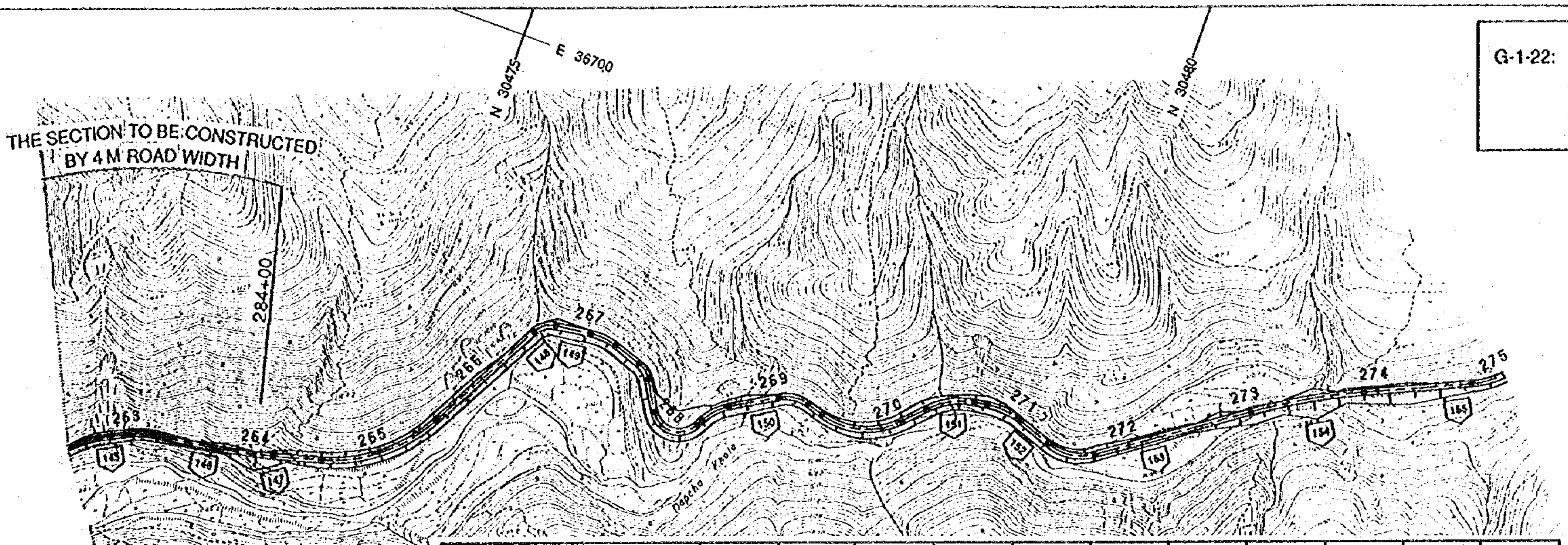
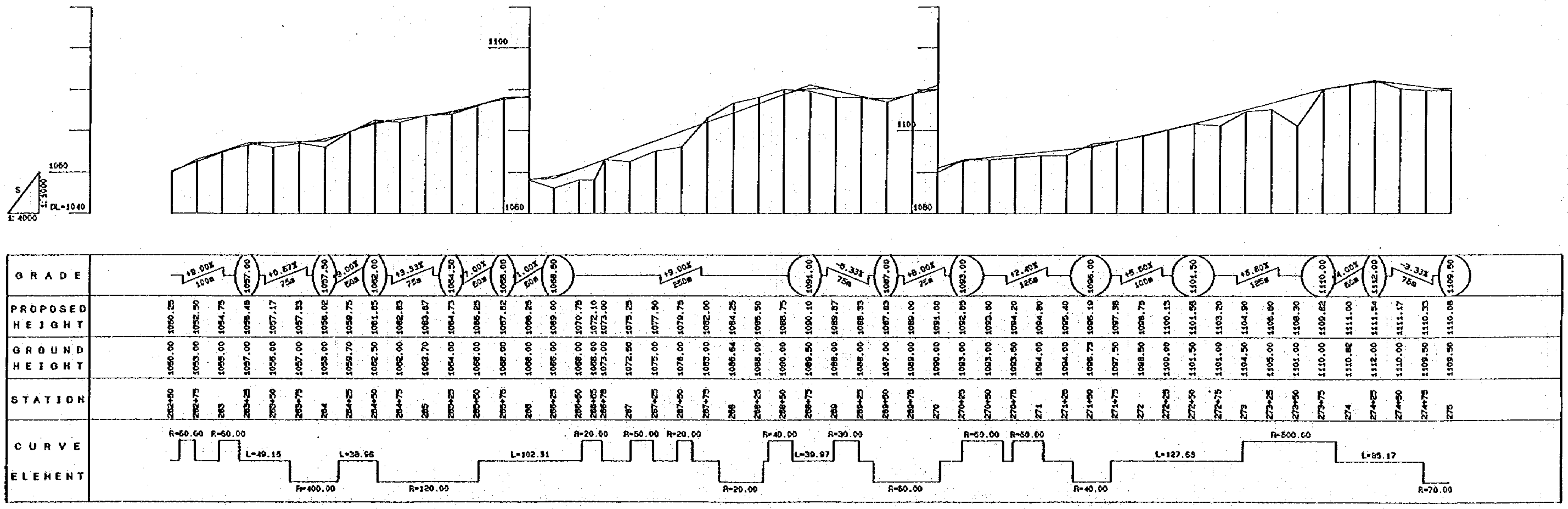
G-1-22: Location and Type of Cross Drainage to be applied STA.262+50~STA.275+00

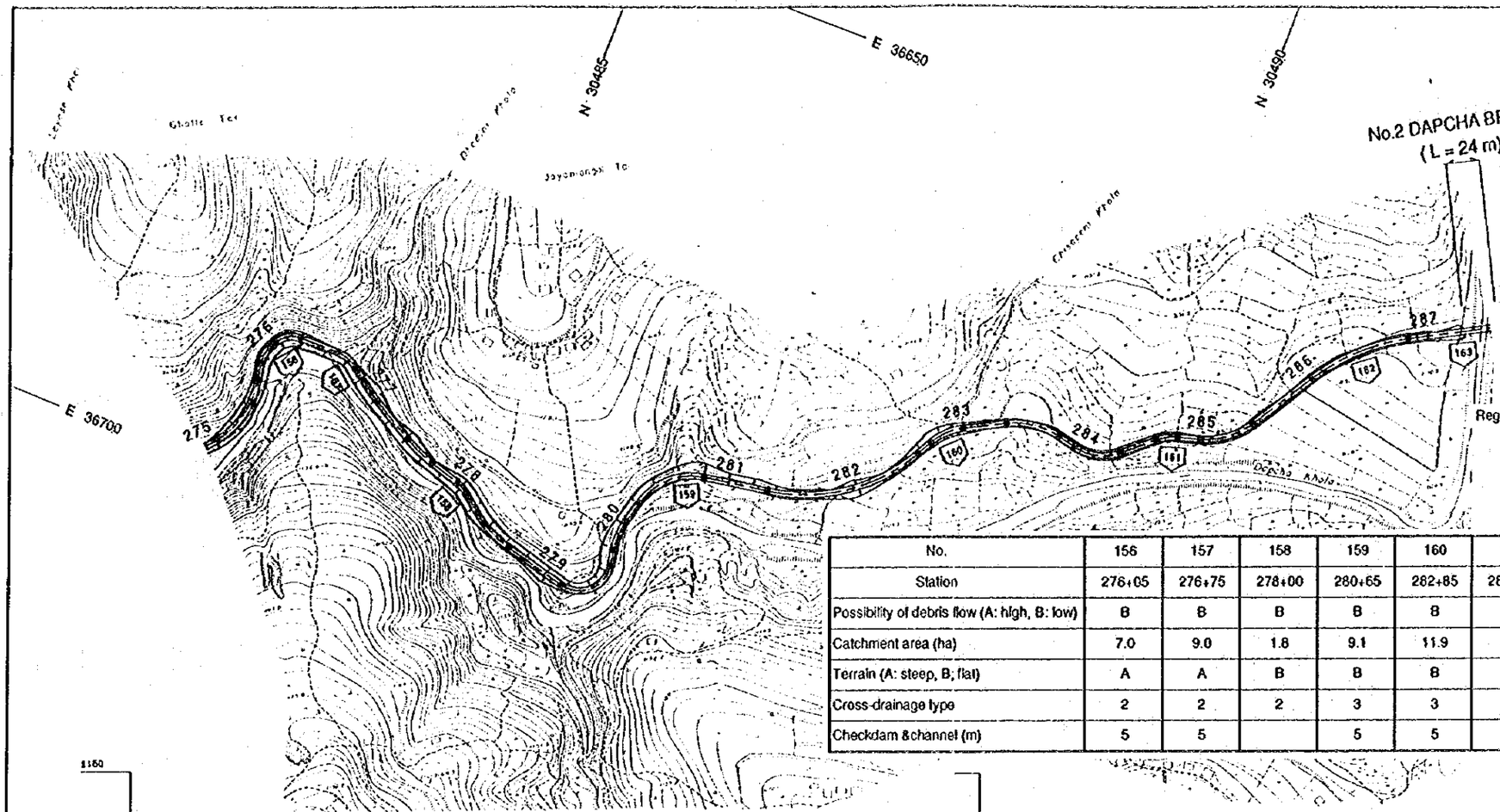


No.	145	146	147	148	149	150	151	152	153	154	155
Station	262+85	263+60	264+10	266+60	266+85	268+85	270+45	271+15	272+15	273+50	274+60
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B	B	B	B
Catchment area (ha)	1.4	2.0	10.8	13.1	1.4	9.6	6.2	3.3	5.1	8.1	1.5
Terrain (A: steep, B; flat)	A	A	A	A	A	A	A	A	A	A	A
Cross-drainage type	2	2	3	3	2	3	2	2	2	2	2
Checkdam &channel (m)			5	5		5	5	5	5	5	

Rogard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Stub culvert (4m)

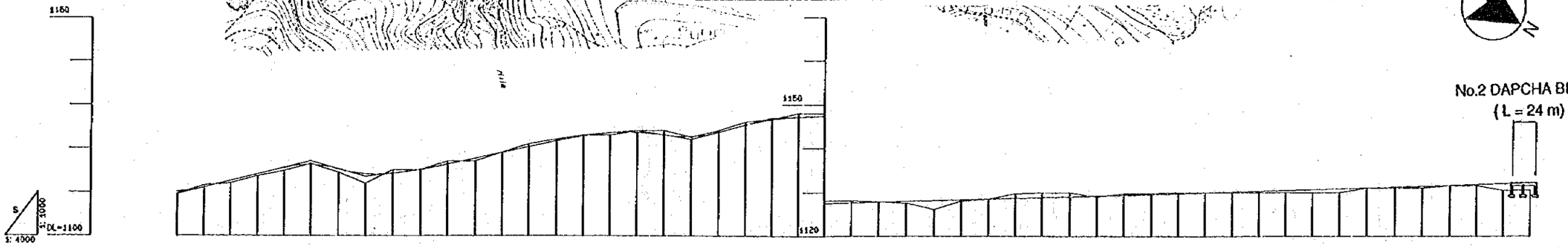


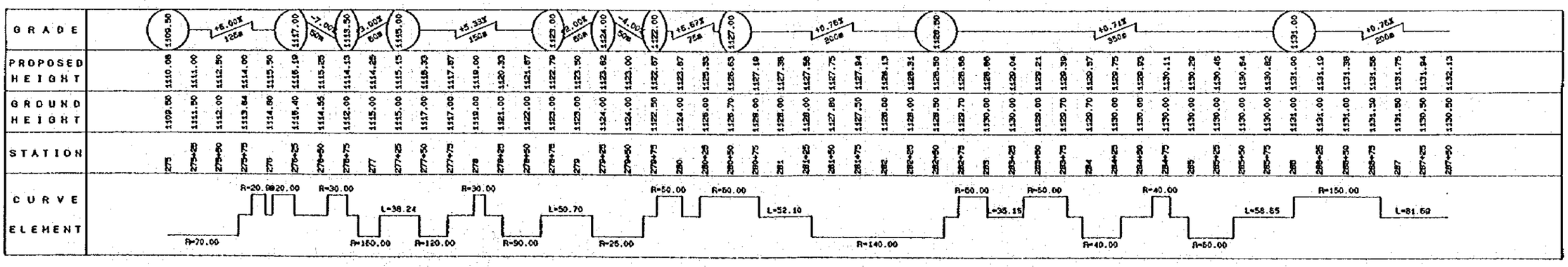
G-1-23: Location and Type of Cross Drainage to be applied STA.275+00~STA.287+50



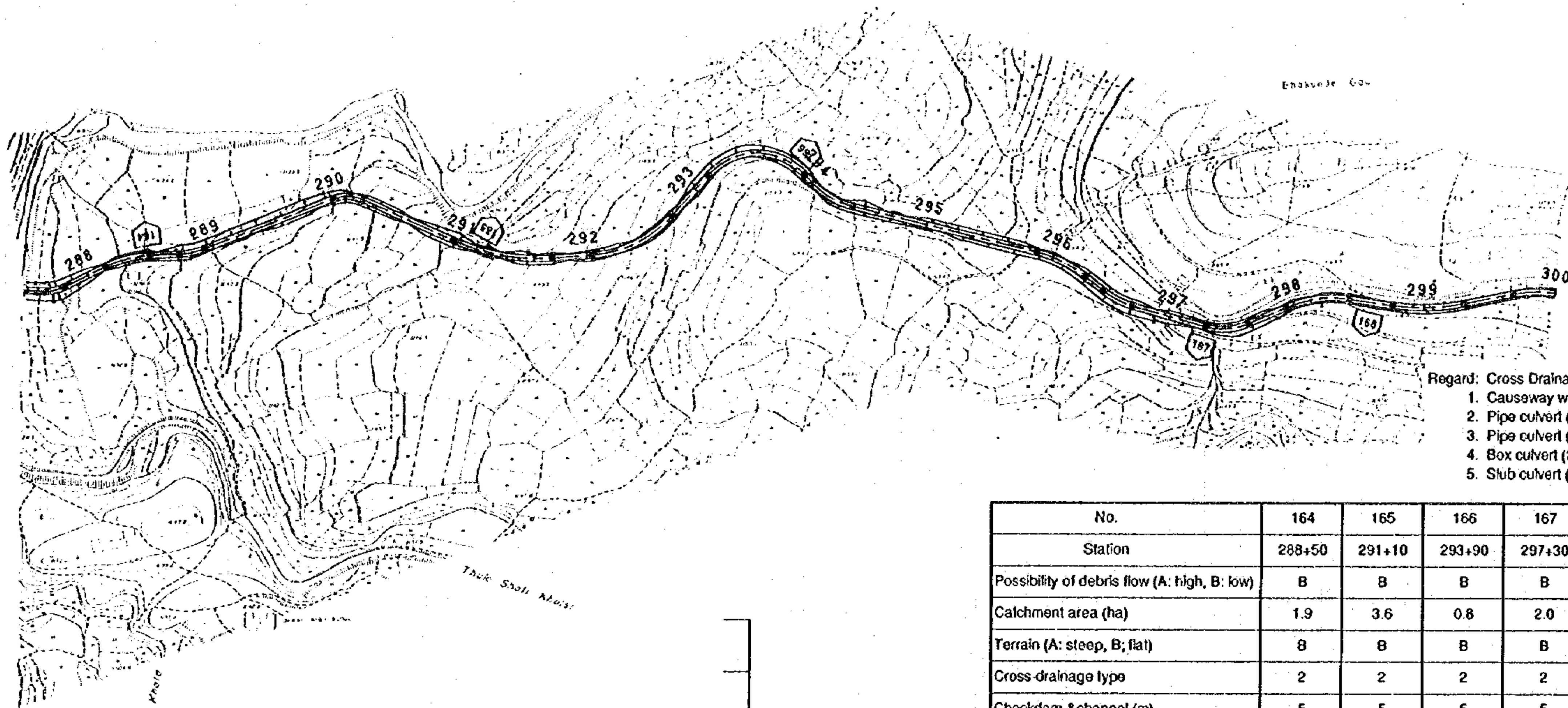
Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Stub culvert (4m)

No.	156	157	158	159	160	161	162	163
Station	276+65	276+75	278+00	280+65	282+85	284+75	286+45	287+25
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B
Catchment area (ha)	7.0	9.0	1.8	9.1	11.9	5.5	1.6	0.9
Terrain (A: steep, B; flat)	A	A	B	B	B	B	B	B
Cross-drainage type	2	2	2	3	3	2	2	2
Checkdam &channel (m)	5	5		5	5	5		5





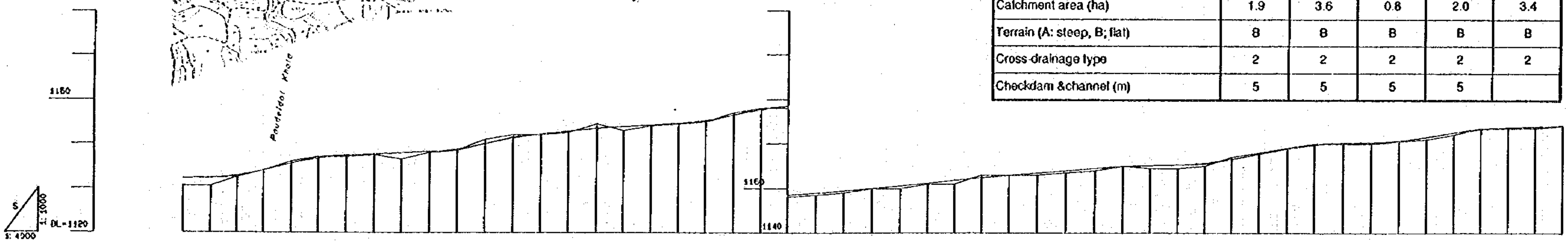
G-1-24: Location and Type of Cross Drainage to be applied STA.287+50~STA.300+00



Regard: Cross Drainage Type

1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Stub culvert (4m)

No.	164	165	166	167	168
Station	288+50	291+10	293+90	297+30	298+60
Possibility of debris flow (A: high, B: low)	B	B	B	B	B
Catchment area (ha)	1.9	3.6	0.8	2.0	3.4
Terrain (A: steep, B; flat)	B	B	B	B	B
Cross-drainage type	2	2	2	2	2
Checkdam &channel (m)	5	5	5	5	

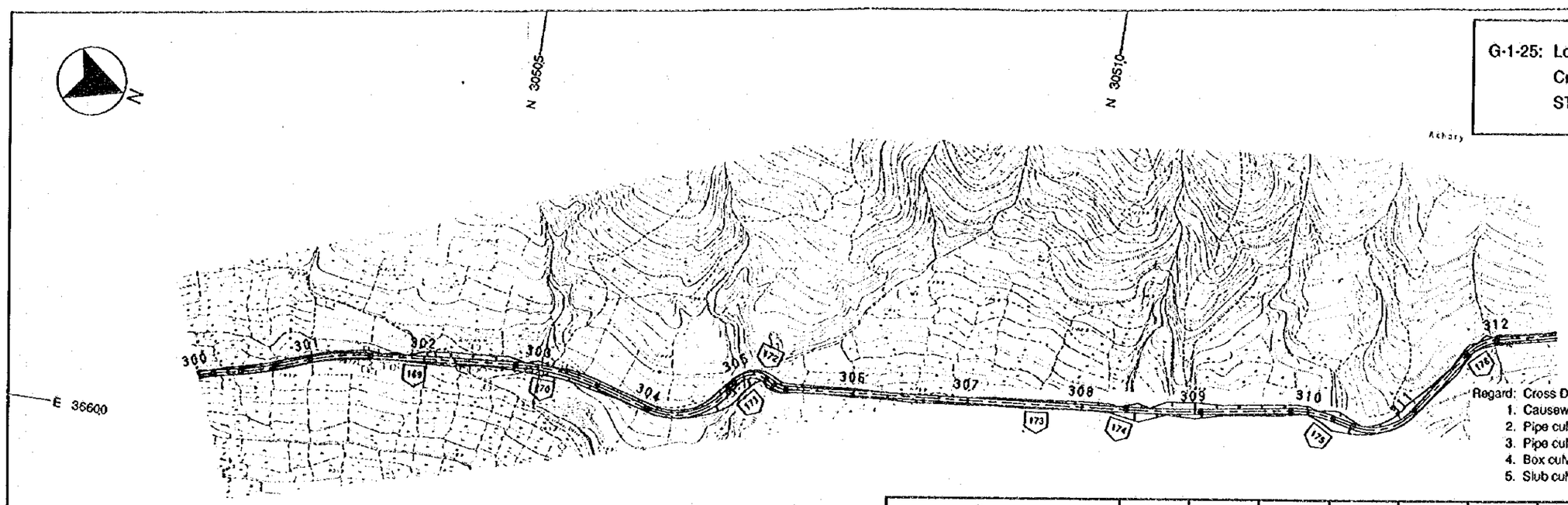


GRADE: +0.75% 200m (1132.50) +6.00% 75m (1137.00) +1.20% 125m (1138.50) 5.00% 60m (1141.50) +2.67% 75m (1143.50) +1.60% 100m (1145.00) 5.00% 60m (1148.00) +2.00% 100m (1150.00) +2.50% 100m (1152.50) +2.00% 125m (1155.00) +0.67% 75m (1155.50) +4.60% 100m (1160.00) +0.67% 75m (1160.50) +4.00% 75m (1163.50) +0.67% 75m (1164.00)

STATION	PROPOSED HEIGHT	GROUND HEIGHT
287+50	1132.13	1130.50
287+75	1132.31	1130.50
288	1132.83	1132.50
288+25	1134.00	1134.00
288+50	1135.50	1135.00
288+75	1136.70	1137.00
289	1137.30	1137.00
289+25	1137.60	1137.50
289+50	1137.90	1136.50
289+75	1138.20	1138.00
290	1138.80	1138.50
290+25	1140.00	1141.00
290+50	1141.29	1142.00
290+75	1142.17	1142.00
291	1142.83	1142.50
291+25	1143.43	1144.50
291+50	1143.88	1143.00
291+75	1144.25	1144.00
292	1144.63	1144.50
292+25	1145.28	1145.00
292+50	1146.50	1147.00
292+75	1147.75	1148.00
293	1148.50	1148.00
293+25	1149.00	1148.50
293+50	1149.50	1149.00
293+75	1150.03	1150.00
294	1150.83	1150.00
294+25	1151.25	1151.00
294+50	1151.88	1151.00
294+75	1152.47	1153.00
295	1153.00	1153.00
295+25	1153.50	1153.50
295+50	1154.00	1153.50
295+75	1154.50	1154.00
296	1154.92	1155.00
296+25	1155.17	1154.50
296+50	1155.33	1154.50
296+75	1155.74	1155.00
297	1156.83	1157.00
297+25	1157.75	1158.00
297+50	1158.88	1159.00
297+75	1159.76	1160.00
298	1160.17	1160.00
298+25	1160.33	1160.00
298+50	1160.71	1160.50
298+75	1161.50	1161.00
299	1162.50	1162.00
299+25	1163.29	1163.50
299+50	1163.67	1163.50
299+75	1163.83	1163.50
300	1164.13	1164.00

