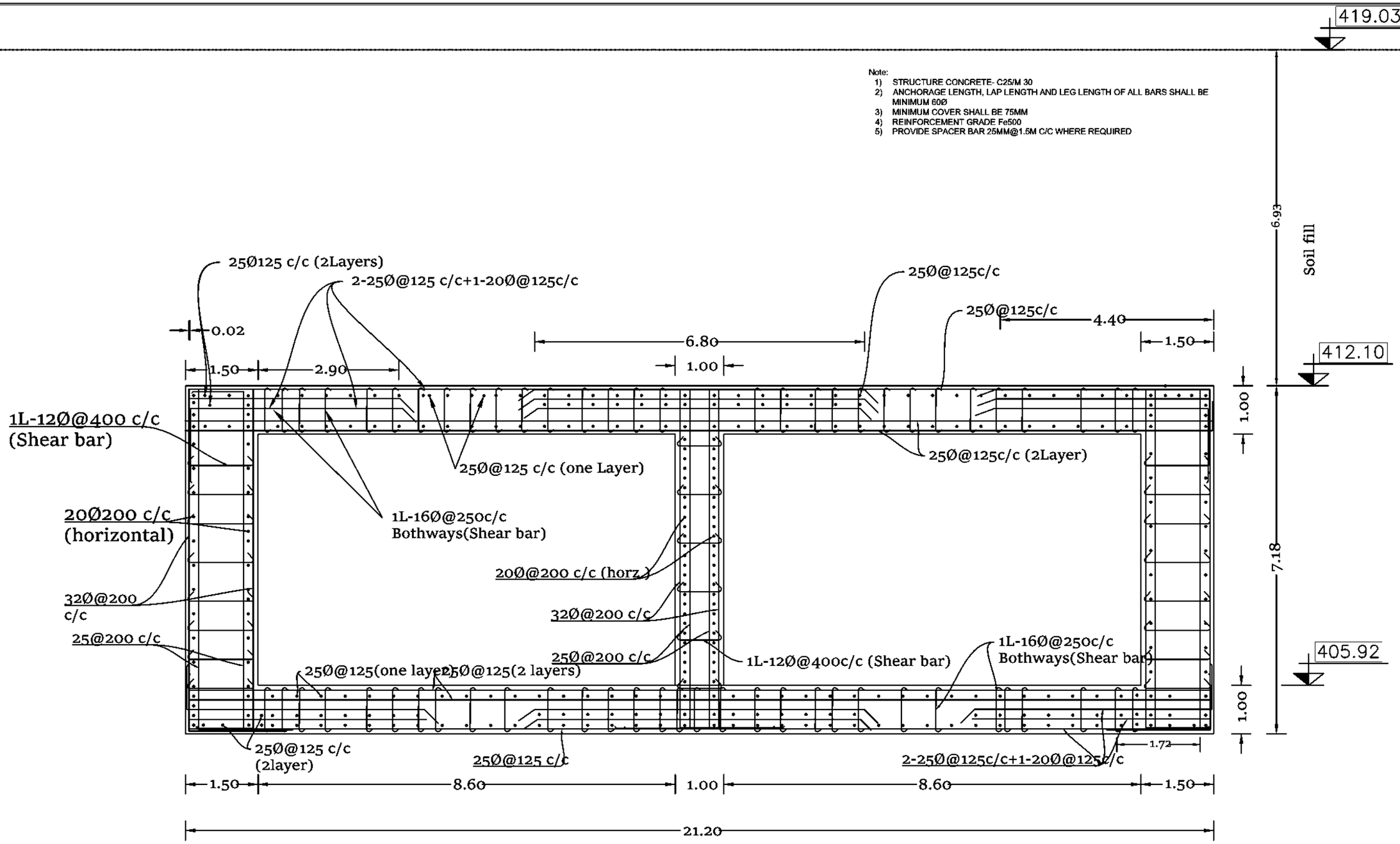
Note:
1) STRUCTURE CONCRETE- C25/M 30
2) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 60Ø
3) MINIMUM COVER SHALL BE 75MM
4) REINFORCEMENT GRADE Fe500
5) PROVIDE SPACER BAR 25MM@1.5M C/C WHERE REQUIRED



Section A-A and C-C

CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION KOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING -TAILRACE-04
		DRAWN BY			DRAWING NUMBER	RF-TC-01
		DESIGNED BY			SHEET NO:	6 of 11
		CHECKED BY			SCALE:	AS SHOWN

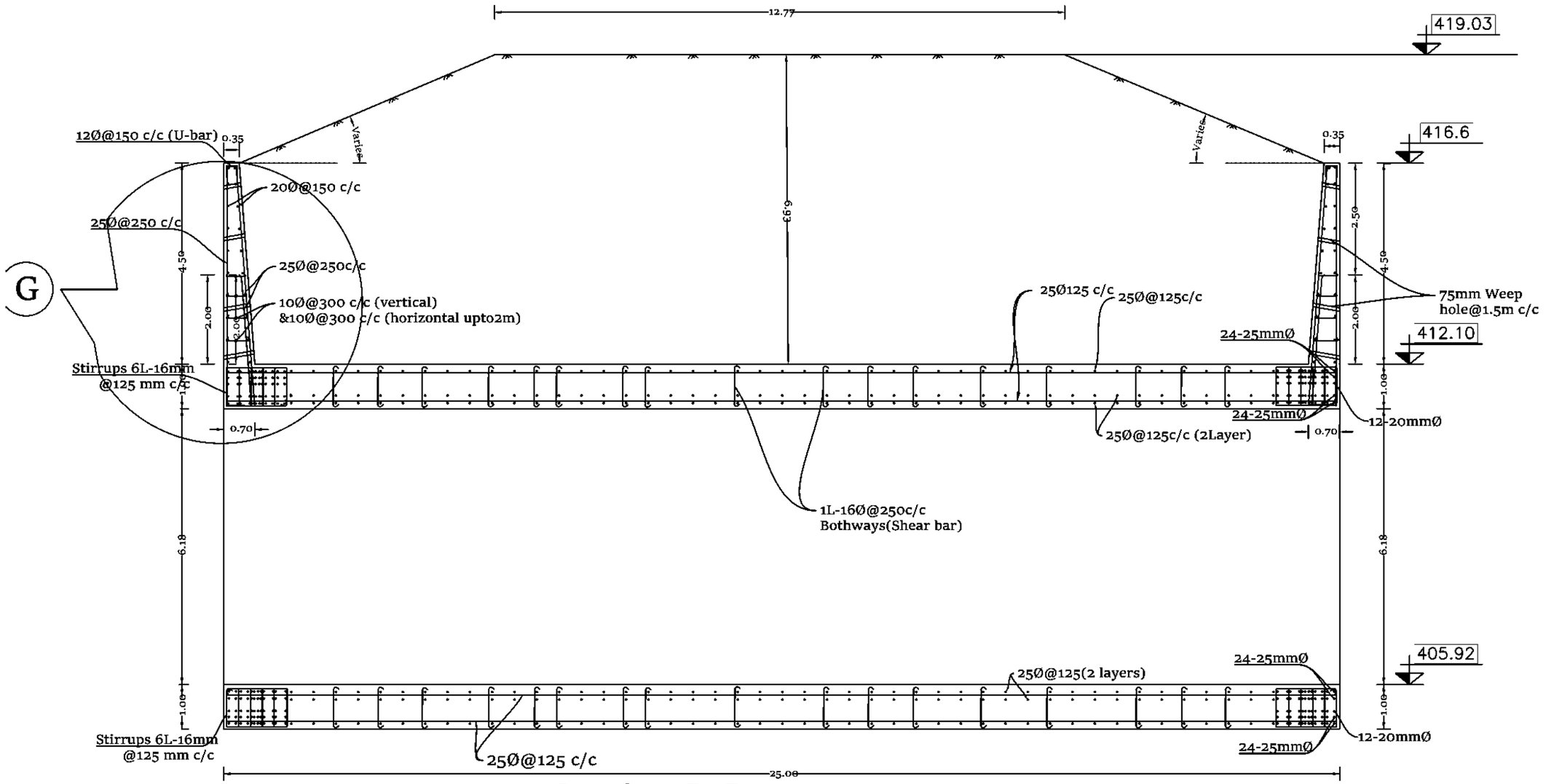
Note:
1) STRUCTURE CONCRETE- C25/M 30
2) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 60Ø
3) MINIMUM COVER SHALL BE 75MM
4) REINFORCEMENT GRADE Fe500
5) PROVIDE SPACER BAR 25MM@1.5M C/C WHERE REQUIRED



Section B-B

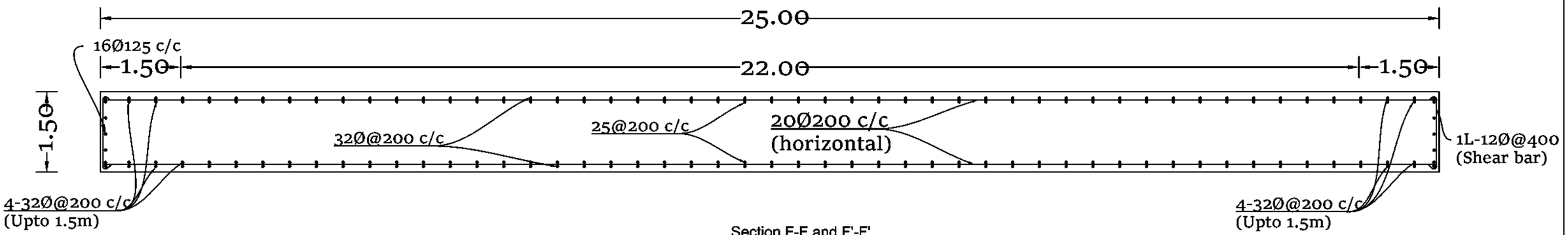
CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION KOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING -TAILRACE-04
		DRAWN BY			DRAWING NUMBER	RF-TC-01
		DESIGNED BY			SHEET NO:	7 of 11
		CHECKED BY			SCALE:	AS SHOWN

Note:
1) STRUCTURE CONCRETE- C25/M 30
2) ANCHORAGE LENGTH, LAP LENGTH AND LEG LENGTH OF ALL BARS SHALL BE MINIMUM 60Ø
3) MINIMUM COVER SHALL BE 75MM
4) REINFORCEMENT GRADE Fe500
5) PROVIDE SPACER BAR 25MM@1.5M C/C WHERE REQUIRED
6) Angle varies along the road. The maximum value shall be 30 degree

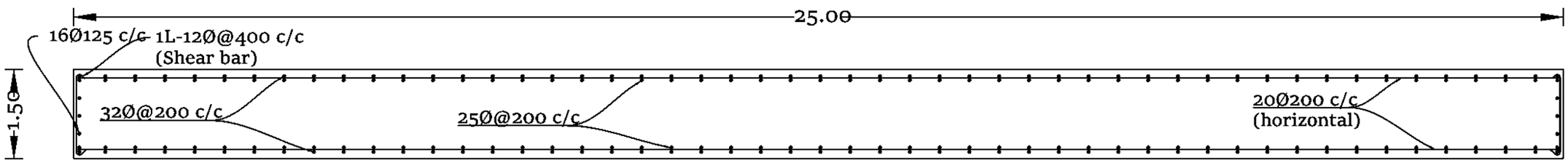


Section D-D

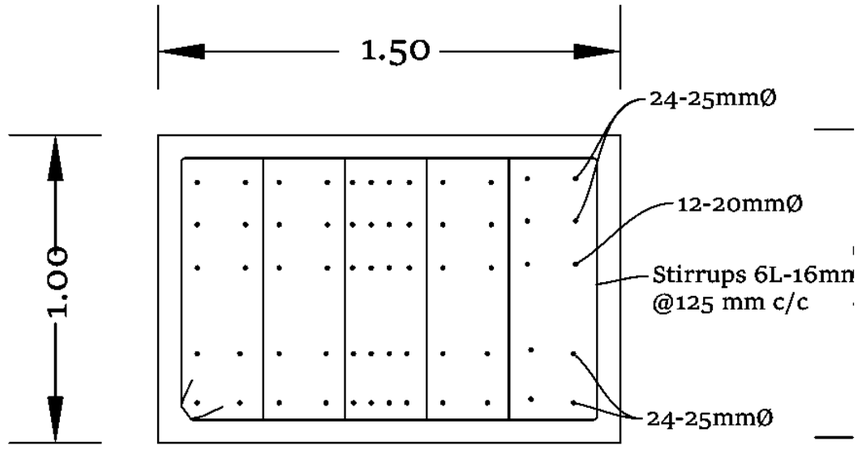
CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING -TAILRACE-04
		DRAWN BY			DRAWING NUMBER	RF-TC-01
		DESIGNED BY			SHEET NO:	8 of 11
		CHECKED BY			SCALE:	AS SHOWN



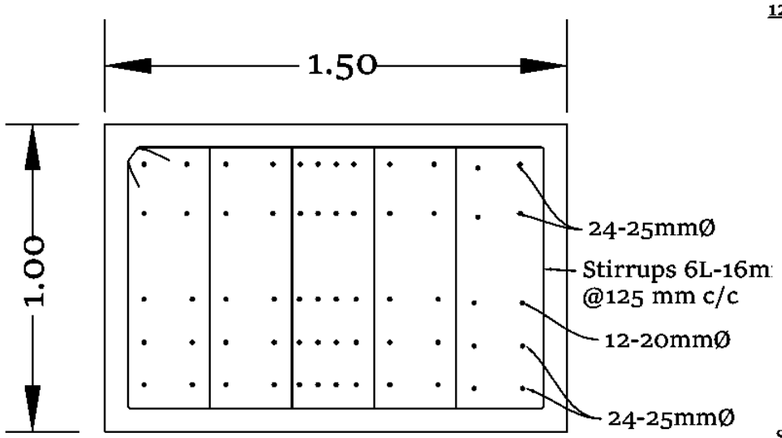
Section F-F and F'-F'
SCALE 1:75



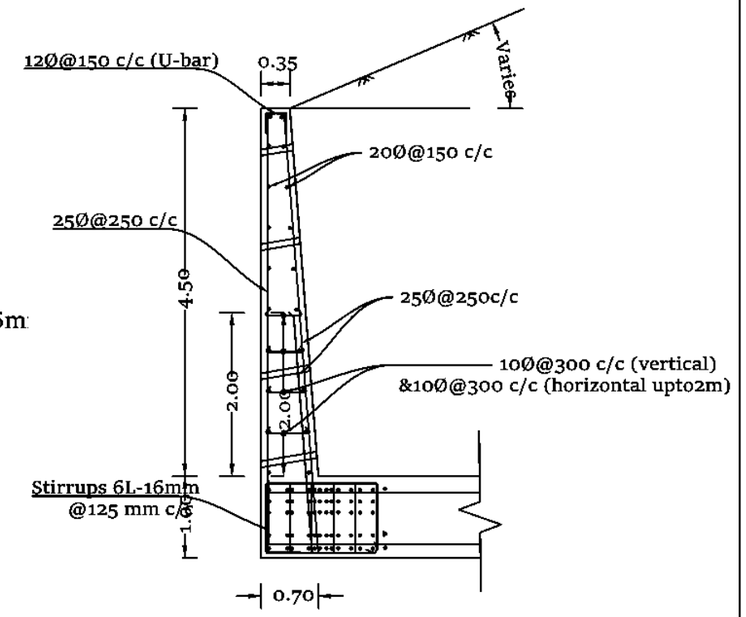
Section H-H
SCALE 1:75



SECTION X-X
SCALE 1:20



SECTION Y-Y
SCALE 1:20



CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	REINFORCEMENT DRAWING -TAILRACE
		DRAWN BY	KESHAB PARKI		DRAWING NUMBER	RF-TC-01
		DESIGNED BY	DR.SUBIN DESAR		SHEET NO:	9 of 9
		CHECKED BY	BABURAM THAPA		SCALE:	AS SHOWN

NOTES:

1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

CONSTRUCTION MATERIALS PROCESSING AREA

CAMP AREA

STORAGE AREA

CAMP AREA

HYDROMECHANICAL PARTS ACCESSORIES STORAGE

STORAGE AREA

CAMP AREA

CONSTRUCTION ROAD

SUNKOSHI RIVER

FIRST STAGE TEMPORARY BRIDGE

CONSTRUCTION AREA

DIVERSION WALL

ROW

ROW

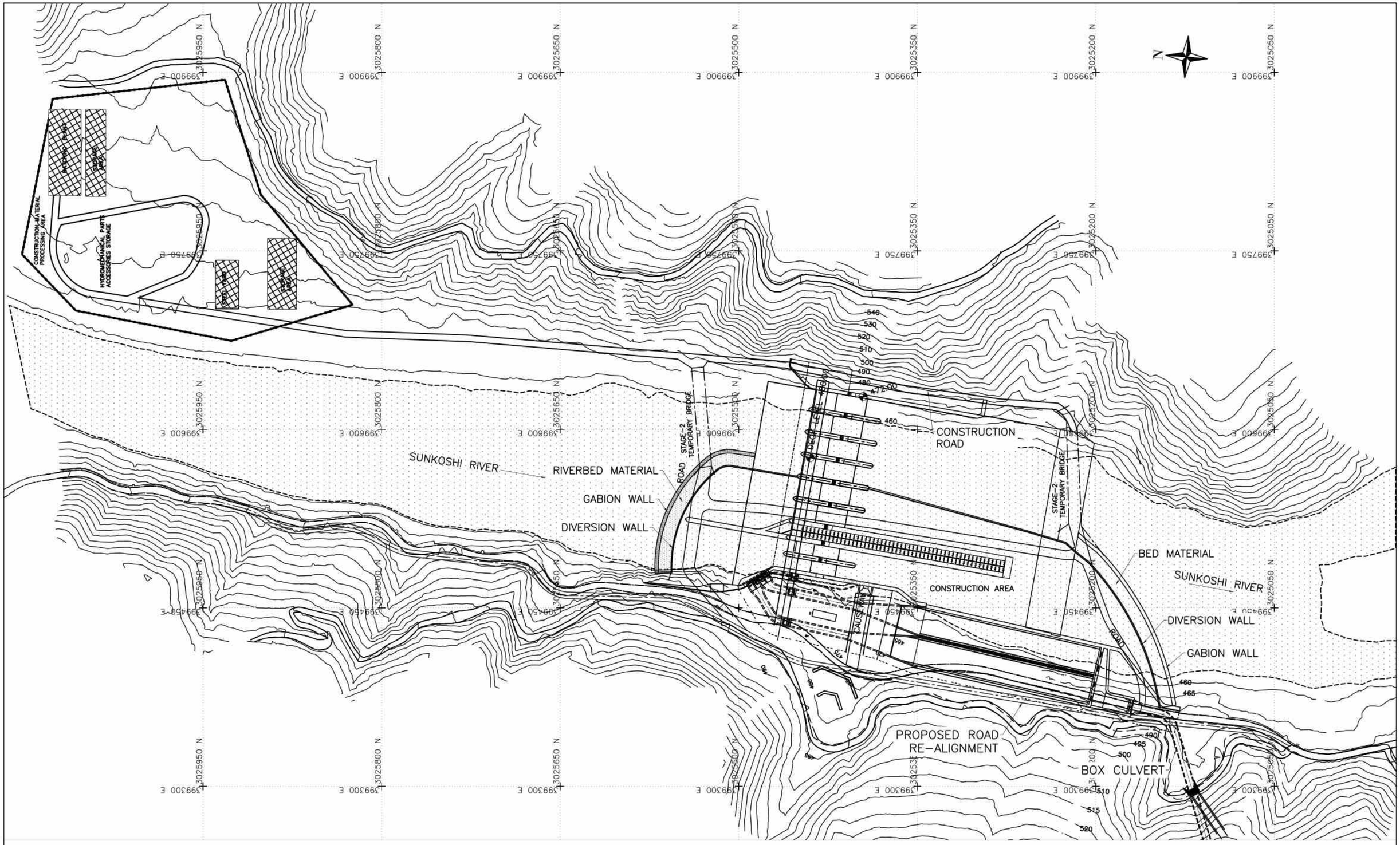
PROPOSED B.P. HIGHWAY RE-ALIGNMENT

SUNKOSHI RIVER

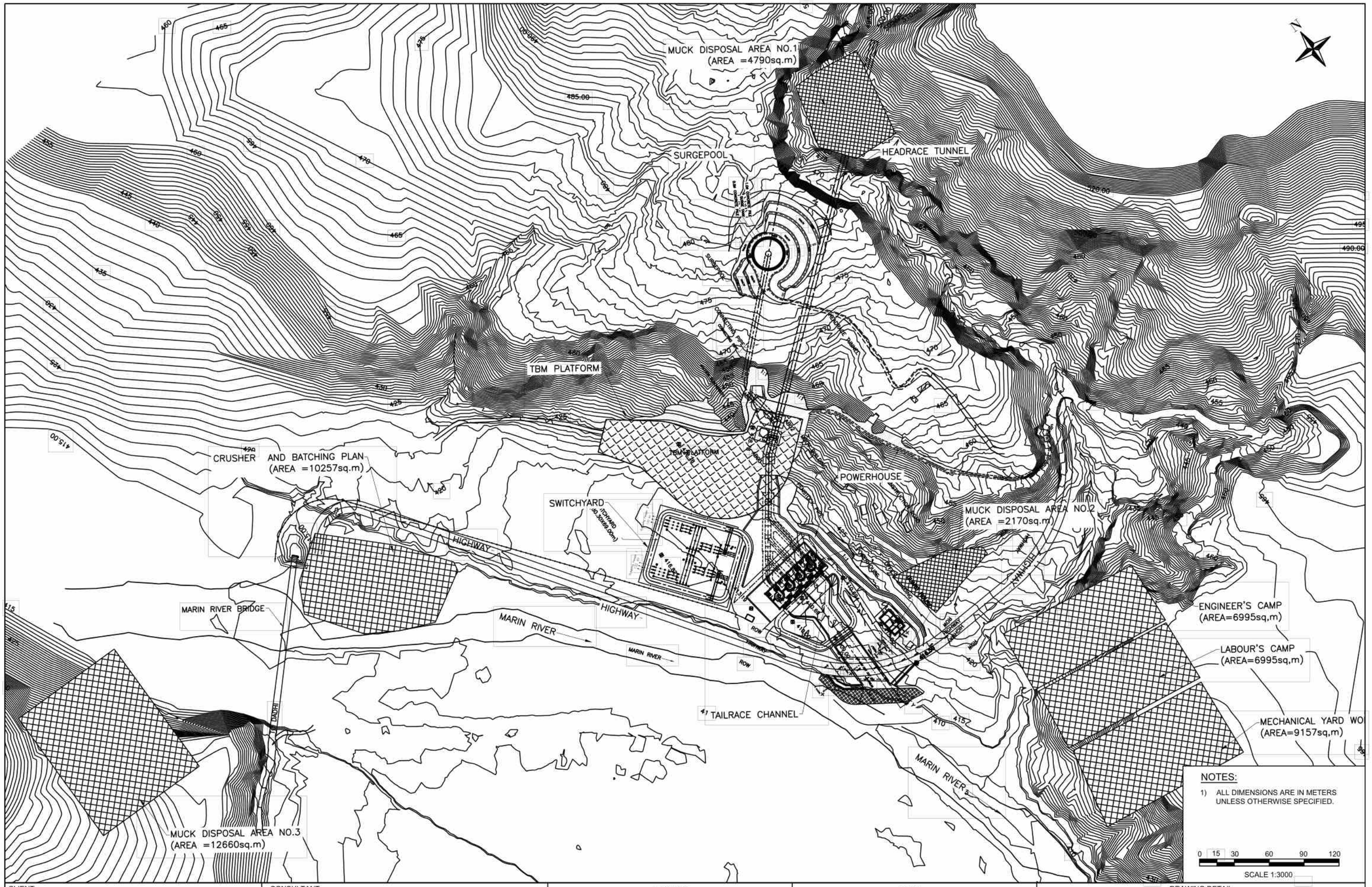
KHOLA

SCALE 1:3000

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: SUNKOSHI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN		
		CHECKED BY			CHECKED BY			DRAWING TITLE:	CONSTRUCTION PLANNING AT HEADWORK: STAGE -1
		RECOMMENDED BY			RECOMMENDED BY			DRAWING NUMBER	CD-CP-01(REV-01)
					APPROVED BY			SHEET NO:	1
								SCALE:	SCALE - 1:2000

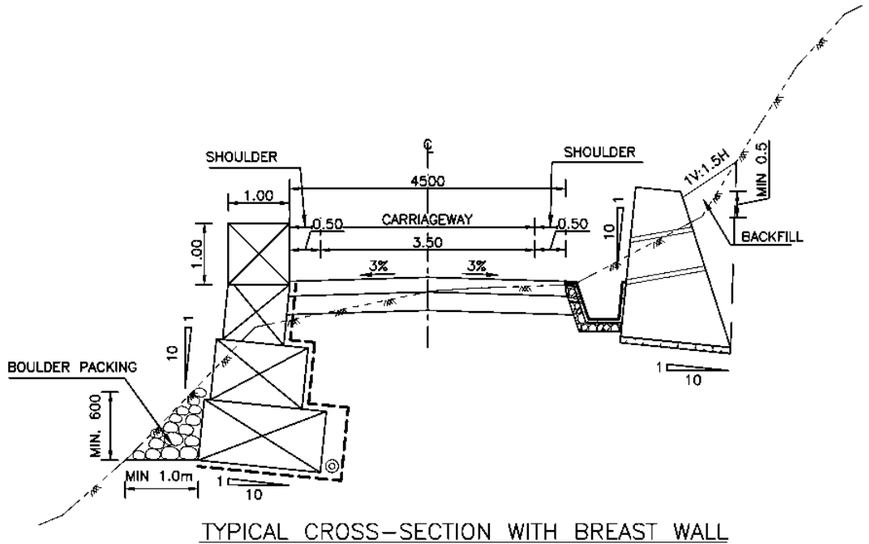


CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	CONSTRUCTION PLANNING FOR HEADWORKS: STAGE -2
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-CP-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	2
					APPROVED BY			SCALE:	SCALE 1: 2000

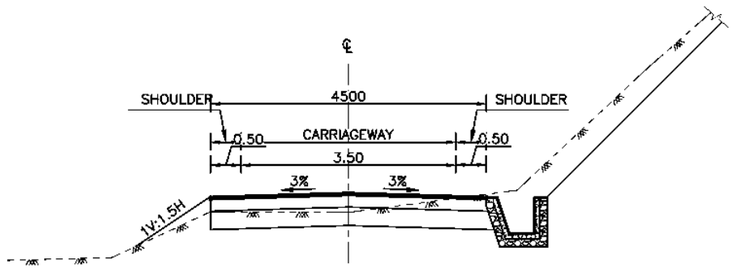


CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SINDHULI DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	CONSTUCTION PLANNING FOR POWERHOUSE AREA
		CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-CP-02(REV-01)
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	1
					APPROVED BY			SCALE:	SCALE - AS SHOWN

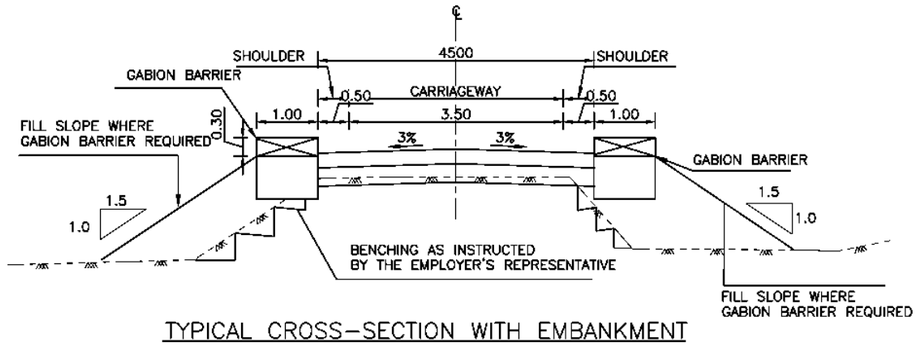
NOTE:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.



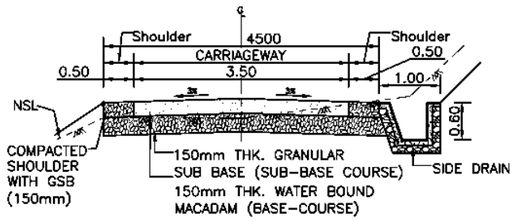
TYPICAL CROSS-SECTION WITH BREAST WALL



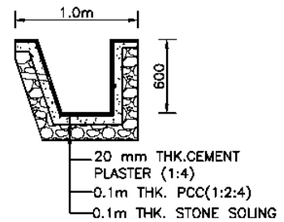
TYPICAL CROSS-SECTION WITHOUT WALL



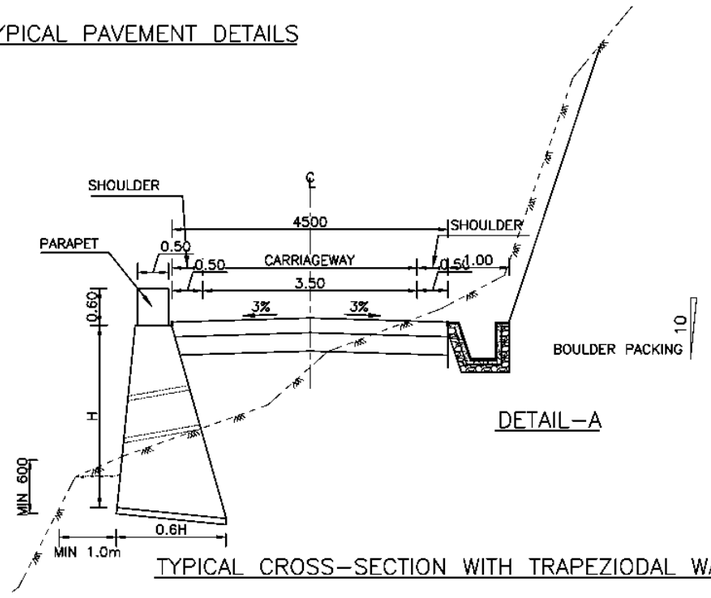
TYPICAL CROSS-SECTION WITH EMBANKMENT



TYPICAL PAVEMENT DETAILS

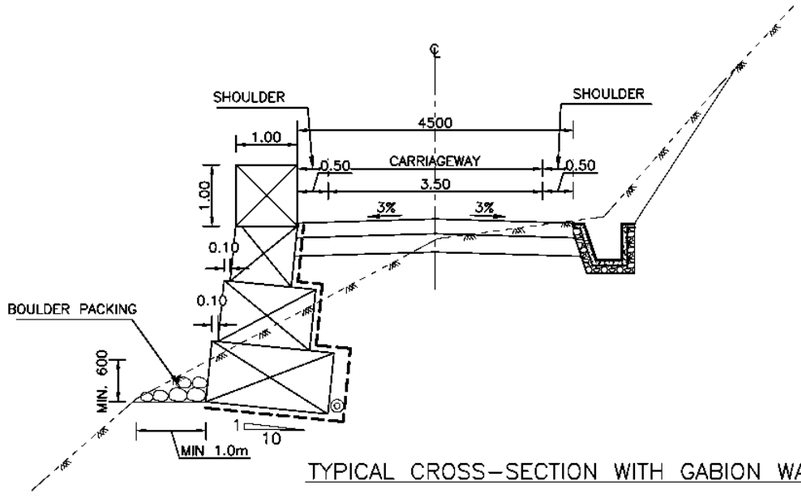


DETAIL-A



DETAIL-A

TYPICAL CROSS-SECTION WITH TRAPEZIODAL WALL

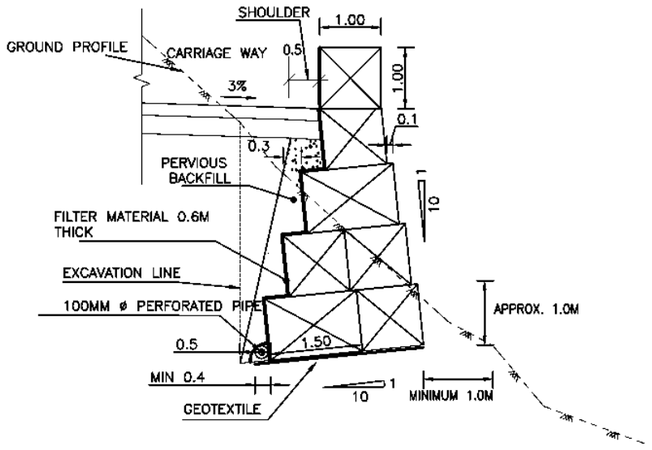


TYPICAL CROSS-SECTION WITH GABION WALL

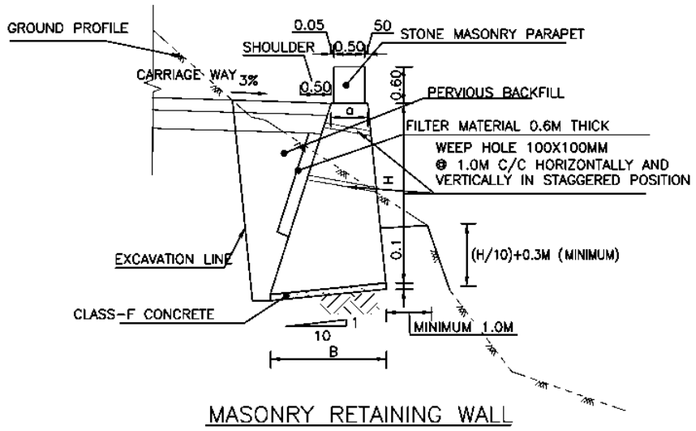
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION Sindhuli Diversion Multipurpose Project SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN		
		CHECKED BY			CHECKED BY			DRAWING TITLE:	TYPICAL DRAWINGS-ROAD
		RECOMMENDED BY			RECOMMENDED BY			DRAWING NUMBER	CD-TD-01
					APPROVED BY			SHEET NO:	01
								SCALE:	SCALE - 1:100

NOTE:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

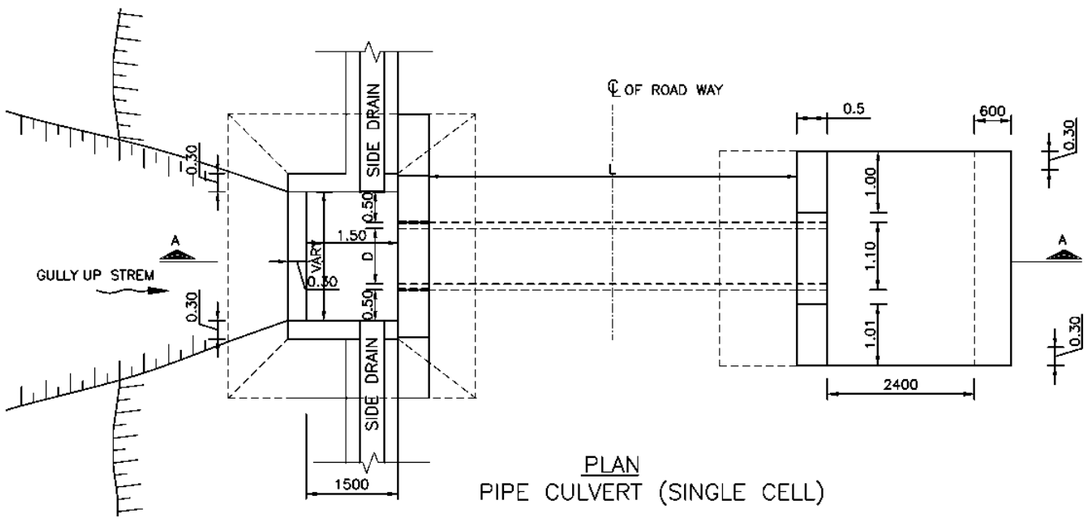


GABION RETAINING WALL



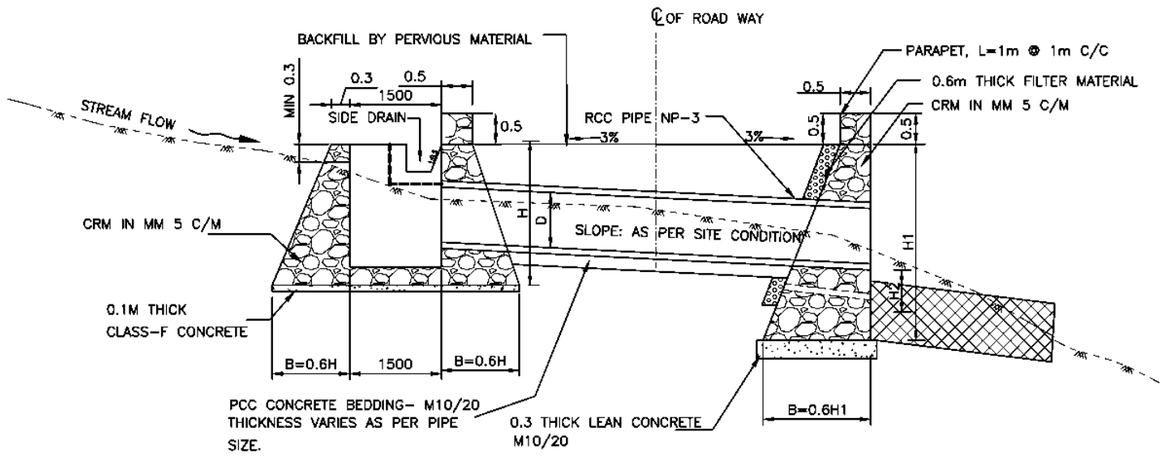
MASONRY RETAINING WALL

Dimension of Typical Retaining/Breast Wall			
H	B	a	Minimum Depth of Foundation
1.5	0.9	0.6	0.45
2.0	1.2	0.6	0.50
2.5	1.5	0.6	0.55
3.0	1.8	0.6	0.60
3.5	2.1	0.6	0.65
4.0	2.4	0.6	0.70
4.5	2.7	0.6	0.75
5.0	3.0	0.6	0.80
5.5	3.3	0.6	0.85
6.0	3.6	0.6	0.90



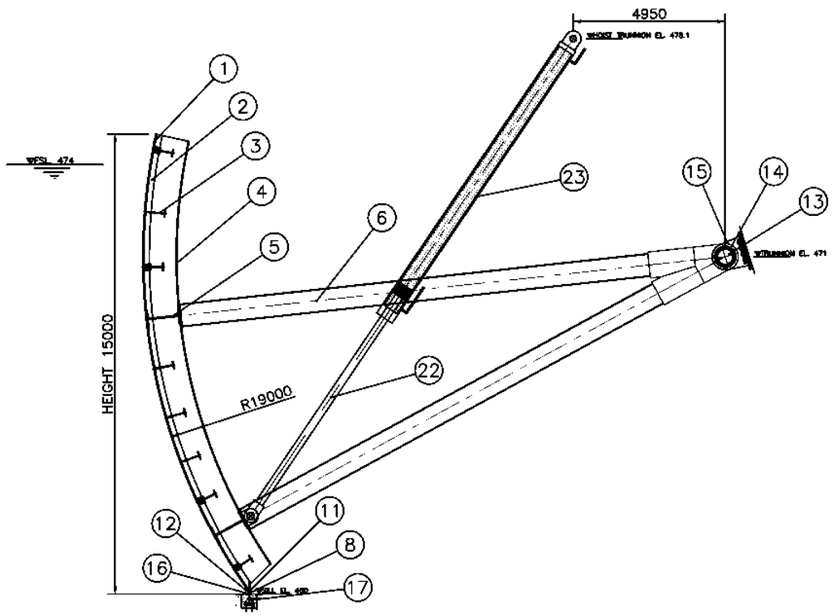
PLAN

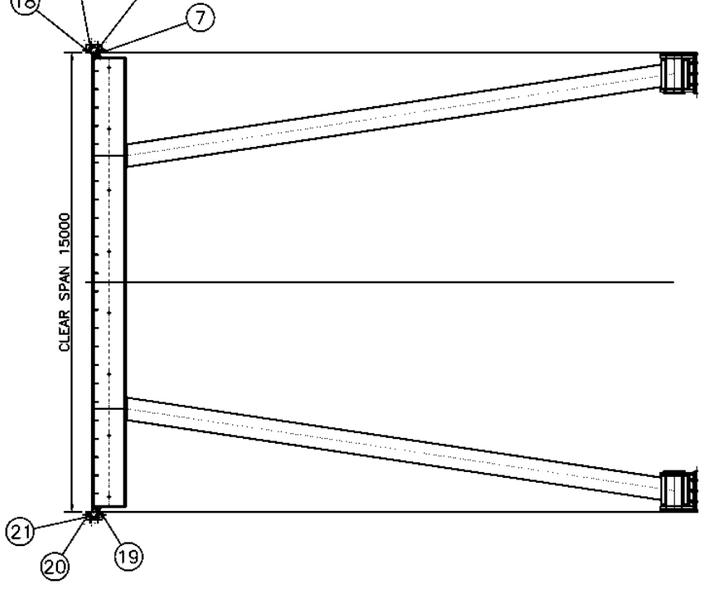
PIPE CULVERT (SINGLE CELL)



SECTION A-A

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN		
		CHECKED BY			CHECKED BY			DRAWING TITLE:	TYPICAL DRAWINGS-ROAD
		RECOMMENDED BY			RECOMMENDED BY			DRAWING NUMBER	CD-TD-01
					APPROVED BY			SHEET NO:	02
								SCALE:	SCALE - 1:100





PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I-SECTION	EN 10025
4	VERTICAL MAIN GIRDER	I-SECTION	EN 10025
5	HORIZONTAL MAIN GIRDER	I-SECTION	EN 10025
6	RADIAL ARM	BOX	EN 10025
7	SIDE ROLLER	AS PER DRAWING	CAST STEEL
8	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
9	SIDE SEAL	ANGLE	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SQUARE BAR	SQUARE	EN 10025
12	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
13	TRUNNION PIN	AS PER DRAWING	STAINLESS STEEL
14	TRUNNION BUSH	AS PER DRAWING	BRONZE
15	TRUNNION HUB AND BRACKET	AS PER DRAWING	EN 10025
16	SILL PLATE	PLATE	STAINLESS STEEL
17	SILL BEAM	I-SECTION	EN 10025
18	SEAL SEAT	PLATE	STAINLESS STEEL
19	ANCHORAGE	AS PER DRAWING	EN 10025
20	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
21	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE
22	HYDRAULIC HOIST PISTON	AS PER DRAWING	STAINLESS STEEL
23	HYDRAULIC HOIST CYLINDER	AS PER DRAWING	PV GRADE STEEL

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO-MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 1000 2000 4000 6000 8000

SCALE 1:200

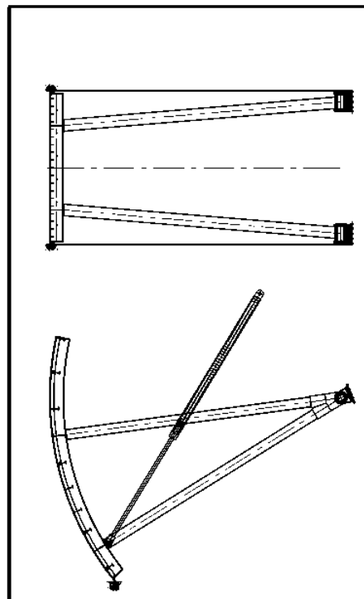
CLIENT

GOVERNMENT OF NEPAL
[illegible] OF ENERGY, WATER RESOURCES AND IRRIGATION
DE[illegible]MEN[illegible] OF WATER RESOURCES AND IRRIGATION
[illegible] DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

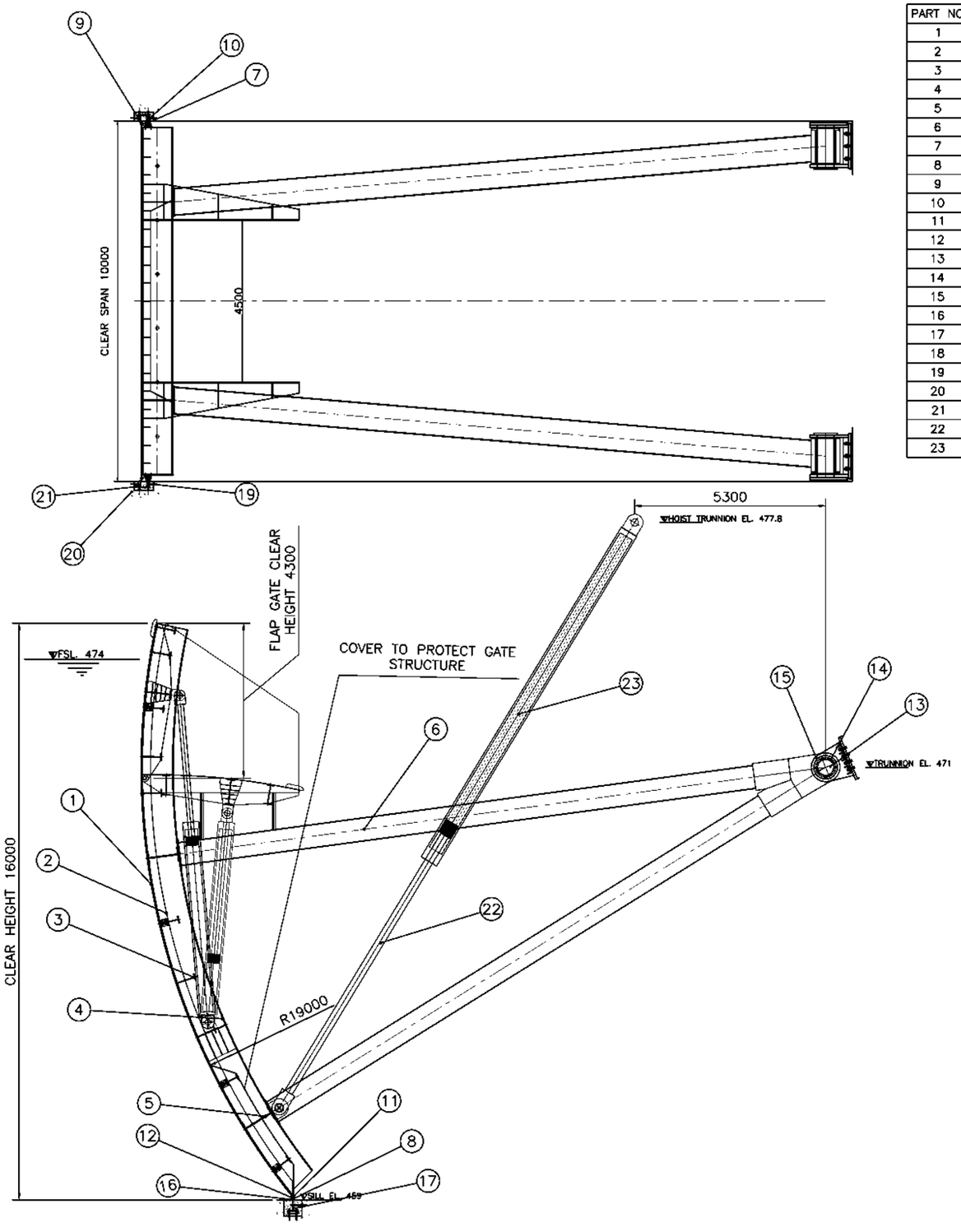
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SPILLWAY RADIAL GATE (15M X 15M, 6 SETS)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-GT-01
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:200



SLUICE GATE WITHOUT EMBEDDED FLAP GATE

0 2 4 8 12 16

SCALE 1:400



PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I-SECTION	EN 10025
4	VERTICAL MAIN GIRDER	I-SECTION	EN 10025
5	HORIZONTAL MAIN GIRDER	I-SECTION	EN 10025
6	RADIAL ARM	BOX	EN 10025
7	SIDE ROLLER	AS PER DRAWING	CAST STEEL
8	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
9	SIDE SEAL	ANGLE	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SQUARE BAR	SQUARE	EN 10025
12	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
13	TRUNNION PIN	AS PER DRAWING	STAINLESS STEEL
14	TRUNNION BUSH	AS PER DRAWING	BRONZE
15	TRUNNION HUB	AS PER DRAWING	EN 10025
16	SILL PLATE	PLATE	STAINLESS STEEL
17	SILL BEAM	I-SECTION	EN 10025
18	SEAL SEAT	PLATE	STAINLESS STEEL
19	ANCHORAGE	AS PER DRAWING	EN 10025
20	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
21	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE
22	HYDRAULIC HOIST PISTON	AS PER DRAWING	STAINLESS STEEL
23	HYDRAULIC HOIST CYLINDER	AS PER DRAWING	PV GRADE STEEL

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ONLY ONE SET OF RADIAL GATE NEARER TO THE INTAKE HAVE EMBEDDED FLAP GATE.
6. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO-MECHANICAL CONTRACTOR.
7. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 700 1400 2800 4200 5600

SCALE 1:140

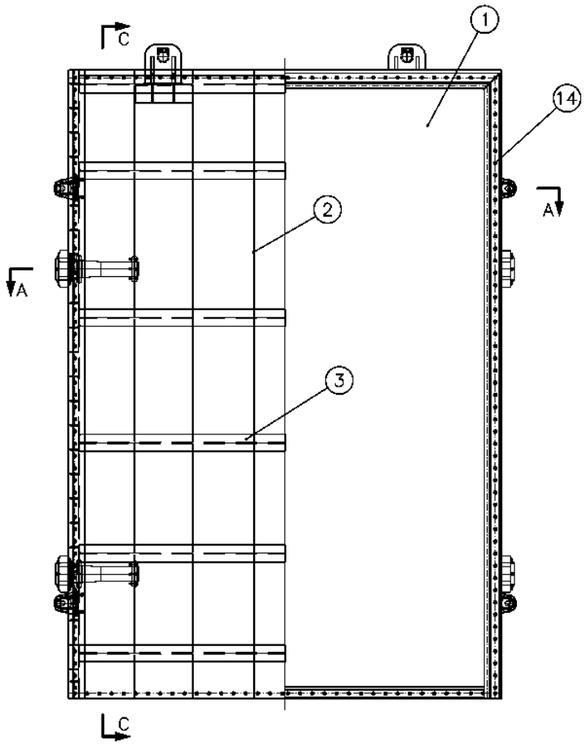
CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

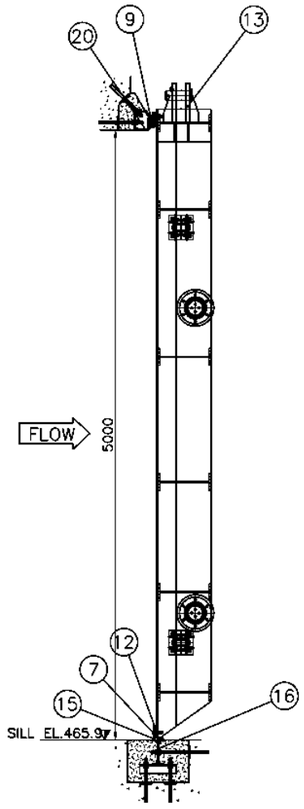
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

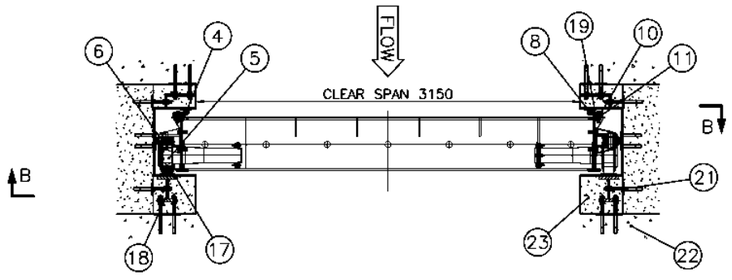
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SLUICE RAIDAL GATE (10M x 16M, 2 SETS)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-GT-02
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:140



SECTION B–B



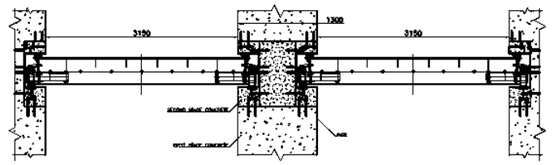
SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	MAIN ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE

EMBEDDED PARTS DETAILS



0 0.5 1 2 3 4

SCALE 1:100

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 250 500 1000 1500 2000

SCALE 1:50

CLIENT

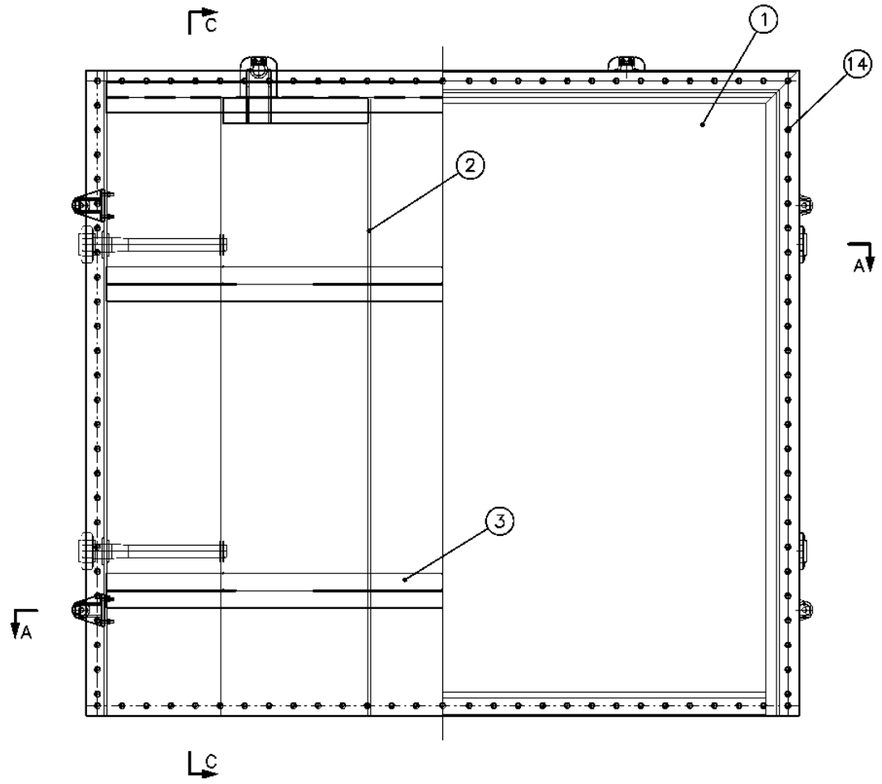
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

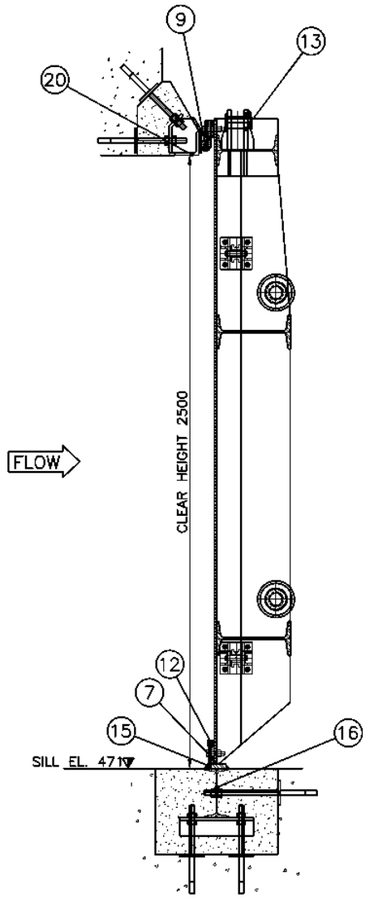
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

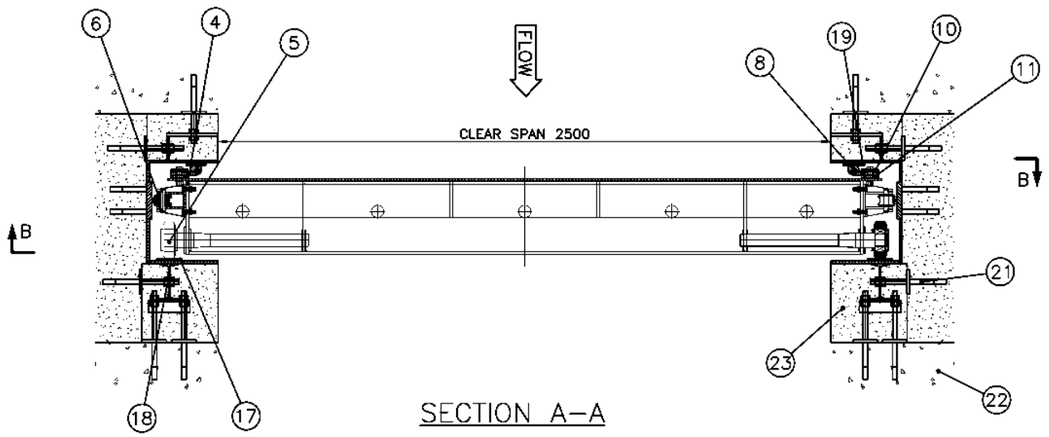
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	INTAKE GATE (3.15M X 5M, 4 SETS)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-GT-03
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:50



SECTION B–B



SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	MAIN ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 125 250 500 750 1000

SCALE 1:25

CLIENT

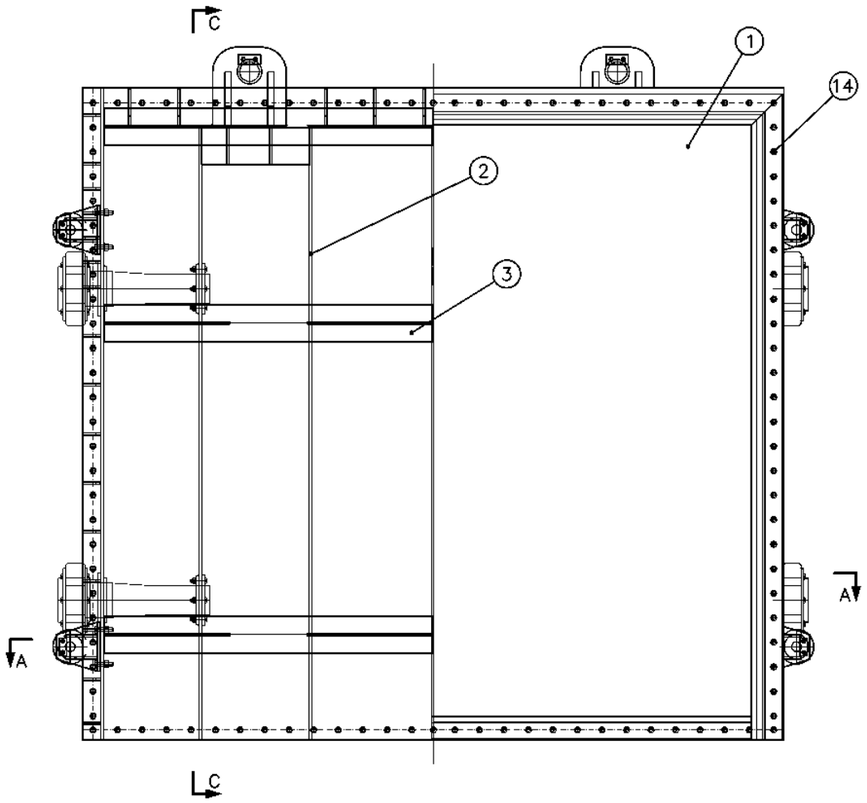
GOVERNMENT OF NEPAL
[illegible] OF ENERGY, WATER RESOURCES AND IRRIGATION
[illegible] MENT OF WATER RESOURCES AND IRRIGATION

[illegible] DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

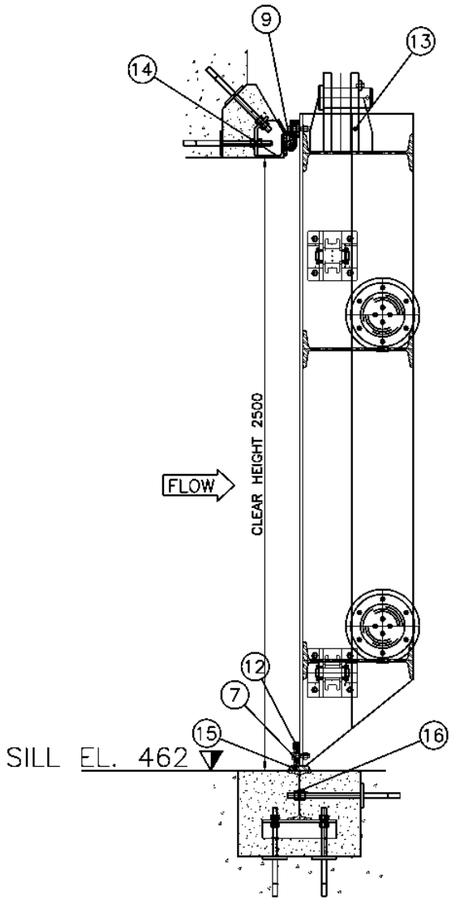
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

	PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN			
CHECKED BY			CHECKED BY			DRAWING TITLE:	TRASH PASSAGE GATE (2.5M X 2.5M, 1 SET)	
RECOMMENDED BY			RECOMMENDED BY			DRAWING NUMBER	HM-GT-04	
			APPROVED BY			SHEET NO:	SHEET 1 OF 1	
						SCALE:	1:25	

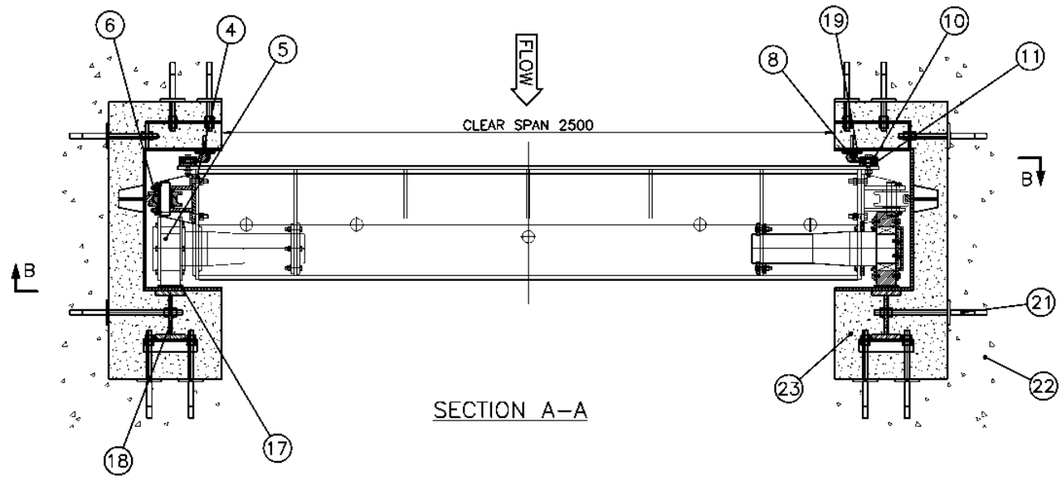


SECTION B–B



SECTION C–C

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	MAIN ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE



SECTION A–A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 125 250 500 750 1000

SCALE 1:25

CLIENT

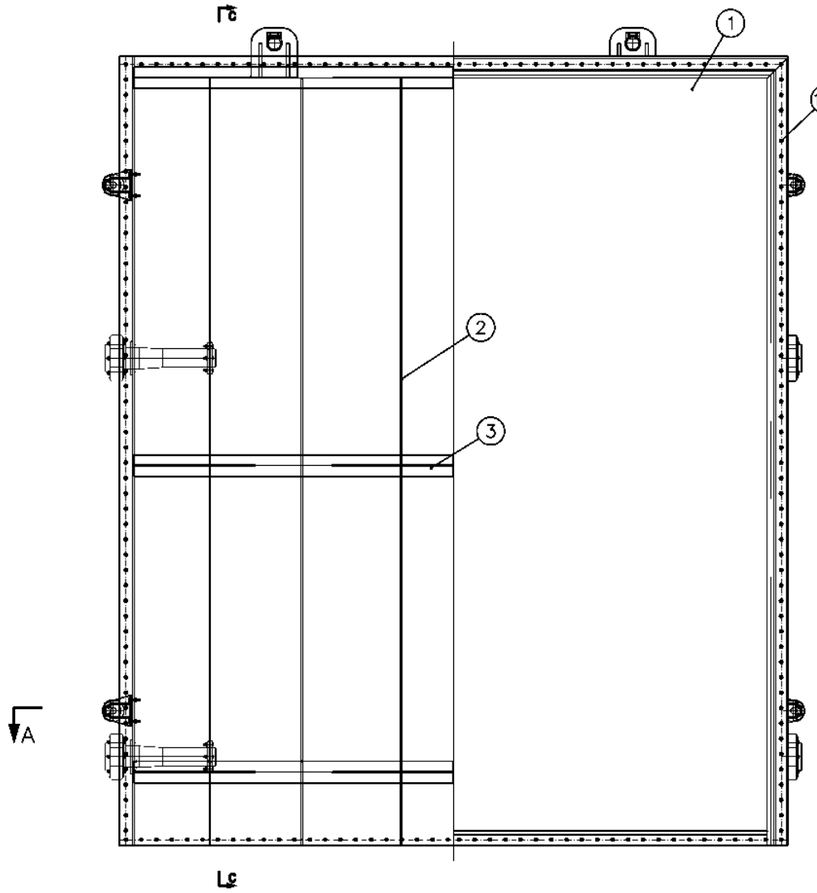
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

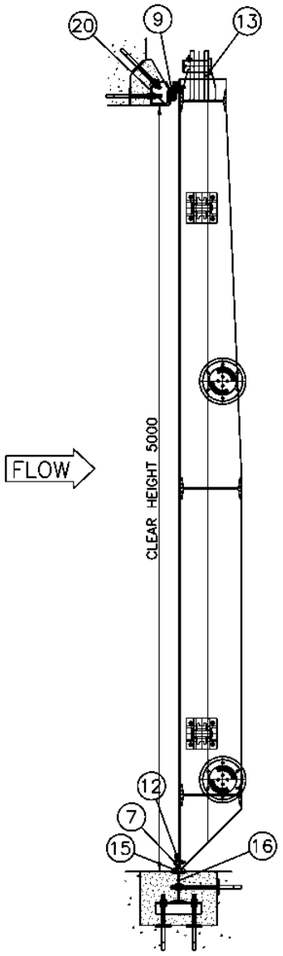
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER, THAPATHALI,
KATHMANDU, NEPAL

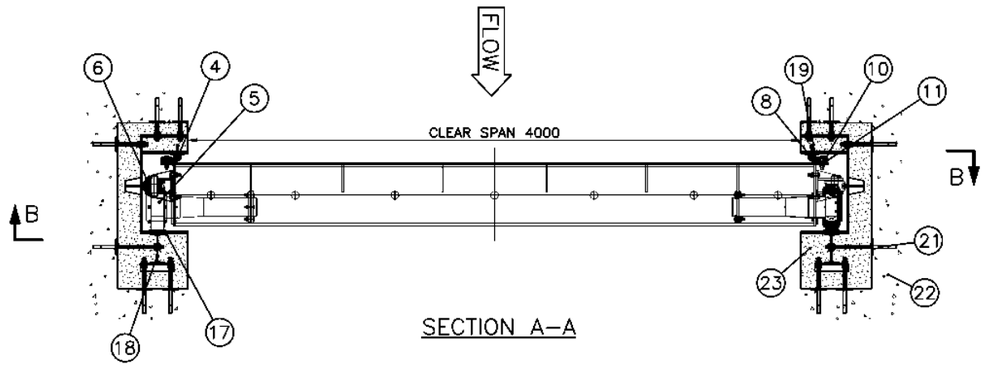
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	GRAVEL FLUSHING GATE (2.5M X 2.5M, 1 SET)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-GT-05
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:25



SECTION B–B



SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	MAIN ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 200 400 800 1200 1600

SCALE 1:40

CLIENT

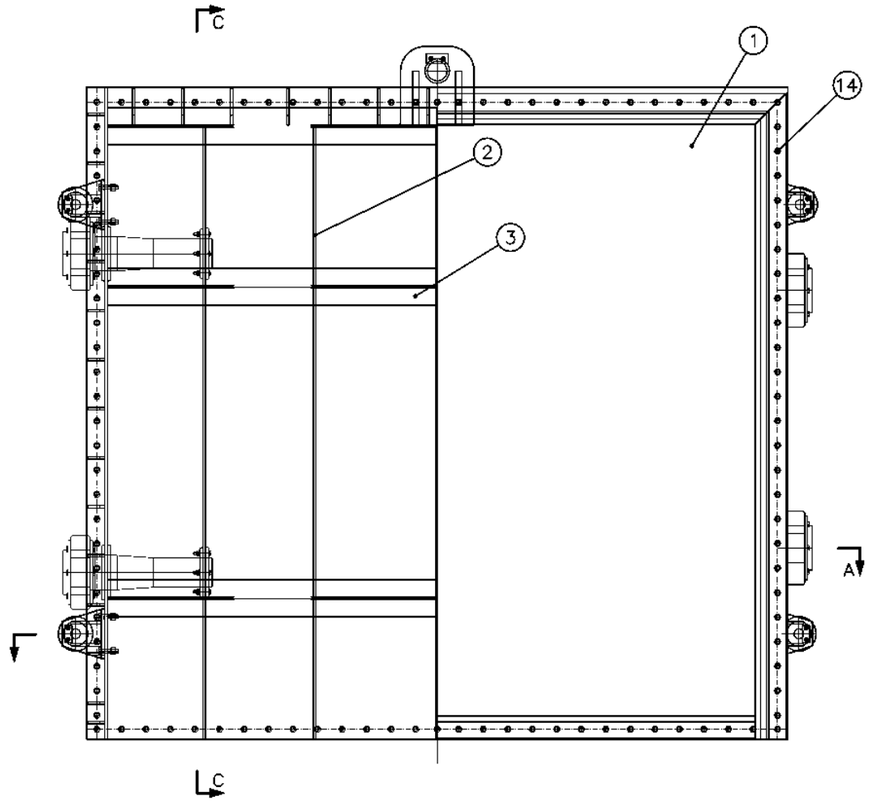
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

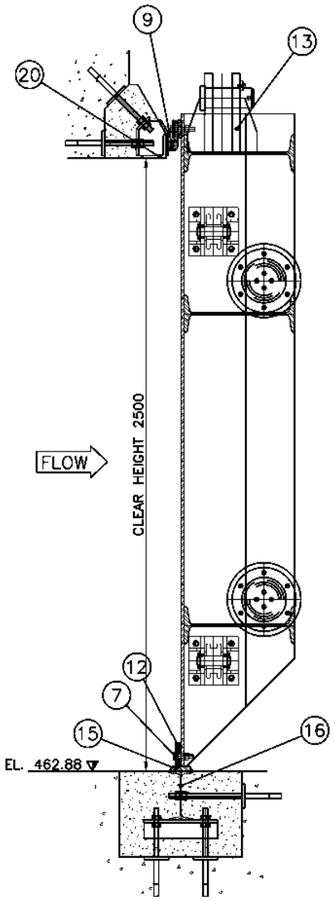
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER, THAPATHALI,
KATHMANDU, NEPAL

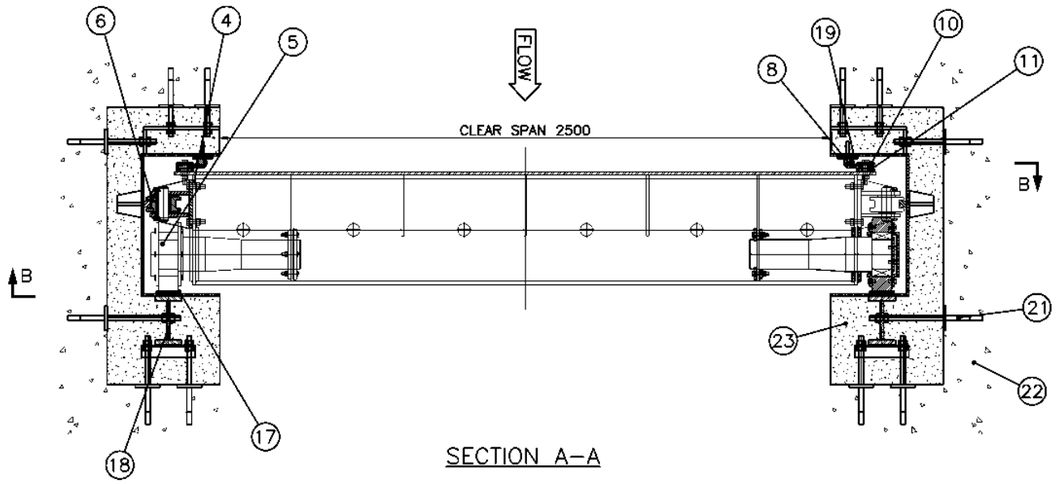
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SETTLING BASIN OUTLET GATE (4M X 5M, 4 SETS)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-GT-06
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:40



SECTION B–B



SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I-SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	MAIN ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I-SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I-SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO-MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 0.125 0.25 0.5 1 1.5

SCALE 1:25

CLIENT

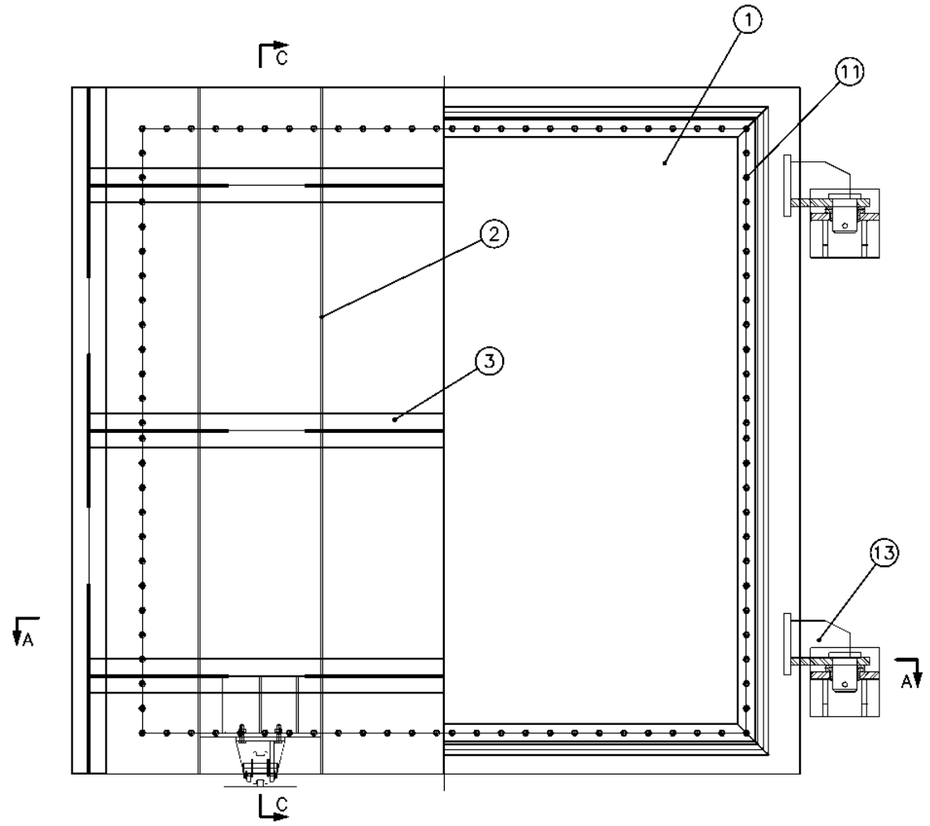
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

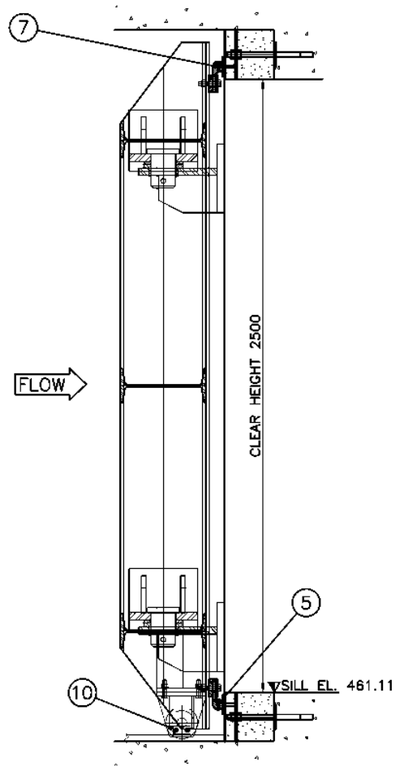
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER, THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SETTLING BASIN FLUSHING GATE (2.5M X 2.5M, 4 SETS)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-GT-07
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:25

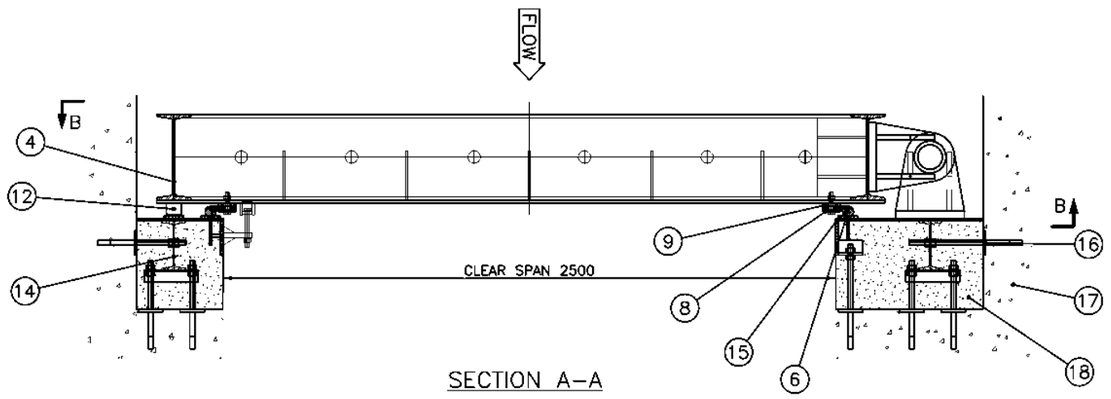


SECTION B–B



SECTION C–C

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
6	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
7	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
8	SEAL CLAMP	PLATE	EN 10025
9	SEAL BASE	PLATE	EN 10025
10	BOTTOM ROLLER	AS PER DRAWING	CAST STEEL
11	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
12	SEAT BLOCK	AS PER DRAWING	EN 10025
13	HINGE	AS PER DRAWING	EN 10025
14	SEAT BLOCK BEAM	I–SECTION	EN 10025
15	SEAL SEAT	PLATE	STAINLESS STEEL
16	ANCHORAGE	AS PER DRAWING	EN 10025
17	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
18	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE



SECTION A–A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

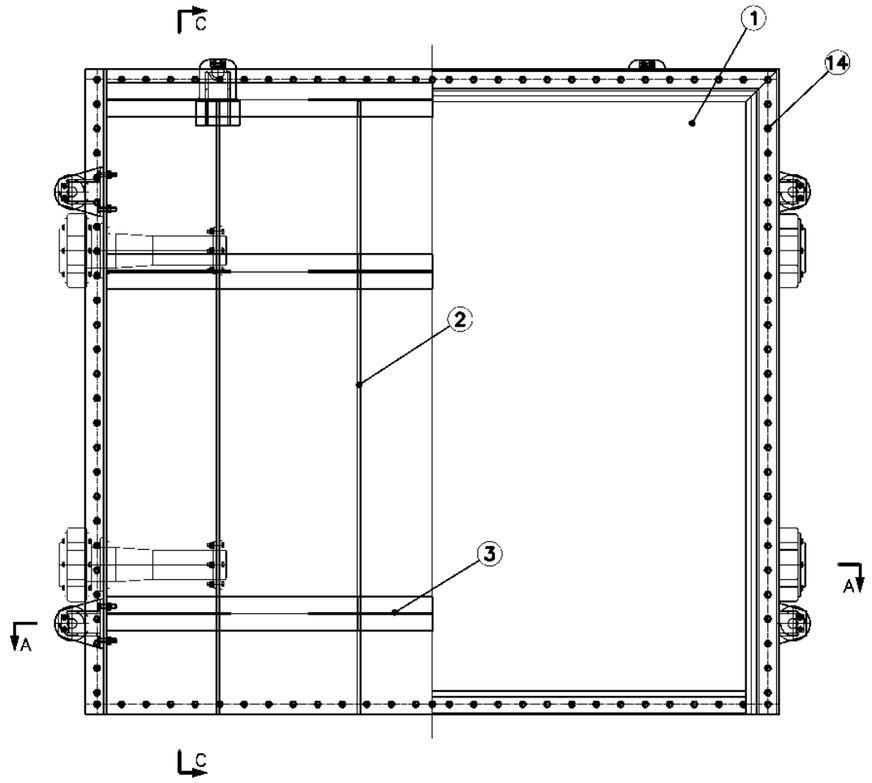
0 125 250 500 750 1000

SCALE 1:25

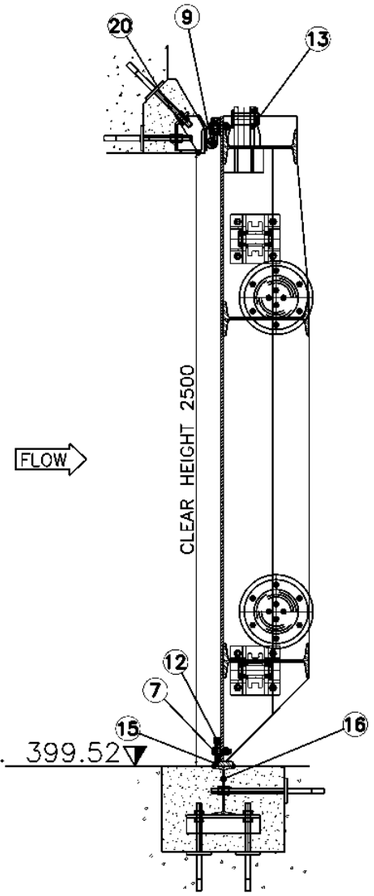
CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

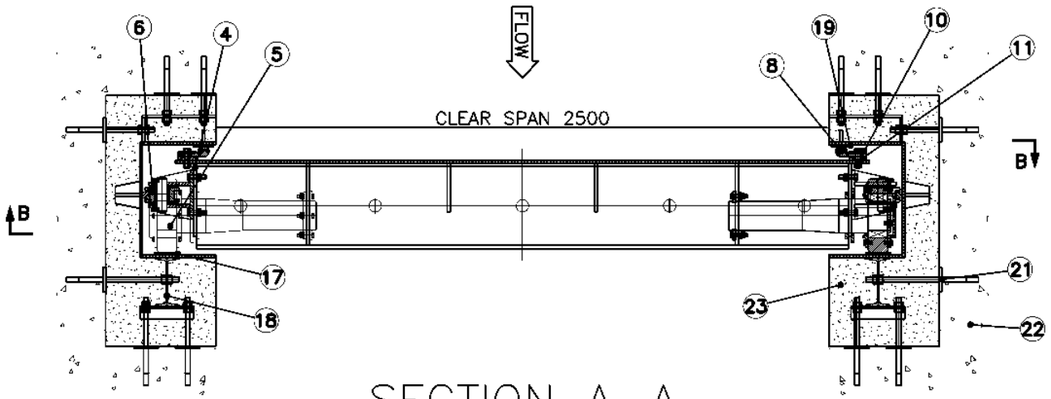
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HRT INSPECTION BULKHEAD GATE (2.5M X 2.5M, 1 SET)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-GT-08
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:25



SECTION B–B



SECTION C–C



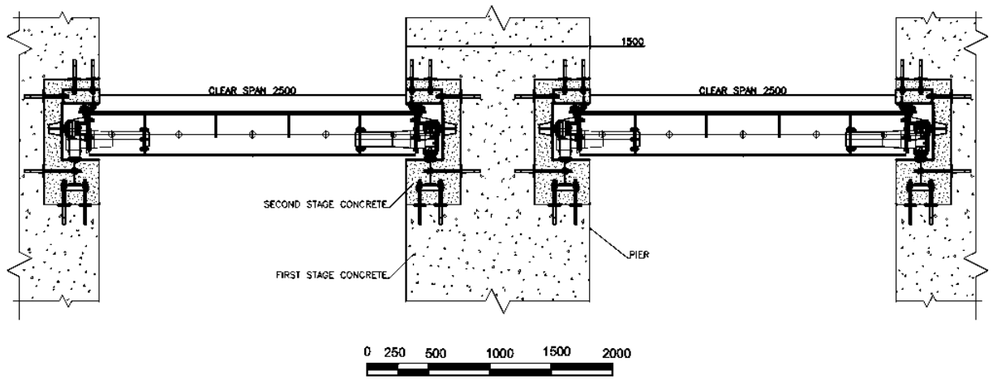
SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	MAIN ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

EMBEDDED PARTS DETAILS



0 125 250 500 750 1000
SCALE 1:25

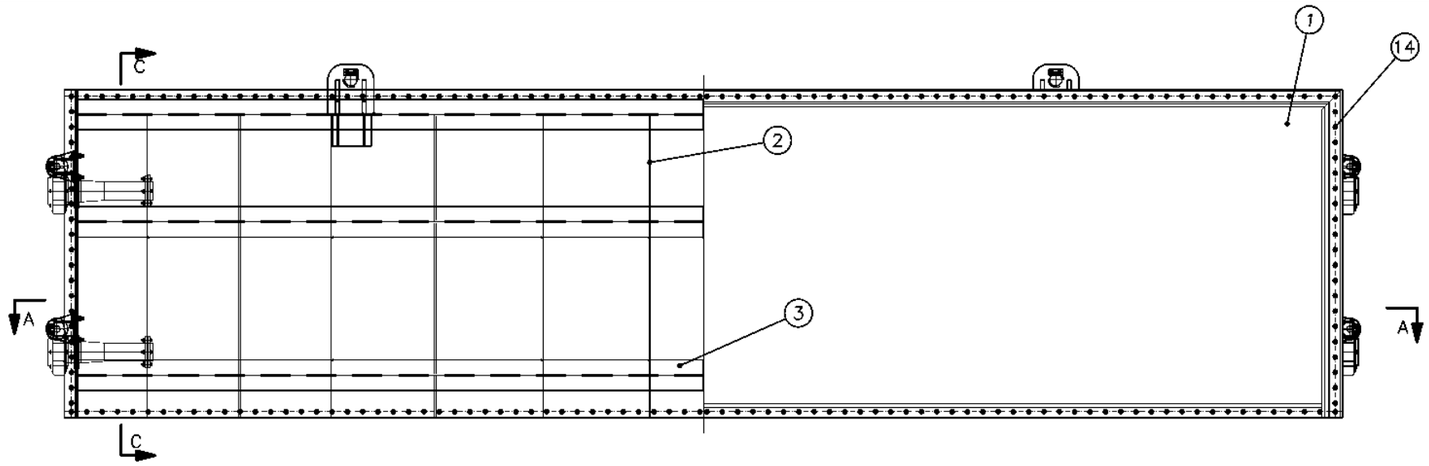
CLIENT
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

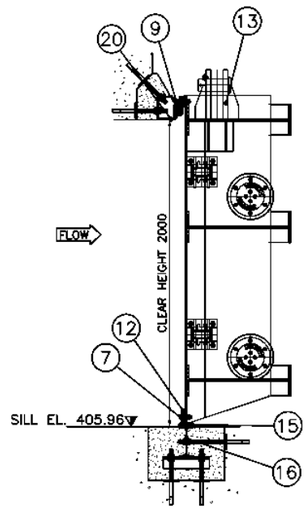
PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

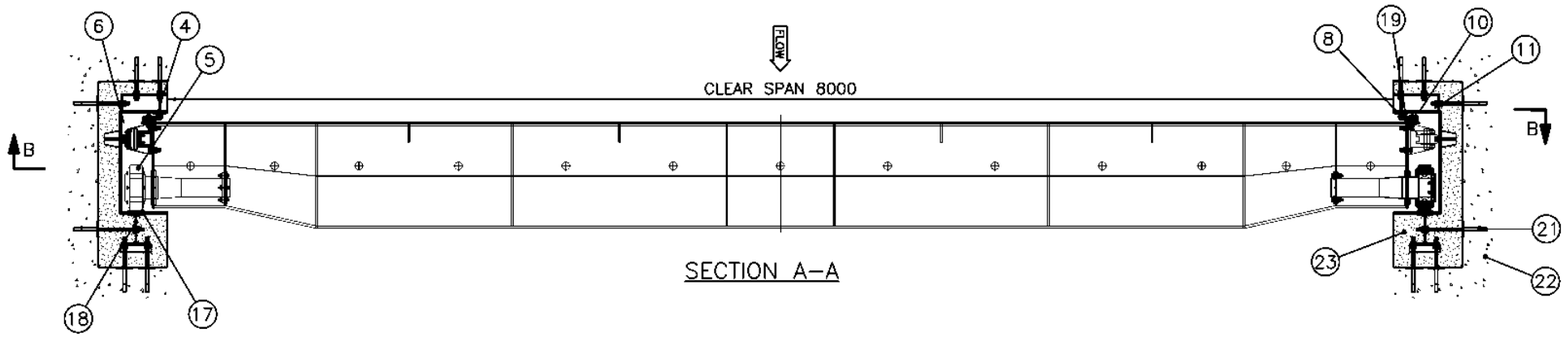
DRAWING DETAIL	
DRAWING TITLE:	DRAFT TUBE GATE (2.5M X 2.5M, 8 SETS)
DRAWING NUMBER	HM-GT-09
SHEET NO:	SHEET 1 OF 1
SCALE:	1:25



SECTION B–B



SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	MAIN ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	BOTTOM SEAL SEAT	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 200 400 800 1200 1600

SCALE 1:40

CLIENT

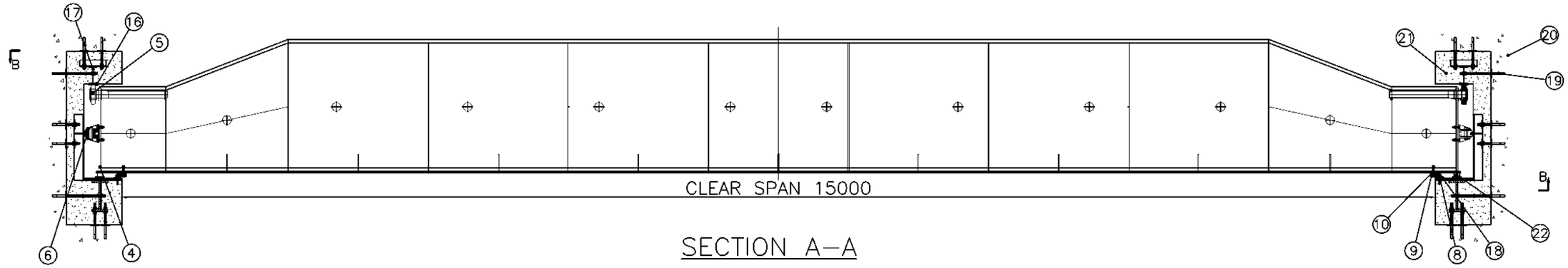
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

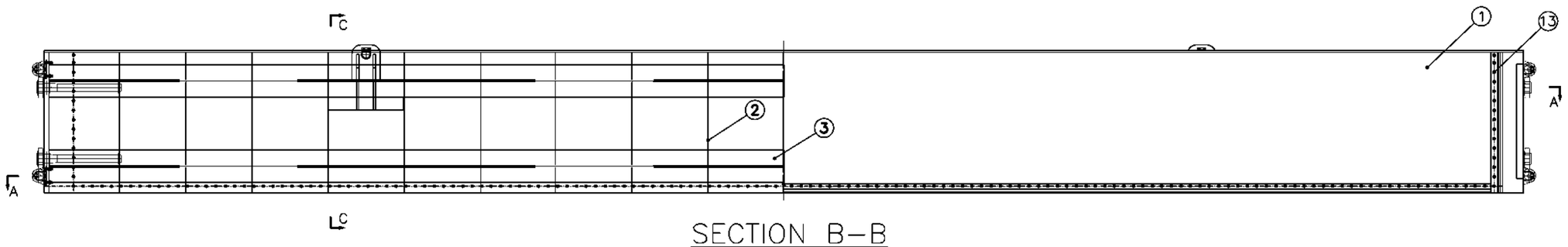
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER, THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	TAILRACE EMERGENCY GATE (8M x 2M, 2 SETS)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-GT-10
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:40

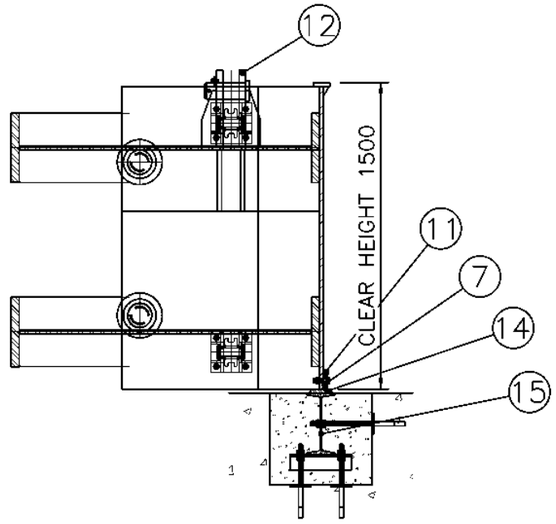


SECTION A–A



SECTION B–B

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	SEAL CLAMP	PLATE	EN 10025
10	SEAL BASE	PLATE	EN 10025
11	SQUARE BAR	SQUARE	EN 10025
12	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
13	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
14	SILL PLATE	PLATE	STAINLESS STEEL
15	SILL BEAM	I–SECTION	EN 10025
16	TRACK PLATE	PLATE	STAINLESS STEEL
17	TRACK BASE	I–SECTION	EN 10025
18	SEAL SEAT	PLATE	STAINLESS STEEL
19	ANCHORAGE	AS PER DRAWING	EN 10025
20	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
21	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE
22	SEAL PROTECTION BLOCK	AS PER DRAWING	EN 10025



SECTION C–C

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 250 500 1000 1500 2000

SCALE 1:50

CLIENT

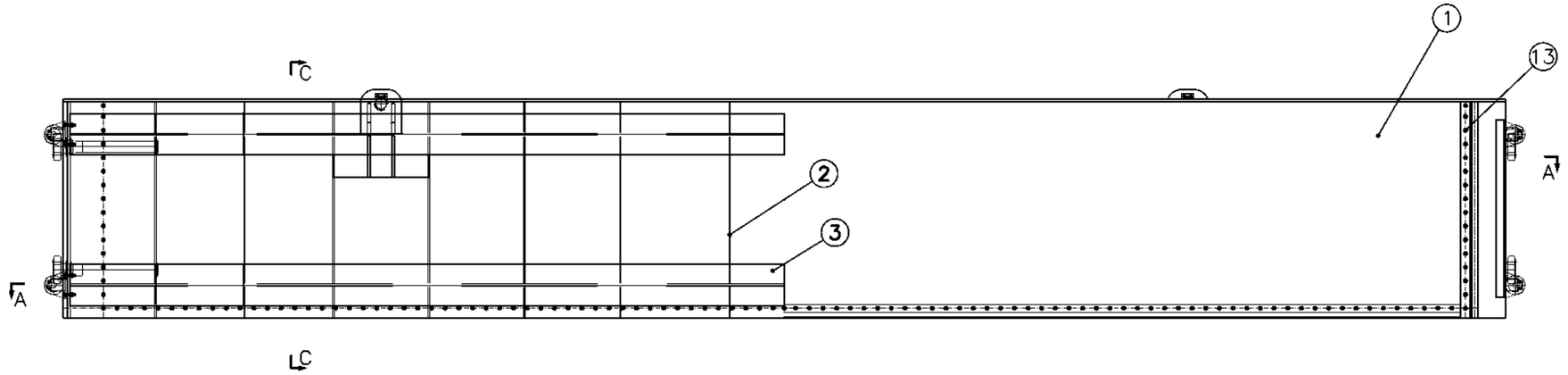
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

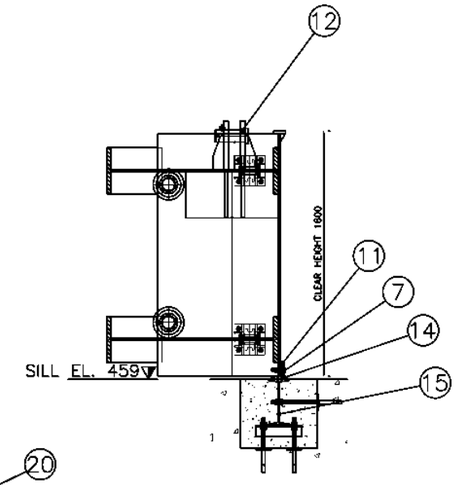
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

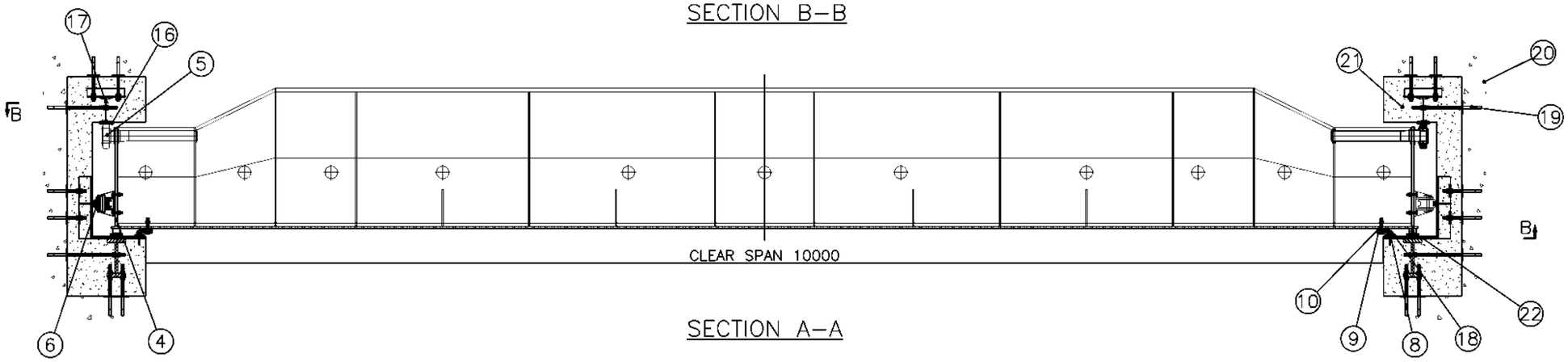
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SPILLWAY STOPLOG (15M X 1.5M, 10 PANELS, 6 SETS)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-ST-01
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:50



SECTION B–B



SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	SEAL CLAMP	PLATE	EN 10025
10	SEAL BASE	PLATE	EN 10025
11	SQUARE BAR	SQUARE	EN 10025
12	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
13	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
14	SILL PLATE	PLATE	STAINLESS STEEL
15	SILL BEAM	I–SECTION	EN 10025
16	TRACK PLATE	PLATE	STAINLESS STEEL
17	TRACK BASE	I–SECTION	EN 10025
18	SEAL SEAT	PLATE	STAINLESS STEEL
19	ANCHORAGE	AS PER DRAWING	EN 10025
20	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
21	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE
22	SEAL PROTECTION BLOCK	AS PER DRAWING	EN 10025

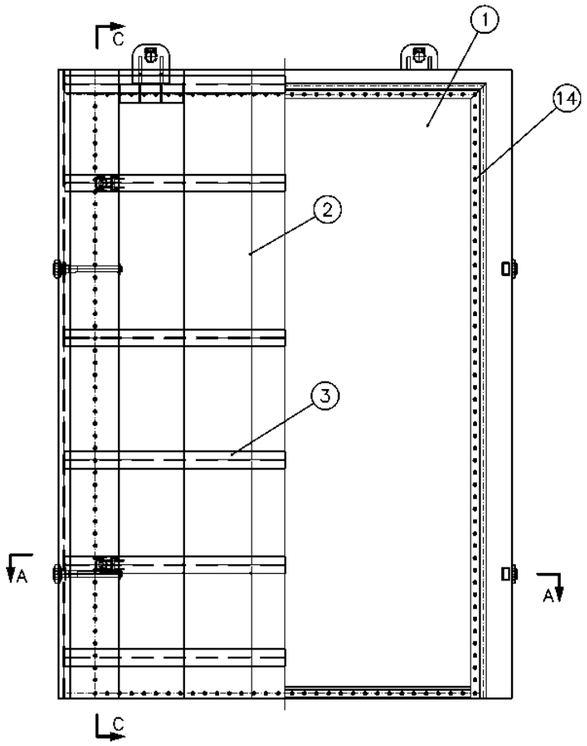
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

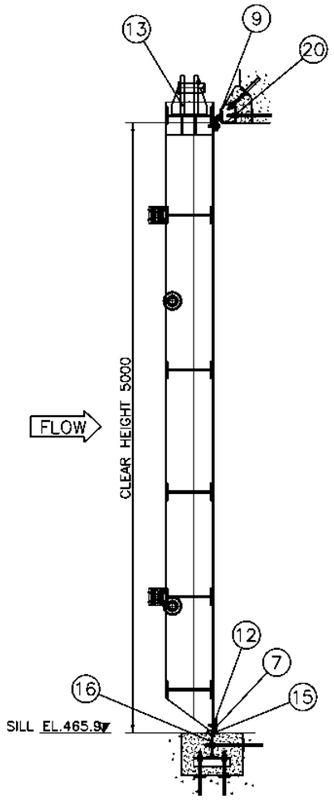
0 200 400 800 1200 1600

SCALE 1:40

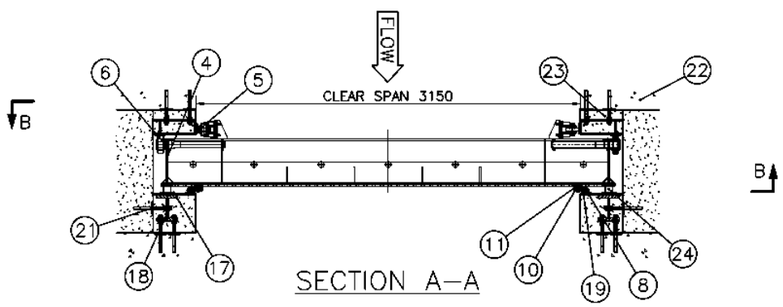
CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER, THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SLUICE STOPLOG (10M X 1.6M, 10 PANELS, 2 SETS)
		CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-ST-02
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
					APPROVED BY			SCALE:	1:40



SECTION B–B



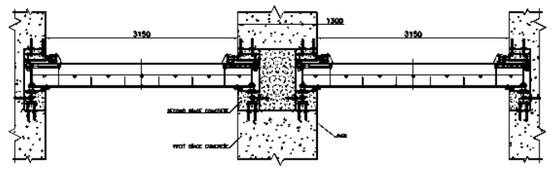
SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	BACK ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE
24	SEAL PROTECTION BLOCK	AS PER DRAWING	EN 10025

EMBEDDED PARTS DETAILS



NOTES:

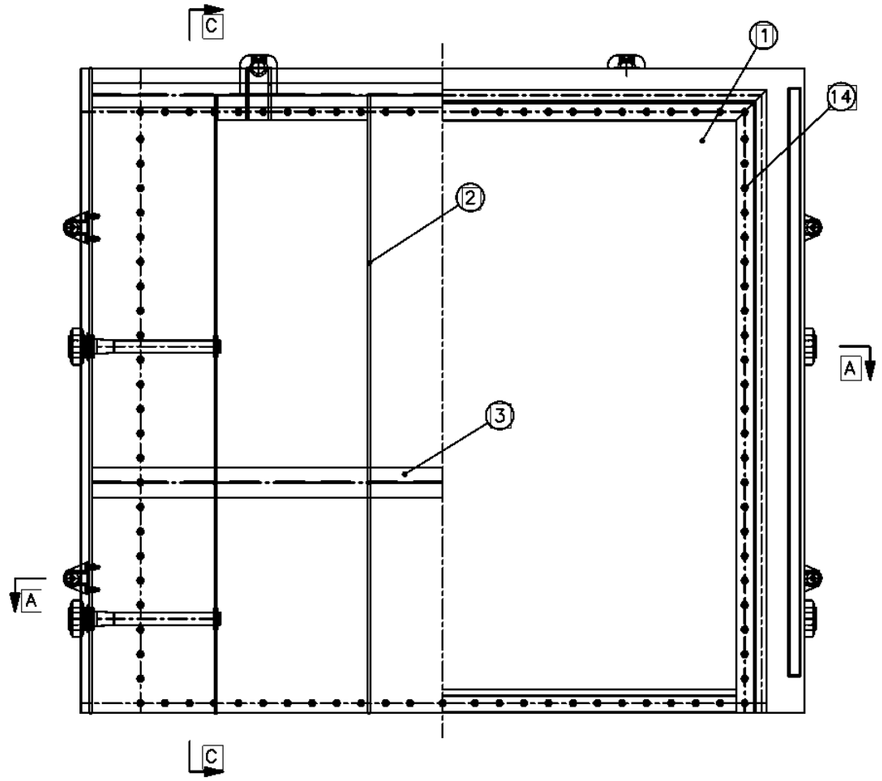
1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE ø4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 250 500 1000 1500 2000
SCALE 1:50

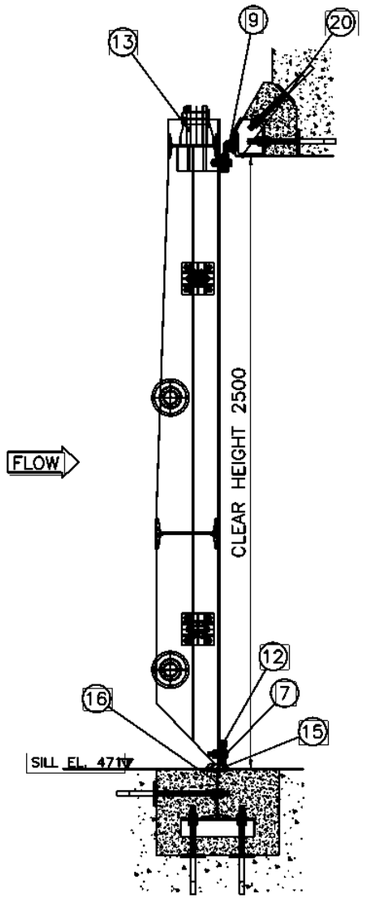
CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

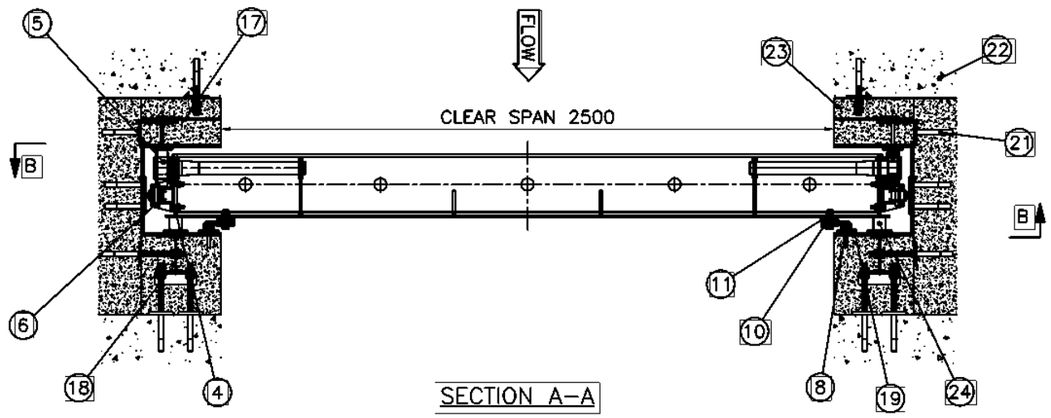
PROJECT	NAME	SIGN	DWRI	NAME	SIGN	DRAWING DETAIL	
CHECKED BY			CHECKED BY			DRAWING TITLE:	INTAKE STOPLOG (3.15M X 5M, 4 SETS)
RECOMMENDED BY			RECOMMENDED BY			DRAWING NUMBER	HM-ST-03
			APPROVED BY			SHEET NO:	SHEET 1 OF 1
						SCALE:	1:50



SECTION B–B



SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	BACK ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE
24	SEAL PROTECTION BLOCK	AS PER DRAWING	EN 10025

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 125 250 500 750 1000

SCALE 1:25

CLIENT

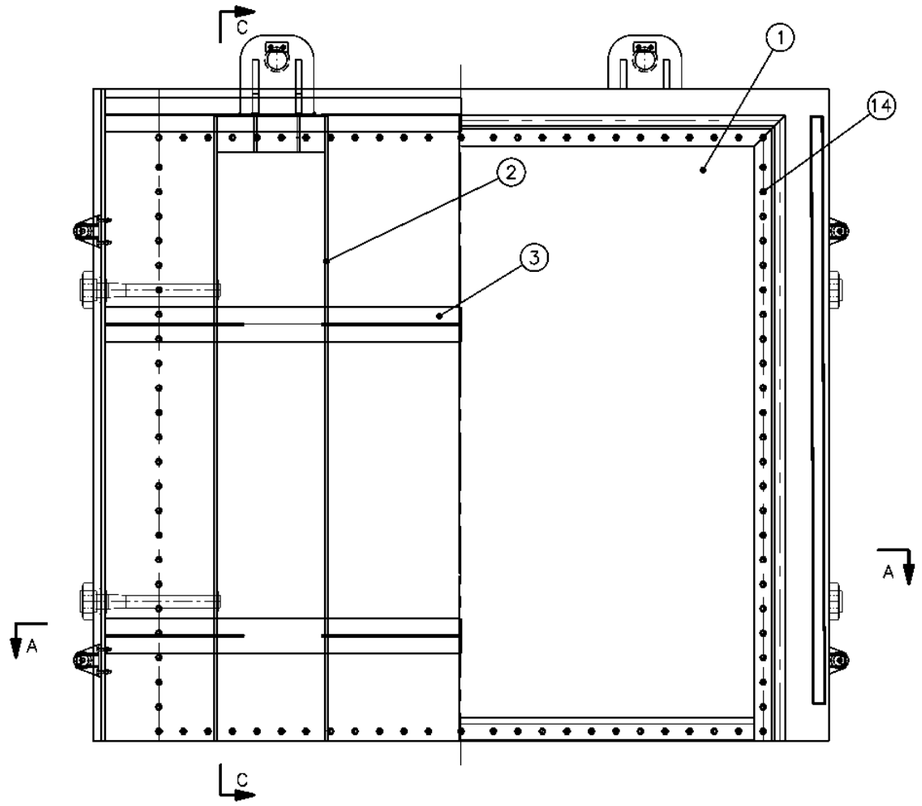
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

