

PROJECT MANAGEMENT CONSULTANCY FOR IMPLEMENTATION OF SMART CITY MISSION PROJECTS FOR MANGALURU CITY

37 Bedded Wenlock Hospital (ICU) Unit

DETAILED PROJECT REPORT -

VOLUME I



The purpose of the DPR note is to ideate the elements proposed for the project as mentioned in the title above. It aims to give a basic design idea to all the stakeholders before proceeding for final design and estimates.

**MANGALORE SMART CITY
PROJECT**

Lalbaug, M.G. Road, Mangalore

— 575003

1/1/2019

ISSUE AND REVISION RECORD

Revision	Date	Originator	Checker	Approver	Description	Standard
0	30/06/19	AS	UB	MNKT	DPR	

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

CONTENTS

CONTENTS	ii
ABBREVIATIONS	iii
1. Introduction	1
2. CurrentScenario	2
2.1 SiteLocation	2
2.2 Characteristics	3
2.3 Healthcare OverviewofICU.....	4
2.4 SiteinContext	5
2.4 Proposedbrief	5
2.5 ProposedSpecification	6
3. DesignIntend.....	7
3.1 I.C.U1	8
3.2 I.C.U2	8
3.3 I.C.U3	9
3.4 Design of NursesStation 1	10
3.5 DesignDemonstration	13
4. ProjectTimeLine	15
5. BudgetAllocation	16

ABBREVIATIONS

ABD	Area Based Development
ATM	At The Moment" or "Automated Teller Machine
DBFOT	Design Built Finance Operate and Transfer
MCC	Mangaluru City Corporation
MSCL	Mangaluru Smart City Limited
<i>MLCP</i>	<i>Multi-Level Car Park</i>
<i>PPP</i>	<i>Public Private Partnership</i>
<i>GoI</i>	<i>Government of India</i>
<i>GoK</i>	<i>Government of Karnataka</i>
<i>SCP</i>	<i>Smart City Proposal</i>
SPV	Special Purpose Vehicle

1. Introduction

Among public institutions, the large buildings and complicated intervening and surrounding areas of hospitals usually tend to be seen by the public as removed from the urban context, as spaces to be feared, which one only accesses in emergencies or out of necessity. However, this psychological perception of their distance and separation can be decreased by today's more hospitable approaches to their content and design. With a growing understanding of the importance of the physical environment for the quality of hospital care and the health and safety of patients and staff, the outdoor spaces of hospitals are beginning to be considered, particularly in scenic and more green areas, as a productive complement to the interior areas which are reserved for patient treatment and have traditionally been prioritized. As a result of this new, holistic approach to medicine which entails alleviating the fears and disorientation of patients that may hinder medical treatment, the hospital has come to be seen today as a necessarily comforting and stress-free environment, created with a broader, patient-oriented sense

This means that the outdoor as well as the indoor spaces of hospitals are understood as crucial to patients' physical, psychological and social recuperation and wellness, appropriately designed active and passive hospital landscapes enhance patients' interaction with nature and so reduce stress, facilitating interaction with others in ways compatible with and complementary to those found in the urban environment.

