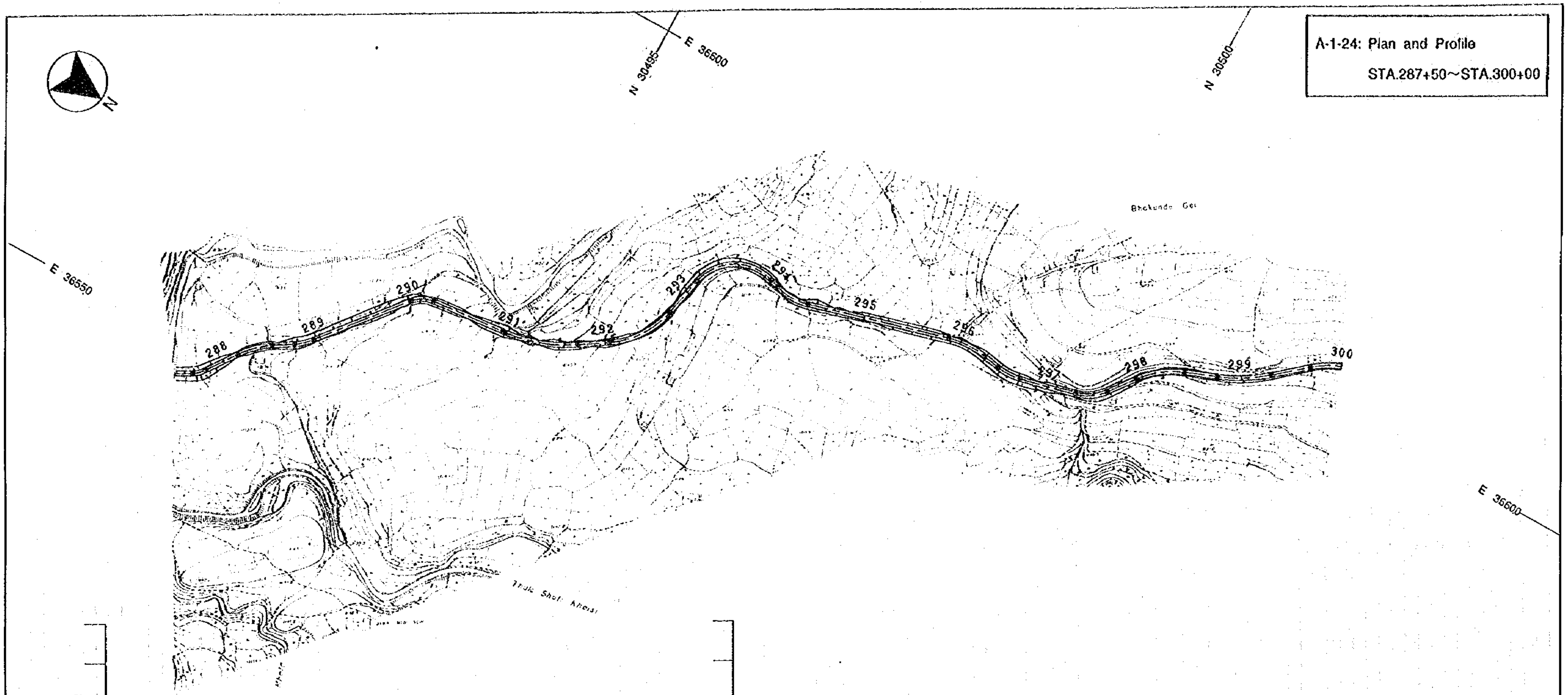
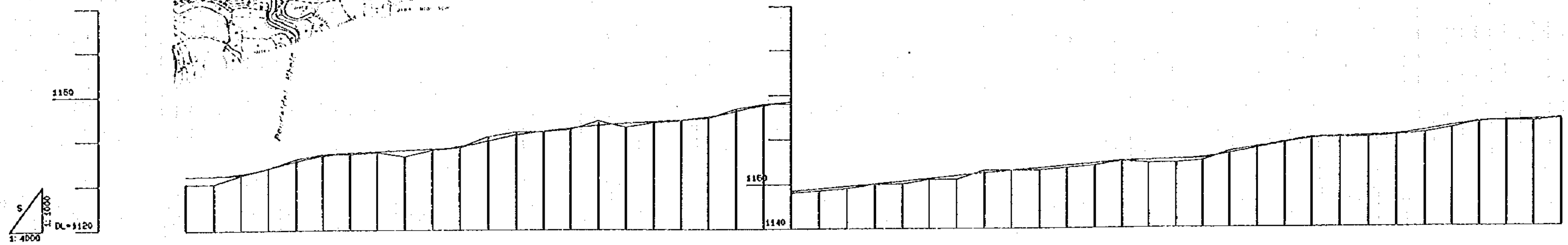
A-1-24: Plan and Profile

STA.287+50~STA.300+00





GRADE: +0.75% 200m | (1132.50) | +5.00% 75m | (1137.00) | +1.20% 125m | (1138.50) | +6.00% 50m | (1141.30) | +2.67% 75m | (1143.50) | +1.50% 100m | (1145.00) | +6.00% 50m | (1148.00) | +2.00% 100m | (1150.00) | +2.50% 100m | (1152.50) | +2.00% 125m | (1155.00) | +0.67% 75m | (1155.50) | +4.50% 100m | (1160.00) | +0.67% 75m | (1160.50) | +4.00% 75m | (1163.50) | +0.67% 75m | (1164.00)

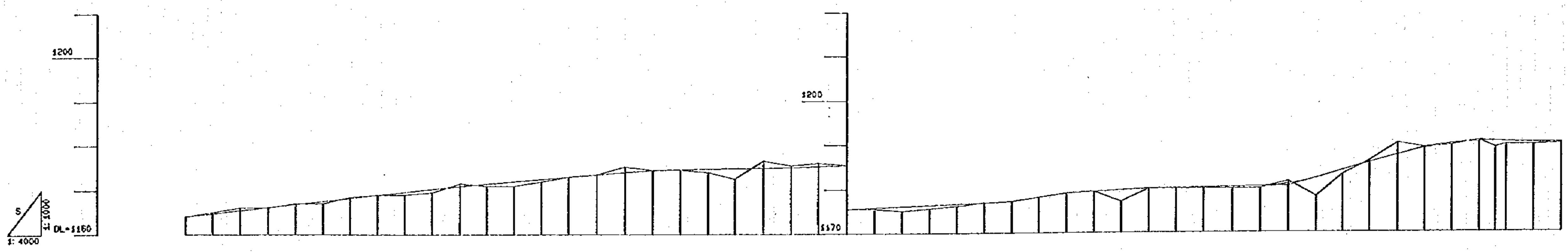
STATION	PROPOSED HEIGHT	GROUND HEIGHT
287+50	1132.13	1130.50
287+75	1132.31	1130.50
288	1132.83	1132.50
288+25	1134.00	1134.00
288+50	1135.50	1135.00
288+75	1136.70	1137.00
289	1137.30	1137.00
289+25	1137.60	1137.50
289+50	1137.90	1138.50
289+75	1138.20	1138.00
290	1138.80	1138.50
290+25	1140.00	1141.00
290+50	1141.20	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	1150.63	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	1153.00
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	1156.63	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=30.00 | R=50.00 | L=104.11 | R=30.00 | L=75.59 | R=150.00 | R=90.00 | L=40.87 | R=60.00 | R=50.00 | L=145.05 | R=90.00 | R=50.00 | L=58.13 | R=50.00 | R=90.00 | R=150.00 | L=38.15 | R=90.00

A-1-25: Plan and Profile

STA.300+00~STA.312+50

E 36600



GRADE

Point (circled)	Grade	Length
1164.00	+2.80%	125m
1167.50	+2.80%	125m
1171.00	+2.00%	175m
1174.50	+0.40%	125m
1175.00	+1.00%	200m
1177.00	4.00%	50m
1179.00	+1.33%	75m
1180.00	+0.40%	125m
1180.50	+6.80%	125m
1189.00	3.00%	50m
1190.50	-1.00%	50m
1190.00		

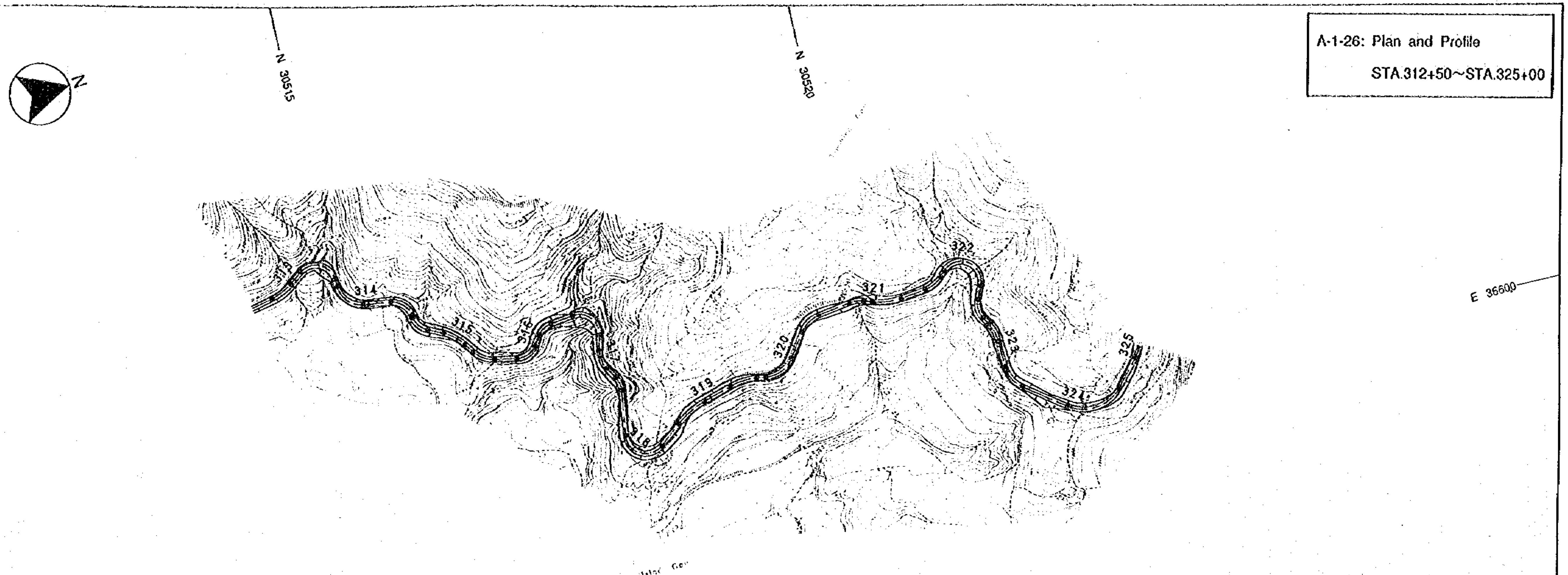
STATION	PROPOSED HEIGHT	GROUND HEIGHT
300	1164.13	1164.00
300+25	1164.70	1165.00
300+50	1165.40	1166.00
300+75	1166.10	1166.00
301	1166.80	1167.00
301+25	1167.50	1167.00
301+50	1168.20	1168.50
301+75	1168.90	1169.00
302	1169.60	1169.00
302+25	1170.30	1169.50
302+50	1170.95	1171.50
302+75	1171.50	1171.00
303	1172.00	1171.00
303+25	1172.50	1172.00
303+50	1173.00	1173.00
303+75	1173.50	1173.50
304	1174.00	1175.20
304+25	1174.40	1174.50
304+50	1174.60	1174.50
304+75	1174.70	1174.00
305	1174.80	1172.50
305+25	1174.90	1176.50
305+50	1175.04	1175.50
305+75	1175.25	1176.00
306	1175.50	1175.50
306+25	1175.75	1175.50
306+50	1176.00	1175.00
306+75	1176.25	1173.50
307	1176.50	1176.00
307+25	1176.75	1176.80
307+50	1177.19	1177.00
307+75	1178.00	1178.00
308	1178.83	1179.00
308+25	1179.33	1179.30
308+50	1179.67	1177.00
308+75	1179.94	1180.00
309	1180.10	1180.00
309+25	1180.20	1180.00
309+50	1180.30	1180.00
309+75	1180.40	1180.00
310	1180.90	1181.50
310+25	1182.20	1178.00
310+50	1183.90	1183.00
310+75	1185.60	1186.00
311	1187.30	1190.00
311+25	1188.76	1189.00
311+50	1189.75	1189.50
311+75	1190.25	1190.50
311+90	1190.31	1189.00
312	1190.25	1189.80
312+25	1190.10	1189.50
312+50	1190.17	1189.90

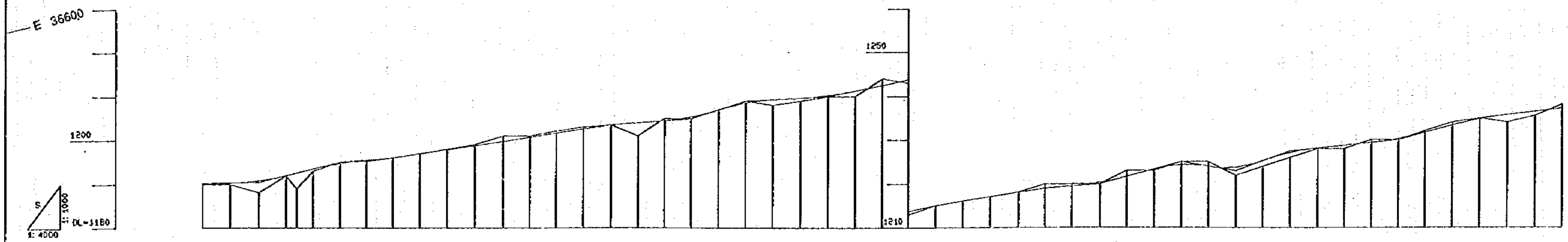
CURVE ELEMENT

R=90.00, R=200.00, R=200.00, L=128.52, R=200.00, L=49.35, R=60.00, R=20.00, R=20.00, L=297.37, R=1000.00, L=79.42, R=100.00, R=50.00, L=57.73, R=40.00, L=71.78

A-1-26: Plan and Profile

STA.312+50~STA.325+00





GRADE: +0.67% 75m — (1190.50) — +6.00% 75m — (1195.00) — 2.00% 60m — (1196.00) — +3.75% 200m — (1203.50) — +2.00% 75m — (1205.00) — 8.00% 60m — (1209.00) — +1.33% 75m — (1210.00) — +5.00% 100m — (1215.00) — +4.00% 100m — (1219.00) — 2.00% 60m — (1220.00) — +6.67% 75m — (1225.00) — -4.00 50m — (1223.00) — 9.00% 60m — (1227.50) — +2.50% 100m — (1230.00) — +5.67% 75m — (1235.00) — +3.00% 100m

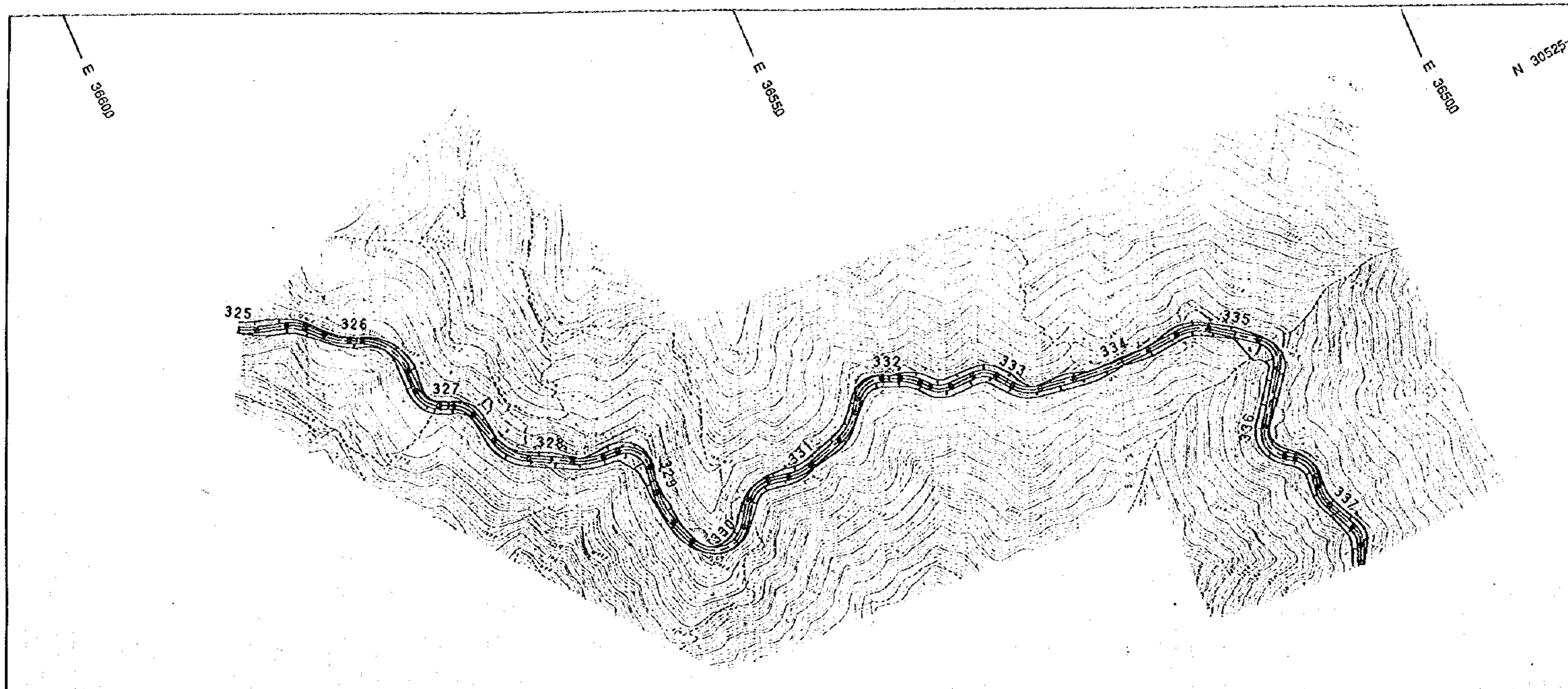
STATION	PROPOSED HEIGHT	GROUND HEIGHT
312+50	1190.17	1189.90
312+75	1190.33	1190.00
313	1190.83	1188.00
313+25	1192.00	1192.00
313+35	1192.60	1189.00
313+50	1193.50	1193.00
313+75	1194.75	1195.00
314	1195.50	1195.20
314+25	1196.11	1196.00
314+50	1196.94	1197.00
314+75	1197.88	1198.00
315	1198.81	1199.00
315+25	1199.75	1201.00
315+50	1200.69	1201.00
315+75	1201.63	1202.00
316	1202.56	1203.00
316+25	1203.39	1203.50
316+50	1204.00	1201.00
316+75	1204.50	1205.00
317	1205.38	1205.00
317+25	1207.00	1207.00
317+50	1208.58	1209.00
317+75	1209.33	1208.00
318	1209.67	1209.00
318+25	1210.23	1210.00
318+50	1211.25	1210.00
318+75	1212.50	1214.00
319	1213.75	1213.00
319+25	1214.94	1215.00
319+50	1216.00	1216.00
319+75	1217.00	1217.00
320	1218.00	1218.00
320+25	1218.87	1220.00
320+50	1219.50	1220.00
320+75	1220.29	1220.00
321	1221.67	1223.00
321+25	1223.33	1223.00
321+50	1224.33	1225.00
321+75	1224.00	1225.00
322	1223.81	1222.00
322+25	1225.25	1224.00
322+50	1227.09	1226.00
322+75	1228.13	1228.00
323	1228.75	1228.00
323+25	1229.38	1230.00
323+50	1230.26	1230.00
323+75	1231.67	1232.00
324	1233.33	1234.00
324+25	1234.77	1235.00
324+50	1235.75	1234.00
324+75	1236.50	1235.50
325	1237.25	1238.00

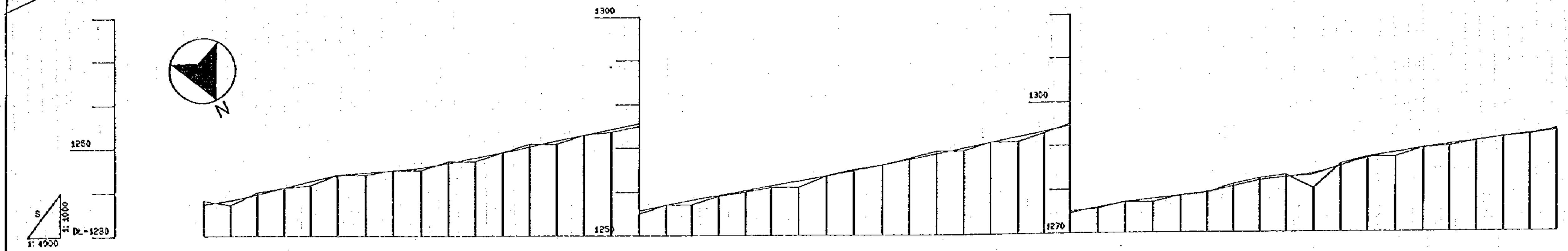
CURVE ELEMENT: R=50.00, R=20.00, R=25.00, R=20.00, R=20.00, R=50.00, R=30.00, R=20.00, R=20.00, R=20.00, R=25.00, R=20.00, L=44.91, R=20.00, R=90.00, R=60.00, R=30.00, R=30.00, R=30.00, R=50.00, R=30.00, R=20.00, R=20.00, R=40.00, R=30.00, L=48.16, R=40.00, L=33.68, R=50.00

31

A-1-27: Plan and Profile

STA.325+00~STA.337+50





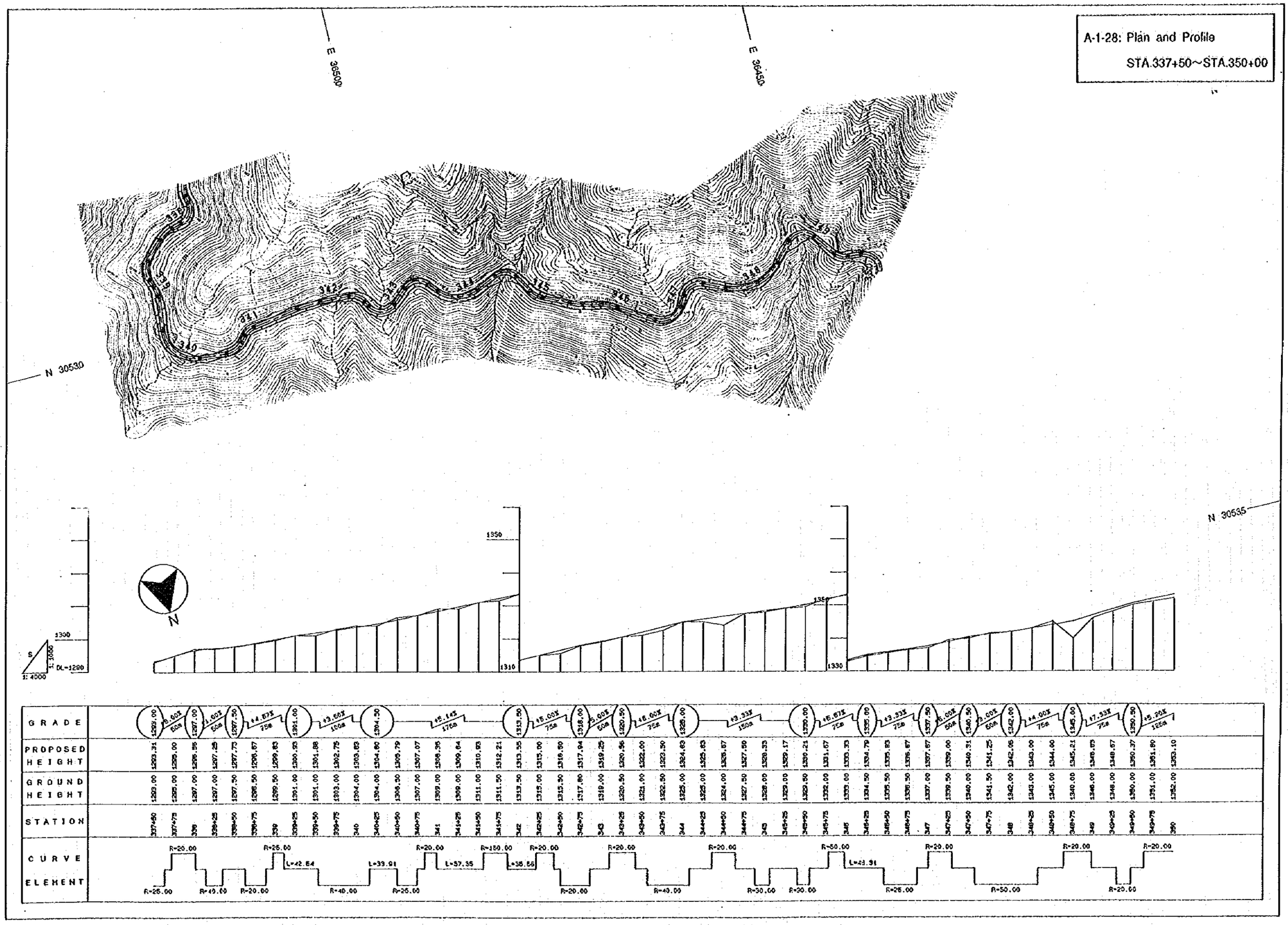
STATION	PROPOSED HEIGHT	GROUND HEIGHT
325	1237.25	1238.00
325+25	1238.19	1237.00
325+50	1239.50	1240.00
325+75	1241.00	1241.00
326	1242.50	1241.50
326+25	1243.75	1244.00
326+50	1244.50	1244.00
326+75	1245.00	1245.00
327	1245.67	1245.00
327+25	1246.67	1247.00
327+50	1247.83	1247.00
327+75	1249.04	1249.00
328	1250.33	1251.00
328+25	1251.67	1251.00
328+50	1253.00	1253.00
328+75	1254.33	1253.75
329	1255.67	1255.00
329+25	1256.94	1257.00
329+50	1258.06	1257.00
329+75	1259.17	1259.00
330	1260.25	1260.00
330+25	1261.33	1261.00
330+50	1262.42	1261.00
330+75	1263.54	1263.50
331	1264.73	1265.00
331+25	1265.95	1266.00
331+50	1267.18	1267.50
331+75	1268.41	1269.00
332	1269.64	1269.00
332+25	1270.86	1271.00
332+50	1272.09	1271.00
332+75	1273.32	1273.00
333	1274.55	1275.00
333+25	1275.77	1275.50
333+50	1276.86	1277.00
333+75	1277.67	1276.83
334	1278.33	1278.50
334+25	1279.21	1279.00
334+50	1280.50	1281.00
334+75	1281.75	1282.38
335	1282.50	1283.00
335+25	1283.38	1280.00
335+50	1285.00	1285.50
335+75	1286.75	1287.00
336	1288.00	1287.00
336+25	1288.96	1289.00
336+50	1289.83	1289.50
336+75	1290.67	1290.50
337	1291.48	1291.50
337+25	1292.25	1292.00
337+50	1293.34	1293.00

GRADE: 1238.00 | +5.00% 100m | 1244.00 | +2.00% 75m | 1245.50 | +4.67% 75m | 1249.00 | +5.33% 150m | 1257.00 | +4.33% 150m | 1263.50 | +4.91% 275m | 1277.00 | +2.67% 75m | 1279.00 | 5.00% 60m | 1282.00 | 2.00% 60m | 1283.00 | 8.00% 60m | 1287.00 | 4.00% 60m | 1289.00 | +3.33% 75m | 1291.50 | 3.00% 60m | 1293.00

CURVE ELEMENT: R=50.00, R=30.00, R=50.00, R=40.00, R=20.00, R=20.00, R=40.00, L=35.44, R=50.00, R=20.00, R=50.00, R=25.00, R=20.00, R=40.00, R=40.00, R=20.00, R=40.00, R=20.00, R=20.00, R=30.00, R=300.00, R=40.00, L=41.39, R=20.00, L=48.25, R=20.00, R=20.00, R=30.00, R=20.00, R=25.00

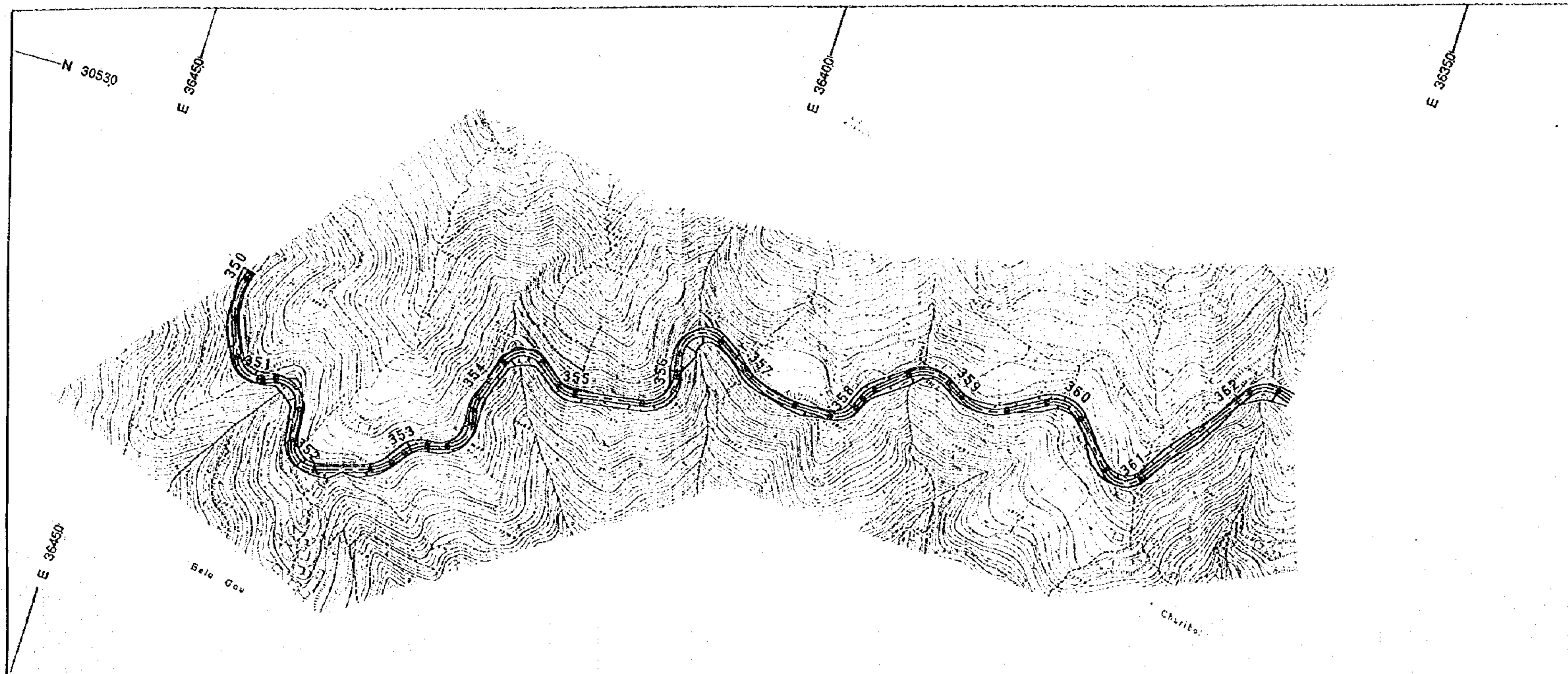
A-1-28: Plan and Profile

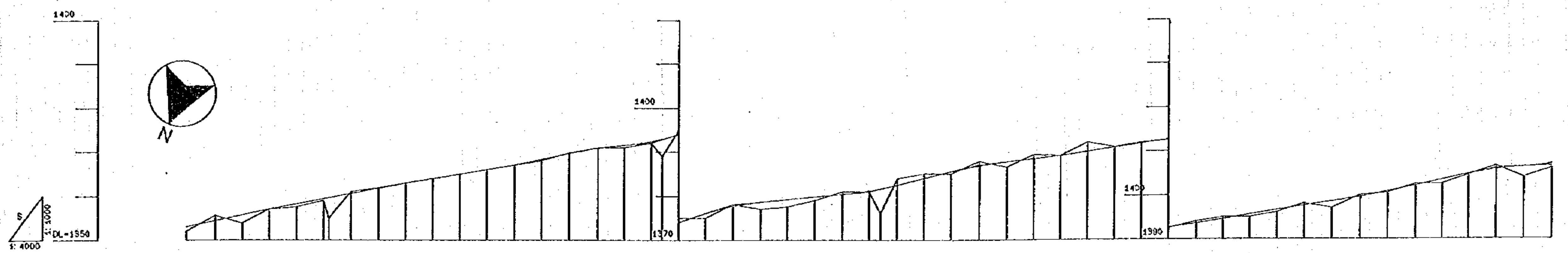
STA.337+50~STA.350+00



A-1-29: Plan and Profile

STA.350+00~STA.362+50





GRADE

+5.20% 125m — (1357.00) — +4.80% 125m — (1363.00) — +4.00% 100m — (1367.00) — +5.33% 75m — (1371.00) — 2.00% 50m — (1372.00) — +8.00% 75m — (1378.00) — +2.43% 125m — (1381.00) — +6.00% 100m — (1387.00) — +2.67% 75m — (1389.00) — +3.67% 150m — (1394.50) — +4.00% 125m — (1399.50) — +5.20% 125m — (1406.00) — 1.00% 50m — (1406.50)