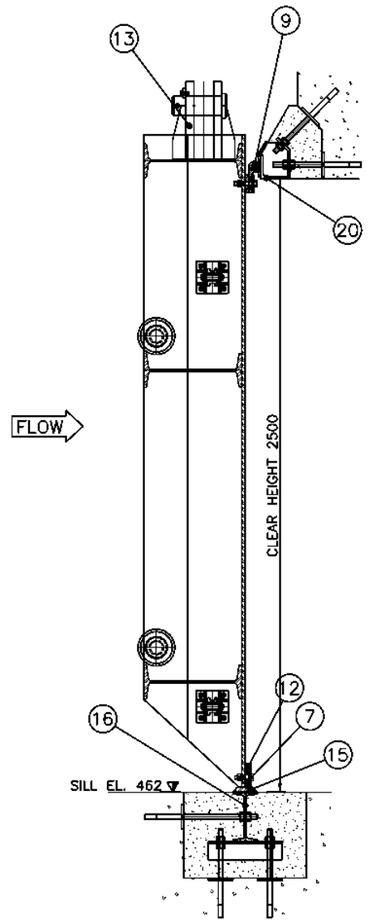
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

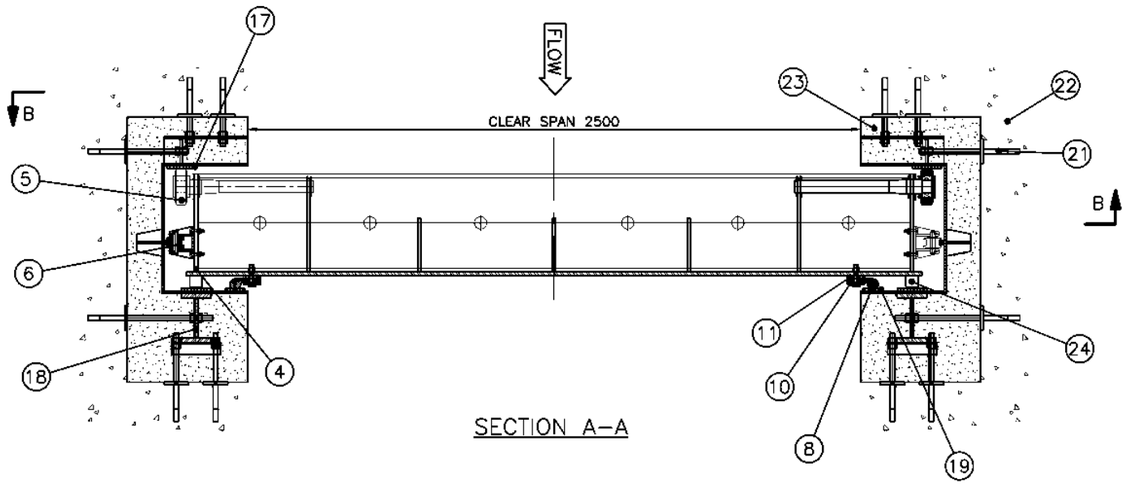
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	TRASH PASSAGE STOPLOG (2.5M X 2.5M, 1 SET)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-ST-04
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:25



SECTION B–B



SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE
24	SEAL PROTECTION BLOCK	AS PER DRAWING	EN 10025

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 125 250 500 750 1000

SCALE 1:25

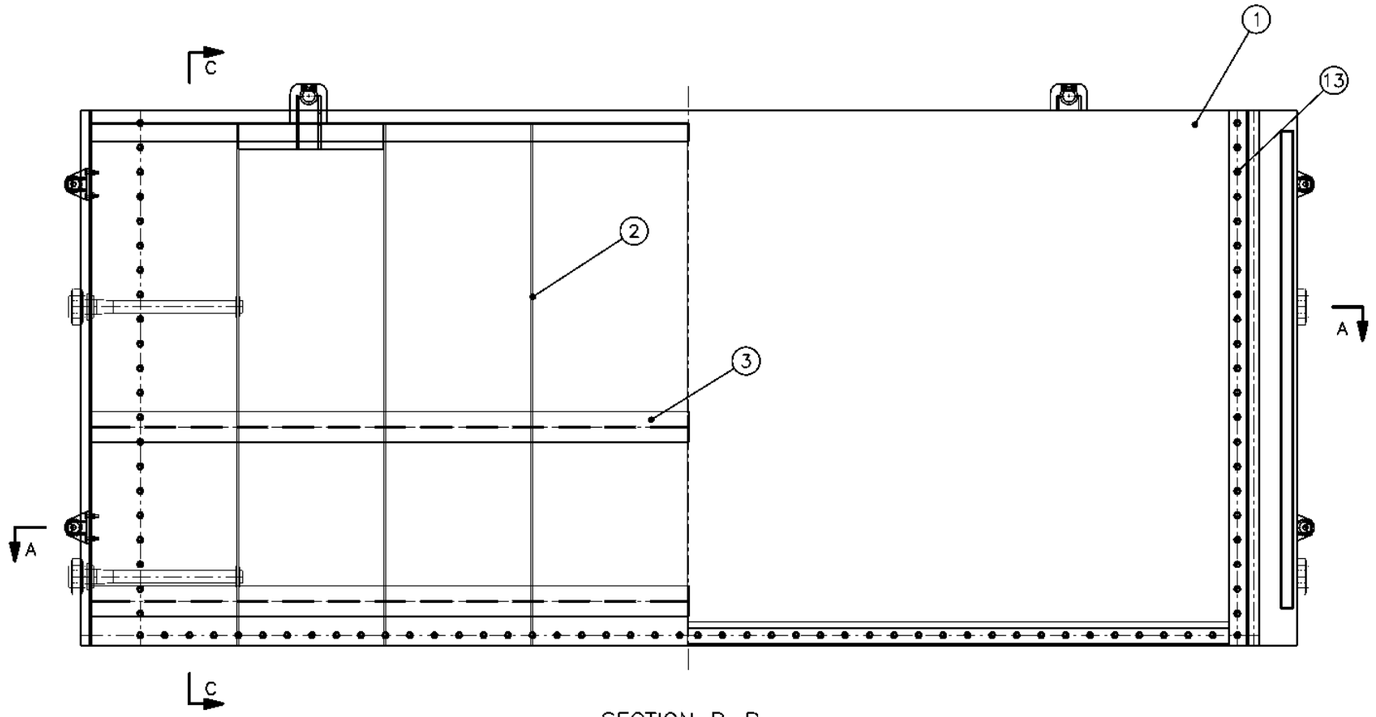
CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

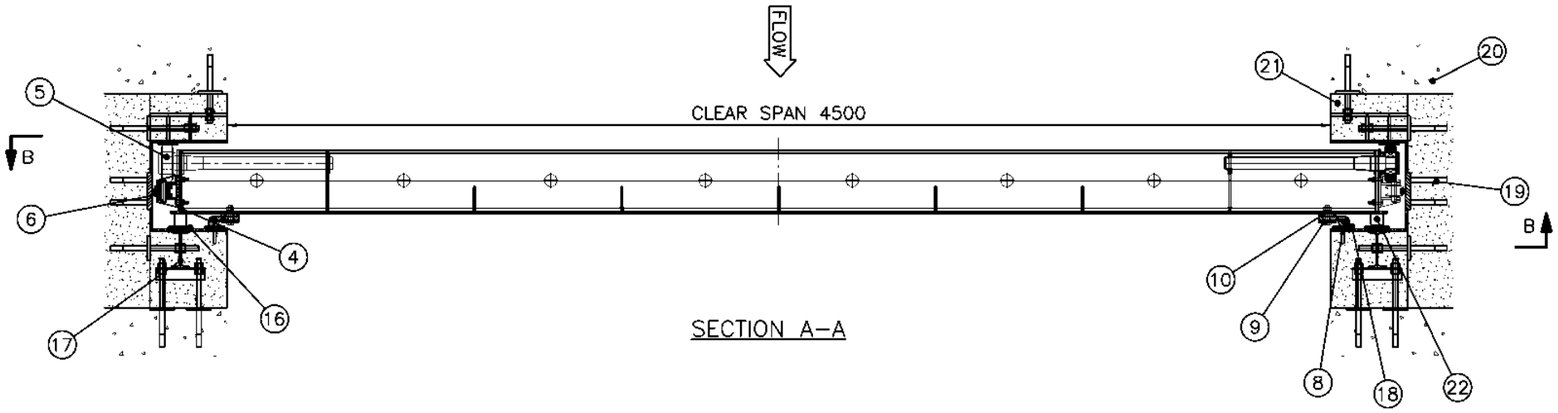
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	GRAVEL FLUSHING STOPLOG (2.5M X 2.5M, 1 SET)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-ST-05
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:25

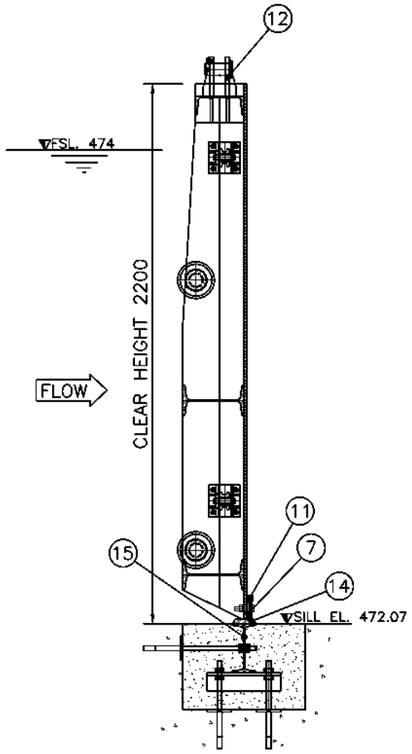


SECTION B–B

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	SEAL CLAMP	PLATE	EN 10025
10	SEAL BASE	PLATE	EN 10025
11	SQUARE BAR	SQUARE	EN 10025
12	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
13	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
14	SILL PLATE	PLATE	STAINLESS STEEL
15	SILL BEAM	I–SECTION	EN 10025
16	TRACK PLATE	PLATE	STAINLESS STEEL
17	TRACK BASE	I–SECTION	EN 10025
18	SEAL SEAT	PLATE	STAINLESS STEEL
19	ANCHORAGE	AS PER DRAWING	EN 10025
20	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
21	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE
22	SEAL PROTECTION BLOCK	AS PER DRAWING	EN 10025



SECTION A–A



SECTION C–C

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 125 250 500 750 1000

SCALE 1:25

CLIENT

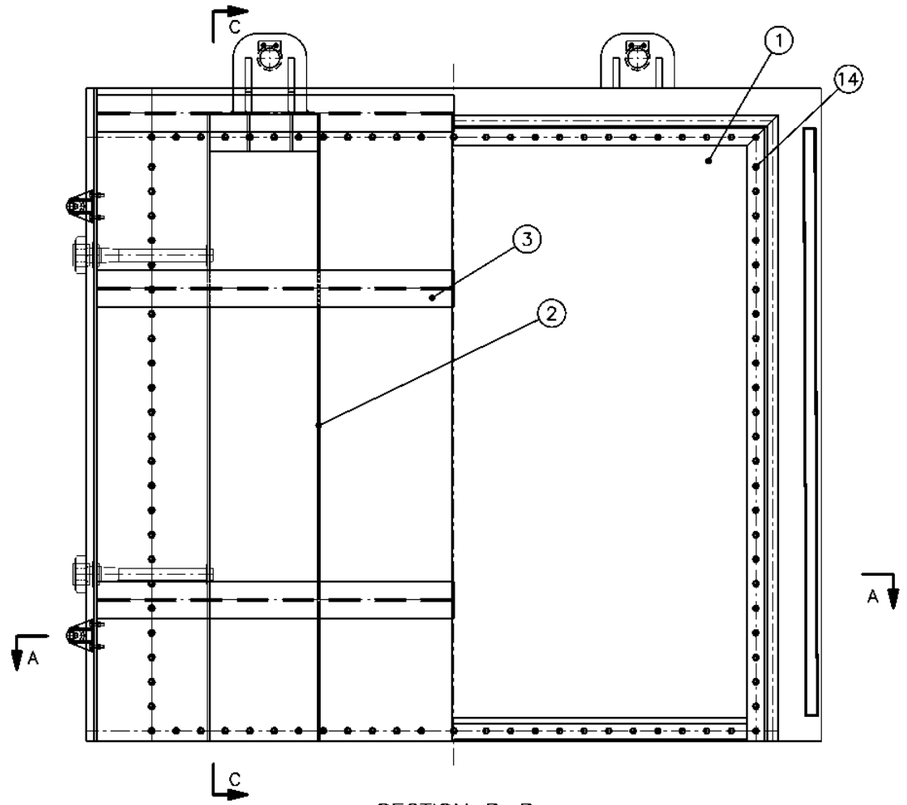
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION

DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

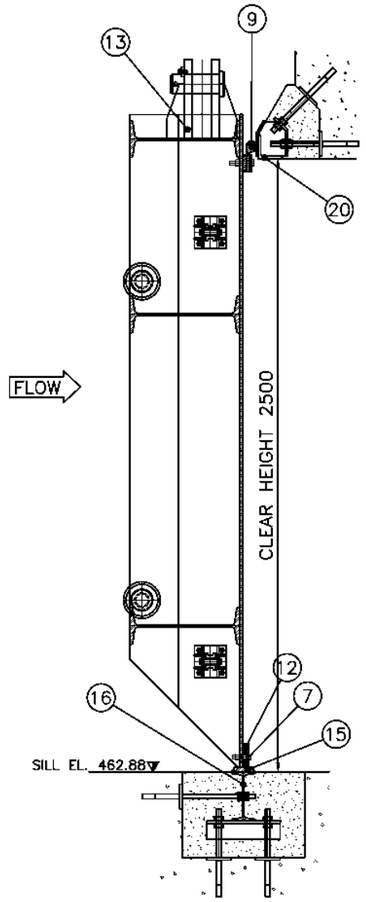
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER, THAPATHALI,
KATHMANDU, NEPAL

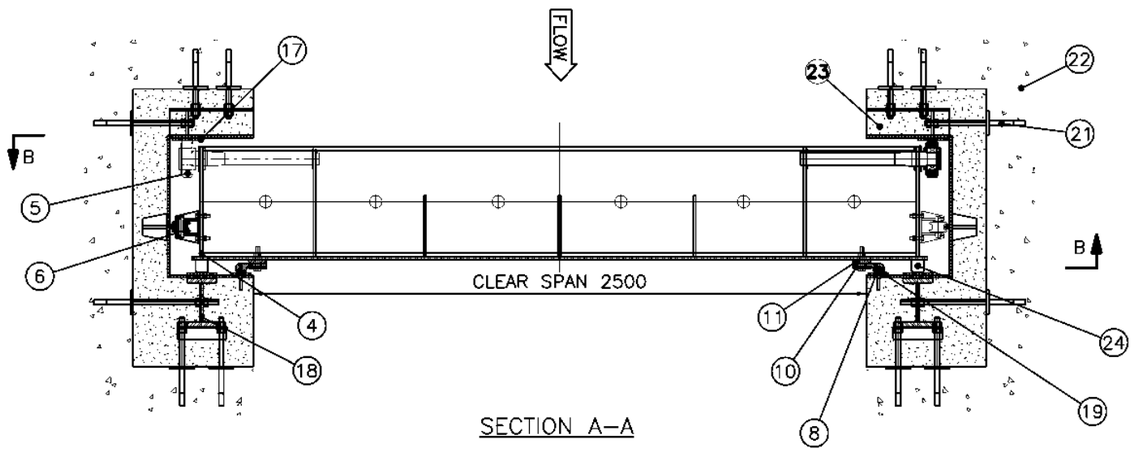
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	FISH LADDER STOPLOG (4.5M X 2.2M, 1 SET)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-ST-06
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:25



SECTION B–B



SECTION C–C



SECTION A–A

PART NO.	PART	SECTION	MATERIAL
1	SKIN PLATE	PLATE	EN 10025
2	VERTICAL STIFFENER	PLATE	EN 10025
3	HORIZONTAL GIRDER	I–SECTION	EN 10025
4	END VERTICAL GIRDER	PLATE	EN 10025
5	ROLLER	AS PER DRAWING	CAST STEEL
6	SIDE ROLLER	AS PER DRAWING	CAST STEEL
7	BOTTOM SEAL	FLAT	TEFLON CLADDED RUBBER
8	SIDE SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
9	TOP SEAL	MUSIC NOTE (J)	TEFLON CLADDED RUBBER
10	SEAL CLAMP	PLATE	EN 10025
11	SEAL BASE	PLATE	EN 10025
12	SQUARE BAR	SQUARE	EN 10025
13	LIFTING ARRANGEMENT	AS PER DRAWING	EN 10025
14	NUT & BOLT	AS PER DRAWING	STAINLESS STEEL
15	SILL PLATE	PLATE	STAINLESS STEEL
16	SILL BEAM	I–SECTION	EN 10025
17	TRACK PLATE	PLATE	STAINLESS STEEL
18	TRACK BASE	I–SECTION	EN 10025
19	SEAL SEAT	PLATE	STAINLESS STEEL
20	LINTEL BEAM	ANGLE	EN 10025
21	ANCHORAGE	AS PER DRAWING	EN 10025
22	FIRST STAGE CONCRETE	AS PER DRAWING	CONCRETE
23	SECOND STAGE CONCRETE	AS PER DRAWING	CONCRETE
24	SEAL PROTECTION BLOCK	AS PER DRAWING	EN 10025

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 125 250 500 750 1000

SCALE 1:25

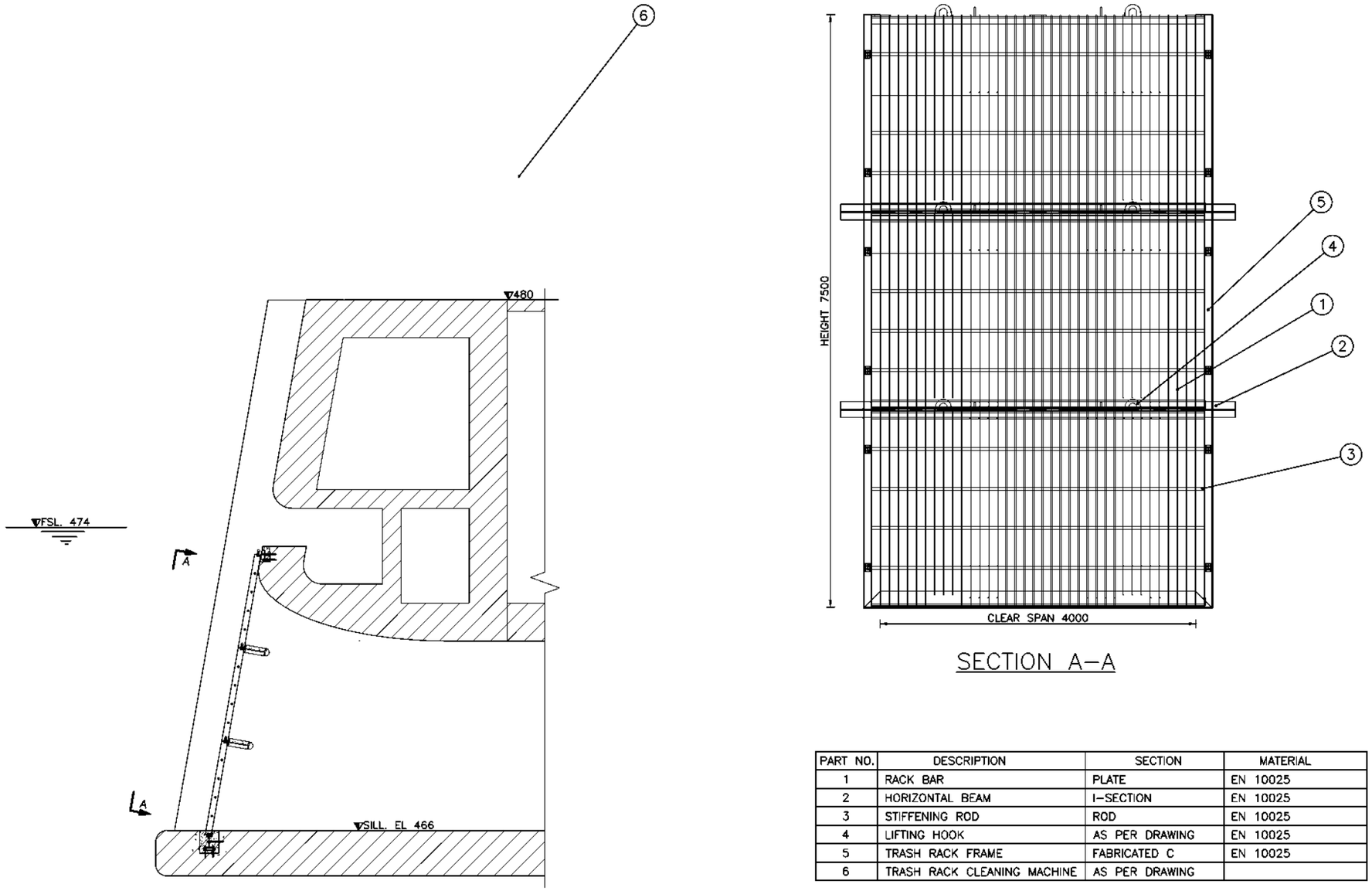
CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI–MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SETTLING BASIN FLUSHING STOPLOG (2.5M X 2.5M, 4 SETS)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-ST-07
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:25



SECTION A–A

PART NO.	DESCRIPTION	SECTION	MATERIAL
1	RACK BAR	PLATE	EN 10025
2	HORIZONTAL BEAM	I–SECTION	EN 10025
3	STIFFENING ROD	ROD	EN 10025
4	LIFTING HOOK	AS PER DRAWING	EN 10025
5	TRASH RACK FRAME	FABRICATED C	EN 10025
6	TRASH RACK CLEANING MACHINE	AS PER DRAWING	

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 625 1250 2500 3750 5000

SCALE 1:125

CLIENT
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION
DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

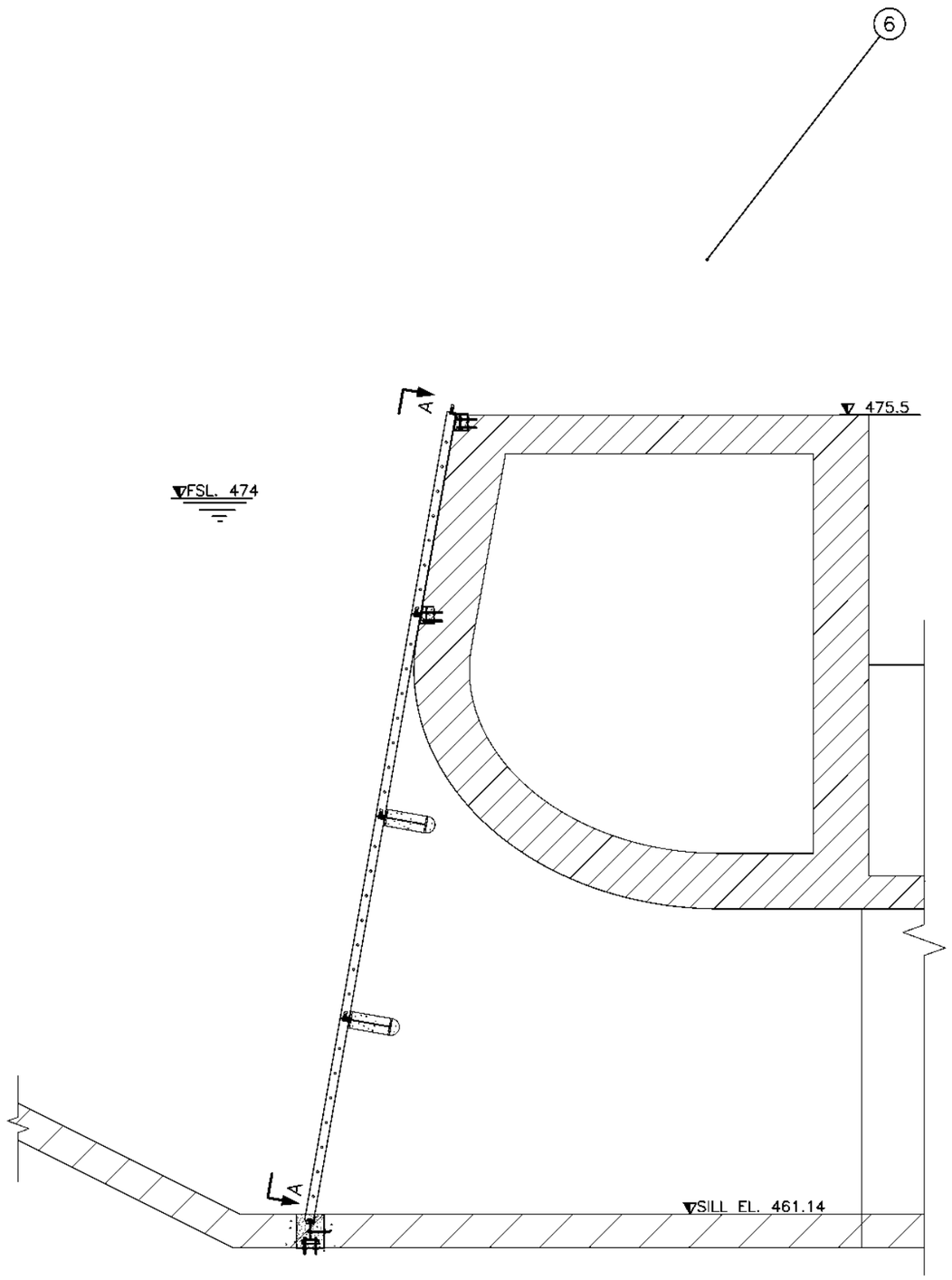
CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER, THAPATHALI,
KATHMANDU, NEPAL

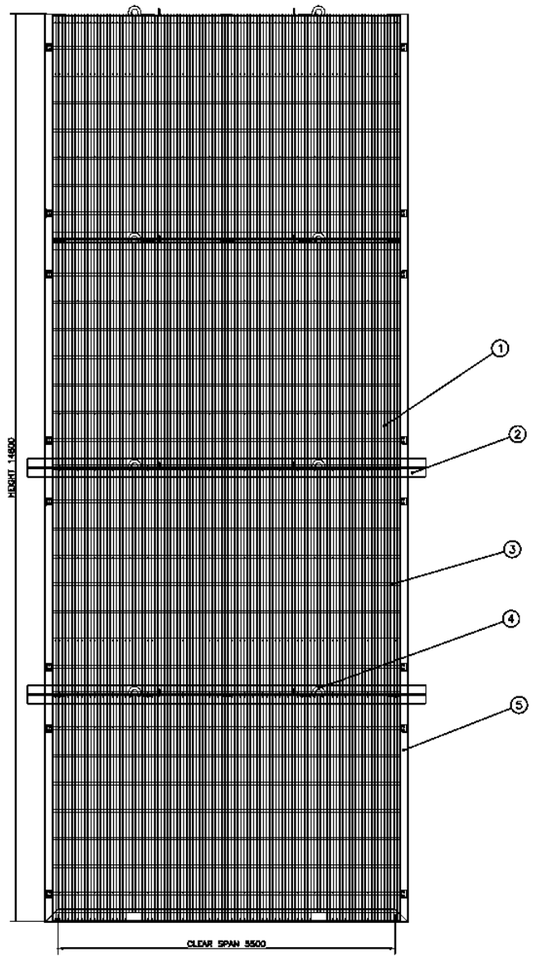
PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	INTAKE COARSE TRASHRACK (4M X 7M, 4 SETS)
DRAWING NUMBER	HM-TR-01
SHEET NO:	SHEET 1 OF 1
SCALE:	1:125

PART NO.	DESCRIPTION	SECTION	MATERIAL
1	RACK BAR	PLATE	EN 10025
2	HORIZONTAL BEAM	I-SECTION	EN 10025
3	STIFFENING ROD	ROD	EN 10025
4	LIFTING HOOK	AS PER DRAWING	EN 10025
5	TRASH RACK FRAME	FABRICATED C	EN 10025
6	TRASH RACK CLEANING MACHINE	AS PER DRAWING	





SECTION A-A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO-MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 0.5 1 2 3 4

SCALE 1:100

CLIENT

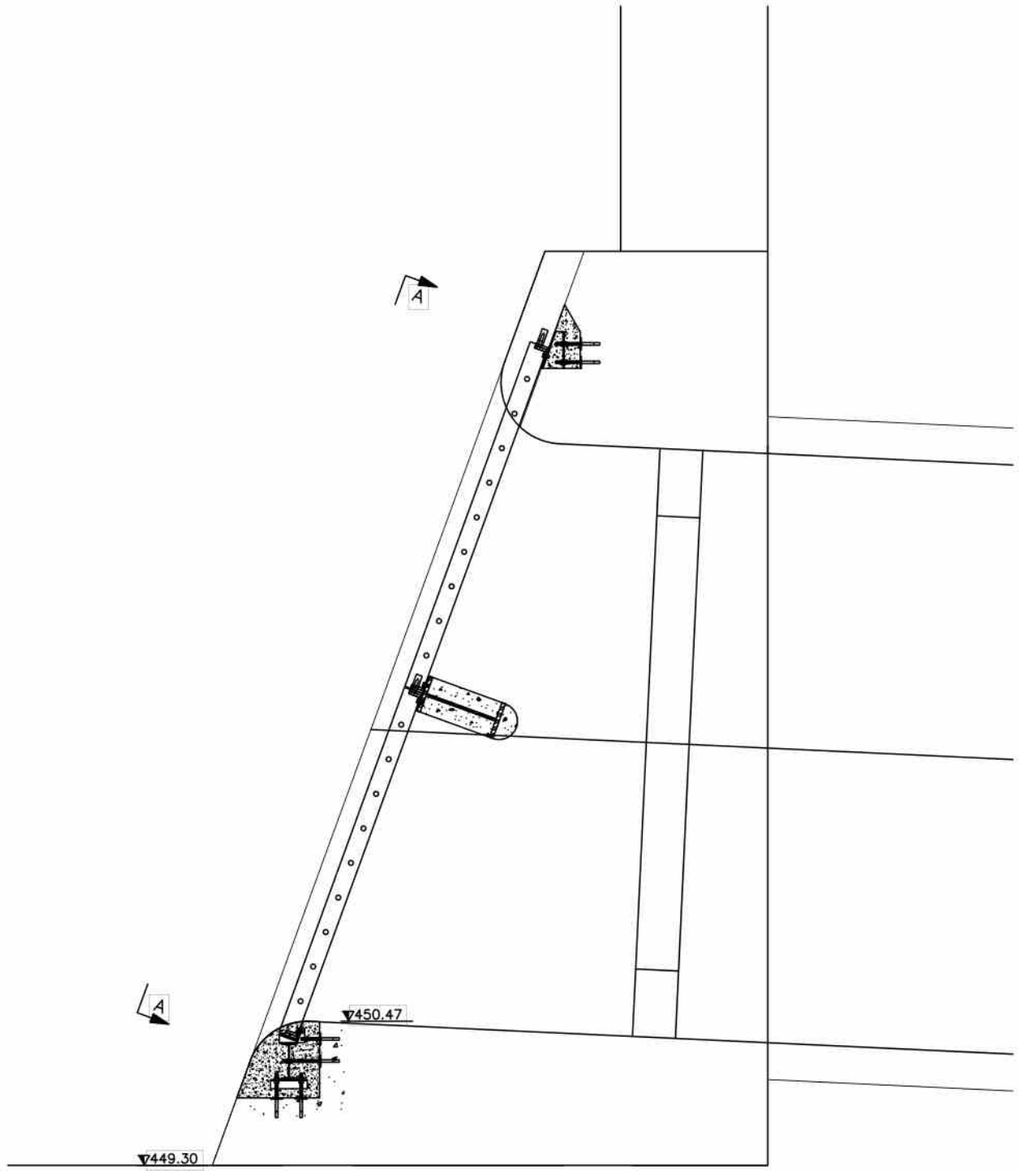
GOVERNMENT OF NEPAL
OF ENERGY, WATER RESOURCES AND IRRIGATION
MEN OF WATER RESOURCES AND IRRIGATION

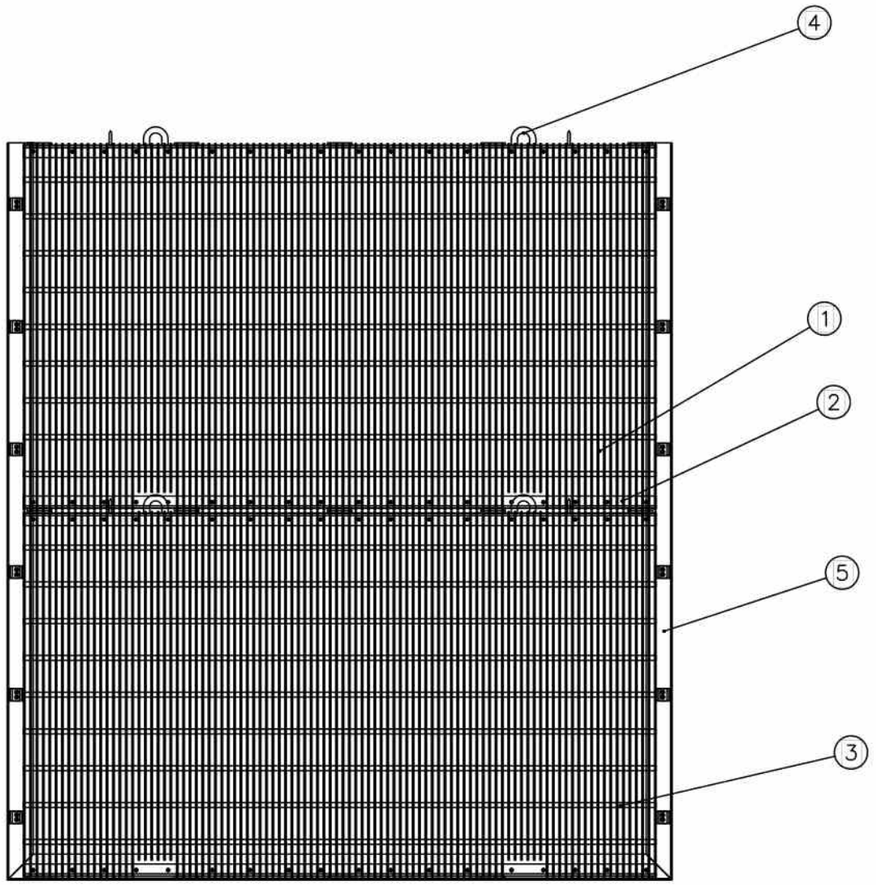
DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER, THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	HRT INLET FINE TRASHRACK (5.5M X 10.5M, 2 SETS)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-TR-02
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:125





SECTION A-A

PART NO.	DESCRIPTION	SECTION	MATERIAL
1	RACK BAR	PLATE	EN 10025
2	HORIZONTAL BEAM	FABRICATED IEE	EN 10025
3	STIFFENING ROD	ROD	EN 10025
4	LIFTING HOOK	AS PER DRAWING	EN 10025
5	TRASH RACK FRAME	FABRICATED C	EN 10025

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a4 IF NOT SPECIFIED.
4. SAND BLASTING AND PAINTING ARE REQUIRED FOR SURFACE PROTECTION.
5. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO–MECHANICAL CONTRACTOR.
6. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

0 0.25 0.5 1 1.5 3

SCALE 1:50

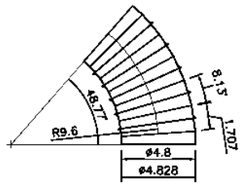
CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-3 DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

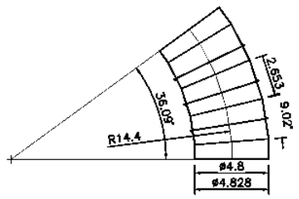
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

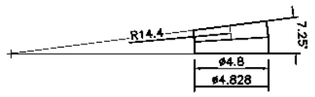
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SURGE POND FINE TRASHRACK (5M X 5.2M, 1 SET)
CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-TR-03
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
			APPROVED BY			SCALE:	1:50



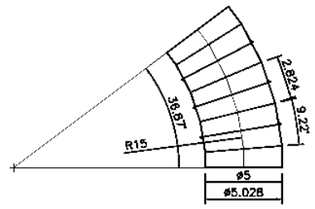
COMBINED BEND
(FIRST AT SURGE POND PIPE, 1 SET)



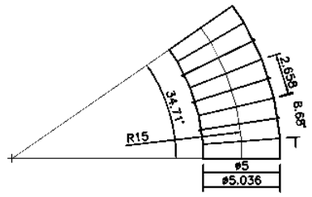
COMBINED BEND
(SECOND AT SURGE POND PIPE, 1 SET)



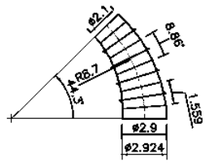
COMBINED BEND
(THIRD AT SURGE POND PIPE, 1 SET)



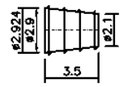
COMBINED BEND
(PENSTOCK PIPE, 1 SET)



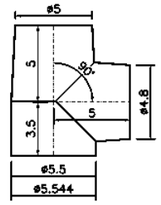
VERTICAL BEND
(PENSTOCK PIPE, 1 SET)



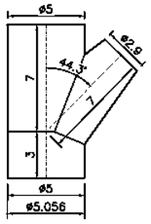
REDUCING BEND
(UNIT ONE BRANCH PIPE, 1 SET)



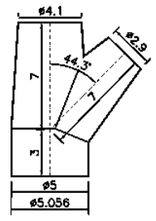
REDUCER
(BRANCH PIPES, 3 SETS)



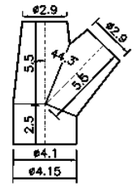
SURGE POND BIFURCATION
(1 SET)



MANIFOLD BIFURCATION
(FIRST BRANCH, 1 SET)



MANIFOLD BIFURCATION
(SECOND BRANCH, 1 SET)



MANIFOLD BIFURCATION
(THIRD BRANCH, 1 SET)

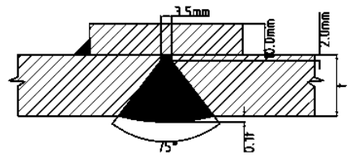
NOTES:

1. ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METERS ABOVE MEAN SEA LEVEL.
3. ALL FILLET WELDS ARE a6 IF NOT SPECIFIED.
4. REMOVE ALL BURRS AND SHARP EDGES.
5. REQUIRED PREHEATING TEMPERATURE 80 °C.
6. SURFACE CLEANING
   SAND/GRIT BLASTING Sa 2.5
7. PAINTING DETAILS
   PRIMER : ZINC RICH PRIMER-60 µm
   TOP COAT : COAL TAR EPOXY-3X150 µm
   TOTAL MIN. DFT : 510 µm
8. NDT DETAILS
   VT : 100% OF WELDING LENGTH
   MT/LT : 100% OF WELDING LENGTH
   UT/RT : 100% OF WELDING LENGTH
9. ALL REQUIRED DETAILS TO BE PREPARED BY HYDRO-MECHANICAL CONTRACTOR.
10. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH CIVIL DRAWINGS.

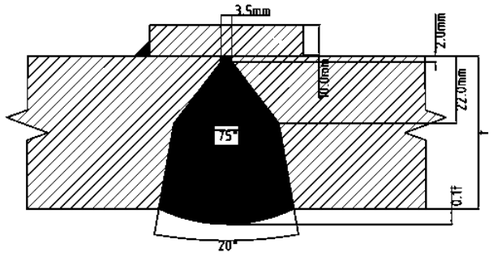
0 2 4 8 12 16
SCALE 1:400

ON SITE WELDING

FOR t < 22 mm

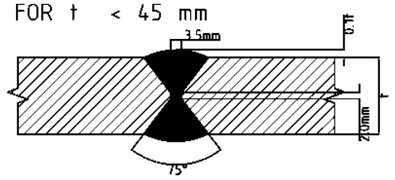


FOR t > 22 mm



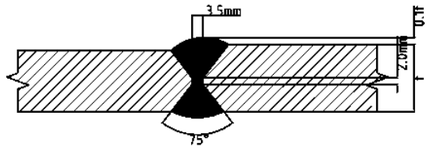
WORKSHOP WELDING

FOR t < 45 mm



FOR t > 45 mm

TRANSITION WELD (CIRCUMFERENTIAL)



WELDING DRAWINGS
NOT TO SCALE

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT: DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	PENSTOCK PIPE, ACCESSORIES AND WELDING
		CHECKED BY			CHECKED BY			DRAWING NUMBER	HM-PP-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	SHEET 1 OF 1
					APPROVED BY			SCALE:	1:400

LEGENDS

SYMBOL	DESCRIPTION
	SYNCHRONOUS GENERATOR
DG	DIESEL ENGINE GENERATOR
	NEUTRAL GROUNDING TRANSFORMER
	STAR/DELTA TRANSFORMER
	POTENTIAL TRANSFORMER
	CURRENT TRANSFORMER
	SURGE ARRESTER
	SURGE CAPACITOR
	CIRCUIT BREAKER (DRAWOUT)
	CIRCUIT BREAKER
	AIR CIRCUIT BREAKER
M	MOTOR OPERATED DISCONNECTING SWITCH
M	MOTOR OPERATED EARTHING SWITCH
	DRAW OUT MCCB
	XLPE CABLE
	STATIC EXCITATION SYSTEM
	FUSE
	NEUTRAL CONNECTION POINT
	EARTH CONNECTION
	LOAD BREAK SWITCH

SYMBOL	DESCRIPTION
W	AC WATT METER
Var	AC VAR METER
V	AC VOLT METER
A	AC AMMETER
Hz	FREQUENCY METER
Wh	WATTHOUR METER
Varh	VAR HOUR METER
A	CURRENT TRANSDUCER
V	VOLTAGE TRANSDUCER
cosΦ	POWER FACTOR METER
12	OVER SPEED DEVICE
13	SYNCHRONOUS SPEED DEVICE
14	UNDER SPEED DEVICE
15	FREQUENCY MATCHING DEVICE
21G	BACKUP IMPEDANCE RELAY
24	OVERFLUX PROTECTION RELAY
25	SYNCHROCHECK RELAY

SYMBOL	DESCRIPTION
27	UNDERVOLTAGE RELAY
32	DIRECTIONAL POWER RELAY
38	BEARING PROTECTIVE DEVICE
39	MECHANICAL CONDITION MONITOR
40	LOSS OF FIELD RELAY
49	FIELD CIRCUIT BREAKER
46	NEGATIVE PHASE SEQUENCE RELAY
49OA/T	TRANSFORMER OIL TEMPERATURE RELAY
49WA/T	TRANSFORMER WINDING TEMPERATURE RELAY
49S	STATOR THERMAL OVERLOAD RELAY
50	INSTANTANEOUS OVER CURRENT RELAY
50BF	LOCAL BREAKER BACKUP RELAY
50/27	ACCIDENTAL ENERGIZATION
50/51	O/C RELAY WITH INSTANTANEOUS ELEMENT
51N	NEUTRAL TIME O/C PROTECTION RELAY
59	OVER VOLTAGE RELAY

SYMBOL	DESCRIPTION
60	VOLTAGE BALANCE RELAY
63	PRESSURE FAULT RELAY
64F	FELD GROUND RELAY
64S	STATOR EARTH FAULT RELAY (100%)
67	DIRECTIONAL OVERCURRENT RELAY
67N	DIRECTIONAL EARTHFAULT RELAY
71	LEVEL SWITCH
78	OUT OF STEP RELAY
79	AUTORECLOSING RELAY
81U/O	UNDER/OVER FREQUENCY RELAY
85	CARRIER RECEIVER RELAY
87G	GENERATOR DIFFERENTIAL RELAY
87T	TRANSFORMER DIFFERENTIAL RELAY
87TL	LINE DIFFERENTIAL RELAY
96	BUCHHOLZ RELAY

ABBREVIATION

SYMBOL	DESCRIPTION
C	CABLE
G	GENERATOR
S	STATOR WINDING
BB	BUS BAR
CT	CURRENT TRANSFORMER
ET	EXCITATION TRANSFORMER
ES	EARTH SWITCH
GT	GENERATOR TRANSFORMER
LA	LIGHTING ARRESTOR
SC	SURGE CAPACITOR
AVR	AUTOMATIC VOLTAGE REGULATOR
GCB	GENERATOR CIRCUIT BREAKER
SST	STATION SERVICE TRANSFORMER

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

Sindhuli Mahakali Diversion Multipurpose Project
SINDHULI, NEPAL

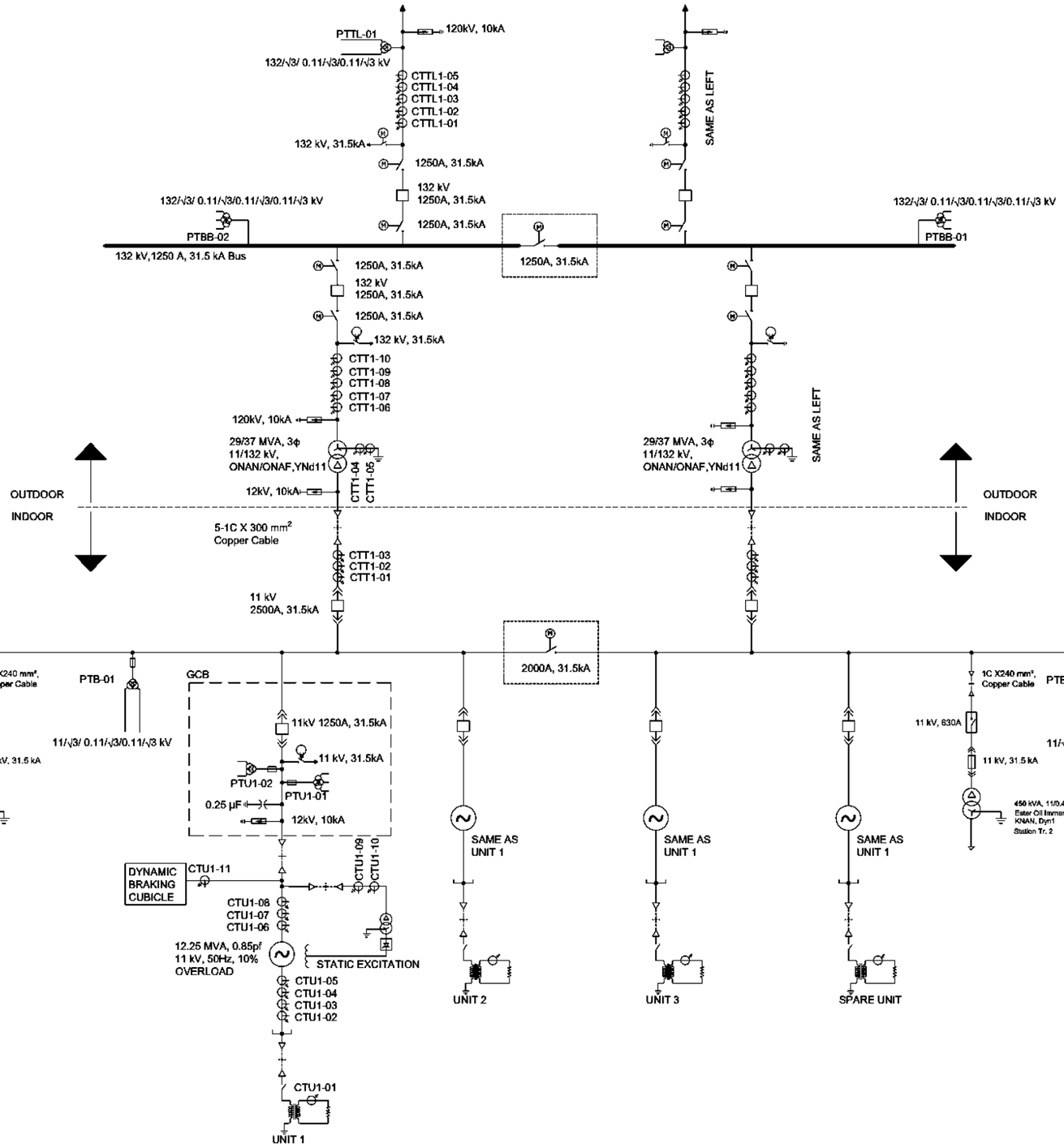
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	Symbols and Legends
DRAWING NUMBER	EL-SY-01
SHEET NO:	
SCALE:	



CT Schedule						
CT No.	**Nominal Voltage**	**Core No.**	**Ratio**	**Accuracy Class**	**Location**	**Purpose**
CTU1-01	11 kV	1	100/1A	5P20	Generator Neutral	Protection
CTU1-02	11 kV	1	800/1A	5P20	-	Protection
CTU1-03	11 kV	1	800/1A	PS	-	Protection
CTU1-04	11 kV	1	800/1A	5P20	-	Protection
CTU1-05	11 kV	1	800/1A	5P20	-	Spare
CTU1-06	11 kV	1	800/1A	PS	-	Protection
CTU1-07	11 kV	1	800/1A	5P20	-	AVR
CTU1-08	11 kV	1	800/1A	0.5	-	Measurement
CTU1-09	11 kV	1	50/1A	0.5	-	Measurement
CTU1-10	11 kV	1	50/1A	5P20	-	Protection
CTU1-11	11 kV	1	800/1A	5P20	-	Protection
CTT1-01	11 kV	1	2000/1A	5P20	-	Protection
CTT1-02	11 kV	1	2000/1A	PS	-	Protection
CTT1-03	11 kV	1	2000/1A	PS	-	Protection
132 kV OUTDOOR SWITCHGEAR						
CTT1-04	132 kV	1	200/1A	5P20	-	Protection
CTT1-05	132 kV	1	200/1A	5P20	-	Protection
CTT1-06	132 kV	1	200/1A	5P20	-	Protection
CTT1-07	132 kV	1	200/1A	5P20	-	Protection
CTT1-08	132 kV	1	200/1A	5P20	-	Protection
CTT1-09	132 kV	1	200/1A	5P20	-	Protection
CTT1-10	132 kV	1	200/1A	5P20	-	Protection
FEEDER						
CTTL-01	132 kV	1	200/1A	PS	Feeder Bay	Protection
CTTL-02	132 kV	1	200/1A	0.2	Feeder Bay	Metering
CTTL-03	132 kV	1	200/1A	5P20	Feeder Bay	Protection
CTTL-04	132 kV	1	200/1A	5P20	Feeder Bay	Protection
CTTL-05	132 kV	1	200/1A	5P20	Feeder Bay	Spare
PT Schedule						
PT-U1-01	11 kV	3	11/√3/ 0.11/√3/0.11/ √3/0.11/√3 kV	3P,3P,0.5	Generator Tamninal	Protection and Metering
PT-U1-02	11 kV	2	11/√3/ 0.11/√3/0.11/ √3 kV	3P,0.5	Generator Tamninal	Synchornizing and Metering
PTB-01	11 kV	2	11/√3/ 0.11/√3/0.11/ √3 kV	3P,0.5	11 kV Busbar	Synchornizing and Metering
PTB-02	11 kV	2	11/√3/ 0.11/√3/0.11/ √3 kV	3P,0.5	11 kV Busbar	Synchornizing and Metering
PTBB-01	132 kV	3	132/√3/ 0.11/√3/0.11 /√3/0.11/√3 kV	3P,3P,0.5	132 kV Busbar	Protection and Metering
PTBB-02	132 kV	3	132/√3/ 0.11/√3/0.11 /√3/0.11/√3 kV	3P,3P,0.5	132 kV Busbar	Protection and Metering
PTTL-01	132 kV	2	132/√3/ 0.11/√3/0.11 /√3 kV	3P,0.2	Feeder Bay	Protection and Metering

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

SUPER[illegible] DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

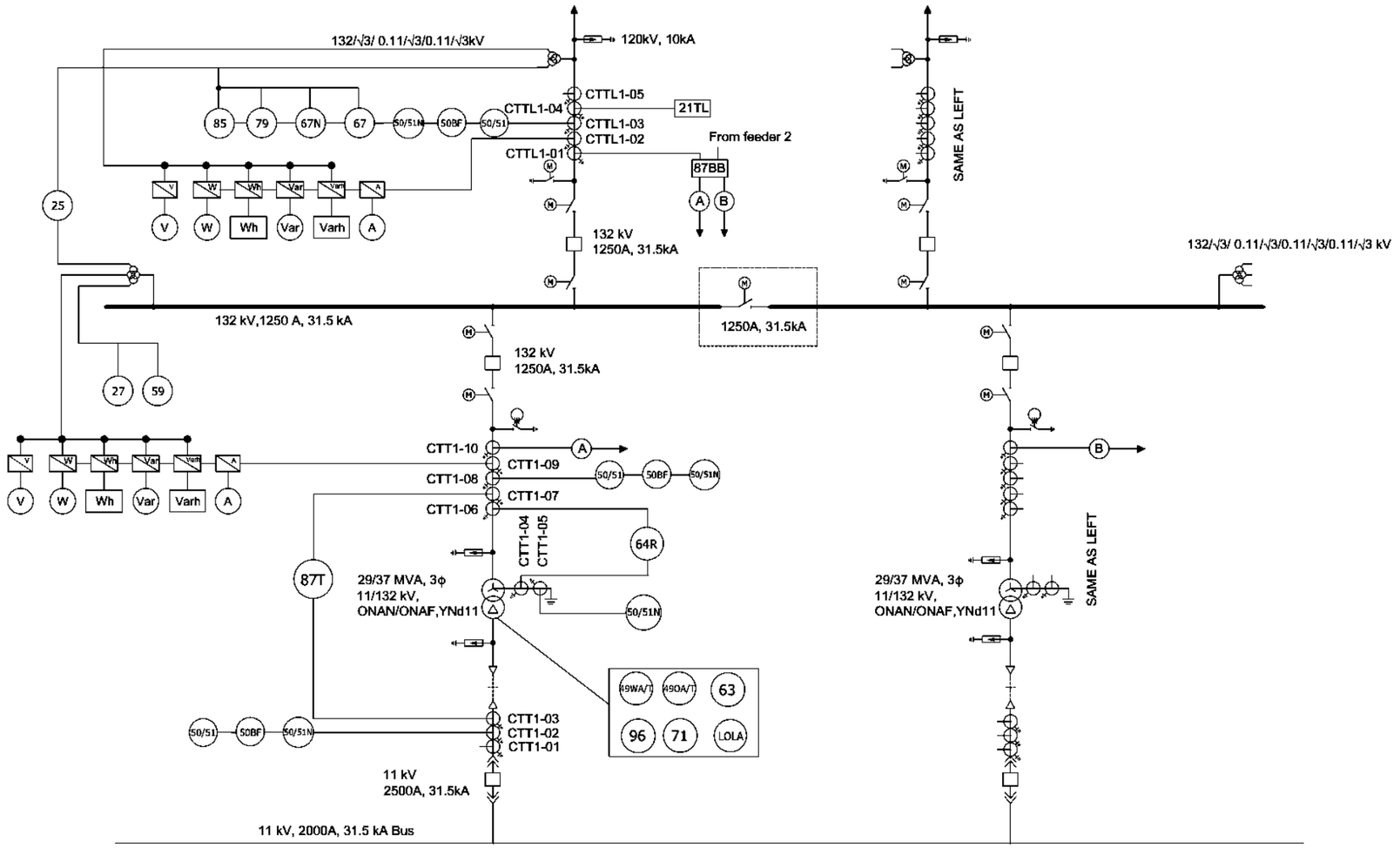
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

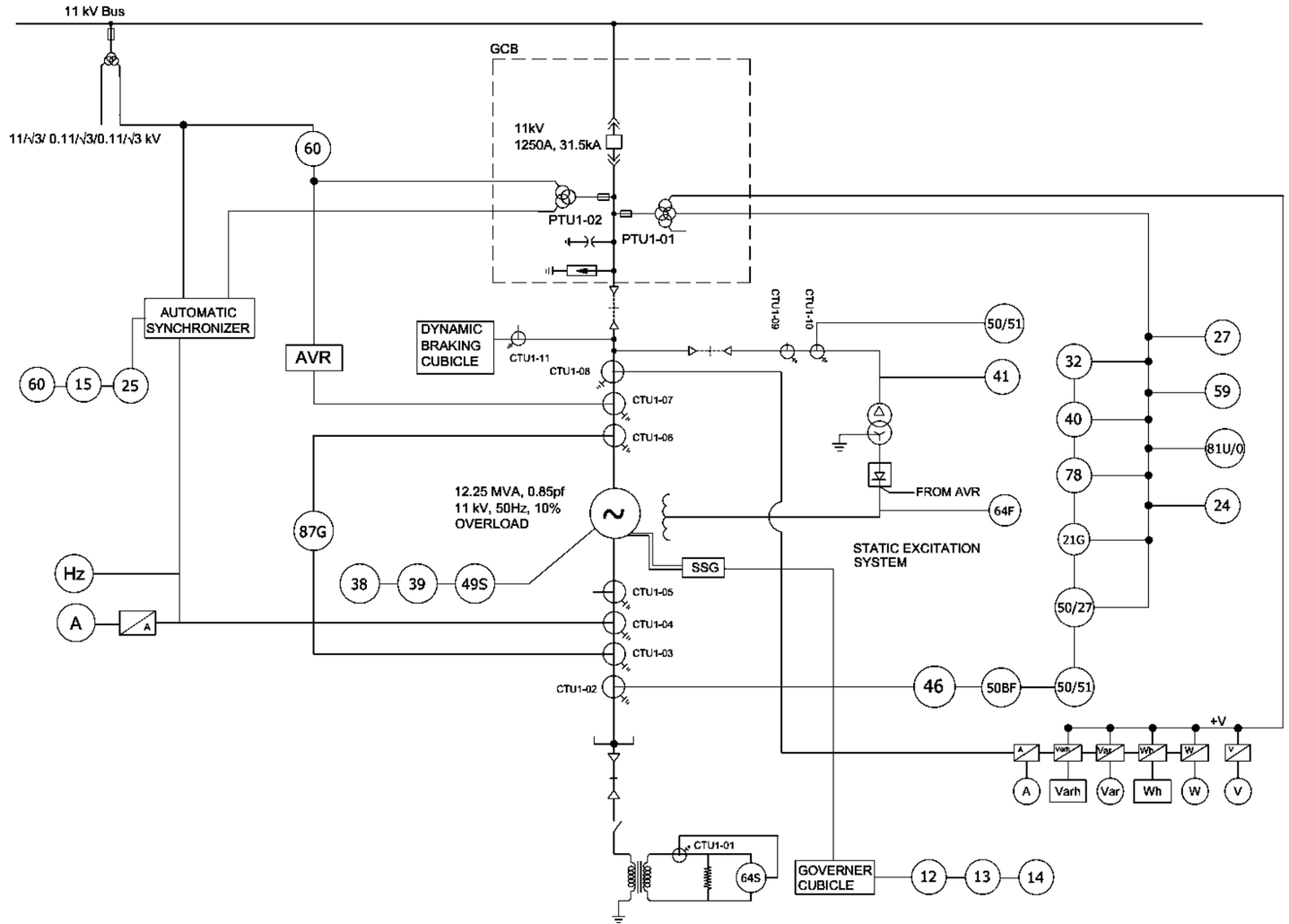
PROJECT		
	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI		
	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	ELECTRICAL SINGLE LINE DIAGRAM
DRAWING NUMBER	EL-SLD-01
SHEET NO:	
SCALE:	

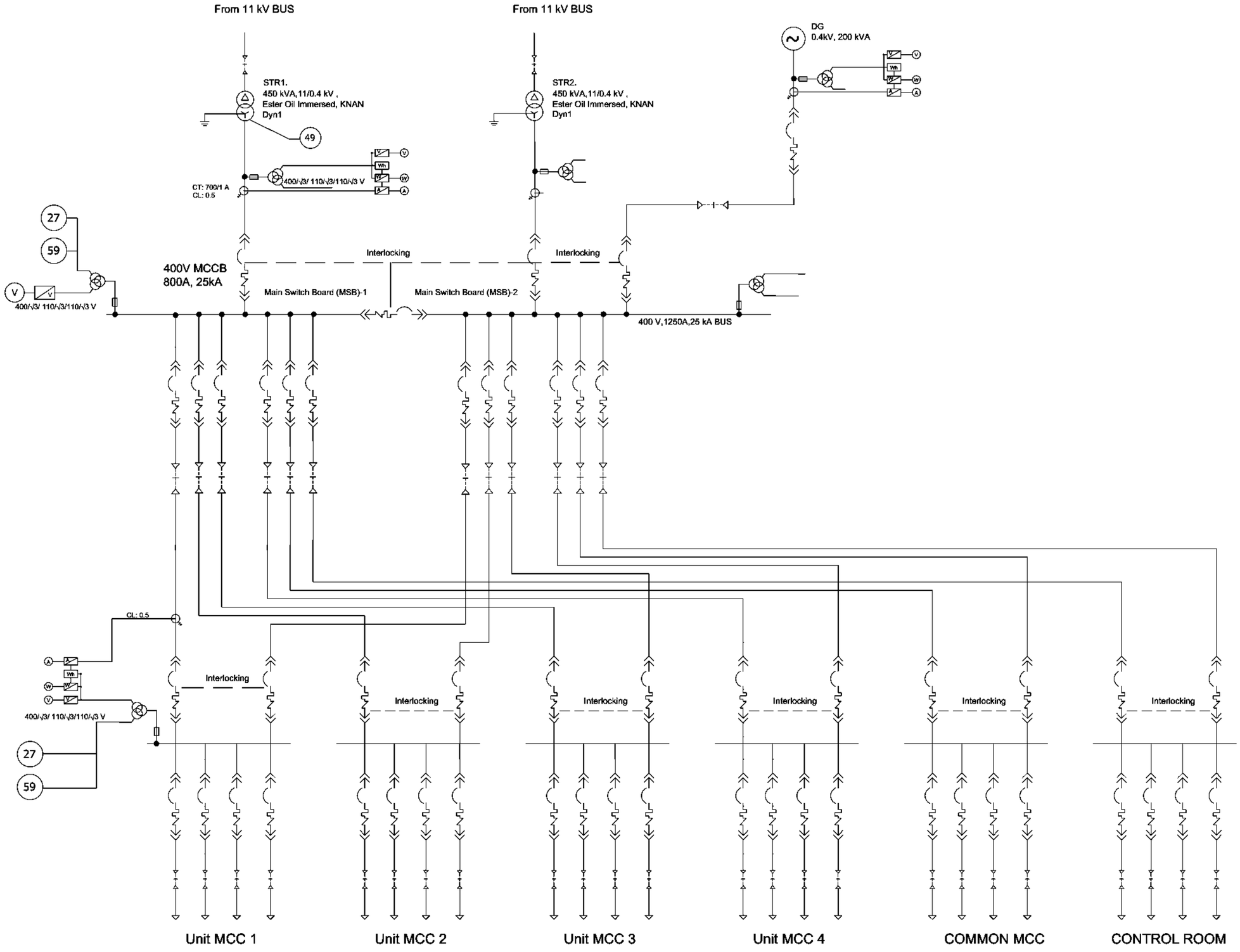


CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	PROTECTION DRAWING (LINE)
		CHECKED BY			CHECKED BY			DRAWING NUMBER	EL-LI-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	



UNIT 1

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	PROTECTION DIAGRAM (UNIT 1)
		CHECKED BY			CHECKED BY			DRAWING NUMBER	EL-UN-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	

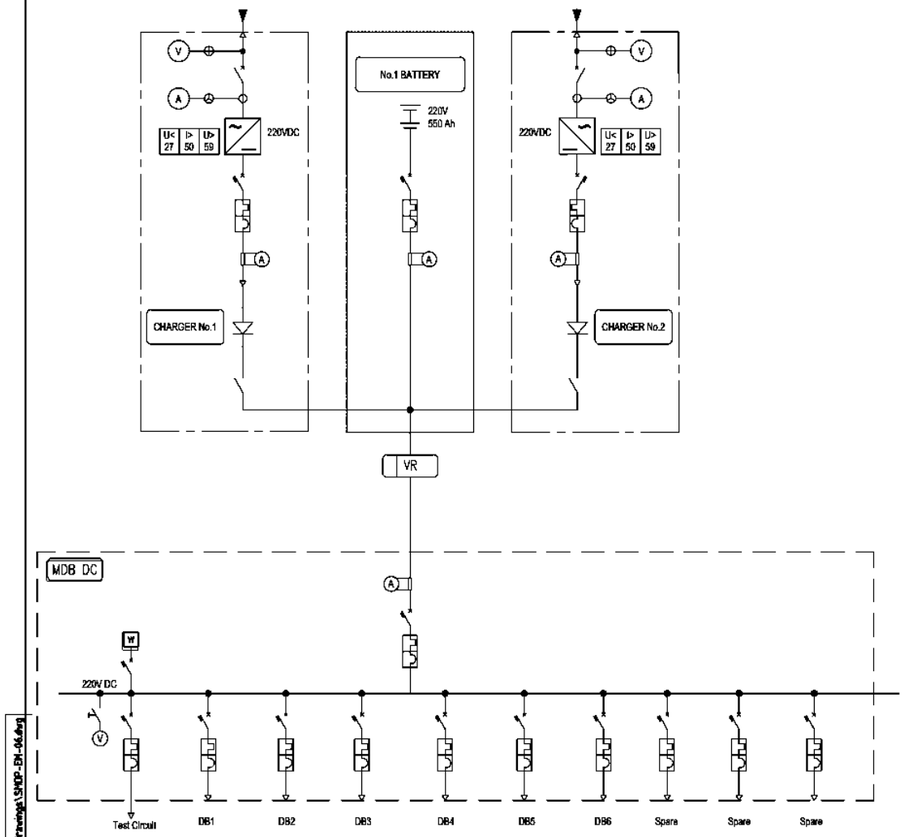


CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	11/0.4 kV SINGLE LINE DIAGRAM
		CHECKED BY			CHECKED BY			DRAWING NUMBER	EL-LV-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	

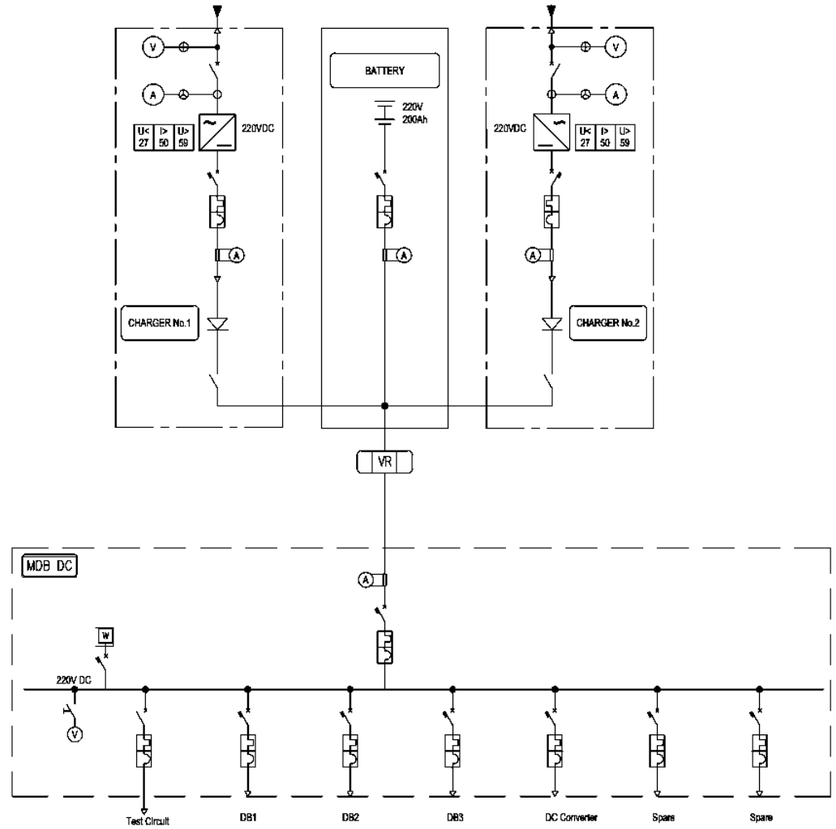
Government of Nepal, Ministry of Energy, Water Resources and Irrigation, Sunkoshi-Marin Diversion Multipurpose Project, Sindhuli

D:\Design\2021\06.07\Final Submission\Volume V\Drawings\Electrical Drawings\SMDP-EM-05.dwg

DC SYSTEM FOR POWERPLANT AND CONTROL ROOM



DC SYSTEM FOR HEADWORKS



LEGENDS

Symbol	Description
	Circuit breaker
	MCCB
	Rectifier
	Inverter
	Stationary battery
	Sealing end for power cable
	Silicon rectifier
	Shunt Resistor
	Current Transformer
V	AC Voltmeter
A	AC Ammeter
	Voltmeter selector switch
	Ammeter selector switch
W	Wattmeter
VR	Voltage Regulator
27	Undervoltage Relay
50	Overcurrent Relay
59	Overvoltage Relay

C:\Users\...\Desktop\20210607\Final Submission\Volume V\Drawings\Electrical Drawings\SNDP-EM-06.dwg

CLIENT

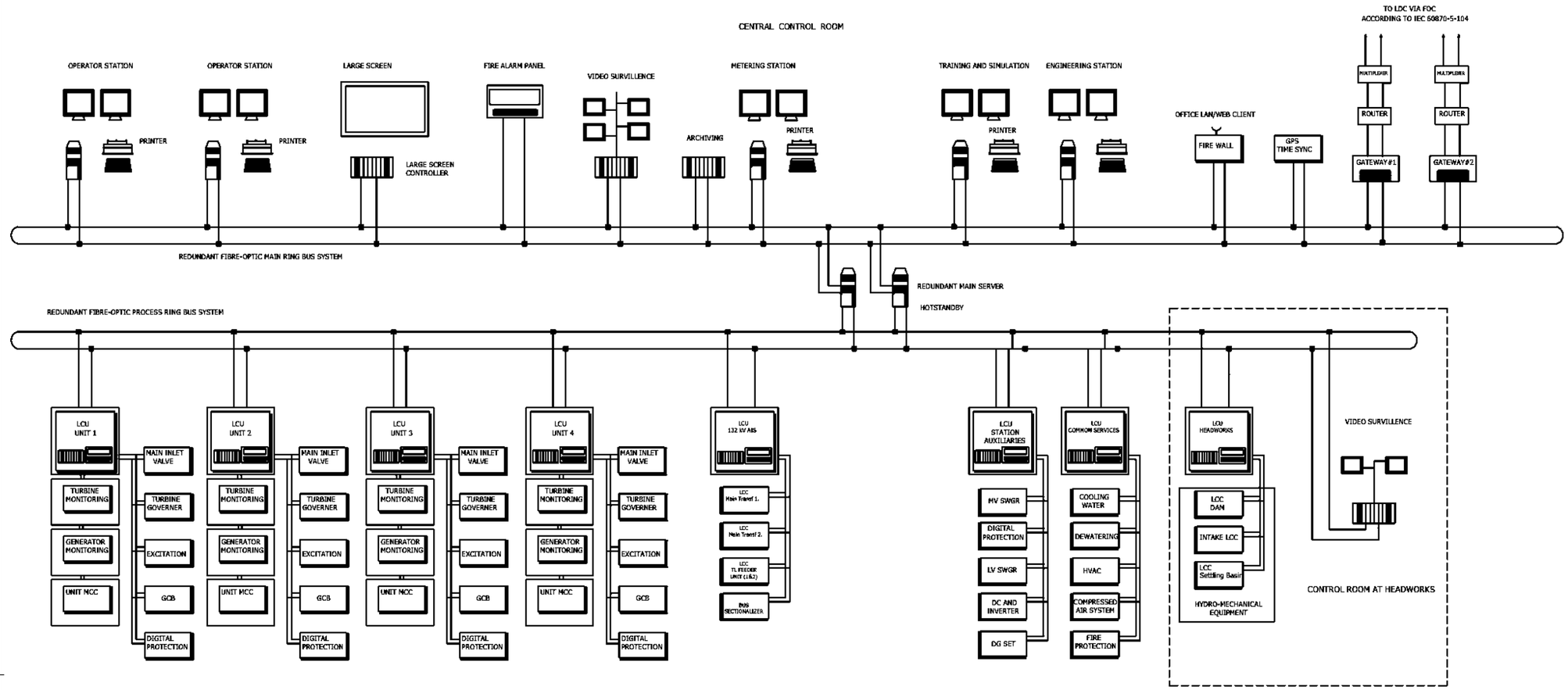
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

SINDHULI MADHI DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	DC SINGLE LINE DIAGRAM
CHECKED BY			CHECKED BY			DRAWING NUMBER	EL-DC-01
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
			APPROVED BY			SCALE:	



LEGEND:

SYMBOL	DESCRIPTION
LV	LOW VOLTAGE
MV	MEDIUM VOLTAGE
GCB	GENERATOR CIRCUIT BREAKER
TL	TRANSMISSION LINE
MT	MAIN TRANSFORMER
DG	DIESEL GENERATING SET
FOC	FIBRE OPTIC CABLE
IP	INTERNET PROTOCOL
LAN	LOCAL AREA NETWORK
LCC	LOCAL CONTROL CUBICLE
LCU	LOCAL CONTROL UNIT

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

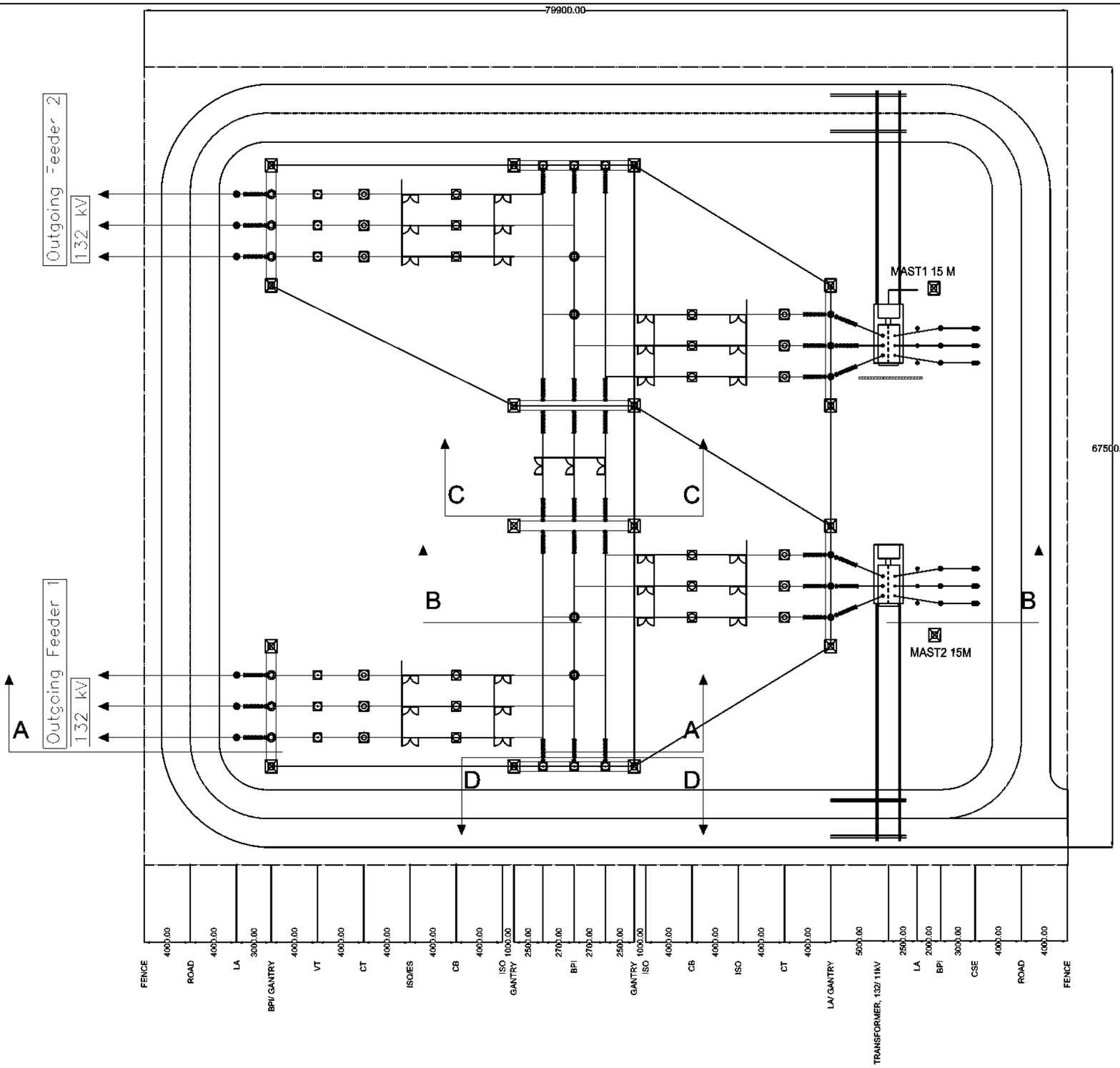
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	AUTOMATION AND CONTROL SYSTEM ARCHITECTURE
CHECKED BY			CHECKED BY			DRAWING NUMBER	EL-CTR-01
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
			APPROVED BY			SCALE:	

C:\Users\...\Desktop\242106.67\Final Submission\Volume V\Drawings\Electrical Drawings\SMDP-EM-67.dwg



NOTES:

1) ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

AREA:

=79,900 X 67,500 SQ. MM

=5,393.25 SQ. M

LEGENDS-132kV

Item	Description	Symbol
1	Gantry and Beam	
2	Insulator Strings	
3	Isolator with One Earth Switches	
4	Isolator without Earth Switches	
5	Current Transformer	
6	Surge Arrester	
7	Capacitor voltage Transformer	
8	Cable Termination End	
9	Bus Post Insulator	

LEGENDS-11kV

Item	Description	Symbol
1	Surge Arrester	
2	Cable Sealing End	
3	Bus Post Insulator	

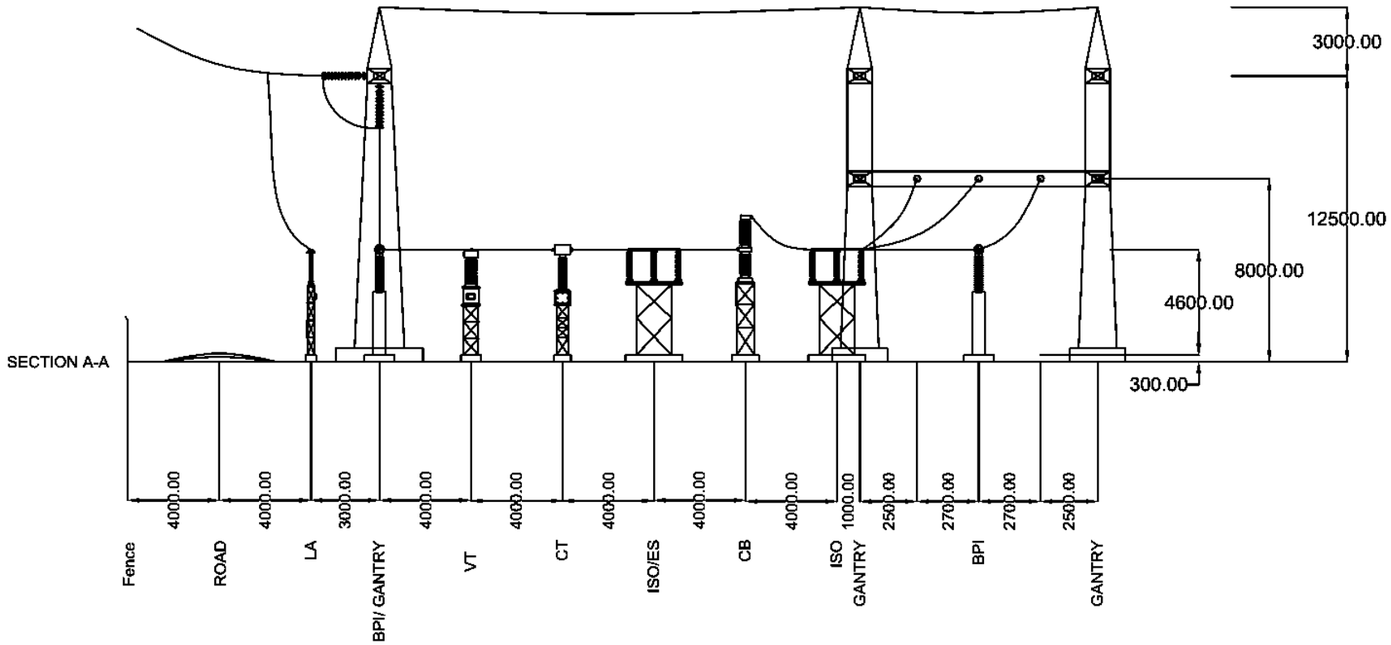
CLIENT

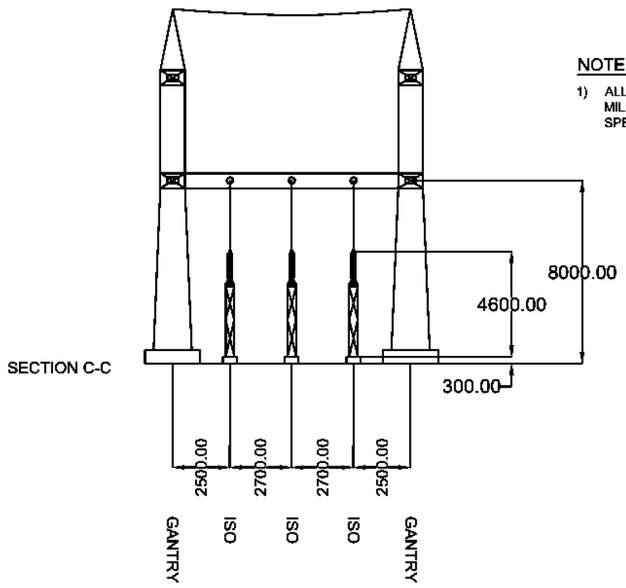
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

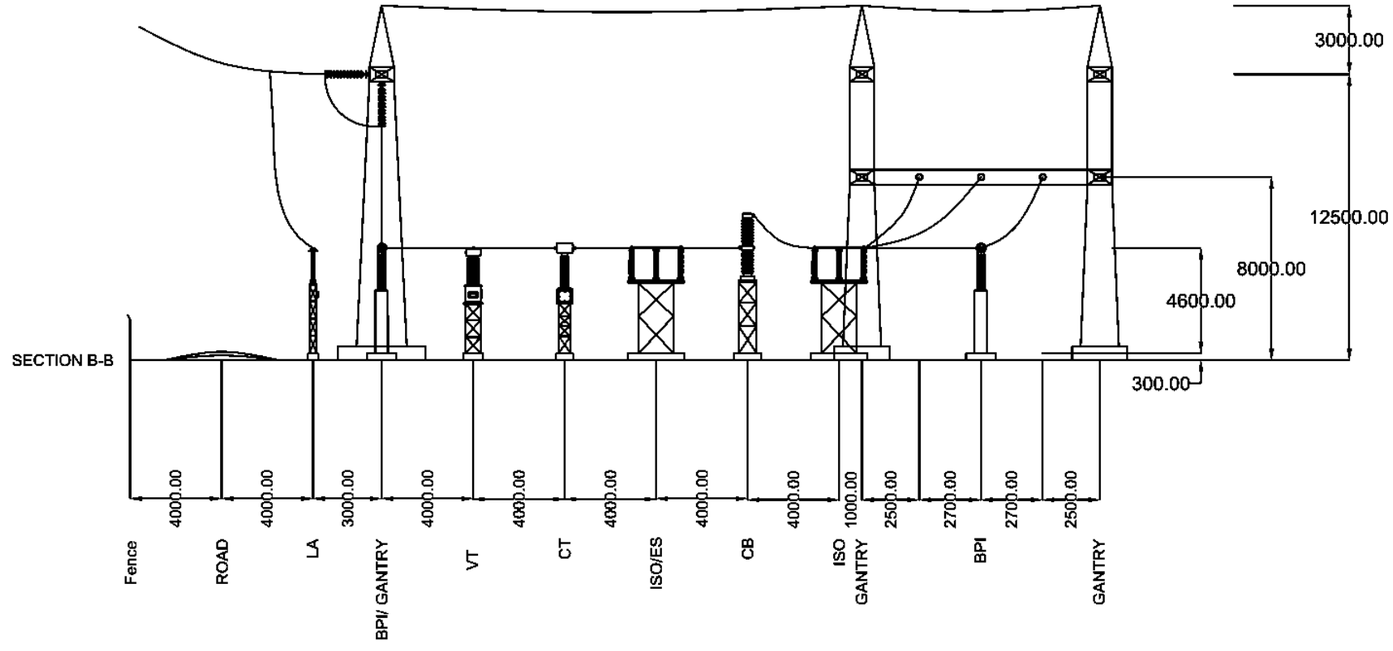
PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SUBSTATION LAYOUT
CHECKED BY			CHECKED BY			DRAWING NUMBER	EL-LAY-01
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
			APPROVED BY			SCALE:	

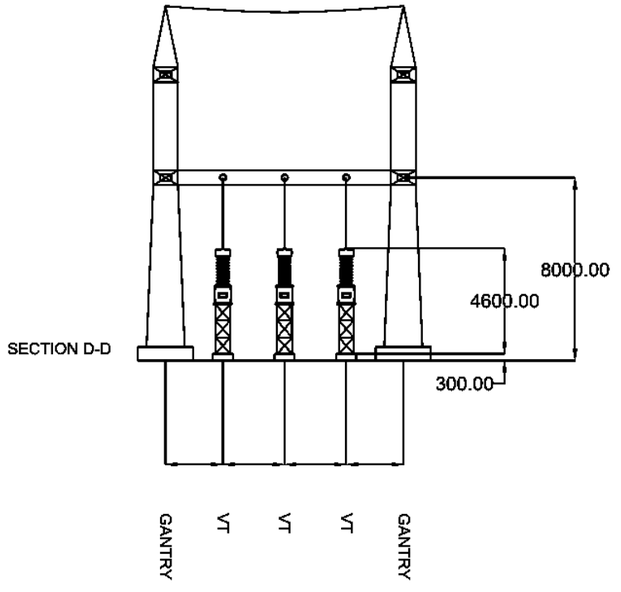




NOTES:

1) ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

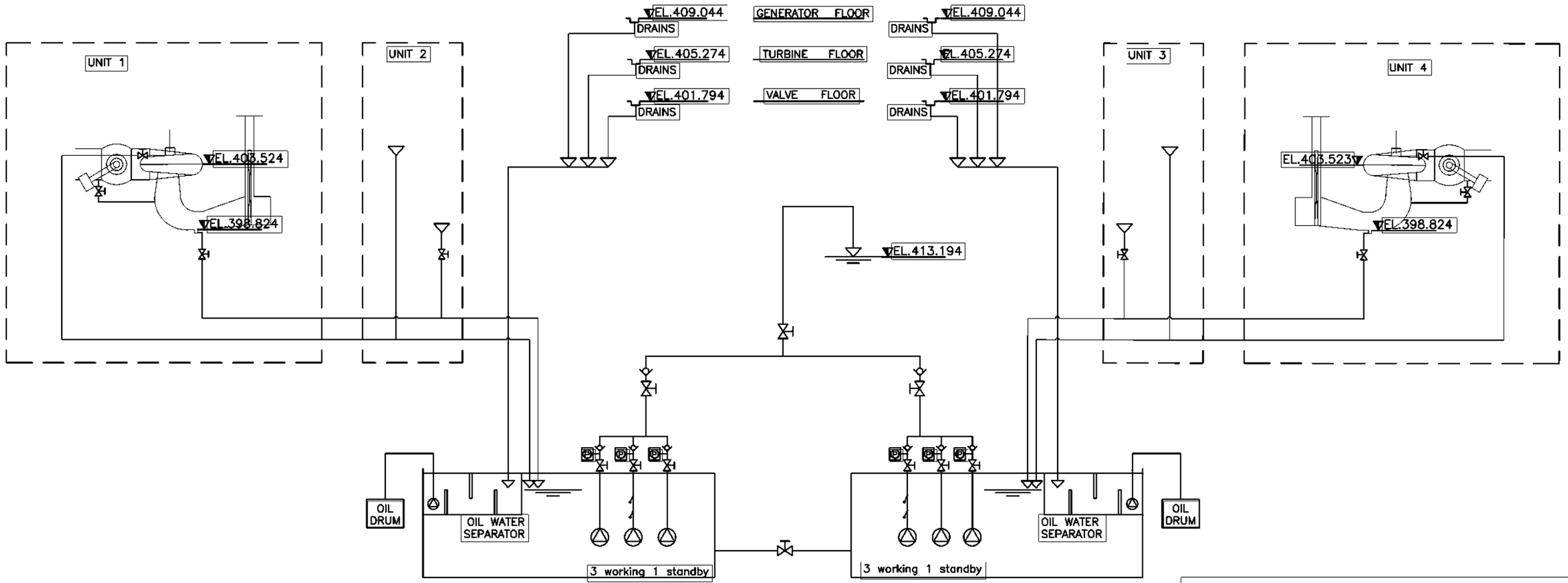




CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER,THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SECTIONAL DRAWINGS OF SWITCHYARD
		CHECKED BY			CHECKED BY			DRAWING NUMBER	EL-SEC-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	

Government of Nepal, Ministry of Energy, Water Resources and Irrigation, Department of Water Resources and Irrigation, Sunkoshi-Marin Diversion Multipurpose Project, Sindhuli

C:\Users\...\2211\Design\282106.07\Final Submission\Volume V\Drawings\Electrical Drawings\SMDP-EM-08-09.dwg



SYMBOL LEGEND	
SYMBOL	DISCRIPTION
	ISOLATING VALVE
	CHECK VALVE
PI	PRESSURE INDICATOR
	FLOAT SWITCH
	SUMP PUMP

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
[illegible] DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

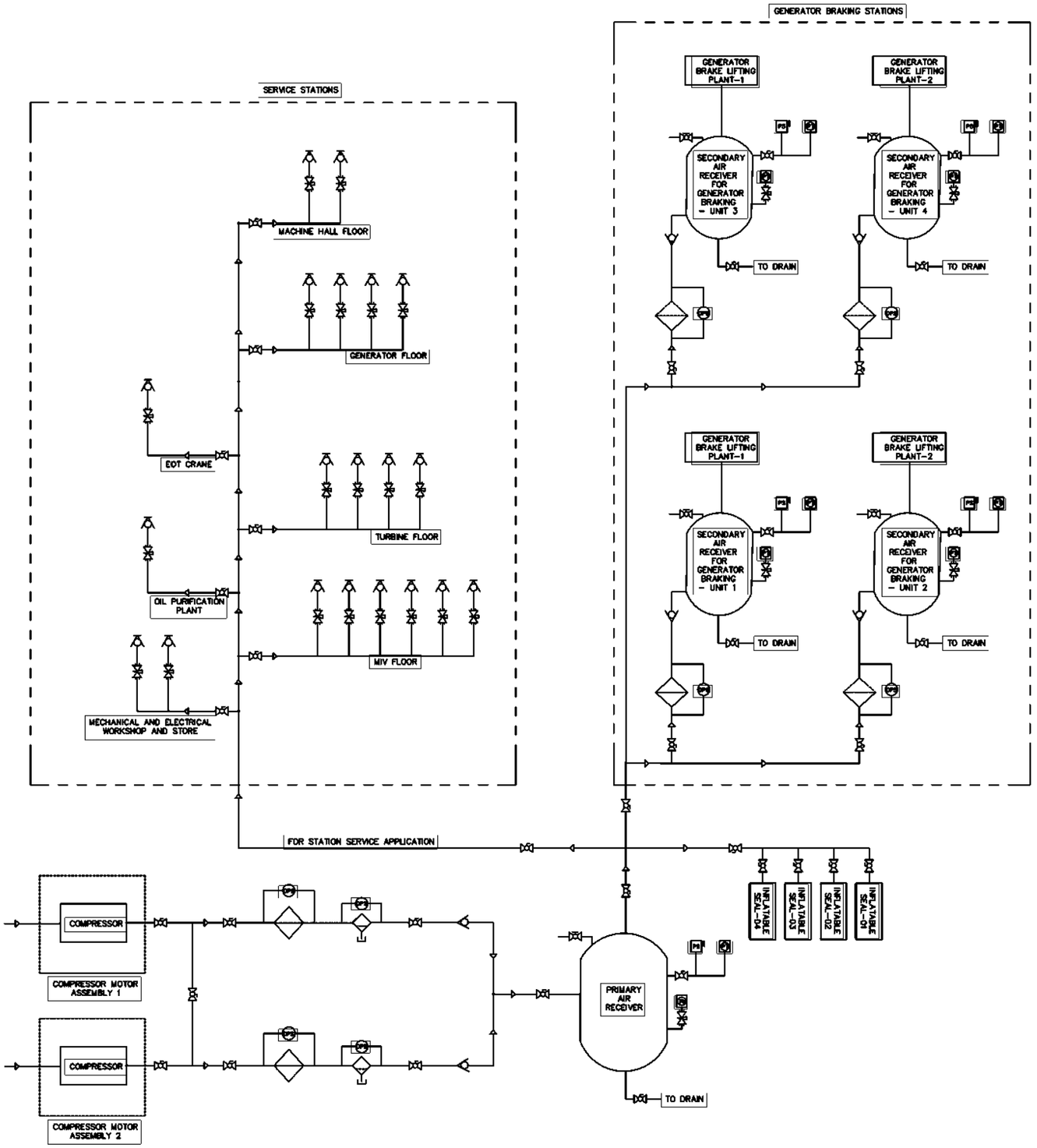
CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE	SCHEMATIC DIAGRAM FOR DRAINAGE AND DEWATERING SYSTEM
DRAWING NUMBER	ME-DD-01
SHEET NO:	SHEET:- 1 OF 1
SCALE:	



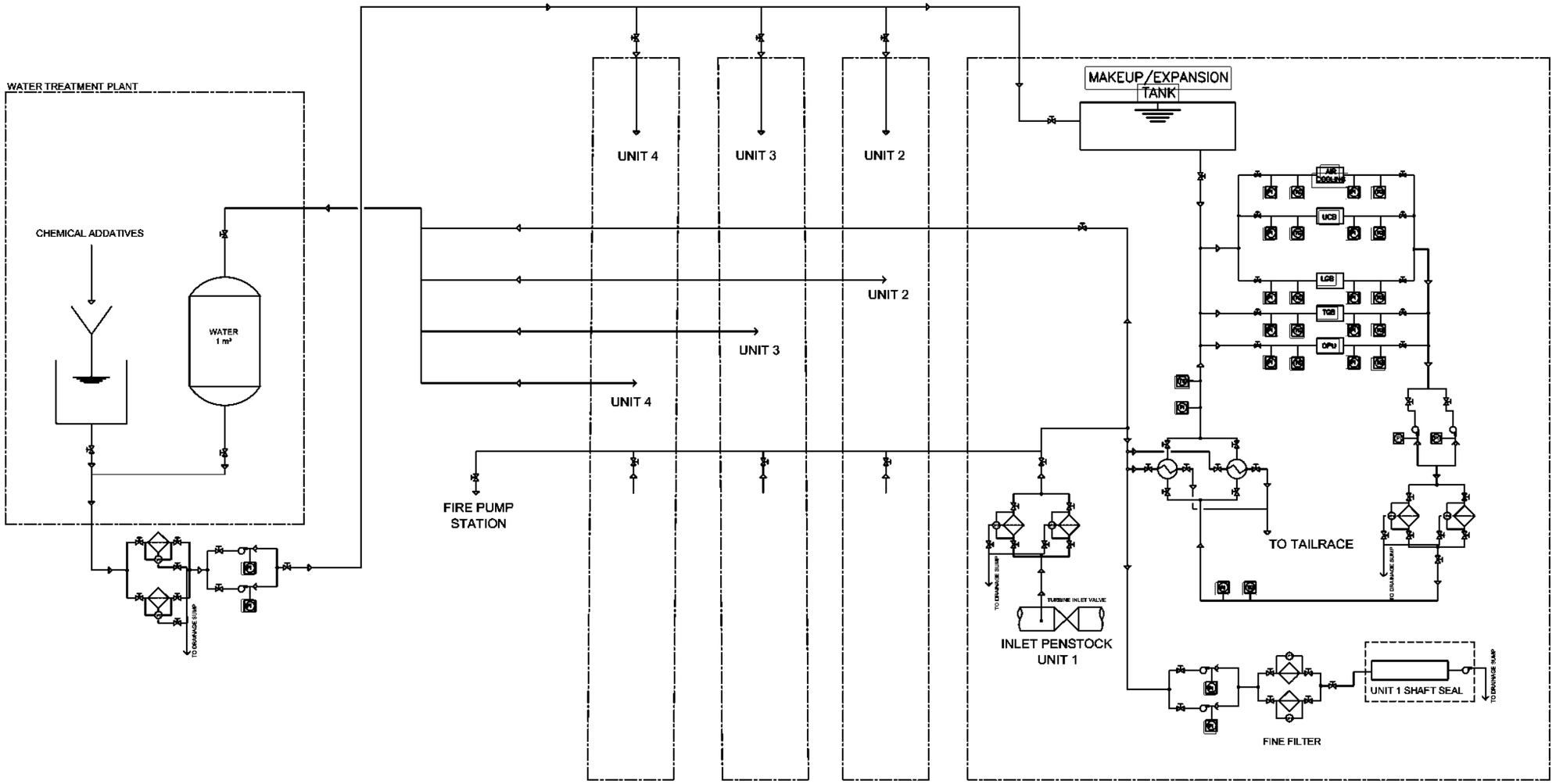
NOTES:

1. COMPRESSED AIR SYSTEM IS COMMON FOR ALL FOUR UNITS.
2. AIR WORKING PRESSURE AT GENERATORS BRAKE IS 08 BAR.
3. DESIGN PRESSURE OF SYSTEM IS 10 BAR.
4. TEST PRESSURE OF SYSTEM IS 15 BAR (F.S. = 1.5).
5. DISTRIBUTION PIPES SHOULD BE OF STAINLESS STEEL WITH INTERNAL DIAMETER 40MM

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	ISOLATION VALVE
	INSTRUMENT VALVE
	SAFETY VALVE
	QUICK RELEASE COUPLING
	CHECK VALVE
PT	PRESSURE TRANSMITTER
PI	PRESSURE INDICATOR
PSW	PRESSURE SWITCH
	OIL FILTER
	AIR DRIER
	FLEXIBLE HOSE WITH MINIMES COUPLING
DPS	DIFFERENTIAL PRESSURE SWITCH

C:\Users\DELL\Desktop\New folder (3)\SMDMP-ME-AS-SCHMATIC DIAGRAM FOR COMPRESSED AIR SYSTEM.dwg

CLIENT	CONSULTANT	PROJECT			DWRI			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION PROJECT SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	NEA ENGINEERING COMPANY LTD. TRADE TOWER, THAPATHALI, KATHMANDU, NEPAL		NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SCHAMATIC DIAGRAM FOR LP COMPRESSED AIR SYSTEM
		CHECKED BY			CHECKED BY			DRAWING NUMBER	ME-AS-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	



SYMBOL LEGEND	
SYMBOL	DESCRIPTION
PI	PENSTOCK
	ISOLATING VALVE
	WATER FILTER
	PUMP
	CHECK VALVE
DPS	DIFFERENTIAL PRESSURE SWITCH
TG	TEMPERATURE GAUGE
	HEAT EXCHANGER

C:\Users\Dell\Desktop\New folder (3)\SHNPP-ME-03-SCHEMATIC DIAGRAM FOR COOLING WATER SYSTEM (CLOSED) (2).dwg

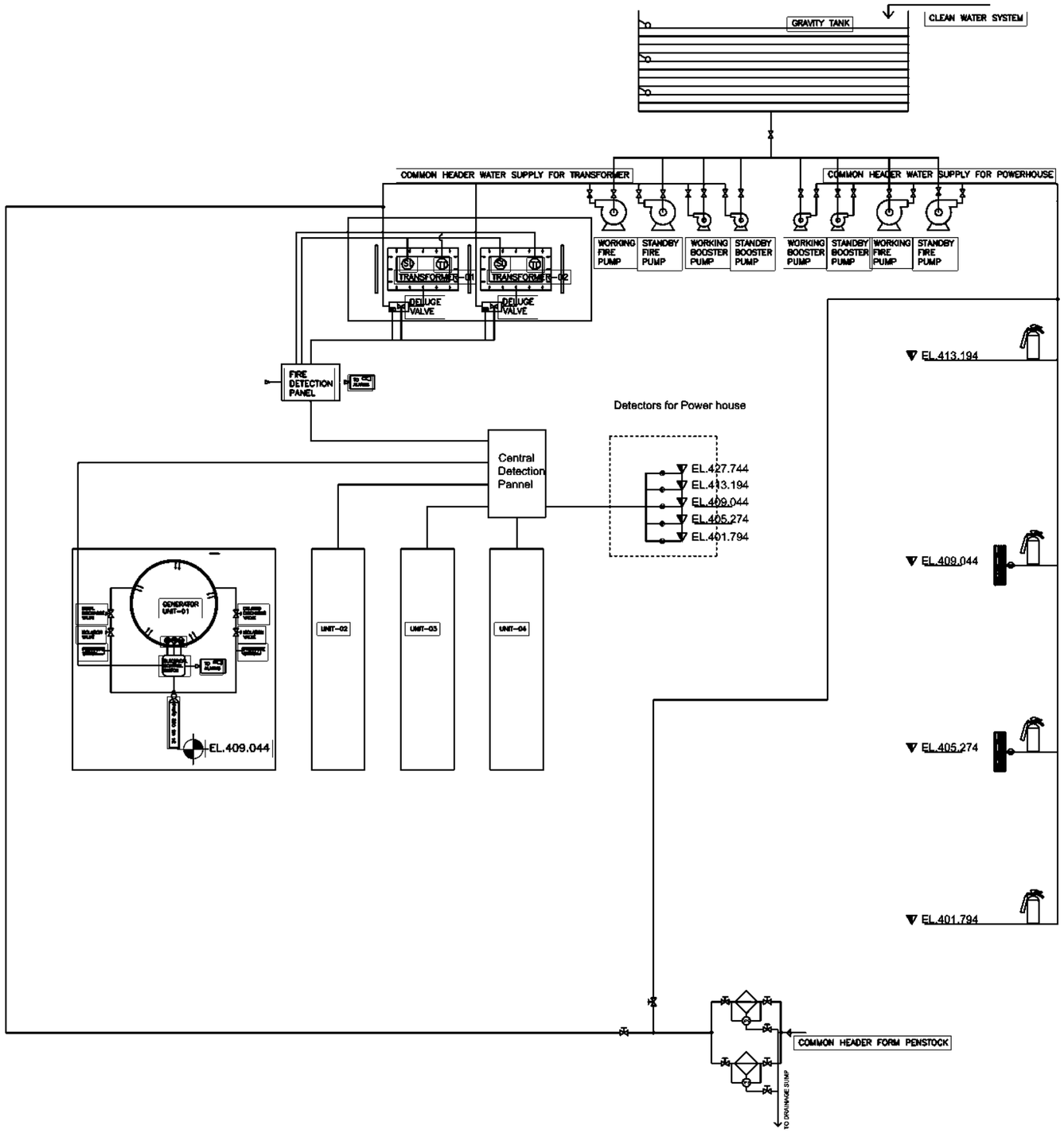
CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SHEETMARI DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	SCHAMATIC DIAGRAM FOR WATER SYSTEM
DRAWING NUMBER	ME-WS-01
SHEET NO:	
SCALE:	



LEGEND		
S.N.	Symbol	Description
1		Alarm
2		Isolation Valve
3		Discharge Valve
4	PI	Pressure Indicator
5	FD	Fire Detector
6	SD	Smoke Detector
7	TD	Thermal Detector
8		Portable Fire Extinguisher
9		Fire Hose and Reel
10		Detectors
11		Power Supply
12		Deluge Valve
13		Water Level Sensor
14		Shut off Valve

C:\Users\...\Desktop\New folder (3)\SKDMP-ME-04-SCHEMATIC DIAGRAM FOR FIREFIGHTING SYSTEM.dwg

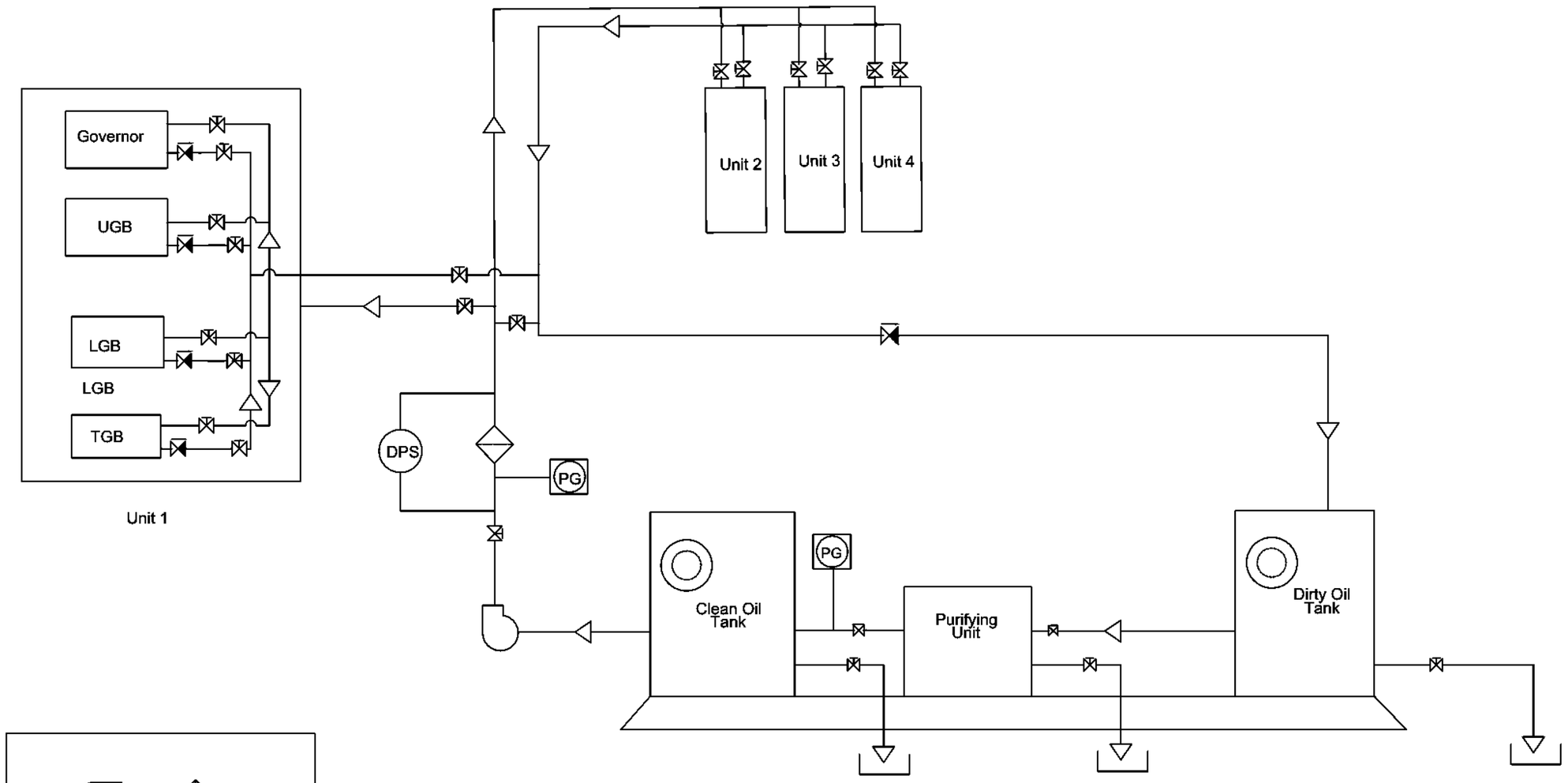
CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
SUNKOSHI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		

DWRI	NAME	SIGN
CHECKED BY		
RECOMMENDED BY		
APPROVED BY		

DRAWING DETAIL	
DRAWING TITLE:	SCHAMATIC DIAGRAM FOR FIREFIGHTING SYSTEM
DRAWING NUMBER	ME-FF-01
SHEET NO:	
SCALE:	



SYMBOL LEGEND

- Valve
- Non-return valve
- Pump
- Oil filter
- Man hole
- Drain
- Pressure Gauge (PG)
- Differential Pressure System (DPS)

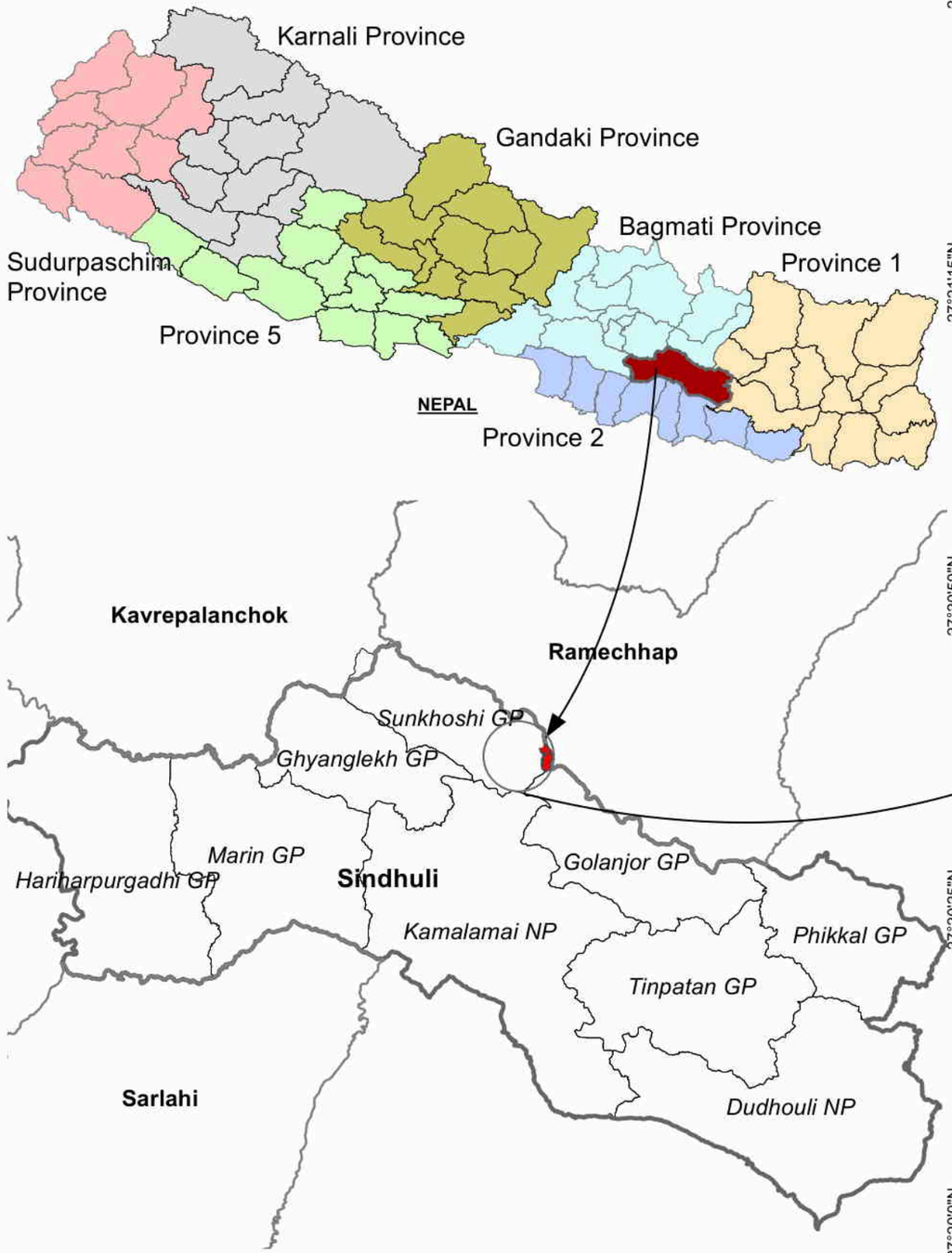
CLIENT: GOVERNMENT OF NEPAL, MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION, DEPARTMENT OF WATER RESOURCES AND IRRIGATION; DIVERSION MULTIPURPOSE PROJECT, SINDHULI, NEPAL	CONSULTANT: NEA ENGINEERING COMPANY LTD., TRADE TOWER, THAPATHALI, KATHMANDU, NEPAL	PROJECT			DWRI			DRAWING DETAIL	
			NAME	SIGN		NAME	SIGN	DRAWING TITLE:	SCHAMATIC_DIAGRAM_OIL_FILTERATION_SYSTEM
		CHECKED BY			CHECKED BY			DRAWING NUMBER	ME-OF-01
		RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
					APPROVED BY			SCALE:	

