

HOW TO ANALYSE THE SITE: A Case of Hypothetical Site.

Ghufran Ahmad Khan¹

¹Civil and Architecture Engineering Department, University of Technology and Applied Sciences
[Higher College of Technology]

Abstract -Before proceeding with any of the architectural design projects, various significant parameters about the site should have to be known that where exactly it must be executed. Then a question arises that why any of the clients may need these services. In answer, certain points should have to be pondered. Such as – to assess evolution restrictions and opportunities for a site, to access one or more sites as a basis for purchase, to access the developmental characteristics of a site, to gain information as a basis for a zoning confliction. The second point that need to be focused is knowledge and skills required. Which again comprises of following points such as – knowledge of site conditions, topography, climate, soil, and rest of the other natural features. It is necessary to know about the site utility distribution systems, one should be able to evaluate site access and circulation factors, should know about the site setbacks, should have to be familiar with site planning and zoning, and so on. Then while concluding, one should have to be able to prepare the program investigation, site inventory and analysis, site evaluation and that ultimately leads to the report development.

Key Words:Site, Site Analysis, Site Inventory, Site Services, Site Inferences

1.INTRODUCTION

Site Analysis is a research prior to the design stages that focusses on existing conditions of the as well as the vicinity areas. It is basically a roster or a record for the site factors and different kinds of forces and how they coexist and interact with each other. This aimed at providing every possible detail about the site assets and liabilities prior to the commencement of the stages in design. This is the only way to develop the concepts that penetrates meaningful responses to the external conditions of the site.

The usual site analysis includes the site location and size, nearby neighborhood areas, legal aspects, geology of the site, all the other feature present already in site, soil condition, vegetation, climatic condition of the site, pedestrian and vehicular movement, amenities and facilities, site services, many more factors including historic aspects.

All those factors that we have specified in above paragraph be categorized into aesthetic, cultural and natural forces. By pondering upon aesthetic point of view, we are going to emphasize more with the dweller’s perception that what he or she is thinking about the site. And this is the architect’s duty to educate the client about the possibilities. When we are dealing with culture, then it means the background of the person living

in that area. And at last, when we call natural factors, it means the background of the environmental elements.

2. Location of the Site



NEW DELHI



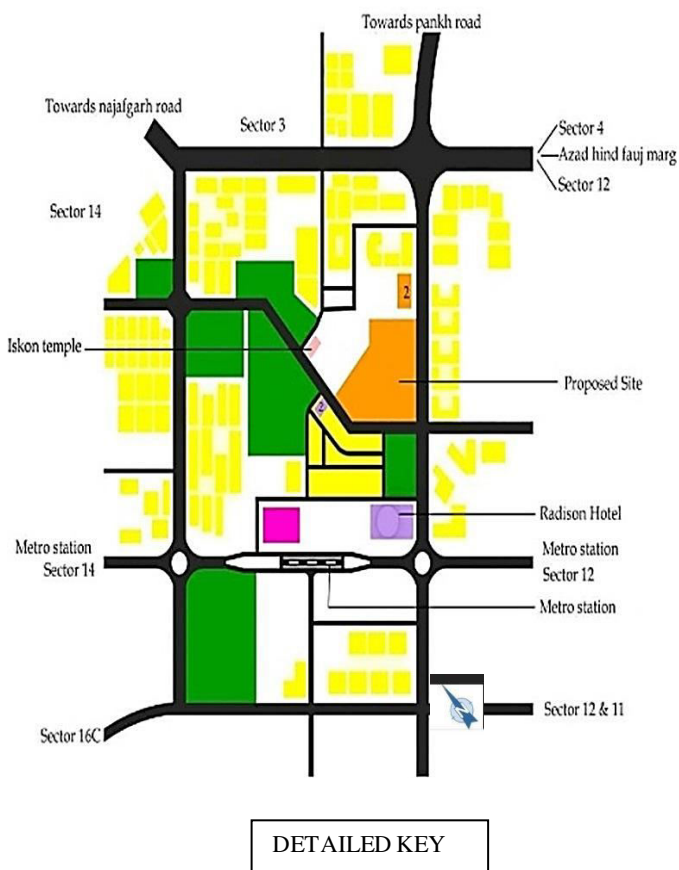
DELHI PLAN



SECTOR-13 SATELLITE



DWARKA



5. Major Landmarks



1. SECTOR-13 METRO STATION
2. RADDISON HOTEL
3. INDIA INTERNATIONAL INSITITUE OF DEMOCRACY & ELECTION MANAGEMENT [SITE]
4. SHOPPING MALL
5. ISCKON TEMPLE
6. N. S. GROUP HOUSING

3. Population and Area

- Population – 10 Lakhs
- Total Area – 5648 ha
- Total sectors – 29

Each of the sector has been designed for the population of 30,000.

