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Healing the Scars

Tony J. Rodriguez Jr
Kennesaw State University

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HEALING THE SCARS

AN INVESTIGATION OF IMMERSIVE AND INTERACTIVE DESIGN TO PROMOTE SOCIAL CHANGE.

HEALING THE SCARS

AN INVESTIGATION OF IMMERSIVE AND INTERACTIVE
PROGRAM TO PROMOTE SOCIAL CHANGE

THIS FINAL PROJECT IS PRESENTED TO THE FACULTY OF
THE SCHOOL OF ARCHITECTURE AND CONSTRUCTION

BY

TONY J. RODRIGUEZ

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

BACHELOR OF ARCHITECTURE

KENNESAW STATE UNIVERSITY, MARIETTA, GEORGIA

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DEPARTMENT OF ARCHITECTURE
SCHOOL OF ARCHITECTURE AND CONSTRUCTION MANAGEMENT
KENNESAW STATE UNIVERSITY

STUDENT'S FULL NAME:

TONY J. RODRIGUEZ

THESIS PROJECT TITLE:

HEALING THE SCARS

THESIS SUMMARY:

AN INVESTIGATION INTO THE REPURPOSING OF MANUFACTURED
LANDSCAPES IN AN EFFORT TO GIVE BACK TO THE EARTH WHILE
ENSURING THE HISTOIRY OF THESE SITES IS NOT LOST.

STUDENT SIGNATURE _____ DATE _____

APPROVED BY:

INTERNAL ADVISOR 1 _____ DATE _____
PROFESSOR BRONNE DYTOC

INTERNAL ADVISOR 1 _____ DATE _____
PROFESSOR WILLIAM CARPENTER

INTERNAL ADVISOR 1 _____ DATE _____
PROFESSOR MARIETTA MONAGHAN

THESIS COORDINATOR 1 _____ DATE _____
PROFESSOR ELIZABETH MARTIN

THE AUTHOR WOULD LIKE TO ACKNOWLEDGE
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BRONNE DYTOC
MARIETTA MONAGHAN

DEDICATED TO TONY AND ANGELA RODRIGUEZ

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CHAPTER 1

INTRODUCTION



FIGURE 1.1 - SHIMAO SHANGHAI WONDERLAND

HYPOTHESIS:

The repurposing of manufactured landscapes could go beyond beautification projects and instead raise awareness of the history of the site while at the same time raising awareness of the relationship we should hold towards the natural world.

Manufactured landscapes should not have their histories masked but instead revealed so as to make the public aware. This awareness has the potential of creating a lasting social change for the surrounding communities and city.

Currently, abandoned manufactured landscapes fall into one of two categories, those that are revitalized and those that are left for nature to eventually reclaim. For the sites that are just left to the elements, this is irresponsible post-harvest planning. The site is exhausted of materials then simply left to be. For the sites that are revitalized, more often than not, they are made into attractions in an effort to give back to the city but often lose the history of the site. They also miss out on the opportunity of showing the public the impact we have on the earth.

LITERARY REVIEW

DESIGN FOR THE REAL WORLD - DAVID PAPANEK - BOOK

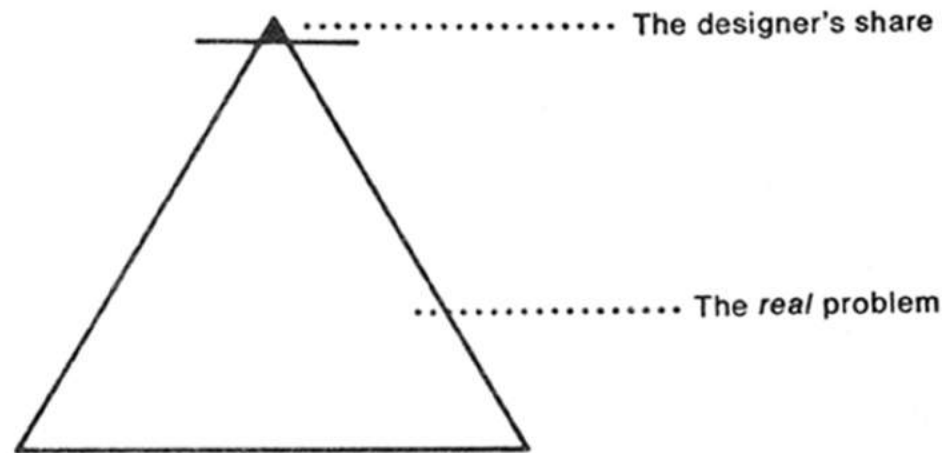


FIGURE 1.2 - THE WORLD

In Victor Papanek's 'Design for the Real World', he talks about how designers have, for the most part, taken a back seat when it comes to designing things to improve human life. He talks of a "Kleenex mentality" that we as a society have developed which causes us to see nearly everything in our lives as disposable. He states,

"But the risk is the expansion of this attitude; from changing automobiles every few years, we may move to considering everything a throwaway item, and considering all consumer goods, and indeed, most human values, to be disposable".

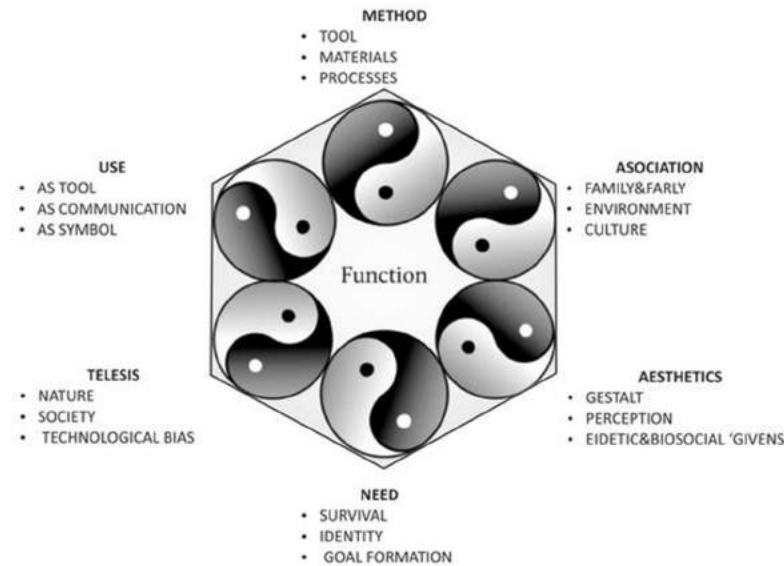


FIGURE 1.3 - THE FUNCTION COMPLEX

This eventually leads to designers creating things which are obsolete before they are even complete;

"When we design and plan things to be discarded, we exercise insufficient care in design, in considering safety factors, or thinking about worker user alienation from ephemeral trivia."

While Papanek's book may be meant to be an ethical awakening, his principles can go beyond that. The underlying theme of his book is the mindset of settling for shawdy disposable design for the sake of having things that are new.

"In spite of a threatening economic situation, designers must contribute to real human and social needs. This will call for greater sacrifice and much more innovative work. The alternative is chaos."

Victor Papanek

FIGURE 1.4 - QUOTE

We accept this disposability and it spreads beyond goods and into our values and even relationships. We see things that are new and automatically assume they are better and forget or willingly leave behind the important things that made the new possible.

"Our greatest hope in turning away from a gadget-happy, goods-oriented, consumption-motivated society based on private, capitalist, acquisitive philosophies lies in a recognition of these facts".

THE CONSTITUTION - ATLANTA - NEWSPAPER



FIGURE 1.5 - BELLWOOD PRISON CONDITIONS HIT



FIGURE 1.6 - SOUTHERN CHAIN GANG



FIGURE 1.7 - SLAVE LABOUR AT STONE QUARRY

in the 1890s Bellwood Quarry was established to provide granite for Atlanta and the surrounding area. This quarry was open for over 100 years, until 2014 when quarrying ceased due to breaching of the water table. The city of Atlanta bought the property from a private owner in 2006 in hopes of turning the quarry into Atlanta's largest park and water reservoir.

When it was first established, Bellwood Quarry served as a prison labor camp. During the prison camps lifetime, there was much controversy. Between the 1920s-1950s the Bellwood Prison Camp had frequent appearances in the local paper. Often times it was to warn the public of escaped convicts but sometimes there would be instances of condemnation of the facility or even an instance of local pastors breaking into the prison camp to share the word.

With the recent plans for the quarry in the spotlight, the sites history is on the verge of being forgotten. Currently the only historical records of the site lie in The Atlanta Constitution newspaper articles.

MANUFACTURED LANDSCAPES - EDWARD BURTYNSKY - DOCUMENTARY



FIGURE 1.8 - SILVER LAKE OPERATIONS #1

In Edward Burtynsky's "Manufactured Landscapes", he discusses the state that our world is entering due to our increasing need of energy. In this documentary he focuses on China's massive industrial revolution and the effects it has had on the natural world. He takes the viewer through the process of product creation, from start to finish, and shows how each of these steps have an effect on the environment. Burtynsky focuses on an awareness of where the products we buy come from. They are not objects that simply appear on a shelf. They have an origin. It is through this consciousness alone that we can begin to change our mindset and see the impact that each of us individually has on the world.



FIGURE 1.9 - BAO STEEL #8

Burtynsky states,

"There are times when I have thought about my work and putting it into a more politicized environment. If I said, 'This is a terrible thing we're doing to the planet' then people will either agree or disagree. By not saying what you should see, that may allow them to look at something they have never looked at and to see their world a little differently. So I think many people today sit in that uncomfortable spot where we don't necessarily want to give up what we have but we realize what we're doing is creating problems that run deep. It's not a simple right or wrong, it needs a whole new way of thinking."



FIGURE 1.10 - DAM #6

Whether we condemn what is happening to the world or not, it is the world we live in. Our society continues and will continue to push for technologies and economies that better human life. The question then shift from 'how do we stop damaging the earth' to 'how do we respond to the problems our technological and economic growth has on the earth'. Only individual awareness and consciousness of the impact our decisions and desires have on the earth can change how we see the earth.

PROJECT PROPOSAL



FIGURE 1.11 - CLIFF HOUSE

PROPOSAL:

What I propose is an immersive and interactive museum which will showcase the history of the site so that it is not forgotten while also being an ethical reminder to the public of the impact that we as humans have on the natural world.

I will be investigating abandoned manufactured landscapes, landscapes created or deeply traumatized by man, in an effort to make people aware of the consequences of our actions.

Through my research I plan to develop a means to revitalize and reuse these abandoned sites in ways which remember the history of the site as well as cause a conscious awakening within all people.

CHAPTER 2

ANALYSIS

SITE CONTEXT



FIGURE 2.1 - BELLWOOD QUARRY #1

SITE:

Bellwood Quarry sits in the west side of Atlanta just a few miles west of downtown Atlanta, Atlantic Station, and midtown Atlanta. The site sits in a prime location to attract people from the most dense areas of Atlanta.

The quarry, which used to provide granite to the growing city for over 100 years, is currently a 400 foot whole in the ground. The site, since its closure, has become a film hub with its beautiful man made cliffs which can be seen in "The Walking Dead", "The Hunger Games", and "Stranger Things" to name a few.

Bellwood Quarry is surrounded by a few historic neighborhoods including Grove Park and Knight Park. These communities sit just outside of the quarries perimeter and historically served as housing communities for quarry and rail line laborers.

Currently, this site is proposed to be the largest park and water reservoir in the city.



FIGURE 2.2 - ATLANTA RAIL YARD HISTORIC

SIGNIFICANCE:

The city of Atlanta was founded upon its rail yard in 1837. The rail yard served as a means of organizing the city streets as well as establishing Atlanta as an economic hub for the south. Materials harvested from the nearby Bellwood Quarry, just a short walk away, would be loaded on train carts and taken to projects all across the city and surrounding areas. Communities soon arose around the quarry and rail yard to house its workers.

Since the 1970's the surrounding communities have been on the decay. With the beltline planning to merge with Bellwood Quarry, Westside Reservoir Park, the area is planned to be revitalized but is in danger of gentrification and mass displacement.

Gentrification and loss of historic identity is a huge problem that the city of Atlanta currently faces. In an attempt to revitalize low income areas many future plans focus so much on making areas favorable for developers to stimulate the economy and surrounding areas that those there and the history are threatened to be forgotten.



FIGURE 2.3 - USA MAP OUTLINE



FIGURE 2.4 - GEORGIA MAP OUTLINE

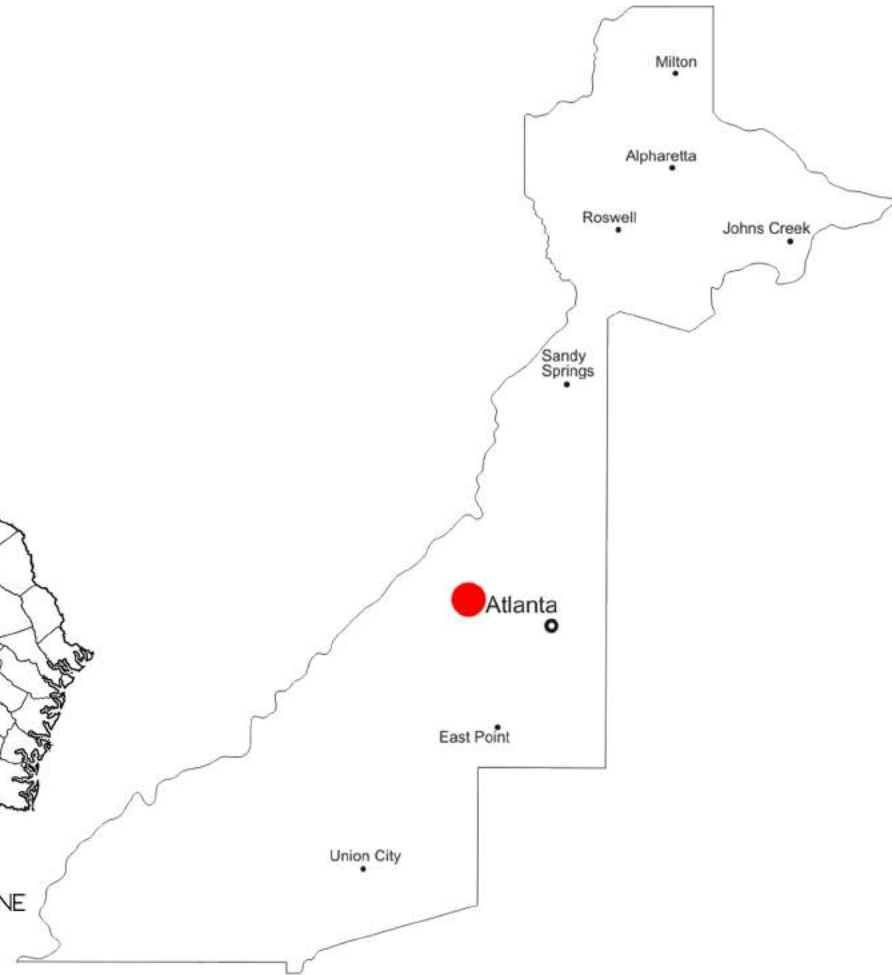


FIGURE 2.5 - FULTON COUNTY MAP OUTLINE

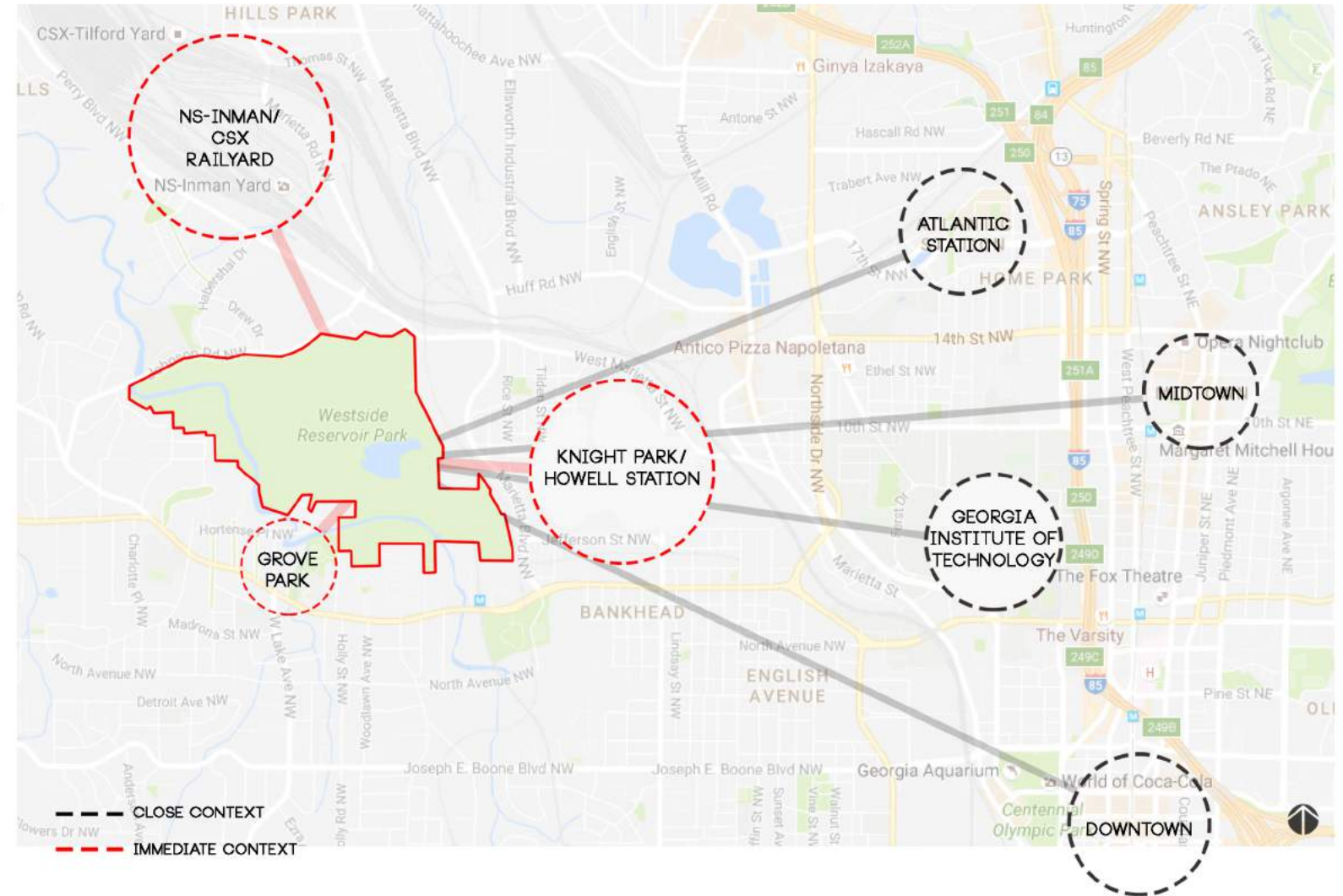


FIGURE 2.6 - WESTSIDE ATLANTA MAP

CONTEXT:

Bellwood Quarry is located inside Westside Reservoir Park on the west side of Atlanta. It is just a few miles west of Midtown, Downtown, and Atlantic Station; just north of Bankhead, south of CSX-Tilford and NS-Inman railyards, and to the east of the Chattahoochee River.

This is a heavily industrial area of Atlanta as well as a relatively low income residential area. Brownfields span the area between Bellwood Quarry and the Chattahoochee River.

To the east of the site lies the most dense areas of Atlanta which run along I-75 and I-85. There is a sudden shift in income level as well as quality of life once one passes Marietta Street.

This condition raises the potential for gentrification should the density of central Atlanta move westward.

BELLWOOD PRISON CONDITIONS HIT

Beginning with severe condemnation of prison conditions at Bellwood convict camp, and ending with a recommendation that the county and city governments be consolidated into one, to be known as the "city and county of Atlanta," the September-October terms of grand jury of Fulton county superior court returned its report Friday to Judge G. H. Howard, who characterized the report as the most complete and comprehensive set of recommendations he had ever observed.

The report reviewed conditions at Bellwood camp in detail, disclosing the information that prisoners numbering from 225 to 300 are frequently congested in a building measuring 60 feet by 150 feet, which must house all facilities necessary for their existence. The jurors recommended that before any other money is spent the proper authorities build a fireproof building at the camp, and that the building be constructed with two wings so that long-term and hardened criminals can be segregated from the short-term prisoners.

Recreation Enclosures.

In connection with the Bellwood camp recommendations, the report appealed for recreation enclosures for all convict camps, so that on Sundays and other days when they are not working the prisoners may be given the freedom of open air.

The report praised the managers of the county reformatory for their efficient work, and made certain suggestions as to how they may be enabled to perform a broader service. Judge Garland M. Watkins, of the juvenile court, was commended for his work in that office. It was recommended that an appropriation of \$200 per month be made for employing an investigator and record clerk for this court.

Chief of County Police George Mathieson was commended by the efficient work of his force, as was Lieutenant T. E. Lockhart, chief of the sanitary department.

Touching on schools and education, the jurors reported that they found some of the schools in first-class condition, but described the fire hazards that existed in others. Consolidation of the county and city schools was recommended.

Consolidation Urged.

Appealing for a consolidation of the county and city governments, the report said:

"We recommend to the citizens of Fulton county, both within and without the city of Atlanta, the consolidation of the county and city governments into one, to be known as the city and county of Atlanta, with one set of officers and one set of machinery for the transaction of the people's business. If this government is put under one efficient head, removed as far as possible from politics, and the fee system is done away with completely, we believe that millions of dollars will be saved to the taxpayers of this county, the tax rate could be materially reduced, and our efficiency greatly increased."

George Winship was foreman of the retiring jury.

FIGURE 15 - BELLWOOD PRISON CONDITIONS HIT

HISTORY:

The history of Bellwood Quarry is a dark one on the verge of being forgotten. When the quarry was established in the 1890's it started out as a prison labor camp. The labor camp provided granite for the construction of the growing city and surrounding area.

Conditions of the labor camp were nothing short of abismal. Living conditions included hundreds of prisoners cramming into a 60'x150' building which also housed those responsible for their well being and working conditions meant long hours in brutal Georgia weather.

This labor camp was established at an interesting time in America's history. Just thirty years before its formation, slavery had been abolished after the conclusion of the Civil War. However, the south was reluctant to let go of their social dynamic as well as the only economy they knew. The labor camp quickly filled with former slaves and the previous social dynamic of the south was reestablished until the prison camp was closed in the 1960s.



FIGURE 2.7 - GROVE PARK

COMMUNITY:

Grove Park, immediately adjacent to Bellwood Quarry, was developed in the 1920's and 30's by Dr. Edwin Wiley Grove. The community was primarily white until the 1960's when African Americans began to move into the area as part of an offshoot of growth of the Collier Heights community.

This community, along with others that lay along Donald Lee Hollowell Parkway, were at an all time high in the 60's when business thrived in the area. However, when the 70's came around the area began to fall into decay.

