

**PROPOSED NURSING HOME WITH EMPHASIS ON
PANDEMIC ARCHITECTURE**

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ABSTRACT

Designing a nursing home in an urban area, considerations have to be given to the area been an isolated part of the city surrounded with strict design measures. To make it a resilient pandemic effects zone. nursing homes are ancient as history itself dating back to the 17th century. Having the Idea of poor houses brought about by North American English settlers .it was designed in cognizance of the incapacitated. as the century advanced the idea got more attention from the public though they faced unnecessary critics in the early centuries. they late evolved into diverse small living units for the elderly at most. This approach was later referred to as convalescent homes which provided needed desires of care for the elderly at a specific fee. it proved to be a success and from there evolved massively into our present day.

There's a vast increase in the way in which buildings and their compositions could affect our health and productivity and potentiality in slashing healthcare prices and bringing about some enrichments (Jessica brown, 2019). This entails designing a model that promotes decisions on relaxation movement monitoring temperature, noise percentages, breakout areas, plants, and even outdoor relaxations to give a sense of easiness to the workers. The concept of open plan and diverse solutions should also be in play to carry along a diverse set of people with low-cost solutions being set to work.

Keywords: Design, Nursing Home, Architectural, Pandemic, Site

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CHAPTER I

INTRODUCTION

1.1 Background

Our world today has been sharpened by diverse things influencing it today like wars, diseases, natural disasters, etc. all these affect our world through many things. these factors not only sharpened our globe but they also diversify our buildings and the approach to them, they also affect our usage of spaces in the building and its environment. The world itself has been faced with diverse challenges and has either evolved or adapted to it likewise our environment, buildings, and our way of life.

One of the major factors reshaping our world today is the case of the pandemic. A pandemic is an outbreak of any form of contagious diseases that spans across a vast region. Throughout the history of man, there have been a diverse number of rampant diseases notable such as smallpox and tuberculosis. the most among them in man's history was the black death (known as the plague), it took about 75-200 million deaths with it in the 14th century. In the process of time, there arose more brutal pandemics like the Spanish flu, the current ones like the COVID-19 and the HIV/AIDS.

Designing a nursing home in an urban area, considerations have to be given to the area been an isolated part of the city surrounded with strict design measures. To make it a resilient pandemic effects zone. nursing homes are ancient as history itself dating back to the 17th century. Having the Idea of poor houses brought about by North American English settlers .it was designed in cognizance of the incapacitated. as the century advanced the idea got more attention from the public though they faced unnecessary critics in the early centuries. they late evolved into diverse small living units for the elderly at most.

The idea of the design is to establish a pandemic-safe metropolitan climate while mulling over the prosperity of the occupants of the network. Concerning the way infections are sent which is by physical contact, we imagined a situation whereby individuals can live in a network that energizes negligible physical contact but not trading off social cooperation among the occupants of the area thereby diminishing the effect of being segregated from the rest of the world subsequently making a home away from home setting.

1.2 Aim & objective

To show factors to consider and elements to implement an effective design of a nursing home in a pandemic zone. Also, in consideration is implementing different design approaches to make the environment more user friendly and terminate spread amongst users thus enabling a secure space for users. The design objective of the proposed Nursing home will seek to address the following in the design:

- What role does a Nursing home play in case of a pandemic breakout?
- How a Nursing home can be safe during a pandemic time?
- How social interaction can be enhanced in a Nursing home without posing a health challenge?
- How will the site location influence the design of the Nursing home?
- What measures can be put in place to ensure that the Nursing home contributes to the well-being of the users in the case of a breakout?
- What safety measures can be implied in designing the Nursing home?

1.3 Project Scope

What are the design considerations or enactment necessary for carrying out a pandemic free environment for a nursing home without compromising social interaction amongst users?

CHAPTER II. LITERATURE REVIEW

2.1 Methodology

This chapter diverges into variant research methodologies and approaches employed in the field of architecture. the first phase tells of a concentrated review of text and visuals about the relation of pandemic and architecture; pandemic and their history; pandemic architecture. The other aspect entails cases of Nursing homes for analytical review. The process begins with a web search for designs connected to the topic at an exploratory level. Arch daily website with others such entails about Nursing home project diverse in the world. A conjectural finding was orchestrated to ascertain the results with pinpointed and main media materials that are important for the study and no restriction of the contest as the samples were from all parts of the world. leading us to select Peter Rosegger Nursing home by Dietger Wissounig Architekten, Asylum Housing Mornington, Australia, and Krebsestien Nursing Homes, Denmark.

A Literature review has been carried out on the correlation between designs and nursing homes. A total of 9 pieces of literature has been reviewed.

Table 2.1: Literature reviews

Author Names	Publication Date	Country
Neufert et al	2002	United Kingdom
Ash Buchanan	2016	Germany
Natalie Mortmer	2018	Australia
Stephen.R. Kellert et al	2015	United Kingdom
Karl Johnson	2013	United Kingdom
Thomas McMullan	2018	United Kingdom
Kate Hunter et al	2005	Australia
Naglaa et al	2020	Egypt
Jessica Brown	2019	United Kingdom
Lynne. E. McClennan	1975	United States
Benyamin Schwarz	1997	United States

2.2 How diseases affect Design

Design evolves around diverse factors in the world. In our context disease is a factor and how it affects the thought process of design and allocation of spaces. Diseases are situations that obstruct or disrupt normalcy in societies, systems, or our way of life. In our world today, the pandemic was introduced on 17th November 2019, a situation was highlighted in Wuhan, Hubei China. This led to drastic rallies from public health implementing travel bans, school closures, curfews as well as quarantine procedures and processes, thus extraordinary times warrant exceptional designs (Archi-search, 2020). During outbreaks, the shape always goes with the scare of containment, just as much as its use. (Ellin,1999). From the interiority of spaces of cities to their planning, our make-up of our environment are molded by diseases.

In the early centuries, the disease is being countered by redesigning interior spaces, cities, architecture, and built environment. Right from the approach of urban renewal which came about in the 11th century as cities as designers trimmed out congested corners, buildings, and public spaces. The architects cured this disease by design approach as it relates to sickness like typhoid, Spanish flu, etc. by bringing about tenement resolutions, ghetto clearing, and refuse management. (Chang, 2020; Lubell,2020). Also, the approach of sanitary reform, these outbreaks brought about the development of water and sewage systems as repellants to fight disease as which in turn led to the development of underground pipe systems, thus this led to the development of underground pipe systems, thus led to a massive change of everything (Budds, 2020; Klaus, 2020).

In the present scene of things, historic designs can be alienated from diseases. Many modern designs were motivated by hard geometrics, new-age materials, and ornamental rejection. Architects of the modern era design such environs as cleansers to diseases. Reforms, as seen in our modern age, could be seen as vast openings, balconies, large surfaces that would be dust resistive emphasizing the make-up of cleanliness. (Budds, 2020).

2.3 History of Nursing Home

Nursing homes date back to the 17th century being brought about by northern English American settlers. These they referred to as poorhouses or houses of alms. nursing homes became a landmark for a shelter for the aged and undermined individuals. these homes have been in the harsh reality of products of statistical and dogmatic truths. No bracket age institutions for longtime care were in play before the 19th century. The elderly and the debilitated rather found themselves in almshouses along with entities with insanity, those without homes were termed

the most deprived in the public. Their poor houses span through the 20th century even though they faced challenges springing from the state of the poor houses being unsafe health-wise. A major challenge was the great depression that occurred in the 1930s which led to overcrowding of poor houses due to an increase in the depravity of the masses.