STATION	PROPOSED HEIGHT	GROUND HEIGHT
350	1353.10	1352.00
350+25	1354.40	1355.50
350+50	1355.70	1353.80
350+75	1356.97	1357.00
351	1358.20	1357.50
351+25	1359.40	1359.80
351+30	1359.63	[illegible]
351+50	1360.60	1361.00
351+75	1361.80	1362.00
352	1362.95	1363.00
352+25	1364.00	1364.00
352+50	1365.00	1365.00
352+75	1366.00	1366.00
353	1367.08	1367.00
353+25	1368.33	1368.00
353+50	1369.67	1369.80
353+75	1370.79	1371.00
354	1371.50	1371.00
354+25	1372.38	1372.00
354+35	1372.54	1369.60
354+50	1374.00	1375.00
354+75	1376.00	1375.00
355	1377.65	1378.00
355+25	1378.80	1377.00
355+50	1379.20	1377.50
355+75	1379.80	1379.00
356	1380.40	1381.00
356+25	1381.23	1381.00
356+35	1381.68	1376.00
356+50	1382.50	1384.00
356+75	1384.00	1385.00
357	1385.50	1385.00
357+25	1386.79	1387.80
357+50	1387.87	1386.50
357+75	1388.33	1389.30
358	1389.05	1389.00
358+25	1389.92	1392.00
358+50	1390.83	1391.00
358+75	1391.75	1392.00
359	1392.67	1392.50
359+25	1393.58	1394.00
359+50	1394.52	1395.00
359+75	1395.50	1395.00
360	1396.50	1396.00
360+25	1397.50	1398.00
360+50	1398.50	1397.00
360+75	1399.58	1400.00
361	1400.80	1400.50
361+25	1402.10	1402.50
361+50	1403.40	1402.50
361+75	1404.70	1404.50
362	1405.74	1406.50
362+25	1406.25	1404.00
362+50	1405.94	1408.00

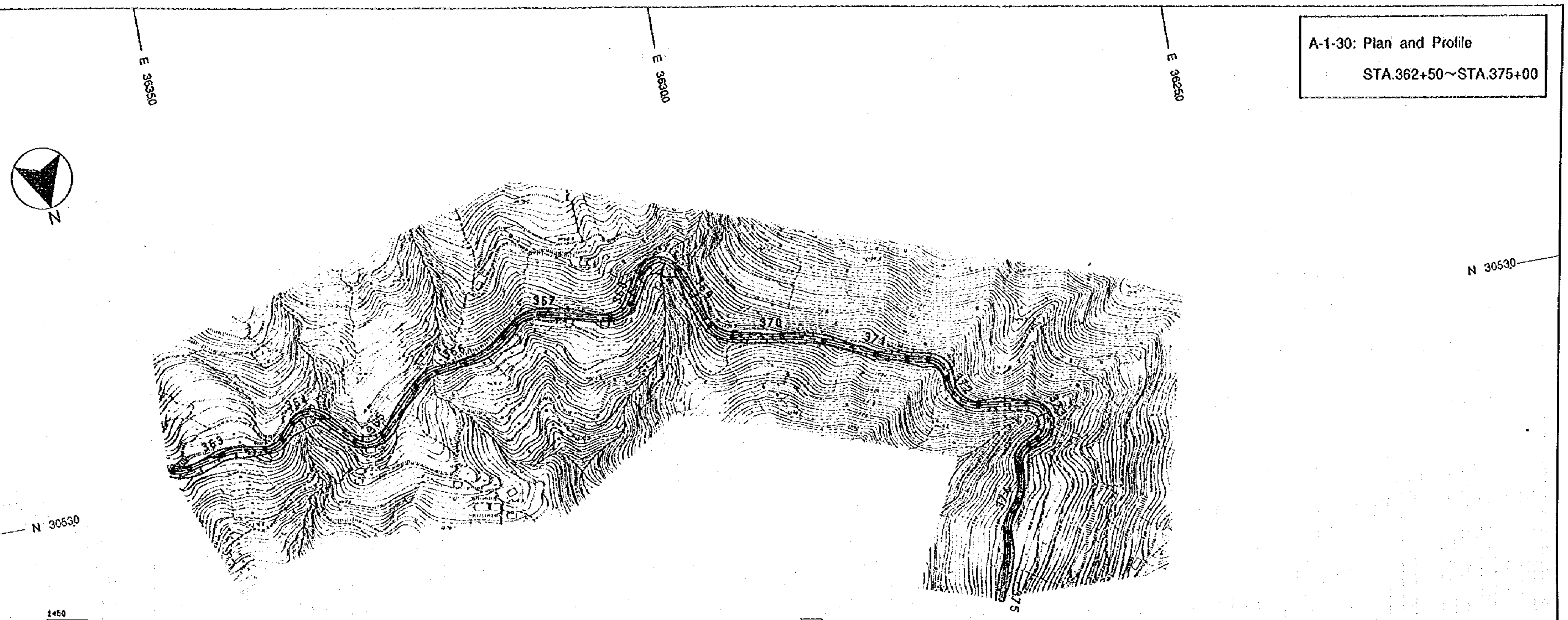
CURVE ELEMENT

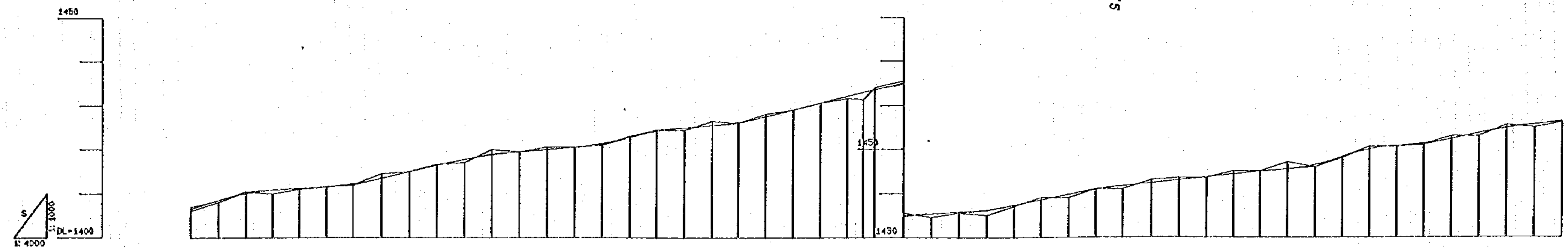
R=20.00, R=50.00, R=20.00, R=20.00, R=20.00, L=47.07, R=30.00, R=30.00, R=20.00, R=20.00, L=36.56, R=20.00, R=20.00, L=57.26, R=26.00, R=20.00, R=20.00, R=20.00, R=26.00, R=30.00, R=40.00, L=34.45, R=26.00, L=46.68, R=20.00, L=117.51, R=20.00

3X

A-1-30: Plan and Profile

STA.362+50~STA.375+00





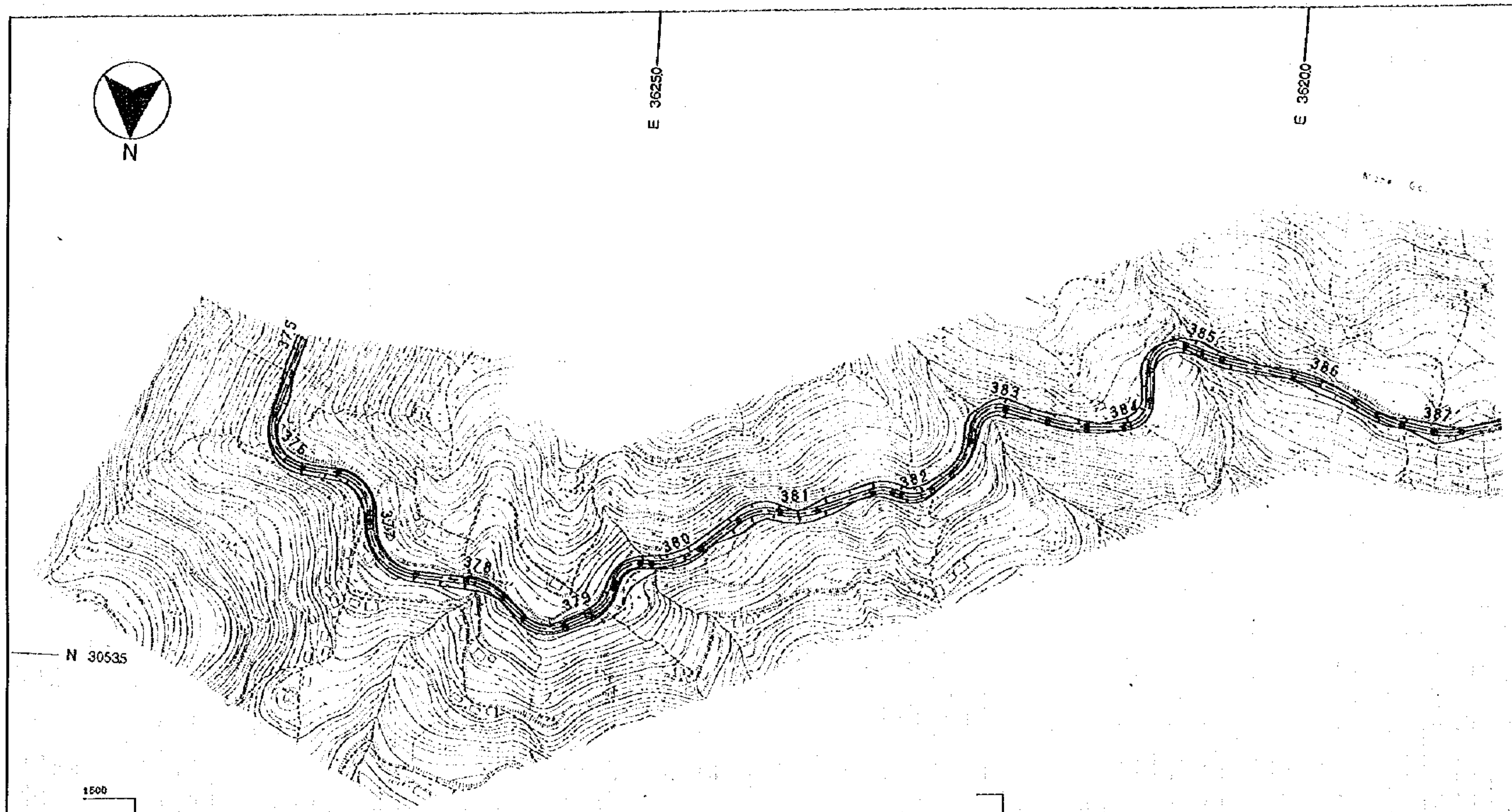
GRADE: (1405.50) +8.00% 60m (1410.50) +1.60% 100m (1412.00) +5.00% 75m (1416.50) +5.00% 60m (1419.00) +2.00% 100m (1421.00) +7.00% 60m (1424.50) +2.00% 75m (1426.00) +6.00% 150m (1435.00) +1.33% 75m (1436.00) +5.00% 100m (1441.00) +2.67% 150m (1445.00) +2.00% 60m (1446.00) +8.00% 60m (1450.50) +1.00% 60m (1451.00) +5.33% 75m (1455.00) +2.67% 75m

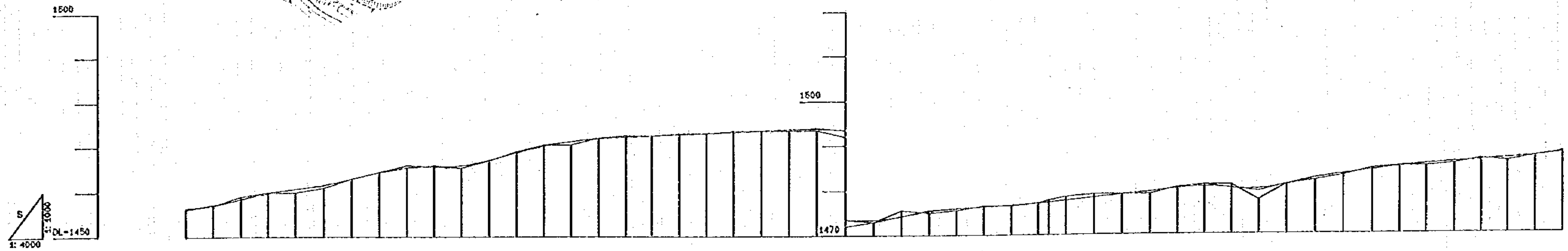
STATION	PROPOSED HEIGHT	GROUND HEIGHT
362+50	1405.94	1405.00
362+75	1408.50	1408.00
363	1410.09	1410.50
363+25	1410.88	1410.00
363+50	1411.25	1411.00
363+75	1411.63	1411.50
364	1412.28	1412.00
364+25	1413.50	1414.50
364+50	1415.00	1415.00
364+75	1416.44	1416.70
365	1417.75	1417.00
365+25	1418.81	1420.00
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	1426.00
367+75	1427.50	1428.00
368	1429.00	1429.00
368+25	1430.50	1430.50
368+50	1432.00	1431.30
368+65	1432.30	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	1436.23	1435.00
370	1437.25	1437.00
370+25	1438.50	1439.00
370+50	1439.75	1439.00
370+75	1440.88	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=35.93, R=60.00, R=20.00, R=20.00, L=39.35, R=20.00, L=58.61, R=40.00, R=90.00, R=30.00, L=71.95, R=20.00, R=20.00, L=54.94, R=25.00, L=50.41, R=160.00, L=52.93, R=150.00, R=20.00, R=30.00, L=48.05, R=20.00, R=20.00, R=50.00, R=50.00, R=160.00, L=27.41

A-1-31: Plan and Profile

STA.375+00~STA.387+50





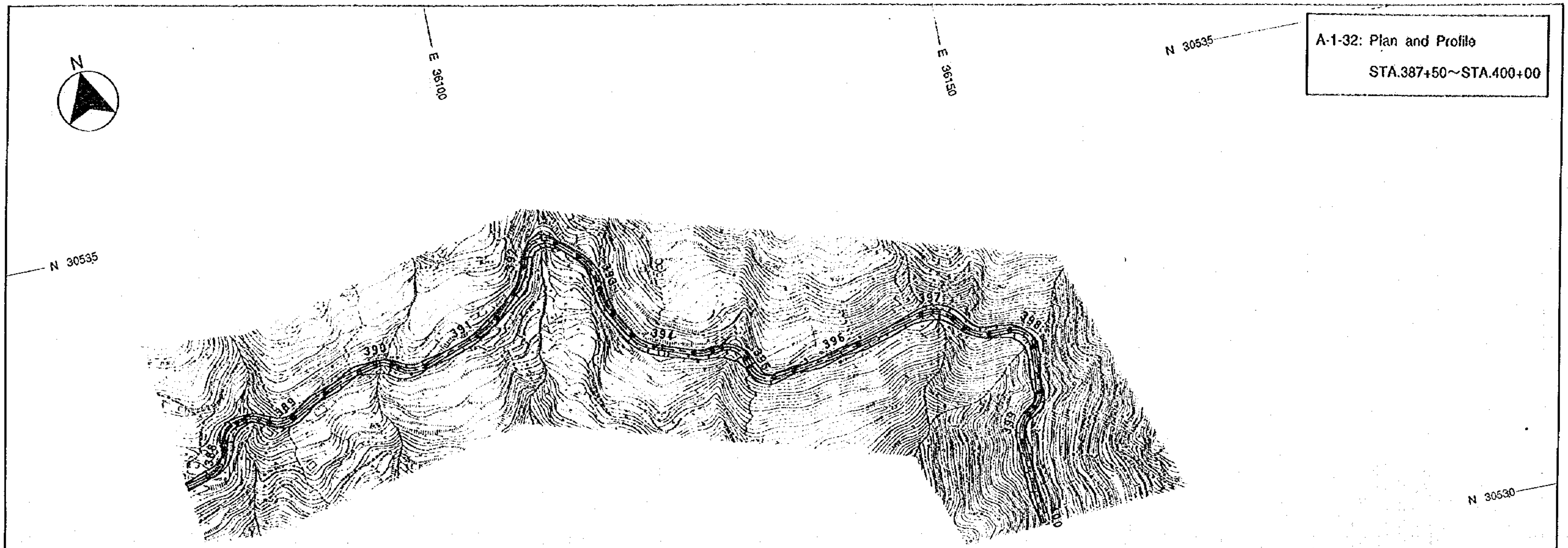
GRADE (left to right): 1457.00 – 5.00% 50m – 1460.00 – 3.00% 50m – 1461.50 – +6.00% 75m – 1466.00 – -1.00% 50m – 1465.50 – +6.67% 75m – 1470.50 – 3.00% 50m – 1472.00 – +1.00% 200m – 1474.00 – -2.00% 50m – 1473.00 – 5.00% 50m – 1475.50 – +1.60% 100m – 1477.00 – +2.50% 100m – 1479.50 – 3.00% 50m – 1481.00 – -3.00% 50m – 1479.50 – 5.00% 50m – 1482.50 – +3.33% 75m – 1485.00 – +1.60% 125m – 1487.00

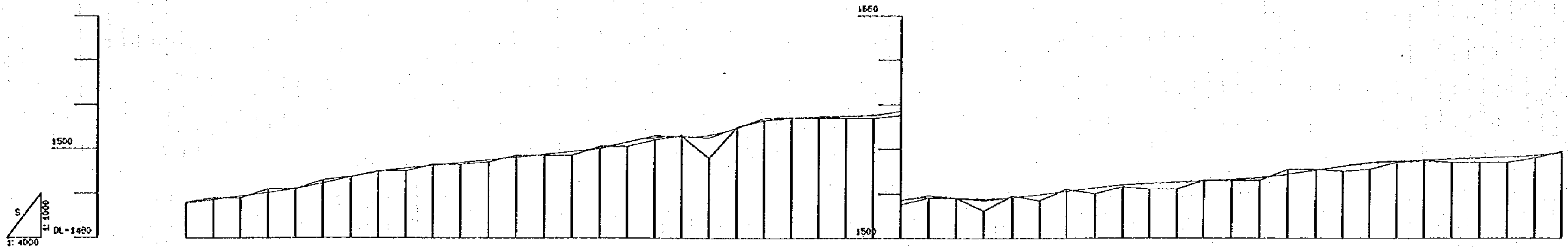
STATION	PROPOSED HEIGHT	GROUND HEIGHT
375	1456.33	1456.20
375+25	1457.21	1457.00
375+50	1458.50	1459.00
375+75	1459.81	1460.00
376	1460.75	1460.00
376+25	1461.69	1461.00
376+50	1463.00	1463.00
376+75	1464.50	1464.50
377	1465.56	1465.50
377+25	1465.75	1466.00
377+50	1465.98	1465.50
377+75	1467.17	1467.00
378	1468.83	1469.00
378+25	1470.27	1470.50
378+50	1471.25	1470.50
378+75	1471.87	1472.00
379	1472.25	1472.50
379+25	1472.50	1472.50
379+50	1472.75	1473.00
379+75	1473.00	1473.00
380	1473.25	1473.50
380+25	1473.50	1473.50
380+50	1473.75	1473.50
380+75	1473.81	1473.50
381	1473.50	1472.00
381+25	1473.44	1473.00
381+50	1474.25	1475.50
381+75	1475.28	1475.00
382	1475.88	1475.50
382+25	1476.25	1476.50
382+50	1476.83	1476.50
382+75	1477.08	1477.00
382+85	1477.27	1477.70
383	1477.53	1478.50
383+25	1478.25	1479.00
383+50	1478.88	1479.00
383+75	1479.53	1479.00
384	1480.25	1480.50
384+25	1480.62	1481.00
384+50	1480.25	1481.00
384+75	1480.06	1477.50
385	1481.00	1481.00
385+25	1482.33	1482.00
385+50	1483.33	1483.00
385+75	1484.17	1484.50
386	1484.89	1485.00
386+25	1485.40	1485.00
386+50	1485.80	1485.50
386+75	1486.20	1486.50
387	1486.60	1486.00
387+25	1487.10	1487.00
387+50	1487.80	1488.00

CURVE ELEMENT (left to right): L=97.41, R=30.00, R=30.00, R=40.00, L=38.47, R=50.00, R=30.00, R=30.00, R=20.00, R=50.00, L=36.17, R=40.00, R=50.00, L=45.15, R=25.00, R=25.00, R=40.00, R=20.00, R=100.00, R=20.00, R=20.00, R=100.00, L=57.11, R=150.00, R=50.00, R=50.00

A-1-32: Plan and Profile

STA.387+50~STA.400+00





GRADE: +3.20% 125m — (1491.00) — +5.33% 75m — (1495.00) — +2.50% 200m — (1500.00) — 6.00% 60m — (1503.00) — -1.00% 50m — (1502.50) — 9.00% 60m — (1507.00) — +0.50% 100m — (1507.50) — 4.00% 60m — (1509.50) — -2.00% 50m — (1508.50) — +2.80% 125m — (1512.00) — +1.20% 125m — (1513.50) — +3.50% 100m — (1517.00) — +1.00% 150m — (1518.50)

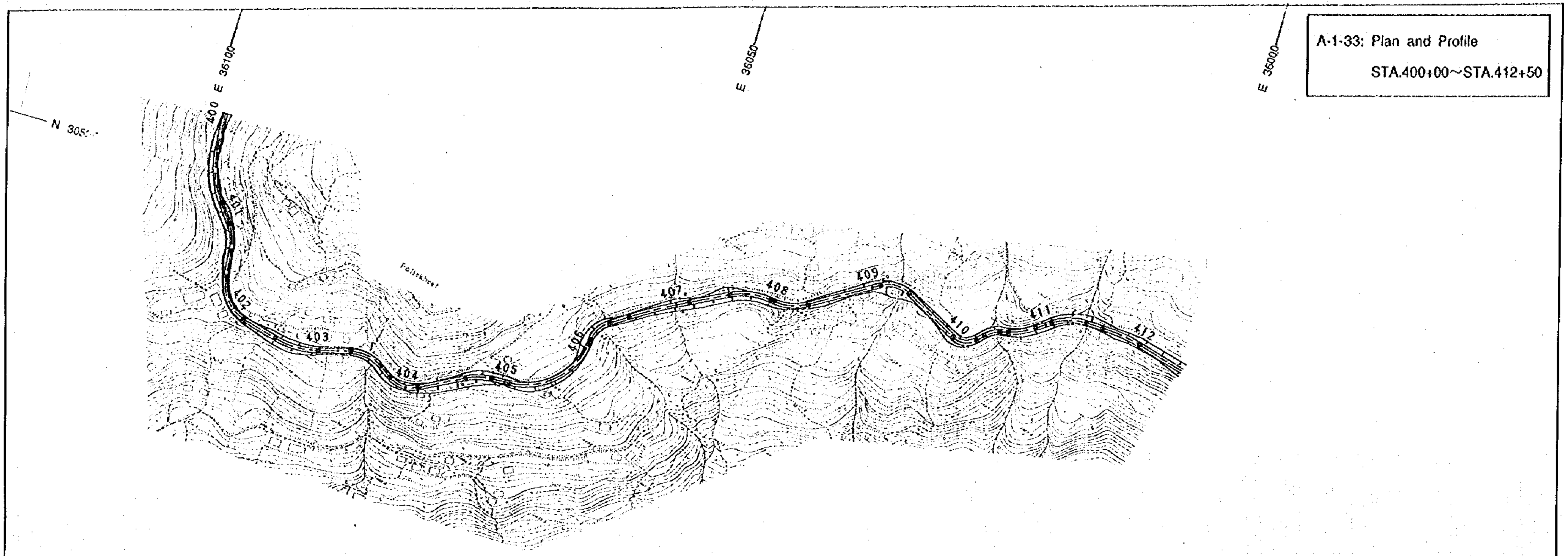
STATION	PROPOSED HEIGHT	GROUND HEIGHT
387+50	1487.80	1488.00
387+75	1488.60	1489.00
388	1489.40	1489.00
388+25	1490.20	1491.00
388+50	1491.13	1491.00
388+75	1492.33	1493.00
389	1493.67	1493.80
389+25	1494.82	1495.00
389+50	1495.63	1495.00
389+75	1496.25	1496.50
390	1496.88	1496.50
390+25	1497.50	1497.00
390+50	1498.13	1498.50
390+75	1498.75	1498.50
391	1499.38	1498.50
391+25	1500.22	1500.50
391+50	1501.50	1500.50
391+75	1502.56	1502.00
392	1502.75	1503.00
392+25	1503.13	1498.00
392+50	1504.75	1505.00
392+75	1506.47	1506.50
393	1507.13	1507.00
393+25	1507.25	1507.00
393+50	1507.38	1507.00
393+75	1507.72	1507.00
394	1508.50	1507.50
394+25	1509.12	1509.00
394+50	1509.00	1509.00
394+75	1508.80	1506.00
395	1509.20	1509.50
395+25	1509.80	1508.50
395+50	1510.60	1511.00
395+75	1511.30	1510.00
396	1511.90	1511.50
396+25	1512.30	1511.00
396+50	1512.60	1511.00
396+75	1512.90	1513.00
397	1513.20	1513.00
397+25	1513.64	1513.00
397+50	1514.38	1515.50
397+75	1515.25	1515.50
398	1516.13	1515.00
398+25	1516.84	1515.50
398+50	1517.25	1517.00
398+75	1517.50	1517.50
399	1517.75	1517.00
399+25	1518.00	1517.00
399+50	1518.25	1517.00
399+75	1518.60	1518.00
400	1519.17	1519.50

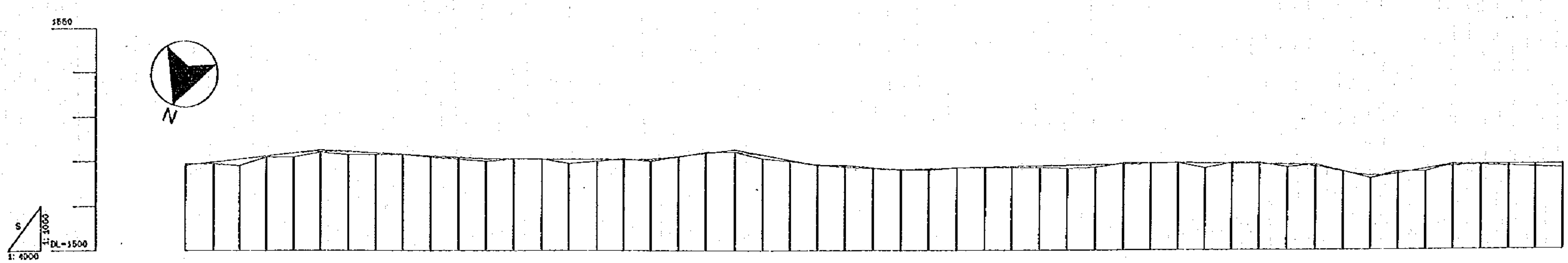
CURVE ELEMENT: R=30.00, R=20.00, R=20.00, R=25.00, L=40.60, R=150.00, R=20.00, R=30.00, L=59.31, R=50.00, R=60.00, R=20.00, R=50.00, R=50.00, R=40.00, L=40.13, R=40.00, R=20.00, R=20.00, R=500.00, L=59.62, R=30.00, R=30.00, R=20.00, L=45.11, R=20.00, R=30.00, L=117.66

27

A-1-33: Plan and Profile

STA.400+00~STA.412+50





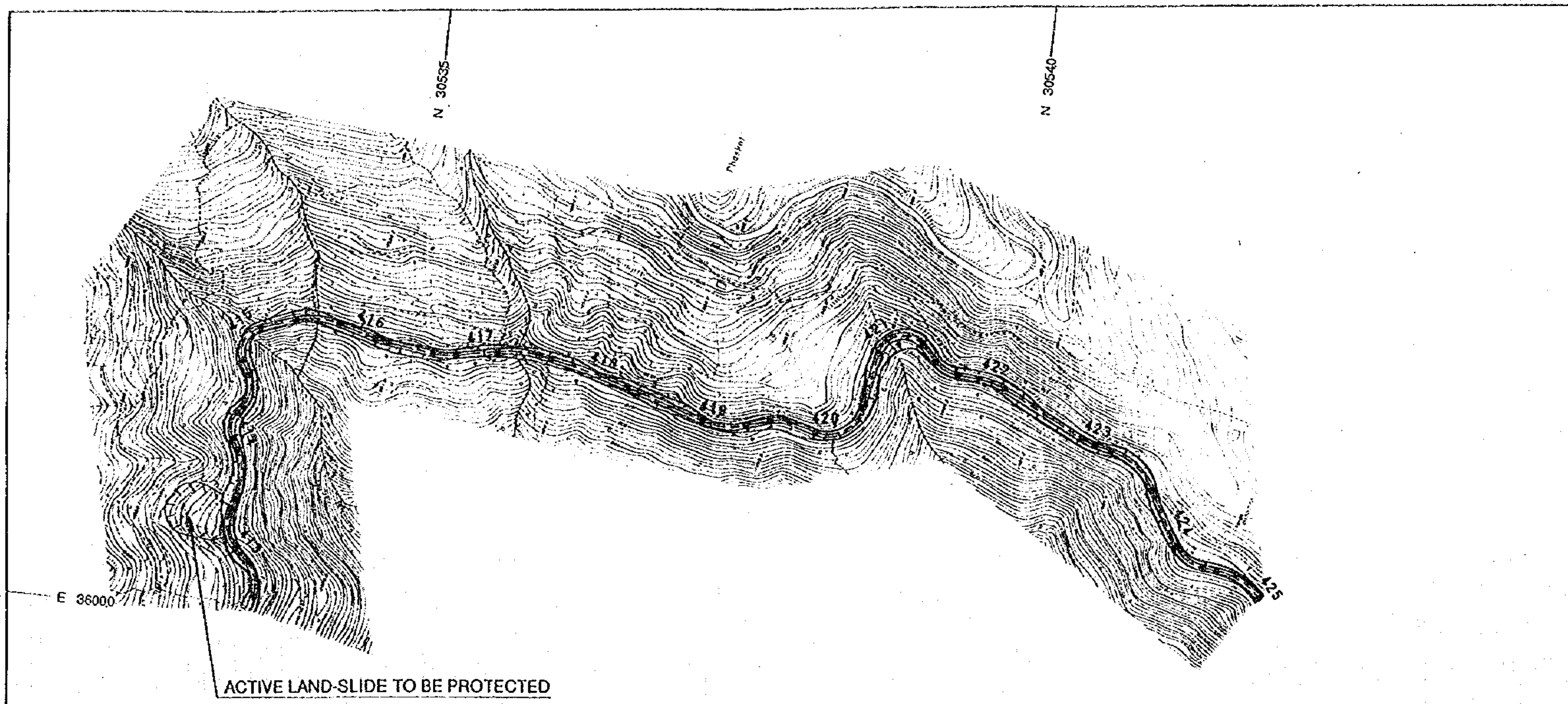
GRADE: +2.67% 150m — (1522.50) — -1.33% 150m — (1520.30) — -0.13% 150m — (1520.30) — +2.93% 75m — (1522.50) — -4.67% 75m — (1519.00) — -1.33% 75m — (1518.00) — 1.00% 50m — (1518.50) — +0.50% 200m — (1519.50) — -0.40% 125m — (1519.00) — -6.00% 50m — (1516.00) — +4.00% 75m — (1519.00) — -0.80% 125m

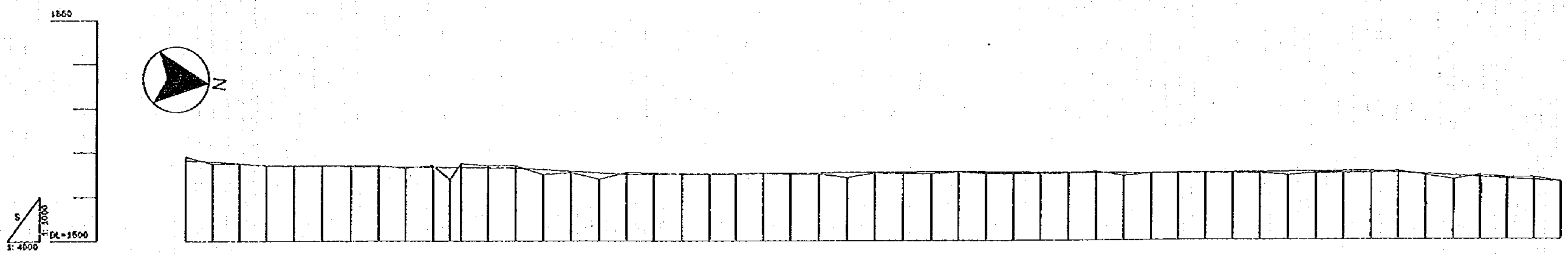
STATION	PROPOSED HEIGHT	GROUND HEIGHT
400	1519.17	1519.50
400+25	1519.83	1519.50
400+50	1520.50	1519.00
400+75	1521.17	1521.00
401	1521.83	1521.00
401+25	1522.25	1522.00
401+50	1522.17	1521.50
401+75	1521.83	1521.50
402	1521.50	1521.50
402+25	1521.17	1521.00
402+50	1520.83	1520.50
402+75	1520.58	1520.00
403	1520.47	1520.50
403+25	1520.43	1520.50
403+50	1520.40	1519.50
403+75	1520.37	1520.00
404	1520.33	1520.50
404+25	1520.49	1520.00
404+50	1521.03	1521.00
404+75	1521.77	1522.00
405	1522.02	1522.00
405+25	1521.33	1520.50
405+50	1520.17	1520.00
405+75	1519.21	1519.00
406	1518.57	1519.00
406+25	1518.33	1518.50
406+50	1518.15	1518.00
406+75	1518.25	1518.00
407	1518.47	1518.50
407+25	1518.63	1518.50
407+50	1518.75	1518.50
407+75	1518.88	1518.50
408	1519.00	1518.30
408+25	1519.13	1518.50
408+50	1519.25	1519.50
408+75	1519.38	1519.50
409	1519.44	1519.50
409+25	1519.40	1518.30
409+50	1519.30	1519.50
409+75	1519.20	1519.50
410	1519.10	1518.50
410+25	1518.65	1519.00
410+50	1517.50	1517.80
410+75	1516.63	1518.00
411	1517.00	1517.50
411+25	1518.00	1517.50
411+50	1518.70	1519.00
411+75	1518.80	1519.00
412	1518.60	1519.00
412+25	1518.40	1519.00
412+50	1518.20	1519.00