Gentrification and loss of historic identity is a huge problem that Atlanta currently faces, especially with the current beltline project. In an attempt to revitalize low income areas many future plans focus so much on making areas favorable for developers to stimulate the economy and surrounding areas that those there and the history are threatened to be forgotten.



FIGURE 2.8 - BELLWOOD QUARRY #2

GEOGRAPHY:

The geography of this site has several layers. First you must traverse through a heavily wooded area with subtle hills scattered throughout which almost instantly opens up to a massive hole in the ground. The quarry itself is rocky, sandy, and dusty with steep and sudden topographical changes. When you make your way to the base of the quarry floor you are met with a man-made lake, which is clear due to the water being static. When inside the quarry you feel as if you were in the valley of a rocky mountain range. Trees and plants have started to take over the cliffs of site.

Since the site was taken over by the city of Atlanta in 2014, there has been little human activity on the site. Before it was closed, Volcan Mineral owned the site and it was filled with heavy machinery, massive trucks, and heavy foot traffic. Since the city took ownership, the site has had light foot traffic from tours going through the site but has mostly been used in film. The steep rocky cliffs with a lake at its base provides a beautiful backdrop for many hit tv shows and movies.

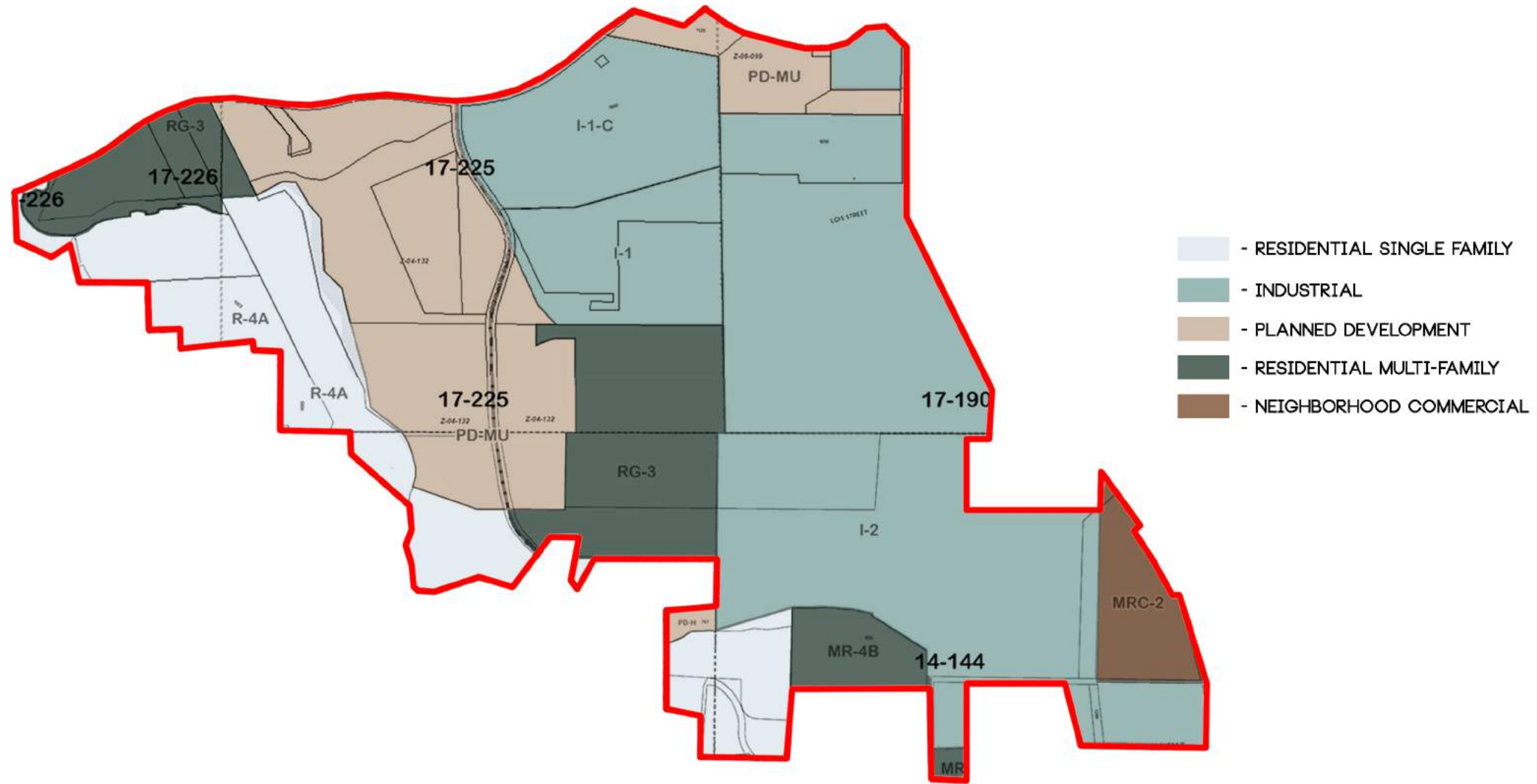


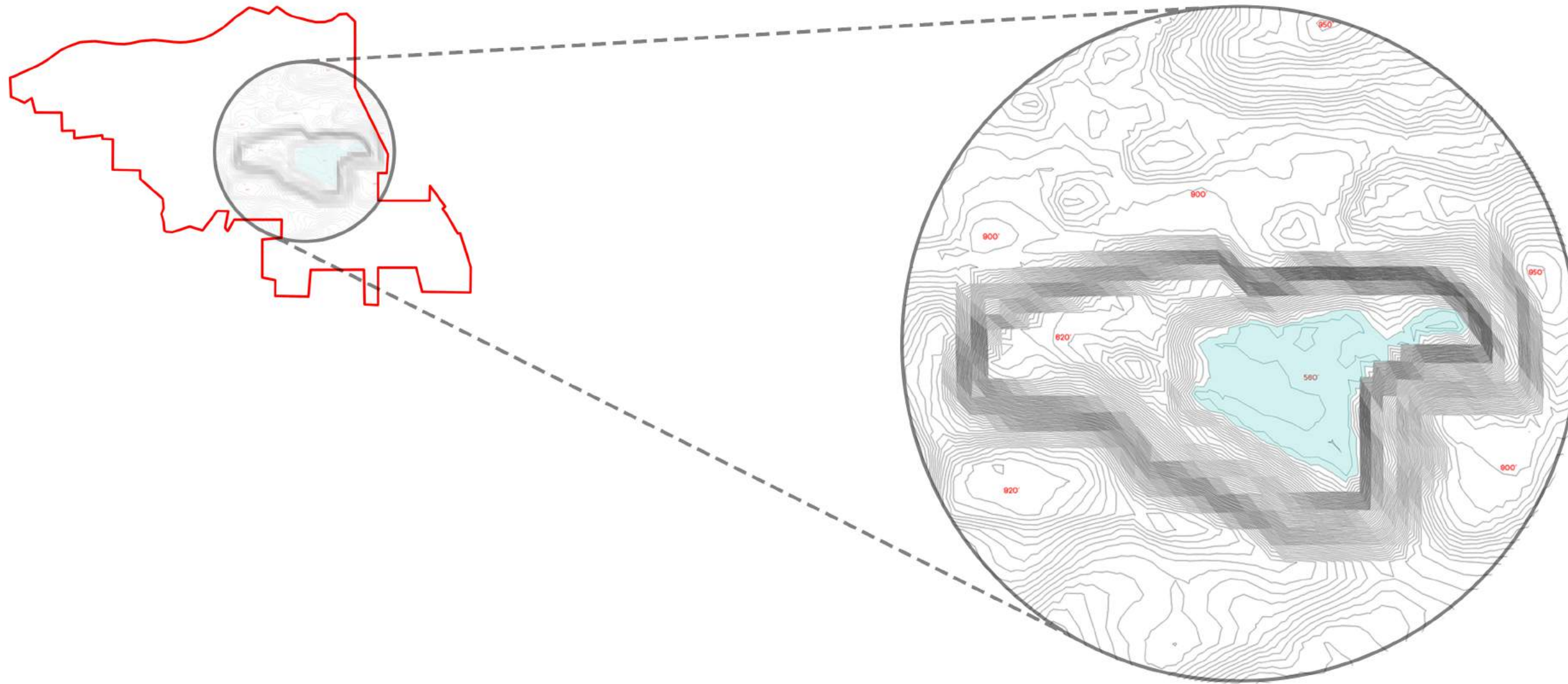
FIGURE 2.9 - ZONING

ZONING:

Westside Reservoir Park encompasses five different zones which include; residential single family, residential multi-family, neighborhood commercial, industrial, and planned development.

The quarry itself falls into the industrial zone and is a brownfield. Due to over 100 years of blasting, hazardous waste and contaminants have seeped into the earth and if left unchecked have the potential of contaminating the water supply and the Chattahoochee River.

The future zoning of the Westside Reservoir and quarry will all be green space. Since this site is a brownfield, the proposed park is a great, and perhaps the only, way to revitalize the site and prevent further damage to the natural environment; the biggest issue being pollutants seeping into the watershed and affecting the water supply of the city.



TOPOGRAPHY:

The west side of Atlanta is full of rolling hills that range between 1,000 and 800 feet above sea level. Westside Reservoir Park varies between 950 and 900 feet. Bellwood Quarry brings a major change to the topography by introducing a 400 foot hole into the area. The landscape goes from 950 to 550 feet above sea level. The change in topography is sudden.

There are two halves of the quarry; the deep water filled half and the mid shelf half. The deeper half has broken the watershed and is slowly filling the quarry with water. The mid shelf half stops just past halfway down the quarry and provides a flat shelf which extends to the center of the quarry.



FIGURE 2.10 - BEFORE YOU CAN REBUILD YOU HAVE TO DESTROY

CONSTRAINTS:

There are several potential constraints which may affect this site which include; the city of Atlanta, local neighborhoods, and economy.

Currently the city of Atlanta has proposed turning the site into the largest park in the city. This is mostly in an effort to convert the 400 foot hole into a water reservoir to increase the city water supply by a few months in times of drought. Seeing how the city is in desperate need of back up water any plans or ideas which may interfere with the reservoir may face serious opposition.

The surrounding neighborhoods and communities also pose potential constraints due to the fact that these City Beautiful projects often times lead to gentrification and displacement.

Finally, the economy. This ties in with the local communities in that the city will want the economy in the area to improve to help bring in more people as well as business. This process also often leads to gentrification and displacement.