CURVE ELEMENT: R=30.00, L=35.81, R=90.00, R=50.00, L=104.11, R=30.00, L=75.59, R=150.00, R=30.00, L=40.87, R=50.00, R=60.00, L=145.08, R=90.00, R=50.00, L=58.13, R=50.00, R=90.00, R=150.00, L=38.15, R=90.00

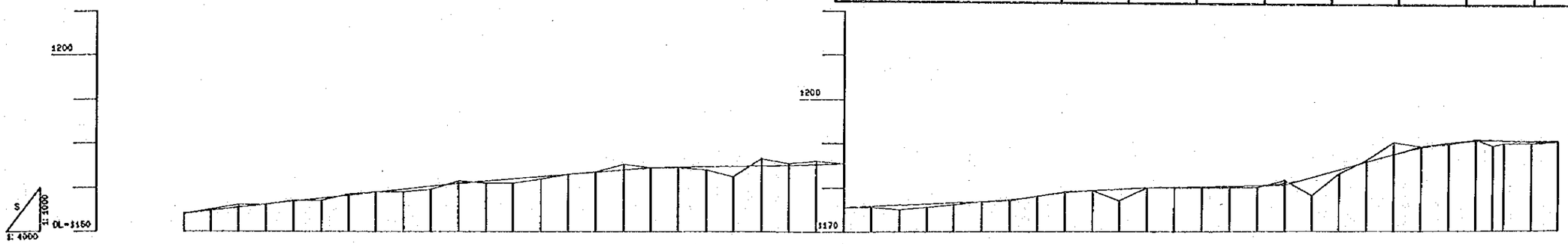
G-1-25: Location and Type of Cross Drainage to be applied STA.300+00~STA.312+50

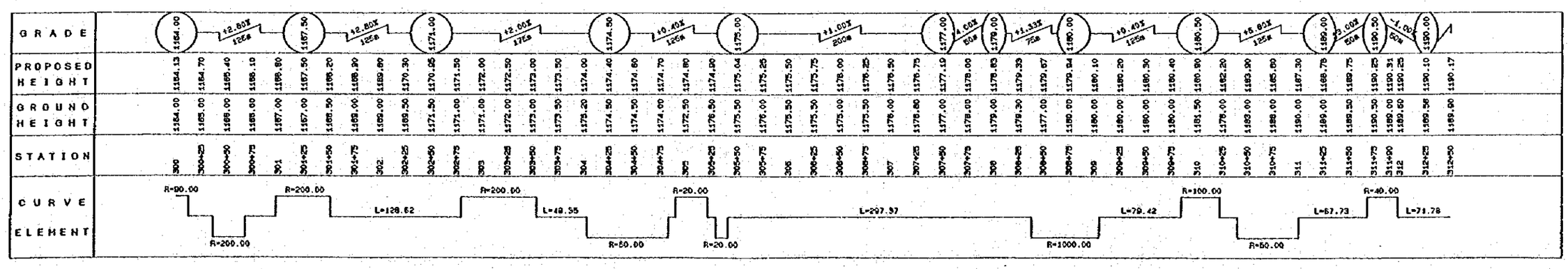


Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slab culvert (4m)

No.	169	170	171	172	173	174	175	176
Station	301+90	303+05	305+00	305+20	307+60	308+40	310+25	311+95
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B
Catchment area (ha)	6.5	10.3	6.7	13.8	3.7	9.5	12.9	2.1
Terrain (A: steep, B; flat)	B	B	A	B	B	B	A	A
Cross-drainage type	2	3	2	3	2	3	3	2
Checkdam &channel (m)	5	5	5	5	5	5	5	5

E 36600

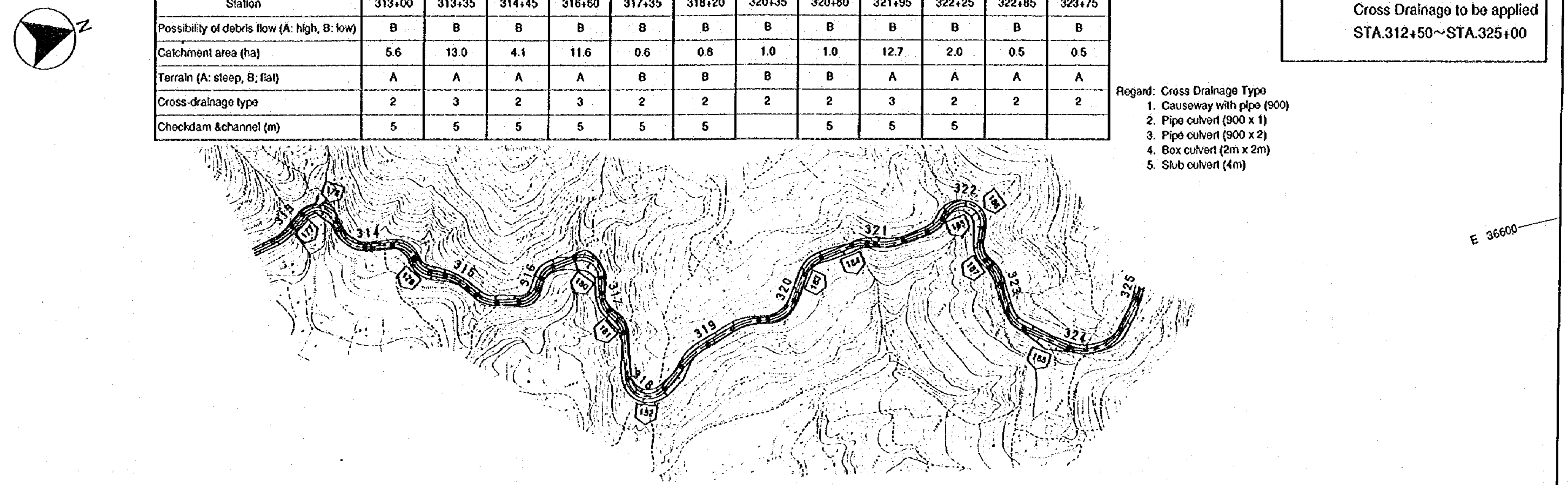


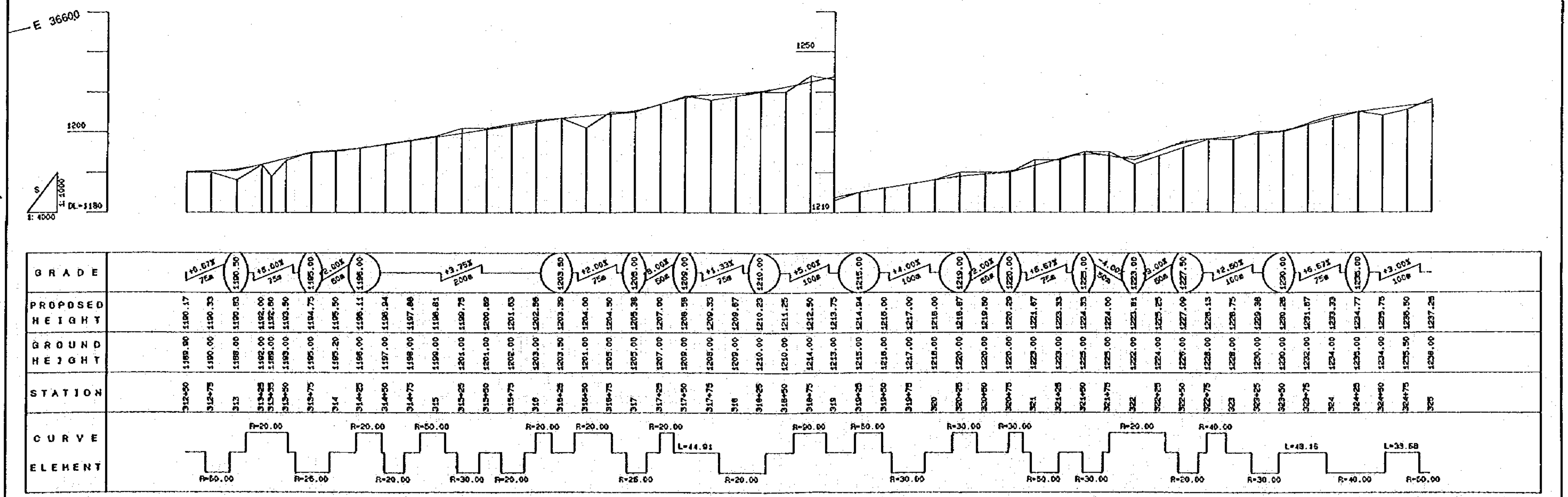


G-1-26: Location and Type of Cross Drainage to be applied STA.312+50~STA.325+00

No.	177	178	179	180	181	182	183	184	185	186	187	188
Station	313+00	313+35	314+45	316+60	317+35	318+20	320+35	320+80	321+95	322+25	322+85	323+75
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B	B	B	B	B
Catchment area (ha)	5.6	13.0	4.1	11.6	0.6	0.8	1.0	1.0	12.7	2.0	0.5	0.5
Terrain (A: steep, B; flat)	A	A	A	A	B	B	B	B	A	A	A	A
Cross-drainage type	2	3	2	3	2	2	2	2	3	2	2	2
Checkdam &channel (m)	5	5	5	5	5	5		5	5	5		

Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slub culvert (4m)





E 36600

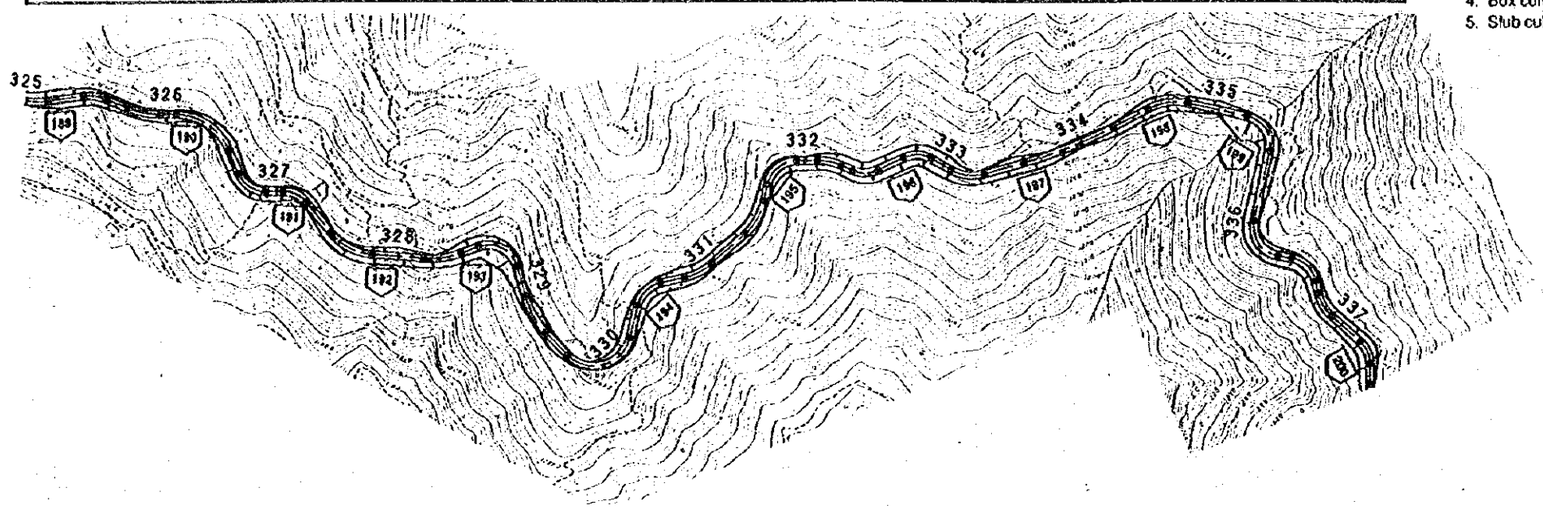
No.	189	190	191	192	193	194	195	196	197	198	199	200
Station	325+20	326+15	327+15	327+95	328+70	330+50	331+80	332+75	333+65	334+65	335+25	337+25
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B	B	B	B	B
Catchment area (ha)	0.6	1.5	1.0	0.8	2.4	0.9	6.7	2.7	2.7	13.2	13.3	2.7
Terrain (A: steep, B; flat)	A	A	A	A	A	A	A	A	A	A	A	A
Cross-drainage type	2	2	2	2	2	2	2	2	2	3	3	2
Checkdam &channel (m)		5		5	5	5	5	5	5	5	5	

E 36500

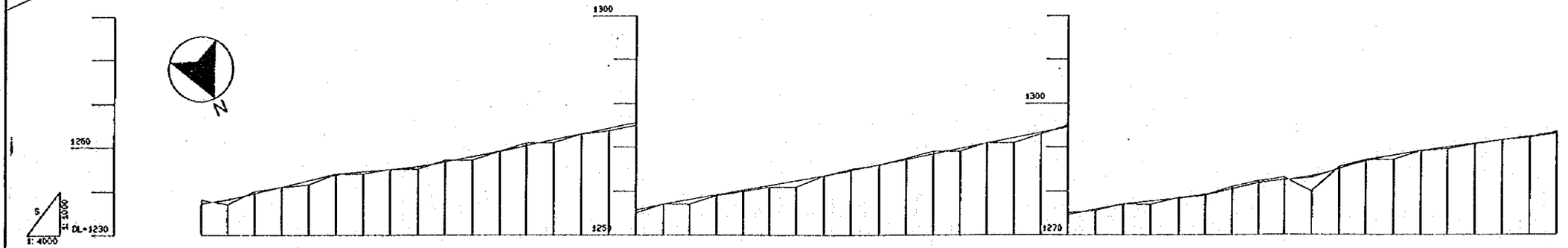
N 30525

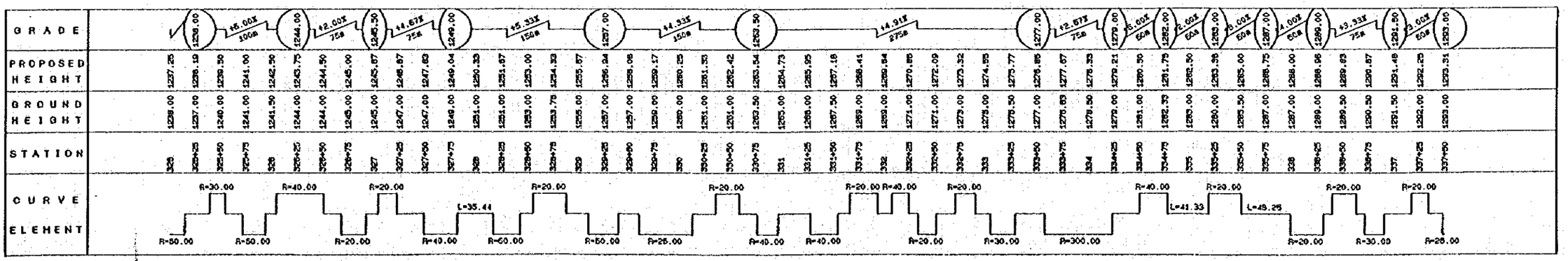
G-1-27: Location and Type of Cross Drainage to be applied STA.325+00~STA.337+50

Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slub culvert (4m)

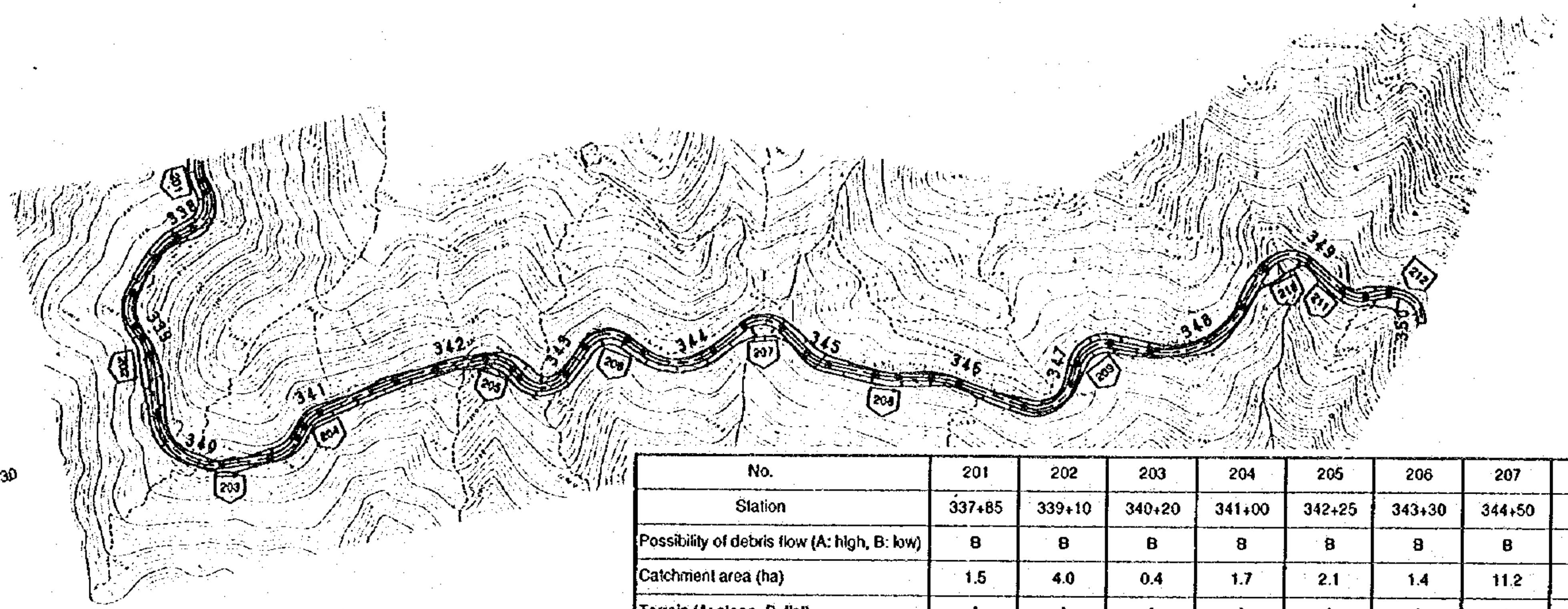


N 30525



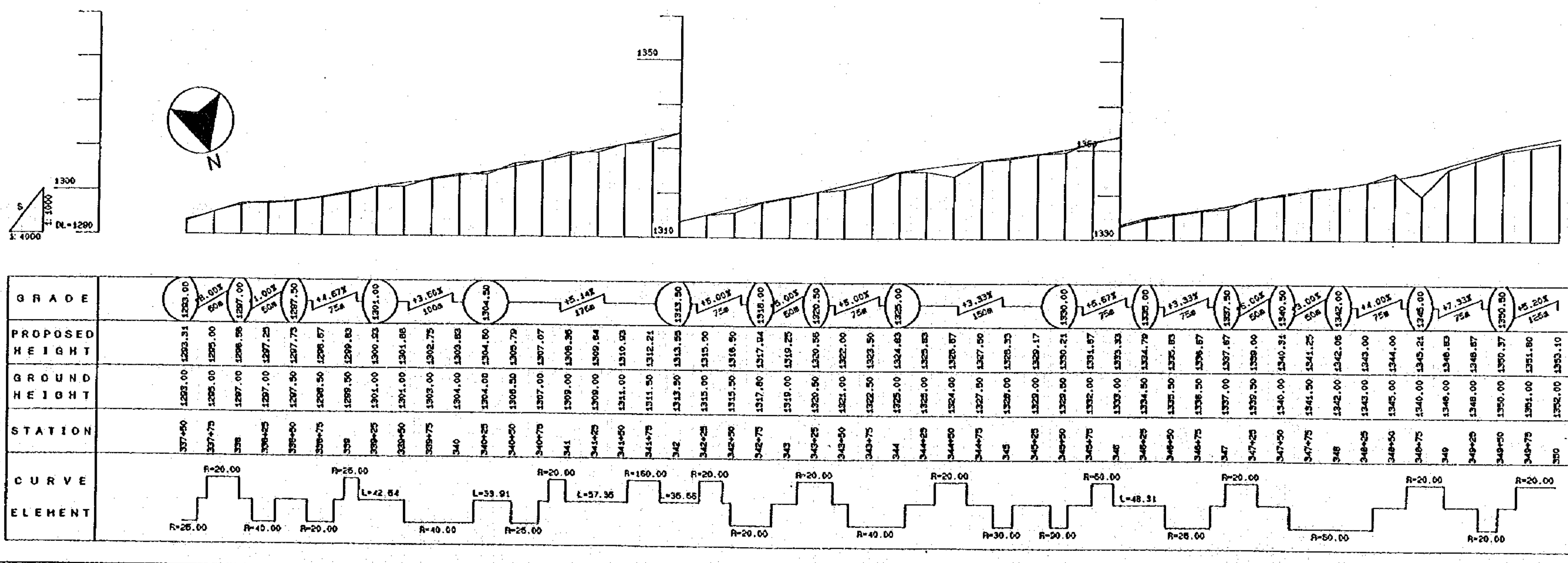


G-1-28: Location and Type of Cross Drainage to be applied STA.337+50~STA.350+00



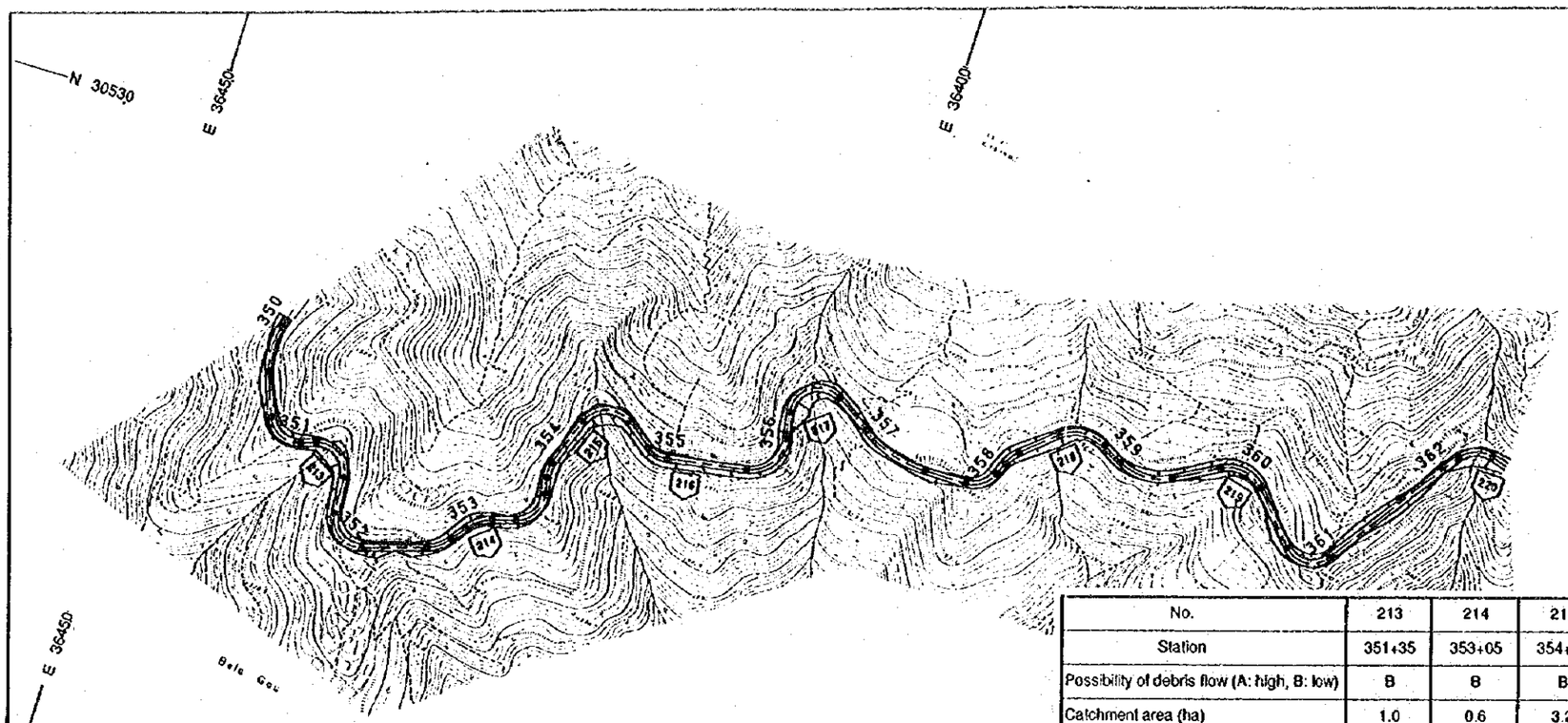
Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slub culvert (4m)

