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MOSQUE IN THE VALLEY: A SPACE FOR SPIRITUAL GATHERING & CULTURAL LEARNING

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**MOSQUE IN THE VALLEY:
A SPACE FOR SPIRITUAL GATHERING & CULTURAL LEARNING**

A Thesis Presented

By

NABILA IQBAL

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
Of the requirements for the degree of

MASTER OF ARCHITECTURE

September 2015

Department of Architecture

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NABILA IQBAL

Approved as to style and content by:

Professor Kathleen Lugosch, Chair

Professor Max Page, Member

Professor Stephen Schreiber
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DEDICATION

To my parents Md Iqbal Faruque Khan and Rezina Sultana
and beloved husband, Fahim Mahmud.

ACKNOWLEDGMENTS

All my sincere thanks to Professor Kathleen Lugosch and Professor Max Page, without who's insightful ideas and enormous inspiration I could not have went along with the project this far.

Thank you so much Carl Fiocchi, for appreciating my thoughts.

Cannot thank my parents any less for supporting me all the way through and always being the center of all inspiration and all my thoughts.

At last but not the least I would like to thank the Department of Architecture for facilitating me with everything I needed to complete this thesis.

ABSTRACT

MOSQUE IN THE VALLEY: A SPACE FOR SPIRITUAL GATHERING & CULTURAL LEARNING

SEPTEMBER 2015

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In the history of Architecture, religious structures have always awed people whether a person corresponds to the concerning religion or even he or she is not religious at all. Those structures have been patronized by the riches or the royal highnesses of the time and mostly got the utmost priority regarding planning and construction and the results have been magnificent. By the 16th century when Ottoman Empire (15-20th century) was spreading its dynasty, the world saw the emergence of an overwhelming spread of Islamic architecture as well. Even now one who enters the city of Istanbul or Damascus from the riverside will see series of domes, arches and minarets staggered along the topography. The hierarchical progression of the biggest and most attractive domes among them, which one could hardly miss are of the mosques.

Time to time the social and commercial aspects of life started to redefine urban settlements and demanded for a space for spiritual devotion as well as religious learning and practices in groups. Getting together five times a day as instructed or every Friday for the afternoon where the Imam presents lectures not only on religious matters, contemporary matters and better ways to live in harmony with religious and contemporary concerns. It is the communal gathering of people that demanded for a large hall to pray and communicate with each other afterwards.

The Intention of this thesis is to dig into some of the core aspects of the evolution of mosques, significance of its different parts and features and most importantly how those features as a whole are contributing to behold social and communal construct.

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CHAPTER 1

THESIS INTENT

Introduction

From the dawn of civilization human kind has been dwelling in this physical world always feeling the metaphysical existence of a super being. As time went by different religions have been preached in this world with different rituals and regulations. Islam was preached by Prophet Muhammad (PBUH) in the 6th century AD, and since then it has been one of the most influential religion around the world. The Holy Scripture is called ‘The Quran’ and every Muslim has to follow the regulations described in the book. According to the book and Prophet’s (PBUH) preaching a Muslim should pray five times a day. All it requires one is to clean himself or herself with water which is known as Wudhu and then face to the direction of the Kaaba, which is in the Holy Land of Mecca, Saudi Arabia and pray. It is recommended by the Prophet (PBUH) himself to pray in large groups following the commander (Imam) which will not only be more rewarding for the afterlife but more helpful to construct a stronger community in the neighborhood.

Time to time the social and commercial aspects of life started to redefine urban settlements and demanded for a space for spiritual devotion as well as religious learning and practices in groups. Getting together five times a day as instructed or every Friday for the afternoon where the Imam presents lectures on religious matters, contemporary matters and better ways to live in harmony with religious and contemporary concerns. It is the communal gathering of people that demanded for a large hall to pray and communicate with each other afterwards. When someone is inside the mosque and a moment when the Muajjin calls upon to stand straight in line for prayer, everyone

capable of standing has to stand beside the next person touching his shoulder regardless of social status. This is also a lesson for social equity and an understanding that everyone is of same importance to God. During the prayer hundreds of thousands of people praying with the same verses spoken through the Imam, doing the same thing at the same time not only just uplifts the spirituality also teaches them how united they are and what they are capable when following and respecting the commands of their leader.

One can perform his prayer alone in a corner of the mosque or can just sit in a corner of a mosque to get rid of the chaos of the outer world for a while. But a mosque is not just for praying, it is how one connects with God along with everybody else as a communal entity. To design a mosque in this modern time it is more important to understand and justify the adhering community.

Objective of Thesis

- To create a Mosque complex where people regardless of any religion are welcome
- Inviting people inside the Main Hall but also maintaining the sacredness and secludeness

CHAPTER 2

BACKGROUND & HISTORICAL OVERVIEW

Brief History of Mosque architecture

In the history of Architecture, religious structures have always awed people whether a person corresponds to the concerning religion or even he or she is not religious at all. Those structures have been patronized by the riches or the royal highnesses of the time and mostly got the utmost priority regarding planning and construction and the results have been magnificent. By the 16th century when Ottoman Empire (15-20th century) was spreading its dynasty, the world saw the emergence of an overwhelming spread of Islamic architecture as well. Even now one who enters the city of Istanbul or Damascus from the riverside will see series of domes, arches and minarets staggered along the topography. The hierarchical progression of the biggest and most attractive domes among them, which one could hardly miss were of the mosques. Interestingly, those mosques were not built as individual structures, rather they were built as a part of larger complex known as "Kulliye". Those "kulliye"s comprised of educational institutions (madrassa) and public baths. The mosque would be the place within the kulliye for spiritual remuneration.

Let us have look at the earliest mosques for the Muslims in record where one of them, actually the second oldest one is evidently the house of the prophet Muhammad PBUH, the messenger of God, the preacher of religion Islam in Medinah, Kingdom of Saudi Arabia where he is also lying in peace. The first ever mosque was the Mosque of Quba

which was marked by positioning a few stones by Muhammad PBUH when he first arrived the city of Medina leaving the holy city of Mecca.

