

CONDUCTING PLATE LOAD TEST FOR PLATE LOAD TEST AT

NANGLI KHURD, KHERA KALAN ROAD, DELHI

1.0 INTRODUCTION

- 1.1 Good Luck Buildtech Pvt Ltd., are in the process of constructing Warehouse buildings at Horizon Industrial Park (Amazon Warehouse) at Nangli Khurd, Khera Kalan Road, Delhi.
- 1.2 To design the flooring, to ascertain that the corresponding settlements against the specified loading intensities of racks of the Warehouse are within acceptable limits, Plate Load Tests had been undertaken at the specified location on the base of the flooring at the proposed site.
- 1.3 This report contains the results and analysis of the test carried out at the site.
- 1.4 These tests has been carried out as per verbal authorization of the authorities of Good Luck Buildtech Pvt Ltd.,. This authorization has been given in response to our offer no. NCD/Q/GLBPL/193/2022 dated 22nd March 2023.

2.0 THE SITE

- 2.1 The proposed site is located at Horizon Industrial Park, Nangli Khurd, Khera Kalan Road, Delhi and is situated at a distance of about 6 km from Karnal By-Pass towards Village Khera Kalan, Delhi.
- 2.2 A schematic site plan showing the locations of the tests is enclosed in this report (figs.1a & 1b).



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2.3 The construction and compaction work had been observed to be under progress, during the period of Plate Load Test.

2.4 Seismic Zone

2.4.1 The present site is located in the Seismic Zone IV which is an area of high seismic activity and earthquake intensity, as per the seismic zoning map of India given in BIS code IS:1893 (Part1)-2016.

3.0 OBJECT OF INVESTIGATIONS

3.1 To ascertain that the corresponding settlements against the specified loading intensities of racks of the Warehouse are within acceptable limits.

4.0 SCOPE OF INVESTIGATIONS

4.1 The scope of investigations as stipulated by the client consists of :

- a) Conducting Plate Load Tests at two locations.
- b) Preparation and submission of a technical report in three copies containing the details of the tests carried out along with the results.

5.0 FIELD INVESTIGATIONS

5.1 Preliminary Details

5.1.1 The Plate Load Tests had been conducted on 14th April 2023.

5.2 Plate Load Tests

5.2.1 The Plate Load Tests, PLT1 & PLT2 had been conducted at the locations of grids M1-M2 and D4 -E4 respectively as shown in the figs. 1a & 1b of this report.



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5.2.2 The Plate Load Test, PLT1 had been conducted on the made up surface (soil) whereas Plate Load Test, PLT2 had been conducted on the made up GSB surface (prepared by the client).

5.2.3 The size of the plate used for the test was 30x30 cm.

5.2.4 The load on the plate was applied using the method of reaction loading by jacking against a loaded vehicle.

5.2.5 Dial gauges resting on two diagonal points near the edge of the plate and supported by magnetic stands fixed on datum bars, had been used for recording the settlements of the plate.

5.2.6 After the above set up had been arranged, the initial readings of the dial gauges had been noted and the first increment of the static load had been applied. This load had been maintained constant for a period till no further settlement occurred or the rate of settlement became negligible. The readings of the dial gauges had been noted down. The next higher stage load had then been applied and the above procedure had been continued till the maximum specified settlement or loading intensity had been reached.

6.0 RESULTS & ANALYSIS

6.1 Plate Load Tests

6.1.1 The results of this test have been plotted in the form of load vs settlement curves (figs. 2a & 2b).



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6.1.2 The settlements corresponding to the specified loading intensities of 0.6 kg/cm^2 , 0.9 kg/cm^2 and 1.3 kg/cm^2 have been shown in the figs. 2a & 2b of the report and are being given hereunder.

PLT No.	Loading Intensity		Corresponding Settlement (mm)
	(kg/cm ²)	(T/m ²)	
1	0.6	6	0.35
	0.9	9	0.70
	1.3	13	1.15
2	0.6	6	0.15
	0.9	9	0.3
	1.3	13	0.4

6.2 List of IS Codes

A list of IS Codes referred for providing the recommendations and that which might be required to implement the same is also enclosed in this report.