Figure 2.1: Poor houses (1808) microcosm of London
(www.londonlives.org/static/Workhouses.jsp)

These poor houses had to be replaced over time to residential type of approach design. This house provided necessary percentages of care and feeding in cognizance of privacy with a comfortable fee. these approaches proved too successful and grew to stability and popularity after world war 2. As it grew it caught the attention of the government as it provided a solution, for individuals that overspent their time in hospitals. Nursing homes then advanced into centers of medical care and suckling places for the elderly and incapacitated. though from the beginning nursing homes weren't properly sustained in regards to cleanliness, as time ensued during the 1950s through to 1970s the aspect of maintenance was given huge worth. As it proceeded from 1965, government amendments were created for such use as monetary backing was given up to date.

2.4 Design Considerations

Nursing homes are compositions of considerations in designing a hospital and a residential building. Architecture has to come to play as not only a clinical solution but as a major provider

to the mind and overall robustness in its own right (Thomas McMullan, 2018). The nursing home should portray a building of willingness of the mind and body of its users. Whereas natural lights, furniture, and fittings are tailored to give a feeling of comfort and calmness to its individuals. The case of the Paimio Sanatorium in Finland m crafted by architect Alvar Alto, one of the sergeants quoted this when interviewed by the Frieze “The make-up of such structure should show its purpose even through to its furniture, outdoor spaces and need”.

There’s a vast increase in the way in which buildings and their compositions could affect our health and productivity and potentiality in slashing healthcare prices and bringing about some enrichments (Jessica brown, 2019). This entails designing a model that promotes decisions on relaxation movement monitoring temperature, noise percentages, breakout areas, plants, and even outdoor relaxations to give a sense of easiness to the workers. The concept of open plan and diverse solutions should also be in play to carry along a diverse set of people with low-cost solutions being set to work.

In the contest of affordability, nudge theory should be in cognizance to enable building recipients to make healthier choices which could be the provision of healthier food like the planting of gardens and also easy access to water readily available to as stated by Ann Marie Aguilar, who is the director of Buildings Institute operations foe Europe, her company “WELL Standard” came to play in 2014 and operates around 55 countries.

The one basic consideration which starts the thought pattern of a design for a nursing home is need (Benyamin Schwarz, 1997). This consists of considerations of wants of users like the incapacitated and other frail individuals. The design has to pass the message of being desirable to diverse users. Having Adequate information about the make-up of the diverse needs whether they be purposeful or psycho-social engrafted as readily access details, could enable designers to present a well fitted, supported and satisfactory maim for those it is intended to serve (Brill, 1990). this stated claim has brought to the light that the design procedure is a linear course that starts with knowledge and study accompanied by the programming stage which pinpoints to the impartation of social knowledge. Such procedures can be seen in buildings that embody well the needs of its users and to their approval (Montgomery, 1989). The considerations are vast in approach but the satisfaction of users is paramount.

2.5 Challenges with Nursing Homes

There’s are always a risk to a reward. nursing homes have their challenges embedded that designers have to tackle one way or the other. The risk of falls is of this paramount challenge.

users of facilities responsible for the incapacitated always witness three times the usual fall that older people in cities (Rubenstein et al, 1996 as stated in Shanley). These falls by users in these facilities have been well noted to be around 30 and 50% of other falls different users experience a year (NARI, 2004). Meanwhile, falls are a major cause of concern for the aged in communities being admitted to Nursing homes (NARI, 2004).

Falls comes with diverse impressions in its victims like the pecuniary rate at the community (it's stated that by 2051 health overall rate would skyrocket to be \$1.3755 million, per annum (Moller, 2003 revised edition), deprivation of confidence, and inertia in universal activities and life importance, unnecessary elongating of caregivers or staffs (Butler, 1998) and it could always lead to unswerving injury bringing about bedlam for dementia Patients (Fleming et al, 2003).

CHAPTER III. CASE STUDIES

3.1 Nursing Home Examples

This chapter will examine 3 cases of Nursing home's world wide selection based on the context of sustainability, green roofing, biophilic design, and other considerations. Besides, in a precise form of sense-making, I will have them chronologically arranged according to their construction year. Thus, (I) Mornington Centre, Austria 2007, (II) Peter Rosegger Nursing Home, Austria 2014, and (III) Krebsstien Nursing Homes, Denmark, 2020. These nursing homes share some common design approaches in the scope of green architecture, sustainability, biophilic architecture, sustainable building materials, etc.

3.1.1 Mornington Centre, Austria 2007

Mornington was designed by Lyon architects. the design provides an extended residential accommodation for the seasoned individuals who license expert assessment. nursing care and recovery. The design challenges the usual world view of a nursing home. through its spatial plans and normalizing climate, it diverts from a medical – driven reflection model to one were family and care workers work with staff to convey care to its users. The edifice is designed like a major house or seaside inn, not like an emergency clinic with another vernacular created to portray its program. **Table 1** provides basic information about the project's case study and materials together with supporting points from **Fig 3.1, 3.2,.3.4.**

Table 3.1: Mornington center, Austria.

Architect	Lyons
Location	Mornington VIC 3931, Australia
Project Manager	Atkinsons
Structural & Civil Engineer	Earth Tech
Landscape Architect	Rush Wright Associates
Electrical & Mechanical Consultant	Umow Lai & Associates
Area	4500.0m ²
Project Year	2007



Figure 3.1: A coastal-hotellike View (arcdaily.com.2010)



Figure 3.2: cladded with oversized planks (arcdaily.com,2010)

The rooms in which individuals stay contain straight windows in which individuals can sit and appreciate the view. These have enormous openable windows for conceding sunlight and outside air.

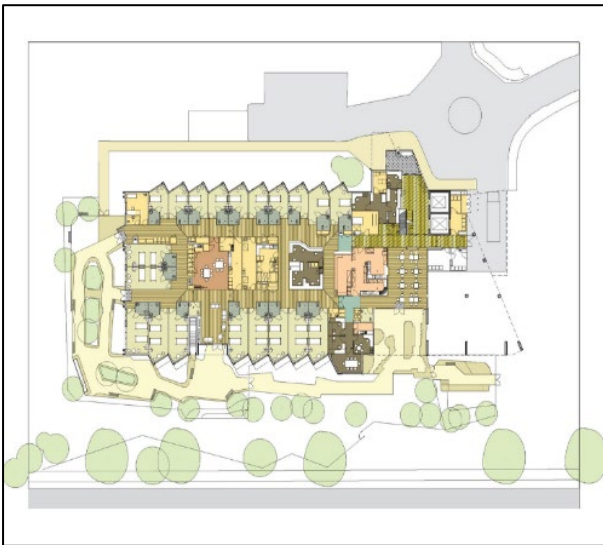


Figure 3.3: plans (arcdaily.com,2010)



Figure 3.4: Interiority(arcdaily.com,2010)

3.1.2 Peter Rosegger Nursing Home, Austria 2014

This two-story nursing home on the estates of the old Hummel Kaserne sleeping housing remains in a piece of the city with the unlike metropolitan environmental aspects. The house is curtailed and square-molded with lopsided outlines serving to partition the house into its spatial idea of eight lodging networks, four on each floor. These are assembled around a focal "town square" which encompasses from one side of the initial floor through to the next and is

mostly covered by a rooftop entryway. At the right points to this open public pivot, two gardens only for the inhabitants cut into the structure. Further open spaces remember the four atria for the subsequent floor just as immediate admittance to the recreational area arranged by the City of Graz toward the east of the premises.