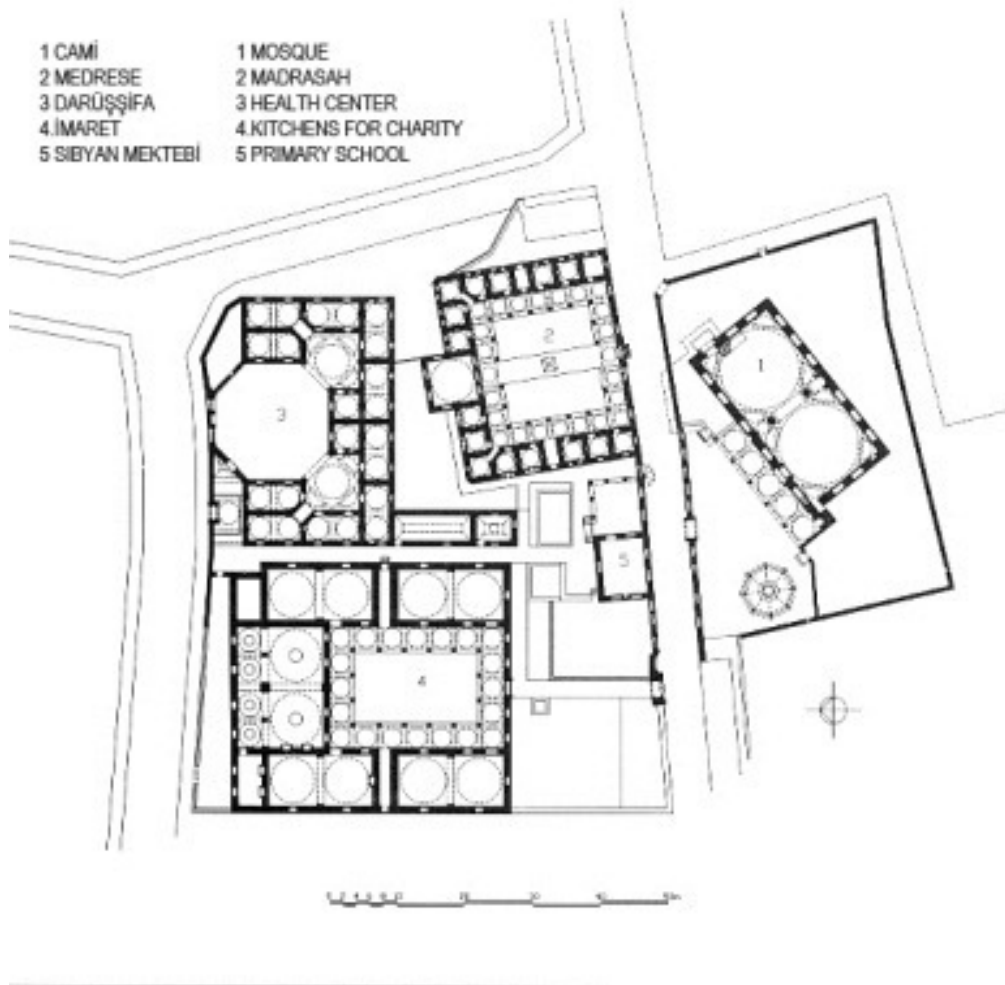


Figure 1- Haseki Kulliyeh at Istanbul

It is beside his house his followers used to meet and prayed in group (Jamayat). At that time they did not have the luxury to make an overwhelming structures. All they had was an open air building which later served as the model for future mosques. The mosque also served as a court, a community center and a religious school. Muhammad PBUH himself took part in the construction of it. At present that small little open air building is

turned into one of the largest mosque in the world with the maximum capacity of 1million people. One of the important feature is the green dome under which lies Muhammad PBUH in peace along with his two companions, the two caliphs Abu Bakar and Umar. There is also a place reserved for the body of prophet Isa (Jesus) as he is believed he will be resurrected.

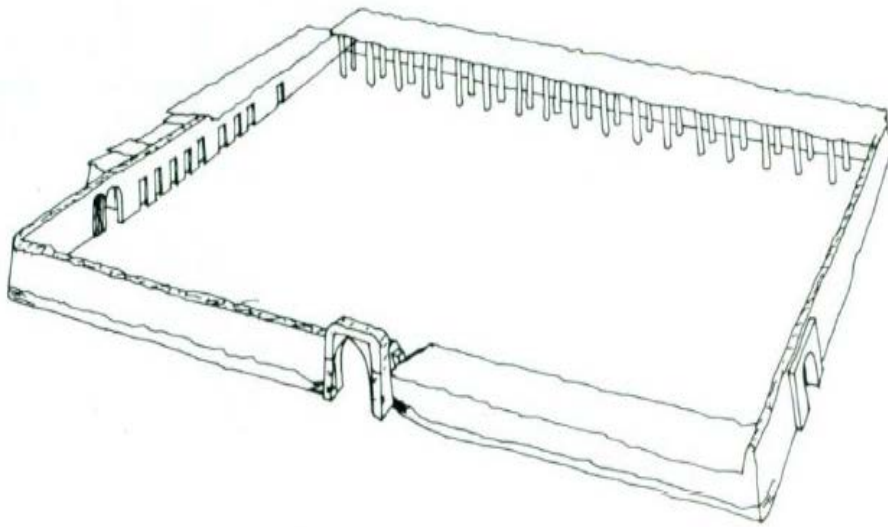


Figure 2- Original Mosque of Madina,KSA and also the House of Prophet Muhammad PBUH



Figure 3- The Mosque at Present, Also known as Masjid-Al-Nabawi

Most of the magnificent mosques of the Ottoman empire were built under the supervision of the great Architect Sinan. By the time of Sinan most of the techniques and planning for designing and constructing mosques as well as "kulliye"s were well established. The later periods followed almost the same techniques except that they added more richness and varieties onto them. Mosques were built typically to consist of a central prayer hall, the wall facing "Kaaba", the mihrab(place for the Imam or the Leader), one or more minarets and sometimes a courtyard surrounded by galleries or arched hallways. This arrangement was the most basic for building mosques over centuries and even in the present days. The Mughals (15-19th century) followed the same arrangements but experimented with the proportions of different parts of structure corresponding to site,climate, population and aesthetics producing some of the most

marvelous structures of the world. They reached the level of supremacy in terms of height and proportion of the domes calculated with visual perspectives of human eyes.

Typical parts of a Mosque

Other than some alterations typically a mosque consists of the following parts-

The prayer Hall

A prayer hall is where the main prayer is performed by group or individually. It is typically enclosed by all sides or given a sense of enclosure by series of columns or so. But it is always walled on the one side that is facing the "Kaaba" and all the Muslims has to face that wall while praying. The direction to "Kaaba" is referred to as "Qibla"

Mihraab

A mihraab is a space, typically a semicircular niche created by carving inside the wall facing the Kaaba. It sometimes can be seen from the outside wall. This Mihraab is the place where the Imam will be standing to conduct the prayer.

Mimbaar

A Mimbaar is a platform reached by steps which is normally kept at the right side of the mihraab. This mimbar is used by the Imam or a preacher to speak to everybody,

especially in the "Jumma", the friday afternoon prayer or any other social or religious occassion like "Eid" or weddings.

Ablution Area

Earlier mosques used to have an ablution space as it is obligatory to perform ablution before praying. It could be a well or a fountain as per local availability. Now -a-days it is replaced by toilets with ablution facilities.

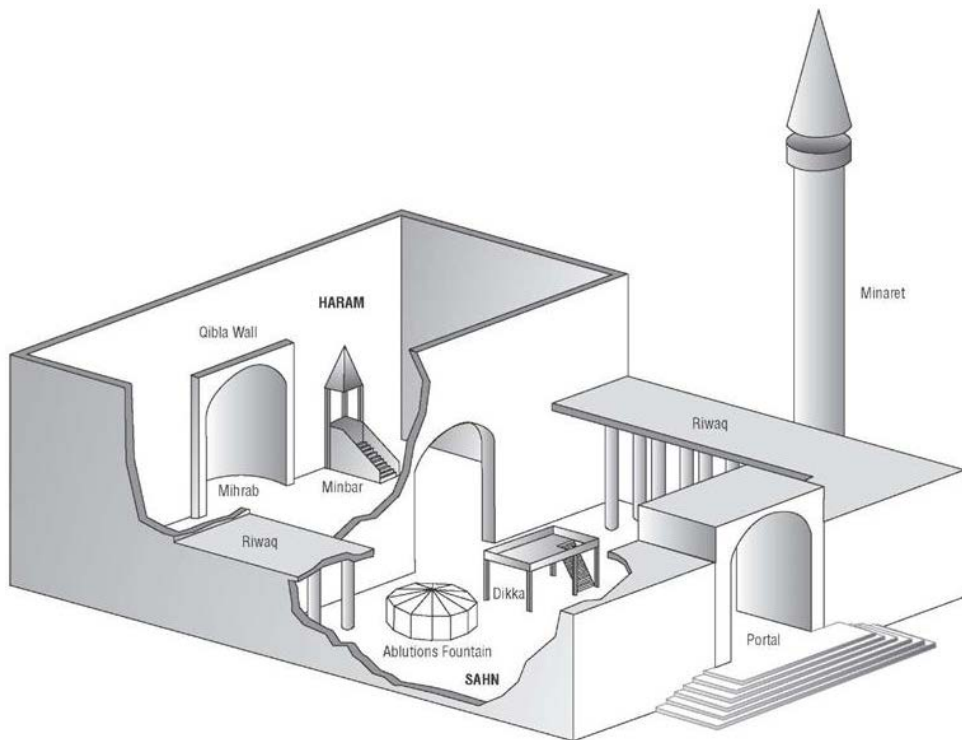


Figure 4- Typical Parts of mosque (Kavuri-Bauer 2012)

Minaret

A minaret is the tower with a spiral stair inside to reach the top. The "Muajjin", the caller to perform the "Adhan", the call for prayer, would climb the tower five times a day so that his voice could reach the farthest corner possible. This was before the innovation of microphones and amplifiers. Now-a-days there is one or more speakers placed on top of the minaret and the Muajjin performs the Adhan from inside the mosque using a microphone. There are still stairs inside for maintenance.

