UNIVERSITY OF JOHANNESBURG

PROGRAM	:	NATIONAL DIPLOMA *xxxxxxxxxxxxxxxxxxxxxxxxxxx*
SUBJECT	:	**SITE SURVEYING**
CODE	:	**SSG111**
DATE	:	YEAR-MAIN EXAMINATION 26 NOVERMBER 2016 (FIRST SESSION)
DURATION	:	(Y-PAPER) 8:30-10:30
WEGHT	:	40:60
FULL MARKS	:	100
TOTAL MARKS	:	100

EXAMINER	:	MR. A. VESSAL	SAPSE NO
MODERATOR	:	MR. D. WILSON	FILE NO
NUMBER OF PAGES	:	3 PAGES PLUS ANNEXURES	
INSTRUCTIONS	:	CALCULATORS ARE PERMITTED (ONLY ONE PER STUDENT)	

REQUIREMENTS : GRAPH PAPER, RULER

Surname and Initial ..... Student # .....

INSTRUCTIONS TO STUDENTS:

1. ANSWER ALL QUESTIONS IN PEN NOT IN PENCIL
2. Show all your calculations to get a full mark
3. Return your test sheet with your answer sheet to the examiner

QUESTION 1

A profile of the road was surveyed by a group of students. We need to determine the followings:

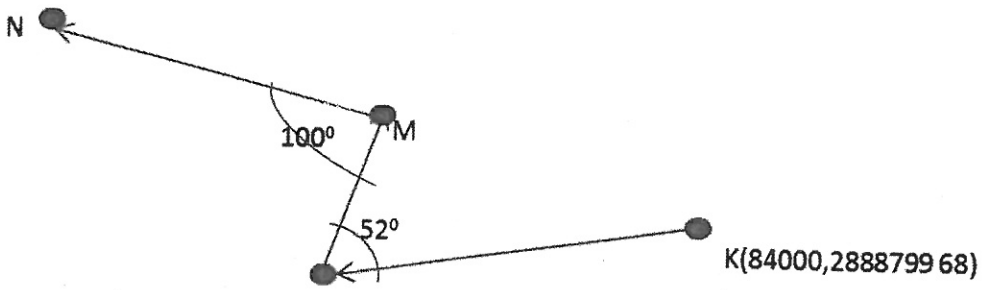
1. Draw the long section profile if the road designed to be 0.6 m below BM1 and 0.4 m above BM2. (see annexure for the data) Using H- Scale 1:2000, V-scale 1:50 and Datum of 1099,00m A.M.S.L for your drawing. The graph paper is attached. (25)
2. Calculate the volume of the cut and Fill for side slope 1(V):1.5(H) (10 points)

Table for long section up to Grade Elevation (10 points)

[45]

QUESTION 2

Determine the Coordinates of Pegs M and N .If the errors in both directions(X and Y) are 18mm. What is the actual coordinates of N. (8 points) . (eY = eX=18mm)



L(84350, 2888799.68)

See the next page for other information.

Line	Horizontal Distance(m)
LM	248
MN	412

Coordinates (16 points)

[24]

QUESTION 3

The site plan of a small parcel of land is provided in Annexure (site plan Annexure)
You are required to do the following

1. Determine the scale of site plan(5)
2. Calculate the area of construction site(20)
3. Calculate the gradient from SW1 to SW2(6)