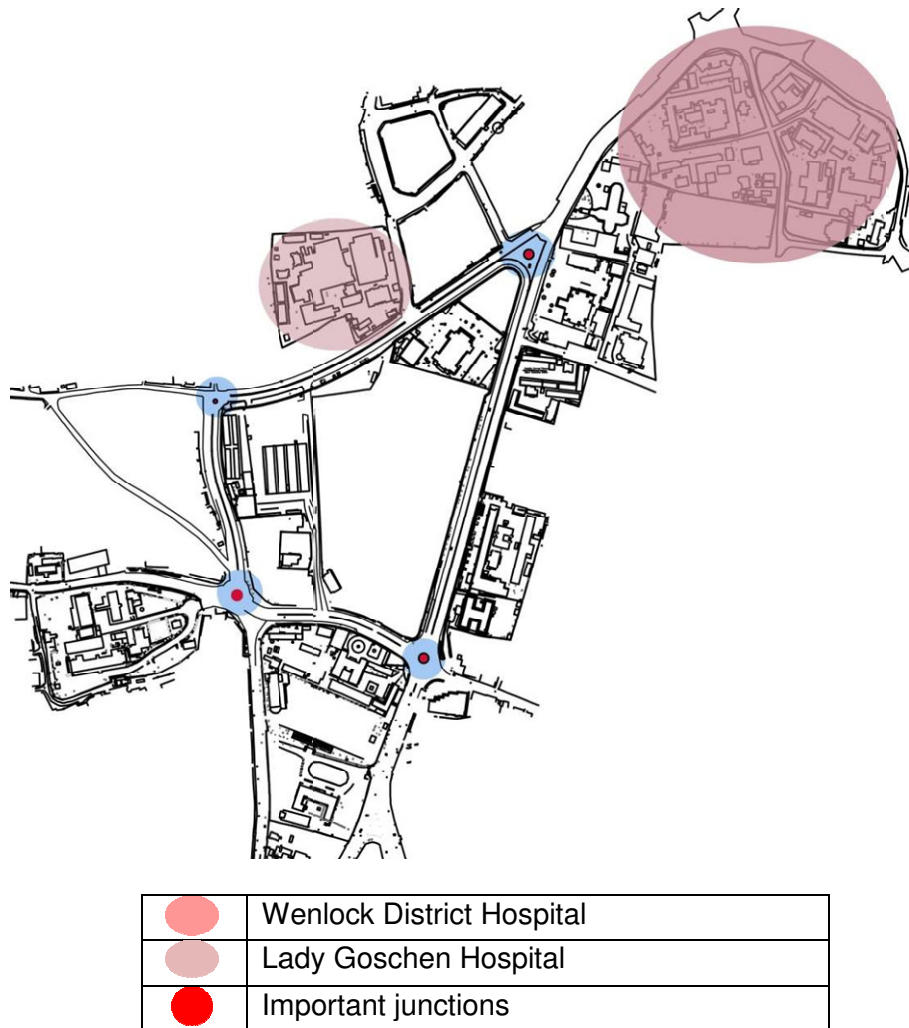
Here we shall with sustainable Landscape interventions improve the outdoor quality and user experience of the Hospital campus.

2. CurrentScenario

2.1 SiteLocation

Wenlock District Hospital established in 1848, is located in Mangalore District No 8 – Ward No. 86 Attavar village, Mangalore, Dakshin Kannada. The project site is easily accessible from all parts of the city and has excellent connectivity from the existing public transport routes. The site is strategically located within the central business district of Mangaluru and is in close proximity to all the important places such as the Central Market, Railway Station, City Centre Mall and Town Hall. The site is within the Hampankatta - Old Port - Bunder area selected for Area Based Development (ABD) under the Smart CityMission.

Figure 1: Location Map



2.2 Characteristics

Wenlock District Hospital

Wenlock District hospital has a sprawling campus, with an approximate area of 7 acres which has been primarily split into two by Mangalore Station Road.

The site has a combination of old and new structures, with interactive courtyards with green open spaces.

The campus also exhibits undulating levels owing to the basic physical attribute of the city.

There are existing old trees which provide shade.

Figure 2: Satellite Image of Wenlock District Hospital



OBSERVATIONS

The site is bifurcated by
Mangalore Railway Station
Road

Campus is sprawling in pieces.

Requires orientation for users.

LEGEND

1. ADMINISTRATIVEBLOCK : 102166SQ.FT.
2. OPDBLOCK : 62957SQ.FT.
3. PHYSIO-ORTHOBLOCK : 26620 SQ.FT.
4. PEDIATRICCENTRE : 45547SQ.FT.
5. NURSING SCHOOL AND HOSTEL: 55304SQ.FT.
6. SPECIALITYBLOCK :
7. MRI ANDAMBULANCESHED : 1334 SQ.FT.

2.3 Healthcare Overview of ICU

Health care environment is critical. Patients safety and need to prevent infections remain the overriding factor in hospital care.

