

DESIGN AND DEVELOPMENT OF THE INNOSSON CENTRE FOR DISTANCE LEARNING (*NOW, GENERAL STUDIES BUILDING*), ENUGU STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY (ESUT), AGBANI

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Abstract: Distance learning is a type of teaching and learning in which the students are separated from their teachers and course mates resulting in the students learning remotely without a chance of meeting either their teacher or peer face-to-face, in classrooms. Rather, learning instructions are provided online using Zoom meetings, e-mail and radios. Over time, incessant malpractices in the conduct of examinations trailed its operation and as a consequence, institutions devised means of conducting special lectures for final classes and supervised examinations. The scheme aims to research and design a centre for distance learning with spaces for lecture and seminar spaces which, in turn, will serve as an examination hall. The objectives of the design brief determined the activities in the centre for distance learning, assigned appropriate spaces to the expected activities and zoned the scheduled activities. The brief was taken from the ESUT administration and was used to interview 10 key personnel in the Faculty of Education. The survey was carried out in schools that operated the sandwich programmes, business schools, and other certificate schools in Enugu state. Materials used include digital measuring instruments, compasses, logs, pens, and papers to enter the information on the logs. A site survey was done by the Department of Survey and Geoinformatics, ESUT and the data provided was used to analyse the site. To scope the capacity of the facility, the design relied on the information from the university authority and the benefactor (INNOSSON GROUP LTD) about the budget.

Keywords: Distance learning, Teaching and learning, ICT, Access to education, ESUT

1. Introduction

Open Distance learning (ODL) defines a type of Education in which the students or audience are separated from the teachers and class or course mates resulting in the students learning remotely without a chance of contact with their instructors or peers (Jimoh, 2013; Umezulike, 2015). In this mode of teaching and learning, teachers and

students do not meet face-to-face in class rooms rather, learning instructions are provided through various media such as the internet, mail (correspondence and e-mail), radio signals and of late, chat lounges and platforms (Adebayo, 2007a; Uopeople.edu). Nowadays, online classes have become a global phenomenon. Before now, what was known to many in Nigeria was education by correspondence such as the Rapid Result College, London General Certificate of education (GCE) and others. Distance learning, According to Peters (2002 as cited in Ikegulu and Oranusi, 2014), began as correspondence courses and with increased interest, it became more formalized by the middle of 19th century as a result of industrialisation. In the period, many correspondence institutions sprang up providing tuition to others neglected by the formal education system (Ikegulu and Oranusi 2014). Jimoh (2013), views that developing countries such as Nigeria are faced with the challenge of providing quality education to millions of their teaming population stating that national and global experience have shown that it is difficult for conventional education to meet the demands for developing nations like Nigeria. Jimoh (2013) corroborated his opinion with the carrying capacities of the Nigerian Universities, Joint Admissions and Matriculation Board (JAMB) statistics on admissions versus number of applicants from 1995/96 – 2001/2002 sessions and revealed that less than 12% of JAMB applicants were successful in the admission within the period. (Jimoh, 2013), furthered that out of the 447,928 candidates for university admission in 2008/2009 session, only 153,000 were admitted as a result of the low carrying capacity. Perhaps, to chart a way forward, Okebukola (2007 as cited in Jimoh, 2013), in a Keynote address at the 3rd Convocation of Covenant University made following suggestions:

- Re-introduction of the Higher School Certificate.
- Qualified polytechnics and colleges of education should be given degree-awarding status.
- The National Open University of Nigeria should be strengthened to take in more prospective undergraduates.

In another forum, Professor Julius Okojie, the Executive Secretary, National University Commissions (NUC), at a conference, on “Increasing Access and the Quality of University Education in Nigeria”, 2011, stated that tertiary institutions in Nigeria could only admit 250,000 candidates as against the over 1,000,000 annual applicants. To tackle the challenge of access to education in Nigeria, NUC licensed additional 46 Federal, State and Private Universities, in the last six years, bringing the number of Universities in country to 117. However, despite the addition, access to education continued to pose a challenge” (Okojie, 2011). From all these trends, the Distance Education mode appears to provide the lead way out of the challenges of providing access to education to the teaming world’s population. Ikegulu, *et al.*, (2014).

Access to education and ODL discourse can best be discussed in the context of availability of information and communication technology (ICT). Successful operation of ODL require robust ICT as an important tool for learning and instructing students (Kumpulainen, 2007). However, Tertiary institutions of higher learning globally, have predominantly accepted ICT as a vital tool for learning and teaching students, staff training and curriculum development, (Kumpulainen, 2007; Usluel, As_kar, & Bas, 2008). By 2007, most institutions of higher learning, world over, have remodeled their teaching and learning processes (Pulkkinen, 2007). Although Information and

communication technology (ICT) has the potentials of improving the education methods, quality of teaching and learning, its advantages are often under-realized (Surry & Farquhar, 1997). Also, its methodology and adoption in institutions of higher learning are sometimes, poorly implemented (Taylor, 1998). Researchers have expressed concerns on some of the challenges. Pelgrum (2001) reported major variations in between teachers in different countries as significant barriers to ICT which strengthened the findings of Al-Senaidi, Lin and Poirot, (2009). Schools in Nigeria have somehow, managed to progress in the change with many institutions offering classes in either rented or borrowed spaces for meetings and studios for virtual. By the close of the 2010, the use of (ICT), has gained considerably acceptance in many Nigerian school system and in other walks of life.

The purpose of this brief is to establish the significance of ODL and the need for ESUT to join other institution in establishing the programme with the design and delineations for the proposed Distance Learning Centre as shown in figures 1 – 24 and plates 1 - 4.

Aim and Objectives

Aim: To design ESUT centre for distance learning.

The Objectives

- ❖ Determined the activities in the ESUT centre for distance learning.
- ❖ Assigned appropriate spaces to the proposed activities
- ❖ Applied zoning in the activity schedule.

2. Literature

ESUT was formerly established in 1980 by an Act of Anambra State Assembly as Anambra State University of Technology (ASUTECH), with the main campus in Amechi, Enugu and another campus in Awka (Okeke, 1992). To take off, a pilot campus was carved out from a part of the facility of the Institute of Management and Technology (IMT), campus III, Enugu. During that period, both Enugu and Ebonyi states were still part of the old Anambra state. In 1991, upon the creation of Enugu state out of Anambra, ESUT was created out of former ASUTECH and renamed ESUT, and by 2005, the Enugu campus was moved to its permanent campus in Agbani town.

3. Materials and method

Survey was restricted to the information provided by the ESUT administration and operators of ESUT Business School, Sandwich and Spadoc programmes Peaceland College, Enugu. The information received from the interviews was used to develop the initial design brief. The brief was then used to interview 10 key personnel in the Faculty of Education. The data was obtained using purposive sampling to interview the respondents on the operational mode and features, likely students' response and staff/student enrolment for minimum space standards. Materials used include digital recording devices, digital measuring instrument, compass, logs, pen, and papers to enter the information on the logs. To carryout the site survey, the department of Survey and Geoinformatics were consulted and the data provided were as shown in figure 1. To scope the capacity of the facility, the design relied on the information from the university authority and the benefactor (INNOSSON GROUP LTD) with regards to the budget.

4. *Results and discussions*

The brief

The brief from ESUT specified what is needed to establish the centre as follows

1. Area of site: 4576m²
2. 2 nos. Lecture halls
3. 2 nos. seminar hall/rooms
4. Library
5. Administration (Registry, Bursary unit and programme Director's office)
6. Services/circulation spaces

Brief Development

Table 1. Distribution Of Spaces

s/n	Activities	No required
A	Academic	
1	Lecture and examination halls	2
2	Seminar	2
3	Library	1
	total	5
B	Administration	
1	Registry unit	1
2	Bursary unit	1
3	Director's office	1
	total	3
C	Circulation and Services	As Necessary