No.	201	202	203	204	205	206	207	208	209	210	211	212
Station	337+85	339+10	340+20	341+00	342+25	343+30	344+50	345+50	347+15	348+75	349+25	349+85
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B	B	B	B	B
Catchment area (ha)	1.5	4.0	0.4	1.7	2.1	1.4	11.2	1.3	2.2	13.8	5.7	2.3
Terrain (A: steep, B; flat)	A	A	A	A	A	A	A	A	A	A	A	A
Cross-drainage type	2	2	2	2	2	2	3	2	2	3	2	2
Checkdam &channel (m)	5		5		5	5	5		5	5	5	5



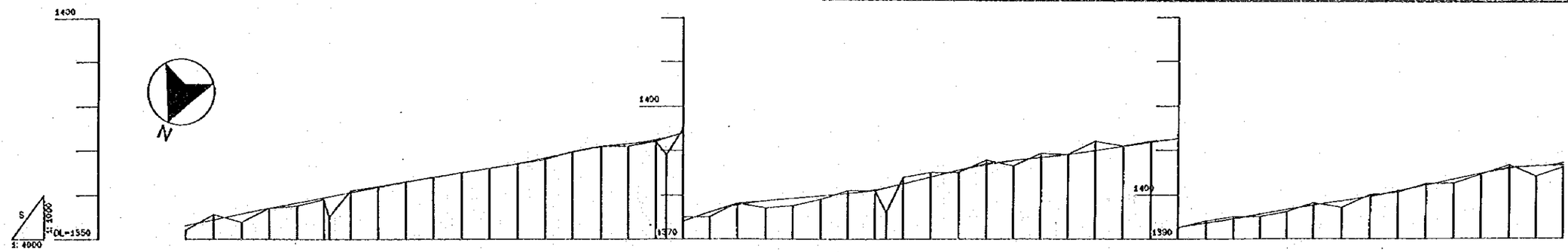
STATION	PROPOSED HEIGHT	GROUND HEIGHT
337+50	1293.31	1293.00
337+75	1295.00	1295.00
338	1296.56	1297.00
338+25	1297.25	1297.00
338+50	1297.73	1297.50
338+75	1298.67	1298.50
339	1299.83	1299.50
339+25	1300.33	1301.00
339+50	1301.86	1301.00
339+75	1302.75	1303.00
340	1303.83	1304.00
340+25	1304.50	1304.00
340+50	1305.79	1306.50
340+75	1307.07	1307.00
341	1308.36	1309.00
341+25	1309.64	1309.00
341+50	1310.93	1311.00
341+75	1312.21	1311.50
342	1313.55	1313.50
342+25	1315.00	1315.00
342+50	1316.50	1315.50
342+75	1317.94	1317.80
343	1319.25	1319.00
343+25	1320.56	1320.50
343+50	1322.00	1321.00
343+75	1323.50	1322.50
344	1324.83	1325.00
344+25	1325.83	1325.00
344+50	1326.67	1324.00
344+75	1327.50	1327.50
345	1328.33	1328.00
345+25	1329.17	1329.00
345+50	1330.21	1329.50
345+75	1331.67	1332.00
346	1333.33	1333.00
346+25	1334.79	1334.50
346+50	1335.83	1335.50
346+75	1336.67	1336.50
347	1337.67	1337.00
347+25	1339.00	1339.50
347+50	1340.31	1340.00
347+75	1341.25	1341.50
348	1342.06	1342.00
348+25	1343.00	1343.00
348+50	1344.00	1345.00
348+75	1345.21	1340.00
349	1346.83	1346.00
349+25	1348.67	1348.00
349+50	1350.37	1350.00
349+75	1351.80	1351.00
350	1353.10	1352.00

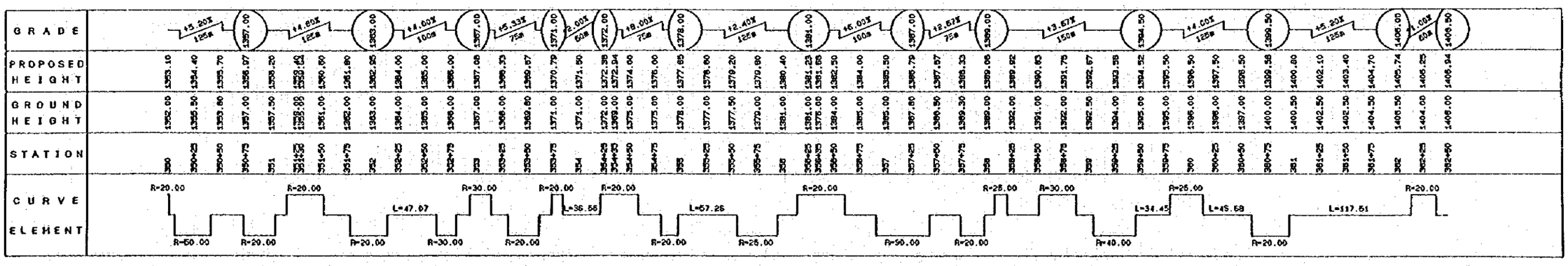
G-1-29: Location and Type of Cross Drainage to be applied STA.350+00~STA.362+50



Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slub culvert (4m)

No.	213	214	215	216	217	218	219	220
Station	351+35	353+05	354+35	355+15	356+40	358+55	360+00	362+25
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B
Catchment area (ha)	1.0	0.6	3.2	0.3	12.2	8.3	6.9	10.7
Terrain (A: steep, B; flat)	A	A	A	A	A	A	A	A
Cross-drainage type	2	2	2	2	3	2	2	3
Checkdam &channel (m)	5		5		5	5	5	5

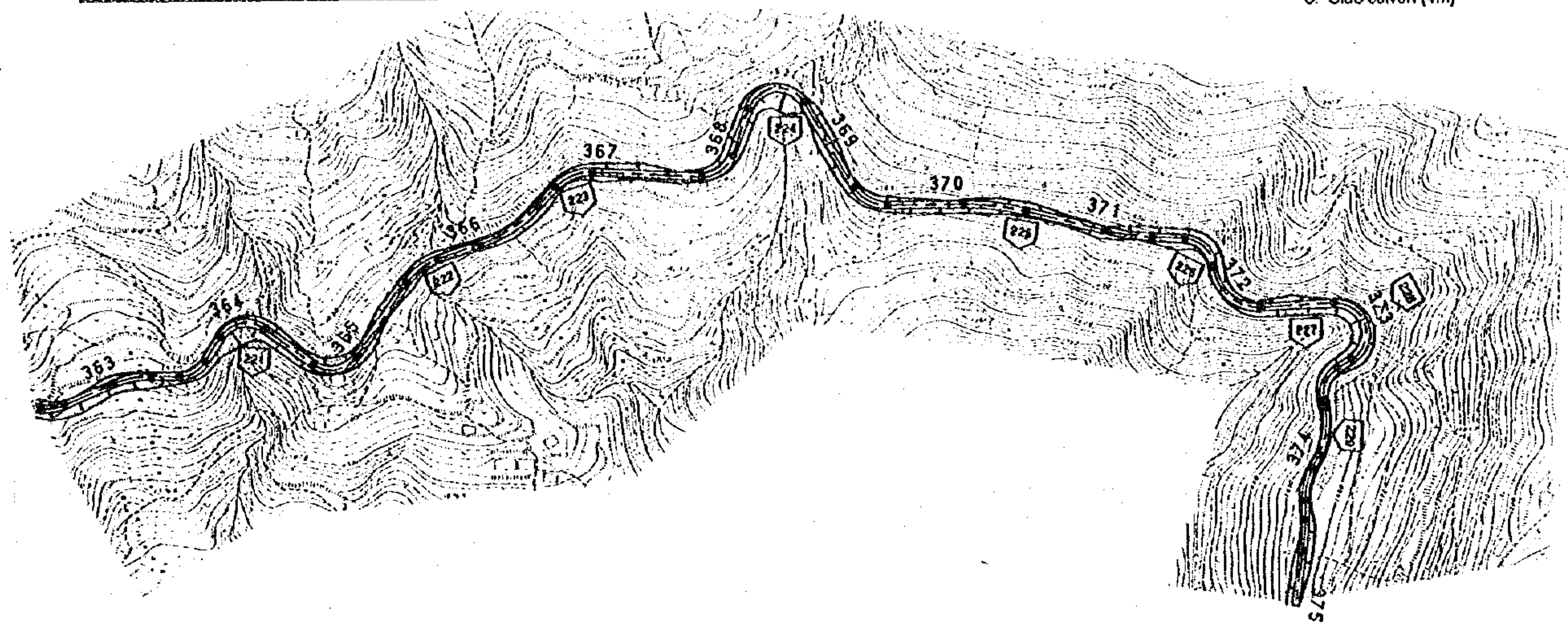


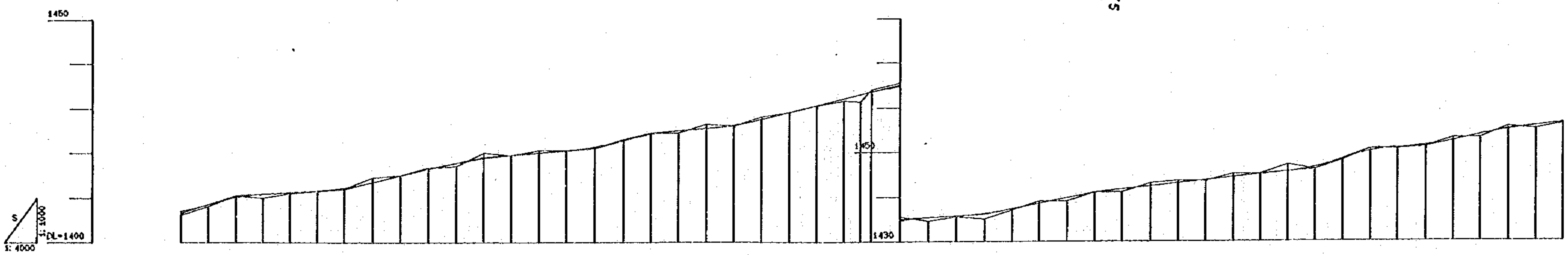


G-1-30: Location and Type of Cross Drainage to be applied STA.362+50~STA.375+00

No.	221	222	223	224	225	226	227	228	229
Station	364+10	365+75	366+85	368+55	370+45	371+70	372+70	373+00	373+80
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B	B
Catchment area (ha)	6.9	6.0	5.5	19.1	7.6	4.7	15.1	5.1	3.2
Terrain (A: steep, B; flat)	A	A	A	A	A	A	A	A	A
Cross-drainage type	2	2	2	4	2	2	3	2	2
Checkdam &channel (m)	5	5	5	5		5	5	5	

Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slub culvert (4m)



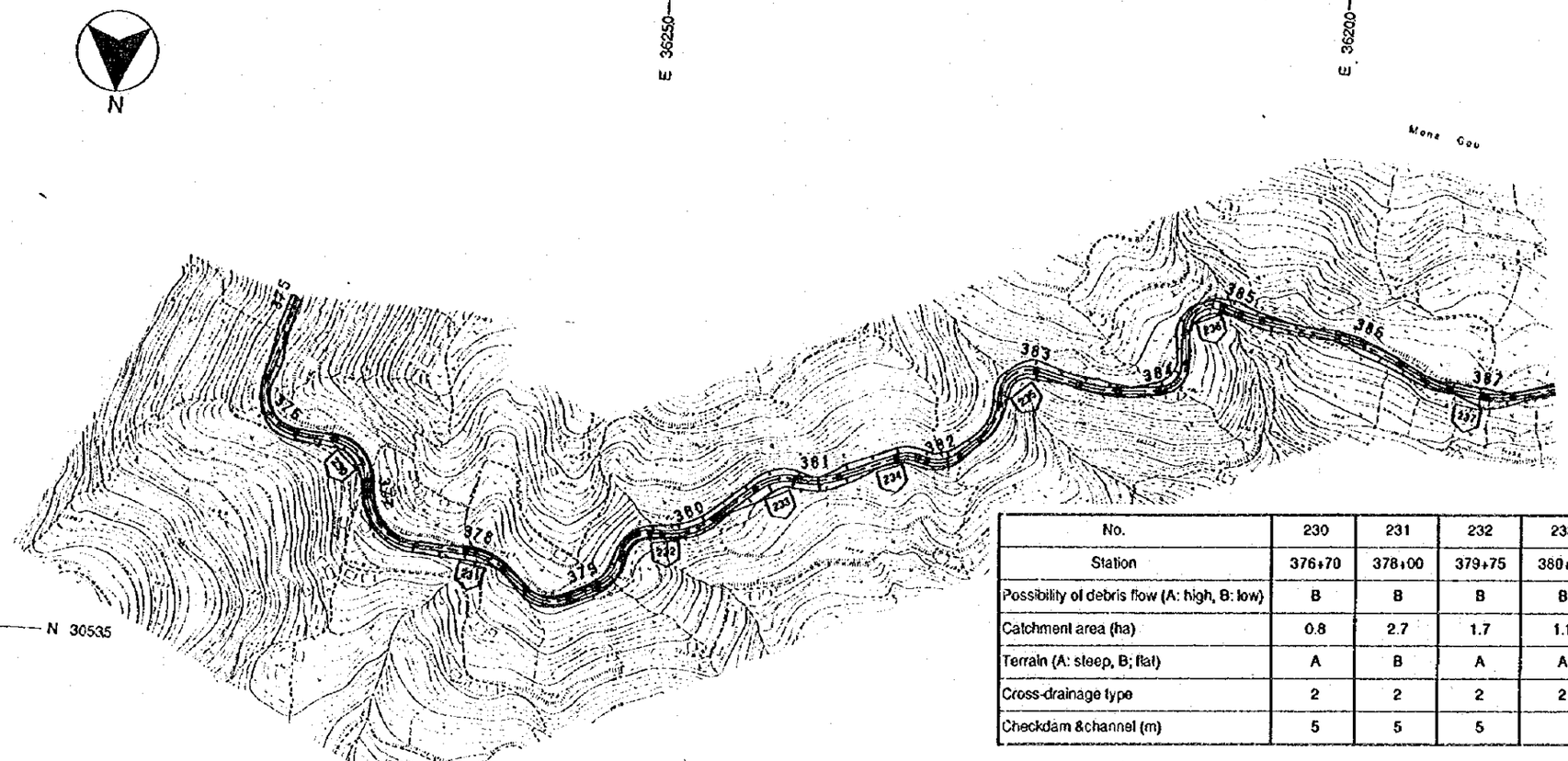


GRADE: 1406.50 | 6.00% 60m | 1410.50 | +1.60% 100m | 1412.00 | +5.00% 75m | 1416.50 | 5.00% 60m | 1419.00 | +2.00% 100m | 1421.00 | 7.00% 60m | 1424.50 | +2.00% 75m | 1426.00 | +6.00% 150m | 1435.00 | +1.33% 75m | 1436.00 | +5.00% 100m | 1441.00 | +2.67% 150m | 1445.00 | 2.00% 60m | 1446.00 | 9.00% 60m | 1450.50 | 1.00% 60m | 1451.00 | +5.33% 75m | 1455.00 | +2.67% 75m

STATION	PROPOSED HEIGHT	GROUND HEIGHT
362+50	1406.94	1406.00
362+75	1408.50	1408.00
363	1410.09	1410.50
363+25	1410.88	1410.00
363+50	1411.25	1411.00
363+75	1411.83	1411.50
364	1412.28	1412.00
364+25	1413.50	1414.50
364+50	1415.00	1415.00
364+75	1416.44	1416.70
365	1417.75	1417.00
365+25	1418.81	1420.00
365+50	1419.50	1419.50
365+75	1420.00	1420.50
366	1420.50	1420.50
366+25	1421.31	1421.00
366+50	1422.75	1423.00
366+75	1424.19	1424.50
367	1425.00	1424.50
367+25	1425.50	1426.50
367+50	1426.25	1428.00
367+75	1427.50	1428.00
368	1429.00	1429.00
368+25	1430.50	1430.50
368+50	1432.00	1431.50
368+65	1432.90	1431.30
368+75	1433.50	1434.00
369	1434.71	1435.50
369+25	1435.33	1434.50
369+50	1435.67	1435.50
369+75	1436.25	1435.00
370	1437.25	1437.00
370+25	1438.50	1439.00
370+50	1439.75	1439.00
370+75	1440.85	1441.00
371	1441.67	1441.00
371+25	1442.33	1443.00
371+50	1443.00	1443.50
371+75	1443.67	1443.50
372	1444.33	1445.00
372+25	1444.96	1445.00
372+50	1445.50	1447.00
372+75	1446.44	1446.00
373	1448.25	1448.00
373+25	1450.00	1450.50
373+50	1450.75	1450.50
373+75	1451.27	1451.00
374	1452.33	1453.00
374+25	1453.67	1453.00
374+50	1454.83	1455.50
374+75	1455.67	1455.00
375	1456.33	1456.20

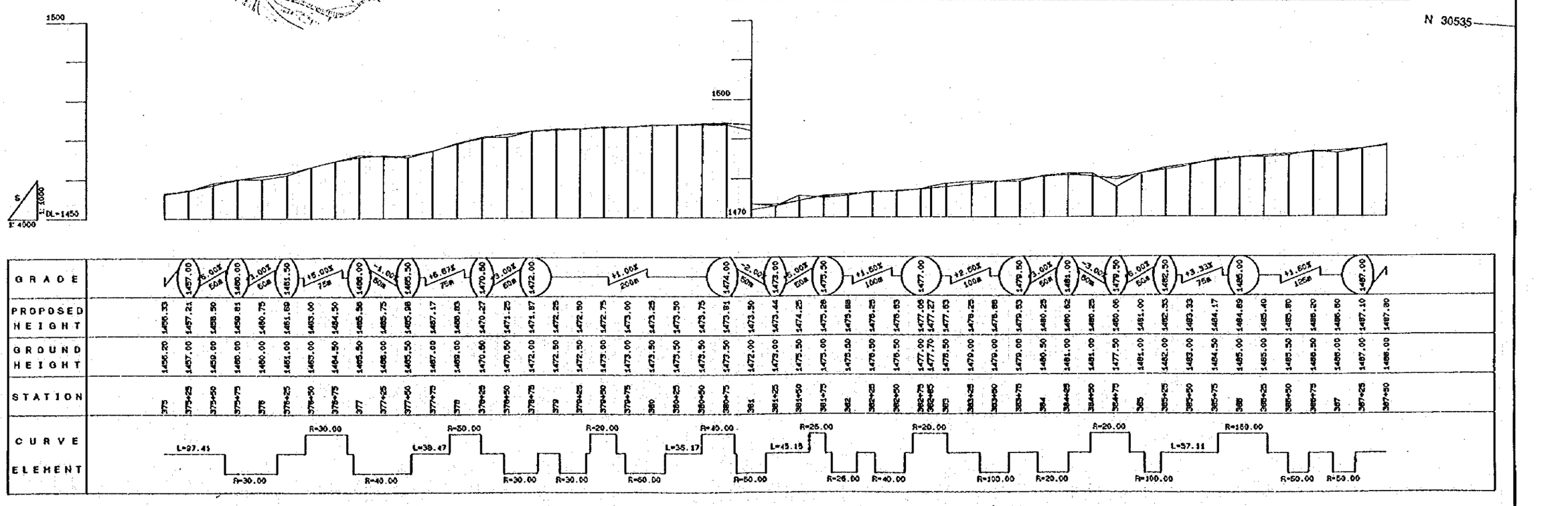
CURVE ELEMENT: R=30.00, L=56.33, R=60.00, R=20.00, R=20.00, L=39.36, R=20.00, L=58.61, R=40.00, R=90.00, R=30.00, L=71.35, R=20.00, R=20.00, L=54.34, R=25.00, L=50.41, R=150.00, L=52.93, R=150.00, R=20.00, R=30.00, L=48.65, R=20.00, R=20.00, R=50.00, R=50.00, R=160.00, L=97.41