Ambiance also affects the sick persons path to recovery and their response to medication and advice.

New technology and good design with hygienic conditions of hospital can be very famous with words of mouth. We believe that good design can accelerate the healing process and make staff also, aware of good care & well behavior with patient.

If this is achieved in Government Hospitals then the local government get good blessings of masses.

2.4 Site inContext.



Figure 3: Satellite Image of Wenlock District Hospital

2.4 Proposedbrief

Considering the current situation of ICU and present requirements to serve the poor patients, the hospital has requirement of minimum 35-40 beds considering 3 level on emergency basis. Hence the 34 bed ICU & 2 Isolation rooms are proposed in 1st floor of upcoming 300 beds Super speciality medicine block. Measuring approximately 900.00 sq.mt

Amenities in the ICU-

1. ICU – 1 Essential 19 beds.
2. ICU – 2 Step down 8 beds (5 bed Dialysis)
3. ICU – 3 Step down – 8 beds
4. Isolation – 2 beds
5. Power back up with UPS
6. Critical necessities like Oxygen , Air and Vacuum
7. 5 bed emergency dialysis with RO water & drainage connection
8. HVAC (Air conditioning) with HEPA filters for 24 x 7 operations.
9. Antistatic Vinyl flooring.
10. Vertical wall panelling for medical Gas & Power outlets
11. Metal false ceiling
12. Providing dirty utility room & clean utility room
13. 3 nurse station with corian finish top
14. Doctor, Nurse change and rest room.



I.C.U Site Images

Figure 3: Existing Site Images of facility

2.5 Proposed Specification

Specification-

ICU block is designed with considering NABH compliances like 100 % hygiene with proper ventilation and power back up.

Design Consideration

The layout is designed considering the compliance of NICU with proper isolation between ICU & External corridor, Separate Entry for Nurse and Staff , Dirty Rest Room, Medicine store ,Adequate Nurse station and Scrubs .

1. Flooring: Antistatic Vinyl flooring with easily maintain type with 3mm thick multicolour.
2. Lighting: Natural lighting + lux level maintained as per NBC 2016 during non availability of natural light with each bed wise control as patient comfort.
3. Power Back Up: UPS with each unit 6 / 16A Socket – 4 Nos / Bed , 2 Nos for Raw power for Bed adjustment
4. HVAC: Air conditioning Designed with considering 25 Air exchange / Hour with HEPA Filters at AHU end
5. Ceiling: Aluminium Metal ceiling with Clipon type system to ease of maintenance and avoid any infection coming in from external molecules and ease of fumigation corridors with Normal Metal ceiling.
6. All beds provided with 1 oxygen , 1 Air , 1 Vacuum Outlet.



Reference Image

Figure 4: Reference Images showing Vinyl flooring.

3. DesignIntend



Figure 5: Reference Images showing Room finishes.



Figure 6: Reference Images showing Floor finishes.

3.1 I.C.U1



Figure 7: Reference Images showing I.C.U 1 material finishes.

3.2 I.C.U2



Figure 8: Reference Images showing I.C.U 2 material finishes.

3.3 I.C.U3



Figure9: Reference Images showing I.C.U 3 material finishes.



Figure 10: Reference Images showing I.C.U Standard Beds.

3.4 Design of Nurses Station1



Figure 11: Images showing I.C.U Nurses Station -1.



Figure 12 : Images showing I.C.U Nurses Station -2.



Figure 13 : Images showing Isolation Room Interior Theme.