Dikka

A Dikka is a raised platform, placed parallel to the qibla wall. It would be used by a group of followers of the Imam to repeat and convey his commands for different postures of prayer so that it could be heard by the people behind. Nowadays they are also replaced by loud speakers and microphones.

Imam's Quarter

Sometimes the Imam might live adjacent or inside the mosque complex which requires an Imam's quarter. It can be adjoined to the building or at a corner inside the main building complex.

CHAPTER 3

CASE STUDIES

Two types of cases were included in the precedent studies, type one, contemporary and local mosques and type two, also contemporary spiritually overwhelming structures but non-islamic. They are chosen and analyzed in the basis of form, functionality, spatial organization and most importantly their unique way of reflecting a universal value of spirituality and togetherness. The spatial organizations and connections among different spaces are represented by colors where blue defines circulation, yellow is for main prayer hall and orange stands for other amenities like classrooms, seminars etc.

Contemporary or Local Mosques

Chadgaon Mosque, Chittagong, Bangladesh

The Chadgaon Mosque is one milestone in modern architecture as seeks to fulfil the traditional role of a mosque as both a place of spirituality and as a gathering place for the community (ArchDaily 2010). Siting it on the suburban periphery of the port of Chittagong in Bangladesh, the architect, Kashef Mahboob Chowdhury has identified the essential elements of a mosque to create a new form and articulation for a typology that goes back for a millennium and a half.



Figure 5- Chadgaon Mosque, Chittagong, Bangladesh

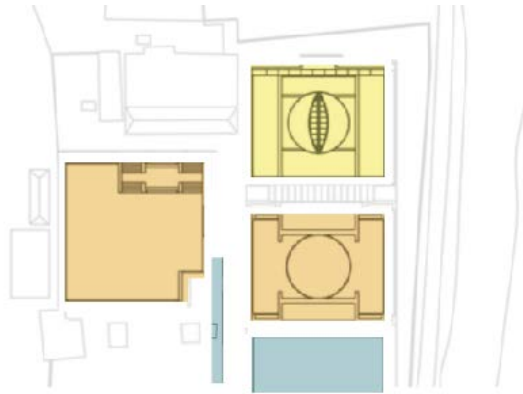


Figure 6- floor plan of Chadgaon Mosque

With its bold form and geometric clarity, the mosque stands apart from many such structures that have come out of the tradition of typical mosque and makes a definitive architectural statement pointing to the contemporary, to a desire to live in spaces that reflect the universal values of the present day.

Sherefudin's White Mosque, Bosnia

First construction was completed in 1477, but it was completely reconstructed and finished in 1980 by Architect Zlatko Ugljen in Visoko, Bosnia-Herzegovina for the Muslim Community of Visoko . Its most notable award came in 1983, when it was awarded the Aga Khan Award for Architecture. The mosque was commended for its boldness, creativity and brilliance, as well as its originality and innovation. (AKAA 2007)



Figure 7- Sherefudin's White Mosque, Bosnia



Figure 8- Floor plan of Sherefudin's White Mosque, Bosnia



Figure 9- People having discussions



Figure 10-Ample lighting created by carvings and cuts in the walls and roof

Non-Islamic Local and Contemporary Spiritual Structures

Notre Dame de Haut by Le Corbusier

In the history of Modern Architecture Notre Dame de Haut by Le Corbusier stands out as a masterpiece that not only beholds the grandness that it demands by function to be reconstructed church which is also a site for pilgrimage, but also its structural integrity with form and function, lighting gesture speaks through its own proportion that mesmerizes the people who gets inside and turns their body and mind to a state of submittance to the Highness. The structure projects a sensational sense of primitiveness and modernity too which makes it more profound in its site and make us feel that the structure is part of the site and belongs there since eternity.



Figure 11- Notre Dame de Haut



Figure 12- Inside Notre Dame de Haut

CHAPTER 4

THE SITE

Introduction To The Site

The towns of Amherst, Hadley and Northampton both have histories and stories of their own regarding their culture, traditions, businesses, colleges, industries and so on. The Connecticut river runs in between the towns of Hadley and Northampton and Route 9 is the major highway that runs over the river as the Coolidge Bridge. Parallel to the Coolidge Bridge is the old Norwuttok rail trail bridge¹, now renovated as a wooden pedestrian and bikers' bridge. While passing by one can hardly miss the island rising from the river, part of the wooden bridge rests on Elwell Island.

¹ The Norwottuck Rail Trail is an 11 mile path linking Northampton, Hadley, and Amherst along the former Boston & Main Railroad right-of-way. Both ends of the path offer free parking for trail users – Elwell State Park on Damon Road in Northampton and Station Road in South Amherst. Public restrooms are available at the parking area at Elwell Recreation Area. The bridge runs over the river Connecticut.

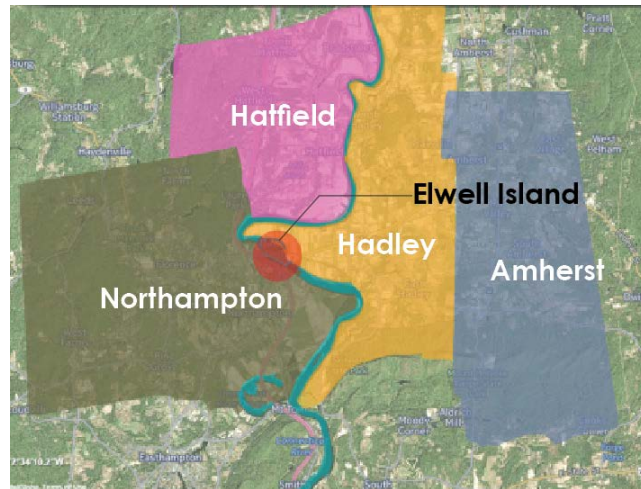


Figure 13- Site Location



Figure 14- Calvin Coolidge Bridge on the left and
Norwuttok Rail Trail Bridge on the right



Figure 15-The Elwell Island from a bird's eye view

This island is known as the Elwell Island and declared as Elwell State Park. Despite being a State Park, there is no access for public to the island from the bridge nor there are any gesture for someone who wants to access it from the river. One just can enjoy the view from the bridge or the river banks.



Figure 16- As seen from the wooden bridge

It is quite an strangled, abandoned piece of land which also partially goes under water and again rises up. Standing on the bridge, on the north bank, one would see the vanishing lines of the town of Amherst and farmlands right along the river. On the south bank there are a few structures, benches for sitting. All the traffic noises come from the east as people are either rushing to work or school or getting back home. If the weather permits there might be a few rowing boats. The UMass rowing club is also nearby. But no matter what the island lies quite just amidst the busiest transition space between the towns as witness of all the happenings around. It becomes orange in fall, white in the winter, green in spring and yellow in summer. Still it has been the leaf shaped piece of land for years amidst the dramatic river Connecticut where no one has ever stayed or might not be even stepped on to for years.