Each housing local area comprises of rooms, a kitchen, and a feasting territory for 13 inhabitants and a career, generating a reasonable and natural atmosphere. Mammoth galleries and loggias, just as an assortment of ways and outlooks through to different fragments of the house give an invigorating environment. Information about the nursing home is provided in **Table 2** with supporting data from **Fig 3.5...3.8**.

Table 3.2: Peter Rosegger Nursing Home, Austria.

Architect	Dietger Wissounig Architekten
Location	Graz, Austria
Photograph	Paul Ott
Project Year	2014



Figure 3.5: plan style nursing home (arcdaily.com,2014)



Figure 1.6: Area view of nursing home (arcdaily.com,2014)



Figure 3.7: Interiority wood structures (arcdaily.com,2014)



Figure 3.8: Interior of rooms (arcdaily.com,2014)

3.1.3 Krebsestien Nursing Homes, Denmark, 2007

The nursing home focus Krebsebo, in Gjesing, won't just have 100 new homes for the older – it will likewise be the center of a smaller than normal town, called the Senior Town, interfacing the nursing home focus with the remainder of Gjesing and making a life for the old occupants. The Senior Town comprises of two lodging groups as a nursing home focus and an older agreeable private complex. Between this is space in which the Senior Town's regular daily existence can happen.

The nursing home focus involves four structures, of which three incorporate homes for the old and sporting facilities. The fourth structure, the Culture House, has public capacities, for example, a bistro and a nursing facility. In the center, there is an inward patio garden that encases an open, yet unmistakably delimited, climate that is free from any harm for occupants with dementia. Information about the nursing home is provided in **Table 3** with supporting data from **Fig 3.9...3.12**.

Table 3.2: Krebsestien Nursing Homes, Denmark.

Client	Esbjerg Municipality
Architect	C.F Moller Architects
Location	Esberge, Denmark
Engineer	Oluf Jorgensen A/S, Radgivende ingeniørfirma

Landscape Architect	C.F Moller Architects
Area	11527m2
Project Year	2007



Figure 3.9: area view of green nursing home (cfmoller.com,2017)



Figure 3.10: Interior of rooms (cfmoller.com,2017)

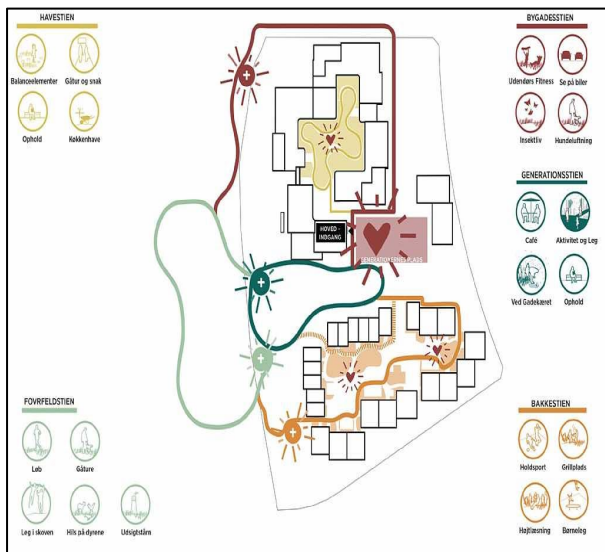


Figure 3.11: site compositions (cfmoller.com,2017)



Figure 3.12: Interior of rooms (cfmoller.com,2017)

3.2 Deductions from Studies

The approach of biophilic design is a dominant feature among all case studies portrayed. Rene Dubos said “The connection between humanity with nature is one that needs reference alongside charity never domination”.

Biophilia is inner mankind drawing to relate with wildlife that even advances in ages been detrimental in peoples make-up and psychological health and welfare (Wilson 1986, Kellert and Wilson 1993, Kellert 1997,2012). there's a connection that links humankind to wildlife having such knowledge interwoven into buildings would bring about a linkage between the buildings and their setting. In the healthcare field, the investigation has discovered that vulnerability of humankind to nature which is beneficial as wildlife aids as anxiety reduction, discomfort relievers, speed recoveries, boost workers morale and productivity, and bring about harmony of space (Annerstedt and Wahrborg 2011, Beck and Katcher 1986, Bowler et al). Application of biophilic design is synonymous with sustainability which boils down to materials like wood, glass, cladded materials, solar panels, green roofs and walls, windmills, and vast dominant landscape designs being implemented.

From the Mornington design in Austria, the approach takes a total diversion from a conventional nursing home design. It's one was designed as a collective unit where one family alongside staffs are merged. Its concept is like a vast hotel never like a hospital with a new identity for its program. There's the addition of bat windows. the building consists of floorings composed of timber a sustainable approach. The social area is the heart of the design with the idea of family identity, the structure is clothed with massive planks which are composed of bricks.

Looking at a Peter Rosegger nursing home, a square-shaped with diverse spaces serving as communities in different levels on a 2-floor structure. there's an inclusion of gardens engraved in the nursing homes, together with four openings into the building. The spaces on each unit form a community, a room, dining area. Care homes are distributed within each unit forming different units within each community space for efficient operation. The design is a full constituent of wooden construction. wooden timbers, beams were employed to tackle the structural needs of the structure. the wooden approach forms the compose of the building. the use of wood brings about a cozy yet free environment.

The nursing home center located in Gjesing takes a similar approach to the previous cases evaluated above which all followed the fact that a nursing home shouldn't be designed like an institution but as a home .in this design, daily routines were implemented the designed to create its collective. It was finalized as a nursing home in a city kind of approach. opportunities were put in place for users to go to surround structured with its emphasis to life activities. These design units created were in the likeness of towns for housing, recreations points, cafes, nursing clinic, gardens, etc. the feeling of a community is engraved into the design all surrounding a

focal point which is the garden for natures healing still having a wooden cladded materialistic approach for its diverse units within this space.

CHAPTER IV. THE DESIGN

4.1 Pre-case Study of Design Area

Preceding designing the nursing home a consideration was given to the site approach for the design. The space in which the design had to be considered as very pandemic related were been implemented before the main design was put to play. The area given was a point secluded from the main city but close to the river, which gave room for diverse design considerations put to play in various measures for the pandemic for the site.

4.1.1 Site Location

To accomplish our objective, and the eco-accommodating site was picked which is situated at Lapta (Nicosia 50°10'N 33°22'E), which is an area at the core of the Turkish Republic of Northern Cyprus (TRNC). Lapta has an area of 18.22km² and a population of about 8,000 inhabitants as seen in figure 1 (TRNC State Planning Organization, 2011).