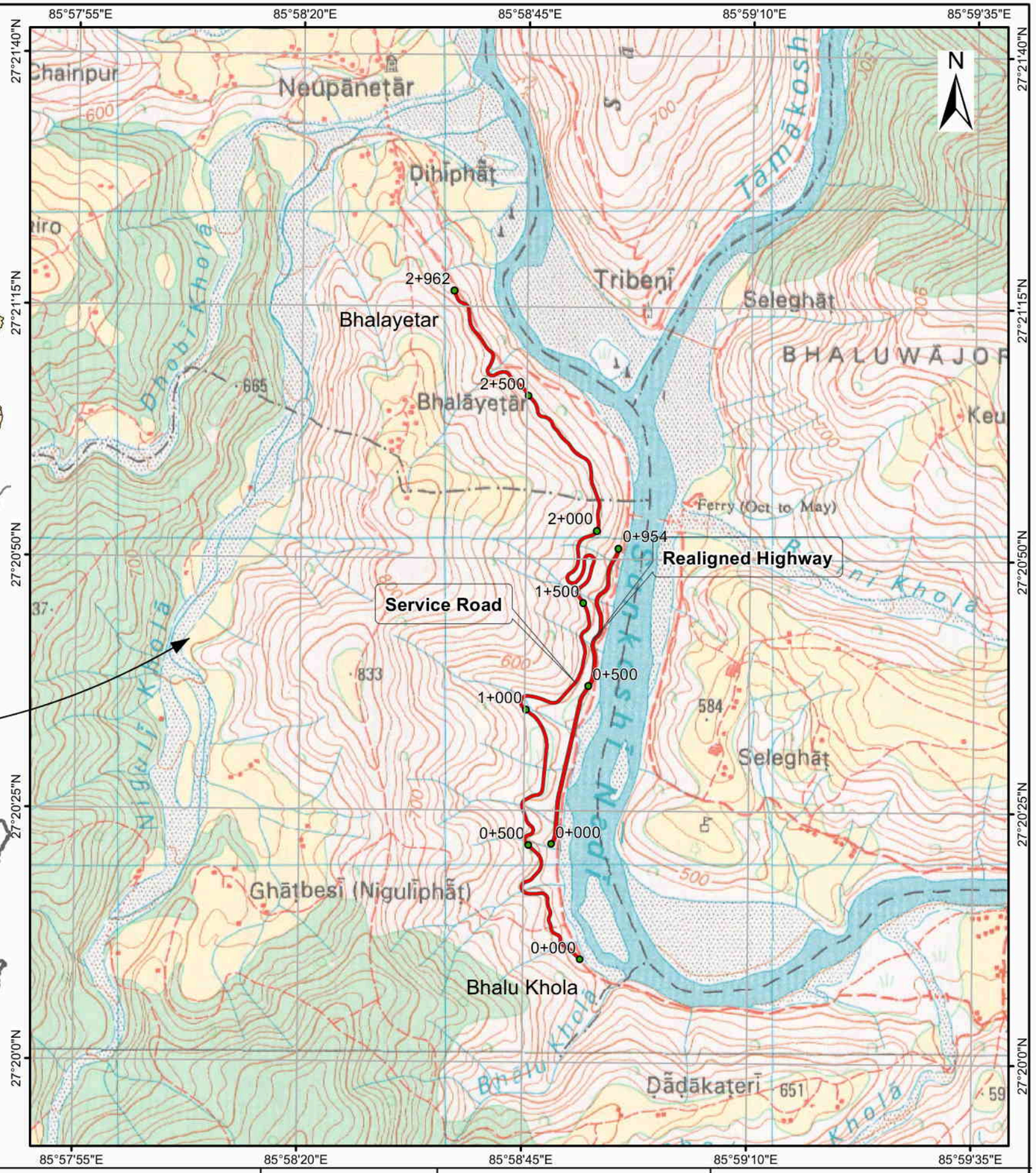
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi Marin Diversion Multipurpose Project (SMDMP)
Jawalakhel, Lalitpur

Detailed Design Drawing of BP Highway Re-Alignment and Diversion Road in Headworks Area of Sunkoshi Marin Diversion Multipurpose Project

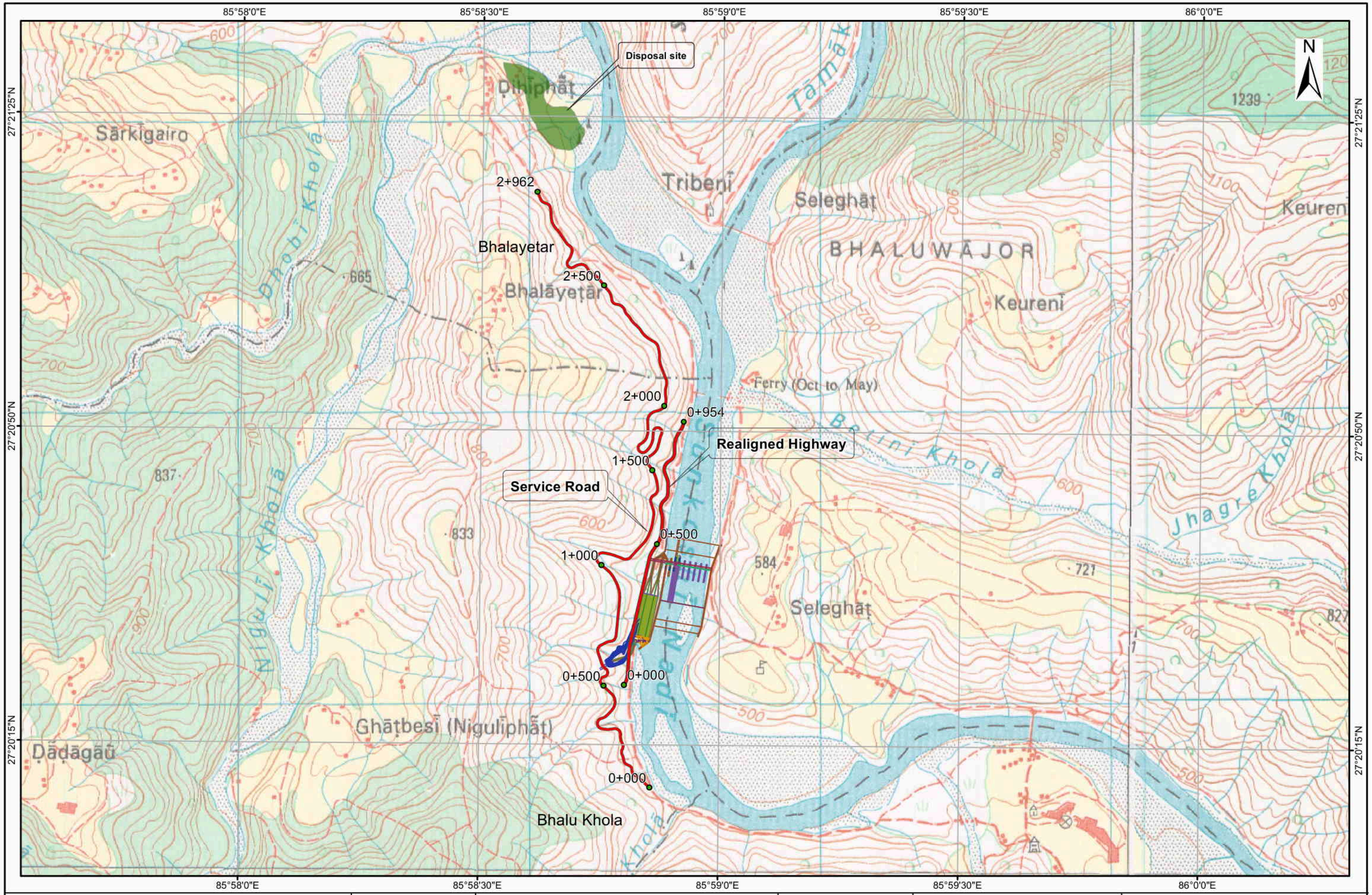
LIST OF DRAWINGS			
SN.	**Title**	**No. of Sheet**	**Page No.**
A	**General Drawings**		
1	Location Map	1	176
2	Layout Map	1	177
3	Topographic Map	10	178-187
4	Topographic Map with Drone Imagery	9	188-196
B	**Plan Profile**		
1	Plan Profile of Realigned Highway	4	198-201
2	Plan Profile of Service Road	10	203-212
C	**Cross Section**		
1	Cross Section of Realigned Highway	14	214-227
2	Cross Section of Service Road	27	229-255
D	**Cross Drainage Structures**		
1	Plan	18	257-274
2	Cross Section	18	275-292
E	**Typical Drawings**		
1	Pavement and Drain	2	294-295
2	Masonry Wall	1	296
3	Masonry Wall Revetment	1	297
4	Gabion Wall	2	298-299
5	RCC Cantilver Wall	1	300
6	Shotcrete	1	301
7	Guard Rail(W Metal Beam)	1	302
8	Slab Culvert	2	303-304
	Total	**123**	

GENERAL DRAWINGS





Government of Nepal Ministry of Energy,Water Resources and Irrigation Department of Water Resources and Irrigation Sunkhoshi Marin Diversion Multipurpose Project Sindhuli, Nepal	AVIYAAN Consulting (P) Ltd 254 Ekata Marg, New Baneshwor, Kathmandu-31, Nepal Phone:977-1-4104307 Email: info@aviyaan.com	Project			DWRI		Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title	Location Map
		Checked By			Checked By			Drawing No.	01
		Recommended By			Recommended By			Scale	Scale to fit
					Approved By				



Government of Nepal
Ministry of Energy,Water Resources and Irrigation
Department of Water Resources and Irrigation
Tamakoshi Marin Diversion Multipurpose Project
Sindhuli, Nepal

AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-31, Nepal
Phone:977-1-4104307
Email: info@aviyaan.com

Project				DWRI		Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title	Layout Map
Checked By			Checked By			Drawing No.	01
Recommended By			Recommended By			Scale	Scale to fit
			Approved By				



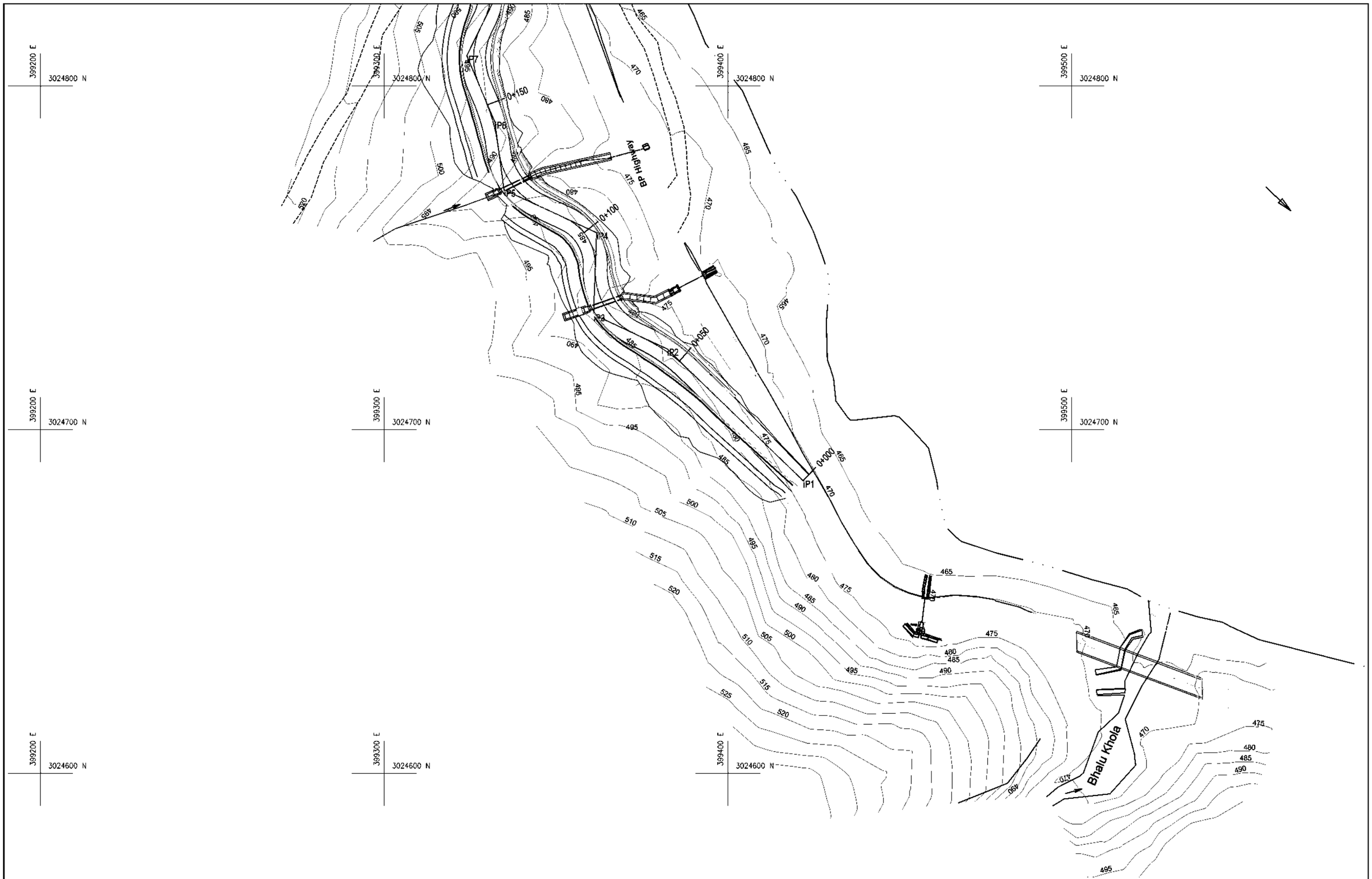
Legend

	Box culvert
	Cross structure
	Road Center
	Designed Alignment
	Existing Alignment
	IP Line
	Shoulder
	Road Extreme
	Drain
	Retaining wall
	Breast wall
	Minor contour
	Index contour
	Pipe
	River

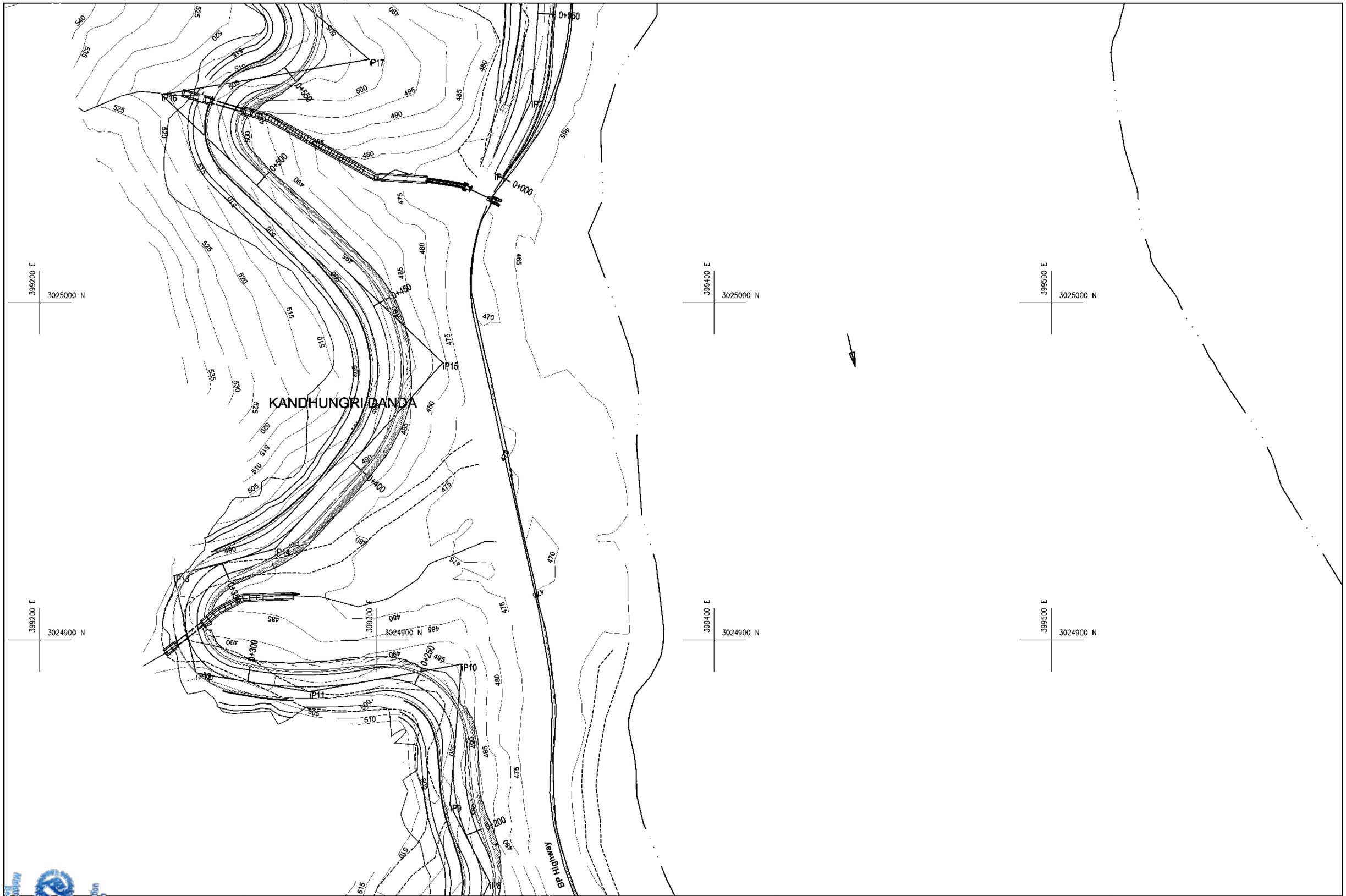
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Storage Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Sheet Plan for Topographic Map
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	
			Approved By			Scale	Scale to fit



Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Rabuwa Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Topographic Map
		Checked By			Checked By			Drawing No.:	
		Recommended By			Recommended By			Sheet No.:	01
					Approved By			Scale	1:1000



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Main Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104007
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	02
			Approved By			Scale	1:1000



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
264 Bhata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

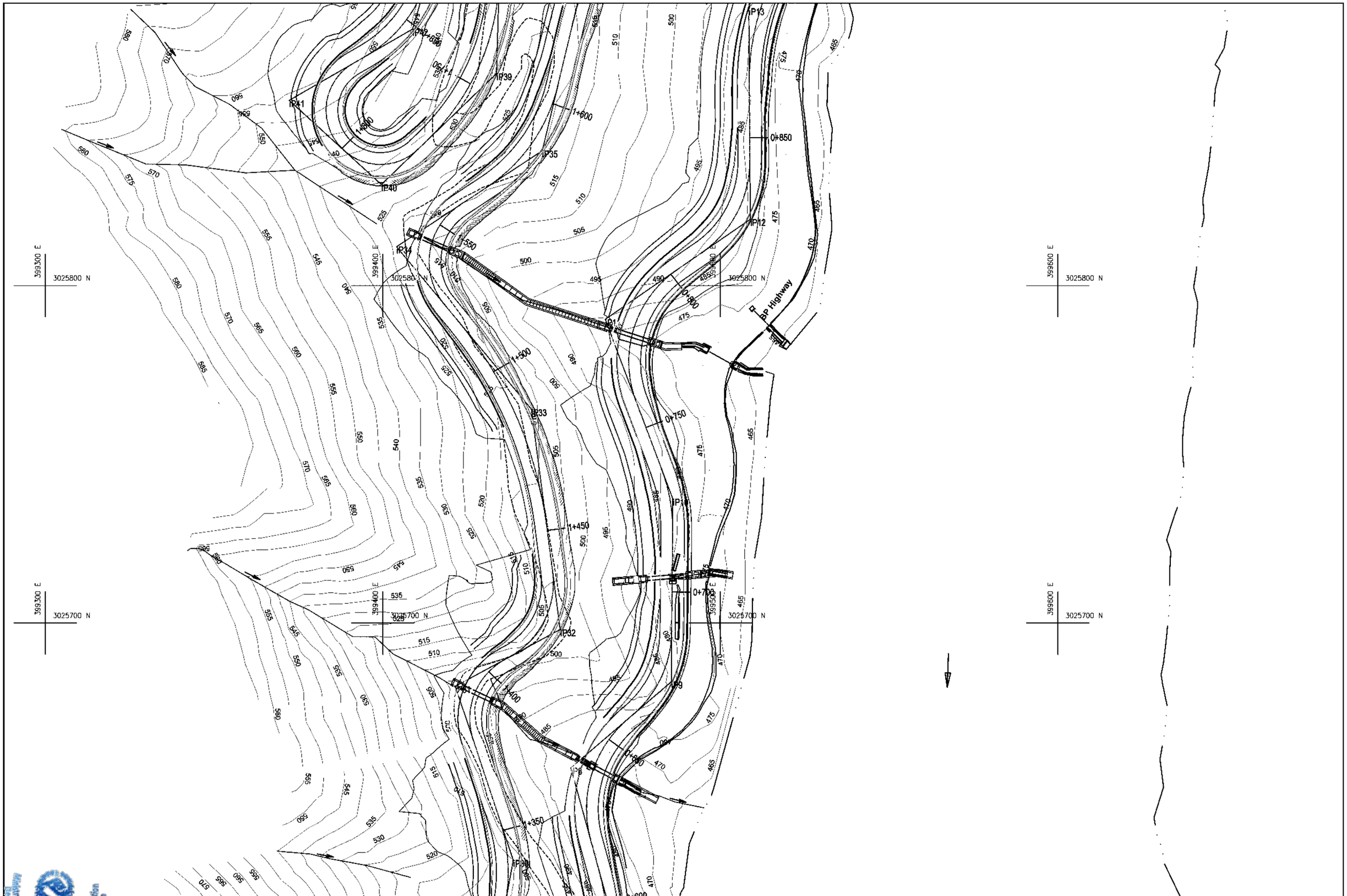
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	03
			Approved By			Scale	1:1000



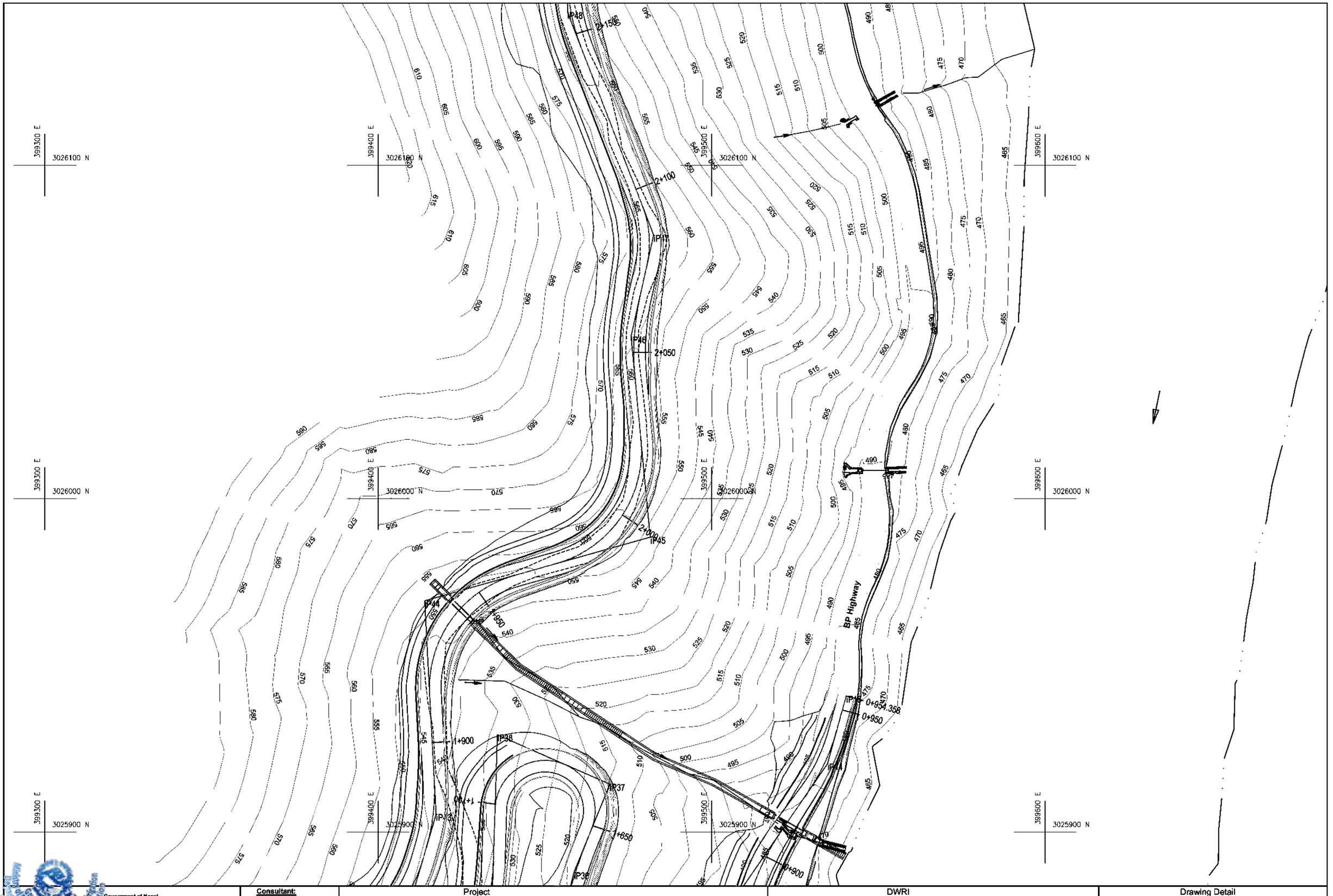
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	04
			Approved By			Scale	1:1000



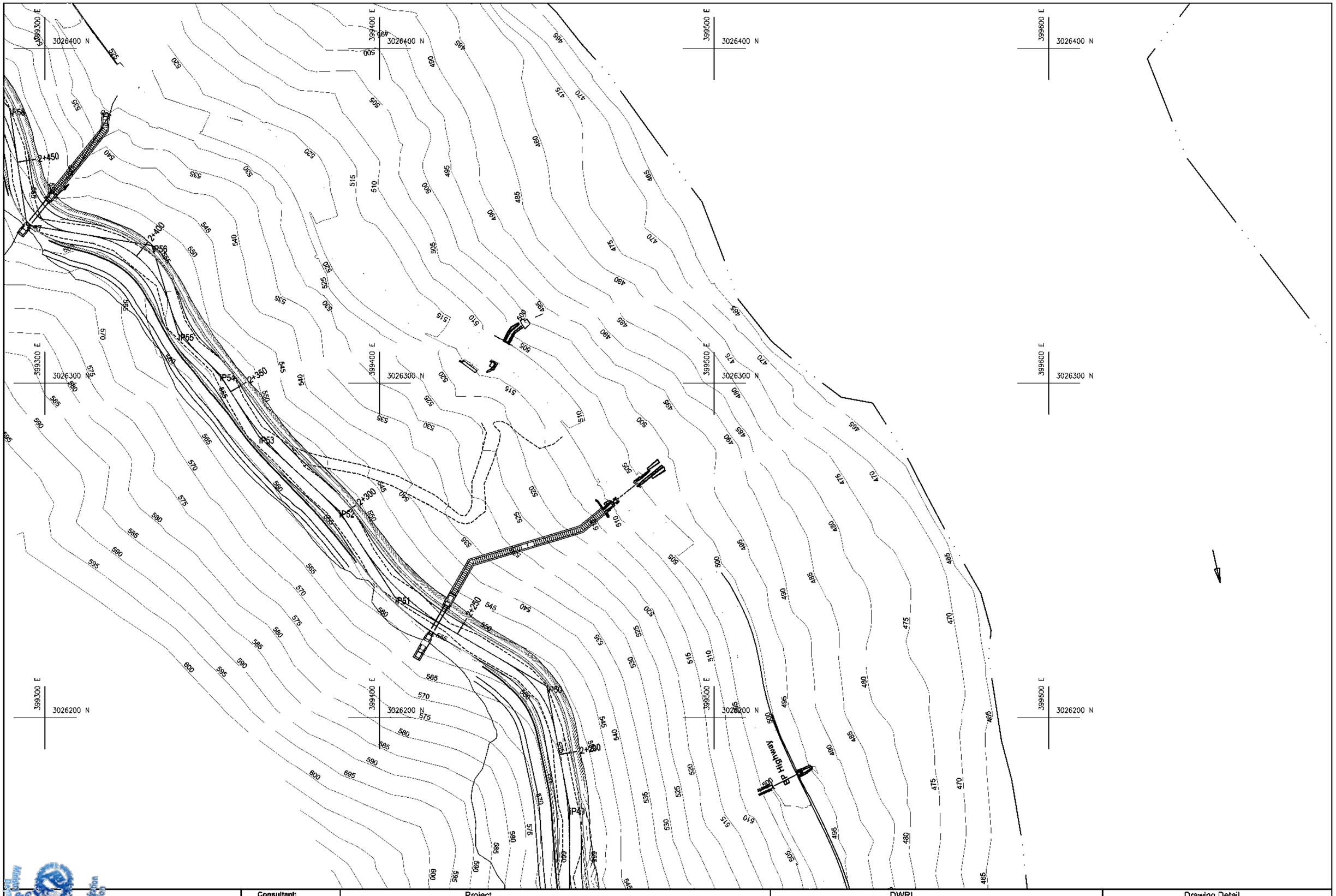
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104007 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Topographic Map
		Checked By			Checked By			Drawing No.:	
		Recommended By			Recommended By			Sheet No.:	05
					Approved By			Scale	1:1000



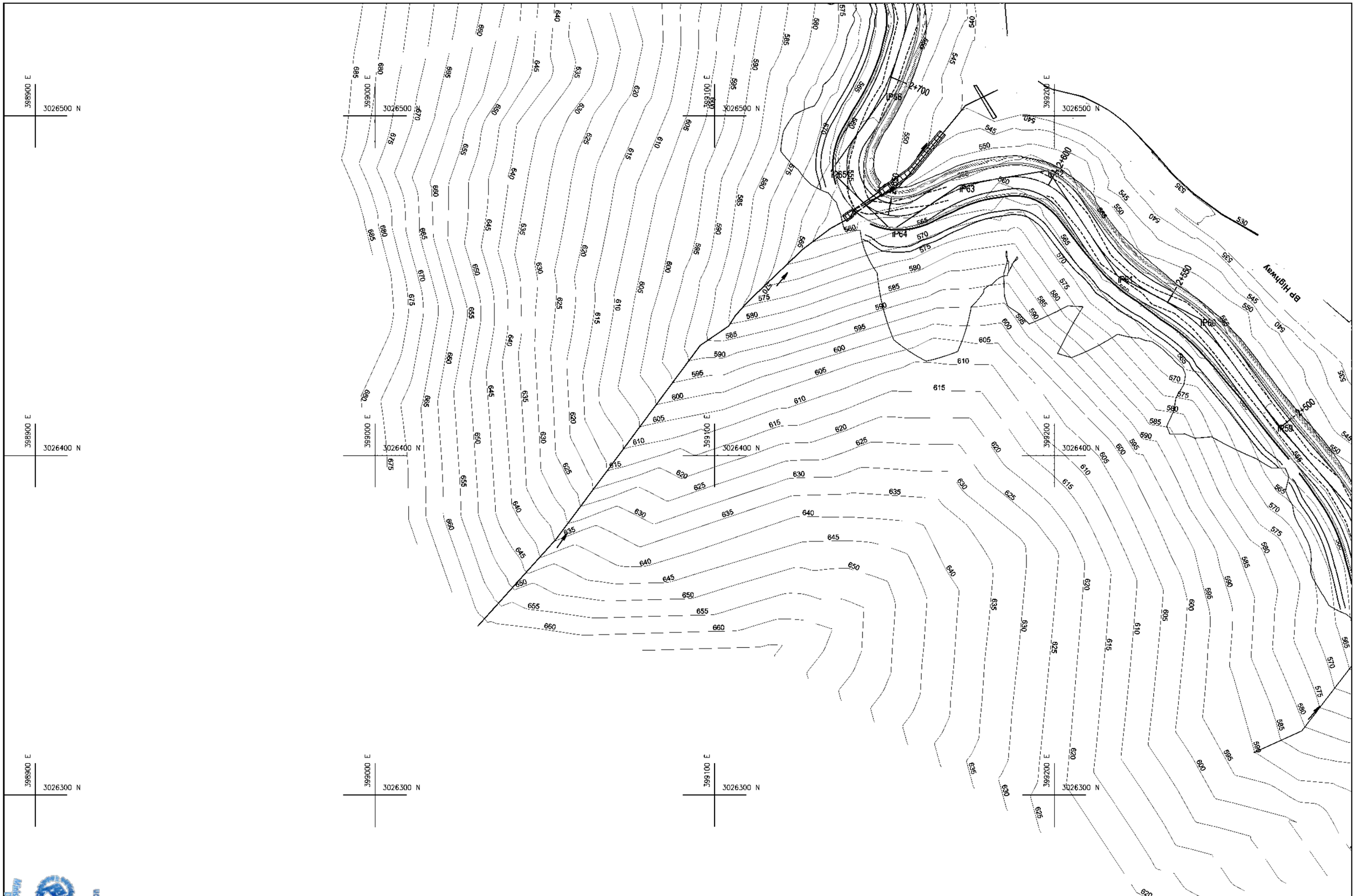
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	06
			Approved By			Scale	1:1000



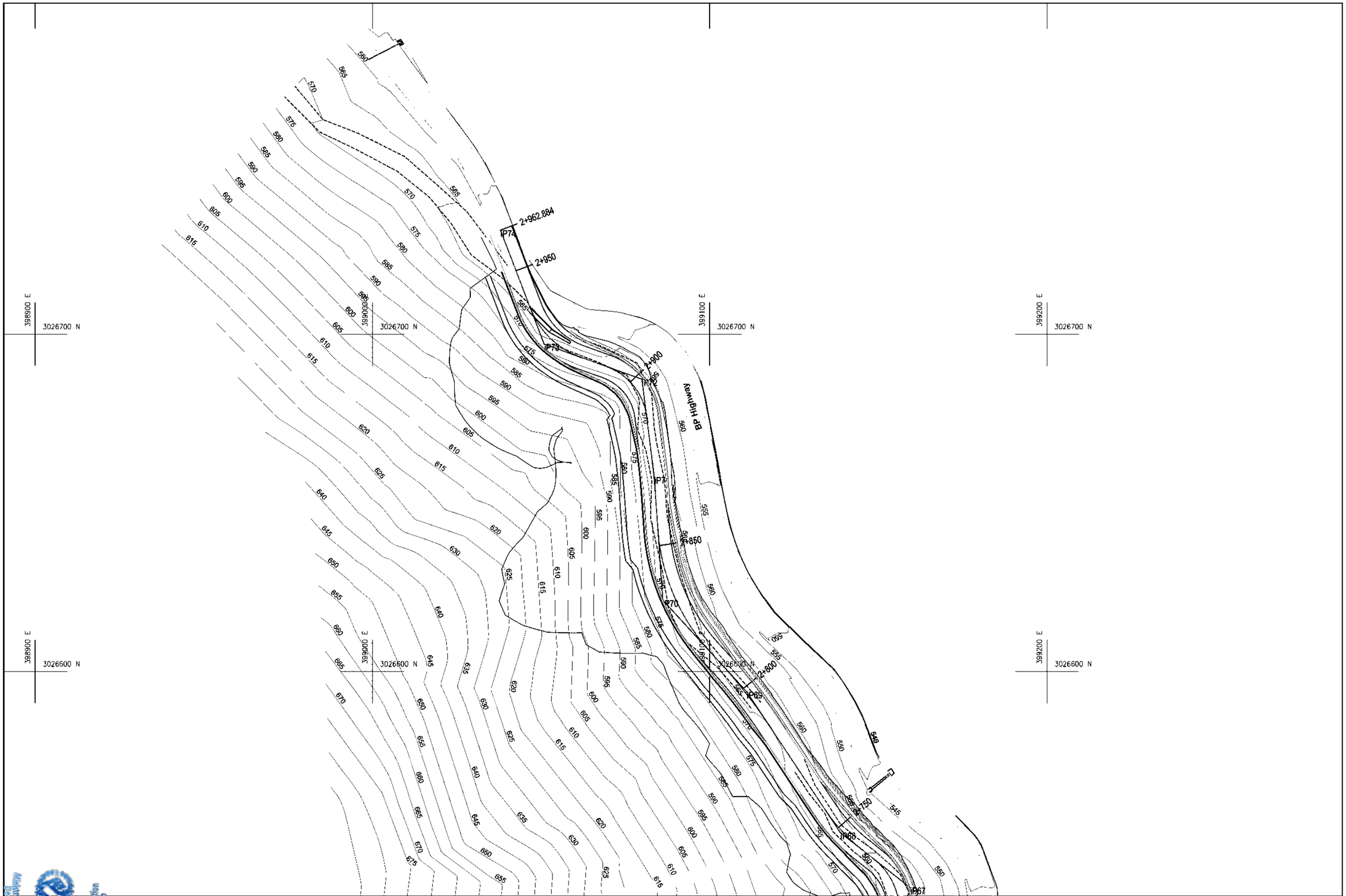
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Bhatbhateni Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Topographic Map
		Checked By			Checked By			Drawing No.:	
		Recommended By			Recommended By			Sheet No.:	07
					Approved By			Scale	1:1000



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Main Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104007
Email: info@aviyaan.com

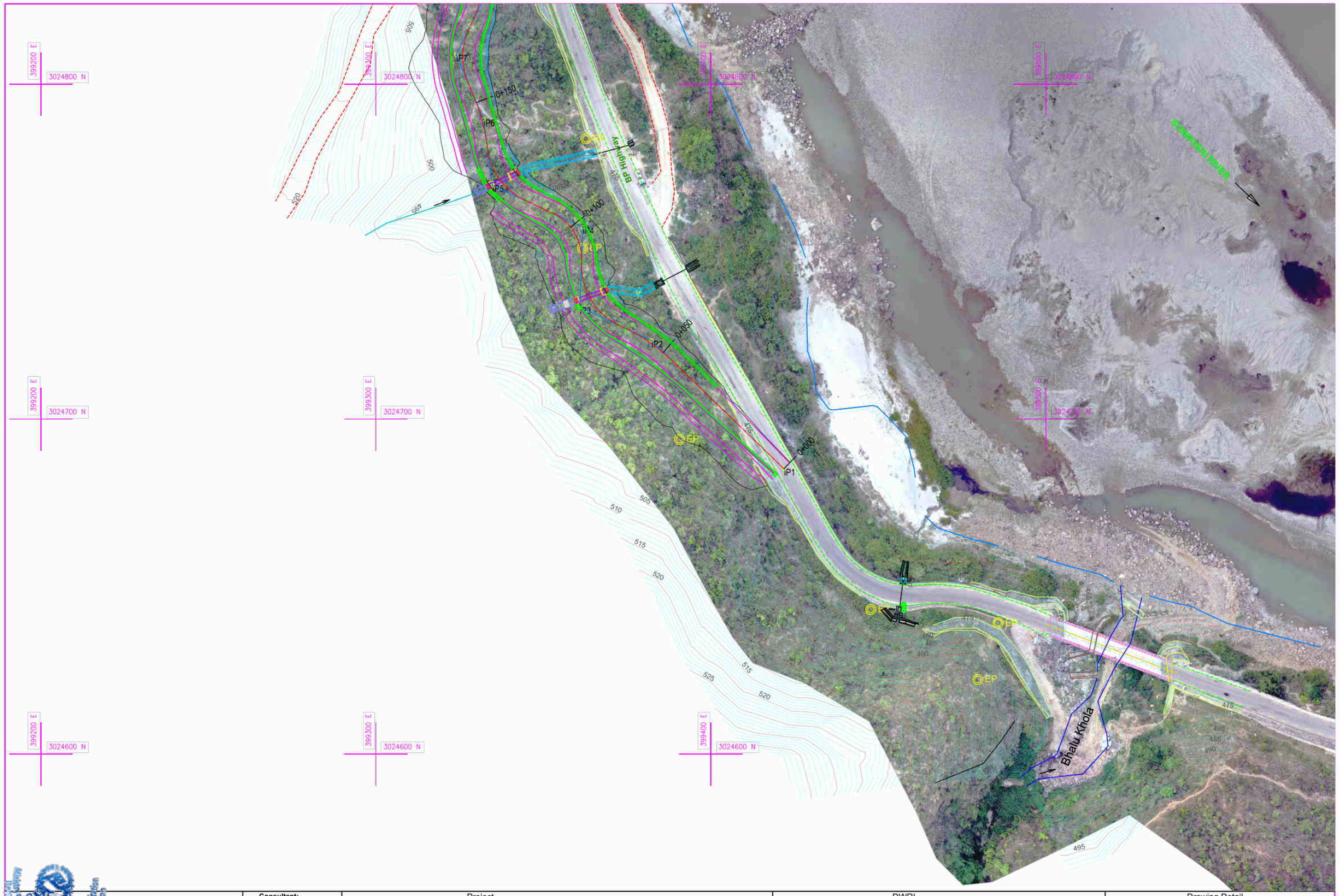
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	08
			Approved By			Scale	1:1000



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Indrawati Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

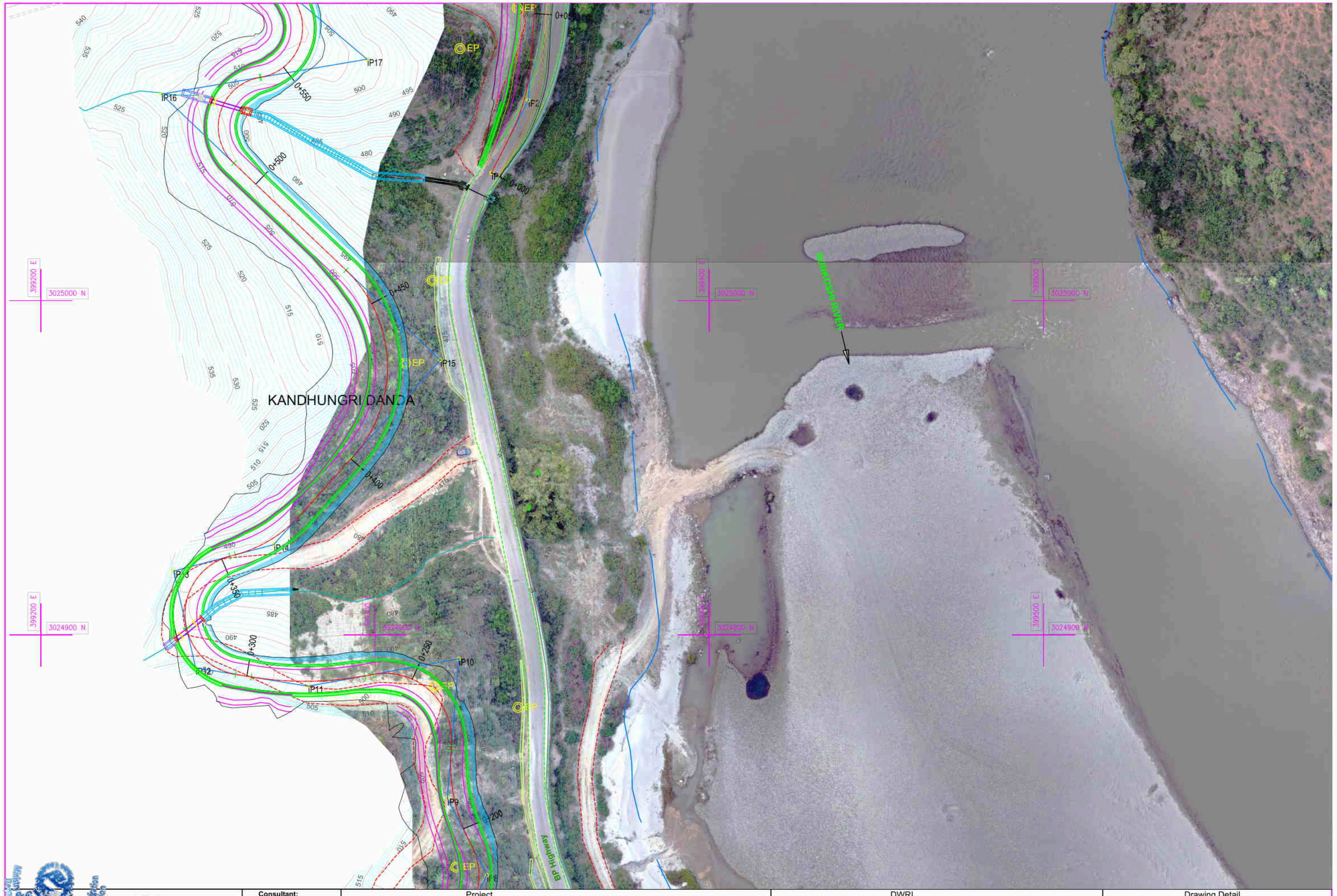
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	09
			Approved By			Scale	1:1000



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Khurkhure Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

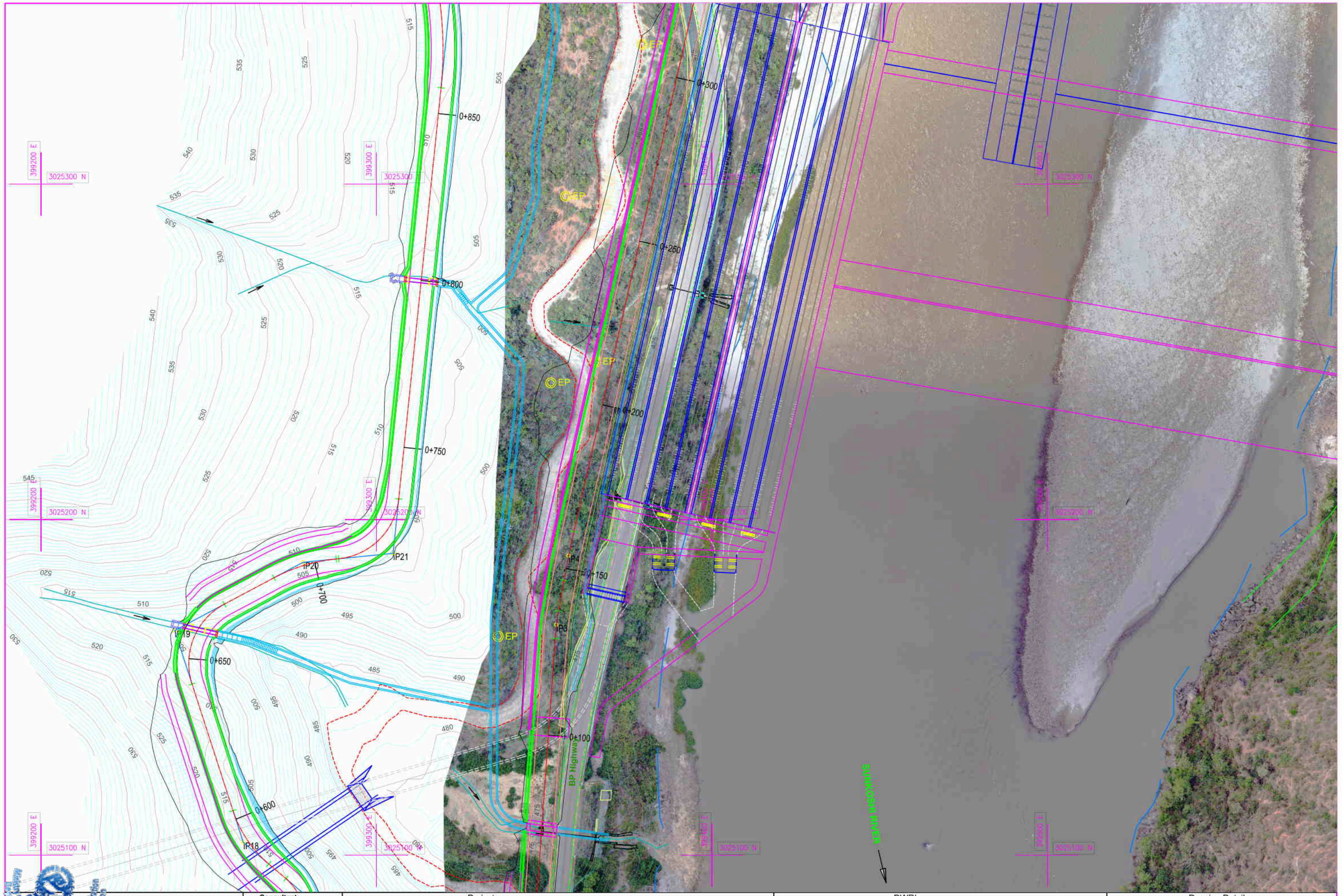
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map with Drone Imagery
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	01
			Approved By			Scale	1:1000



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamla Inter-basin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map with Drone Imagery
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	02
			Approved By			Scale	1:1000



Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-3 Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Topographic Map with Drone Imagery
		Checked By			Checked By			Drawing No.:	
		Recommended By			Recommended By			Sheet No.:	03
					Approved By			Scale	1:1000

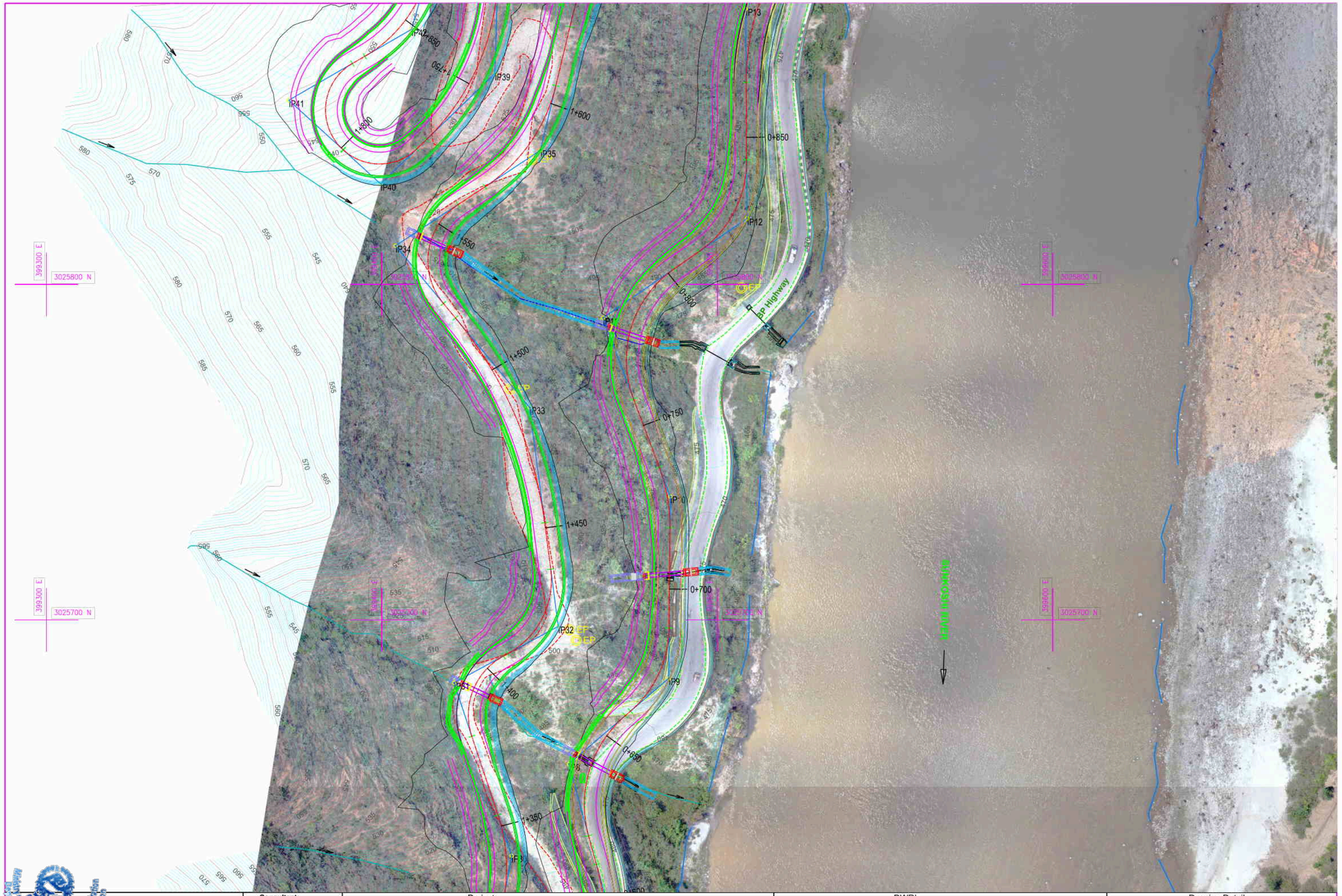
KAT KUTRI

SUNKOSHI RIVER

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Khando Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map with Drone Imagery
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	04
			Approved By			Scale	1:1000



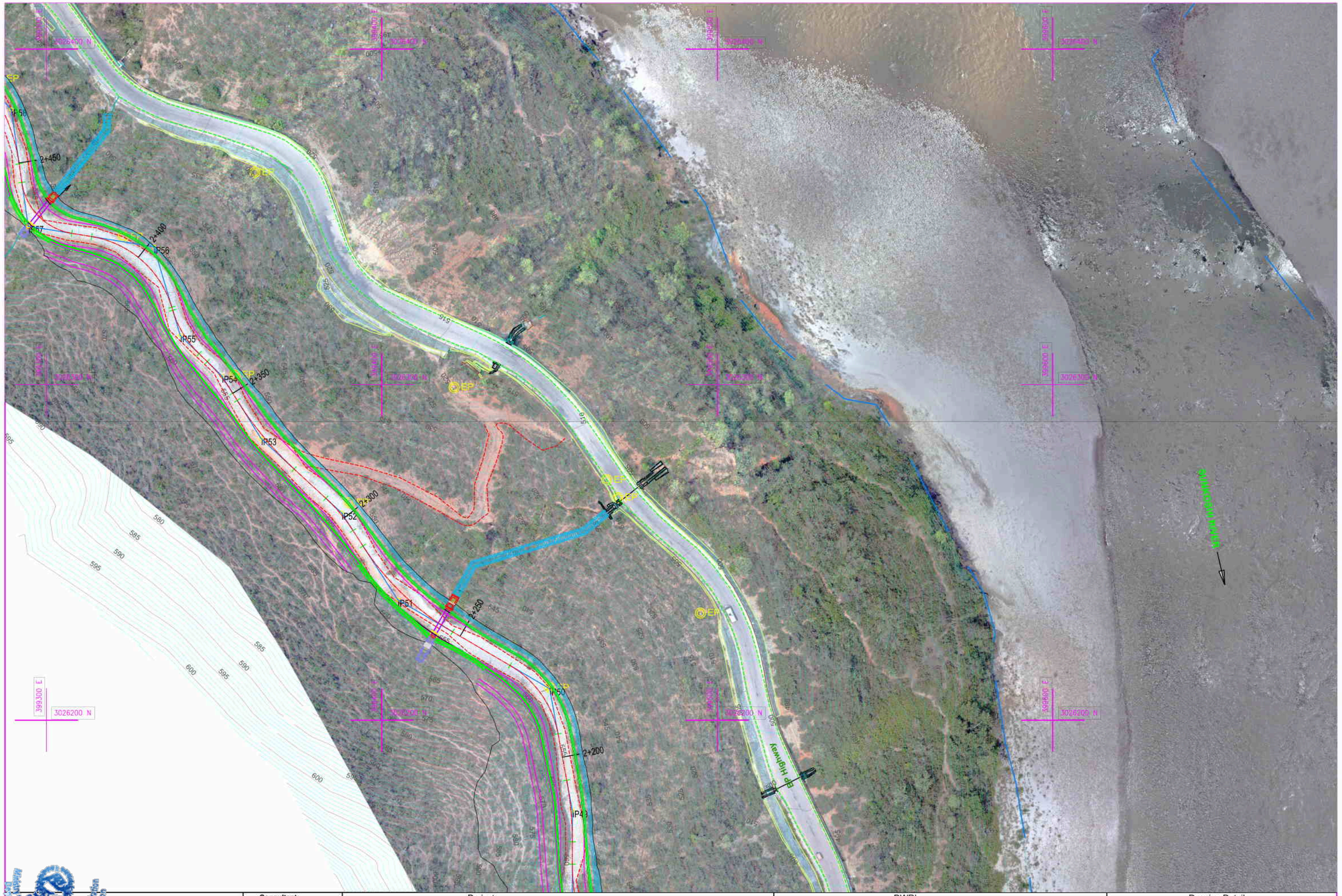
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-3 Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Topographic Map with Drone Imagery
		Checked By			Checked By			Drawing No.:	
		Recommended By			Recommended By			Sheet No.:	05
					Approved By			Scale	1:1000



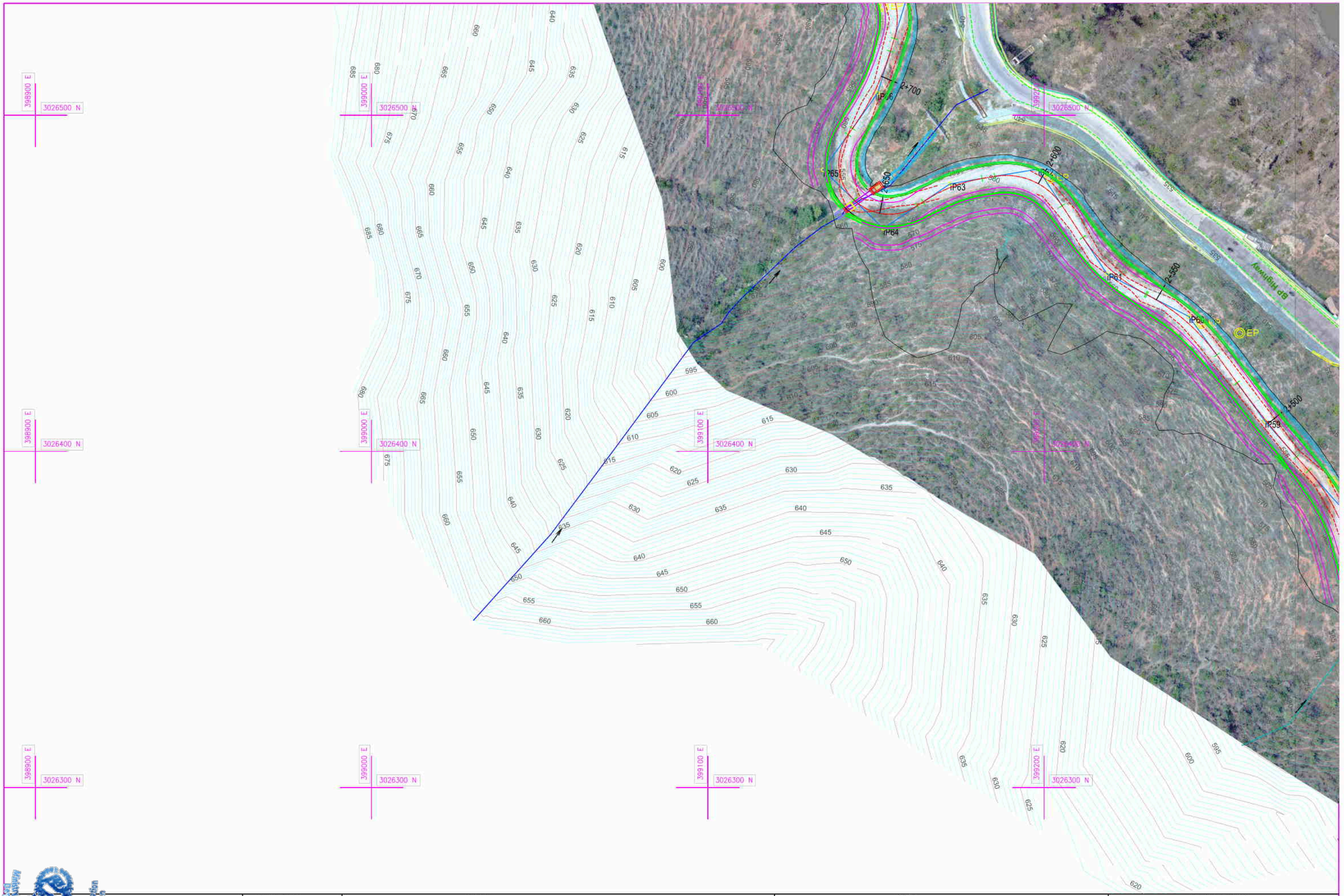
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi - Khimti Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map with Drone Imagery
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	06
			Approved By			Scale	1:1000



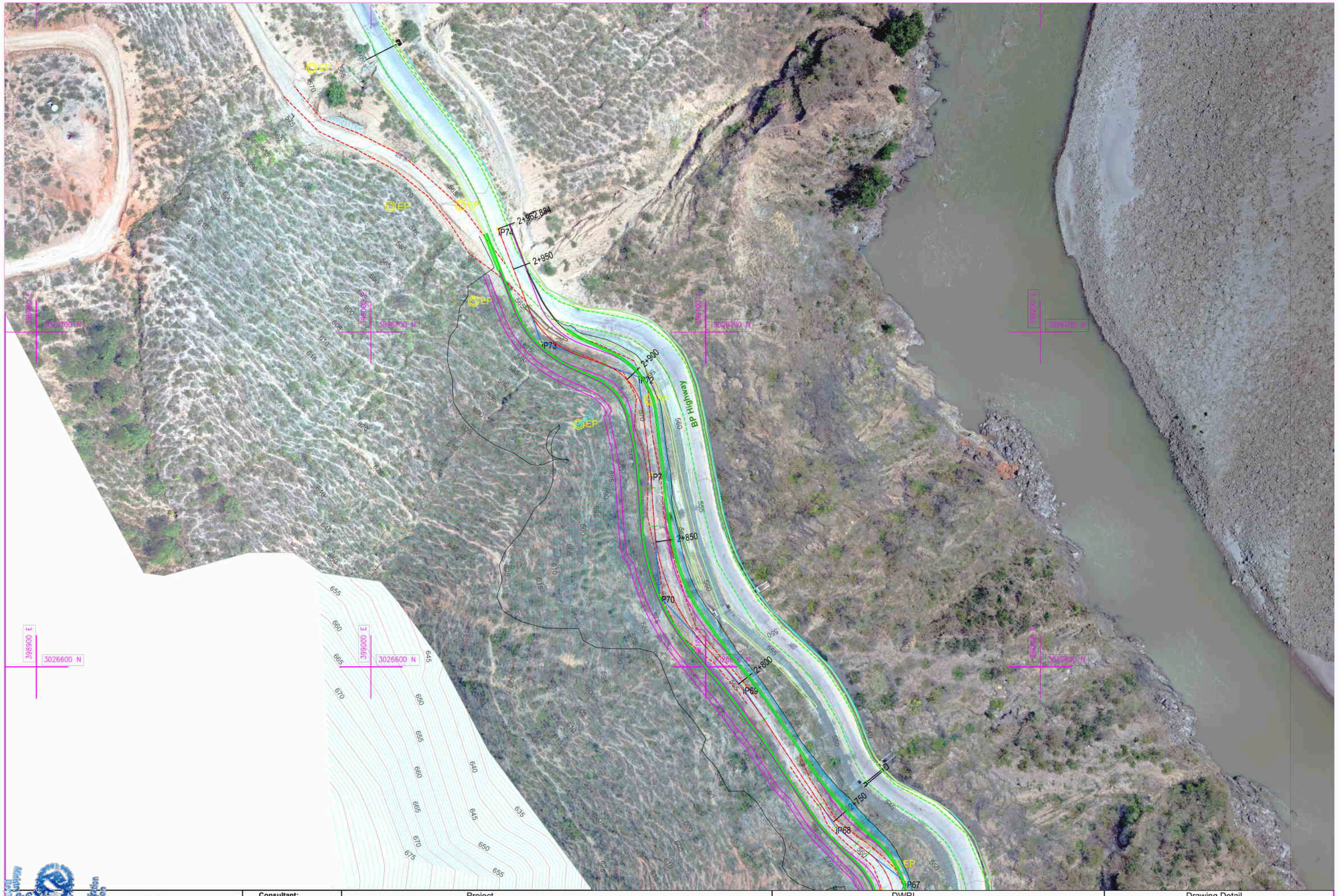
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-3 Storage Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Topographic Map with Drone Imagery
		Checked By			Checked By			Drawing No.:	
		Recommended By			Recommended By			Sheet No.:	07
					Approved By			Scale	1:1000



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Sindhuli Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map with Drone Imagery
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	08
			Approved By			Scale	1:1000



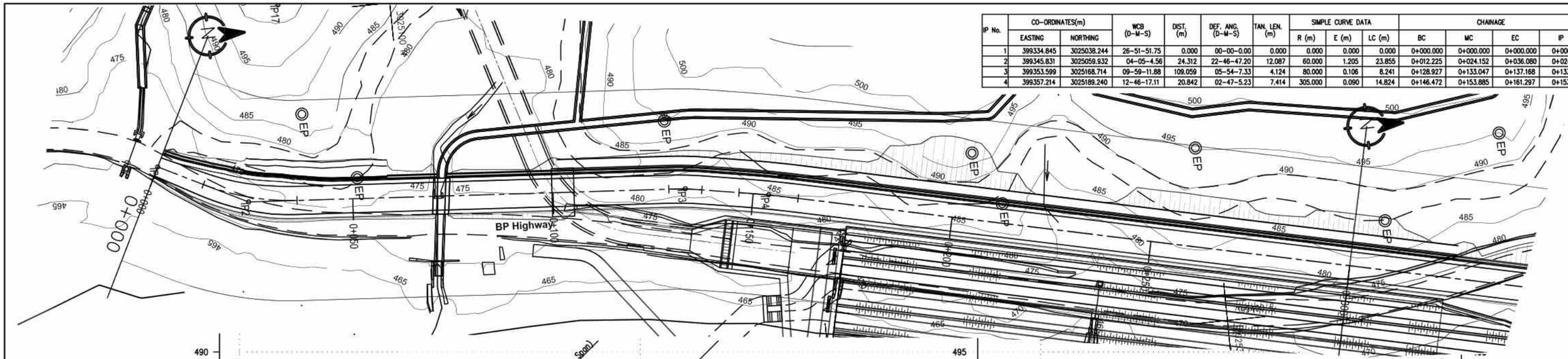
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Storage Diversion Multipurpose Project
Sindhuli, Nepal

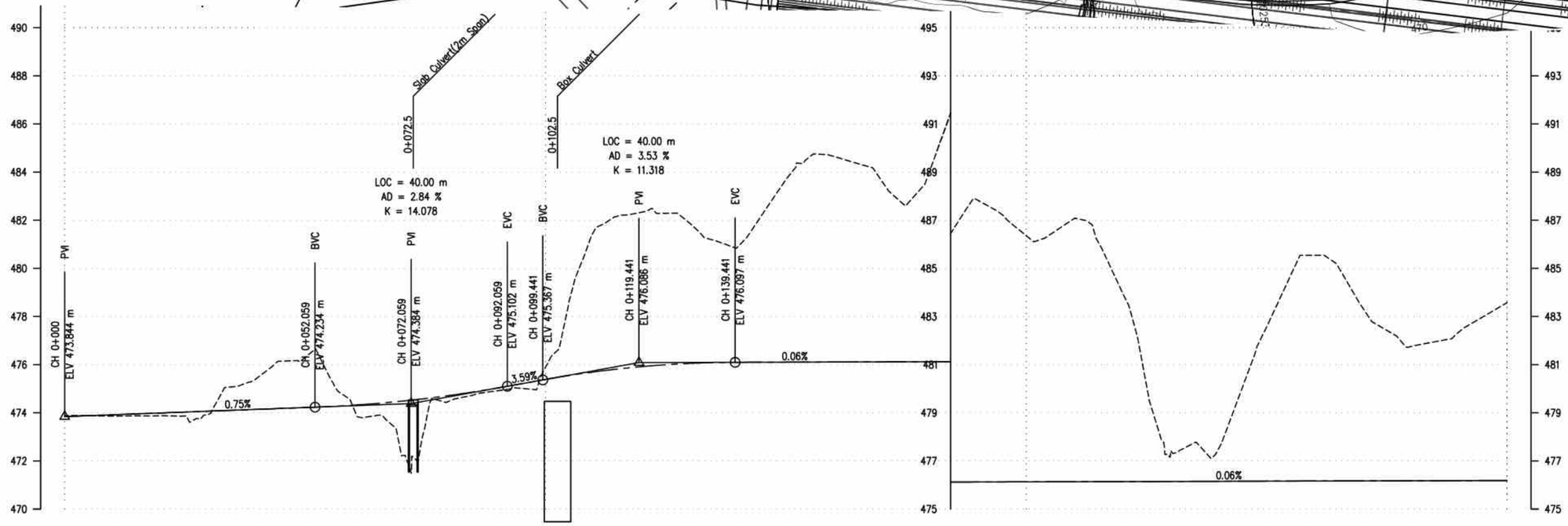
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Topographic Map with Drone Imagery
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	09
			Approved By			Scale	1:1000

PLAN AND PROFILE OF REALIGNED HIGHWAY

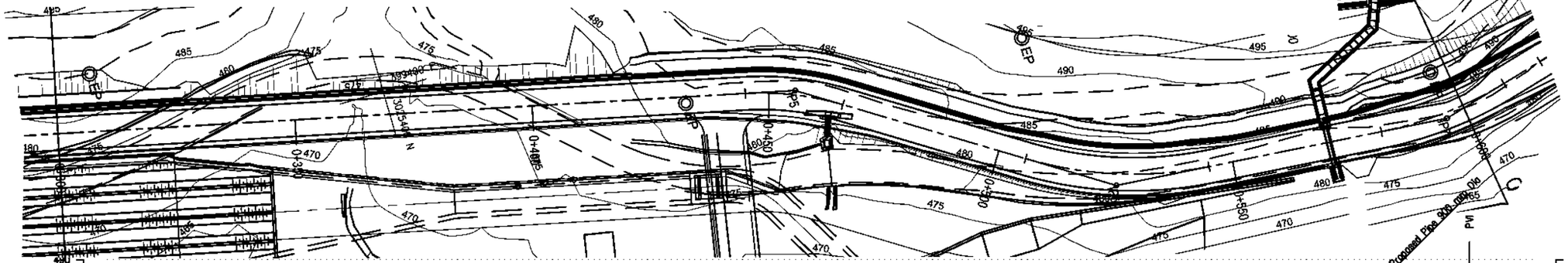
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
1	399334.845	3025038.244	26-51-51.75	0.000	00-00-0.00	0.000	0.000	0.000	0.000	0+000.000	0+000.000	0+000.000	0+000.000
2	399345.831	3025059.932	04-05-4.56	24.312	22-46-47.20	12.087	60.000	1.205	23.855	0+012.225	0+024.152	0+036.080	0+024.312
3	399353.599	3025168.714	09-59-11.88	109.059	05-54-7.33	4.124	80.000	0.106	8.241	0+128.927	0+133.047	0+137.168	0+133.051
4	399357.214	3025189.240	12-46-17.11	20.842	02-47-5.23	7.414	305.000	0.090	14.824	0+146.472	0+153.885	0+161.297	0+153.886

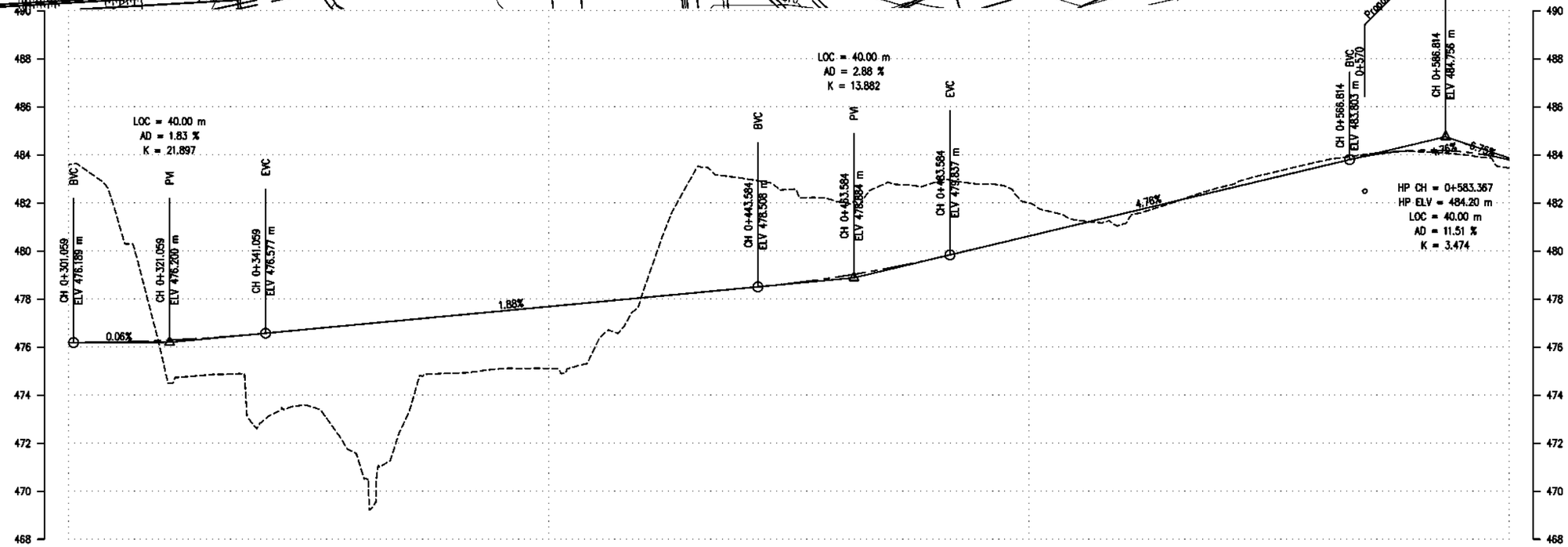




| | | | | |

IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
4	399357.214	3025189.240	12-46-17.11	20.842	02-47-5.23	7.414	305.000	0.090	14.824	0+146.472	0+153.885	0+161.297	0+153.886
5	399423.885	3025463.373	32-36-56.67	301.595	19-50-39.56	10.496	60.000	0.911	20.781	0+444.982	0+455.372	0+465.763	0+455.478
6	399481.905	3025542.788	04-38-26.04	70.539	27-56-28.63	19.927	80.000	2.445	39.060	0+505.679	0+525.409	0+544.939	0+525.806
7	399467.652	3025613.578	344-40-9.81	71.020	19-58-18.22	14.086	80.000	1.231	27.886	0+581.948	0+595.889	0+609.832	0+596.032





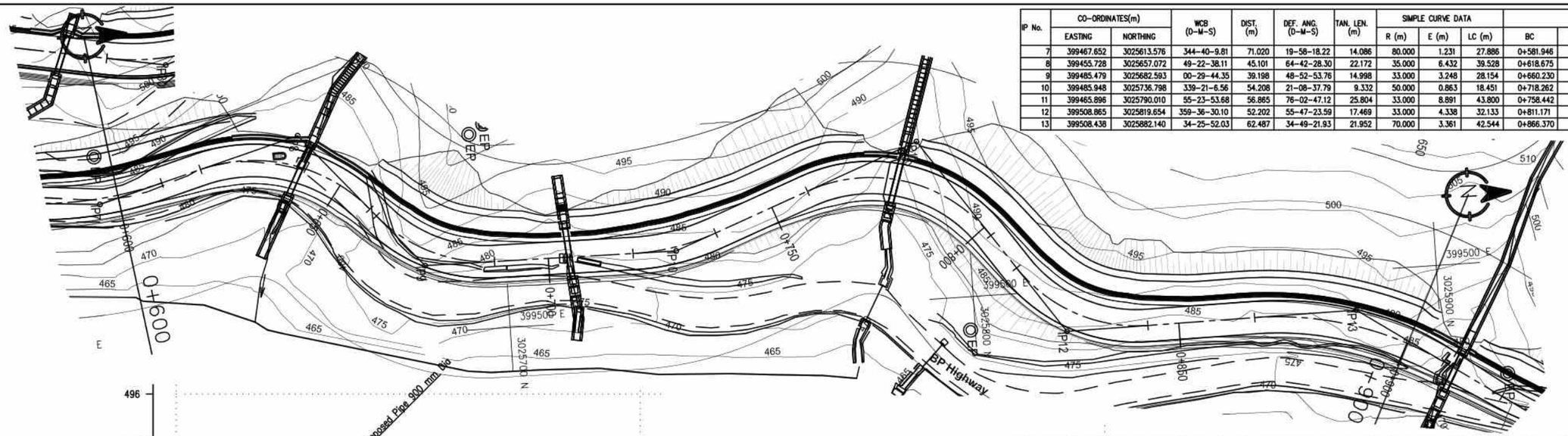
DESIGN LEVEL(m)	476.188	476.212	476.281	476.396	476.557	476.745	476.933	477.122	477.310	477.498	477.687	477.875	478.063	478.252	478.440	478.643	478.914	479.257	479.671	480.143	480.620	481.096	481.572	482.049	482.525	483.002	483.478	483.940	484.181	484.134	483.799
EXISTING LEVEL(m)	483.576	481.486	475.142	474.856	472.846	473.557	471.534	472.905	474.912	475.094	475.105	476.140	478.495	483.162	483.041	482.566	482.065	482.800	482.629	482.777	481.998	481.281	481.143	482.011	482.653	483.230	483.701	484.015	484.138	484.020	483.452
CHAINAGE(Km)	0+300	0+310	0+320	0+330	0+340	0+350	0+360	0+370	0+380	0+390	0+400	0+410	0+420	0+430	0+440	0+450	0+460	0+470	0+480	0+490	0+500	0+510	0+520	0+530	0+540	0+550	0+560	0+570	0+580	0+590	0+600
HORIZONTAL ALIGNMENT RIGHT																IP-5 R=60.00							IP-6 R=80.00								IP-7 R=80.00
HORIZONTAL ALIGNMENT LEFT																															
SUPER ELEVATION	NC								T							-5.5			T				5			T		NC	T	2.5	
	0+300								0+423.389							0+451.399	0+459.346					0+511.129			0+539.689		0+563.314		0+576.346	0+583.696	0+600

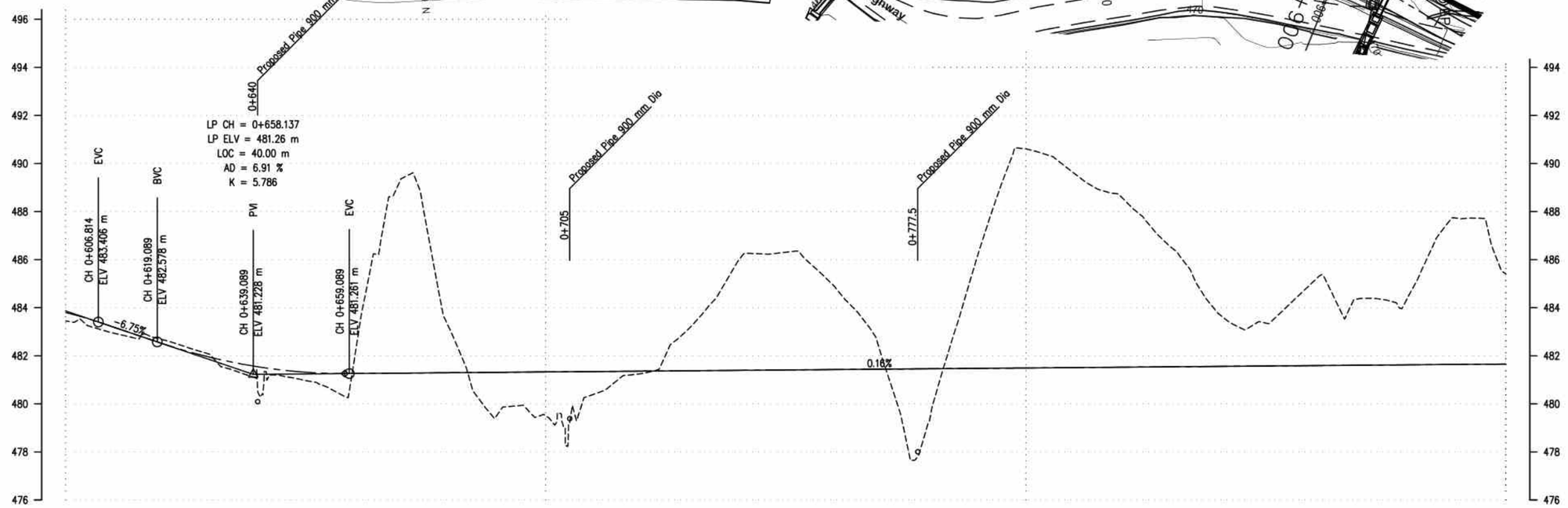
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Realigned Road
Checked By			Checked By			Drawing No.:	CH:0+300 - 0+600
Recommended By			Recommended By			Sheet No.:	2
			Approved By			Scale	Horizontal 1:1000, Vertical 1:200

IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
7	399467.652	3025613.576	344-40-9.81	71.020	19-58-18.22	14.086	80.000	1.231	27.886	0+581.946	0+595.889	0+609.832	0+596.032
8	399455.728	3025657.072	49-22-38.11	45.101	64-42-28.30	22.172	35.000	6.432	39.528	0+618.675	0+638.439	0+658.203	0+640.847
9	399485.479	3025682.593	00-29-44.35	39.198	48-52-53.76	14.998	33.000	3.248	28.154	0+660.230	0+674.307	0+688.384	0+675.228
10	399485.948	3025736.798	339-21-6.56	54.208	21-08-37.79	9.332	50.000	0.863	18.451	0+718.262	0+727.488	0+736.714	0+727.594
11	399465.896	3025790.010	55-23-53.68	56.865	76-02-47.12	25.804	33.000	8.891	43.800	0+758.442	0+780.342	0+802.242	0+784.246
12	399508.865	3025819.654	359-36-30.10	52.202	55-47-23.59	17.469	33.000	4.338	32.133	0+811.171	0+827.238	0+843.304	0+828.640
13	399508.438	3025882.140	34-25-52.03	62.487	34-49-21.93	21.952	70.000	3.361	42.544	0+866.370	0+887.642	0+908.914	0+888.322





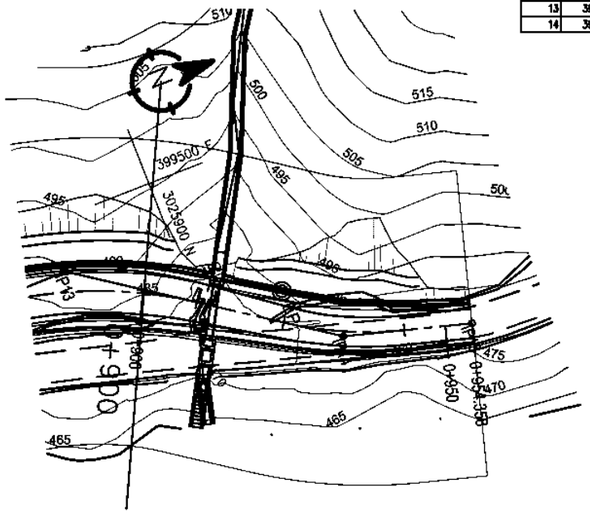
DESIGN LEVEL(m)	483.799	483.191	482.517	481.944	481.544	481.317	481.262	481.279	481.295	481.312	481.328	481.345	481.361	481.378	481.394	481.411	481.427	481.443	481.460	481.476	481.493	481.509	481.526	481.542	481.559	481.575	481.591	481.608	481.624	481.641	481.657
EXISTING LEVEL(m)	483.452	482.944	482.681	482.061	480.620	480.970	481.675	489.377	483.110	479.572	479.508	480.398	481.260	483.163	485.927	486.308	484.920	481.960	479.361	486.195	490.610	489.601	488.588	486.557	483.777	483.363	485.106	484.390	484.595	487.719	485.409
CHAINAGE(Km)	0+600	0+610	0+620	0+630	0+640	0+650	0+660	0+670	0+680	0+690	0+700	0+710	0+720	0+730	0+740	0+750	0+760	0+770	0+780	0+790	0+800	0+810	0+820	0+830	0+840	0+850	0+860	0+870	0+880	0+890	0+900
HORIZONTAL ALIGNMENT (RIGHT / LEFT)	IP-7 R=80.00		IP-8 R=35.00				IP-9 R=33.00					IP-10 R=50.00						IP-11 R=33.00				IP-12 R=33.00						IP-13 R=70.00			
SUPER ELEVATION	2.5	T	−2.5	T	2.5	T	6	T	−2.5	T	2.5	T	−2.5																			
	0+600	0+608.082	0+620.425	0+656.453	0+661.98	0+686.634	0+723.162	0+731.814	0+760.192	0+800.492	0+812.921	0+841.554	0+868.12	0+900																			

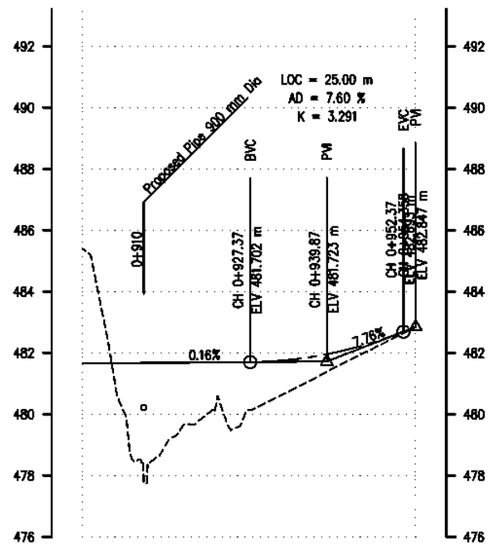
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Realigned Road
Checked By			Checked By			Drawing No.:	CH:0+600 - 0+900
Recommended By			Recommended By			Sheet No.:	3
			Approved By			Scale	Horizontal 1:1000, Vertical 1:200

IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
13	399508.438	3025882.140	34-25-52.03	82.487	34-49-21.93	21.952	70.000	3.361	42.544	0+866.370	0+887.642	0+908.914	0+888.322
14	399534.725	3025920.487	15-31-59.28	46.492	18-53-52.75	8.986	60.000	0.825	19.790	0+923.468	0+933.364	0+943.259	0+933.454





DESIGN LEVEL(m)		481.657	481.674	481.690	481.717	481.965	482.518	482.847
EXISTING LEVEL(m)		485.409	477.805	479.947	480.381	481.404	482.409	482.847
CHAINAGE(Km)		0+900	0+910	0+920	0+930	0+940	0+950	0+954.36
HORIZONTAL ALIGNMENT	RIGHT	IP-13 R=70.00				IP-14 R=60.00		
	LEFT							
SUPER ELEVATION		-2.5	T		2.5	T	NC	
		0+900	0+907.164		0+925.219	0+941.509	0+948.859	0+954.358

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamla Diversion Multipurpose Project
Bindhuli, Nepal

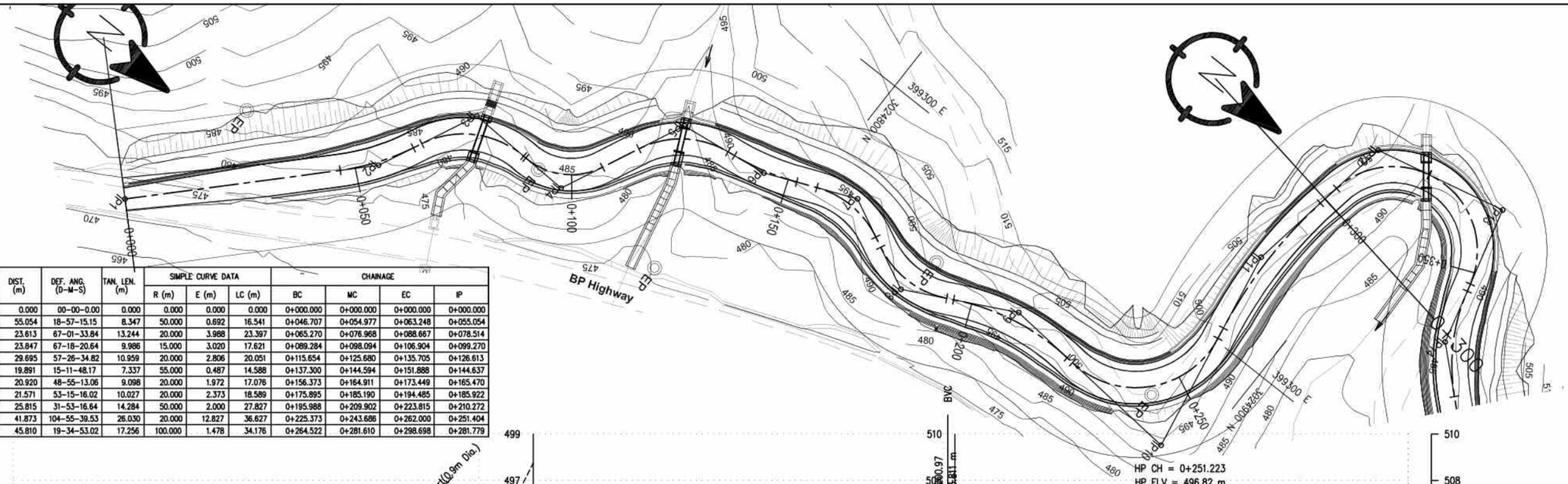
Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project	Name	Sign
Checked By		
Recommended By		

DWRI	Name	Sign
Checked By		
Recommended By		
Approved By		

Drawing Detail	
Drawing Title :	Realigned Road
Drawing No.:	CH:0+900 - 0+965
Sheet No.:	4
Scale	Horizontal 1:1000, Vertical 1:200

PLAN AND PROFILE OF SERVICE ROAD



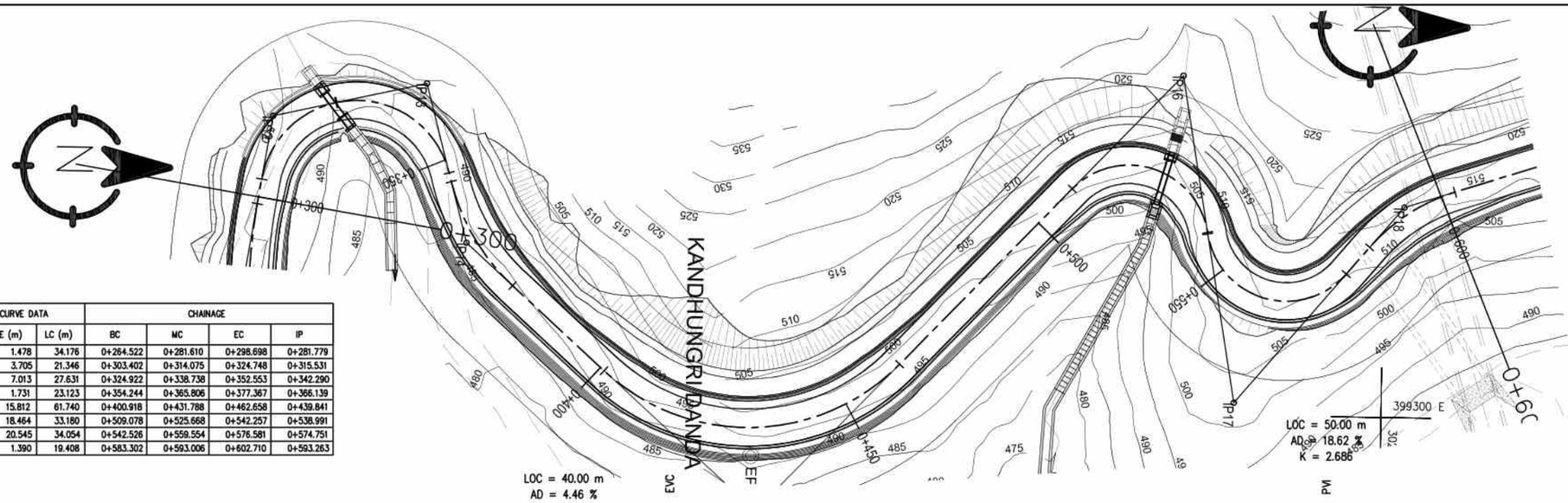
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
1	399421.812	3024685.187	314-04-8.56	0.000	00-00-0.00	0.000	0.000	0.000	0.000	0+000.000	0+000.000	0+000.000	0+000.000
2	399382.256	3024723.479	295-06-53.41	55.054	18-57-15.15	8.347	50.000	0.692	16.541	0+046.707	0+054.977	0+063.248	0+055.054
3	399360.875	3024733.501	02-08-27.24	23.613	67-01-33.84	13.244	20.000	3.988	23.397	0+065.270	0+076.968	0+088.667	0+078.514
4	399361.766	3024757.332	294-50-6.60	23.847	67-18-20.64	9.986	15.000	3.020	17.621	0+089.284	0+098.094	0+106.904	0+099.270
5	399334.817	3024769.804	352-16-41.43	29.695	57-26-34.82	10.959	20.000	2.806	20.051	0+115.654	0+125.680	0+135.705	0+126.613
6	399332.144	3024789.514	337-04-53.26	19.891	15-11-48.17	7.337	55.000	0.487	14.588	0+137.300	0+144.594	0+151.888	0+144.637
7	399323.998	3024808.782	26-00-6.31	20.920	48-55-13.06	9.098	20.000	1.972	17.076	0+156.373	0+164.911	0+173.449	0+165.470
8	399333.455	3024828.170	332-44-50.29	21.571	53-15-16.02	10.027	20.000	2.373	18.589	0+175.895	0+185.190	0+194.485	0+185.922
9	399321.634	3024851.119	04-38-6.93	25.815	31-53-16.64	14.284	50.000	2.000	27.827	0+195.988	0+209.902	0+223.815	0+210.272
10	399325.018	3024892.855	259-42-27.40	41.873	104-55-39.53	26.030	20.000	12.827	36.627	0+225.373	0+243.686	0+262.000	0+251.404
11	399279.945	3024884.670	279-17-20.42	45.810	19-34-53.02	17.256	100.000	1.478	34.176	0+264.522	0+281.610	0+298.698	0+281.779

DESIGN LEVEL(m)	472.820	472.982	473.346	473.927	474.724	475.738	476.922	478.120	479.318	480.516	481.714	482.912	484.110	485.308	486.506	487.704	488.902	490.100	491.298	492.496	493.694	494.795	495.659	496.284	496.671	496.819	496.729	496.401	495.834	495.029	493.985
EXISTING LEVEL(m)	472.820	472.663	475.566	477.605	479.229	479.567	481.737	482.325	480.354	484.528	485.029	487.055	484.756	486.151	491.274	489.843	492.003	492.166	494.514	494.974	496.409	501.489	497.118	498.901	502.776	500.862	498.208	496.640	495.955	495.466	494.073
CHAINAGE(Km)	0+000	0+010	0+020	0+030	0+040	0+050	0+060	0+070	0+080	0+090	0+100	0+110	0+120	0+130	0+140	0+150	0+160	0+170	0+180	0+190	0+200	0+210	0+220	0+230	0+240	0+250	0+260	0+270	0+280	0+290	0+300
HORIZONTAL ALIGNMENT RIGHT	IP-1 R=0.00					IP-2 R=50.00		IP-3 R=20.00		IP-4 R=15.00			IP-5 R=20.00		IP-6 R=55.00	IP-7 R=20.00			IP-8 R=20.00		IP-9 R=50.00			IP-10 R=20.00			IP-11 R=100.00				
SUPER ELEVATION	NC		T	2.5	T	−2.5	T	2.5	T	−2.5	T	2.5	T	−2.5	T	2.5	T	−2.5	T	2.5	T	−2.5	T	2.5	T	NC	T				
	0+000		0+041.107	0+048.457		0+061.498	0+067.02		0+086.917	0+091.034		0+105.154	0+117.404		0+133.955	0+139.05	0+150.138	0+158.123		0+171.699	0+177.645	0+192.735	0+197.738		0+222.065	0+227.123		0+260.25	0+267.6		0+297.802 0+300

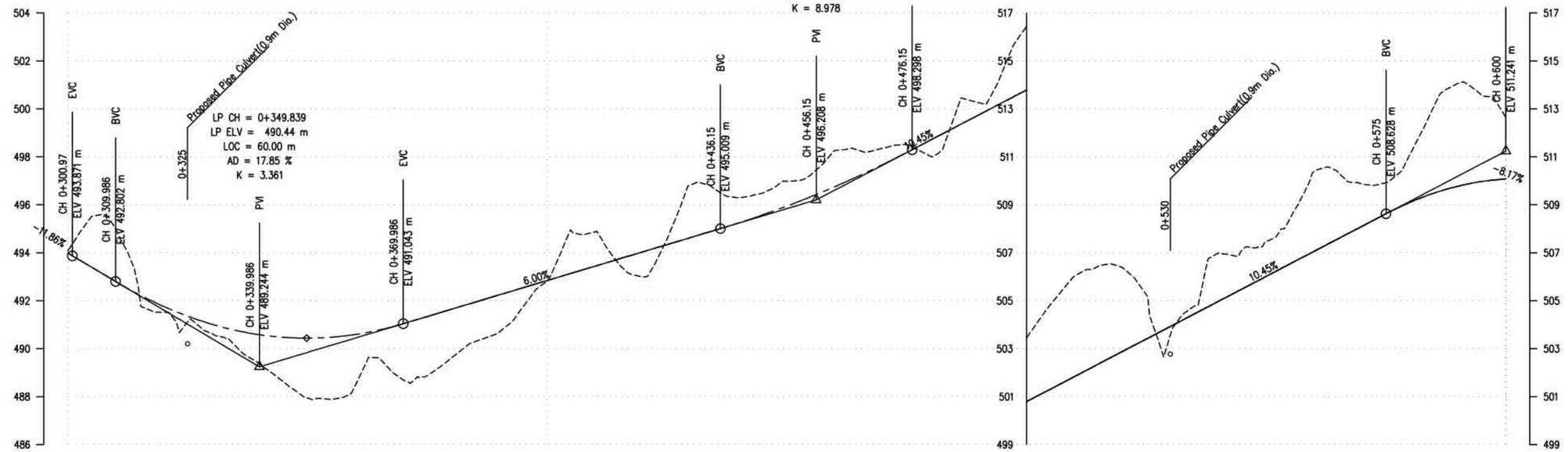
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Service Road
Checked By			Checked By			Drawing No.:	CH:0+000 - 0+300
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale	Horizontal 1:1000, Vertical 1:200

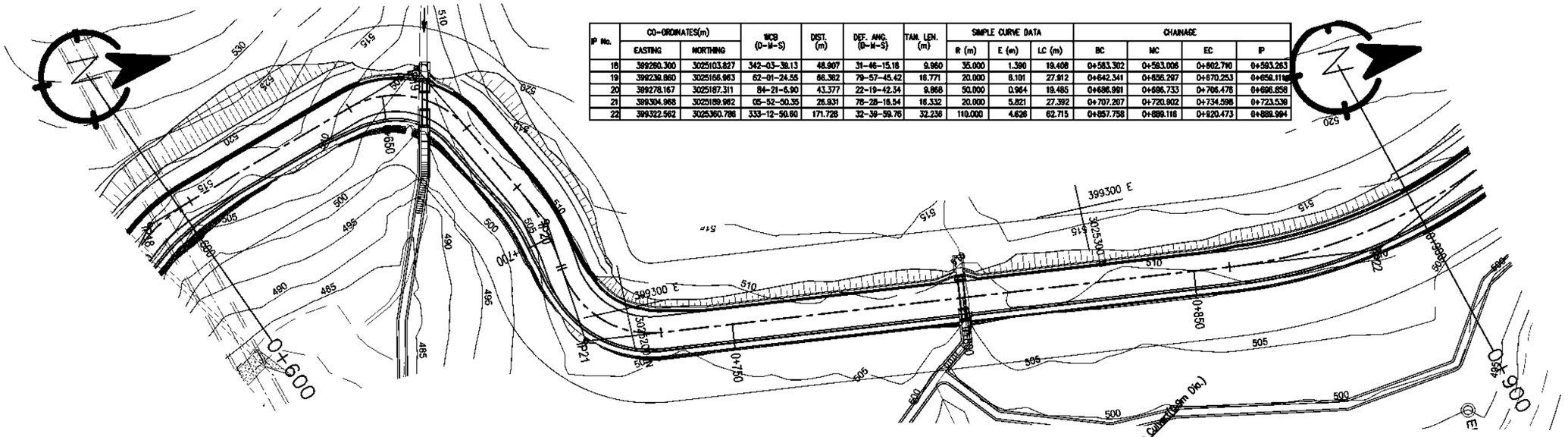


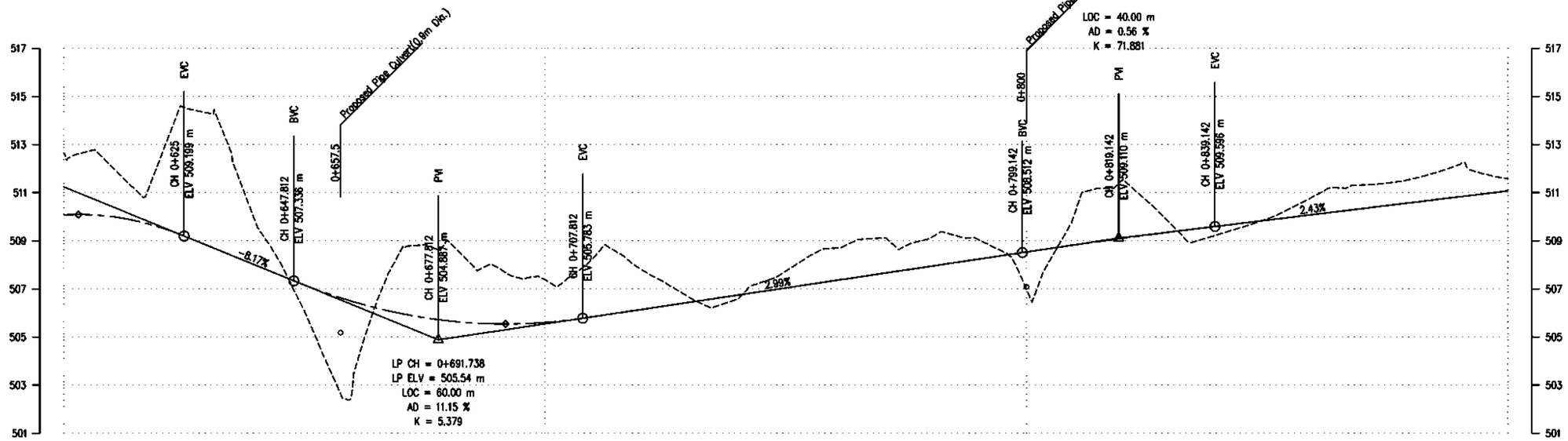
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
11	399279.945	3024884.670	279-17-20.42	45.810	19-34-53.02	17.256	100.000	1.478	34.176	0+264.522	0+281.610	0+298.698	0+281.779
12	399246.304	3024890.173	347-14-4.39	34.088	67-56-43.97	12.129	18.000	3.705	21.346	0+303.402	0+314.075	0+324.748	0+315.531
13	399239.748	3024919.110	75-11-18.01	29.671	87-57-13.63	17.368	18.000	7.013	27.631	0+324.922	0+338.738	0+352.553	0+342.290
14	399269.673	3024927.024	42-04-0.29	30.954	33-07-17.72	11.895	40.000	1.731	23.123	0+354.244	0+365.806	0+377.367	0+366.139
15	399319.500	3024982.232	313-37-50.64	74.368	88-26-9.65	38.923	40.000	15.812	61.740	0+400.918	0+431.788	0+462.658	0+439.841
16	399236.077	3025061.759	80-22-4.73	115.256	126-44-14.08	29.913	15.000	18.464	33.180	0+509.078	0+525.668	0+542.257	0+538.991
17	399297.605	3025072.201	310-17-23.94	62.407	130-04-40.78	32.225	15.000	20.545	34.054	0+542.526	0+559.554	0+576.581	0+574.751
18	399260.300	3025103.827	342-03-39.13	48.907	31-46-15.18	9.960	35.000	1.390	19.408	0+583.302	0+593.006	0+602.710	0+593.263



| | | | | |

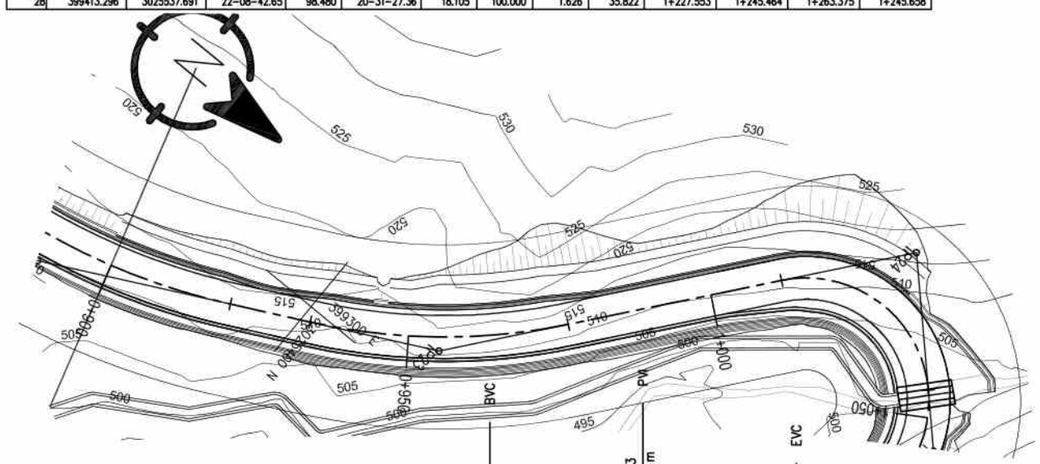
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
18	399260.300	3025103.827	342-03-39.13	48.907	31-46-15.18	9.950	35.000	1.398	19.408	0+583.302	0+593.006	0+602.710	0+593.263
19	399239.860	3025166.963	62-01-24.55	66.382	79-57-45.42	16.771	20.000	6.101	27.912	0+642.341	0+656.297	0+670.253	0+659.118
20	399278.167	3025187.311	84-21-6.90	43.377	22-19-42.34	9.868	50.000	0.964	19.485	0+686.991	0+696.733	0+706.476	0+696.858
21	399304.968	3025189.982	05-52-50.35	26.931	76-28-18.54	16.332	20.000	5.821	27.392	0+707.207	0+720.902	0+734.596	0+723.539
22	399322.562	3025360.786	333-12-50.60	171.728	32-39-59.76	32.238	110.000	4.626	62.715	0+857.758	0+889.116	0+920.473	0+889.994