Area of each sector is bounded on all sides by arterial roads of 45 m and 60 m wide.

4. Architecture Style of Surroundings

- The region is not bounded by any architecture style and character.
- No color scheme being followed in individual choice development.
- Skyline being maintained by the height of the masses.
- Fine grain texture in the buildings.
- Dwarka is in construction stage, so there is no historical background attached to it.
- As mostly sector 13 having residential areas, are compacted.
- Local available material used are bricks and stone.

6. Accessibility

The sub city will be connected to the mother city by 4 roads from all directions. They are as followed:

Eastern Approach- A 45 m wide road through cantonment area with a flyover.

Western Approach- A 60 m wide road connecting Najafgarh road.

Northern Approach- A 45 m wide road connecting Pankha road.

South-Eastern Approach- A 60 m wide road from NH-8 (with a rail underpass).

7. Amenities in Proximity to the Site

- HOSPITAL – Bensups, sector-12 [2.8 km]
- FIRE STATION – sector-23 [7 km]
- POST OFFICE – Kakrola road [3 km]
- POLICE STATION – sector-8 [6 km]
- MARKET – DDA market, Mall road sector-6 [3.9 km]

- HOTEL – Radisson sector-13 [500 m]
- METRO STATION – sector-13 [1.2 km]
- BUS STOP – sector-13 [1.5 km]

8. About the Site

Size of plot: 50585 m² (12.5 Acres)

Site dimensions:

- AB: 162 m
- BC: 243 m
- CD: 220 m
- DE: 87 m
- EF: 174 m
- FA: 57 m



THE SITE

10. Existing Site Features

Topography-

- The site is almost flat with some undulation all over.
- Along CDE a pedestrian path is there which is at +1200 mm above road level under which runs a drain and sewer line.
- The site is at – 450 mm from the pedestrian path.

Slope- The natural slope of the site is towards south-west.

Vegetation- The vegetation comprises of grass weeds and bushes. There were no larger trees in the area. Only wild grass can see all over.

Manmade features- Site boundary is created by DDA brick.

Soil- Soil type is alluvial, suitable foundation is Raft foundation whereas the land is fertile. The load bearing capacity is 10 kn.



EXISTING SITE FEATURES

9.Orientation

Site is south-west oriented, and the site is longer at north-east.

11. Site Climate

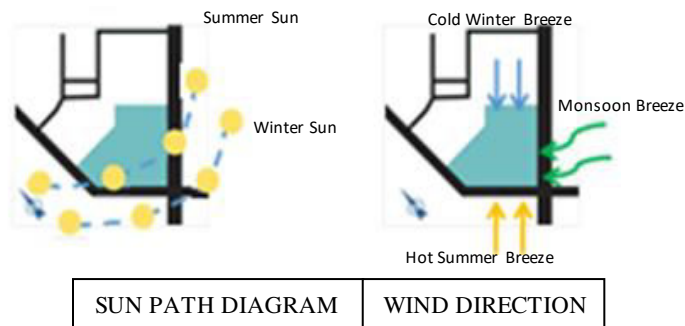
The climate of Delhi is influenced by the tropical with high variation between summer and winter temperature and precipitation. If we are segregating the seasons, we will be having:

Summer Season – starts in early April and peak in May with average temperature near 32 °C.

Monsoon Season – starts in late June and lasts until mid of September with about 797.3 mm of rain. The average temperature is around 29 °C and they can vary from around 25 °C.

Post-Monsoon Season – continues till late October with an average temperature from 29 °C to 21 °C.