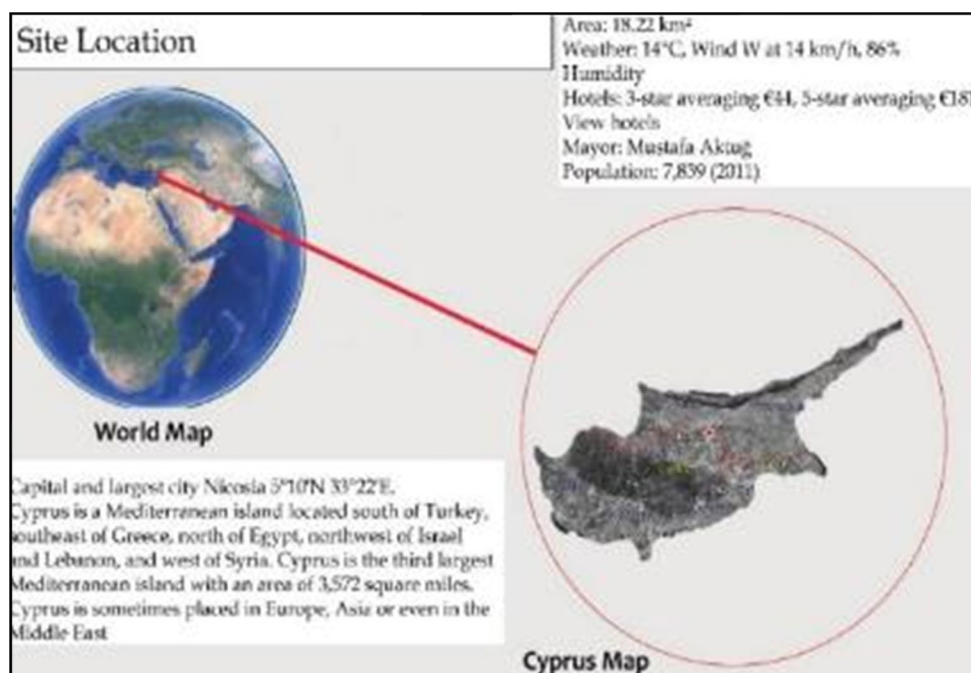


Figure 4.1: location of Lapta Cyprus map (Google Earth, 2020)

4.1.2 Site Analysis

Lapta has a region of 18.22km² and a populace of around 8,000 occupants (TRCN State Planning Organization,2011). The site which estimates 10 hectares in the zone, has an undulating nature with various patio levels and it is limited to the Mediterranean Sea. The commotion levels go from 80 – 40 decibels with the most noteworthy source originating from earth-moving apparatuses while the least from the ocean waves.

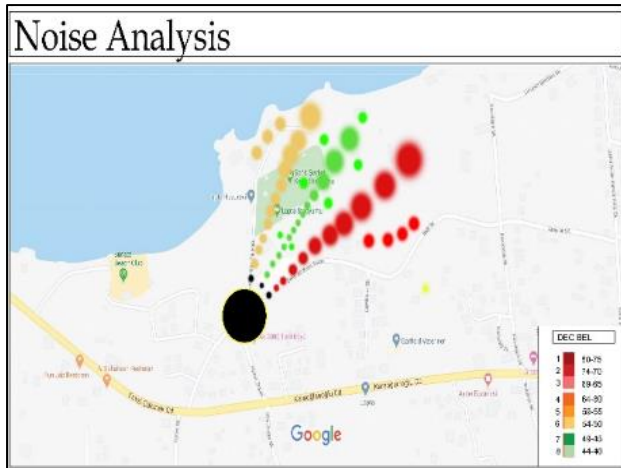


Figure 4.2: Sound Analysis (2020)

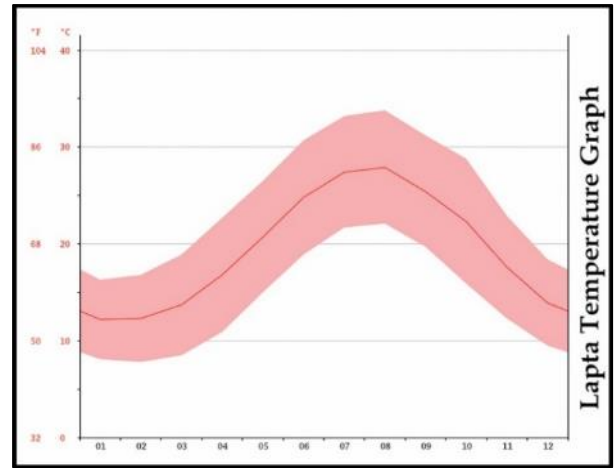


Figure 4.3: Weather Graph (2020)

The air climate state of the site has its top at 37oc and the most minimal being 18 c with more grounded breezes originating from the Northwest and Southeast heading of the site. At day time, cool air moves from the ocean to the land, warm air from the land ascends and replace cool air at high temperature consequently pushing cool air towards the ocean. In the evening time, cool air moves from the land to the ocean while warm air from the ocean ascends from the ocean, replacing cool air at high temperature consequently chill air is pushed off toward the land.

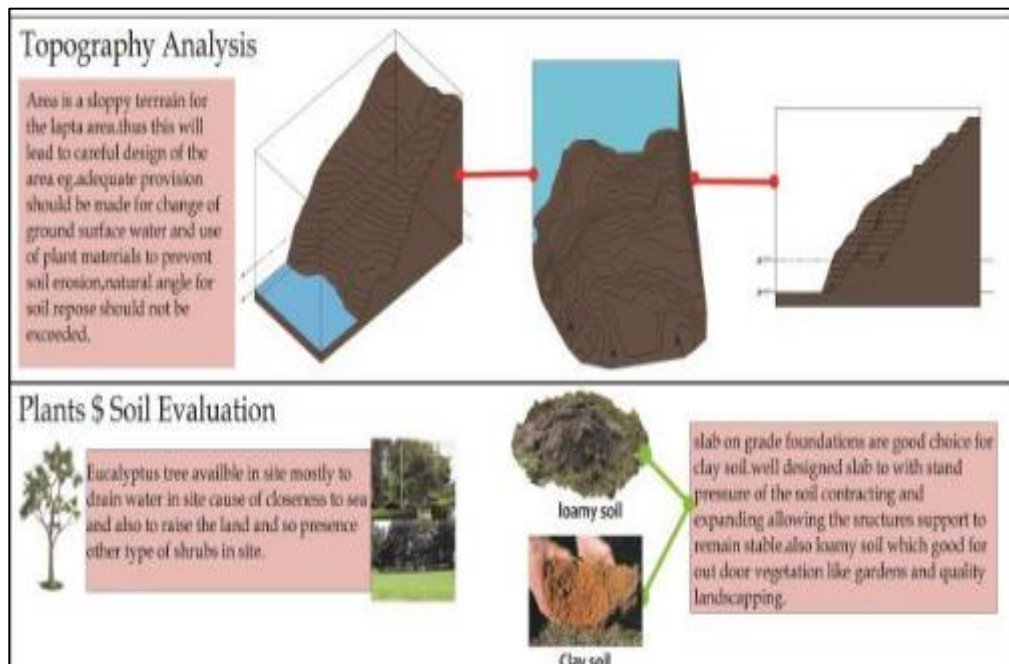


Figure 4.4: Terrain and soil composition (Camera et al. 2017)

Geographically the site is a messy landscape in this manner will prompt careful plan of the region and arrangement ought to be set up for the change of ground surface water and use plant materials to forestall conceivable soil disintegration like a regular plot for soil rest shouldn't be surpassed. For the dirt surface presence of loamy and mud soil are available which suggest section on grade establishment are acceptable hotspot for the dirt very much planned chunk to withstand the weight of the dirt contracting and growing permitting the structures backing to

stay stable, likewise loamy soil which useful for outside vegetation like nurseries and quality finishing.