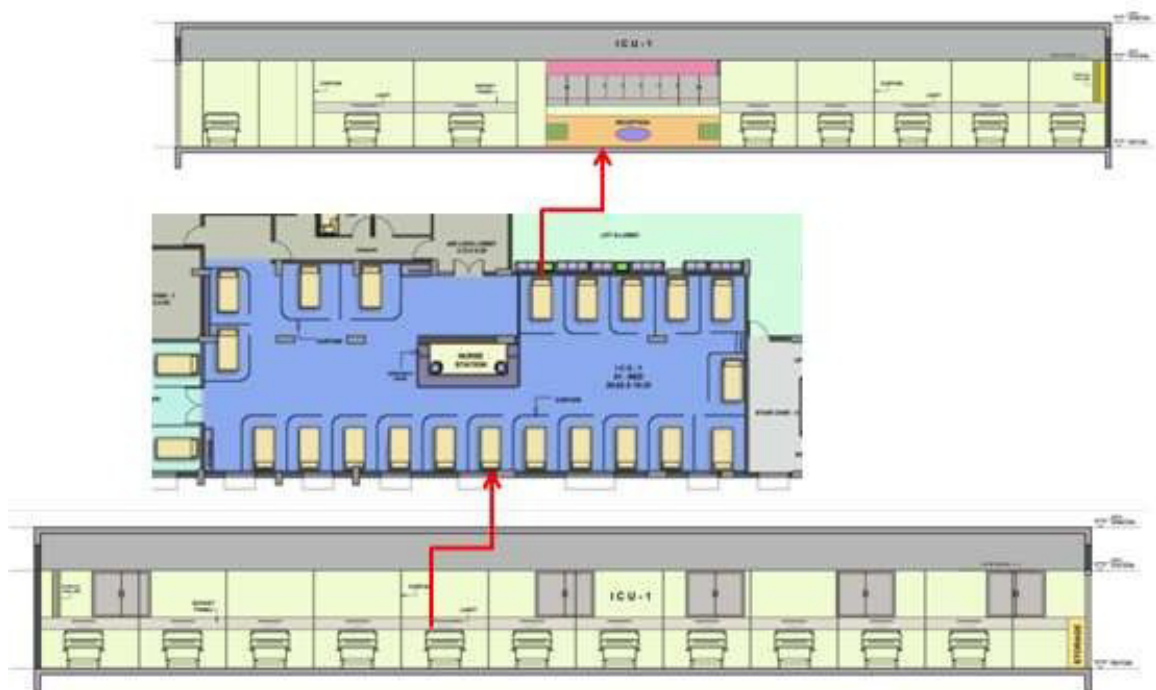


Figure 14 : Images showing I.C.U I Room Interior Theme.