CURVE ELEMENT: R=90.00, R=45.00, R=40.00, L=38.04, R=30.00, R=40.00, R=30.00, L=47.80, R=60.00, R=70.00, R=30.00, R=500.00, L=41.63, R=70.00, R=60.00, L=73.04, R=30.00, L=63.00, R=20.00, R=30.00, R=30.00, R=50.00, R=150.00, L=58.63

A-1-34: Plan and Profile

STA.412+50~STA.425+00





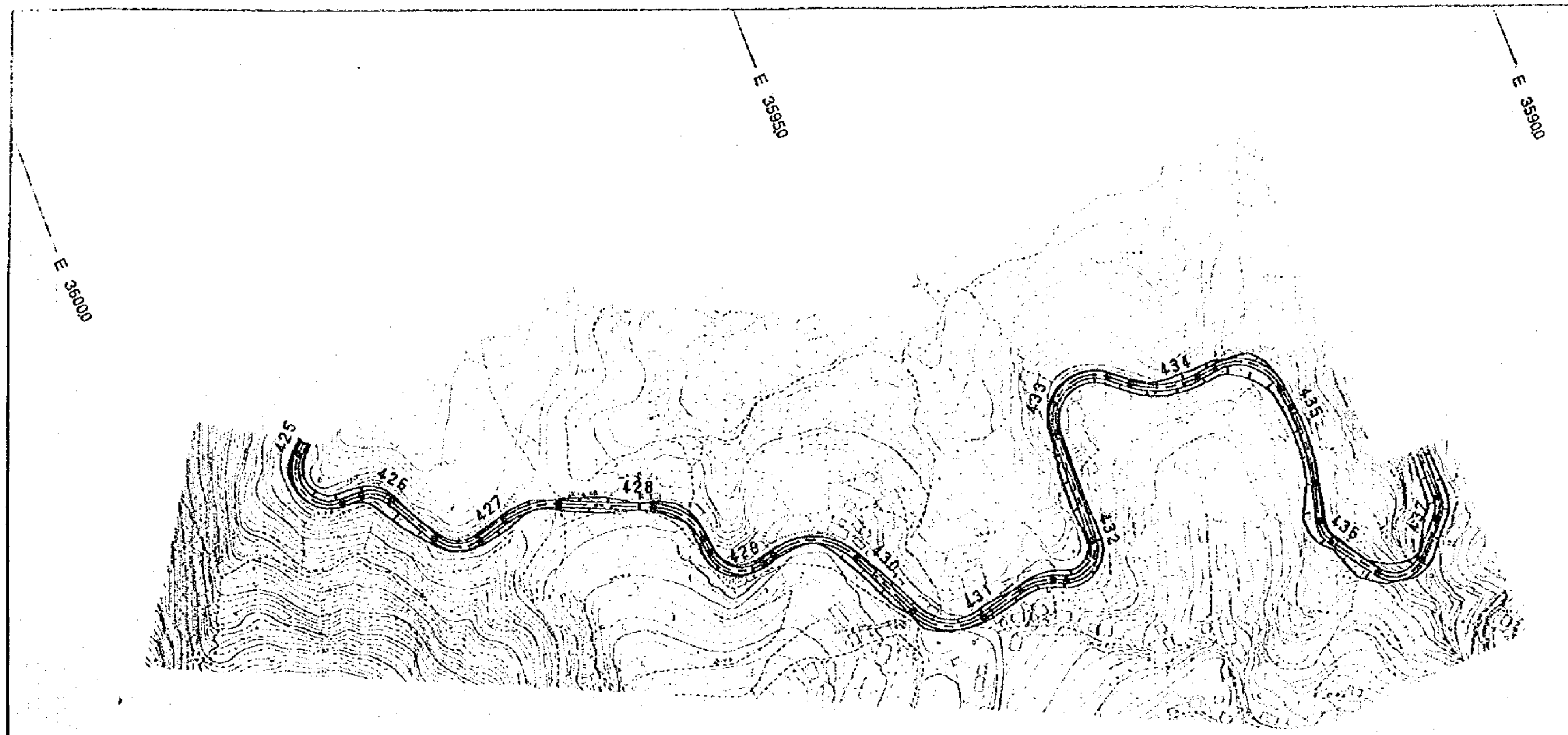
GRADE: 1518.00 — -2.00% 50m — 1517.00 — -0.22% 225m — 1516.50 — -1.50% 100m — 1515.00 — +0.17% 300m — 1515.50 — -0.29% 175m — 1515.00 — +0.25% 200m — 1515.50 — -1.43% 175m — 1513.00

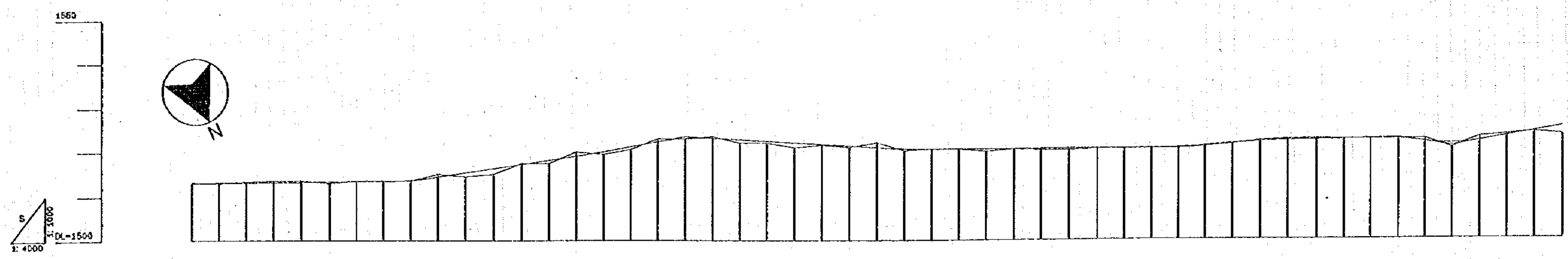
STATION	PROPOSED HEIGHT	GROUND HEIGHT
412+50	1518.20	1519.00
412+75	1517.92	1517.50
413	1517.50	1517.50
413+25	1517.11	1517.00
413+50	1516.94	1517.00
413+75	1516.89	1517.00
414	1516.83	1517.00
414+25	1516.78	1517.00
414+50	1516.72	1516.50
414+75	1516.67	1517.00
414+90	1516.63	1514.00
415	1516.61	1517.50
415+25	1516.56	1517.00
415+50	1516.42	1517.00
415+75	1516.13	1515.00
416	1515.75	1515.50
416+25	1515.38	1514.00
416+50	1515.10	1515.50
416+75	1515.04	1515.30
417	1515.08	1515.00
417+25	1515.13	1515.00
417+50	1515.17	1515.00
417+75	1515.21	1515.20
418	1515.25	1515.00
418+25	1515.29	1515.00
418+50	1515.33	1514.20
418+75	1515.38	1515.20
419	1515.42	1515.00
419+25	1515.46	1515.00
419+50	1515.47	1515.50
419+75	1515.43	1515.00
420	1515.36	1515.00
420+25	1515.29	1515.00
420+50	1515.21	1515.00
420+75	1515.14	1515.50
421	1515.07	1514.50
421+25	1515.03	1515.00
421+50	1515.06	1515.00
421+75	1515.13	1515.00
422	1515.19	1515.00
422+25	1515.25	1515.00
422+50	1515.31	1514.50
422+75	1515.38	1515.00
423	1515.44	1515.00
423+25	1515.40	1515.00
423+50	1515.14	1515.50
423+75	1514.79	1514.50
424	1514.43	1513.50
424+25	1514.07	1514.50
424+50	1513.71	1514.00
424+75	1513.35	1514.00
425	1513.10	1513.00

CURVE ELEMENT: R=30.00, R=30.00, R=50.00, R=20.00, R=25.00, R=20.00, R=50.00, R=50.00, L=39.25, R=50.00, L=34.40, R=30.00, R=500.00, L=58.32, R=50.00, R=30.00, R=30.00, L=47.63, R=20.00, R=30.00, R=60.00, L=75.29, R=50.00, R=50.00, L=51.00, R=30.00, R=50.00

A-1-35: Plan and Profile

STA.425+00~STA.437+50





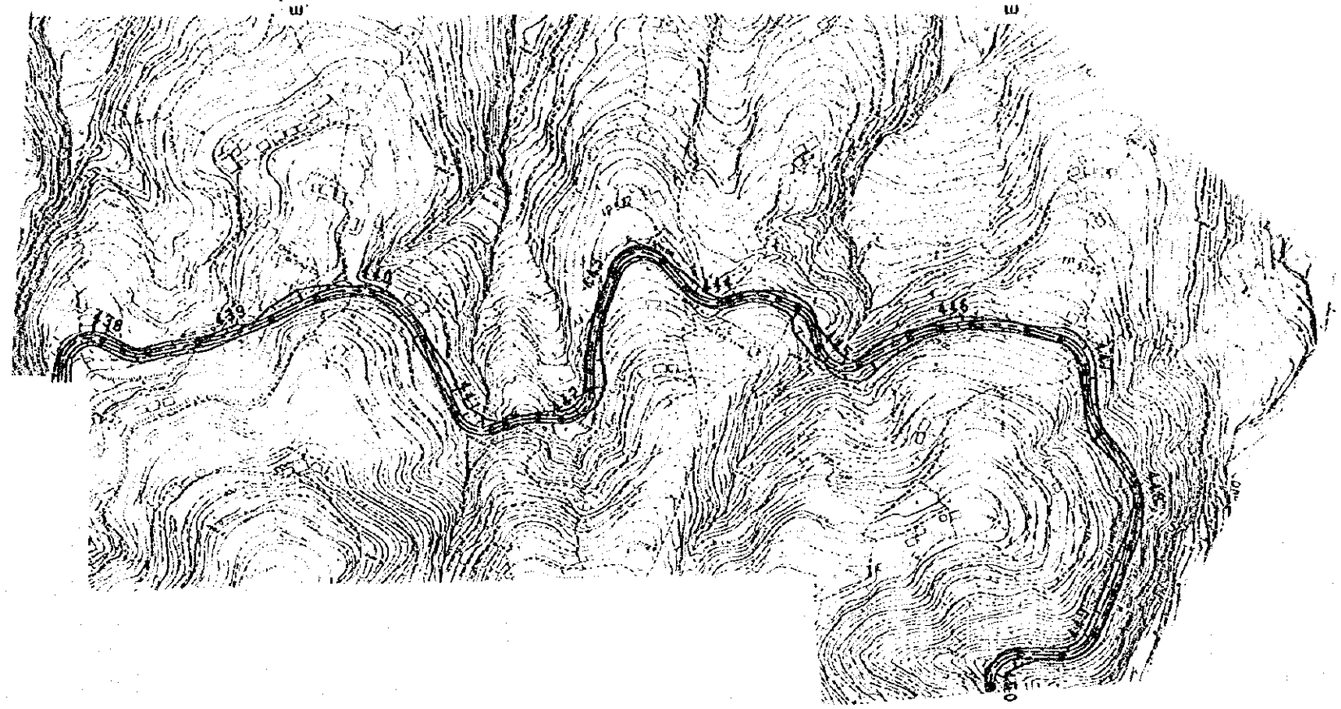
GRADE: 1513.00 — +0.25% 200m — 1513.50 — +3.71% 175m — 1520.00 — +4.57% 75m — 1523.50 — -1.50% 200m — 1520.50 — +0.04% 250m — 1520.60 — +2.00% 75m — 1522.10 — +0.56% 125m — 1522.80 — -3.50% 50m — 1521.00 — +4.25% 275m

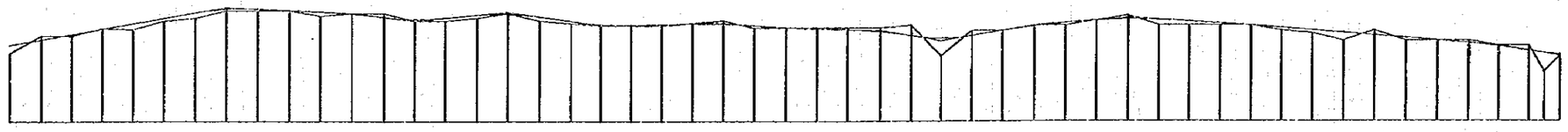
STATION	PROPOSED HEIGHT	GROUND HEIGHT
425	1513.10	1513.00
425+25	1513.06	1513.00
425+50	1513.13	1513.30
425+75	1513.19	1513.50
426	1513.25	1513.50
426+25	1513.31	1513.00
426+50	1513.38	1513.50
426+75	1513.44	1513.50
427	1513.72	1513.50
427+25	1514.43	1515.00
427+50	1515.36	1514.50
427+75	1516.29	1515.00
428	1517.21	1517.50
428+25	1518.14	1517.50
428+50	1519.07	1520.00
428+75	1520.05	1519.50
429	1521.17	1520.50
429+25	1522.33	1523.00
429+50	1523.11	1523.00
429+75	1523.13	1523.50
430	1522.75	1522.00
430+25	1522.38	1522.00
430+50	1522.00	1521.00
430+75	1521.63	1521.50
431	1521.25	1521.00
431+25	1520.88	1522.00
431+50	1520.50	1520.20
431+75	1520.51	1520.50
432	1520.52	1520.50
432+25	1520.53	1520.00
432+50	1520.54	1520.50
432+75	1520.55	1520.30
433	1520.56	1520.30
433+25	1520.57	1520.50
433+50	1520.58	1520.50
433+75	1520.59	1520.50
434	1520.72	1520.50
434+25	1521.10	1521.00
434+50	1521.60	1521.50
434+75	1522.01	1522.20
435	1522.24	1522.50
435+25	1522.36	1522.70
435+50	1522.52	1522.50
435+75	1522.68	1522.50
436	1522.54	1522.50
436+25	1521.90	1522.50
436+50	1521.49	1520.50
436+75	1522.06	1523.00
437	1523.13	1523.50
437+25	1524.19	1524.00
437+50	1525.25	1525.50

CURVE ELEMENT: R=25.00, R=20.00, L=40.53, R=25.00, R=50.00, L=57.19, R=40.00, R=25.00, R=45.00, L=54.58, R=40.00, R=40.00, R=20.00, L=81.03, R=30.00, R=50.00, R=35.00, R=160.00, R=20.00, L=40.37, R=20.00, R=20.00

A-1-36: Plan and Profile

STA.437+50~STA.450+00



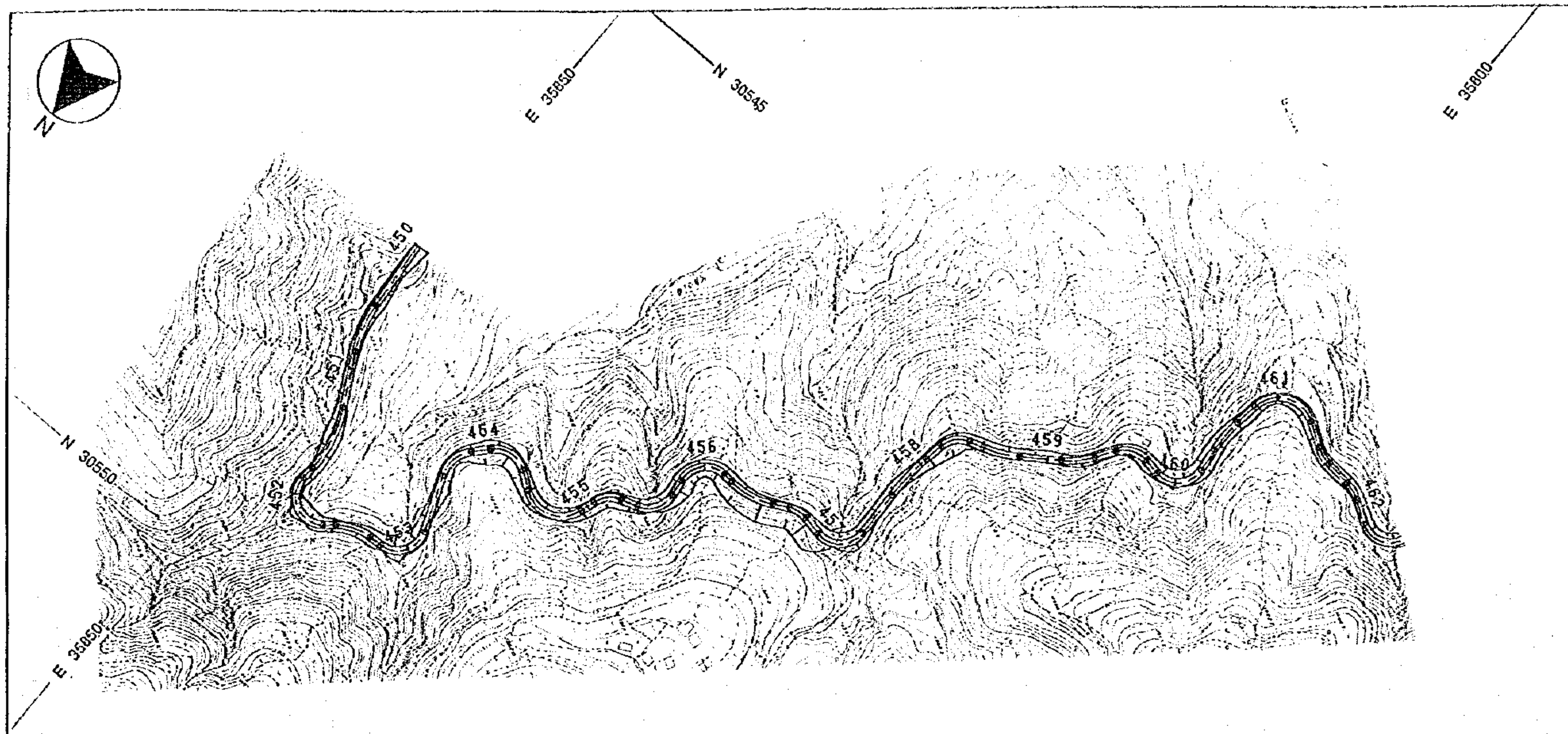


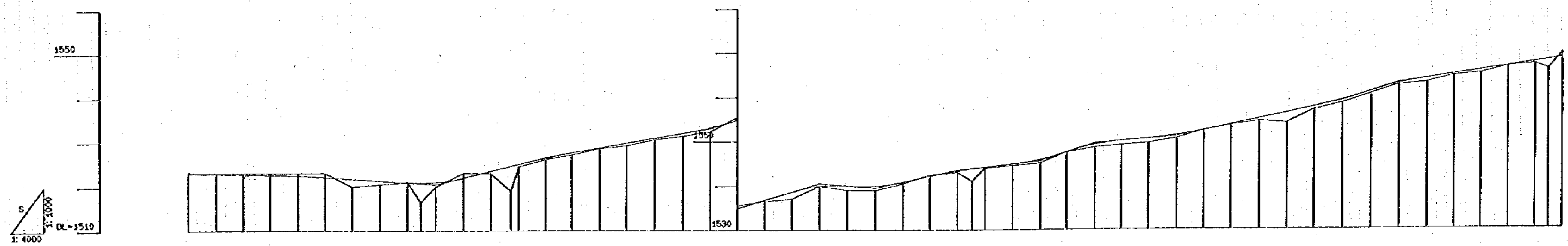
GRADE	+4.25% 275m; 1532.70; -1.20% 100m; 1531.50; -3.00% 60m; 1530.00; +2.27% 75m; 1531.70; -3.50% 75m; 1529.00; +0.50% 100m; 1529.50; -2.90% 60m; 1528.50; -3.57% 75m; 1526.00; +4.00% 50m; 1526.00; +4.00% 75m; 1529.00; +2.00% 75m; 1530.50; -1.50% 100m; 1529.00; +2.00% 200m; 1525.00; -4.00% 50m; 1523.00
PROPOSED HEIGHT	1525.25 1526.32 1527.38 1528.45 1529.51 1530.57 1531.64 1532.36 1532.40 1532.10 1531.80 1531.29 1530.75 1530.35 1530.57 1531.13 1531.33 1530.80 1530.90 1529.26 1529.13 1529.25 1529.36 1529.34 1529.00 1528.58 1528.33 1528.17 1527.79 1527.00 1525.50 1527.00 1528.00 1528.87 1529.50 1530.00 1530.28 1530.13 1529.75 1529.38 1528.87 1528.50 1528.00 1527.50 1527.00 1526.50 1526.00 1525.50 1524.87 1524.00 1523.57 1523.22
GROUND HEIGHT	1523.50 1527.00 1527.00 1528.50 1528.30 1530.00 1530.50 1532.00 1532.00 1532.00 1531.00 1531.50 1531.50 1530.00 1530.00 1530.50 1531.50 1530.00 1529.50 1529.00 1529.00 1529.00 1529.50 1530.00 1528.50 1528.50 1528.50 1528.50 1526.50 1523.00 1523.00 1528.00 1526.00 1529.00 1529.00 1530.00 1531.00 1529.00 1529.00 1529.00 1529.00 1528.00 1527.50 1528.00 1528.00 1528.00 1526.00 1526.00 1525.00 1525.00 1525.00 1519.80 1523.00
STATION	437+50 437+75 438 438+25 438+50 438+75 439 439+25 439+50 439+75 440 440+25 440+50 440+75 441 441+25 441+50 441+75 442 442+25 442+50 442+75 443 443+25 443+50 443+75 444 444+25 444+50 444+75 445 445+25 445+50 445+75 446 446+25 446+50 446+75 447 447+25 447+50 447+75 448 448+25 448+50 448+75 449 449+25 449+50 449+75 449+87 450
CURVE ELEMENT	R=20.00; L=35.48; R=30.00; R=200.00; L=34.89; R=55.00; L=57.21; R=20.00; R=50.00; R=20.00; R=120.00; R=20.00; R=30.00; R=40.00; R=20.00; R=20.00; L=39.72; R=50.00; R=100.00; R=25.00; R=50.00; L=43.45; R=20.00; R=150.00; R=25.00; R=20.00

y1

A-1-37: Plan and Profile

STA.475+00~STA.462+50





GRADE

1523.00	-0.50% 100m	1522.50	-1.50% 126m	1520.50	+6.00% 100m	1526.50	+4.33% 150m	1533.00	+7.50% 100m	1540.50	-2.00% 50m	1539.50	+5.33% 75m	1543.50	+2.67% 75m	1545.50	+8.00% 50m	1549.50	+2.00% 75m	1551.00	+5.33% 150m	1559.00	+8.00% 50m	1563.00	+3.60% 125m	1567.50

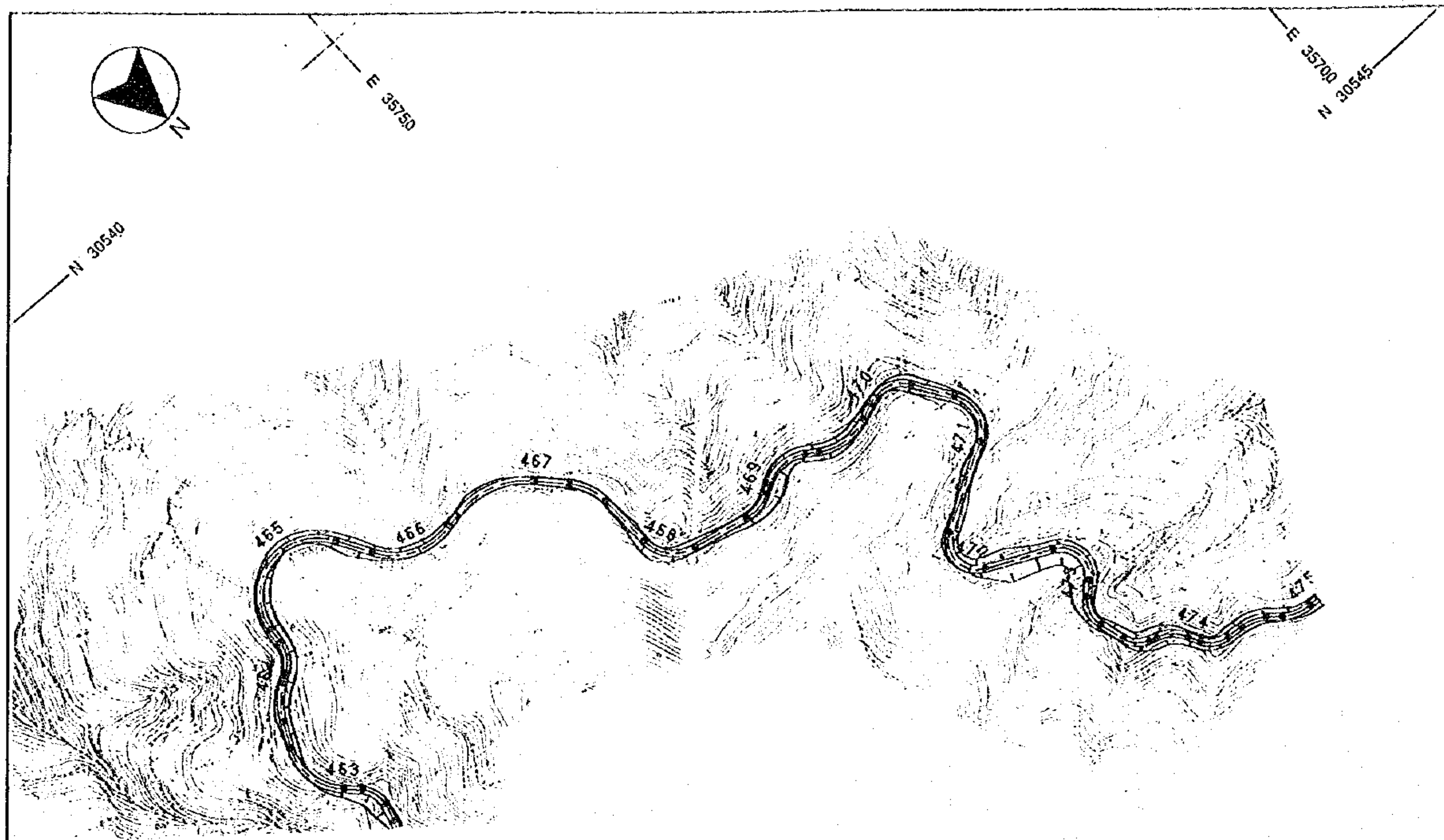
STATION	PROPOSED HEIGHT	GROUND HEIGHT
450	1523.22	1523.00
450+25	1522.88	1523.00
450+50	1522.75	1523.00
450+75	1522.63	1523.00
451	1522.43	1523.00
451+25	1522.10	1523.00
451+50	1521.70	1520.00
451+75	1521.30	1520.50
452	1520.90	1521.00
452+12	1520.82	1518.50
452+25	1520.98	1520.00
452+50	1522.00	1523.00
452+75	1523.50	1523.00
452+93	1524.58	1519.00
453	1525.00	1524.50
453+25	1526.40	1526.10
453+50	1527.58	1527.20
453+75	1528.67	1528.50
454	1529.75	1529.20
454+25	1530.83	1530.50
454+50	1531.92	1531.30
454+75	1533.20	1532.20
455	1534.88	1535.50
455+25	1536.75	1536.50
455+50	1538.63	1537.00
455+75	1539.91	1540.00
456	1540.00	1539.00
456+25	1539.90	1539.00
456+50	1540.83	1540.50
456+75	1542.17	1542.50
457	1543.33	1543.00
457+13	1543.81	1541.00
457+25	1544.17	1544.00
457+50	1544.83	1544.50
457+75	1545.83	1545.00
458	1547.50	1547.50
458+25	1549.12	1548.50
458+50	1550.00	1549.00
458+75	1550.50	1549.50
459	1551.21	1550.50
459+25	1552.33	1552.30
459+50	1553.67	1553.50
459+75	1555.00	1554.50
460	1556.33	1554.00
460+25	1557.67	1557.00
460+50	1559.17	1558.50
460+75	1561.00	1560.50
461	1562.72	1562.50
461+25	1563.90	1563.00
461+50	1564.80	1564.50
461+75	1565.70	1565.00
462	1566.60	1565.50
462+25	1567.51	1567.00
462+37	1567.96	1566.00
462+50	1568.45	1569.50

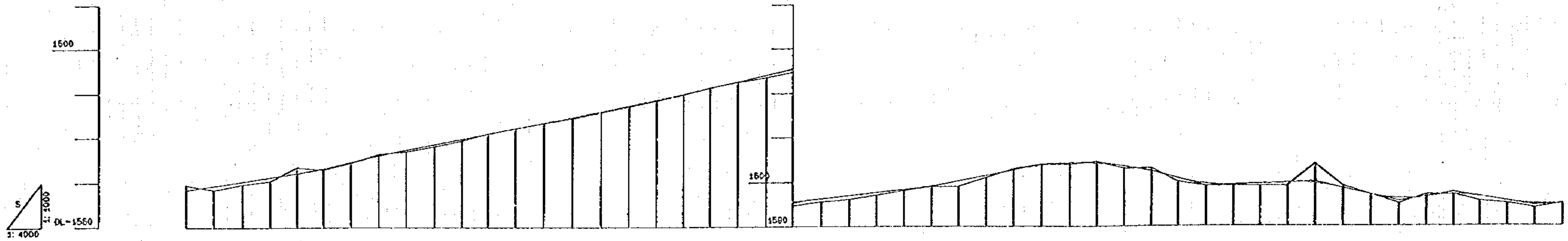
CURVE ELEMENT

L=77.13	R=30.00	L=40.68	R=30.00	R=20.00	R=40.00	R=20.00	L=42.23	R=26.00	R=20.00	R=25.00	R=20.00	R=20.00	R=20.00	R=50.00	R=20.00	R=20.00	L=33.95	R=150.00	R=20.00	R=50.00	R=50.00	R=20.00	R=20.00	R=100.00	R=25.00	R=30.00	R=30.00	R=20.00

A-1-38: Plan and Profile

STA.462+50~STA.475+00





GRADE: +3.80% 150m — (1573.20) — +5.00% 50m — (1576.20) — +4.85% 175m — (1584.70) — +5.20% 125m — (1591.20) — +5.73% 75m — (1595.50) — +2.80% 125m — (1599.00) — +5.00% 100m — (1604.00) — 1.00% 50m — (1604.50) — -4.00% 50m — (1602.50) — -7.00% 50m — (1599.00) — +1.00% 100m — (1600.00) — -6.00% 75m — (1595.50) — 4.00% 50m — (1597.50) — -4.00% 75m — (1594.50)

STATION	462+50	462+75	463	463+25	463+50	463+75	464	464+25	464+50	464+75	465	465+25	465+50
PROPOSED HEIGHT	1568.45	1569.40	1570.35	1571.30	1572.25	1573.34	1574.70	1576.13	1577.41	1578.83	1579.84	1581.05	1582.27
GROUND HEIGHT	1569.50	1568.50	1569.70	1570.50	1573.50	1573.00	1574.50	1576.50	1577.00	1578.20	1579.50	1581.10	1582.20

STATION	465+75	466	466+25	466+50	466+75	467	467+25	467+50	467+75	468	468+25	468+50	468+75
PROPOSED HEIGHT	1583.49	1584.72	1586.00	1587.30	1588.60	1589.90	1591.23	1592.63	1594.07	1595.32	1596.20	1596.90	1597.60
GROUND HEIGHT	1583.40	1584.50	1585.80	1587.10	1588.40	1589.70	1591.30	1592.50	1593.60	1594.70	1595.50	1596.00	1597.00

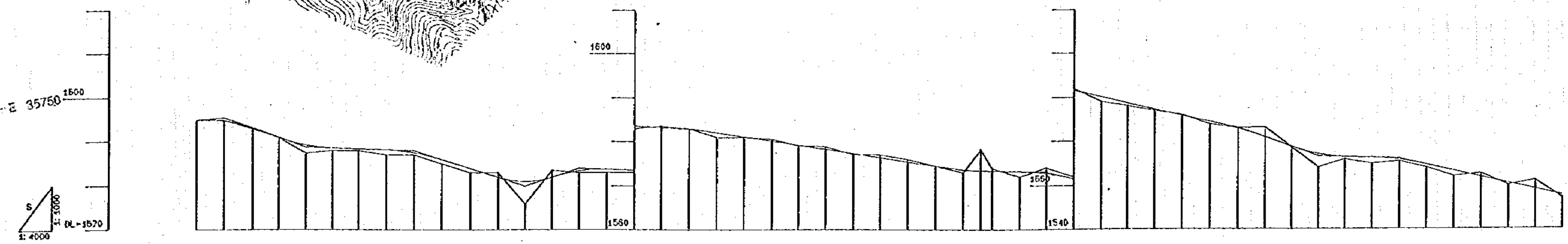
STATION	469	469+25	469+50	469+75	470	470+25	470+50	470+75	471	471+25	471+50	471+75	472
PROPOSED HEIGHT	1598.30	1599.14	1600.25	1601.50	1602.75	1603.75	1604.25	1604.19	1603.50	1602.31	1600.75	1599.50	1599.25
GROUND HEIGHT	1598.00	1599.00	1599.00	1601.00	1603.00	1604.00	1604.00	1604.50	1603.00	1603.00	1600.00	1599.00	1599.00