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Technical Director

For Nagadi Consultants Pvt. Ltd



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LIST OF IS CODES

Field Investigation

1. IS 1888 : Method of load test on soils

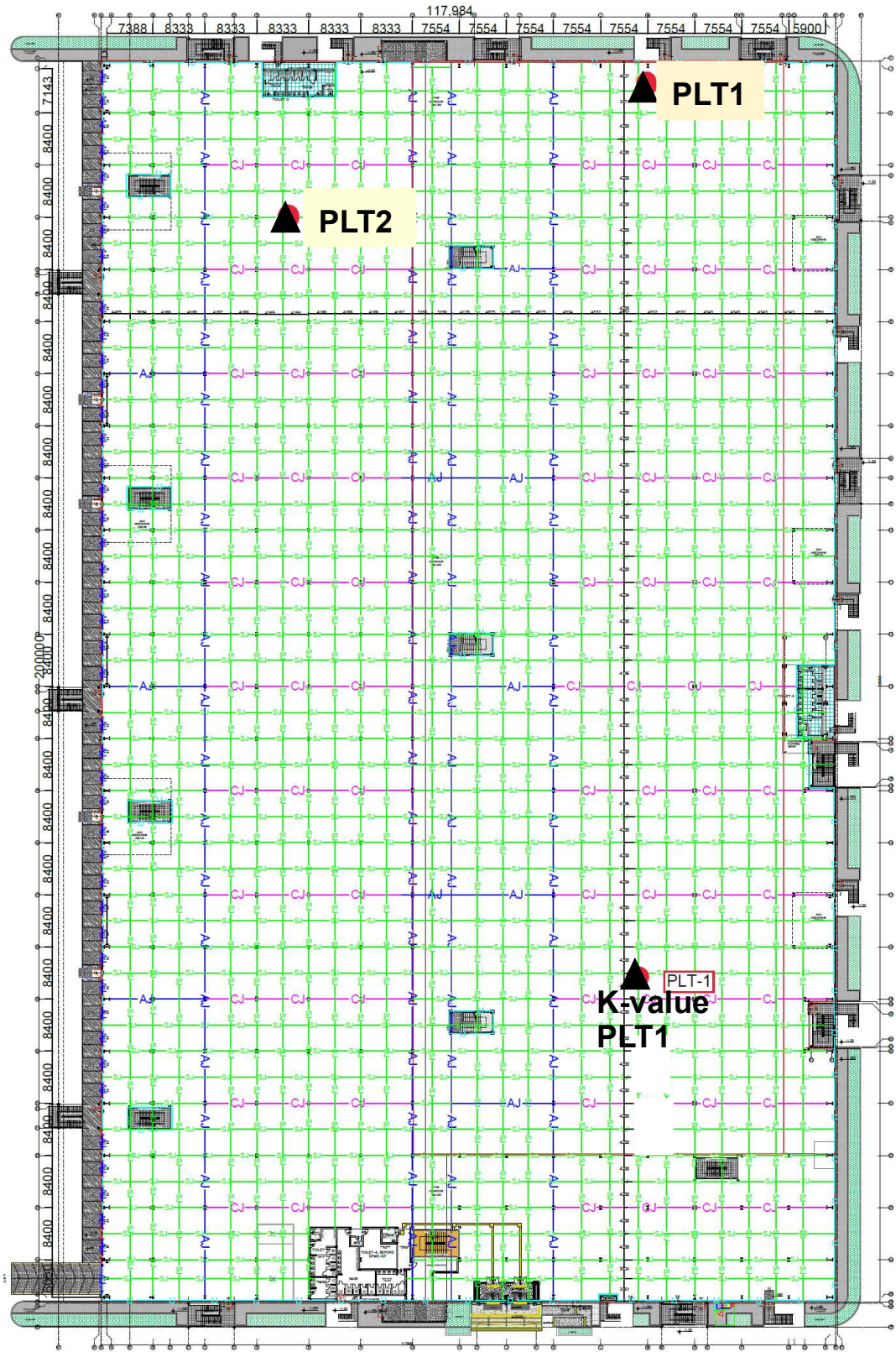


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GROUND FLOOR CONTROL JOINT DRAWING