Source: *fieldwork*

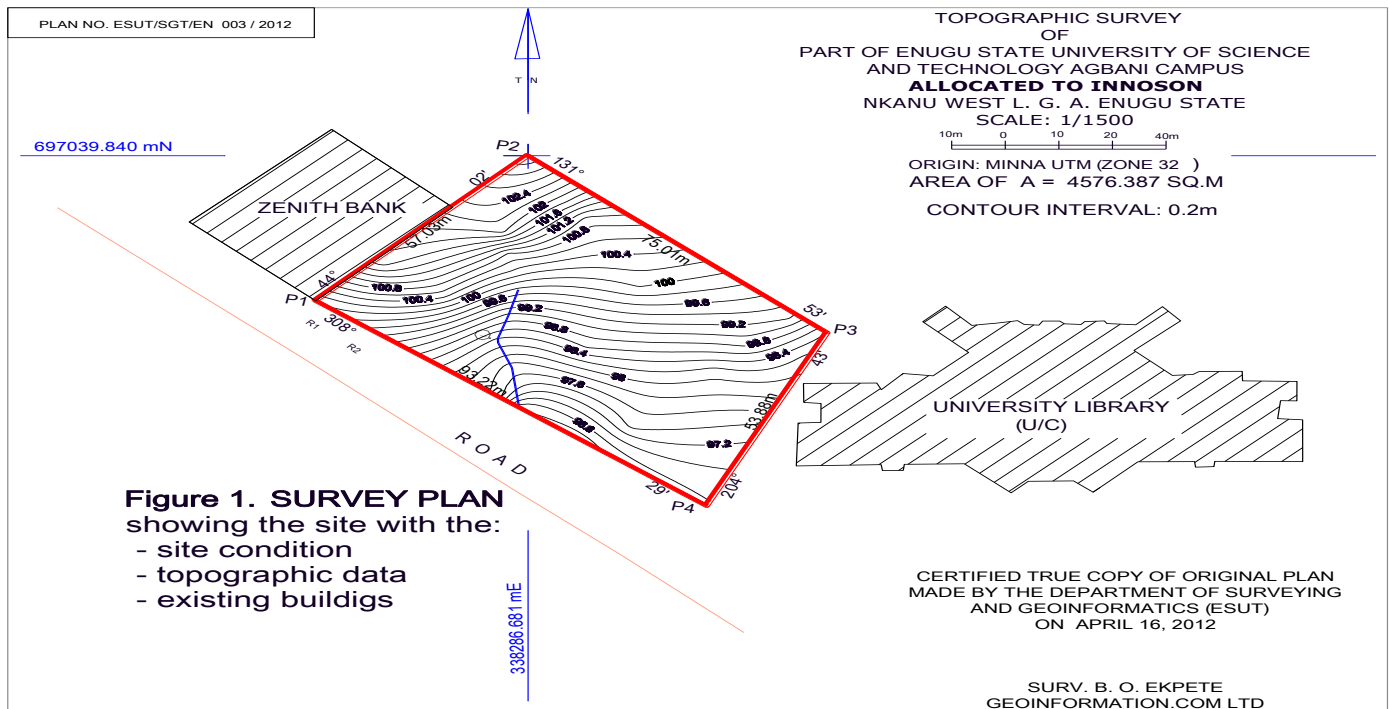
The distribution in Table 1 showed the analysis of the brief for proper space allocation to meet the design requirement.

Table 2. Further Analysis of the Space Requirements for Development

s/n	Activities	Provision	No Required	Unit Space (m ²)	Total Space (m ²)
A	Academic				
1	Lecture/Exam halls	Fixed collapsible seating	2	70	140
2	Seminar Halls/Rooms	Fixed collapsible seating	2	50	90
3	Library	Fixed shelve, Desks & Seats	1	25	25
B	Administration				
1	Registry unit	D/R And Clerks	1	24	24
2	Bursary unit	Bursary staff	1	24	24
3	Director's office	Director and secretary	1	30	30
4	Staff Convenience	General staff convenience	2	6	12
5	Security unit	Unit position	1	2	2
C	Circulation and Service Spaces				
1	conveniences	Male:4 Female:4	2	25	50
2	Stairs wells	Central, Service and Emergency stair cases	3	10	30
3	Circulation	Hallways and Concourse	2	87	200
		total			627

Source:fieldwork

From the distribution in Table 2, academic activities, circulation and services took the major bulk of the spaces provided (535m²) in the facility.



Source: Department of Surveying and Geoinformatics, Faculty of Environmental Sciences, ESUT, Agbani.
 Figure 1. The survey plan of the site.

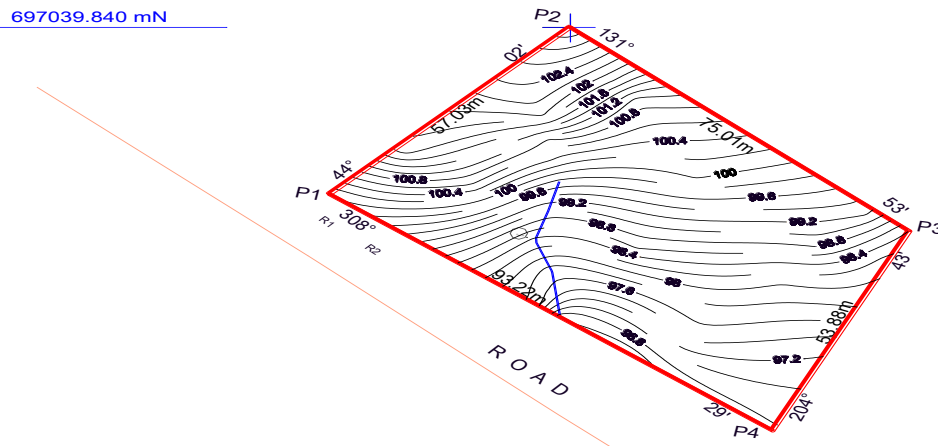


Figure 1a. The site Area.

Table 3. **Zoning of the Spaces.**

s/n	Activity/Function	Ground floor	1 st . Floor	Reason
1	Academic	Lecture/Exam halls	Lecture/Exam halls	Easy access
		Seminar Halls/Rooms	Seminar Halls/Rooms	Easy access
		-	Library	Away from noise
2	Administration	Registry unit	-	For direct contact
		bursary unit	-	For direct access
		-	Director's office	Away from traffic
3	Staff Convenience	Staff Convenience	Staff Convenience	Nearness to users
		Security unit	-	For easy control
4	Circulation and Service Spaces	conveniences	conveniences	At all levels
		All Entry Points	-	Easy access
		Circulation	Circulation	At all level

From the distribution in table 3, the priority the micro zoning of the activities placed priority on circulation and services followed by academic areas in such a manner that it promotes easy flow of functions in the facility. In this way, administrative functions were zoned away from student's activities but accessed from the circulation points.

Siting the Building, Orientation and Micro Zoning of the Factions

From the survey map in figure 1, the site is bound on the left by the zenith bank building, on the right, by the university library, at back, by empty space and in the front, by the ESUT Bookshop and access bank separated by the access road. The site terrain is clayey and slopped on two sides from the North down towards south-east and south-west at an average of 1: 15m. See site section figure 2.