Walking or biking along the wooden bridge one will definitely be caught by the serene sight and transitional quality of the unaltered, pure, natural island unless he or she is too busy with worldly businesses and has no time or desire for unworldly and spiritual connections. The island is like a piece of serenity among chaos, a land of tranquility amidst confusions. If one compares it with the coexistence of physical and metaphysical world, the island is like a spiritual transition between two busy towns whose people are all filled up with worldly businesses.

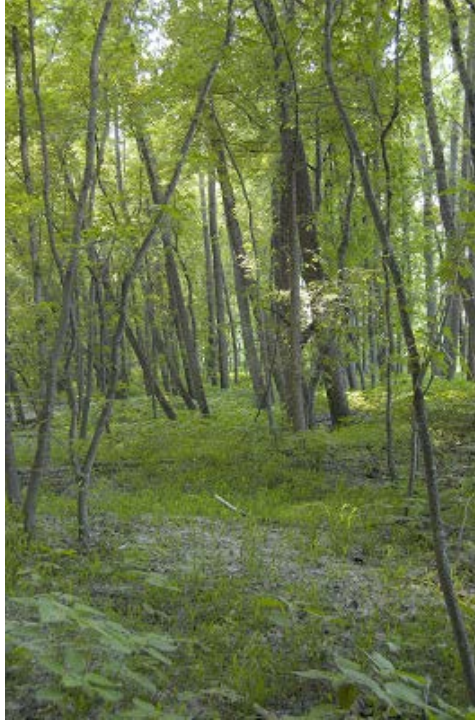


Figure 17-On the island

If given access to the land from the bridge or if there was a gesture for someone who is rowing around, I can imagine, one will slowly be left in solitude, the noises from the traffic would start to fade away as one walks into the woods. When I was looking for a tranquil, serene and secluded site but also close to the towns for prayer facilities for the Muslims along with communal gathering spaces regardless of any religion, I was captivated by this island imagining how it can offer beyond that. Here is a few elaborated reasons why-

Firstly, Muslims are really minority (1% of population) compared to other religious groups around this part of western Massachusetts. Among those Muslims most of them are students of the five colleges² and comes from different foreign backgrounds. They do

² A consortium of the five colleges in western Massachusetts which are The University of Massachusetts of Amherst, Hampshire college, Amherst College, Smith College and Holyoke College

not usually share any common community rather they are quite scattered all over. But still they try to meet every Friday after noon in local mosques or prayer halls which are usually rented spaces along the commercial strip. In any other country where Muslims are outnumbered they would build their own mosque within their community. If the Muslims of the two towns are given the opportunity to meet and greet every week or every day and also share spaces with people from other religions or non-believers , it will not only strengthen the brotherhood among the Muslims but also among people from all other beliefs.

Secondly, by religion the Muslims are instructed to pray five times a day depending upon the position of the sun. And like any other religion a peaceful and tranquil space would add more virtue to the offerings of the believers and help them connect more physically and spiritually to whom he or she is praying to. A secluded place like this will help him pay more attention to his prayers and a bit of escape from the surrounding chaos of the world.

Most importantly, there are other religious structures like Hindu Temples, Buddhist Stupas or Christian Monasteries built in secluded spaces like top of a hill, in a hidden cave of a mountain or even on the top of mountains and the believers has to take the pain to go there and proof their faith on Gods and also feel more connected spiritually leaving all the worldly things behind and offering oneself to God. Islam as a religion has only one pilgrimage which is in Mecca, Saudi Arabia. Other than that Islam does not require to have any mosques in any secluded area, rather it is recommended to have prayer halls

amidst locality so that it is easier to access without hampering other daily activities. Also the

river banks has always been of interest for the Mosque builders as it offers direct access to merchants who came by boats and also the reflection of the structure on the water added more grandness to the aesthetics and offered tranquil breeze of freshness and airiness inside. Taking all these into account and also the idea of a secluded unaltered natural space among the chaos of the towns Elwell Island seems to be a perfect site as it is easily accessible from any parts of the two towns and surrounding area but also almost hidden amidst the woods and water.

Climatic Characteristics

Elwell State Park is a park in the region of Massachusetts, the country of The United States with an average elevation of 128 feet above sea level. The area is not very densely populated with 236 people per mile (Chinci n.d.). The nearest town larger than 50,000 inhabitants takes about 0:12 hour by local transportation.

It has a humid (> 0.65 p/pet) climate. The landscape is mostly covered with closed needle leaved evergreen forest. The climate is classified as a humid continental.

CHAPTER 5

DESIGN ELEMENTS, CONCEPT & PROGRAM

Design Elements

Typically the main part of the mosque is the prayer hall. Muslims are required to pray five times a day and though it is not required that one should pray at a mosque, it is more rewarding and also gives the opportunity to meet others in the neighborhood. The most rewarding is that a number of people are submitting themselves to God at the same time, saying the same verses it seems like that the subconscious of a number of individuals are merging into one great conscience. There can be two ways that the spiritual feelings can be more profound, one, if the individuals who are praying are truly devoted to the supreme being ,two, through performance and power of architecture. For instance, there have been a lots of mosques, churches or temples where people are gathering everyday may be for hundreds of years. But not all of them are as emotional or spiritually uplifted as does the Parthenon of Rome or the Blue Mosque of Istanbul, Turkey. The architects of those structures have determined the heights, hierarchies, proportions and intrusion of light with such sensitivity that each building leave an immense effect on the visitors mind or may be soul.

Every steps or rituals before, during and after praying has a physical side and a nonphysical side. In fact there is only two main steps, one is the wudhu or cleaning and the main prayer.

The cleaning requires that one should clean his or her face, hands up to elbows, feet. Physically this makes one clean from dirt and germs and prevents spreading of germs but its other intention is to purify one of all the evils around. The different positions during prayer also not only have great impact on proper blood circulation and good health but they are also different expressions of gratitude and submittance to God. Consequently, while designing a mosque, to facilitate with the physical parts one has to provide all the functional and agronomical spaces required for the performances and at the same time correspond to the holiness of each step and help the performers feel more sacred and fulfilling inside.

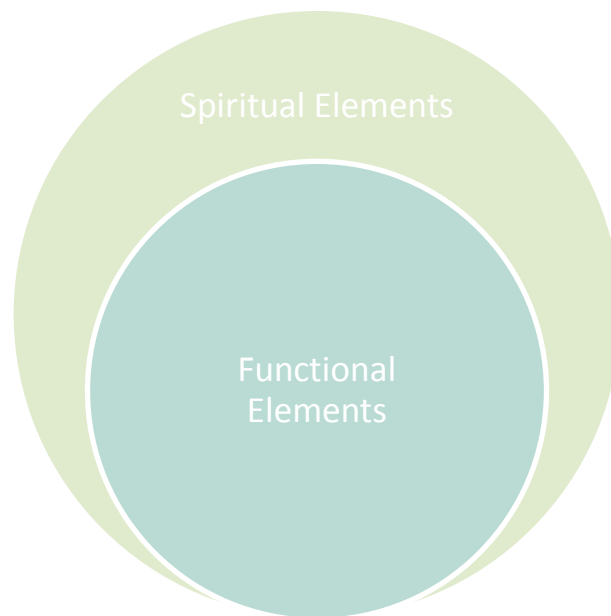


Figure 18- Explaining the concept of elements to design a mosque

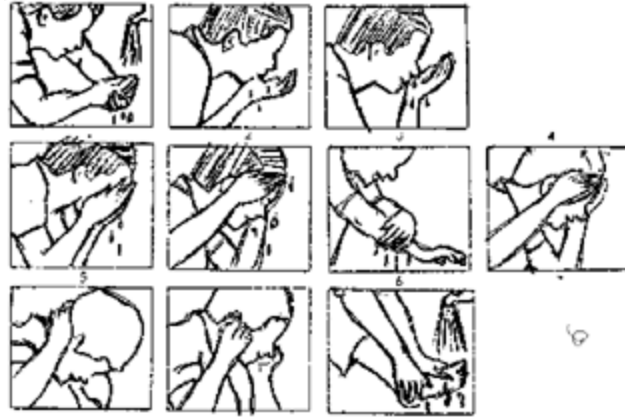


Figure 19- steps of ablution



Figure 20- Steps of Muslim prayer

Functional Elements/Program

The objective of this thesis is not to just introduce a mosque as a space for spiritual gathering but also to build a space for gathering of people from all the other religions or people not following any religion. The complex should spread the concept of a exchangeable understandings among people regardless of their religious background. It

will provide an opportunity to show how Muslims pray or perform inside which is rare in today's context. It should provide ground for group discussions, lectures, seminars, reading, casual gathering, food facilities and amenities like toilets, ablution, disable access etc. Therefore the programed spaces will be-