4.1.3 Design Considerations

We made a site with fundamental comforts to make life simpler in the pandemic by blending a mix of wellbeing, diversion, and social prosperity. Various thoughts were placed into play with a presentation of a Nursing Home which is important to screen the strength of patients that are convalescing from the illness, a 2500m² Health care focus that is accommodated essential wellbeing medicines which are divided to give a method for control between the pandemic unit and the other general emergency clinic capacities. The medical services place was a piece drafted from the bustling aspect of the area to ensure the occupants of the network just as making the emergency clinic more available from the passage of the site and the harbor gave by the coastline.

Besides, an authoritative and social focus of about 2000m² was planned cautiously concerning pandemic security measures to cook for the administration of regulatory capacities for the metropolitan pandemic network. General private dwelling units were given over the diverse degree of the site. These private units can be gotten to by walkways and flow mechanisms for an assortment of clients that are deliberately positioned and planned around the site to ease get to and energize wellbeing by the selection of materials, for example, penetrable strolling space which helps handles flooding issues and permits the soil to get supplement and focusing on physical and social separating. To empower safe mutual exercises in the region, different movement zones, semi-open spaces, remedial nurseries, wellness regions, palatable nurseries, and spice gardens were thought of while arranging the pandemic network and were painstakingly positioned around the site.

To cook for the security needs of this area, an edge fencing was given and the presentation of reconnaissance focuses/towers, with one around the harbor and another by the fundamental access to the site via land, helps in confining and neglecting the guests going to the area and testing the incomers before allowing them admittance to the pandemic neighborhood. This plan considers for simplicity of development and admittance to necessities while simultaneously zeroing in on the requirements, solace, and strength of aggregate occupants of the area without bargaining maintainability, environment, and prosperity. Arrangements were additionally made for cycling, more ways, and little streets so there are elective approaches to get around the strolling spaces which are porous so to handle flooding and permit the soil to get supplements likewise the presentation of a water body in the site lead to the advancement of outside wetlands to manage mugginess and go about as filtration in the site.

Lapta/Kyrenia features a high pace of chemical element that helps in dispensing with the ascent of airborne diseases this attributable to its distance to the mountain, the ocean, and thick vegetation around the territory. the positioning itself being separate makes it a perfect zone for the pandemic venture because the site could be a zone interrupt from the active town during this manner creating it an or additional for a conceivable override of an episode. Commitments of accessible vegetation in the climate improve the air quality, the atmosphere, mitigate water, and safeguarding the dirt. With the propensity for the site to be overflowed attributable to its conclusion to the ocean and fascination of hefty tempests at the highest of the priority list,

a reparable parking garage for reusing of water for the trees within the zone for satisfactory cleansing of the environmental air was thought of and also the position of water bodies nearby prompting the advancement of outdoor land or water purpose thus on manage the high humidity gift on the positioning and act as filtration operator. the positioning is close to a water body. streams consequently increasing the monetary estimation of the ocean. Additionally, the positioning is in a very quiet climate aloof from the loud zone acceptable for unwinding.

However, the undulating plain of the site will open the site to disintegration and diverse structure tallness. By and by, the advancement of stream transport can support the economy of the region, this tree will fill in as carbon sink and jackets. the positioning may be defenseless against specific constraints/dangers such as substantial tempests from the ocean, the stature of trees might influence electrical cables and some cycles of activity can embrace vital expense of repairs within the ocean region.

4.1.4 Pandemic Solutions:

4.1.4.1 Horticulture

The Utilization of nurseries everywhere on the site was utilized as a method for increasing the prosperity of individuals. In an examination researching the utilization of agricultural treatment to forestall the decay of mental capacities in patients with Alzheimer's sort dementia,



Figure 4.5: Horticulture as a primary means of in-community grown food to promote health and well-being of the residents (Schmutz, 2014)

D'Andrea et al. (2007) revealed cooperation in agricultural exercises brought about support of memory and feeling of prosperity and a general higher practical level than the benchmark group. **Connell et al. (2007)** analyzed open-air and indoor action programs on rest and conduct in nursing home occupants with dementia and indicated that the outside action bunch experienced critical upgrades in rest designs and a decrease in verbal fomentation. **Luk (2011)** contemplating plant exercises in a nursing home in Hong Kong found no huge impact on the decrease of unsettling among the home occupants with dementia, anyway a huge decline in

forceful conduct. **Hewitt et al. (2013)** assessed the effect of helpful planting for individuals with youthful beginning dementia, estimating results for the two members with dementia and their careers.

The end of their primer investigation recommended that organized cultivating over a year time frame positively affected the prosperity, discernment, and mind-set of individuals with youthful beginning dementia. Explicit consideration was attracted to the connection between the prosperity of members and their comprehension as the consequences of the examination proposed that prosperity can be kept up notwithstanding the presence of a psychological weakening.

4.1.4.2 Permeable Pavement

"Penetrable asphalts can be a significant supporter of the viable administration of stormwater. They give the chance of changing a conventional wellspring of stormwater overflow into a best administration practice for catching, putting away, and invading stormwater into the normal environmental factors.

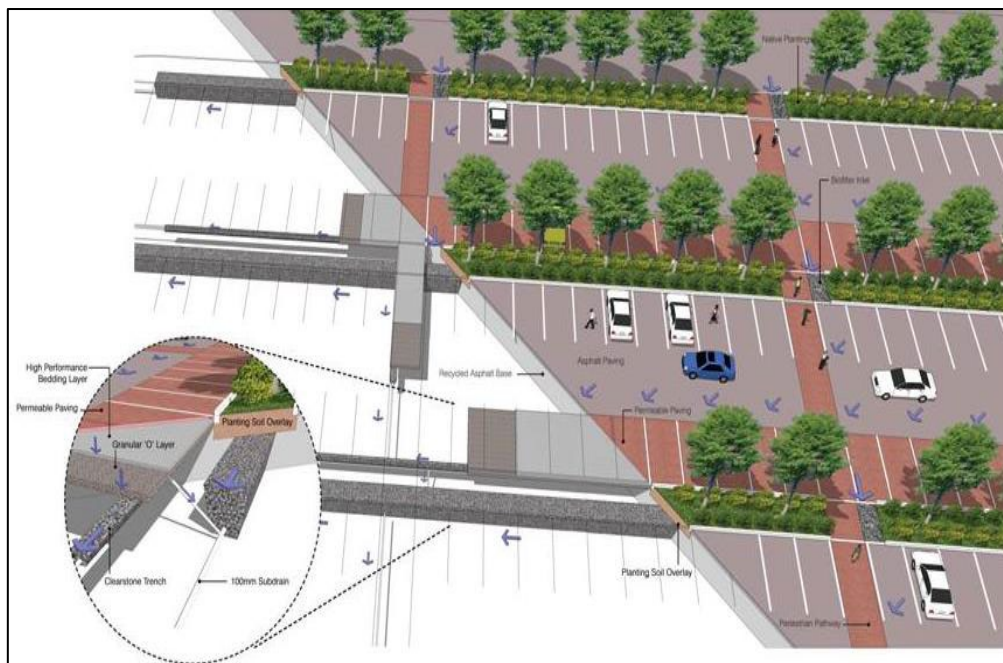


Figure 4.6: permeable parking lots, cycling paths, and pavements to ensure sustainable innovations around the pandemic community (Hein & Eng, 2014)

Advantages accomplished incorporate diminished stormwater releases just as upgrades to water quality including decreased suspended solids and decrease of synthetic pollutants. While they can be a powerful apparatus, their plan and development ought to deliberately think about basic and hydrological worries to guarantee that they give financially savvy arrangements over their plan live" (Hein, 2014). This was executed in the plan through the utilization of penetrable asphalt in the stopping territory just as the walkways/cycling ways planned around the pandemic network.