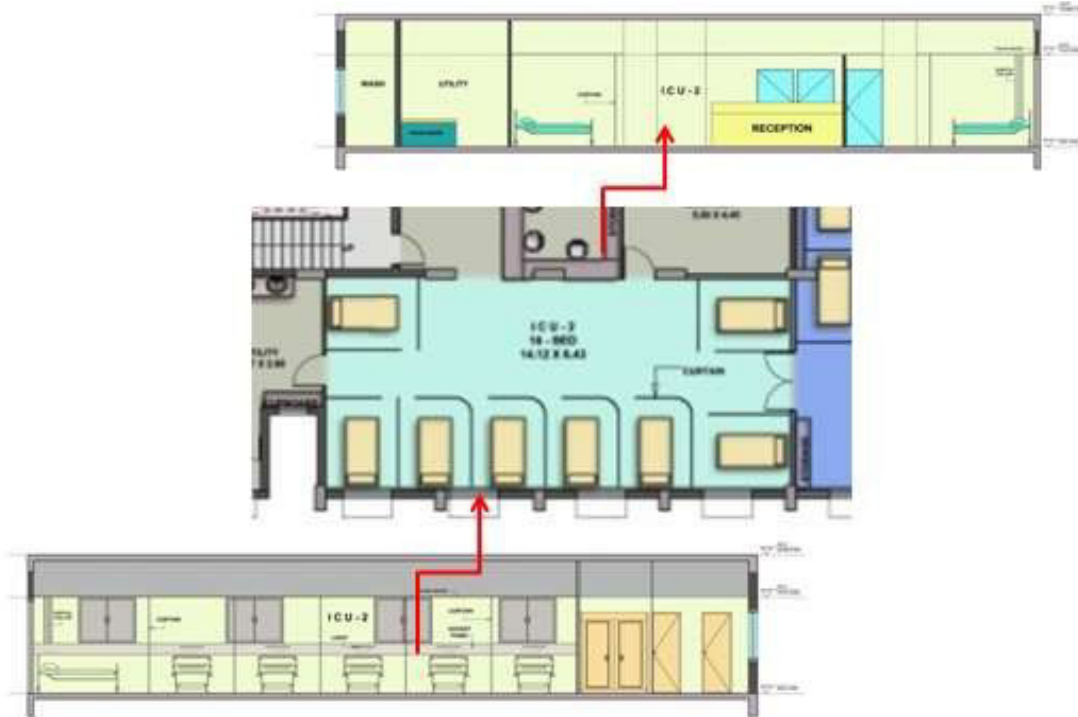


Figure 15 : Images showing I.C.U 2 Room InteriorTheme.

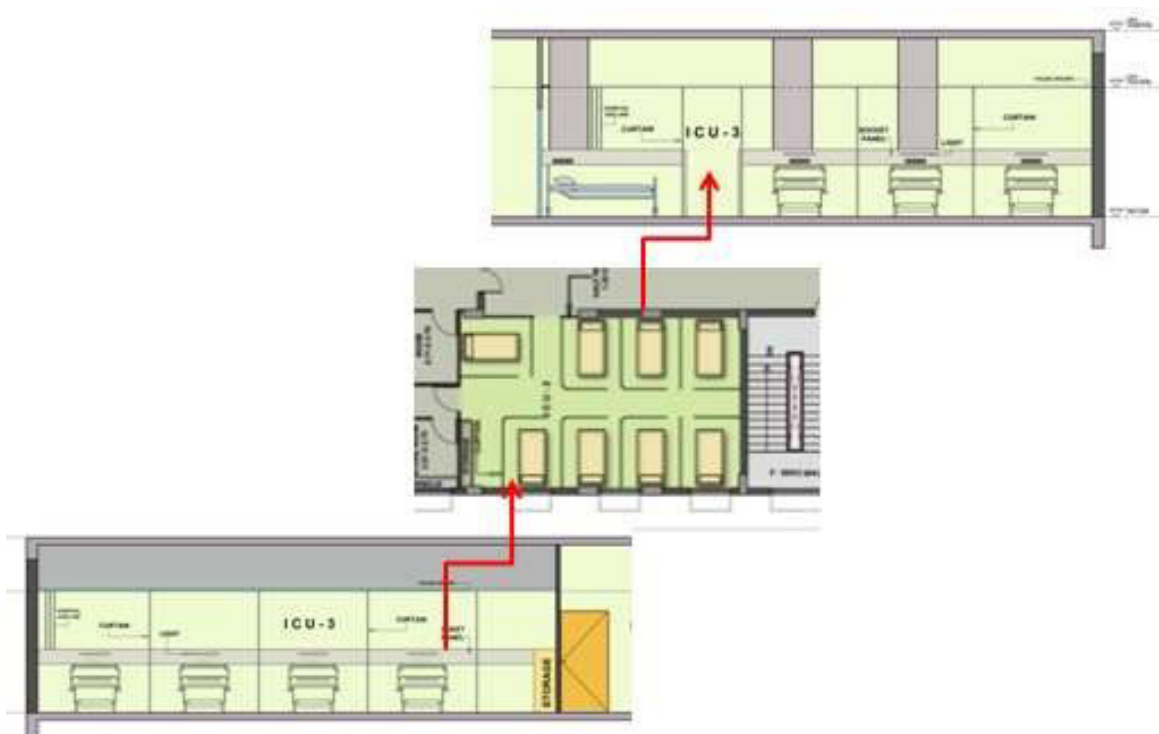


Figure 16 : Images showing I.C.U 3 Room InteriorTheme.