1. Main Prayer hall- 100 people (in general)
 - 150-200 (Fridays or special occasions)
 - 350 (Future/occasional expansion)
2. Class rooms – 30-40 people
3. Seminar/conference room- 15-20 people
4. Administrative offices-10-15 people
5. Café
6. Library
7. Imam's residence
8. Dorm facilities- 6 people

Spiritual Elements

By spiritual elements it is referred to those elements which has immense effect on peoples mind and have been used by ancient builders and architects to create illusions or to make people feel more uplifting by soul. There might be lots of elements that are yet unknown that gives a space spiritual uplift. Those elements described below are few of the elements which have never failed to add graciousness, spaciousness and above all a sense of spirituality whenever they were incorporated in design-

Light and Shadow

The play of natural light has always played with human minds. The first stroke of morning sun, rays of the sun striking through branches of trees, rays peeping through clouds always leaves a sensation in our mind. The five times a day Muslim prayer is also based on the movement of sun. Inviting or restricting light a designer can make a space seem larger or smaller than what it actually is. He or she can control the mood of the inside space through controlling the ambience of light. Throughout history architects have used light as a strong element of design especially in designing religious structures like churches and mosques where light is seen as an element directly sent from above to purify or glorify or even make someone feel small or shy or guilty, however one perceives it. But it certainly plays with our mind and leave collective memories.

“Gravity builds space, light builds time, and gives reason to time. These are the central equations of architecture: control of gravity and dialogue With light.” (Jayasinghe 2011)

- Alberto Campo Baeza



Figure 21- Inside an old grand mosque



Figure 22- Man praying in a prayer hall, provision light creates
extra ordinary mood of calmness

Water

Of all the materials we have in this world nothing is as important as water. No living organism on earth would subsist without it. Our existence is sustained because of it.

(Ethapane 2011). Water is not only part of our everyday worldly chores but also is being used or seen as a special element for various religious rituals. On one hand it washes away dirt with its splashes, and on the other hand it purifies our soul. It calms our body and mind. One of the main reason for choosing the site was it was in an island and the ever flowing Connecticut river is running around it. It would be a privilege for me to be able to use the water as a tranquilizing element of my design. Also the light refracted from the ripples and waves of the rivers will certainly create enormous effect on the lighting condition inside the spaces and on the surface of the walls.



Figure 23-Mosque in Jeddah on the Red Sea

Scale & Proportion

Last but not the least one of the most powerful tool for an architect is to work with the scale and proportion of the height and width of spaces. An architect plays his main role while determining volumetric proportions. The height proportioning to the area gives the impression of grandness and importance of a space. A great hall invites people and implies collective memory on them as they perform, pray or gather for discussion.



Figure 24-Inside Pantheon, Rome



Figure 25- Inside Assembly hall, Dhaka



Figure 26- People praying in a large prayer hall

CHAPTER 6

DESIGN & ANALYSIS

Design Goals & Concept

The main concept was to represent the transition of conscious and subconscious, body and soul. Since we as human beings are driven by our conscience, the concept was that the main prayer hall will be the hearth of the construct as well as the central element around which all the other activities will twine and inter twine. Functionally it is to represent that daily prayers or special prayers are nothing separated from our daily worldly chores, rather it should be the driving force for everything as it relaxes and purifies our mind, soothes our soul. It is a functional demand for a mosque to have a courtyard where people will come in first and then scatter to go to other spaces like the main prayer hall, ablution or other galleries if permitted. Typically the middle eastern and asian mosques have a open courtyard or complex but in the climate of new england region it is improbable to have a open courtyard to have an open courtyard and make it function in the winter. Also a courtyard separates the rest of the spaces from the main prayer hall which is the opposite of the concept of intertwining all the functions. The goal is to provide that any body can come into the main prayer hall or can watch over it from other spaces around so that what happens inside will no longer be hidden and secret to people from other religions. Infact even those who are not performing they are taking part by visualizing the communal prayer and getting the essence of the grandness and overwhelming power of communal gathering where all are following the leader, the Imam, calling Allah with their voices and soul at the same time which would create a mesmerizing eco effect in the hall. At the same time the sacredness and restrictions has to be preserved. To meet this

challenge of intertwining and restricting the idea of a raised platform in side the main hall as evolved. The Muslim will get on to the platform when they need to pray and they will climb up to the platform on a ramp that is circulating around the platform. This is a new type of ritual intentionally introduced here where after cleaning them through ablution, they will be moving upwards gradually as they will be going all around the platform with the ramp which will create another level of transitioning from the worldly activities to something greater, spiritual, unworldly or closer to God.