SITE ANALYSIS

FIGURE GROUND

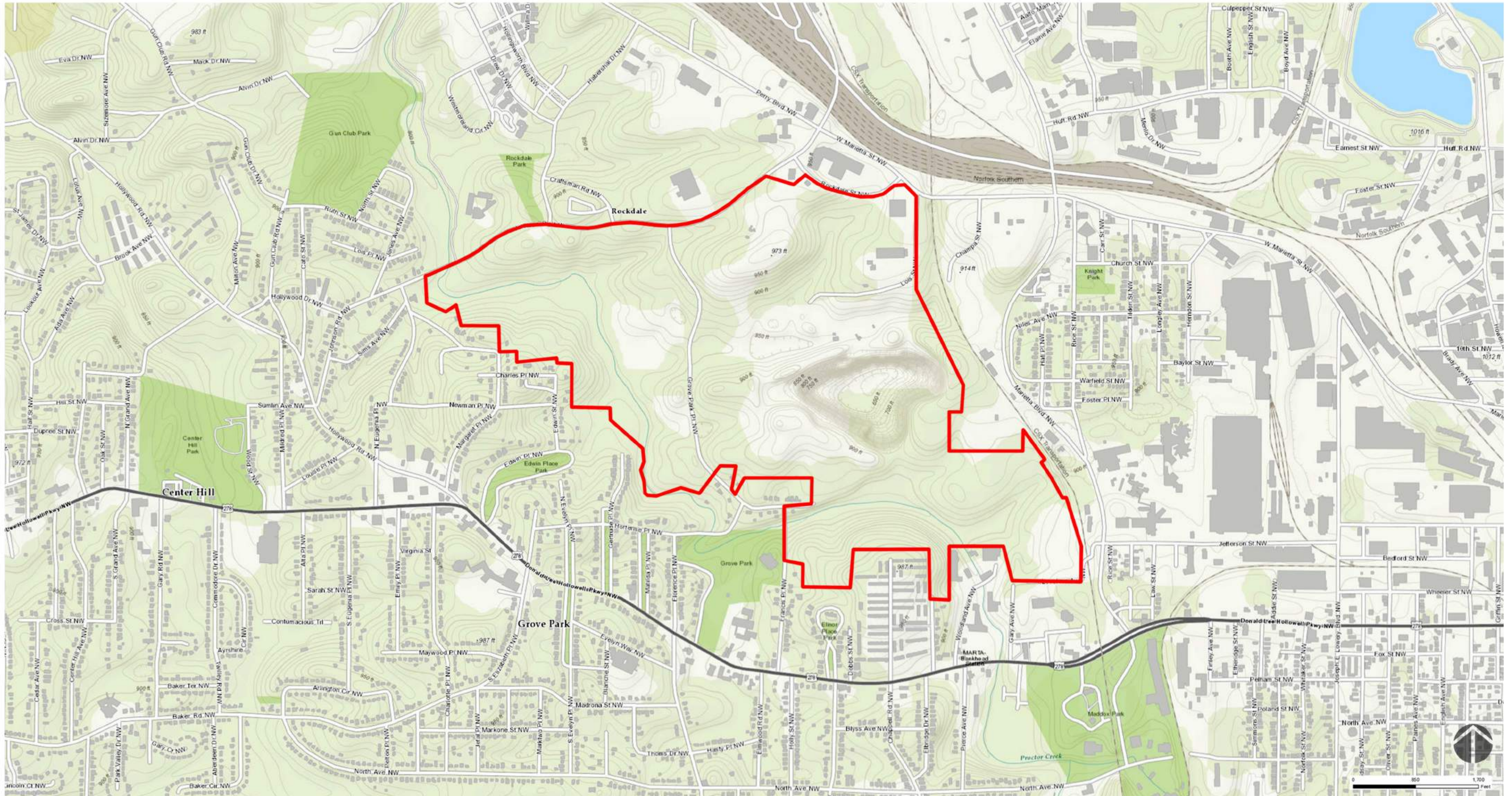


FIGURE 2.11 - FIGURE GROUND

POPULATION DENSITY

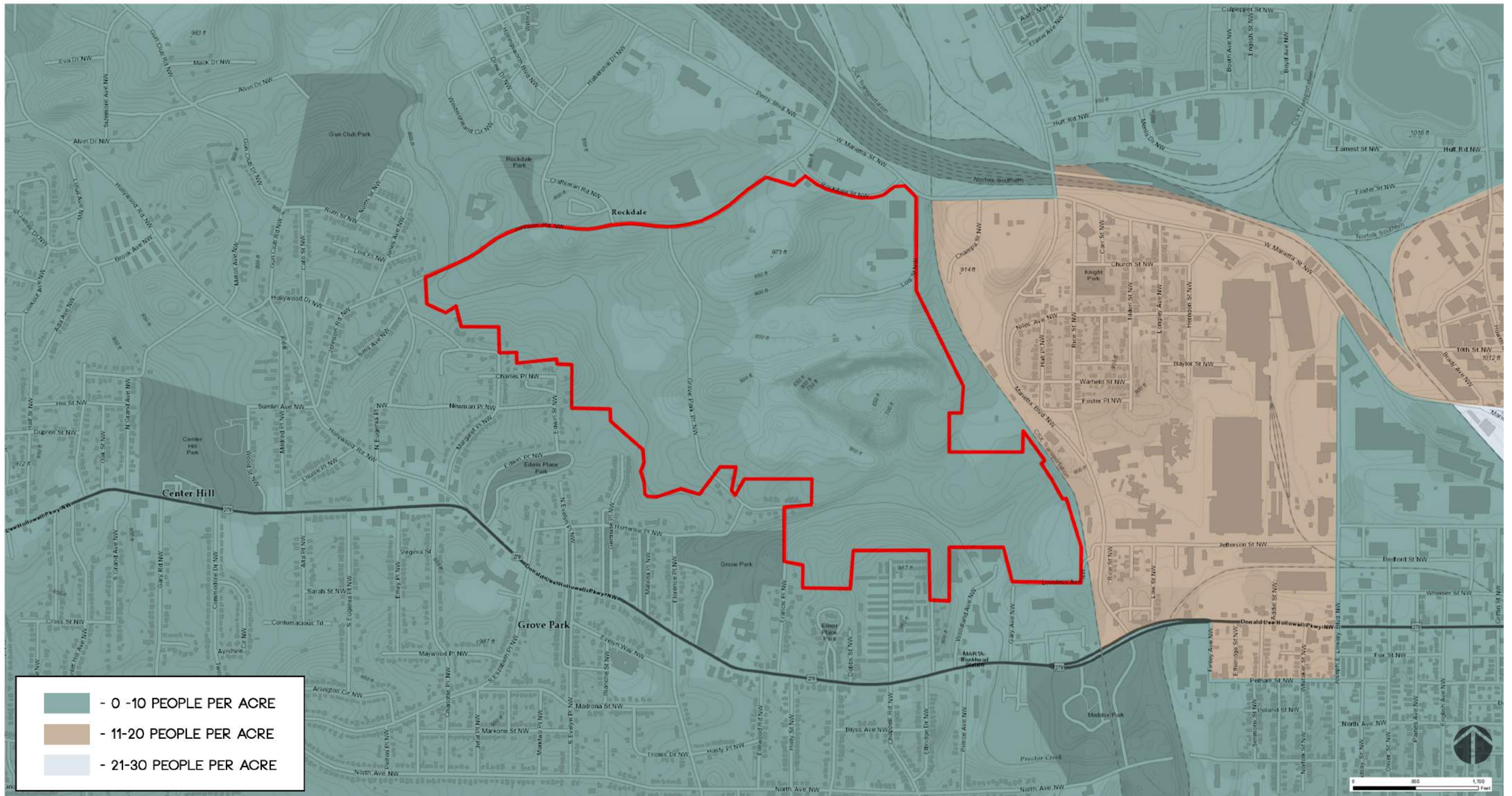


FIGURE 2.12 - POPULATION DENSITY

INCOME LEVELS

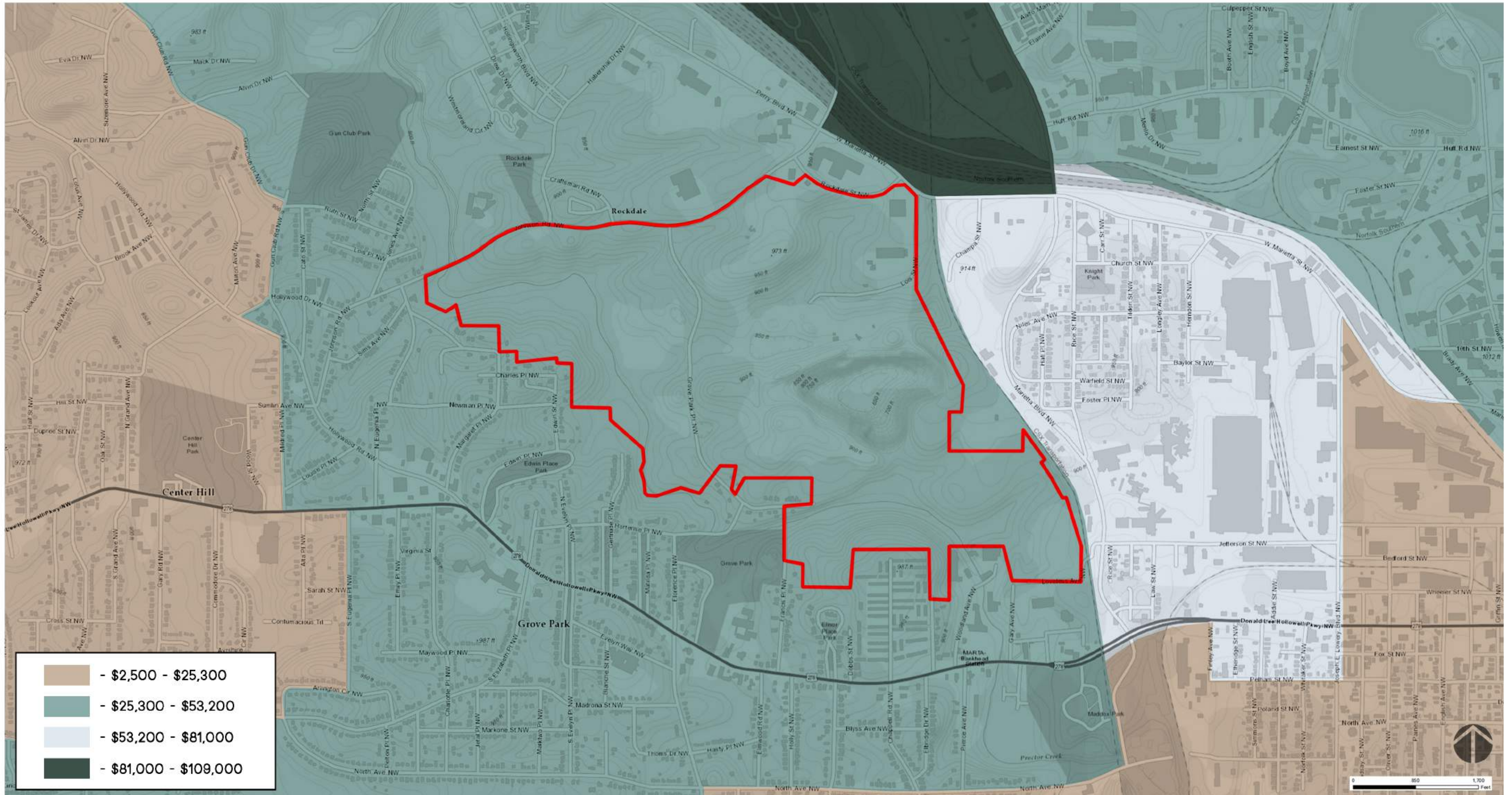


FIGURE 2.13 - INCOME LEVEL

VACANCY RATE

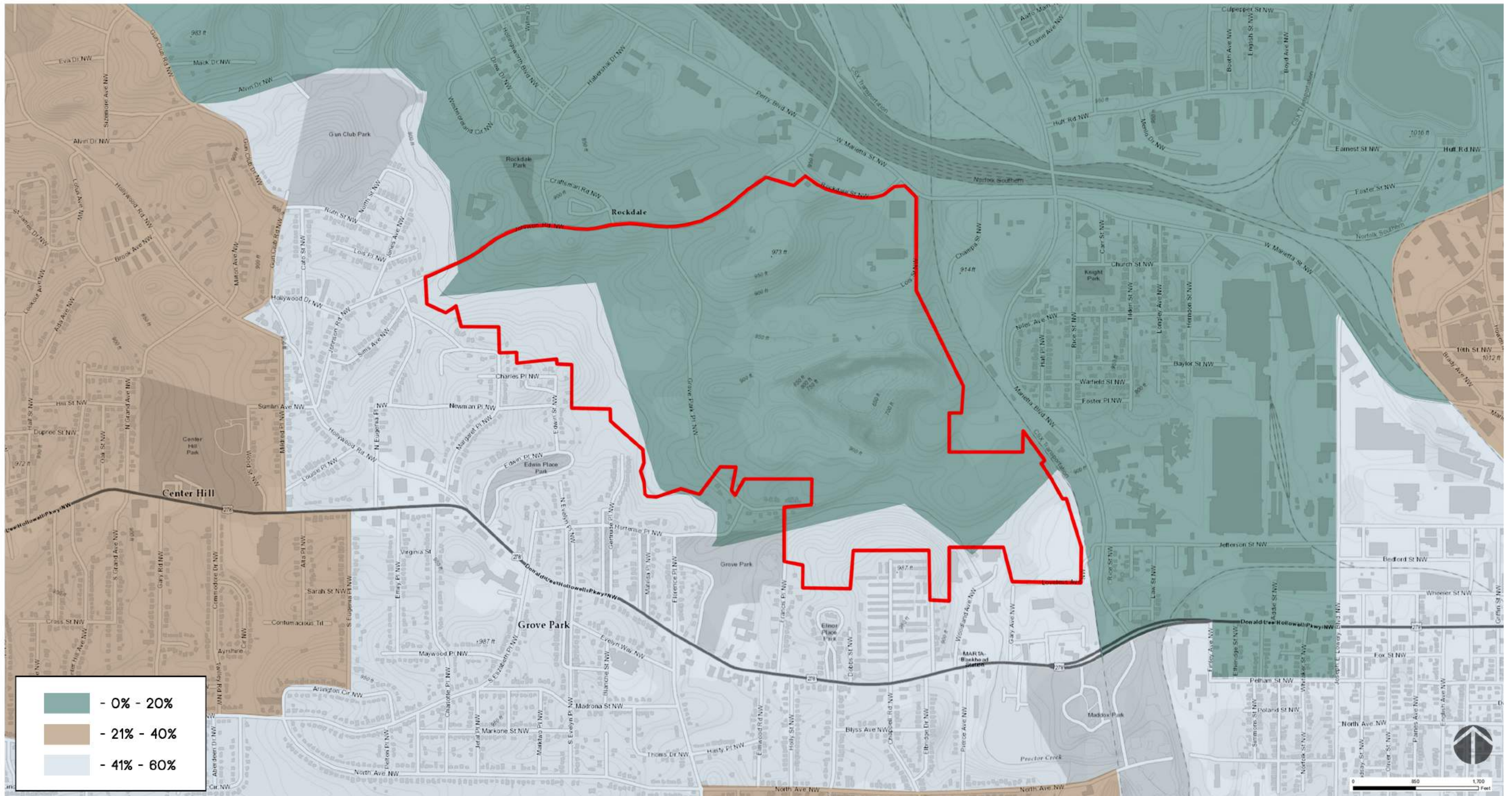


FIGURE 2.14 - VACANCY RATE

EXPERIENTIAL
PRECEDENTS

LOUISIANA MOMA

WOHLERT / BO

COHERENCE



FIGURE 2.15 - LMOMA RIVER INSTALLATION

IMMERSION IN LANDSCAPE



FIGURE 2.16 - LMOMA GALLERY OVER STREAM

FRAMED VIEWS



FIGURE 2.17 - LMOMA LANDSCAPE

ART, ARCHITECTURE, AND LANDSCAPE



FIGURE 2.18 - LMOMA SERRA GATE

SUMMARY:

The Louisiana Museum of Modern Art is a project devoted to balance and a sensitivity to the natural environment. The series of buildings and the environment are in constant play with one another, neither ever dominating the other. At every turn the building frames a view of the pristine and iconic Danish landscape. The project not only has a harmonious blending of built to natural environment but also seeks to balance the architecture. The classic Nordic and Japanese fusion structures help to showcase Danish culture.

EXTRACT:

- Synthesis of art, architecture, and landscape
- Experience of one-ness
- Awareness of the everyday
- Harmony

LOUISIANA MOMA

WOHLERT / BO



FIGURE 2.16 - LMOMA GALLERY OVER STREAM

FIGURE 2.18 - LMOMA SERRA GATE

FIGURE 2.17 - LMOMA LANDSCAPE

FIGURE 2.19 - LMOMA SCULPTURAL GARDEN

FIGURE 2.20 - LMOMA SITE PLAN

- VIEWS
- COHERENCE
- JAPANESE INFLUENCE
- NORDIC INFLUENCE

WATER TEMPLE TADAO ANDO

MASKED APPROACH



FIGURE 2.21 - WATER TEMPLE WALL

SYMBOLIC ENTRY



FIGURE 2.22 - WATER TEMPLE STORM

SENSORY JOURNEY



FIGURE 2.23 - WATER TEMPLE HALLWAY #1

REVEALED SANCTUM



FIGURE 2.24 - WATER TEMPLE SHRINE

SUMMARY:

Ando's Water Temple gives visitors a sensory experience of enlightenment and intimacy. Upon first arriving the visitor's view of the temple is obstructed by two large curved walls. Once past these you see a pond designed for you to journey into. Light and a sense of surrounding fades as you proceed further until you reach the bottom and have to decide which path to take. Either way you are confronted with a dark and narrow hallway. The sense of intimacy heightens as you progress until you reach the inner temple upon which the room opens up and light floods in.

EXTRACT:

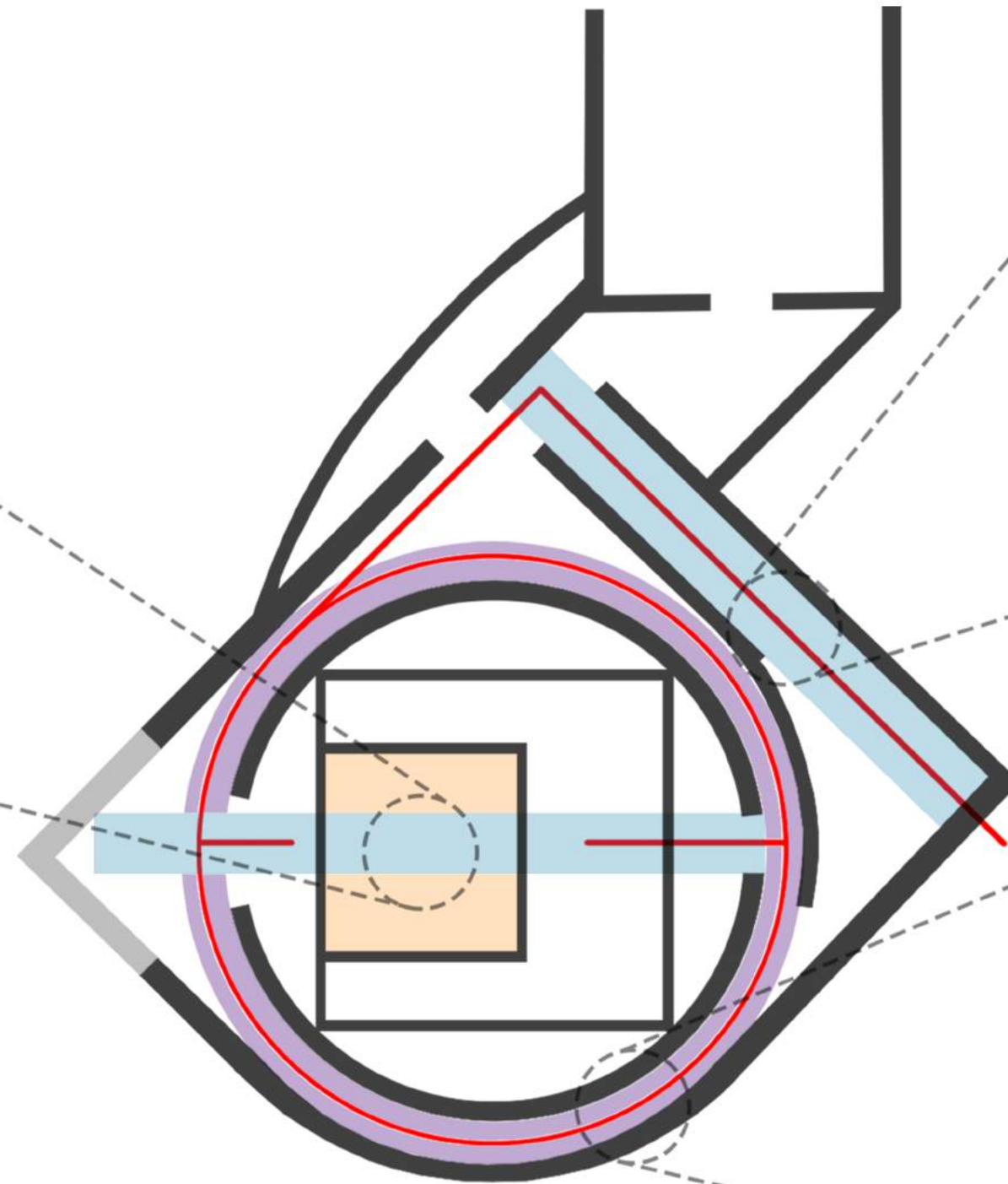
- Sensory experience
- Heavy use of symbolism
- The interconnection of nature and architecture
- Experiential journey
- Play on light to represent divinity




WATER TEMPLE TADA0 ANDO

FIGURE 2.25 - WATER TEMPLE BUDDHA SHRINE



FIGURE 2.26 - WATER TEMPLE ENTRANCE



-  - PRIMARY AXIS
-  - HIGHTENED SENTORY EXPERIENCE
-  - INNER SANCTUM

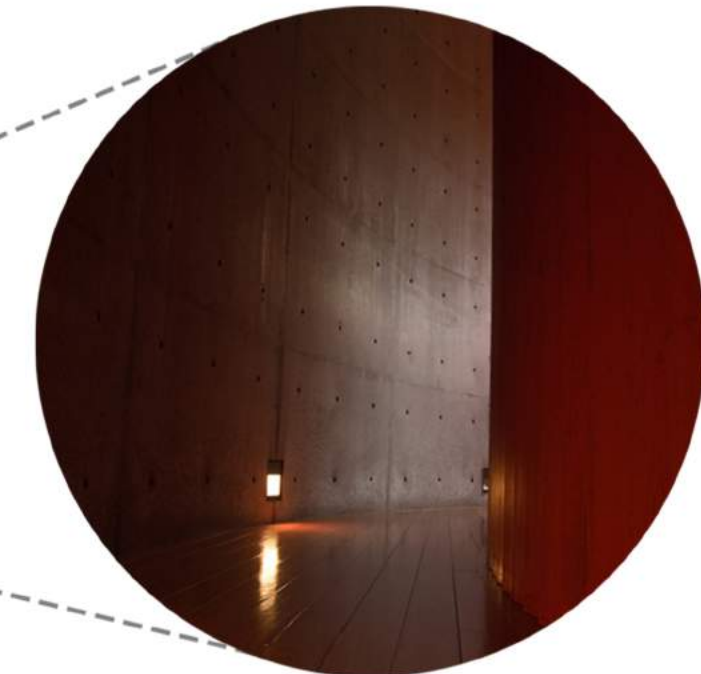


FIGURE 2.27 - WATER TEMPLE HALLWAY #2

OLYMPIA ARCHAEOLOGICAL MUSEUM

PATROKLOS KARANITOS

MASS INFORMATION DISPLAY



FIGURE 2.28 - OAM GALLERY #1

VARIED LIGHTING QUALITY



FIGURE 2.29 - OAM MAIN GALLERY #1

LACK OF IMMERSION



FIGURE 2.30 - OAM GREEK SCULPTURE

BARRIER



FIGURE 2.31 - OAM SPARTAN HELMETS

SUMMARY:

The Olympia Archeological Museum in Greece displays hundreds of artifacts from ancient Greece. However, due to the priceless nature of the artifacts, this project loses the sense of immersion. The artifacts cannot be interacted with but instead have been displayed behind a glass wall which provides a disconnect.

Upon further analysis you find that the floor plan follows that of an ancient Greek temple with a colonnade surrounding the main temple. This provides the opportunity to introduce immersion in future renovations.

EXTRACT:

- Experience through a barrier
- Disconnect
- Informative vs immersive

OLYMPIA ARCHAEOLOGICAL MUSEUM PATROKLOS KARANITOS

FIGURE 2.32 - OAM MAIN GALLERY #2

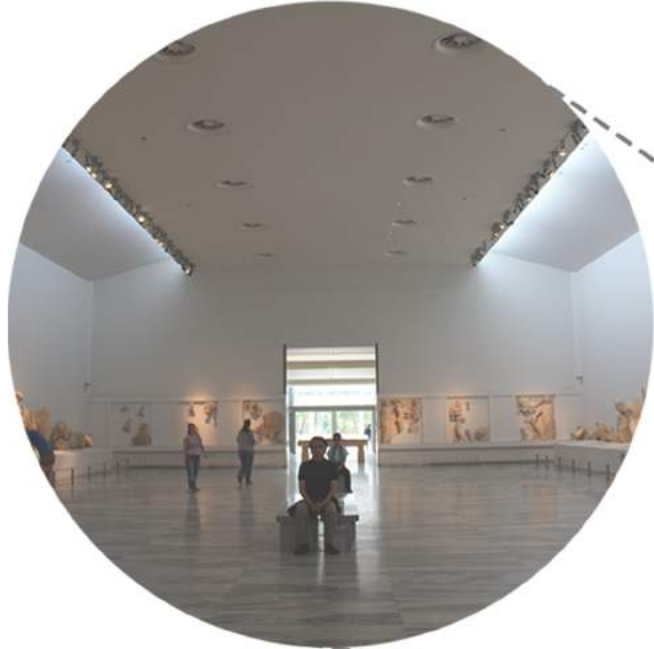
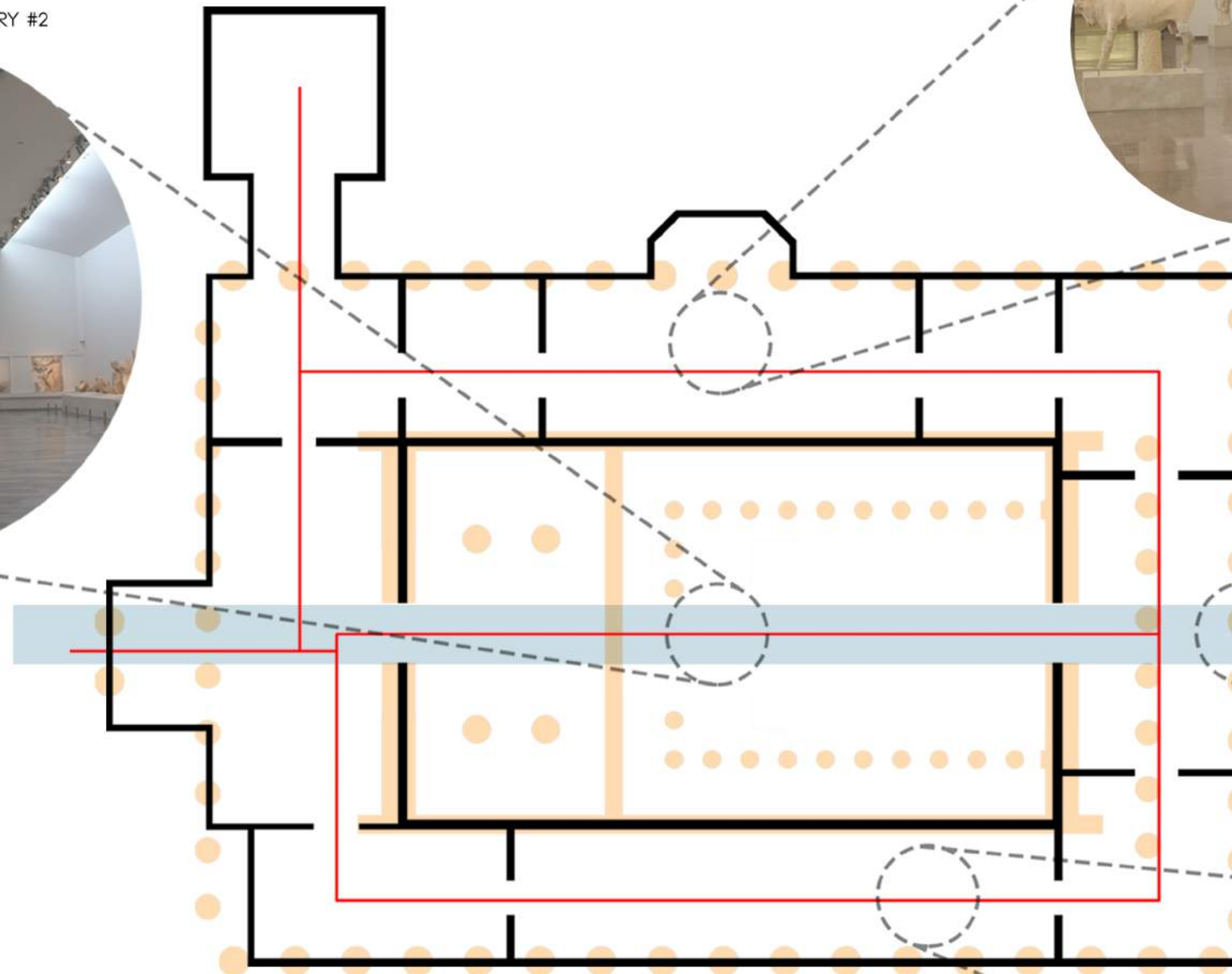


FIGURE 2.33 - OAM GALLERY #2



FIGURE 2.34 - OAM ENTRANCE



- PRIMARY AXIS
- CLASSICAL TEMPLE LAYOUT

FIGURE 2.28 - OAM GALLERY #1



MEMORIAL
PRECEDENTS

JEWISH MUSEUM DANIEL LIBESKIND

OMINOUS EXTERIOR



FIGURE 2.35 - JEWISH MUSEUM EXTERIOR

SYMBOLIC STRUCTURE



FIGURE 2.36 - JEWISH MUSEUM STAIRWELL

MEMORY WALK



FIGURE 2.37 - JEWISH MUSEUM MEMORIAL WALK

EXILE GARDEN



FIGURE 2.38 - JEWISH MUSEUM EXILE GARDEN

SUMMARY:

At first glance, Libeskind's design may seem to be a random form that contrasts the original museum's classical design, but upon looking closer the viewer finds that this building tells a story through its form. The project demonstrates the life of a Jew before, during, and after the Holocaust. As you move from space to space the haunting emotional reality seeps to your core. Tall, narrow, dark corridors make the visitors feel a mix of emotions including despair, fear, and hope.

EXTRACT:

- Emotional Experience
- Express feelings of loneliness, absence, and invisibility
- Social Awareness
- Play on geometry and light to show despair and hope

JEWISH MUSEUM DANIEL LIBESKIND

FIGURE 2.37 - JEWISH MUSEUM MEMORIAL WALK

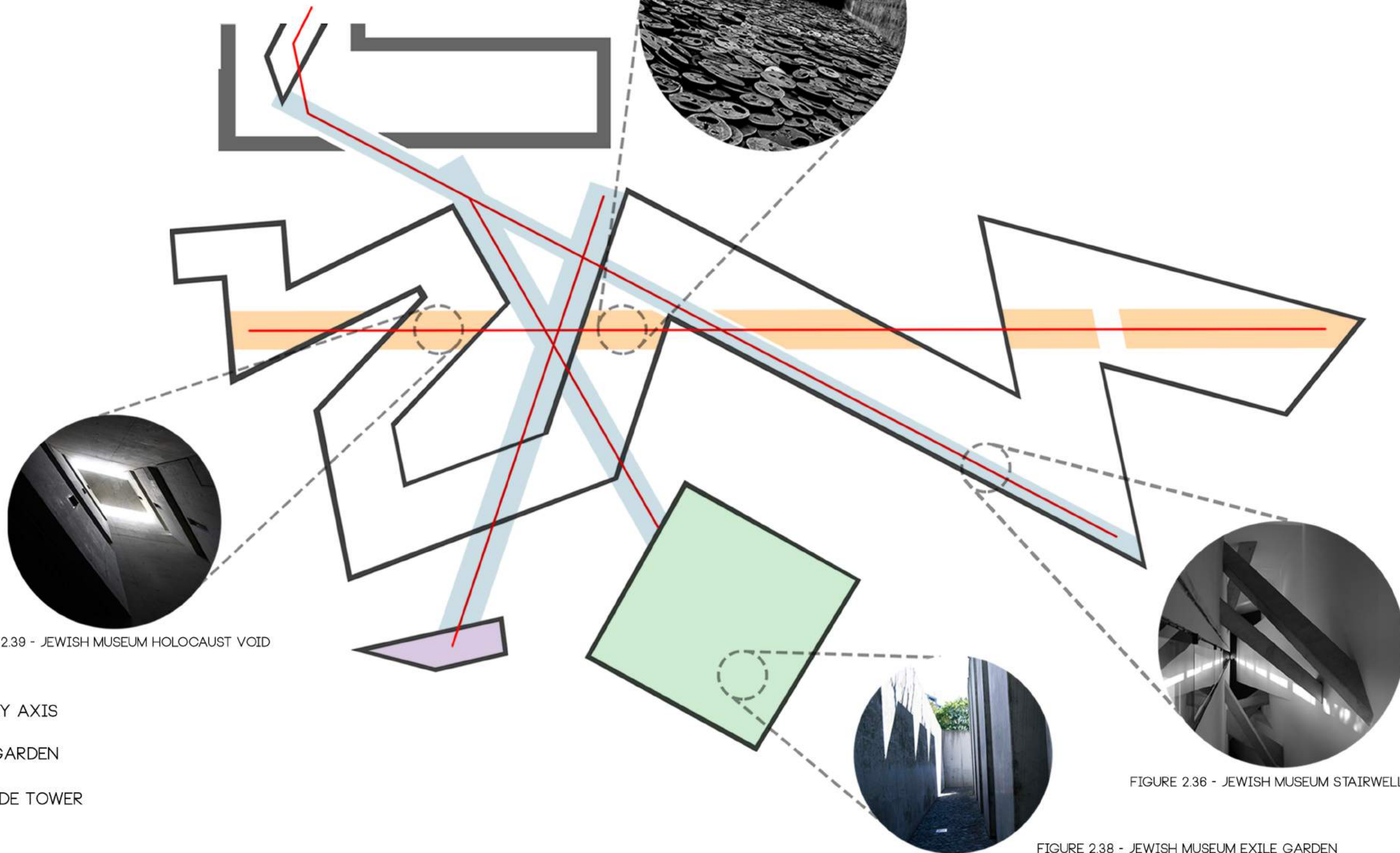


FIGURE 2.39 - JEWISH MUSEUM HOLOCAUST VOID

- PRIMARY AXIS
- EXILE GARDEN
- SOLITUDE TOWER
- VOIDS

FIGURE 2.36 - JEWISH MUSEUM STAIRWELL

FIGURE 2.38 - JEWISH MUSEUM EXILE GARDEN

911 MEMORIAL MICHAEL ARAD

MEMORIAL PARK



FIGURE 2.40 - 911 MEMORIAL

ORIGINAL STAIRWELL



FIGURE 2.41 - 911 MEMORIAL ORIGINAL STAIRWELL

ECHO OF THE PAST



FIGURE 2.42 - 911 MEMORIAL ECHO

MEMORY



FIGURE 2.43 - 911 MEMORIAL FLORAL MEMORY

SUMMARY:

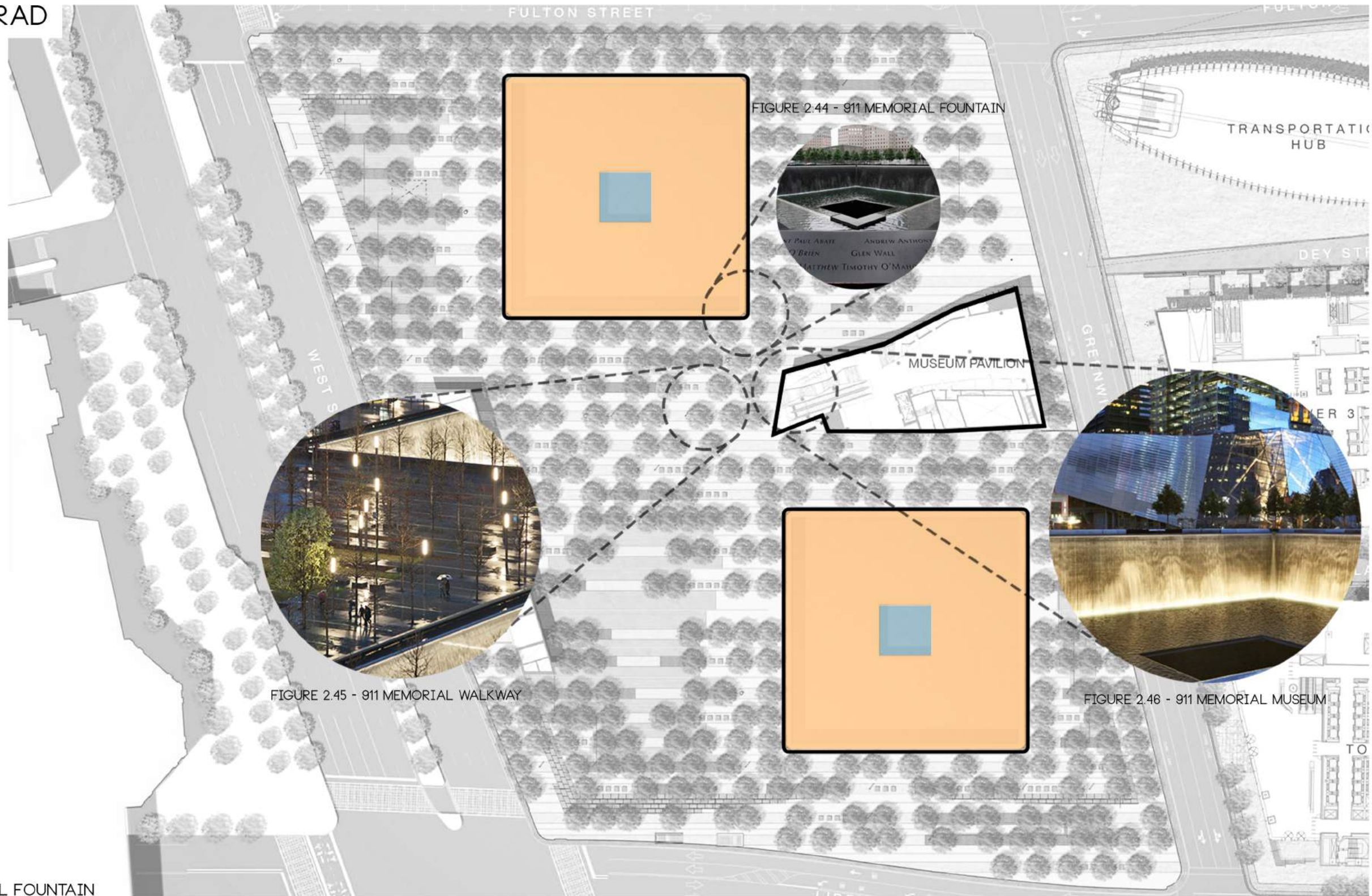
This site holds on to perhaps one of the darkest days in this country's history. In 2003 the city held a competition to determine how best to fill the void that was created. The architects at Handel Architecture wanted to find a way of holding on to the memory of this site so that none of those who lost their lives on that day would be forgotten. The architects chose to leave the footprints of the original buildings and to make them a waterfall feature with a seemingly endless pit at the center.

With this site being such a sensitive issue a lot of restraint and respect was required to not only create a successful design for the city but also to create a successful design for those that visit the site. In a sea of skyscrapers this site remains grounded so as to be a constant reminder of the site's history.

EXTRACT:

- Sensitivity to past
- Memory

911 MEMORIAL MICHAEL ARAD



- MEMORIAL FOUNTAIN
- TWIN TOWER FOOTPRINT

FIGURE 2.47 - 911 MEMORIAL SITE PLAN

GOVERNOR'S ISLAND CITY OF NEW YORK

FORT JAY AND FORT WILLIAMS

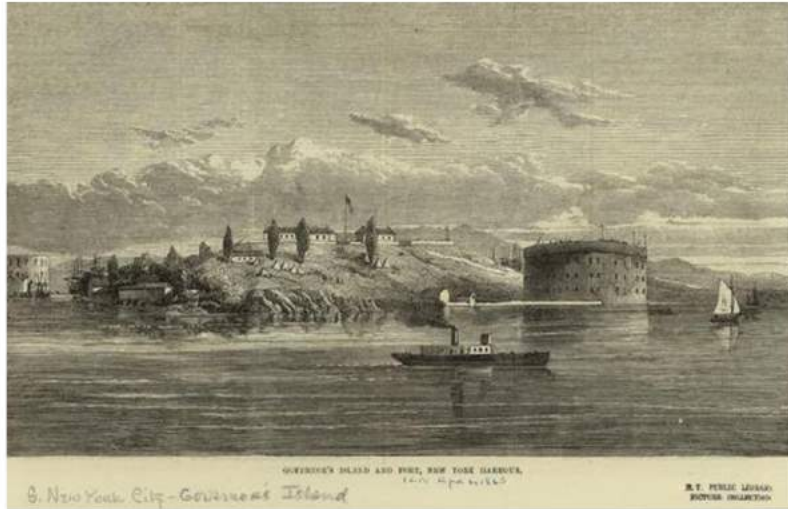


FIGURE 2.48 - GOVERNOR'S ISLAND HISTORIC

FORT WILLIAMS



FIGURE 2.49 - GOVERNOR'S ISLAND FORT JAY

PROPOSED PARK AT FORT WILLIAMS



FIGURE 2.50 - GOVERNOR'S ISLAND PARK PROPOSAL

SUMMARY:

Governor's Island has been around since before the cession of the United States from England. When first occupied it served as a military base and remained that way for the next 160 years. This site served as a critical point in many wars including the American Revolution, War of 1812, and Civil War to name a few. During the Civil War the island served as a prisoner of war camp to hold Confederate soldiers. The island shifted ownerships between different military branches until 1996 when the military left the site completely. The forts are now monuments to ensure the rich history is not forgotten.

EXTRACT:

- Preservation of history
- Future development conscious of history
- Balance of historic and current needs

GOVERNOR'S ISLAND CITY OF NEW YORK

FIGURE 2.51 - GOVERNOR'S ISLAND FORT JAY-BLACK AND WHITE

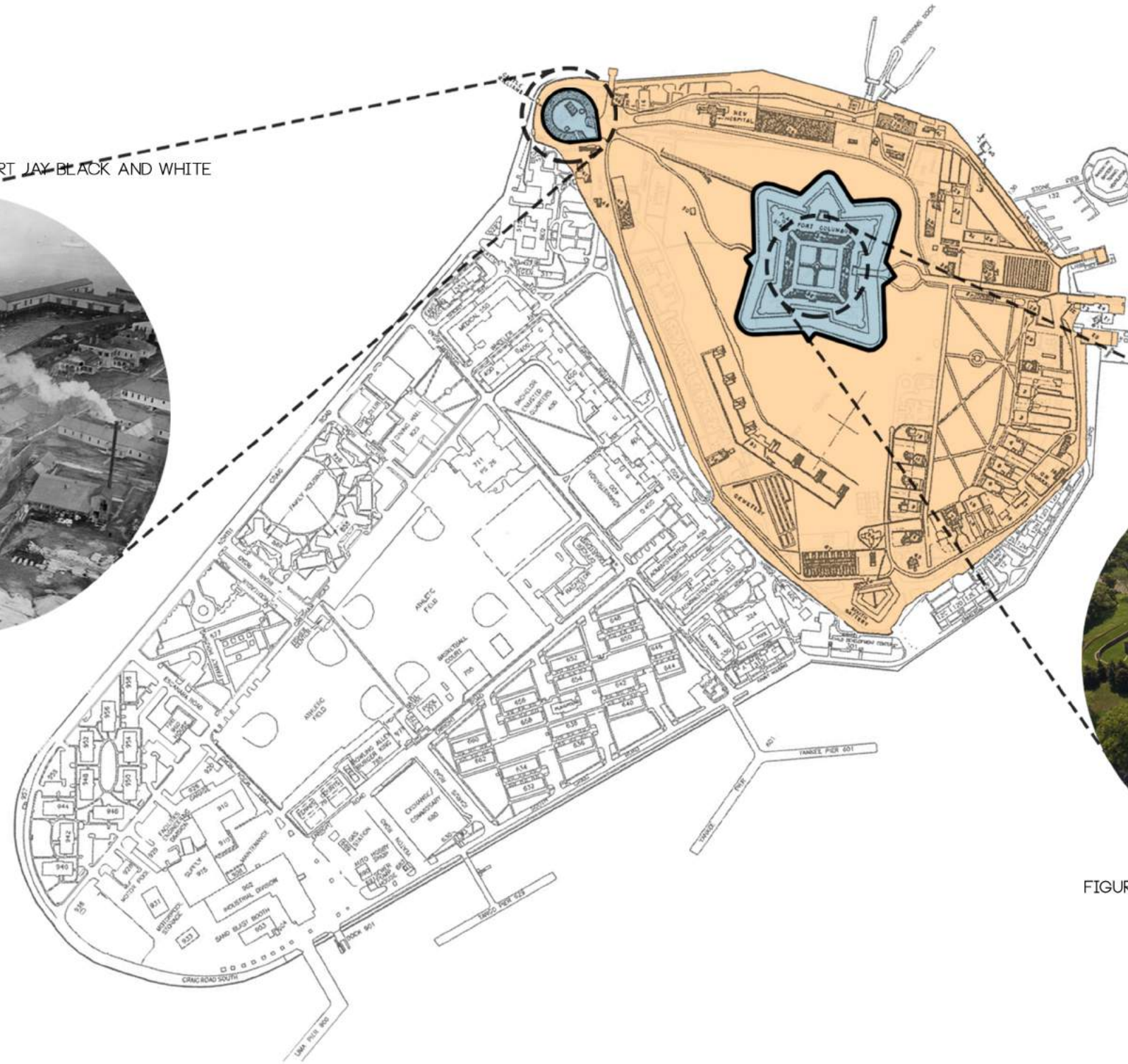
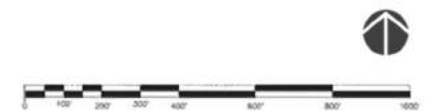


FIGURE 2.52 - GOVERNOR'S ISLAND FORT WILLIAMS



- MONUMENTS
- HISTORIC DISTRICT

FIGURE 2.53 - GOVERNOR'S ISLAND SITE PLAN



VIETNAM VETERAN'S MEMORIAL WALL

MAYA LIN

ORIGINAL CONCEPT

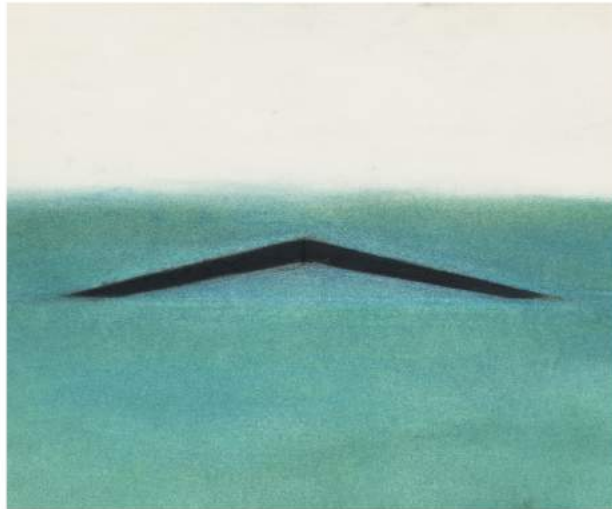


FIGURE 2.54 - VIETNAM MEMORIAL CONCEPT

SYMBOLIC POWER



FIGURE 2.55 - VIETNAM MEMORIAL WALL #1

REFLECTION



FIGURE 2.56 - VIETNAM MEMORIAL #2

ALIGNMENT WITH WASHINGTON MONUMENT



FIGURE 2.57 - VIETNAM MEMORIAL WALL #3

SUMMARY:

Lin's design was intended to be an opening in the earth to symbolize the gravity of lives lost during the war. She saw the power a name could have when etched into stone and wished to convey that to the world. Her design was a v-shaped recession into the ground which pointed toward the Lincoln Memorial and the Washington Monument. This design was not done in a traditional manner, having no symbolism, and received much backlash from the public and government officials. Some went so far as to call it "a black gash of shame" and was seen as a symbol of shame, sorrow, and degradation.

EXTRACT:

- Simple gestures can have profound effects
- Reflecting on ones own self

VIETNAM VETERAN'S MEMORIAL WALL

MAYA LIN

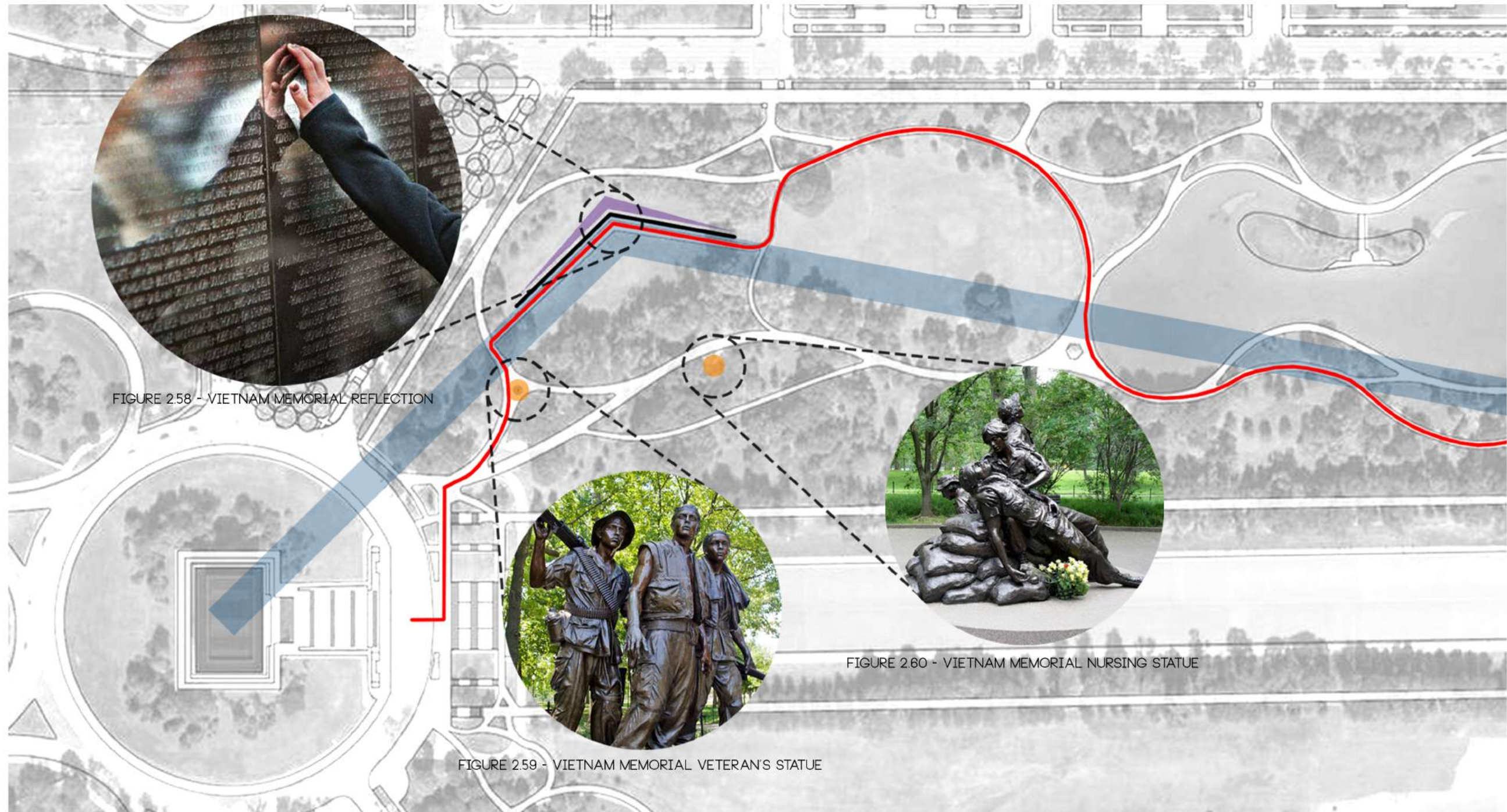


FIGURE 2.58 - VIETNAM MEMORIAL REFLECTION

FIGURE 2.60 - VIETNAM MEMORIAL NURSING STATUE

FIGURE 2.59 - VIETNAM MEMORIAL VETERAN'S STATUE

- REFLECTION / OPENING
- AXIS
- TRADITIONAL MEMORIALS

FIGURE 2.61 - VIETNAM MEMORIAL SITE PLAN

WESTSIDE RESERVOIR
PARK



FIGURE 2.62 - WESTSIDE RESERVOIR PARK PROPOSAL

CURRENT PLAN:

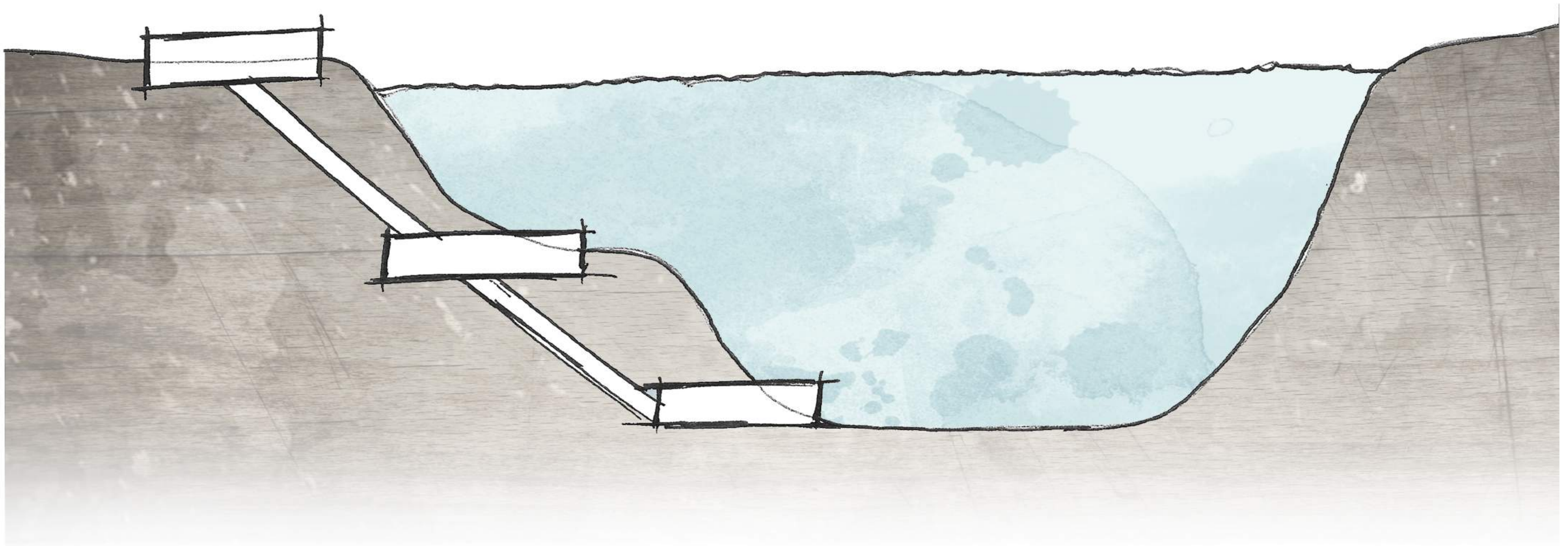
Currently the city of Atlanta has proposed to turn Bellwood Quarry and the surrounding Westside Reservoir into the cities largest park. The quarry itself will become a water reservoir that can hold billions of gallons of water for the city in times of drought. This proposal will extend the cities water supply by a few months verses the current thirty day supply. The proposal also seeks to bring people and business to the area to promote the economy and to be an attraction point for the beltline.

The proposed project is meant to tie in with the Beltline Project, which is a green corridor encircling the city, as well as the Emerald Corridor, which is a green corridor lining Proctor Creek from the Bankhead MARTA station to the Chattahoochee River.

The proposed project may include green space, recreational areas, extreme sporting areas, bike paths, trails, and a water park.

CHAPTER 3

DESIGN PROPOSAL



RESPONSE:

My design is not an abandonment of what the city of Atlanta has proposed for the site but instead a modification of the plan in an attempt to hold on to the memory of the site and allow the site to have a lasting social impact on those that visit.

What I propose is a multi-leveled interactive museum that traverses from the top of the site to the bottom of the water filled quarry. Each level will delve further into the sites history and the impact that each stage has had on the natural world.

The project will consist of three layers; the top layer, mid layer, and bottom layer. The top structure, which is semi-exposed to give visitors a sense of entrance, will be the most welcoming layer giving an overview of the site. The mid layer, located halfway down inside the steep quarry walls, will showcase the dark history of the site. Finally, the bottom layer, located on the quarry floor in the walls, will show modern quarrying techniques and practices and their effects on the natural world and the end that many of these sites face.