G-1-31: Location and Type of Cross Drainage to be applied STA.375+00~STA.387+50



Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Stub culvert (4m)

No.	230	231	232	233	234	235	236	237
Station	376+70	378+00	379+75	380+70	381+65	382+85	384+80	386+90
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B
Catchment area (ha)	0.8	2.7	1.7	1.1	1.5	5.4	17.7	3.4
Terrain (A: steep, B; flat)	A	B	A	A	A	A	A	B
Cross-drainage type	2	2	2	2	2	2	3	2
Checkdam &channel (m)	5	5	5			5	5	5

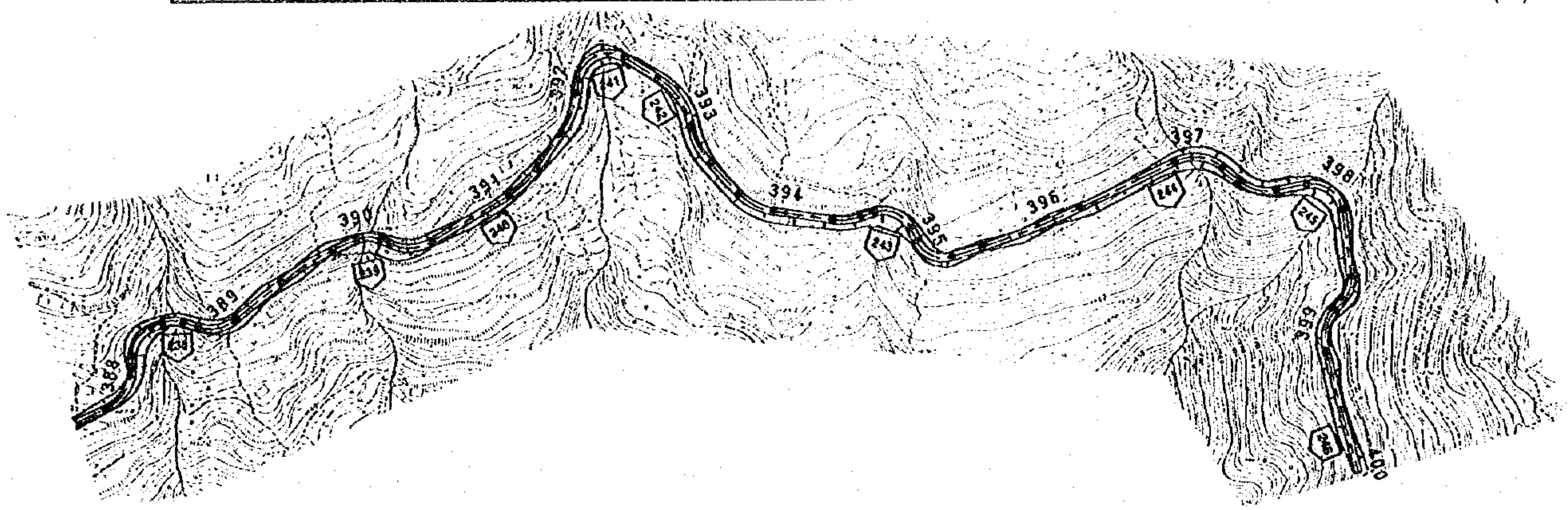


G-1-32: Location and Type of Cross Drainage to be applied STA.387+50~STA.400+00

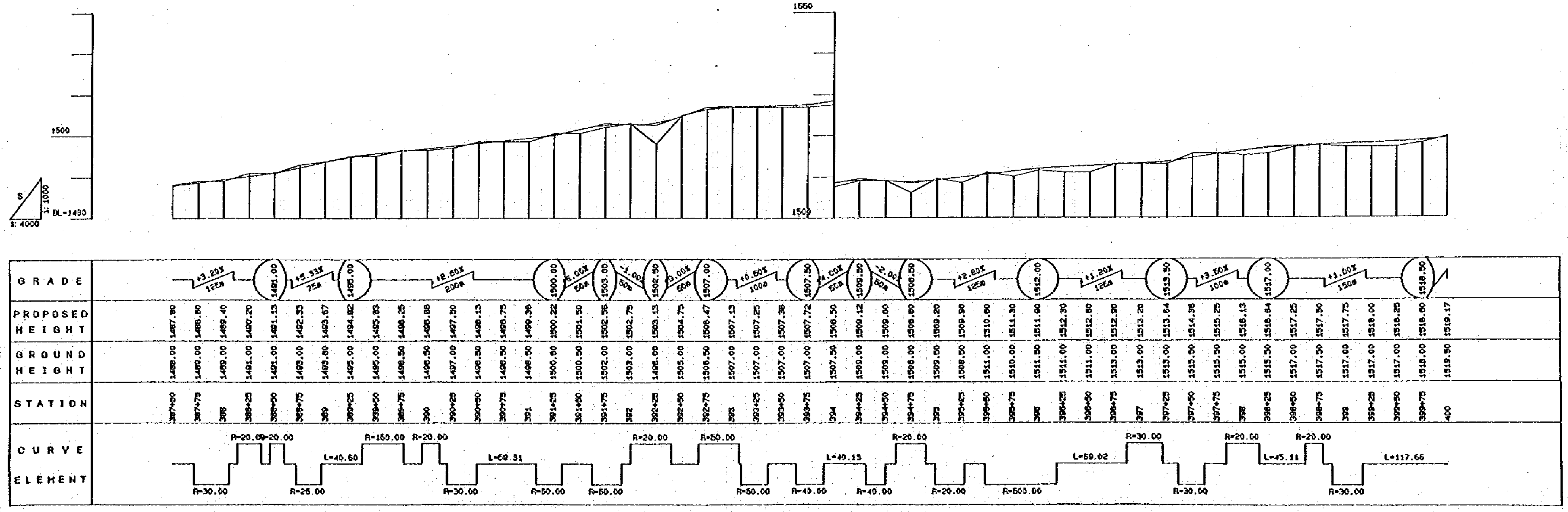
No.	238	239	240	241	242	243	244	245	246
Station	388+50	390+00	390+95	392+25	392+90	394+75	396+90	398+00	399+70
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B	B
Catchment area (ha)	14.2	6.8	1.0	21.0	1.4	12.0	14.0	12.2	4.3
Terrain (A: steep, B; flat)	A	A	A	A	A	A	A	A	A
Cross-drainage type	3	2	2	4	2	3	3	3	2
Checkdam &channel (m)	5	5	5	5		5	5	5	

Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slub culvert (4m)

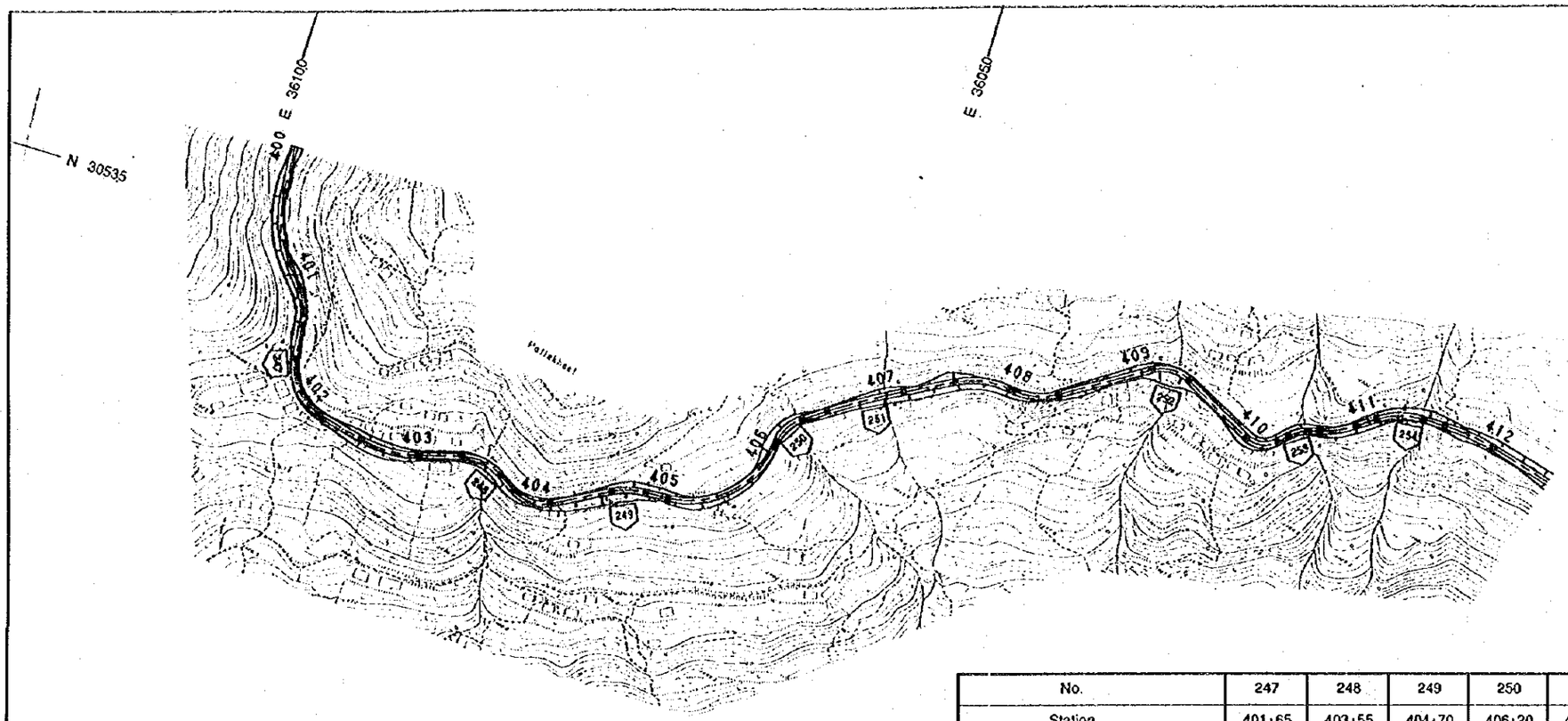
N 30535



N 30530



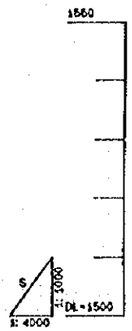
G-1-33: Location and Type of Cross Drainage to be applied STA.400+00~STA.412+50

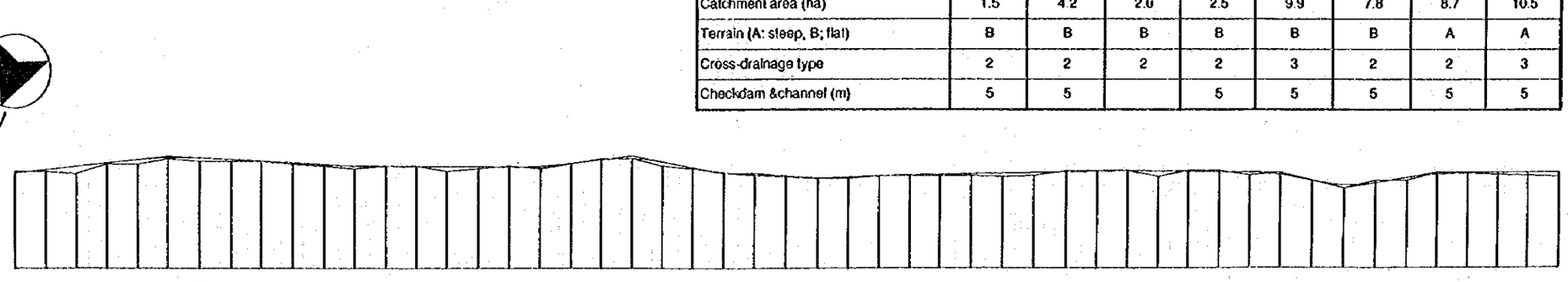


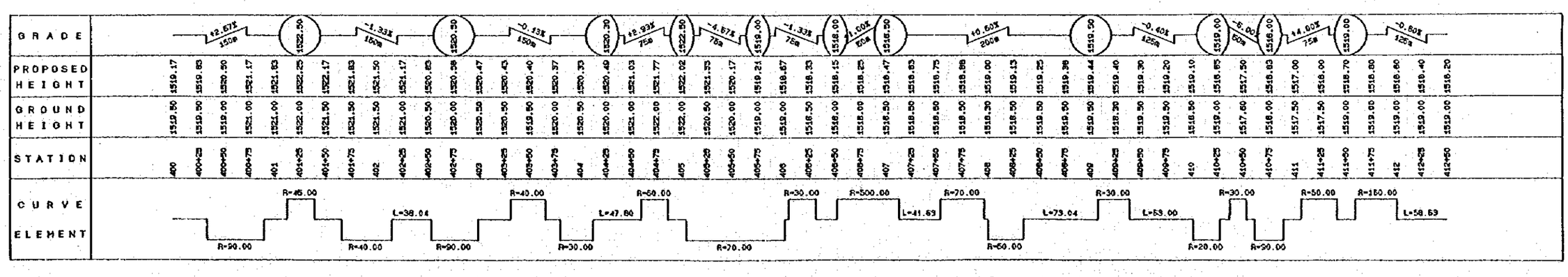
Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slab culvert (4m)

No.	247	248	249	250	251	252	253	254
Station	401+65	403+55	404+70	406+20	406+95	409+25	410+45	411+35
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B
Catchment area (ha)	1.5	4.2	2.0	2.5	9.9	7.8	8.7	10.5
Terrain (A: steep, B; flat)	B	B	B	B	B	B	A	A
Cross-drainage type	2	2	2	2	3	2	2	3
Checkdam &channel (m)	5	5		5	5	5	5	5

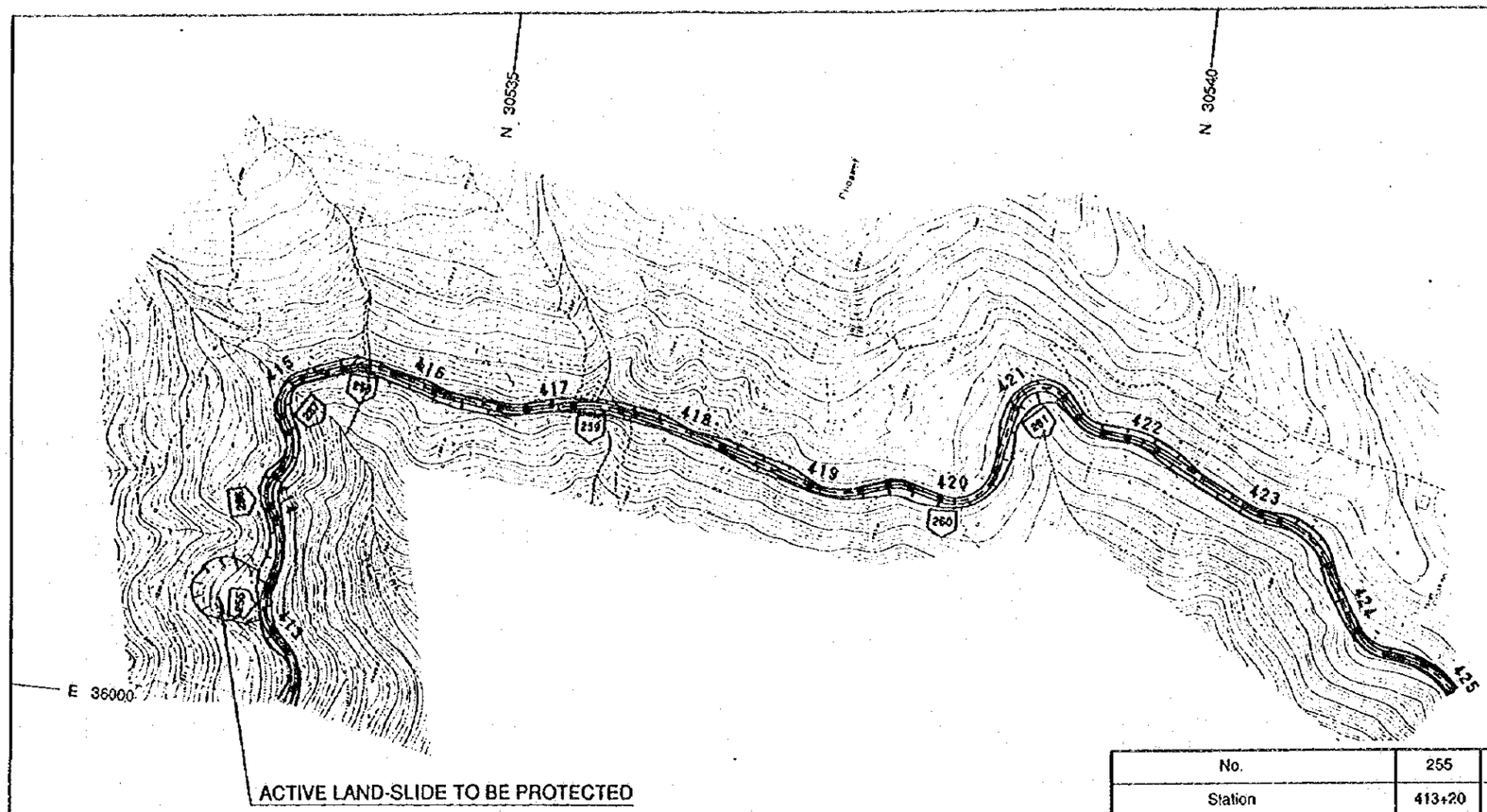
N 30535







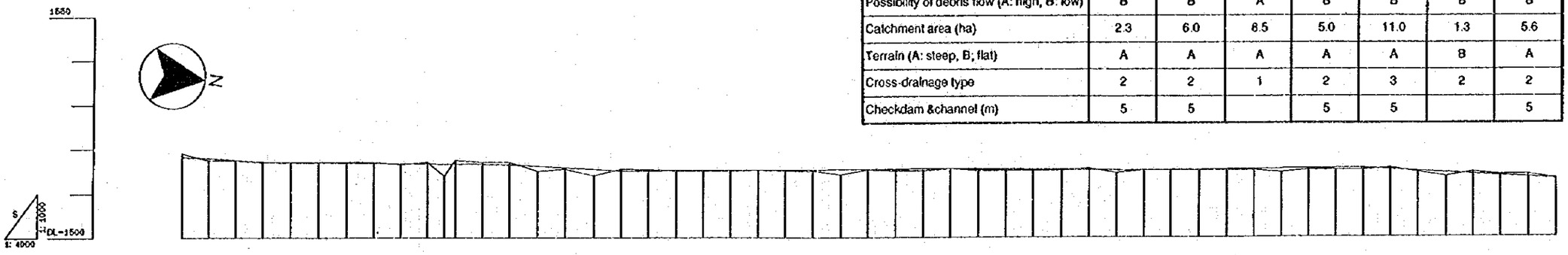
G-1-34: Location and Type of Cross Drainage to be applied STA.412+50~STA.425+00

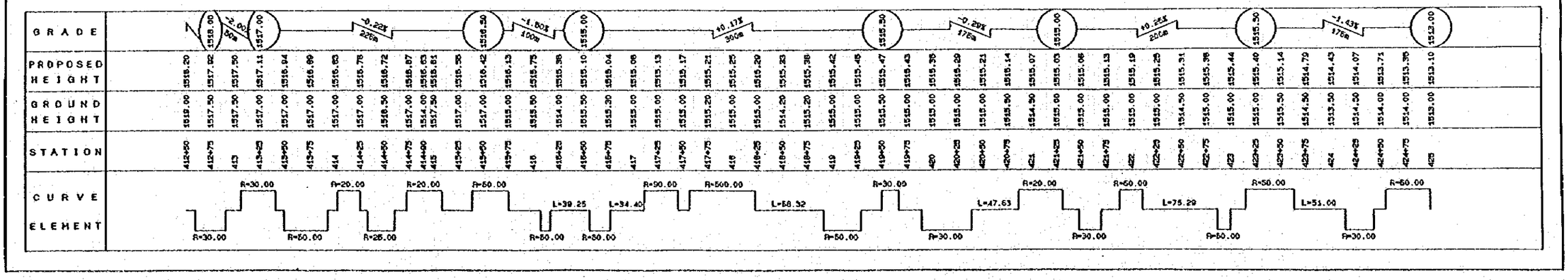


Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slub culvert (4m)