STATION	472+25	472+50	472+75	473	473+25	473+50	473+75	474	474+25	474+50	474+75	475
PROPOSED HEIGHT	1599.50	1599.75	1599.56	1598.50	1597.00	1596.13	1596.50	1597.00	1596.50	1595.50	1594.89	1595.00
GROUND HEIGHT	1599.00	1599.00	1604.00	1599.00	1597.00	1595.00	1597.00	1597.00	1595.50	1595.00	1594.00	1595.00

CURVE ELEMENT: R=20.80, R=20.00, R=40.00, R=50.00, R=26.00, R=40.00, R=50.00, R=50.00, R=40.00, L=38.14, R=30.00, L=40.68, R=30.00, R=30.00, R=40.00, R=25.00, R=25.00, L=55.69, R=20.00, L=48.86, R=20.00, R=20.00, R=20.00, R=30.00, R=20.00, R=30.00, R=30.00

A-1-39: Plan and Profile

STA.475+00~STA.487+50



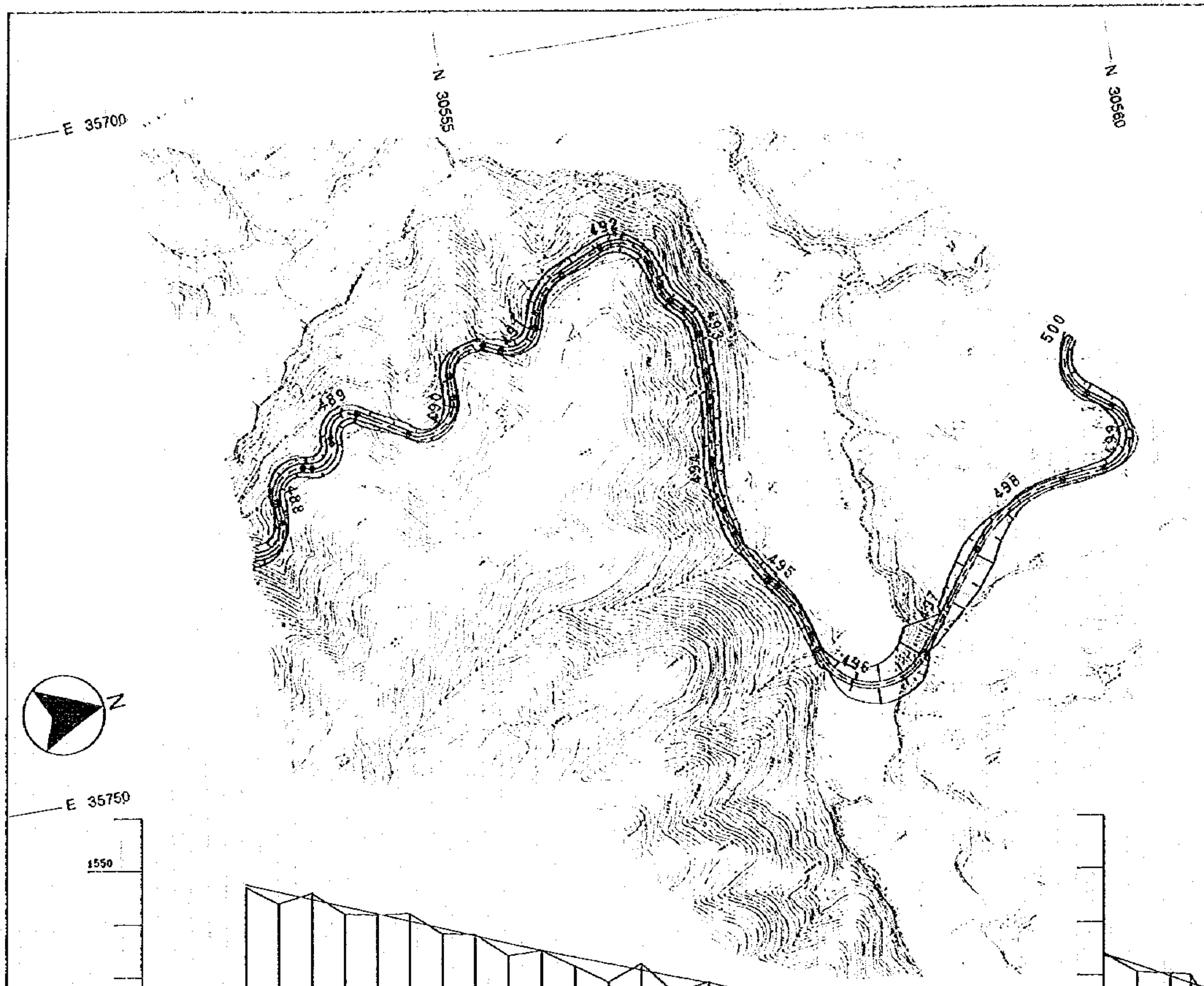
STATION	PROPOSED HEIGHT	GROUND HEIGHT
475	1595.00	1595.00
475+25	1594.82	1595.00
475+50	1593.27	1593.00
475+75	1591.03	1591.00
476	1589.31	1587.50
476+25	1588.60	1588.00
476+50	1588.40	1588.00
476+75	1588.20	1587.00
477	1587.55	1587.00
477+25	1586.00	1585.00
477+50	1584.00	1583.00
477+75	1582.00	1583.00
478	1581.00	1575.80
478+25	1582.00	1583.50
478+50	1583.44	1583.00
478+75	1583.75	1583.00
479	1583.50	1583.00
479+25	1583.25	1583.50
479+50	1582.82	1583.00
479+75	1582.05	1581.00
480	1581.10	1581.00
480+25	1580.15	1580.50
480+50	1579.20	1579.00
480+75	1578.25	1578.80
481	1577.30	1577.00
481+25	1576.35	1577.00
481+50	1575.40	1576.00
481+75	1574.45	1574.50
482	1573.70	1573.00
482+15	1573.43	1578.20
482+25	1573.33	1574.00
482+50	1573.17	1572.00
482+75	1572.88	1574.00
483	1571.57	1572.00
483+25	1570.14	1569.00
483+50	1568.71	1568.00
483+75	1567.29	1567.00
484	1565.86	1565.00
484+25	1564.43	1563.80
484+50	1562.82	1563.00
484+75	1560.83	1563.10
485	1558.67	1558.50
485+25	1557.00	1554.00
485+50	1556.33	1555.80
485+75	1556.17	1554.80
486	1555.89	1555.30
486+25	1554.60	1554.00
486+50	1553.20	1552.00
486+75	1551.80	1552.62
487	1550.40	1550.00
487+25	1549.00	1551.00
487+50	1547.60	1547.00

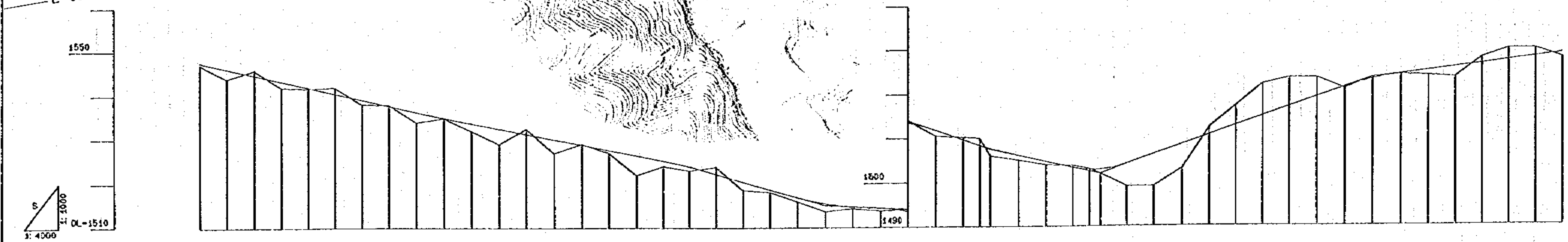
GRADE: (1595.50) -8.93% 75m (1588.80) -0.80% 100m (1588.00) -8.00% 100m (1580.00) 8.00% 50m (1584.00) -1.00% 100m (1583.00) -3.80% 250m (1573.50) -0.67% 75m (1573.00) -3.71% 175m (1563.00) -8.67% 75m (1556.50) -0.67% 75m (1556.00) -5.60% 375m

CURVE ELEMENT: R=25.00, R=40.00, L=53.49, R=40.00, R=20.00, R=30.00, R=30.00, R=20.00, L=34.16, R=50.00, R=20.00, R=50.00, R=30.00, R=20.00, R=20.00, R=35.00, L=59.06, R=20.00, R=20.00, R=20.00, R=30.00, R=20.00, R=20.00, R=20.00, R=20.00, R=20.00, R=20.00, R=20.00

A-1-40: Plan and Profile

STA.487+50~STA.500+00





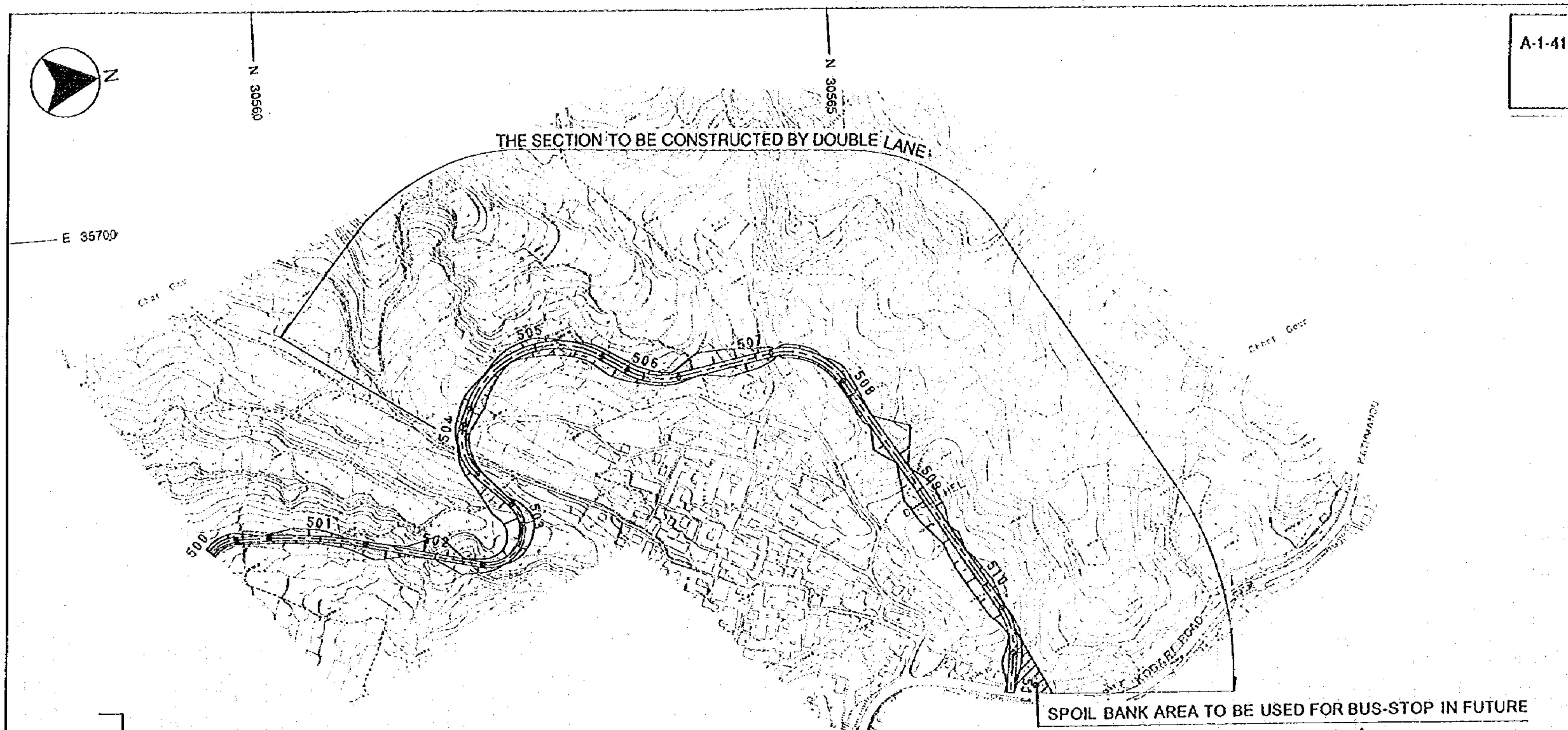
STATION	PROPOSED HEIGHT	GROUND HEIGHT
487+50	1547.80	1547.00
487+75	1546.20	1544.00
488	1544.80	1545.90
488+25	1543.40	1542.00
488+50	1542.00	1541.78
488+75	1540.60	1542.00
489	1539.20	1538.20
489+25	1537.80	1538.00
489+50	1536.40	1534.00
489+75	1535.04	1535.00
490	1533.78	1532.00
490+25	1532.55	1529.00
490+50	1531.33	1532.50
490+75	1530.11	1527.00
491	1528.89	1529.00
491+25	1527.67	1527.00
491+50	1526.44	1522.00
491+75	1525.22	1524.00
492	1523.86	1523.00
492+25	1522.20	1523.80
492+50	1520.40	1516.50
492+75	1518.60	1518.00
493	1516.80	1515.80
493+25	1515.37	1513.60
493+50	1514.67	1514.28
493+75	1514.33	1513.70
494	1513.54	1514.00
494+25	1511.83	1510.50
494+50	1509.67	1510.20
494+65	1508.44	1510.00
494+75	1507.70	1508.00
495	1506.13	1505.00
495+25	1504.75	1504.00
495+50	1503.38	1503.80
495+65	1502.87	1503.00
495+75	1502.88	1502.00
496	1504.15	1499.00
496+25	1506.30	1499.00
496+50	1508.45	1503.00
496+75	1510.60	1512.20
497	1512.75	1517.20
497+25	1514.90	1522.20
497+50	1517.05	1525.50
497+75	1519.20	1525.50
498	1521.35	1521.00
498+25	1523.18	1523.50
498+50	1524.28	1524.20
498+75	1525.06	1524.00
499	1525.83	1523.50
499+25	1526.61	1528.00
499+50	1527.39	1530.00
499+75	1528.17	1530.00
500	1528.94	1528.00

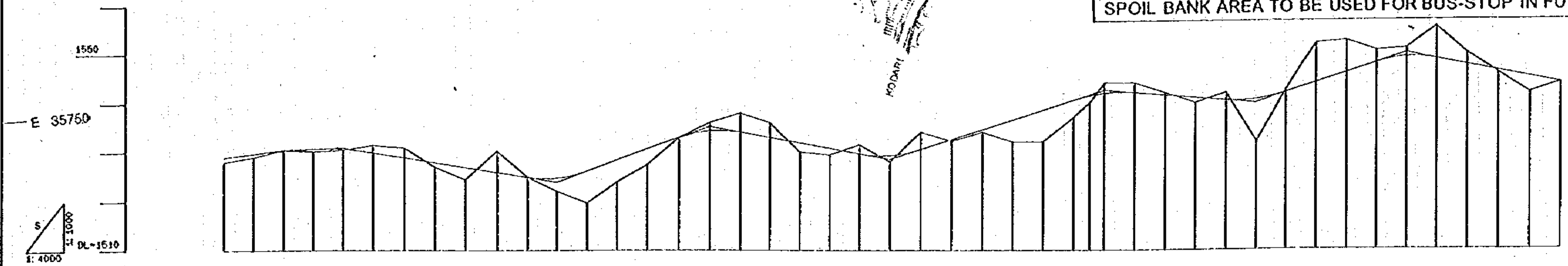
GRADE: -5.60% 376m; (1535.00); -4.89% 225m; (1524.00); -7.20% 125m; (1515.00); -1.33% 75m; (1514.00); -8.67% 75m; (1507.50); -5.50% 100m; (1502.00); +8.60% 250m; (1523.50); +3.11% 225m

CURVE ELEMENT: R=20.00; R=20.00; R=15.00; R=15.00; L=42.43; R=26.00; R=20.00; R=20.00; R=40.00; L=35.50; R=25.00; R=26.00; R=30.00; R=160.00; L=39.86; R=100.00; R=100.00; R=100.00; R=45.00; L=85.78; R=100.00; R=26.00; R=30.00

A-1-41: Plan and Profile

STA.500+00~STA.511+00





GRADE: +3.11% 225m — (1530.50) — 1.00% 50m — (1531.00) — -4.00% 175m — (1524.00) — +9.00% 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	500	500+25	500+50	500+75	501	501+25	501+50	501+75	502	502+25	502+50	502+75	503	503+25	503+50	503+75
PROPOSED HEIGHT	1528.94	1529.72	1530.37	1530.75	1530.89	1530.00	1529.00	1528.00	1527.00	1526.00	1525.00	1524.81	1526.25	1528.50	1530.75	1533.00
GROUND HEIGHT	1528.00	1529.00	1530.50	1530.20	1530.50	1531.50	1531.00	1527.00	1524.50	1530.30	1525.00	1522.20	1519.70	1524.00	1527.50	1533.00

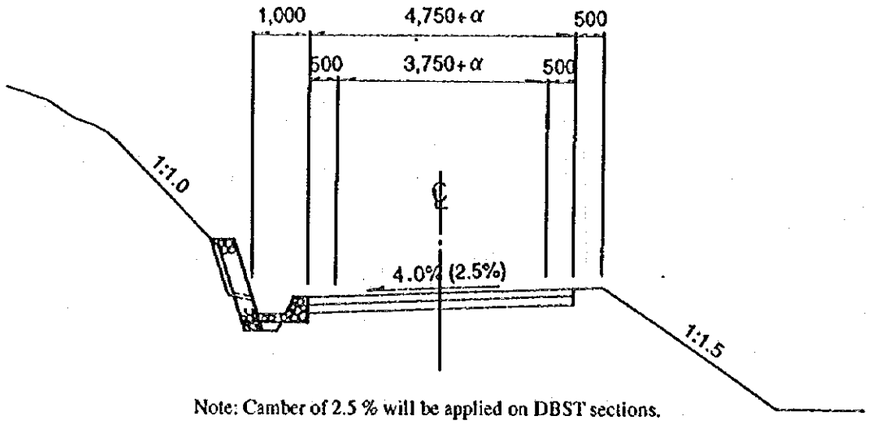
STATION	504	504+25	504+50	504+75	505	505+25	505+50	505+75	506	506+25	506+50	506+75	507	507+13	507+25
PROPOSED HEIGHT	1534.41	1534.13	1533.00	1531.88	1530.75	1529.63	1529.28	1530.50	1532.50	1534.50	1536.50	1538.50	1540.50	1541.37	1541.87
GROUND HEIGHT	1536.20	1538.00	1536.20	1530.00	1529.50	1531.50	1528.00	1534.00	1532.20	1534.00	1532.00	1532.00	1537.00	1540.00	1544.00

STATION	507+50	507+75	508	508+25	508+50	508+75	509	509+25	509+50	509+75	510	510+25	510+50	510+75	511
PROPOSED HEIGHT	1542.00	1541.50	1541.00	1540.50	1540.63	1542.00	1544.00	1546.00	1548.00	1549.20	1548.80	1547.60	1546.40	1545.20	1544.00
GROUND HEIGHT	1544.00	1542.00	1540.00	1542.00	1532.00	1542.50	1552.00	1552.50	1550.50	1551.00	1553.50	1550.00	1548.00	1542.00	1544.00

CURVE ELEMENT: R=30.00 — R=400.00 — L=101.17 — R=30.00 — L=40.02 — R=40.00 — R=30.00 — R=50.00 — L=53.48 — R=50.00 — L=239.26 — R=50.00 — L=35.29

STANDARD CROSS-SECTION (1/3) Scale: 1/100

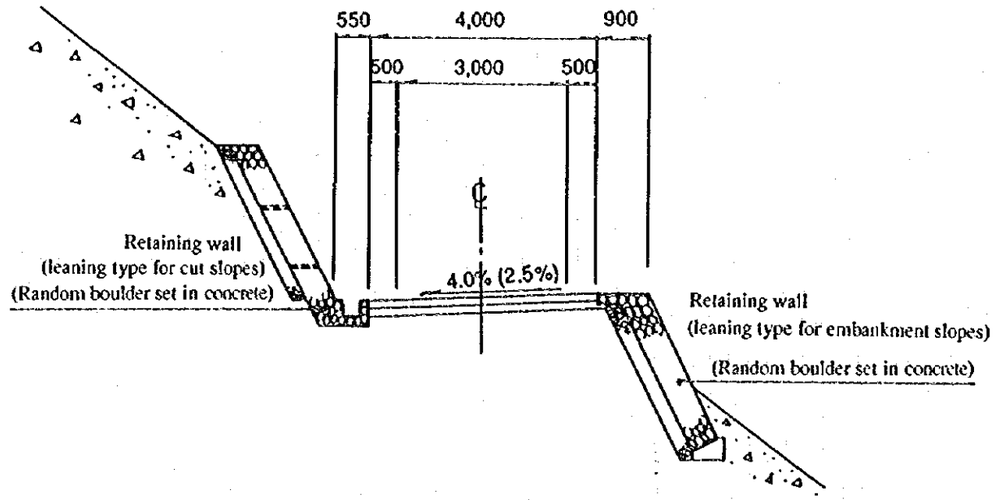
SINGLE LANE SECTION



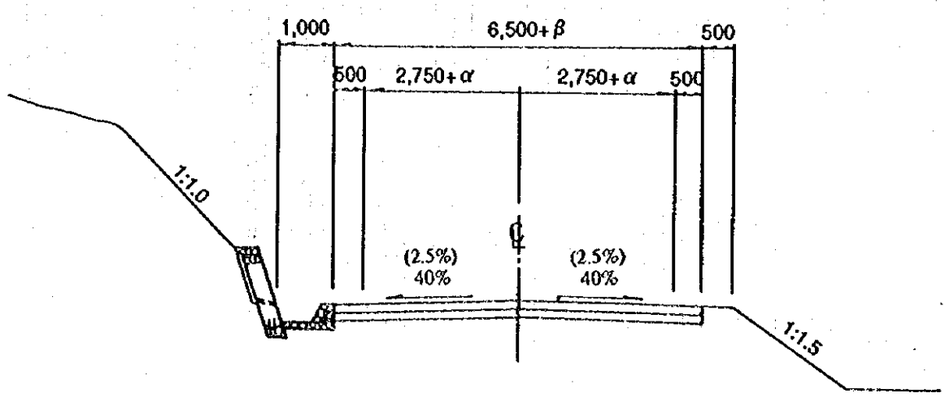
Note: Camber of 2.5 % will be applied on DBST sections.

EXCEPTIONAL CASE

Note: Standard Cross-Section for exceptional cases will be applied for the sections where topography is extremely steep and/or geology is very fragile.

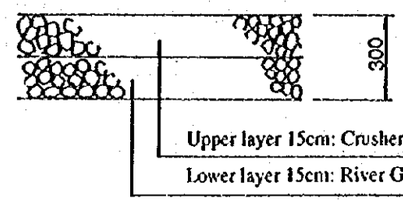


DUAL LANE SECTION



Note: The Standard Cross Section for dual lane section will be applied to the section from STA.504 to the junction with Kodari Road and Bus-stops.

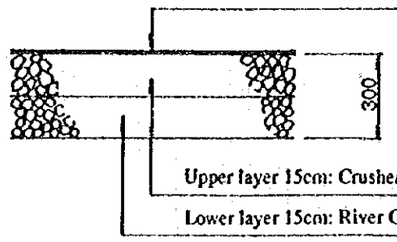
PAVEMENT STRUCTURE



(Gravel Road Section)

Note: In the sections where subgrades are constructed by the river gravel, the lower layer will be canceled.

Double Bituminous Surface Treatment (DBST)

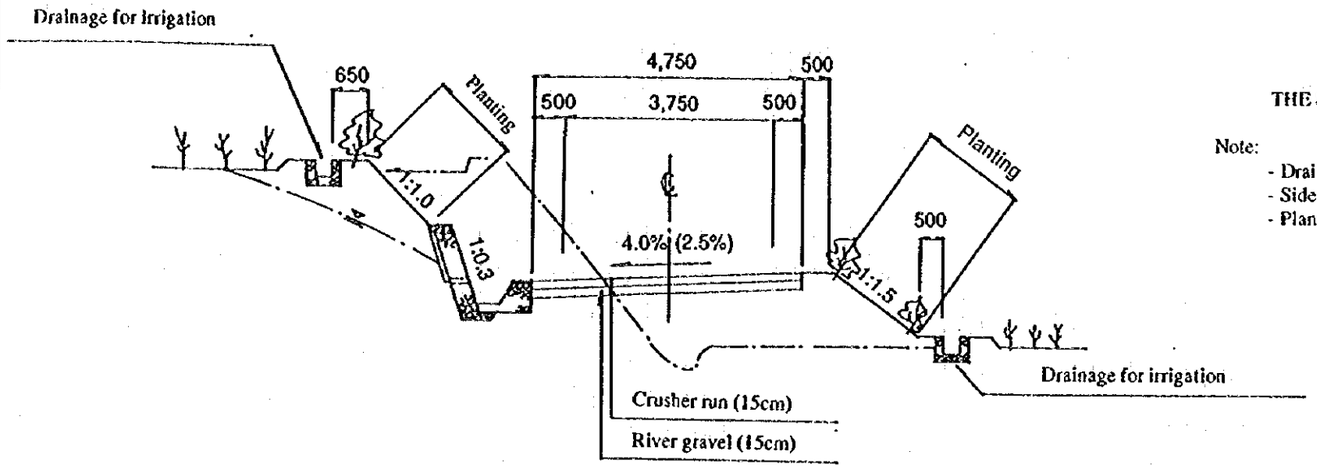


(DBST Section)

Note: DBST will be applied to the STA.280 - End Section and at steep gradient (>5%).

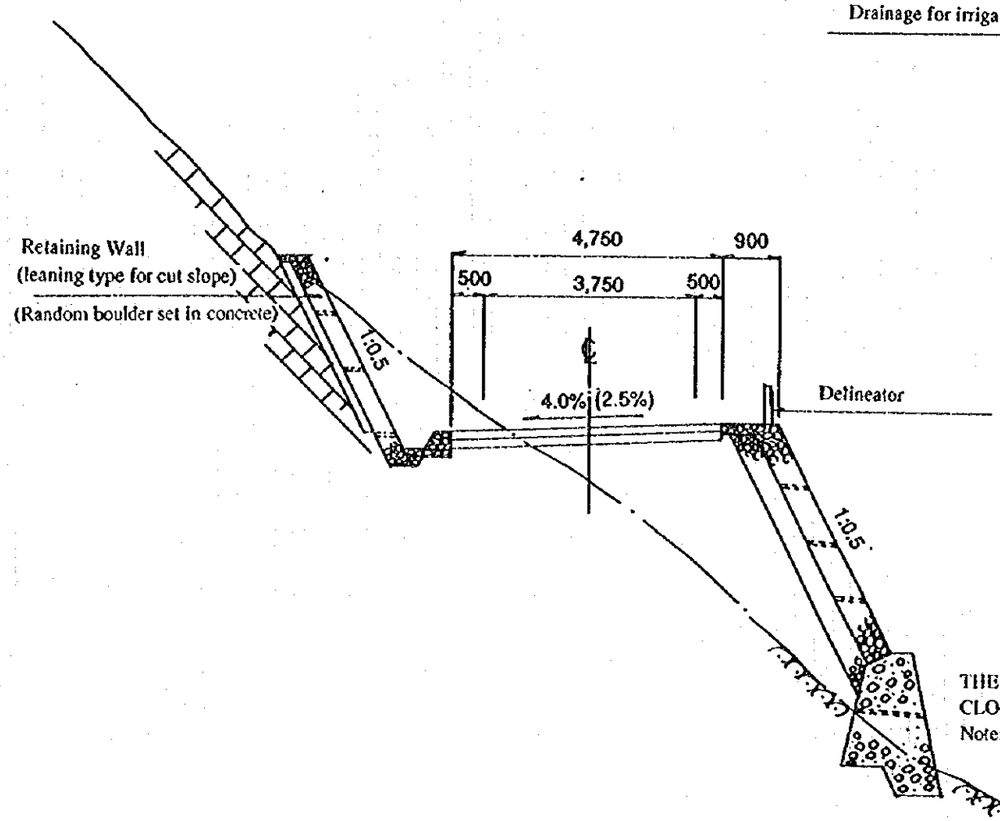
A-2-1 Standard Cross Sections

STANDARD CROSS-SECTION (2/3) Scale: 1/100

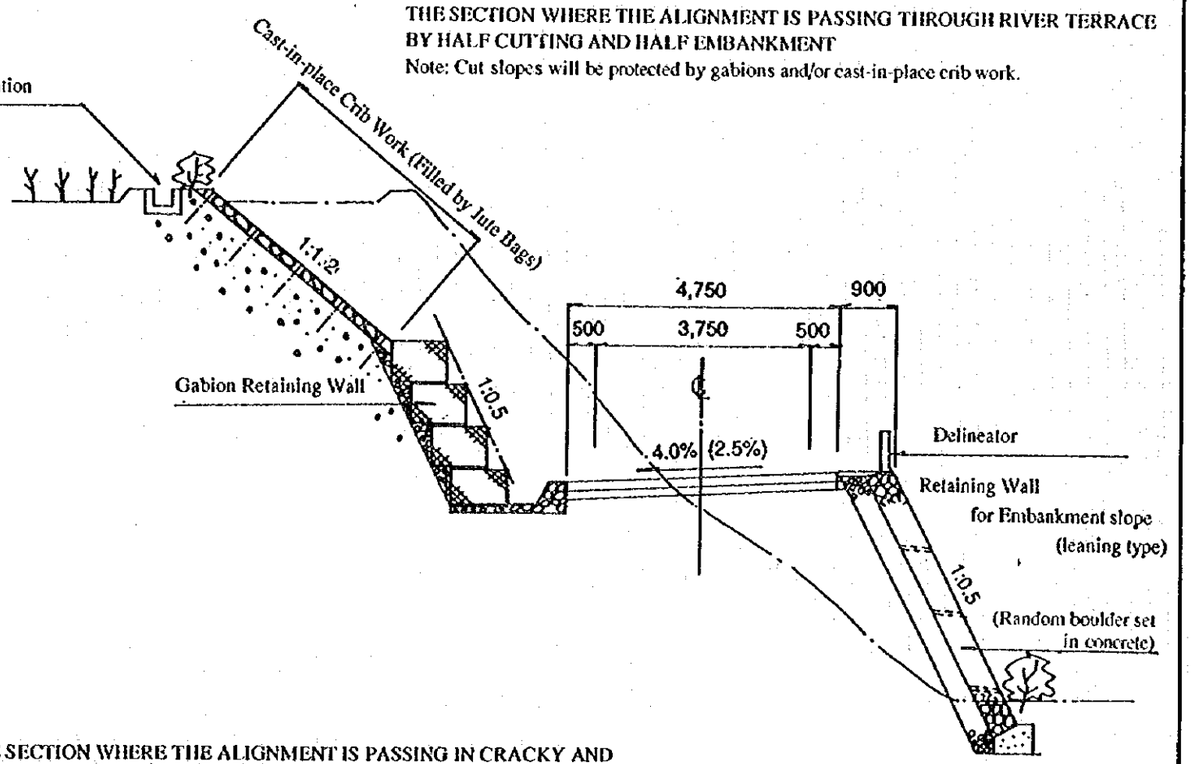


THE SECTIONS PASSING THROUGH THE PADDY FIELDS

Note:
- Drainage for irrigation will be set at the border with paddy fields.
- Side ditch with 1m height of retaining wall will be constructed basically to avoid the slope foot erosion.
- Planting will be carried out on slopes by combination of sodding, seeding and laying of live cuttings.



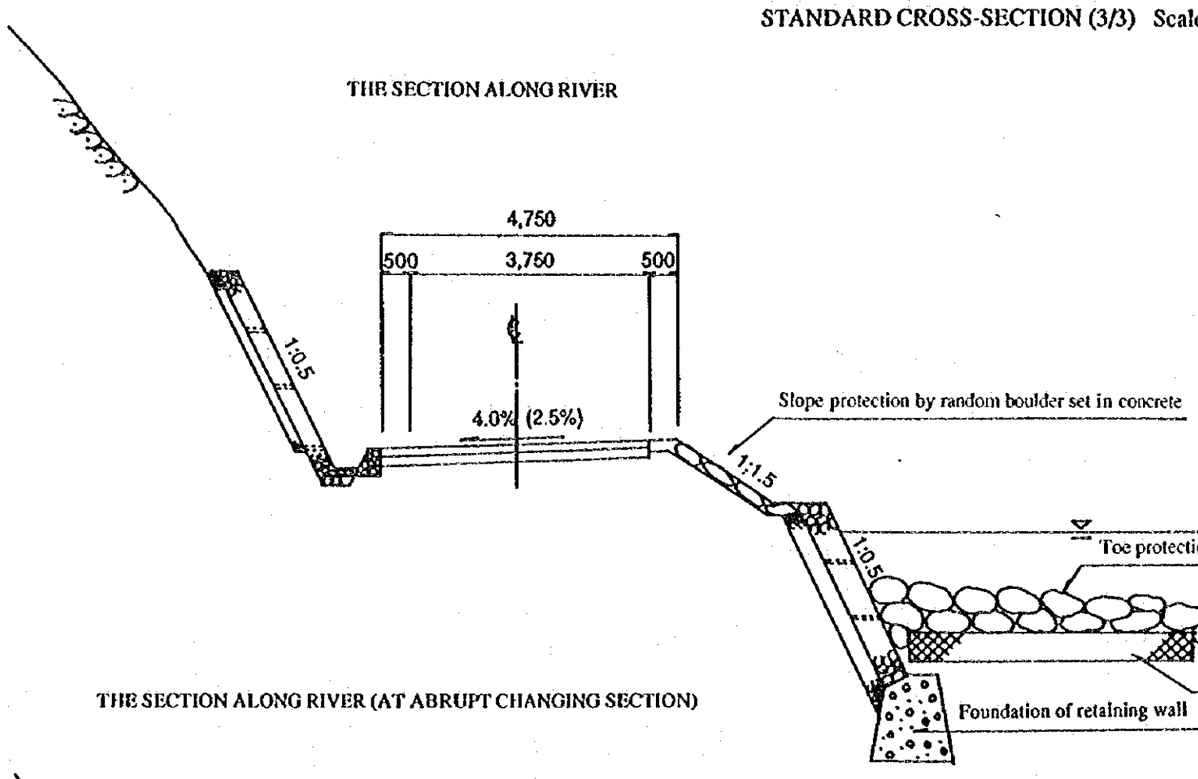
THE SECTION WHERE THE ALIGNMENT IS PASSING THROUGH RIVER TERRACE BY HALF CUTTING AND HALF EMBANKMENT
Note: Cut slopes will be protected by gabions and/or cast-in-place crib work.