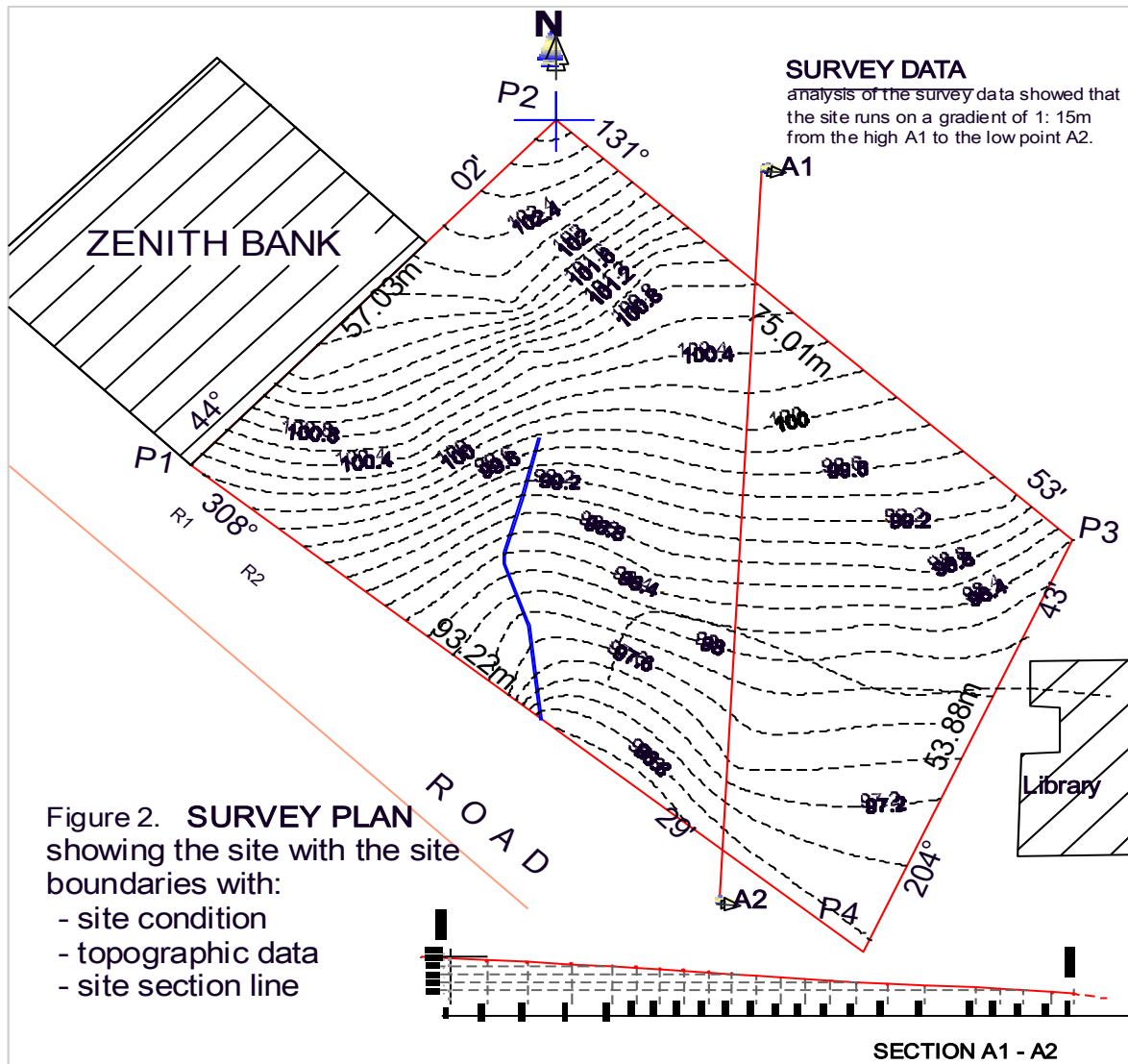


Figure 2. Showing the section through the topography of the site. The analysis of the topography showed that the site gradient to be 1: 15m.

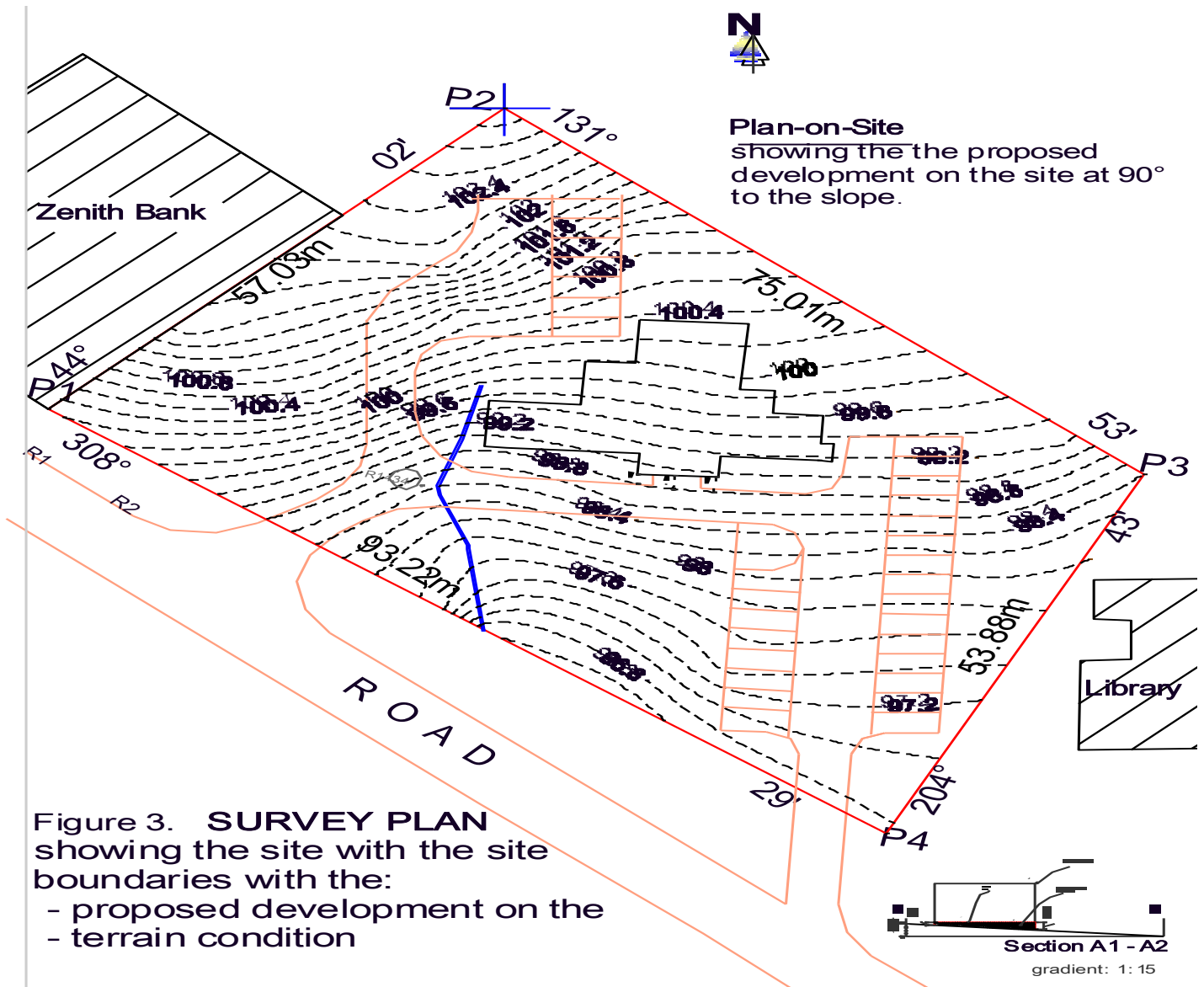


Figure 3. Showing concepts in zoning layout in line with the site features (topography, natural drainage and adjoining buildings). The analysis provided the initial development concepts for the proposal.

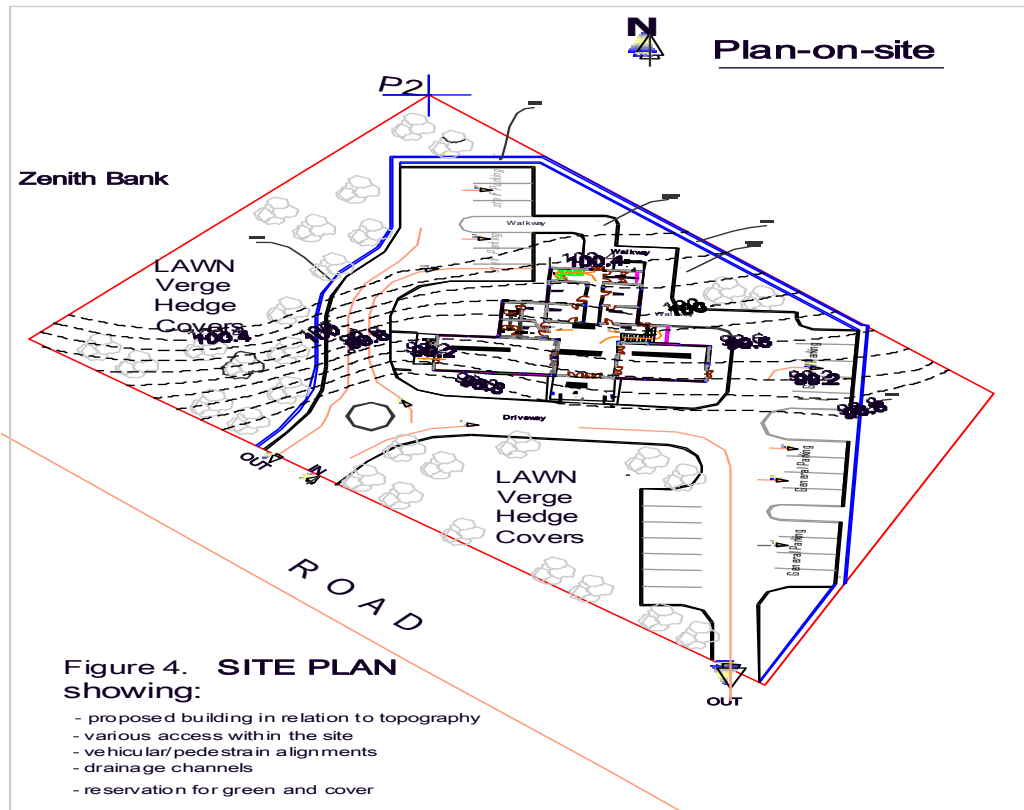
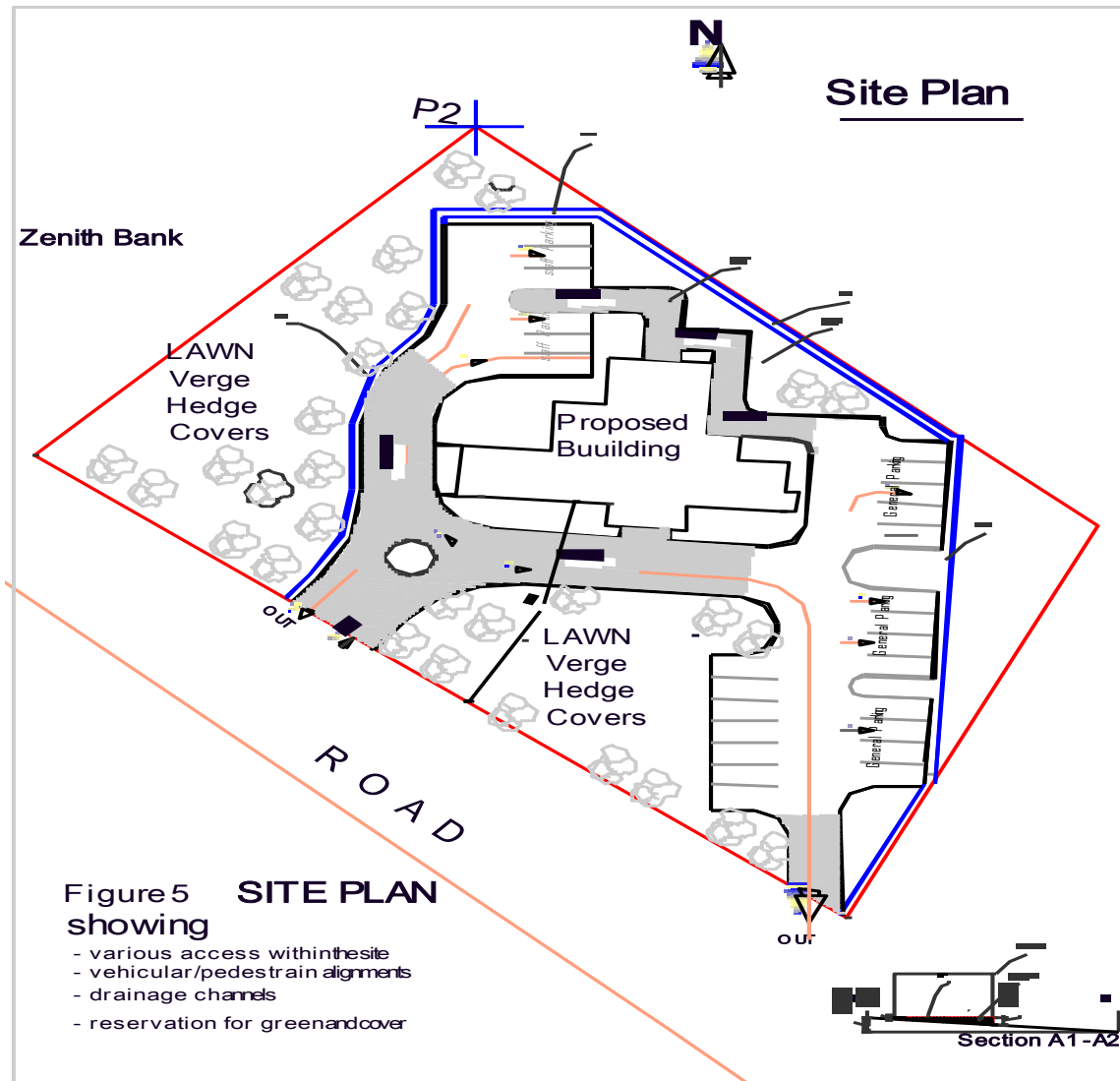