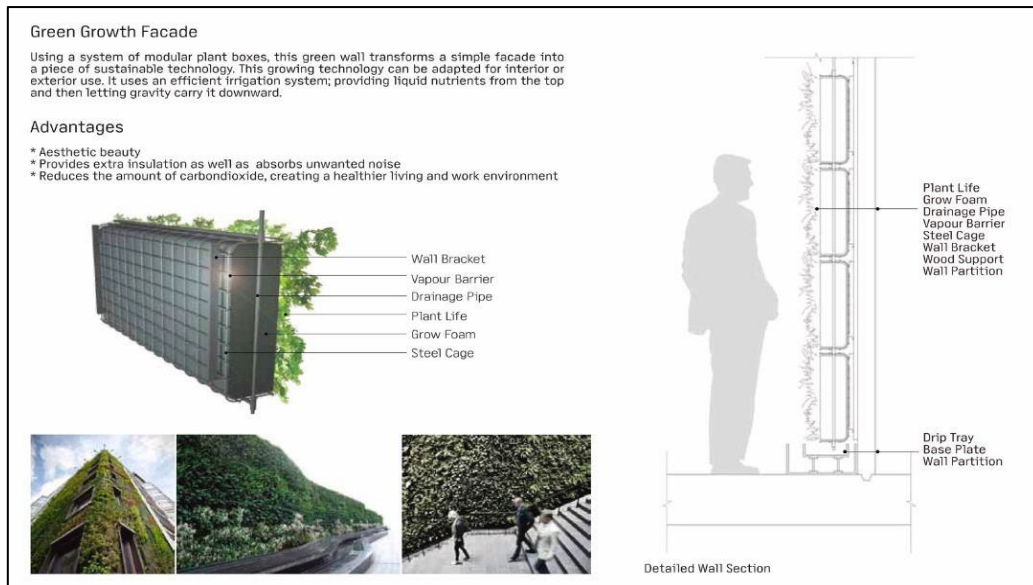


Figure 4.7: Permeability of green growth façade (Hein & Eng, 2014)

4.1.5 Design Results

Application of diverse considerations and values brought about a sustainable site design with various aspects of sustainability put in place for the site design. To create an environment a little less jam-packed, with a little added local exposed interplanetary, with more of the properties they people need to back themselves. Contact to lots of green space is also significant in this concept for the psychological and physical wellbeing of the residents during an epidemic. Another important facet of structure this city hardy to pandemics is discerning about how to source food. There should be a kind of sense of balance and sustainability. The houses are built with better ventilation and offer more light. Usual aeration uses natural services to introduce and allocate outdoor air into a structure. These normal forces can be wind pressure or pressure generated by the compactness difference amid interior and outside air. The scenery and attractive trees are an imperative part of social life. They offer shade and exquisiteness around homes. They also offer assistance in conserving energy and the quality of air, water, and soil. A green roof is a vegetative layer fully-fledged on a rooftop of a structure. Also known as roof commons, these green roofs aid as a large supplier to liveliness competence. All were put into consideration in the site design.

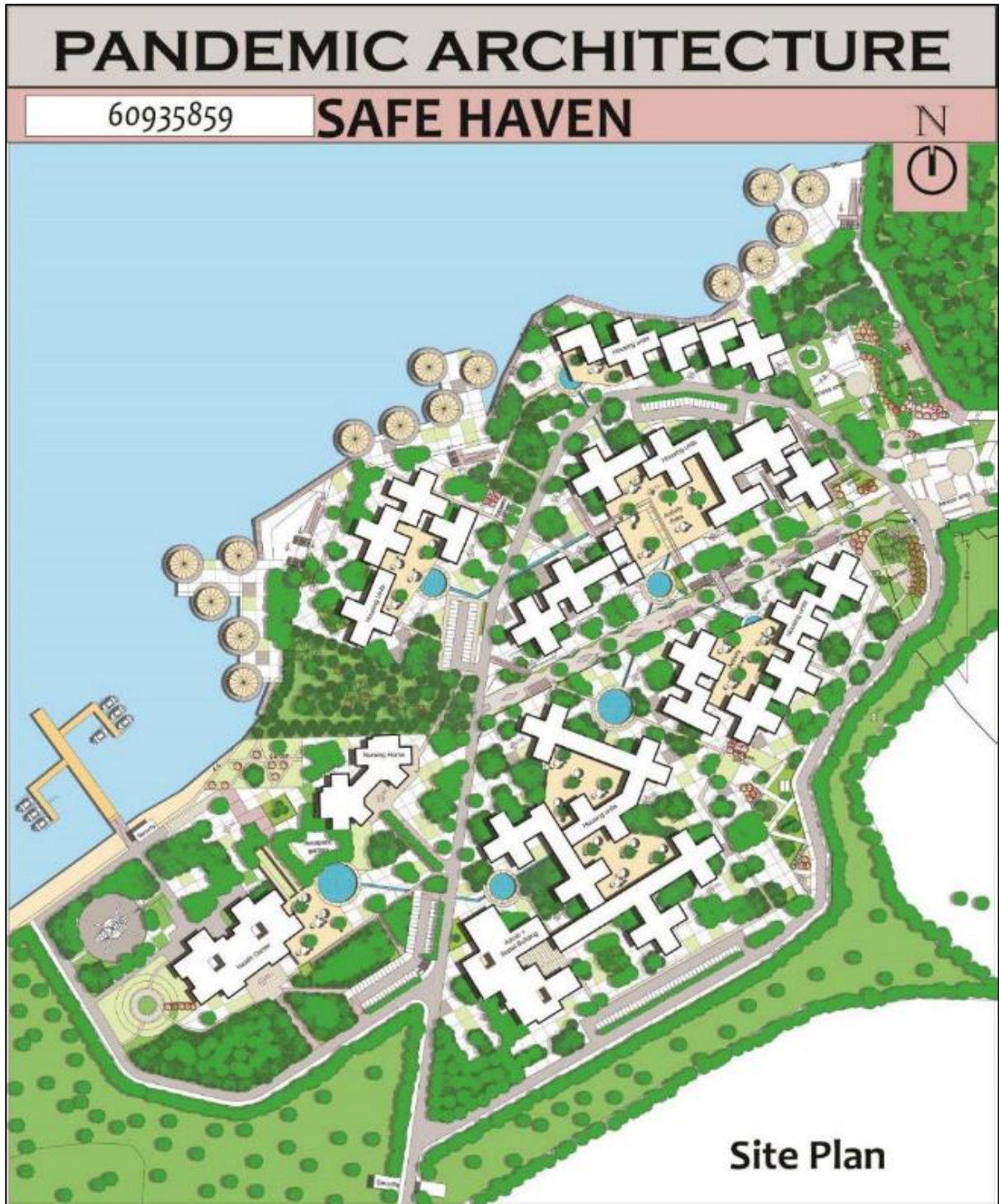


Figure 4.8: Concluded Site Design (2020)