3.5 DesignDemonstration

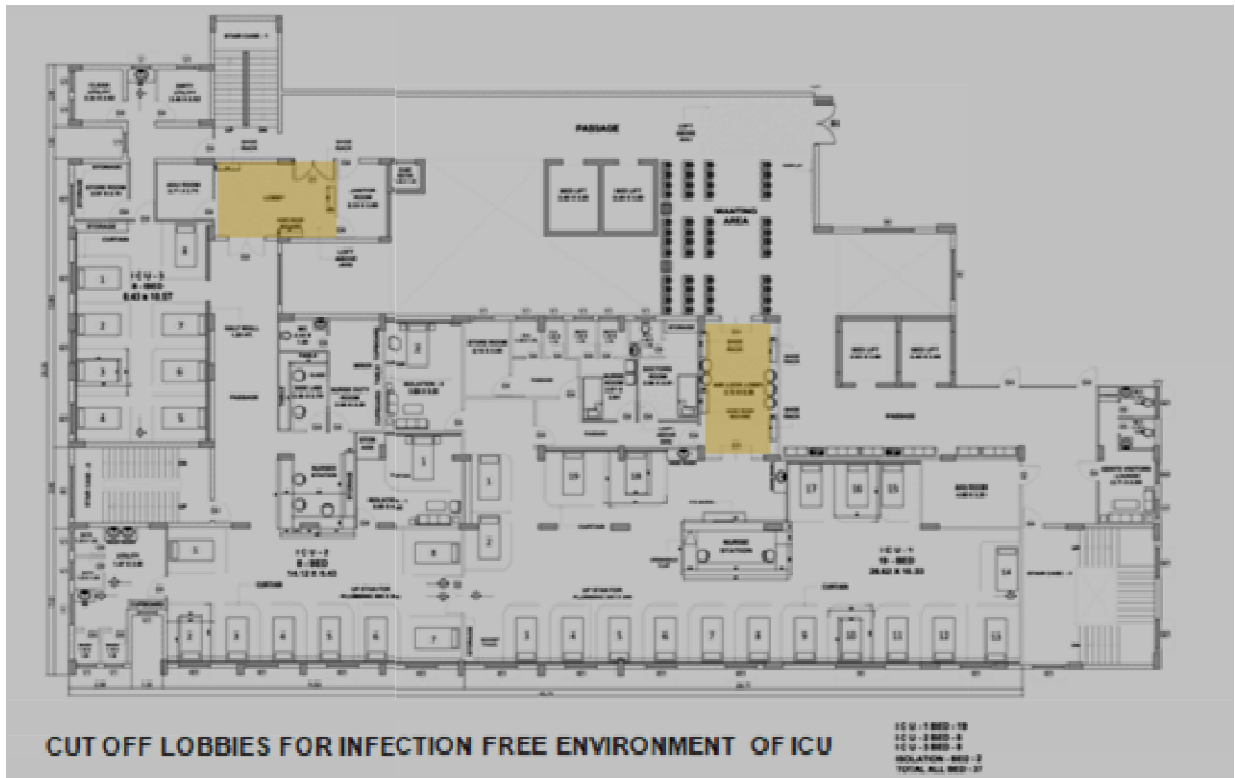


Figure 17 : Image showing I.C.U cutoff lobbies.

