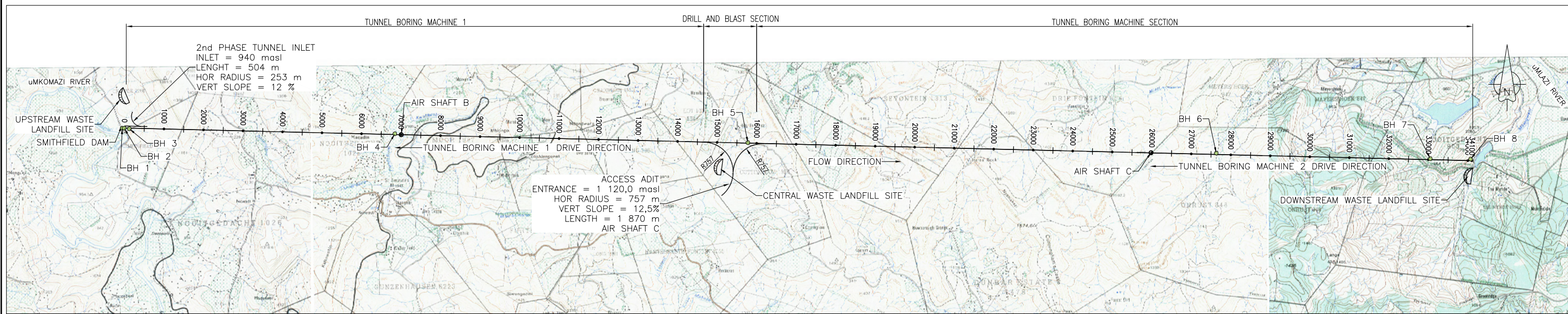
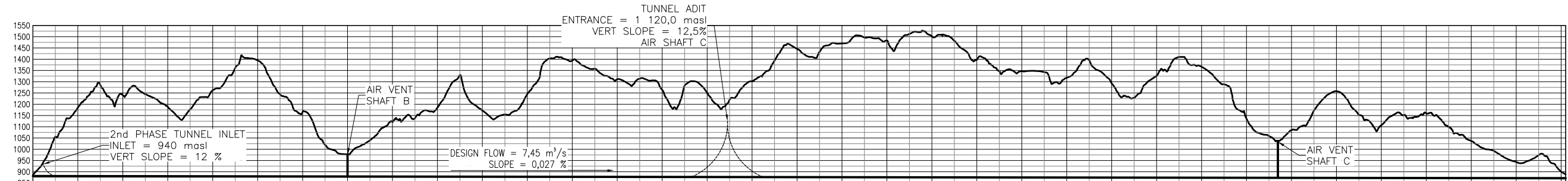