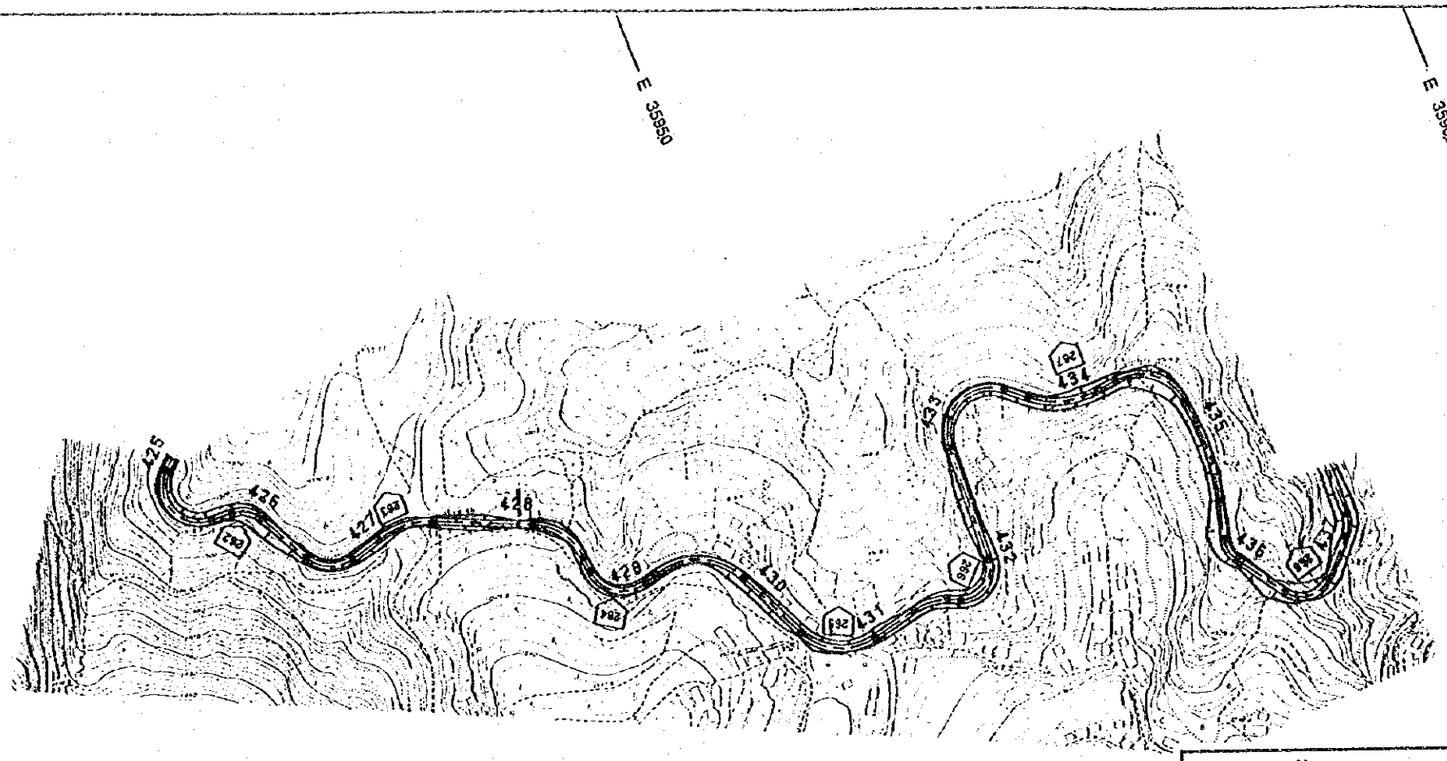
No.	255	256	257	258	259	260	261
Station	413+20	414+10	414+95	415+55	417+30	419+55	421+00
Possibility of debris flow (A: high, B: low)	B	B	A	B	B	B	B
Catchment area (ha)	2.3	6.0	6.5	5.0	11.0	1.3	5.6
Terrain (A: steep, B; flat)	A	A	A	A	A	B	A
Cross-drainage type	2	2	1	2	3	2	2
Checkdam &channel (m)	5	5		5	5		5

E 36000



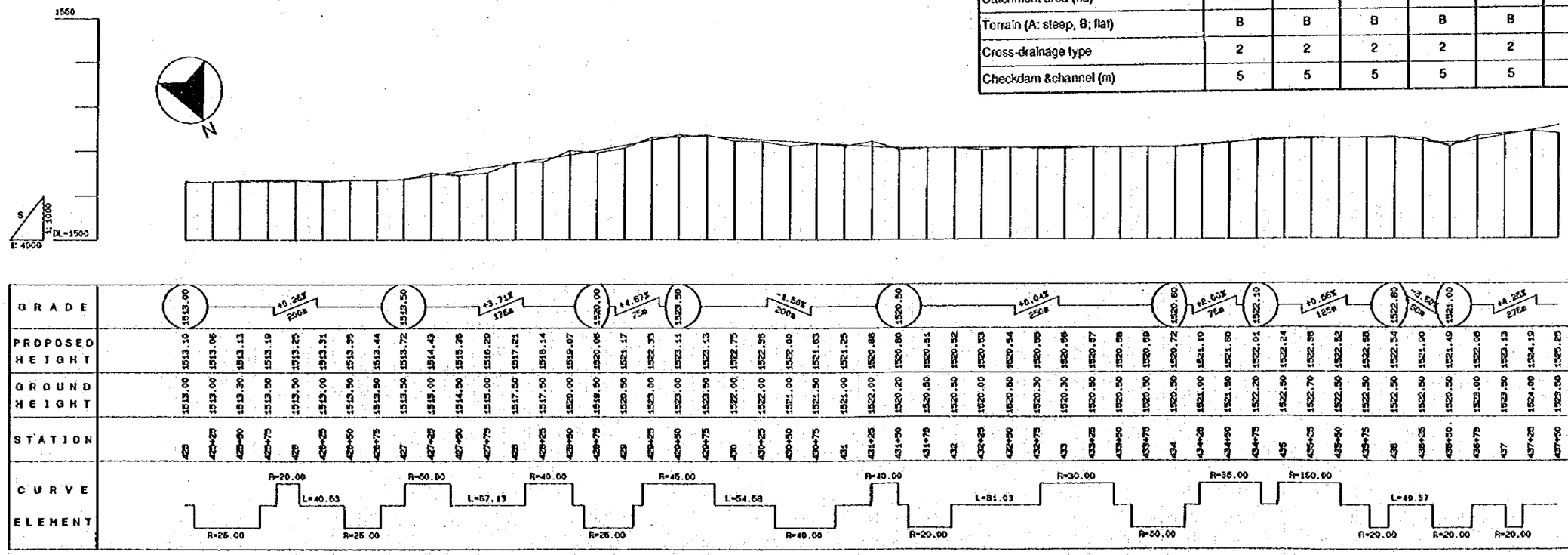


G-1-35: Location and Type of Cross Drainage to be applied STA.425+00~STA.437+50

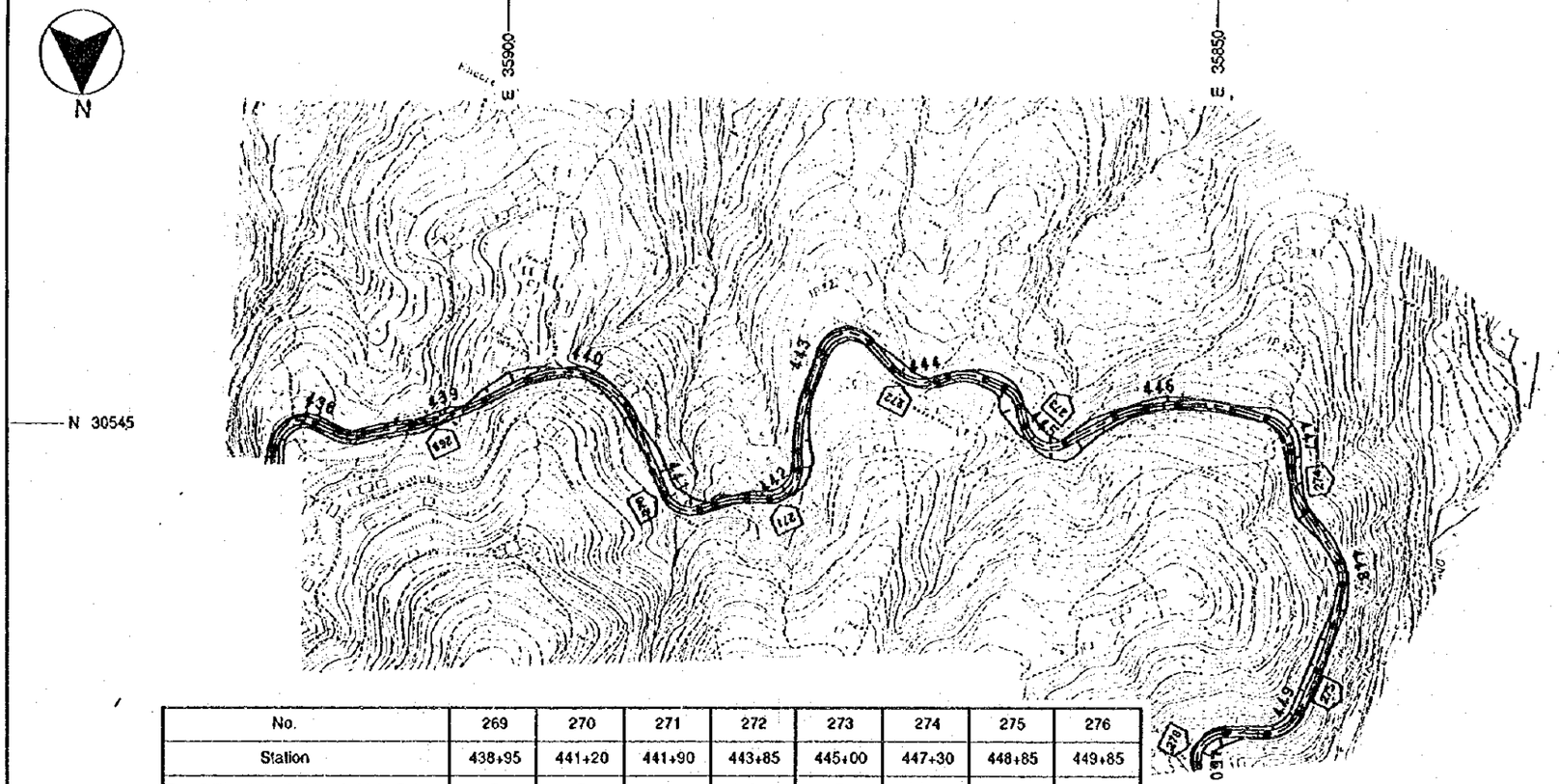


Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slab culvert (4m)

No.	262	263	264	265	266	267	268
Station	425+95	427+25	428+85	430+75	431+70	434+00	436+55
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B
Catchment area (ha)	0.7	4.9	2.0	4.0	2.0	0.6	43.0
Terrain (A: steep, B; flat)	B	B	B	B	B	B	A
Cross-drainage type	2	2	2	2	2	2	4
Checkdam &channel (m)	5	5	5	5	5	5	5

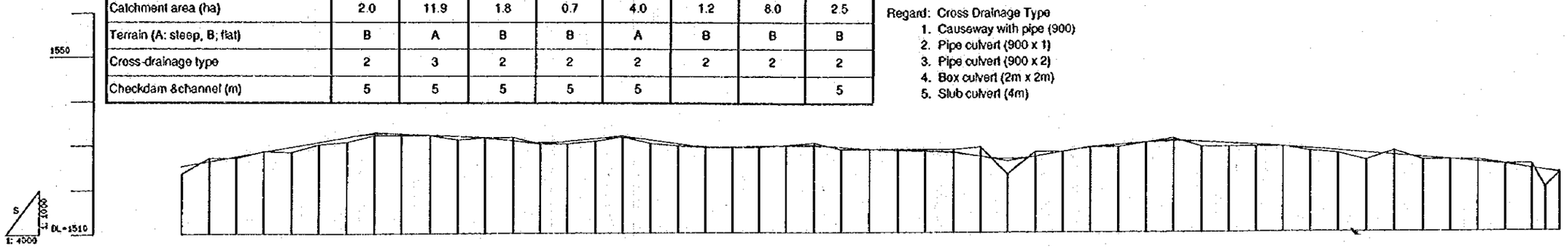


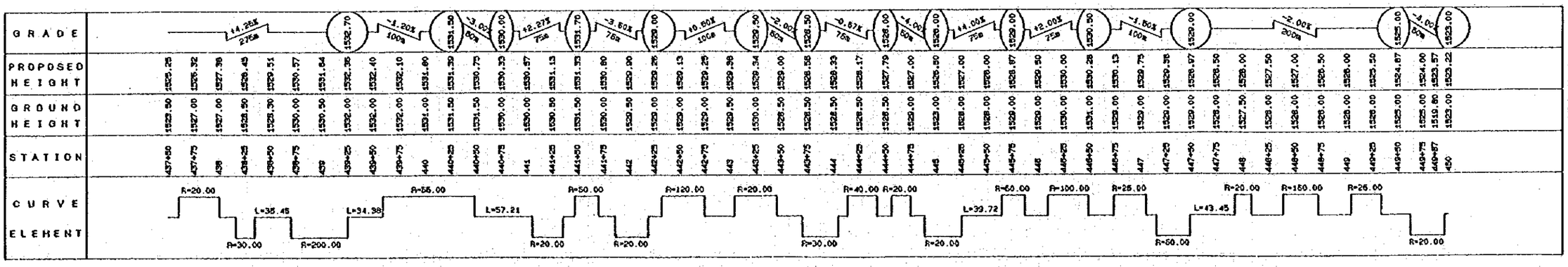
G-1-36: Location and Type of Cross Drainage to be applied STA.437+50~STA.450+00



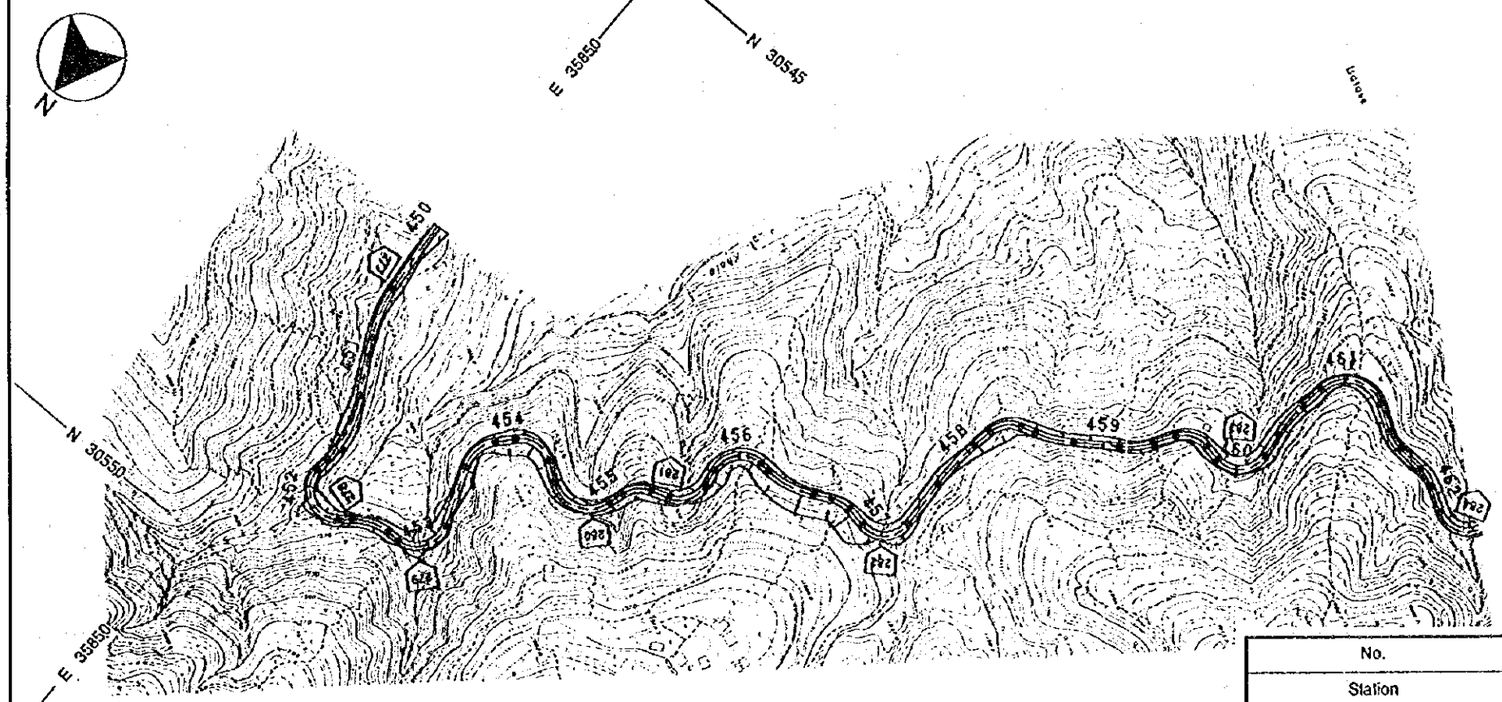
No.	269	270	271	272	273	274	275	276
Station	438+95	441+20	441+90	443+85	445+00	447+30	448+85	449+85
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B
Catchment area (ha)	2.0	11.9	1.8	0.7	4.0	1.2	8.0	2.5
Terrain (A: steep, B; flat)	B	A	B	B	A	B	B	B
Cross-drainage type	2	3	2	2	2	2	2	2
Checkdam &channel (m)	5	5	5	5	5			5

Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slab culvert (4m)



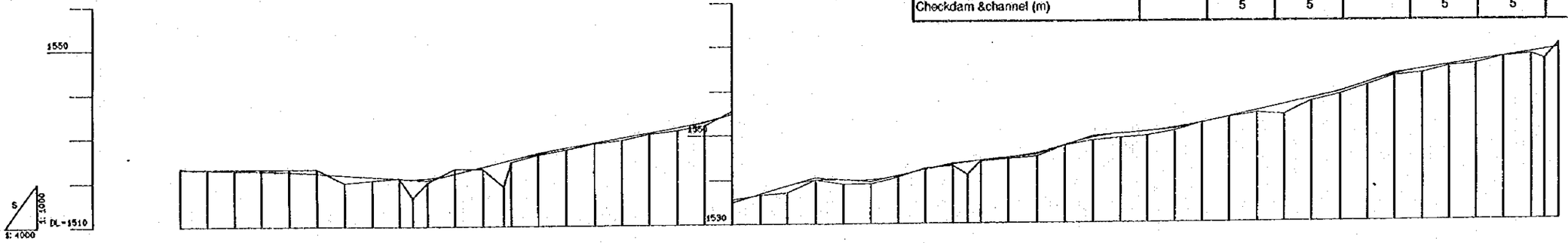


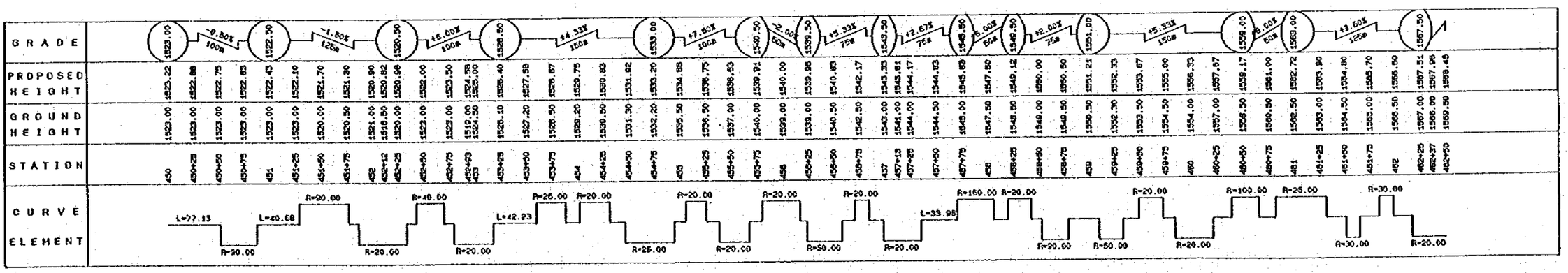
G-1-37: Location and Type of Cross Drainage to be applied STA.450+00~STA.462+50



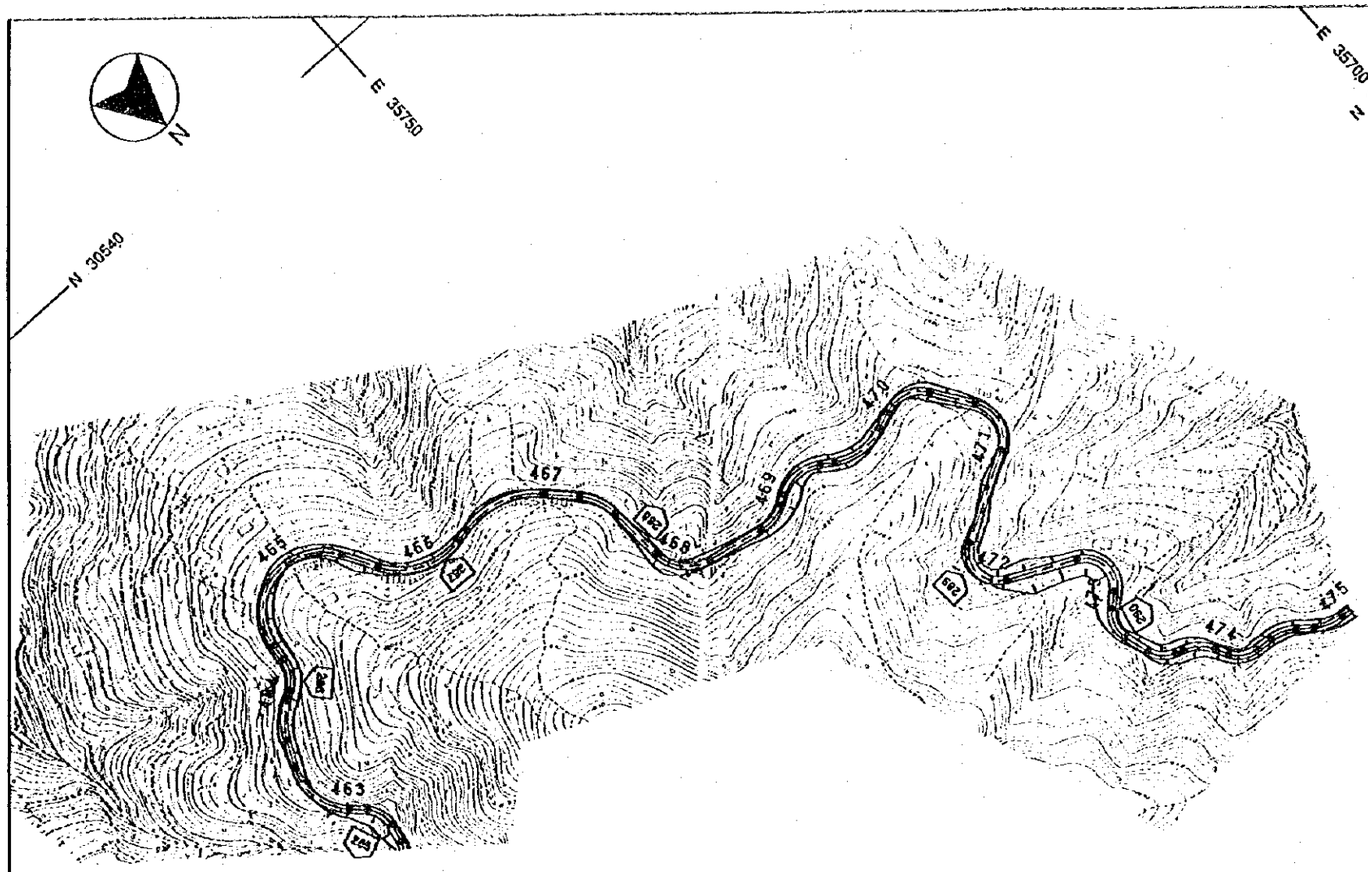
Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Stub culvert (4m)