4.2 Site Analysis

The proposed site is situated at Lapta (Nicosia 50 10'N 330 22'E), which is an area at the core of the Turkish Republic of Northern Cyprus (TRNC). Lapta has an area of 18.22km² and a population of about 8,000 inhabitants as seen in figure 1 (TRNC State Planning Organization, 2011). The air climate state of the site has its top at 37oc and the most minimal being 80 c with more grounded breezes originating from the Northwest and Southeast heading of the site.

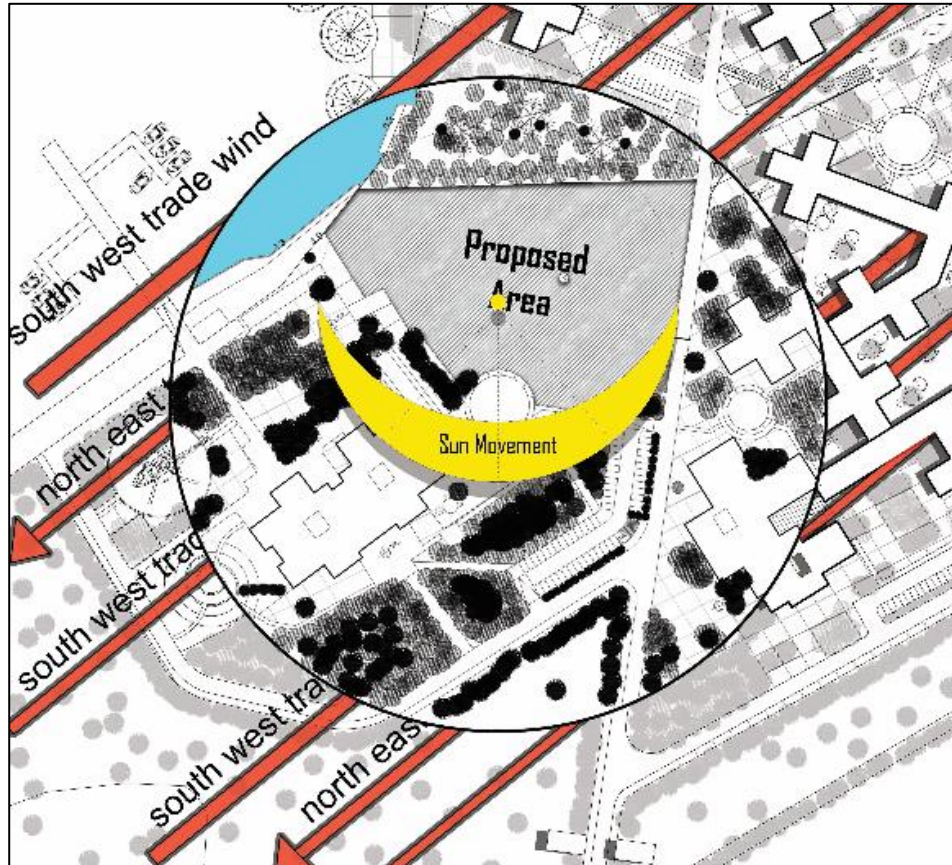


Figure 4.9: Site Analysis of Nursing home (2020)

At day time, cool air moves from the ocean to the land, warm air from the land ascends and replace cool air at high temperature consequently pushing cool air towards the ocean. In the evening time, cool air moves from the land to the ocean while warm air from the ocean ascends from the ocean, replacing cool air at high temperature consequently chill air is pushed off toward the land.

4.3 Architectural Program

The architectural program of the nursing home relates to all activities that occur in the building, within and without. Its understanding and the make-up of the building—from the constant public exercises to seasonal upkeep prerequisite, practically speaking, the program frequently alludes all the more explicitly to how the components, zones, and spaces are coordinated. **Table 4** shows the Architectural Program for the Nursing Home.

Table 4.1: Architectural Program for Nursing home, Lapta.

Social Area	Private Area	Services	Offices
Therapeutic-Garden (100m ²)	Rooms + Wc + Kitchen (27m ²) x36	Storage (27m ²)	Nurse Station (20m ²)
Sun Room (20-30m ²)	Employee Facilities		Pharmacy (30m ²)
Lounge x2 (25m ²)	Toilet - 5m ²	Laundry (30m ²)	Administration (25m ²)
Toilet (2.2m ²)	Living room - 30m ²		Medical-Services (30m ²)
Fire Place (10-20m ²)	Dining room - 20m ²		
Library (20-30m ²)	Kitchen - 15m ²		
Painting room (30m ²)			
Hobby-rooms (30-40m) x2			
Kitchen (20m ²)			
TOTAL: 362.2m ²	1042m ²	57m ²	105m ²
TOTAL FLOOR AREA: 1566.2m ²	+20% Required Circulation (1566.2 x 20% =313.24)		

4.4 Designing a Pandemic Nursing Home

Designing a pandemic nursing home depicts a collection of considerations for sustainability, biophilic design, green architecture, and all these approaches in respect to COVID-19 precautions like social distancing and preventing contact thus giving a feeling of a home away from home setting. the idea of the nursing home was to have a central zone of private area that brings all users together both workers and staff. The nursing home should be offered as a place to live and a dwelling to toil. A central zone composing of a fireplace coupled with the kitchen, library, painting rooms, dining rooms, and medical services. The design of the rooms was made about the idea of communal rooms i.e., rooms that could be arranged or designed based on the personality of the users as a means to encourage social distancing and improving the personal

lifestyle of users. The aspect of materials wood cladded walls was used along with glass walls which are good receivers for daylight and contact with nature. Gardens were made as a provision of food and therapeutic healing with users. The presence of waterscapes also serves as nature contact.

4.5 Site (Overall Site Design)

The overall site design was designed below following all guidelines below Fig 23 shows the conclusion of the overall site design.