APPENDIX G

LONGITUDINAL SECTION OF TUNNEL



PLAN OF TUNNEL ROUTE
SCALE 1:50 000



LONGSECTION TUNNEL
FROM 0.000 TO 34100.000

SCALES:
Horizontal 1:1000
Vertical 1:200

DATUM 800.000

TUNNEL BED LEVEL (masl)	881.000 880.961 880.721 880.582 880.443 880.304 880.164 880.025 879.886 879.746 879.607 879.468 879.328 879.189 879.050 878.911 878.771 878.632 878.493 878.353 878.214 878.075 877.935 877.796 877.657 877.518 877.378 877.239 877.100 876.960 876.821 876.682 876.543 876.403 876.264 876.125 875.985 875.846 875.707 875.567 875.428 875.289 875.150 875.010 874.871 874.732 874.592 874.453 874.314 874.174 874.035 873.896 873.757 873.617 873.478 873.339 873.199 873.060 872.921 872.782 872.642 872.503 872.364 872.224 872.085 871.946 871.806 871.667 871.528 871.389 871.250
TOP OF MOUNTAIN ON CL (masl)	1056.000 1184.316 1285.872 1240.686 1244.926 1188.696 1178.279 1261.906 1360.723 1394.538 1243.300 1166.262 1019.464 978.000 1039.815 1121.935 1137.864 1185.264 1329.245 1171.779 1154.519 1244.937 1403.615 1393.968 1357.559 1310.948 1312.932 1263.563 1284.499 1250.687 1220.454 1302.561 1394.011 1445.536 1432.394 1469.967 1496.131 1463.431 1512.353 1502.466 1482.190 1397.550 1346.749 1346.496 1342.877 1317.816 1395.219 1292.867 1229.421 1326.545 1409.994 1366.451 1289.005 1136.002 1059.186 1085.598 1171.405 1258.046 1153.306 1106.652 1152.715 1159.398 1099.334 1036.667 993.388 943.618 973.866 900.385 888.021
CHAINAGE (km)	0.500 1.000 1.500 2.000 2.500 3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500 7.000 7.500 8.000 8.500 9.000 9.500 10.000 10.500 11.000 11.500 12.000 12.500 13.000 13.500 14.000 14.500 15.000 15.500 16.000 16.500 17.000 17.500 18.000 18.500 19.000 19.500 20.000 20.500 21.000 21.500 22.000 22.500 23.000 23.500 24.000 24.500 25.000 25.500 26.000 26.500 27.000 27.500 28.000 28.500 29.000 29.500 30.000 30.500 31.000 31.500 32.000 32.500 33.000 33.500 34.000 34.100
MOUNTAIN DEPTH TO INVERT (m)	175.139 303.594 405.290 360.243 364.623 308.532 298.204 382.021 480.977 514.931 363.832 286.934 140.275 98.950 160.905 243.164 259.232 306.771 450.892 293.565 276.445 367.002 525.819 516.311 480.042 433.570 435.683 386.464 407.538 373.866 343.773 426.019 517.608 568.272 556.270 593.982 620.285 607.724 636.785 627.038 606.901 572.400 471.739 471.625 468.146 443.224 520.766 418.554 355.247 452.510 536.088 492.694 415.388 262.524 185.848 212.398 298.345 385.125 280.524 234.009 280.212 287.034 227.110 164.582 121.443 71.812 102.199 28.857 16.521

FUNCTION	NAME	SIGNATURE
DESIGNED BY	R. TLUCZEK	N/A
DRAWN BY	R. ESTERHUIZEN	N/A
DESIGN CHECKED BY	H. DAVIS	N/A
DRAWING CHECKED BY	R. TLUCZEK	N/A
APPROVAL - CONSULTANT		
NAME	R. TLUCZEK	SIGNATURE
DATE		PROFESSIONAL REG No.
DRAWING STATUS CODES:		
D-DRAFT	F-FINAL	R-REPORT
P-PRELIMINARY	C-CONSTRUCTION	SCALE
T-TENDER	A-AS-BUILT/RECORD	AS SHOWN
AECOM DRAWING NUMBER		
AECOM PROJ. No.	SUB-NO.	DISCIPLINE
J01763	05	05
	001	R
		00

AECOM

PRETORIA OFFICE
HATFIELD GARDENS BLOCK D
Cnr GROSVENOR & ARCADIA STR.
HATFIELD
TEL: +27 (0)12 421 3500
FAX: +27 (0)12 421 3501
REG. No. 1966/006628/07

THE MASTER HELD AT THE AECOM
PRETORIA
OFFICE BEARS THE ORIGINAL SIGNATURE OF APPROVAL.

REVISION			
NO	DATE	DESCRIPTION	BY

DEPARTMENT OF WATER AFFAIRS

HEAD OFFICE
CIVIL ENGINEERING
PRIVATE BAG X313
PRETORIA 0001

SEDIBENG BUILDING
185 SCHOEMAN STREET
PRETORIA
(012) 336-7500

Mr M Sirenya
DIRECTOR GENERAL

DESIGN: N/A
DRAWN: N/A
APPROVED: N/A
SIGNATURE: N/A

TRACED: N/A
CHECKED: N/A
ENGINEER: N/A
RANK: N/A

APPROVED PROFESSIONAL PERSON

DEPARTMENT OF WATER AFFAIRS
REPUBLIC OF SOUTH AFRICA

THE UMKHOMAZI WATER PROJECT : PHASE 1 : MODULE 1

uMKHOMAZI - uMLAZI TUNNEL
TOPOGRAPHICAL LAYOUT AND LONGITUDINAL SECTION

PROVINCE: KWAZULU NATAL
DISTRICT: N/A
KEYCODES: N/A

CALC. FILE: N/A
TENDER No.: N/A
LOCALITY No.: N/A
CONTRACT No.: N/A

1 SHEET OF 1
REG. No.: 1

PROVINCE	DISTRICT	KEYCODES	DRAWING No.
KWAZULU NATAL	N/A		
CALC. FILE	TENDER No.	SHEET	REG. No.
N/A	N/A	1 OF 1	1
LOCALITY No.	CONTRACT No.		
N/A	N/A		