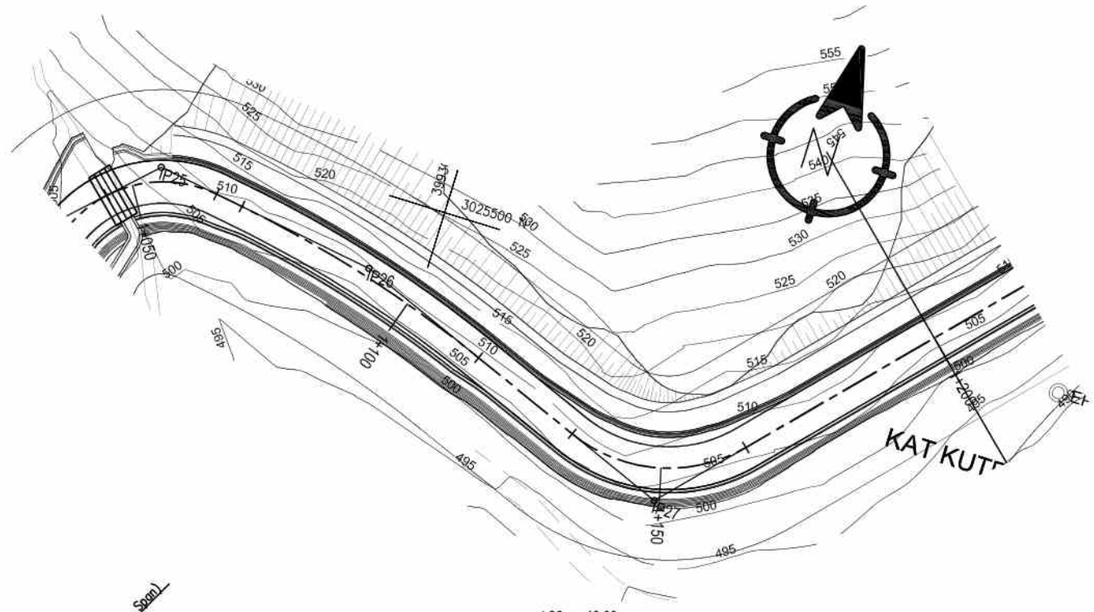


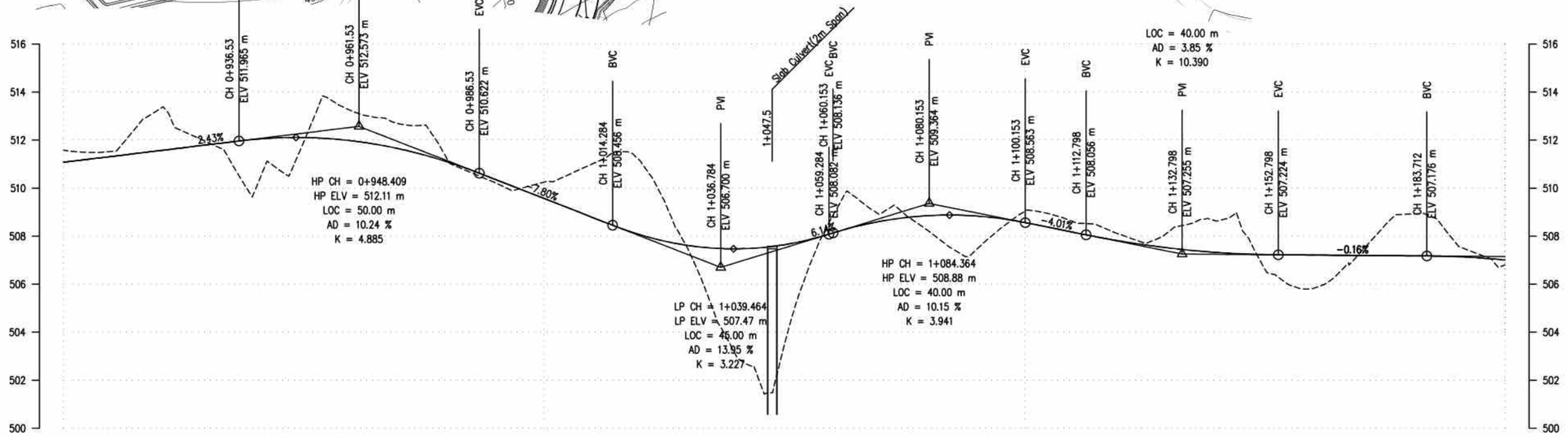


| | | | | |

IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
22	399322.562	3025360.786	333-12-50.60	171.728	32-39-59.76	32.236	110.000	4.626	62.715	0+857.758	0+889.116	0+920.473	0+889.994
23	399292.319	3025420.694	308-55-20.75	67.110	24-17-29.85	21.522	100.000	2.290	42.397	0+933.826	0+955.024	0+976.223	0+955.348
24	399230.469	3025470.641	45-33-30.41	79.499	96-38-9.67	22.462	20.000	10.075	33.732	1+011.738	1+028.604	1+045.470	1+034.200
25	399253.655	3025493.380	98-44-46.18	32.476	53-11-15.77	10.013	20.000	2.366	18.566	1+045.472	1+054.755	1+064.038	1+055.484
26	399290.895	3025487.651	111-53-48.96	37.678	13-09-2.78	23.054	200.000	1.324	45.905	1+068.649	1+091.602	1+114.554	1+091.703
27	399346.550	3025465.281	42-40-10.01	59.982	69-13-38.95	17.255	25.000	5.377	30.208	1+134.227	1+149.331	1+164.434	1+151.483
28	399413.296	3025537.691	22-08-42.65	98.480	20-31-27.36	18.105	100.000	1.626	35.822	1+227.553	1+245.464	1+263.375	1+245.658

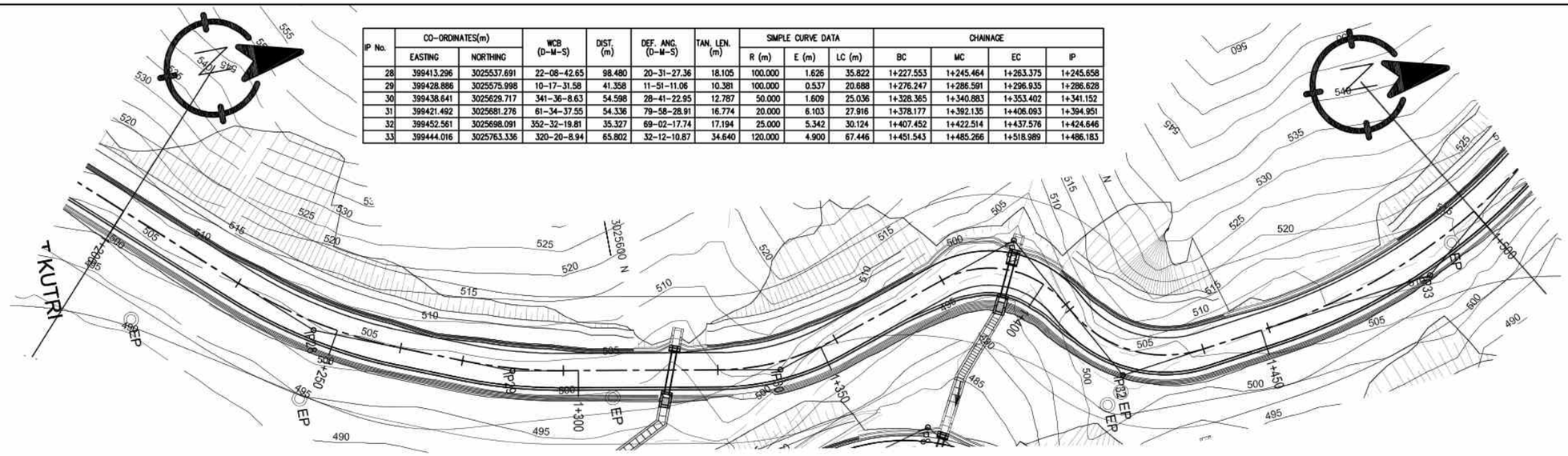


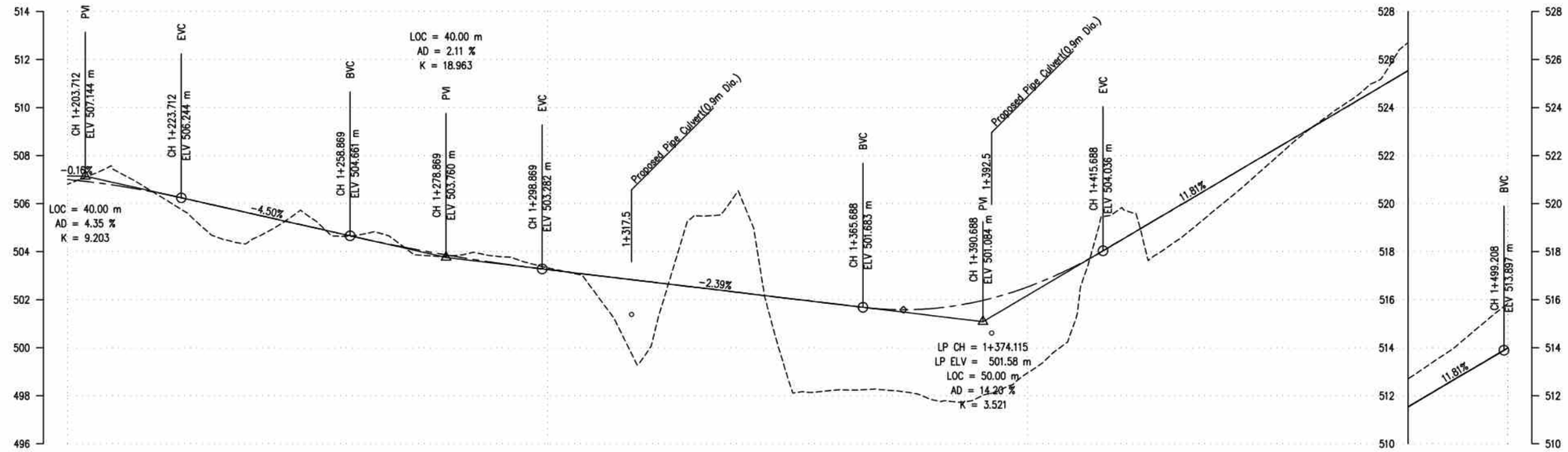




| | | | | |

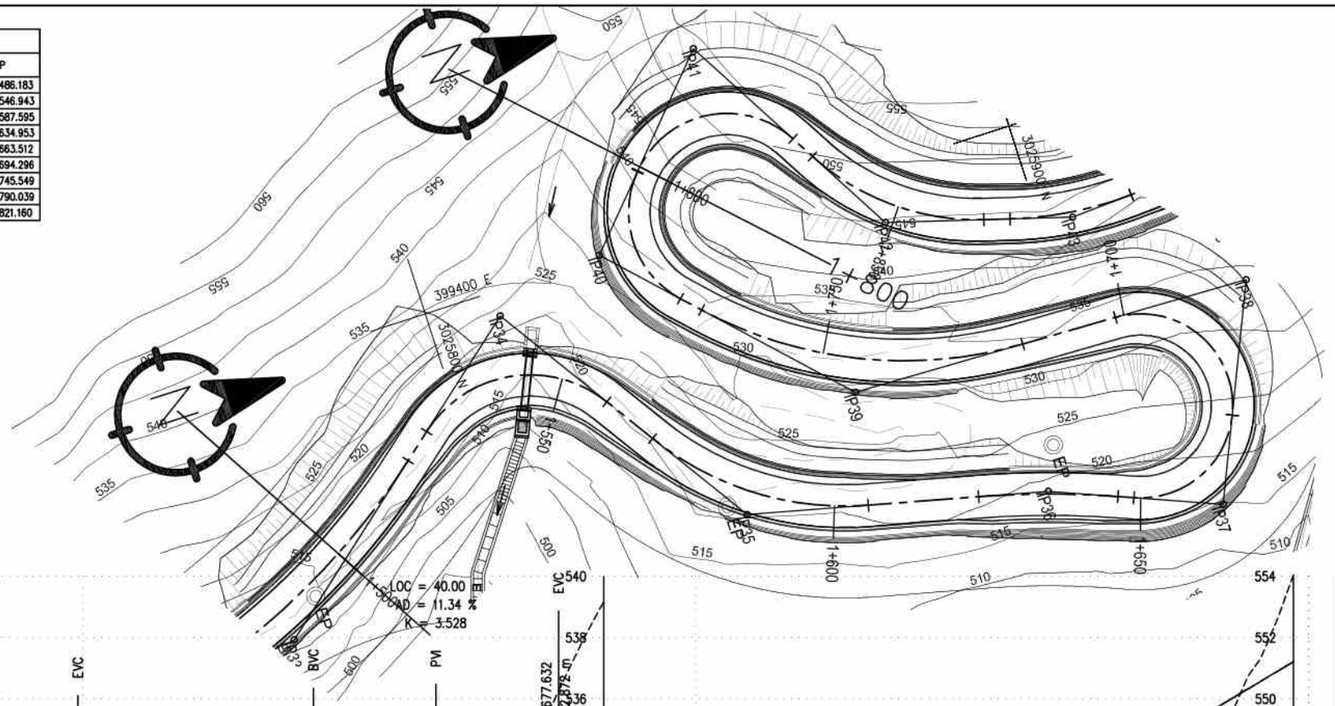
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
28	399413.296	3025537.691	22-08-42.65	98.480	20-31-27.36	18.105	100.000	1.626	35.822	1+227.553	1+245.464	1+263.375	1+245.658
29	399428.886	3025575.998	10-17-31.58	41.358	11-51-11.06	10.381	100.000	0.537	20.688	1+276.247	1+286.591	1+296.935	1+286.628
30	399438.641	3025629.717	341-36-8.63	54.598	28-41-22.95	12.787	50.000	1.609	25.036	1+328.365	1+340.883	1+353.402	1+341.152
31	399421.492	3025681.276	61-34-37.55	54.336	79-58-28.91	16.774	20.000	6.103	27.916	1+378.177	1+392.135	1+406.093	1+394.951
32	399452.561	3025698.091	352-32-19.81	35.327	69-02-17.74	17.194	25.000	5.342	30.124	1+407.452	1+422.514	1+437.576	1+424.646
33	399444.016	3025763.336	320-20-8.94	65.802	32-12-10.87	34.640	120.000	4.900	67.446	1+451.543	1+485.266	1+518.989	1+486.183

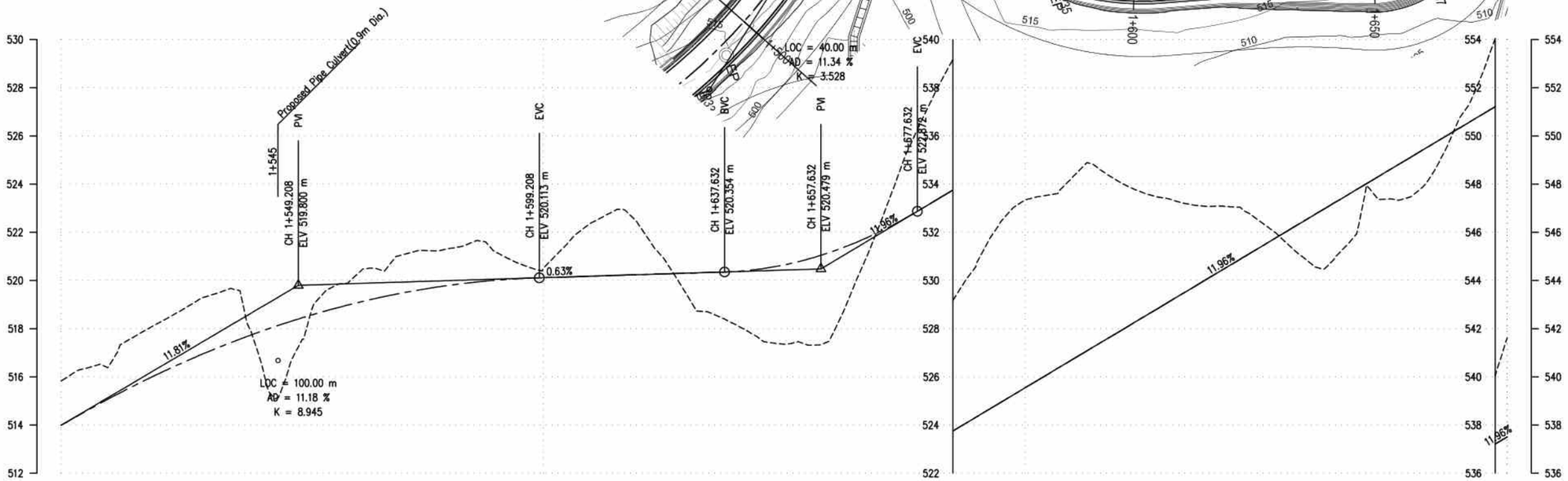




| | | | | |

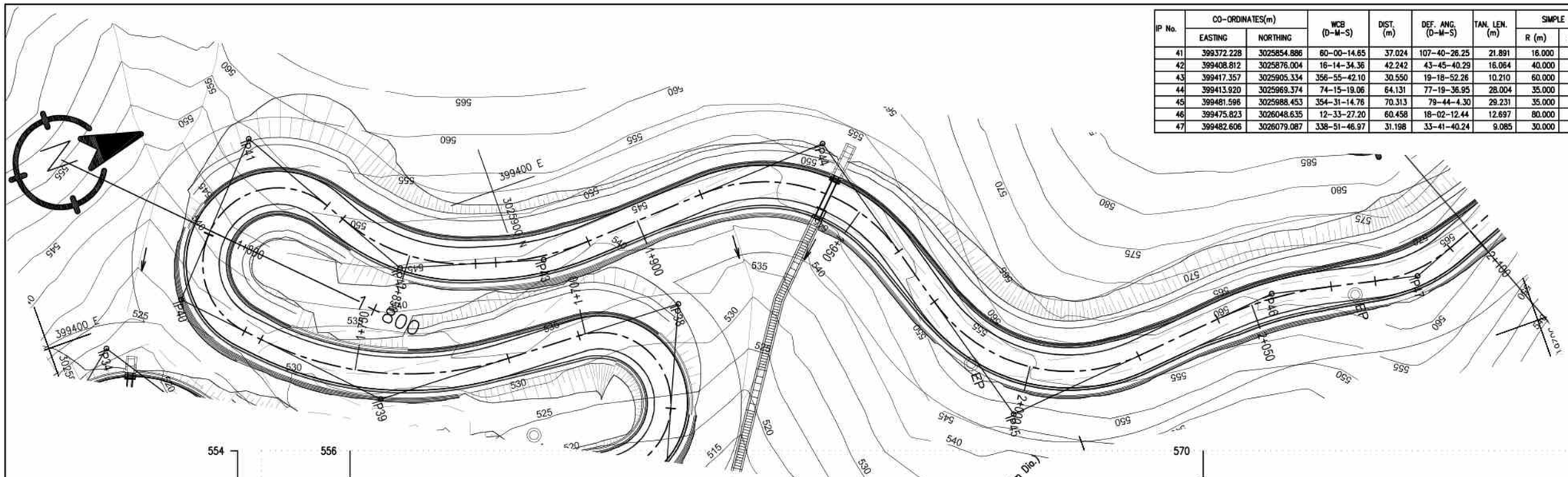
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
33	399444.016	3025763.336	320-20-8.94	65.802	32-12-10.87	34.640	120.000	4.900	67.446	1+451.543	1+485.266	1+518.989	1+486.183
34	399404.064	3025811.520	56-38-37.02	62.593	96-18-28.09	22.333	20.000	9.979	33.618	1+524.610	1+541.419	1+558.228	1+546.943
35	399447.247	3025839.947	13-25-43.25	51.700	43-12-53.77	19.804	50.000	3.779	37.712	1+567.791	1+586.647	1+605.504	1+587.595
36	399458.686	3025887.854	22-07-16.79	49.254	08-41-33.54	11.401	150.000	0.433	22.757	1+623.553	1+634.932	1+646.310	1+634.953
37	399469.456	3025914.351	293-42-6.48	28.602	88-25-10.31	14.592	15.000	5.927	23.148	1+648.920	1+660.494	1+672.068	1+663.512
38	399435.742	3025929.151	181-47-57.39	36.820	111-54-9.08	22.198	15.000	11.791	29.296	1+672.099	1+686.747	1+701.395	1+694.296
39	399433.659	3025862.832	226-00-39.42	66.352	44-12-42.03	28.432	70.000	5.554	54.015	1+717.117	1+744.124	1+771.132	1+745.549
40	399399.599	3025829.954	312-19-48.40	47.340	86-19-8.97	15.004	16.000	5.934	24.105	1+775.035	1+787.087	1+799.140	1+790.039
41	399372.228	3025854.886	60-00-14.65	37.024	107-40-26.25	21.891	16.000	11.115	30.068	1+799.270	1+814.304	1+829.338	1+821.160

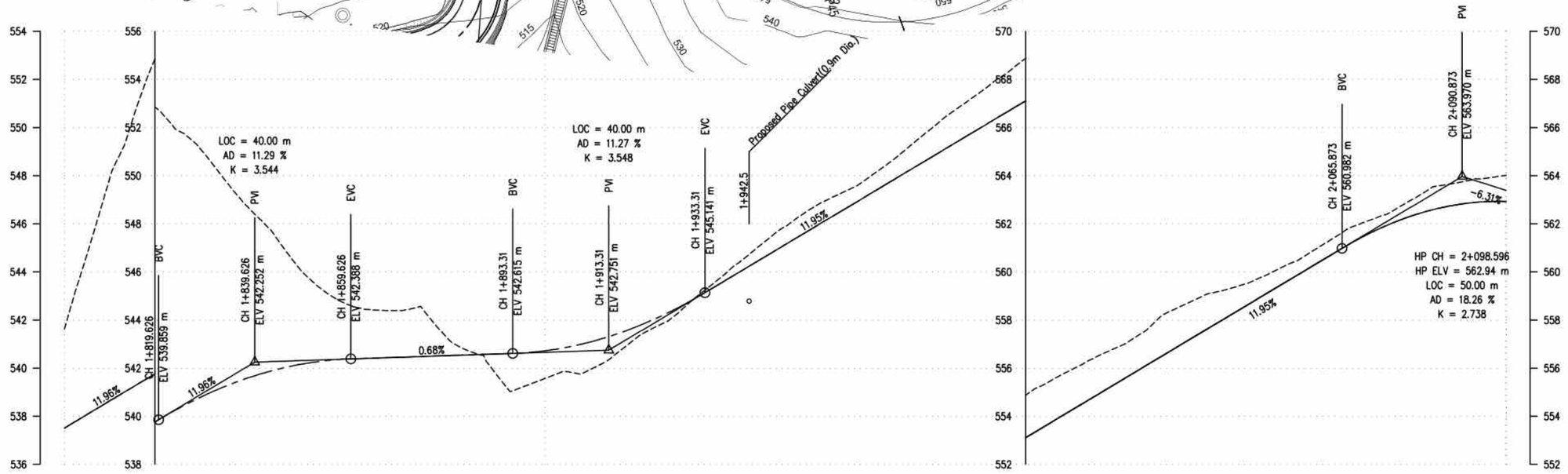




| | | | | |

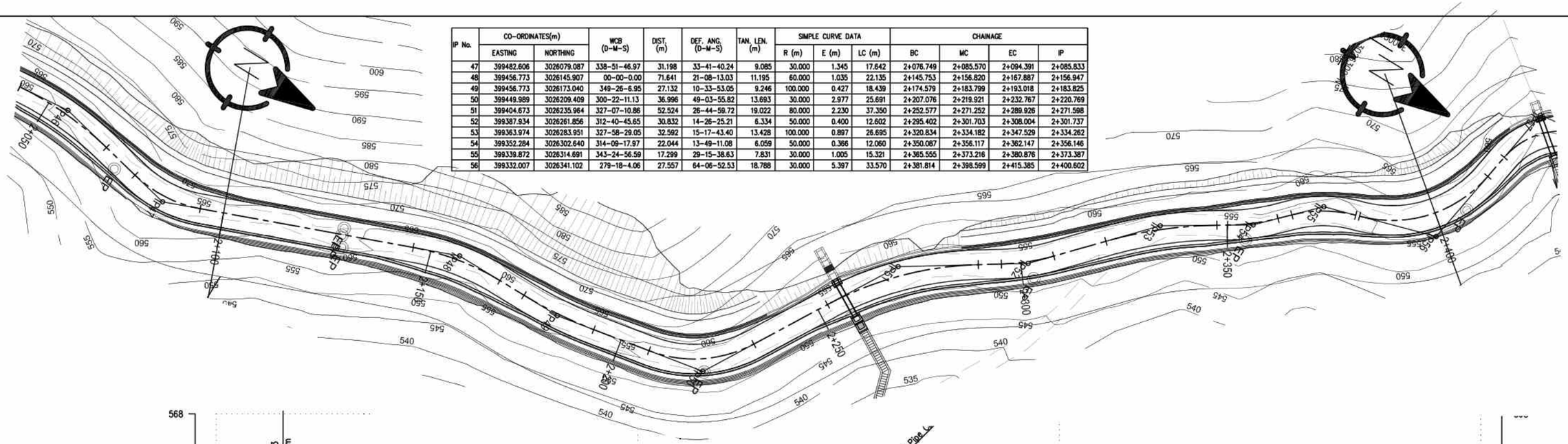
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
41	399372.228	3025854.886	60-00-14.65	37.024	107-40-26.25	21.891	16.000	11.115	30.068	1+799.270	1+814.304	1+829.338	1+821.160
42	399408.812	3025876.004	16-14-34.36	42.242	43-45-40.29	16.064	40.000	3.105	30.551	1+833.625	1+848.900	1+864.176	1+849.689
43	399417.357	3025905.334	356-55-42.10	30.550	19-18-52.26	10.210	60.000	0.862	20.226	1+868.451	1+878.564	1+888.677	1+878.661
44	399413.920	3025969.374	74-15-19.06	64.131	77-19-36.95	28.004	35.000	9.824	47.236	1+914.595	1+938.213	1+961.831	1+942.599
45	399481.596	3025988.453	354-31-14.76	70.313	79-44-4.30	29.231	35.000	10.601	48.707	1+974.911	1+999.284	2+023.618	2+004.141
46	399475.823	3026048.635	12-33-27.20	60.458	18-02-12.44	12.697	80.000	1.001	25.184	2+042.148	2+054.740	2+067.332	2+054.845
47	399482.606	3026079.087	338-51-46.97	31.198	33-41-40.24	9.085	30.000	1.345	17.642	2+076.749	2+085.570	2+094.391	2+085.833

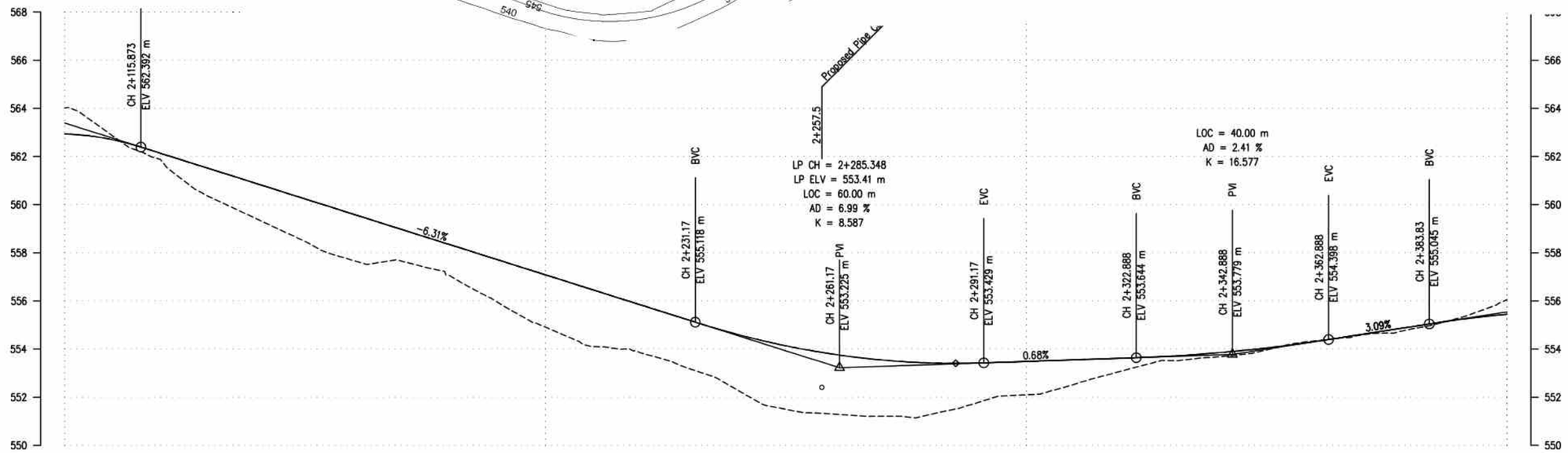




| | | | | |

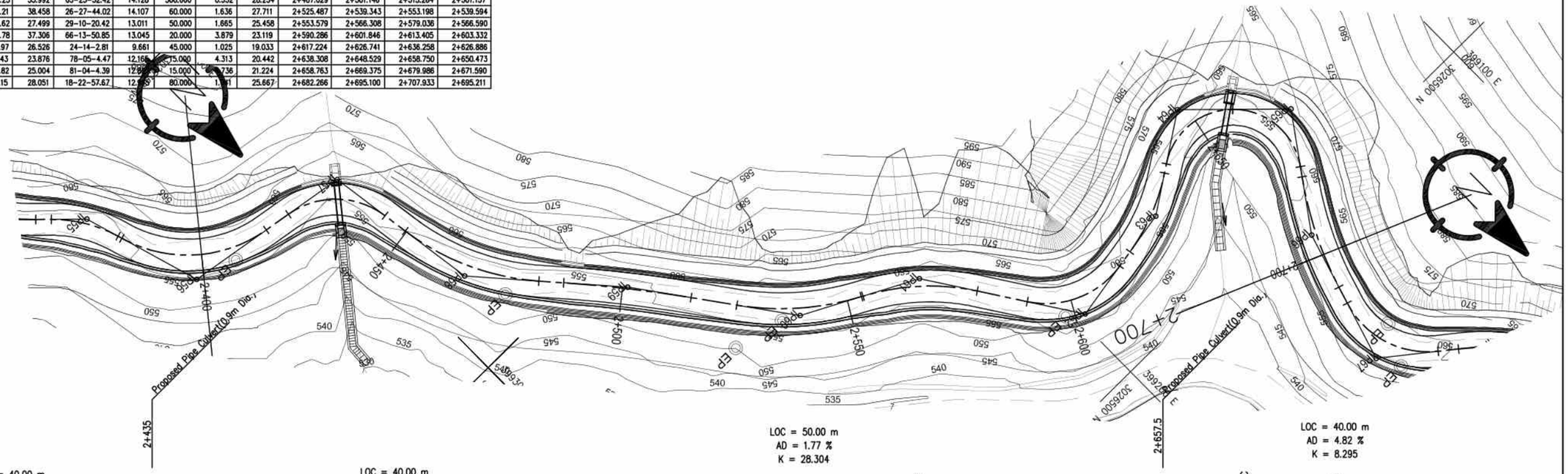
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
47	399482.606	3026079.087	338-51-46.97	31.198	33-41-40.24	9.085	30.000	1.345	17.642	2+076.749	2+085.570	2+094.391	2+085.833
48	399456.773	3026145.907	00-00-0.00	71.641	21-08-13.03	11.195	60.000	1.035	22.135	2+145.753	2+156.820	2+167.887	2+156.947
49	399456.773	3026173.040	349-26-6.95	27.132	10-33-53.05	9.246	100.000	0.427	18.439	2+174.579	2+183.799	2+193.018	2+183.825
50	399449.989	3026209.409	300-22-11.13	36.996	49-03-55.82	13.693	30.000	2.977	25.691	2+207.076	2+219.921	2+232.767	2+220.769
51	399404.673	3026235.964	327-07-10.86	52.524	26-44-59.72	19.022	80.000	2.230	37.350	2+252.577	2+271.252	2+289.926	2+271.598
52	399387.934	3026261.856	312-40-45.65	30.832	14-26-25.21	6.334	50.000	0.400	12.602	2+295.402	2+301.703	2+308.004	2+301.737
53	399363.974	3026283.951	327-58-29.05	32.592	15-17-43.40	13.428	100.000	0.897	26.695	2+320.834	2+334.182	2+347.529	2+334.262
54	399352.284	3026302.640	314-09-17.97	22.044	13-49-11.08	6.059	50.000	0.366	12.060	2+350.087	2+356.117	2+362.147	2+356.146
55	399339.872	3026314.691	343-24-56.59	17.299	29-15-38.63	7.831	30.000	1.005	15.321	2+365.555	2+373.216	2+380.876	2+373.387
56	399332.007	3026341.102	279-18-4.06	27.557	64-06-52.53	18.788	30.000	5.397	33.570	2+381.814	2+398.599	2+415.385	2+400.602

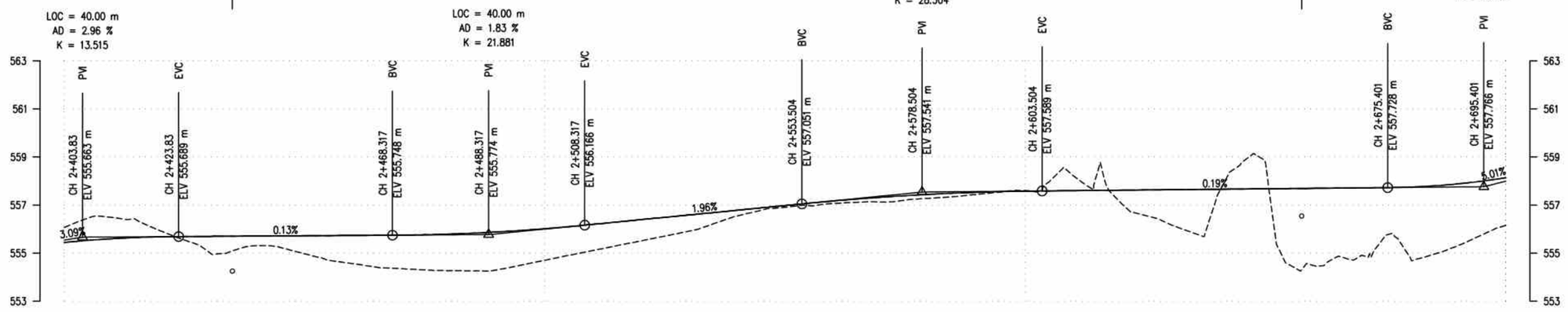




| | | | | |

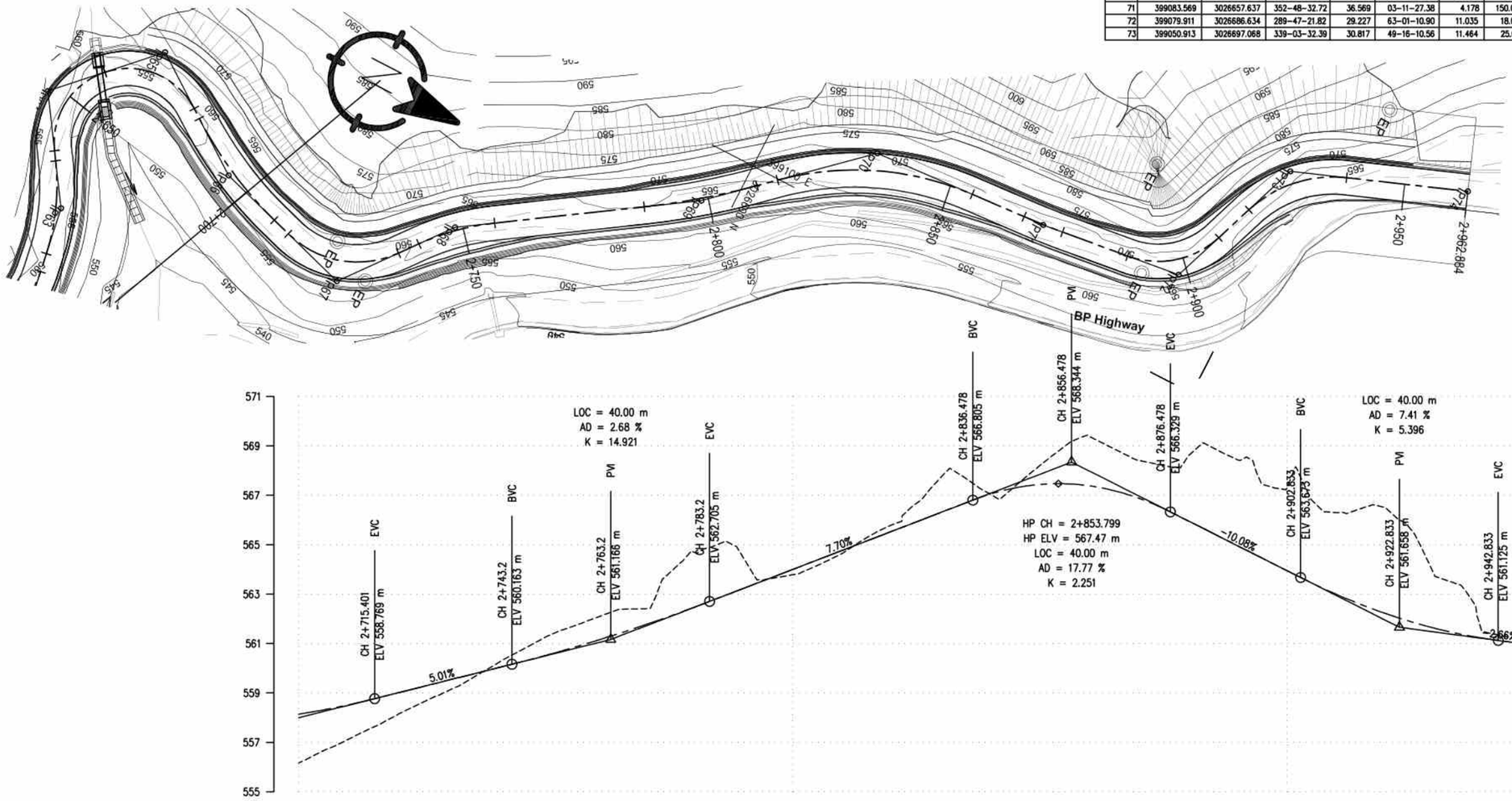
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
56	399332.007	3026341.102	279-18-4.06	27.557	64-06-52.53	18.788	30.000	5.397	33.570	2+381.814	2+398.599	2+415.385	2+400.602
57	399294.556	3026347.235	351-44-12.50	37.950	72-26-8.44	13.183	18.000	4.311	22.756	2+421.364	2+432.743	2+444.121	2+434.547
58	399289.504	3026382.017	318-34-34.80	35.146	33-09-37.70	16.376	55.000	2.386	31.832	2+449.709	2+465.625	2+481.541	2+466.084
59	399265.691	3026409.005	323-58-7.23	35.992	05-23-32.42	14.128	300.000	0.332	28.234	2+487.029	2+501.146	2+515.264	2+501.157
60	399243.069	3026440.106	297-30-23.21	38.458	26-27-44.02	14.107	60.000	1.636	27.711	2+525.487	2+539.343	2+553.198	2+539.594
61	399218.679	3026452.806	326-40-43.62	27.499	29-10-20.42	13.011	50.000	1.665	25.458	2+553.579	2+566.308	2+579.036	2+566.590
62	399198.185	3026483.979	260-26-52.78	37.306	66-13-50.85	13.045	20.000	3.879	23.119	2+590.286	2+601.846	2+613.405	2+603.332
63	399172.027	3026479.578	236-12-49.97	26.526	24-14-2.81	9.661	45.000	1.025	19.033	2+617.224	2+626.741	2+636.258	2+626.886
64	399152.183	3026466.300	314-17-54.43	23.876	78-05-4.47	12.166	15.000	4.313	20.442	2+638.308	2+648.529	2+658.750	2+650.473
65	399134.287	3026483.763	35-21-58.82	25.004	81-04-4.39	12.8[illegible]	15.000	[illegible].736	21.224	2+658.763	2+669.375	2+679.986	2+671.590
66	399150.523	3026506.638	16-59-1.15	28.051	18-22-57.67	12.[illegible]	80.000	1.[illegible]	25.667	2+682.266	2+695.100	2+707.933	2+695.211





| | | | | |

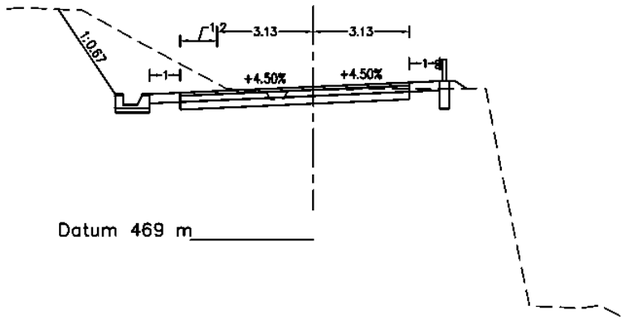
IP No.	CO-ORDINATES(m)		WCB (D-M-S)	DIST. (m)	DEF. ANG. (D-M-S)	TAN. LEN. (m)	SIMPLE CURVE DATA			CHAINAGE			
	EASTING	NORTHING					R (m)	E (m)	LC (m)	BC	MC	EC	IP
66	399150.523	3026506.638	16-59-1.15	28.051	18-22-57.67	12.945	80.000	1.041	25.667	2+682.266	2+695.100	2+707.933	2+695.211
67	399159.471	3026535.935	308-05-43.65	30.633	68-53-17.50	13.717	20.000	4.252	24.047	2+711.905	2+723.928	2+735.951	2+725.622
68	399138.761	3026552.171	326-24-46.14	26.316	18-19-2.50	8.061	50.000	0.646	15.985	2+740.489	2+748.481	2+756.474	2+748.550
69	399111.015	3026593.952	317-32-15.95	50.154	08-52-30.19	11.641	150.000	0.451	23.235	2+786.926	2+798.544	2+810.161	2+798.567
70	399086.120	3026621.157	356-00-0.10	36.876	38-27-44.15	20.931	60.000	3.546	40.278	2+814.466	2+834.605	2+854.744	2+835.397
71	399083.569	3026657.637	352-48-32.72	36.569	03-11-27.38	4.178	150.000	0.058	8.354	2+866.204	2+870.381	2+874.558	2+870.382
72	399079.911	3026686.634	289-47-21.82	29.227	63-01-10.90	11.035	18.000	3.113	19.798	2+888.573	2+898.472	2+908.371	2+899.607
73	399050.913	3026697.068	339-03-32.39	30.817	49-16-10.56	11.464	25.000	2.503	21.498	2+916.689	2+927.438	2+938.187	2+928.153



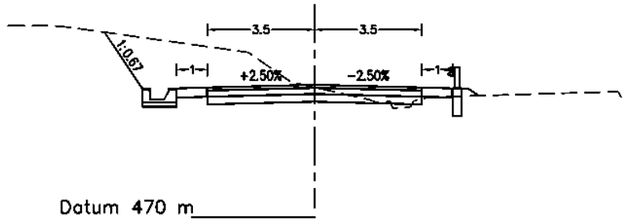
| | | | | |

CROSS SECTION OF REALIGNED HIGHWAY

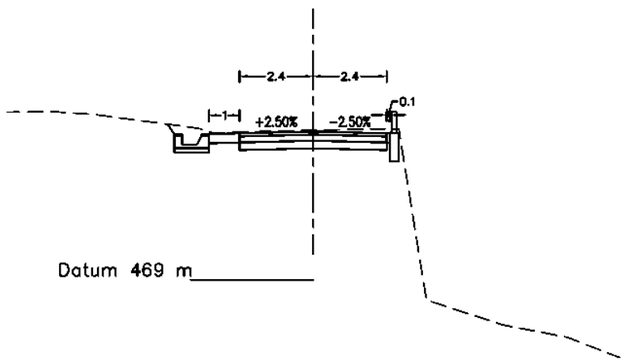
Ch: 0+020
GL: 473.883
DL: 473.994



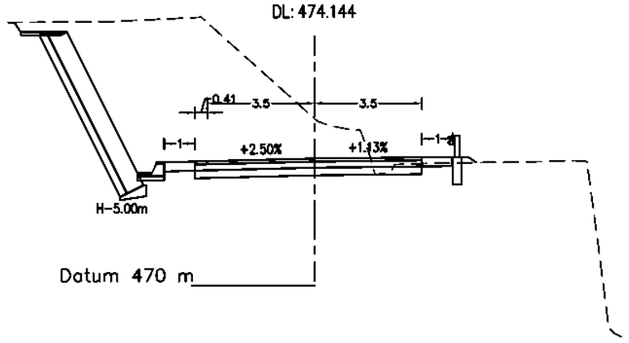
Ch: 0+060
GL: 474.236
DL: 474.316



Ch: 0+000
GL: 473.883
DL: 473.844



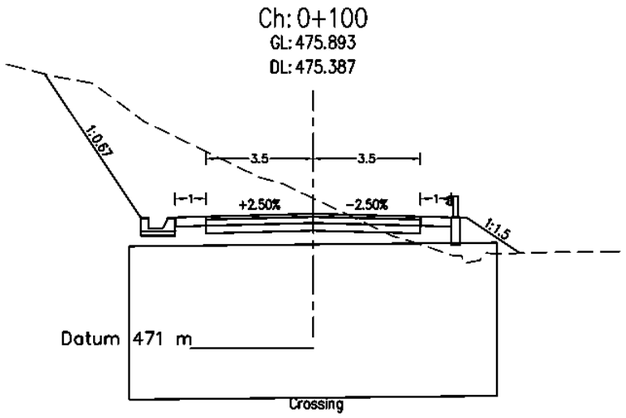
Ch: 0+040
GL: 475.443
DL: 474.144

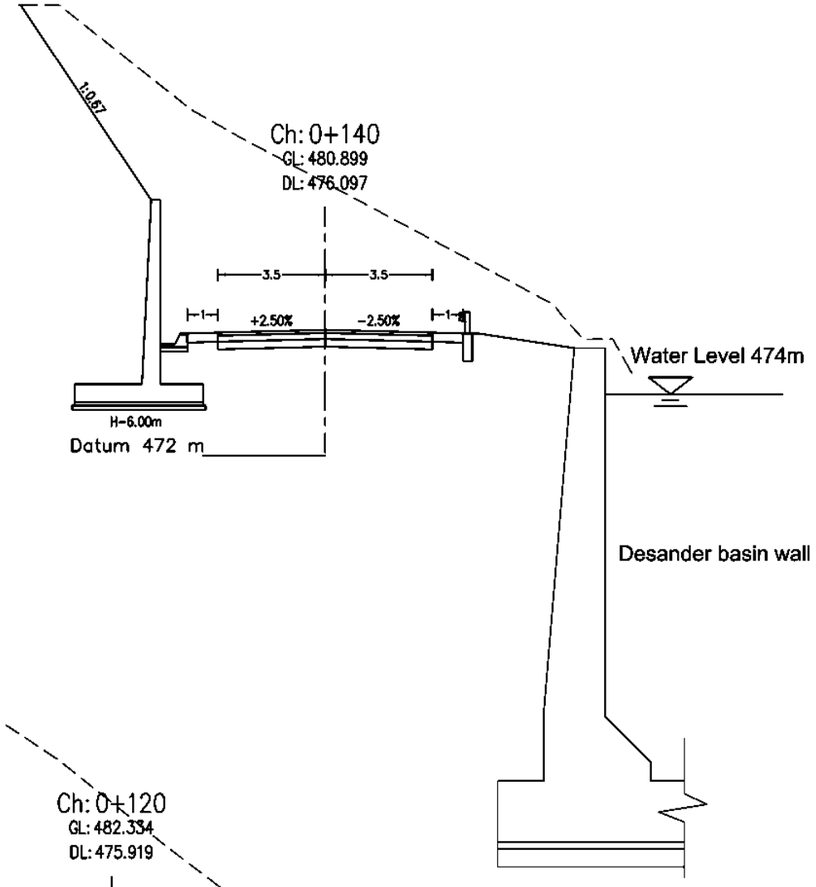


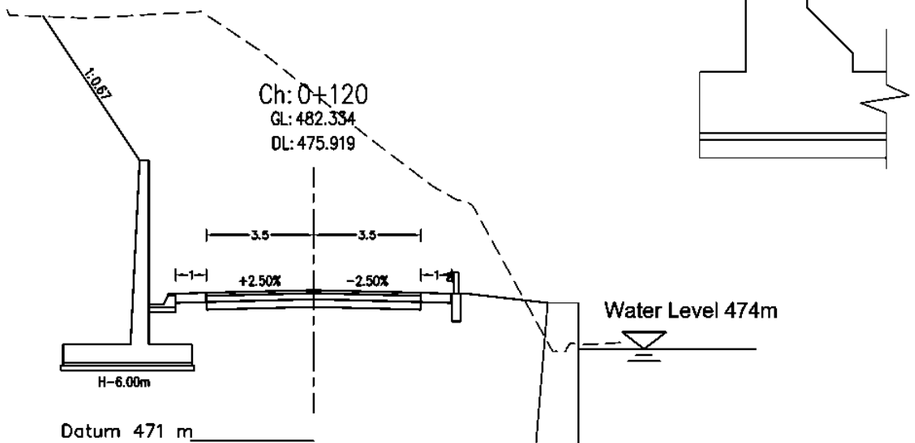
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

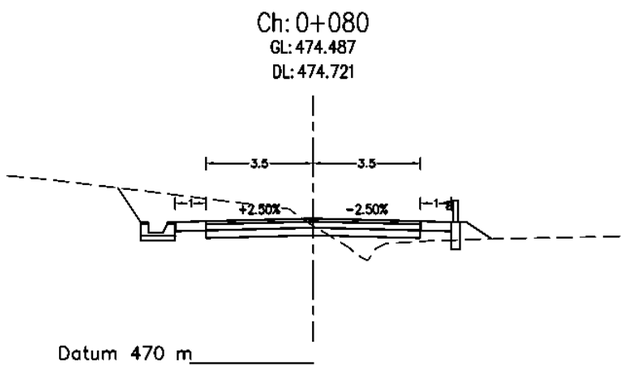
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale:	1:200





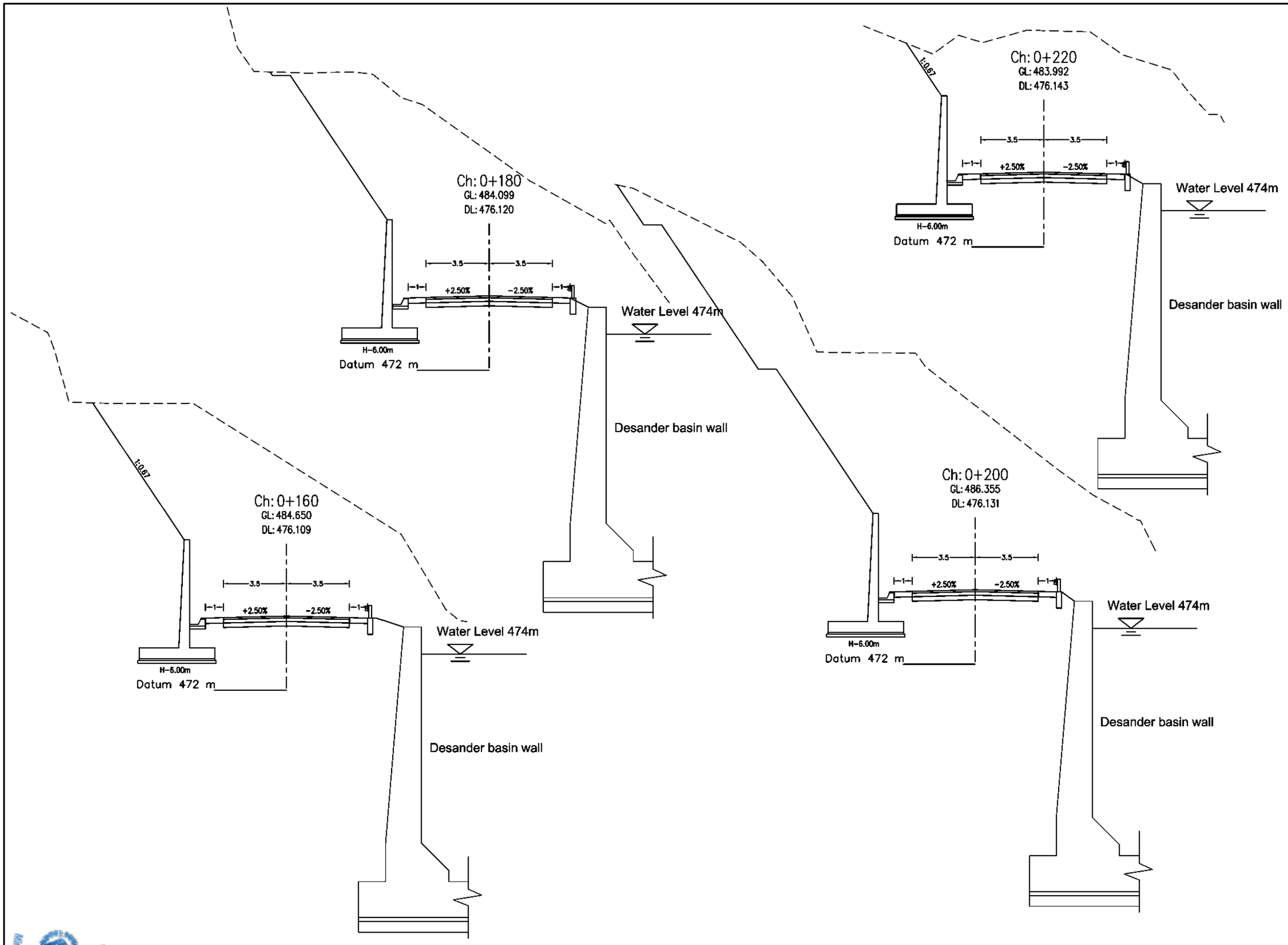




Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

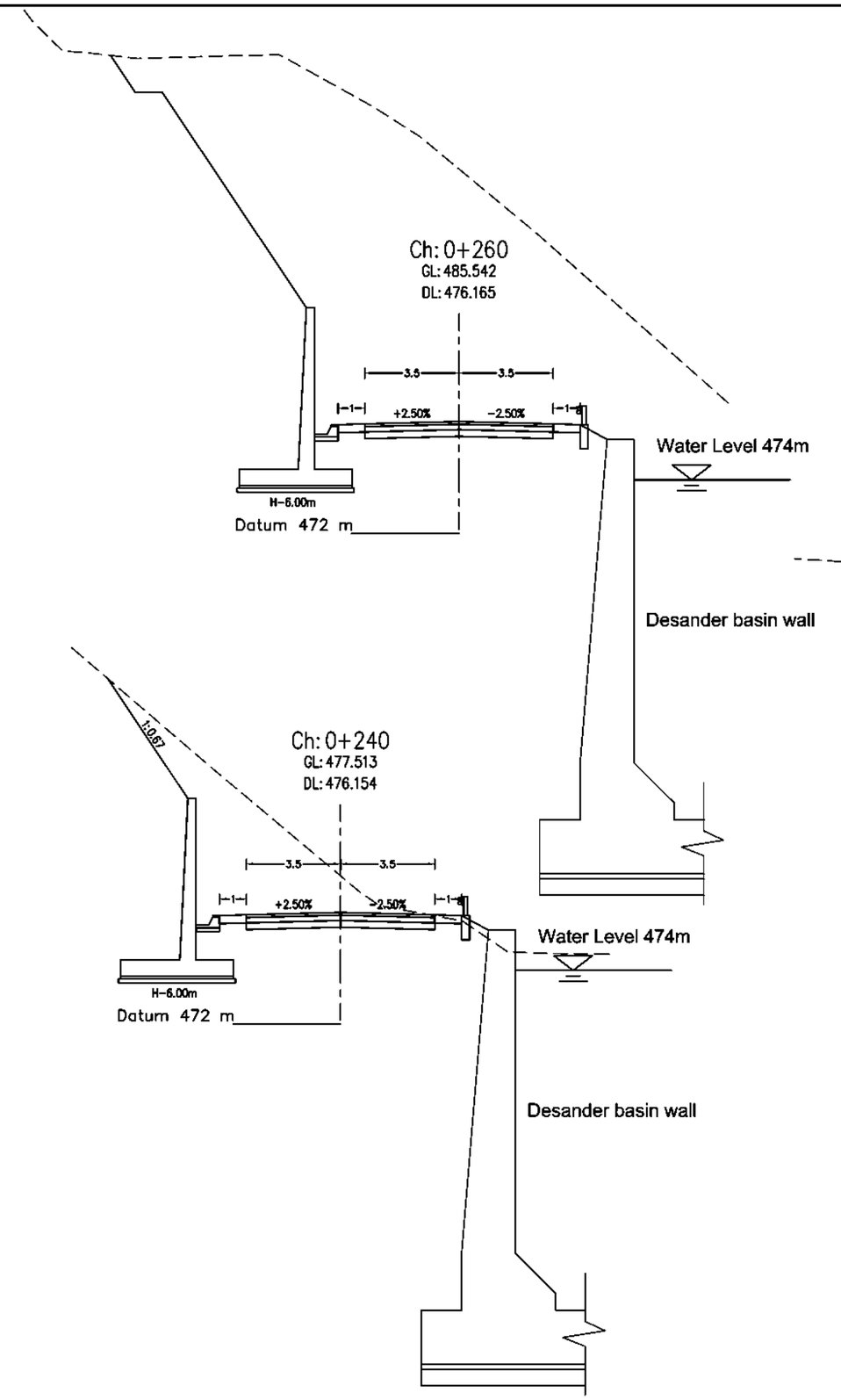
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	2
			Approved By			Scale:	1:200

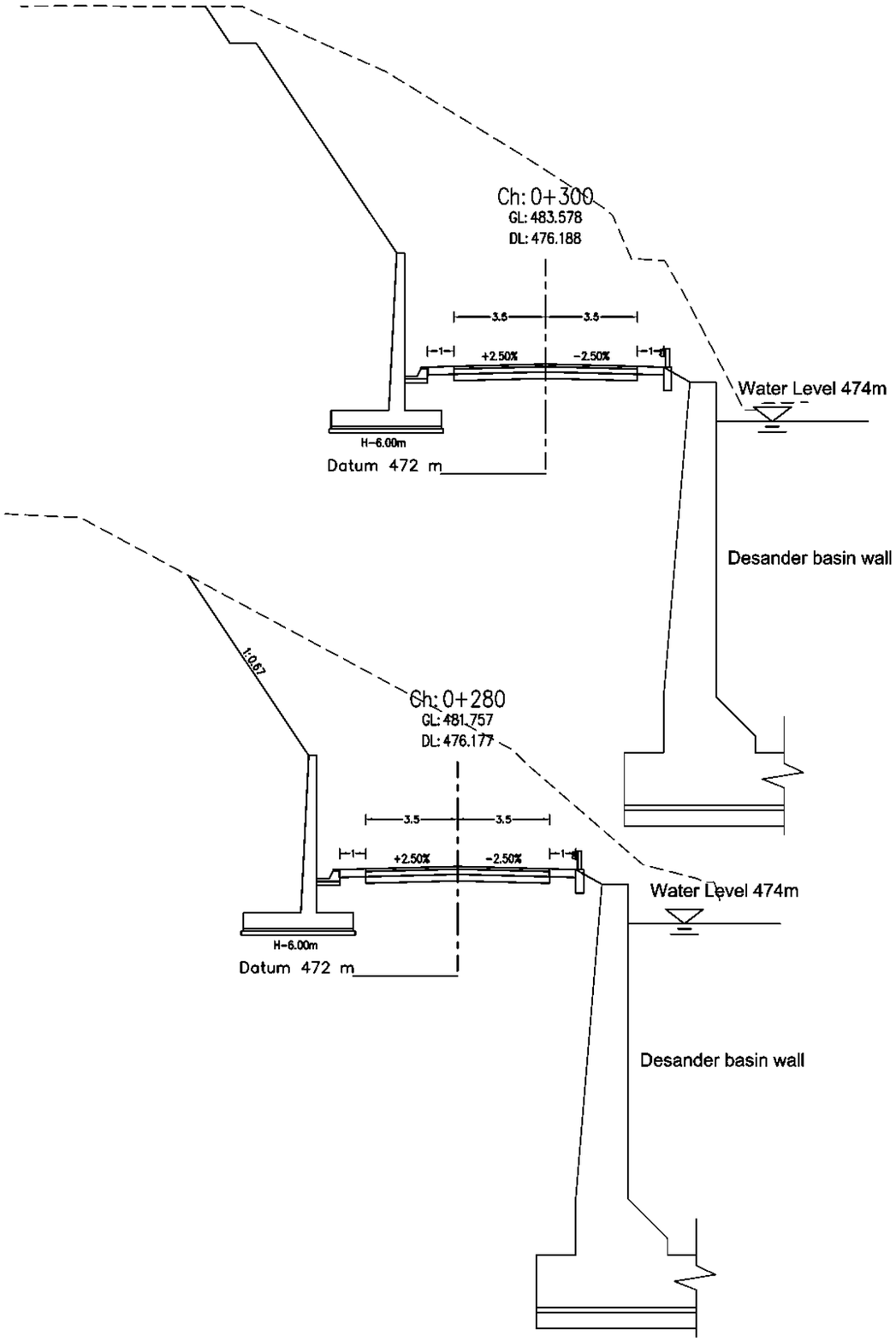


Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamala Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	3
			Approved By			Scale:	1:200

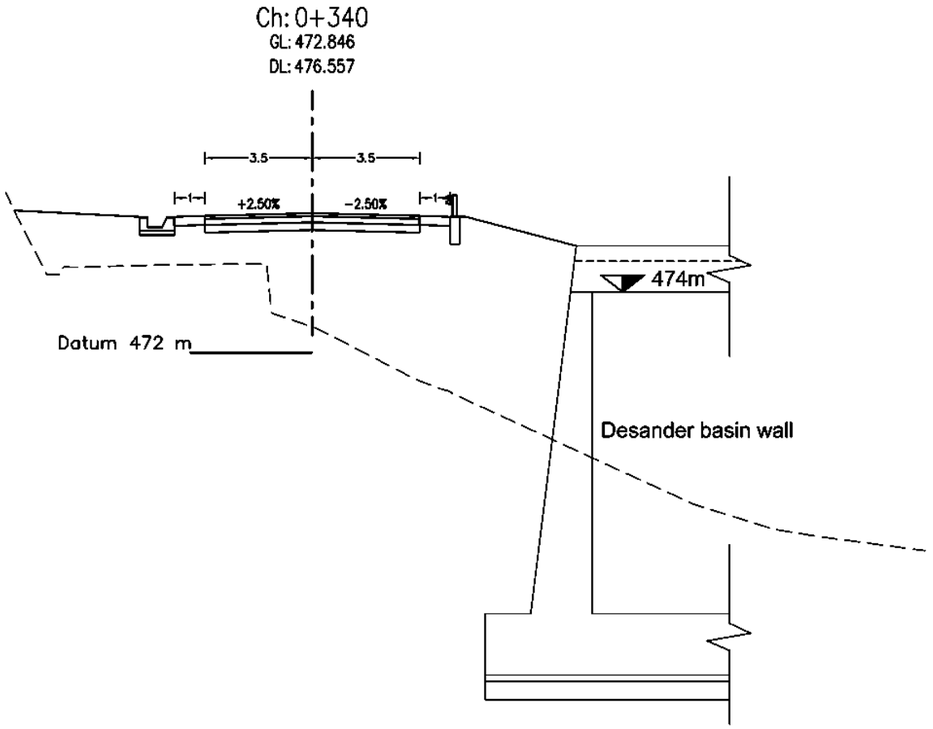


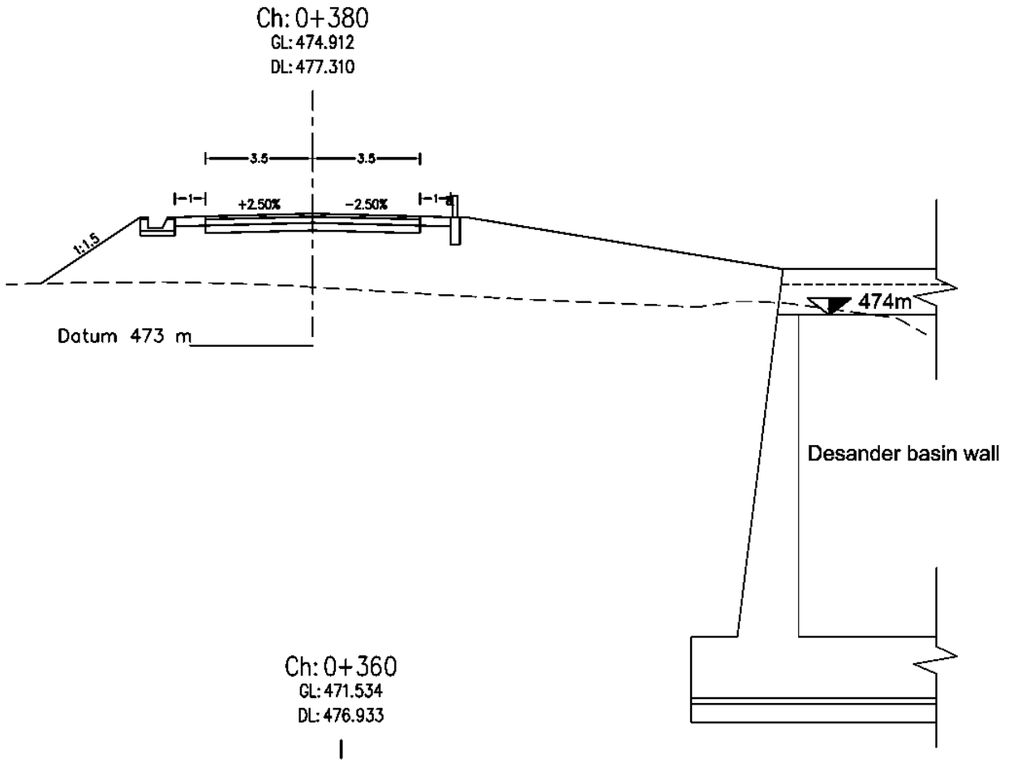


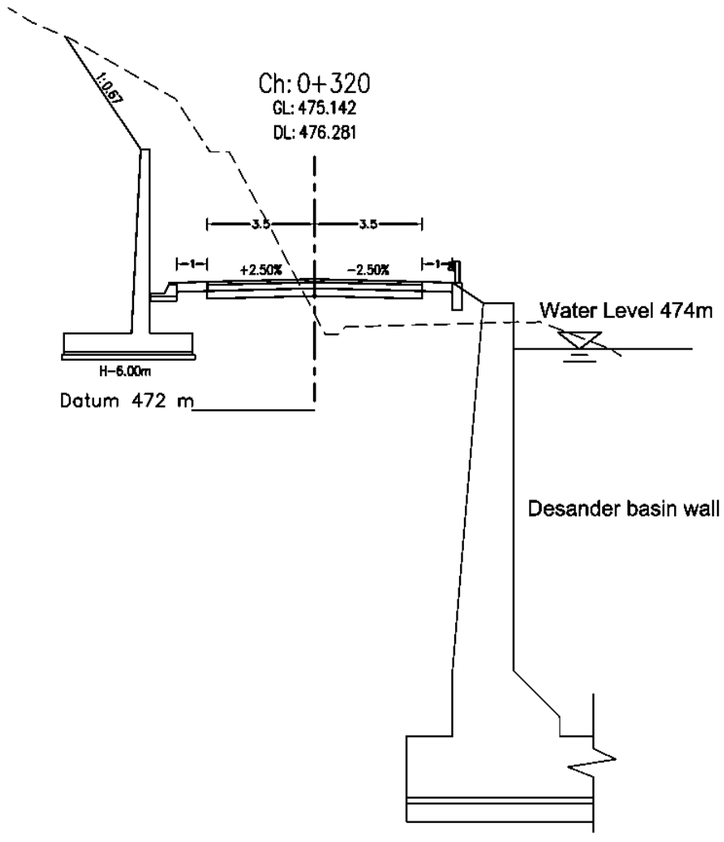
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

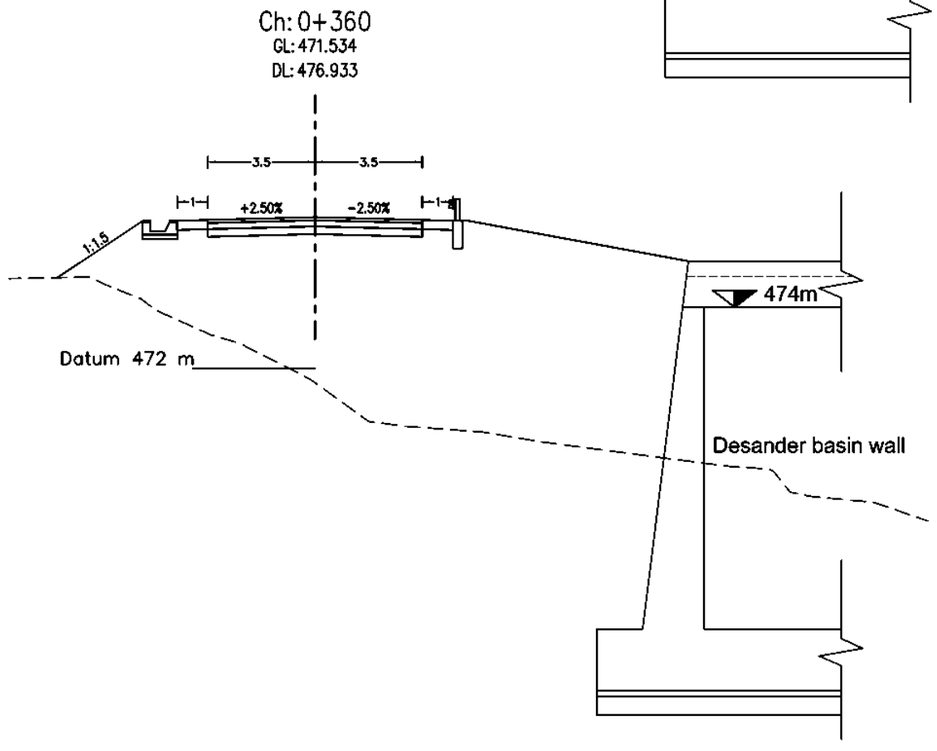
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	4
			Approved By			Scale:	1:200





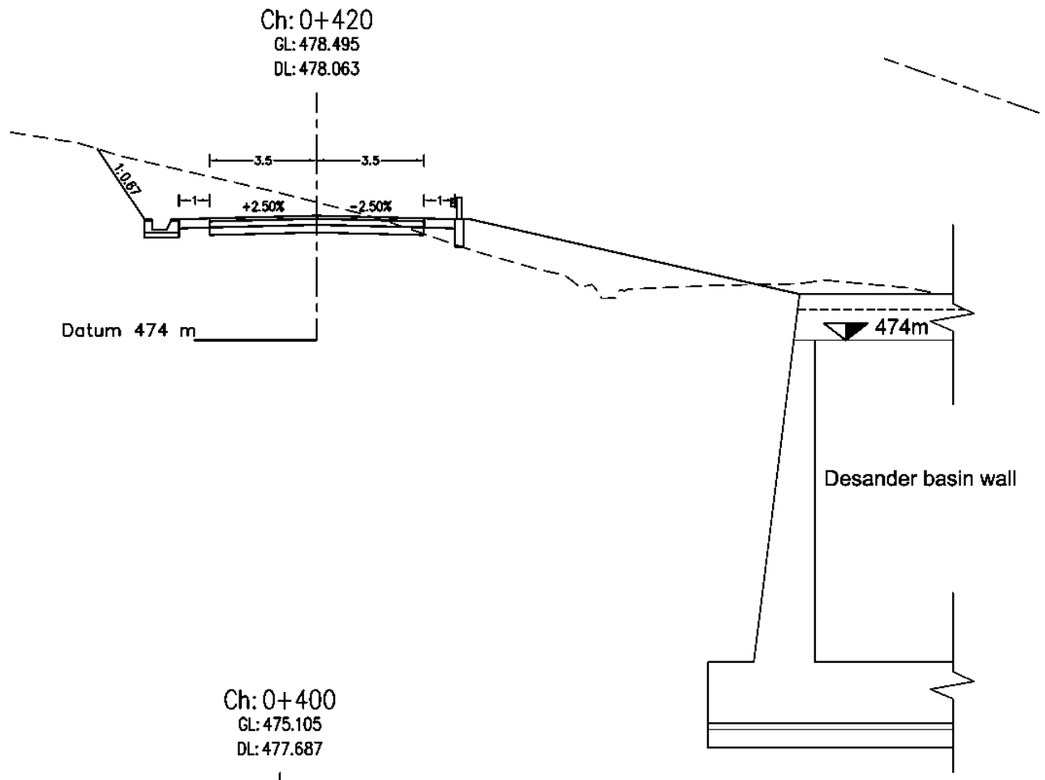


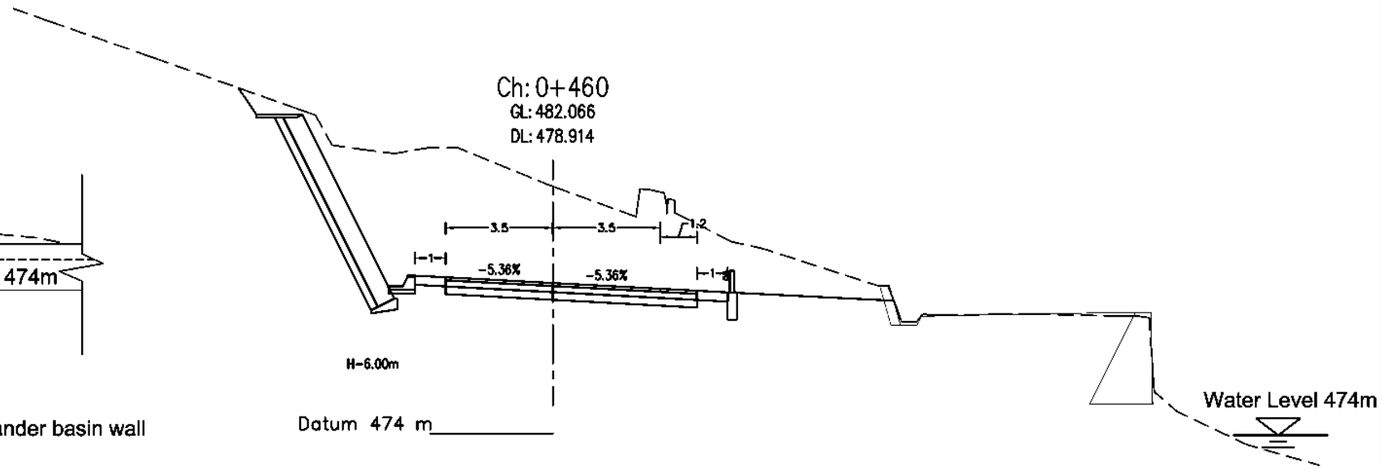


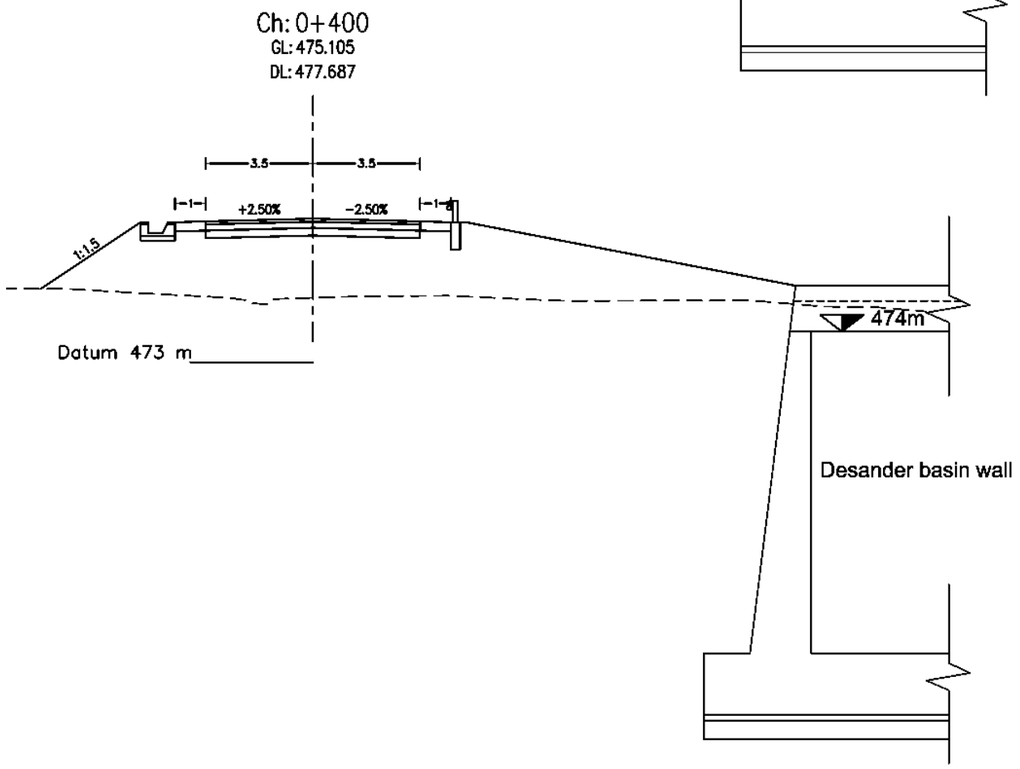
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamala Diversion Multipurpose Project
Sindhuli, Nepal

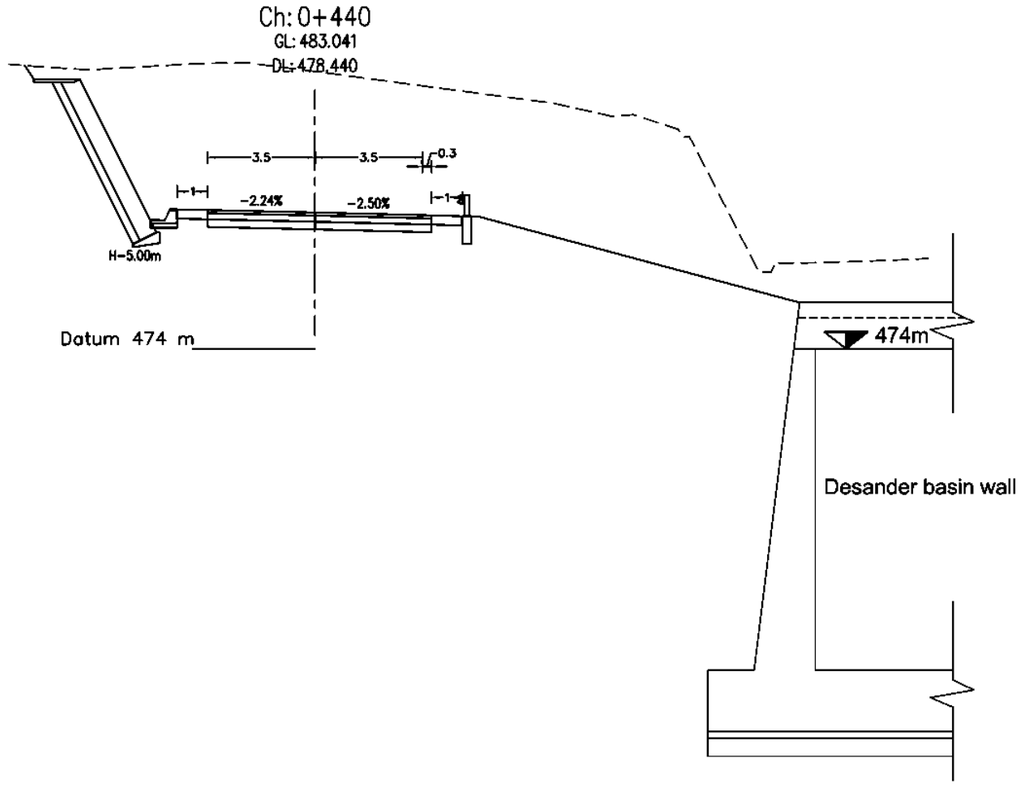
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	5
			Approved By			Scale:	1:200

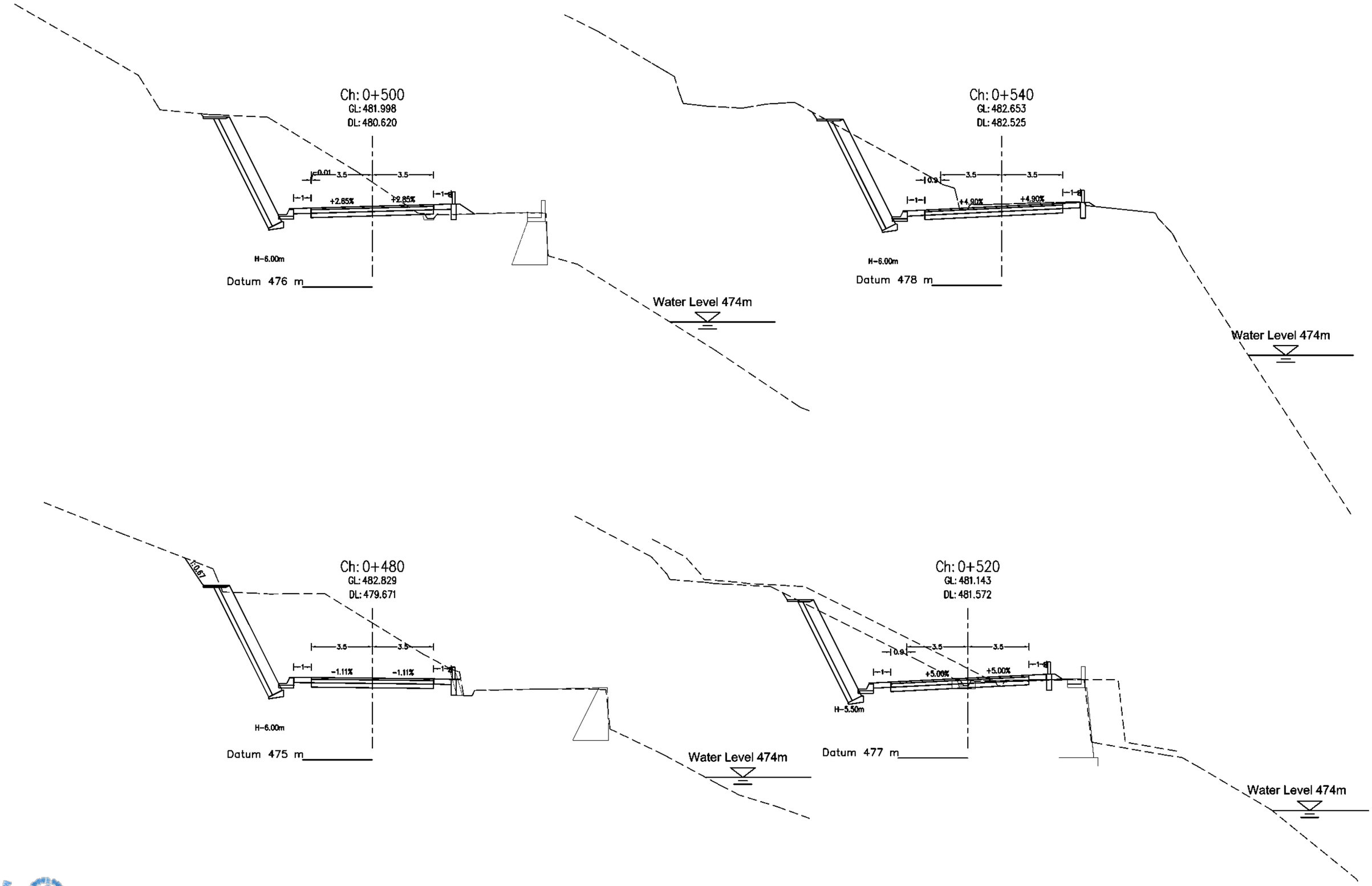








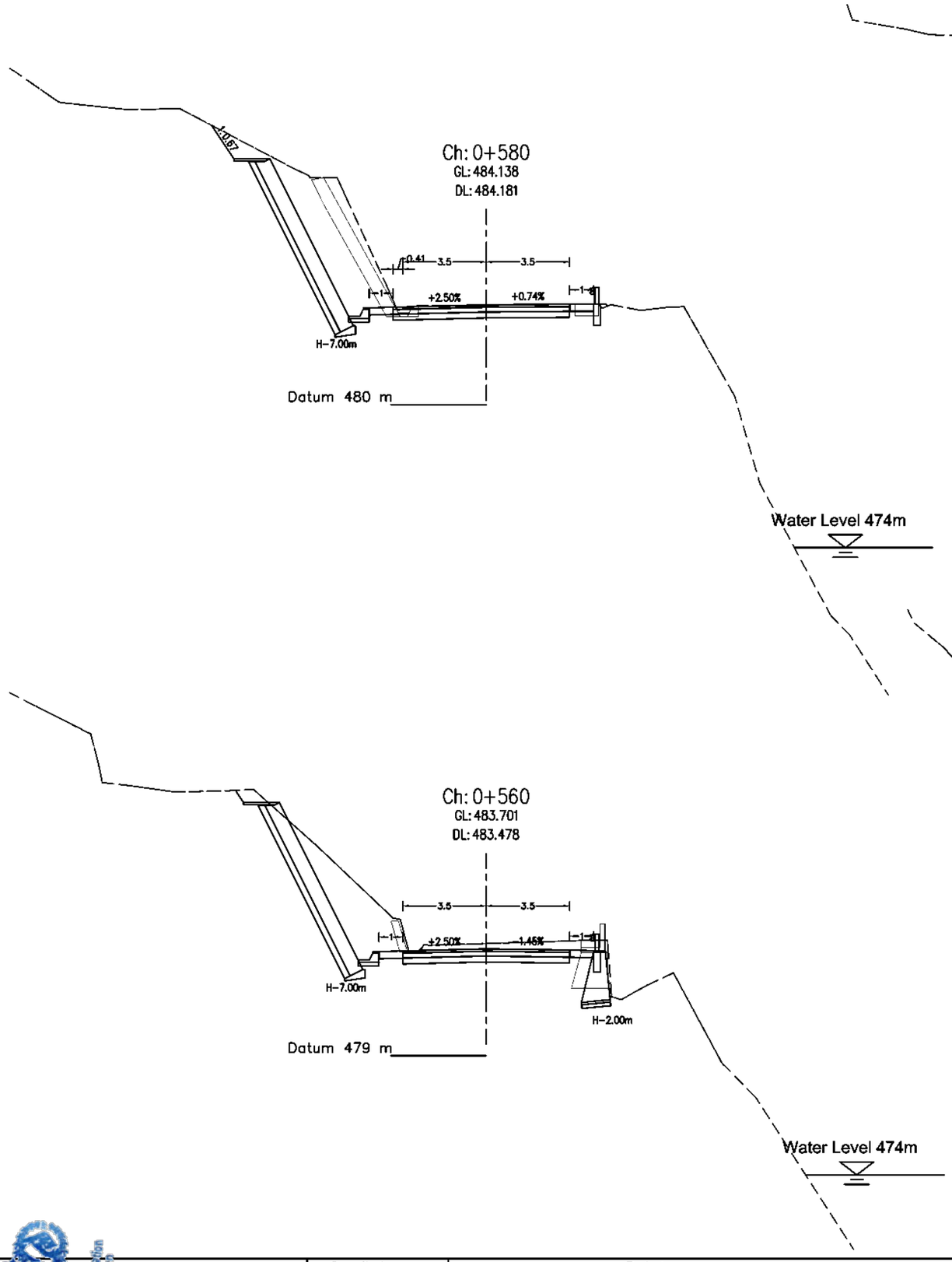
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
		Checked By			Checked By			Drawing No.:	
		Recommended By			Recommended By			Sheet No.:	6
					Approved By			Scale:	1:200

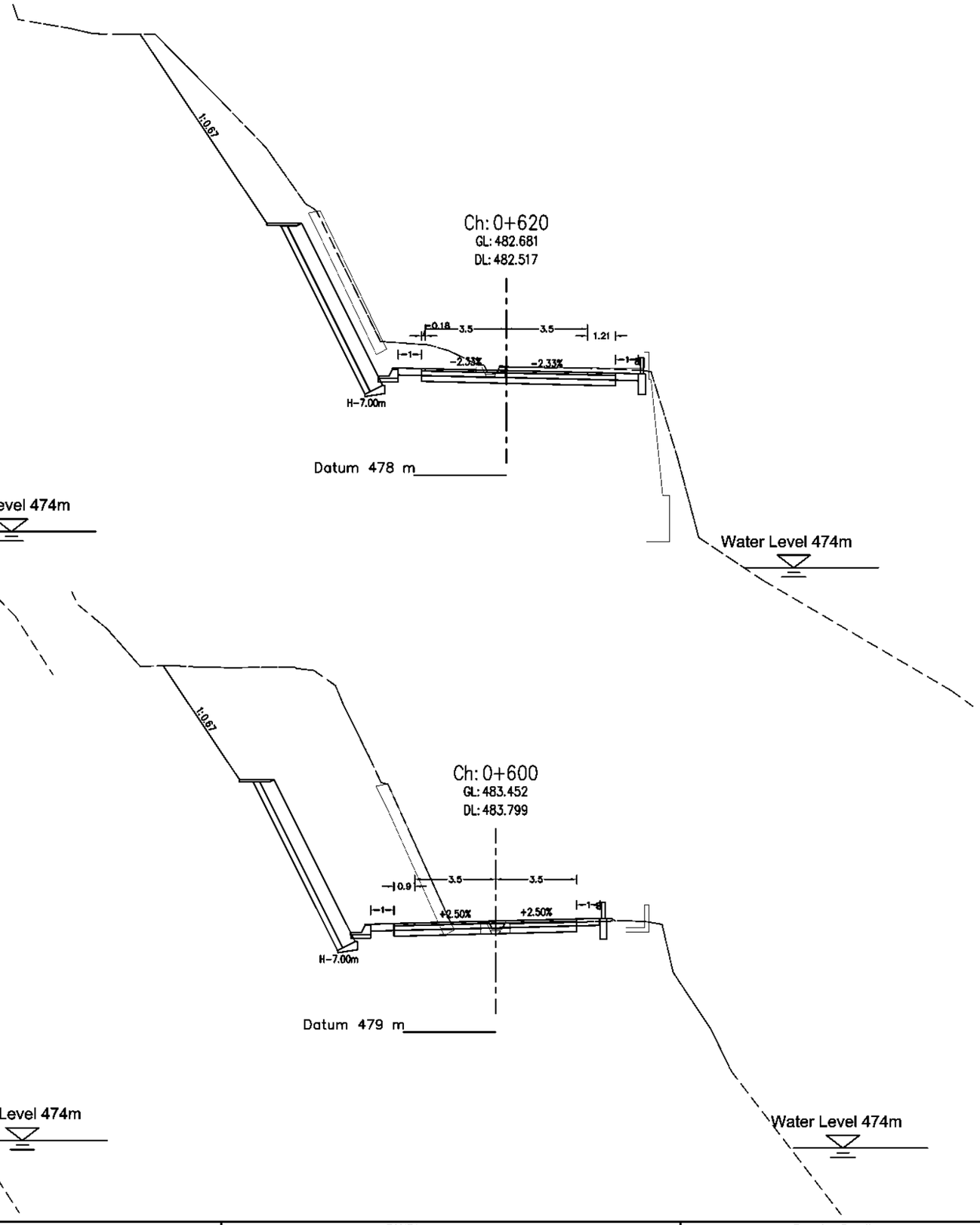


Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	7
			Approved By			Scale:	1:200

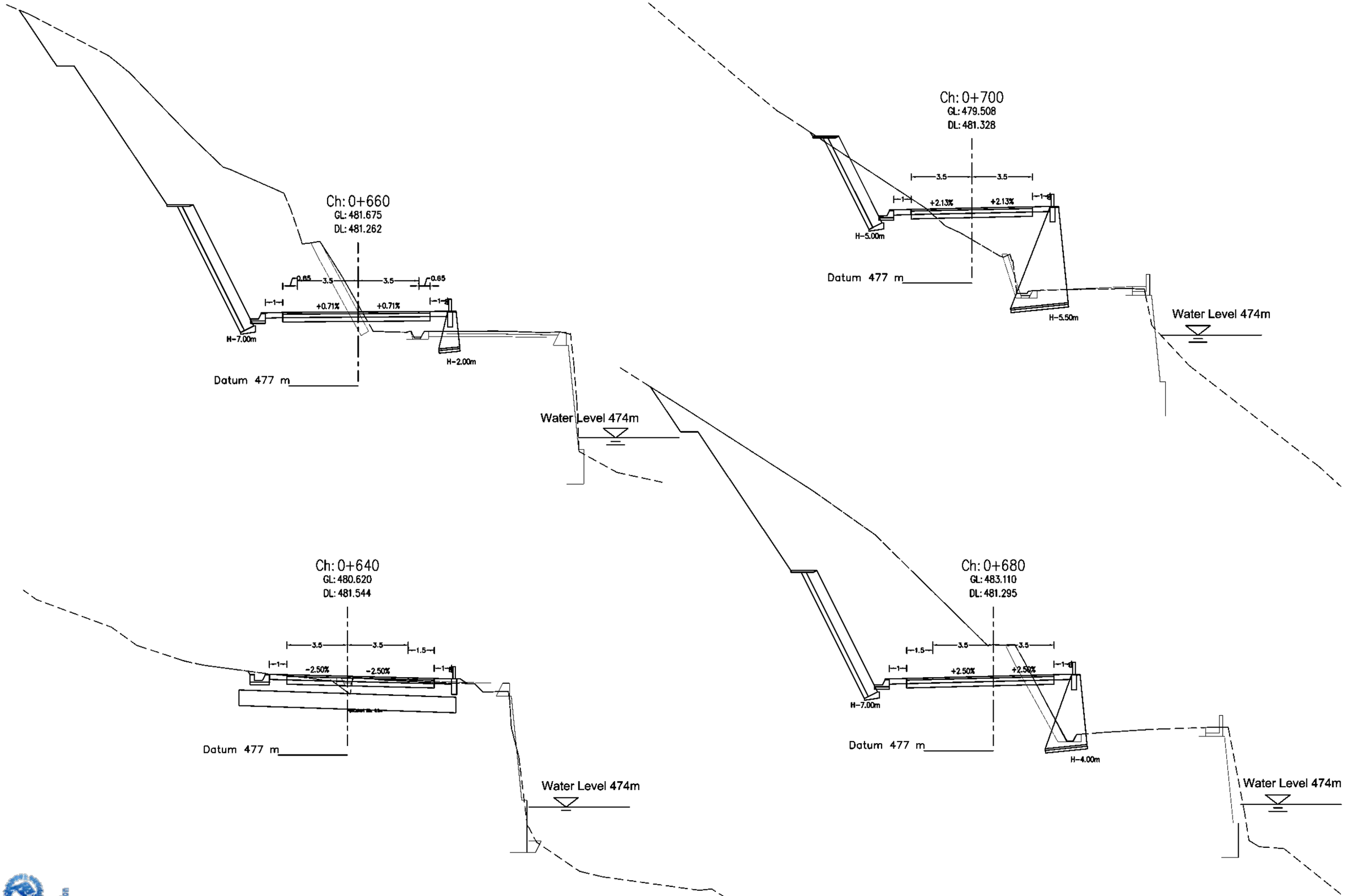




Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamla Transbasin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

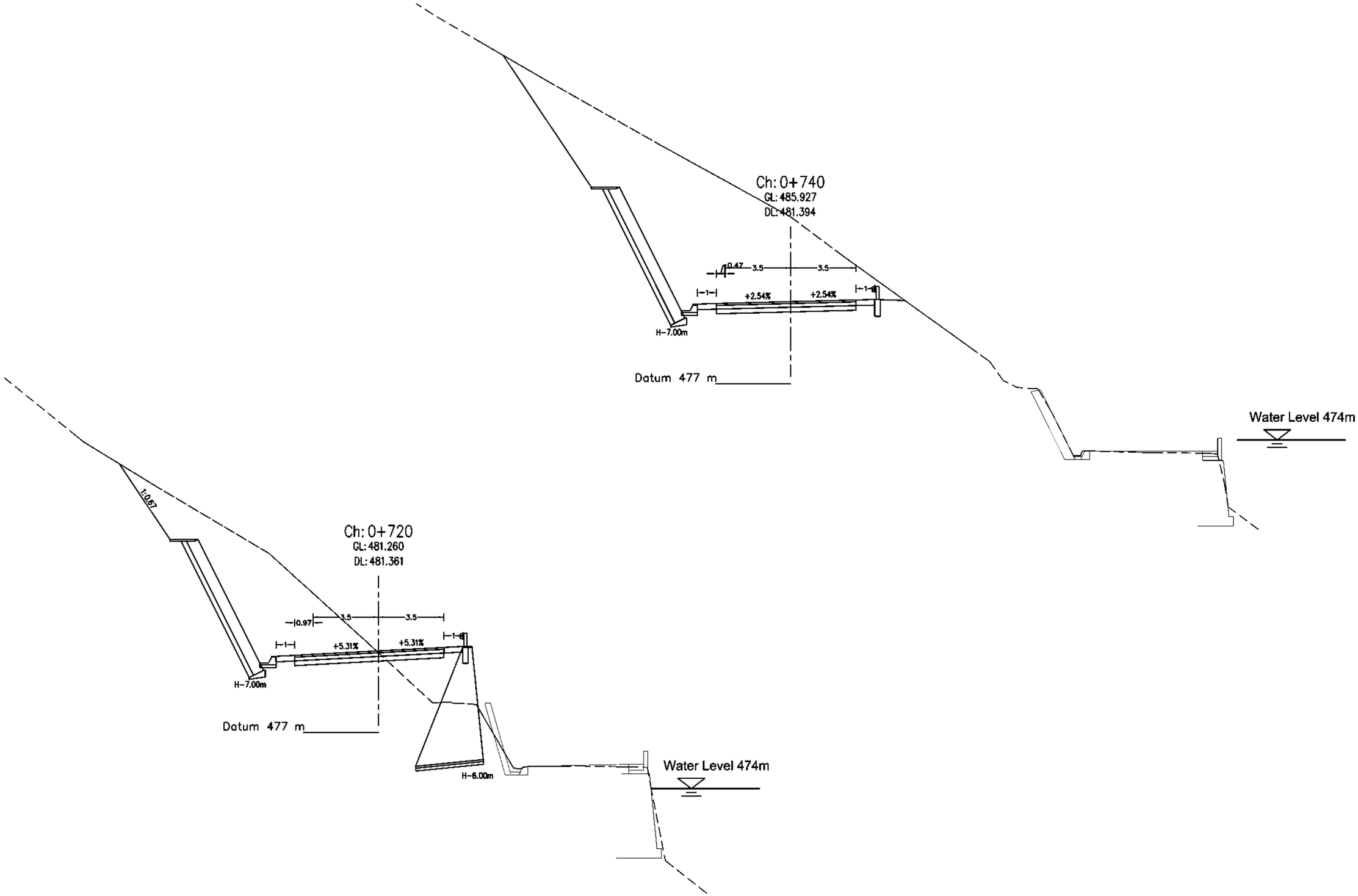
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	8
			Approved By			Scale:	1:200



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamala Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

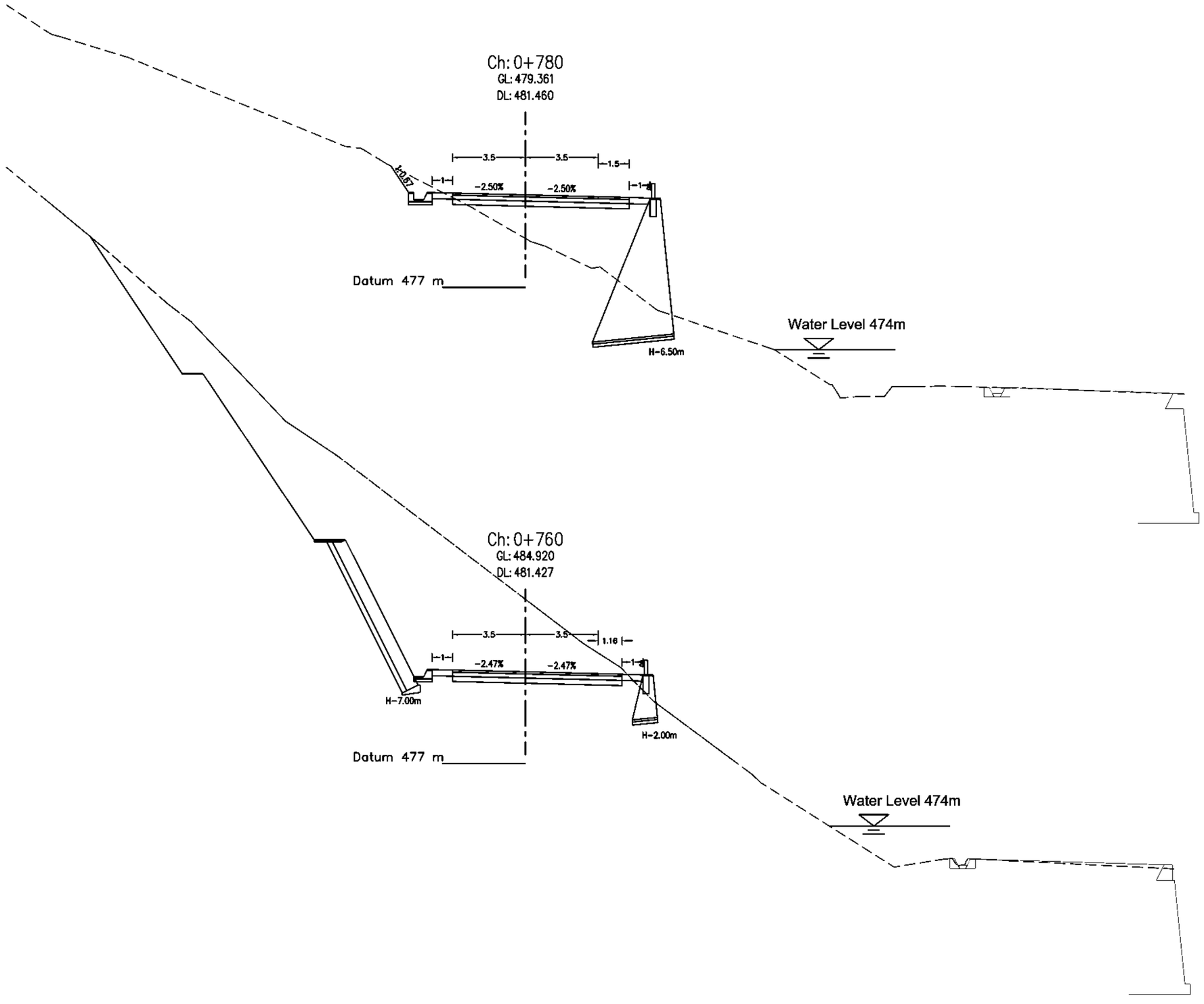
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	9
			Approved By			Scale:	1:200



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

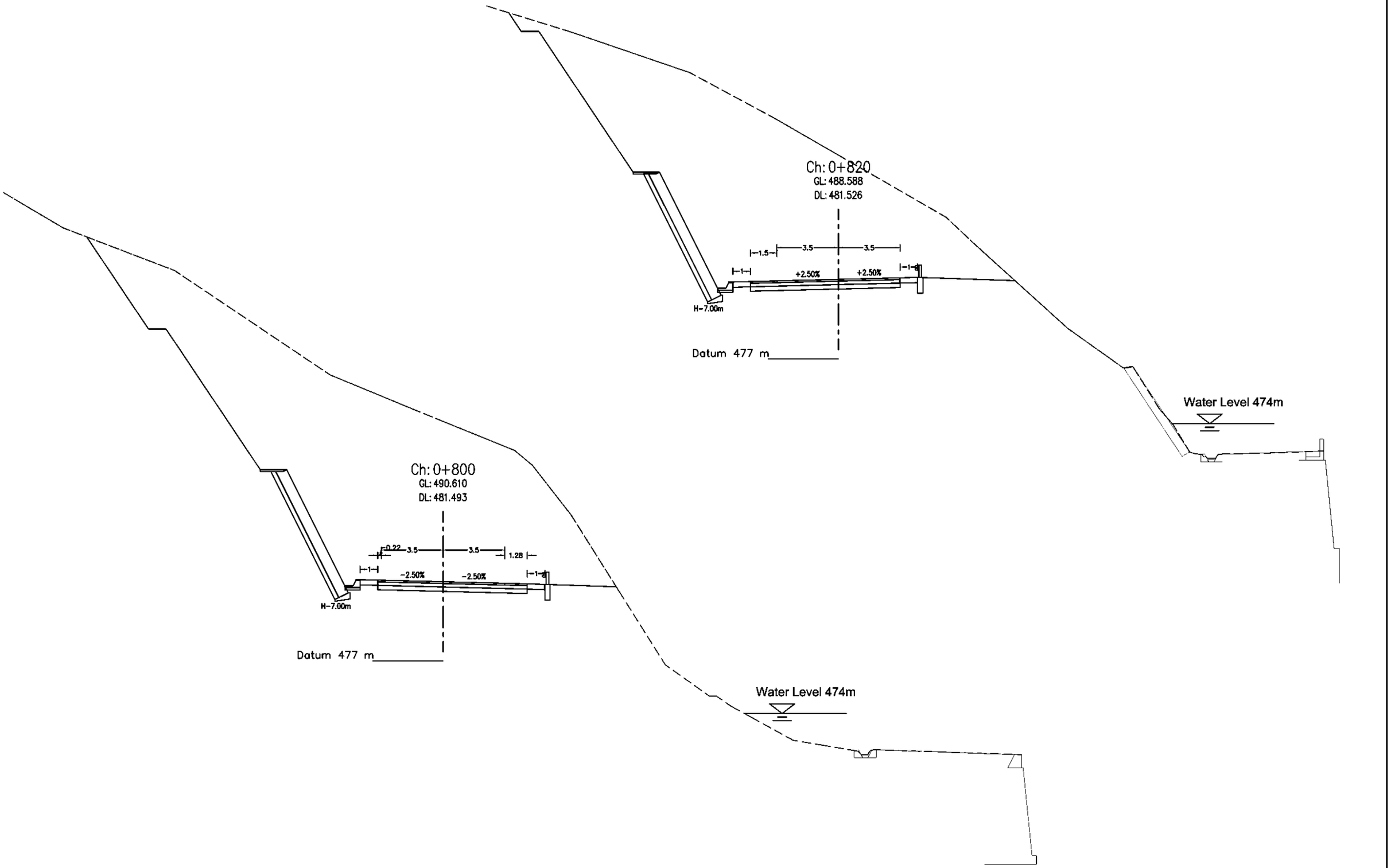
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	10
			Approved By			Scale:	1:200



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

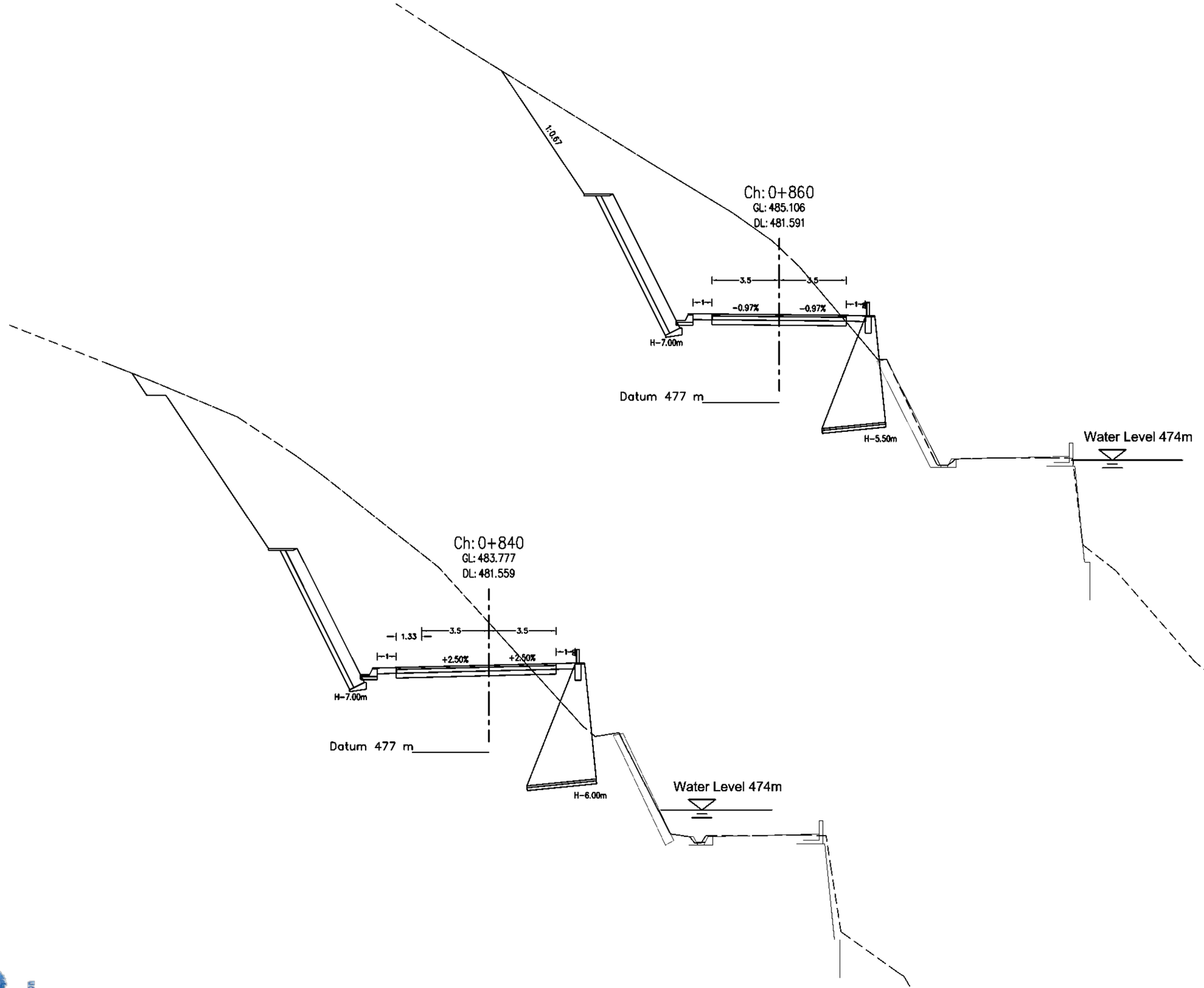
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	11
			Approved By			Scale:	1:200



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Storage Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

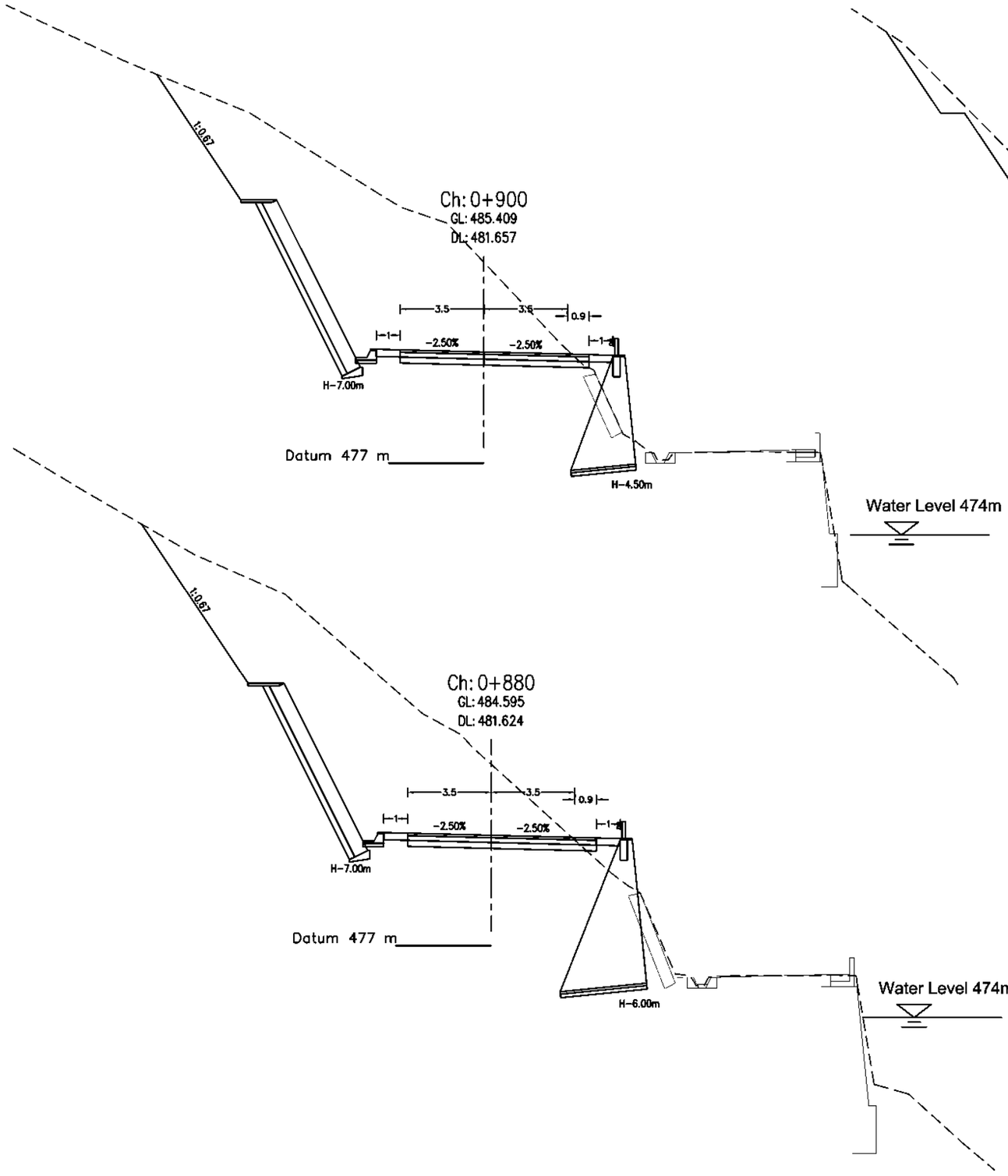
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	12
			Approved By			Scale:	1:200