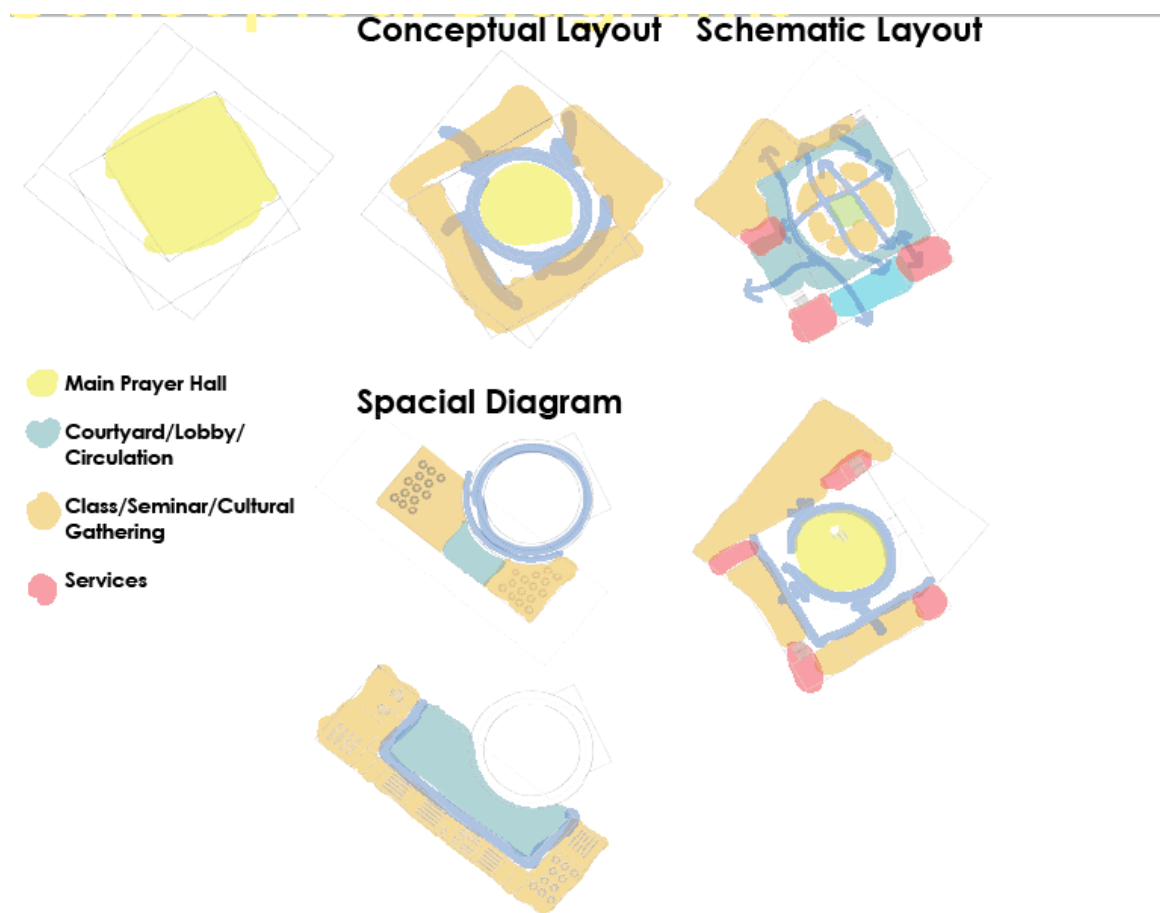


Figure 27-Conceptual Diagram

Also another important intention is to bring back the ancient way of determining the prayer time by looking at the position of sun and quality of shadow it is casting. It is explained in figure-28 when it is time to pray according to suns position. This it will be

another profound way to establish the connection with nature. As the quality of light changes along the day, the intent of the design is to change the inside environment of the prayer hall and whoever is inside or is passing by it will feel the change.

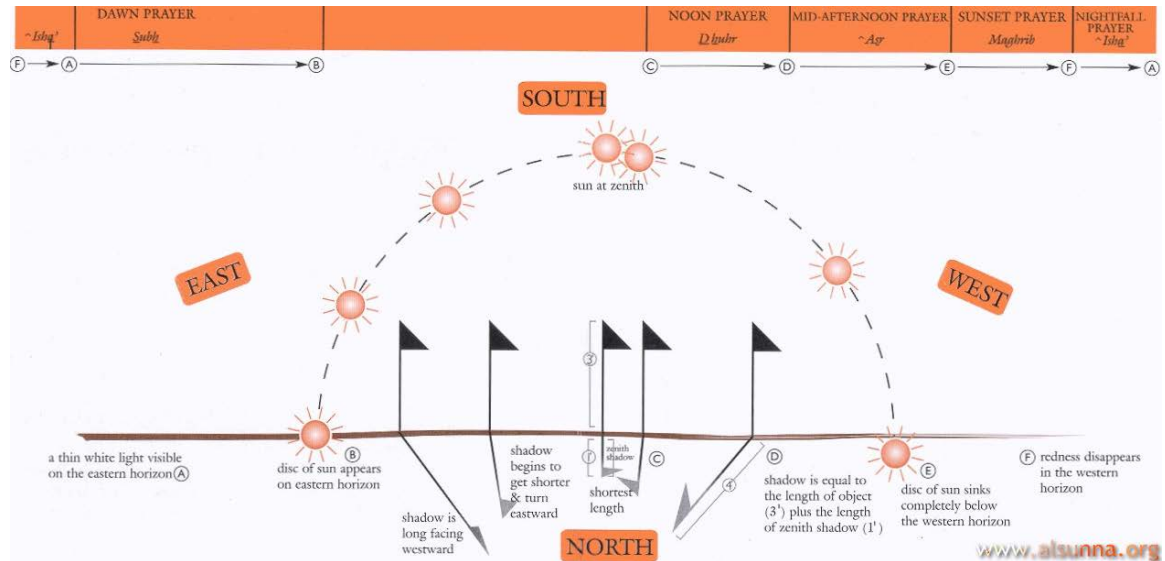


Figure 28- Different Muslim Prayer times as determined according to sun position

Also another intent was to preserve the wilderness of the site and a feral sense should play around one's mind when he or she approaches to the complex. Most importantly, to invite people regardless of their religion, the intention was to make everybody feel equal as one approaches. There will be three types of people coming, 1. Muslims, 2. Non-Muslims who wants to explore the structure, 3. Non-Muslims who just want to enjoy the outside. Though the process started with restricting and separating the categories which was not the intentional at all, but the design ended up with common approaches for all, still providing directional routes as per the viewers intentions.

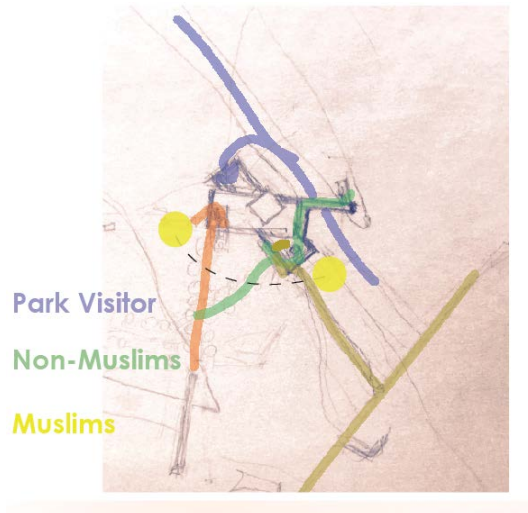


Figure 29- different and indifferent routes for getting to the complex

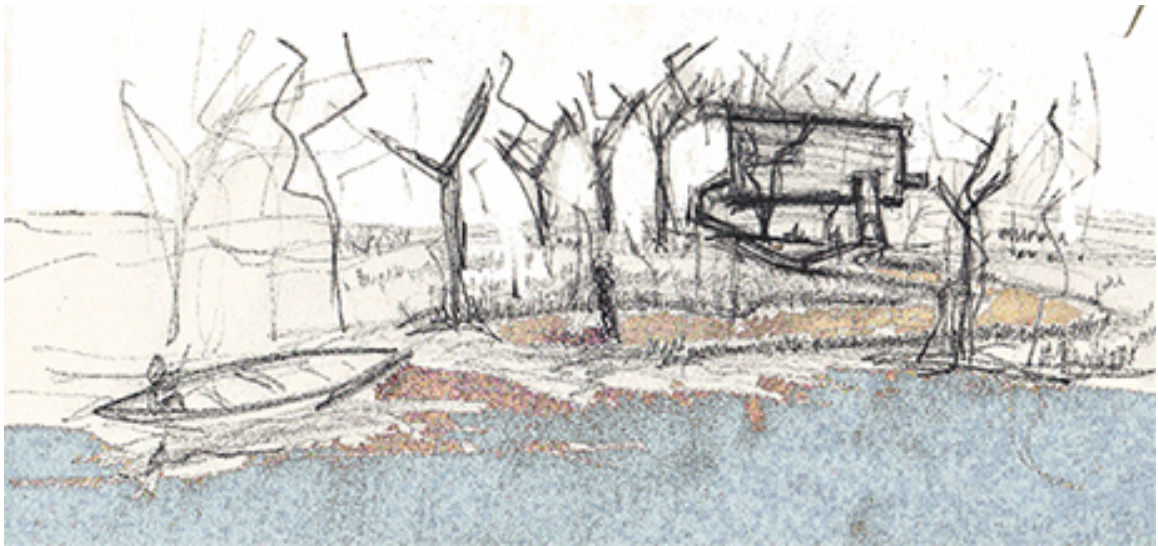


Figure 30- Initial sketch keeping in mind preserving the wilderness

Site Plan

The island does not and will not have any vehicular access. People coming through the Coolidge Bridge will park their car right across the island as proposed. Then they will walk through the rail bridge. Another bridge branching out from the wooden bridge will take the visitors to the main complex. This way the visitors will not have to get on the ground as there occurs serious flooding on the ground. At the time of flooding the whole complex will then seem to be floating on the water add another level of effect.