Figure 4. **Site Plan Showing:**

- Proposed building in relation to topography
- Various access within the site
- Vehicular/pedestrian alignments
- Drainage channels
- Reservation for green and cover

The building orientation was considered best in the north – south orientation in line with the site condition. This way, that the major entry points faced the road away from glare while still open to the prevailing wind and also in alignment with the topography. The micro zoning considered the administrative and management functions and zoned it to the rear so as not to interfere with academic activities while the academic activities was placed in the front for direct access by students.

Because of the clayey nature of the soil, the design considered reducing load on foundation by adopting hollow pot slab (ribbed floor) and wide strip foundation.



CONCEPT DEVELOPMENT

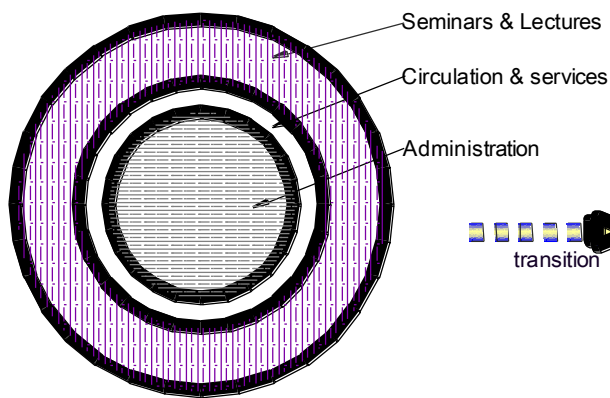


Figure 6. **The concept**

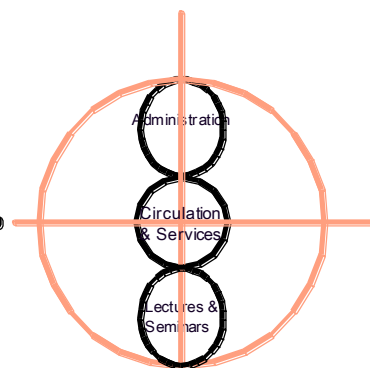


Figure 7
Analysing figure-6 into actionable form

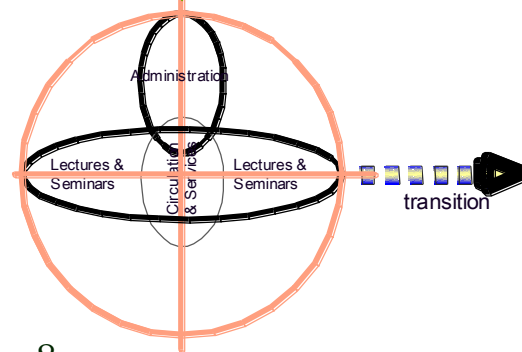
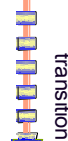