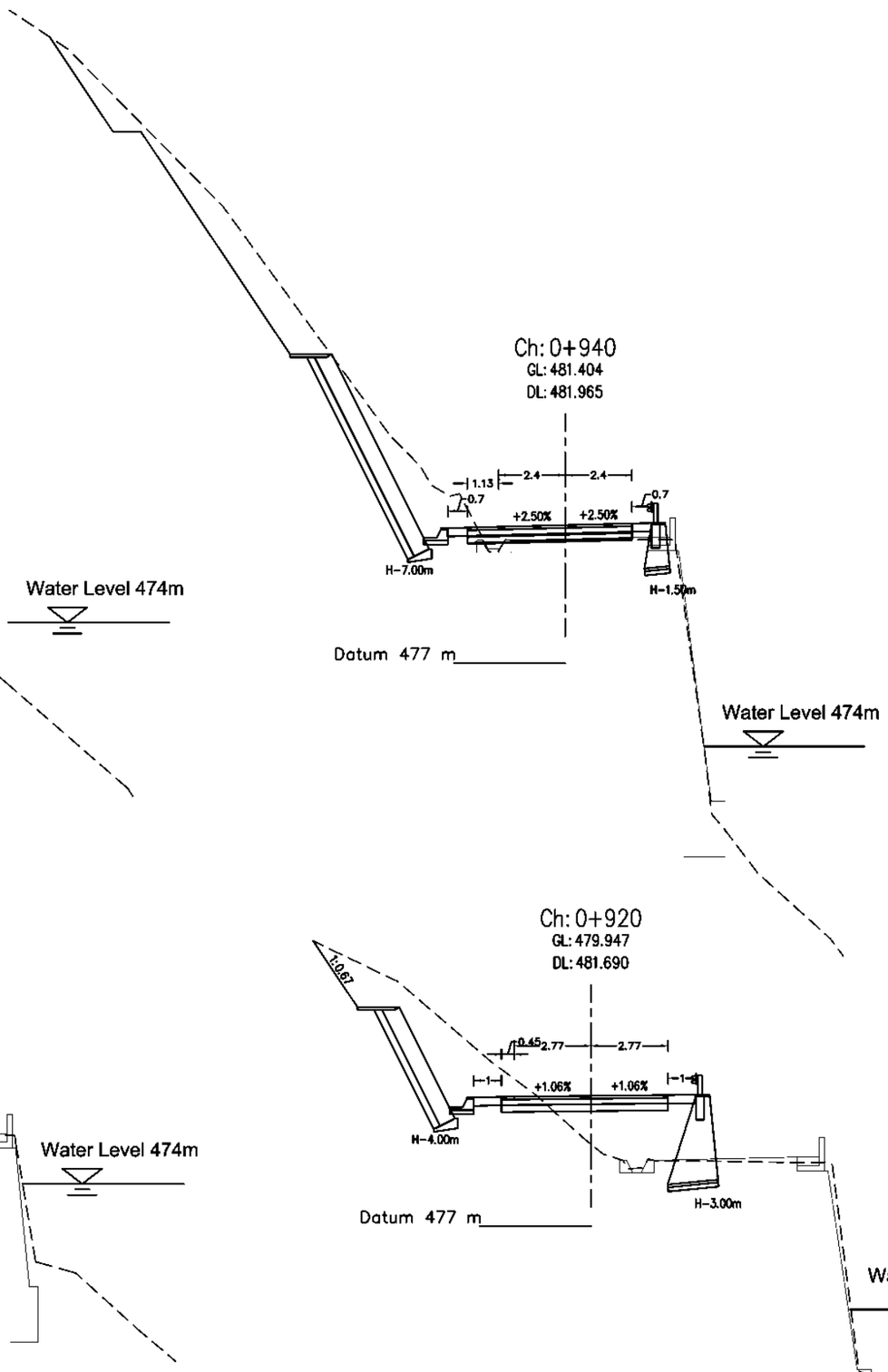


Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Storage Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	13
			Approved By			Scale:	1:200



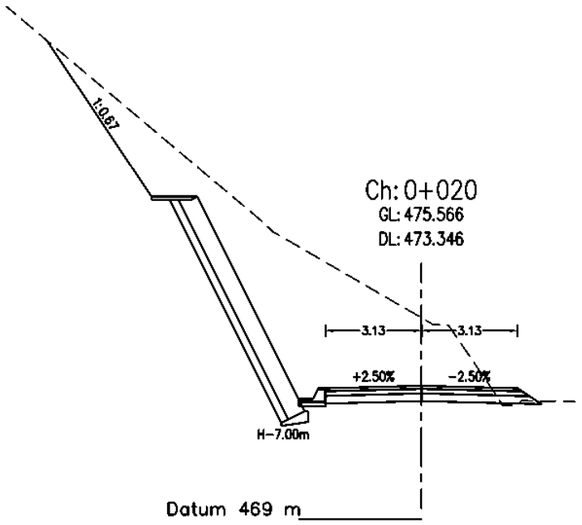


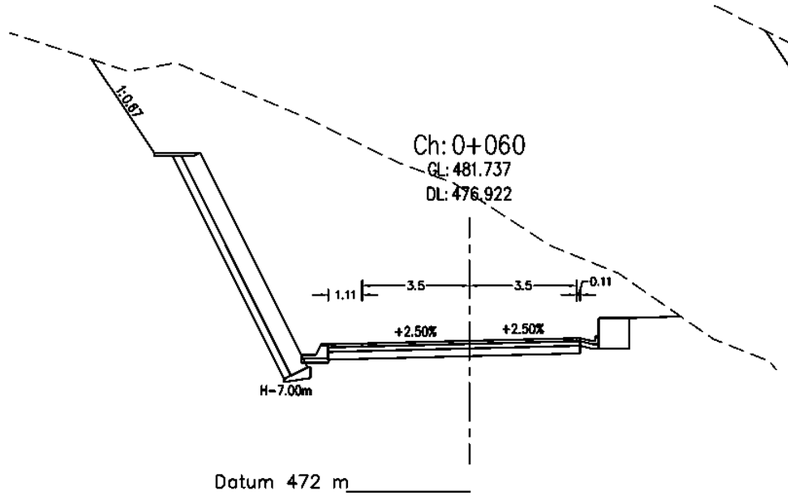
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

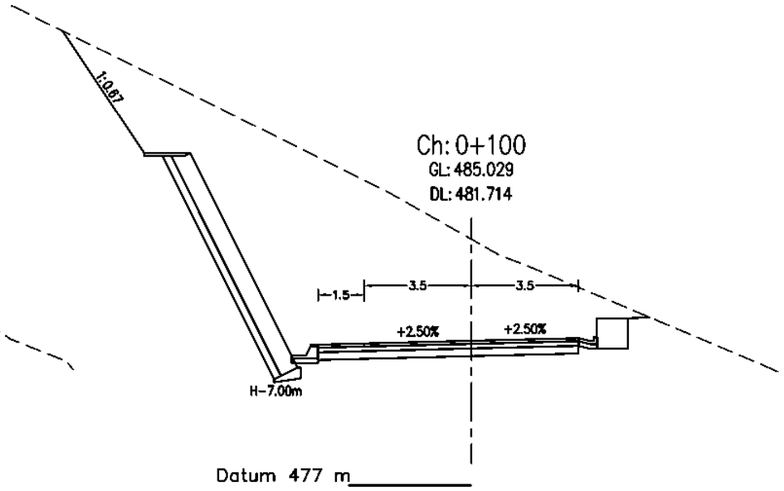
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

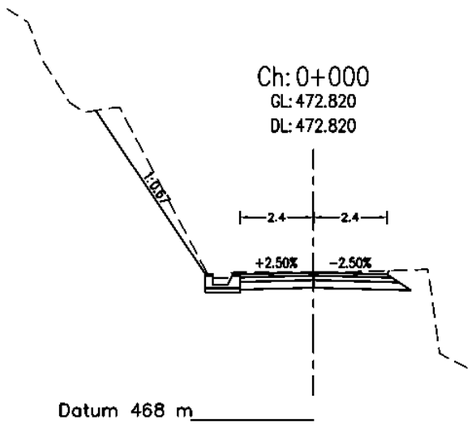
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Realigned Highway
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	14
			Approved By			Scale:	1:200

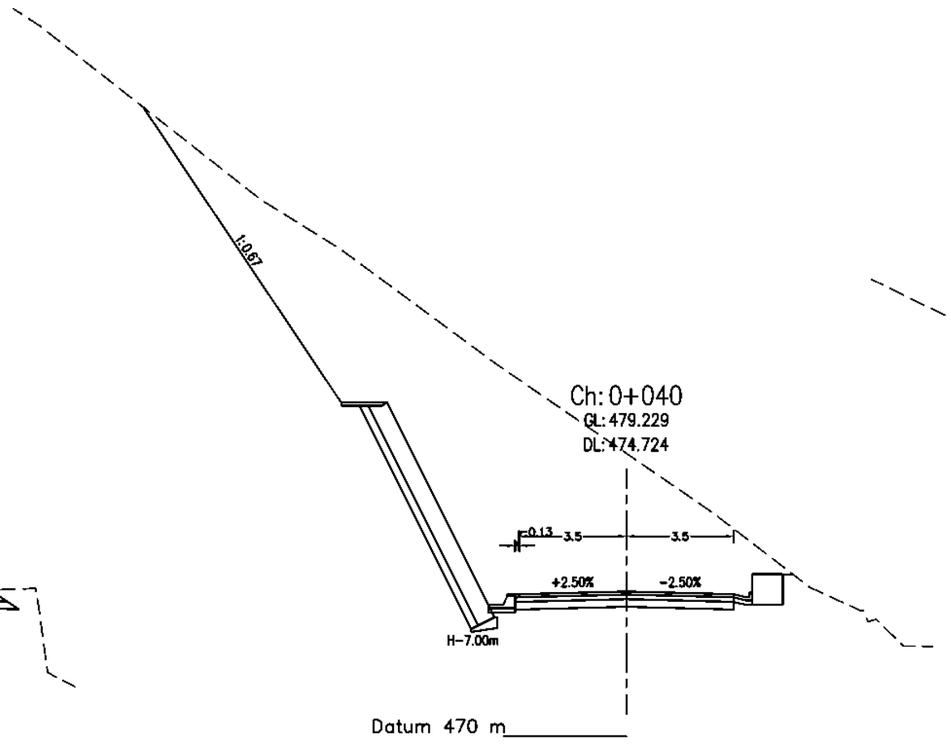
CROSS SECTION OF SERVICE ROAD

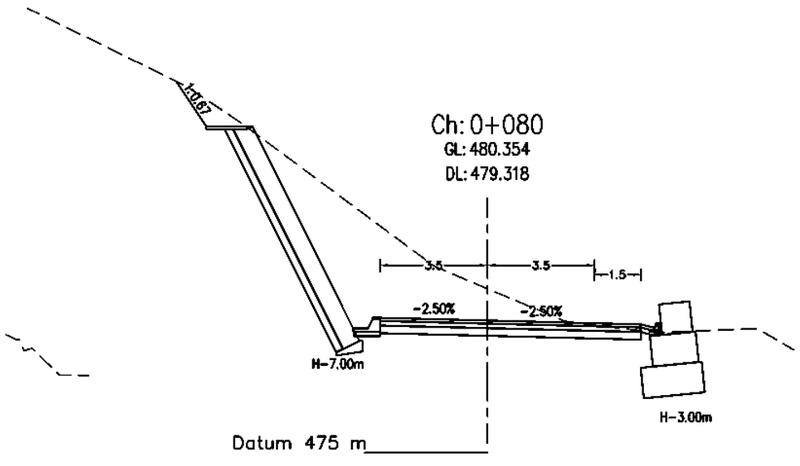








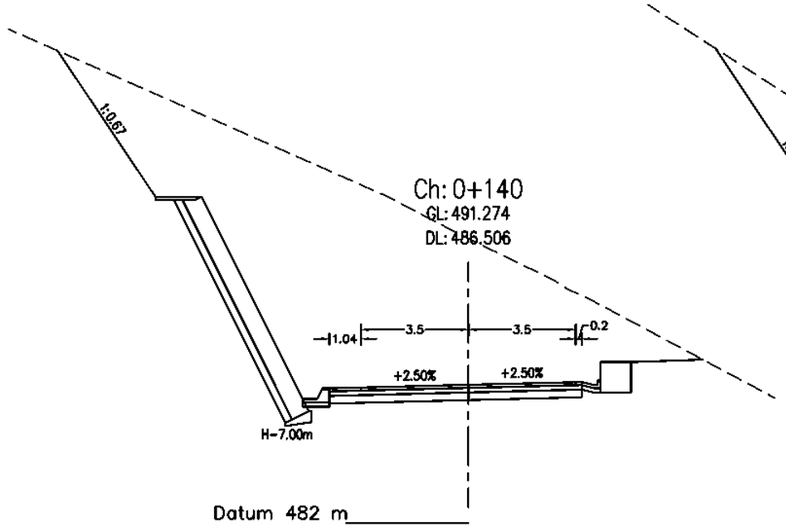


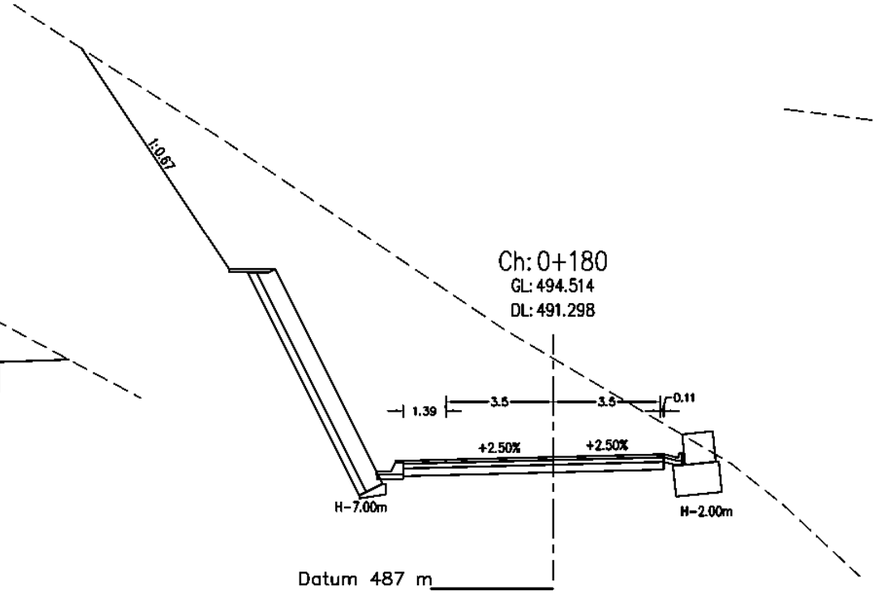


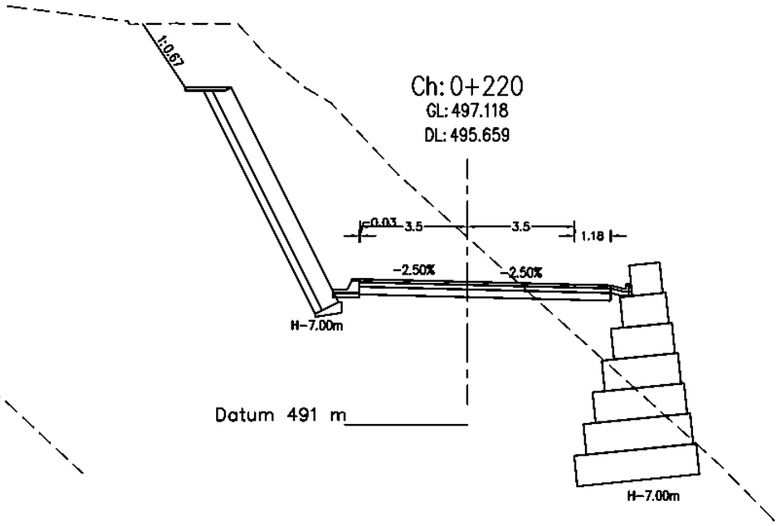
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Reservoir Diversion Multipurpose Project
Sindhuli, Nepal

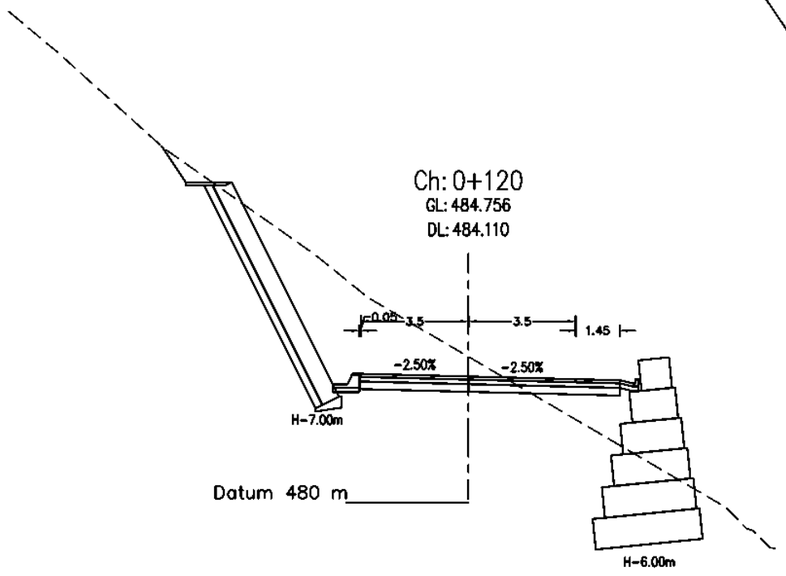
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

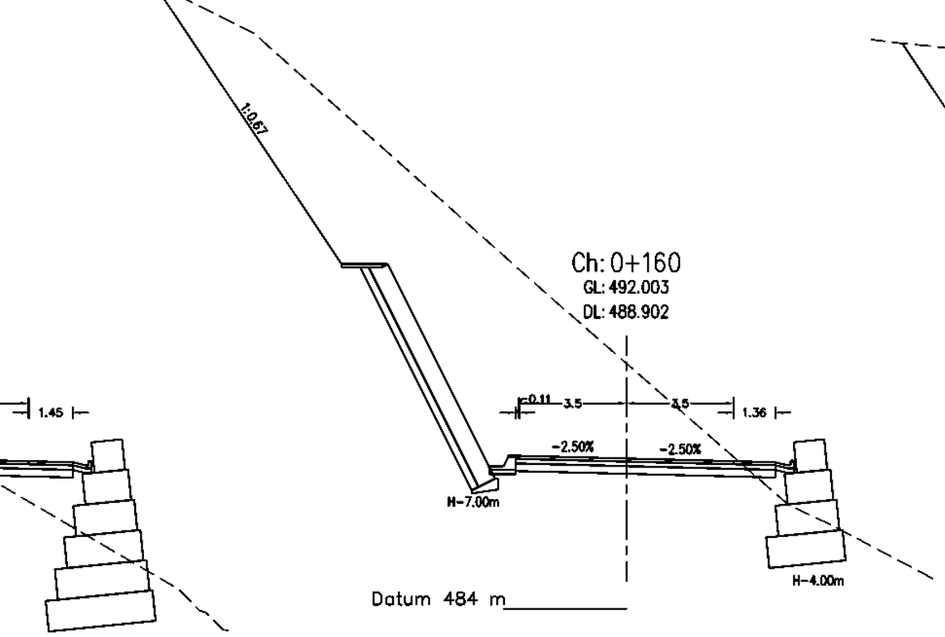
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale:	1:200

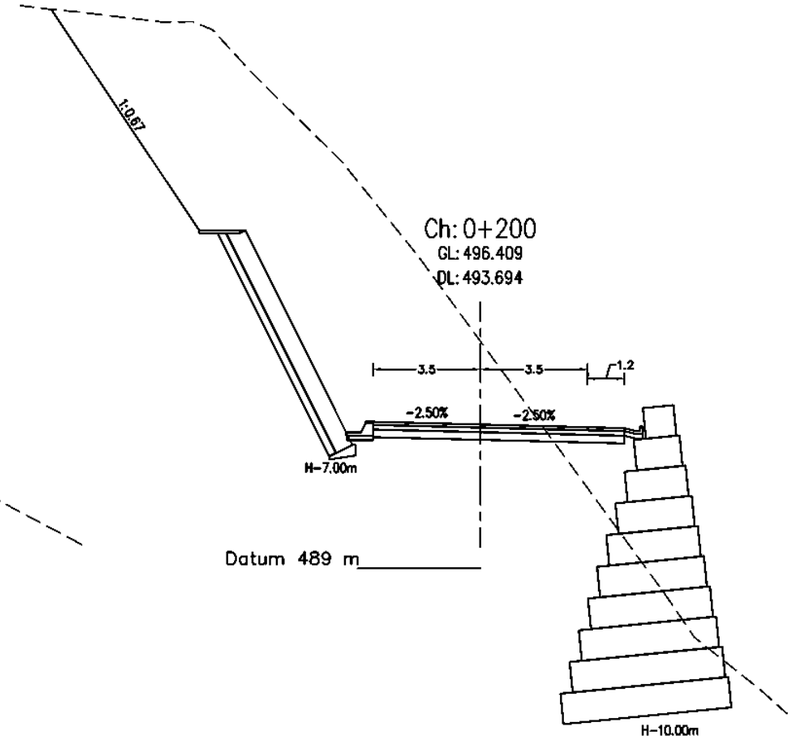








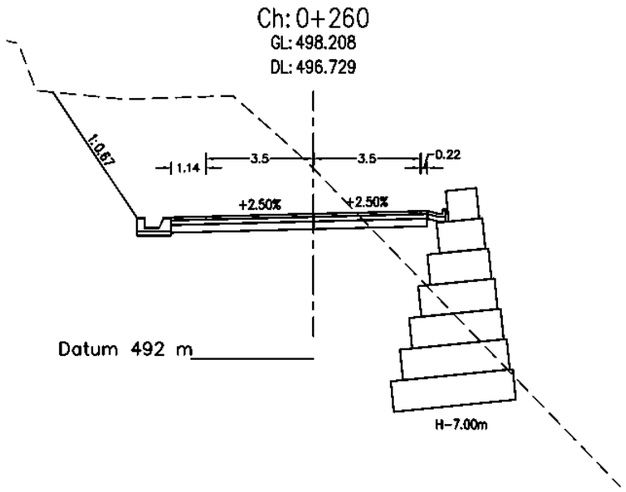


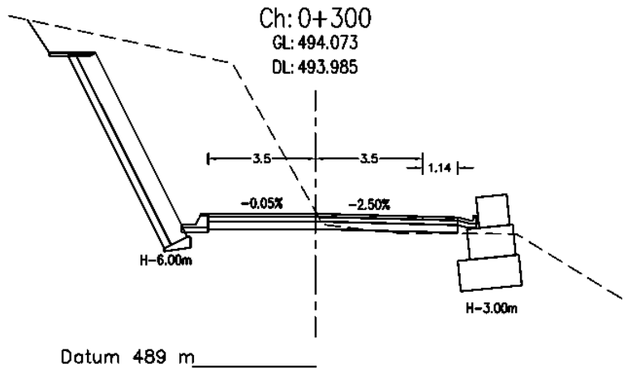


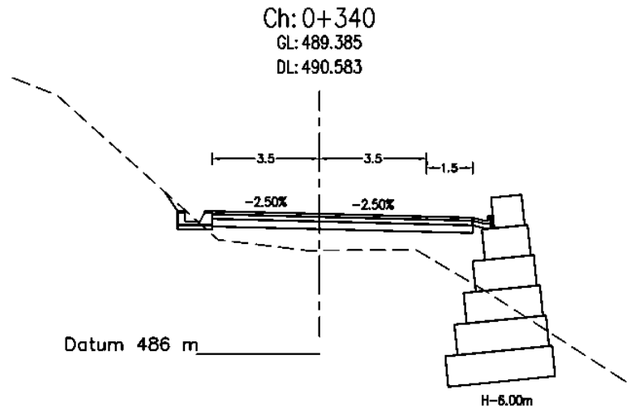
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamala Diversion Multipurpose Project
Sindhuli, Nepal

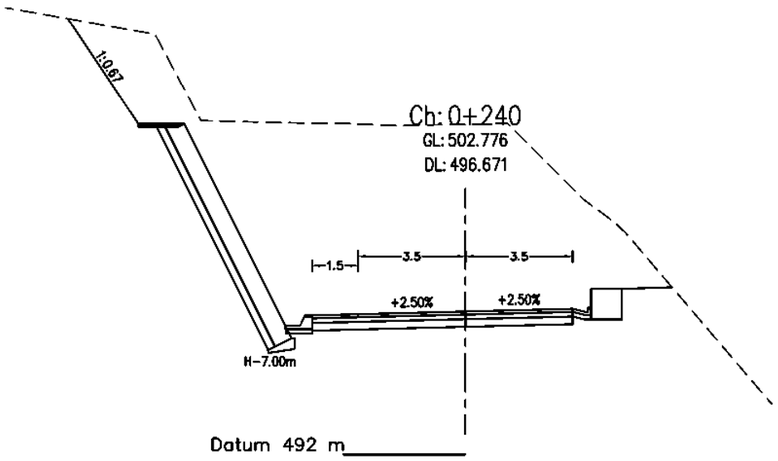
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

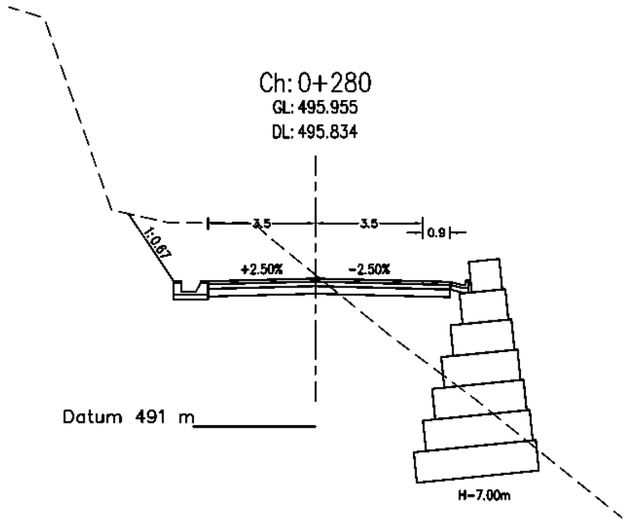
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	2
			Approved By			Scale:	1:200

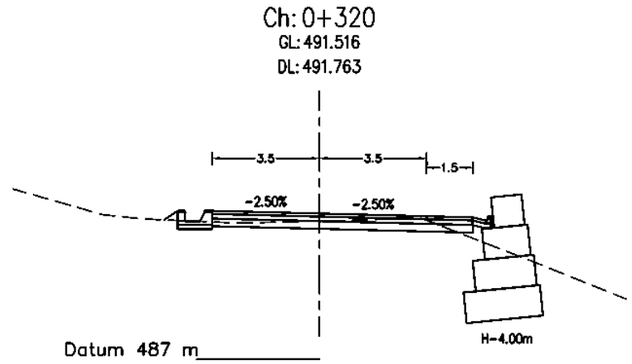








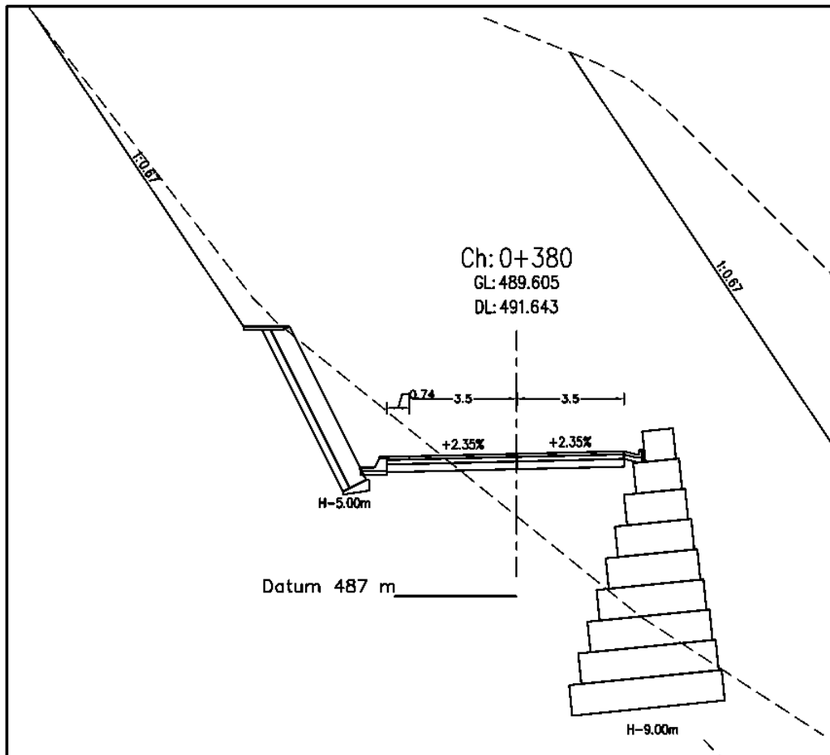


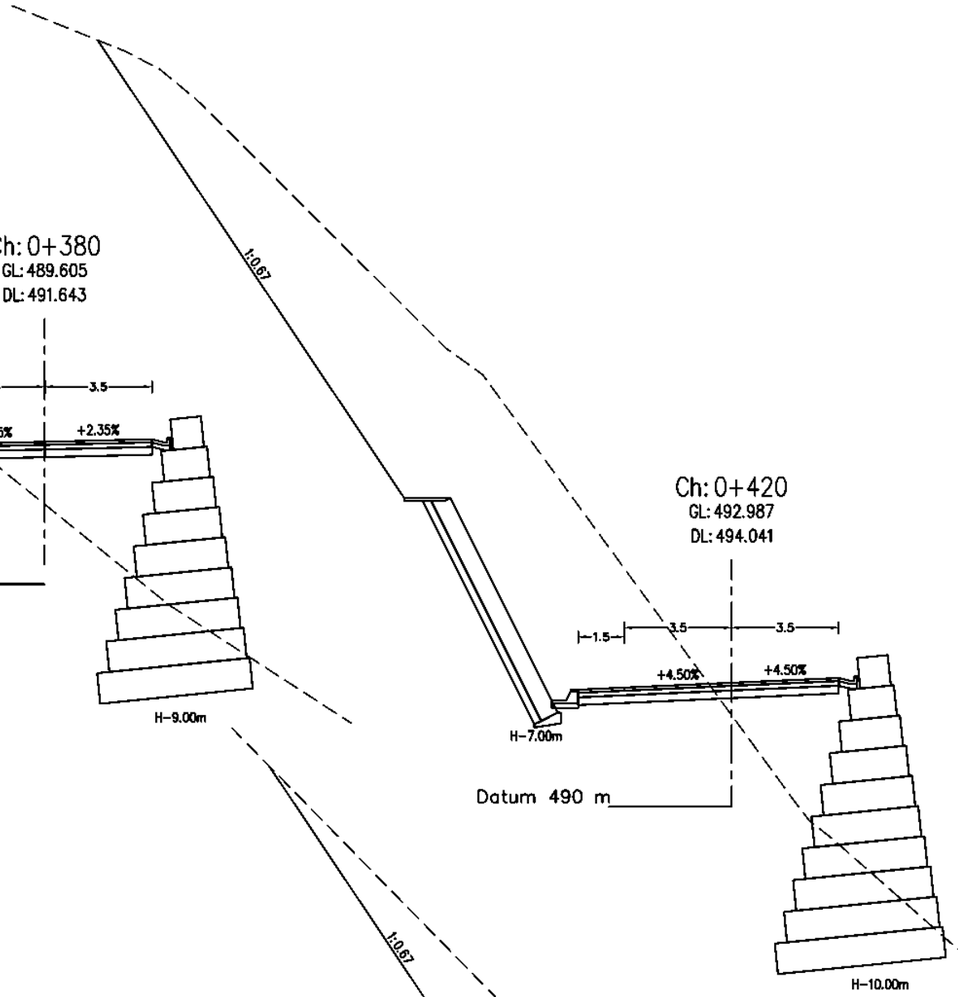


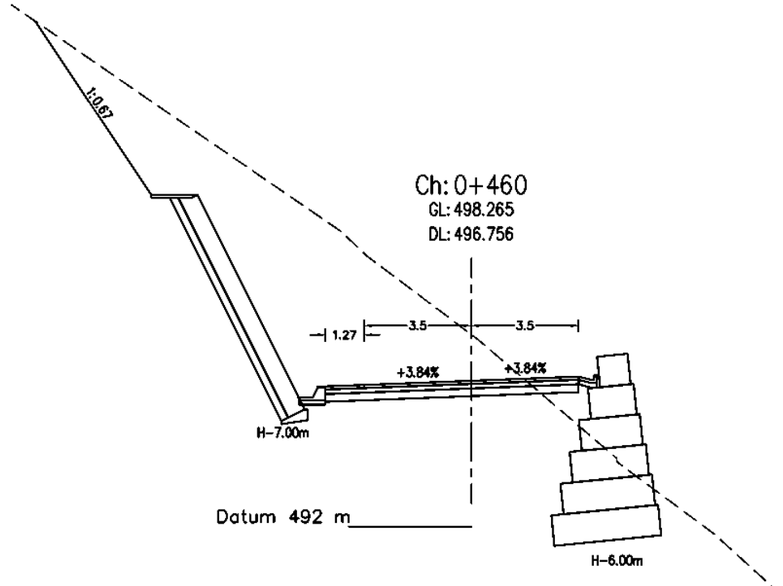
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

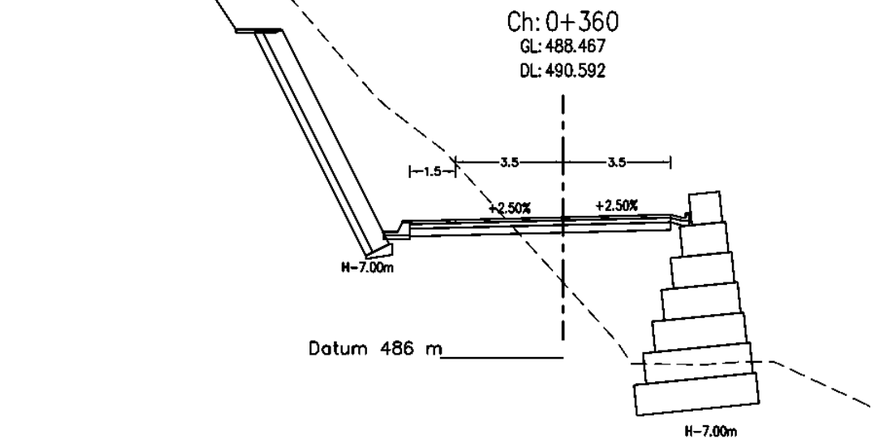
Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

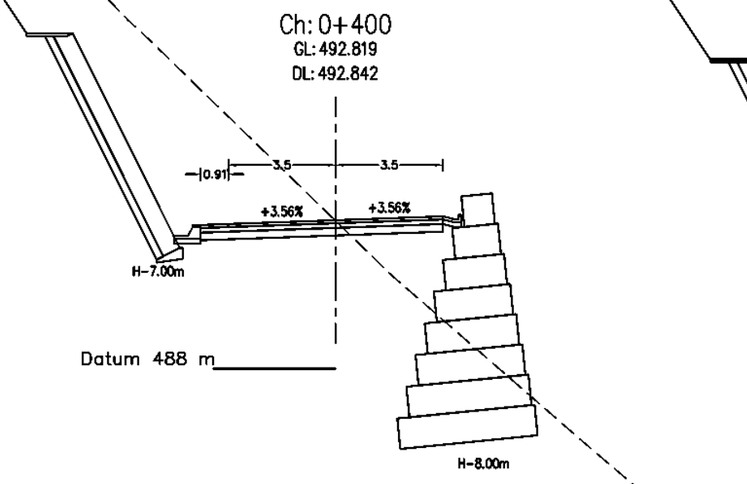
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	3
			Approved By			Scale:	1:200

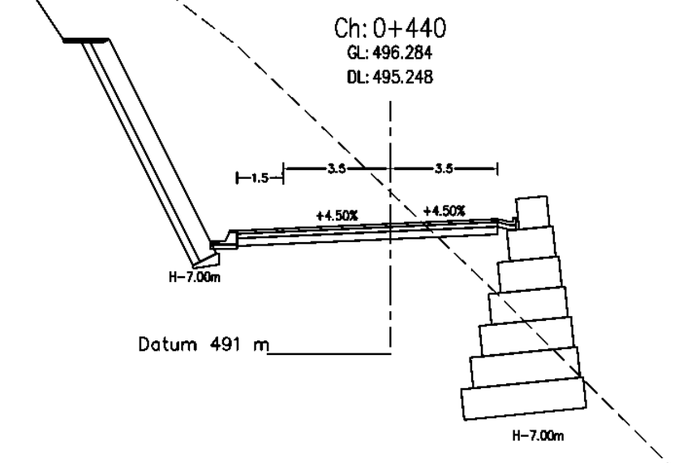








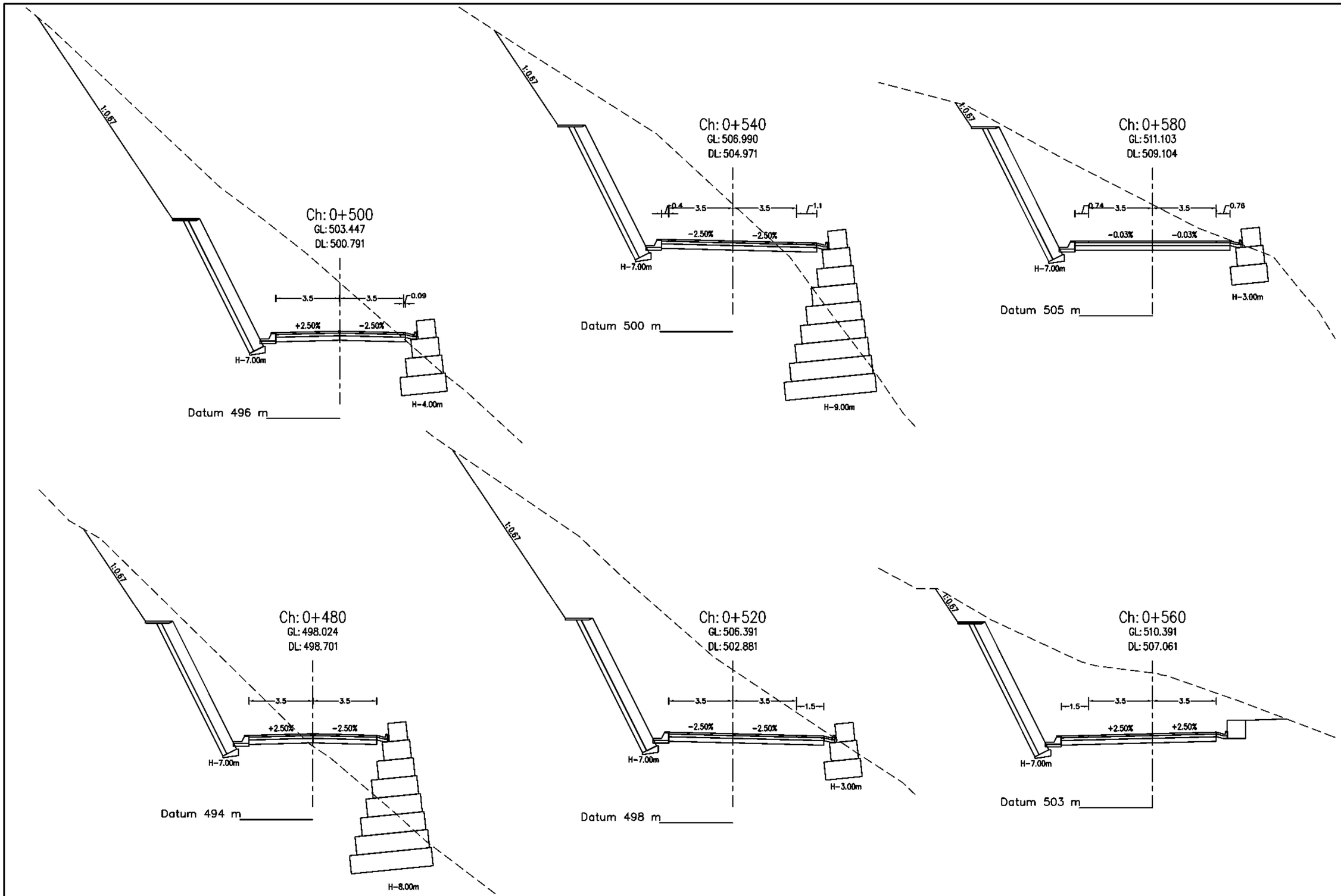




Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekala Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

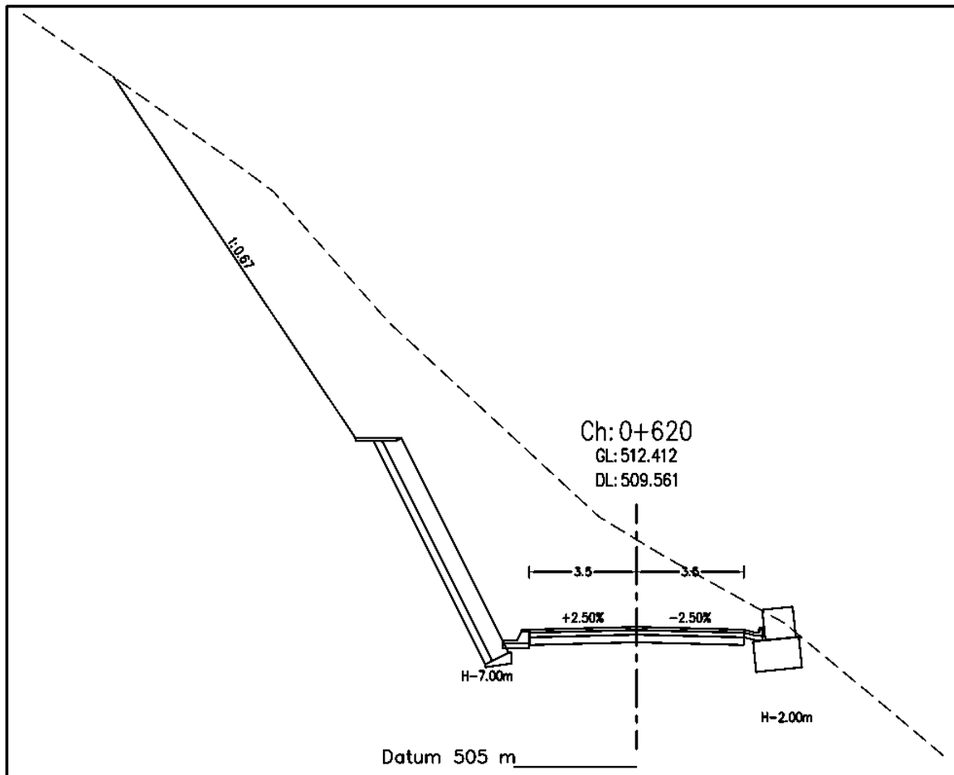
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	4
			Approved By			Scale:	1:200

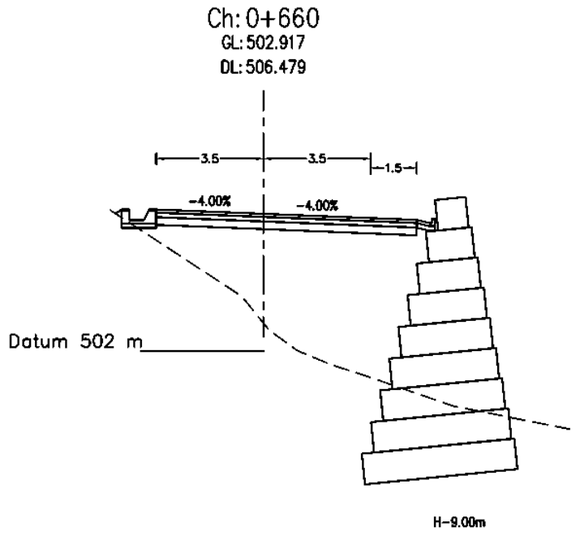


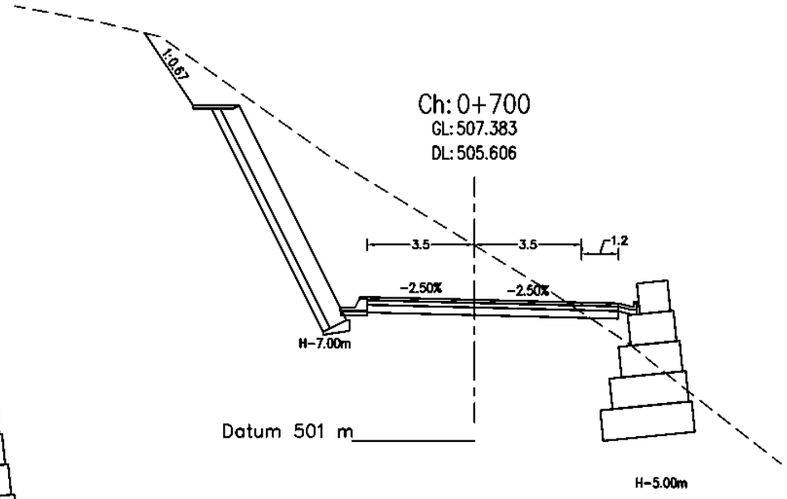
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Reservoir Diversion Multipurpose Project
Sindhuli, Nepal

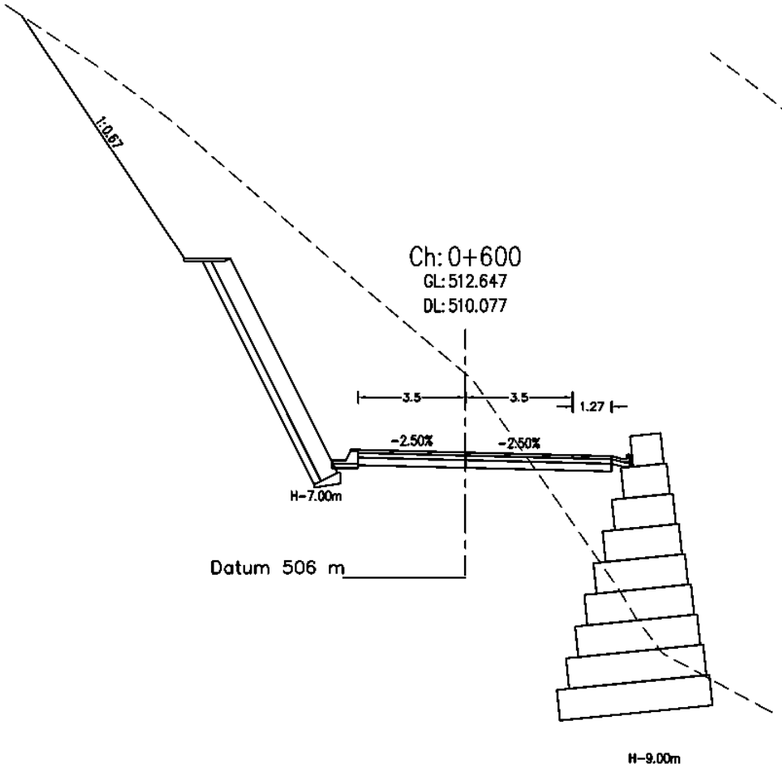
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

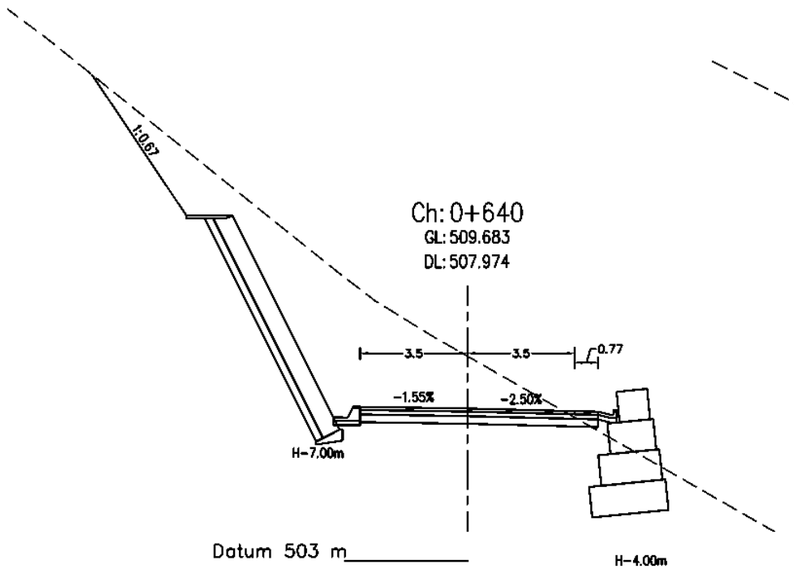
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	5
			Approved By			Scale:	1:200

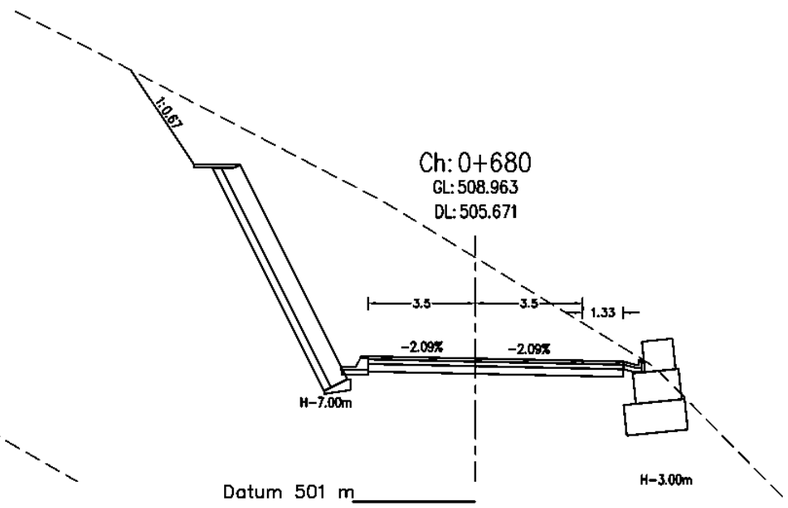










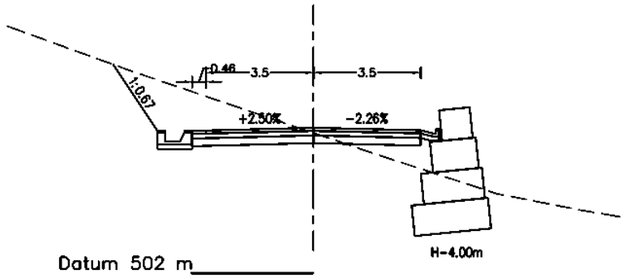


Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Reservoir Diversion Multipurpose Project
Sindhuli, Nepal

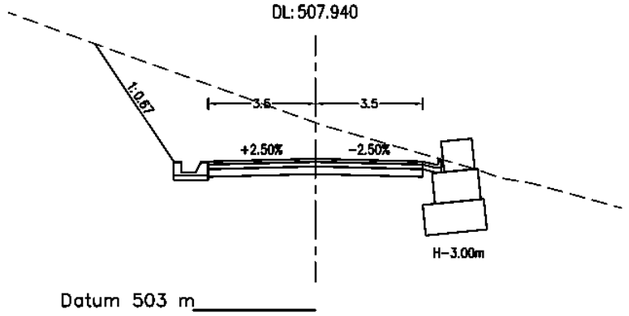
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	6
			Approved By			Scale:	1:200

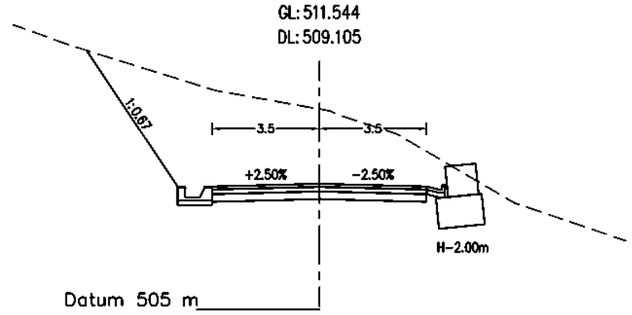
Ch: 0+740
GL: 506.579
DL: 506.745



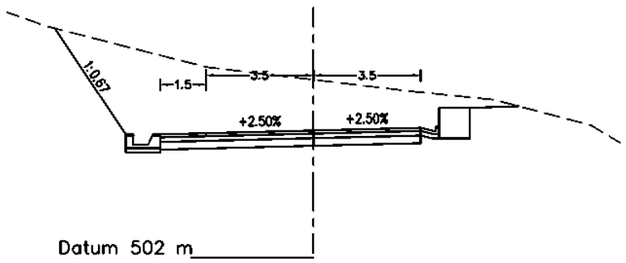
Ch: 0+780
GL: 509.119
DL: 507.940



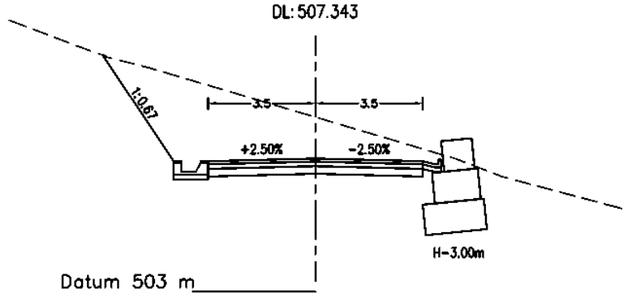
Ch: 0+820
GL: 511.544
DL: 509.105



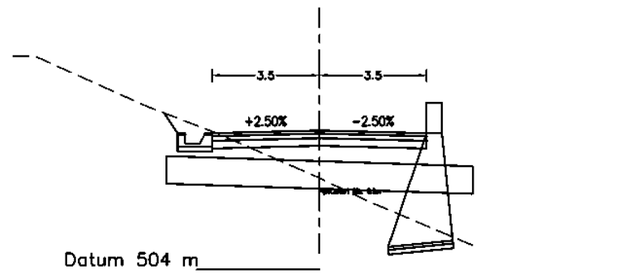
Ch: 0+720
GL: 507.802
DL: 506.147



Ch: 0+760
GL: 508.694
DL: 507.343



Ch: 0+800
GL: 506.986
DL: 508.538

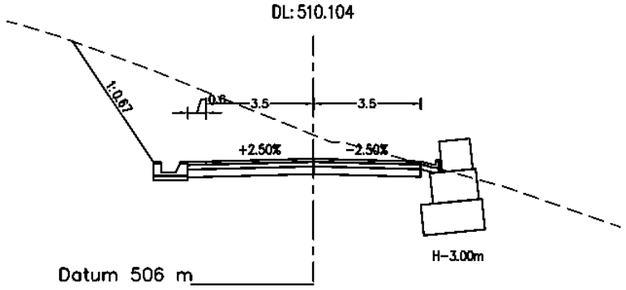


Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

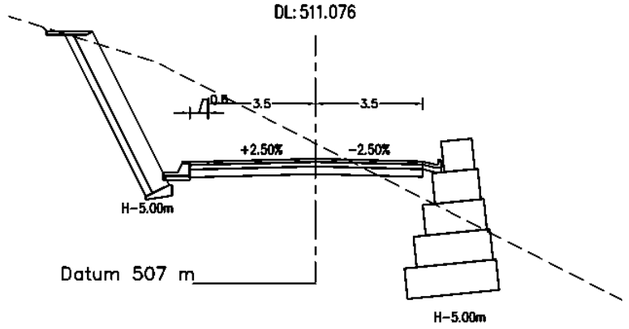
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	7
			Approved By			Scale:	1:200

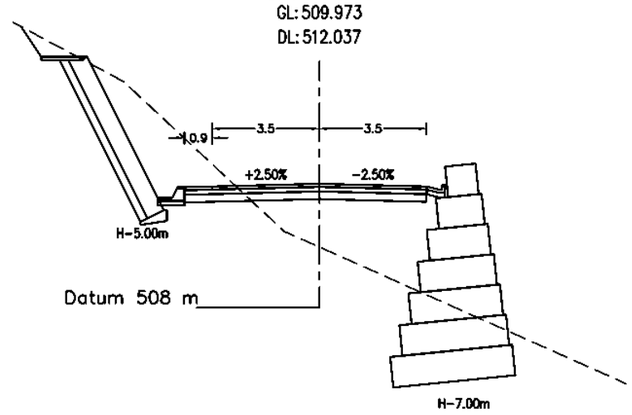
Ch: 0+860
GL: 510.883
DL: 510.104



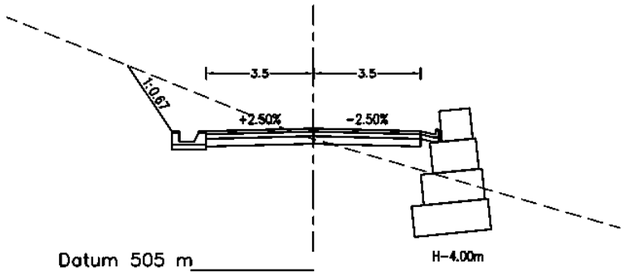
Ch: 0+900
GL: 511.576
DL: 511.076



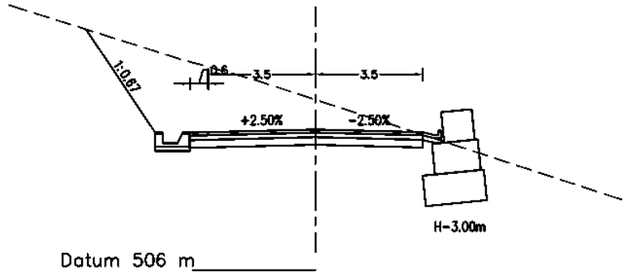
Ch: 0+940
GL: 509.973
DL: 512.037



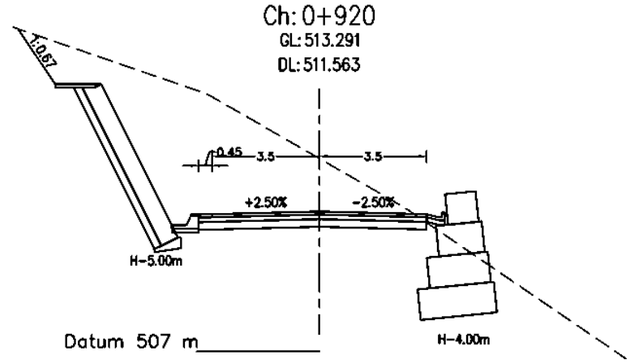
Ch: 0+840
GL: 509.276
DL: 509.617



Ch: 0+880
GL: 511.564
DL: 510.590



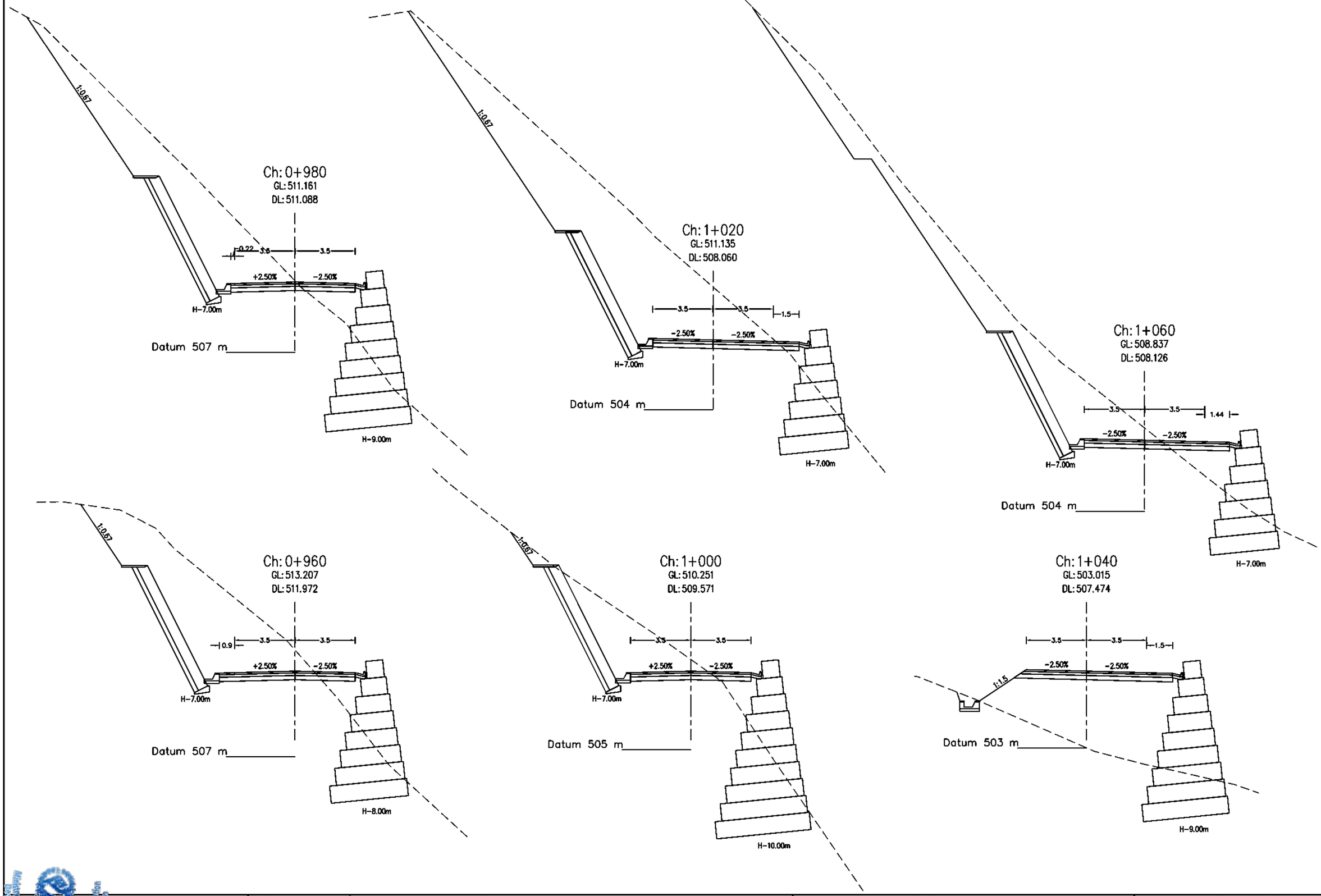
Ch: 0+920
GL: 513.291
DL: 511.563



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamala Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

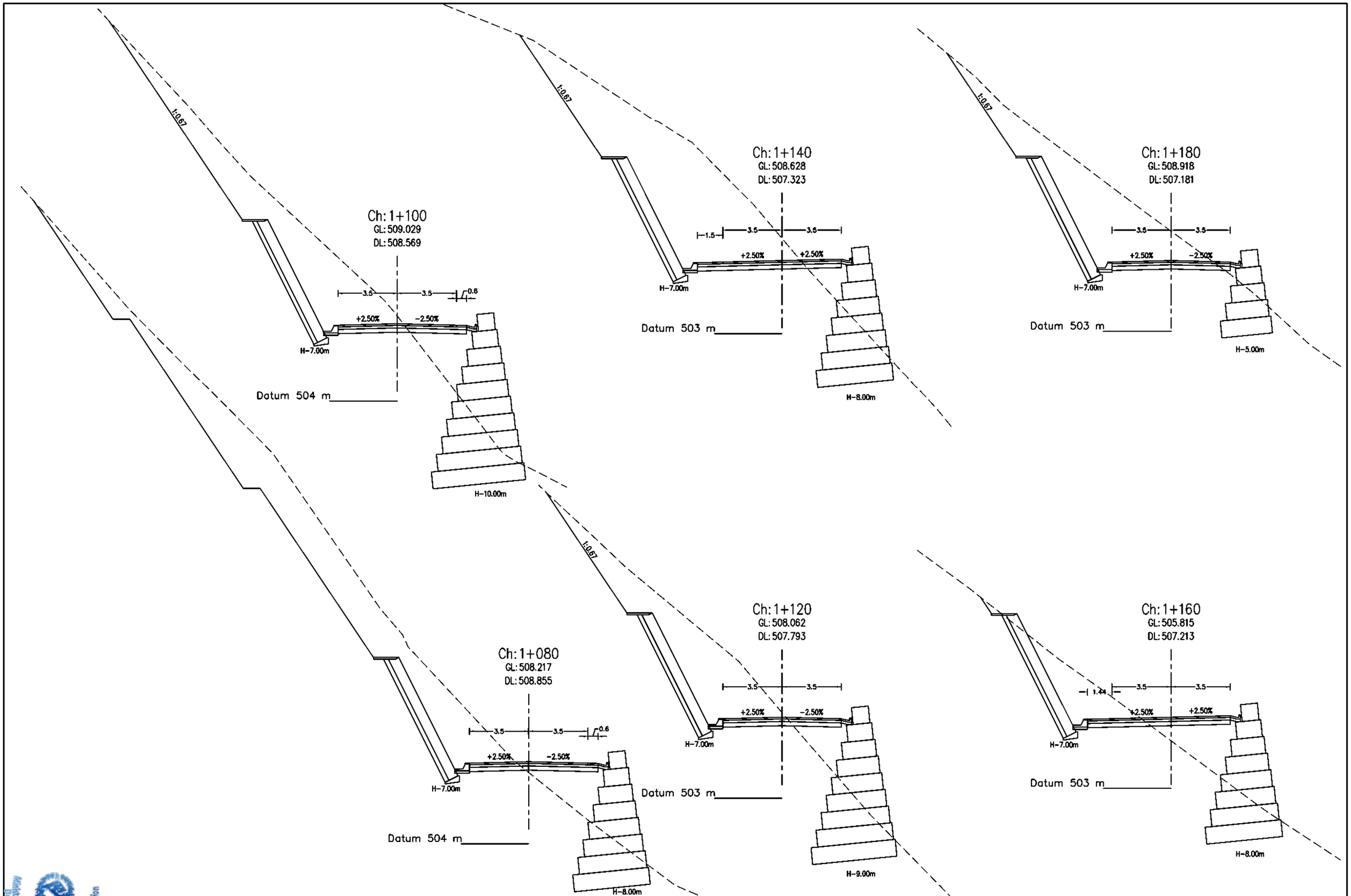
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	8
			Approved By			Scale:	1:200



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

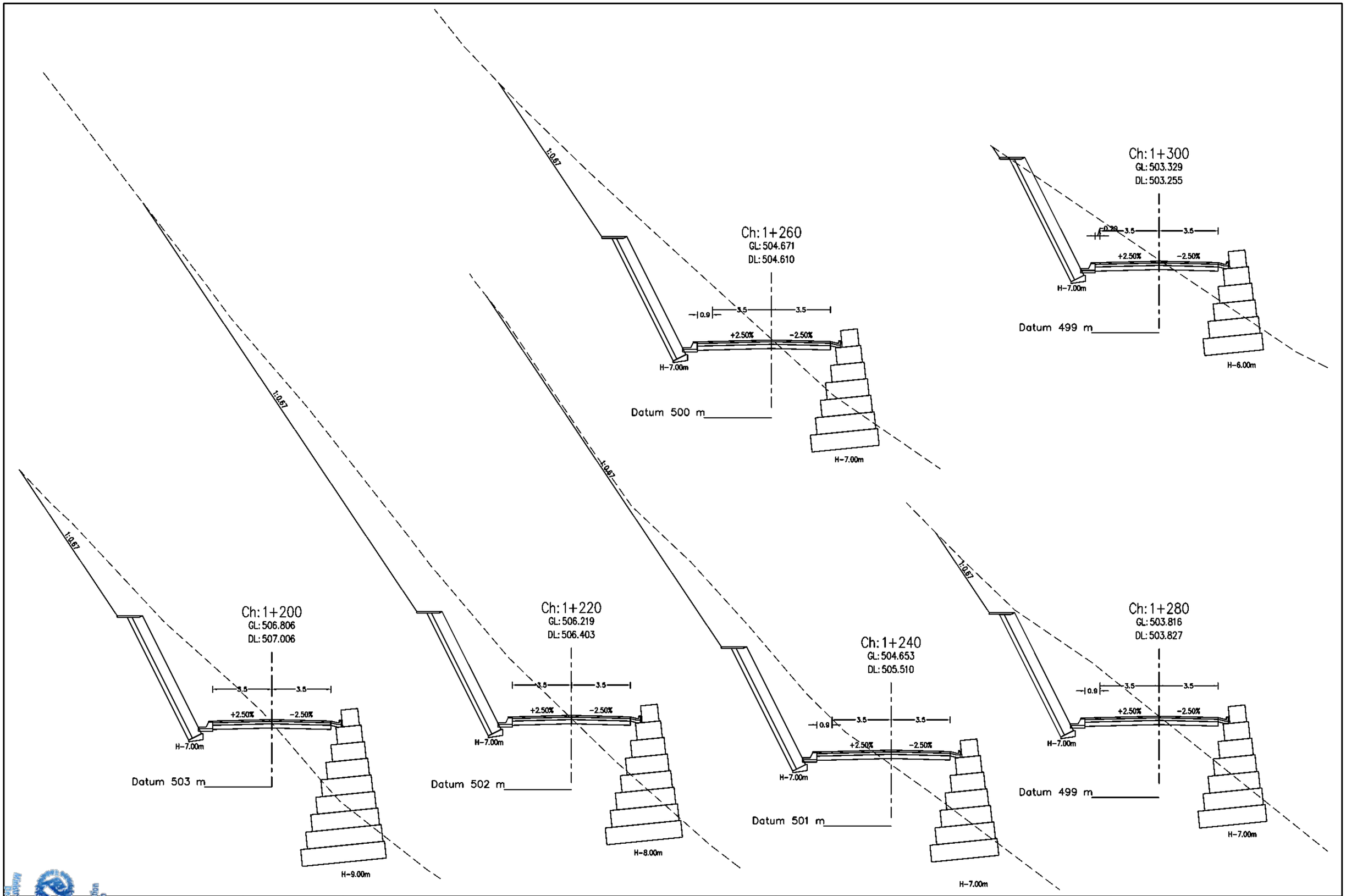
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	9
			Approved By			Scale:	1:200



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

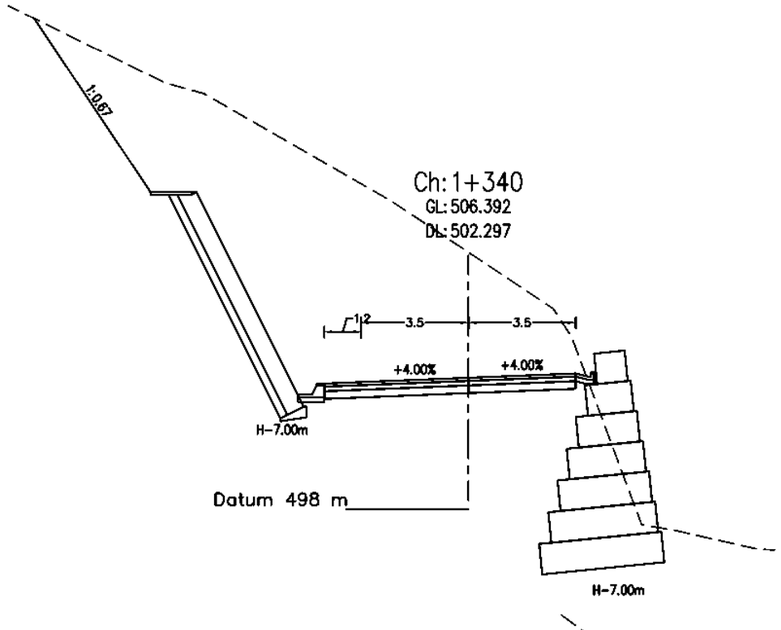
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	10
			Approved By			Scale:	1:200

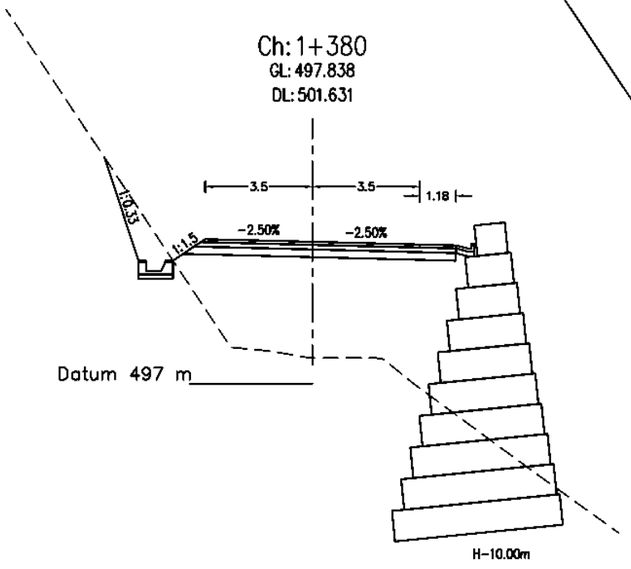


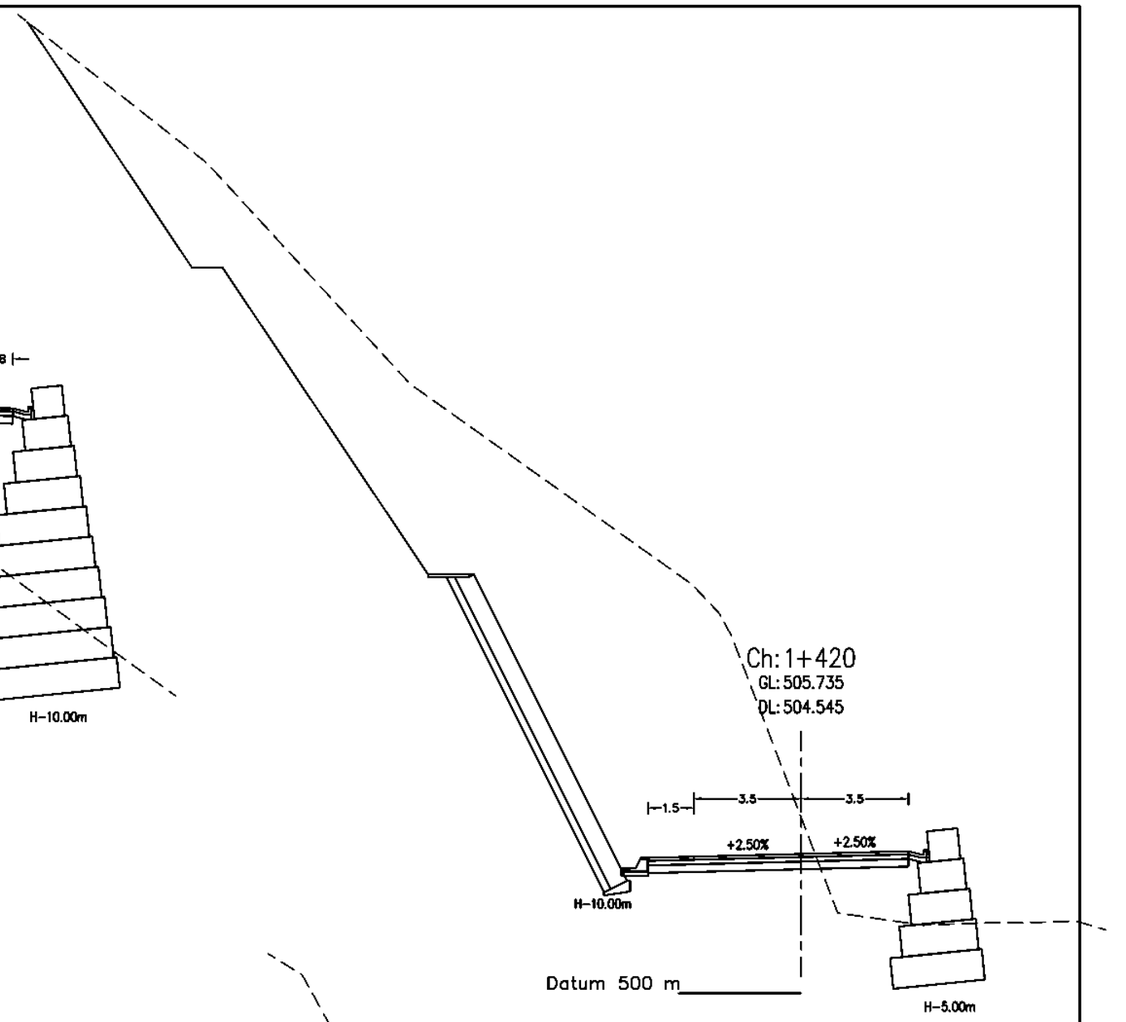
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

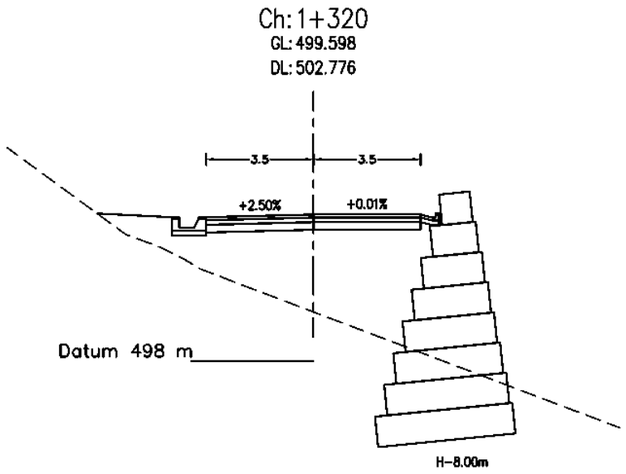
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

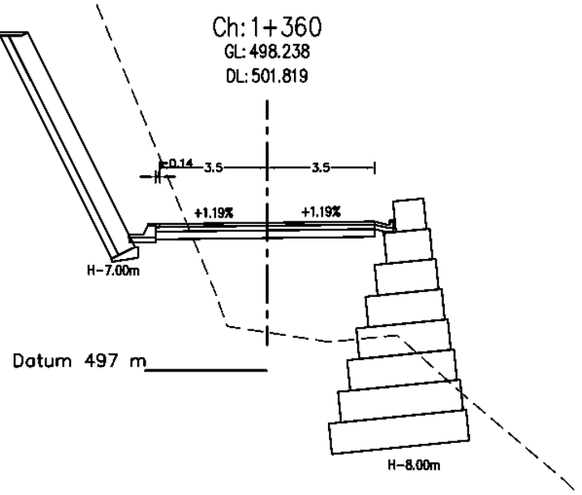
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	11
			Approved By			Scale:	1:200

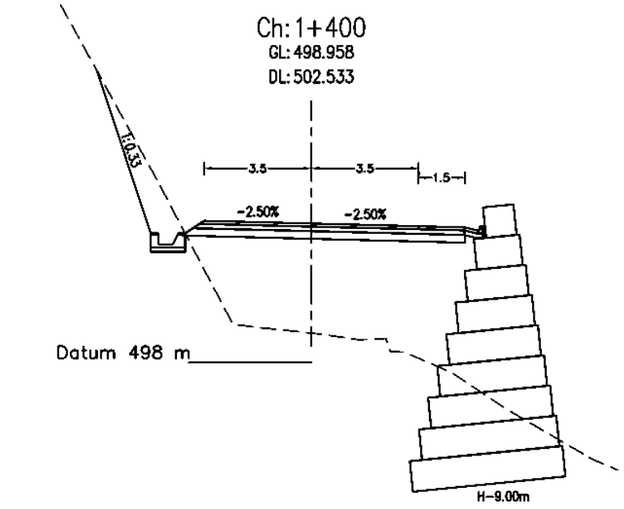








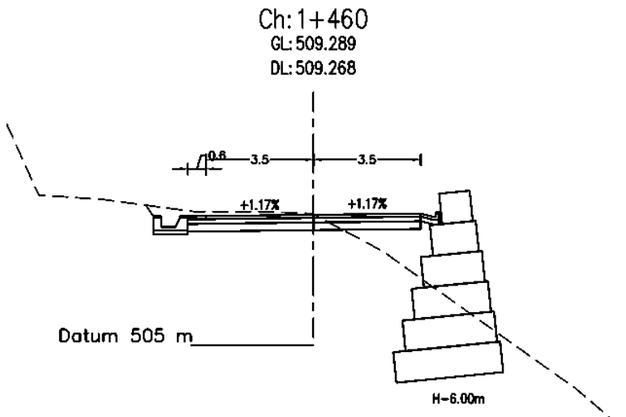


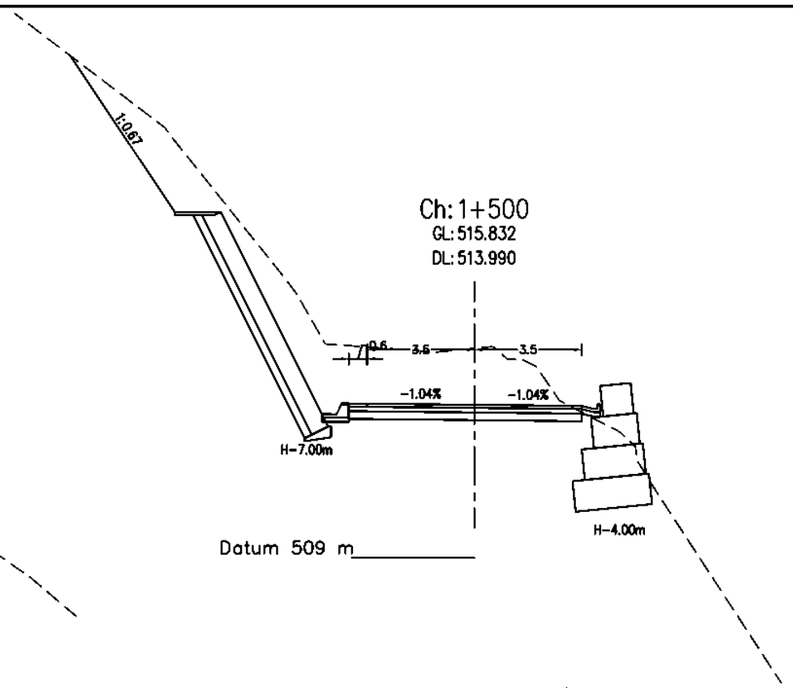


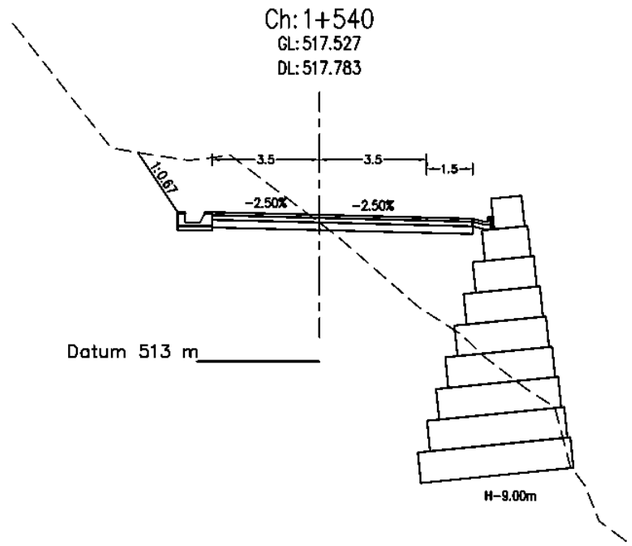
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Reservoir Diversion Multipurpose Project
Sindhuli, Nepal

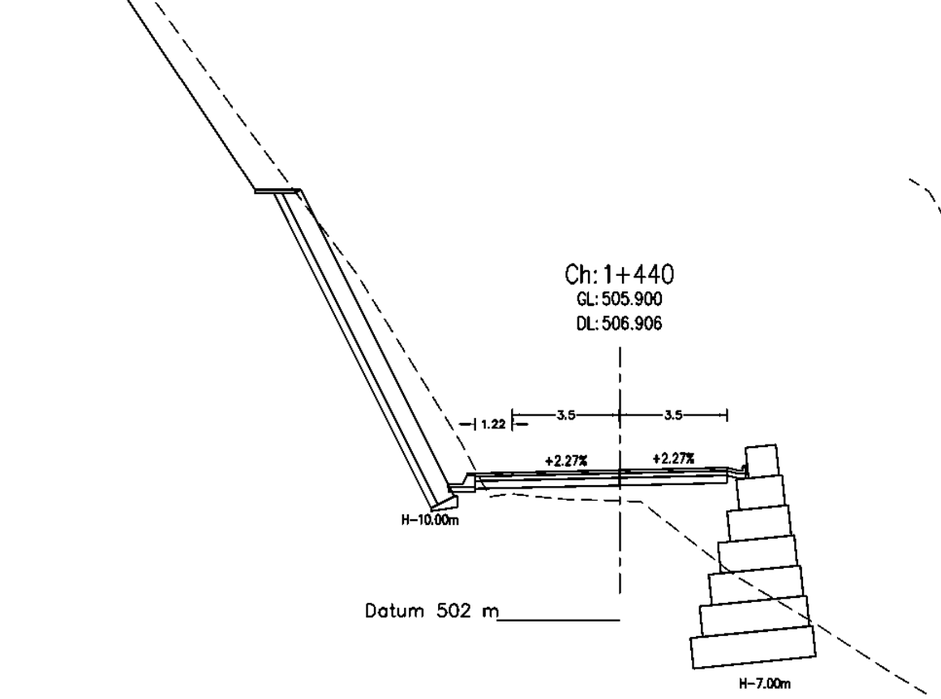
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

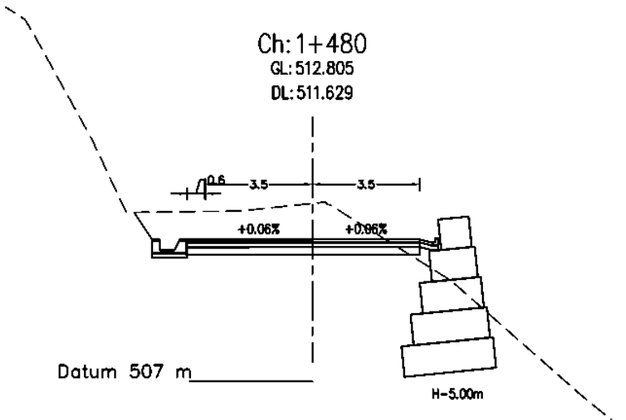
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	12
			Approved By			Scale:	1:200

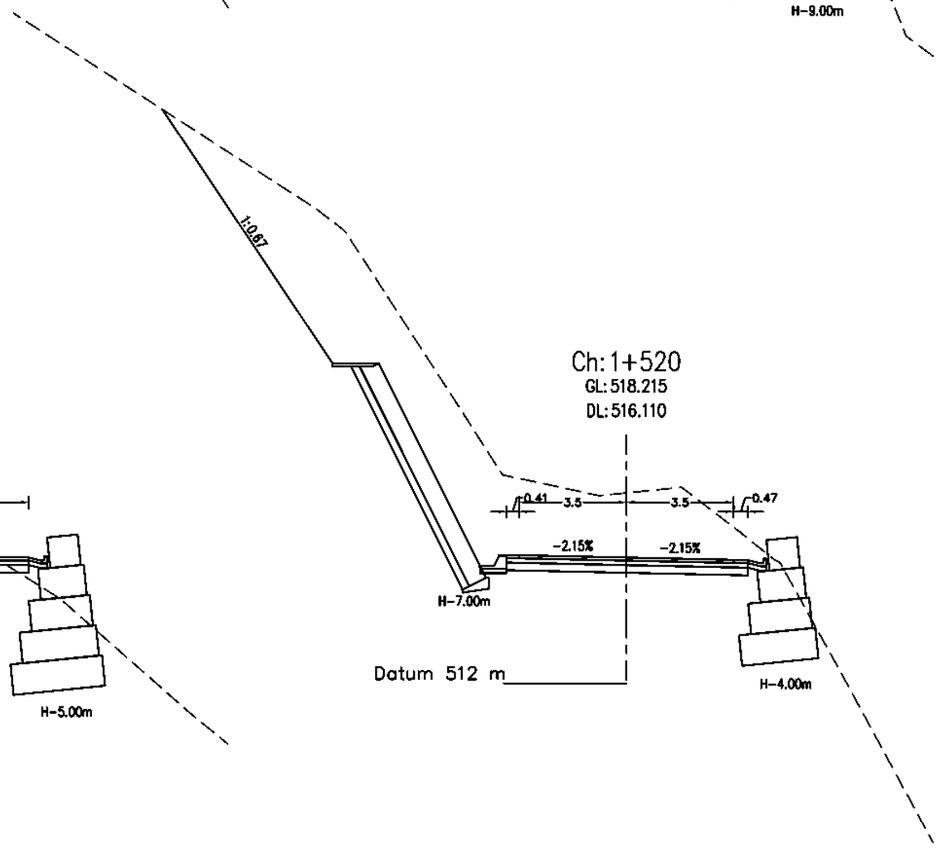








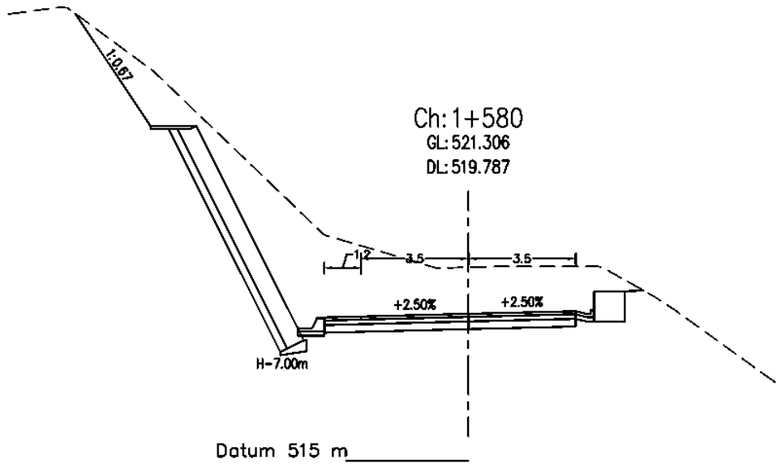


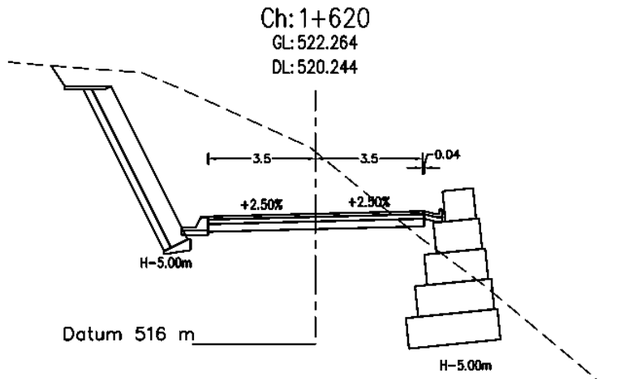


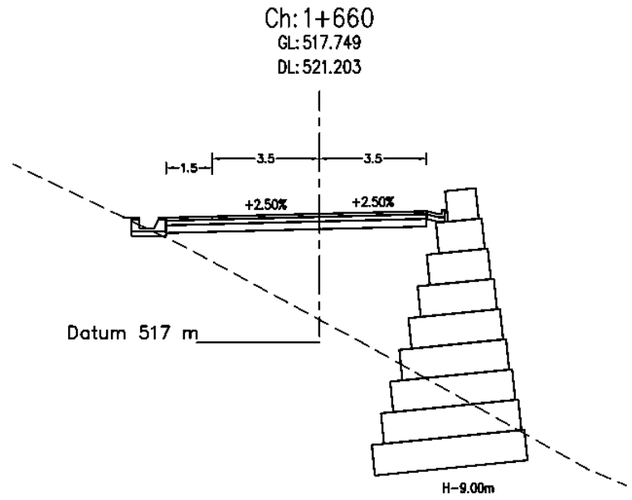
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

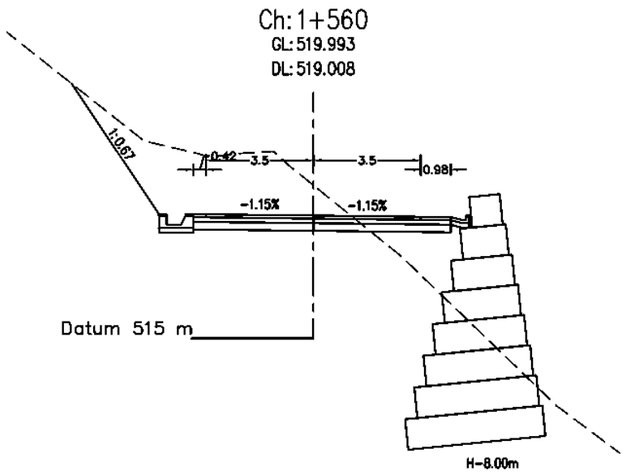
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

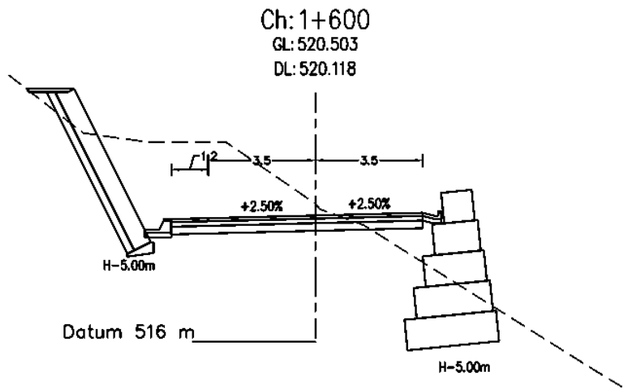
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	13
			Approved By			Scale:	1:200

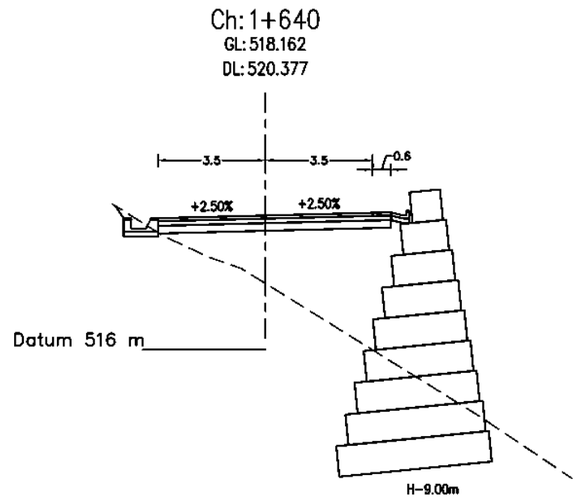








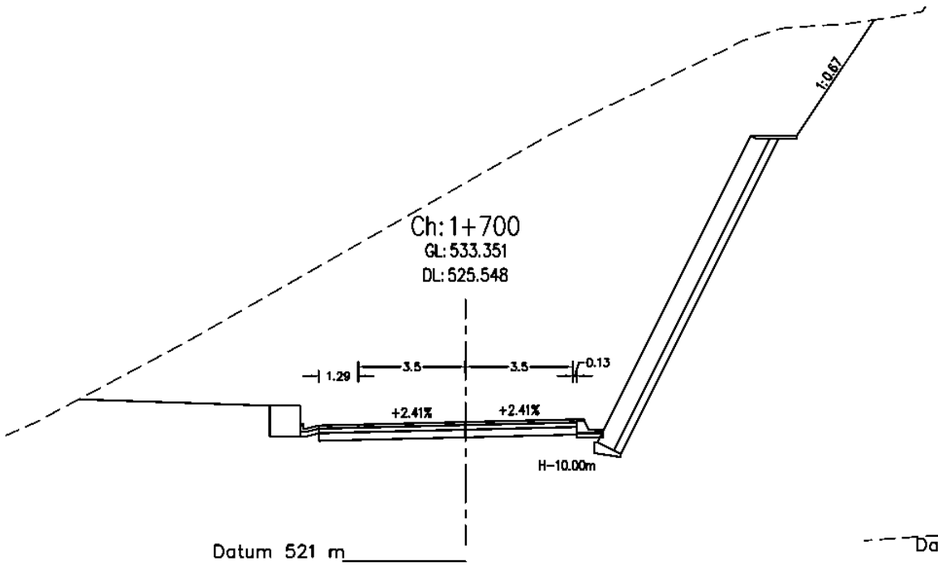


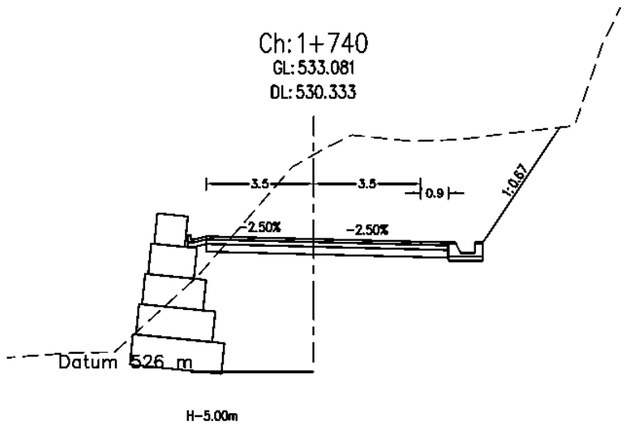


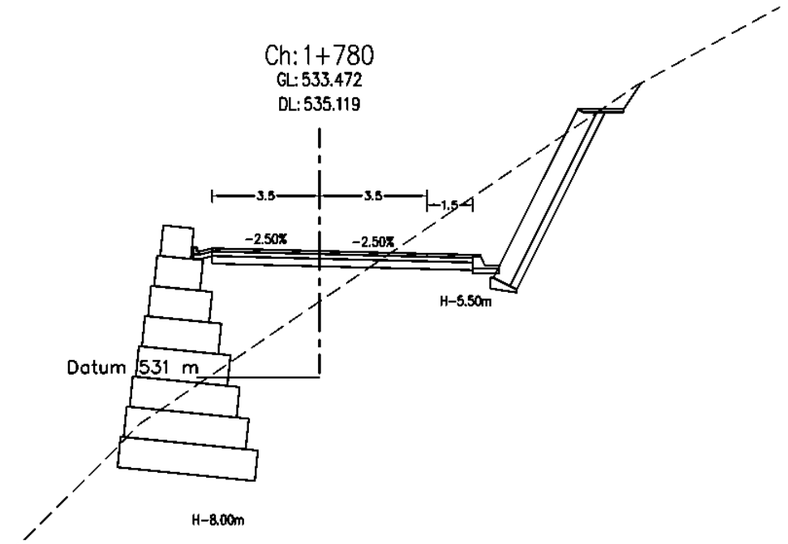
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

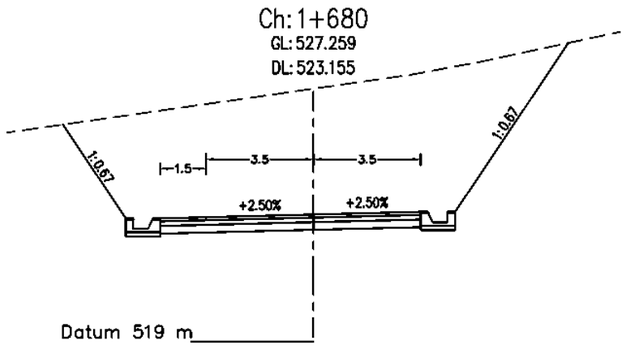
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

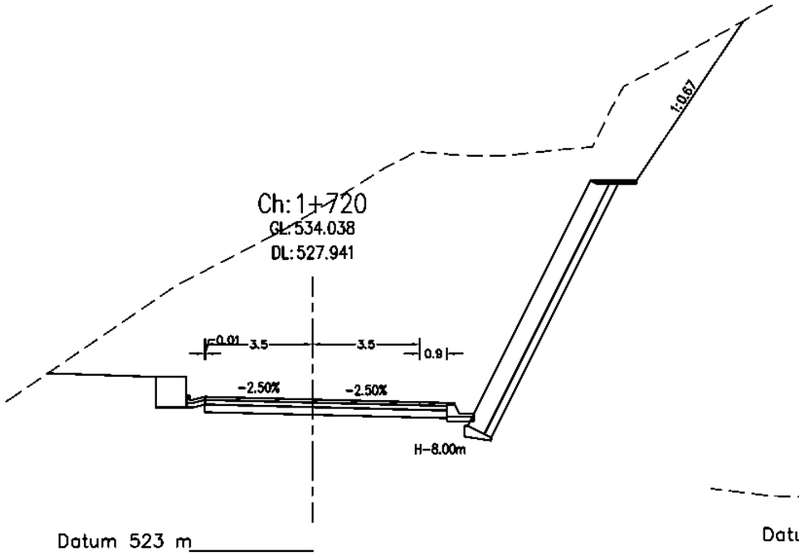
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	14
			Approved By			Scale:	1:200

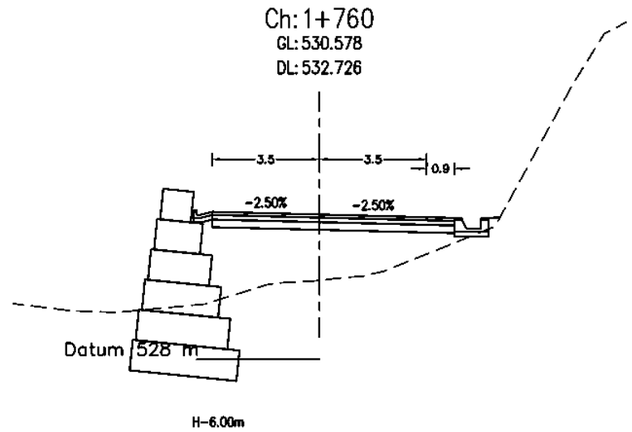








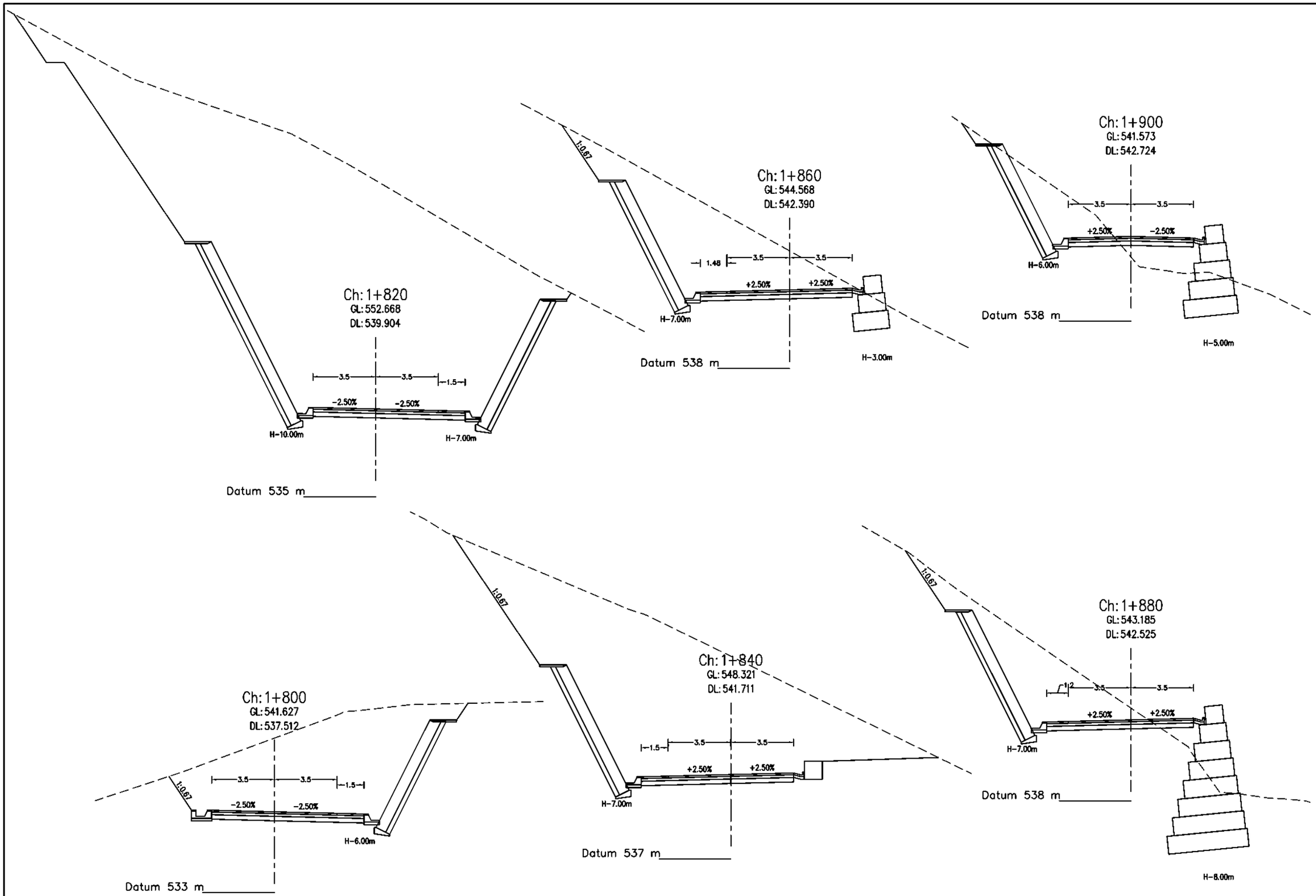




Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamla Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

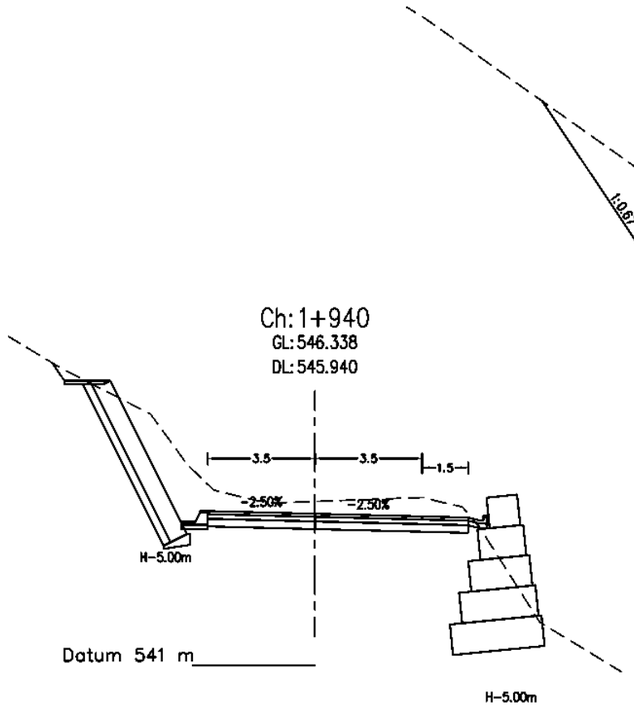
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	15
			Approved By			Scale:	1:200

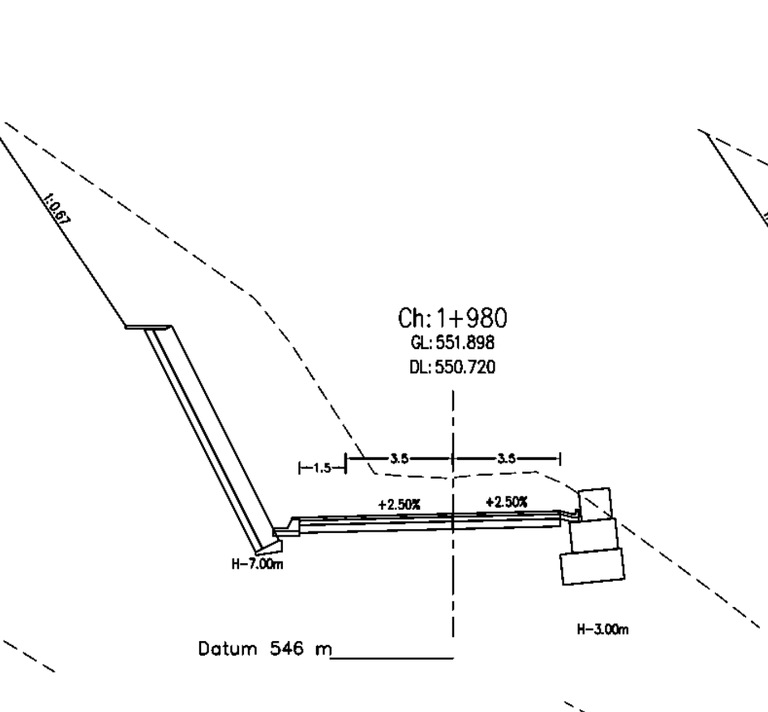


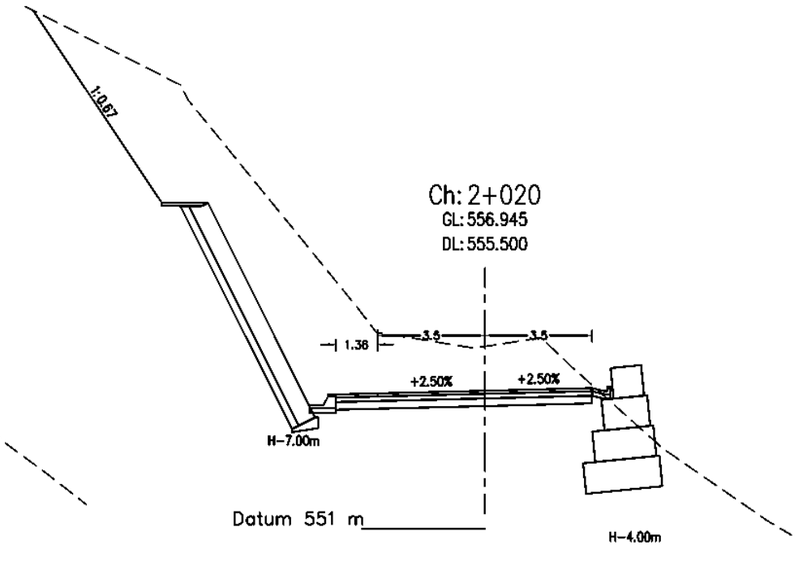
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