SCHEMATIC SITE PLAN



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**PHOTOGRAPHS SHOWING
PLATE LOAD TEST UNDERPROGRESS**

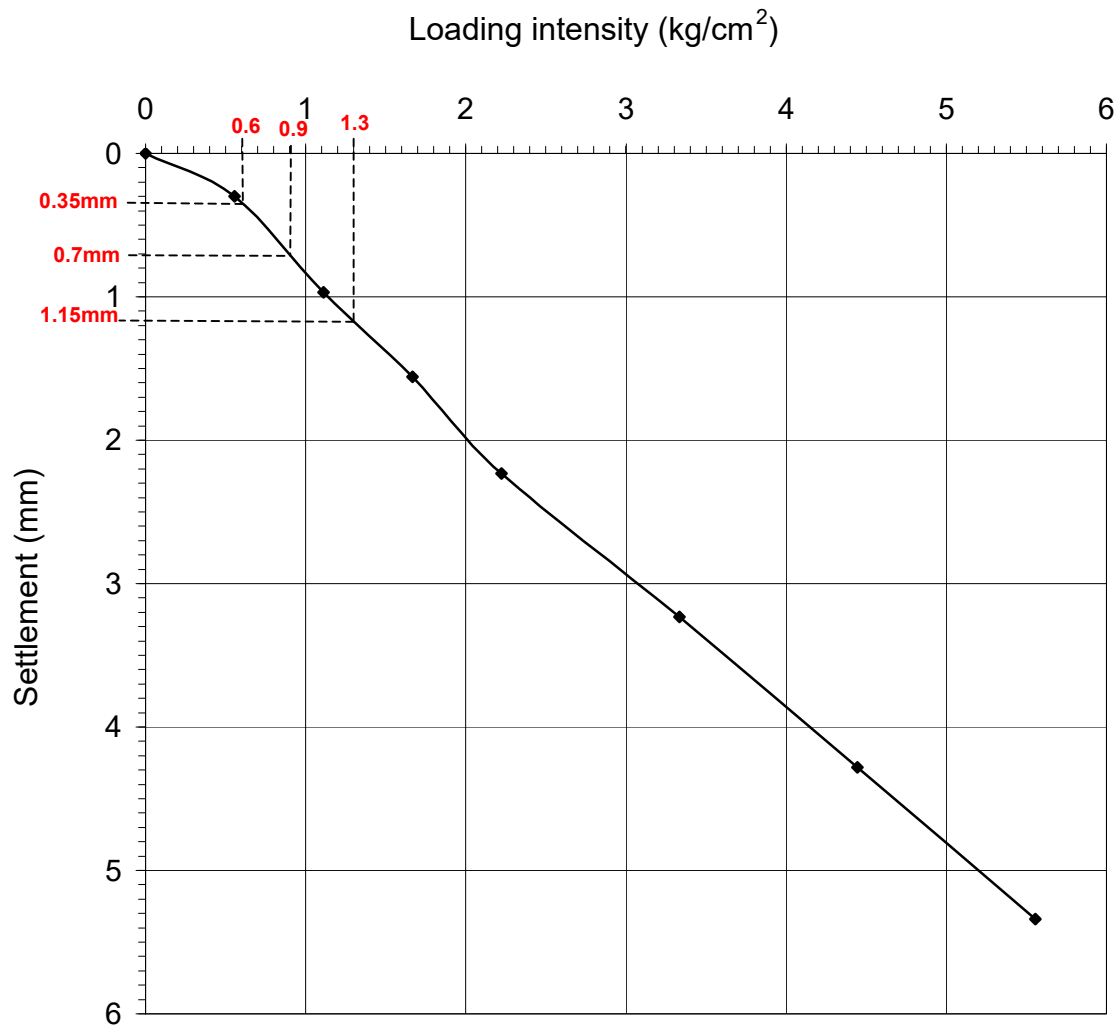


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Size of plate = 30 x 30 cm
 Final loading intensity = 5.55 kg/cm^2
 Corresponding settlement = 5.34 mm
 Test condition = Unsaturated

RESULTS

Loading Intensity (kg/cm^2)	Corresponding Settlement (mm)
0.6 or (6 t/m^2)	0.35mm
0.9 or (9 t/m^2)	0.70mm
1.3 or (13 t/m^2)	1.15mm

Plate Load Test - 1

(Refer Paragraph No. 6.1.2)