THE SECTION WHERE THE ALIGNMENT IS PASSING IN CRACKY AND CLOSE ROCK LAYER BY HALF CUTTING AND HALF EMBANKMENT
Note: Cut slopes will be protected by the supported type retaining wall.

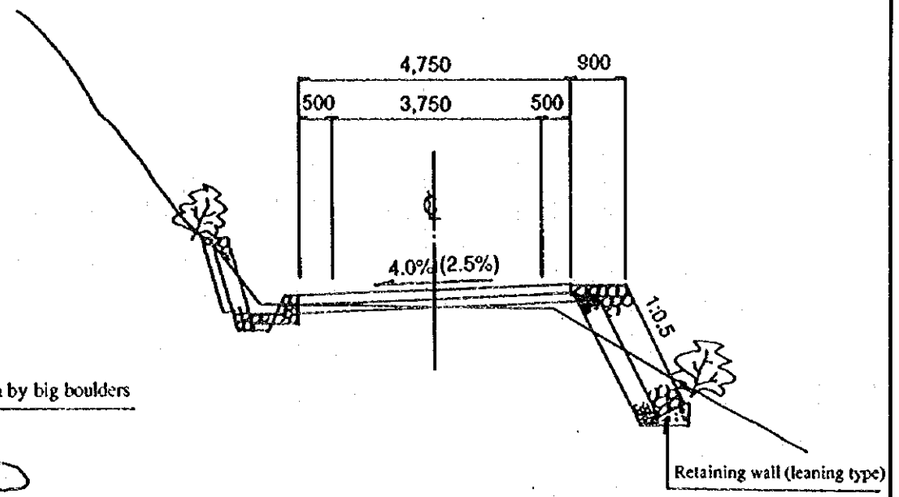
STANDARD CROSS-SECTION (3/3) Scale: 1/100

THE SECTION ALONG RIVER

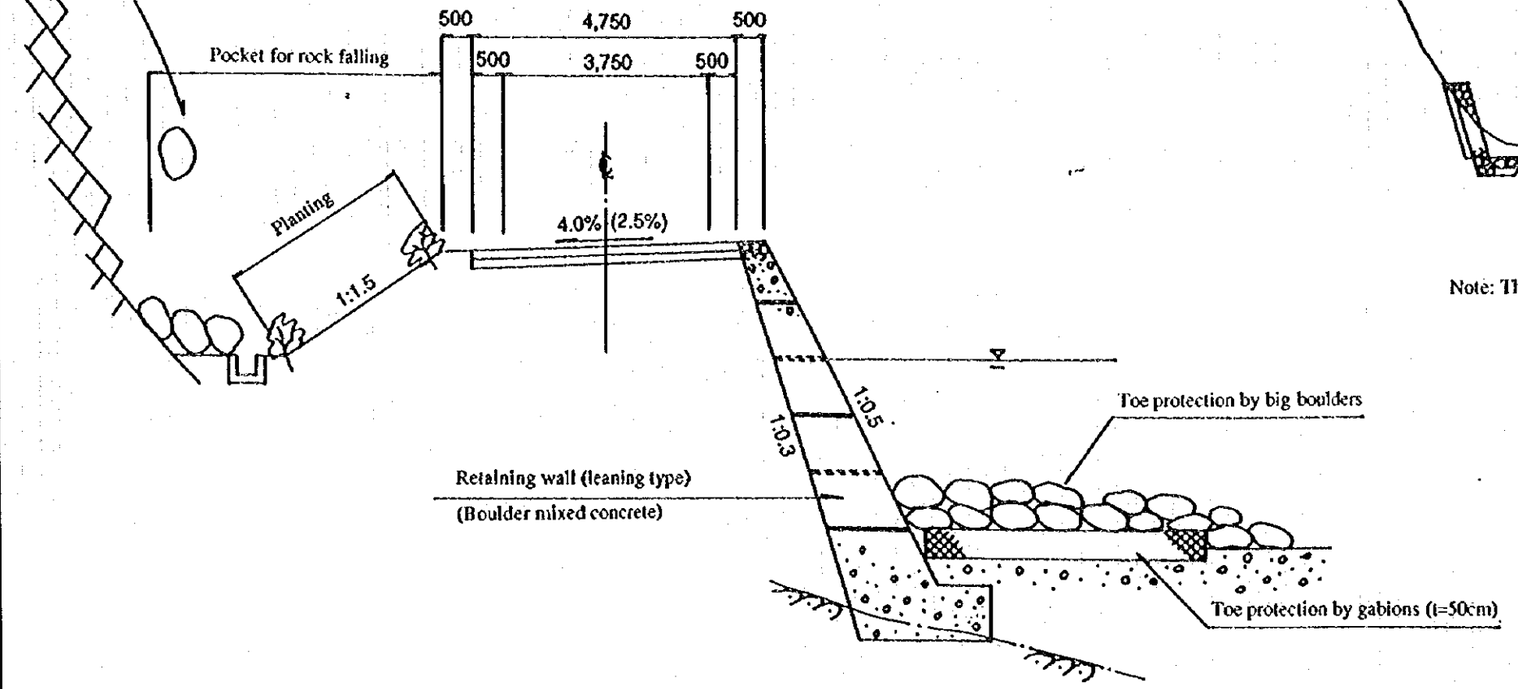


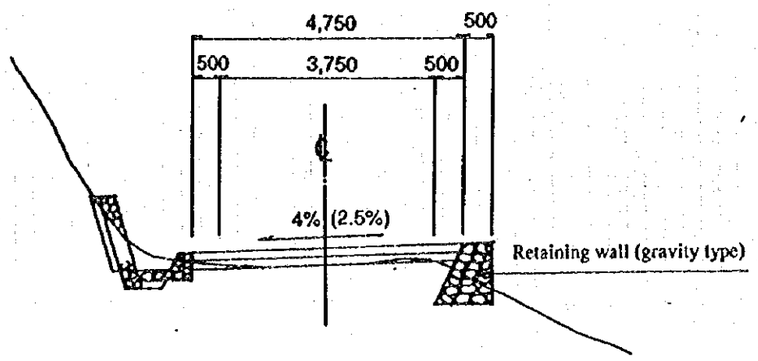
THE SECTION ALONG THE EXISTING FEEDER ROAD

Note: The center line will be planned on valley side to avoid cuttings.



THE SECTION ALONG RIVER (AT ABRUPT CHANGING SECTION)



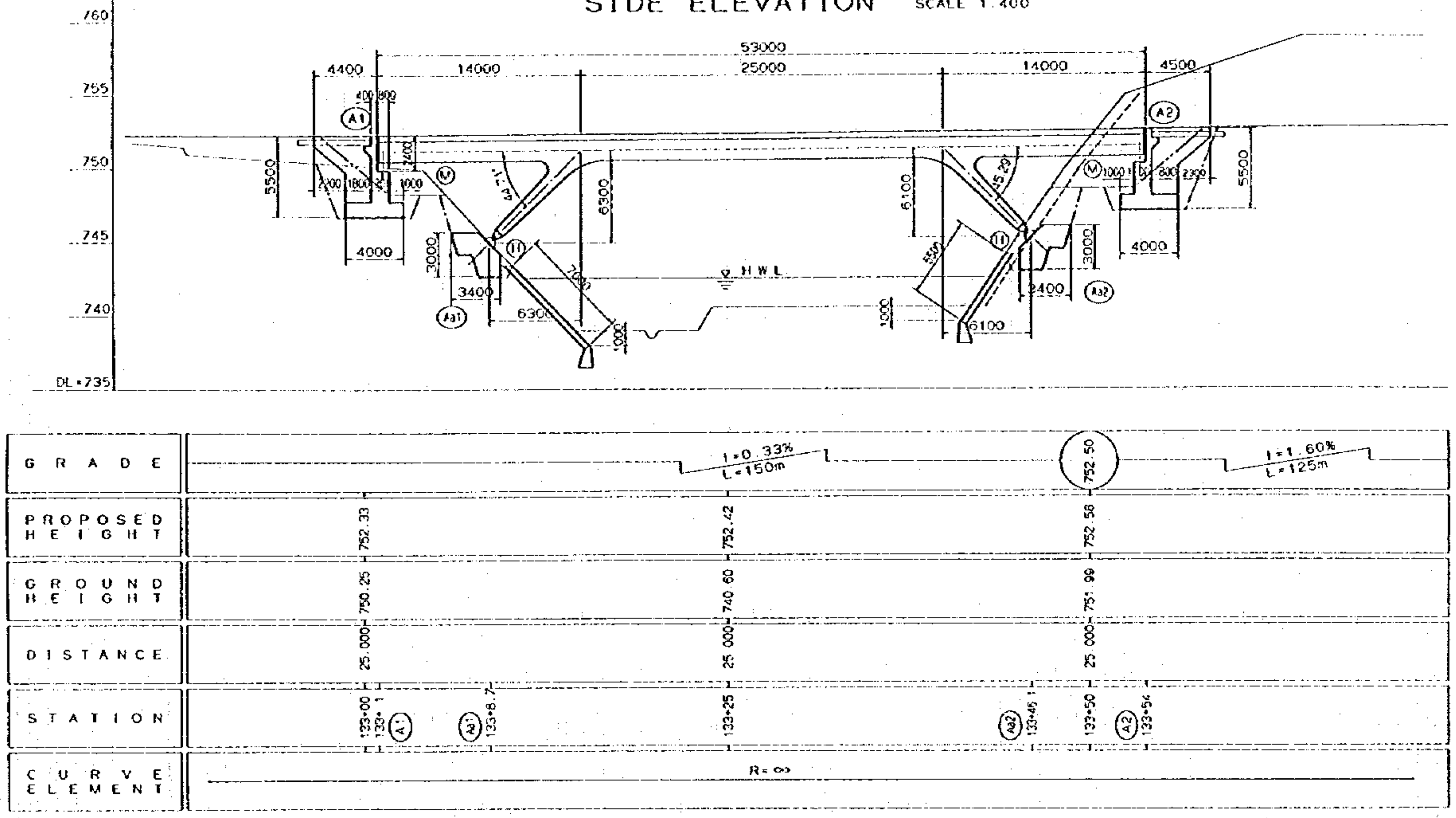


Note: The widening will be done adopting the small gravity type retaining wall.

A-2-3 Standard Cross Sections

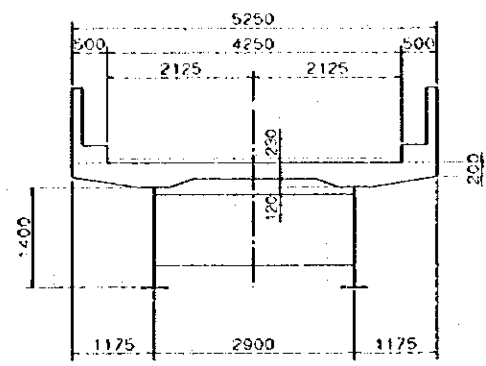
GENERAL VIEW OF DAUNE BRIDGE

SIDE ELEVATION SCALE 1:400

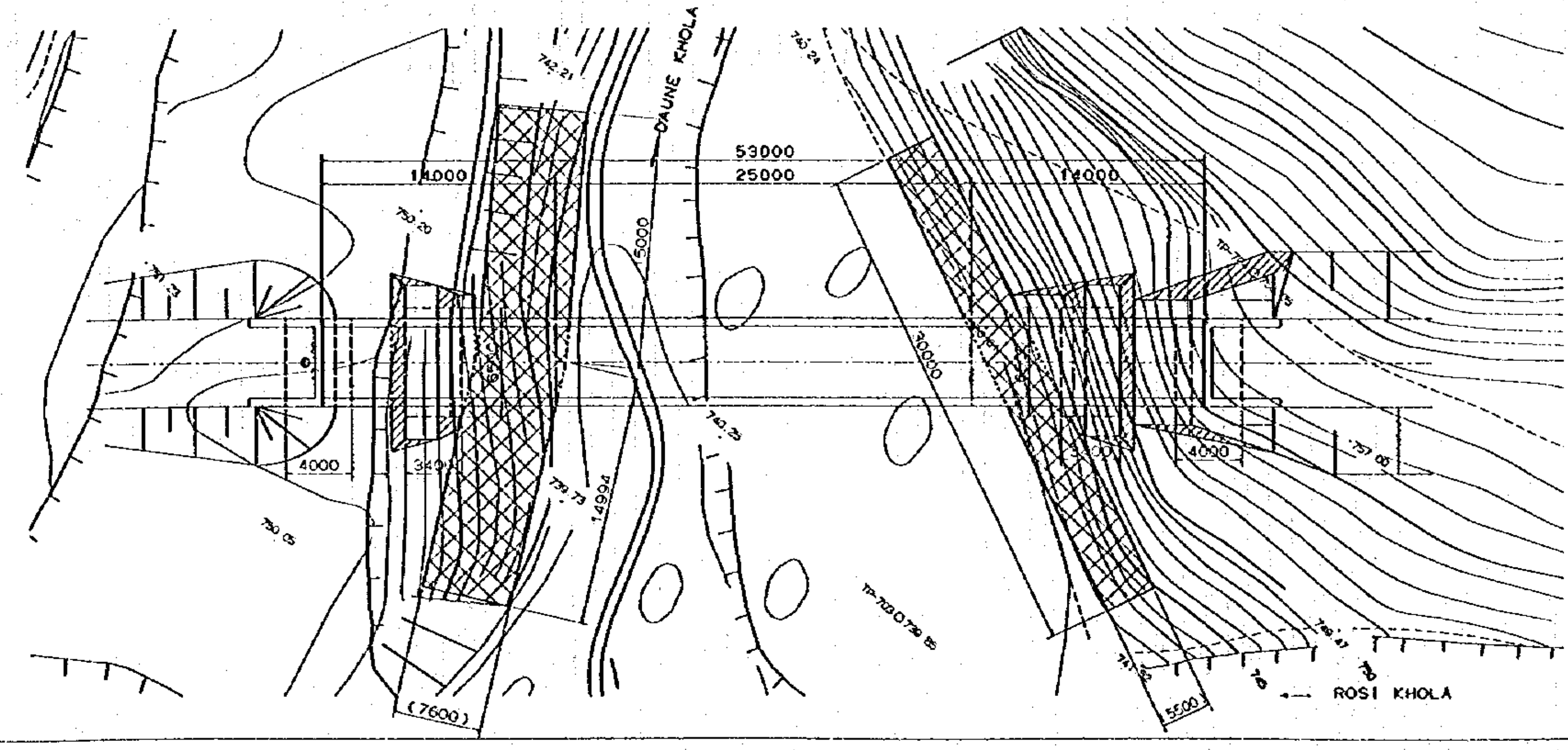


CROSS SECTION

SCALE 1:100



PLAN SCALE 1:400



SUPERSTRUCTURE

ITEM	CLASS	UNIT	QUANTITY	REMARKS
STEEL		tf	59.872	
PAINTING		m²	1 064.8	
CONCRETE	σck=240kgf/cm²	m³	104.7	
FORM		m²	521.7	
REINFORCEMENT BAR		tf	23.417	
ASPHALT PAVEMENT		m²	225.3	
BEARING		PLACE	8	
EXPANSION JOINT		PLACE	2	
DRAIN		PLACE	10	

SUBSTRUCTURE

ITEM	CLASS	UNIT	QUANTITY	REMARKS
EXCAVATION		m³	808	
BACKFILLING		m³	165	
CONCRETE	σck=240kgf/cm²	m³	189.1	
FORM		m²	354.0	
REINFORCEMENT BAR		tf	12.229	
APPROACH CUSHION	L=5m	PLACE	2	

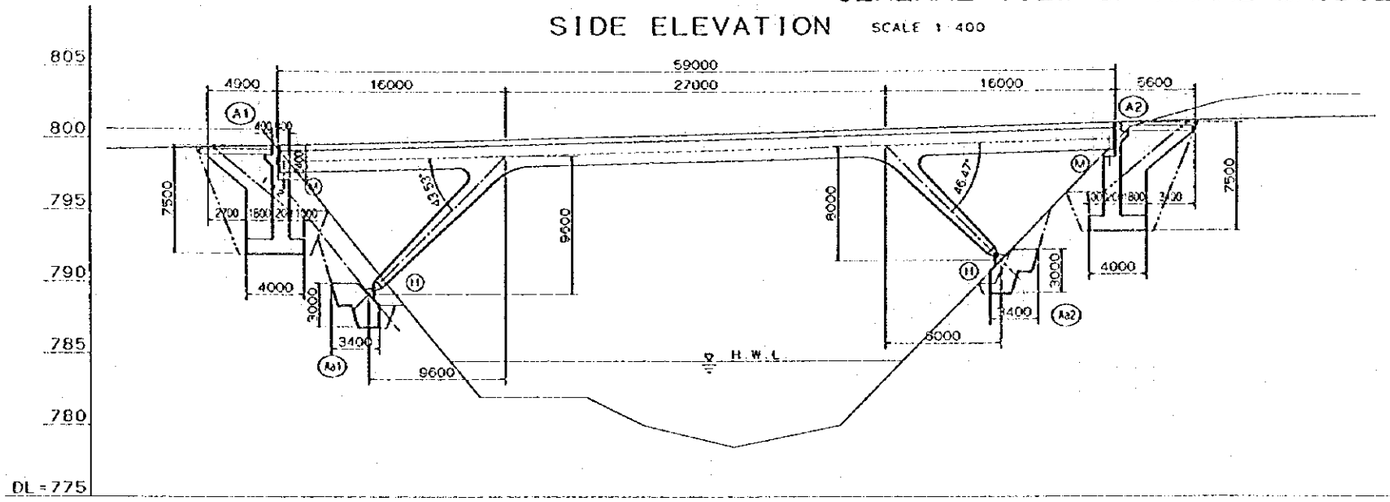
ACCESSORY WORK

ITEM	CLASS	UNIT	QUANTITY	REMARKS
REPARIAN WORKS		m²	393.0	
RIVER BED PROTECTION WORKS		m²	—	
RETAINING WALL OF CONCRETE BLOCK		m²	119.3	

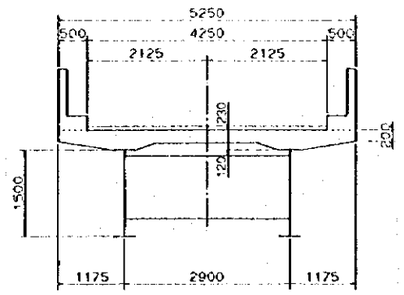
A-3 General Plan of Narke Bridge

GENERAL VIEW OF NARKE BRIDGE

SIDE ELEVATION SCALE 1:400

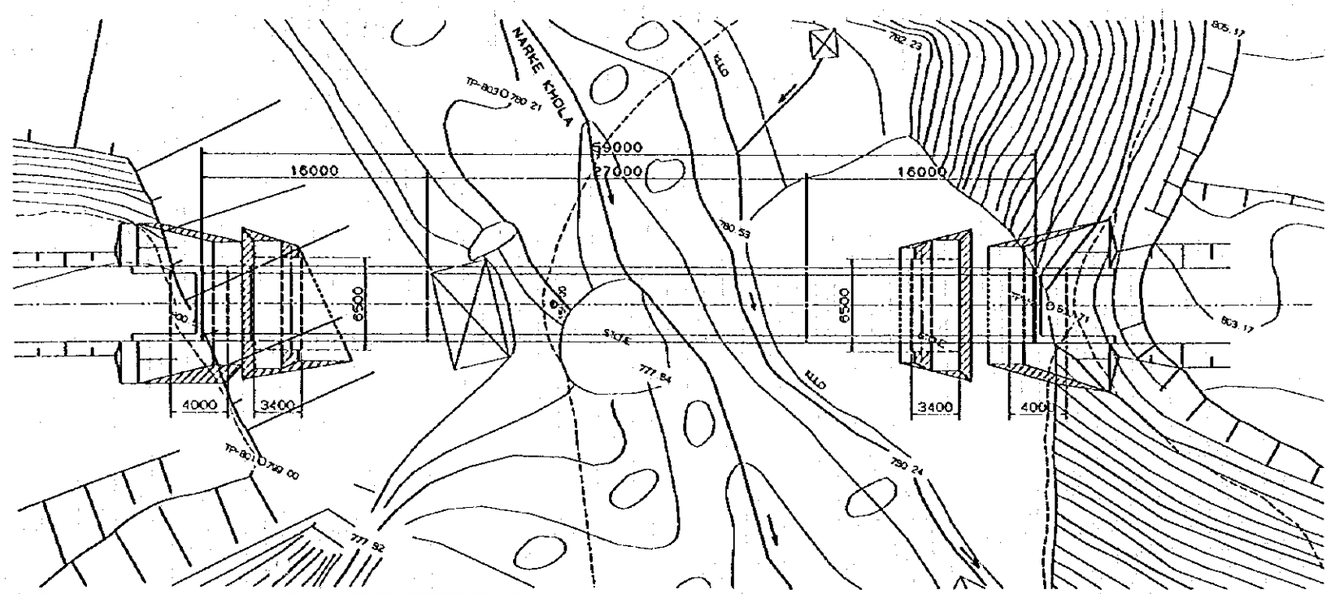


CROSS SECTION SCALE 1:100



GRADE	i=2.57% L=350m
PROPOSED HEIGHT	799.50 — 800.14 — 800.79 — 801.43
GROUND HEIGHT	799.25 — 780.42 — 790.41 — 803.000
DISTANCE	25.000 — 25.000 — 25.000 — 25.000
STATION	A1 157+75 — A3 157+81.4 — 158+00 — 158+25 — 158+26 — A2 — A2 158+34 — 158+50
CURVE ELEMENT	R=∞

PLAN SCALE 1:400



SUPERSTRUCTURE

ITEM	CLASS	UNIT	QUANTITY	REMARKS
STEEL		kg	77 996	
PAINTING		m²	1 400 9	
CONCRETE	σck=240kgf/cm²	m³	116 5	
FORM		m²	580 3	
REINFORCEMENT BAR		kg	26 068	
ASPHALT PAVEMENT		m²	250 8	
BEARING		PLACE	8	
EXPANSION JOINT		PLACE	2	
DRAIN		PLACE	12	

SUBSTRUCTURE

ITEM	CLASS	UNIT	QUANTITY	REMARKS
EXCAVATION		m³	1 194	
BACKFILLING		m³	250	
CONCRETE	σck=240kgf/cm²	m³	232 4	
FORM		m²	465 0	
REINFORCEMENT BAR		kg	15 781	
APPROACH CUSHION	L=5m	PLACE	2	

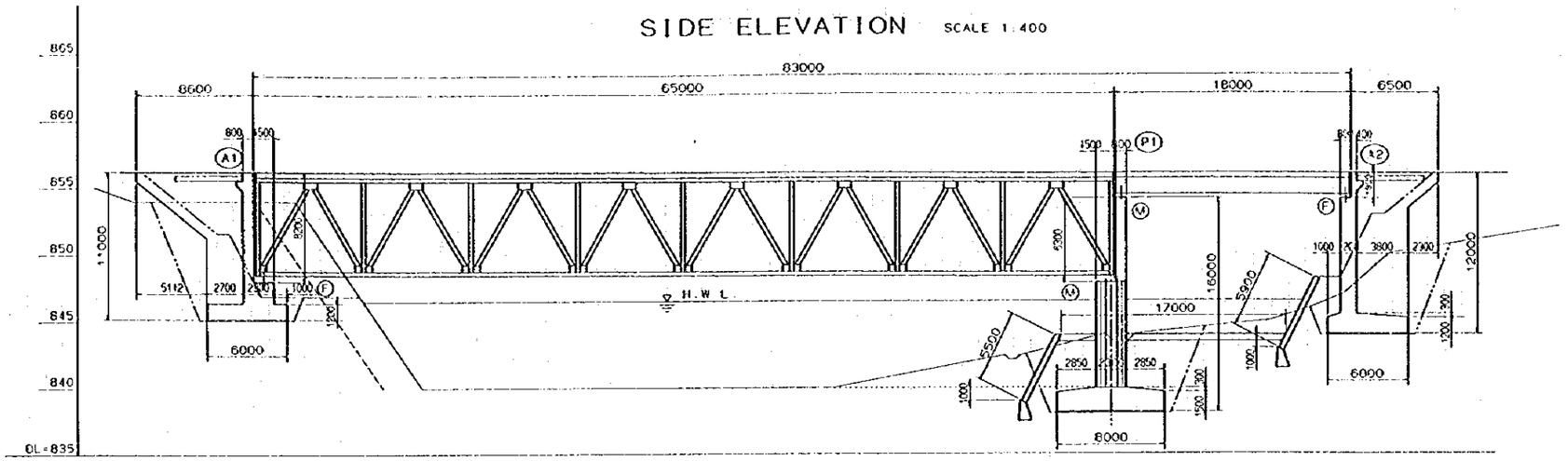
ACCESSORY WORK

ITEM	CLASS	UNIT	QUANTITY	REMARKS
REPARIAN WORKS		m²	—	
RIVER BED PROTECTION WORKS		m²	—	
RETAINING WALL OF CONCRETE BLOCK		m³	131 3	

A-4 General Plan of Daune Bridge

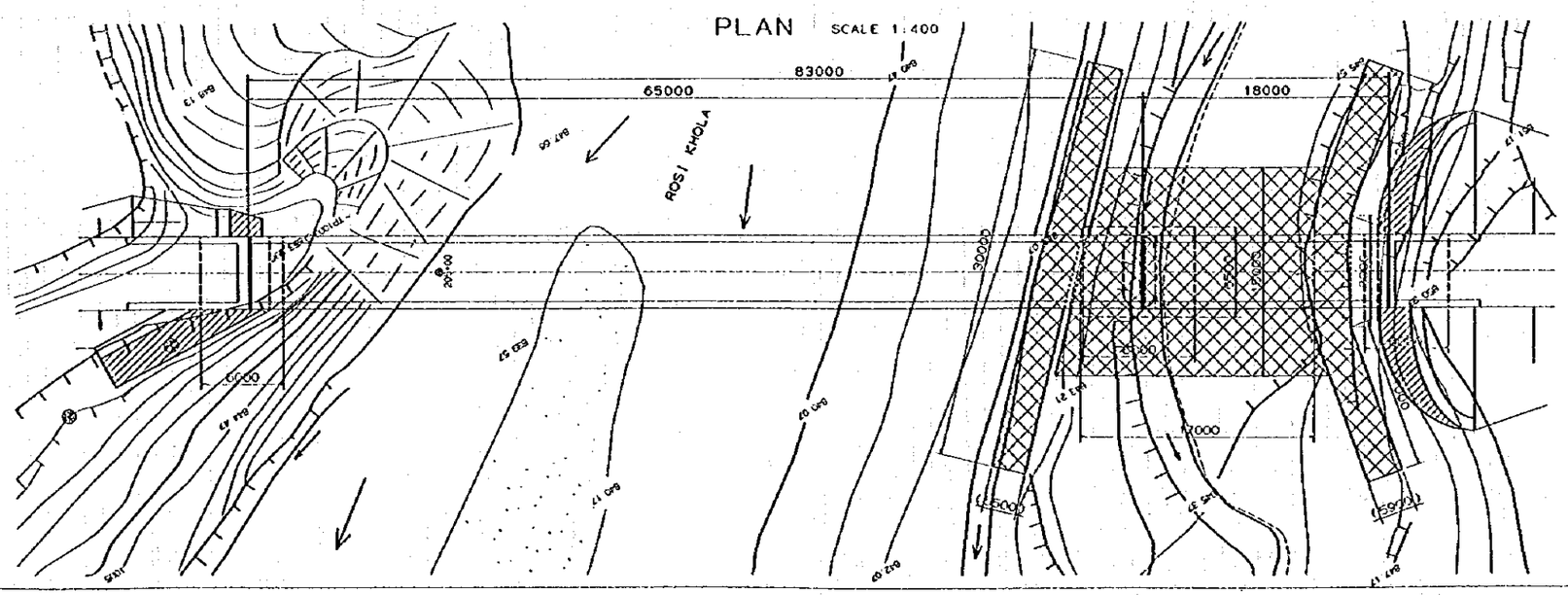
GENERAL VIEW OF ROSI BRIDGE

SIDE ELEVATION SCALE 1:400



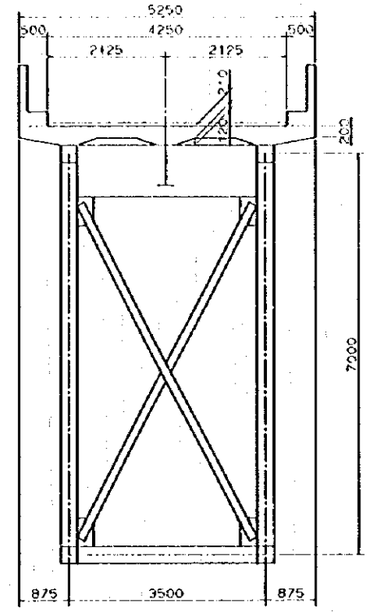
GRADE	I=0.27% L=375m
PROPOSED HEIGHT	856.17 / 856.10 / 856.03 / 855.97
GROUND HEIGHT	840.00 / 840.00 / 843.89 / 850.49
DISTANCE	25.000 / 25.000 / 25.000 / 25.000
STATION	A1 204+86 / 205+00 / 205+25 / 205+50.75 P1 / 205+69 A2 / 205+75
CURVE ELEMENT	R=∞

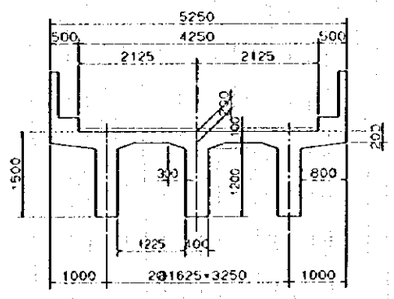
PLAN SCALE 1:400



CROSS SECTION

SCALE 1:100





SUPERSTRUCTURE

ITEM	CLASS	UNIT	QUANTITY	REMARKS
STEEL		kf	106 473	
PAINTING		m²	1 858 2	
CONCRETE	ack=240kgf/cm²	m³	185 0	
FORM		m²	961 2	
REINFORCEMENT BAR		kf	41 744	
ASPHALT PAVEMENT	t	m²	352 8	
BEARING		PLACE	10	
EXPANSION JOINT		PLACE	3	
DRAIN		PLACE	16	

SUBSTRUCTURE

ITEM	CLASS	UNIT	QUANTITY	REMARKS
EXCAVATION		m³	1 900	
BACKFILLING		m³	679	
CONCRETE	ack=240kgf/cm²	m³	523 7	
FORM		m²	978 5	
REINFORCEMENT BAR		kf	42 193	
APPROACH CUSHION	L=5m	PLACE	2	

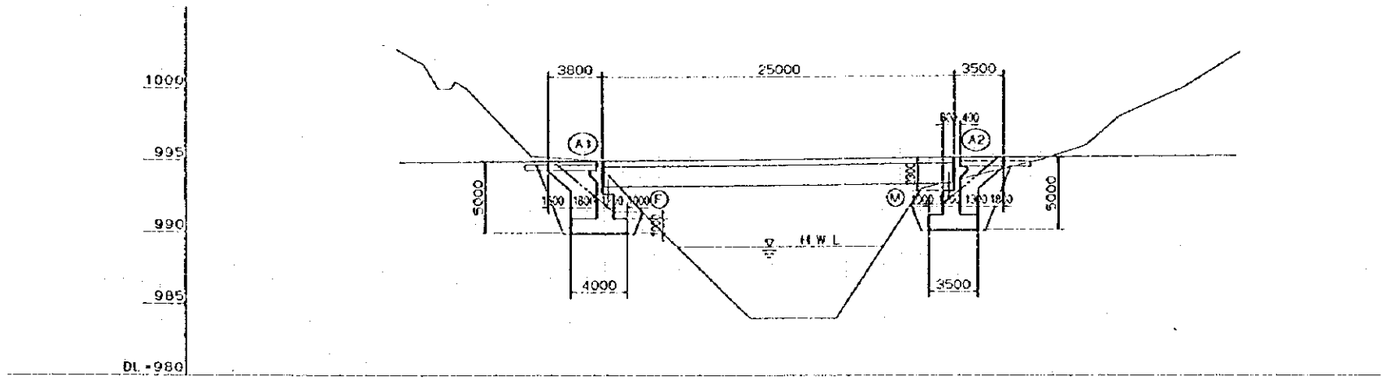
ACCESSORY WORK

ITEM	CLASS	UNIT	QUANTITY	REMARKS
REPARIAN WORKS		m²	177 0	
RIVER BED PROTECTION WORKS		m²	243 9	
RETAINING WALL OF CONCRETE BLOCK		m²	122 1	