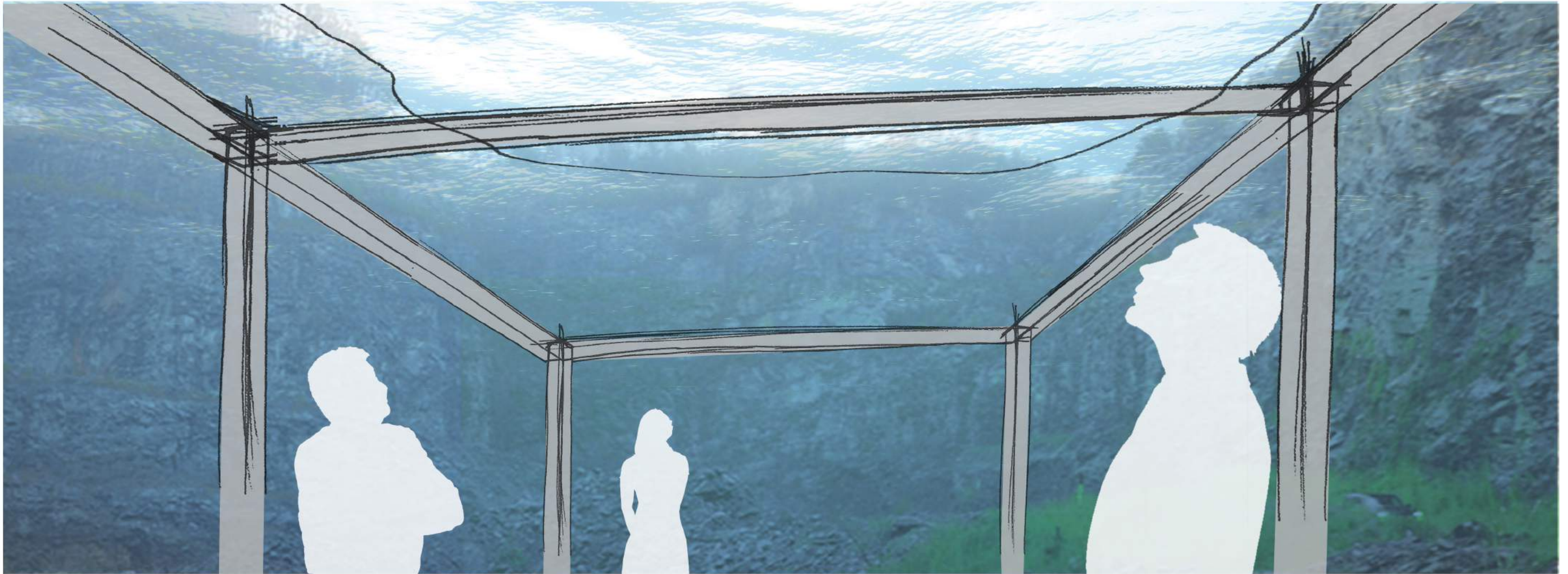


FIGURE 3.1 - INTERACTIVE WALL

PROGRAM:

After research and precedent analysis, the only program which would fit the site would be an interactive museum. This is the only vessel which could carry and showcase the history of the site while also subconsciously raising awareness of our ethical responsibility to the natural world. This program also allows the current city of Atlanta park proposal to continue while bringing an attraction or focal point to the site.

This program will not just let people view the history from a distance or through a barrier but will instead involve those who visit by allowing their decisions to determine the experience of the space. Making the space interactive, not just informative, has the potential of creating a lasting change in how we view history and our impact on nature.



STRATEGIES:

When approaching this new design I plan to implement six key strategies from my precedent analysis which include; immersion, self reflection, balance of historical and modern needs, light, emotion, and a balance of nature and architecture.

These strategies, which helped create successful projects, will be the building blocks upon which my design will stand.

The journey through my design will be a journey through history, showing where the site started and where it has come. As one progresses, the light will fade and emotions will begin to take over. The story being told on each level will reflect the emotions experienced. At the end you are so immersed in the project and the story that you will not realize you are at the quarry floor completely submerged. This end view from the reservoir floor will be a moment of self reflection for all.

CHAPTER 4

PROJECT DESIGN

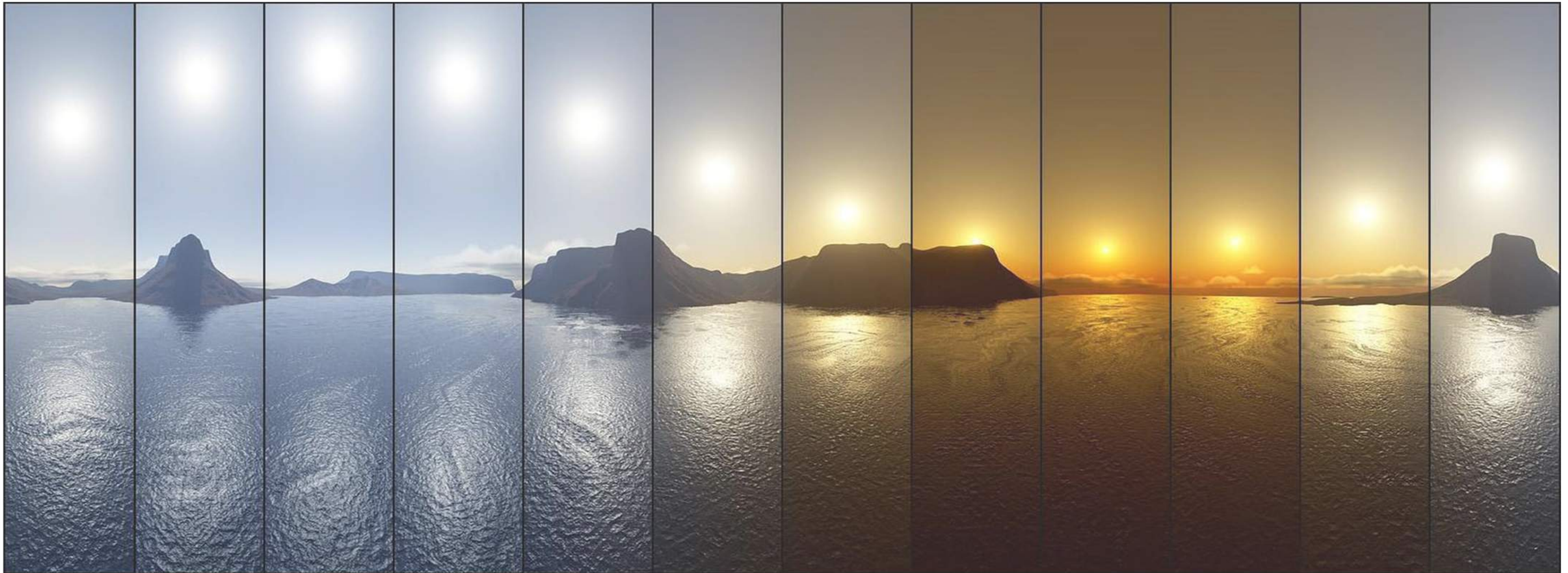
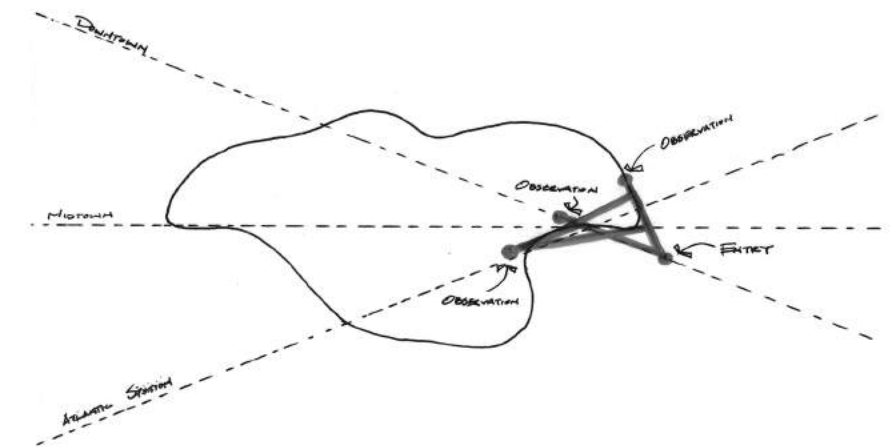
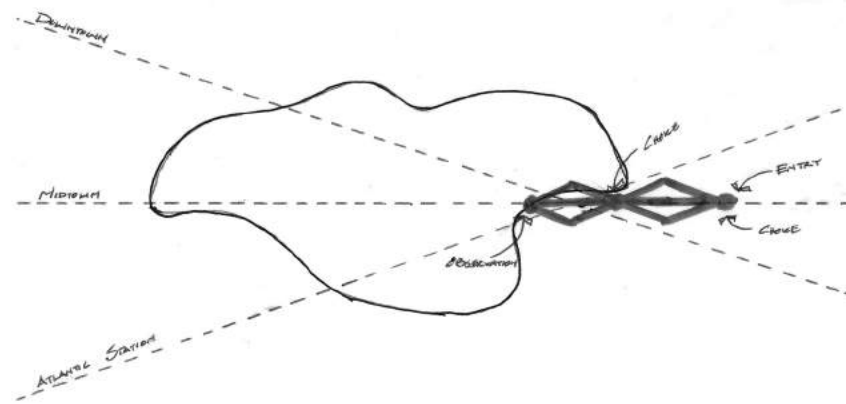
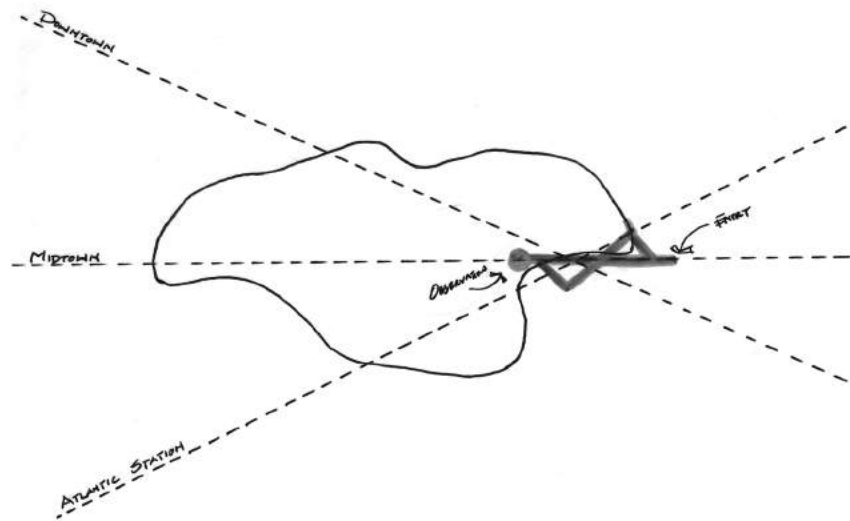
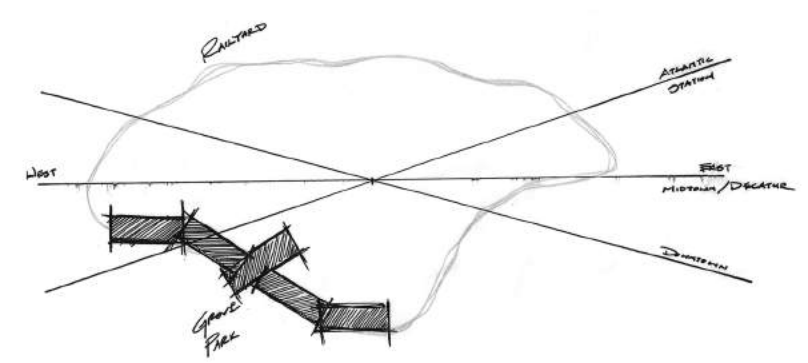
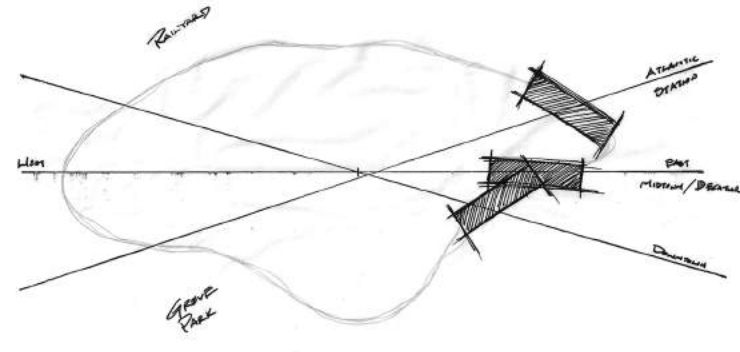
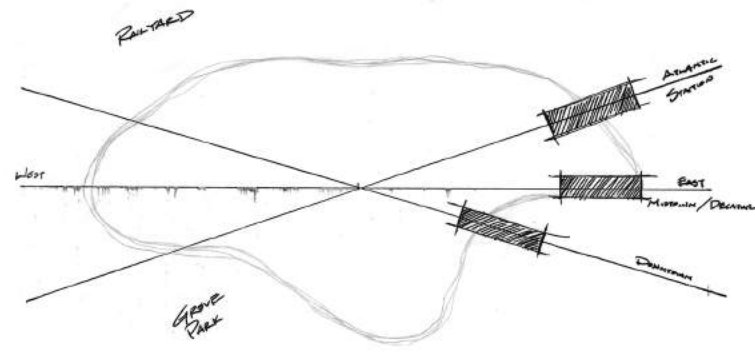


FIGURE 4.1 - TIME LAPSE PHOTOGRAPHY

INTENT:

The intent of this project is to:

- display historical information of the site that would otherwise have gone unknown after its revitalization
- be a subtle beacon of the impact industry has on the natural world
- a progression through the design will be a physical journey through the sites history, starting from the future plans for Atlanta and going back to the quarries dark past
- a series of interconnecting tunnels which will give visitors a choice, which is symbolic of the choices we make in life
- a descent into the depths of the quarry is symbolic of the descent into the quarries history
- galleries that protrude into the water filled quarry to provide a view of the quarry floor



DESIGN PROPOSAL:

I started designing by first laying out strategies I wanted to further develop which included:

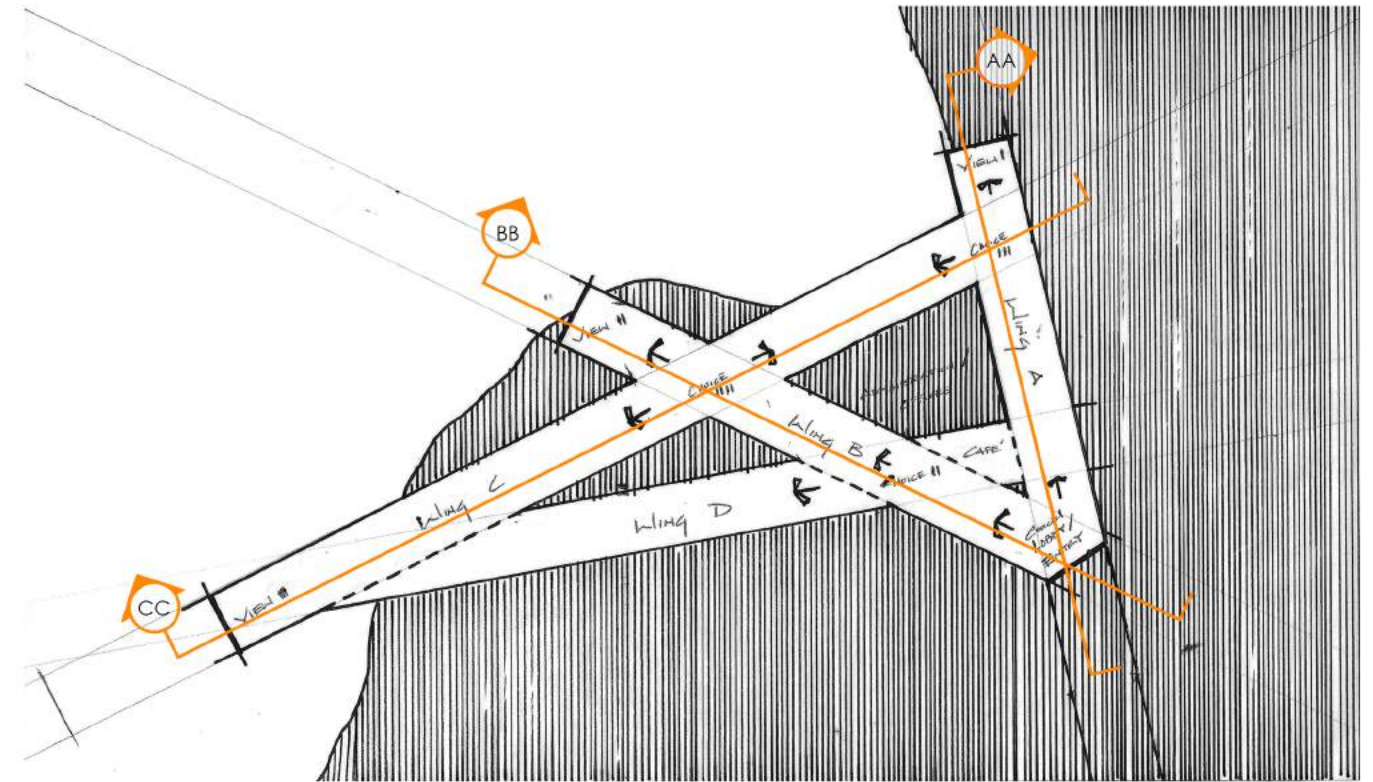
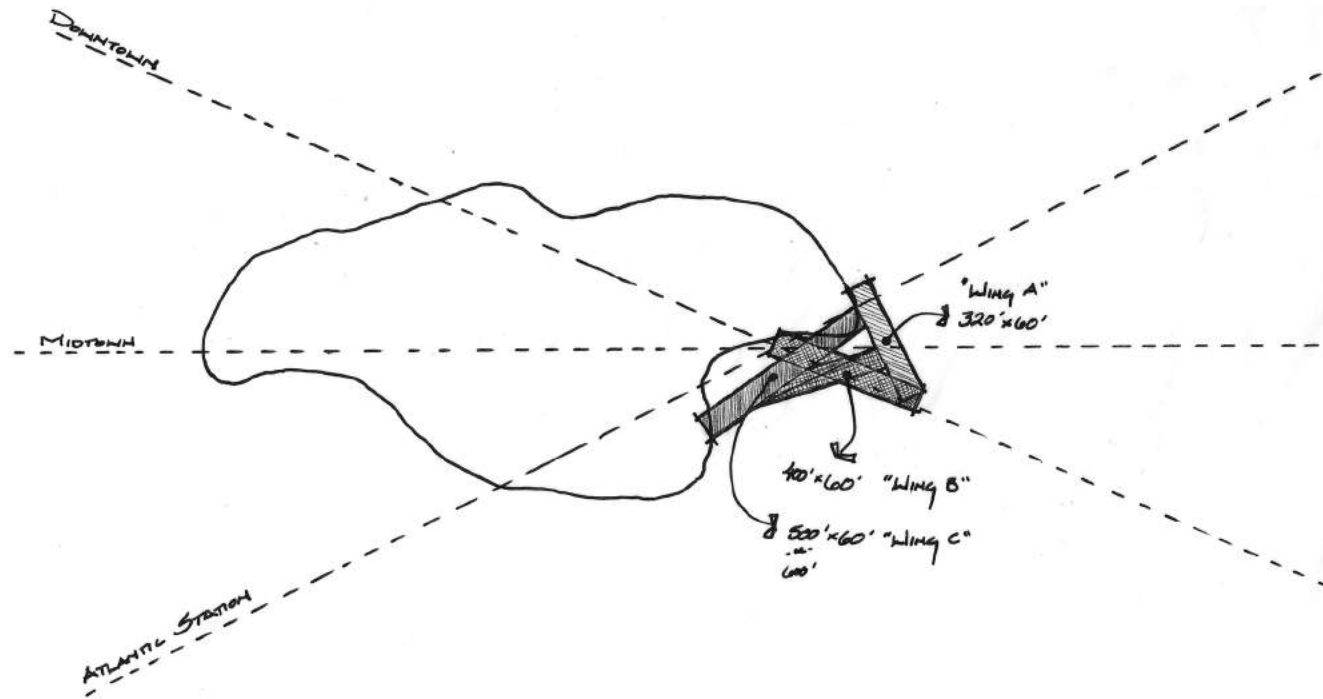
- Designing with user choice in mind
- Playing with the solid and void of the quarry
- Descending into the depths of the quarry
- Descending into the history of the quarry

My design started by finding high density areas within the city and connecting them back to the quarry. These connections became axis which would determine the organization and layout of the project.

These connections back to the quarry were:

- Downtown Atlanta
- Midtown Atlanta
- Atlantic Station

The use of the three axis coincided with the three issues I wanted to cover for the site; the future development of Atlanta, the current impact industry and material harvesting has on the natural world, and the dark past of the quarry. These issues and axis soon evolved into the program of the project.



CONTINUED:

Additionally, this project is as much about the message it is trying to tell as the experience I want visitors to have.

The concept behind the design is the idea of choice. Whatever experience you have is all determined by the choices you make, symbolic of the actions and consequences of life. Along with choice comes the history of this site. This is the most important aspect of the design due to the emotional weight it carries. The project aims to express this history and emotion through material tectonics and the comfort level of visitors.

The project progresses from a very comfortable future proposal for the city to a very uncomfortable look back into the history of the site. This level of comfort is not only an emotional experience but also a physical experience through the design of space.

Upon entering the project you start out with innocence and good intentions but as you progress and make tough decisions the reality of the consequences of your choices begins to set in.