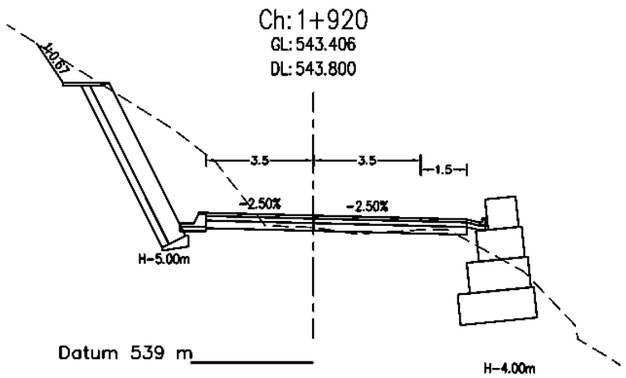
Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

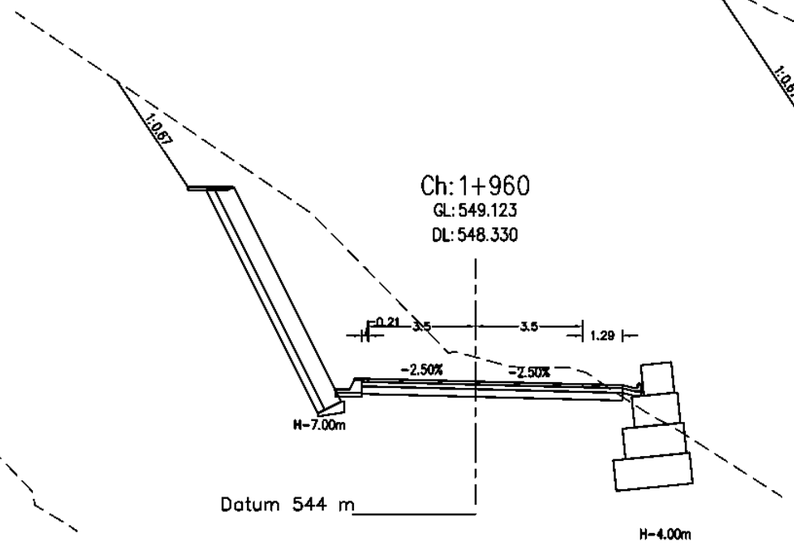
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	16
			Approved By			Scale:	1:200

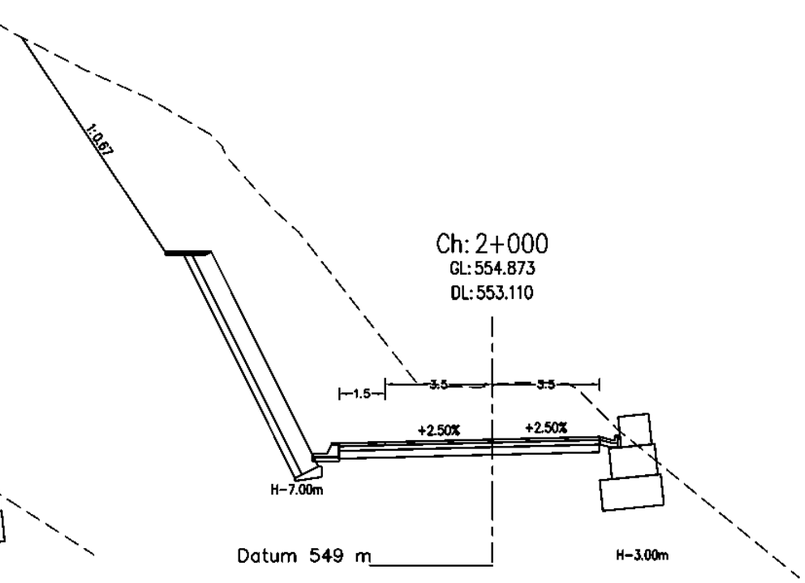








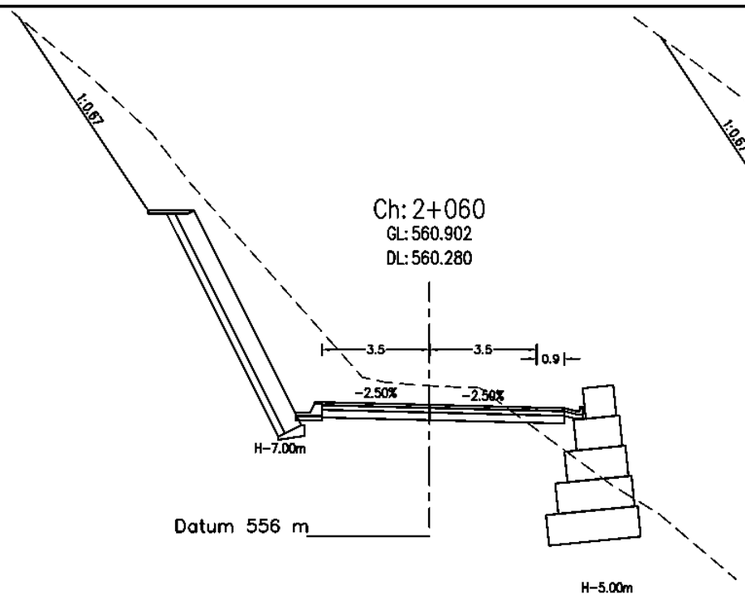


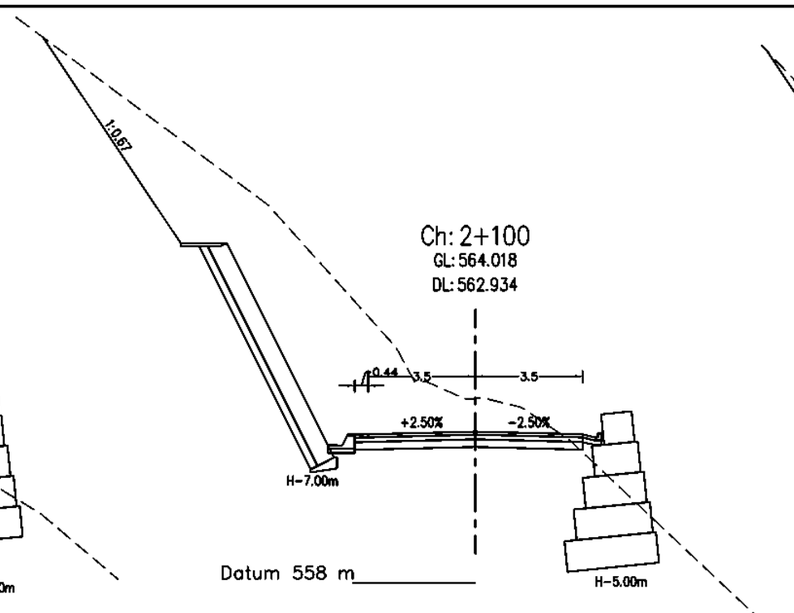


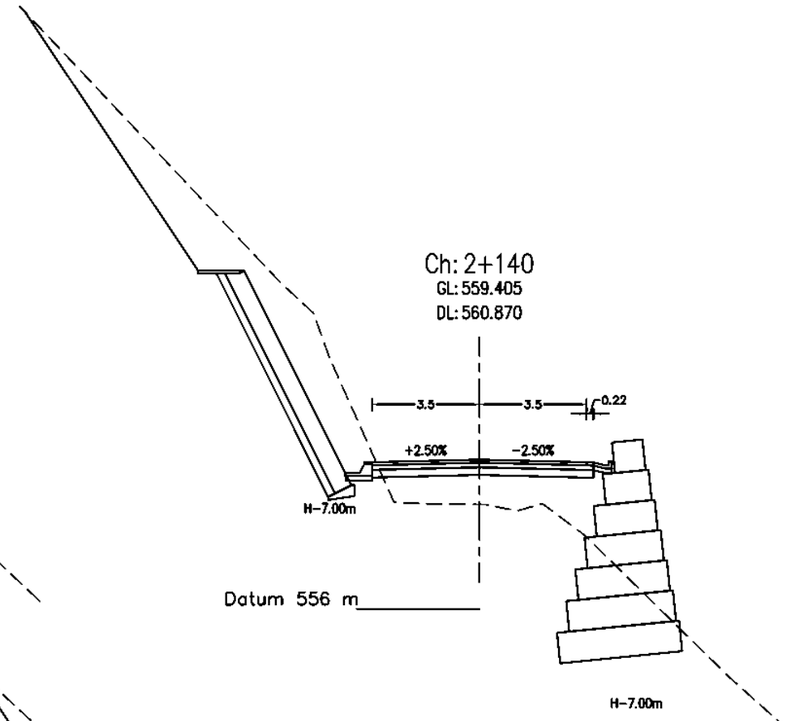
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

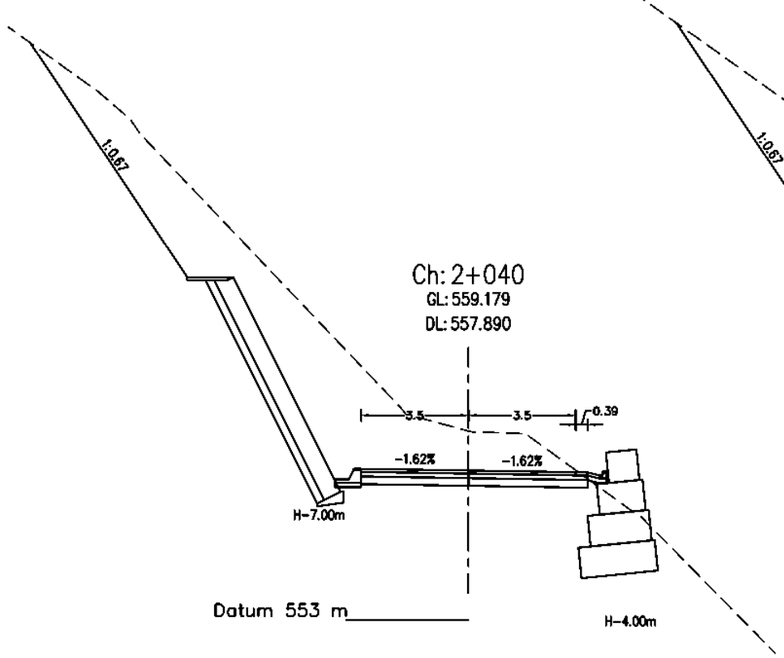
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

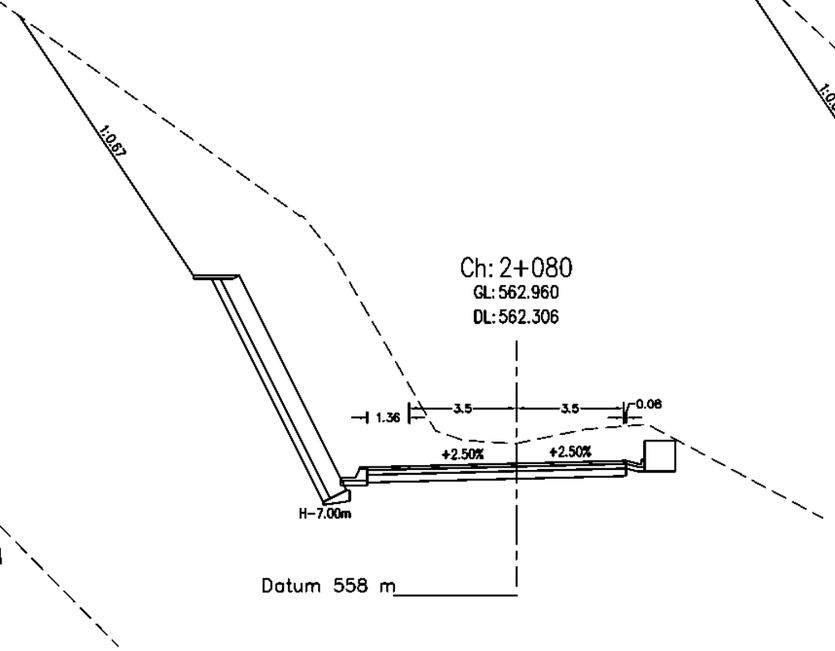
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	17
			Approved By			Scale:	1:200

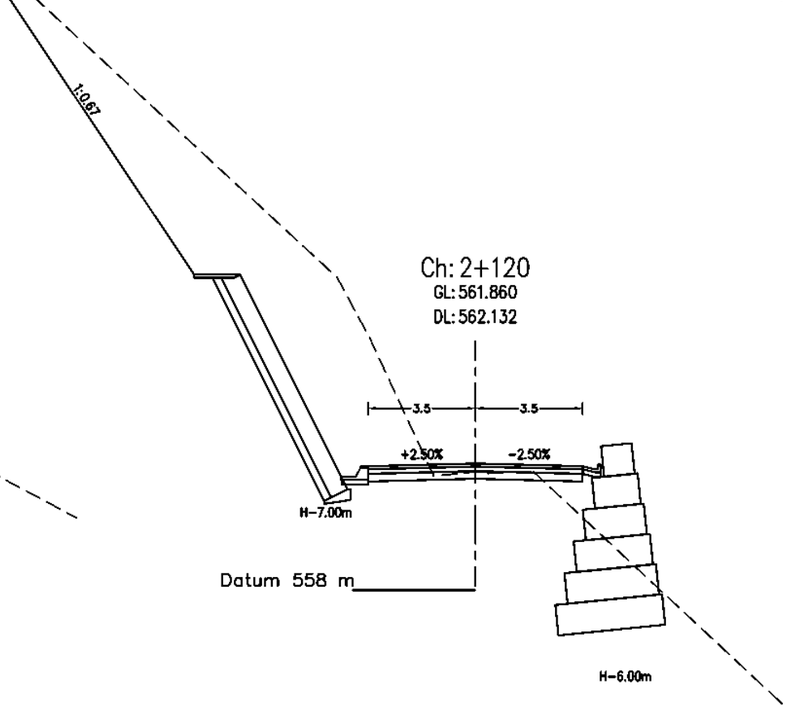








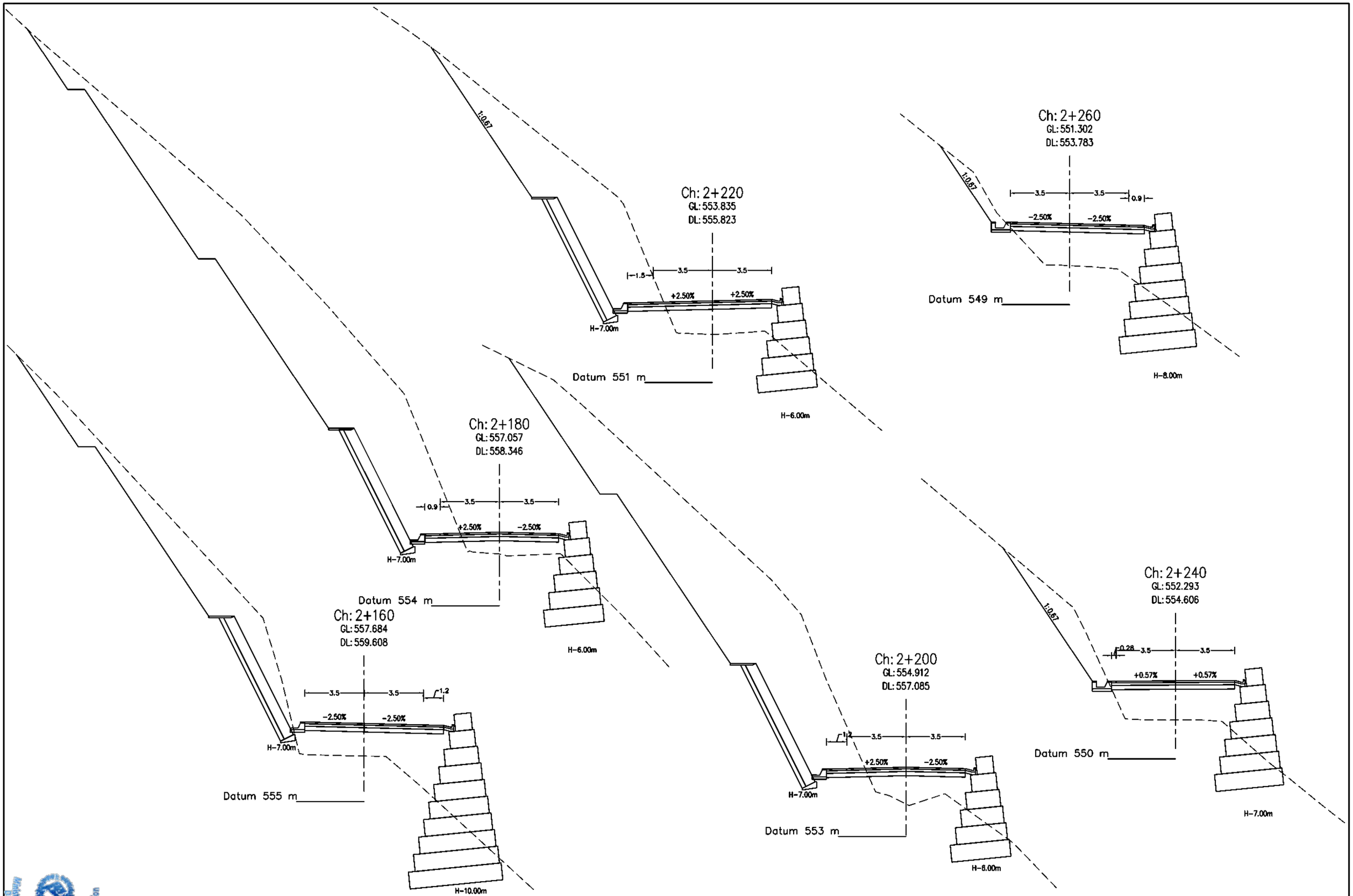




Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

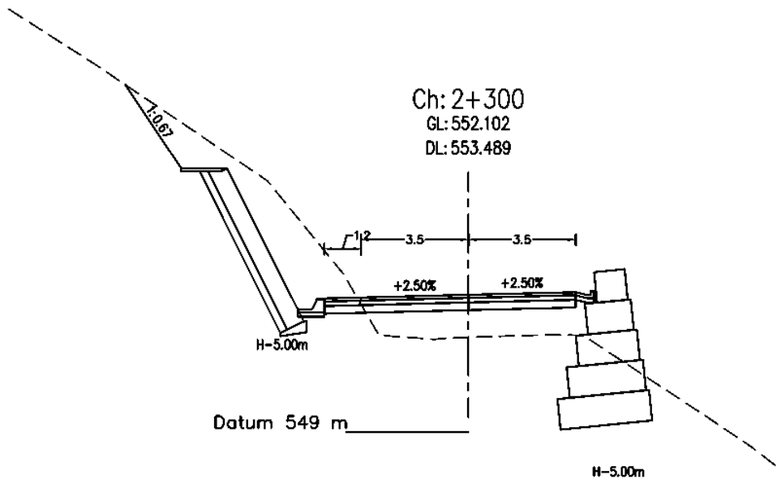
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	18
			Approved By			Scale:	1:200

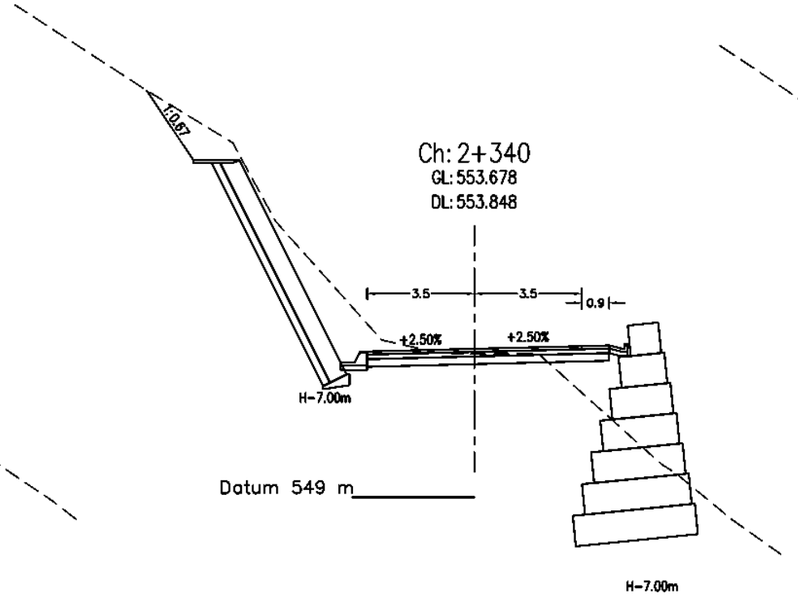


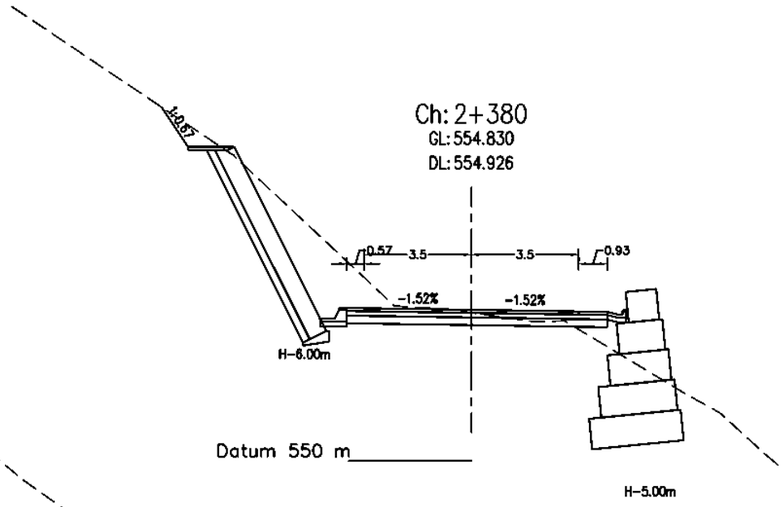
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamala Diversion Multipurpose Project
Sindhuli, Nepal

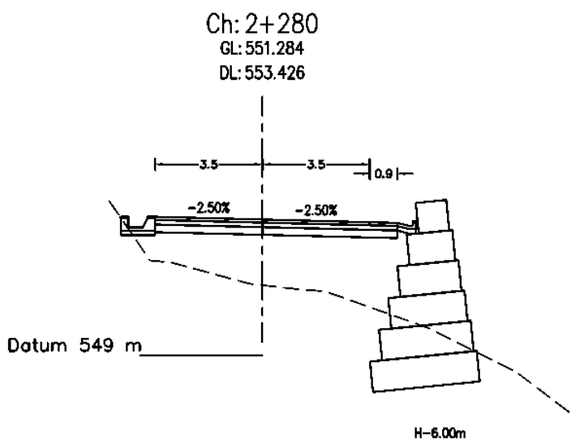
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

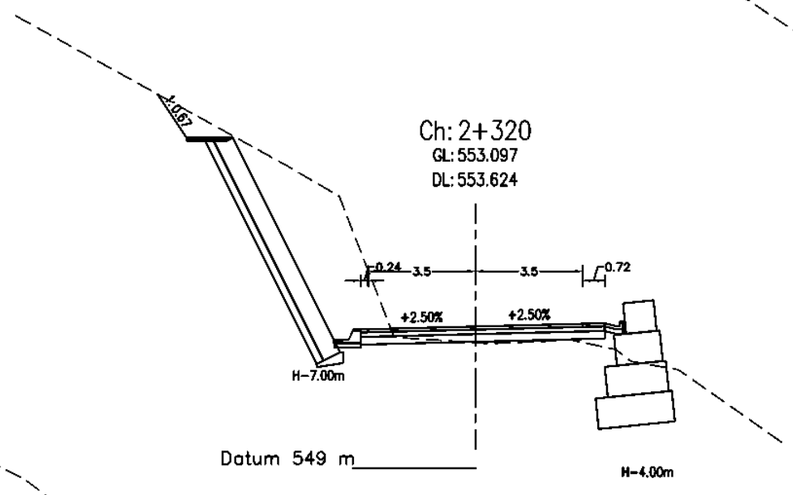
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	19
			Approved By			Scale:	1:200

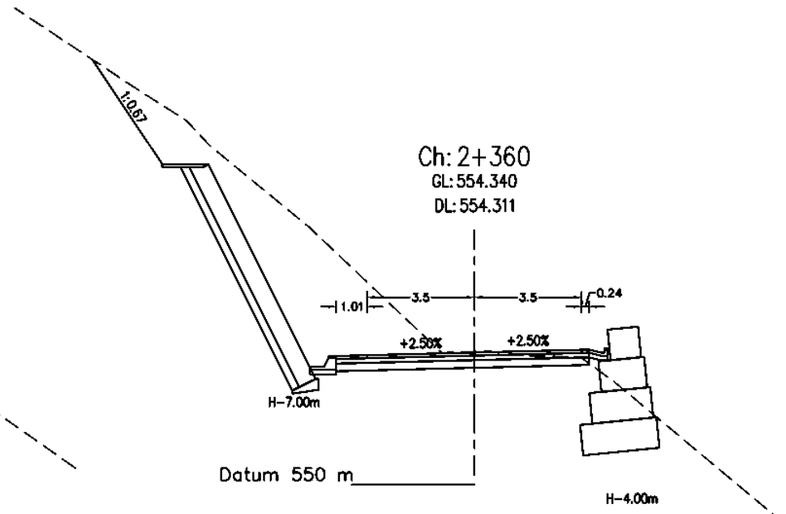








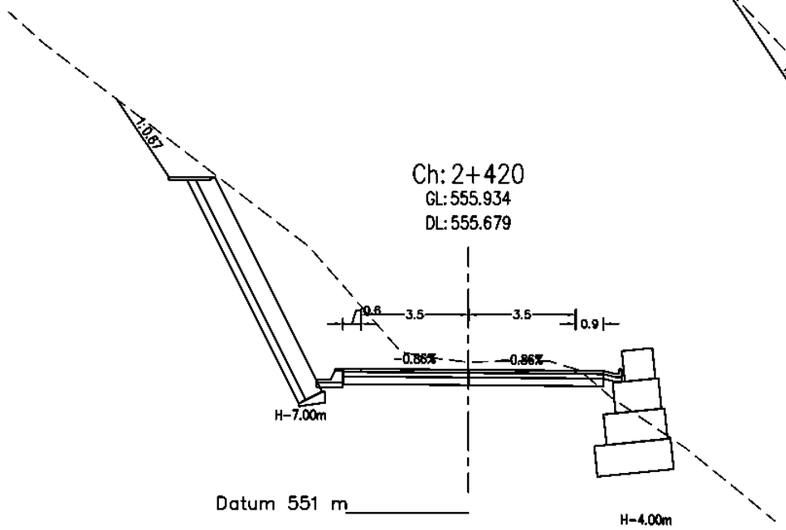


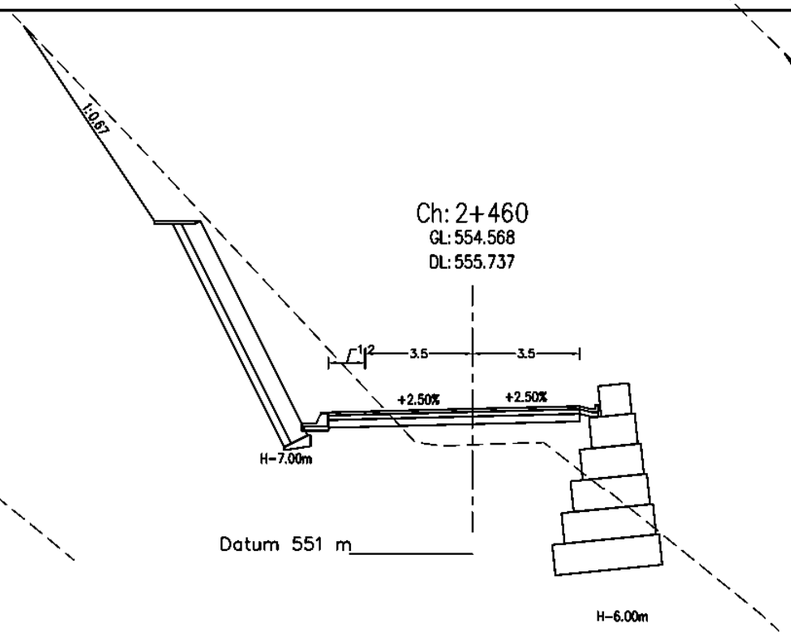


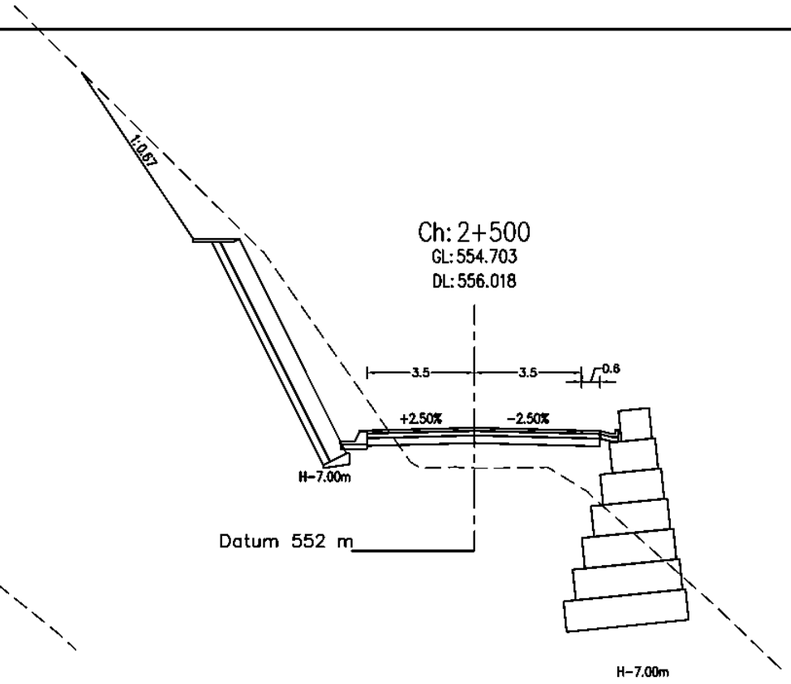
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

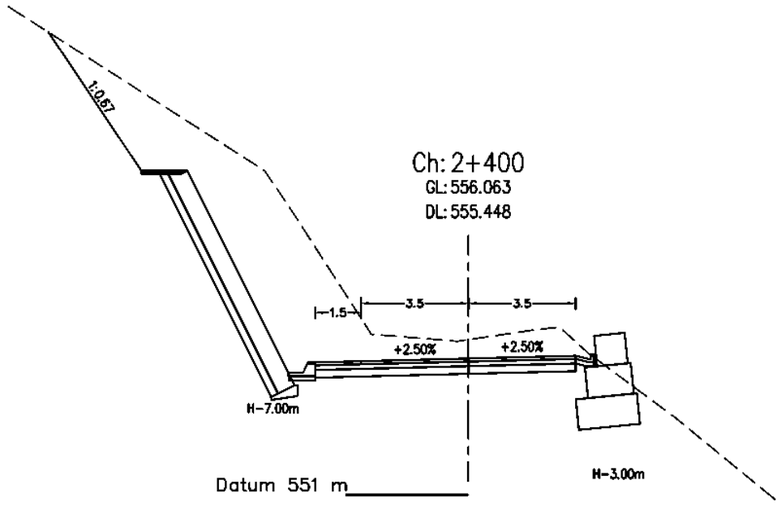
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

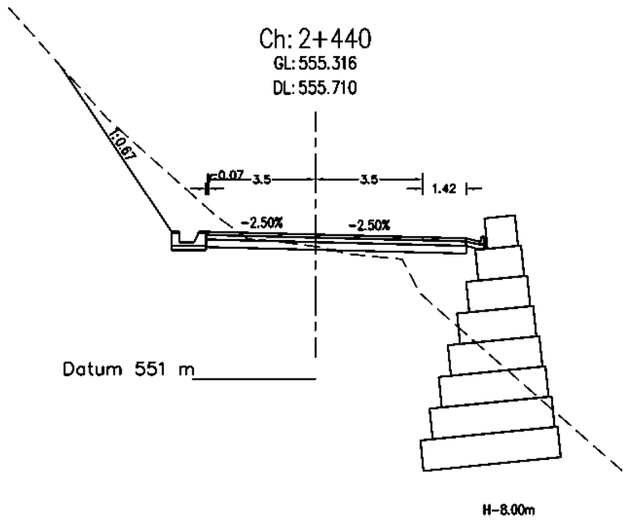
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	20
			Approved By			Scale:	1:200

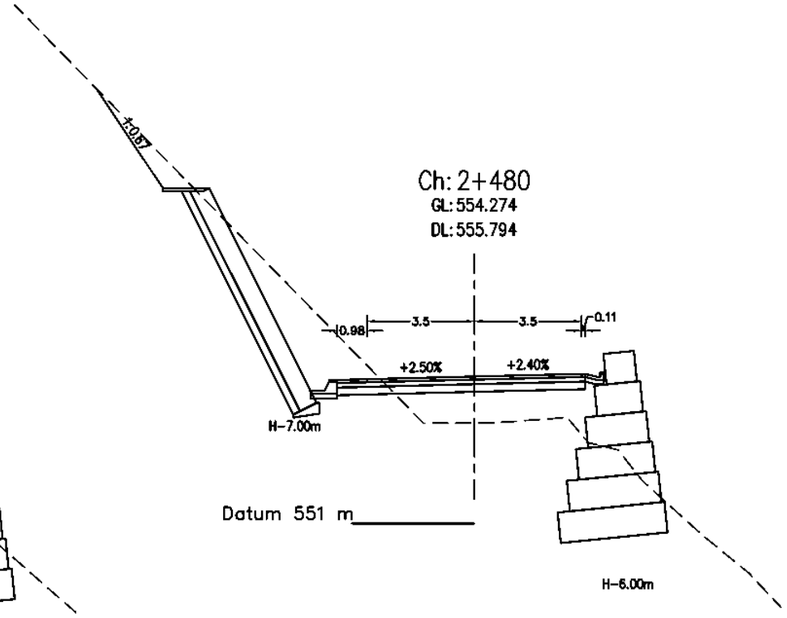




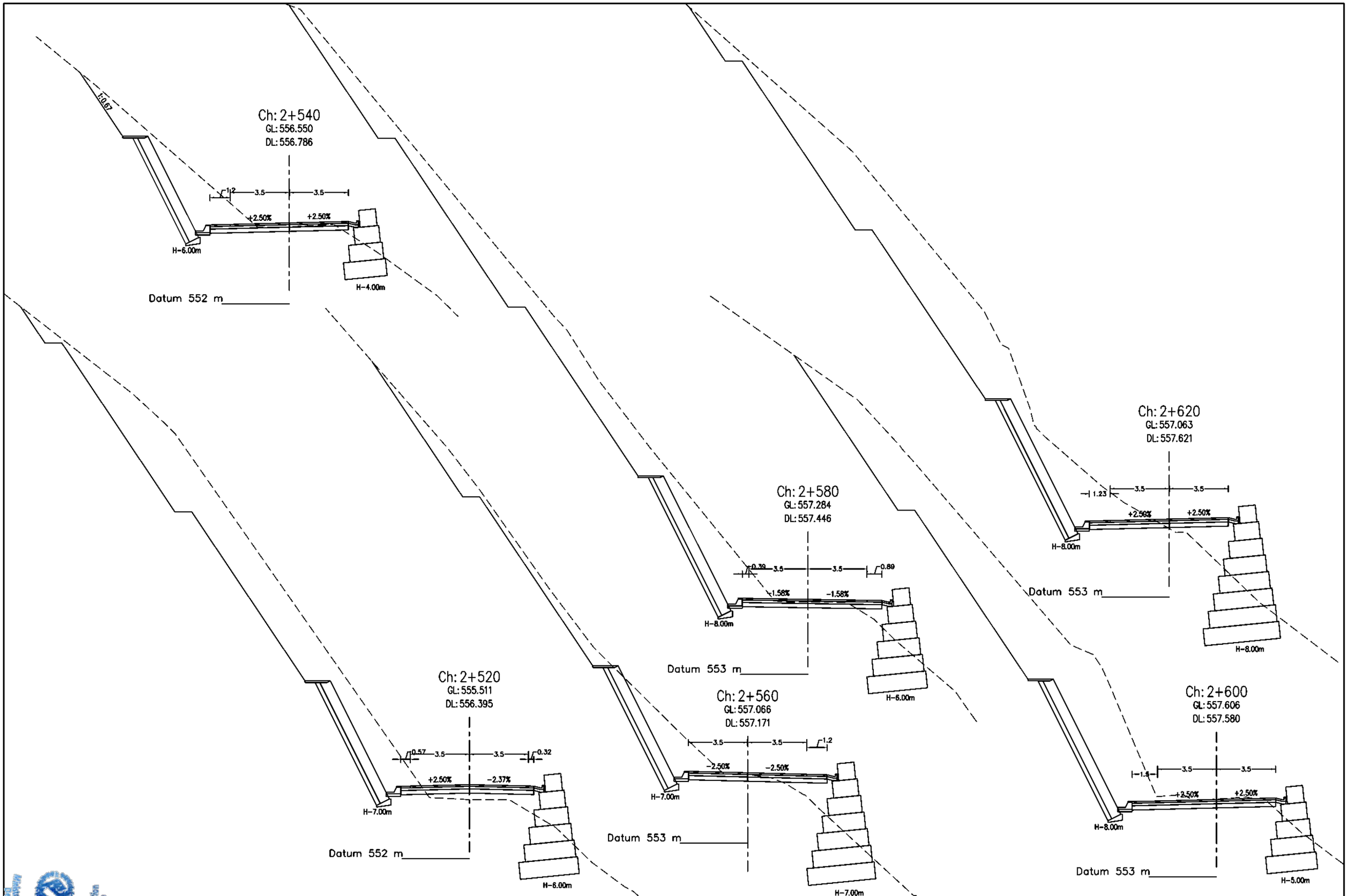








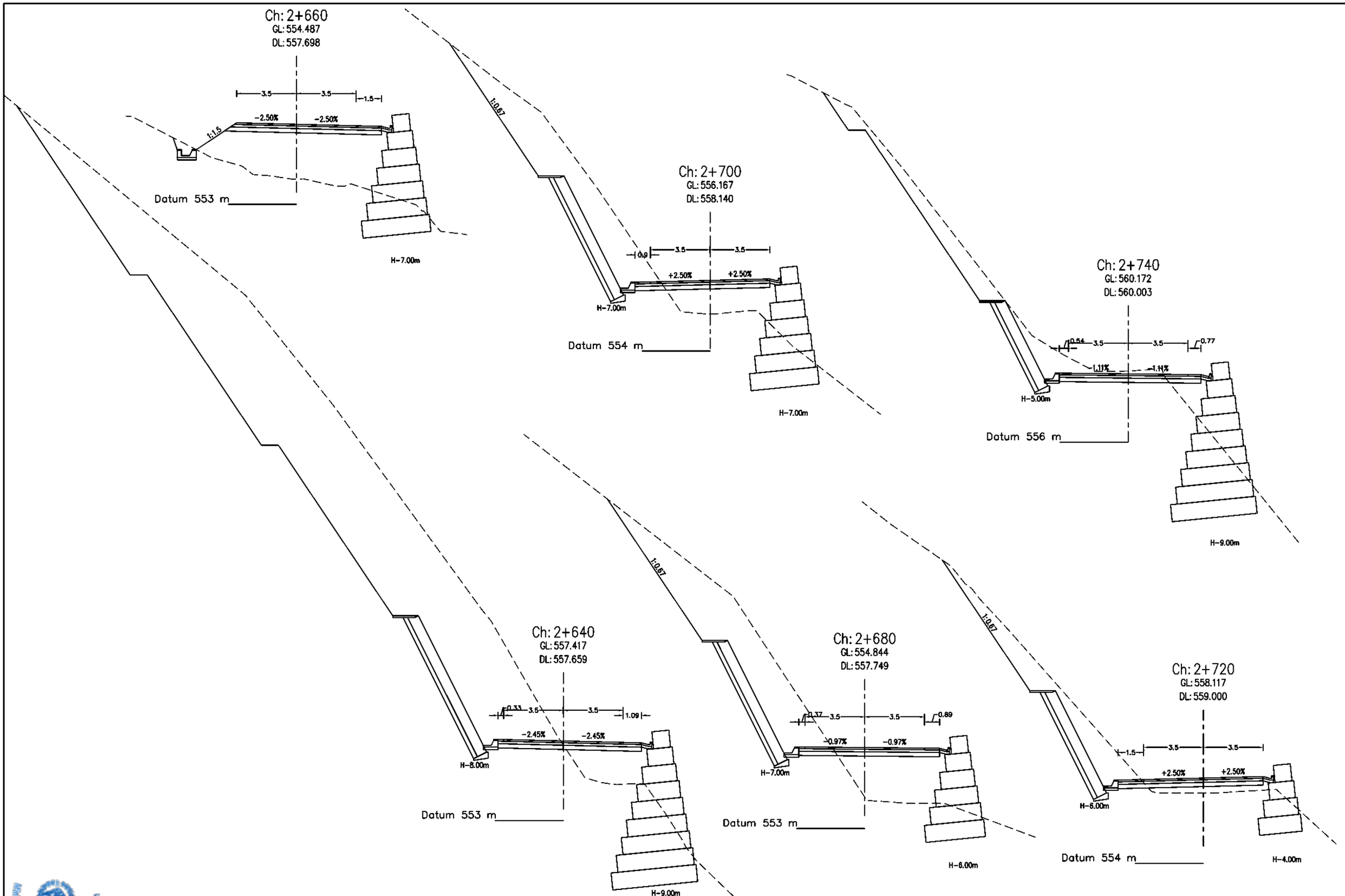
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Kamla Inter Basin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
		Checked By			Checked By			Drawing No.:	
		Recommended By			Recommended By			Sheet No.:	21
					Approved By			Scale:	1:200



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Indrawati Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

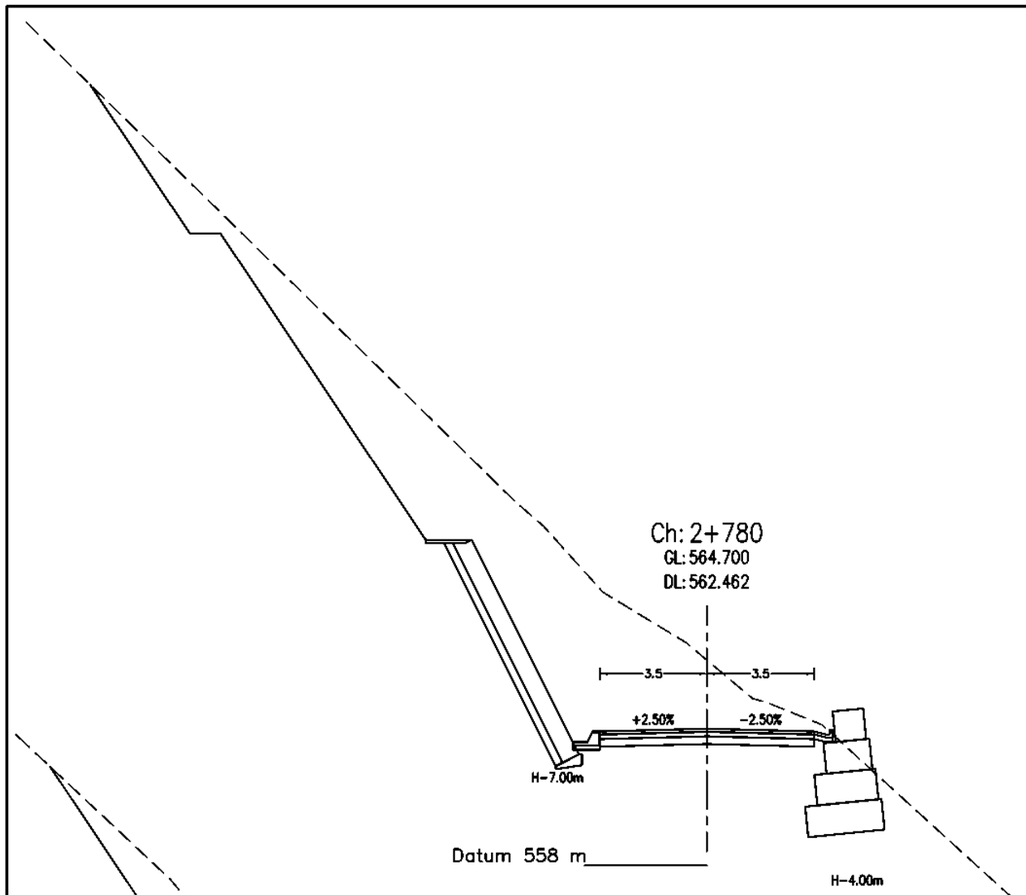
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	22
			Approved By			Scale:	1:200

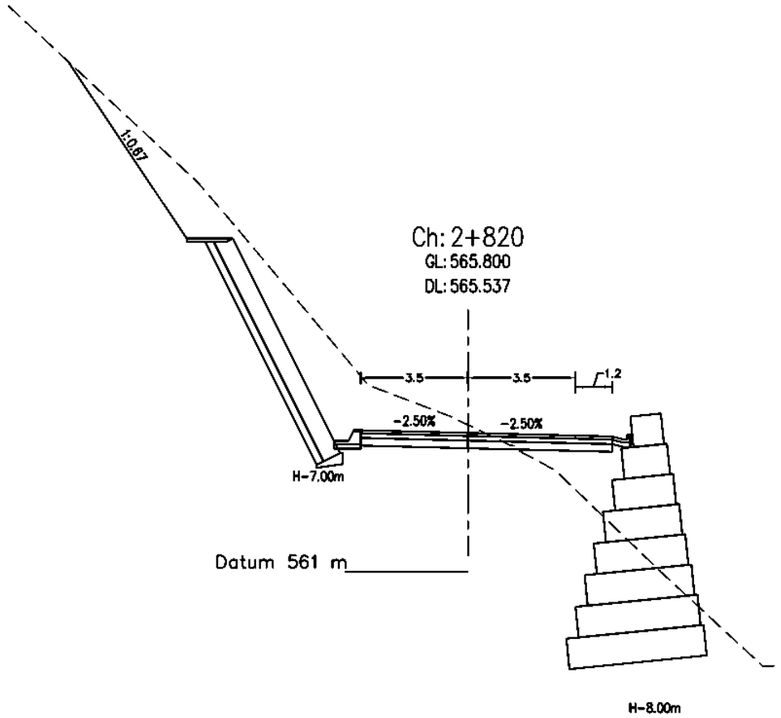


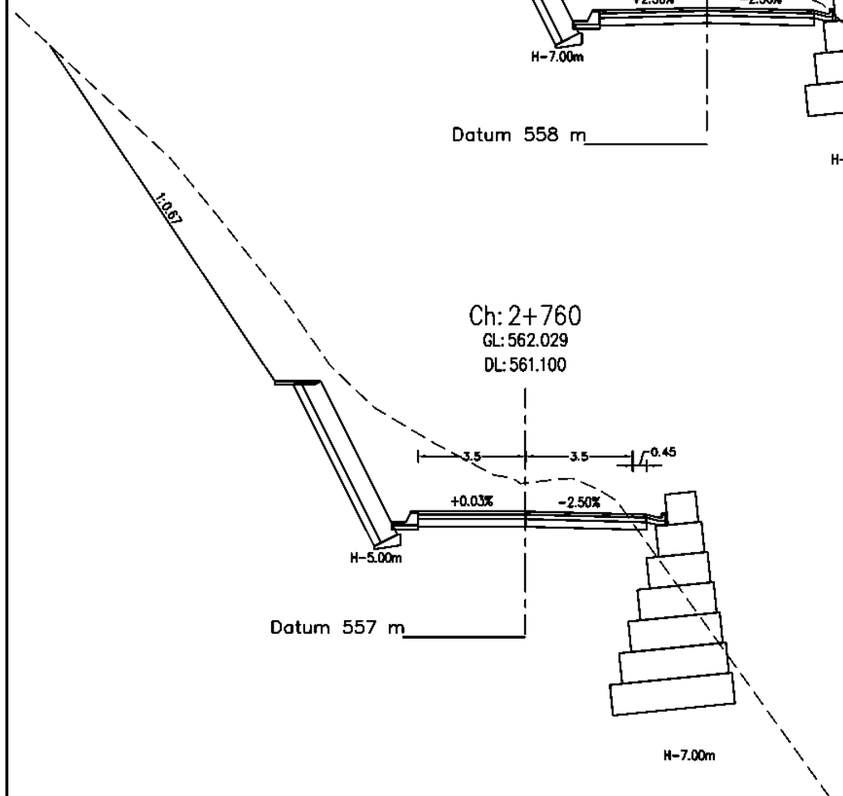
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Indrawati Diversion Multipurpose Project
Sindhuli, Nepal

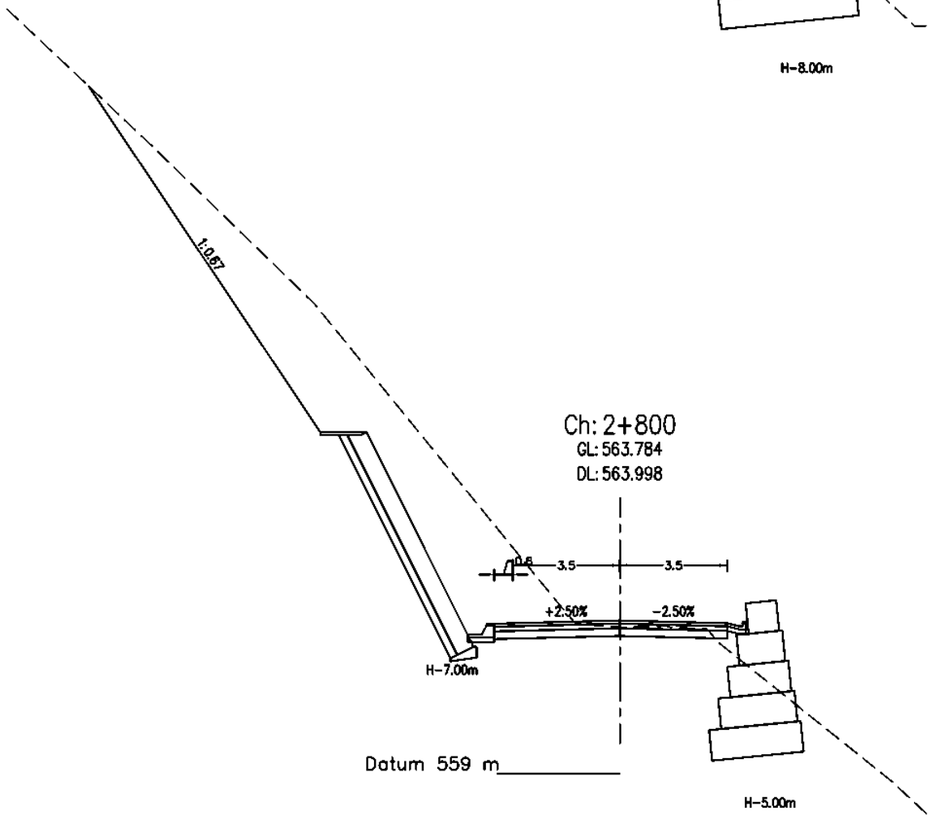
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	23
			Approved By			Scale:	1:200





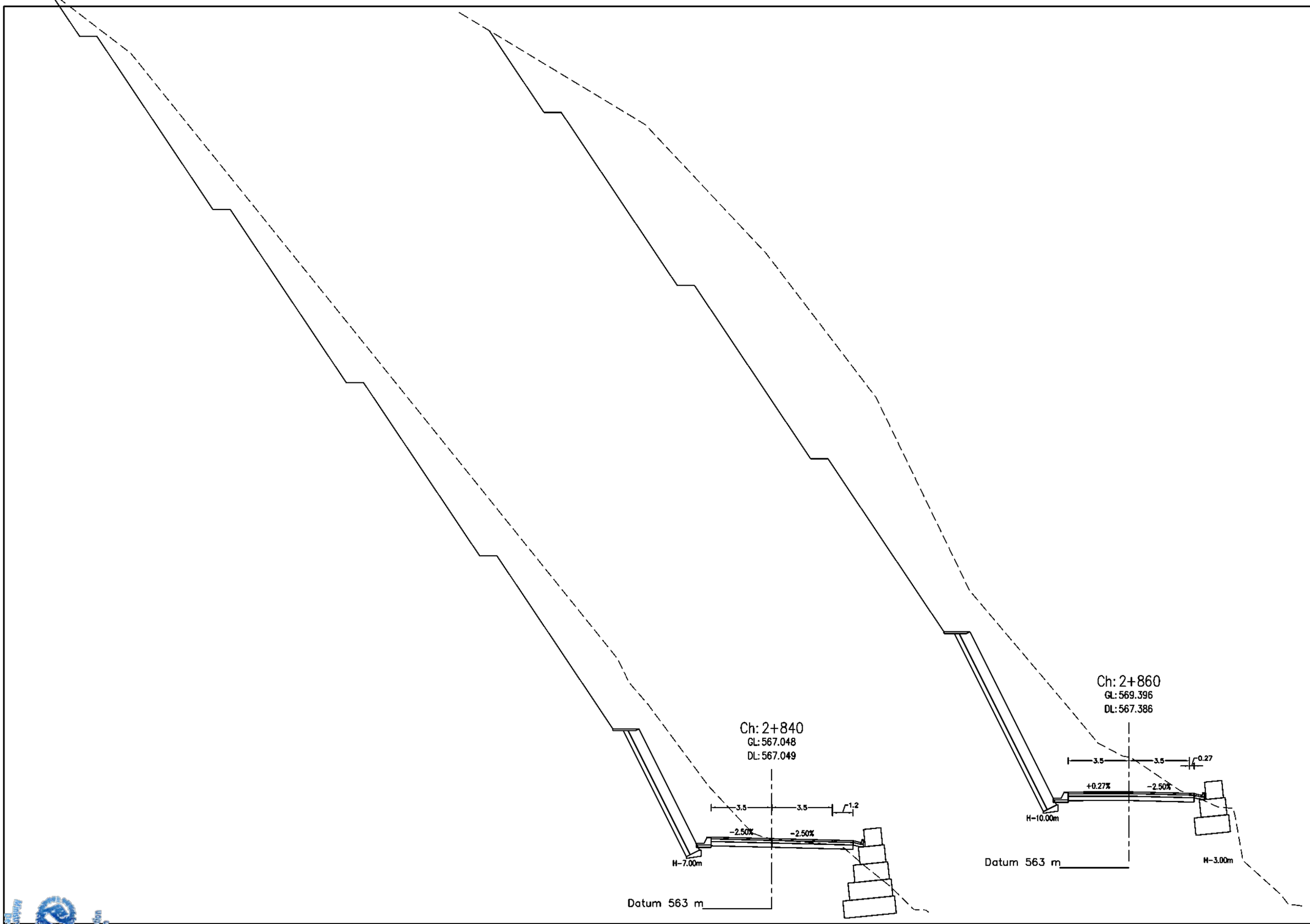




Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamla Inter Basin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

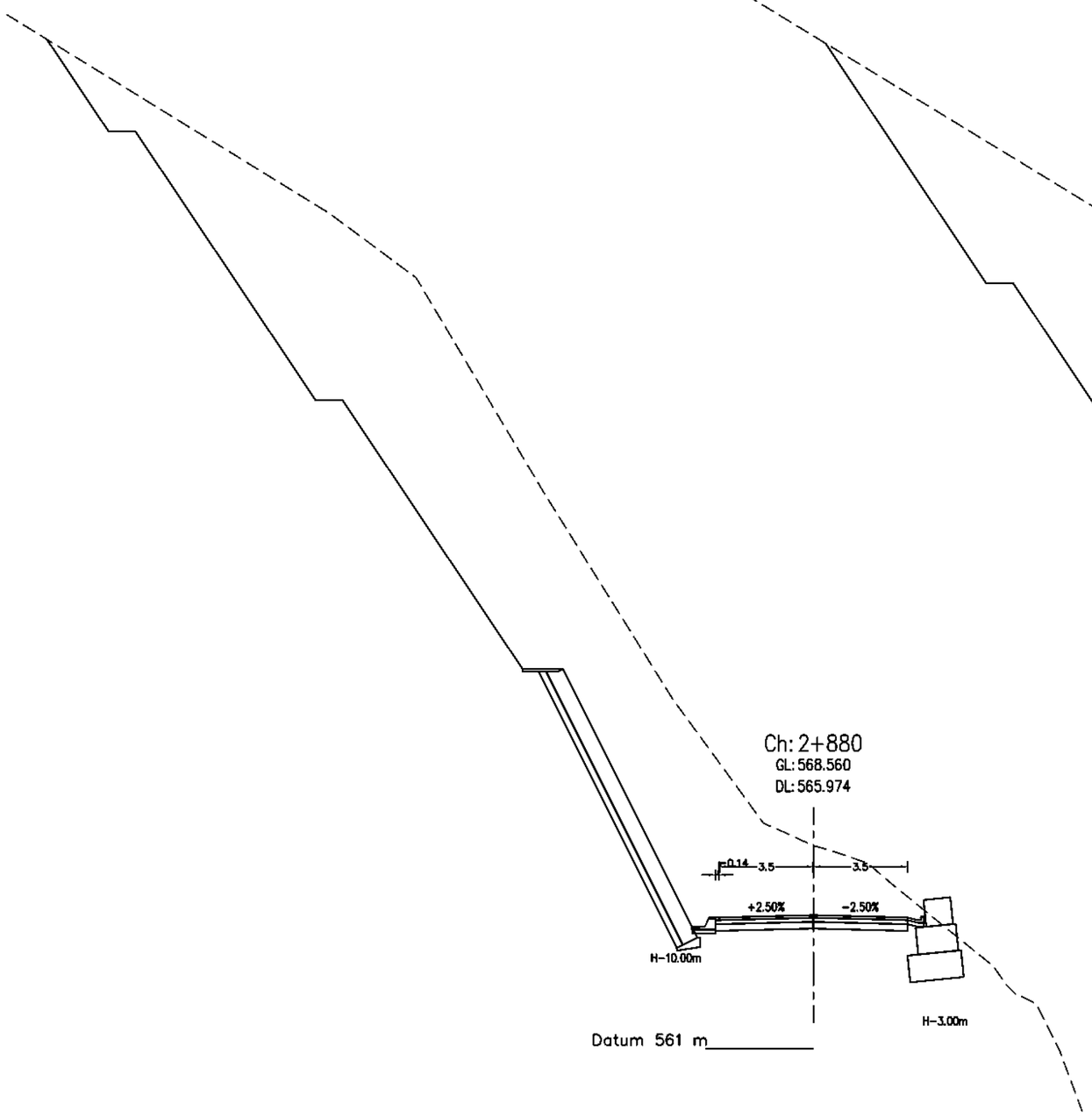
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	24
			Approved By			Scale:	1:200

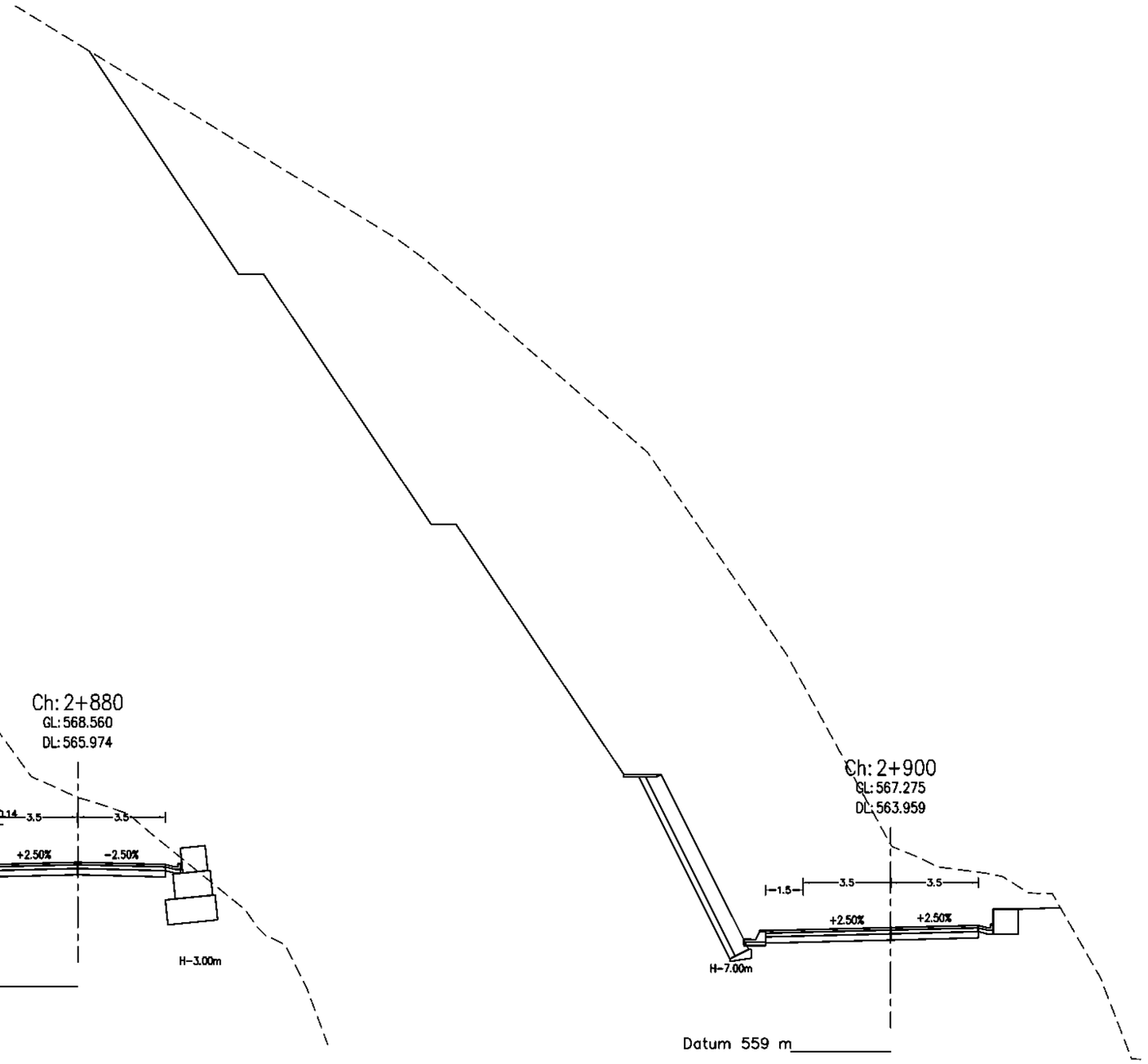


Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Reservoir Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	25
			Approved By			Scale:	1:200

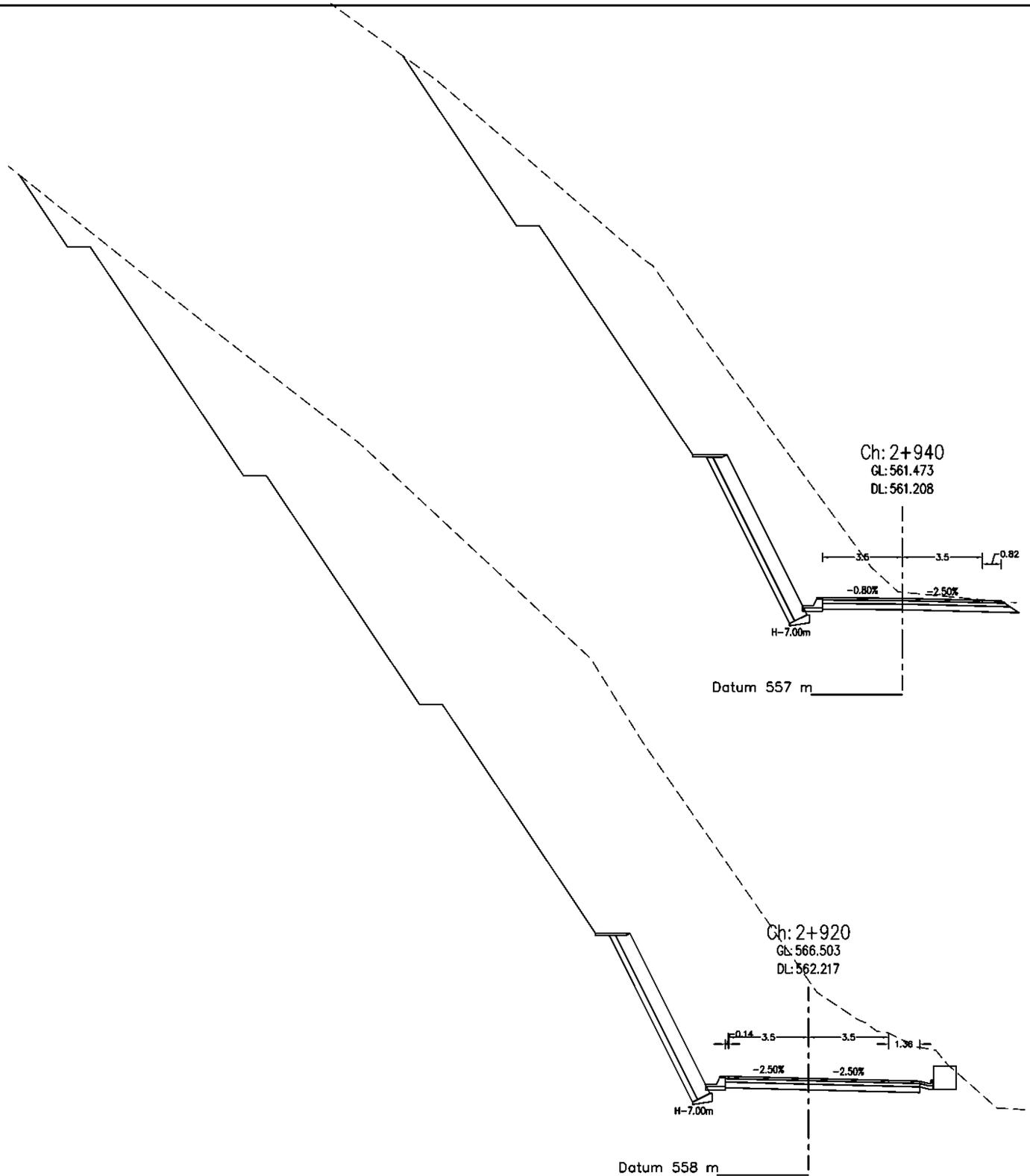




Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	26
			Approved By			Scale:	1:200

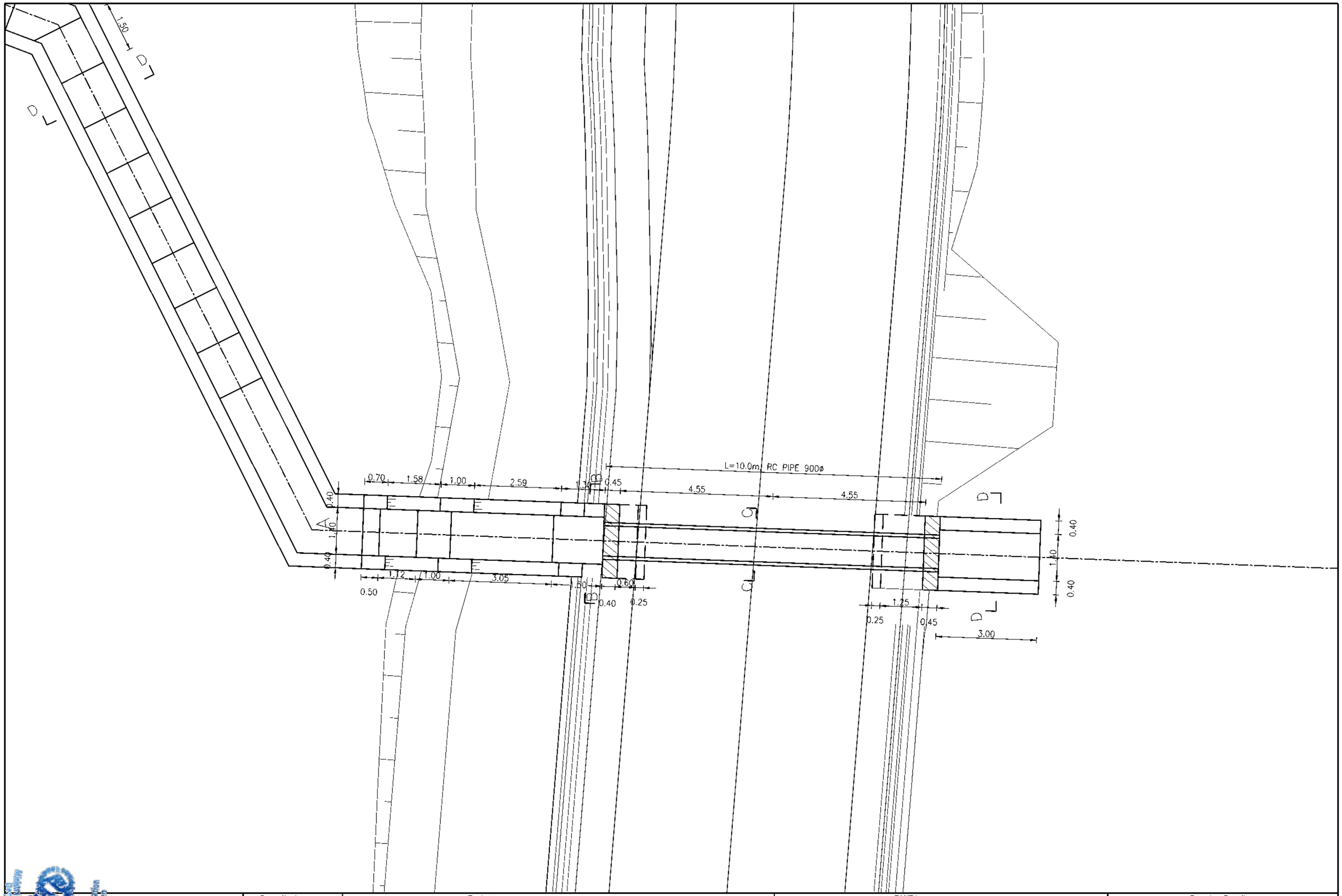


Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	CS of Service Road
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	27
			Approved By			Scale:	1:200

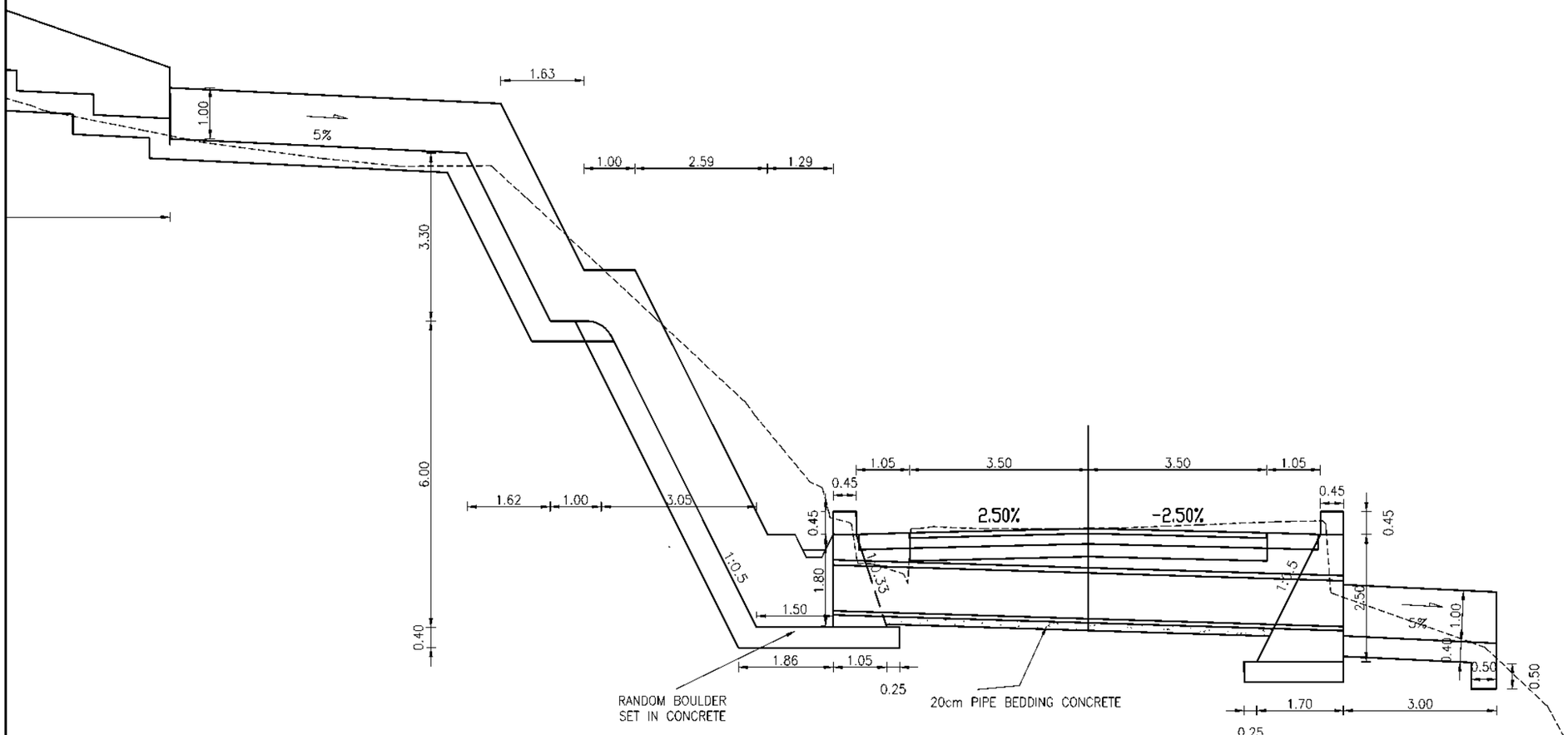
CROSS DRAINAGE STRUCTURES

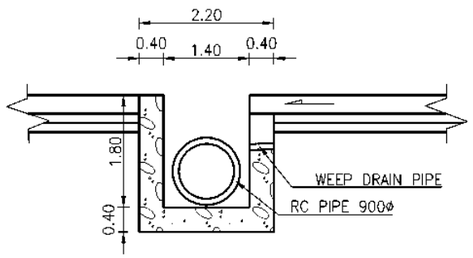


Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

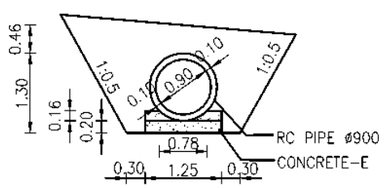
Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
Checked By			Checked By			Drawing No.:	Chainage 0+570
Recommended By			Recommended By			Sheet No.:	P01
			Approved By			Scale	1:100

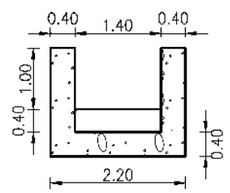




SECTION B–B

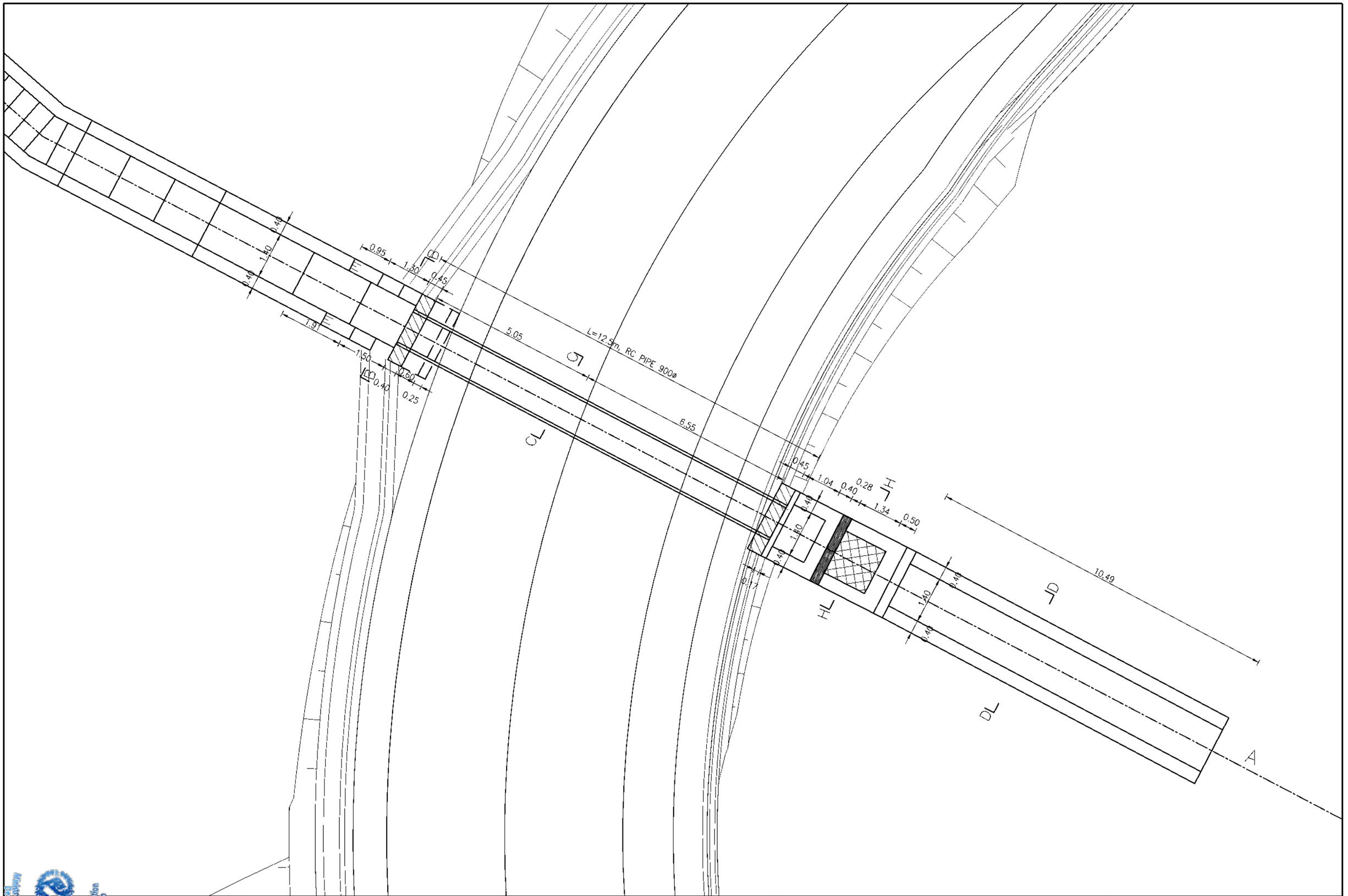


SECTION C–C



SECTION D–D

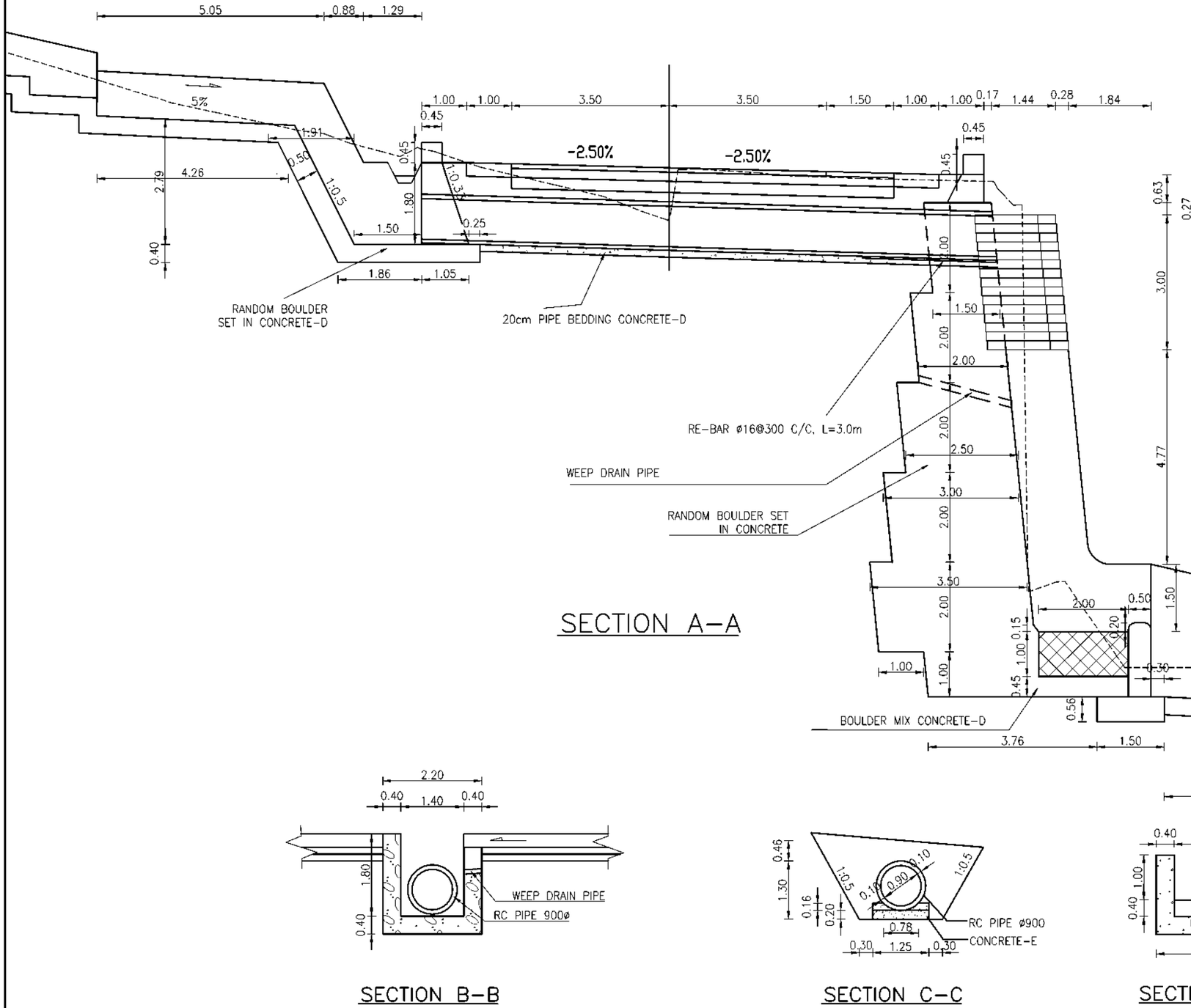
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
		Checked By			Checked By			Drawing No.:	Chainage 0+570
		Recommended By			Recommended By			Sheet No.:	CS01
					Approved By			Scale	1:100



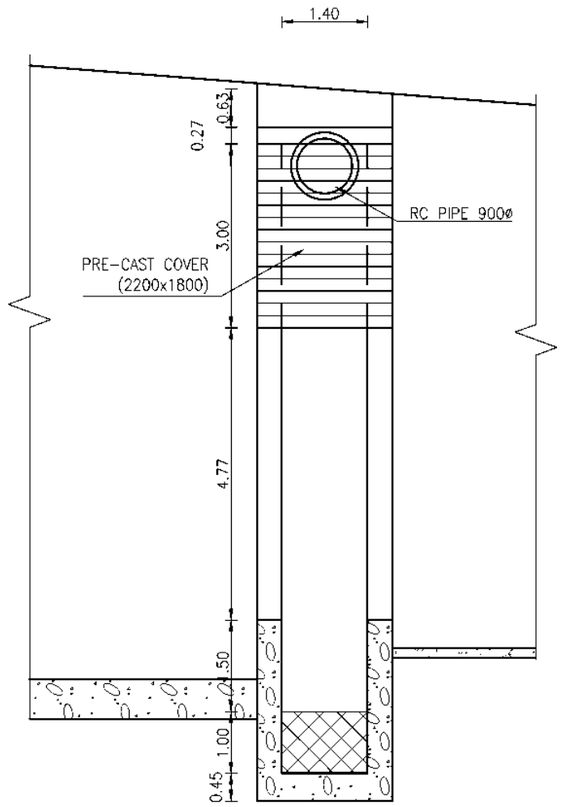
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
Checked By			Checked By			Drawing No.:	Chainage 0+640
Recommended By			Recommended By			Sheet No.:	P02
			Approved By			Scale	1:100



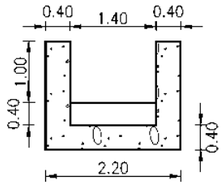
SECTION A–A



SECTION H–H

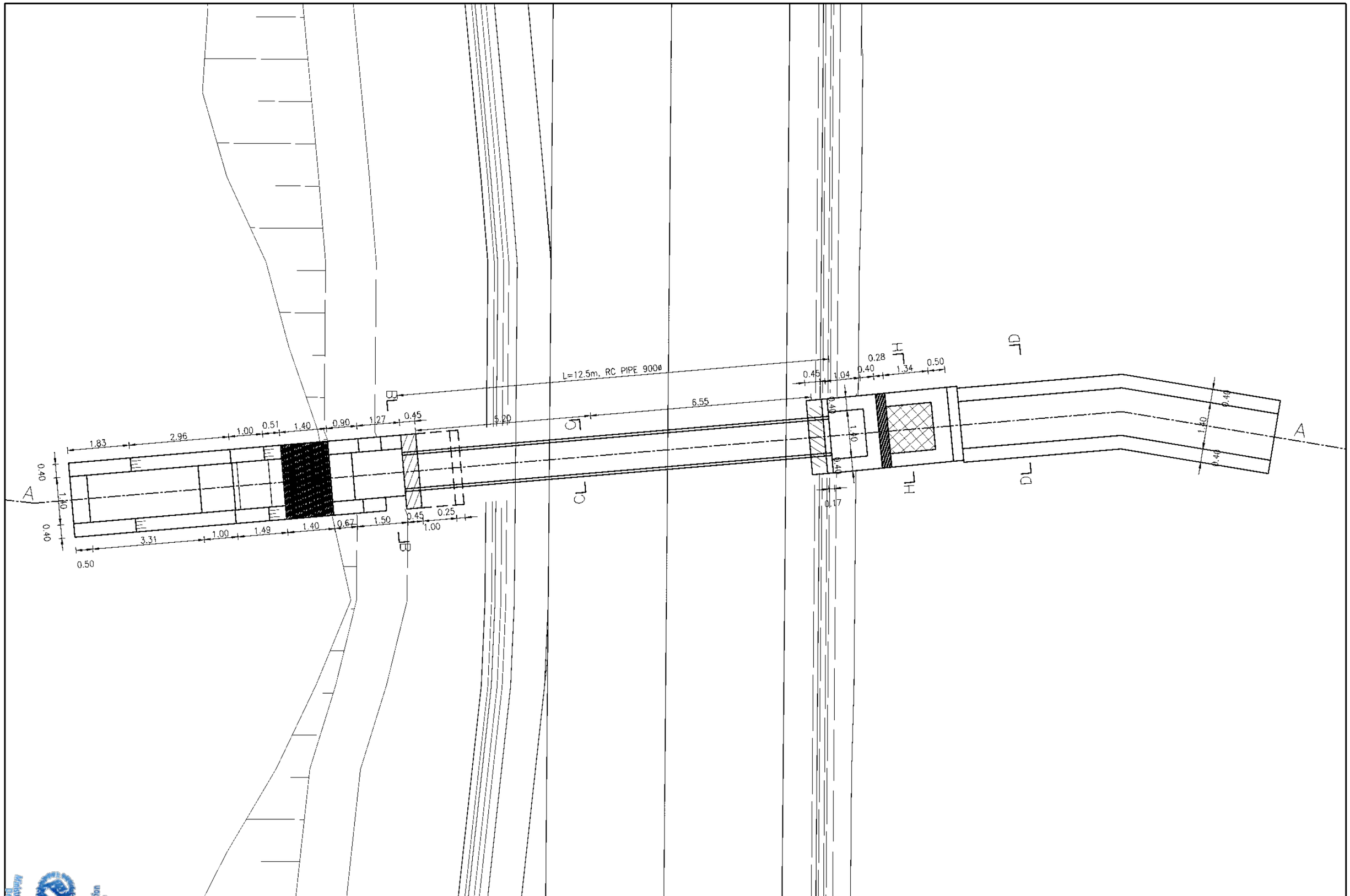
SECTION B–B

SECTION C–C

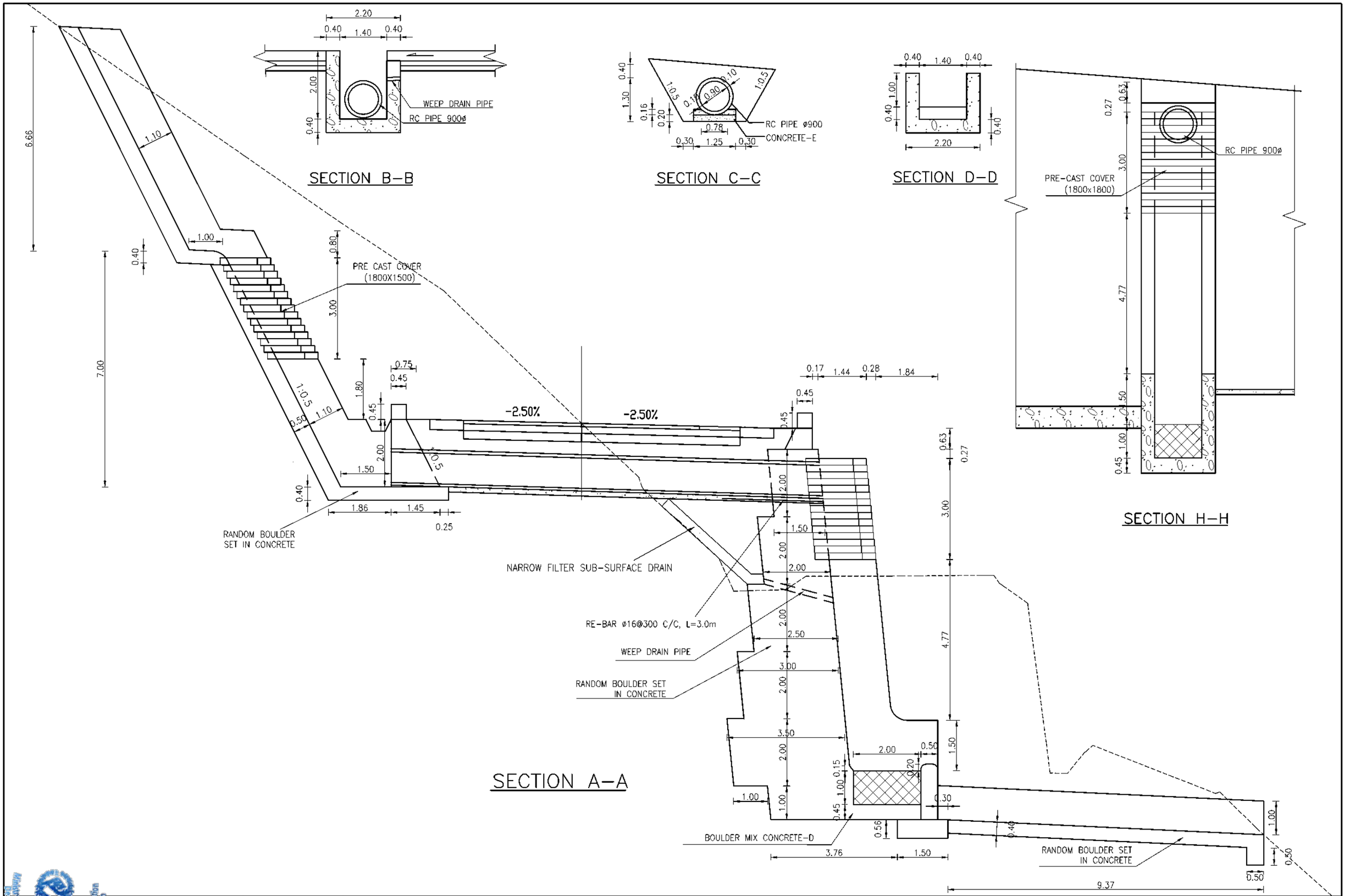


SECTION D–D

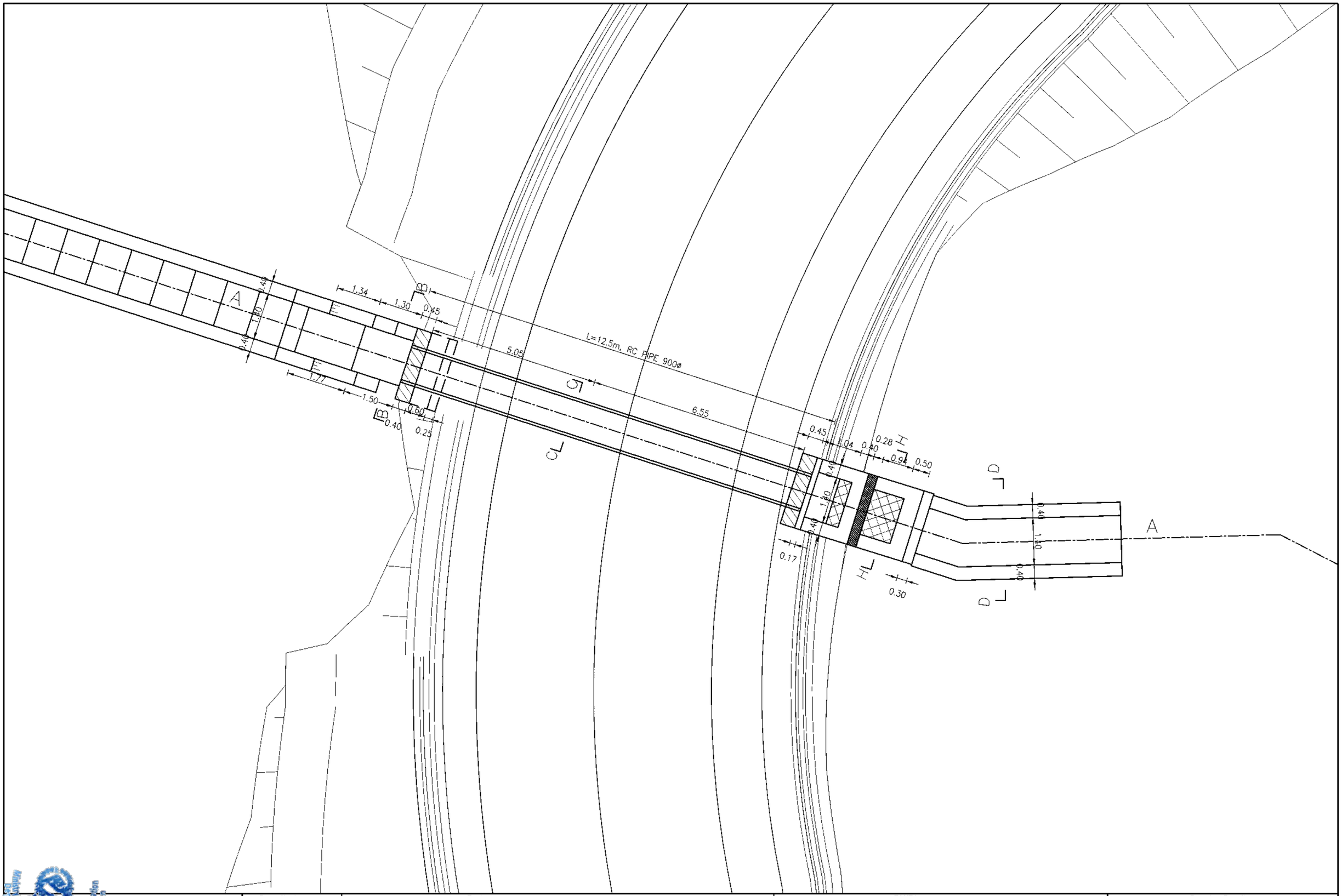
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104007 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
		Checked By			Checked By			Drawing No.:	Chainage 0+640
		Recommended By			Recommended By			Sheet No.:	CS02
					Approved By			Scale	1:100



Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Kamla Basin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: pkc@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
		Checked By			Checked By			Drawing No.:	Chainage 0+705
		Recommended By			Recommended By			Sheet No.:	P03
					Approved By			Scale	1:100



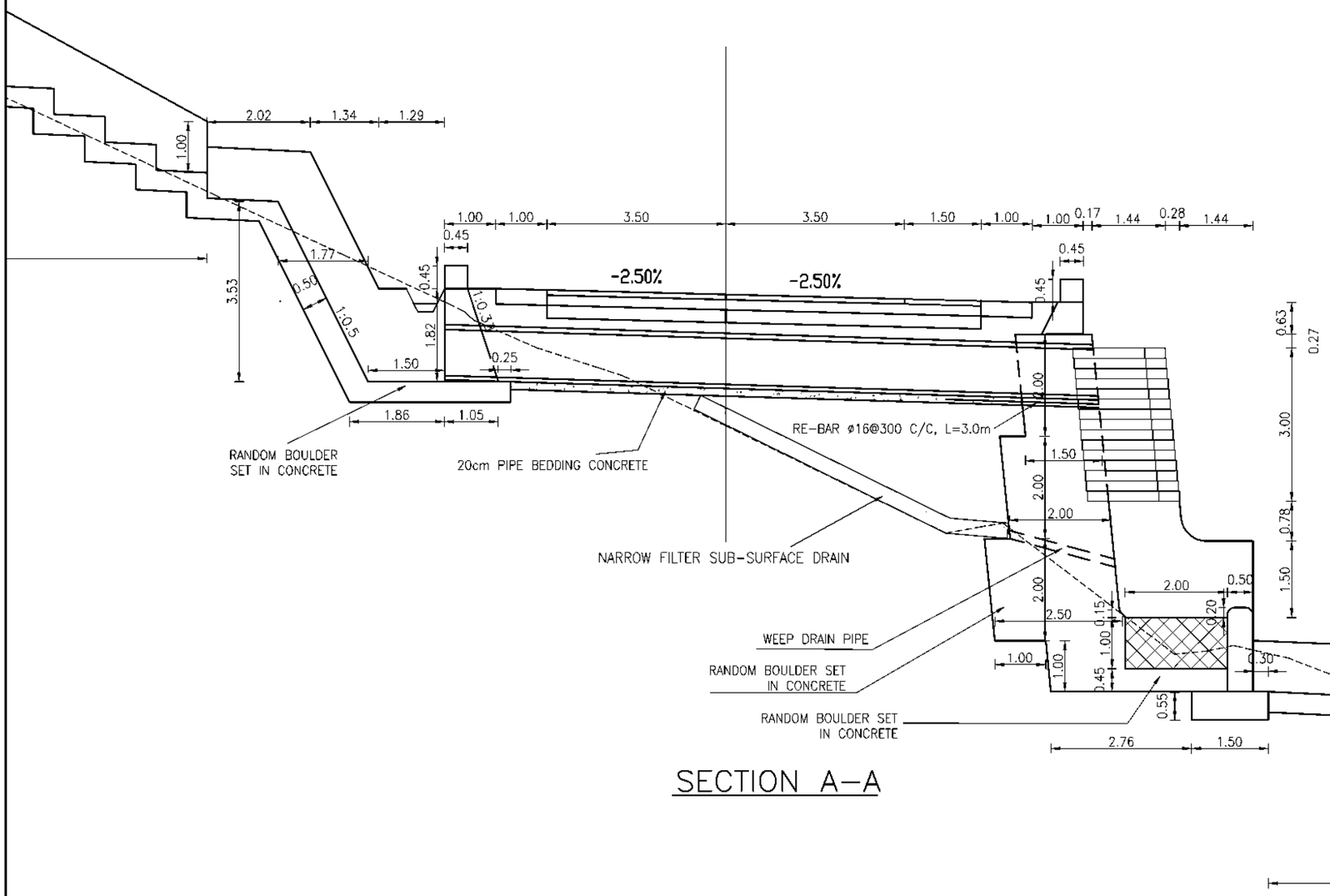
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
		Checked By			Checked By			Drawing No.:	Chainage 0+705
		Recommended By			Recommended By			Sheet No.:	CS03
					Approved By			Scale	1:100



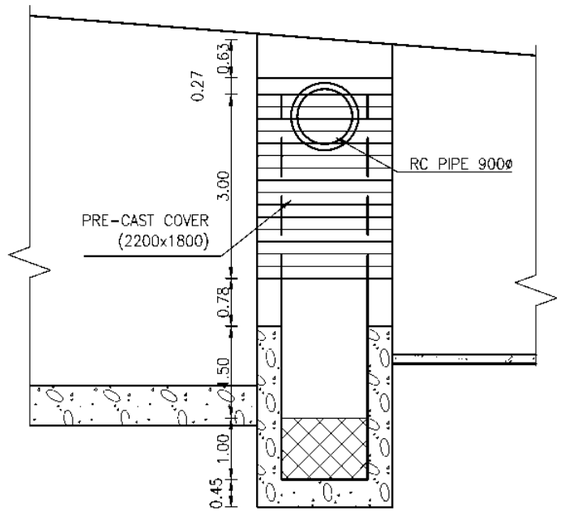
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

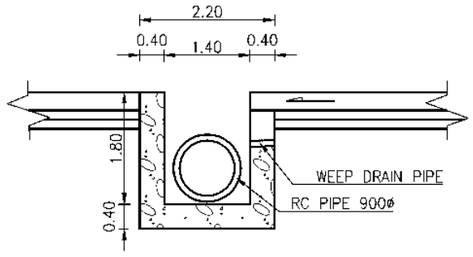
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
Checked By			Checked By			Drawing No.:	Chainage 0+777.5
Recommended By			Recommended By			Sheet No.:	P04
			Approved By			Scale	1:100



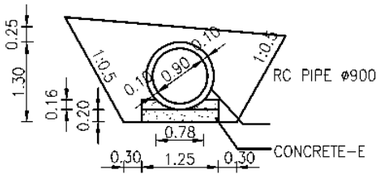
SECTION A–A



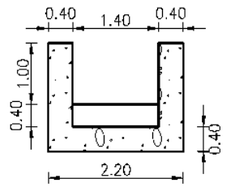
SECTION H–H



SECTION B–B



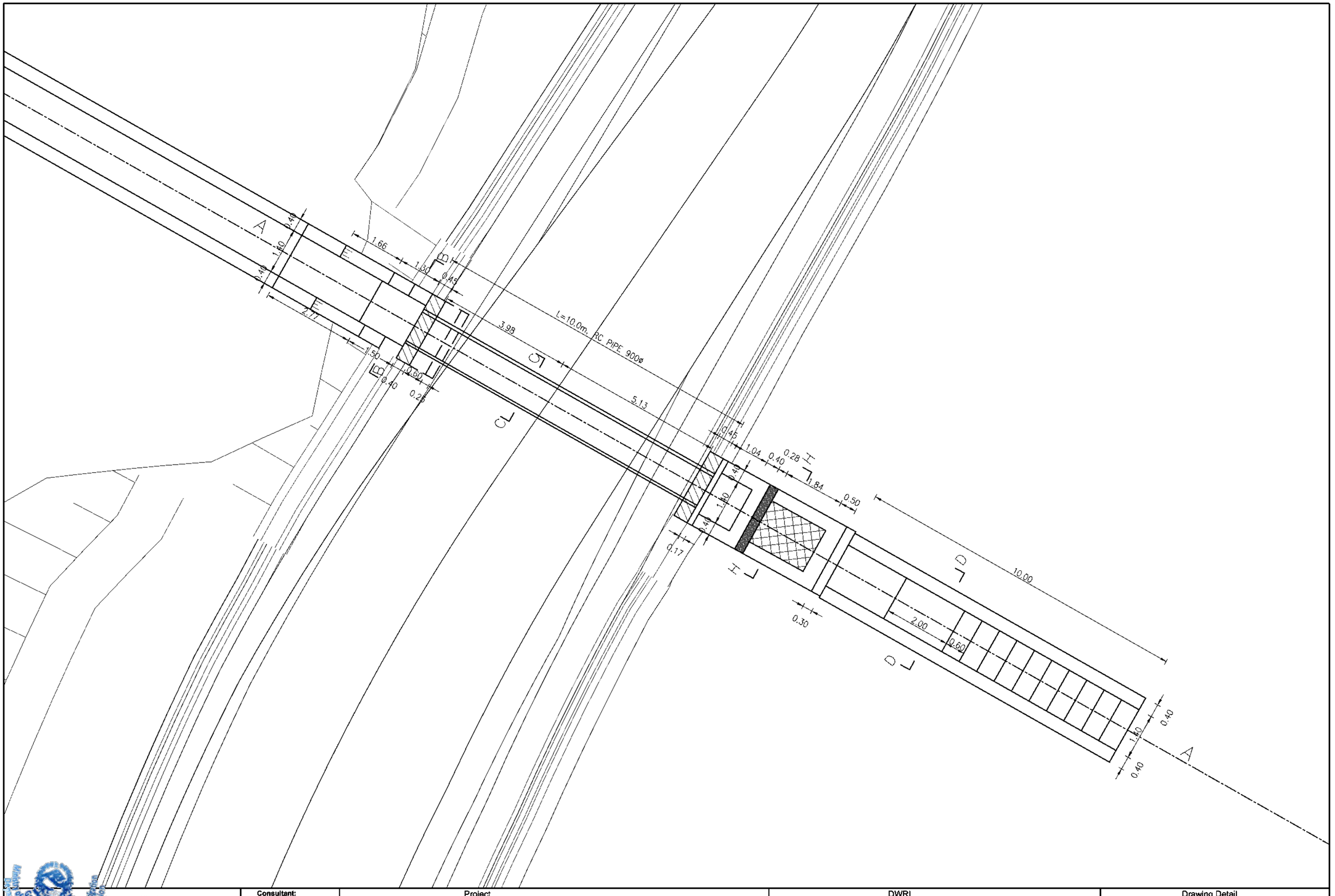
SECTION C–C



SECTION D–D

Consultant:	Project			DWRI			Drawing Detail	
AVIYAAN Consulting (P) Ltd		Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Checked By			Checked By			Drawing No.:	Chainage 0+777.5
	Recommended By			Recommended By			Sheet No.:	CS04
				Approved By			Scale	1:100

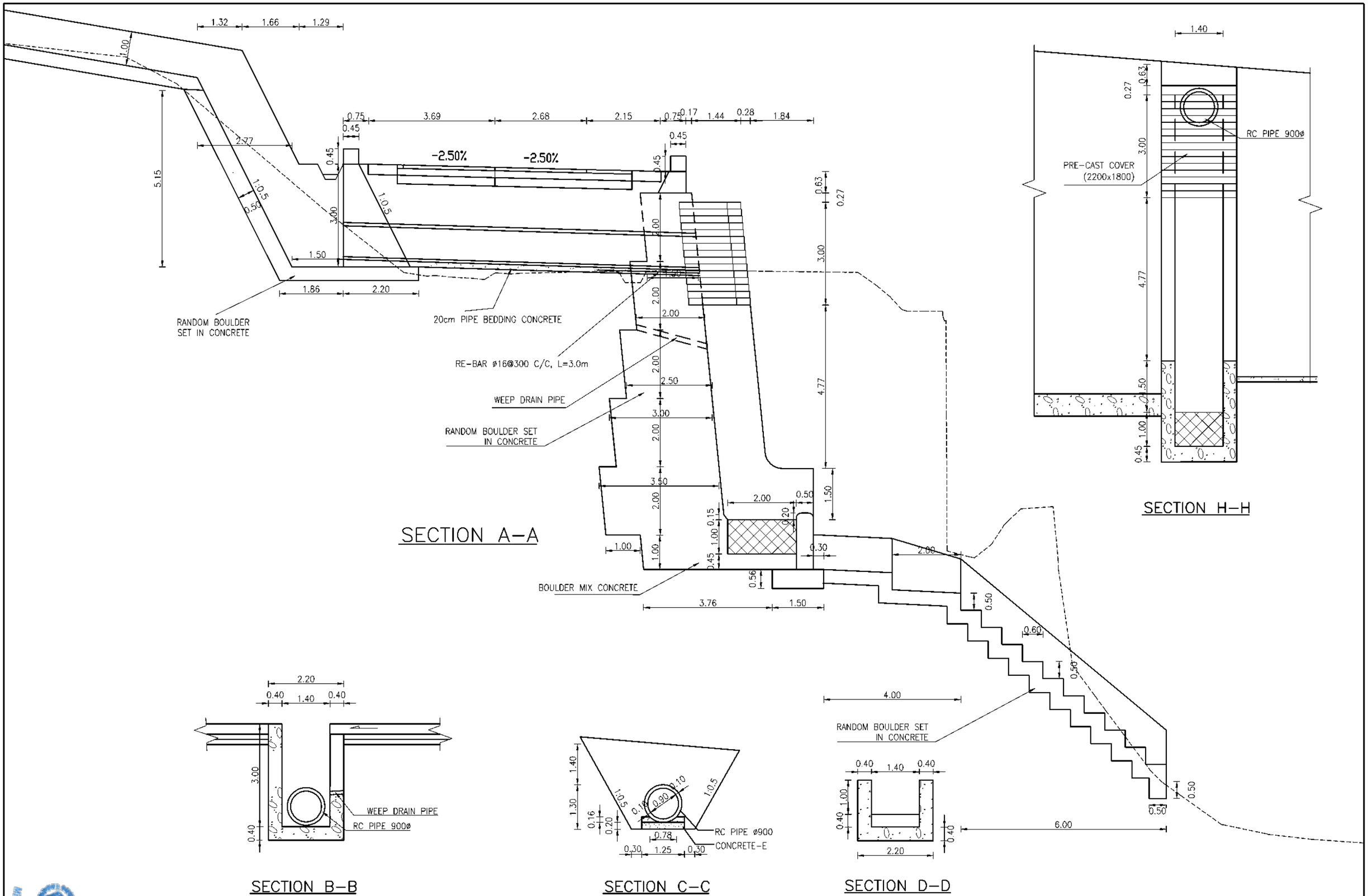
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104007
Email: info@aviyaan.com