No.	277	278	279	280	281	282	283	284
Station	450+40	452+15	452+90	454+65	455+40	457+15	460+00	462+35
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	A	B	B
Catchment area (ha)	3.0	50.0	15.5	1.2	1.2	1.5	1.3	1.8
Terrain (A: steep, B; flat)	B	A	B	B	B	A	A	A
Cross-drainage type	2	4	3	2	2	1	2	2
Checkdam &channel (m)		5	5		5	5	5	5



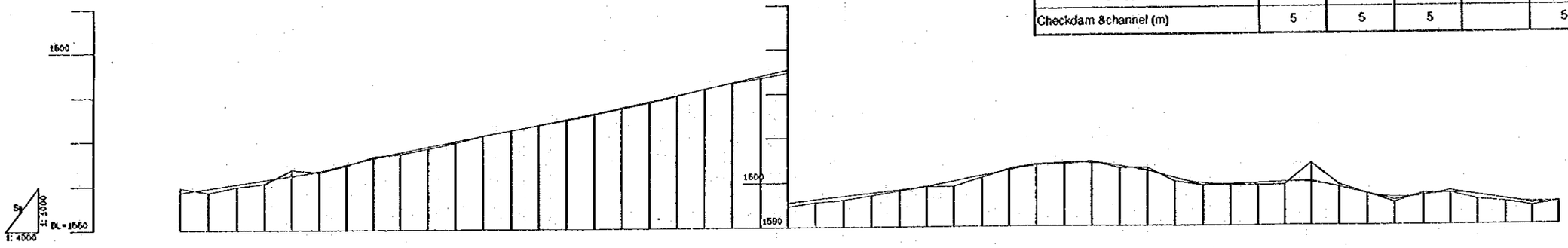


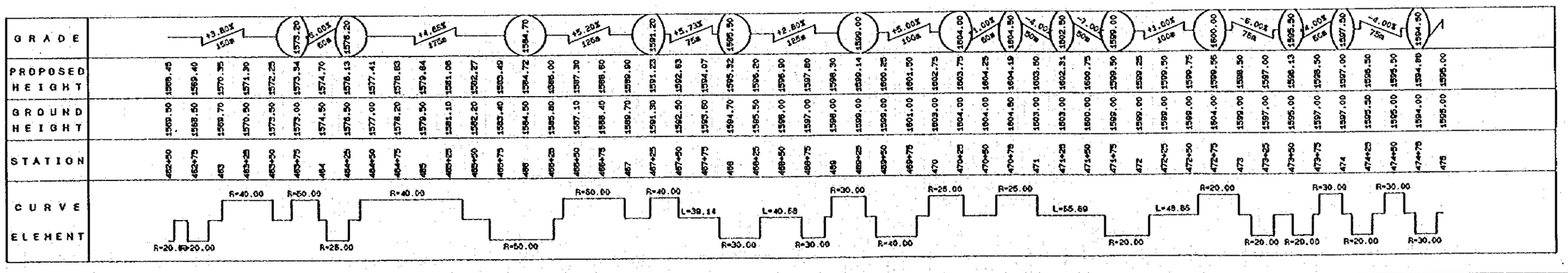
G-1-38: Location and Type of Cross Drainage to be applied STA.462+50~STA.475+00



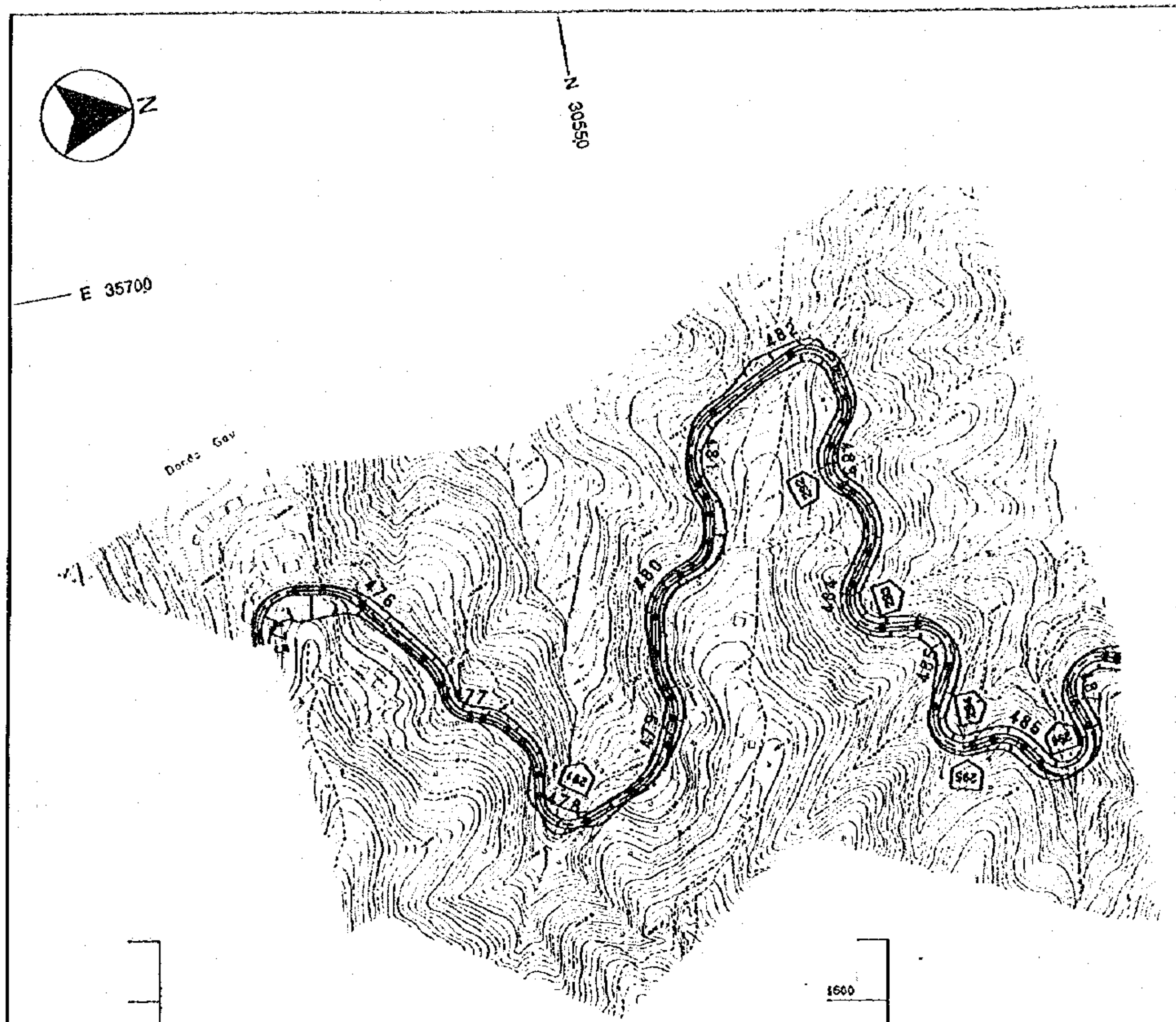
Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slab culvert (4m)

No.	285	286	287	288	289	290
Station	462+75	464+15	466+25	467+70	471+80	473+15
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B
Catchment area (ha)	1.0	0.7	1.7	3.9	3.2	4.1
Terrain (A: steep, B; flat)	A	A	A	A	A	A
Cross-drainage type	2	2	2	2	2	2
Checkdam &channel (m)	5	5	5		5	5



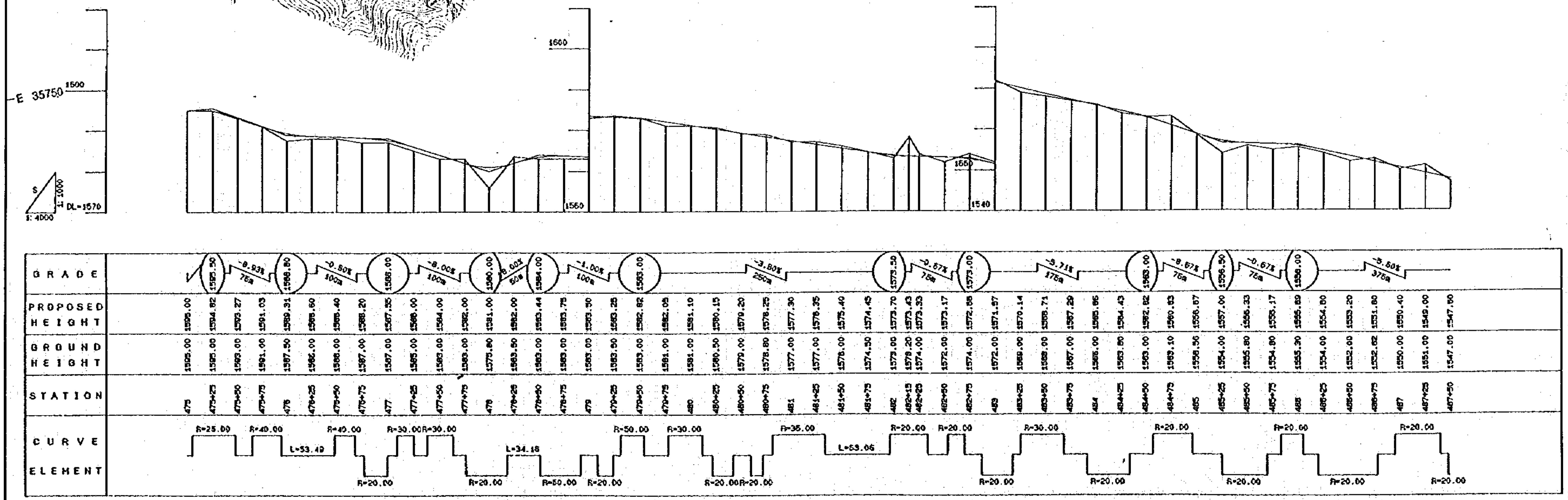


G-1-39: Location and Type of Cross Drainage to be applied STA.475+00~STA.487+50

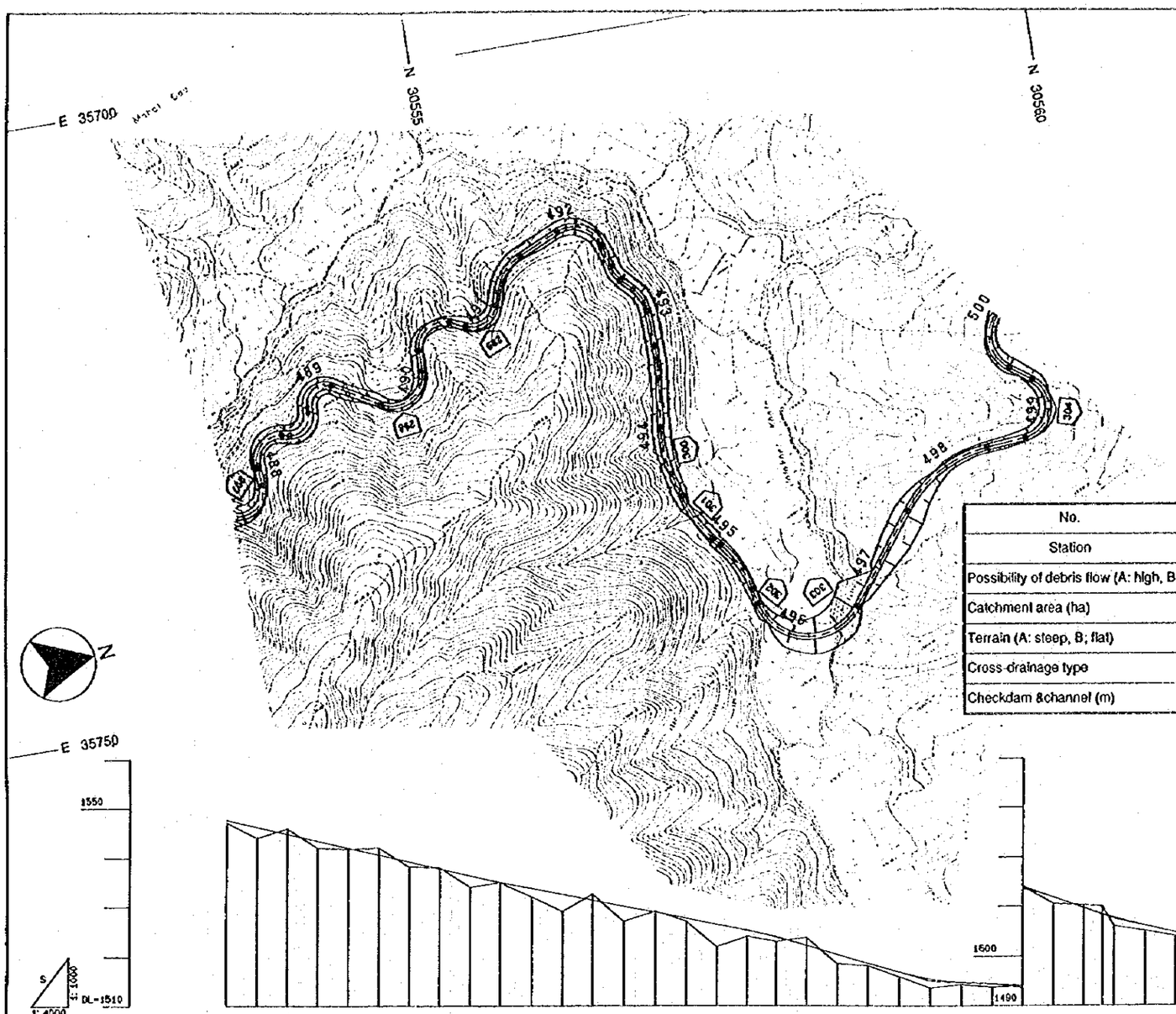


Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slub culvert (4m)

No.	291	292	293	294	295	296
Station	478+00	483+05	484+10	485+30	485+60	486+35
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B
Catchment area (ha)	11.5	0.5	1.1	1.5	7.2	8.3
Terrain (A: steep, B: flat)	A	A	A	A	A	A
Cross-drainage type	3	2	2	2	2	2
Checkdam &channel (m)		5	5	5	5	5

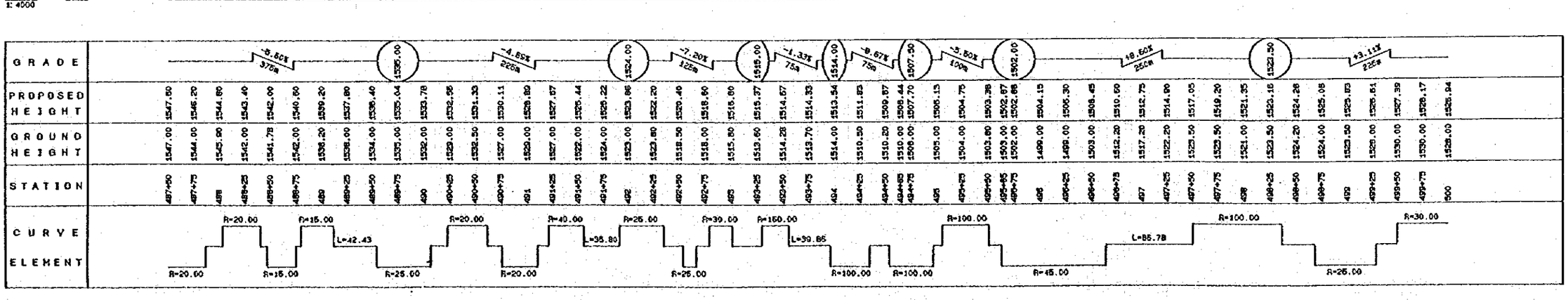


G-1-40: Location and Type of
Cross Drainage to be applied
STA.487+50~STA.500+00

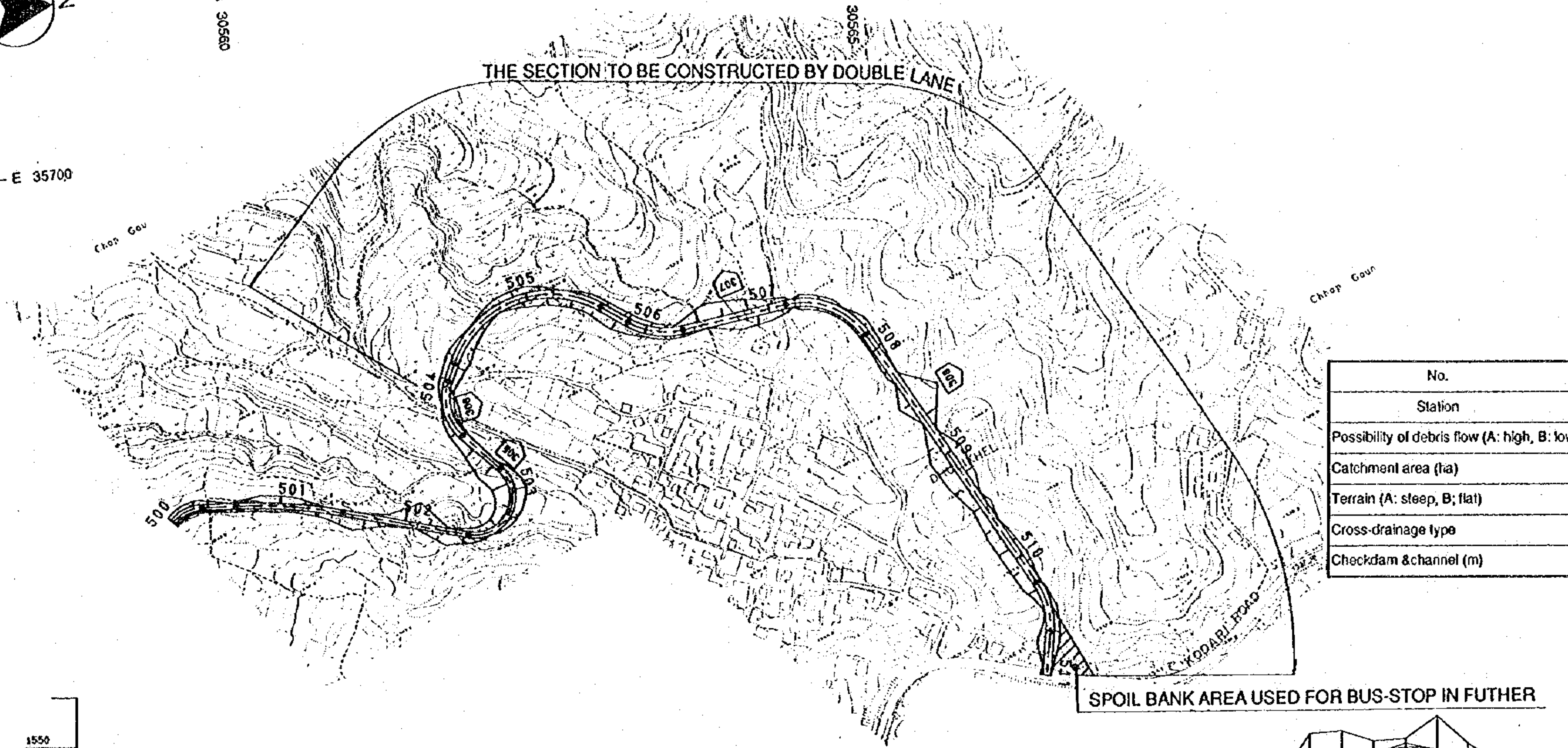


Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slab culvert (4m)

No.	297	298	299	300	301	302	303	304
Station	487+65	489+70	490+90	494+15	494+75	495+70	496+45	499+00
Possibility of debris flow (A: high, B: low)	B	B	B	B	B	B	B	B
Catchment area (ha)	1.2	1.5	1.3	1.8	4.5	5.5	24.0	3.3
Terrain (A: steep, B; flat)	A	A	A	B	B	B	B	B
Cross-drainage type	2	2	2	2	2	2	5	2
Checkdam &channel (m)	5	5	5	5	5	5		5

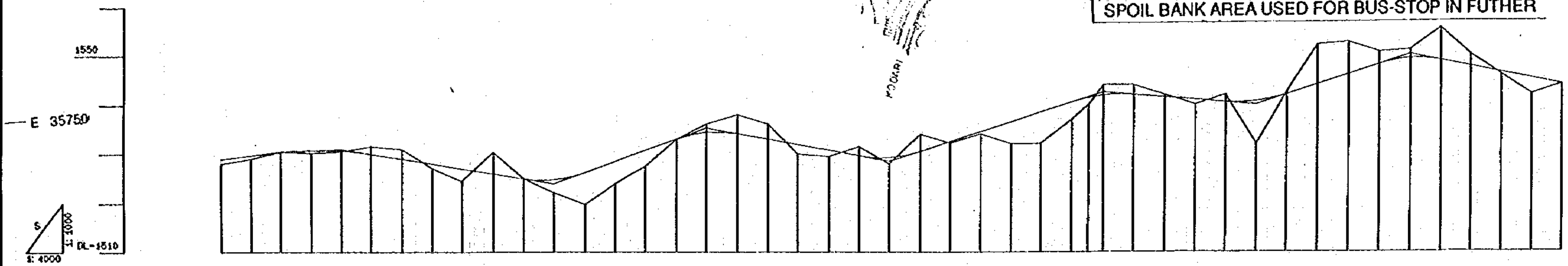


G-1-41: Location and Type of Cross Drainage to be applied STA.500+00~STA.511+00



Regard: Cross Drainage Type
1. Causeway with pipe (900)
2. Pipe culvert (900 x 1)
3. Pipe culvert (900 x 2)
4. Box culvert (2m x 2m)
5. Slub culvert (4m)

No.	305	306	307	308
Station	503+15	503+75	506+75	508+50
Possibility of debris flow (A: high, B: low)	B	B	B	B
Catchment area (ha)	5.2	5.2	2.8	1.4
Terrain (A: steep, B; flat)	B	B	B	B
Cross-drainage type	2	2	2	2
Checkdam &channel (m)	5	5	5	5