Figure 8.
Further analysis of figure-7 in transition

Concept Translation

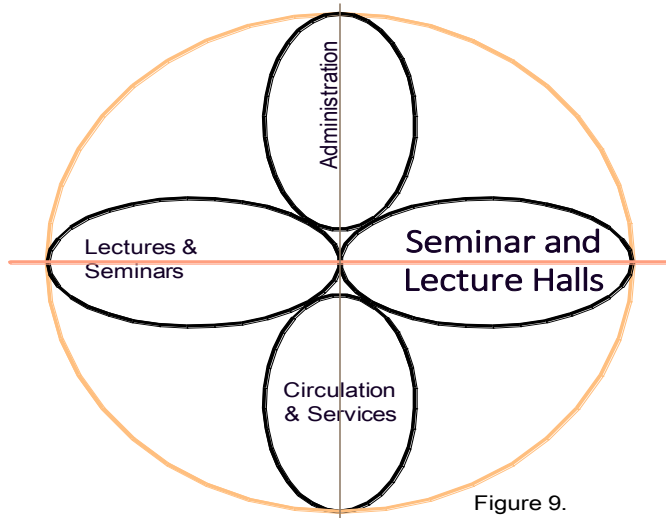


Figure 9.
Analysing figure-8 into form

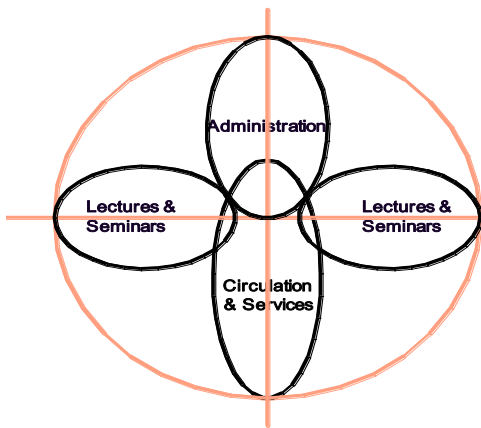


Figure 11.
Analysing figure-10 into form

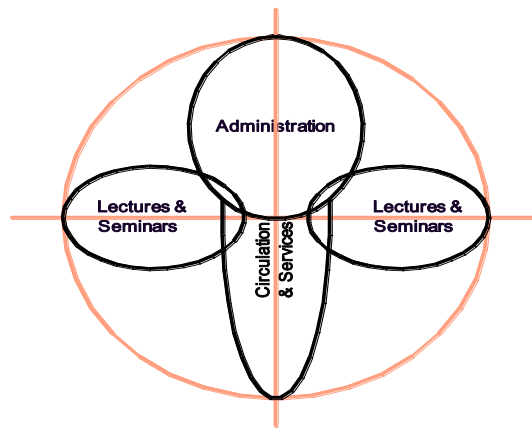


Figure 10.
Analysing figure-9 into form

CONCEPT DEVELOPMENT

-Activity zoning

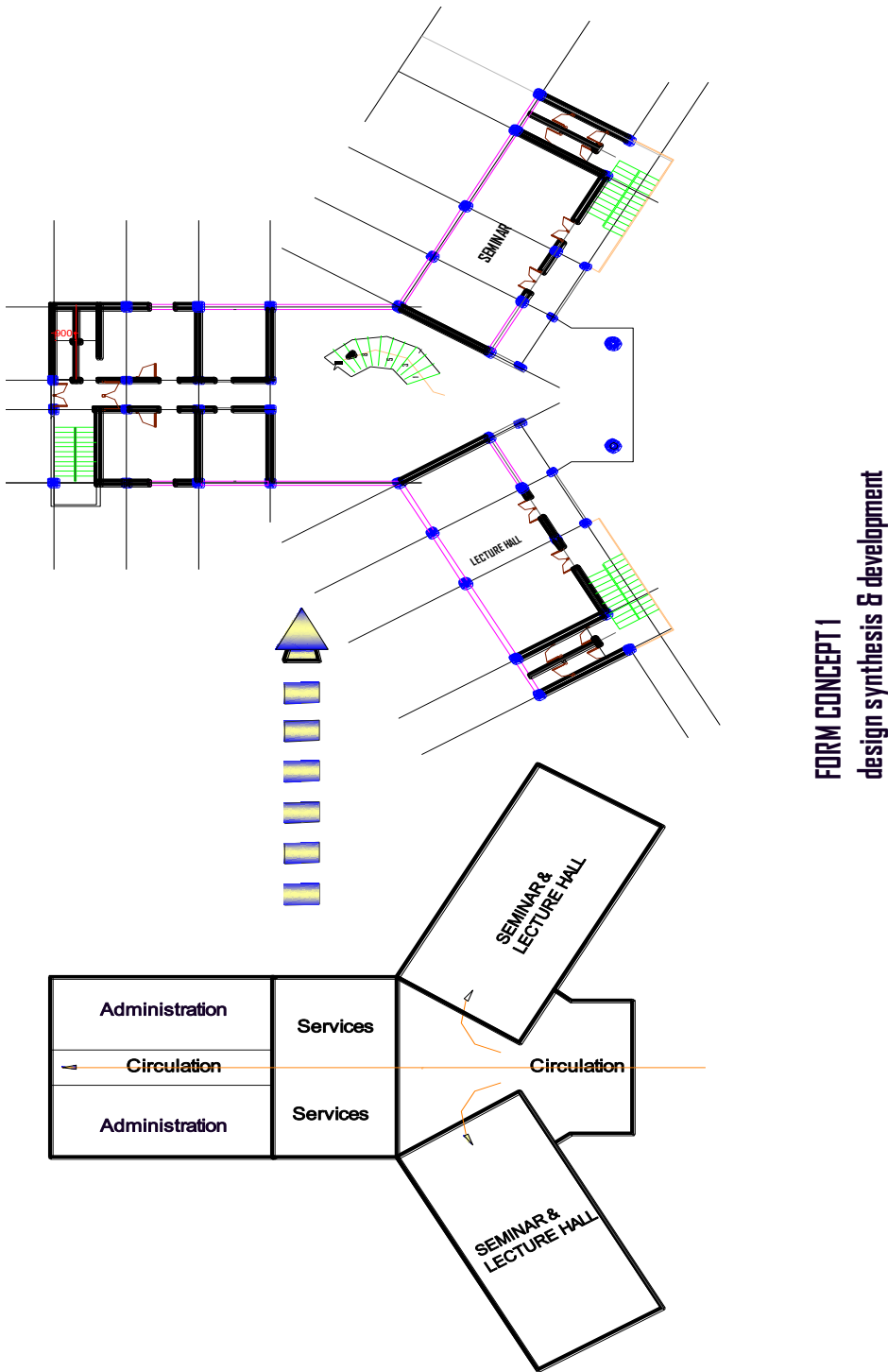


Figure 12
 Assigning functions to activity space.
 Development of figure 6 into design

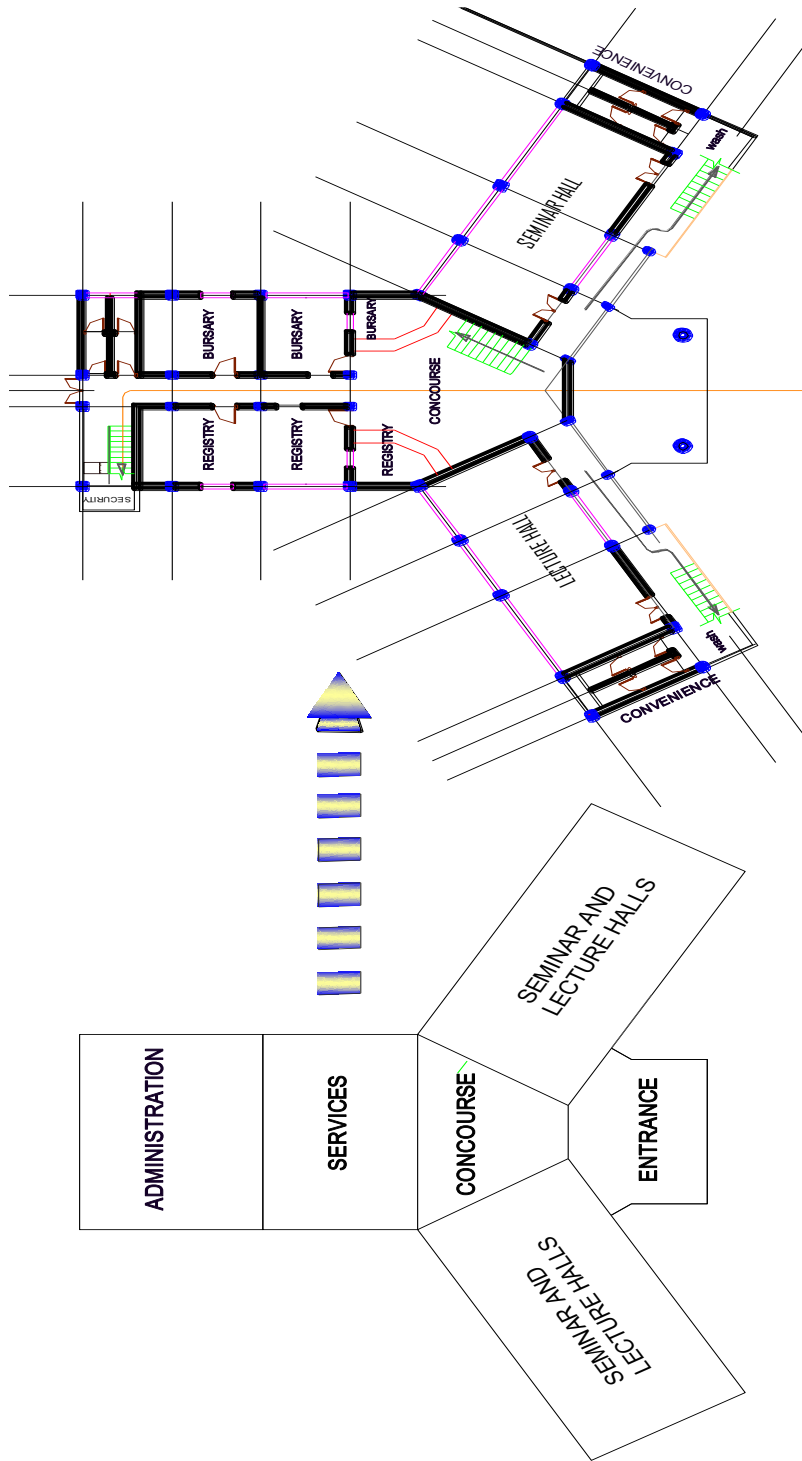
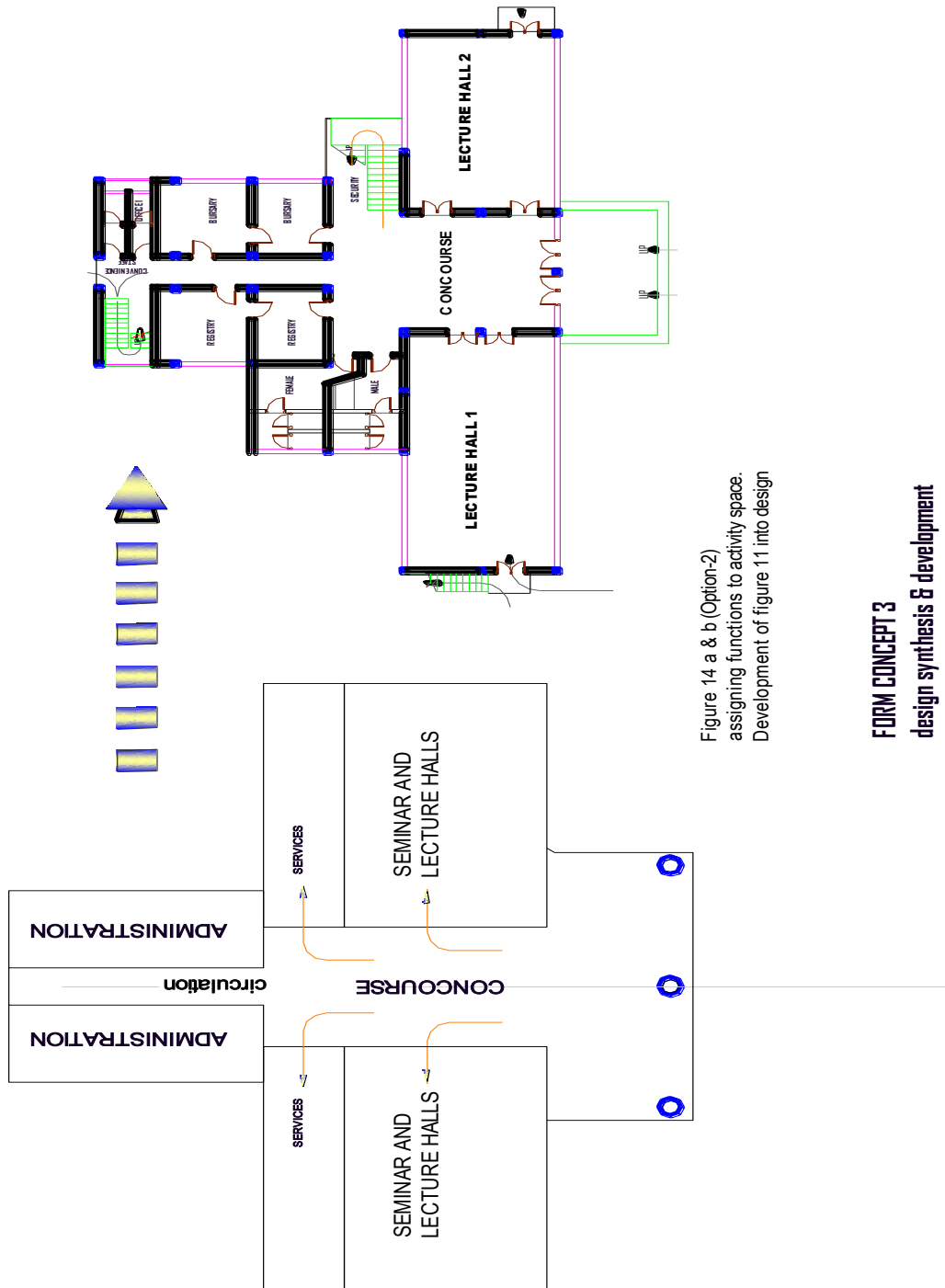