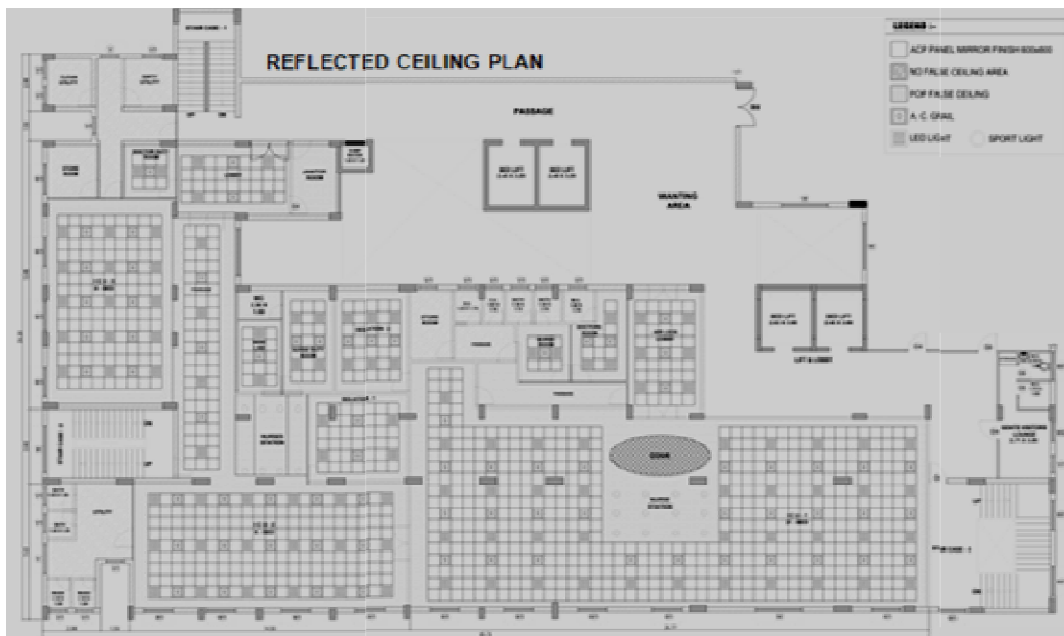


Figure 18 : Image showing I.C.U Grid false ceiling.

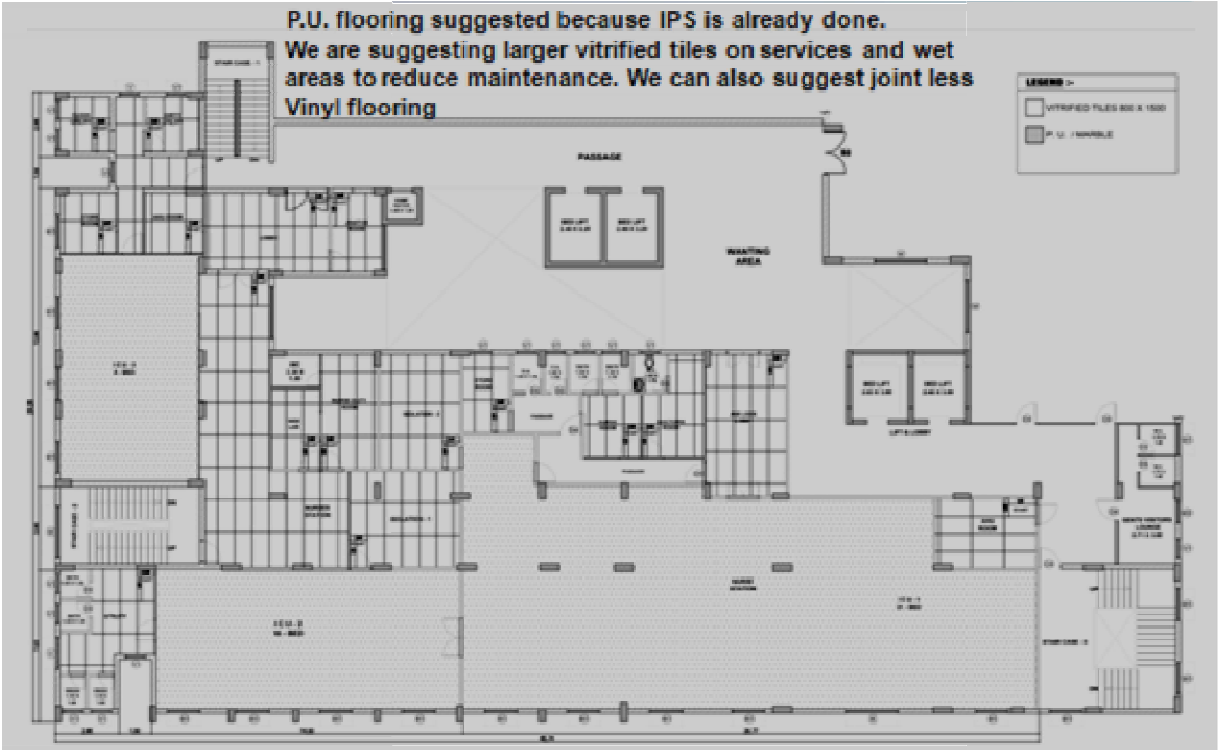


Figure 19 : Images showing I.C.U Flooring.