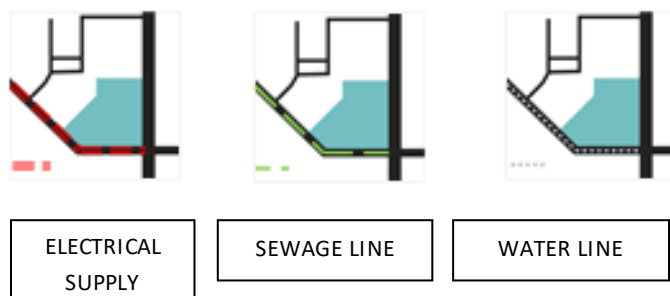
Winter Season – starts in November and peaks in January with an average temperature around 12 °C. to 13 °C.



12. Site Services

Water Supply-

Water is served from the area command tank located in sector-3 which get its water supply from Delhi Jal Board.



Garbage Disposal-

Trash drums provided by MCD collected daily by MCD trucks and disposed.

Electricity-

Electricity lines are underground laid. An electricity substation of 11 KV is located at sector-3 that is behind the sector-13.

Sewage-

Sewage treatment plant (STP) is located adjoining Najafgarh drain which will carry treated discharge or disposal and some

of the treated sewage shall be used for maintaining proposed green gas.

13. Site Inferences

To resist heat gain, in summer season and heat loss in winter season, we need to:

Decrease the exposed surface –

- By orientation and shape of the building.
- By using trees as wind barrier.

Increase the thermal resistance –

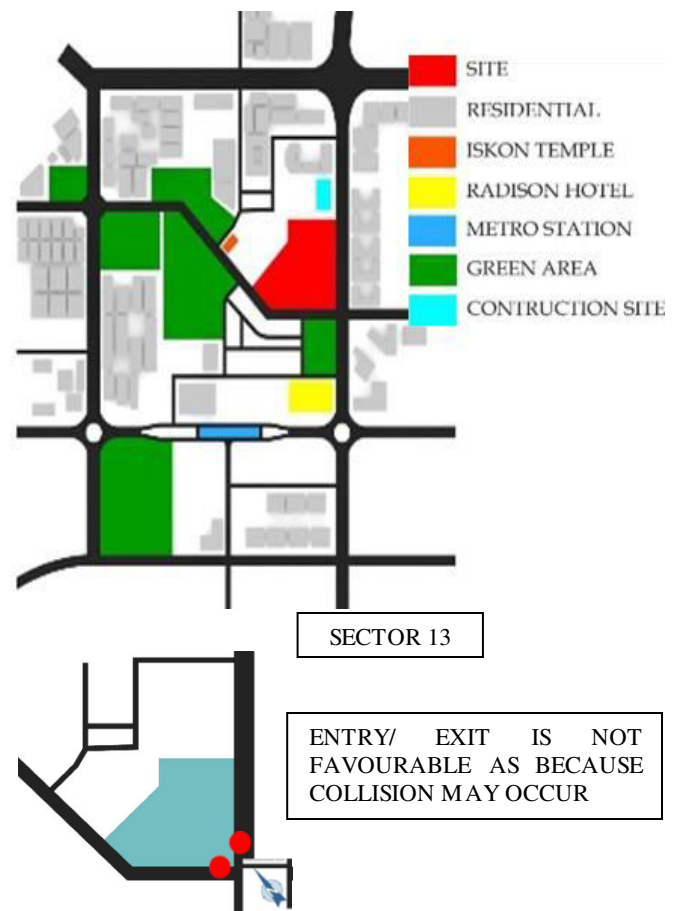
- By roof insulation and wall insulation.

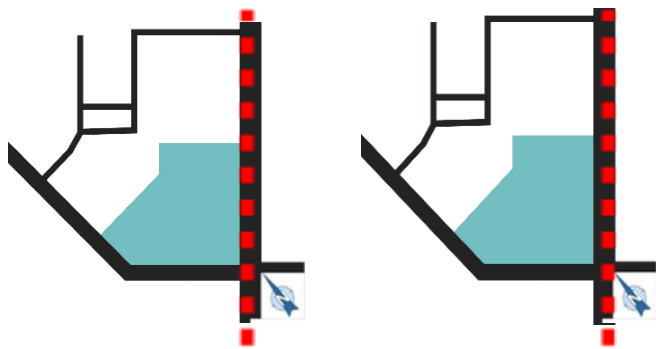
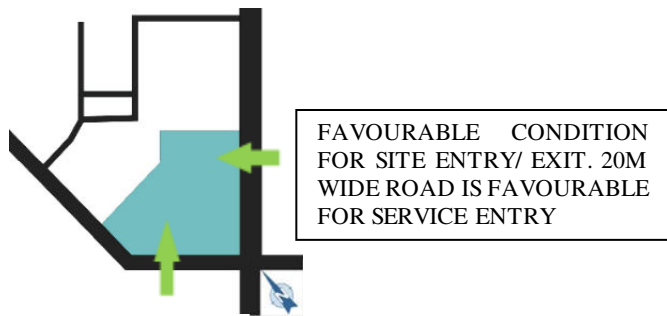
Increase the thermal capacity –