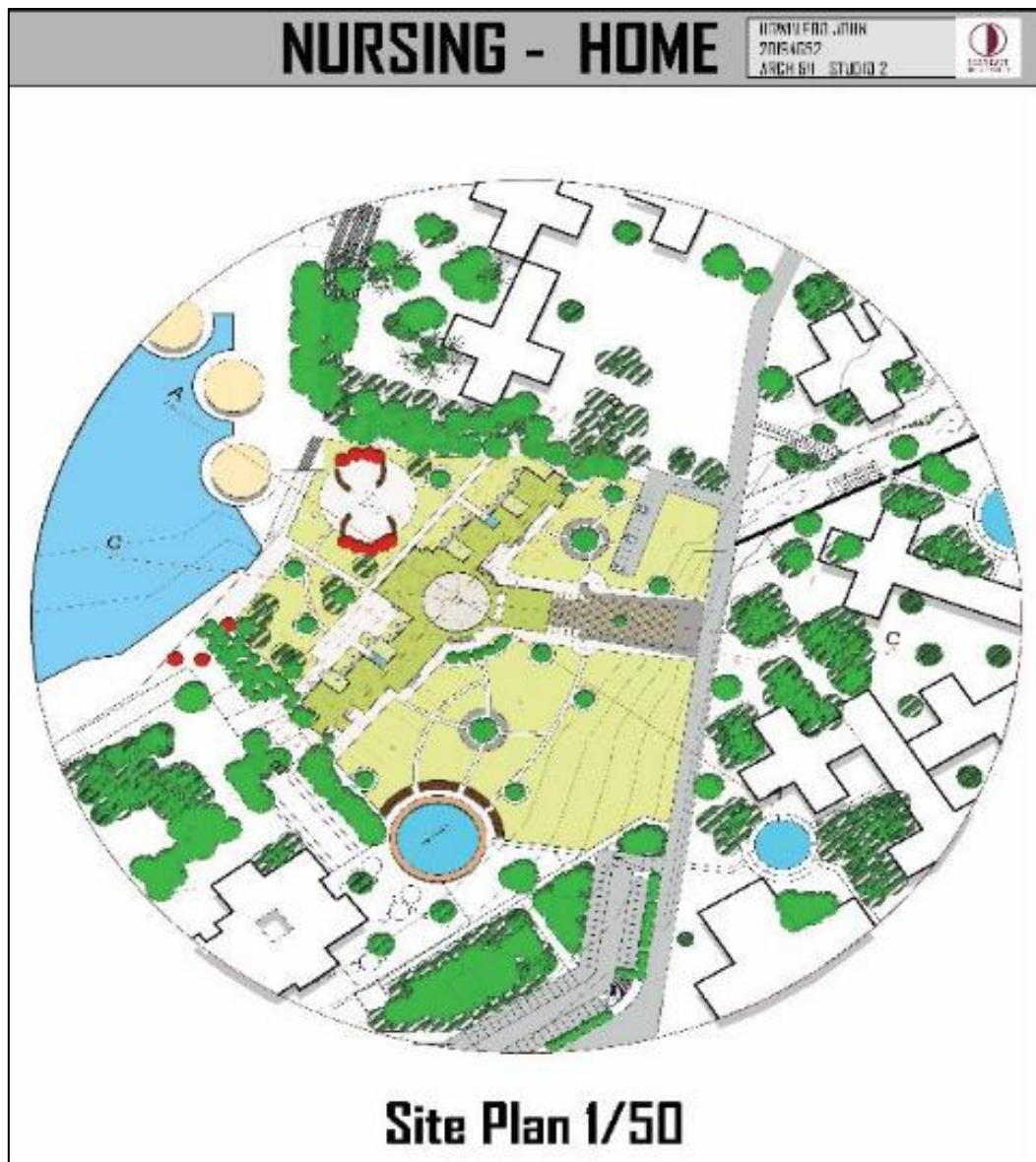


Figure 4.10: Overall site design (2020)

4.6– The Design



Figure 4.11: Ground Floor Plan (2020)

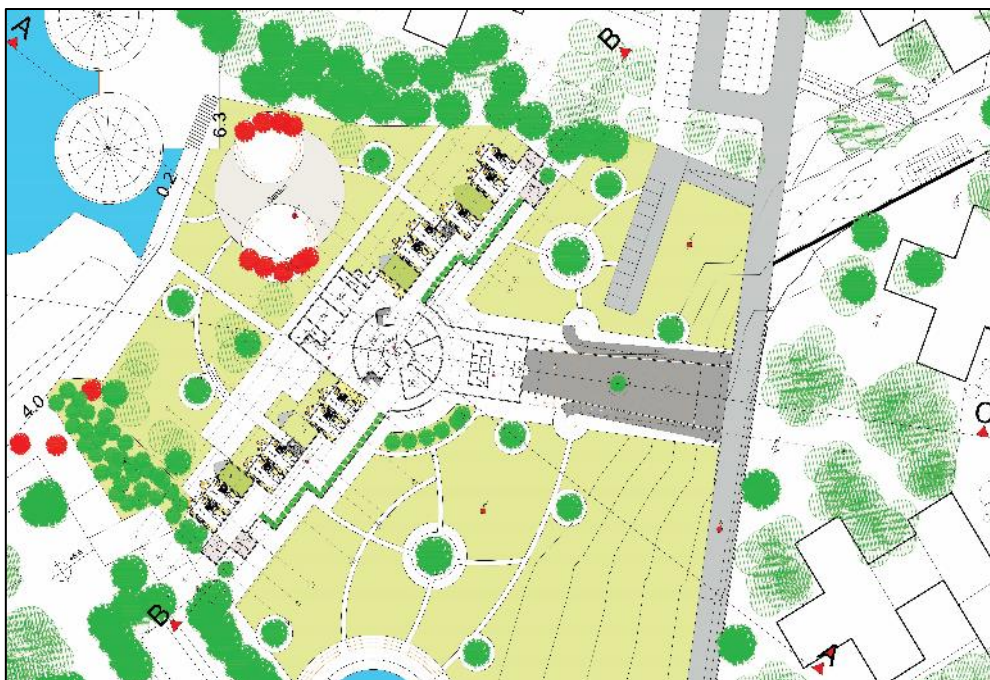


Figure 4.12: First Floor Plan (2020)



Figure4.13: Area View of Nursing Home (2020)

CHAPTER V. CONCLUSION

5.1 Conclusion

The nursing home ought to be offered as a spot to live and a home to work. A focal zone making out of a chimney combined with the kitchen, library, painting rooms, lounge areas, and clinical administrations. The plan of the rooms was made about the possibility of common rooms i.e., rooms that could be orchestrated or planned dependent on the character of the clients as a way to empower social removing and improving the individual way of life of clients. The part of materials wood cladded dividers was utilized alongside glass dividers which are acceptable beneficiaries for light and contact with nature. Nurseries were made as an arrangement of food and remedial mending with clients. The presence of waterscapes likewise fills in as nature contact.

Utilization of assorted contemplations and qualities achieved a reasonable site plan with different parts of supportability set up for the site plan. To establish a climate somewhat less jam-stuffed, with somewhat added nearby uncovered interplanetary, with a greater amount of the properties they individuals need to back themselves. Contact to heaps of green space is additionally huge in this idea for the mental and actual prosperity of the inhabitants during a scourge. Another significant feature of construction this city tough to pandemics is knowing about how to source food. There ought to be a sort of feeling of equilibrium and manageability. The nursing home is designed to eradicate the feeling of a hospital rather than a residential home, in unizism with the worker's zone. Thereby, creating a feeling of a home away from home setting. the factors of sustainability, biophilic design, green architecture, and other major factors of sustainability were among major propellants in designing the nursing home. Considerations for patients with dementia would involve installing temporary mechanisms that could be revolved in the nursing home. implementation of gardens and green landscapes serves as direct contact with nature for healing, mind relievers, direct balcony view to the sea gives a massive plus to the design. Therefore, we could say Green + Structure + Nature gives us a sustainable nursing home.

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