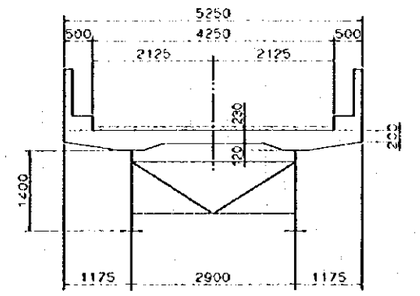
A-5 General Plan of Rosi Bridge

GENERAL VIEW OF DAPCHA-1 BRIDGE

SIDE ELEVATION SCALE 1:400

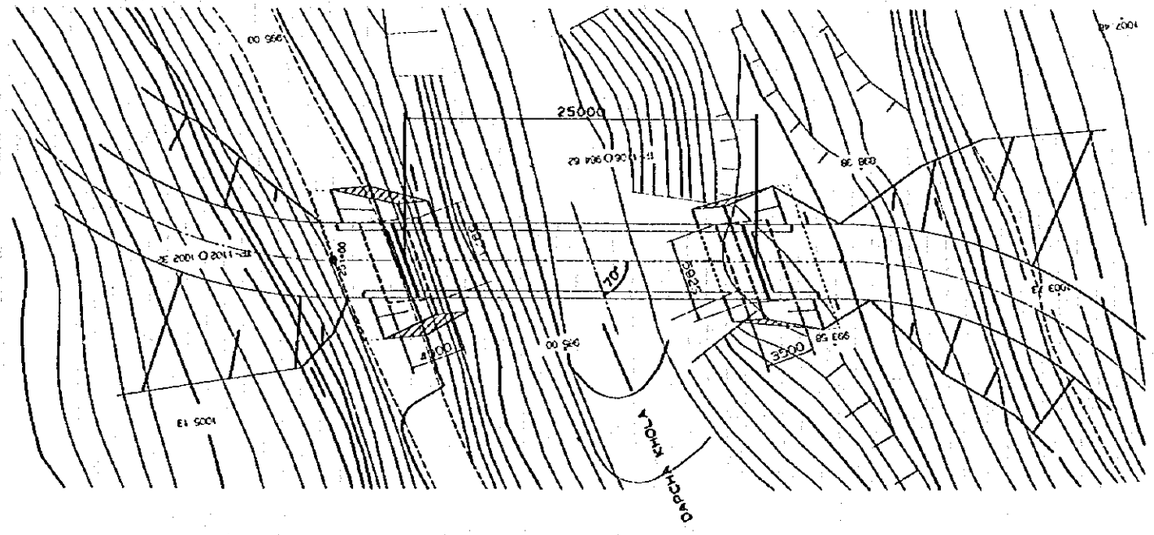


CROSS SECTION SCALE 1:100



GRADE	I=0.86% L=175m
PROPOSED HEIGHT	994.93 / 995.14 / 995.36
GROUND HEIGHT	995.30 / 989.02 / 1002.45
DISTANCE	25.000 / 25.000 / 25.000
STATION	251+00 (A1) 251+15 / 251+25 (A2) 251+30 / 251+50
CURVE ELEMENT	R=30 / R=∞ / R=30

PLAN SCALE 1:400



SUPERSTRUCTURE

ITEM	CLASS	UNIT	QUANTITY	REMARKS
STEEL		kg	19 895	
PAINTING		m²	357 3	
CONCRETE	σck=240kgf/cm²	m³	49 4	
FORM		m²	248 2	
REINFORCEMENT BAR		kg	11 045	
ASPHALT PAVEMENT		m²	106 3	
BEARING		PLACE	4	
EXPANSION JOINT		PLACE	2	
DRAIN		PLACE	6	

SUBSTRUCTURE

ITEM	CLASS	UNIT	QUANTITY	REMARKS
EXCAVATION		m³	376	
BACKFILLING		m³	129	
CONCRETE	σck=240kgf/cm²	m³	108 3	
FORM		m²	245 3	
REINFORCEMENT BAR		kg	7 722	
APPROACH CUSHION	t=5m	PLACE	2	

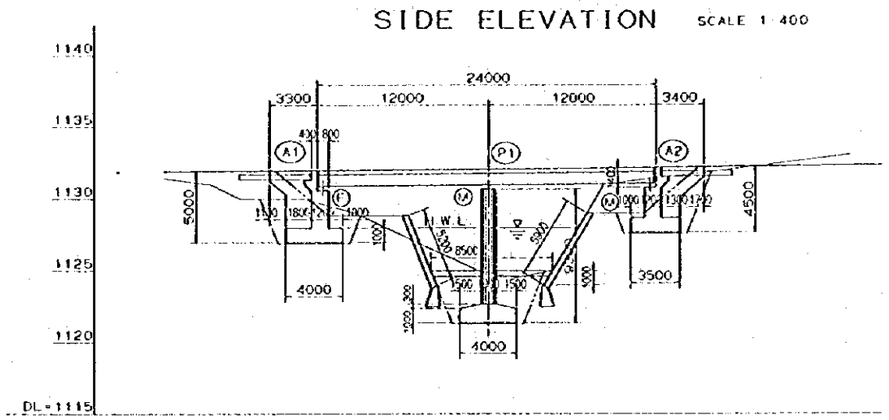
ACCESSORY WORK

ITEM	CLASS	UNIT	QUANTITY	REMARKS
REPARIAN WORKS		m²	—	
RIVER BED PROTECTION WORKS		m²	—	
RETAINING WALL OF CONCRETE BLOCK		m³	25 6	

A-6 General Plan of No.1 Dapcha Bridge

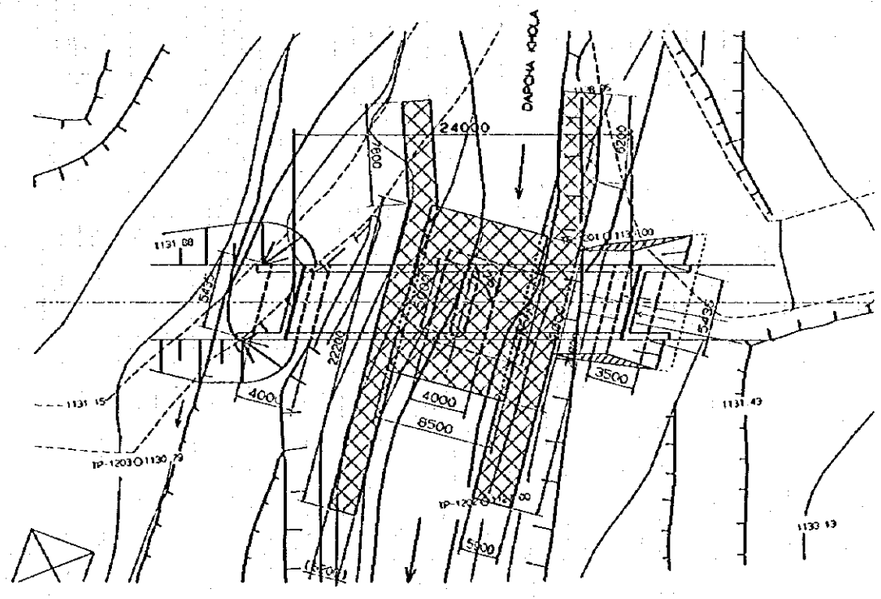
GENERAL VIEW OF DAPCHA-2 BRIDGE

SIDE ELEVATION SCALE 1:400

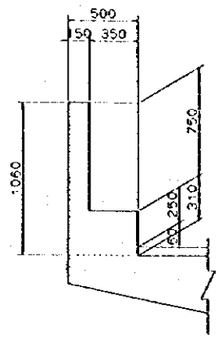


GRADE	i=0.75% L=200m
PROPOSED HEIGHT	1131.94 — 1132.13
GROUND HEIGHT	1130.81 — 1127.39
DISTANCE	25.000 — 25.000
STATION	287+25 — A1 287+32 — 287+44 — 287+50 — A2 287+56
CURVE ELEMENT	R=∞

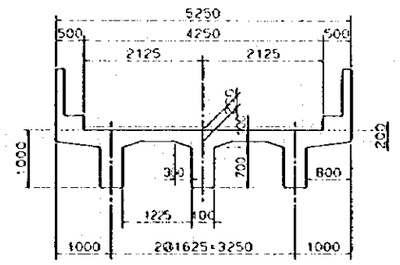
PLAN SCALE 1:400



DETAIL SCALE 1:10



CROSS SECTION SCALE 1:100



SUPERSTRUCTURE

ITEM	CLASS	UNIT	QUANTITY	REMARKS
CONCRETE	ack=240kgf/cm²	m³	64.5	
FORM		m²	360.2	
REINFORCEMENT BAR		kg	14,700	
ASPHALT PAVEMENT		m²	102.0	
BEARING		PLACE	9	
EXPANSION JOINT		PLACE	2	
DRAIN		PLACE	4	

SUBSTRUCTURE

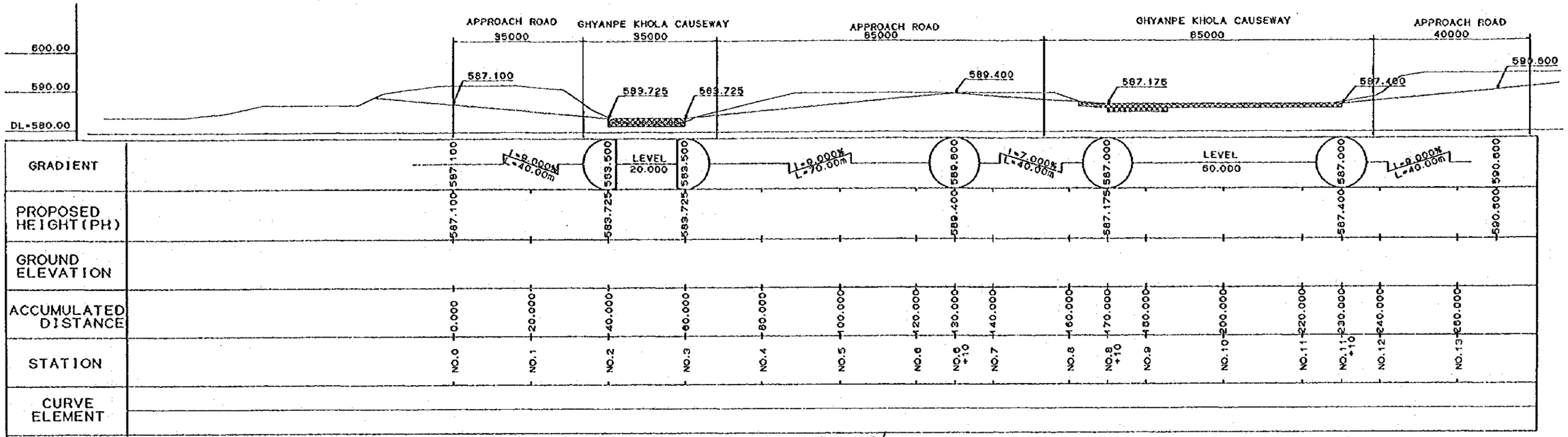
ITEM	CLASS	UNIT	QUANTITY	REMARKS
EXCAVATION		m³	556	
BACKFILLING		m³	128	
CONCRETE	ack=240kgf/cm²	m³	173.9	
FORM		m²	339.4	
REINFORCEMENT BAR		kg	13,660	
APPROACH CUSHION	t=5m	PLACE	2	

ACCESSORY WORK

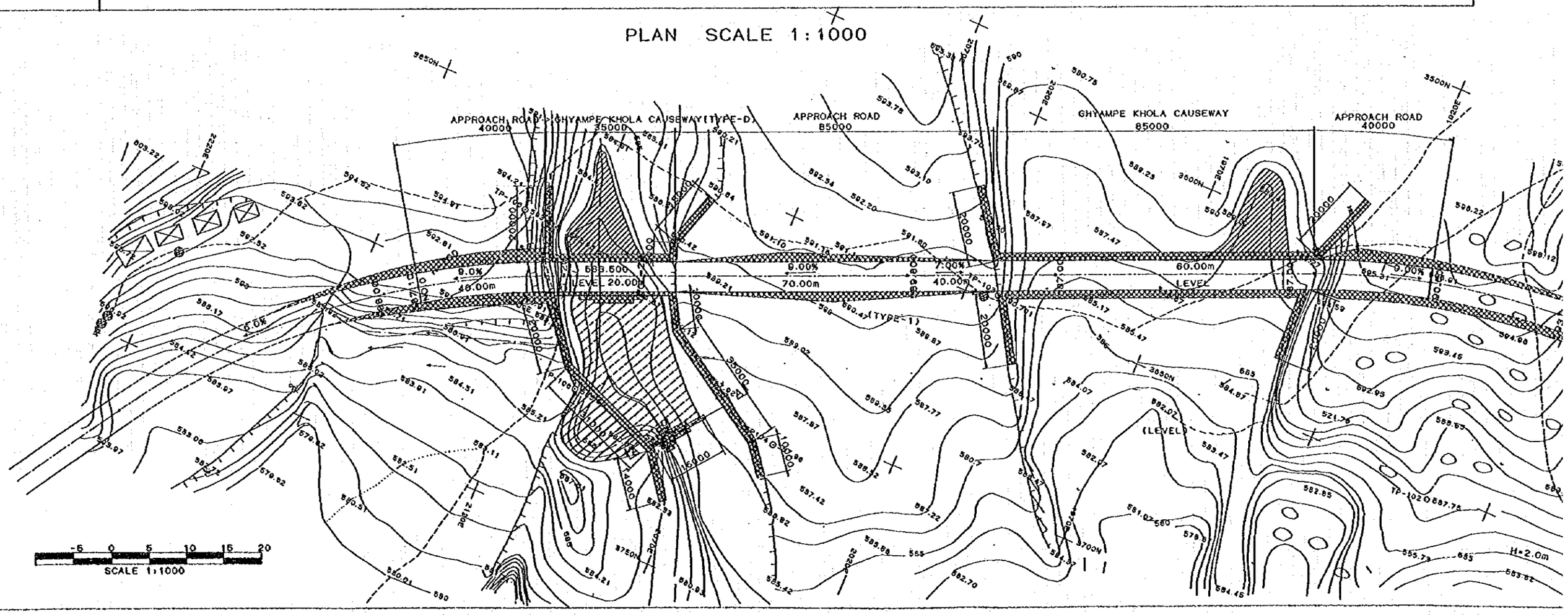
ITEM	CLASS	UNIT	QUANTITY	REMARKS
REPAIRTAN WORKS		m²	333.0	
RIVER BED PROTECTION WORKS		m²	97.2	
RETAINING WALL OF CONCRETE BLOCK		m²	14.8	

A-7 General Plan of No.2 Dapcha Bridge

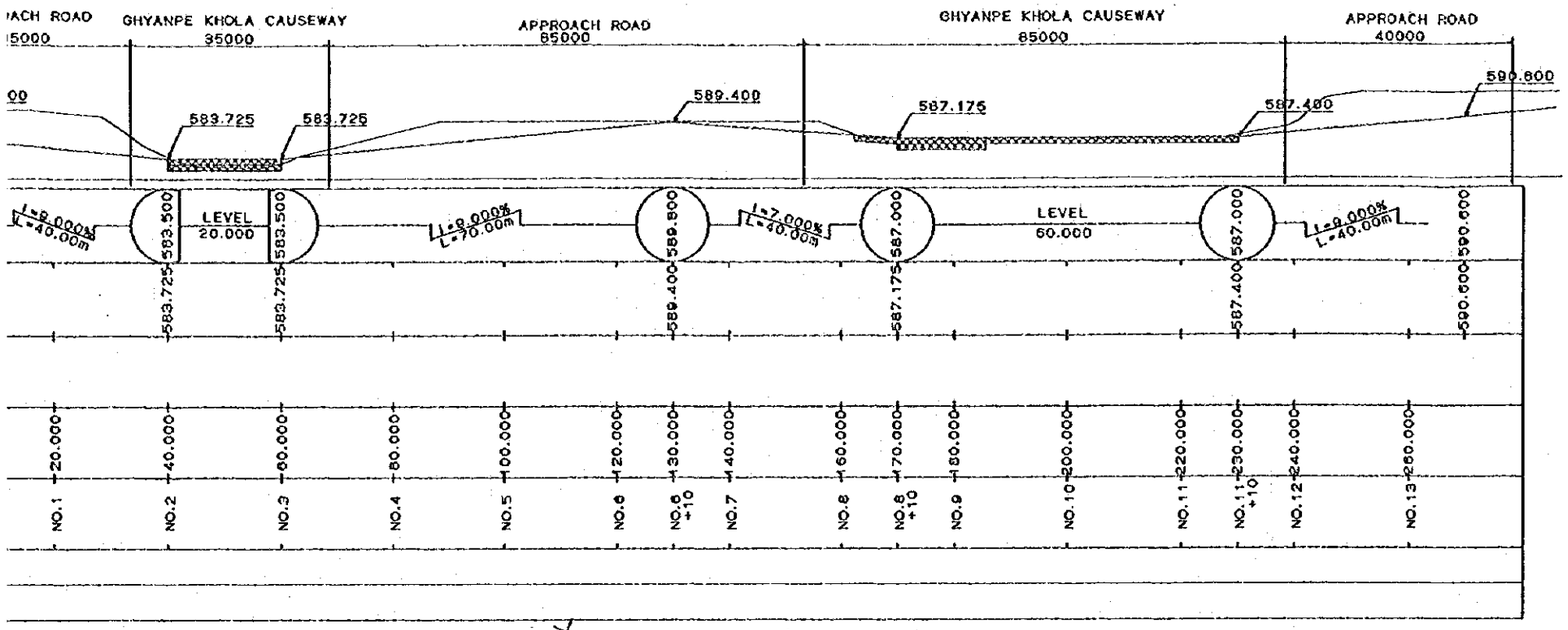
(NO.1)
GHYAMPE KHOLA CAUSEWAY PROFILE SCALE 1:1000



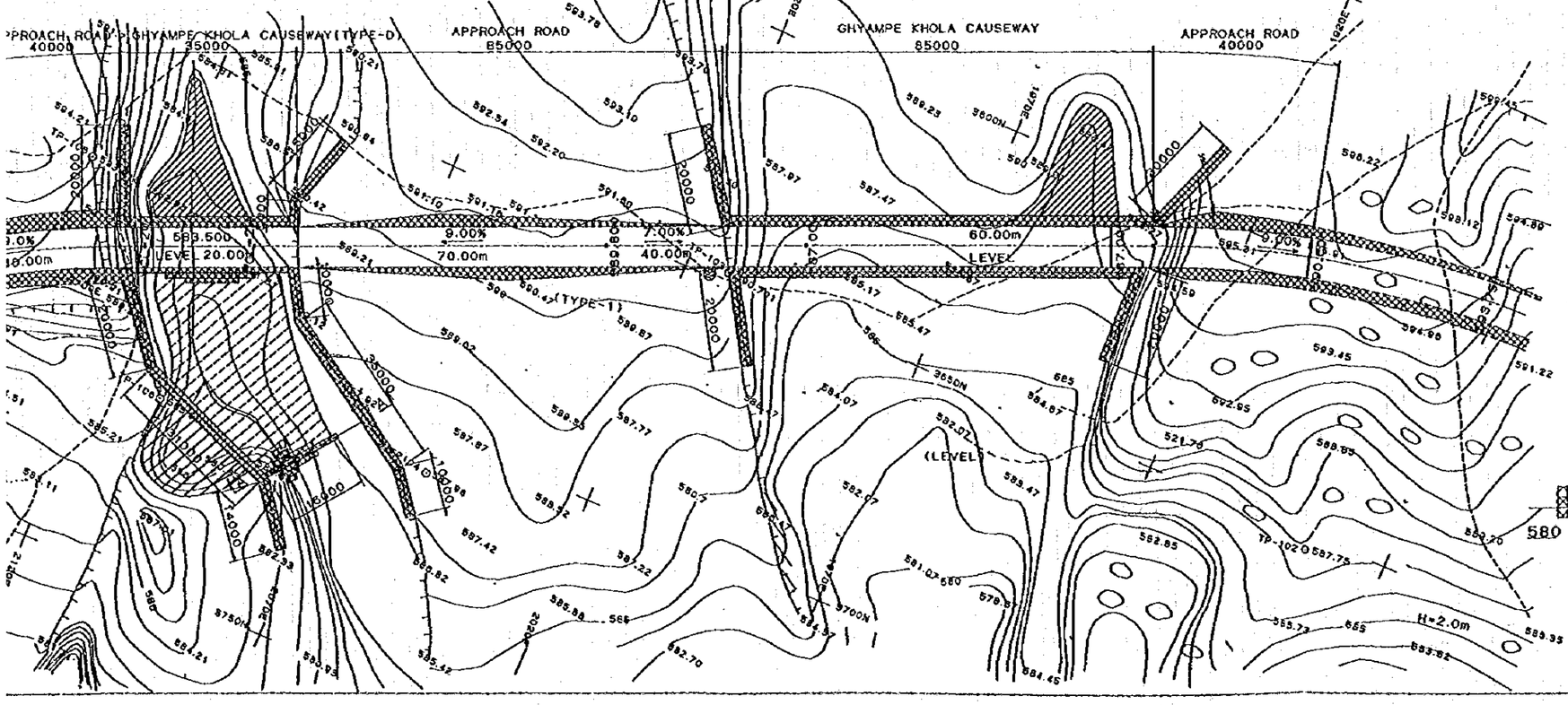
PLAN SCALE 1:1000



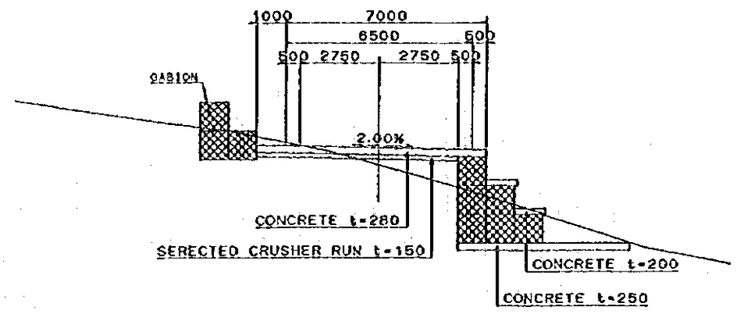
SCALE 1:1000

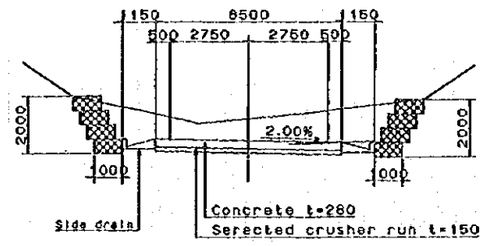


PLAN SCALE 1:1000



CROSS SECTION SCALE 1:200

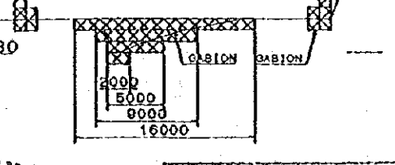




MATERIALS

ITEM	CLASS	UNIT	QUANITY	REMARKS
EXCAVATION		m3	4968.0	
BACKFILL		m3	696.0	
CONCRETE		m3		
CONCRETE WITH COBBLE		m3	232.8	
GABION	CAUSEWAY	m3	1740.0	
PAVEMENT	t=28	m3	569.1	
BASE	CRUSHERRUN	m2	1 312,5	
SIDE DITCH		m	390.0	
GABION WALL	RIVER PROTECT	m3	1080.0	
REINFOR CEMENTO	BAR	t	4.0	

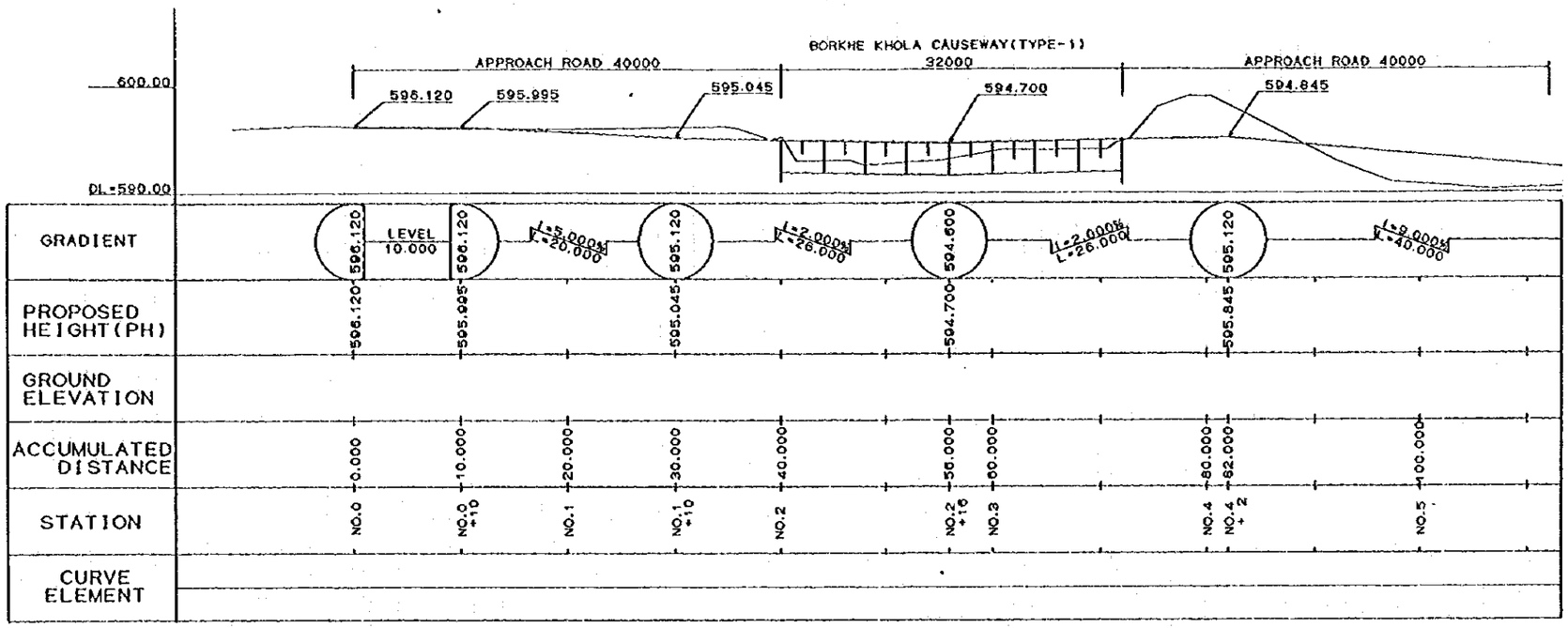
SECTION A-A
SCALE 1:500



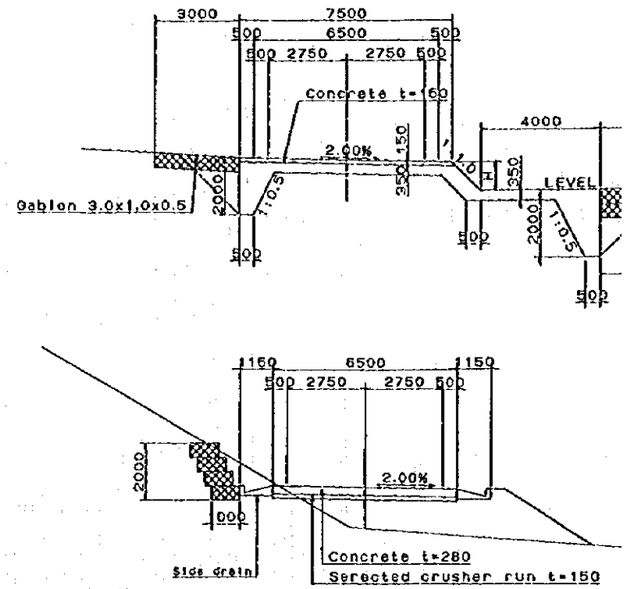
A-8 General Plan of Ghyampe khola Causeway

(NO.2) BORKHE KHOLA

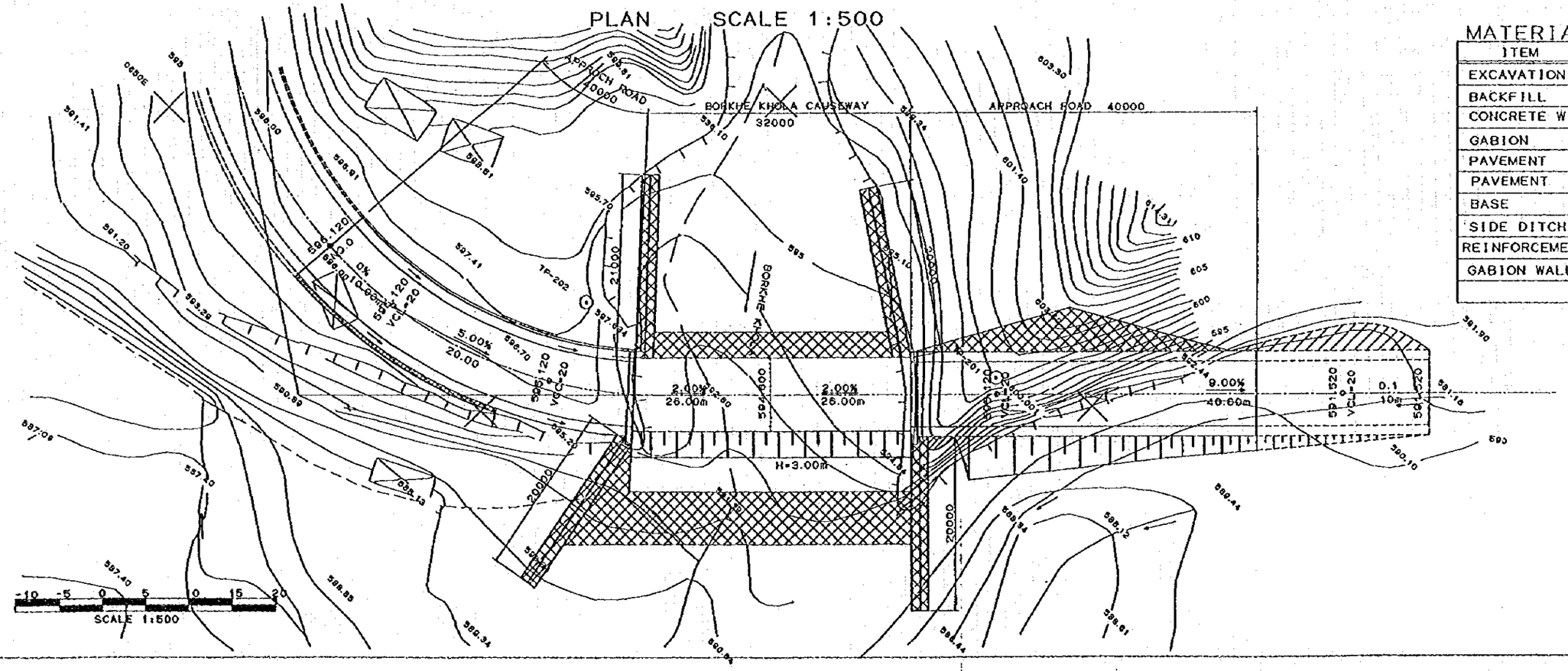
PROFILE SCALE 1:500



CROSS SECTION SCALE 1:200



PLAN SCALE 1:500



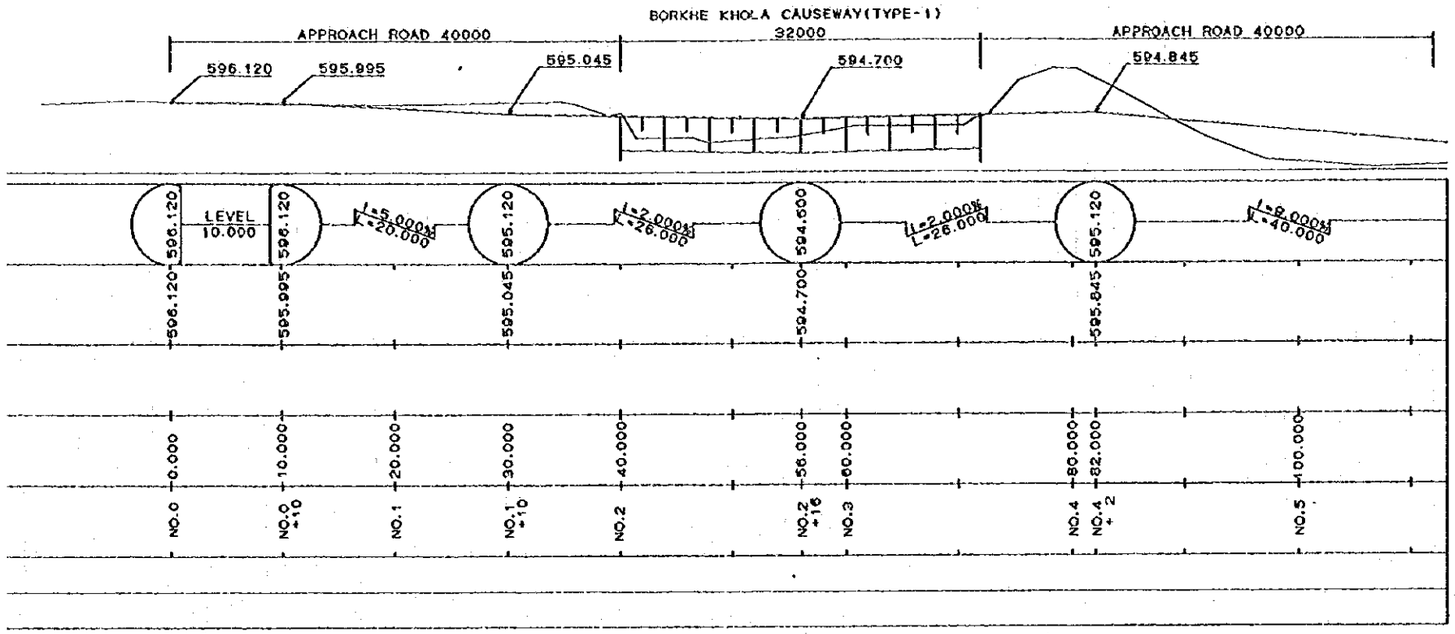
MATERIALS

ITEM	CLASS	UNIT	QUAN
EXCAVATION		m3	88
BACKFILL		m3	12
CONCRETE WITH COBBLE		m3	2
GABION	CAUSEWAY	m3	27
PAVEMENT	t=15	m3	3
PAVEMENT	t=28	m3	
BASE	CRUSHERRUN	m2	52
SIDE DITCH		m	16
REINFORCEMENT BAR		t	
GABION WALL	RIVER PROTECT	m3	