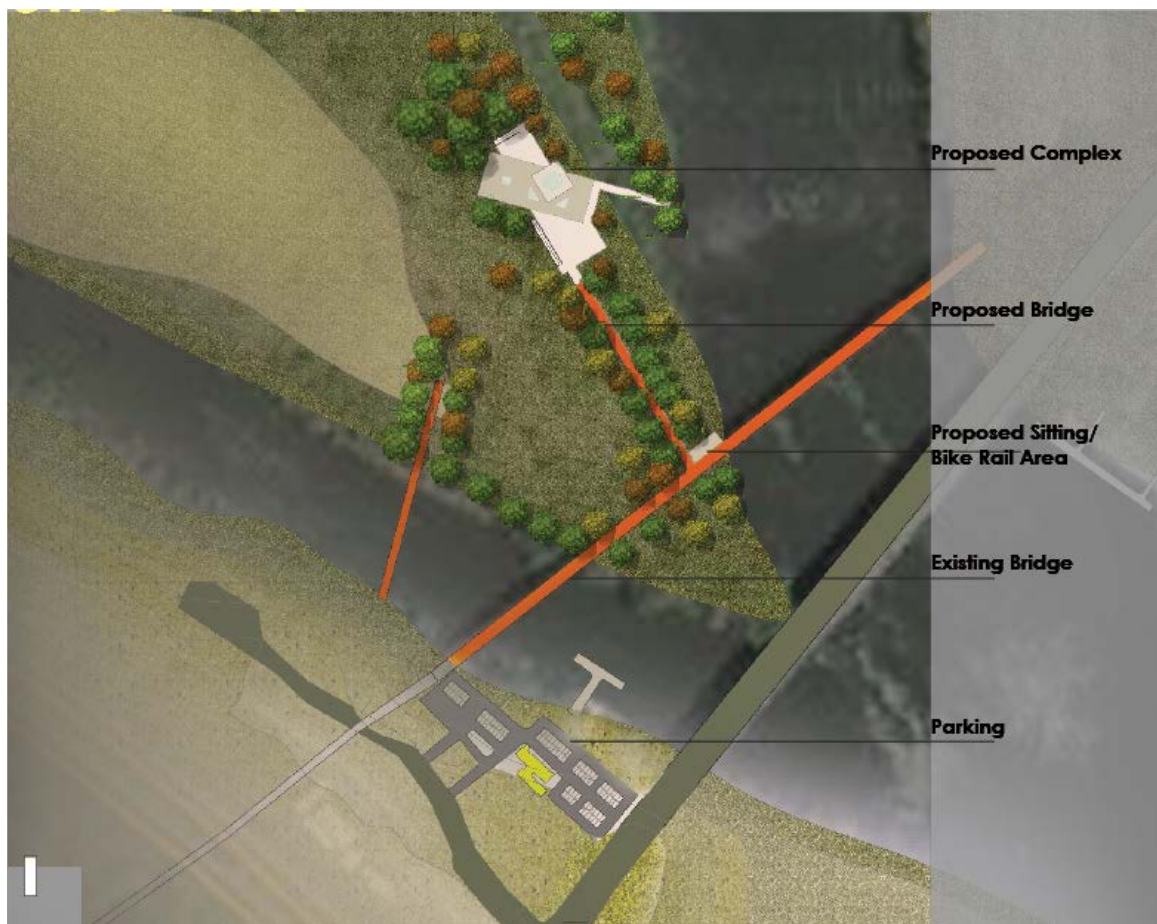


Figure 31- Site Plan



Figure 32- Darker blue representing general water level,lighter blue shows the water level while flooding

Zoning and Design Layout

All the functions and programs are arranged as per the initial concept of having a central court and circulation. In the main prayer hall, under the platform there are classrooms will be arranged by placing removable panels. That way when the number of Muslims overflows during occasional prayer time, the panels can be removed and make more spaces for prayer.

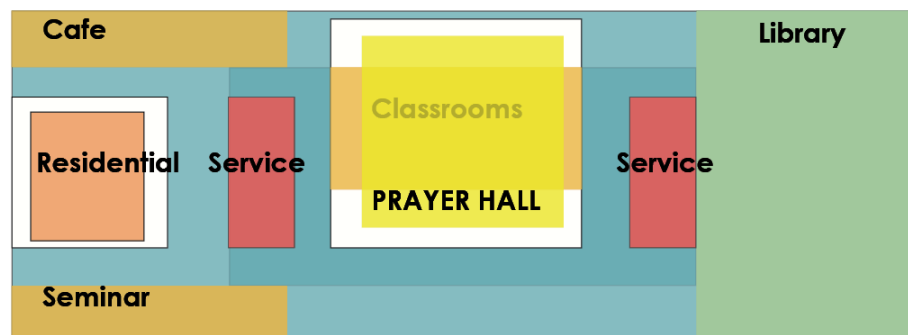


Figure 33- Program Layout

Floor Plans

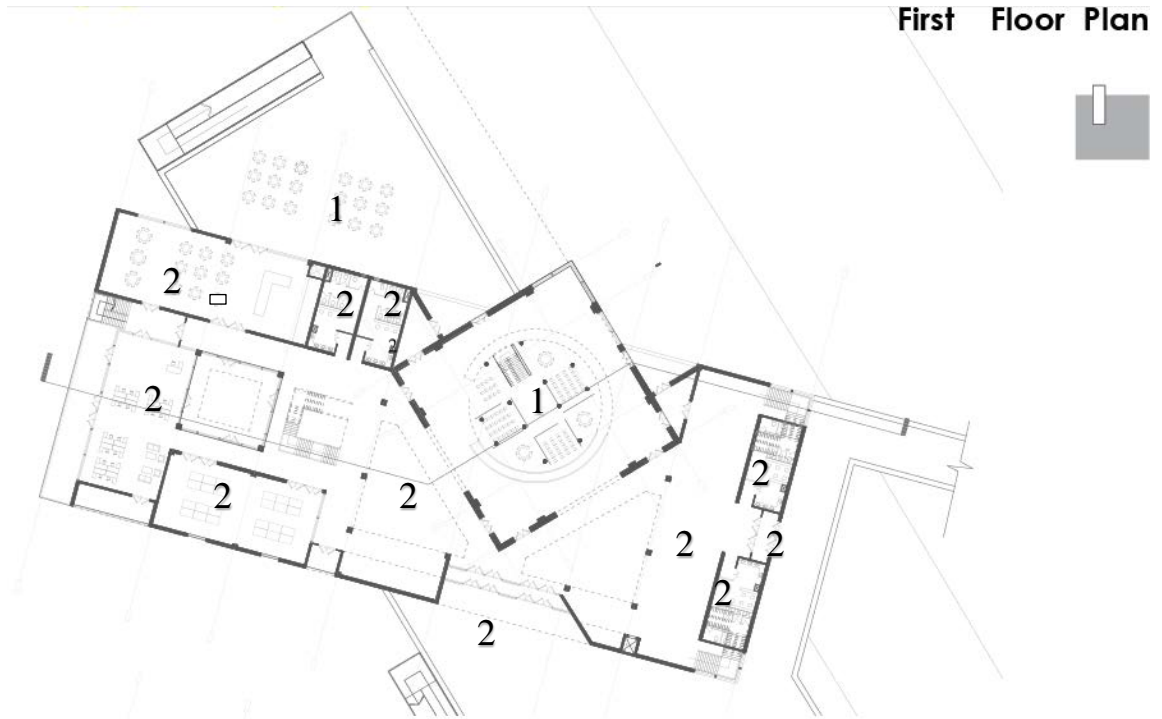


Figure 34-first floor plan



Figure 35-second floor plan



Figure 36- section showing vertical circulations, the prayer platform and relationship among spaces