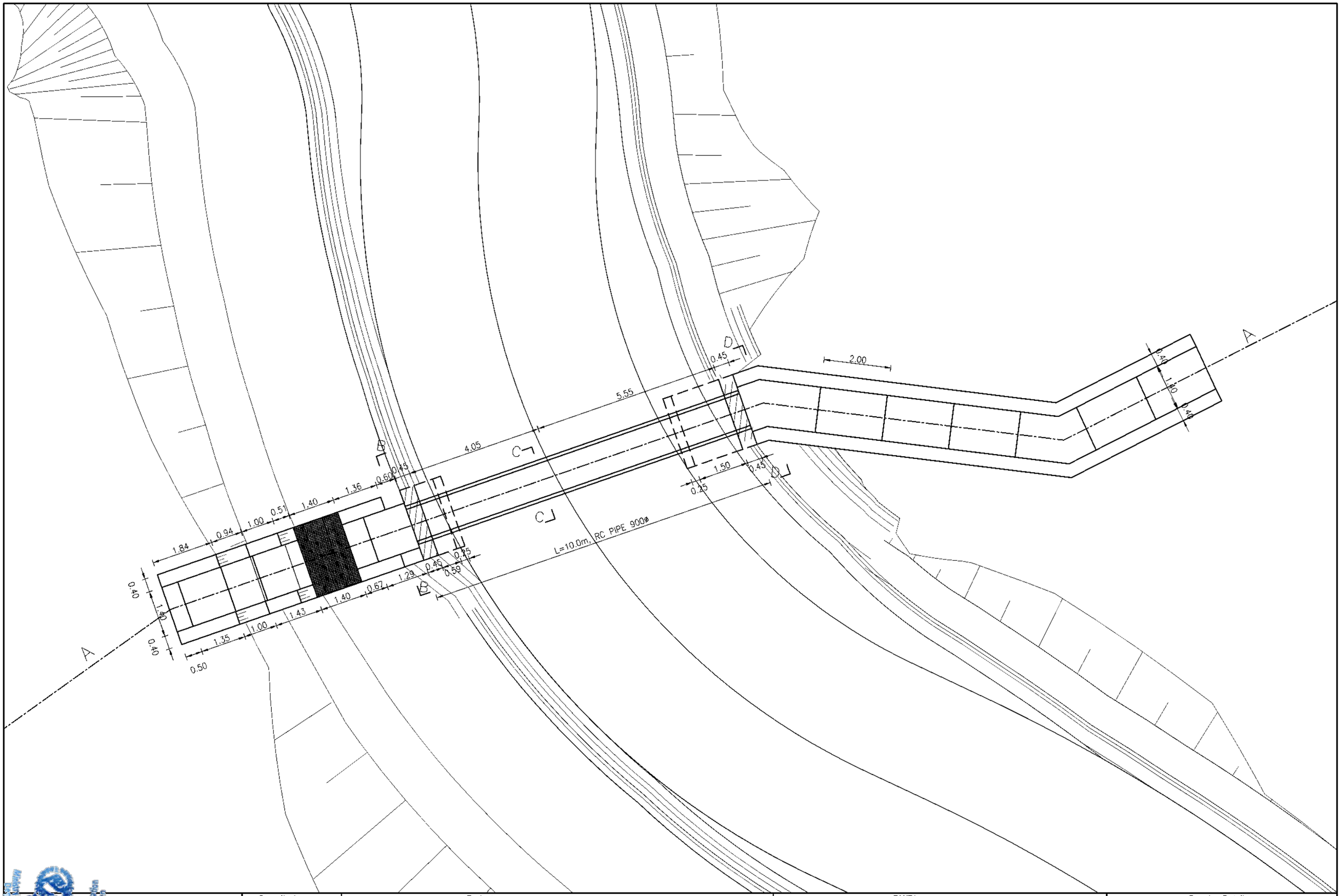
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
Checked By			Checked By			Drawing No.:	Chainage 0+910
Recommended By			Recommended By			Sheet No.:	P05
			Approved By			Scale	1:100



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

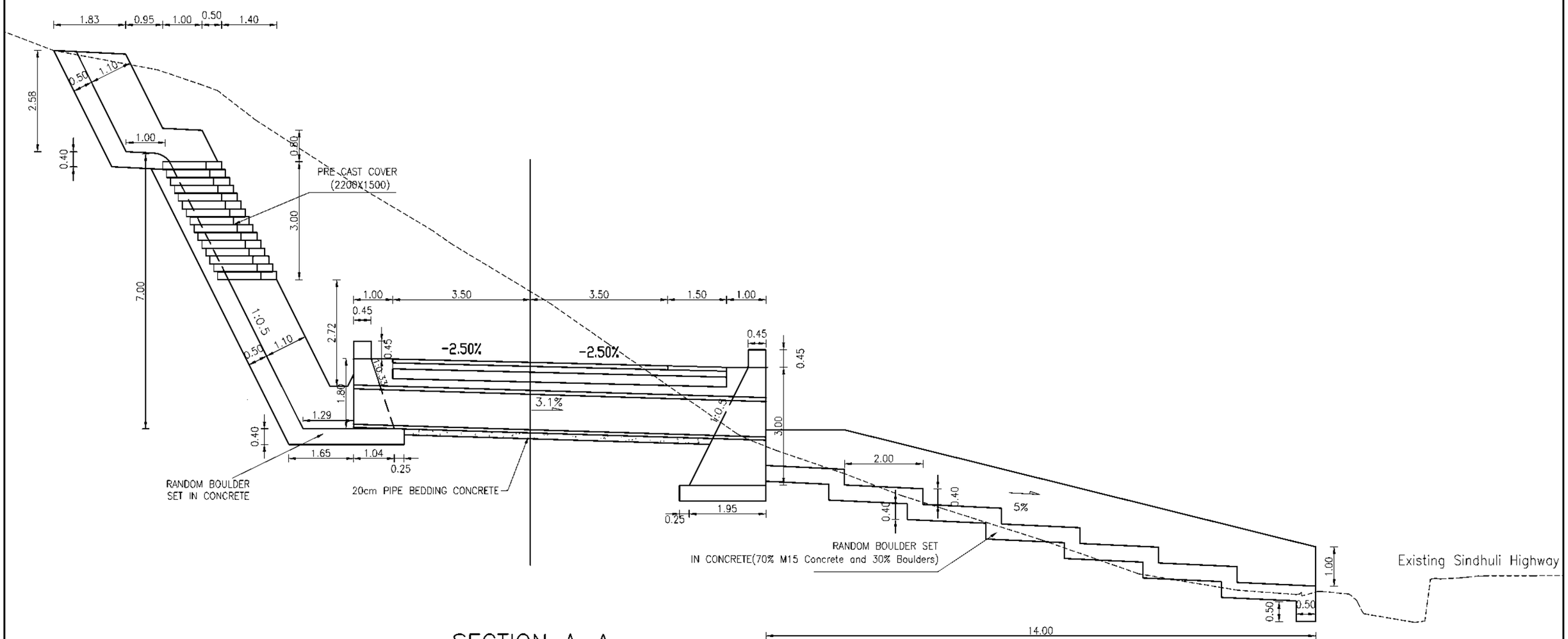
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Realigned Road
Checked By			Checked By			Drawing No.:	Chainage 0+910
Recommended By			Recommended By			Sheet No.:	CS05
			Approved By			Scale	1:100



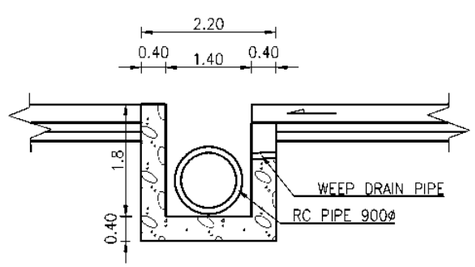
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104007
Email: info@aviyaan.com

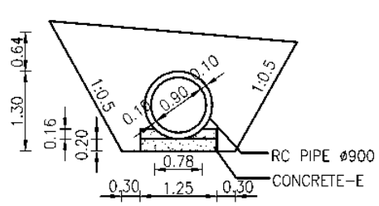
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 0+077.5
Recommended By			Recommended By			Sheet No.:	P01
			Approved By			Scale	1:100



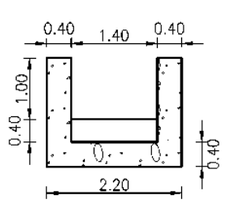
SECTION A–A



SECTION B–B



SECTION C–C



SECTION D–D

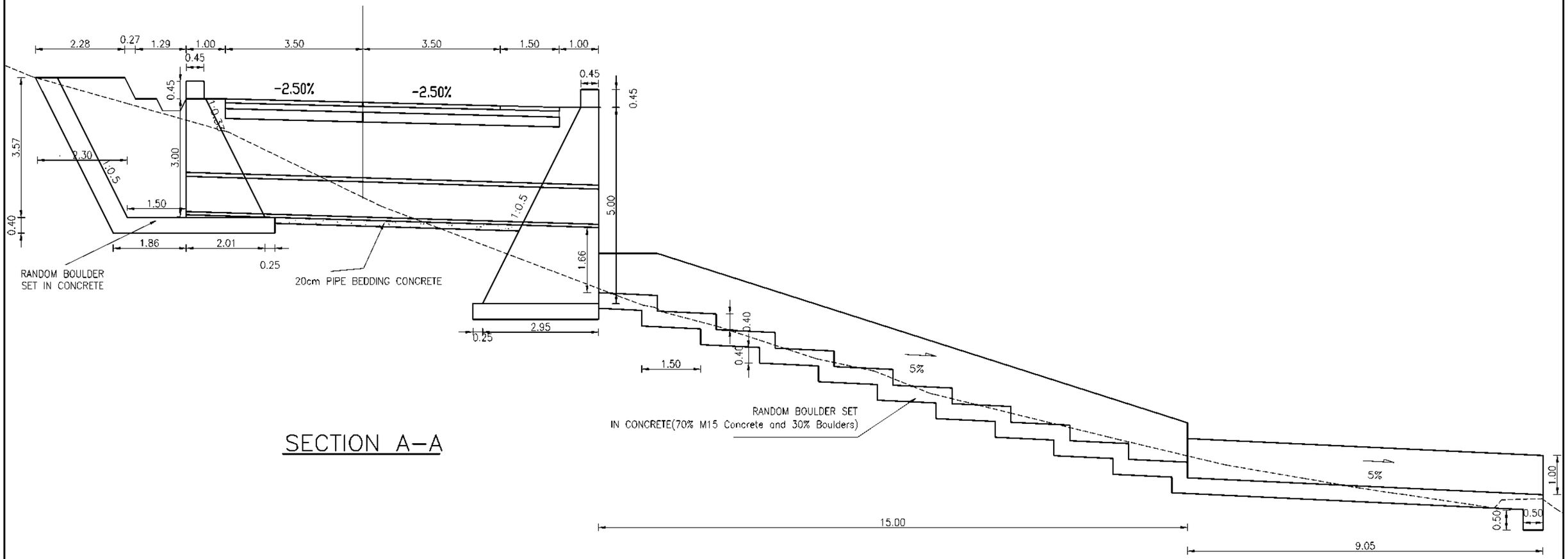
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

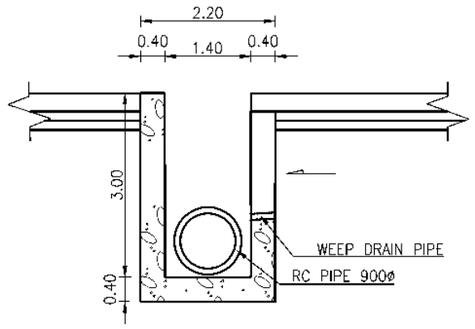
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 0+077.5
Recommended By			Recommended By			Sheet No.:	CS01
			Approved By			Scale	1:100



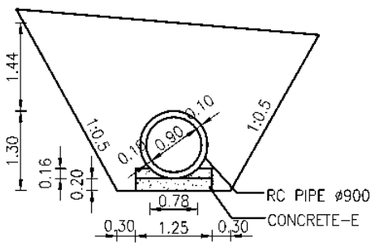
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
		Checked By			Checked By			Drawing No.:	Chainage 0+125
		Recommended By			Recommended By			Sheet No.:	P02
					Approved By			Scale	1:100



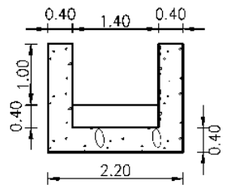
SECTION A–A



SECTION B–B

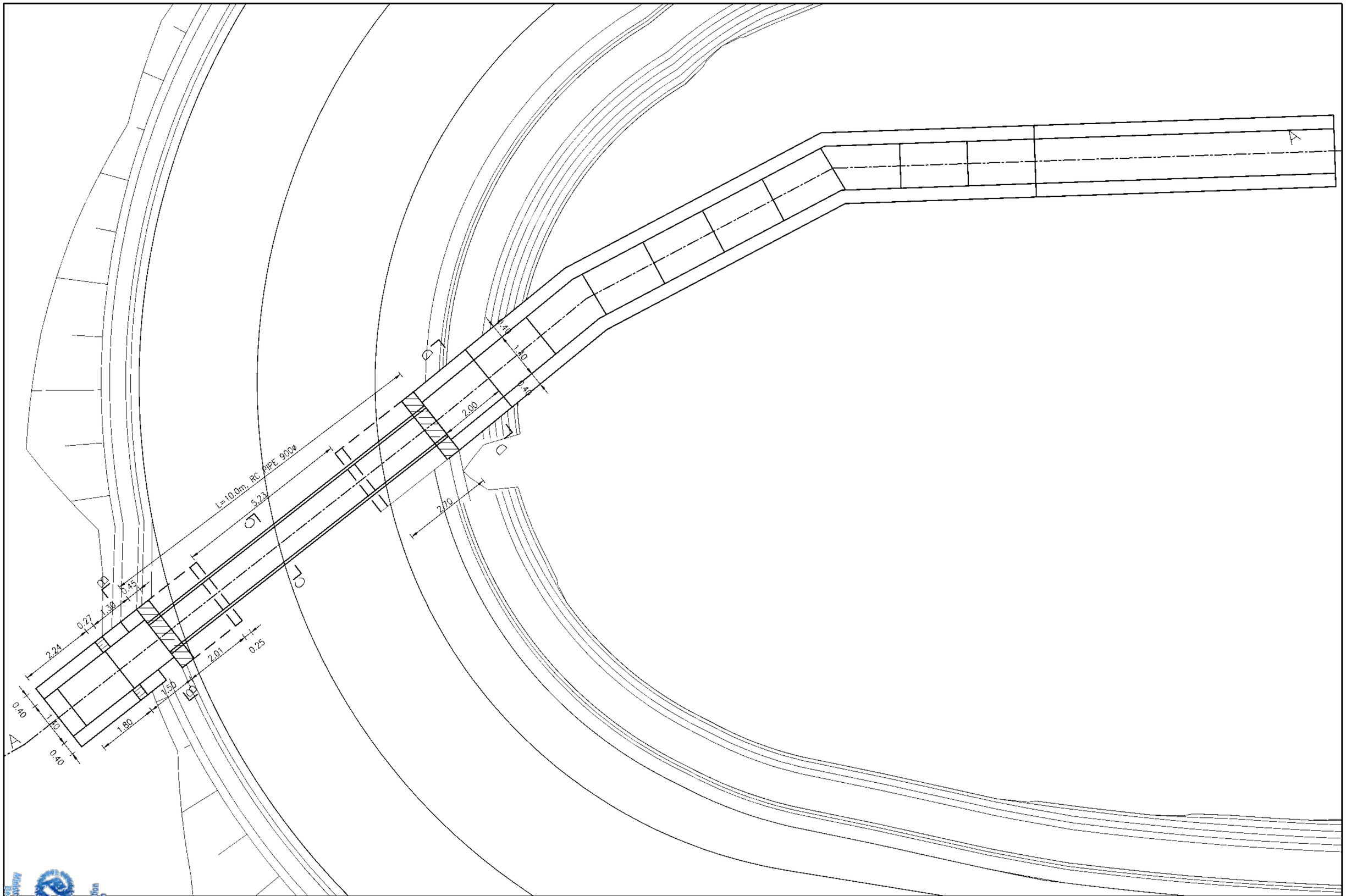


SECTION C–C



SECTION D–D

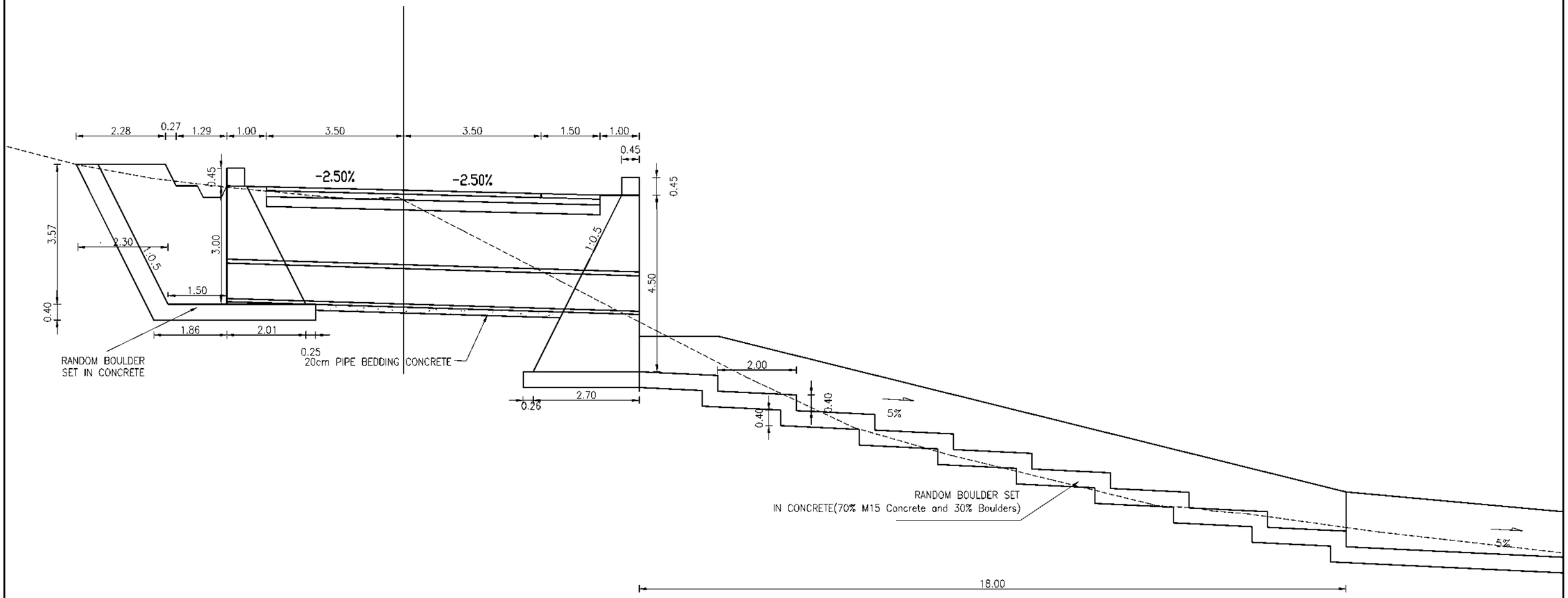
Government of Nepal, Ministry of Energy, Water Resources and Irrigation, Department of Water Resources and Irrigation, Sunkoshi-Marin Diversion Multipurpose Project, Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd, 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal, Phone: 977-1-4104307, Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
		Checked By			Checked By			Drawing No.:	Chainage 0+125
		Recommended By			Recommended By			Sheet No.:	CS02
					Approved By			Scale	1:100



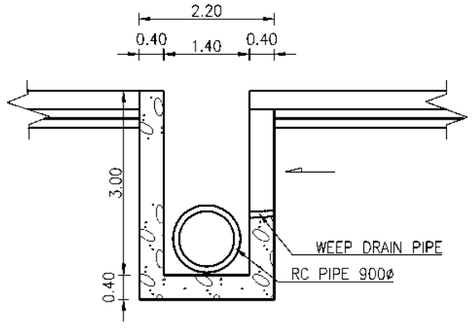
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

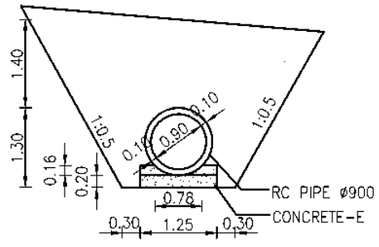
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 0+325
Recommended By			Recommended By			Sheet No.:	P03
			Approved By			Scale	1:100



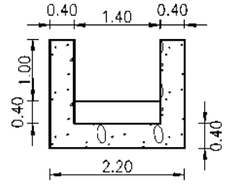
SECTION A–A



SECTION B–B



SECTION C–C

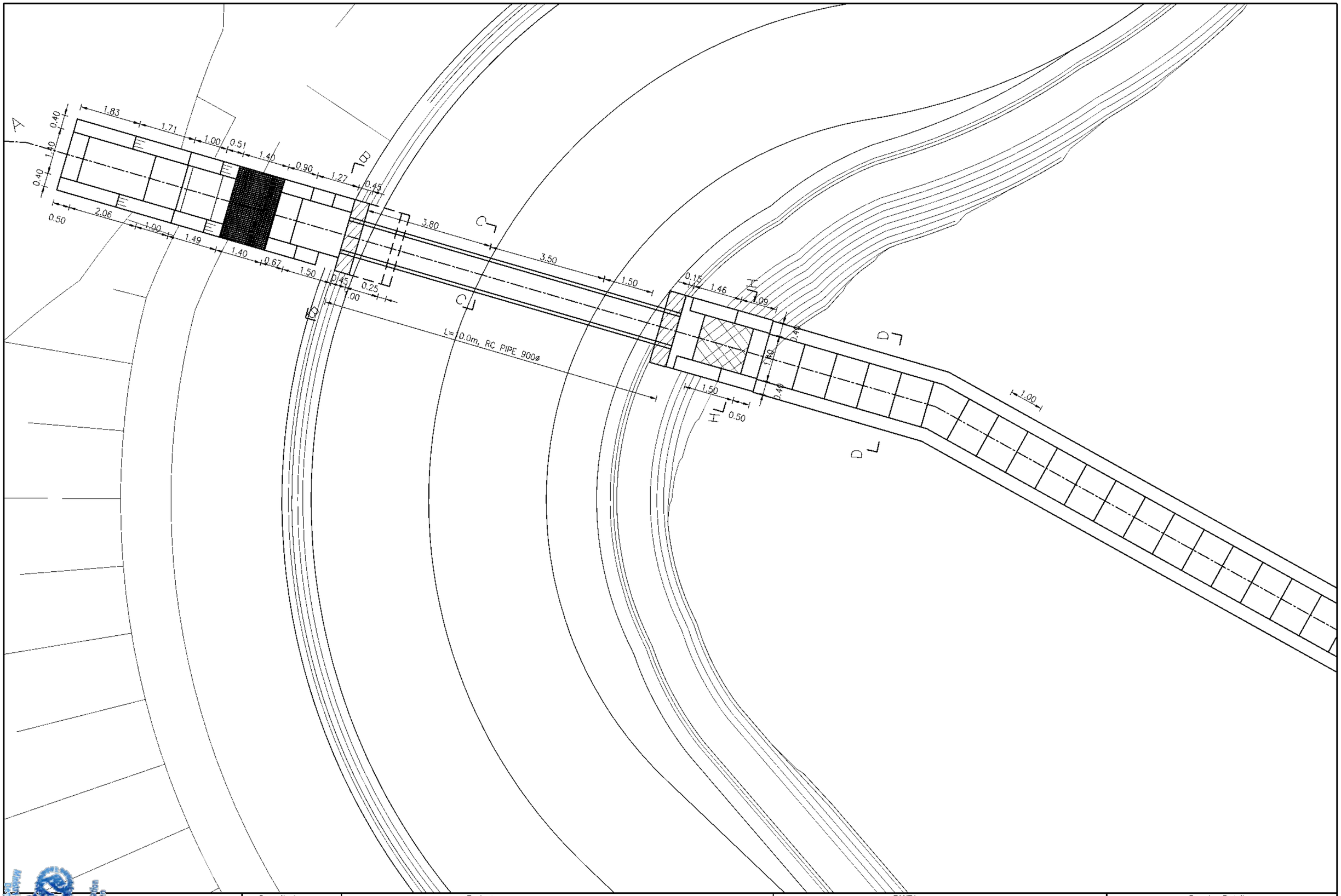


SECTION D–D

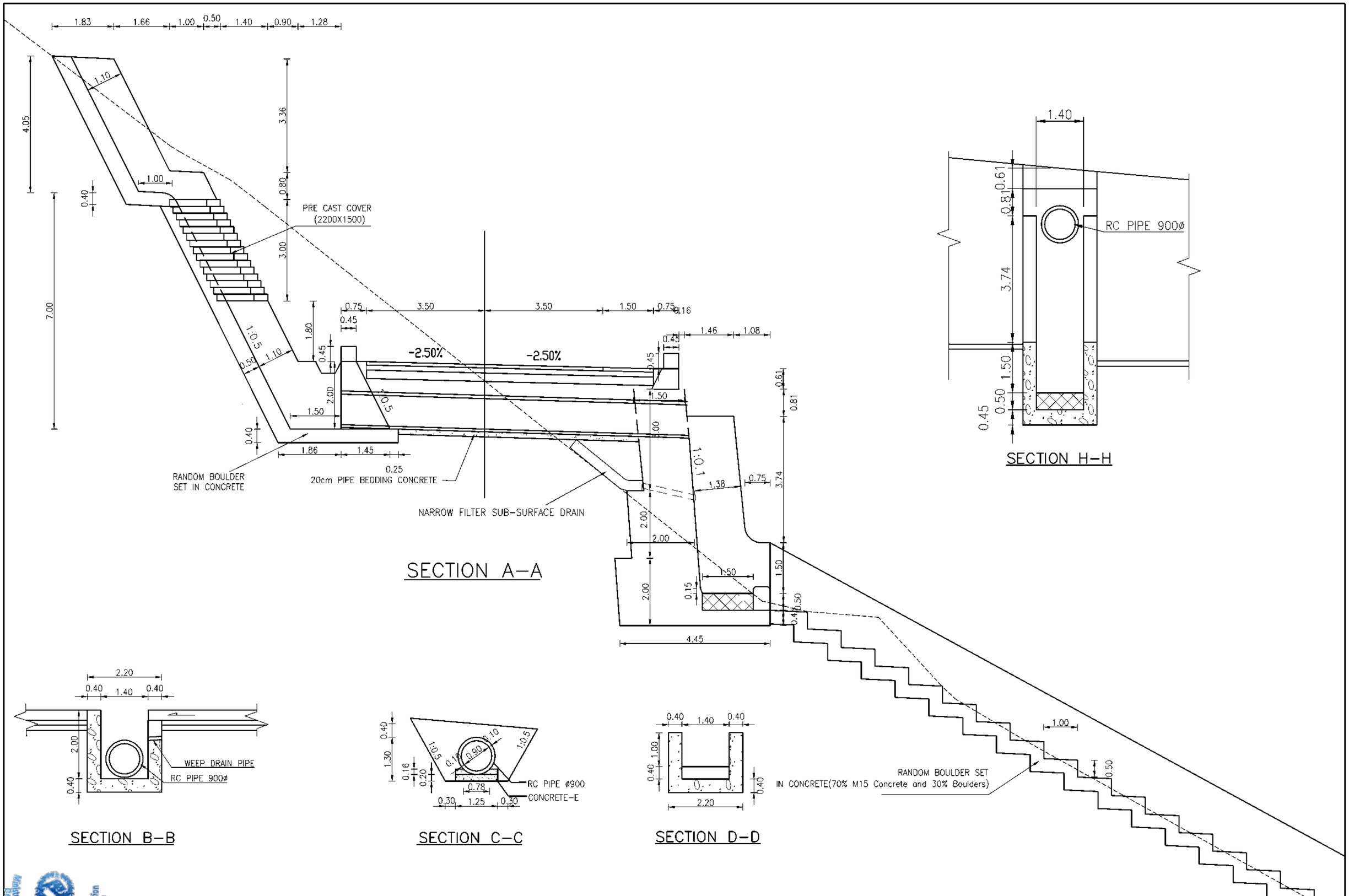
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 0+325
Recommended By			Recommended By			Sheet No.:	CS03
			Approved By			Scale	1:100



Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
		Checked By			Checked By			Drawing No.:	Chainage 0+530
		Recommended By			Recommended By			Sheet No.:	P04
					Approved By			Scale	1:100



SECTION A–A

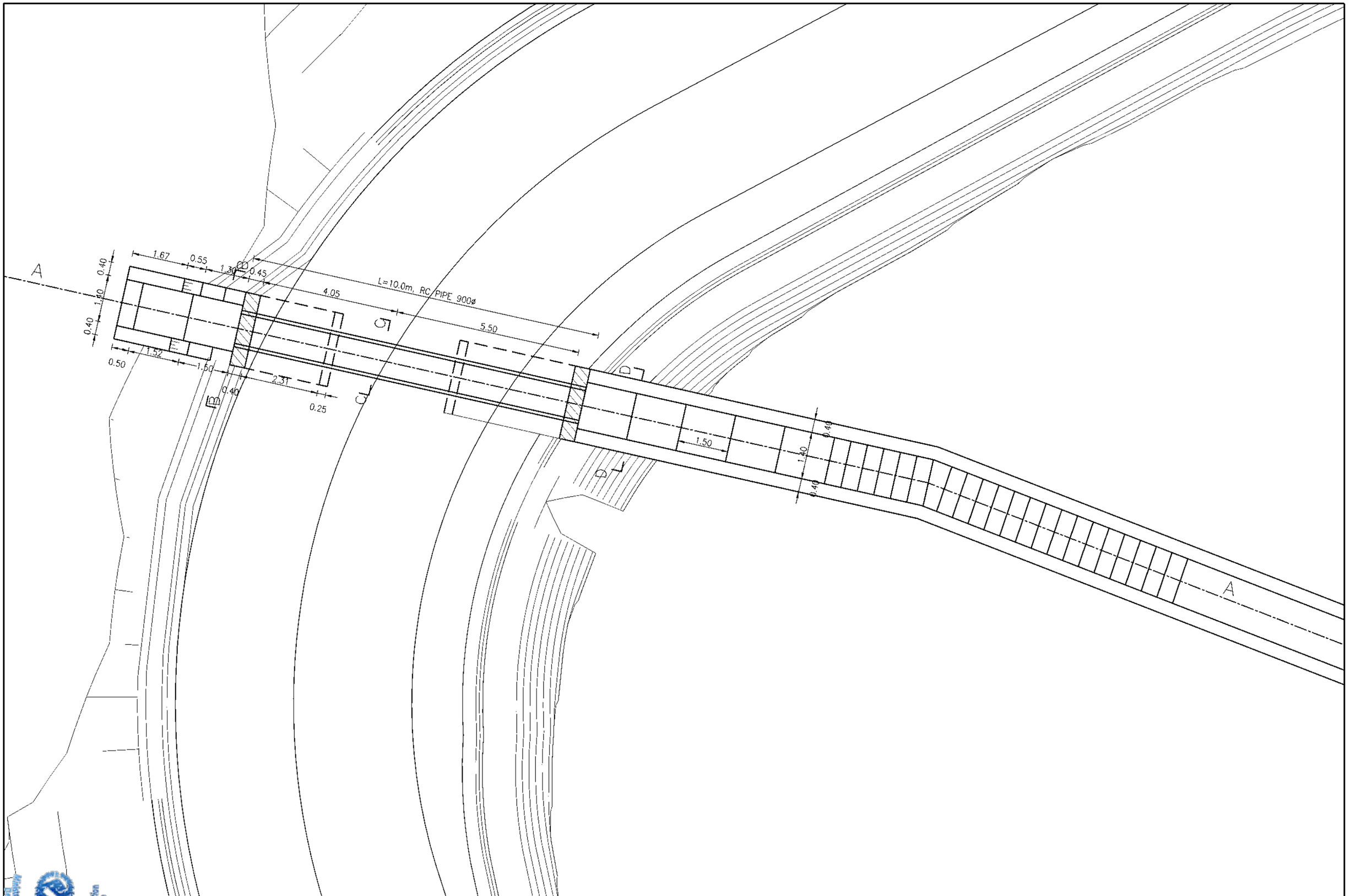
SECTION H–H

SECTION B–B

SECTION C–C

SECTION D–D

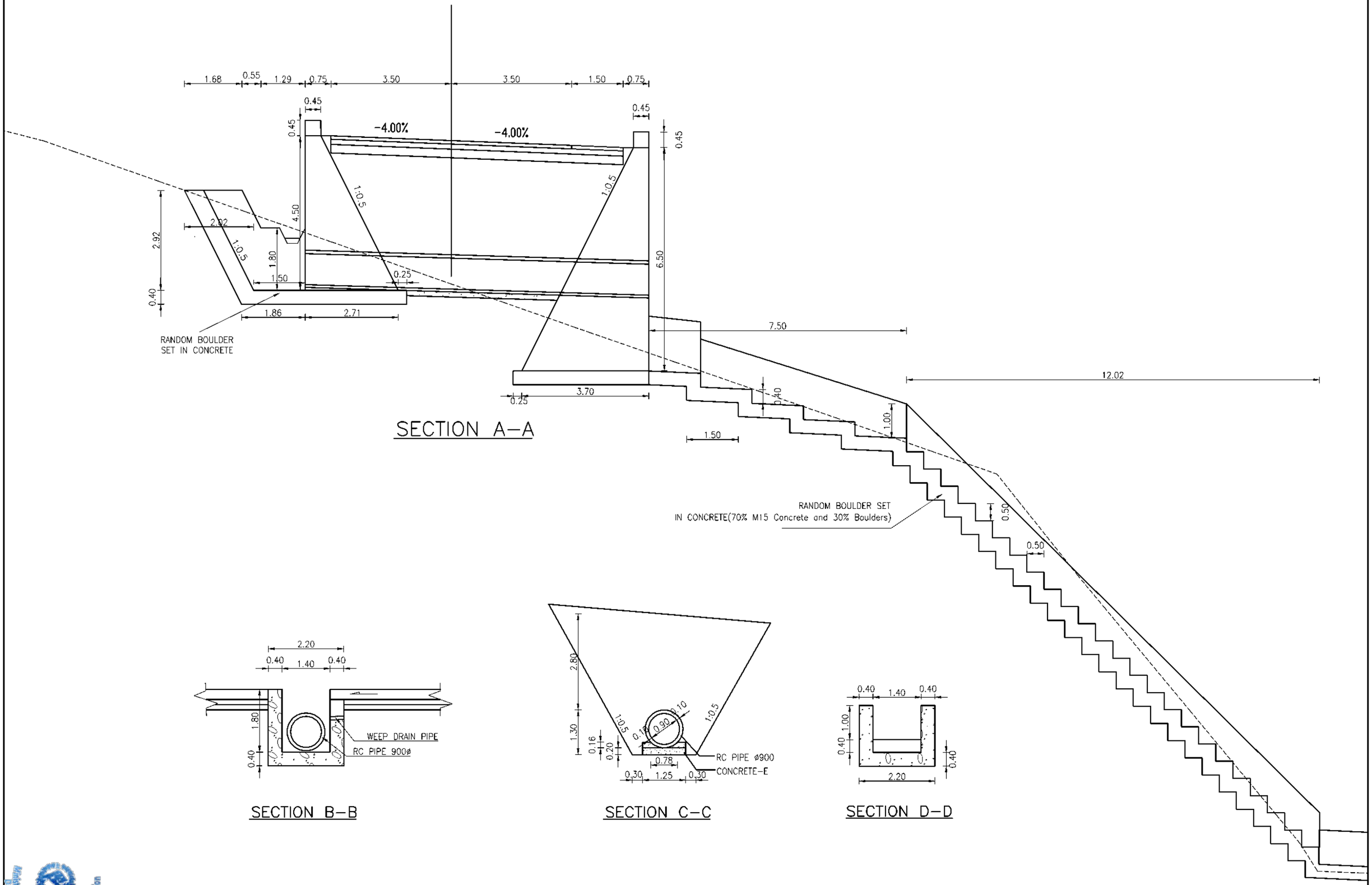
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-3 Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104007 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
		Checked By			Checked By			Drawing No.:	Chainage 0+530
		Recommended By			Recommended By			Sheet No.:	CS04
					Approved By			Scale	1:100



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Indrawati Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 0+657.5
Recommended By			Recommended By			Sheet No.:	P05
			Approved By			Scale	1:100



SECTION A–A

SECTION B–B

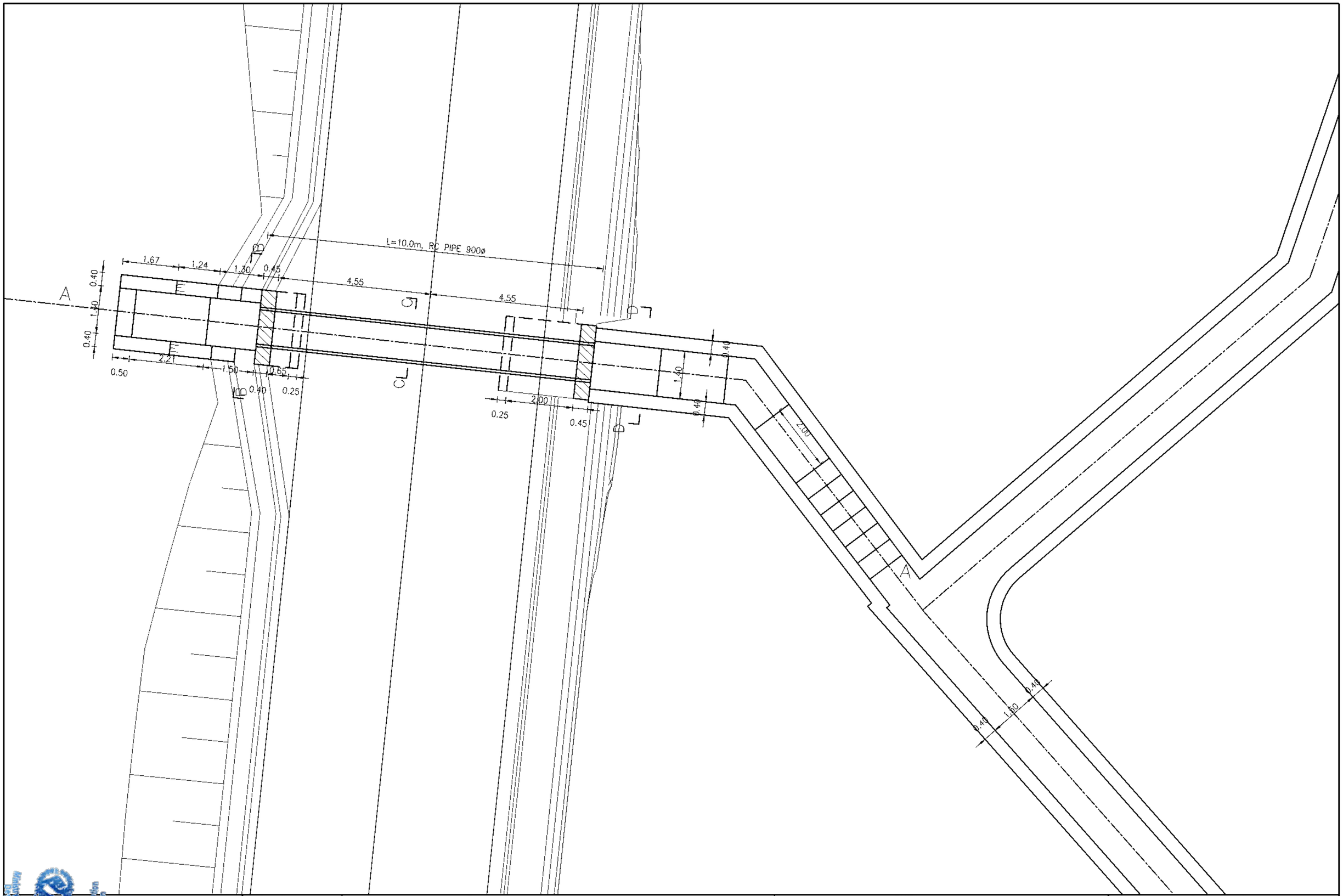
SECTION C–C

SECTION D–D

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

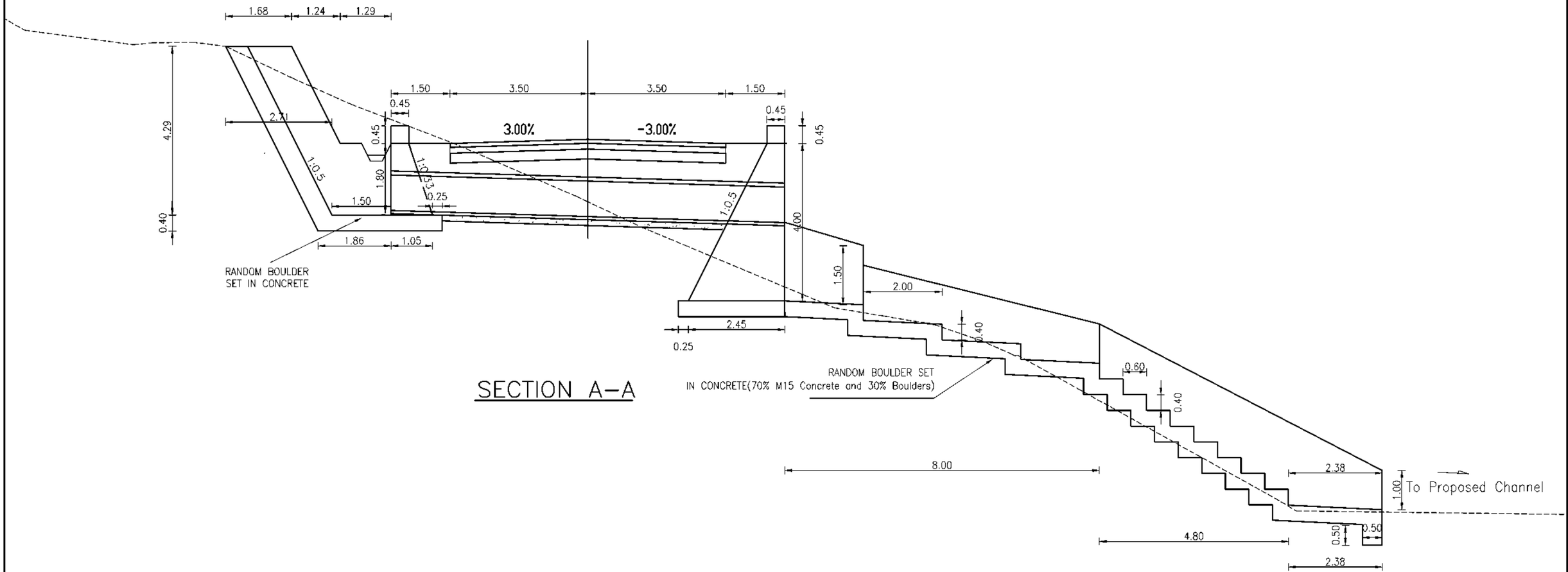
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 0+657.5
Recommended By			Recommended By			Sheet No.:	CS05
			Approved By			Scale	1:100



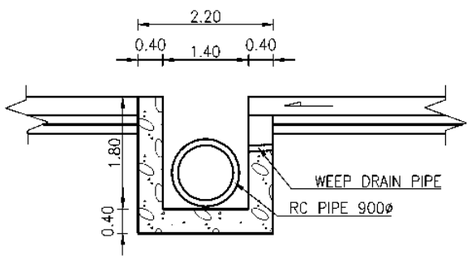
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

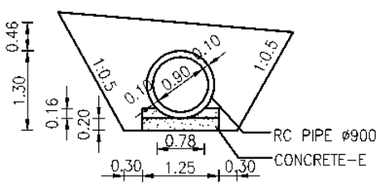
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 0+800
Recommended By			Recommended By			Sheet No.:	P06
			Approved By			Scale	1:100



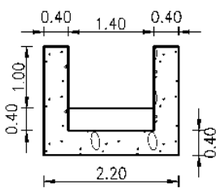
SECTION A–A



SECTION B–B



SECTION C–C

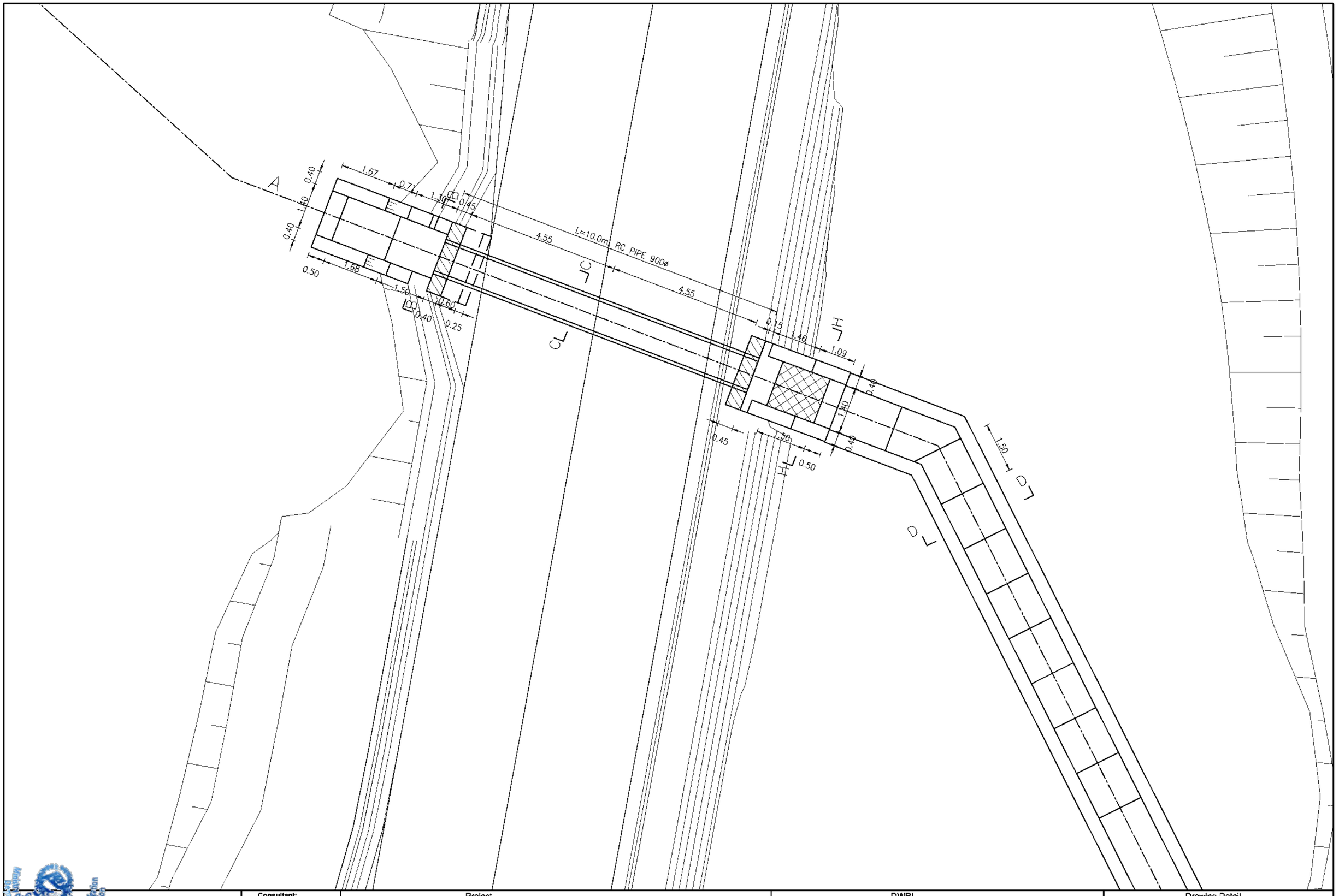


SECTION D–D

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Rasuwa Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

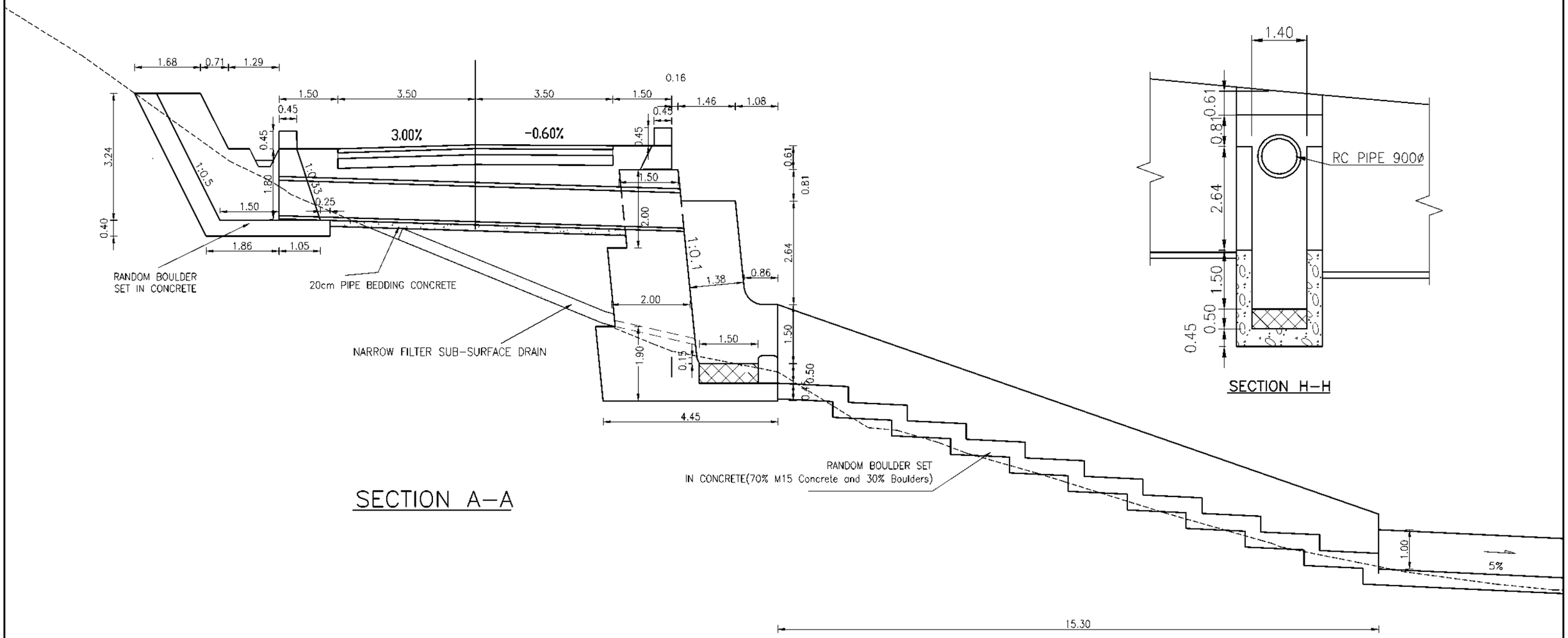
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 0+800
Recommended By			Recommended By			Sheet No.:	CS06
			Approved By			Scale	1:100



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

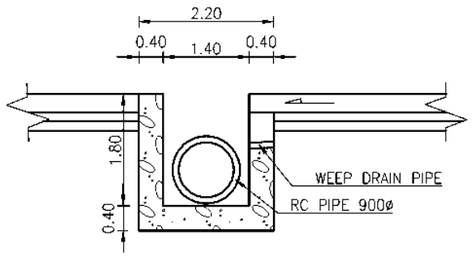
Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 1+317.5
Recommended By			Recommended By			Sheet No.:	P07
			Approved By			Scale	1:100

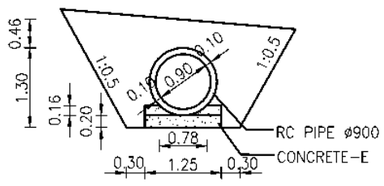


SECTION A–A

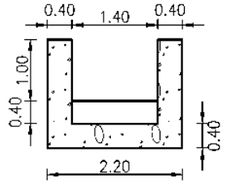
SECTION H–H



SECTION B–B



SECTION C–C

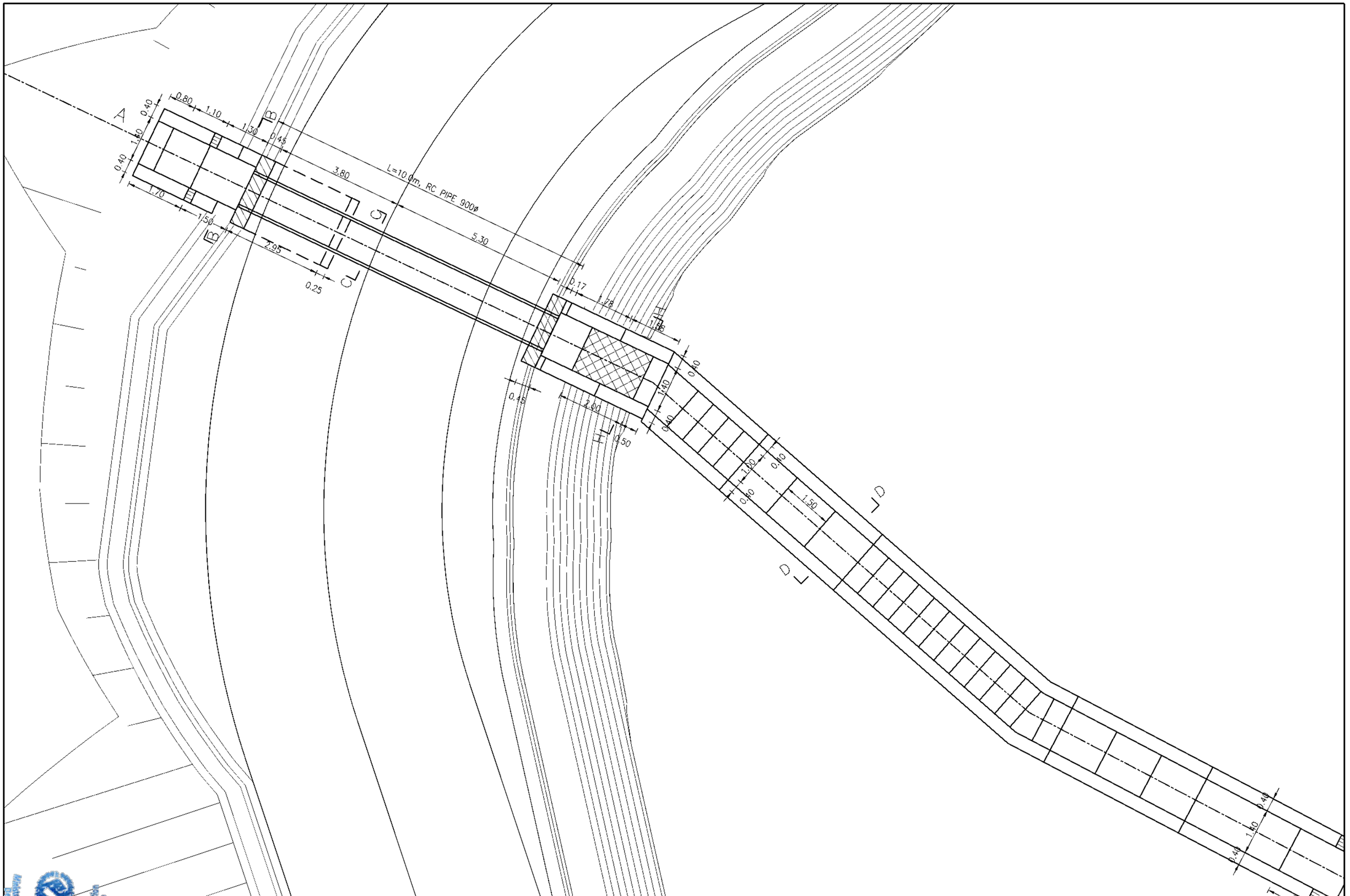


SECTION D–D

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

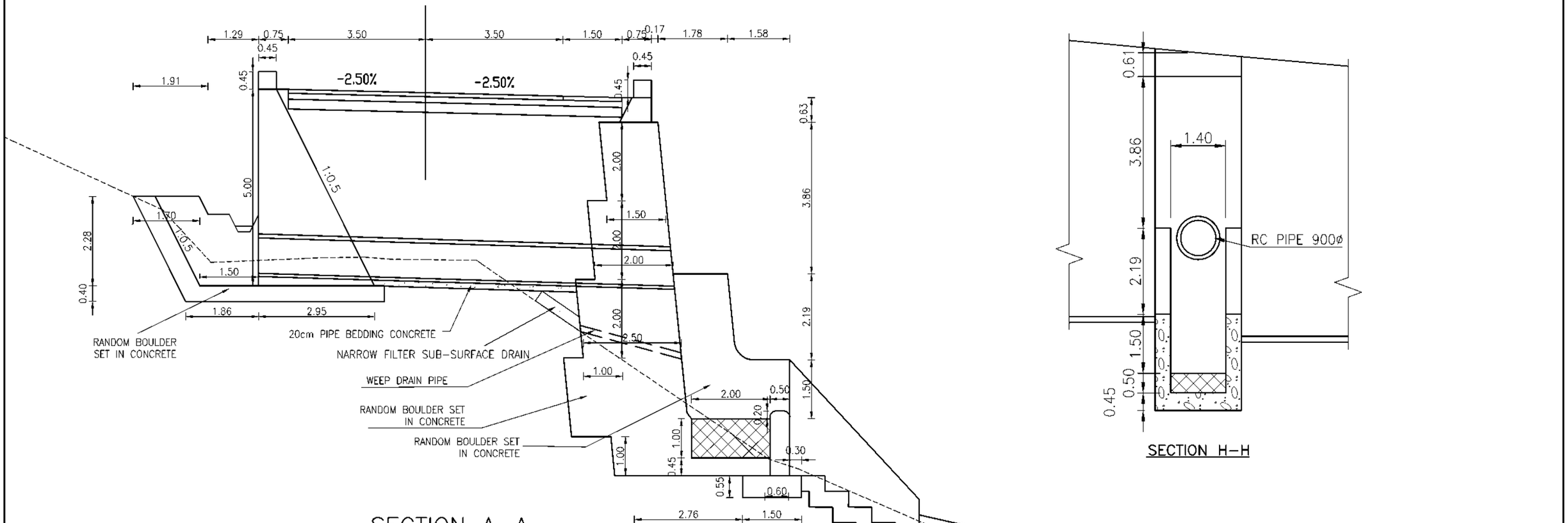
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 1+317.5
Recommended By			Recommended By			Sheet No.:	CS07
			Approved By			Scale	1:100



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Reservoir Diversion Multipurpose Project
Sindhuli, Nepal

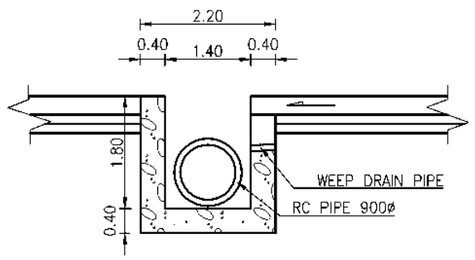
Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104007
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 1+392.5
Recommended By			Recommended By			Sheet No.:	P08
			Approved By			Scale	1:100

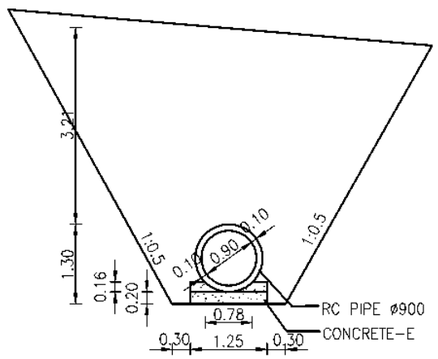


SECTION A–A

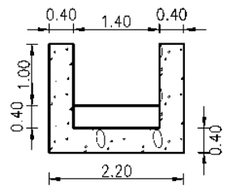
SECTION H–H



SECTION B–B



SECTION C–C

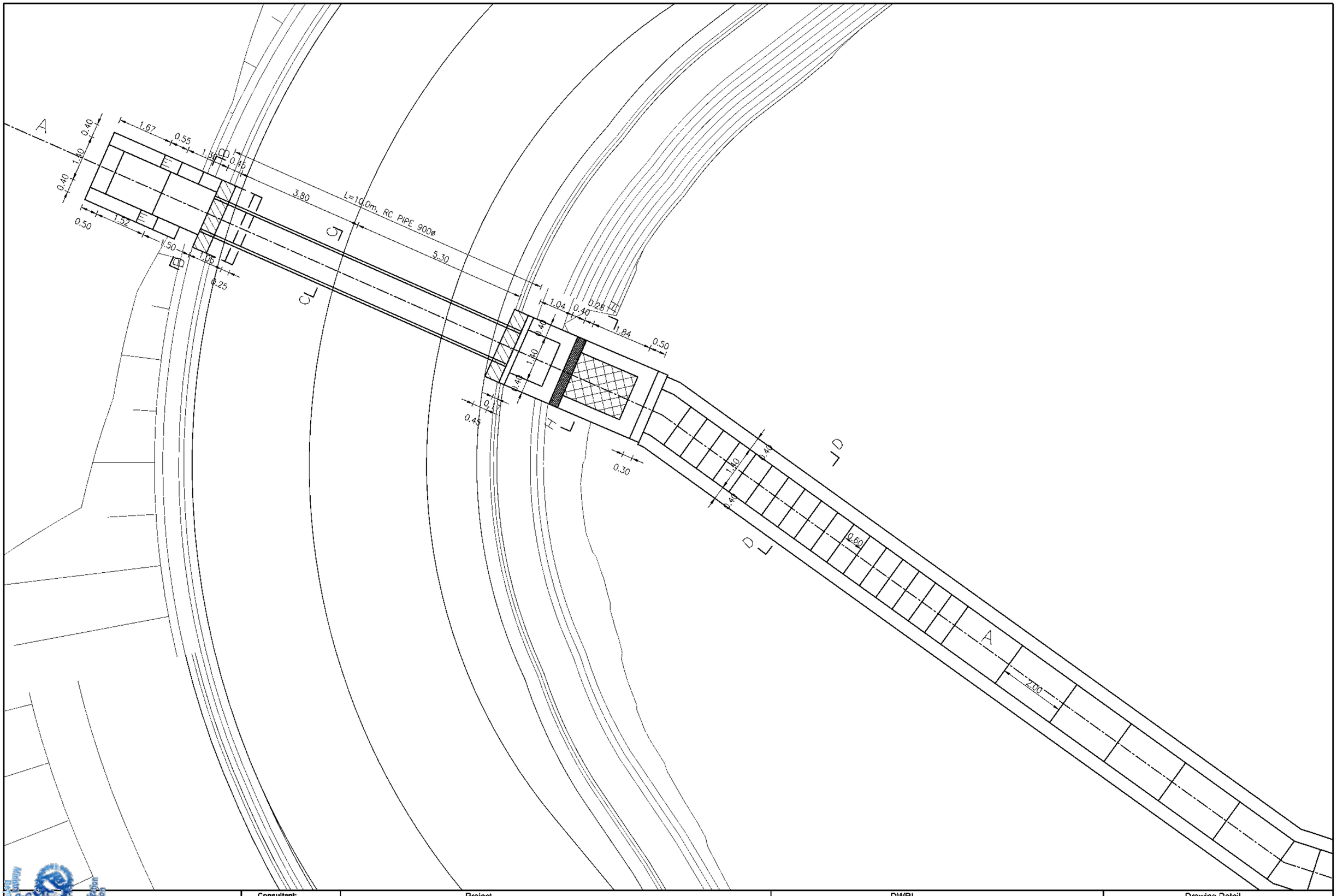


SECTION D–D

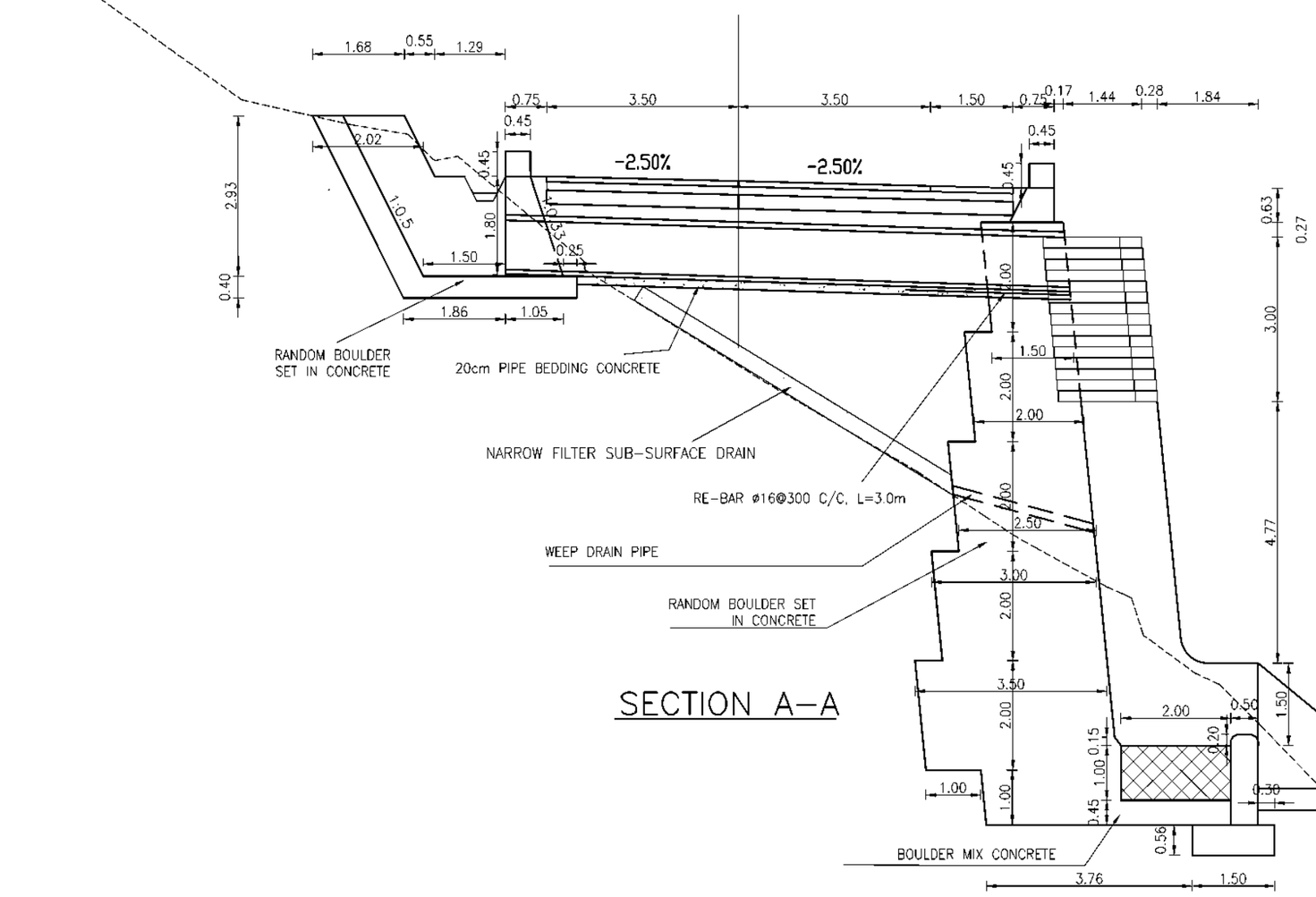
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

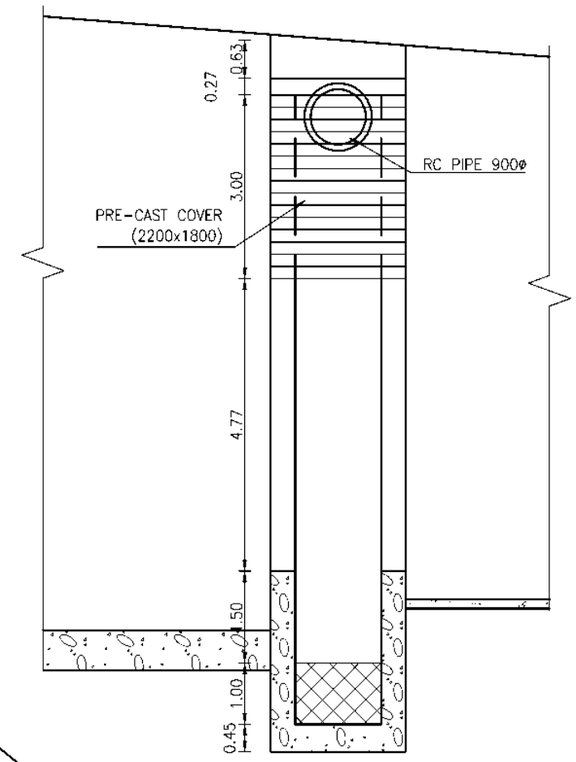
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 1+392.5
Recommended By			Recommended By			Sheet No.:	CS08
			Approved By			Scale	1:100



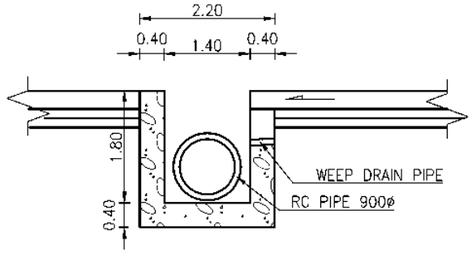
Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
		Checked By			Checked By			Drawing No.:	Chainage 1+545
		Recommended By			Recommended By			Sheet No.:	P09
					Approved By			Scale	1:100



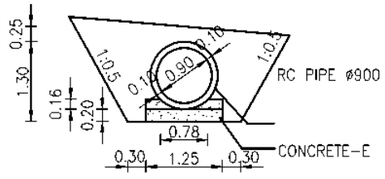
SECTION A–A



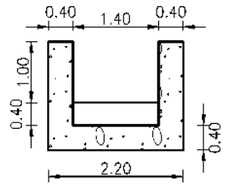
SECTION H–H



SECTION B–B

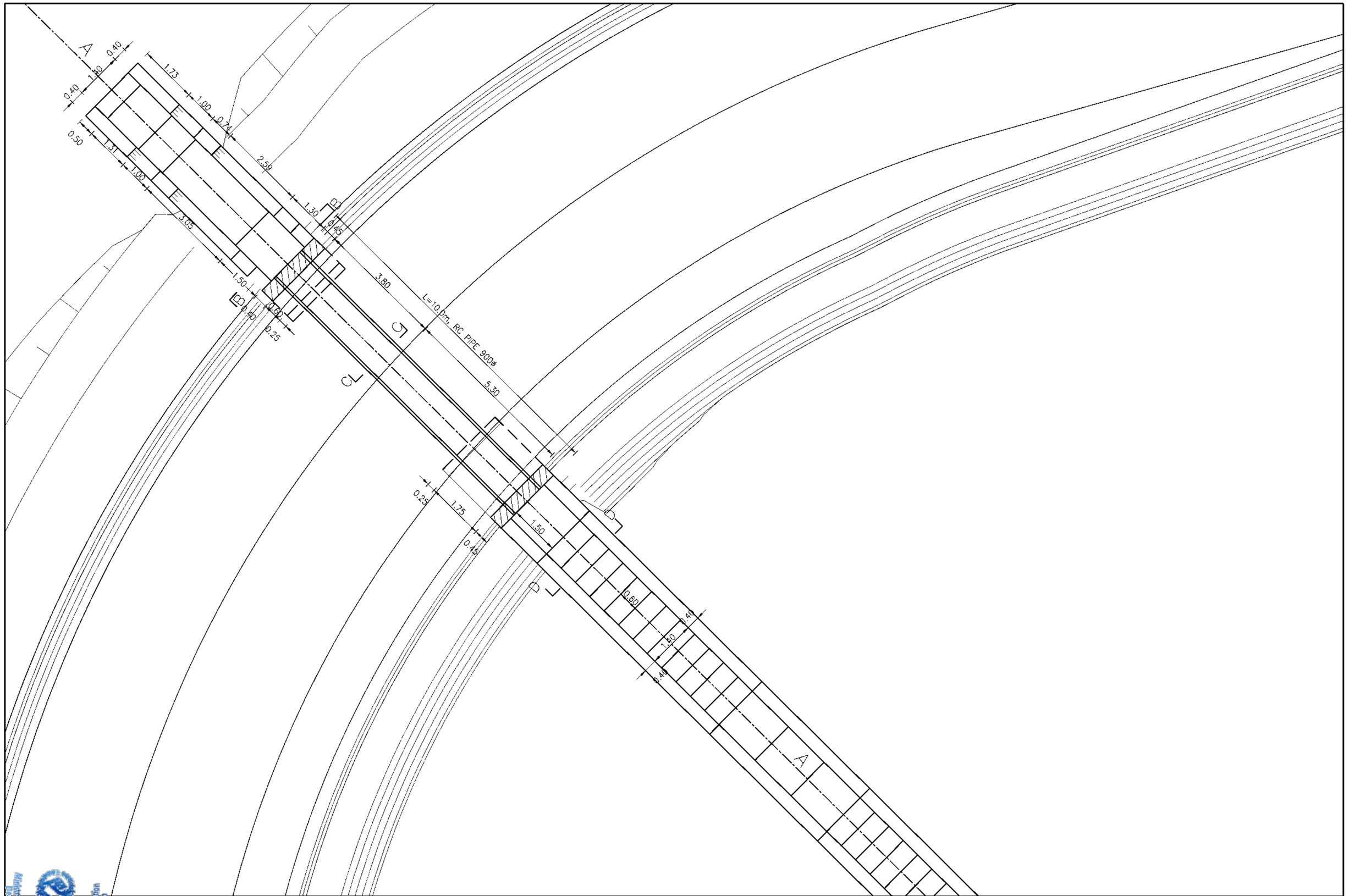


SECTION C–C



SECTION D–D

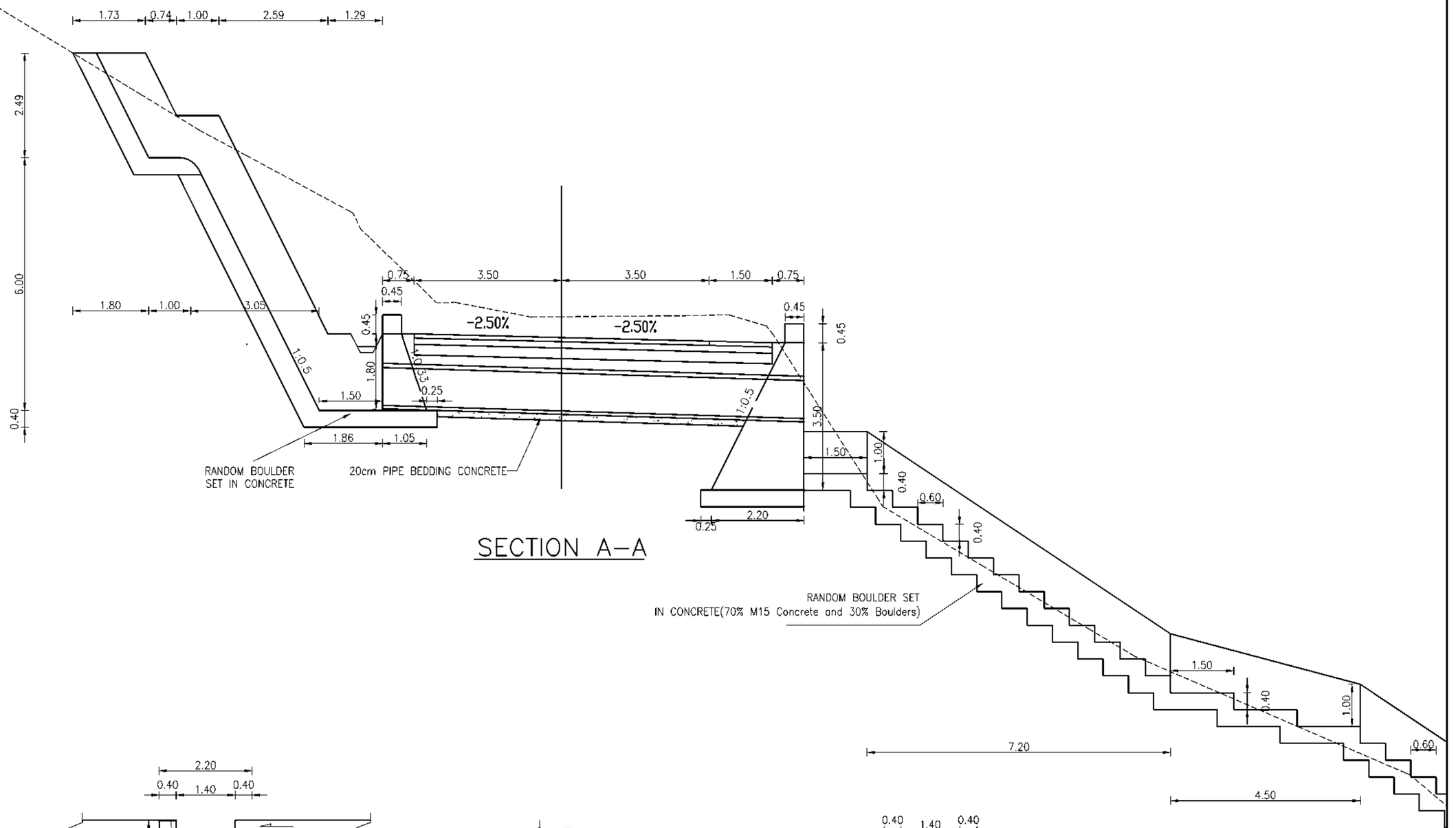
Government of Nepal	Consultant:	Project			DWRI			Drawing Detail	
Ministry of Energy, Water Resources and Irrigation	AVIYAAN Consulting (P) Ltd		Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Department of Water Resources and Irrigation	264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal	Checked By			Checked By			Drawing No.:	Chainage 1+545
Sunkoshi-Marin Diversion Multipurpose Project	Phone: 977-1-4104307	Recommended By			Recommended By			Sheet No.:	CS09
Sindhuli, Nepal	Email: info@aviyaan.com				Approved By			Scale	1:100



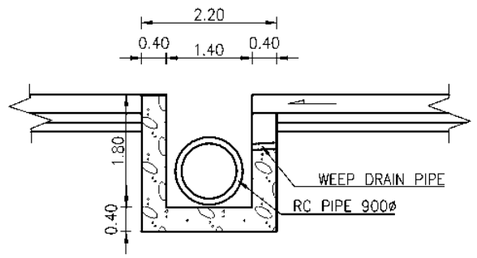
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

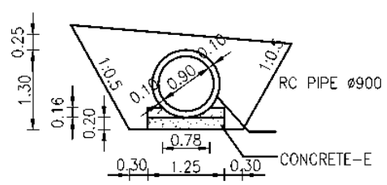
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 1+942.5
Recommended By			Recommended By			Sheet No.:	P10
			Approved By			Scale	1:100



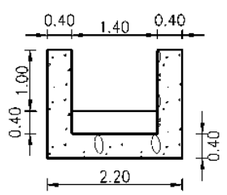
SECTION A–A



SECTION B–B



SECTION C–C

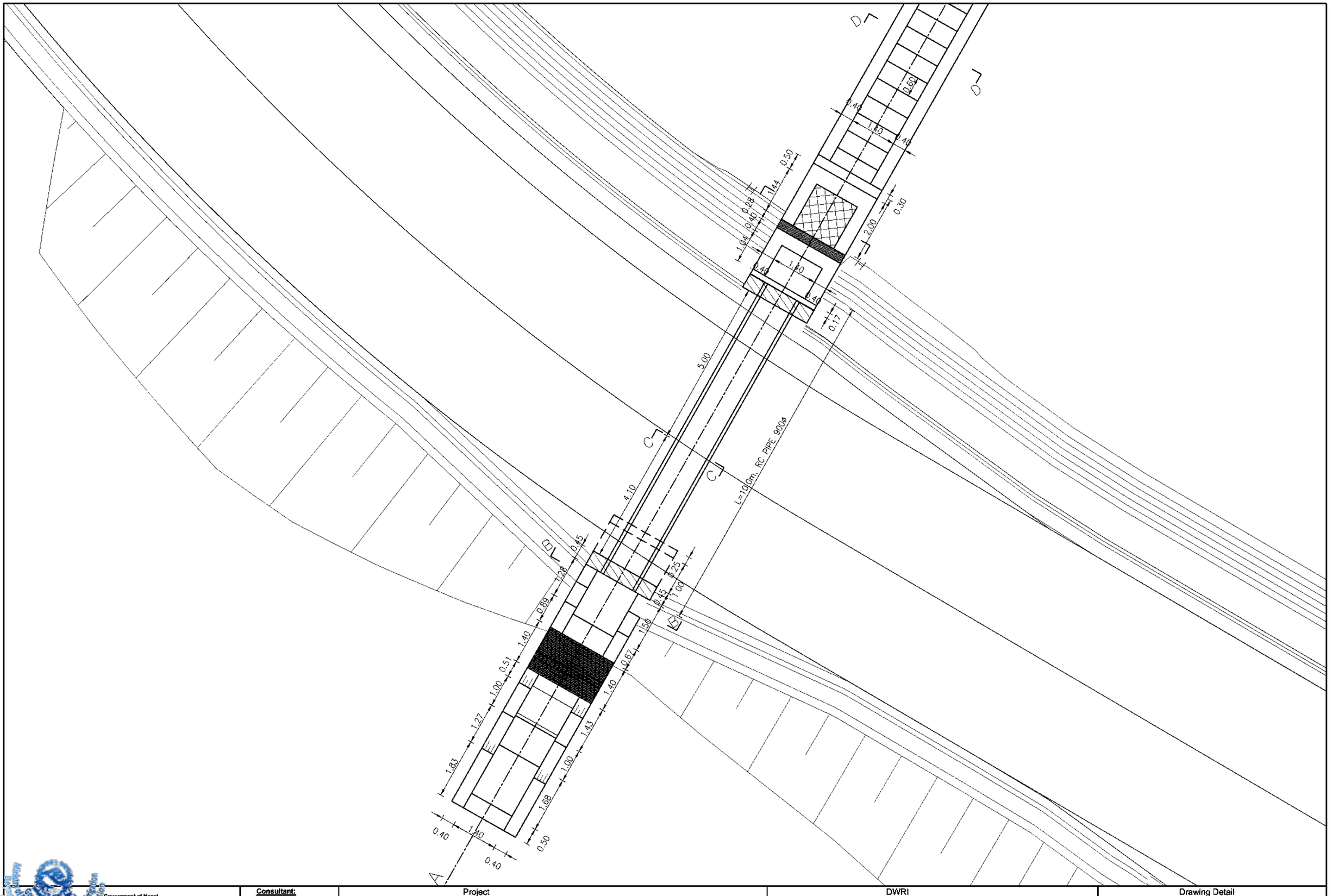


SECTION D–D

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

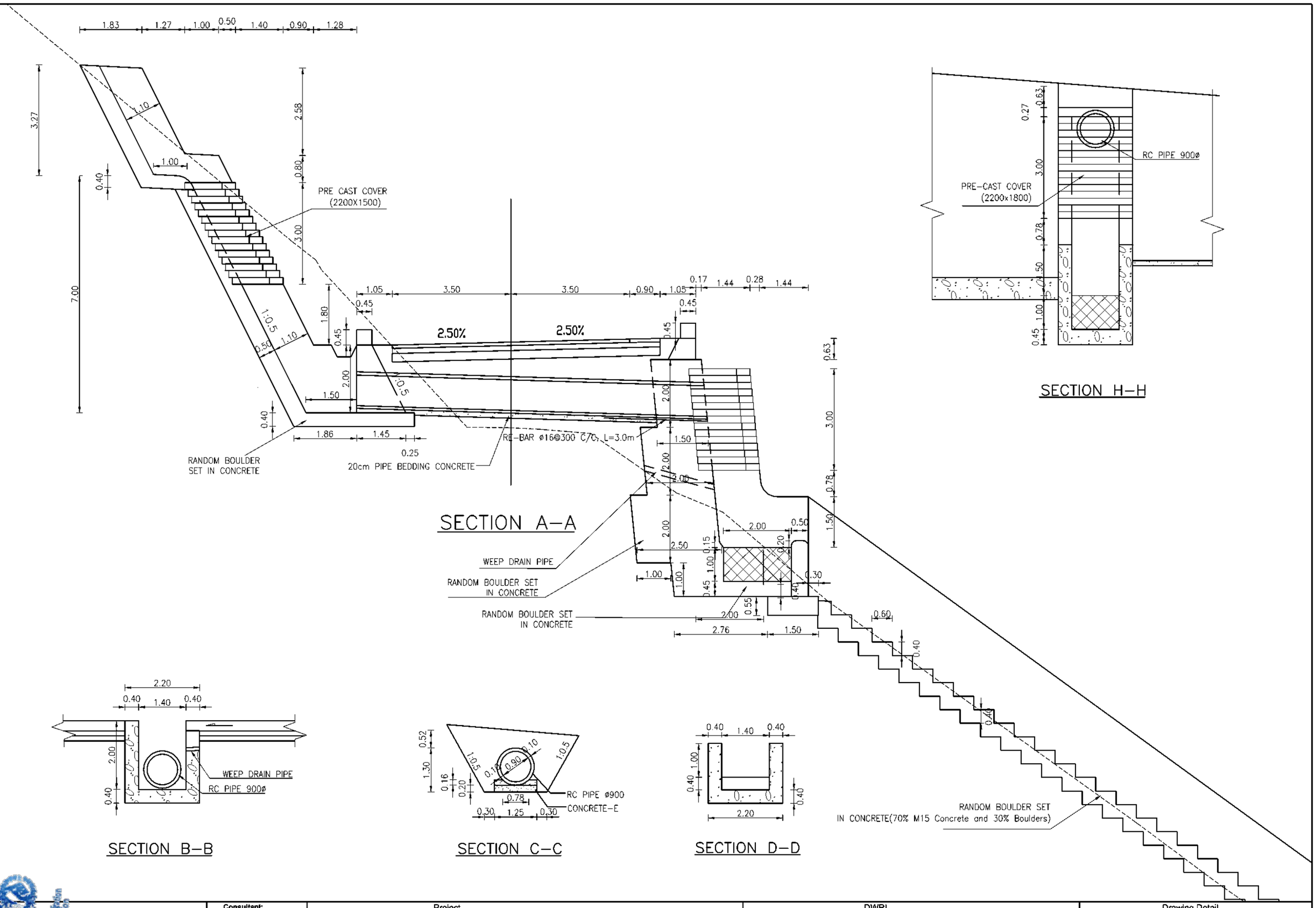
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 1+942.5
Recommended By			Recommended By			Sheet No.:	CS10
			Approved By			Scale	1:100



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 2+257.5
Recommended By			Recommended By			Sheet No.:	P11
			Approved By			Scale	1:100



SECTION A–A

SECTION H–H

SECTION B–B

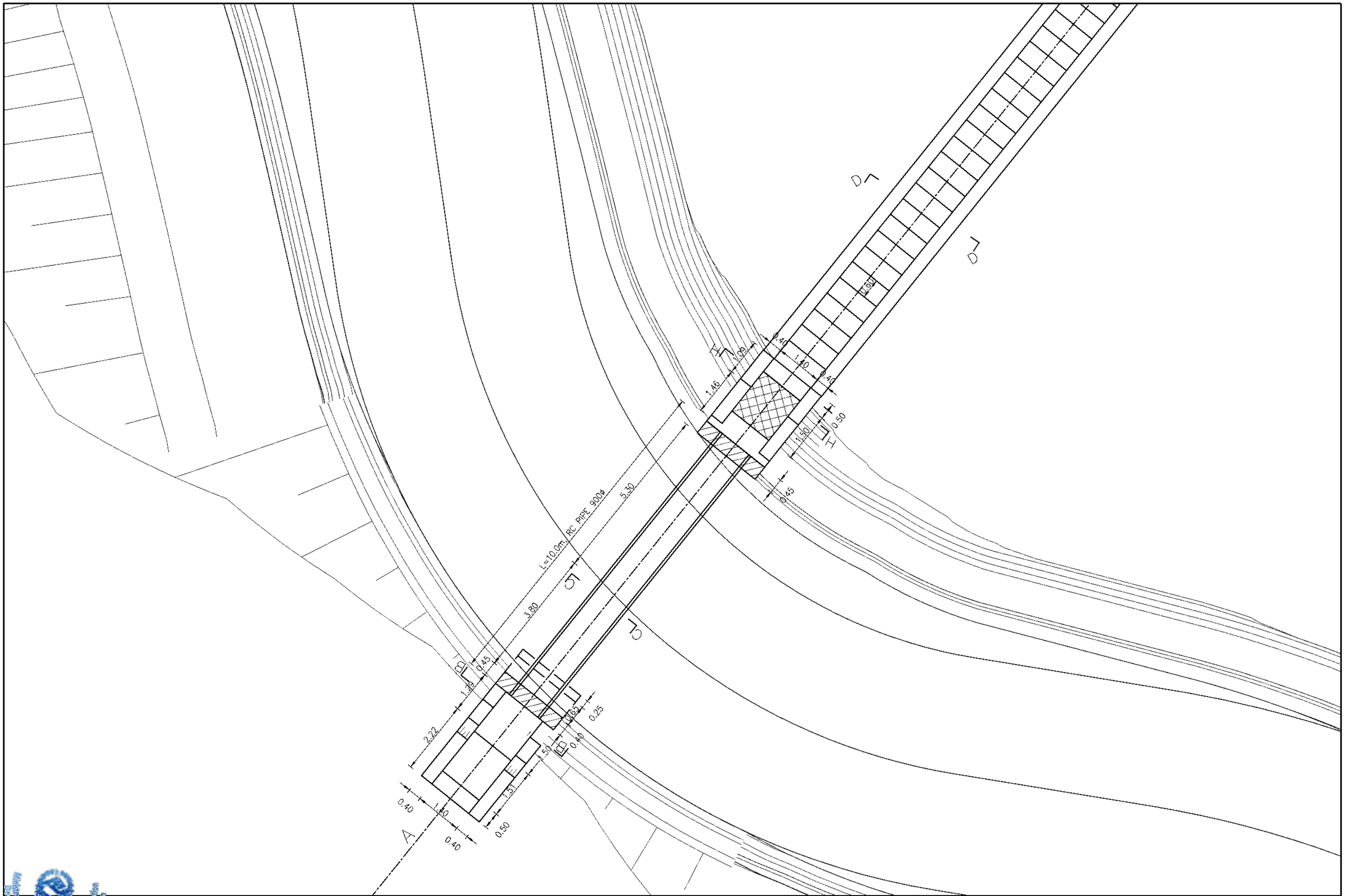
SECTION C–C

SECTION D–D

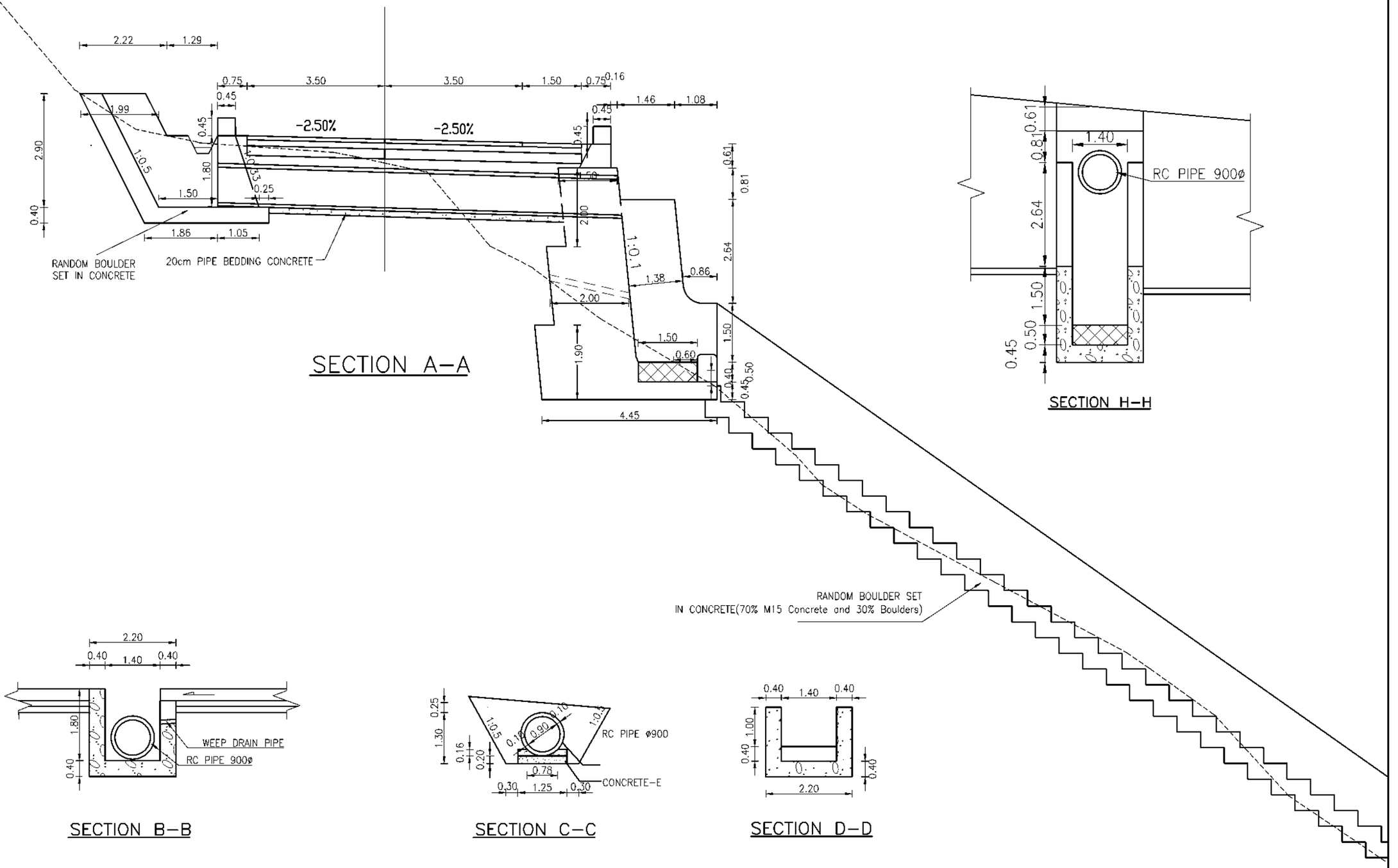
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamla Basin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104007
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 2+257.5
Recommended By			Recommended By			Sheet No.:	CS11
			Approved By			Scale	1:100



Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Kamla Basin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104007 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
		Checked By			Checked By			Drawing No.:	Chainage 2+435
		Recommended By			Recommended By			Sheet No.:	P12
					Approved By			Scale	1:100



SECTION A–A

SECTION H–H

SECTION B–B

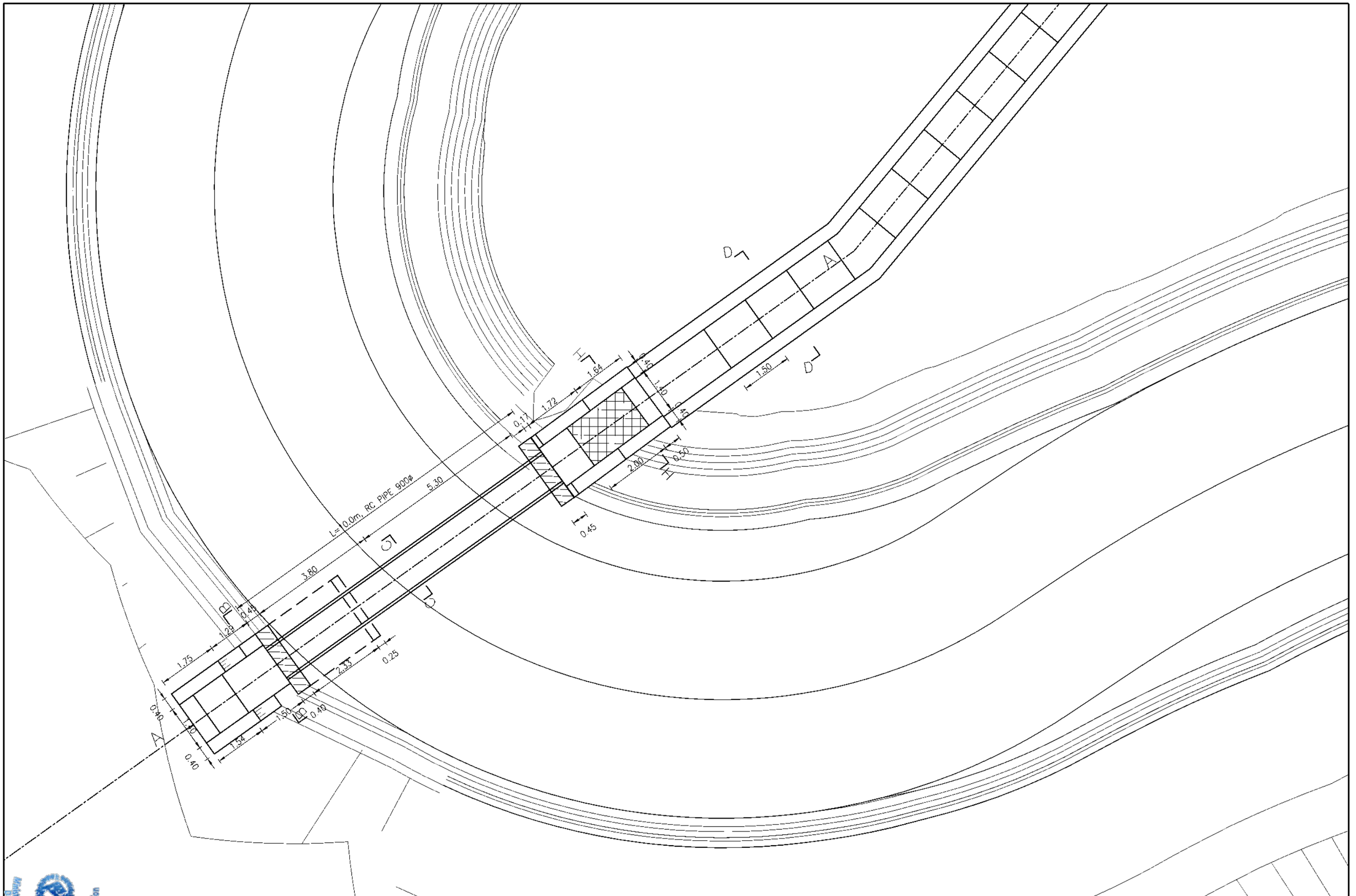
SECTION C–C

SECTION D–D

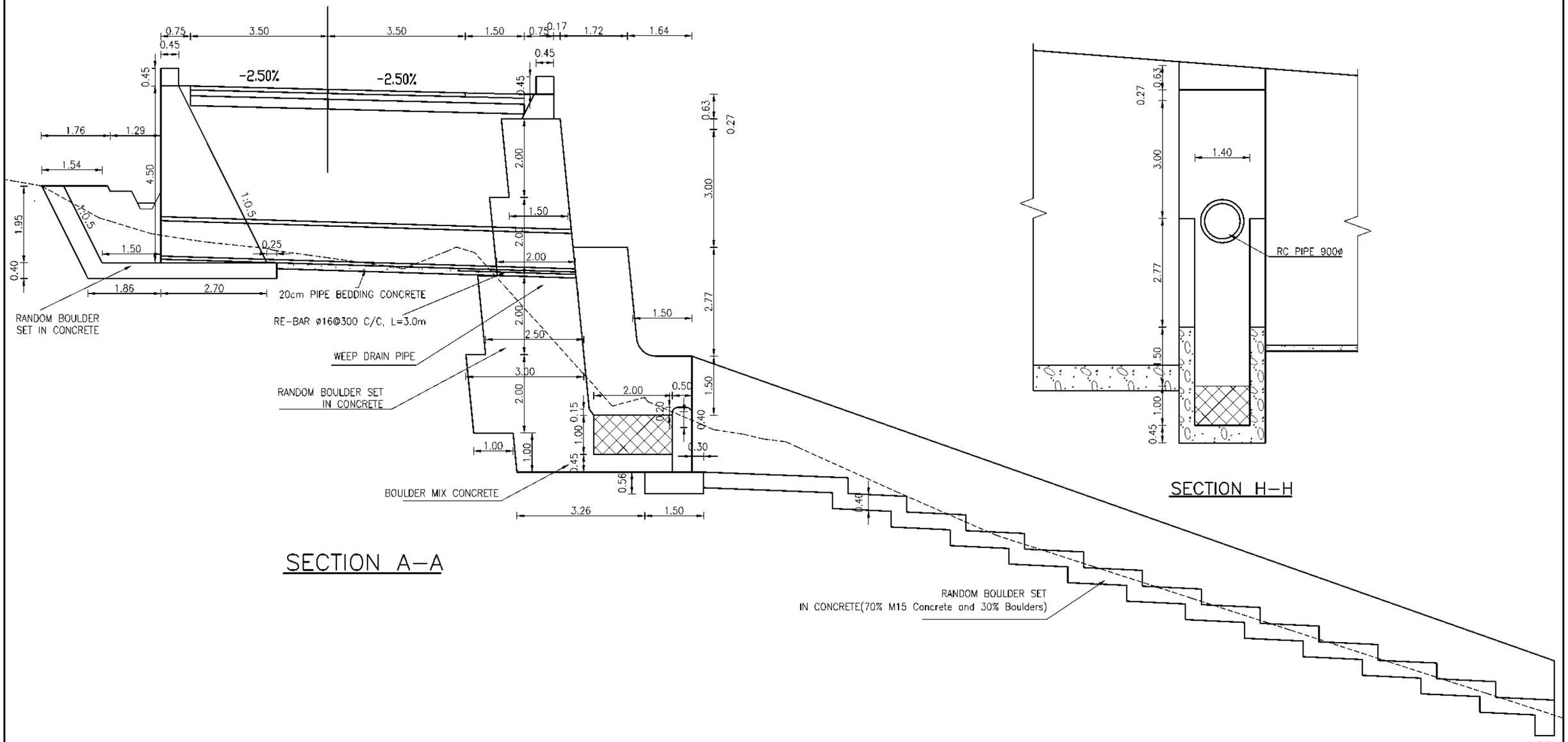
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 2+435
Recommended By			Recommended By			Sheet No.:	CS12
			Approved By			Scale	1:100

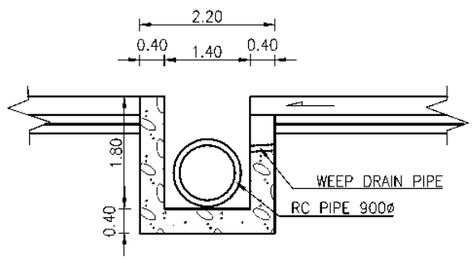


Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 264 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104007 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
		Checked By			Checked By			Drawing No.:	Chainage 2+657.5
		Recommended By			Recommended By			Sheet No.:	P13
					Approved By			Scale	1:100

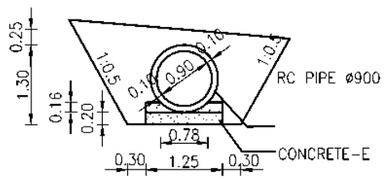


SECTION A–A

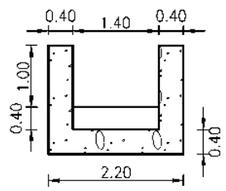
SECTION H–H



SECTION B–B



SECTION C–C



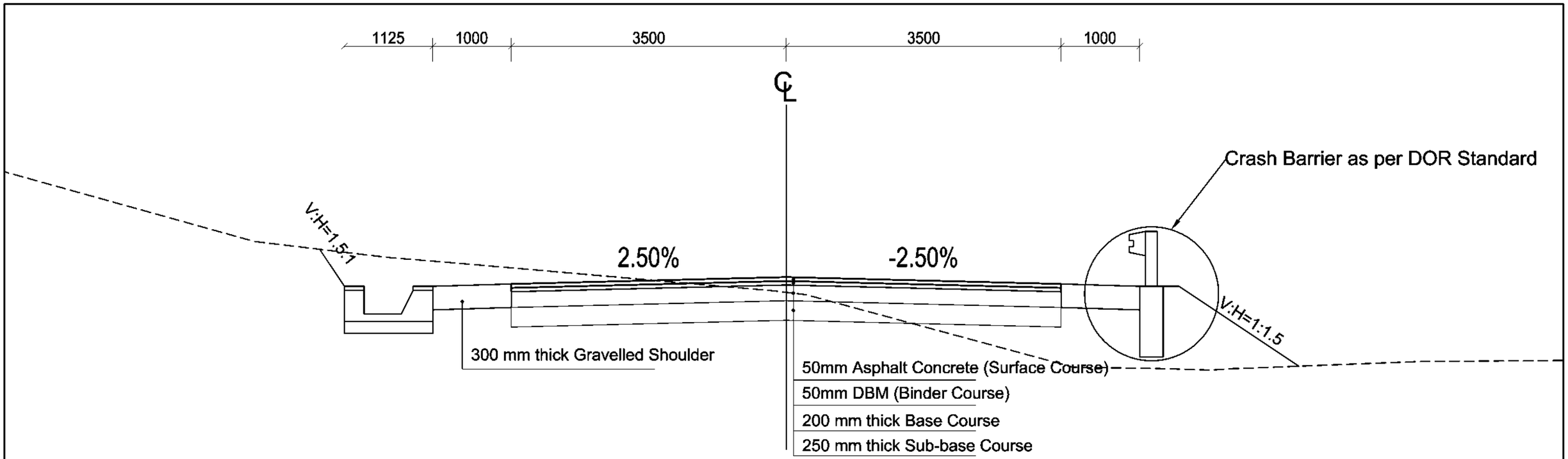
SECTION D–D

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
264 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104007
Email: info@aviyaan.com

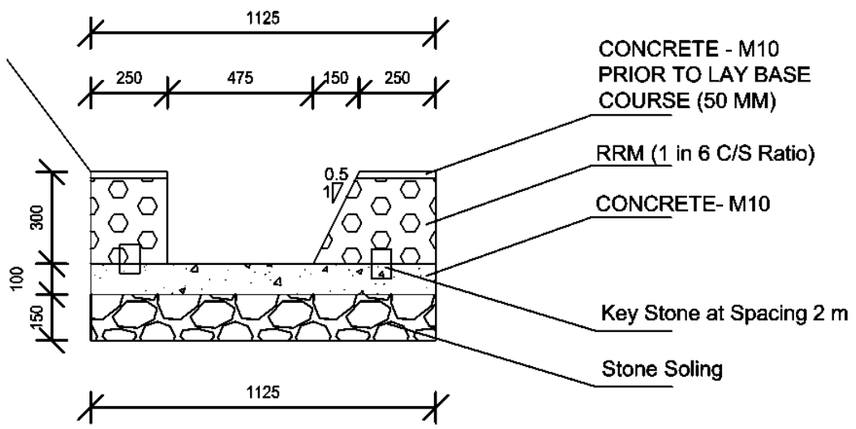
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Cross Drainage of Service Road
Checked By			Checked By			Drawing No.:	Chainage 2+657.5
Recommended By			Recommended By			Sheet No.:	CS13
			Approved By			Scale	1:100

TYPICAL DRAWINGS

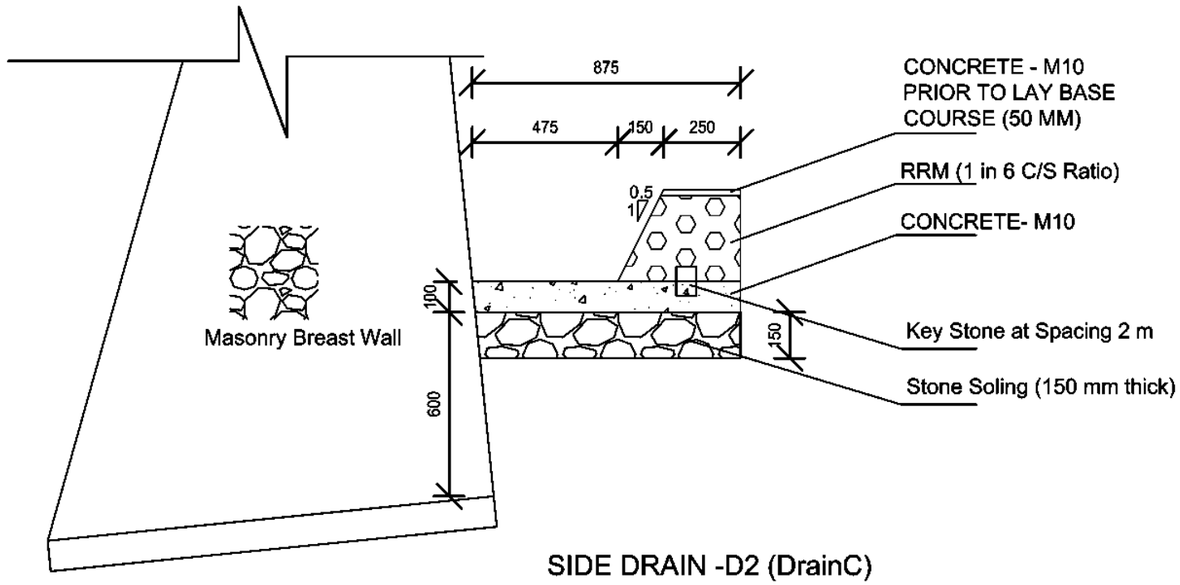


TYPICAL ROAD CROSS SECTION

Scale 1:50



SIDE DRAIN -D1 (DrainA)
Scale 1:20

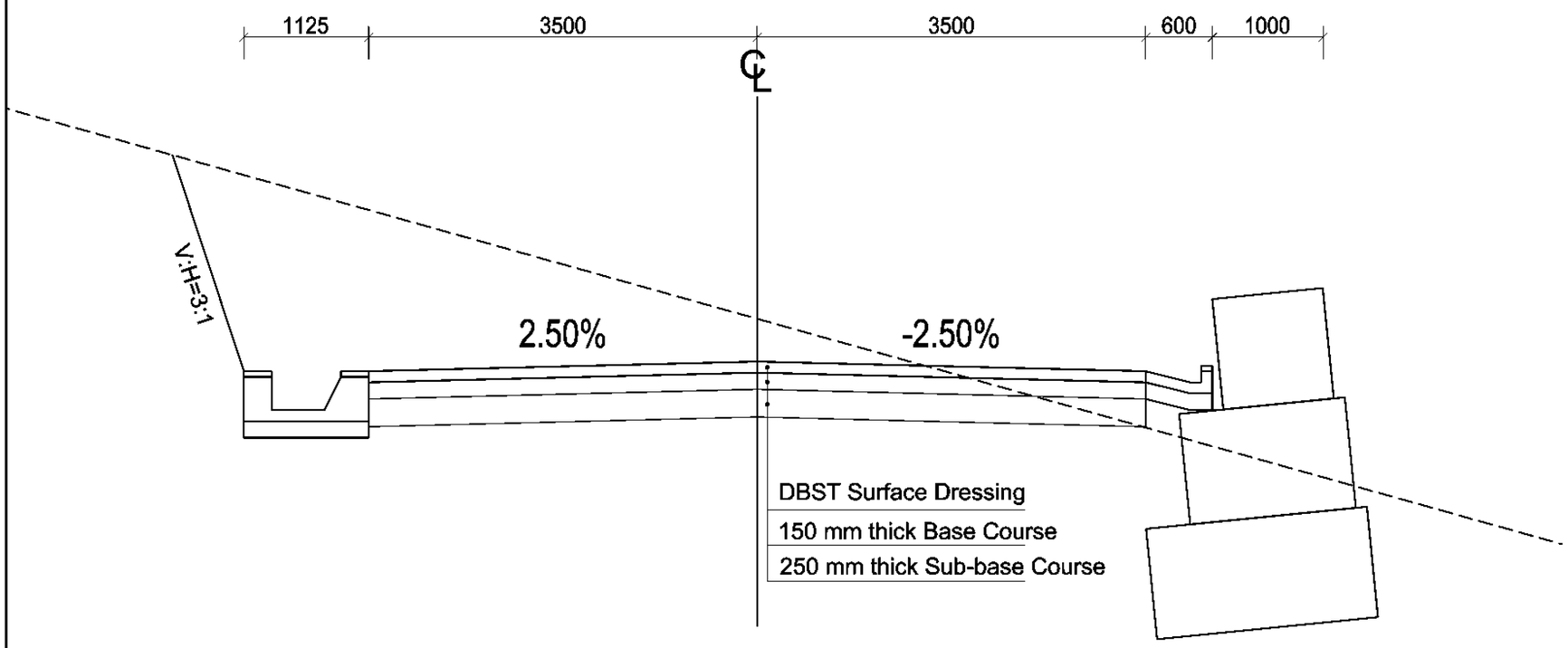


SIDE DRAIN -D2 (DrainC)
Scale 1:20

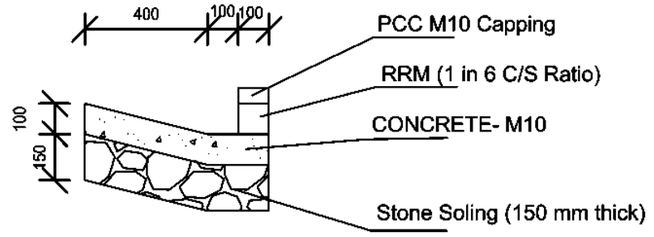
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Bindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

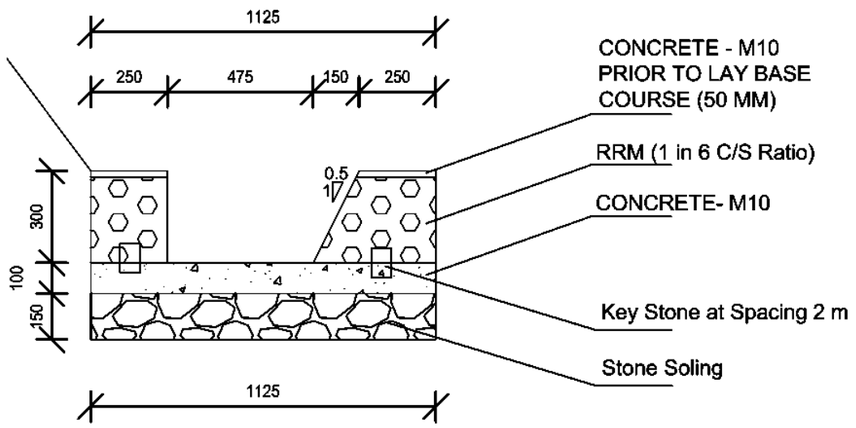
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Typical Cross section of road and drain
Checked By			Checked By			Drawing No.:	Realigned Highway
Recommended By			Recommended By			Sheet No.:	PD1
			Approved By			Scale	As shown



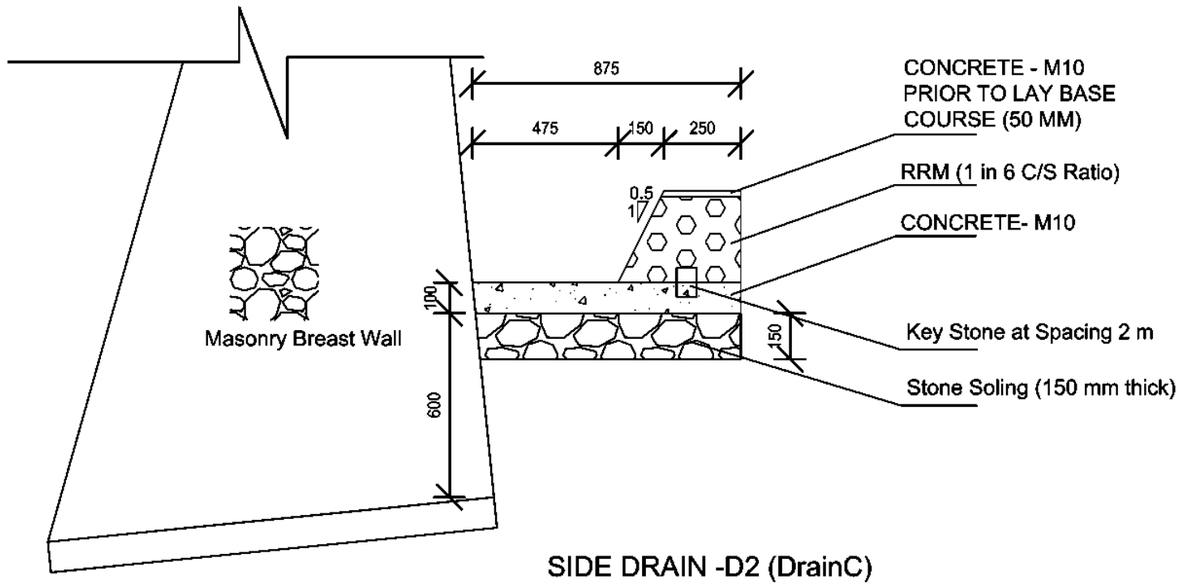
TYPICAL ROAD CROSS SECTION
Scale 1:50



SIDE DRAIN -D3 (DrainD)
Scale 1:20



SIDE DRAIN -D1 (DrainA)
Scale 1:20

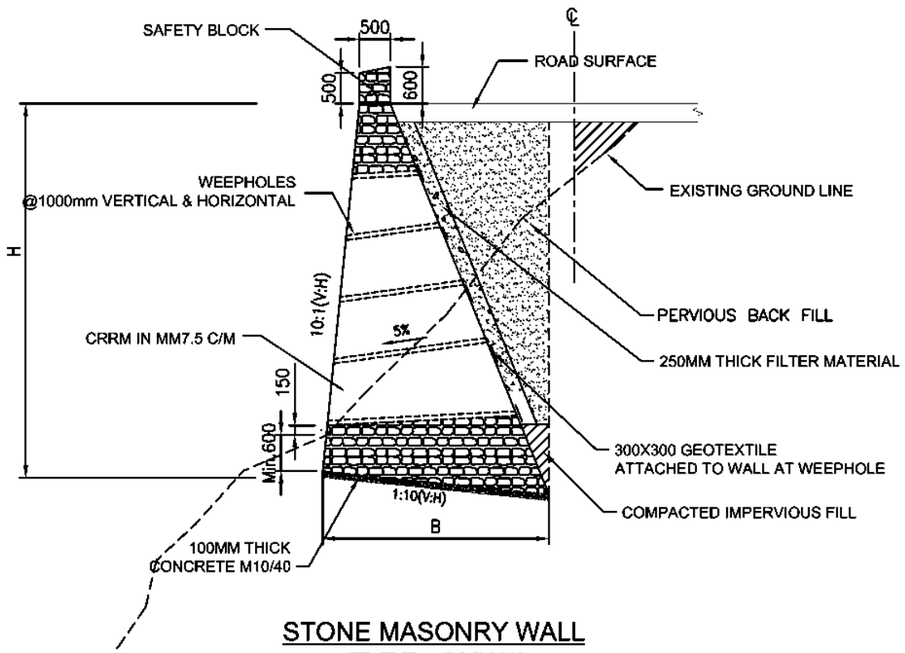


SIDE DRAIN -D2 (DrainC)
Scale 1:20

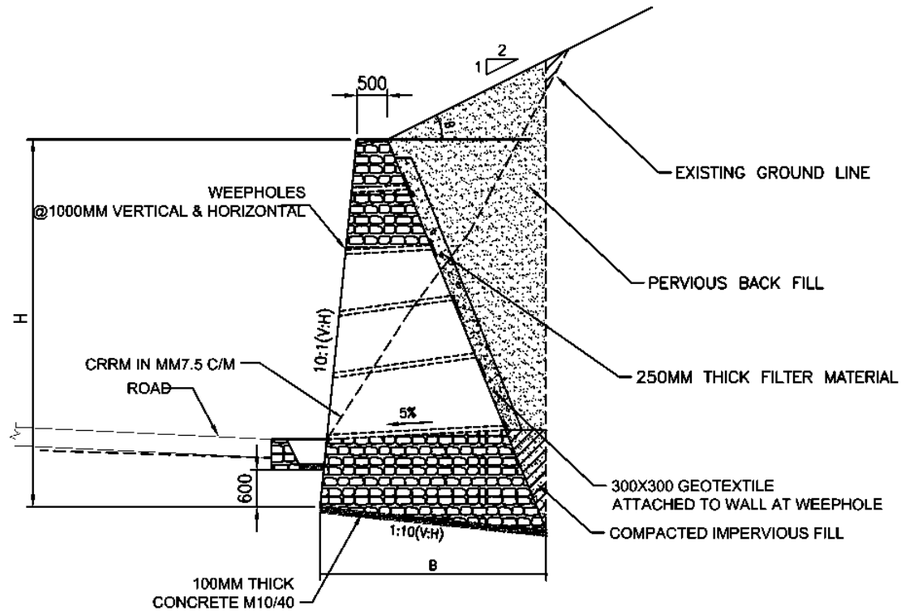
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Typical Cross section of road and drain
Checked By			Checked By			Drawing No.:	Service Road
Recommended By			Recommended By			Sheet No.:	PD2
			Approved By			Scale	As shown



STONE MASONRY WALL
(TYPE - SMW1)



STONE MASONRY WALL
(TYPE - SMW2)

TYPE - SMW1

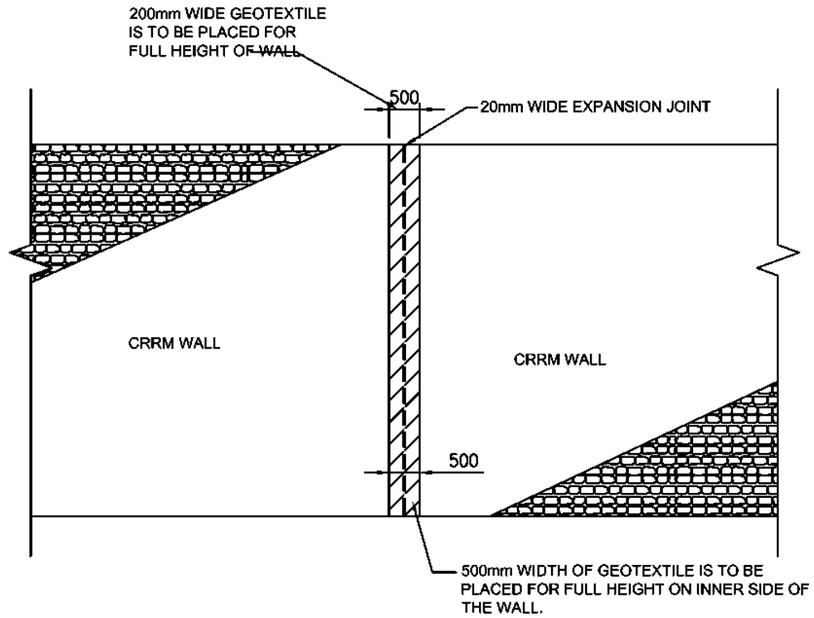
H (m)	Φ=40°				Φ=30°				Φ=24°			
	B (m)	FSS	FSO	Max. Toe Pressure (kN/m2)	B (m)	FSS	FSO	Max. Toe Pressure (kn/M2)	B (m)	FSS	FSO	Max. Toe Pressure (kN/m2)
2	1.36	2.03	2.56	92.00	1.50	1.65	2.46	100.00				
3	2.00	2.23	2.66	129.90	2.18	1.84	2.58	140.00	2.38	1.69	2.58	144.20
4	2.61	2.37	2.74	165.30	2.83	1.95	2.63	178.50	3.08	1.73	2.62	183.80
5	3.20	2.44	2.76	200.90	3.47	2.01	2.66	220.50	3.78	1.79	2.65	221.90
6	3.80	2.51	2.80	235.10	4.12	2.07	2.70	252.30	4.47	1.83	2.68	259.70
7	4.38	2.55	2.80	269.80	4.74	2.10	2.71	289.72	5.15	1.86	2.69	297.50
8	4.95	2.58	2.82	304.70	5.36	2.13	2.71	326.70	5.83	1.89	2.70	334.90
9	5.55	2.62	2.85	337.80	5.98	2.14	2.72	363.40	6.51	1.92	2.71	369.70
10	6.10	2.62	2.83	373.20	6.60	2.16	2.73	400.0	7.18	1.92	2.73	408.40

TYPE - SMW2

H (m)	β = 26.5°							
	Φ=40°				Φ=30°			
	B (m)	FSS	FSO	Max. Toe Pressure (kN/m²)	B (m)	FSS	FSO	Max. Toe Pressure (kN/m²)
2					1.27	1.55	2.38	95.90
3	1.68	2.21	2.60	123.50	1.95	1.51	2.38	145.40
4	2.31	2.13	2.60	164.20	2.61	1.49	2.37	193.10
5	3.00	2.13	2.70	200.70	3.27	1.49	2.37	241.30
6	3.54	2.06	2.60	245.40	3.93	1.48	2.37	289.40
7	4.14	2.04	2.59	286.60	4.58	1.48	2.36	339.00
8	4.75	2.03	2.59	327.10	5.32	1.50	2.43	387.70
9	5.35	2.02	2.58	368.20	6.00	1.50	2.44	436.50
10	5.95	2.01	2.58	409.20	6.65	1.50	2.43	484.30

NOTES :

1. Wall height is to be modified as per actual site condition or as directed by the Engineer.
2. For Toe Pressure>25 Kn/m2 weather rock or roack foundation is envisized. in case of soil investigation will be required.
3. Expansion Joint is to be provided at a maximum distance of 10.0 m C/C or as directed by the Engineer.
4. FSS means factor of safety against sliding and FSO means factor of safety against overturning.
5. All dimensions are in mm except otherwise mentioned.
6. Safety blocks to be provided where the wall height is more than 3.0 m.