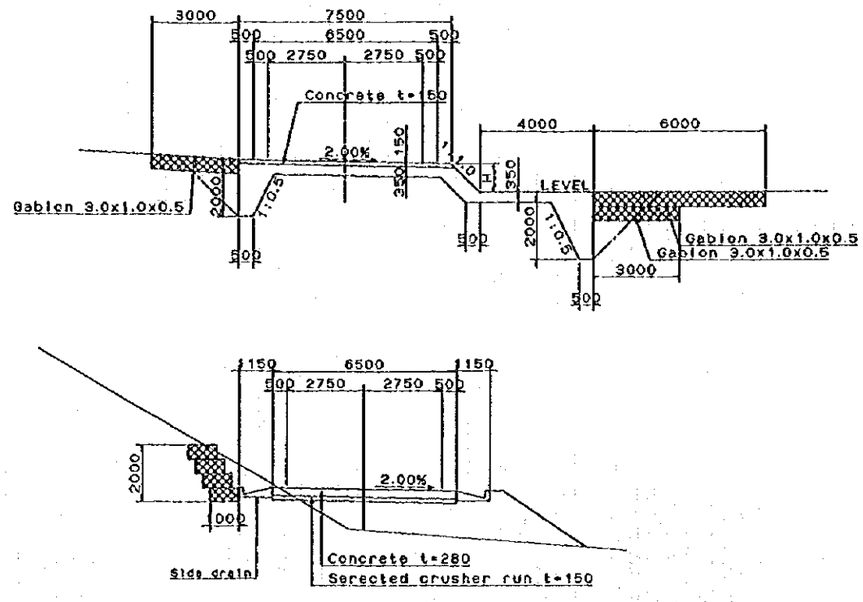
A-9 General Plan of B

BORKHE KHOLA

PROFILE SCALE 1:500



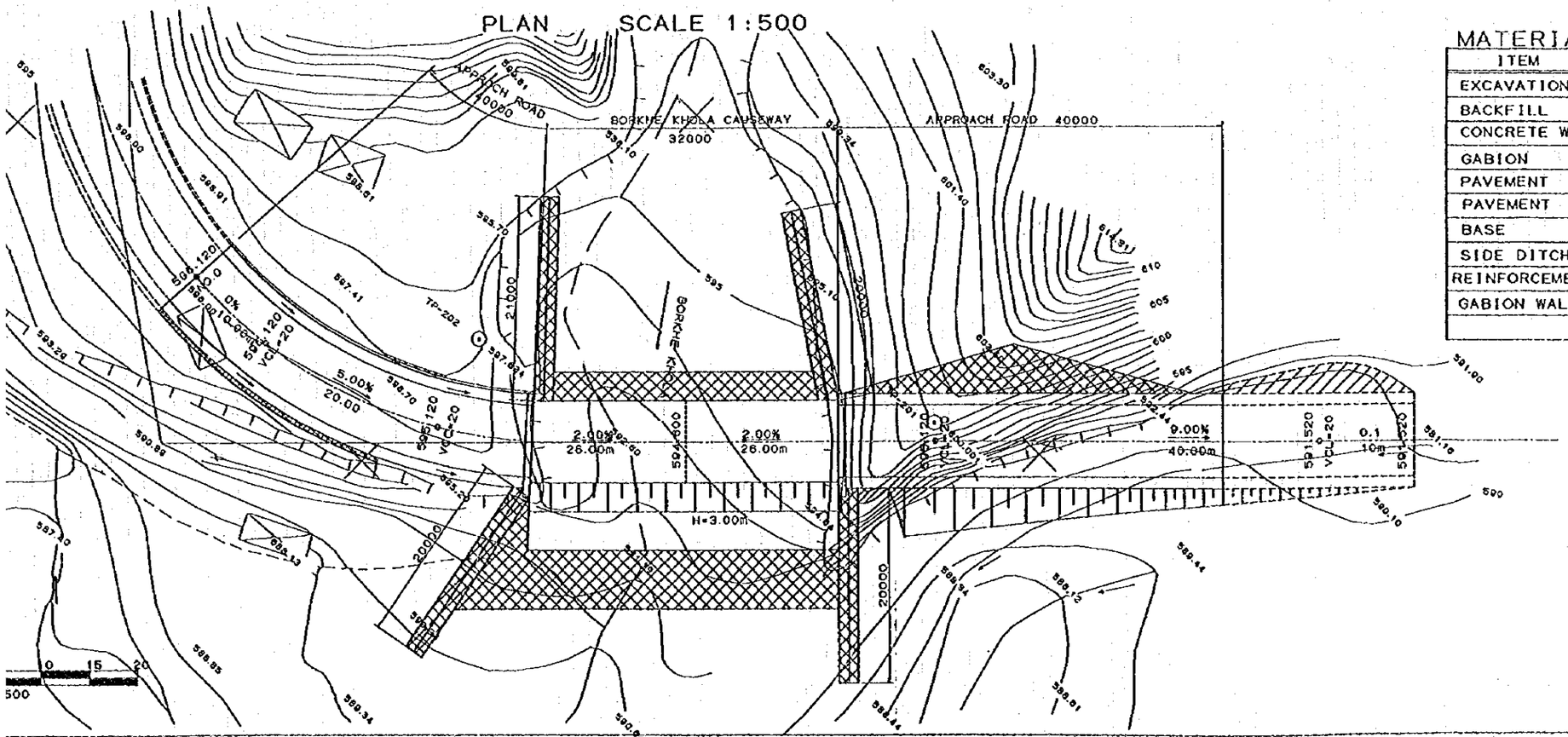
CROSS SECTION SCALE 1:200



MATERIALS

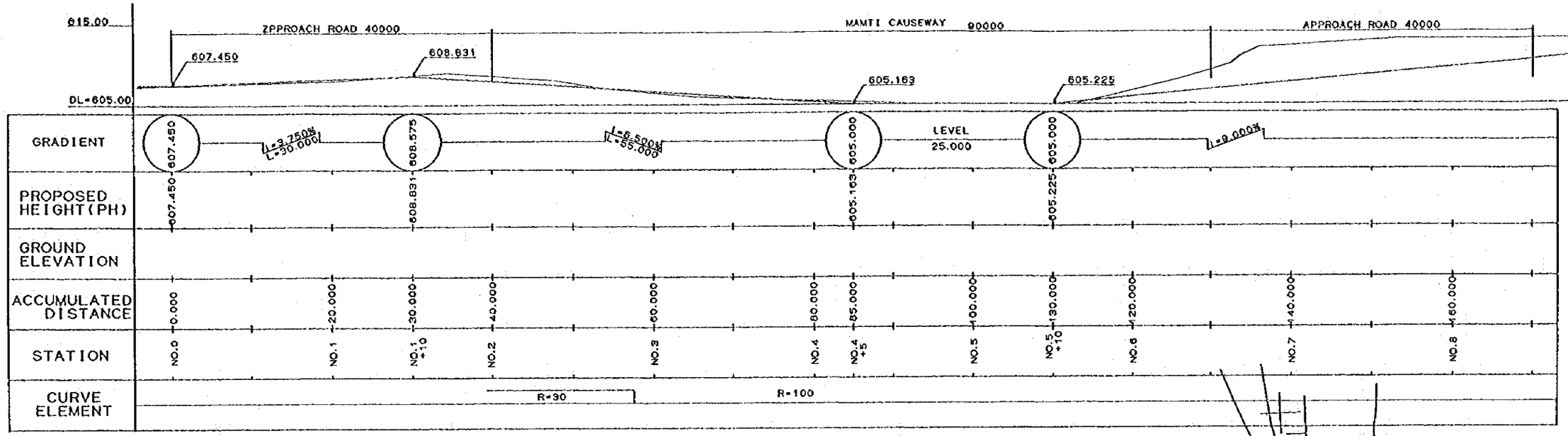
ITEM	CLASS	UNIT	QUANITY
EXCAVATION		m3	884.0
BACKFILL		m3	120.0
CONCRETE WITH COBBLE		m3	246.4
GABION	CAUSEWAY	m3	272.0
PAVEMENT	t=15	m3	36.0
PAVEMENT	t=28	m3	72.8
BASE	CRUSHERRUN	m2	520.0
SIDE DITCH		m	160.0
REINFORCEMENT BAR		t	3.7
GABION WALL	RIVER PROTECT	m3	84.5

PLAN SCALE 1:500

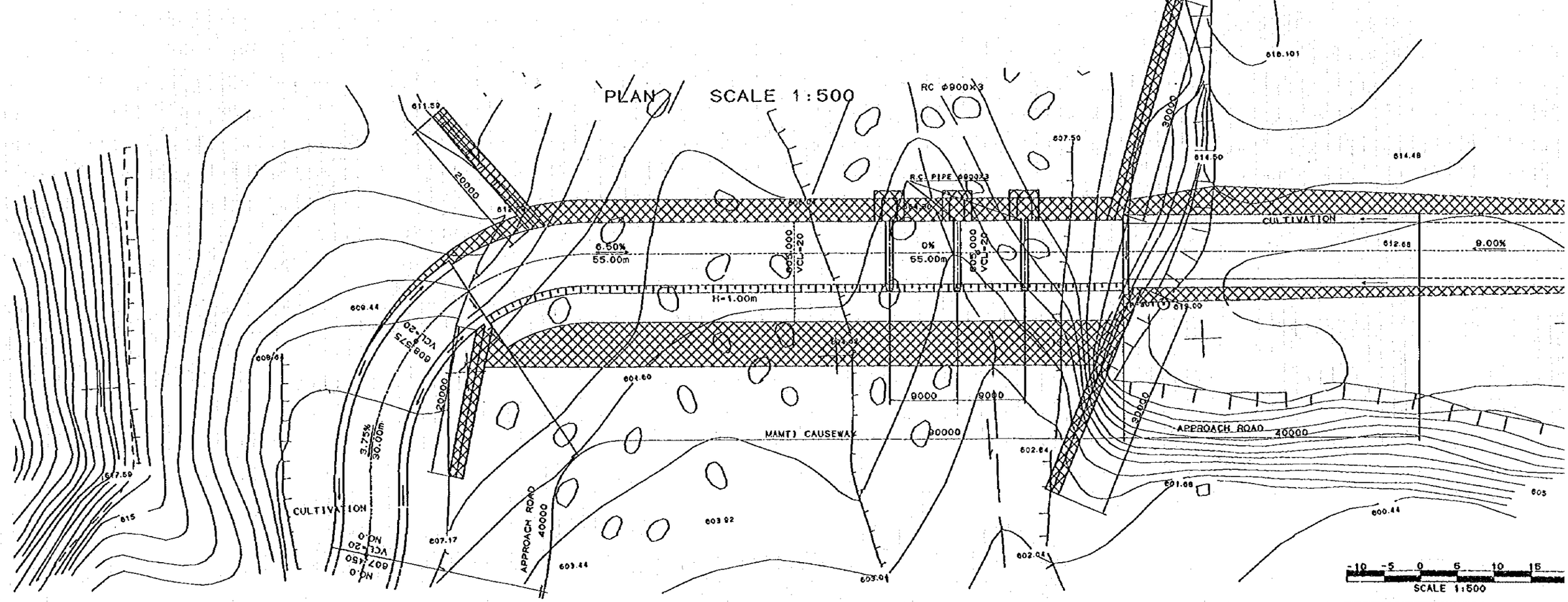


A-9 General Plan of Boykhe khola Causeway

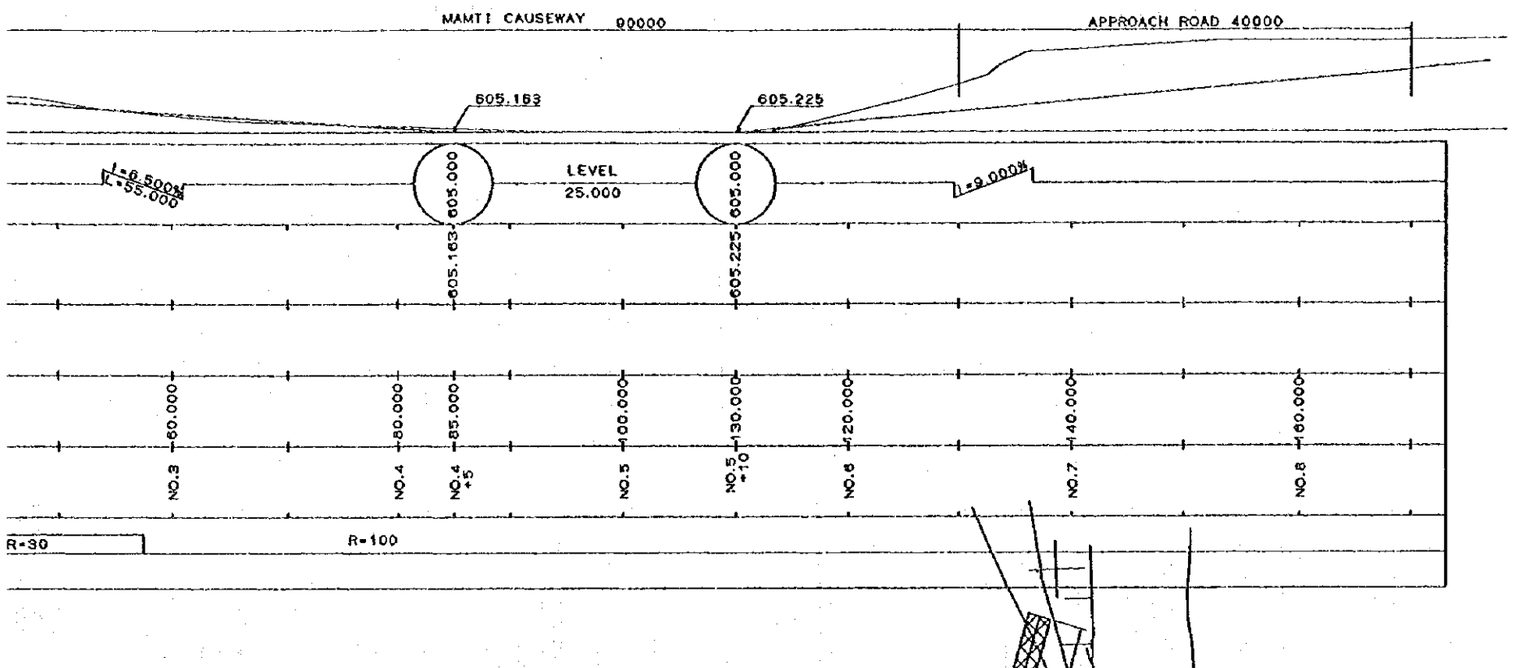
(No.3) MAMTI CAUSEWAY PROFILE SCALE 1:500



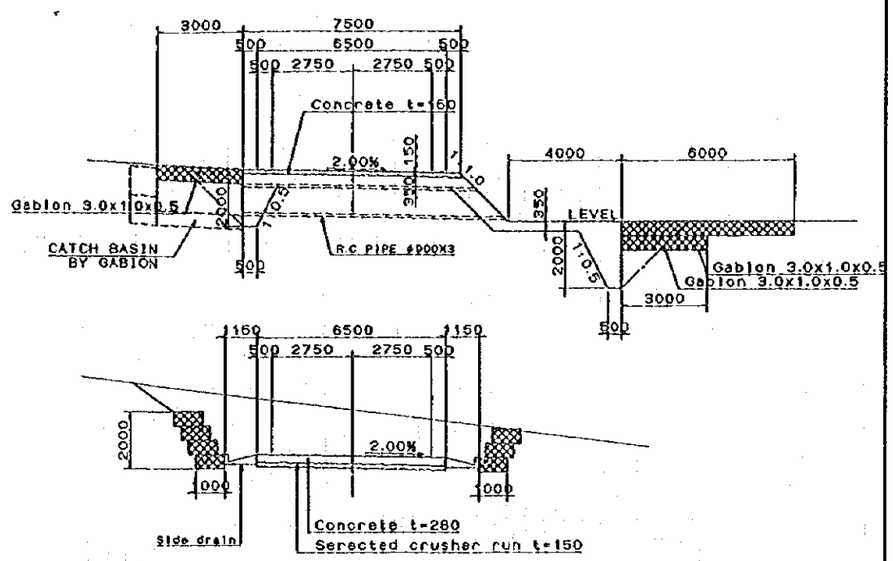
PLAN SCALE 1:500



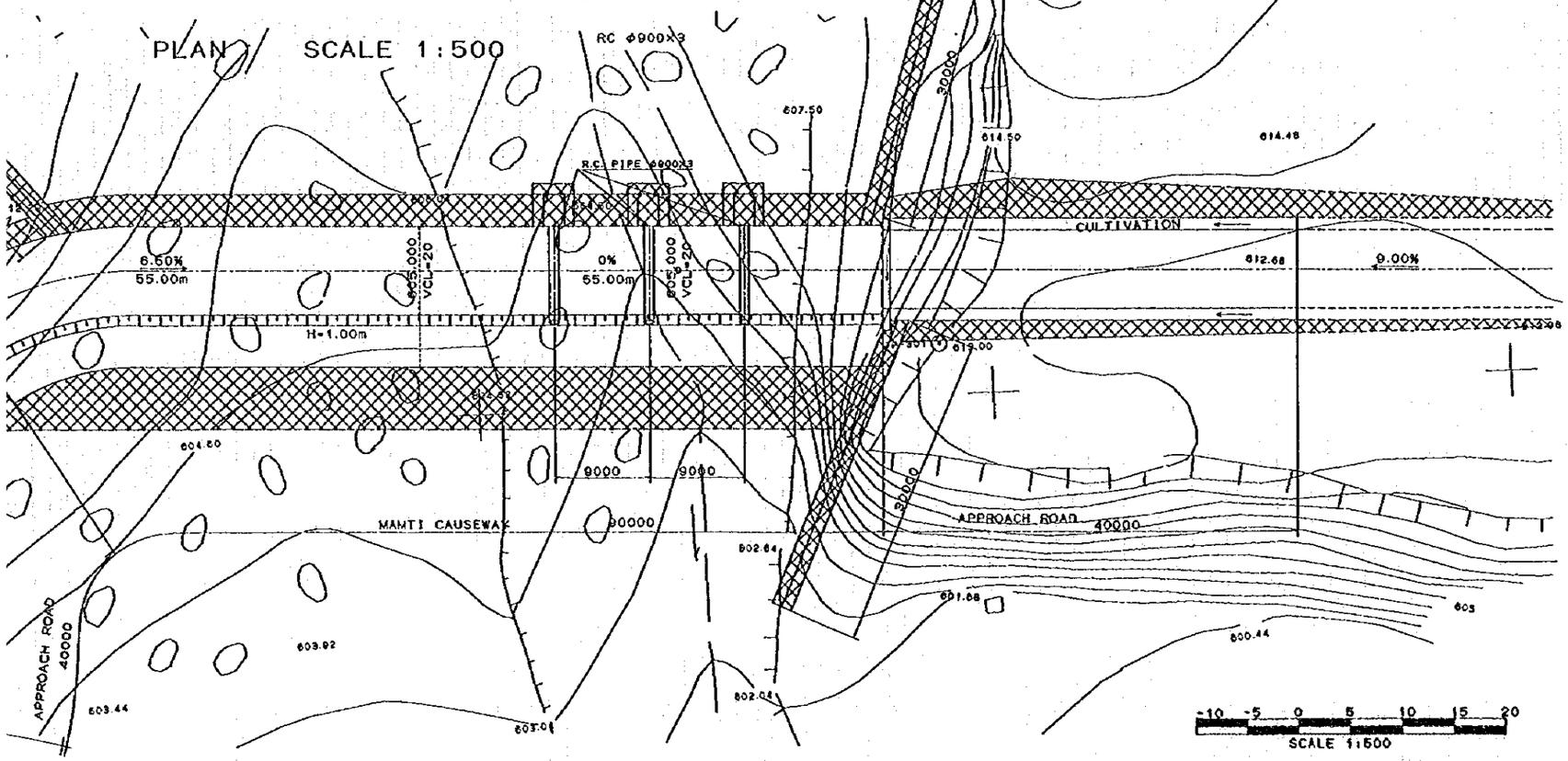
ILE SCALE 1:500



CROSS SECTION SCALE 1:200



PLAN SCALE 1:500



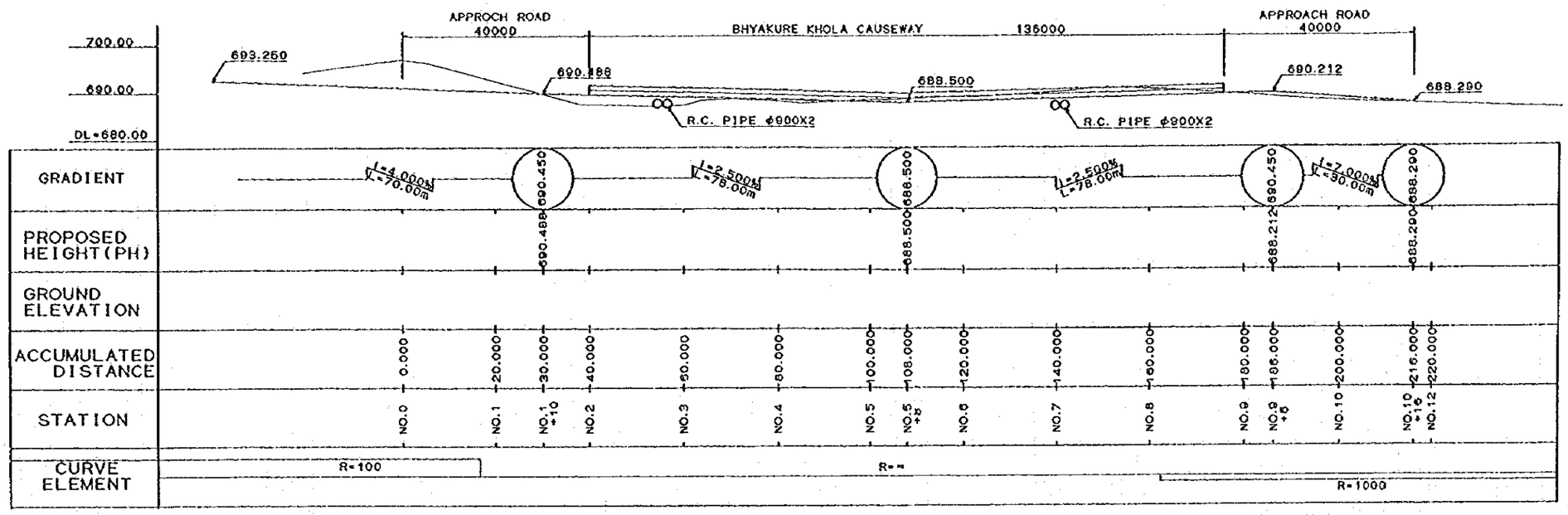
MATERIALS

ITEM	CLASS	UNIT	QUANITY
EXCAVATION		m3	2206.0
BACKFILL		m3	249.0
CONCRETE WITH COBBLE		m3	693.0
GABION	CAUSEWAY	m3	1040.0
PAVEMENT	t=15	m3	72.8
PAVEMENT	t=28	m3	72.8
BASE	CRUSHERRUN	m2	520.0
SIDE DITCH		m	160.0
REINFORCEMENT BAR		t	10.4
GABION WALL	RIVER PROTECT	m3	460.0
RC PIPE	φ900	m	24.0

A-10 General Plan of Mamti khola Causeway

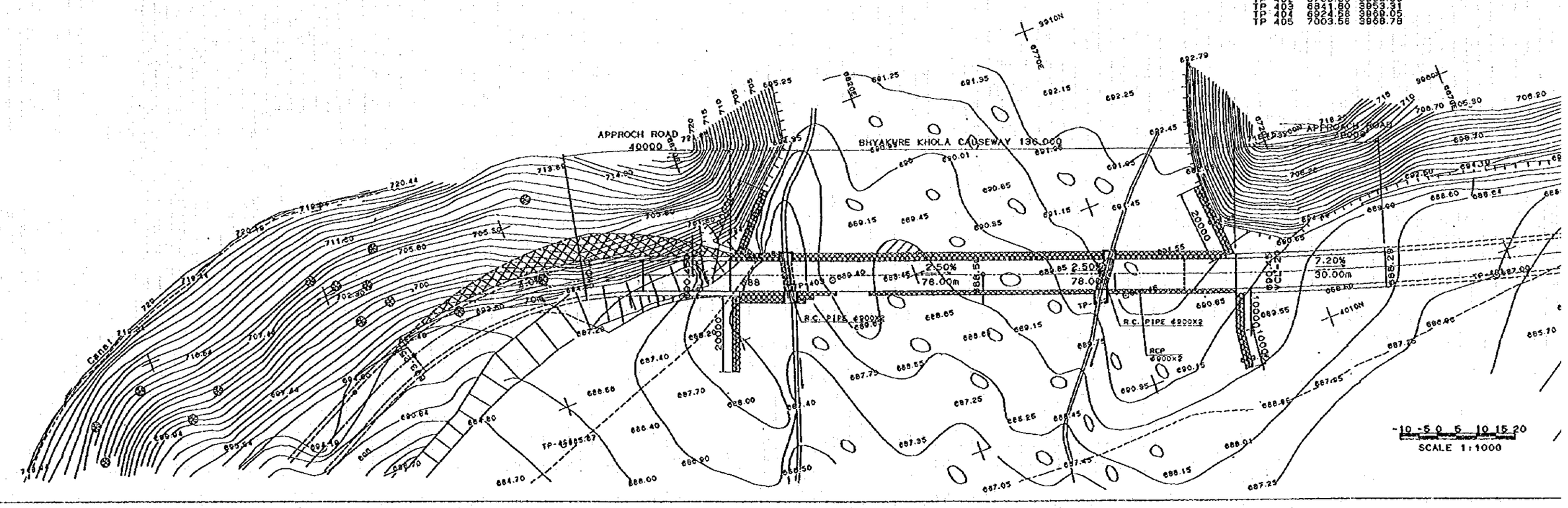
(NO.4)
BHYAKURE KHOLA CAUSEWAY

PROFILE SCALE 1:1000

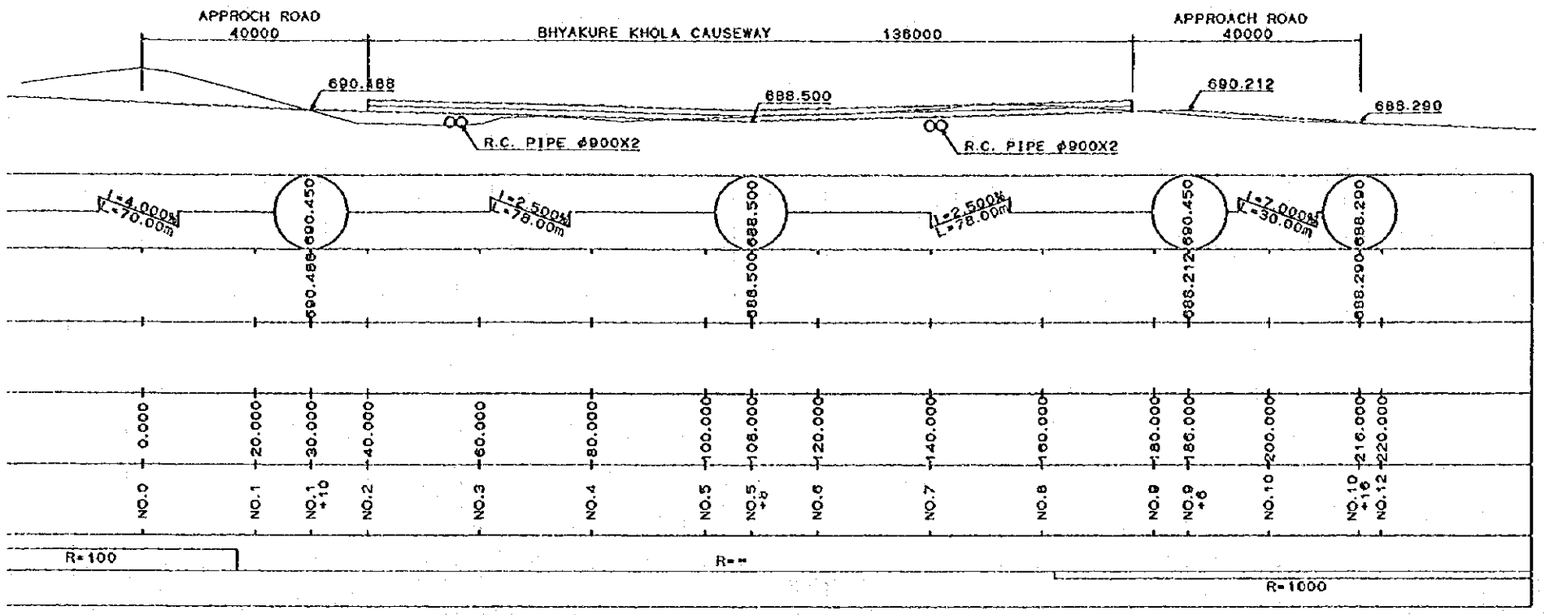


PLAN SCALE 1:1000

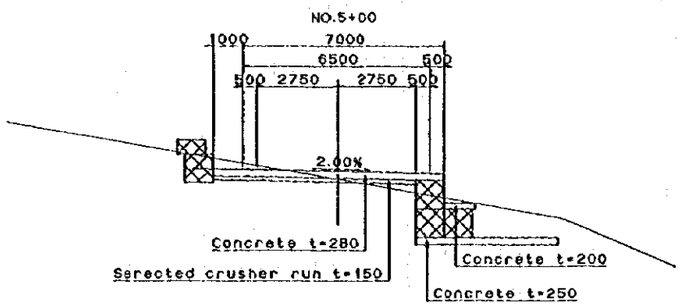
STATION NO.	EASTING	NORTHING
TP 401	6675.00	4015.00
TP 402	6769.95	3985.00
TP 403	6841.80	3953.31
TP 404	6924.58	3968.05
TP 405	7003.56	3968.78

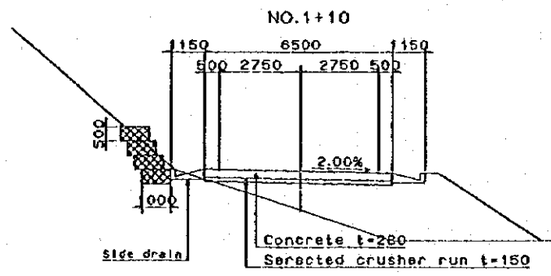


E SCALE 1:1000



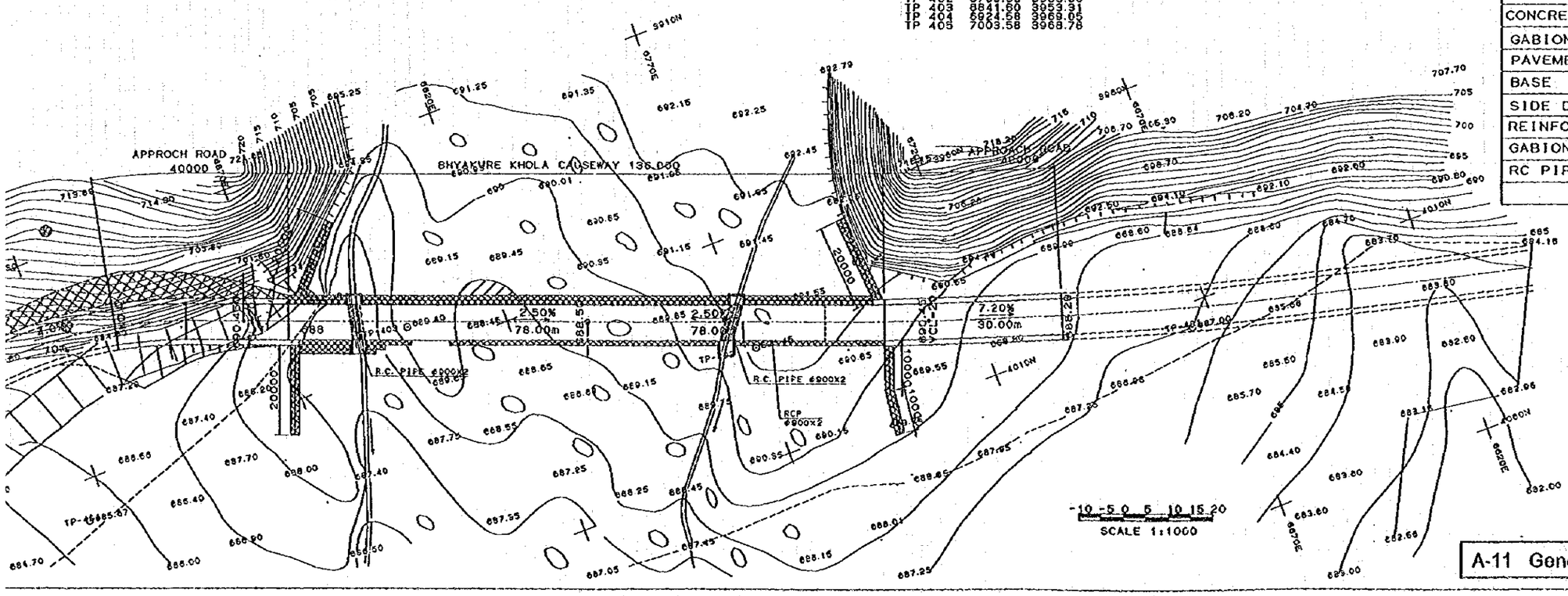
CROSS SECTION SCALE 1:200





PLAN SCALE 1:1000

STATION NO	EASTING	NORTHING
TP 401	6675.00	4015.00
TP 402	6769.35	3985.00
TP 403	6841.60	3953.31
TP 404	6924.58	3969.05
TP 405	7003.58	3968.78