Figure 37- View as one approaches from the bridge



Figure 38- View as one approaches from the river

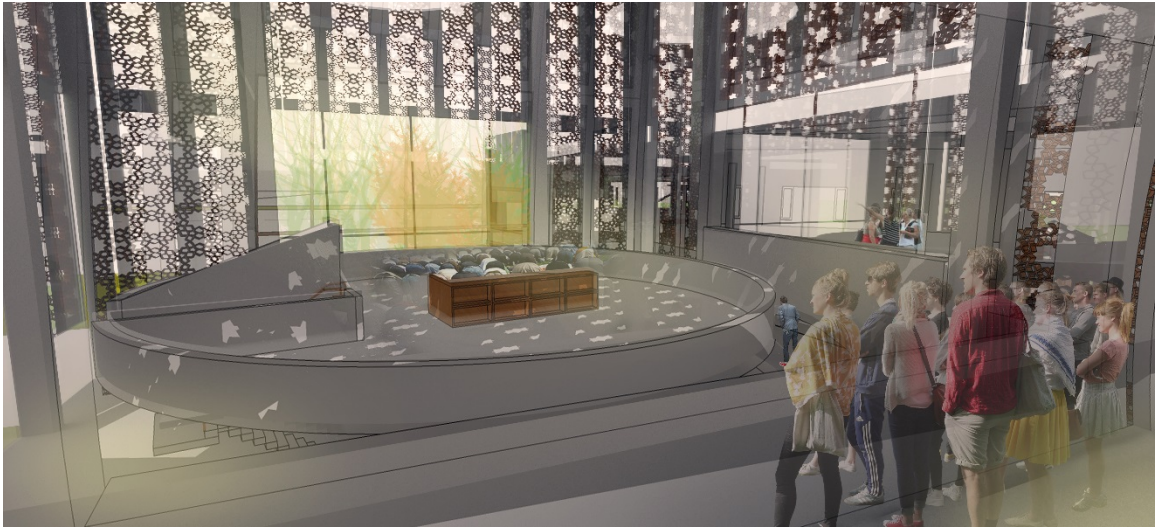


Figure 39- Non-muslims watching muslims pray from second floor level

Lighting Inside the Main Prayer Hall

As explained in the describing the concepts that the prayer hall would have different lighting effects as the day turns into night.



Figure 40- Light patterns start to fall on the platform in the morning



Figure 41- The light from the translucent , circular roof membrane forming light on the platform as it is time for Dhuhr.

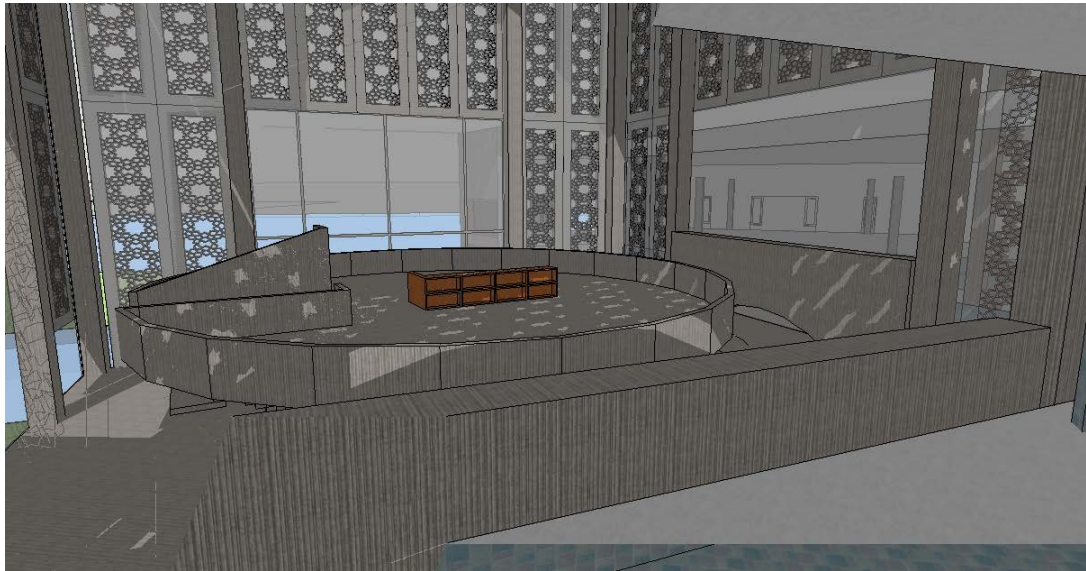


Figure 42- As time goes by from Dhuhr to Asr, light patterns start to form on the platform

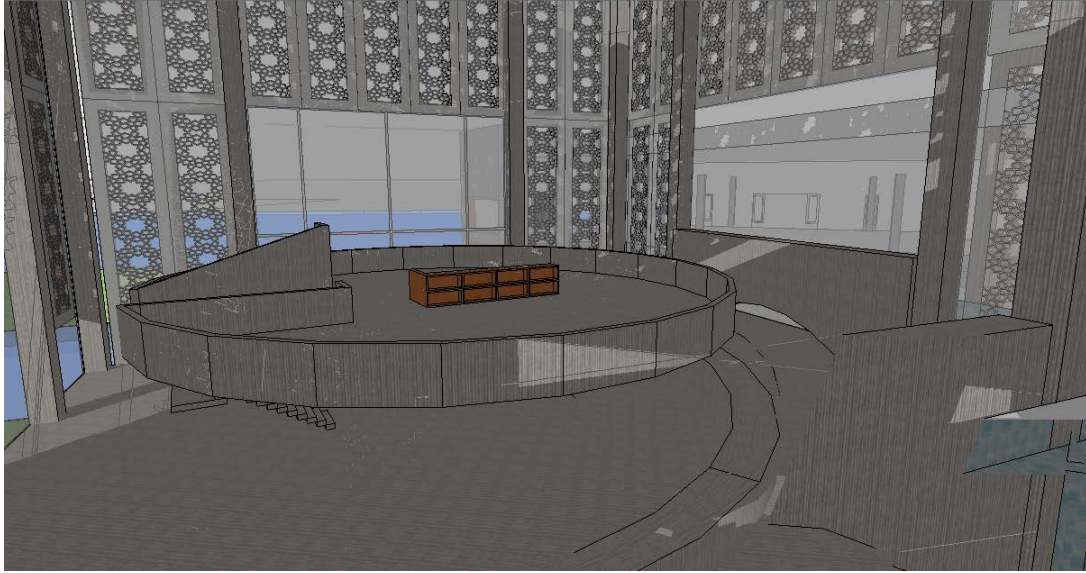


Figure 43- When it is time for Asr, the light patterns starts to form on the walls instead of the platform

Materials & Construction

- Tilted slab Concrete- exterior walls
- Shear wall concrete – Interior and structure
- Weather Treated wood- Door and window frames
- Concrete and terrazzo tiles- Flooring
- Kalwal- The dome on the roof

REFERENCES

AKAA. 2007. <http://www.akdn.org/architecture/project.asp?id=237>.

ArchDaily. October 14, 2010. <http://www.archdaily.com/81700/chandgaon-mosque-kashef-mahboob-chowdhury>.

Chinci. *The Travel Location Guide*. n.d.
<http://www.chinci.com/travel/pax/q/4935860/Elwell+State+Park/US/The+United+States/0/> (accessed 2011).

Ethapane, Vinuri. "H2O in Architecture: A Soothing Element." *The Architect*, 2011.

Jayasinghe, Nandaka. "Spirituality in Architecture." *The Architect*, October 2011.

Kavuri-Bauer, Santhi. "Islamic Architecture." *Islamic Arts & Architecture*, 2012.