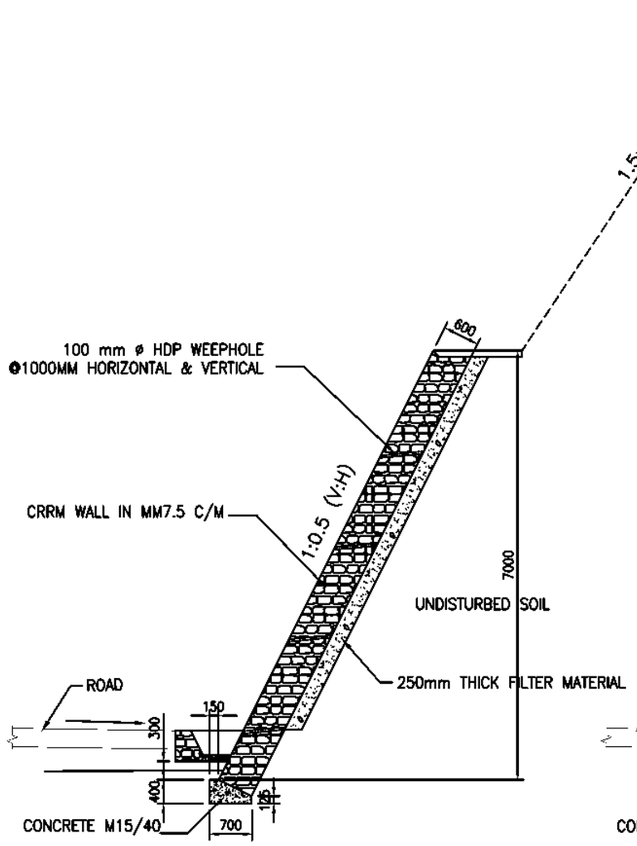


EXPANSION JOINT DETAILS

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamala Diversion Multipurpose Project
Sindhuli, Nepal

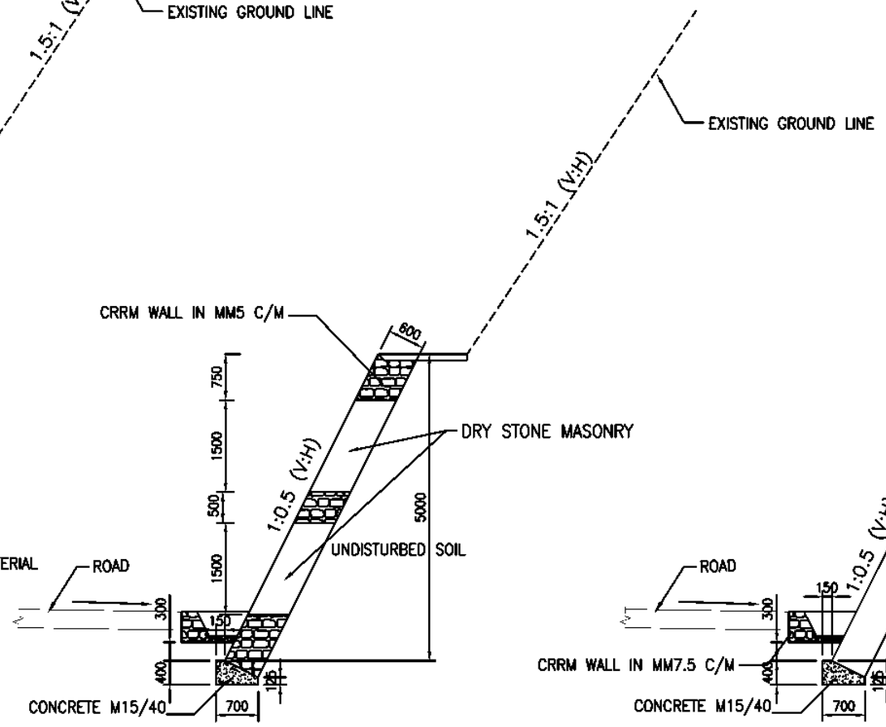
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	As shown Sign		Name	Sign	Drawing Title :	Typical Cross section Masonry Wall
Checked By			Checked By			Drawing No.:	MW
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale	As shown



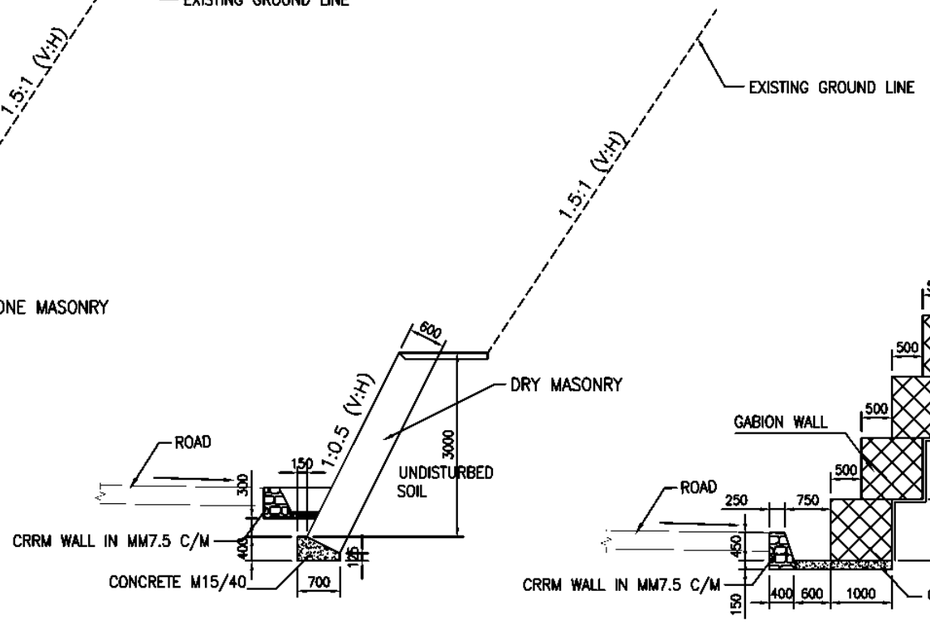
CRRM REVETMENT TYPE-SBRTA

5.00 - 7.00 m HEIGHT



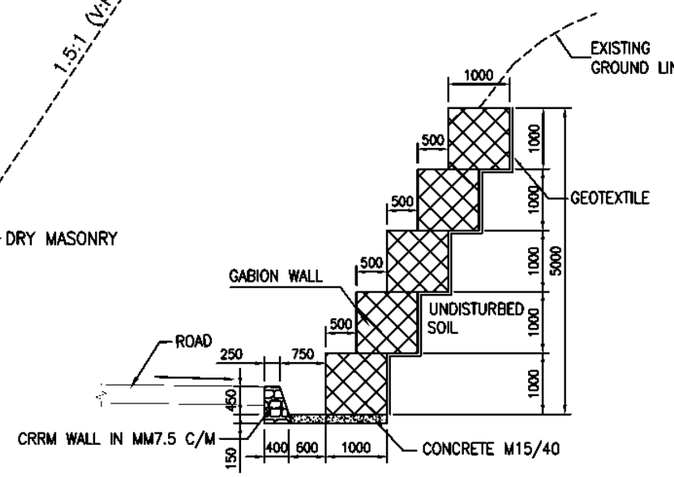
COMPOSITE REVETMENT TYPE-SBRTB

3.00-5.00 m HEIGHT



DRY REVETMENT

UP TO 3.00 m HEIGHT



GABION TYPE

UP TO 5.00 m HEIGHT

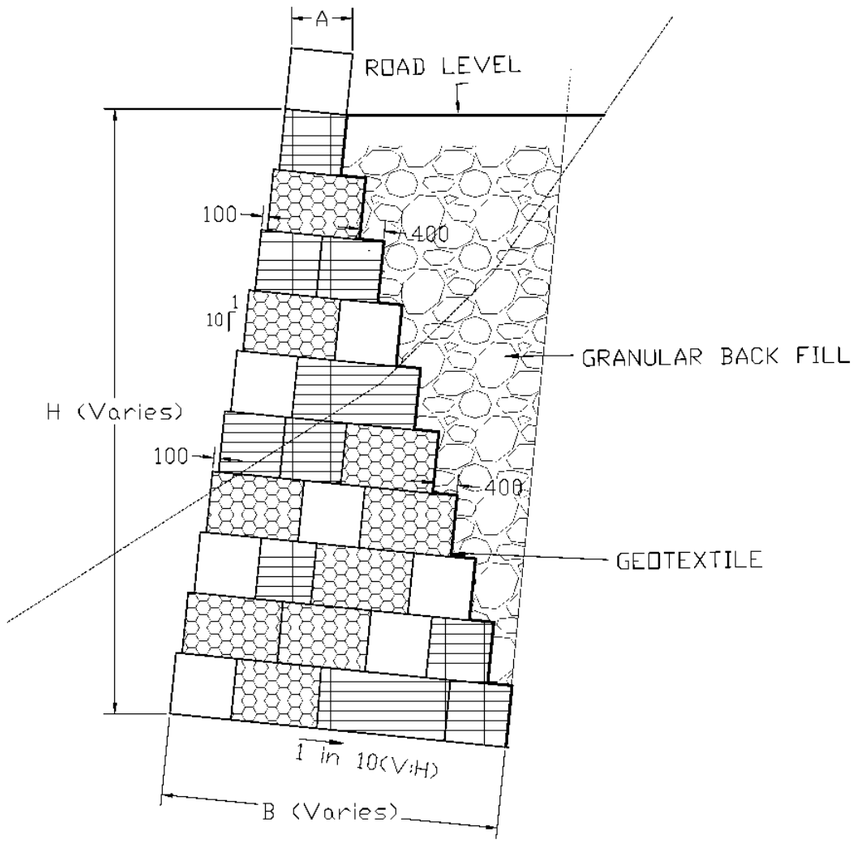
NOTES:

1. All dimensions are in mm except otherwise mentioned.
2. Revetment structures should be used for protection works only, ie for zero earth pressure case.

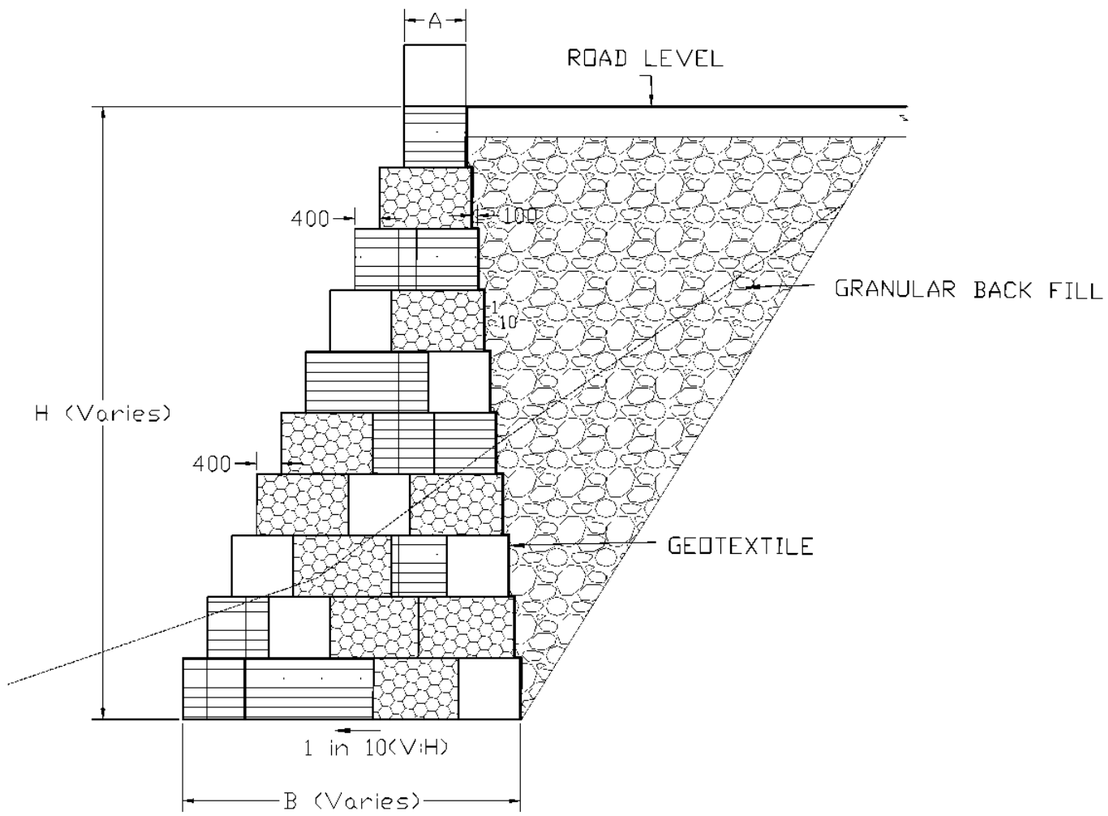
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Typical Drawing of Masonary wall(Revetment)
Checked By			Checked By			Drawing No.:	MWR
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale	As shown



GRAVITY GABION WALL (Back Batter)



GRAVITY GABION WALL (Front Batter)

Detail for Semi Gravity Gabion walls

BASE WIDTHS AND TYPICAL GROUND PRESSURES (T/m^2)								
Wall Height (m)		2	3	4	6	8	10	12
Front Batter	Base Width,m	1.5	2.0	2.5	3.5	4.5	5.5	6.5
	Ground pressure (T/m^2)	50	70	90	120	150	190	230
Back Batter	Base Width,m	1.5	2.0	2.55	3.5	4.5	5.5	6.5
	Ground pressure (T/m^2)	70	110	150	220	290	360	420

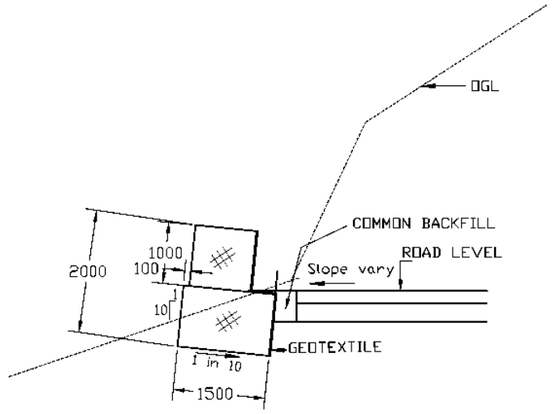
NOTES:

1. All dimensions are in mm except otherwise mentioned.
2. For wall height more than 6.0 m, and backfill slope angle greater than 20. detailed design with soil investigation is to be done or as directed by the Engineer.
3. If space is available, slopping outside is preferred for valley side of the road.

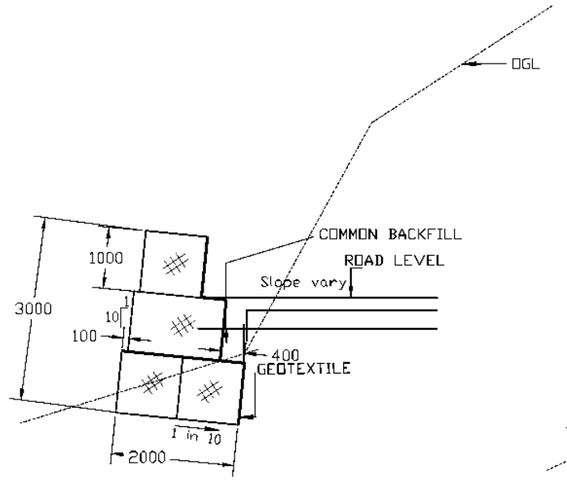
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Kamala Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekala Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

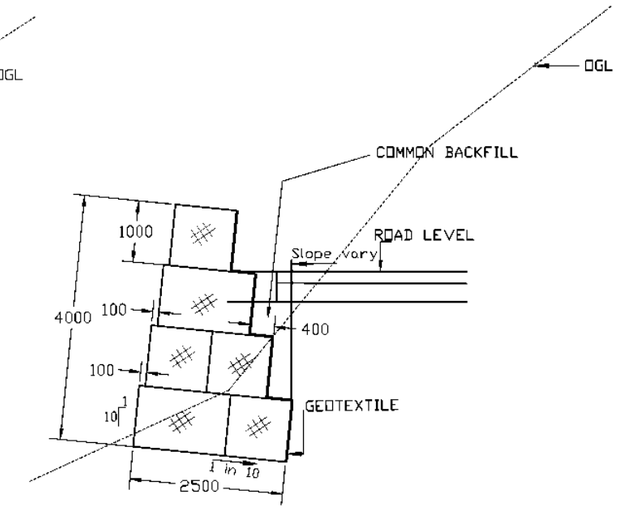
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Typical Drawing of Gabion wall
Checked By			Checked By			Drawing No.:	GW
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale	As shown



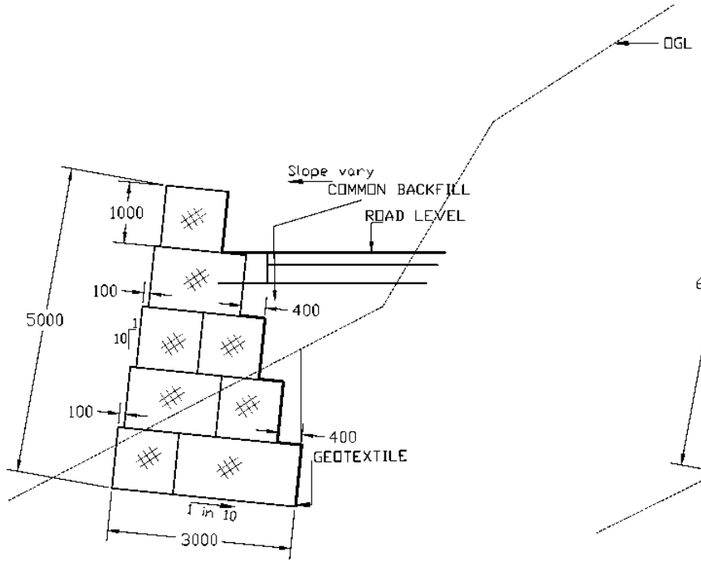
HEIGHT=2000(2m)



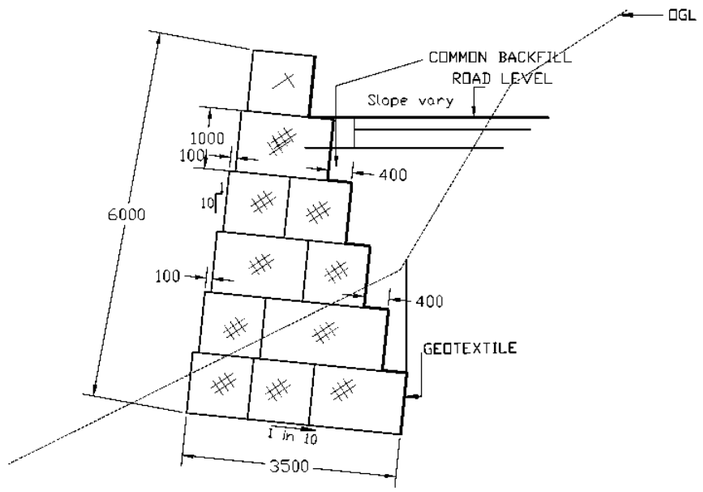
HEIGHT=3000(3m)



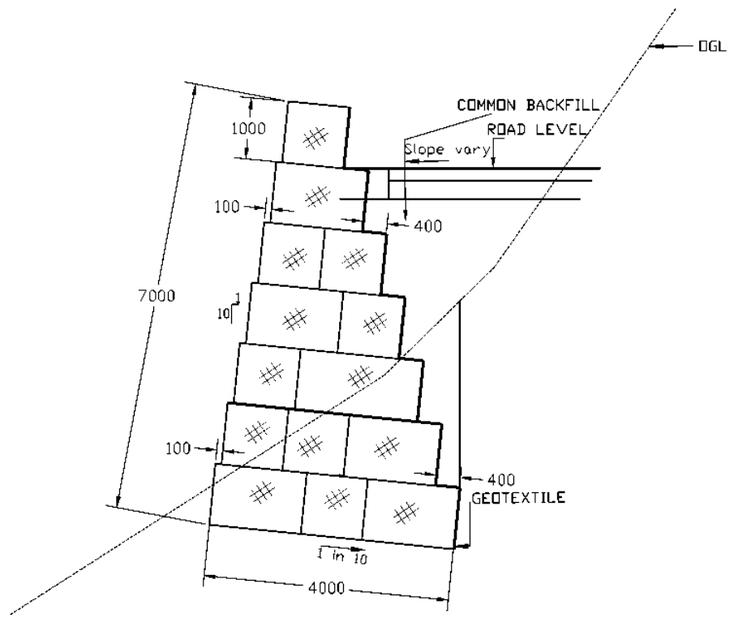
HEIGHT=4000(4m)



HEIGHT=5000(5m)

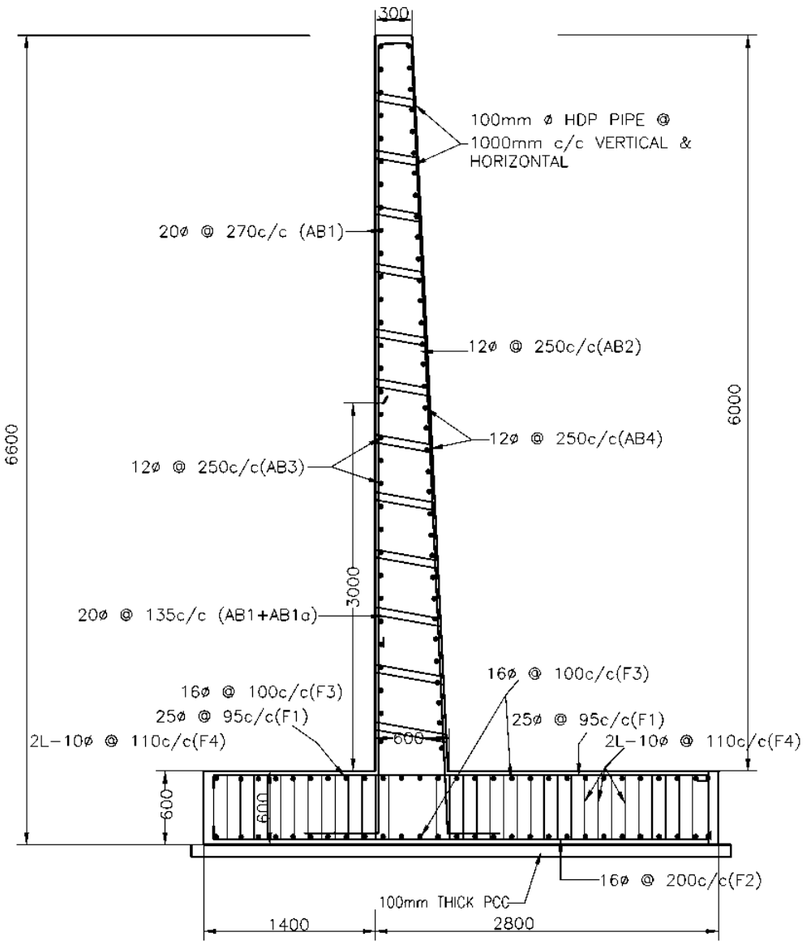


HEIGHT=6000(6m)



HEIGHT=7000(7m)

Government of Nepal Ministry of Energy, Water Resources and Irrigation Department of Water Resources and Irrigation Sunkoshi-Marin Diversion Multipurpose Project Sindhuli, Nepal	Consultant: AVIYAAN Consulting (P) Ltd 254 Ekala Marg, New Baneshwor, Kathmandu-34, Nepal Phone: 977-1-4104307 Email: info@aviyaan.com	Project			DWRI			Drawing Detail	
			Name	Sign		Name	Sign	Drawing Title :	Typical Drawing of Gabion wall
		Checked By			Checked By			Drawing No.:	GW
		Recommended By			Recommended By			Sheet No.:	2
					Approved By			Scale	As shown



6.0M HEIGHT

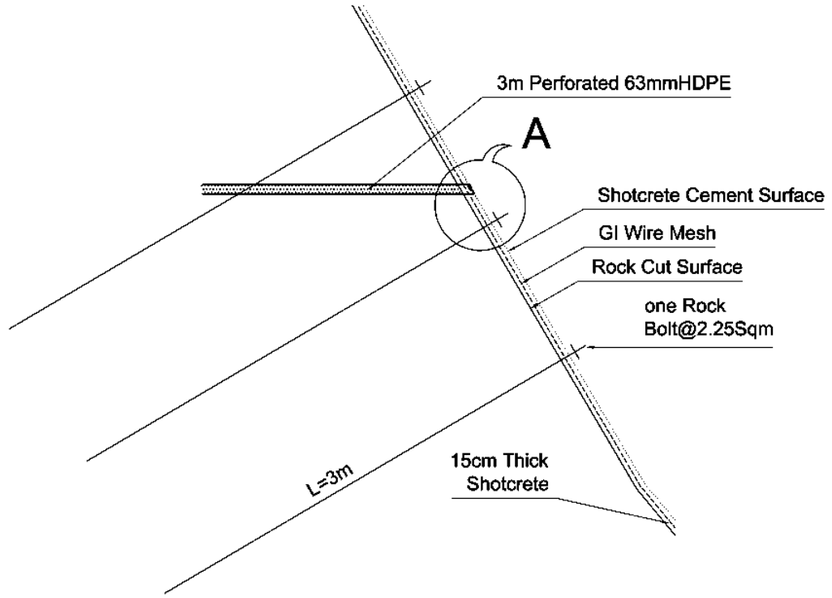
SCHEDULE OF REINFORCEMENT

TYPE OF BAR	SHAPE OF BAR (NOT TO SCALE) (DIMENSIONS ARE IN MILIMETERS)	Ø OF BARS (mm)	NO. OF BARS	LENGTH (m)	TOTAL LENGTH (m)	TOTAL WEIGHT (kg)
RCC RETAINING WALL (6m HEIGHT/ 10m LENGTH)						
AB1	6493 / 600	20	38	7.093	269.53	665.70
AB1a	3543 / 600	20	37	4.143	153.291	378.60
AB2	6502 / 600	12	41	7.102	291.190	259.20
AB3	9900 (400 … 400) LAP LENGTH=50ø	12	25	11.30	282.50	251.40
AB4	9900 (400 … 400) LAP LENGTH=50ø	12	25	11.30	282.50	251.40
F1	4000 (200 … 200)	25	106	4.4	466.4	1797.04
F2	200 4000 200	16	51	4.4	224.4	354.1
F3	400 9850 400 LAP LENGTH=50ø	16	73	11.45	835.85	1320.60
F4	975 / 75 75 525	10	333	1.55	516.15	318.46
					TOTAL= 5596.5 Kg	

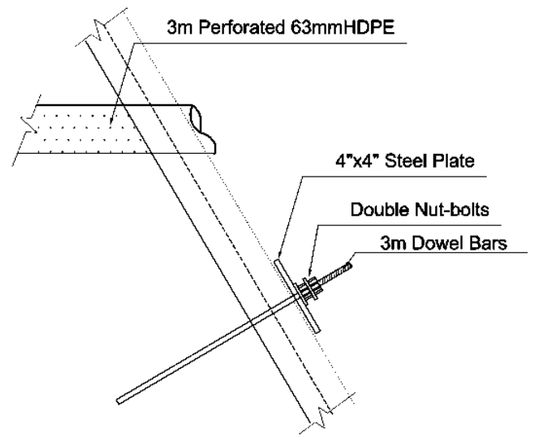
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekala Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	RCC Cantilever wall in Realigned Road
Checked By			Checked By			Drawing No.:	RCW
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale	As Shown



Scale 1:40

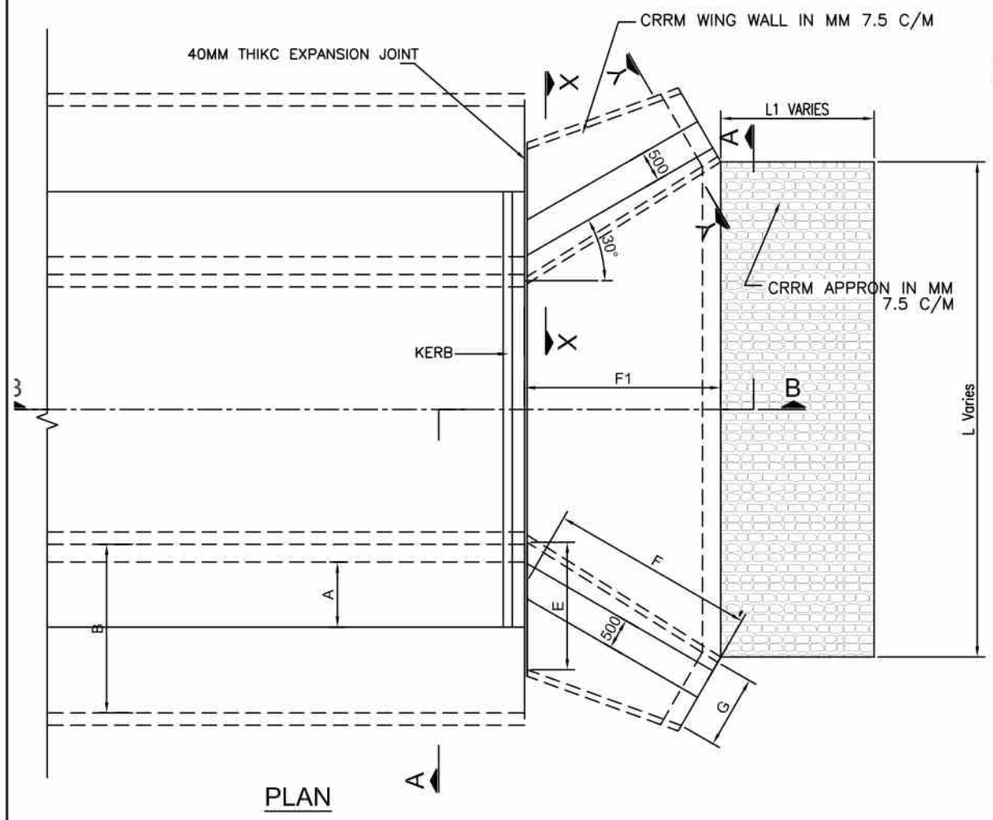


Detail At A
Scale 1:8

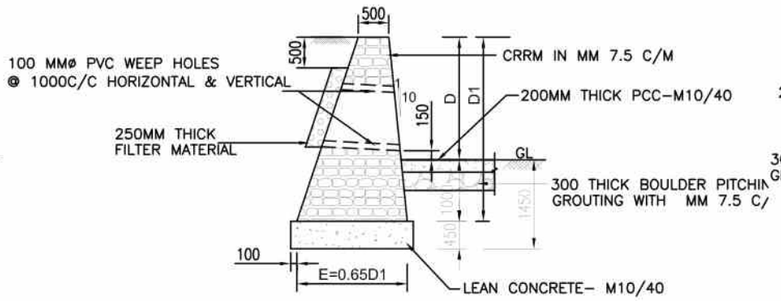
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor,
Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

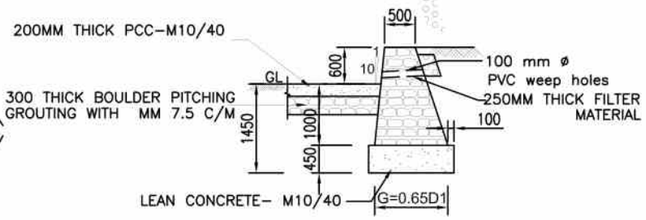
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Typical Drawing of Shotcrete
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale	As shown



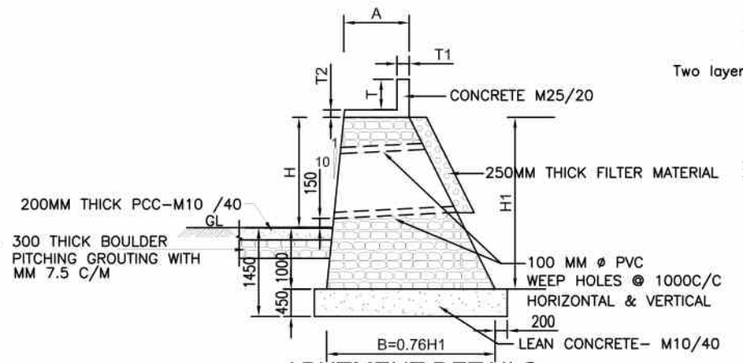
PLAN



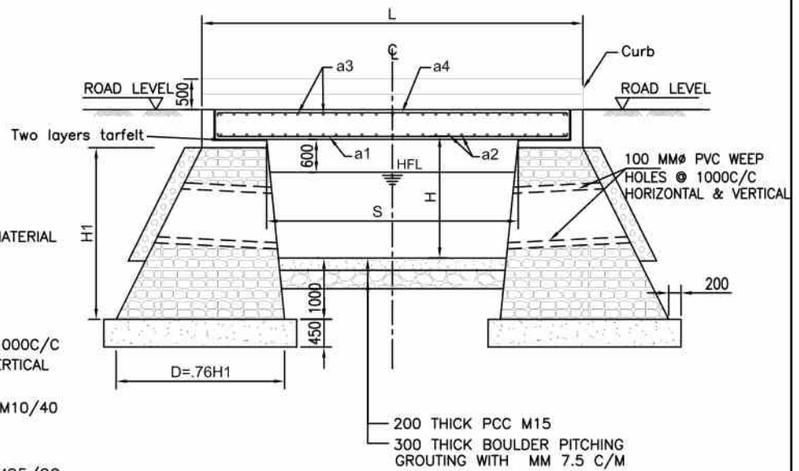
SECTION X-X

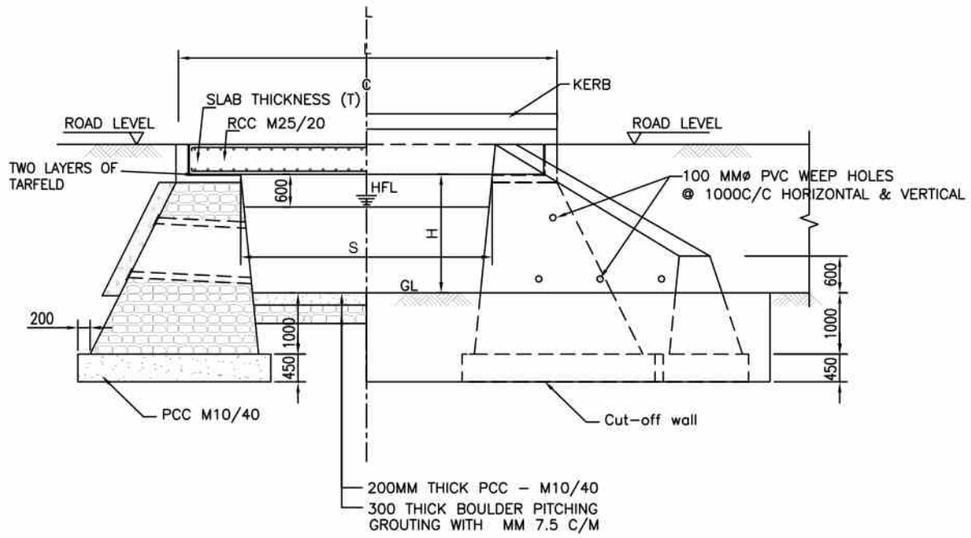


SECTION Y-Y

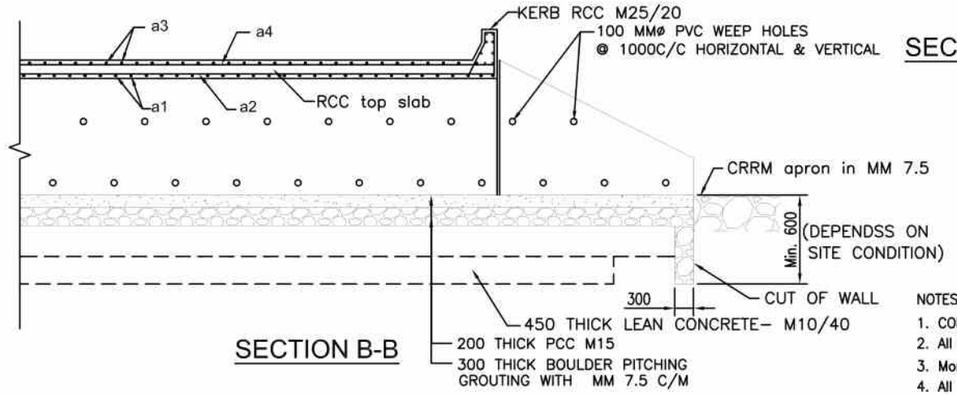


ABUTMENT DETAILS





SECTION AT A-A



SECTION B-B

SECTION AT A-A

NOTES:

1. CONCRETE mix should be M25/20 or as shown in the drawing.
2. All edges are to be chamfered 100 mm x 100 mm.
3. Mortar mix should be MM 7.5.
4. All Dimensions are in Millimetres except the dimensions in table.

CULVERT DIMENSIONS AND QUANTITIES

CULVERT TYPE	SIZE	DIMENSIONS(m)							QUANTITIES (LINEAR METRE EXCLUDING WING WALL APRON CUT-OFF WALL)			
	S X H	H1	T	T1	T2	A	B	L	CONCRETE M25 (M^3)	CONCRETE M15 (M^3)	Reinforcing Steel(kg) Kerb excluded	MASONRY (M^3)
I	1.00x2.00	3.00	0.25	0.20	0.12	0.52	2.28	2.04	0.61	2.41	60.13	16.80
II	2.00x2.00	3.00	0.25	0.20	0.12	0.65	2.28	3.30	1.01	2.41	73.72	17.58
III	3.00X3.00	4.00	0.30	0.20	0.15	0.77	3.04	4.54	1.62	3.10	99.10	30.48
IV	4.00X3.00	4.00	0.40	0.20	0.15	0.77	3.04	5.54	2.49	3.10	179.99	30.48
V	5.00x3.00	4.00	0.50	0.20	0.20	1.00	3.04	7.00	3.87	3.10	211.12	30.48
VI	6.00X3.00	4.00	0.55	0.25	0.25	1.00	3.04	8.40	4.80	3.10	312.67	30.48

WINGWALL DIMENSIONS AND QUANTITIES (INCLUDING APRON SLAB & CUT-OFF WALL)

CULVERT TYPE	SIZE	DIMENSIONS(m)						QUANTITIES (AT ONE END)
	S X H	D	D1	E	F	F1	G	MASONRY M^3
I	1.00x2.00	2.00	3.00	1.95	2.88	2.48	1.39	5.96
II	2.00x2.00	2.00	3.00	1.95	2.88	2.48	1.39	5.96
III	3.00x3.00	3.00	4.00	2.60	4.68	4.05	1.39	12.07
IV	4.00x3.00	3.00	4.00	2.60	4.85	4.20	1.39	12.52
V	5.00x3.00	3.00	4.00	2.60	5.02	4.35	1.39	12.95
VI	5.00x3.00	3.00	4.00	2.60	5.12	4.43	1.39	13.21

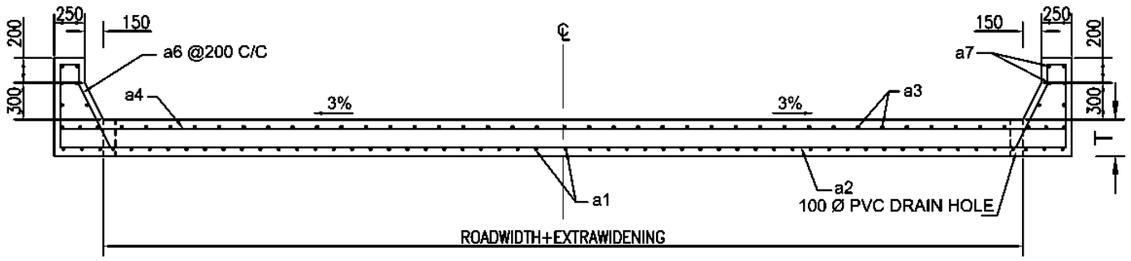
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekala Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project	Name	Sign
Checked By		
Recommended By		

DWRI	Name	Sign
Checked By		
Recommended By		
Approved By		

Drawing Detail	
Drawing Title :	General Drawing of Slab Culvert
Drawing No.:	
Sheet No.:	1
Scale	As shown

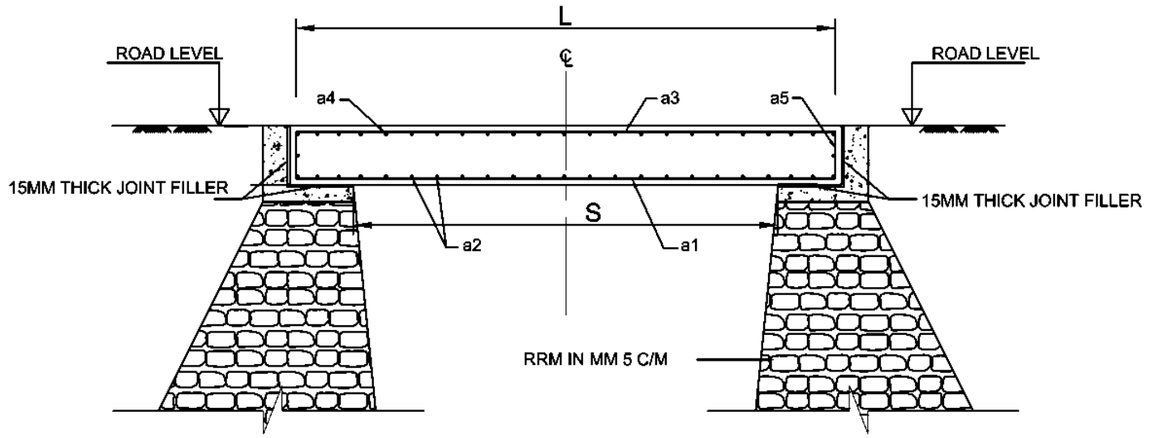


TRANSVERSE SECTION

BAR BENDING SCHEDULE OF KERB								
CULVERT TYPE	MARK a6				MARK a7			
	DIA (mm)	NO.	LENGTH	TOTAL LENGTH	DIA (mm)	NO.	LENGTH	TOTAL LENGTH
I	10	22	1.74	38.17	10	12	1.96	23.52
II	10	36	1.74	62.46	10	12	3.22	38.64
III	10	48	1.74	83.28	10	12	4.46	53.52
IV	10	56	1.74	97.16	10	12	5.44	65.28
V	10	70	1.74	121.45	10	12	6.90	82.80
VI	10	80	1.74	39.20	10	12	7.70	92.40

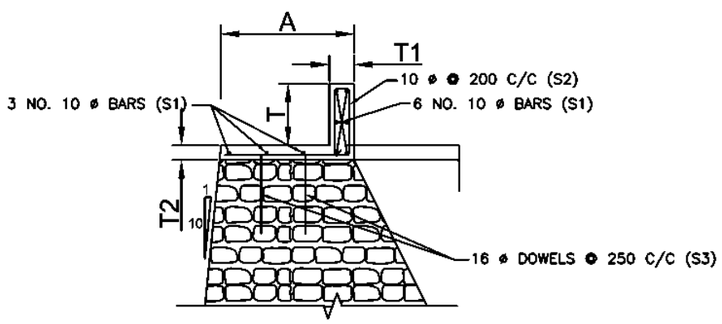
NOTES:

1. TMT BARS having charcteristic strength 500 N/mm² should be used.
2. All the dimensions are in millimetres except the dimensions in table.



LONGITUDINAL SECTION

BAR BENDING SCHEDULE OF ABUTMENT SEAT PER LINEAR METRE (FOR ONE ABUTMENT SEAT)												
CULVERT TYPE	MARK S1				MARK S2				MARK S3			
	DIA (mm)	NO.	LENGTH	TOTAL LENGTH	DIA (mm)	NO.	LENGTH	TOTAL LENGTH	DIA (mm)	NO.	LENGTH	TOTAL LENGTH
I	10	18.00	1.00	9	10	5	1.25	6.25	16	8	0.60	4.80
II	10	18.00	1.00	9	10	5	1.26	6.32	16	8	0.60	4.80
III	10	18.00	1.00	9	10	5	1.58	7.90	16	8	0.60	4.80
IV	10	18.00	1.00	9	10	5	1.94	9.69	16	8	0.60	4.80
V	10	18.00	1.00	9	10	5	2.23	11.15	16	8	0.60	4.80
V	10	18.00	1.00	9	10	5	2.27	11.35	16	8	0.60	4.80



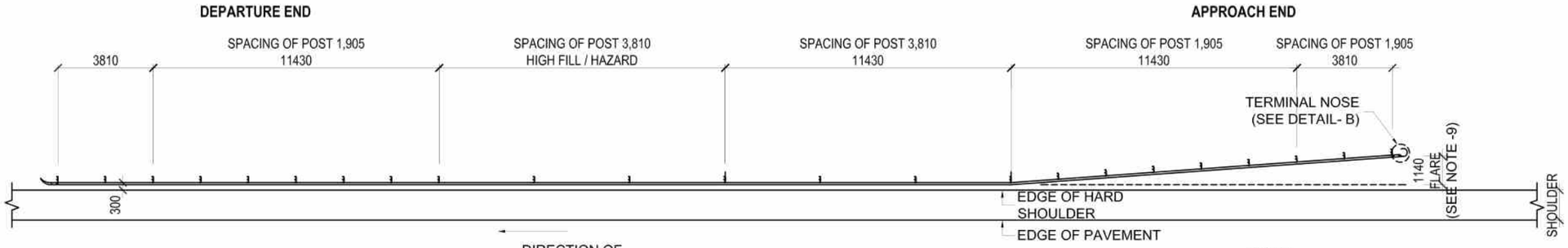
ABUTMENT SEAT DETAIL

BAR BENDING SCHEDULE PER ONE LINEAR METRE OF CULVERT (EXCLUDING KERB & ABUTMENT SEAT)																		
CULVERT TYPE	MARK a1				MARK a2				MARK a3				MARK a4				MARK a5		
	DIA (mm)	SPACING	NO. REQD./ PER LINEAR METRE	L	DIA	SPACING	NO. REQD./ PER LINEAR METRE	L	DIA	SPACING	NO. REQD./ PER LINEAR METRE	L	DIA	SPACING	NO. REQD./ PER LINEAR METRE	L	DIA	NO. REQD./ PER LINEAR METRE	L
I	12	140	7.14	1.54	12	300	3.33	8.20	10	300	3.33	1.54	10	300	3.33	8.20	12	2	8.20
II	12	120	8.33	2.80	12	300	3.33	8.20	10	300	3.33	2.80	10	300	3.33	8.20	12	2	8.20
III	16	150	6.67	4.04	12	300	3.33	8.20	10	300	3.33	4.04	10	300	3.33	8.20	12	2	8.20
IV	20	150	6.67	6.04	12	200	5.00	8.20	10	200	5.00	6.04	10	200	2.00	8.20	12	2	8.20
V	20	130	7.69	6.50	12	180	5.56	8.20	12	300	3.33	6.50	12	300	3.33	8.20	12	2	8.20
VI	25	150	6.67	7.80	12	150	6.67	8.20	12	200	5.00	7.80	12	200	5.00	8.20	12	2	8.20

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-3 Main Diversion Multipurpose Project
Sindhuli, Nepal

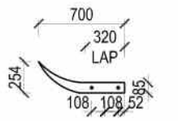
Consultant:
AVIYAAN
Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	General Drawing of Slab Culvert Bar Bending
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale	As shown



GUARD RAIL FOR HIGH FILL (3m) OR HAZARD

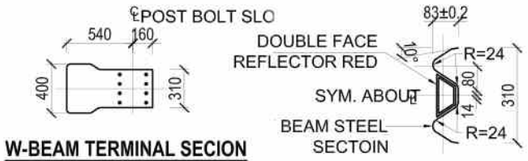
SCALE- 1:200



W-BEAM TERMINAL SECION

(AT RESTRICTED LOCATIONS)

SCALE- 1:50

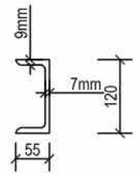


SECTION B-B

W BEAM RAIL

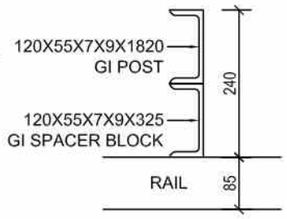
(TYPE -1, CLASS B)

SCALE- 1:20



SECTION A-A

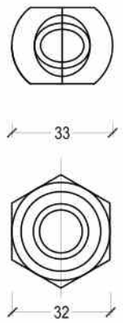
SCALE- 1:10



DETAIL - A

PLAN

SCALE- 1:10



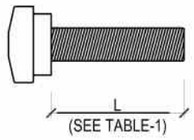
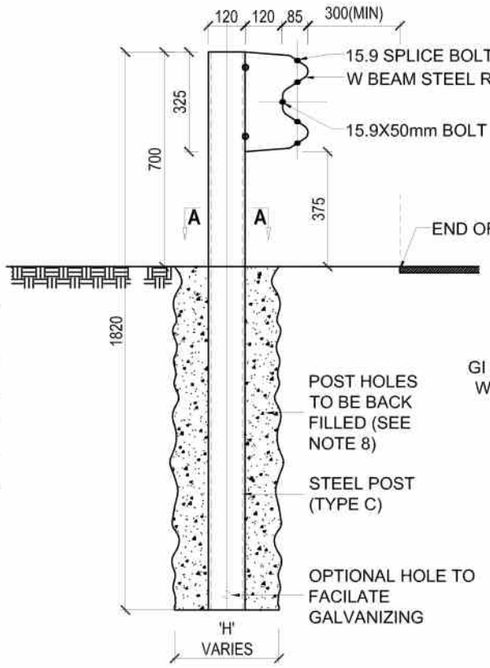


TABLE NO.1

L (mm)	THREAD LENGTH (mm)
35	FULL THREAD
50	45mm THREAD
255	100mm THREAD
460	150mm THREAD

POST OR SPLICE BOLT AND NUT

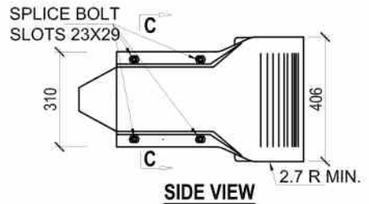
SCALE- 1:25



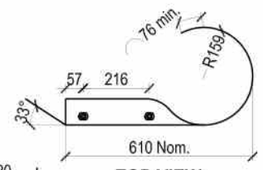
STEEL POST DETAIL

(FOR SINGLE GUARD RAIL)

SCALE- 1:20



SIDE VIEW

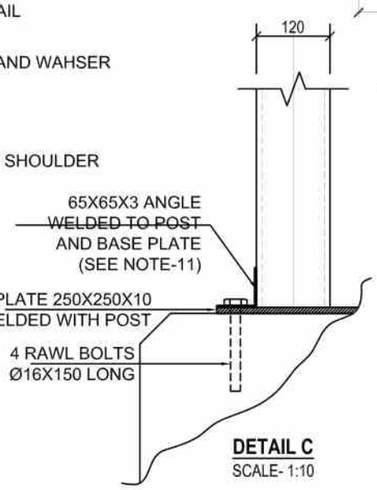


TOP VIEW

TERMINAL NOSE

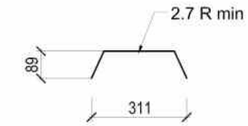
DETAIL B

SCALE- 1:20



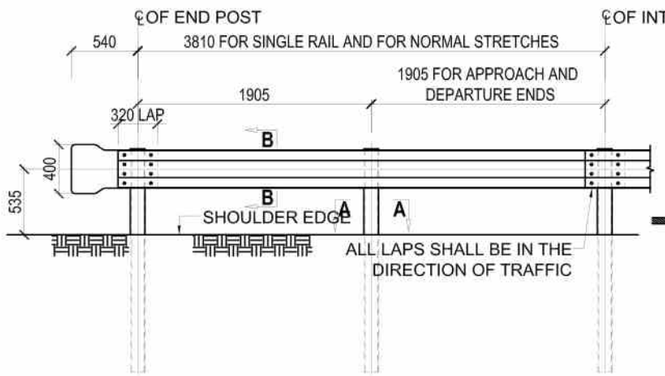
DETAIL C

SCALE- 1:10



SECTION C-C

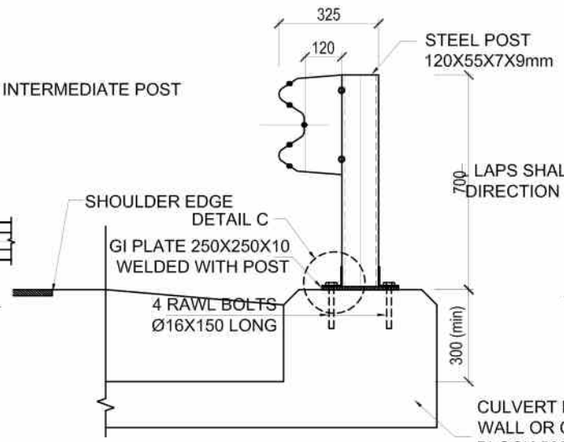
SCALE- 1:20



TYPICAL ELEVATION

(WHERE FISH TAIL IS USED)

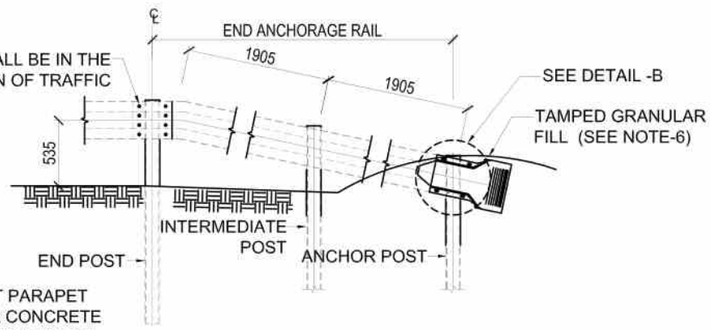
SCALE- 1:50



STEEL POST FIXATION

(AT STRUCTURES/CONCRETE BLOCK)

SCALE- 1:20



TYPICAL END RAIL ANCHORAGE

(RAMP DOWN SECTION)

SCALE- 1:50

OTHERWISE.

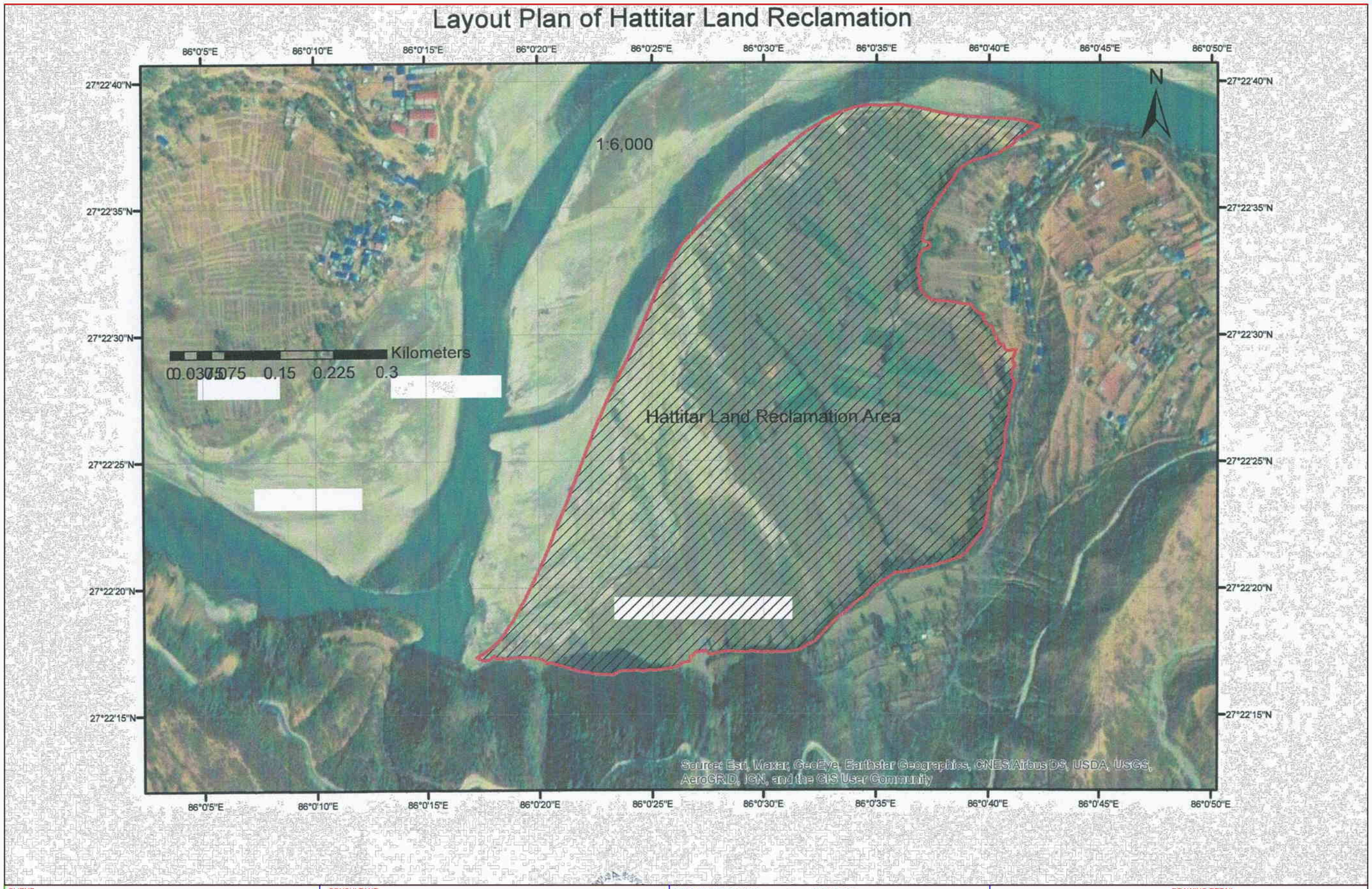
2. ALL LAPS SHALL BE IN THE DIRECTION OF TRAFFIC.
3. W-BEAM TERMINAL SECTIONS SHALL BE USED IN PLACE OF END RAIL ANCHORAGE AT RESTRICTED LOCATIONS AS APPROVED BY THE ENGINEER.
4. W-BEAM RAIL SECTIONS SHALL CONFORM TO AASHOT M-180 AND SHALL BE TYPE-1, CLASS B, WHEREAS POST SHALL BE TYPE 'C' (STRONG POST).
5. WHERE THE GUARDRAIL HAS TO FOLLOW A CURVE OF LESS THAN 45m RADIUS, THE BEAM SHALL BE CURVED TO SUIT, BY THE BEAM MANUFACTURER.
6. THE HOLES FOR ANCHORAGE POSTS SHALL BE BACK FILLED WITH WELL COMPACTED GRANULAR MATERIAL. THE SPACE INSIDE THE TERMINAL NOSE SHALL BE FILLED WITH CONCRETE AT NO EXTRA COST TO THE EMPLOYER.
7. CONTRACTOR SHALL PREPARE DRAWINGS SHOWING LOCATION, ELEVATIONS AND SPACING OF POSTS EACH CULVERTS/HIGH FILL LOCATION AND SHALL OBTAIN ENGINEER'S APPROVAL. THE LOCATION AND EXTENT OF GUARD RAIL CAN BE REDUCED DEPENDING UPON SITE CONDITIONS OF AS DIRECTED BUY THE ENGINEER.
8. BACKFILLING OF THE POST HOLES WILL BE CARRIED OUT AS FOLLOWS:
   - IN CASE OF ROCK, CORED HOLES-250 DIA (AS MADE) WILL BE BACK FILLED WITH LEAN CONCRETE.
   - IN CASE OF STRATA OTHER THAN ROCK, HOLES-300 DIA (AS MADE) WILL BE BACK FILLED WITH LEAN CONCRETE OR THEPOSTS MAY BE HAMMERED IN PLACE AS APPROVED BY THE ENIGEER. NO EXTRA PAYMET SHALL BE MADE TO THE CONTRACTOR FOR CORING AND OR CONCETING FOR POST FIXATION.
9. EMBANKMENT MAY BE WIDENED, WHERE NECESSARY, TO ACCOMODATE GUARD RAIL FLARE AT APPROACH END.
10. POSTS DAMAGED DURING HAMMERING SHALL BE REPLACED BY THE CONTRACTOR AT NO EXTRA COST TO THE EMPLOYER.

Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi-Marin Diversion Multipurpose Project
Sindhuli, Nepal

Consultant:
AVIYAAN Consulting (P) Ltd
254 Ekata Marg, New Baneshwor, Kathmandu-34, Nepal
Phone: 977-1-4104307
Email: info@aviyaan.com

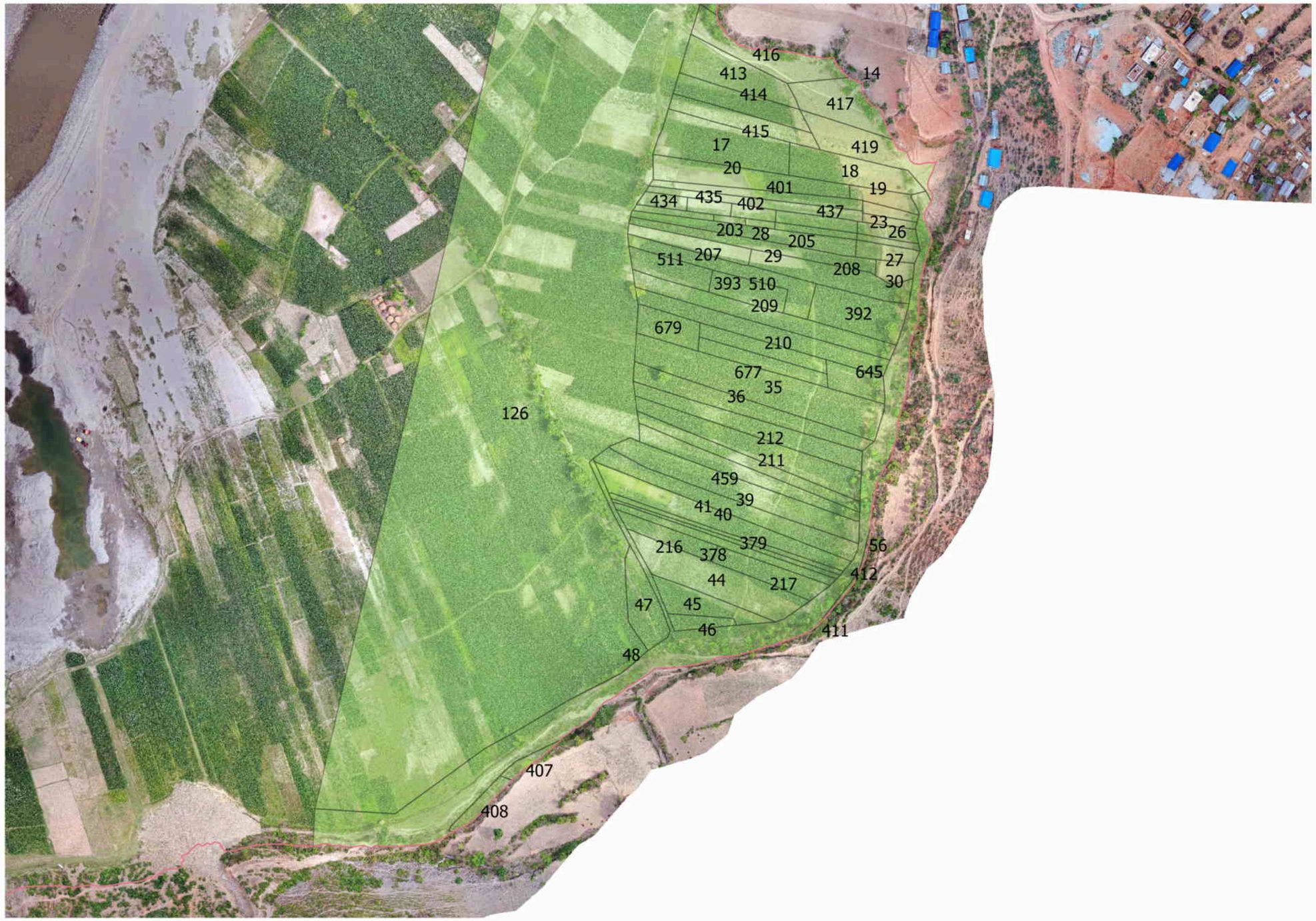
Project			DWRI			Drawing Detail	
	Name	Sign		Name	Sign	Drawing Title :	Typical Drawing of Safety Barrier (W metal)
Checked By			Checked By			Drawing No.:	
Recommended By			Recommended By			Sheet No.:	1
			Approved By			Scale	As shown

Layout Plan of Hattitar Land Reclamation



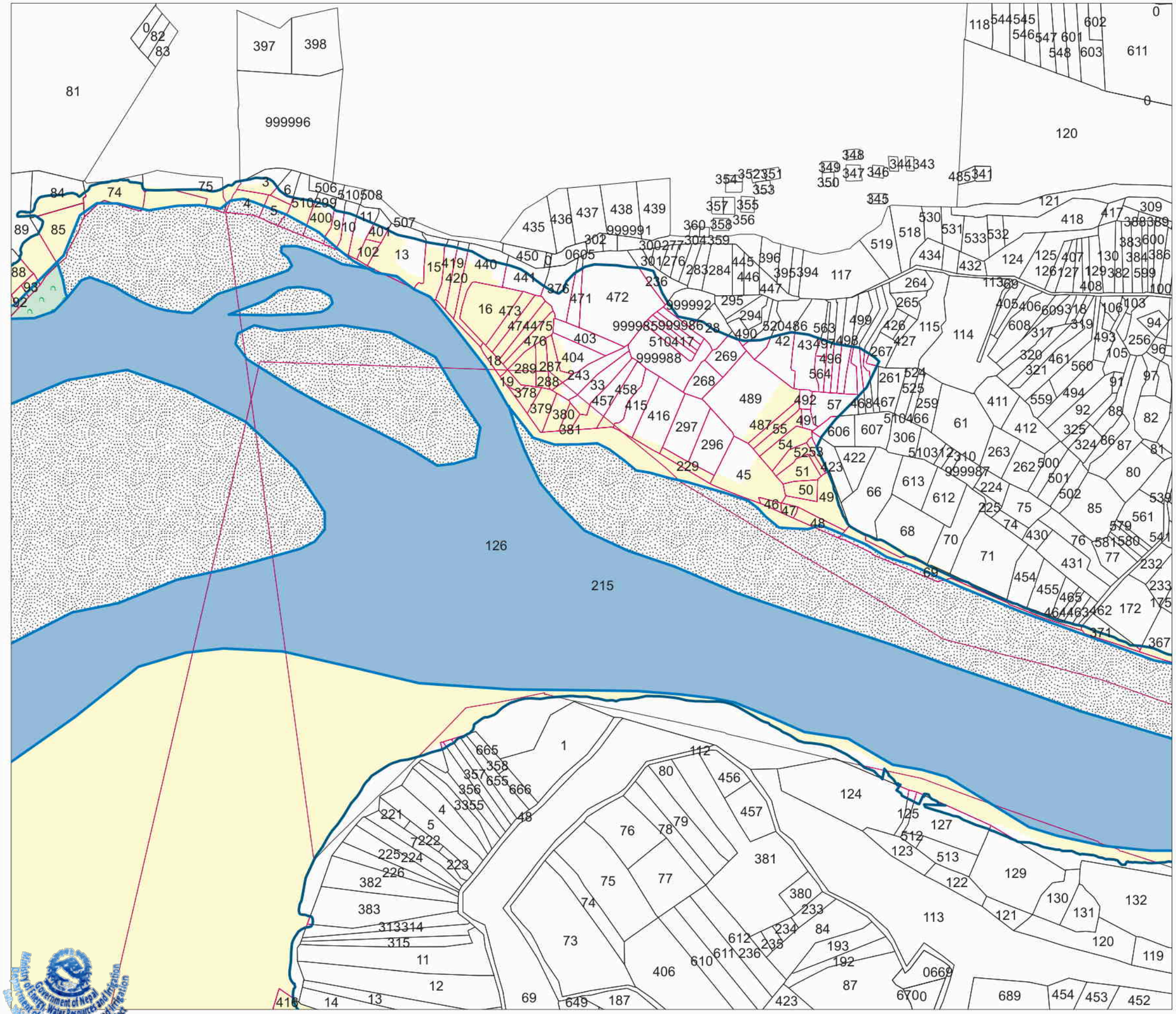
CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE SMEC Aemay Jade Consult Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	HATTITAR LAND RECLAMATION
		PREPARED BY			DRAWING NUMBER	
		CHECKED BY			SHEET NO:	1
		APPROVED BY			SCALE:	AS SHOWN

Government of Nepal, Ministry of Energy, Water Resources and Irrigation, Department of Water Resources and Irrigation, Sunkoshi Marin Diversion Multipurpose Project, Sindhuli



CLIENT	CONSULTANT	SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
GOVERNMENT OF NEPAL MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION DEPARTMENT OF WATER RESOURCES AND IRRIGATION SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT SINDHULI, NEPAL	SMEC-EMAY-JADE-CMS in association with ECoCODE SMEC emay jade CONSULT Member of the Surbana Jurong Group		NAME	SIGN	DRAWING TITLE:	PARCEL MAP OF HATTITAR
		PREPARED BY			DRAWING NUMBER	
		CHECKED BY			SHEET NO:	1
		APPROVED BY			SCALE:	AS SHOWN

Sunkoshi Marin Diversion Multipurpose Project



N

Legend

- Rim476
- RIVER
- Parcel
- Parcel to aquire

Landcover

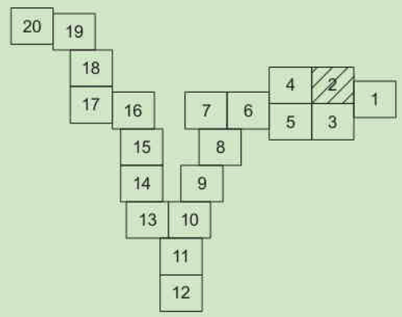
- Bush
- Cultivation
- Sand
- Water

SCALE 1:2,500

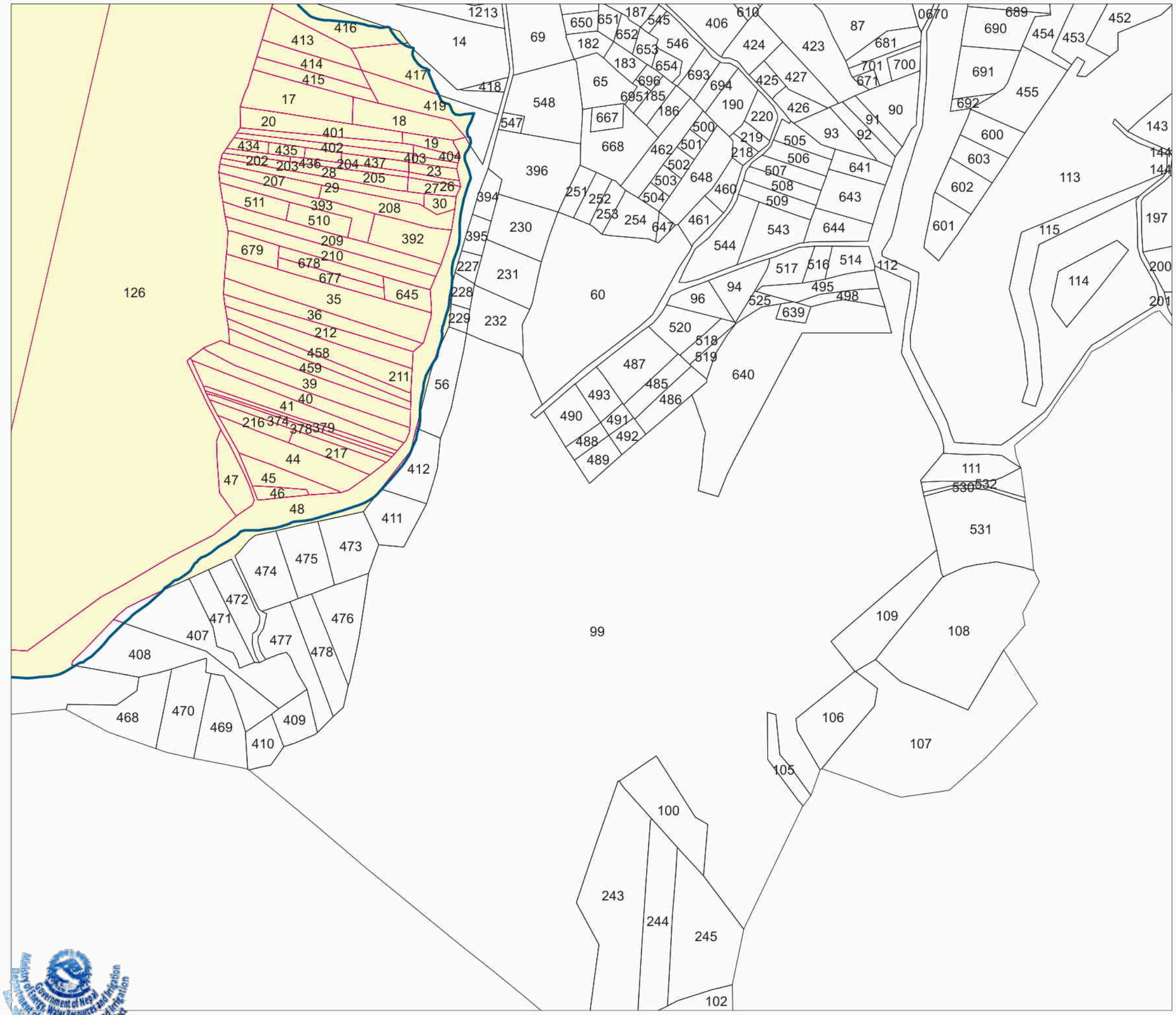
50 25 0 50 Meters

Client:
Sunkoshi Marin Diversion Multipurpose Project

Consultant:
Earth Imaging System Pvt.Ltd.
Banasthali,Kathmandu,Nepal



Sunkoshi Marin Diversion Multipurpose Project



N

Legend

- Rim476
- RIVER
- Parcel
- Parcel to aquire

Landcover

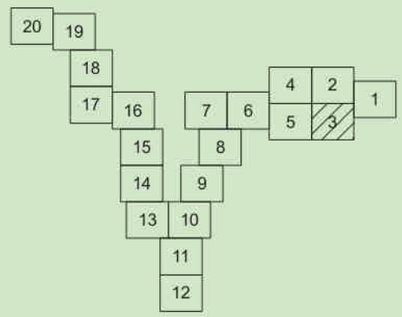
- Bush
- Cultivation
- Sand
- Water

SCALE 1:2,500

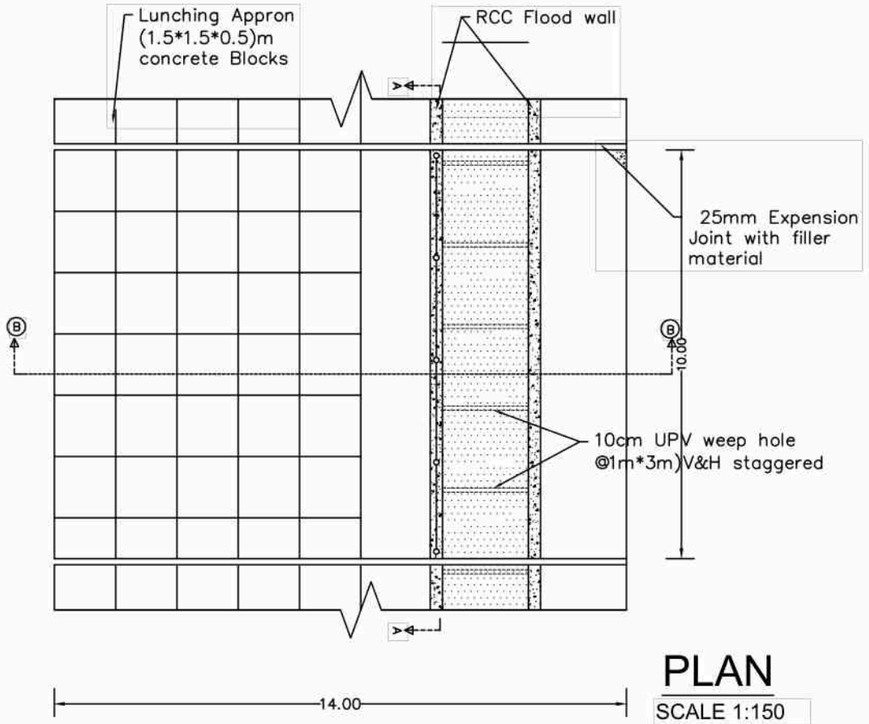
50 25 0 50 Meters

Client:
Sunkoshi Marin Diversion Multipurpose Project

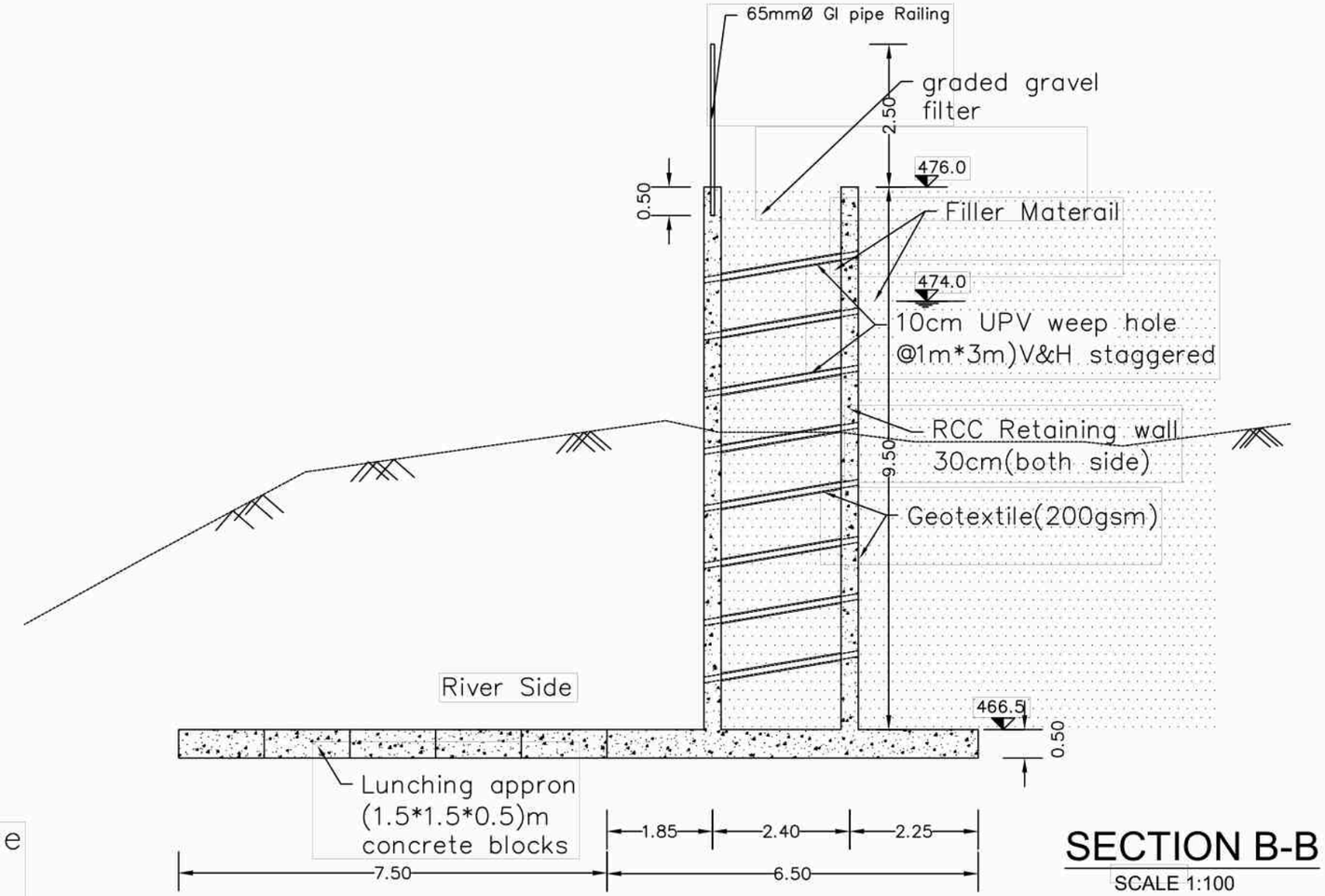
Consultant:
Earth Imaging System Pvt.Ltd.
Banasthali,Kathmandu,Nepal



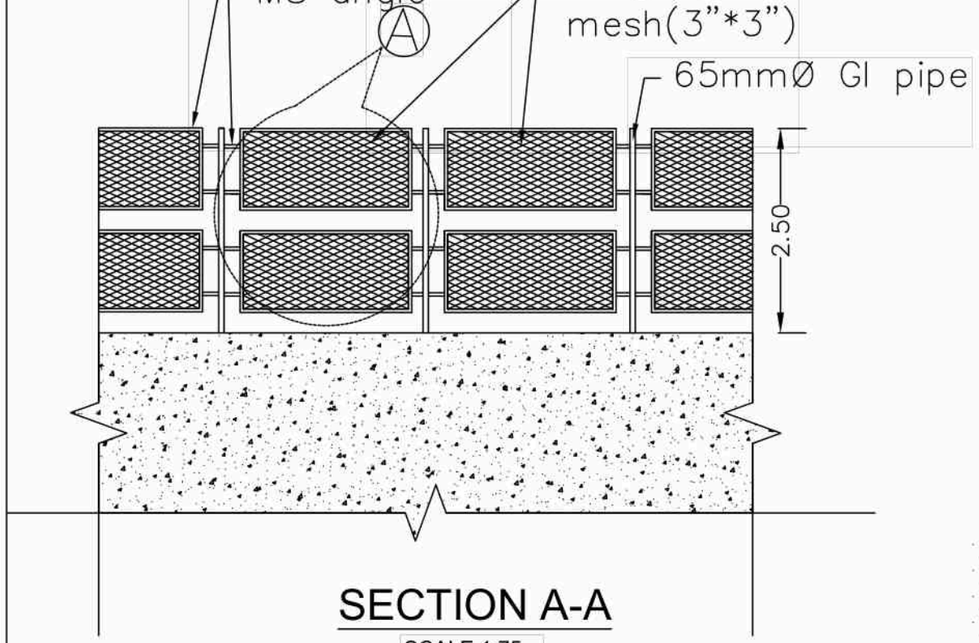
Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Water Resources and Irrigation
Sunkoshi Marin Diversion Multipurpose Project
Sindhuli



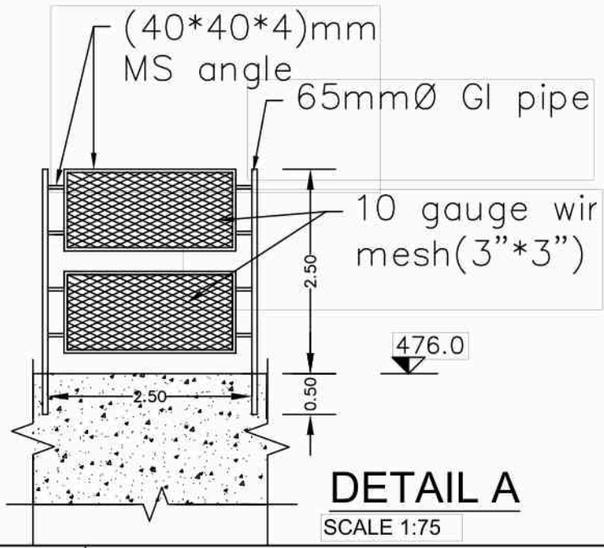
PLAN
SCALE 1:150



SECTION B-B
SCALE 1:100



SECTION A-A
SCALE 1:75



DETAIL A
SCALE 1:75

CLIENT
GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION
KARNALI-MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT
SMEC-EMAY-JADE-CMS in association with ECoCODE
Member of the Surbana Jurong Group

SMEC-EMAY-JADE-CMS in association with ECoCODE			DRAWING DETAIL	
	NAME	SIGN	DRAWING TITLE:	HATTITAR LAND RECLAMATION- PLAN AND SECTION
PREPARED BY	KESHAB PARKI		DRAWING NUMBER	
CHECKED BY	RAM CHANDRA PAUDEL		SHEET NO:	1
APPROVED BY			SCALE:	AS SHOWN



SECTION ALONG SURGE CONDUIT

CLIENT

GOVERNMENT OF NEPAL
MINISTRY OF ENERGY, WATER RESOURCES AND IRRIGATION
DEPARTMENT OF WATER RESOURCES AND IRRIGATION

SUNKOSHI MARIN DIVERSION MULTIPURPOSE PROJECT
SINDHULI, NEPAL

CONSULTANT

NEA ENGINEERING COMPANY LTD.
TRADE TOWER,THAPATHALI,
KATHMANDU, NEPAL

PROJECT			DWRI			DRAWING DETAIL	
	NAME	SIGN		NAME	SIGN	DRAWING TITLE:	Location of Borrowing Area
CHECKED BY			CHECKED BY			DRAWING NUMBER	CD-ST-04(REV-01)
RECOMMENDED BY			RECOMMENDED BY			SHEET NO:	
			APPROVED BY			SCALE:	1:1000

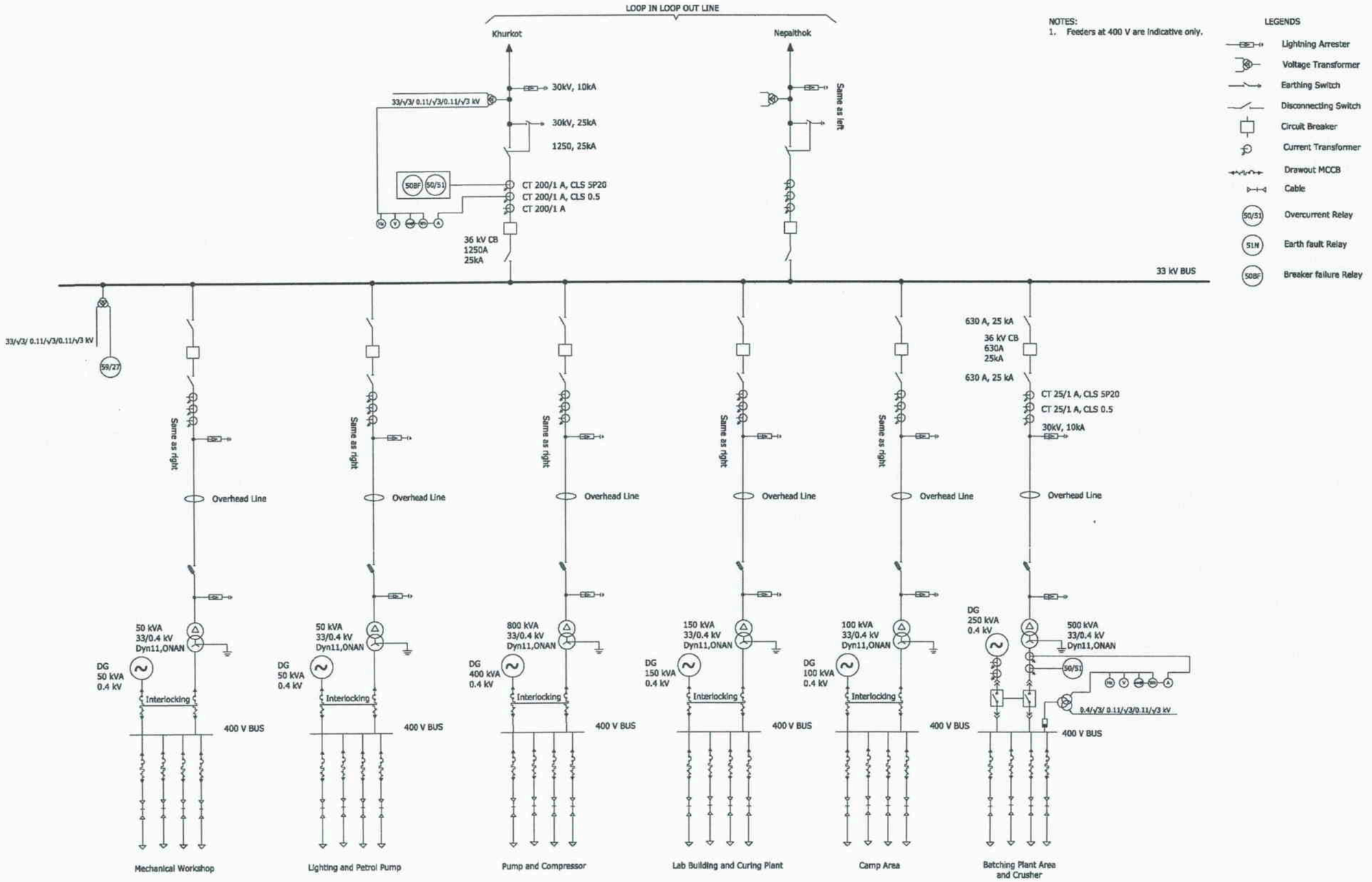


Figure: Single Line Diagram of Connection Scheme at Headworks of SMDMP

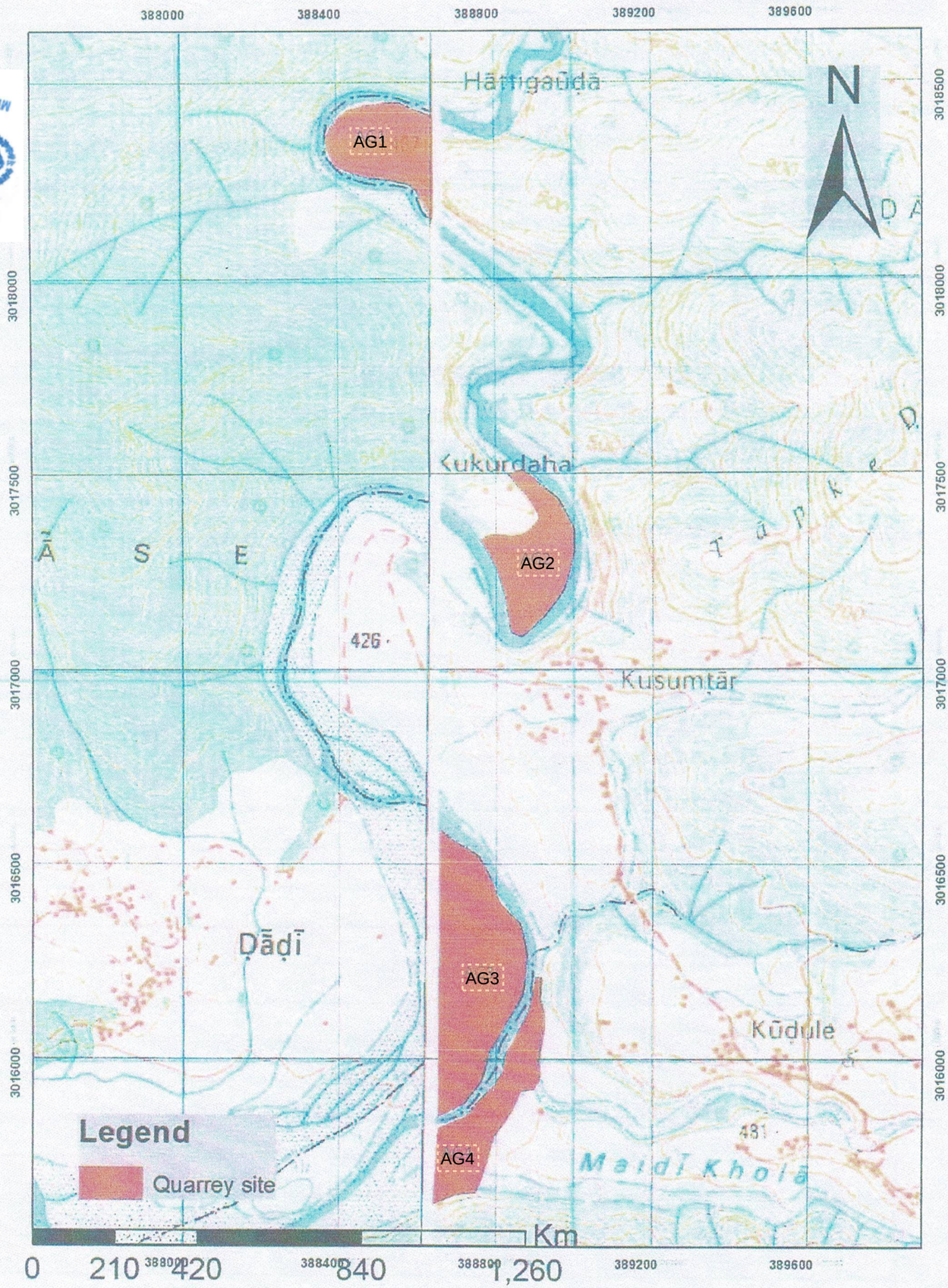


Figure 2-11: Location map of proposed construction material sites AG1-AG4

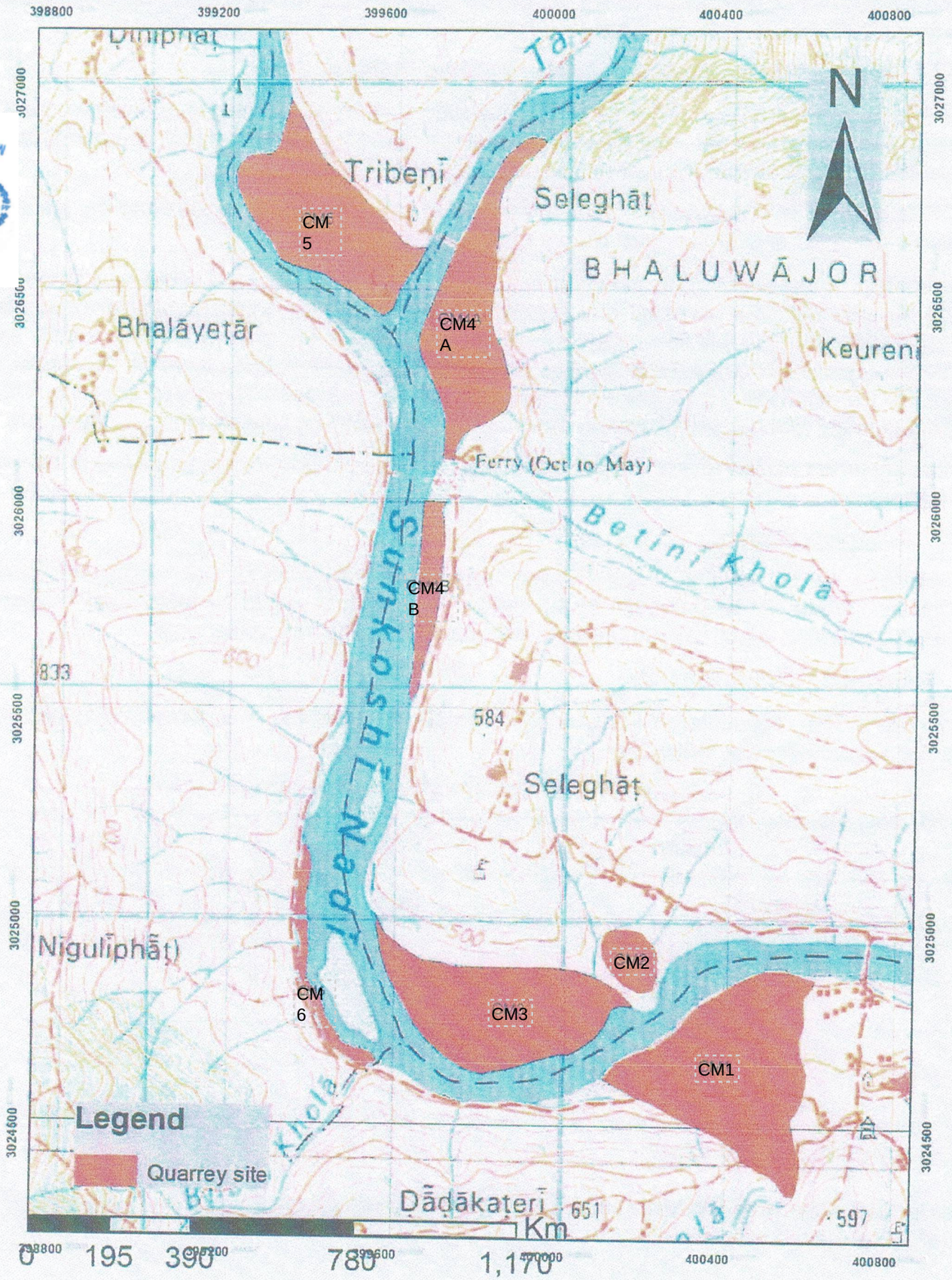


Figure 2-10: Location map of proposed construction material sites (CM1-CM6).