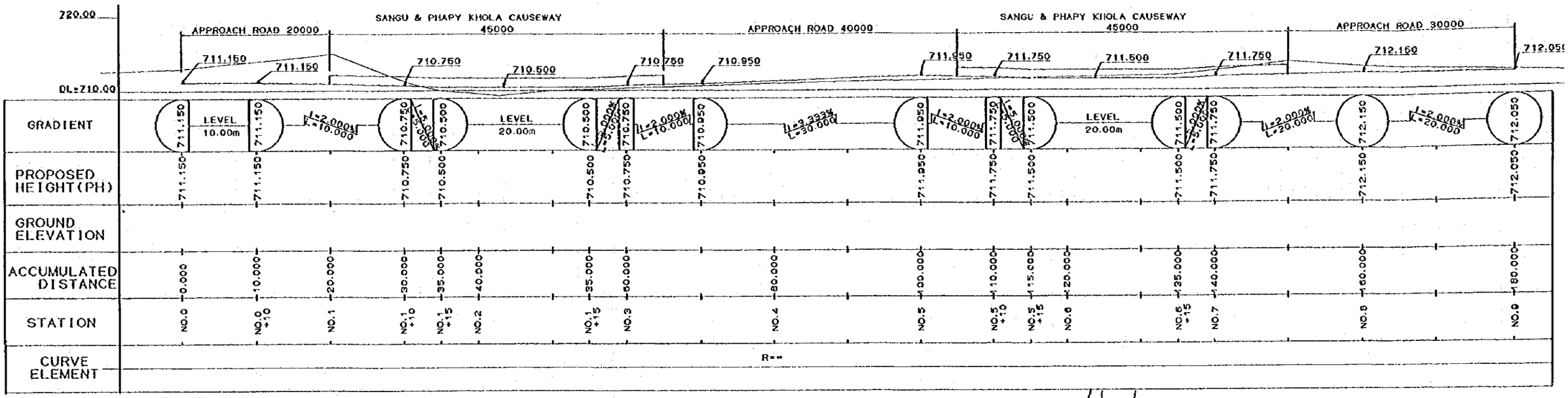
MATERIALS

ITEM	CLASS	UNIT	QUANITY
EXCAVATION		m3	2232.0
BACKFILL		m3	357.6
CONCRETE WITH COBBLE		m3	282.0
GABION	CAUSEWAY	m3	864.8
PAVEMENT	t=28	m3	377.4
BASE	CRUSHERRUN	m2	673.0
SIDE DITCH		m	160.0
REINFORCEMENT BAR		t	4.0
GABION WALL		m3	360.0
RC PIPE	φ900	m	32.0

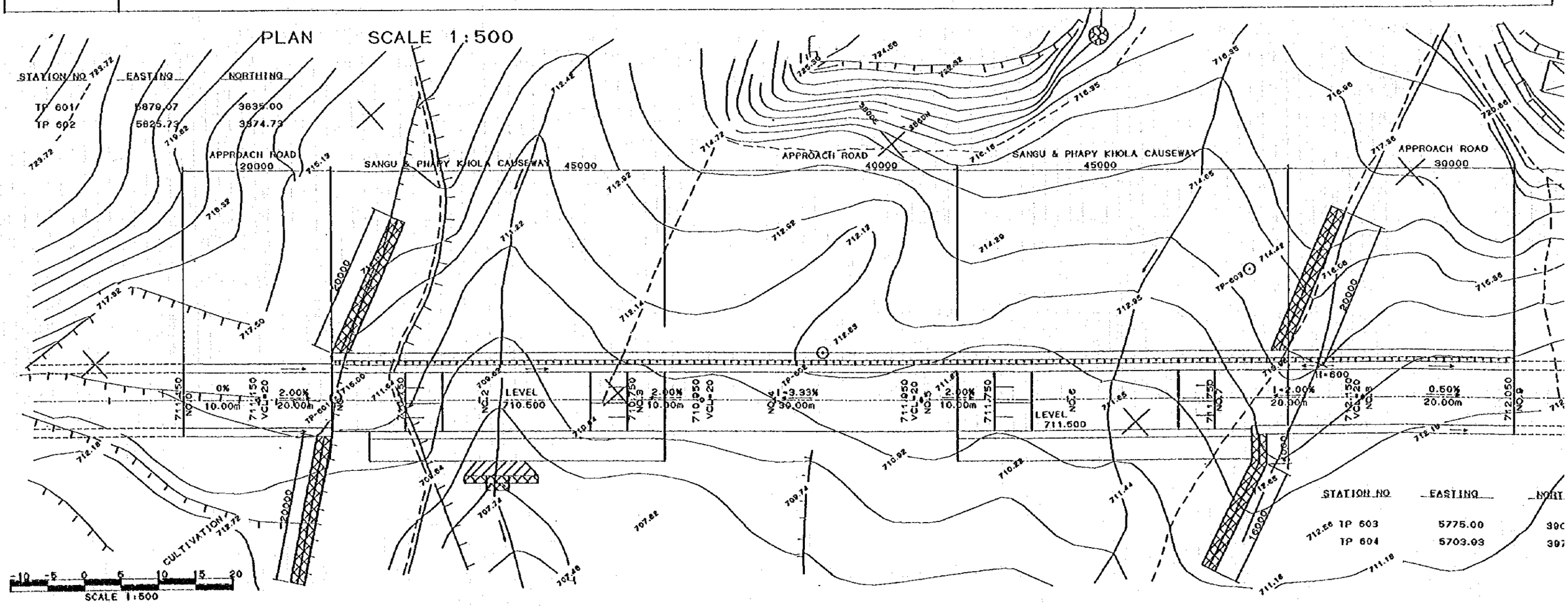
A-11 General Plan of Bhyakure Khola Causeway

(No.5) SANGU&PHAPY KHOLA CAUSEWAY

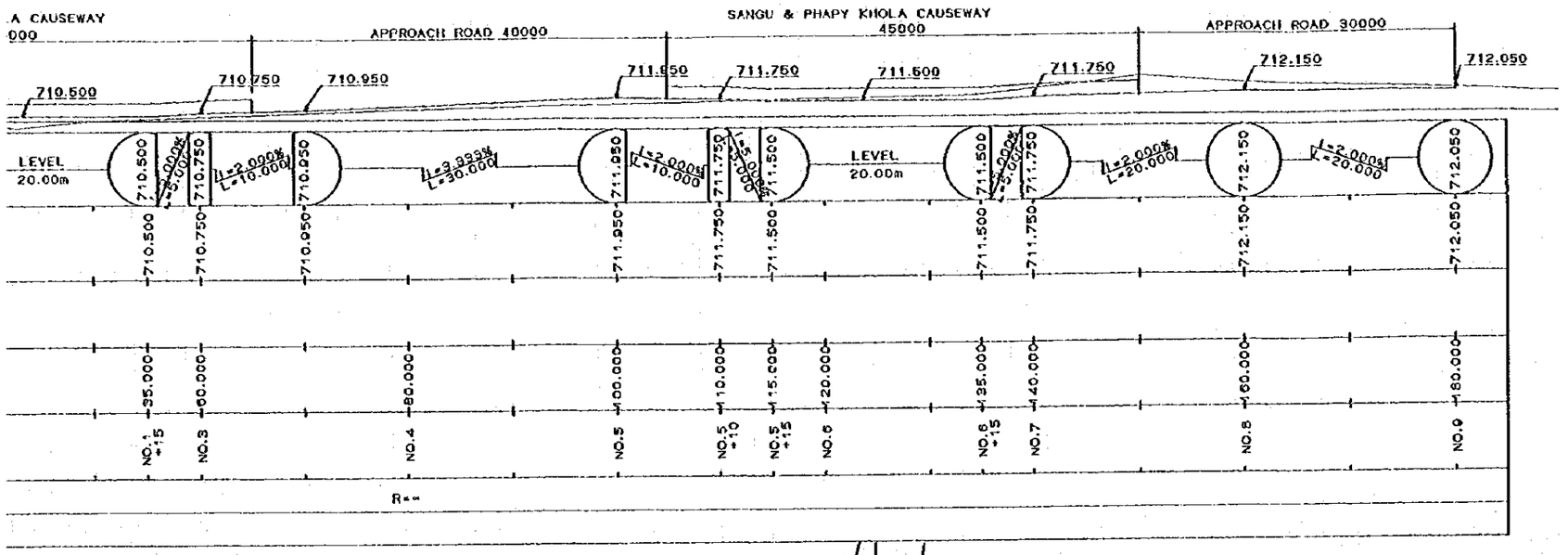
PROFILE SCALE 1:500

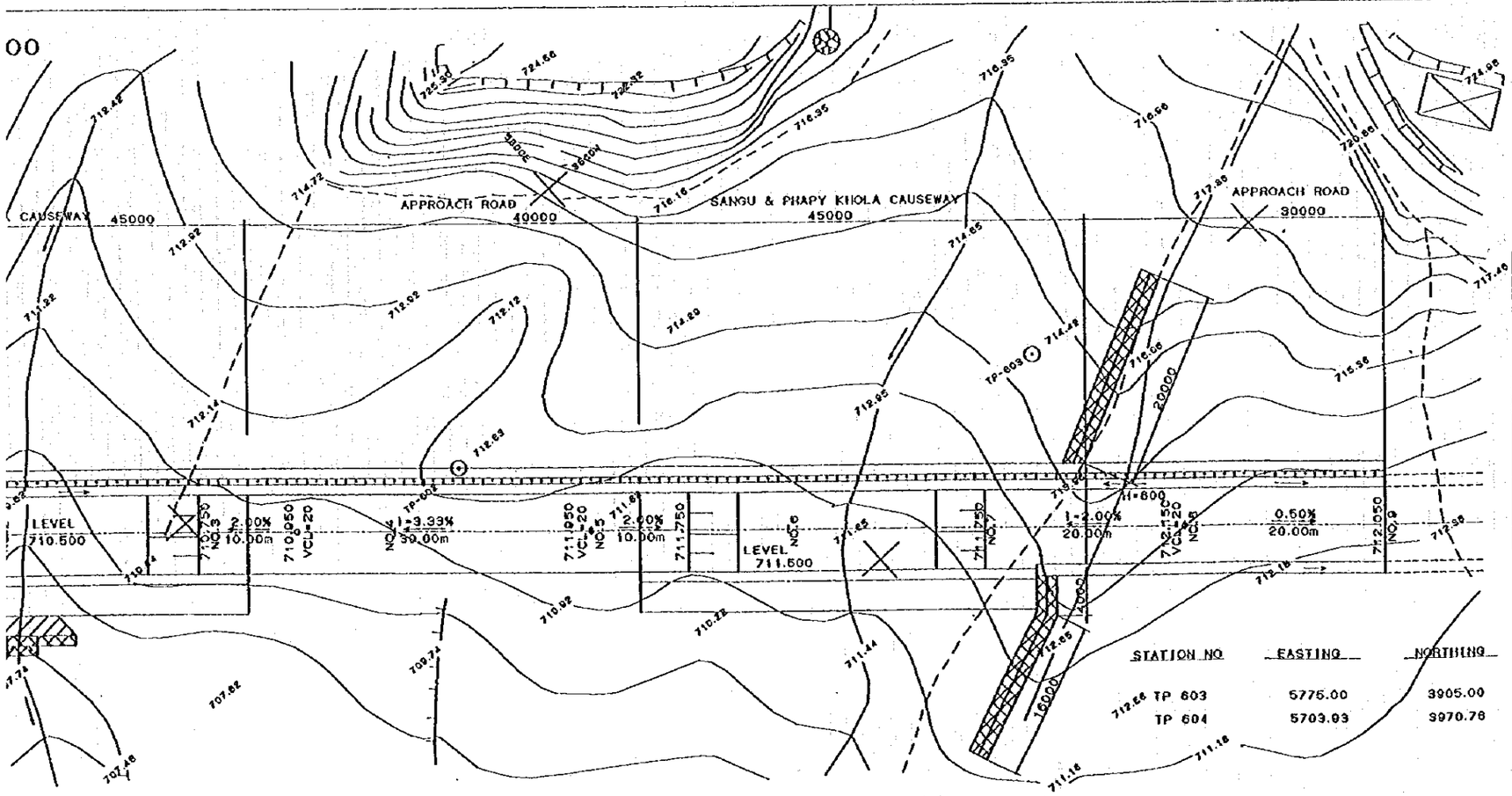


PLAN SCALE 1:500



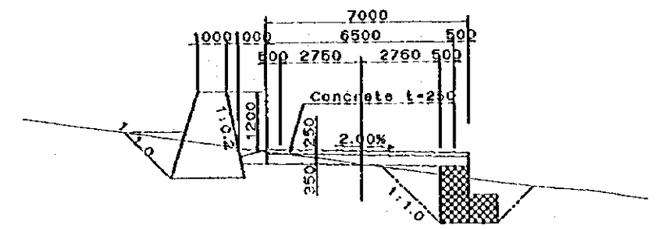
CALE 1:500

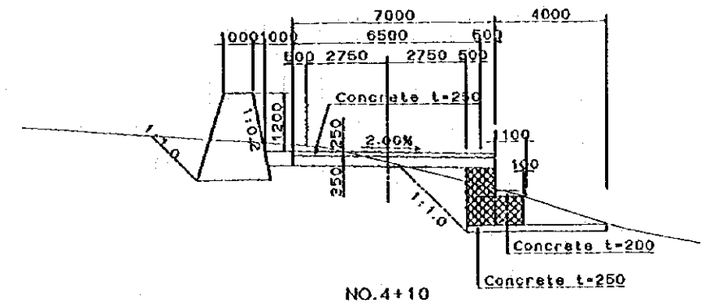




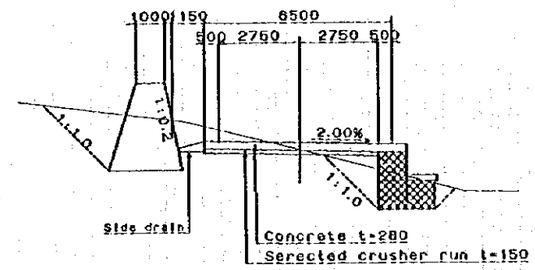
CROSS SECTION SCALE 1:200

NO.1+10





NO.4+10



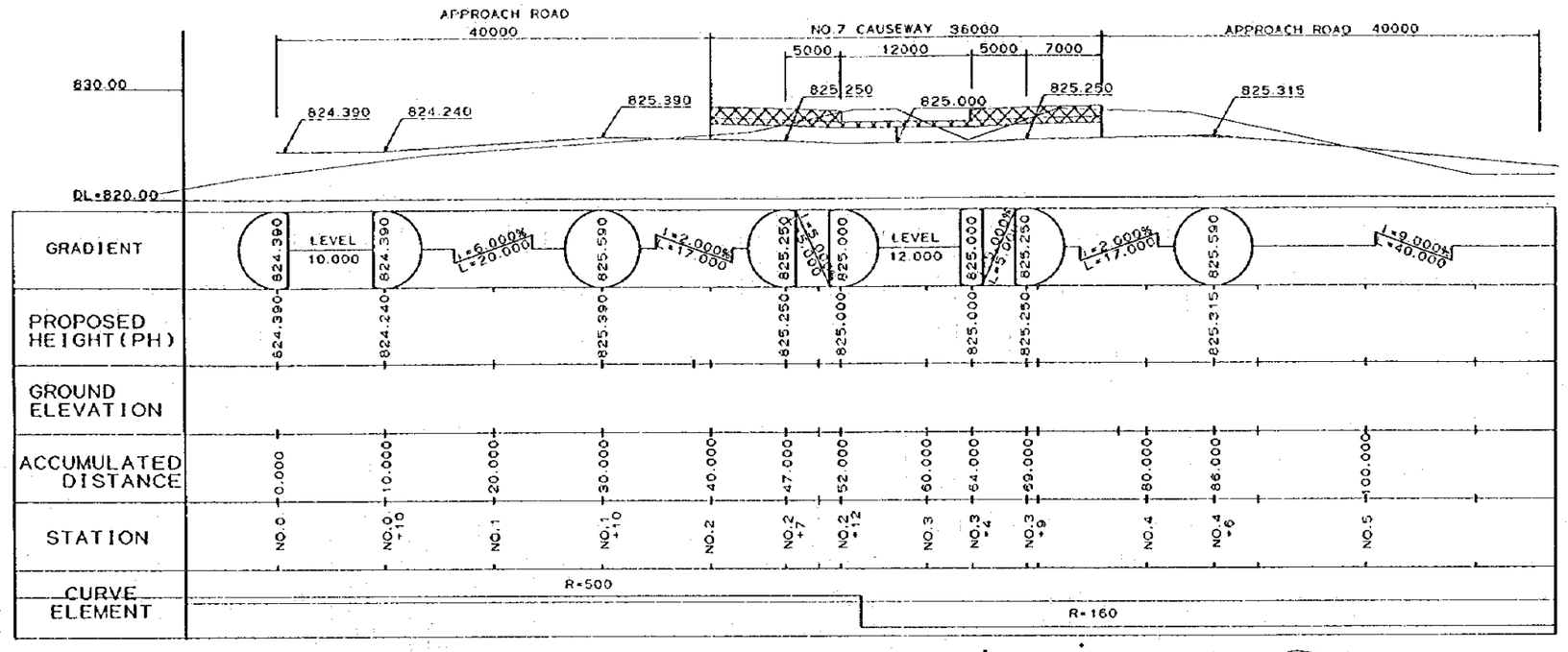
MATERIALS

ITEM	CLASS	UNIT	QUANITY	REMARKS
EXCAVATION		m3	2371.0	
BACKFILL		m3	549.6	
GRAVITY RETAINING WALL		m2	343.0	
CONCRETE WITH COBBLE		m3	351.0	
GABION	CAUSEWAY	m3	270.0	
PAVEMENT	t=25	m3	157.5	
PAVEMENT	t=28	m3	78.4	
BASE	CRUSHERRUN	m2	585.0	
SIDE DITCH		m	100.0	
REINFORCEMENT BAR		m3	5.3	
GABION WALL	RIVER PROTECT	m3	342.0	

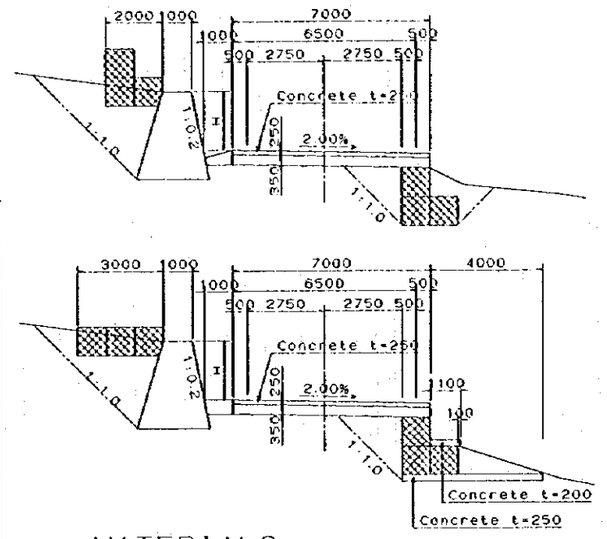
A-12 General Plan of Sangu & Phapy khola Causeway

NO.6 CAUSEWAY

PROFILE SCALE 1:500



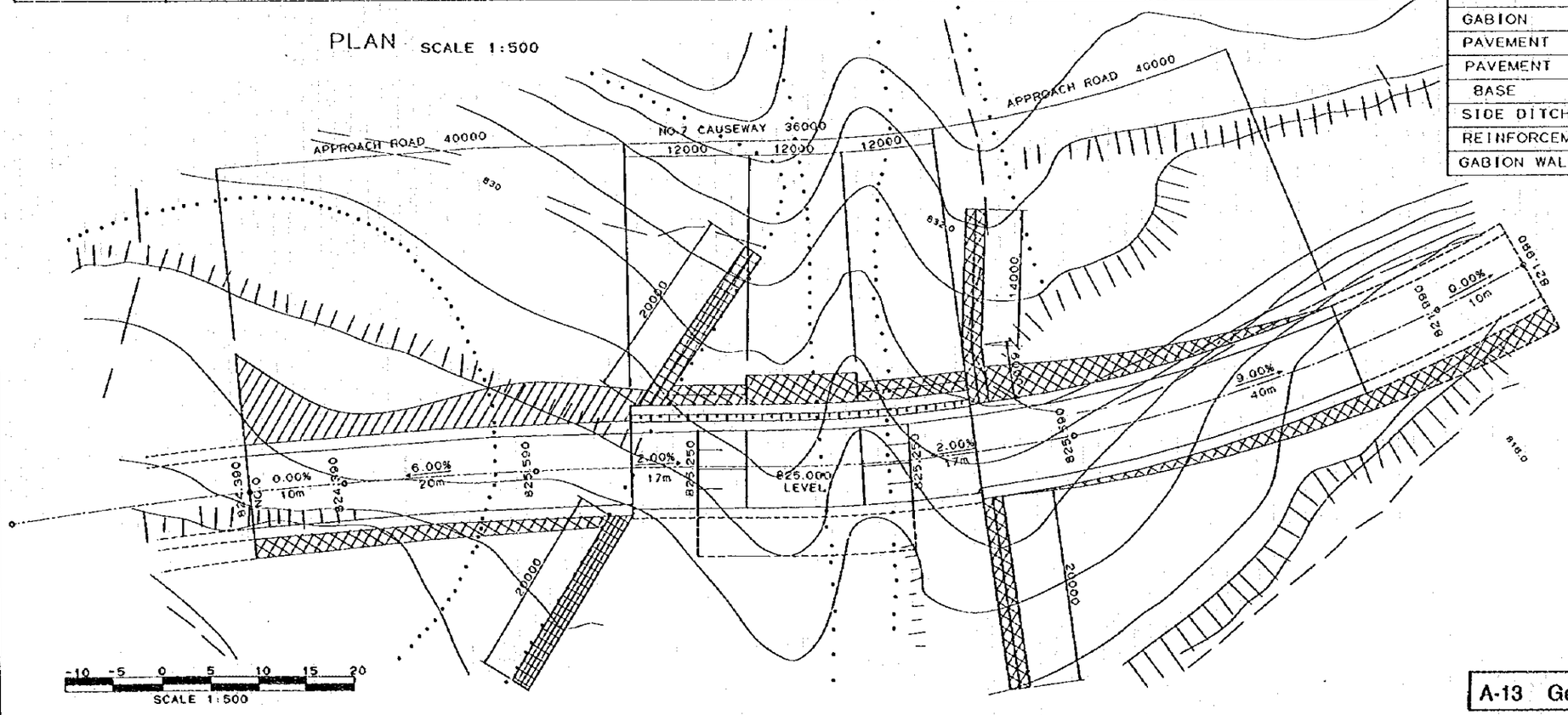
CROSS SECTION SCALE 1:200



MATERIALS

ITEM	CLASS	UNIT	QUANITY
EXCAVATION		m3	1323.4
BACKFILL		m3	86.0
GRAVITY RETAINING WALL		m3	108.0
CONCRETE WITH COBBLE		m3	140.0
GABION	CAUSEWAY	m3	296.0
PAVEMENT	t=25	m3	63.0
PAVEMENT	t=28	m3	145.6
BASE	CRUSHERRUN	m2	520.0
SIDE DITCH		m	160.0
REINFORCEMENTO BAR		t	2.1
GABION WALL	RIVER PROTECT	m3	333.0

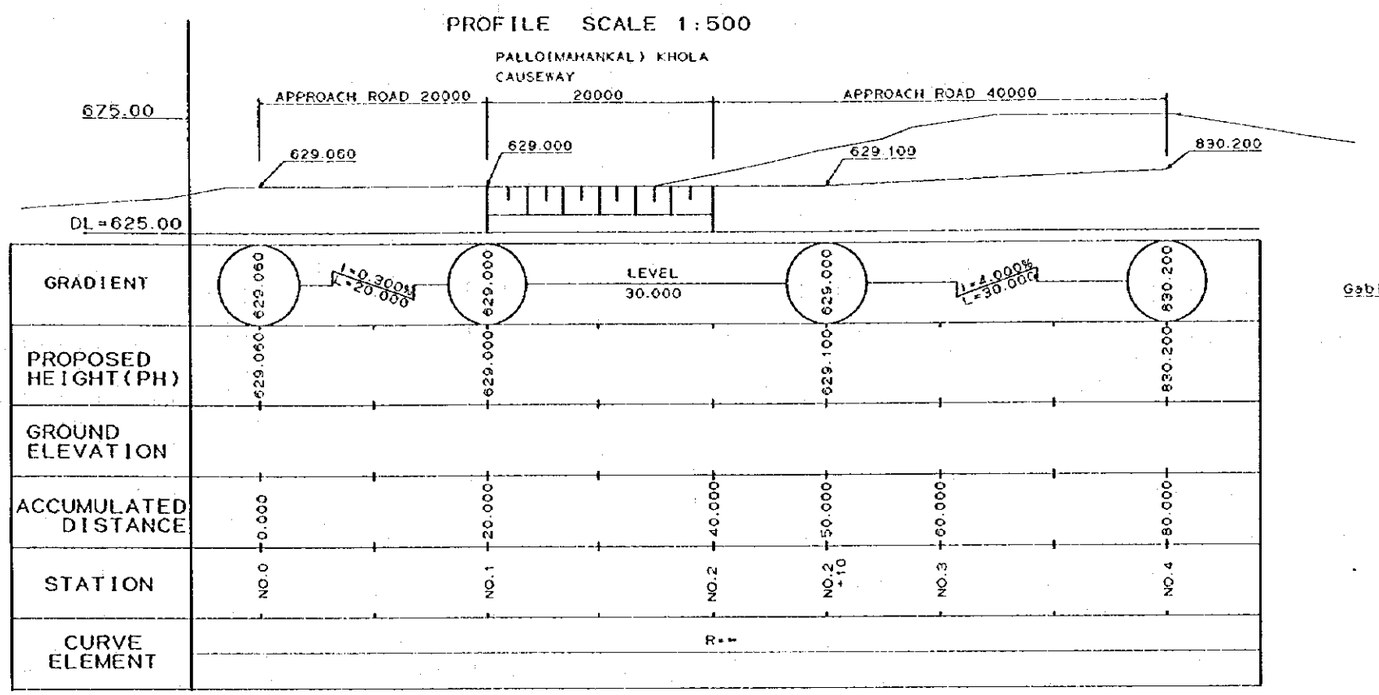
PLAN SCALE 1:500



A-13 General Plan of STA.185 Causeway

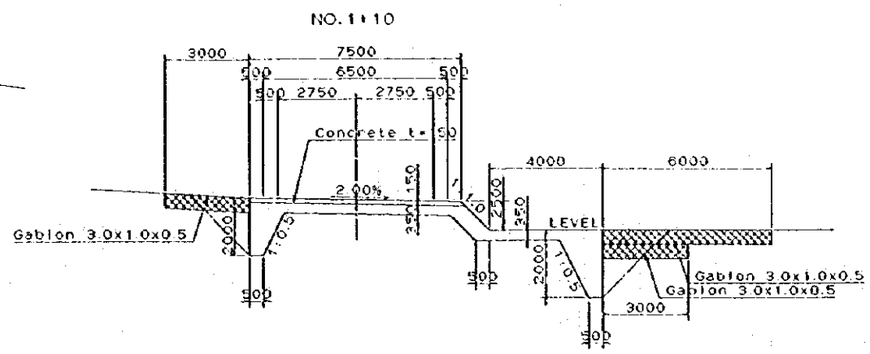
(NO.7) PALLO(MAHANKAL) KHOLA CAUSEWAY

PROFILE SCALE 1:500

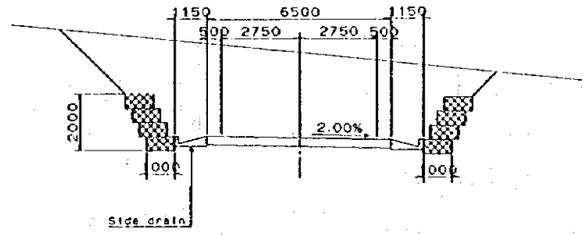


CROSS SECTION SCALE 1:200

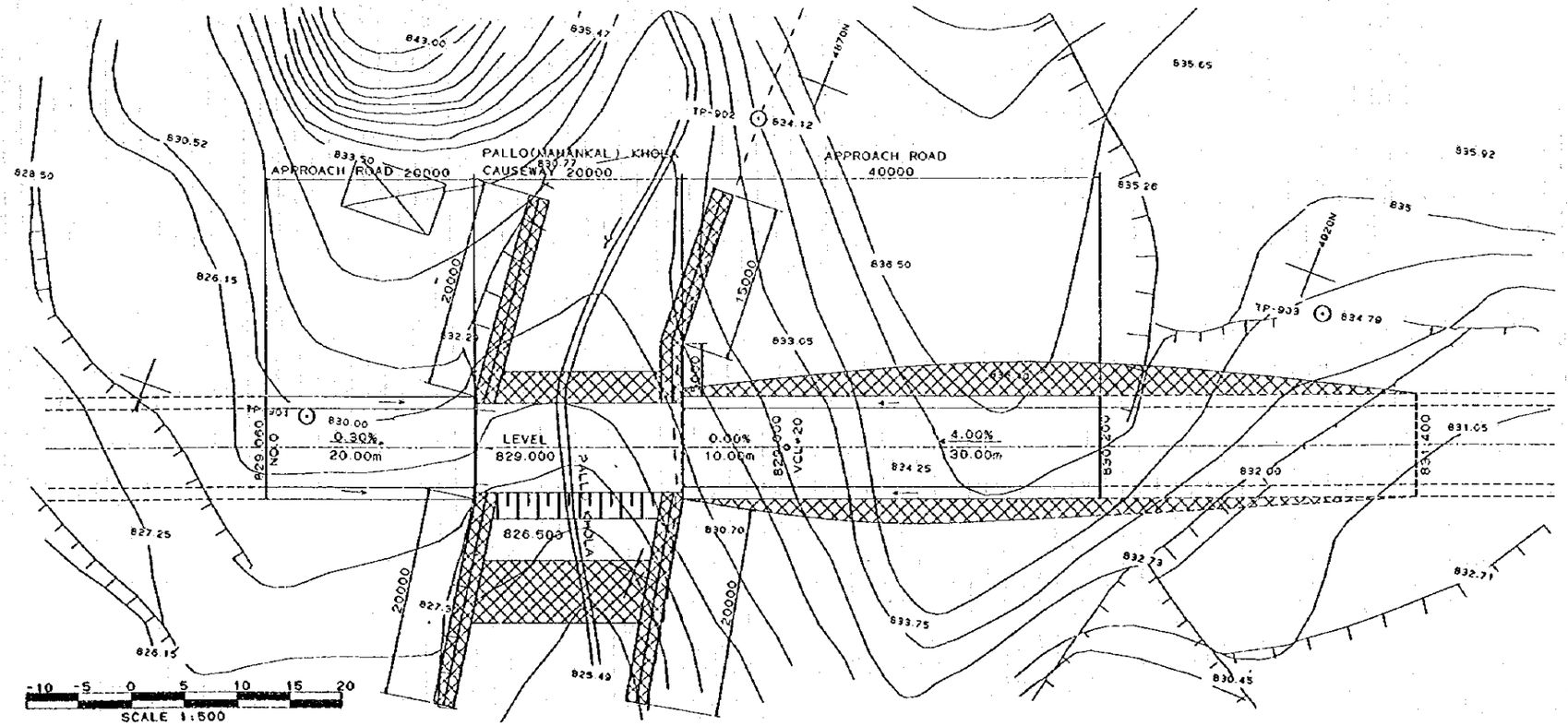
NO.1+10



NO.2+10



PLAN SCALE 1:500



MATERIALS

ITEM	CLASS	UNIT	QUANITY
EXCAVATION		m3	1746.5
BACKFILL		m3	117.6
CONCRETE WITH COBBLE		m3	154.0
GABION	CAUSEWAY	m3	280.0
PAVEMENT		m3	22.5
BASE	CRUSHERRUN	m2	390.0
SIDE DITCH		m	120.0
REIFORCEMENTO BAR		t	2.3
GABION WALL	RIVER PROTECT	m3	337.5

A-14 General Plan of Pallo khola Causeway