GRADE: +3.11% 225m — 1530.50 — 1.00% 50m — 1531.00 — -4.00% 175m — 1524.00 — +8.00% 125m — 1536.25 — -4.50% 150m — 1528.50 — +8.00% 175m — 1542.50 — -2.00% 125m — 1540.00 — +8.00% 125m — 1550.00 — -4.80% 125m — 1544.00

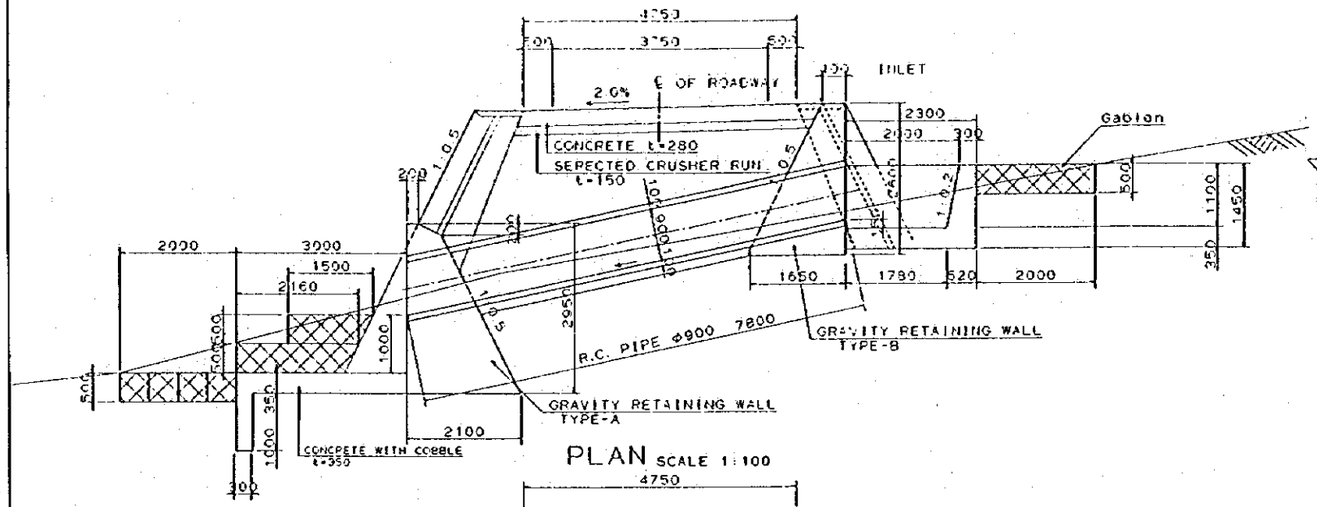
STATION	PROPOSED HEIGHT	GROUND HEIGHT
500	1528.94	1528.00
500+25	1529.72	1529.00
500+50	1530.37	1530.50
500+75	1530.75	1530.20
501	1530.69	1530.50
501+25	1530.00	1531.50
501+50	1529.00	1531.00
501+75	1528.00	1527.00
502	1527.00	1524.50
502+25	1526.00	1530.30
502+50	1525.00	1525.00
502+75	1524.81	1522.20
503	1525.25	1519.70
503+25	1528.50	1524.00
503+50	1530.75	1527.50
503+75	1533.00	1533.00
504	1534.41	1536.20
504+25	1534.13	1538.00
504+50	1533.00	1536.20
504+75	1531.86	1530.00
505	1530.75	1529.50
505+25	1529.63	1531.50
505+50	1529.26	1528.00
505+75	1530.50	1534.00
506	1532.50	1532.20
506+25	1534.50	1534.00
506+50	1536.50	1532.00
506+75	1538.50	1532.00
507	1540.50	1537.00
507+13	1541.37	1540.00
507+25	1541.87	1544.00
507+50	1542.00	1544.00
507+75	1541.50	1542.00
508	1541.00	1540.00
508+25	1540.50	1542.00
508+50	1540.83	1532.00
508+75	1542.00	1542.80
509	1544.00	1552.00
509+25	1546.00	1552.50
509+50	1548.00	1550.50
509+75	1549.20	1551.00
510	1548.80	1555.50
510+25	1547.60	1550.00
510+50	1546.40	1546.00
510+75	1545.20	1542.00
511	1544.00	1544.00

CURVE ELEMENT: R=30.00 — R=400.00 — L=101.17 — R=30.00 — L=40.02 — R=40.00 — R=80.00 — R=50.00 — L=83.48 — R=60.00 — L=239.26 — R=50.00 — L=36.23

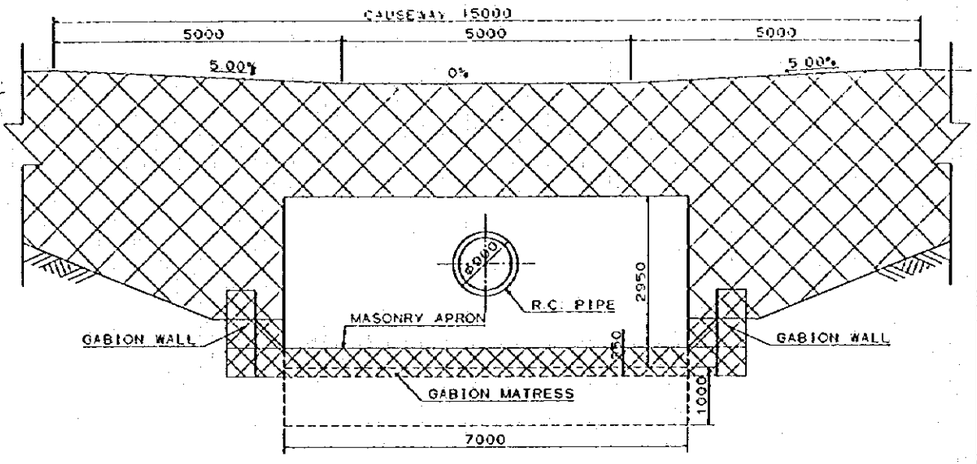
G-2 STANDARD PLAN OF CROSS DRAINAGES

TYPE-1 : CAUSEWAY WITH PIPE CULVERT (φ900 SINGLE)

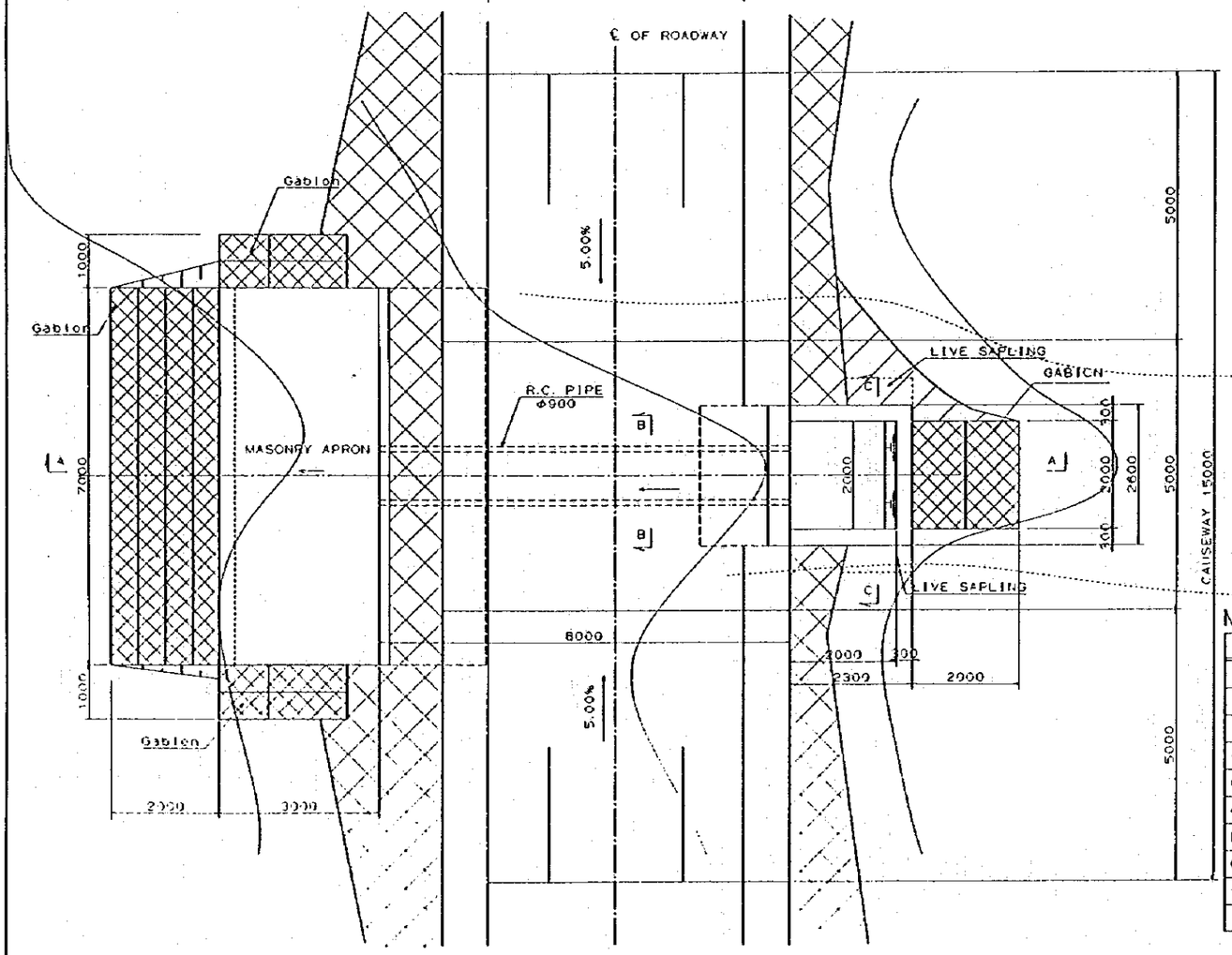
PLOFILE SCALE 1:100



FRONT ELEVATION SCALE 1:100

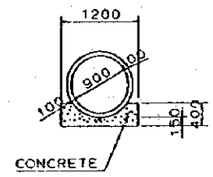


PLAN SCALE 1:100



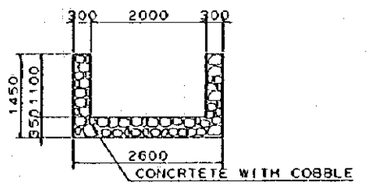
SECTION B-B SCALE 1:100

R.C. PIPE



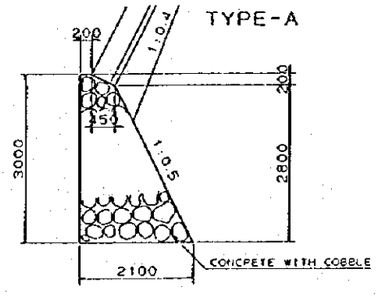
SECTION C-C SCALE 1:100

CATCH BASIN (INLET SIDE)

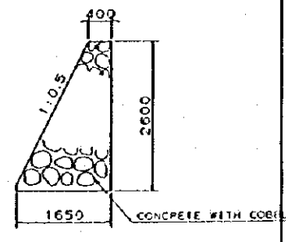


GRAVITY RETAINING WALL SCALE 1:100

TYPE-A



TYPE-B



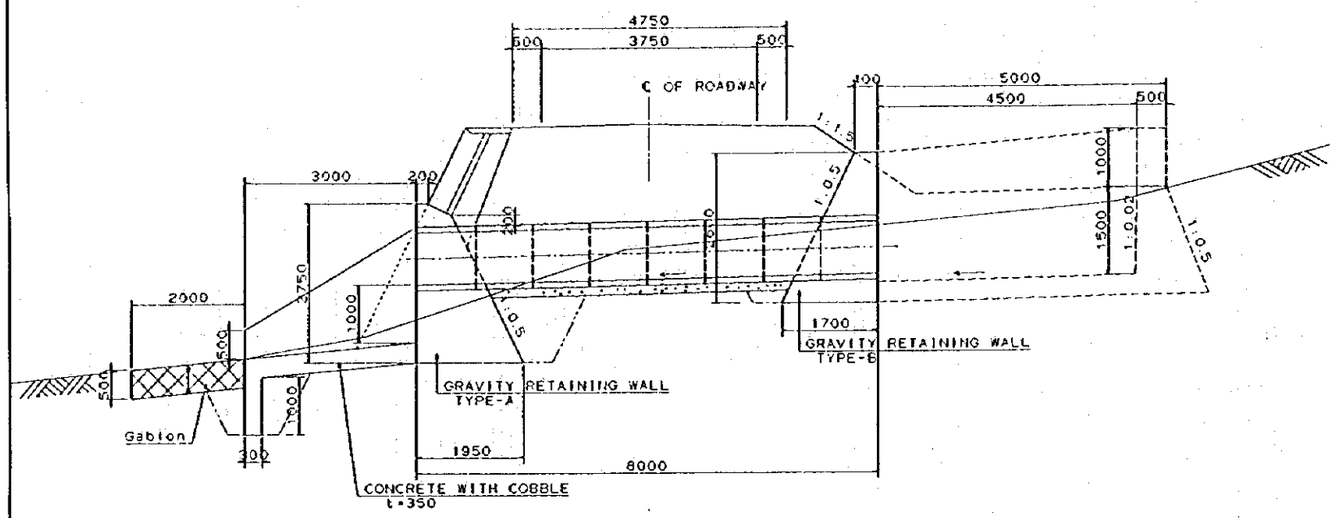
MATERIALS

ITEM	CLASS	UNIT	QUANITY	REMARKS
EXCAVATION		m3	67.8	
BACKFILL		m3	15.4	
R.C. PIPE	φ900	m	7.8	
G' RETAINING WALL		m3	24.5	
CONCRETE	σck=180kg/m2	m3	2.3	
CONCRETE WITH COBBLE		m3	22.6	
FORM WORK		m2	3.9	
GABION		m3	12.7	

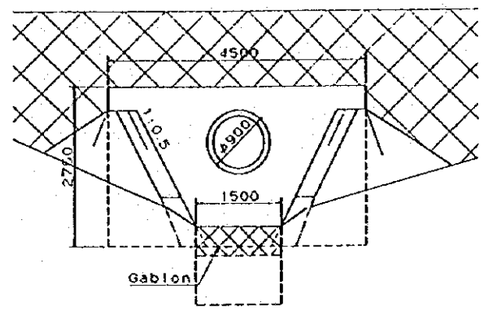
G-2-1 Standard Plan of CAuseway with Pipe Culvert (900 mm)

TYPE-2 : R.C. PIPE CULVERT (φ900 SINGLE)

PLOFILE A-A SCALE 1:100

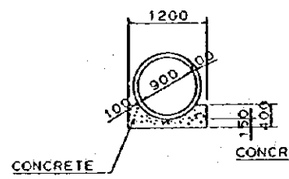


FRONT ELEVATION SCALE 1:100



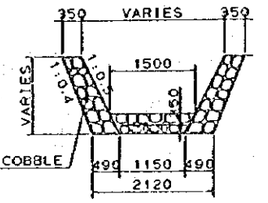
SECTION B-B SCALE 1:100

R.C. PIPE

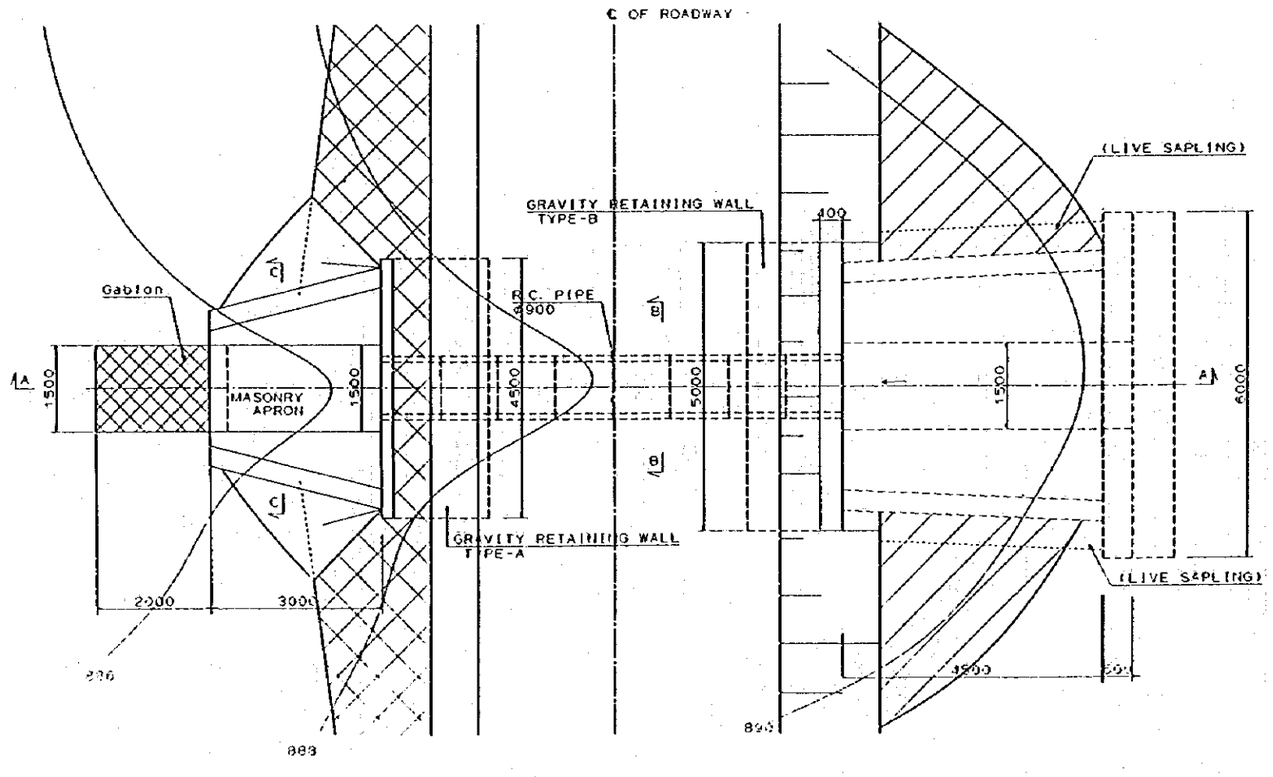


SECTION C-C SCALE 1:100

APPROUCH WATERWAY

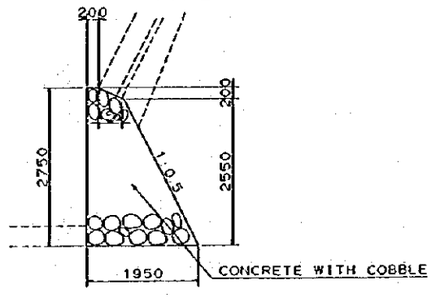


PLAN SCALE 1:100

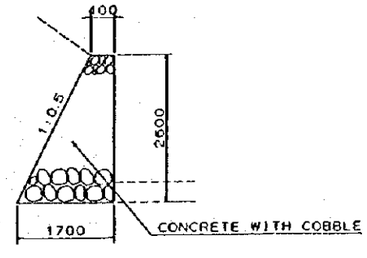


GRAVITY RETAINING WALL SCALE 1:100

TYPE-A



TYPE-B



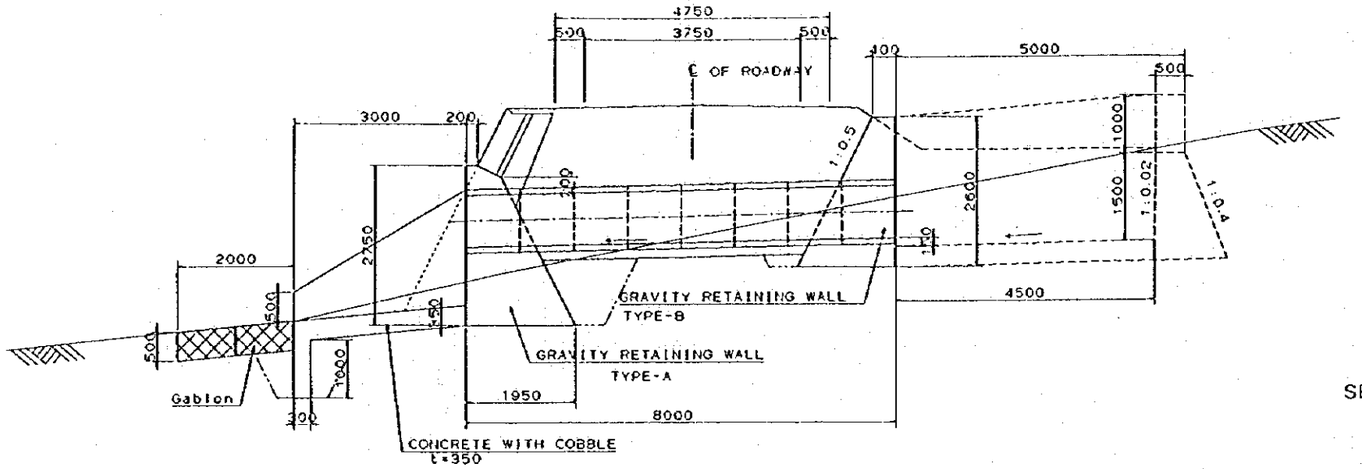
MATERIALS

ITEM	CLASS	UNIT	QUANITY	REMARKS
EXCAVATION		m3	38.1	
BACKFILL		m3	12.8	
R.C. PIPE	φ900	m	8.0	
SUPPORTED WALL		m2	8.4	
GRAVITY WALL		m3	28.4	
CONCRETE	σck=180kg/m2	m3	2.5	
CONCRETE WITH COBBLE		m3	1.8	
FORM WORK		m2	4.2	
GABION		m3	1.5	

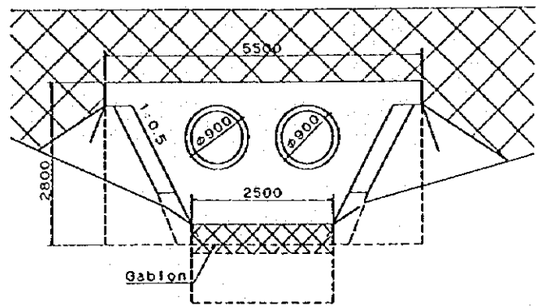
G-2-2 Standard Plan of with Pipe Culvert (900 mm)

TYPE-3 : R.C. PIPE CULVERT (φ900 DOUBLE)