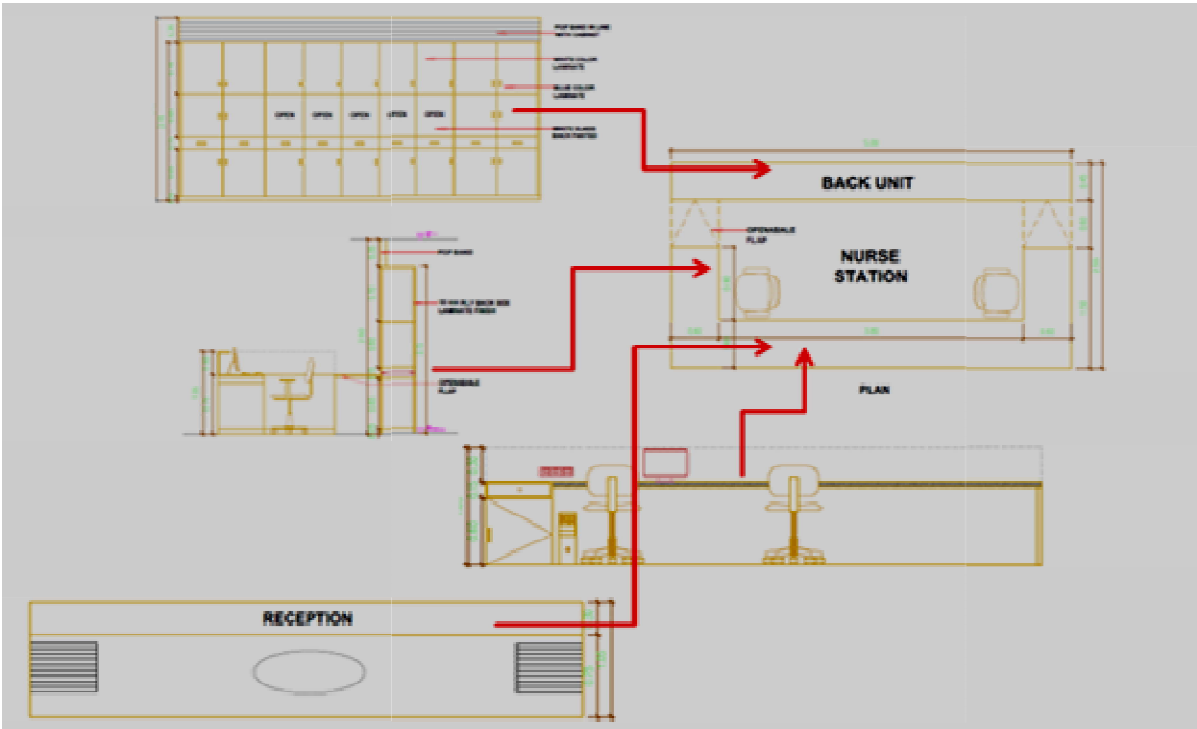


Figure 20 : Images showing Nursing Station Details.

4. Project Time Line

Considering the above Requirement the Timeline of the Project will approximately -3 months from the date of approval.

Total Estimated Cost 3,47, 00,000/-

5. Budget Allocation

SUMMARY OF WORK		
SR. NO.	DESCRIPTION OF WORK	AMOUNT IN INR
1	CIVIL WORK	26,28,571
2	ELECTRICAL	63,50,434
3	MEDICAL GAS PIPELINE & MEDICAL EQUIPMENTS	84,67,770
4	FIRE FIGHTING	58,478
5	HVAC	93,86,386
6	CCTV,FAS & PA SYSTEM	6,29,710
7	PHE SERVICES	6,90,063
Sub Total		2,82,11,413
GST @12%		2,43,564
GST @18%		39,22,669
Contengency @ 3%		8,46,342
Tender Premiun @ 5%		14,10,571
Miscellaneous and Rounding off		65,441
Grand Total		3,47,00,000