

SOIL TESTING REPORT

PROPOSED BUILDINGS IN

SY NO. 202 - 206

**KOWKUR (V), MALKAJIGIRI (M)
RR Dt.**

GREENWOOD ESTATES

Report Prepared by

**DR. D. BABU RAO
M.E., Ph.D.(USA), MIGS**

MCH Panellist No. 2490 /TP/2000-2

**CONSULTING GEO TECHNICAL ENGINEER
FORMER PROFESSOR & HEAD OF CIVIL ENGINEERING
OSMANIA UNIVERSITY**

**Phone / Fax : 66638830
Mobile : 98490 - 39337**

Email : *dbaburao2000@yahoo.com*

**REPORT OF SOIL INVESTIGATIONS FOR BUILDING
AT KOWKUR (V), MALKAJIGIRI (M)**

M/s Greenwood Estates are proposing to construct Buildings in Sy No. 202-206 in Kowkur (v), Malkajigiri (M), RR Dt.

Fig. 1 gives the site plan. The area of the site is 6 ac- 05 g.

The aim of this Report is to evaluate the nature and depth of the soils and strata at the site, and to determine the safe bearing capacity of the foundations, accordingly.

2. FIELD INVESTIGATIONS

Trial Pits were excavated at the site at location, shown in Fig. 1. These were examined in detail.. This is adequate in accordance with IS : 2720 (Code of Practice for Subsurface Investigation of Foundations).

The sub soil profile consists of loose soil to 0.4 m depth, followed by morum.

.Undisturbed Samples were collected from the Trial Pit as per IS Code.

The samples were properly packed and transported to the Soil Testing Laboratory, Hyderabad

3. LABORATORY TESTING

The samples were tested at the Soil Testing Laboratory at Hyderabad. The following Tests were conducted:

- Specific gravity Bulk density
- Grain size distribution Direct shear test

All the Tests were conducted in accordance with IS: 2720 (Methods of Tests for Soils)

4. RESULTS

Table 1 gives the results of physical and engineering tests on samples. The bottom soils are classified as GM as per IS Classification.

Appendix gives the calculations for SBC.

5. RECOMMENDATIONS

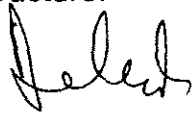
Based on Field Investigations and Laboratory Testing, the following

Recommendations are made for the proposed structure.

a) The sub soil profile consists of loose soil to 0.4 m depth, followed by morum.


b) SBC is recommended as 25 t / sq m for isolated foundations. .

c) The actual size of the foundations will be based on loads from the super structure.



(DR. D. BABU RAO)
M.E., Ph. D. (USA), M.I.G.S

CONSULTING GEOTECHNICAL ENGINEER
FORMER PROFESSOR
& HEAD OF CIVIL ENGINEERING, OU



Dr. D. BABU RAO
M.E., Ph.D. (U.S.A)
Consulting Geotechnical Engineer

Dr. D. BABU RAO
M.E., Ph.D. (U.S.A)
Consulting Geotechnical Engineer

SOIL TESTING LABORATORY

TABLE 1

SUMMARY OF SOIL PROPERTIES

BUILDINGS AT KOWKUR

Property / Sample No.	1			
Soil	gm			
Specific gravity	2.63			
Density, KN / cu m	17.4			
<i>Grain size distribution</i>				
Gravel > 4.75 mm	10			
Coarse sand, 4.75 – 2 mm	22			
Medium sand 2 - 0.425 mm	22			
Fine sand, 0.425 – 0.075 mm	11			
Silt, 0.075 – 0.002 mm	15			
Clay < 0.002 mm	20			
<i>Shear Parameters</i>				
Cohesion, KN / sq m	40			
Angle of internal friction, Φ degrees	31			

Samples are from the bottom of the Pit




Dr. D. BABU RAO

M.E., Ph.D. (U.S.)

Dr. D. BABU RAO Consulting Geotechnical Engineer

M.E., Ph.D. (U.S.A.)

Consulting Geotechnical Engineer

APPENDIX

CALCULATION OF SAFE BEARING CAPACITY

BUILDINGS AT KOWKUR

Assumed depth of foundation $D = 2$ m

Assumed Width of foundation $B = 2$ m

Unit wt. = 17.4 kN / cu m

Cohesion = 40 kN / sq m

$\Phi = 31$ degrees

Using IS Code 6403 -1981 formula for Isolated footing :

$N_c' = 17.12$ $N_q' = 8.05$ $N_r' = 7.54$

Net ult B.C. = $1.3 c' N_c' + r D (N_q' - 1) + 0.4 r B N_r'$

= 972kN / sq m

With a FS of 3, SBC = 324 kN / sq m

Recommended Safe Bearing Capacity is 25 tonnes per sq m.