Figure 13. (option-2)
 assigning functions to activity space.
 Development of figure 11 into design

FORM CONCEPT 2
 design synthesis & development



FORM CONCEPT 3
 design synthesis & development

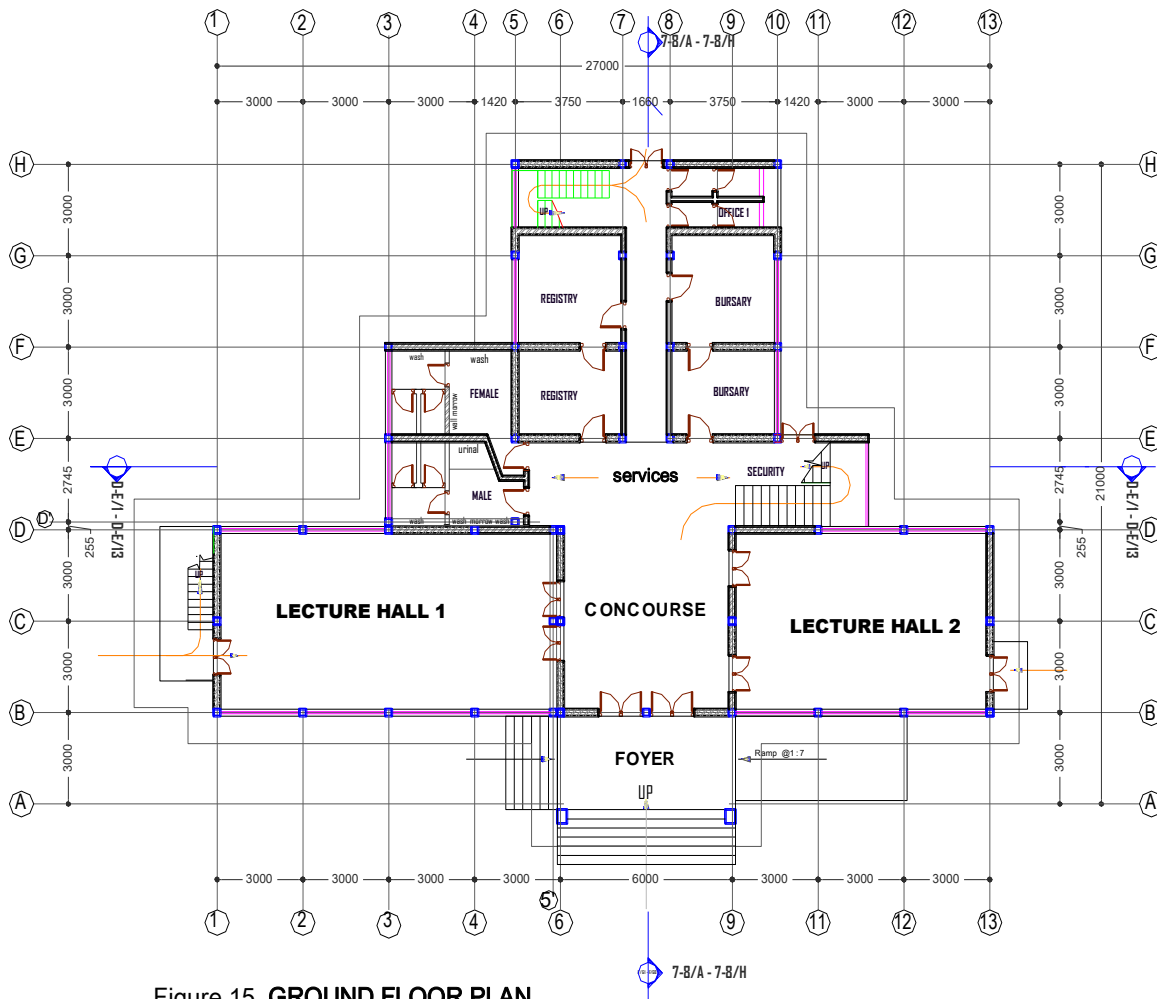


Figure 15. GROUND FLOOR PLAN

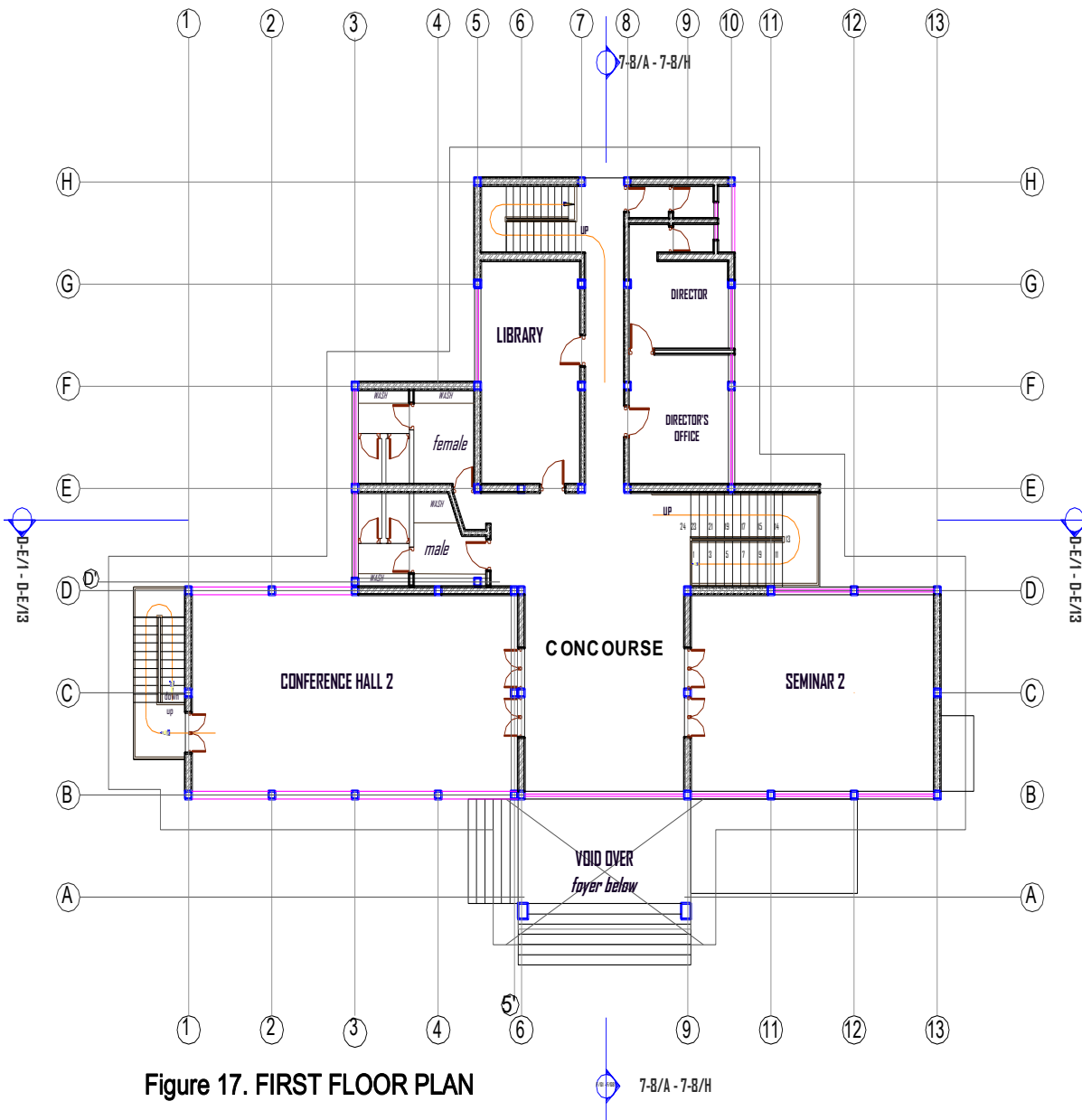


Figure 17. FIRST FLOOR PLAN

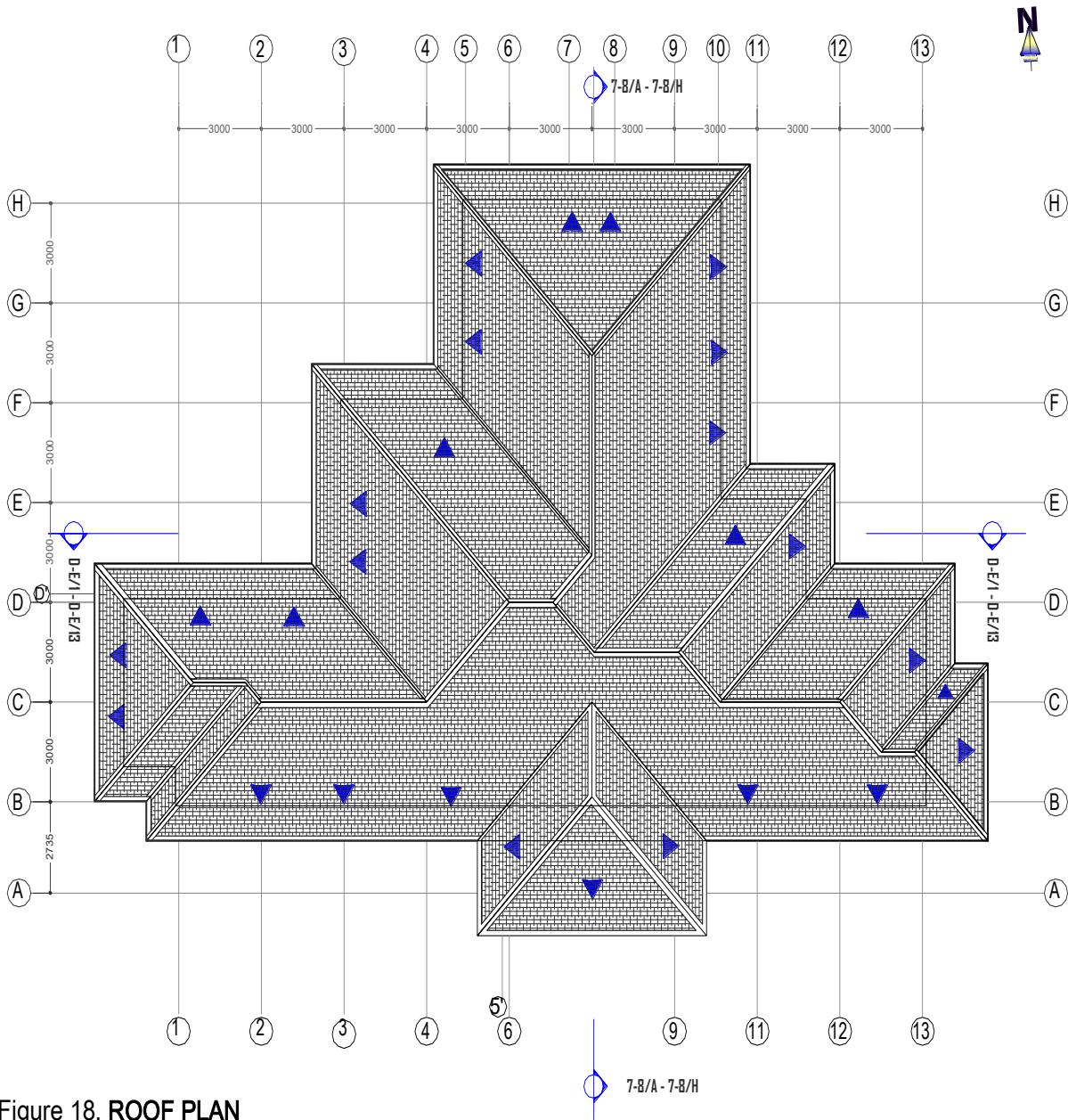