- By thick wall.

Promote heat loss in summer/ monsoon seasons:

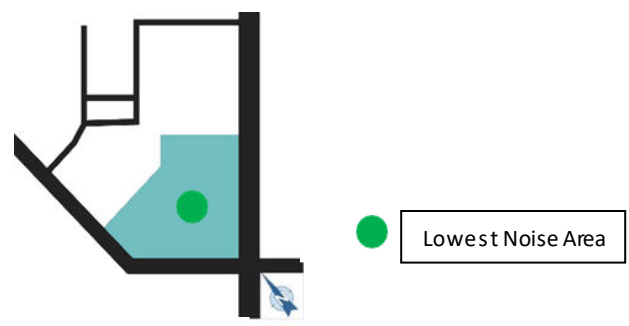
- We need to provide exhausts to ventilate the appliance.
- We need to design courtyards or series of fenestrations to increase the air exchange rate efficiently.
- We need to plant more numbers of trees and provide water features for the evaporative cooling to increase the humidity levels in dry summer.





TRAFFIC NOISE

TO AVOID THE NOISE INSIDE THE SITE BUFFER CAN BE CREATED BY DENSE TREES ALONG THAT STRETCH SO THAT NOISE OF MOVING VEHICLE SHOULD NOT PENETRATE INSIDE THE SITE.



READING AND SILENT STUDY AREA IS FAVOURABLE TO BE PLANNED SOMEWHERE CENTRALLY IN THE SITE SO THAT THE NOISE CREATED BY THE SURROUNDING SHOULD NOT DISTURB THE INSIDE ENVIRONMENT.

ACKNOWLEDGEMENT

This paper and the research behind it would not have been possible without the exceptional support of my friend, Ar. Arun. His enthusiasm, knowledge and exacting attention to detail have been an inspiration and kept my work on track. I am also grateful for the insightful comments offered by the anonymous peer reviewers.

REFERENCES

1. Bookout, L. W. 1994. Value by Design: Landscape, Site Planning, and Amenities. Washington, D.C.: The Urban Land Institute.
2. Brooks, K. R. 1994. Landscape Architecture: Process and palette. pp. 221-230 in T. J. Bartuska and G. L. Young, eds. The Built Environment: A Creative Inquiry into Design & Planning. California: Crisp Publications, Inc.
3. White, E. T. 1983. Site Analysis: Diagramming Information for Architectural Design. Arizona: Architectural Media.
4. Wyckoff, M. A. 2003. Site Plan Review: A Guidebook for Planning and Zoning Commissions. Michigan: Michigan Society of Planning.
5. Sanford, R. M., and D. H. Farley. 2004. Site Plan and Development Review: A Guide for Northern New England. Vermont Putney Press.
6. Pease, J. R., and A. P. Sussman. 1994. A Five Point Approach for Evaluating LESA Models, pp. 94-105, in Steiner, F. R., J. R. Pease, and R. E. Coughlin, eds. A Decade with LESA: The Evolution of Land Evaluation and Site Assessment. The Soil and Water Conservation Society, Ankeney, Iowa.

BIOGRAPHY



Ghufuran Ahmad Khan is an architect, educator and designer who work at the intersection of information, architecture, and landscape. His design work and research in Urban Interventions and graphic techniques is increasing day by day. He had studied B. Arch. and then M. Arch. in Architecture Pedagogy at Jamia Millia Islamia, New Delhi. Currently Ar. Ghufuran Ahmad Khan is a Lecturer in the Civil and Architecture Engineering section at University of Technology and Applied Sciences.