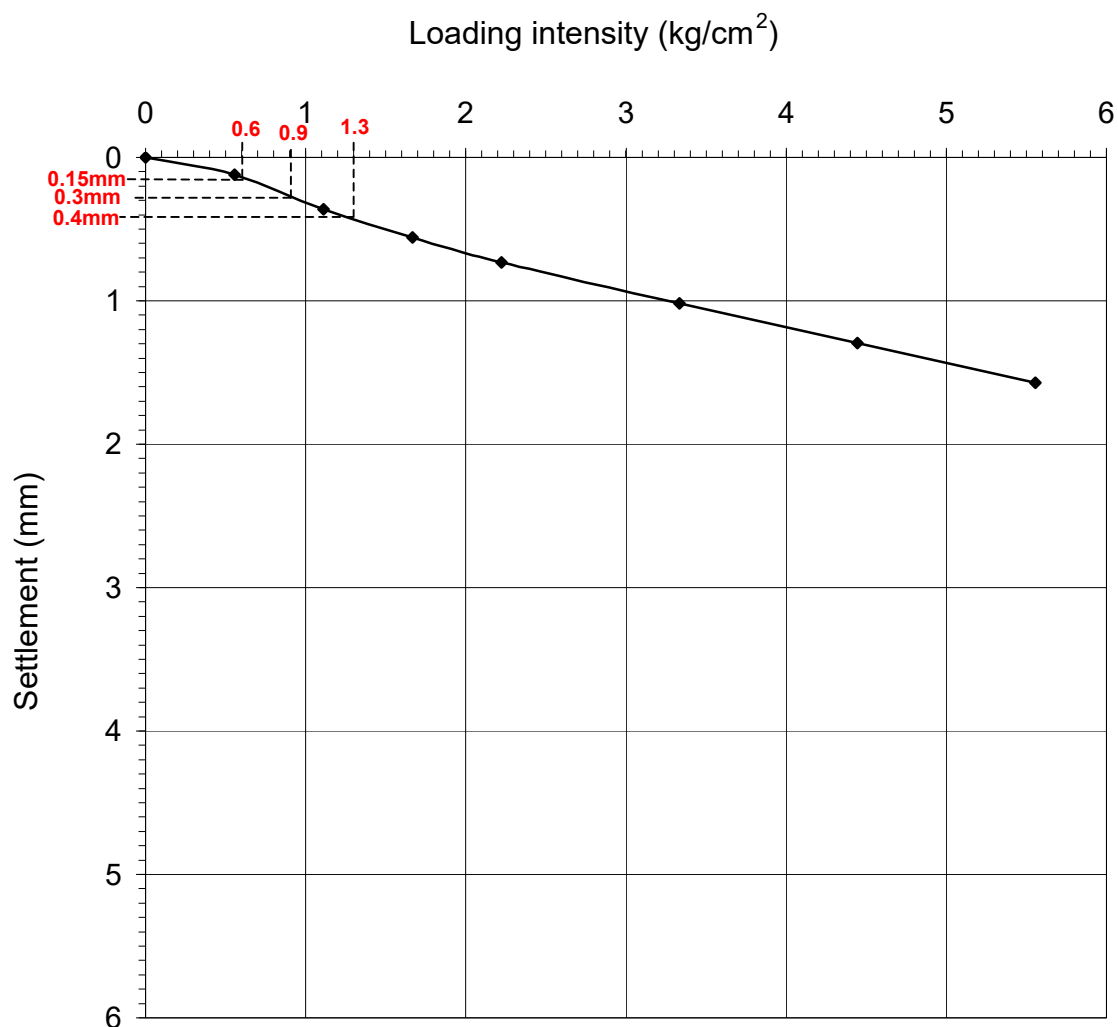


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Sheet No. : 2a



Size of plate = 30 x 30 cm
 Final loading intensity = 5.55 kg/cm^2
 Corresponding settlement = 1.57 mm
 Test condition = Unsaturated

RESULTS

Loading Intensity (kg/cm^2)	Corresponding Settlement (mm)
0.6 or (6 t/m^2)	0.15mm
0.9 or (9 t/m^2)	0.3mm
1.3 or (13 t/m^2)	0.4mm

Plate Load Test - 2

(Refer Paragraph No. 6.1.2)



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