Figure 18. ROOF PLAN



Figure 19. SOUTH ELEVATION

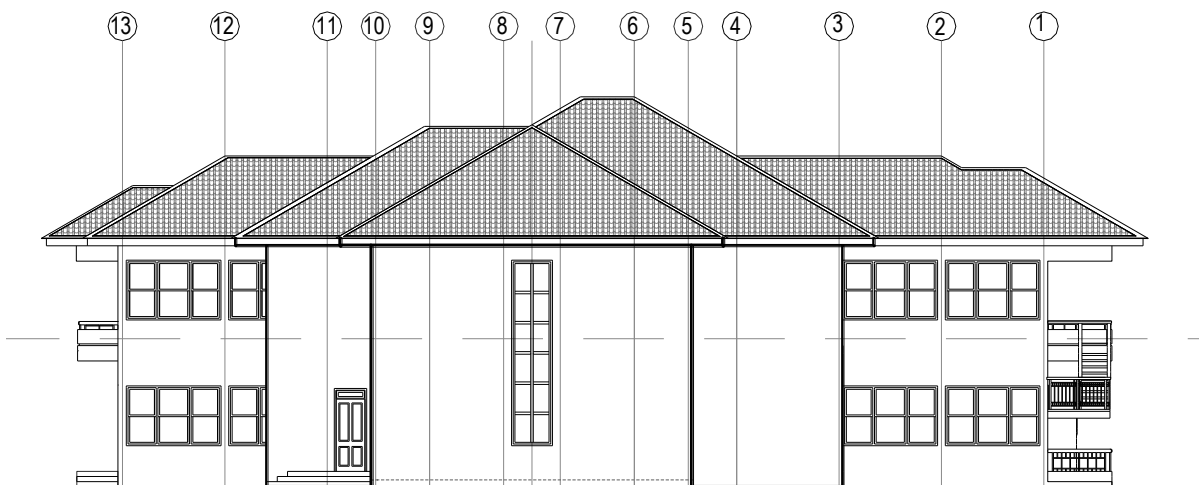


Figure 20. NORTH ELEVATION

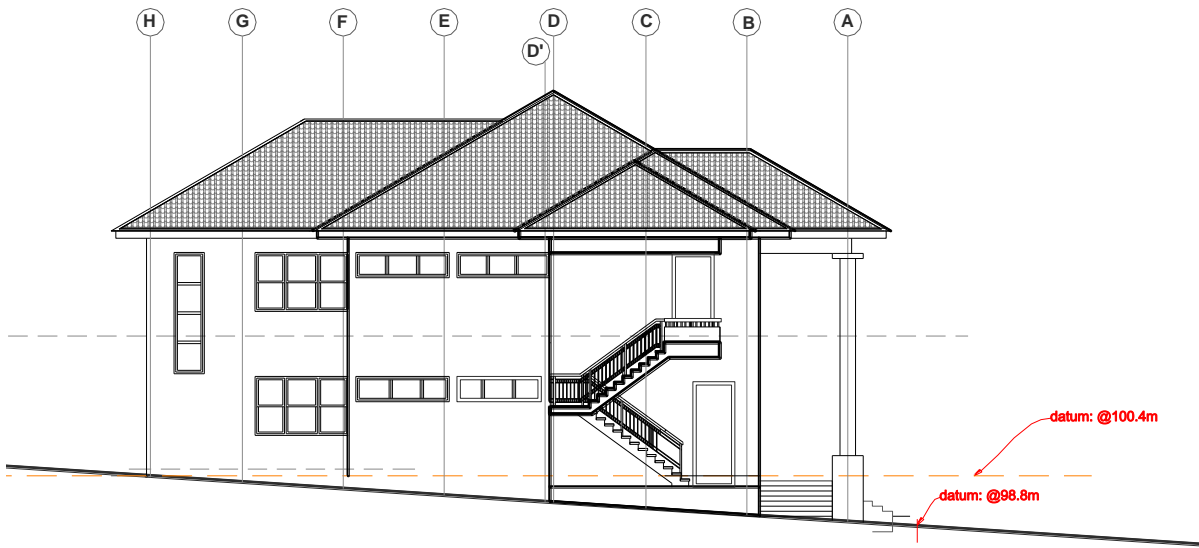


Figure 21. WEST ELEVATION

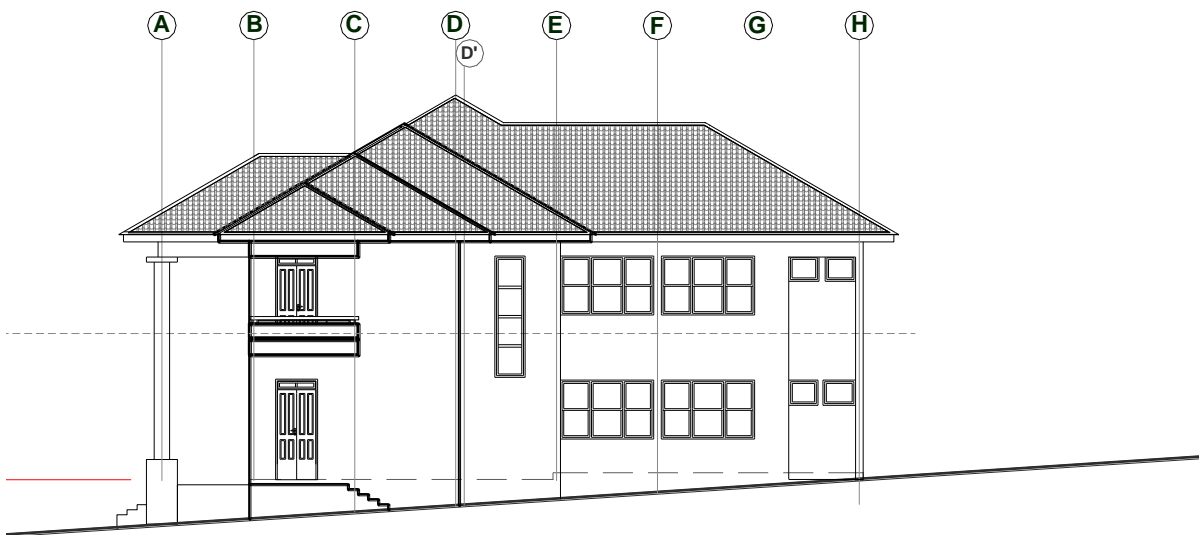


Figure 22. EAST ELEVATION

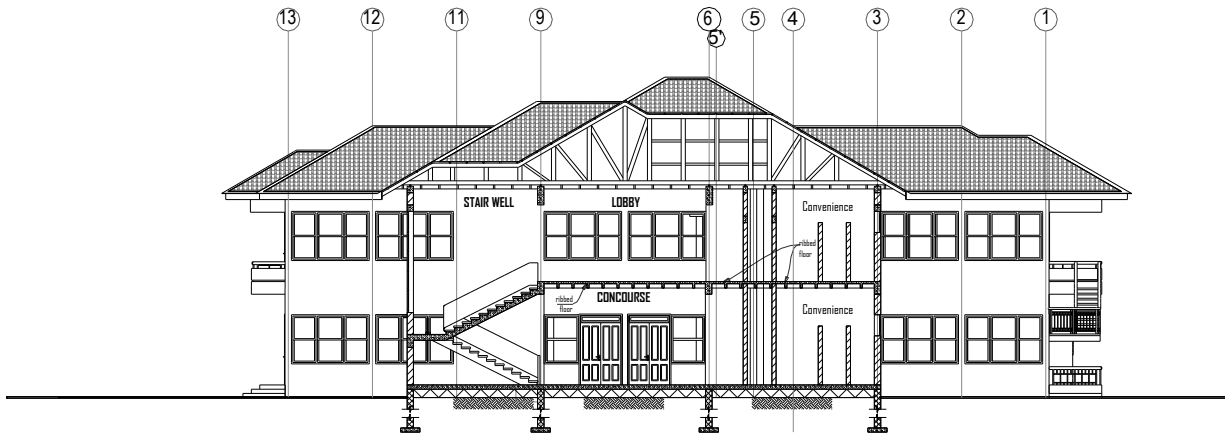


Figure 23. Section D-E/1 _ D-E/13

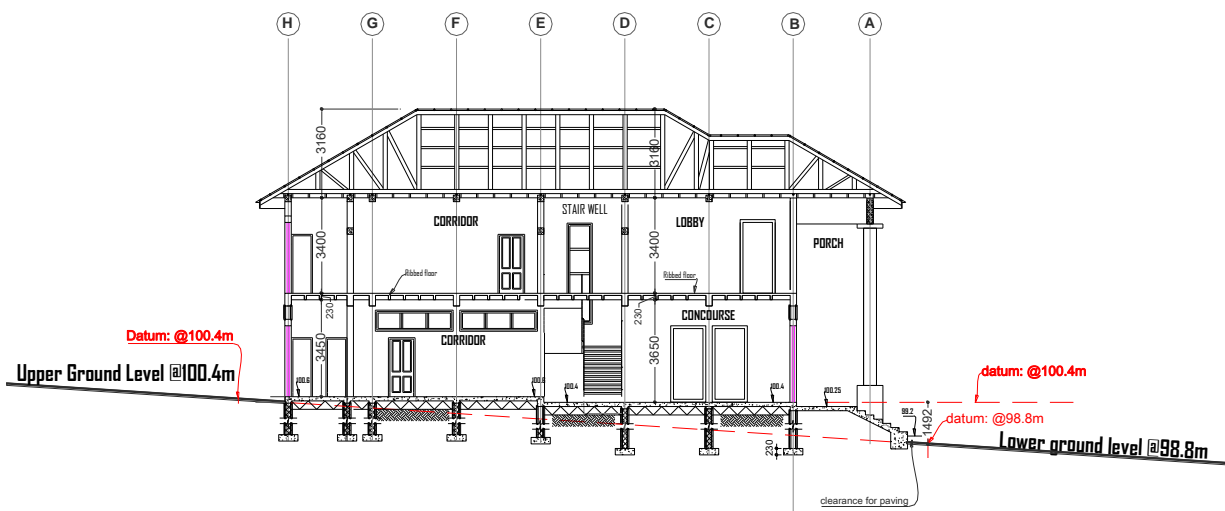