PLOFILE A-A SCALE 1:100

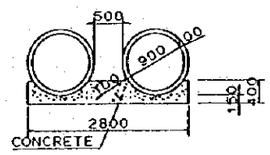


FRONT ELEVATION SCALE 1:100



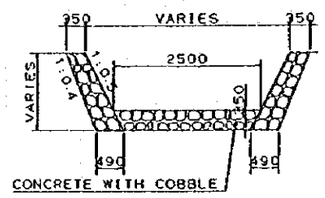
SECTION B-B SCALE 1:100

R.C. PIPE

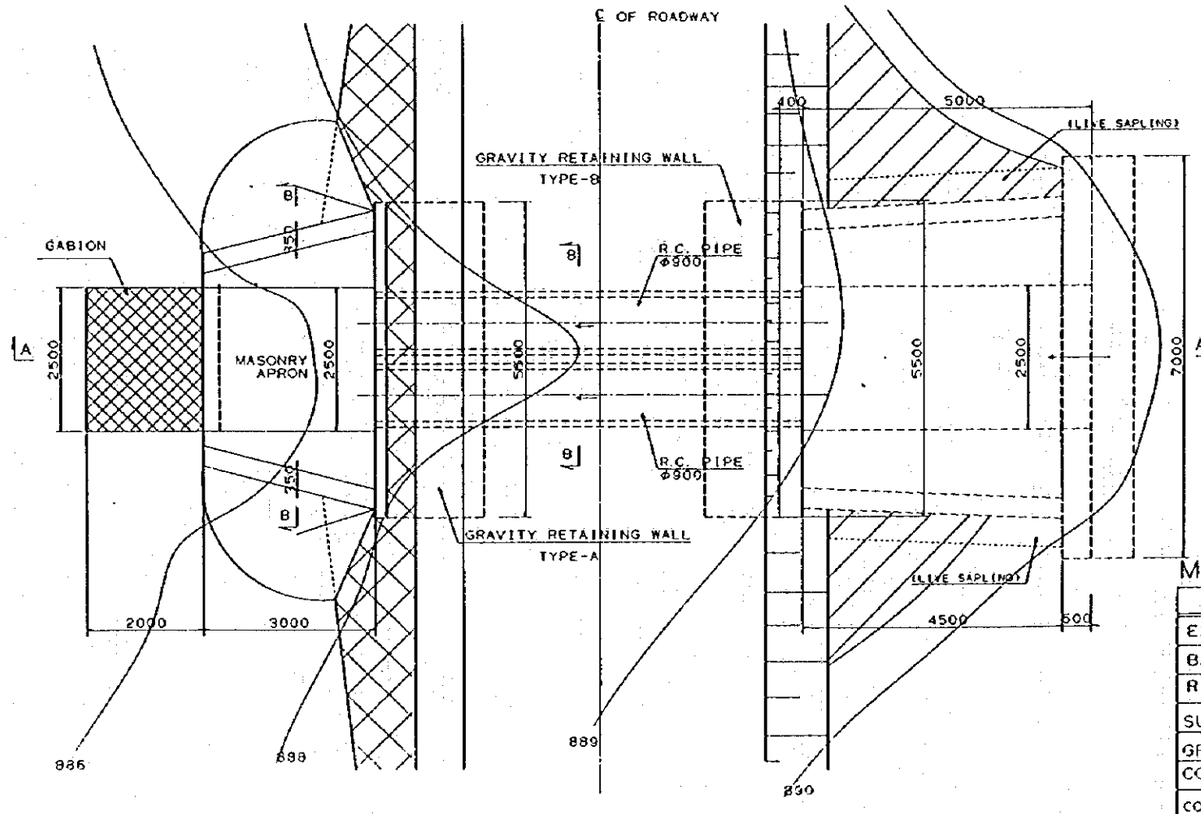


SECTION C-C SCALE 1:100

APPROUCH WATERWAY

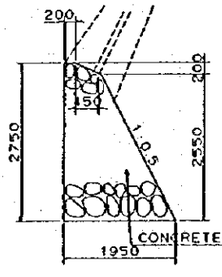


PLAN SCALE 1:100

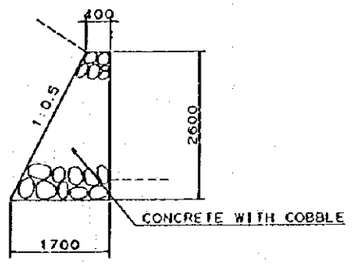


GRAVITY RETAINING WALL SCALE 1:100

TYPE-A



TYPE-B



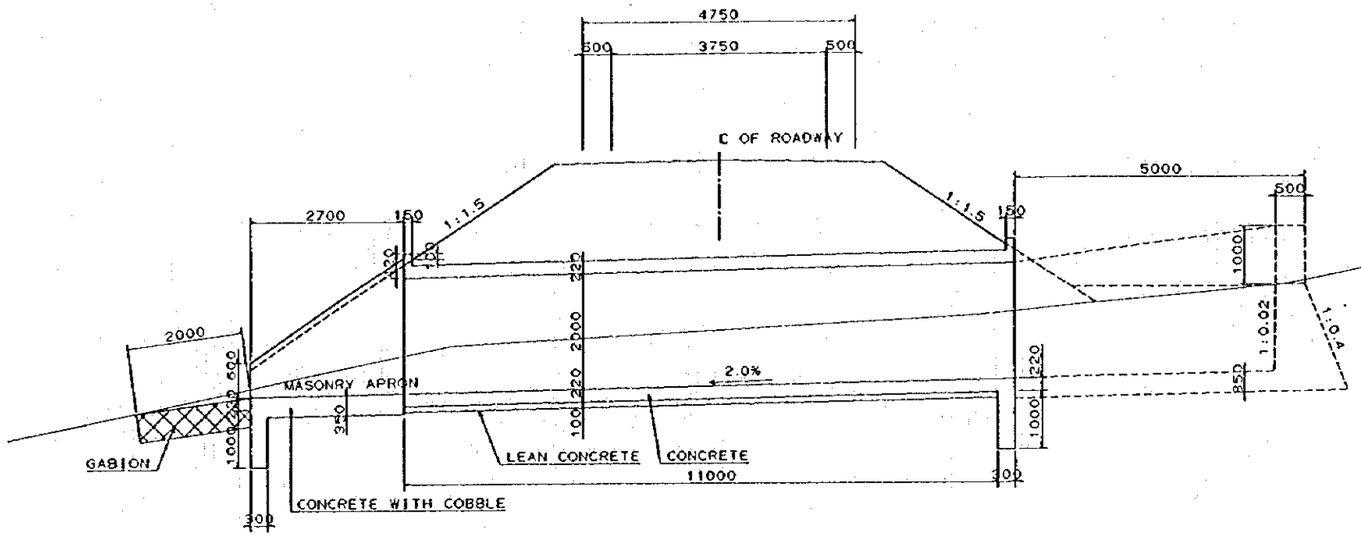
MATERIALS

ITEM	CLASS	UNIT	QUANITY	REMARKS
EXCAVATION		m3	49.8	
BACKFILL		m3	15.5	
R.C. PIPE	φ900	m	8.0	
SUPPORTED WALL		m2	8.4	
GRAVITY WALL		m3	33.7	
CONCRETE	σck=180kg/m2	m3	4.8	
CONCRETE WITH COBBLE		m3	3.2	
FORM WORK		m2	6.4	
GABION		m3	2.5	

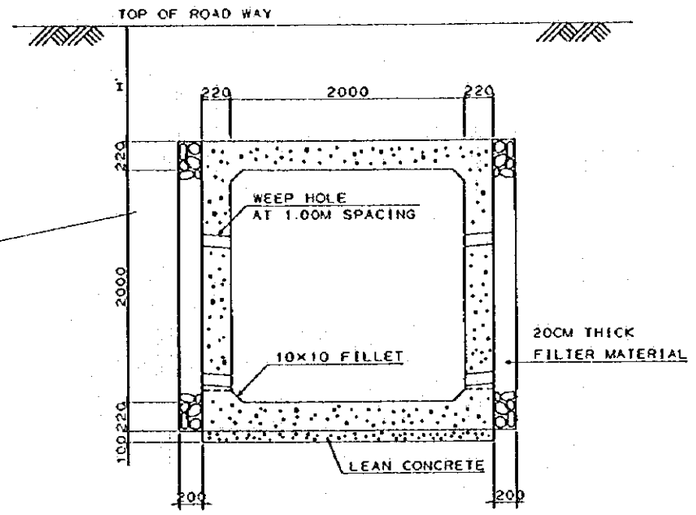
G-2-3 Standard Plan of with Pipe Culvert (900 mm x 2 nos.)

TYPE-4 : BOX CULVERT (2.00m×2.00m)

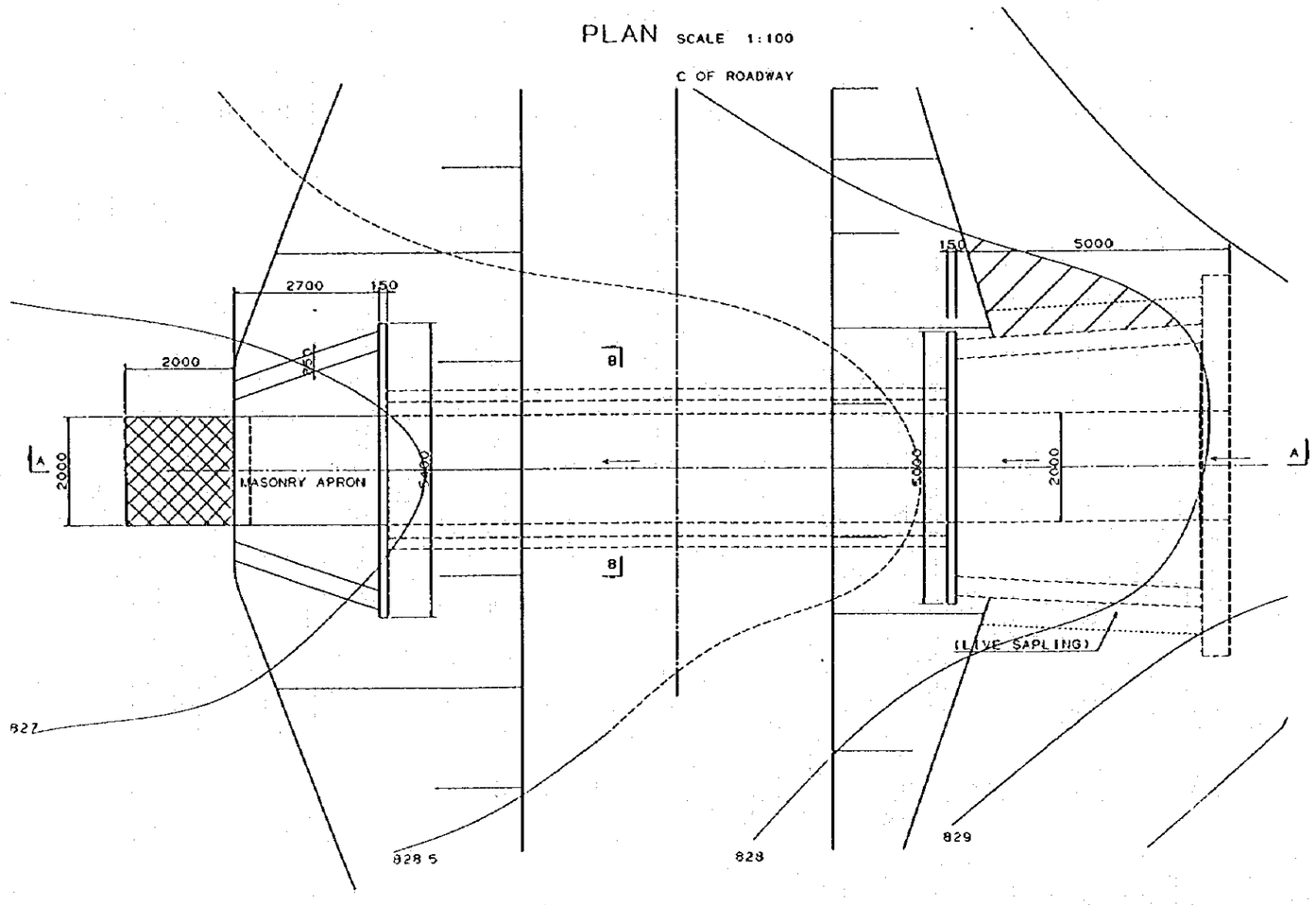
PLOFILE A-A SCALE 1:100



SECTION B-B SCALE 1:50



PLAN SCALE 1:100



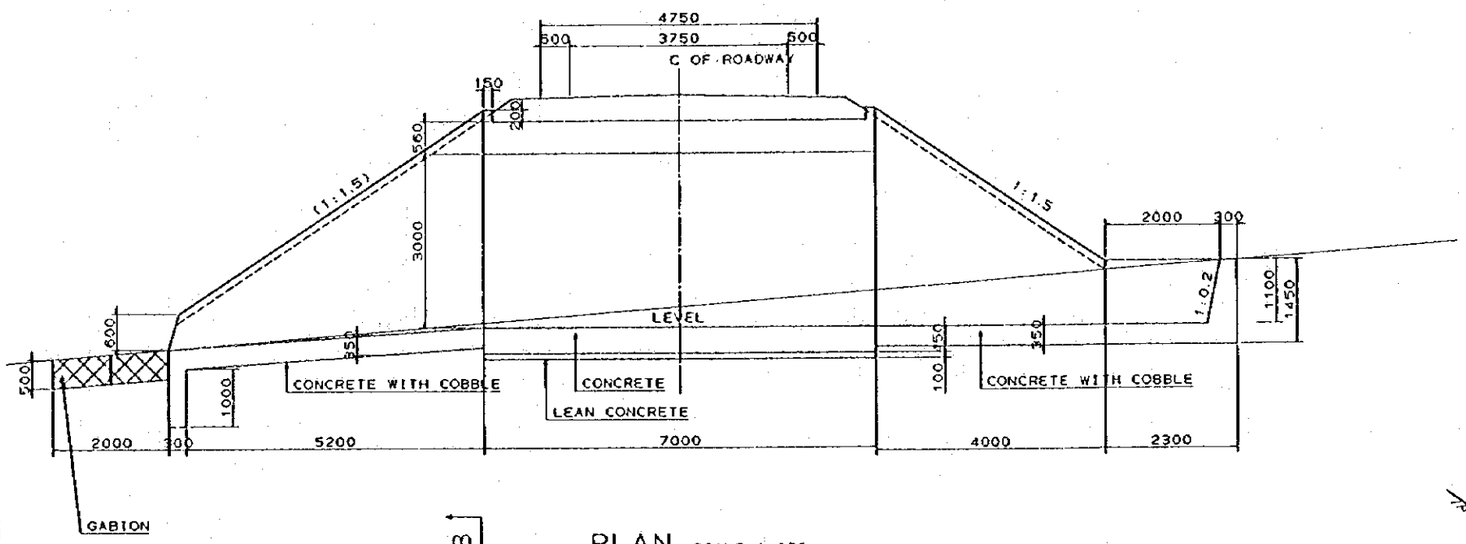
MATERIALS

ITEM	CLASS	UNIT	QUANITY	REMARKS
EXCAVATION		m3	117.6	
BACKFILL		m3	72.0	
SUPPORT WALL		m2	9.1	
LEAN CONCRETE	σck=160kg/m2	m3	2.7	
CONCRETE WITH COBBLE		m3	2.3	
CONCRETE	σck=240kg/m2	m3	29.1	
FORM WORK		m2	180.1	
FORM WORK	LEAN CONCRETE	m2	2.2	
REINFORCEMENT BAR	φ10	t	3.8	
SUPPORT		m3	45.2	
GABION		m3	2.0	

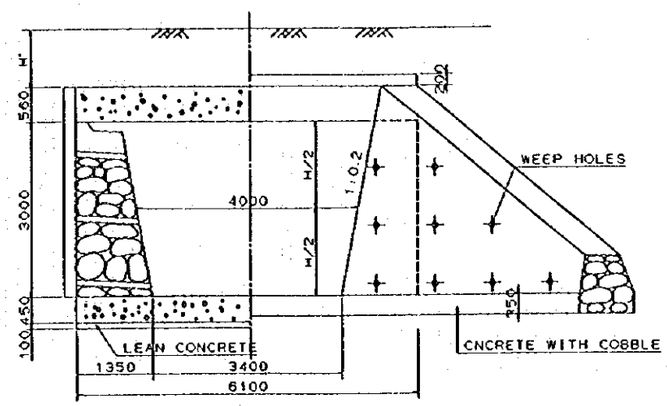
G-2-4 Standard Plan of with Box Culvert (2m x2 m)

TYPE-5 : SLAB CULVERT (4.00m SINGLE)

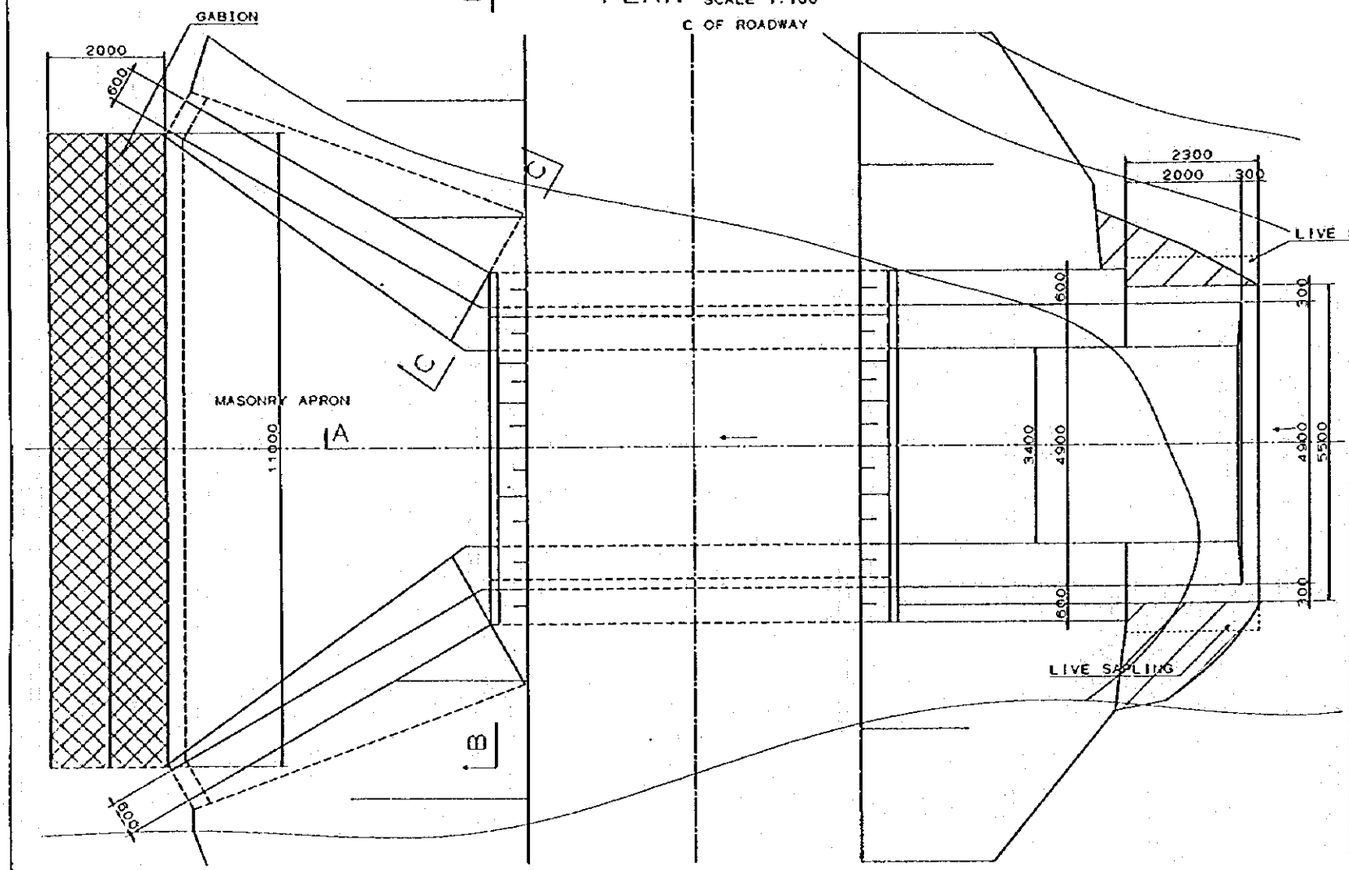
SECTION A-A SCALE 1:100



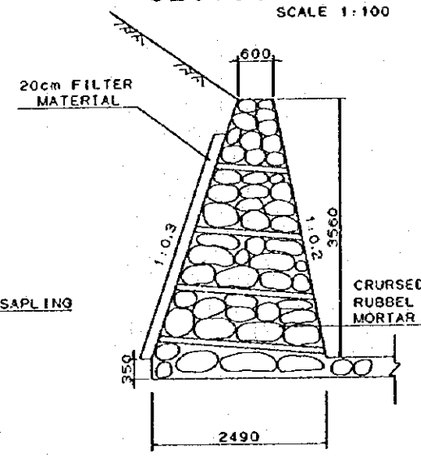
SECTION B-B SCALE 1:100



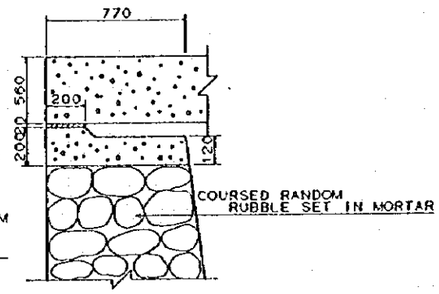
PLAN SCALE 1:100



SECTION C-C SCALE 1:100



DETAIL AT R.C. SEAT SCALE 1:30



MATERIALS

ITEM	CLASS	UNIT	QUANITY	REMARKS
EXCAVATION		m3	147.3	
BACKFILL		m3	81.1	
GRAVITY WALL		m3	95.1	
LEAN CONCRETE	ack=180kg/m2	m3	4.7	
CONCRETE WITH COBBLE		m3	36.1	
CONCRETE	ack=240kg/m2	m3	45.3	
FORM WORK	LEAN CONC	m2	1.4	
FORM WORK		m2	51.1	
REINFORCEMENT BAR		t	4.5	
SUPPORT		m3	84.0	
GABION		m3	11.0	
LIVE SAPLING		m2	4.1	

G-2-5 Standard Plan of with Slub Culvert (W = 4 m)