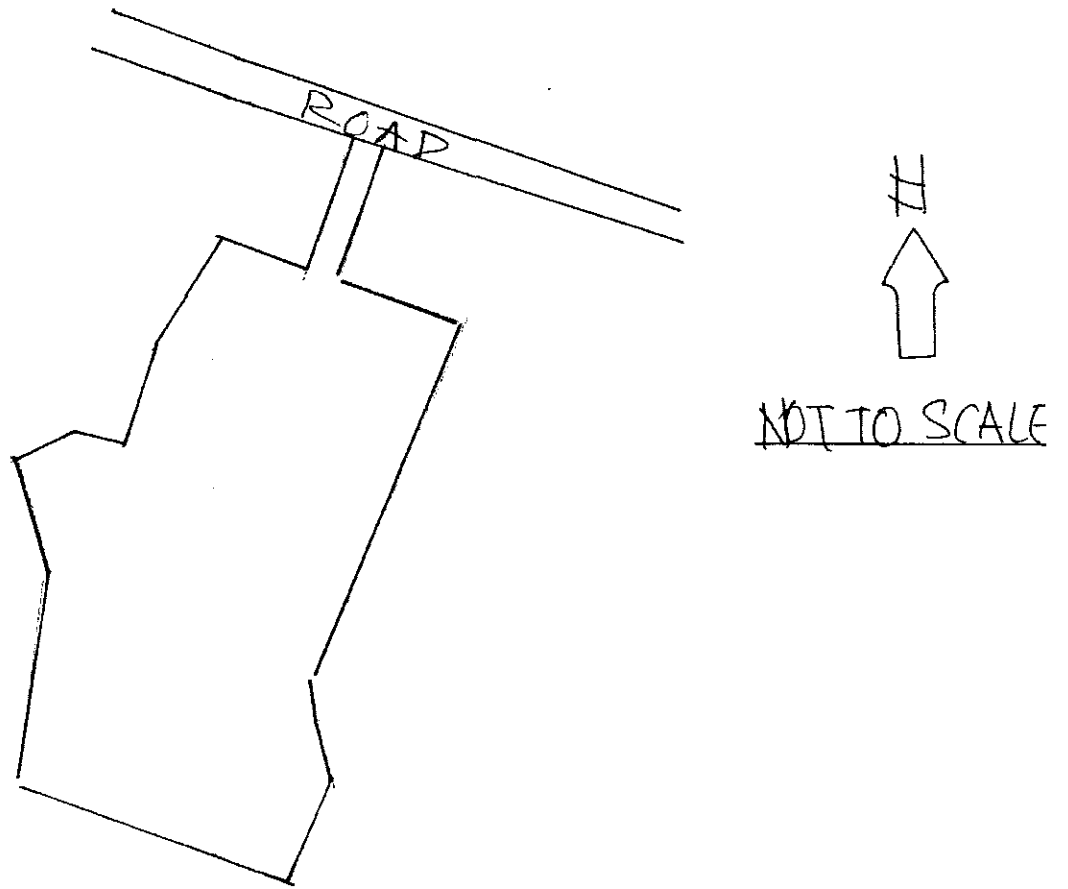


FIG-1: SITE PLAN OF PROPOSED HOUSING
 IN SY. NO. 202-206, KOWKUR (V)
 MALKAJIGIRI (M) R.R. DT.

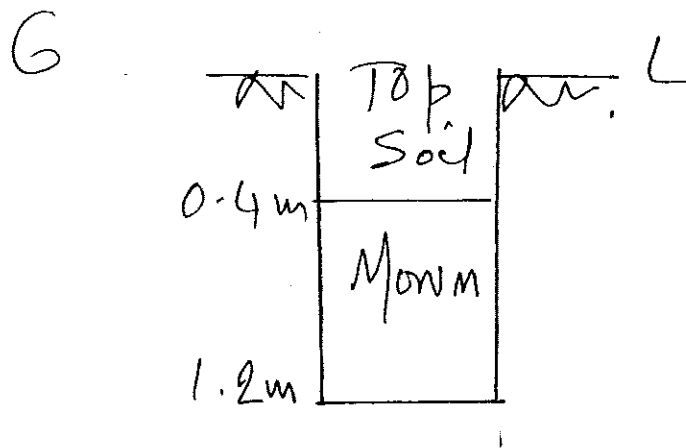


FIG-2: TYPICAL SUB SOIL PROFILE