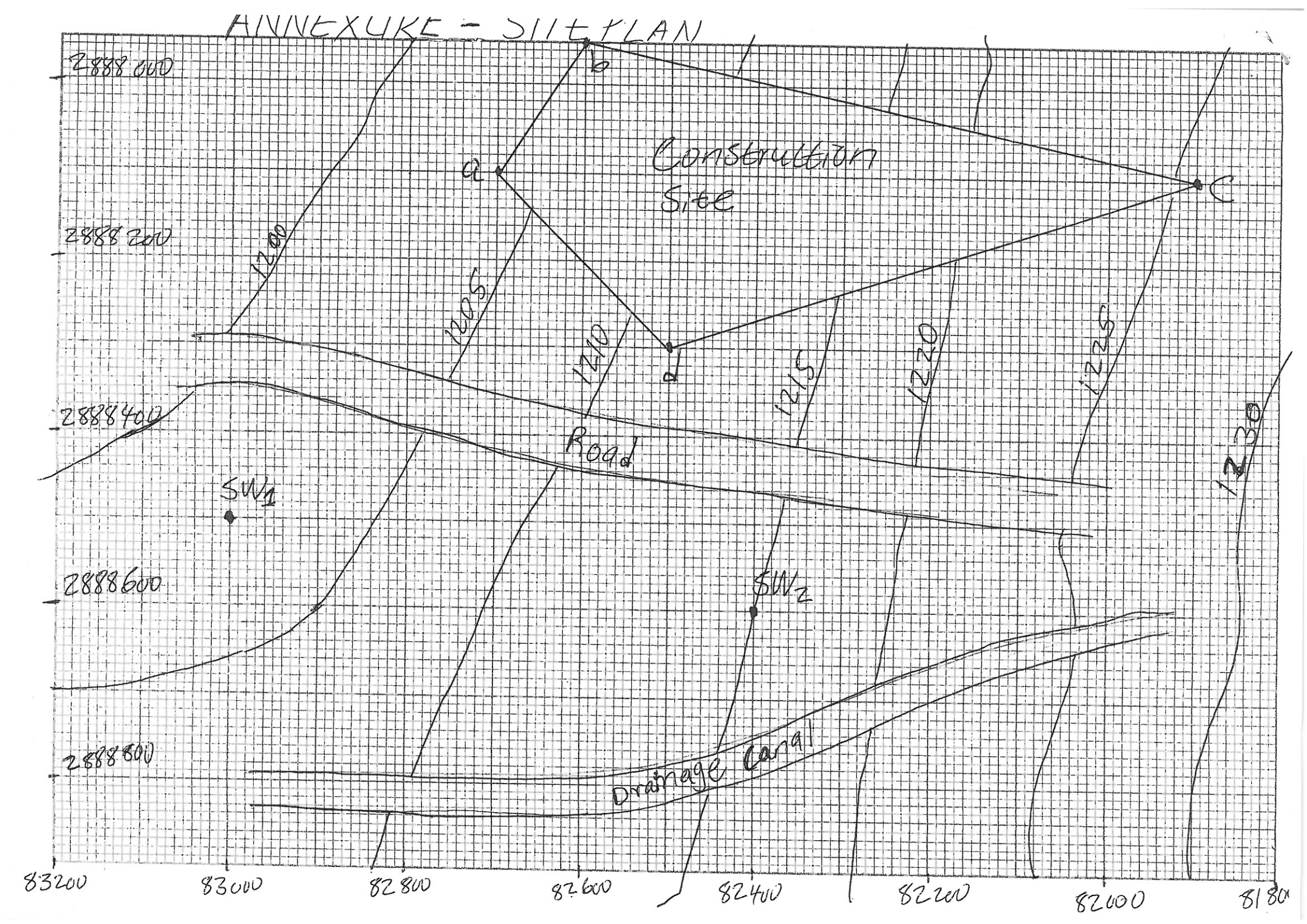
[31]

[TOTAL : 100]

Annexure 1(levelling annexure for Question 1) Surname and Initial ..... Student # .....

PTs	BS	IS	FS	R/F	R.L	Corr.	Final Elevation	required grade	Grade Elevation	Dist. (m)	C/ F	Road Width (m)	L2	A	Volume
BM1	3.153						1100.00			0		10			
1		2.052								83		10			
TP	2.698		1.620							156		10			
2		3.150								210		10			
3		2.030								329		10			
BM2			1.432				1102.819			411		10			
ΣBS		ΣFS				Corr=		Slope =							
ΣBS-ΣFS			ΣR-ΣF=			Corr/pt									

Volume of the Cut =
Volume of the Fill =


ANNEXURE - SITE PLAN
2888000
2888200
2888400
2888600
2888800
83200
83000
82800
82600
82400
82200
82000
81800
a
b
c
d
Construction Site
Road
Drainage Canal
SW1
SW2
1200
1205
1210
1215
1220
1225
1230