Figure 24. Section 7-8/H _ 7-8/H

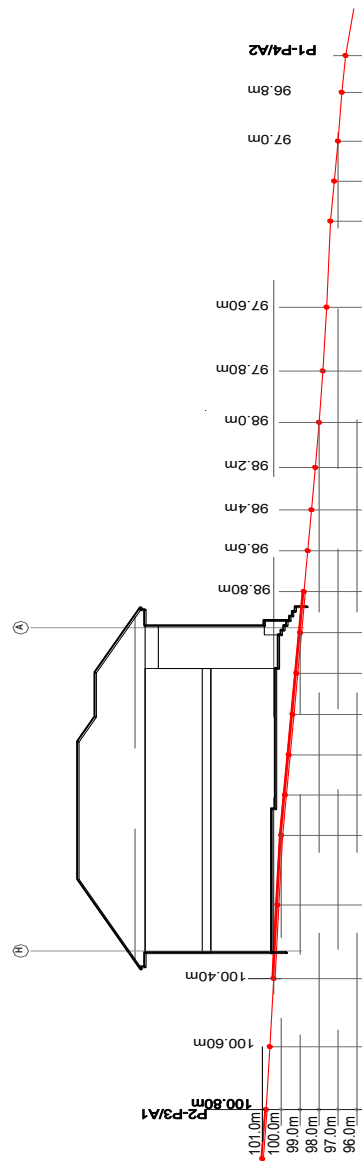


Figure 16. showing placement of the building to flow with the site topography profile



Figure 17 **Side View** as modelled



Figure 17 **Rear View** as modelled



Figure 18 **Approach View as built**



Figure 19 **Rear View as built**

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