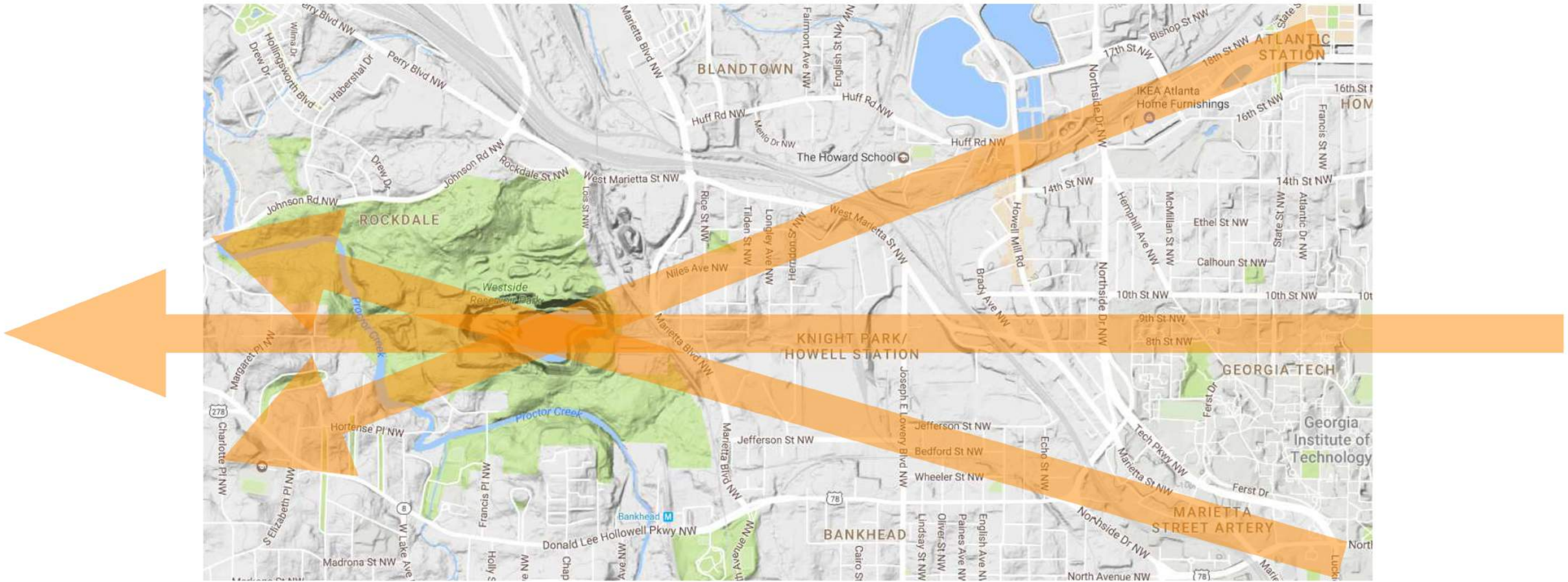


FIGURE 2.6 - WESTSIDE ATLANTA MAP

ORIENTATION:

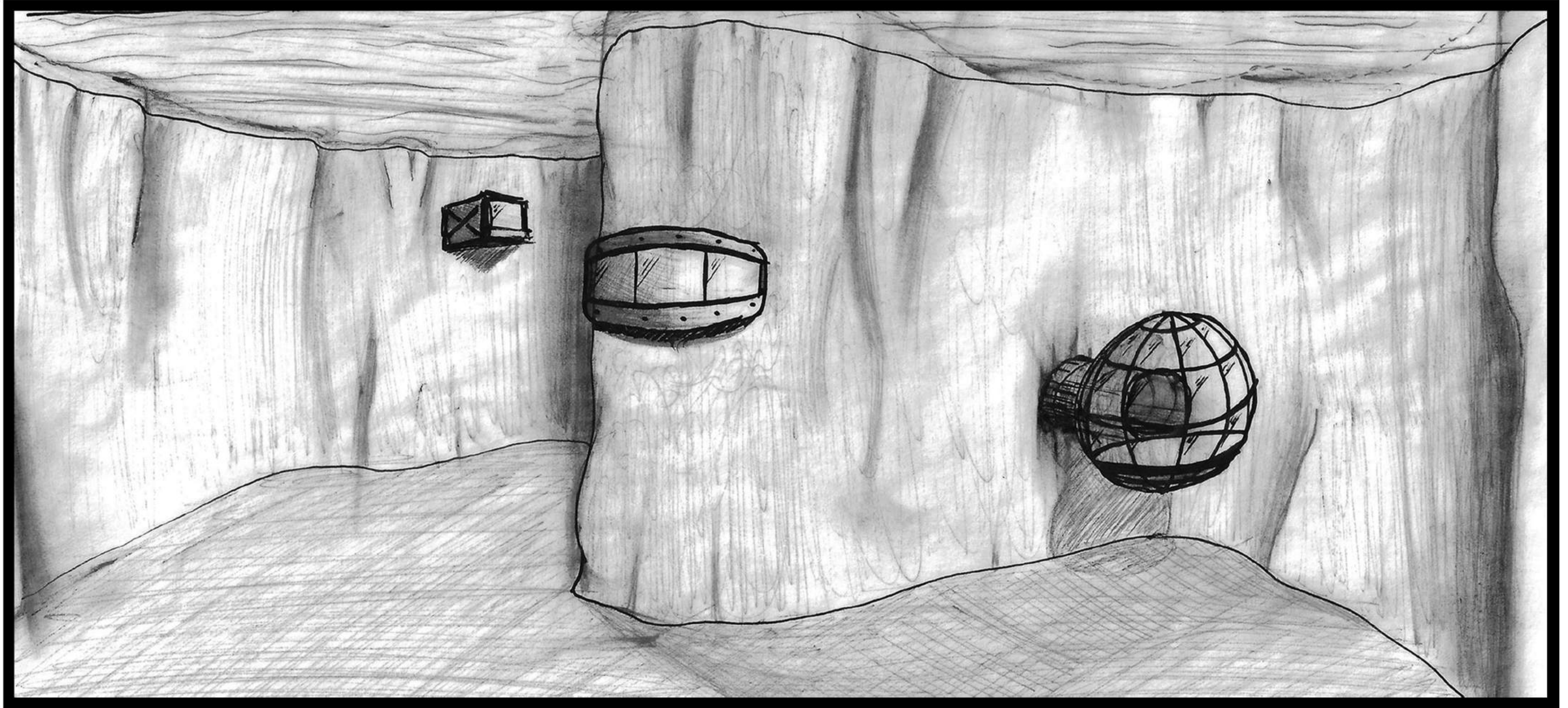
I started my design process by first analyzing the site to determine the best area to build upon. Since the entire quarry was up for consideration I had to think about the program and experience I wanted to convey.

The inner quarry walls provided vast sections to build within but for the space I was designing I needed an area that could be more intimate. I needed an area where the walls were in relatively close proximity of one another so that I could play with the solid and void of the quarry. I wanted the project to be mostly underground but at the same time to hug the quarry walls.

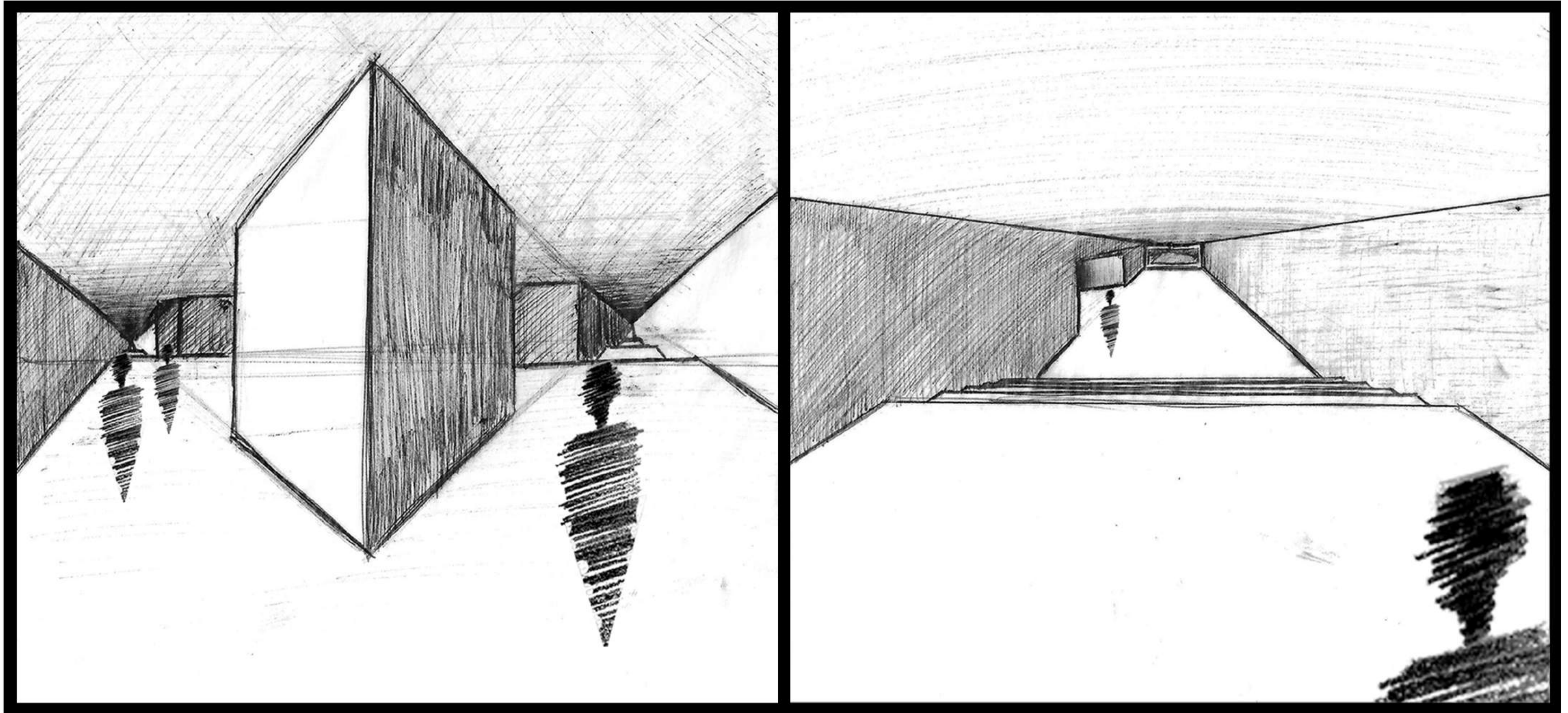
I chose to design on the eastern section of the quarry due to existing building footprint and service nearby. This would allow for less invasion on the rest of the site while at the same time having pre-existing access to this particular area. This existing footprint was the Georgia Power Substation which raised problems further into the design process but still allowed for great service access to the area.

CONCEPTUAL SKETCHES

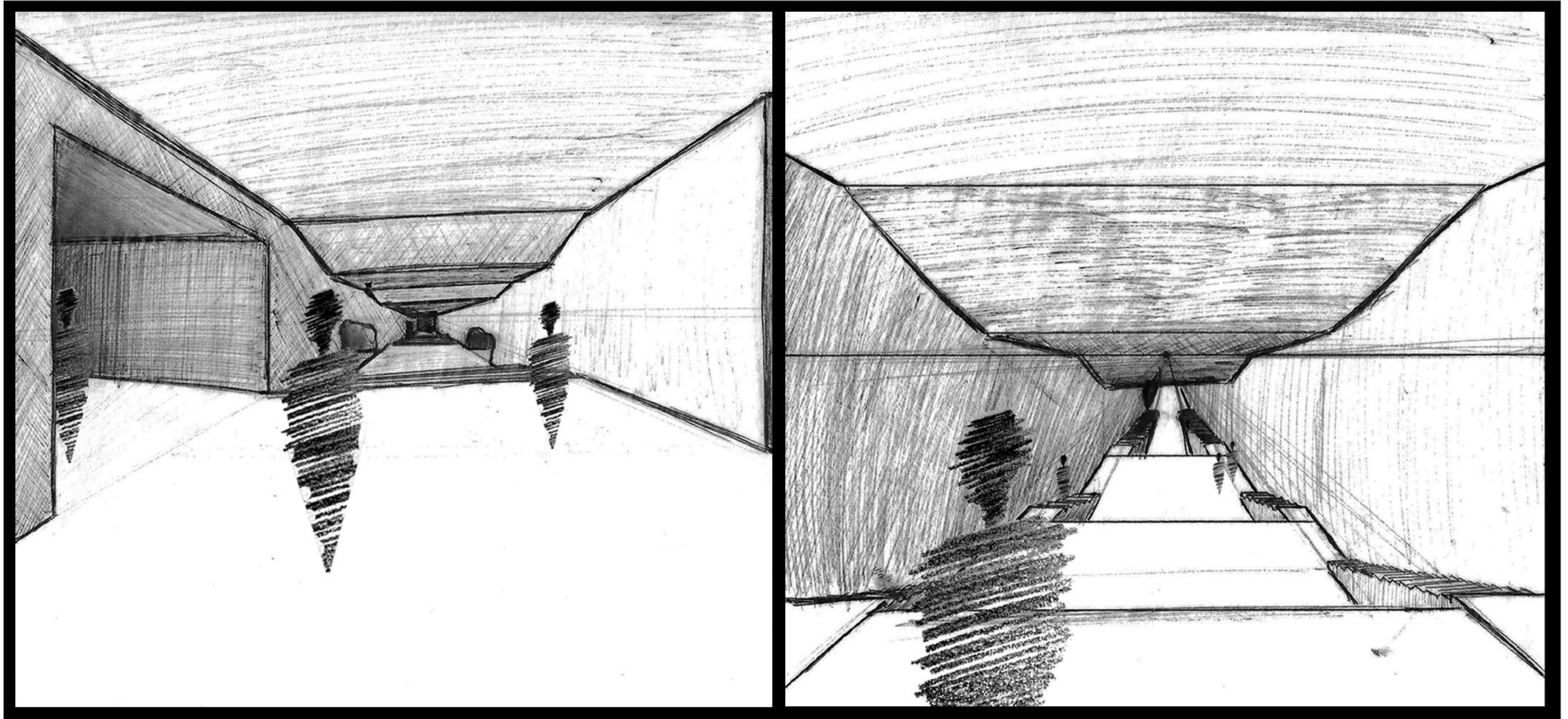
VIEW TO GALLERIES:



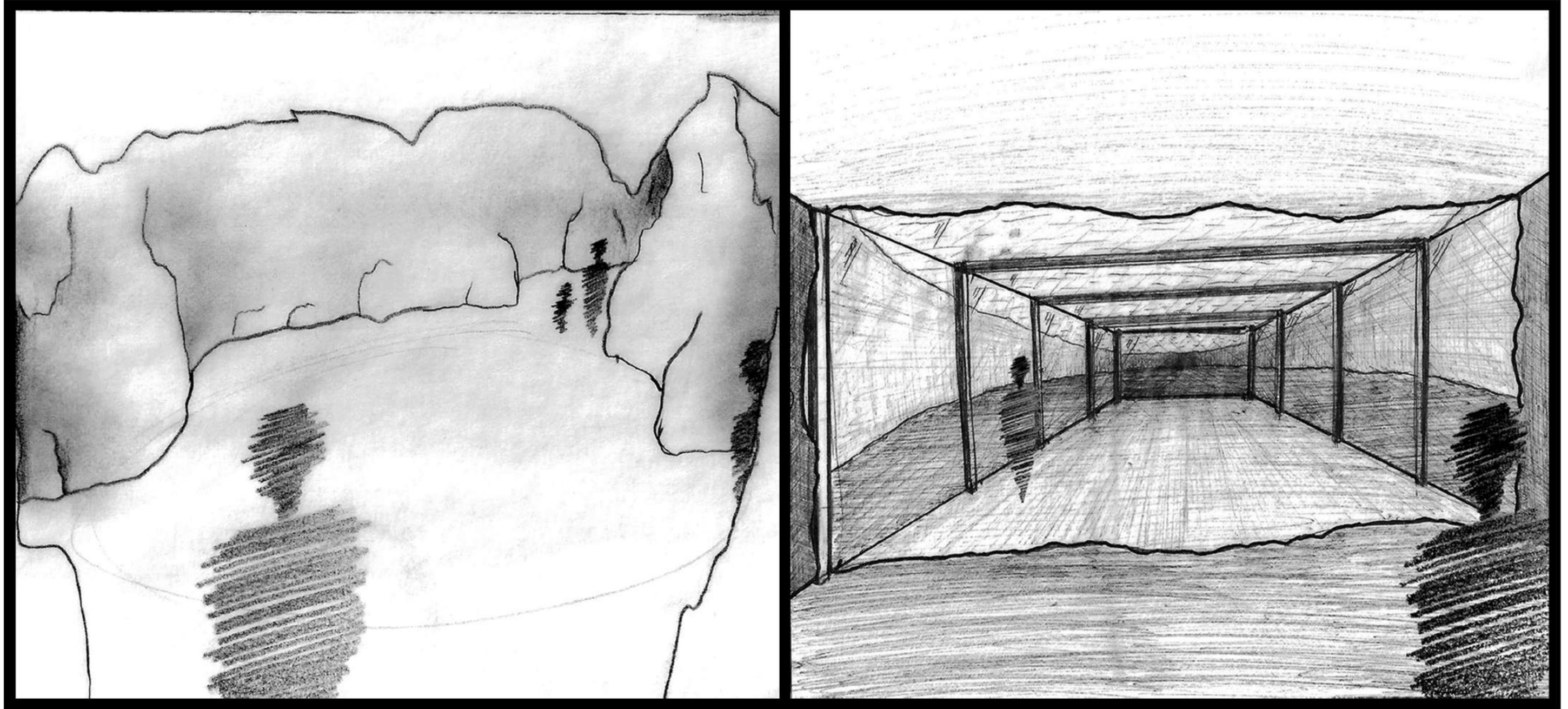
WING A / B CONCEPT:



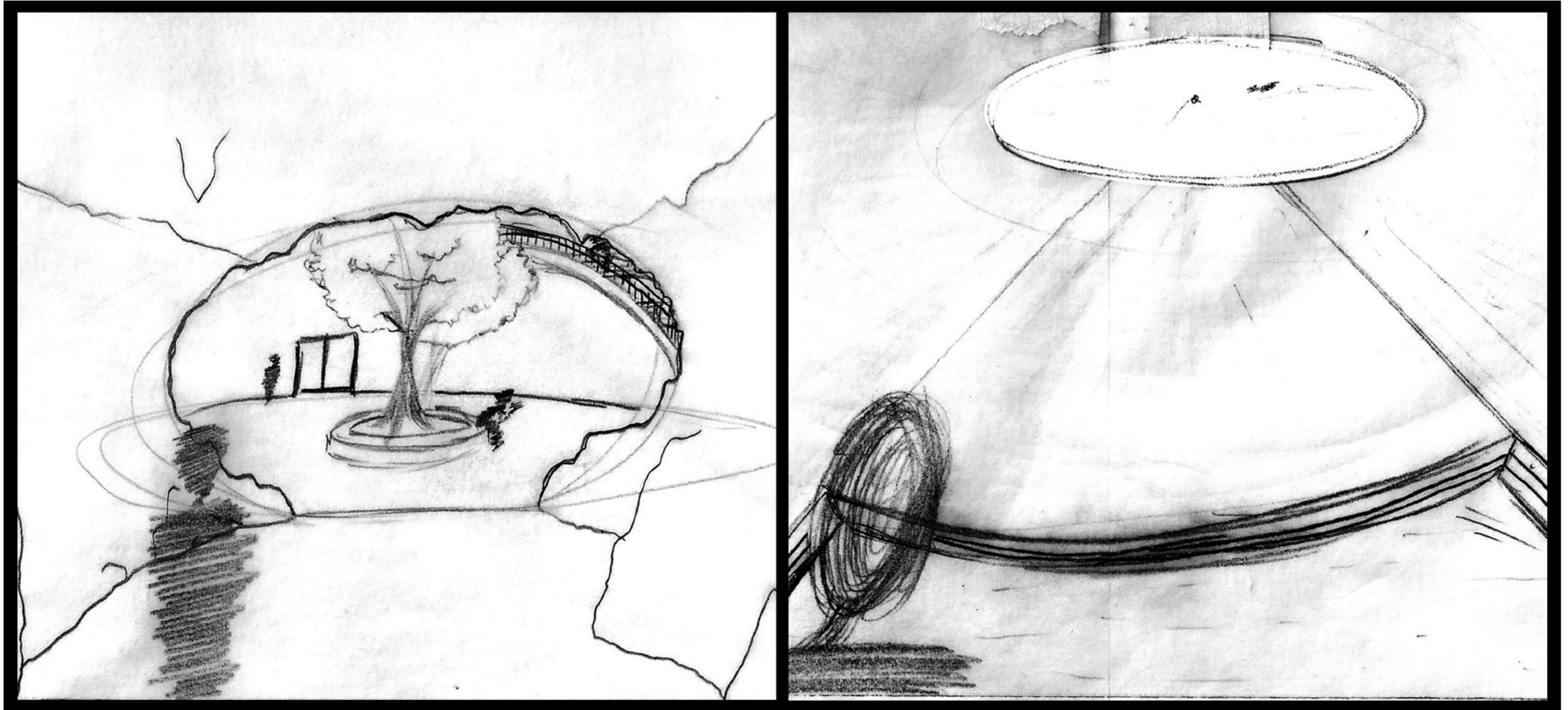
WING B / C CONCEPT:



WING C / OBSERVATION 1 CONCEPT:

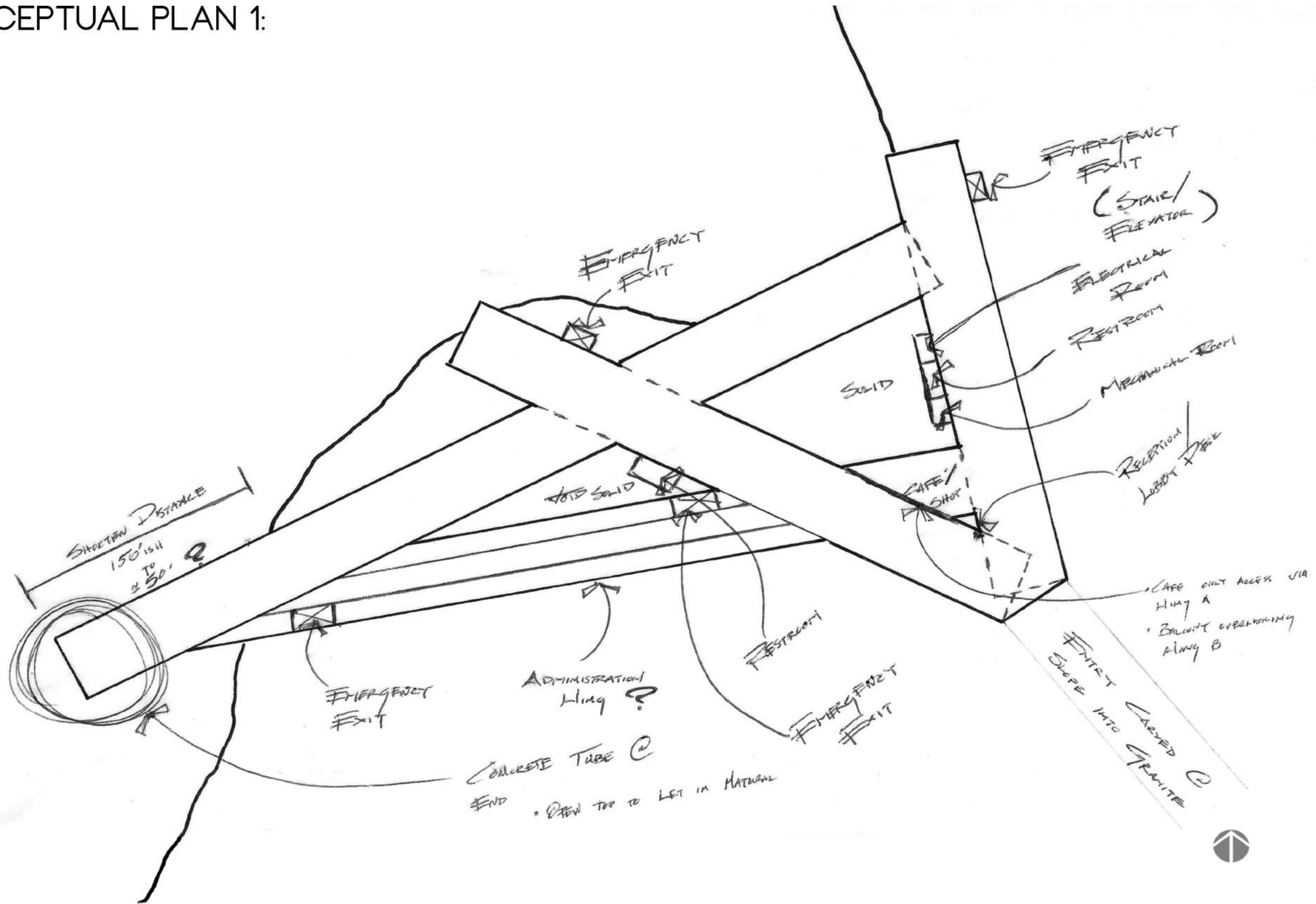


COURTYARD / OBSERVATION 2 CONCEPT:

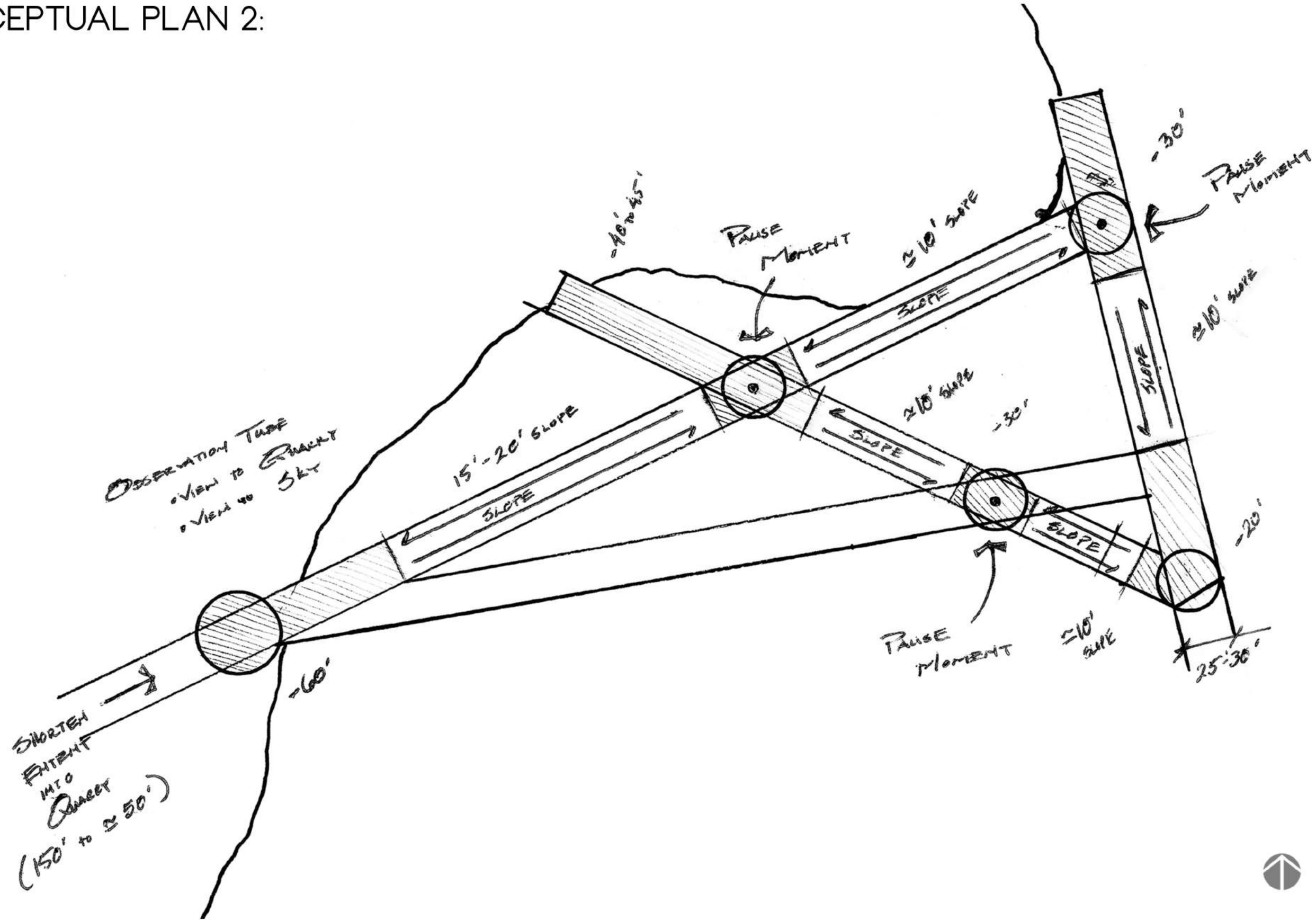


CONCEPTUAL PLANS

CONCEPTUAL PLAN 1:

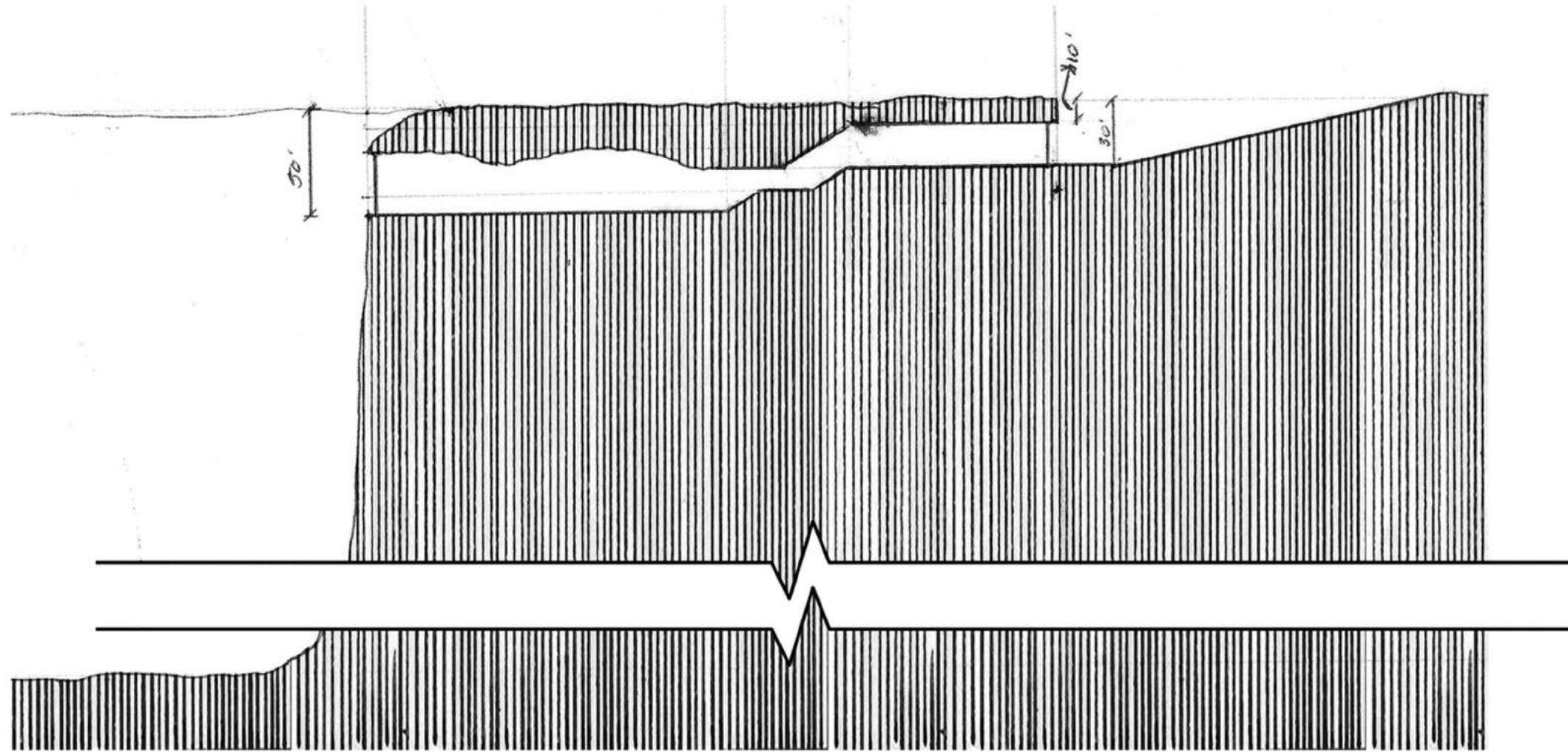


CONCEPTUAL PLAN 2:

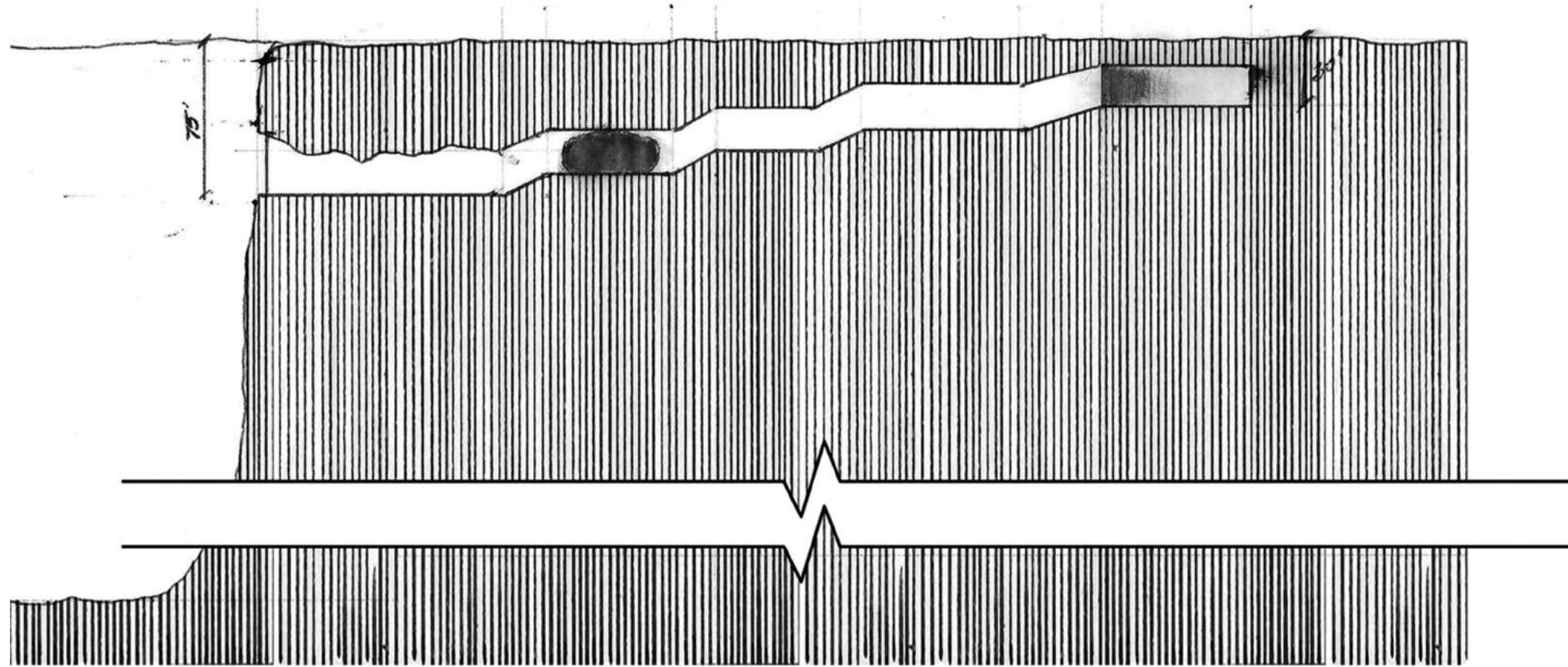


CONCEPTUAL SECTIONS

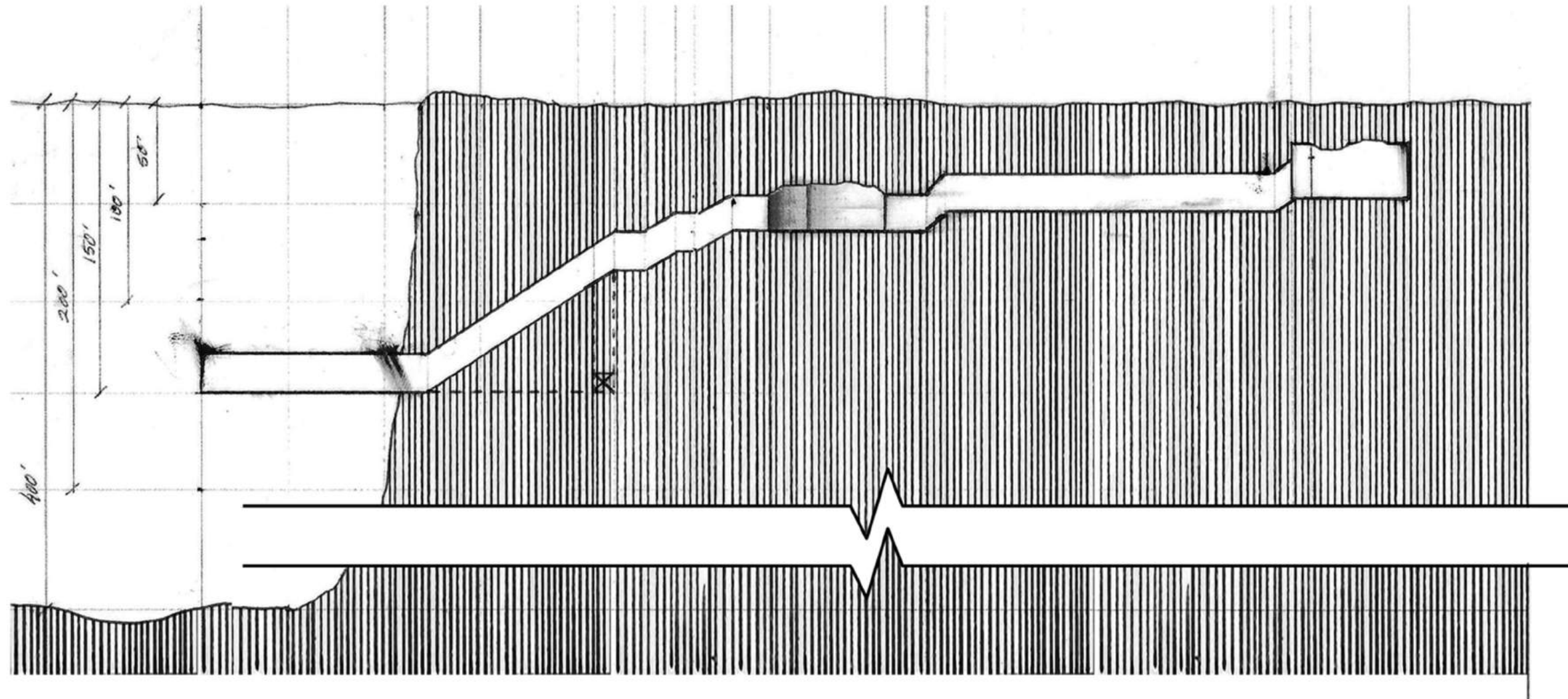
WING A CONCEPT 1:



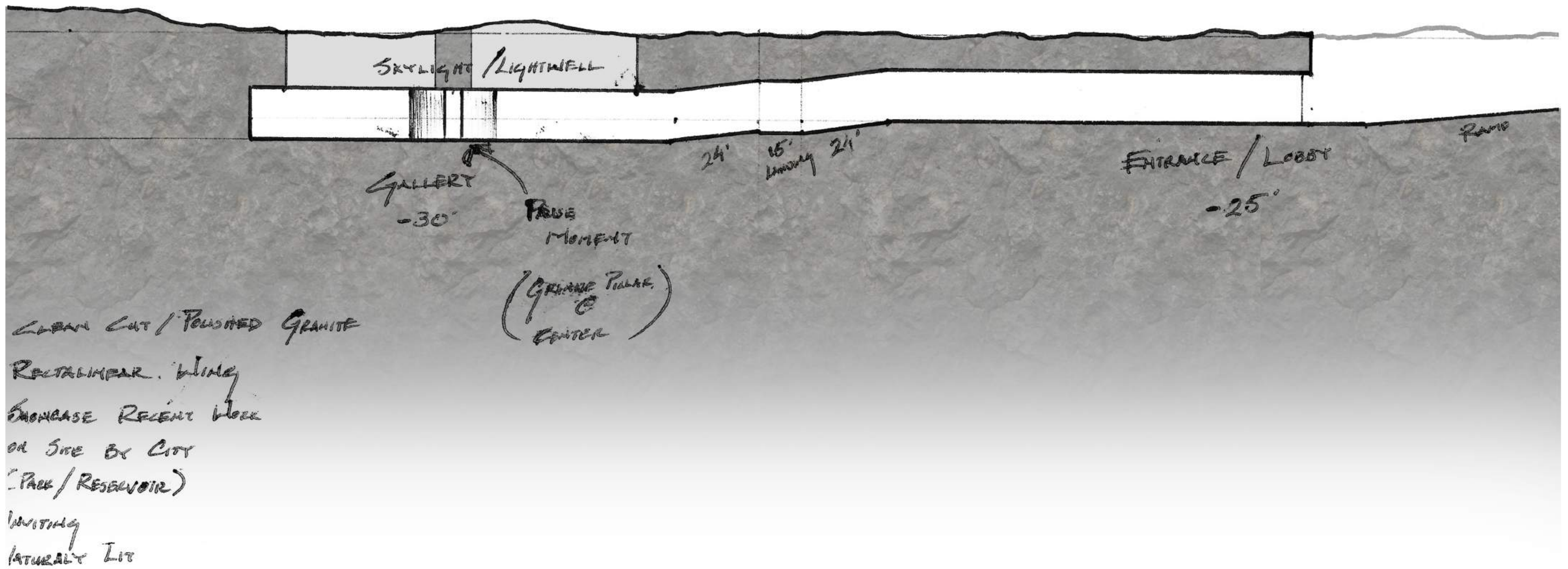
WING B CONCEPT 1:



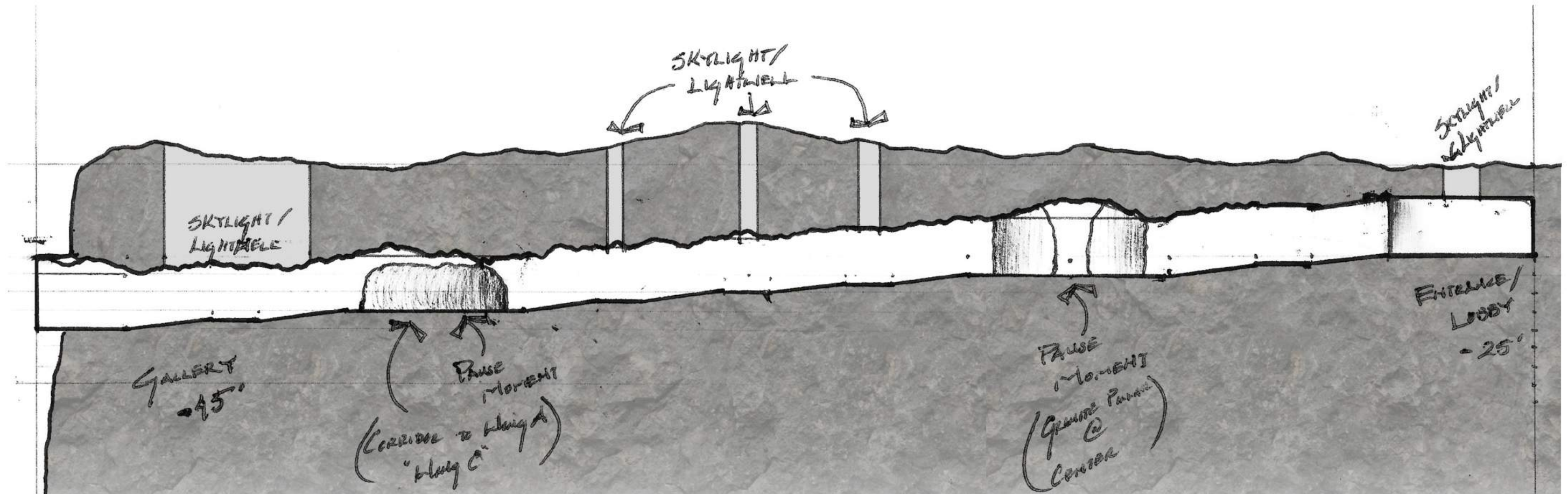
WING C CONCEPT 1:



WING A CONCEPT 2:

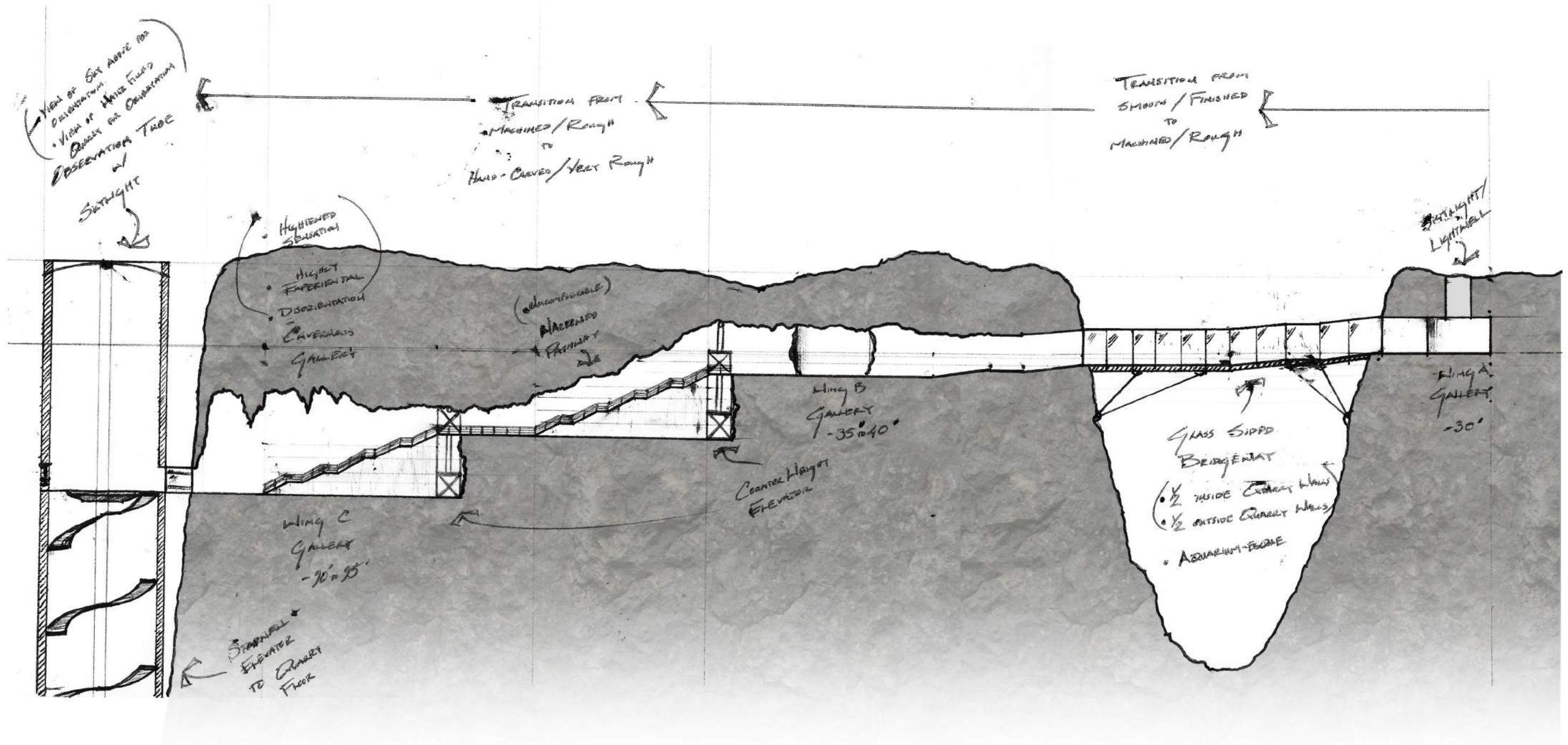


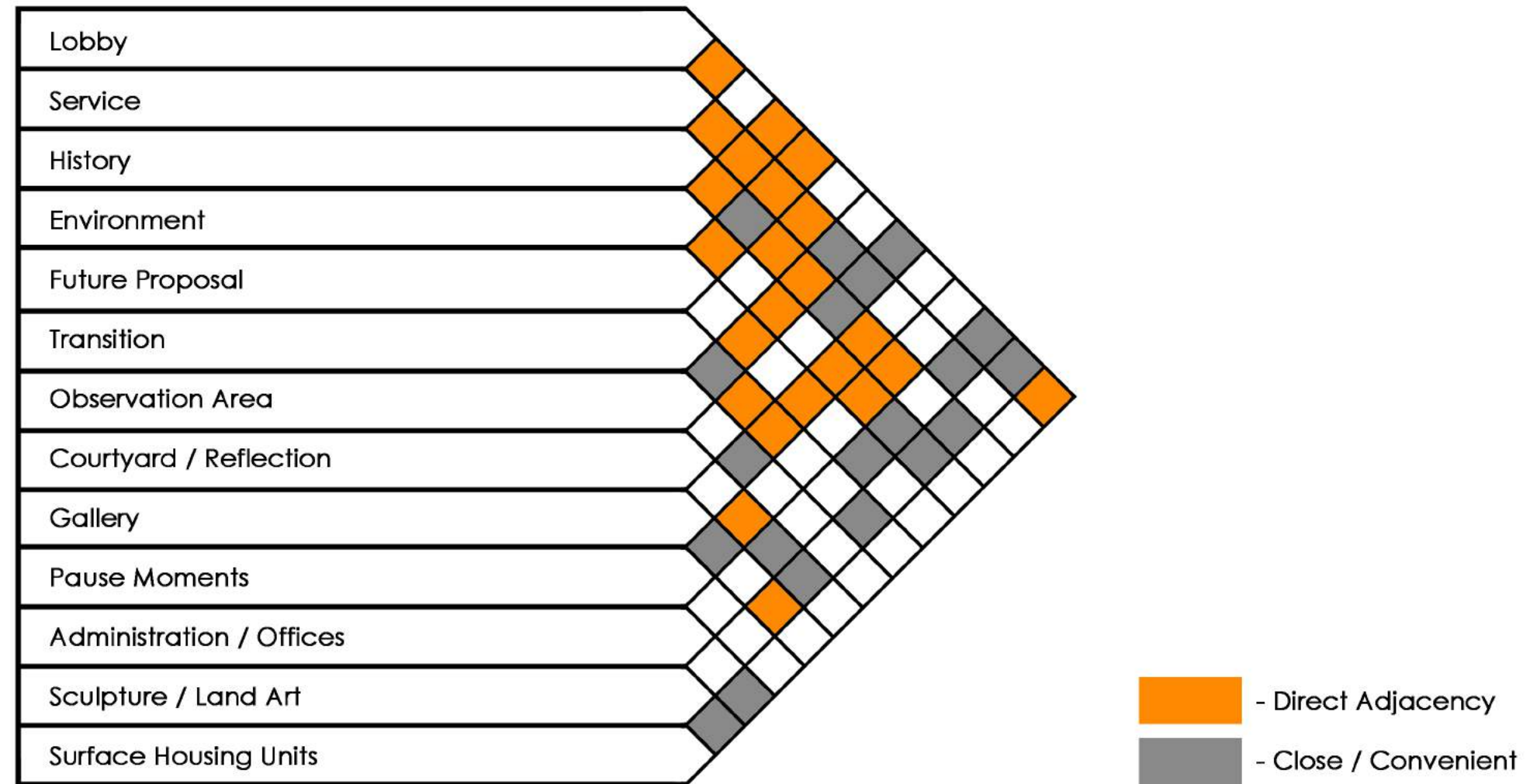
WING B CONCEPT 2:



- MACHINE CAT CORRIDOR
- DIAMOND BLADE CERAMIC WALL PATTERN
- OVALAR HING (MACHINE ROUNDED)
(NOT FINISHED / POLISHED / CLEAN)
- CAUTIONS / OMISSIONS
- NATURAL + ARTIFICIAL LIGHT
- INCREASE ENVIRONMENTAL IMPACT ON SITE + WORLD
- BEGIN TO SEE FLUCTUATION IN CEILING HEIGHT (CONSCIOUS)

WING C CONCEPT 2:





PROGRAM:

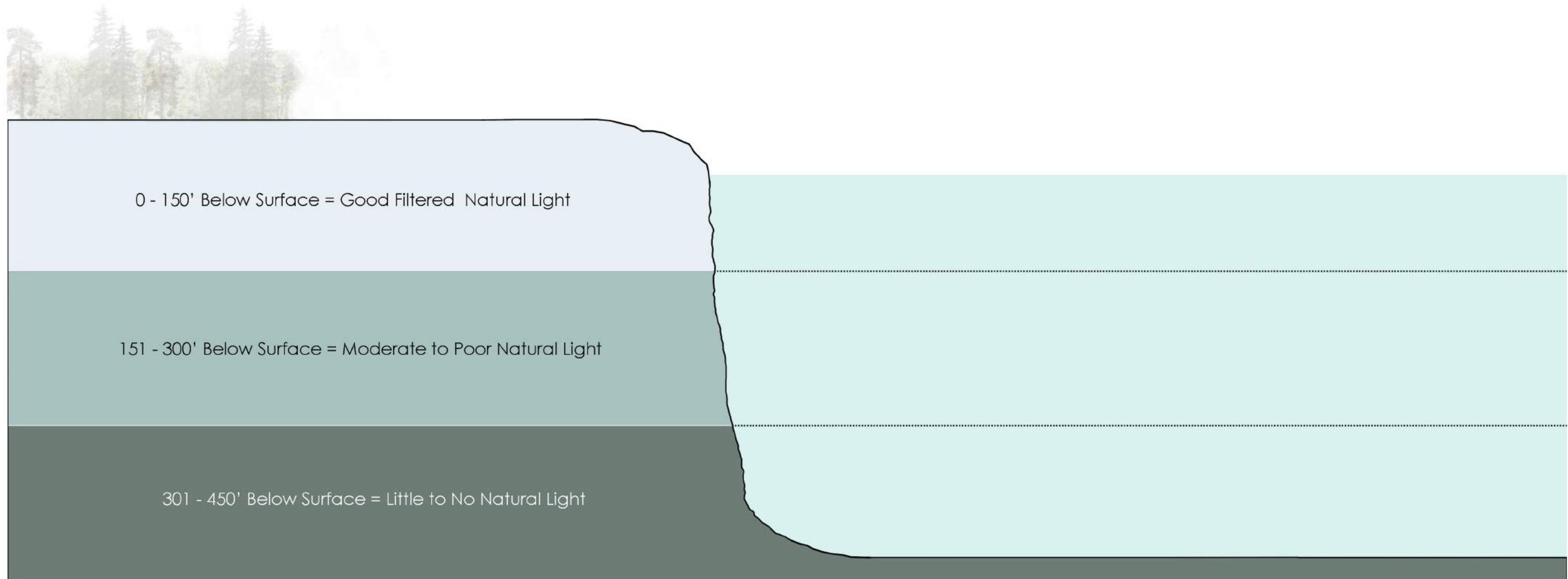
The program used in this design include:

- Three informative and experiential corridors
- Recap corridor
- Reflective courtyard
- Administrative offices
- Galleries
- Pausing moments

The program is simplified to the core components so that the history and other strategies remain at the forefront. Since the experience can be so intense, distractions from this are minimized.

There are four corridors in the project, three of them covering the three main design strategies and the final being a recap.

Each corridor showcases a consequence associated with the quarry; the future proposals of the city, able to be done with the materials harvested on site; the current impact industry and machines has on the natural world in order to achieve our grand ideas and designs; and the history on the verge of being forgotten which carries social implications which are still present today.



DEPTH:

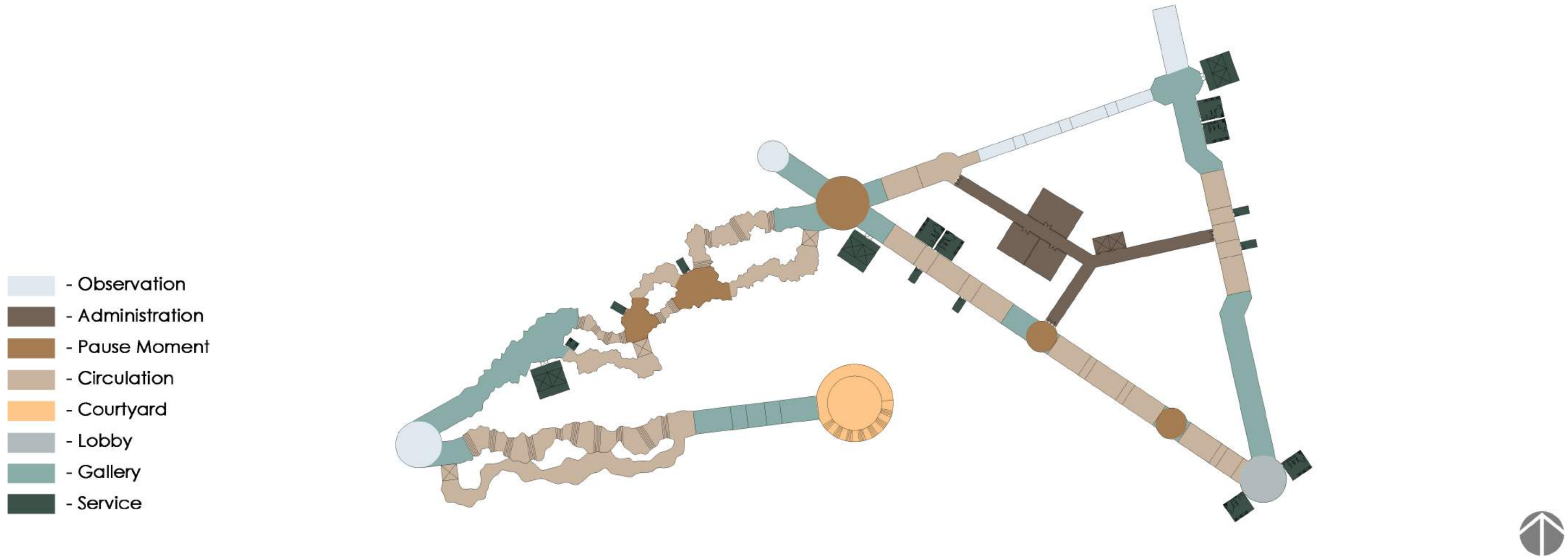
This project seeks to utilize the depth of the quarry to drive the emotional experience of the design. While using the entire depth, 400 feet, may be out of the question as far as having people traverse that on their own, I can still use a good portion of the depth and achieve a similar experience.

Each of the corridors will reach a different depth. This will correspond with ease of access and consequently the emotional experience of each space. The shallower the depth the easier and more comforting; the deeper the depth the harder and more uncomfortable the project becomes.

Wing A reaches a maximum depth of 30', descending a total of 5' from the wing entrance to wing termination.

Wing B reaches a maximum depth of 45', descending a total of 20' from the wing entrance to wing termination.

Wing C reaches a maximum depth of 70', descending a total of 45' from the wing entrance to wing termination.



SPATIAL USE:

The project is a museum and exhibit space which will display historical and environmental information about the site and the world. Each corridor will be a long linear gallery space with the ends of the corridors providing views into the water filled quarry. These views will allow you to see not only the quarry floor but glimpses of the other galleries as well.

This project is not simply a walk between gallery spaces to display information but instead an immersion within the history or environmental issue. The journey is intense but necessary to properly convey the issues at hand.

While the walls are able to hold on to outside exhibit pieces, if left bare the experience should remain the same. The entire project has been designed in such a way that simply walking through the space will tell the story. Even if you do not know the exact history, the atmospheres created in each corridor will trigger the same emotional responses. The environments created via tectonics, sound, light, and material finish all help to convey and depict an intense emotional experience.



FIGURE 4.2 - POLISHED STONE ARCHITECTURE #1

FIGURE 4.3 - CARVED SUBWAY TUNNEL

FIGURE 4.4 - ROUGH CARVED CAVE

TECTONIC:

The space I've designed will be carved and excavated completely from the quarry. The quarry itself, since it is all granite, will be a majority of the structure. However, this is not enough to support the large volumes of solid granite above the corridors.

Structure beyond the quarry walls will be metal beams and columns limited to whatever is necessary to ensure the tunnel systems do not collapse, similar to mines.

There are three material finishes that will be applied in this project, each emphasizing a particular emotional response. It will be a showcase of the local material, granite, and the life-cycle it goes through from extraction to final product.

The material finish will progress from polished and refined, to rough and machined, to organic and hand-carved. These three finishes of the same material will emphasize the emotional responses desired at each corridor while also subtly hinting to the environmental impact we have on the world.

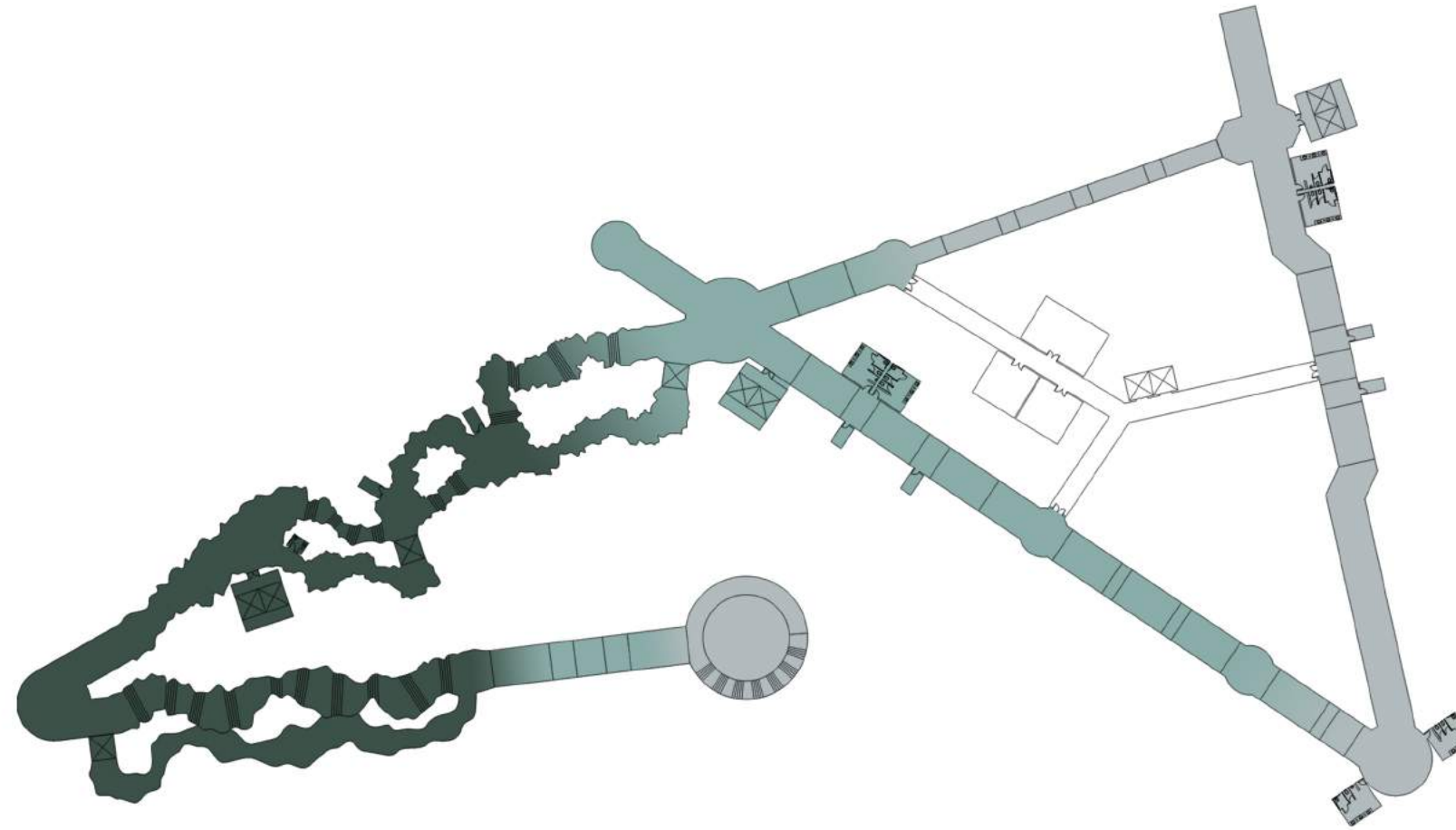
Wing C: Historical Wing
(Hand Carved)



FIGURE 45 - CAVERN CATWALK



FIGURE 46 - MINE TUNNEL



Wing A: Informational Wing
(Polished/Geometric)



FIGURE 410 - POLISHED GRANITE ROOM #1



FIGURE 411 - POLISHED STONE ARCHITECTURE #2

Wing B: Environmental Wing (Rough/Circular)



FIGURE 47 - TUNNEL EXCAVATION



FIGURE 48 - ROUGH SUBWAY TUNNEL



FIGURE 49 - TUNNEL ENTRANCE

EXPERIENCE

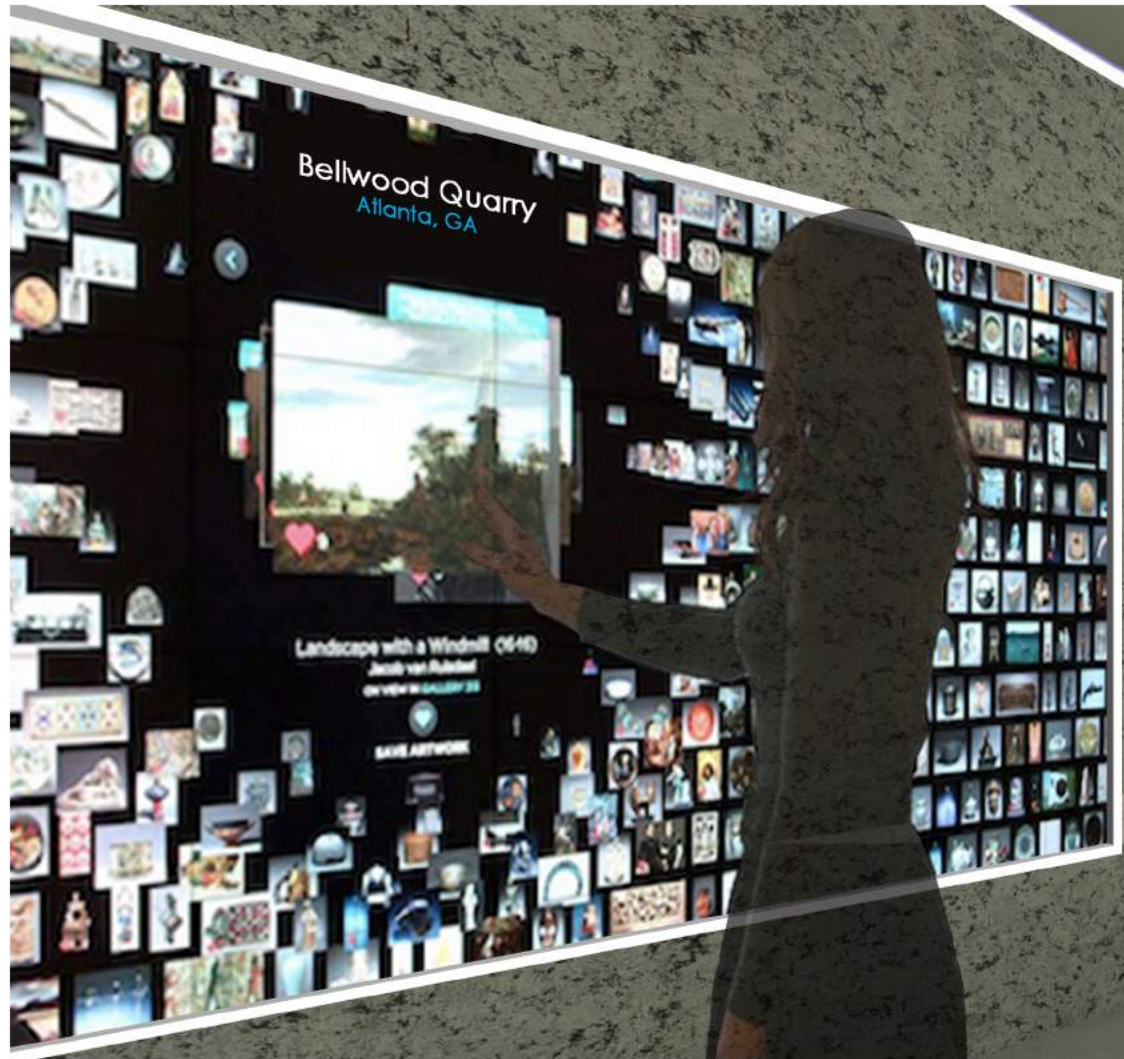


FIGURE 3.1 - INTERACTIVE WALL



FIGURE 4.12 - STONE SCULPTURE

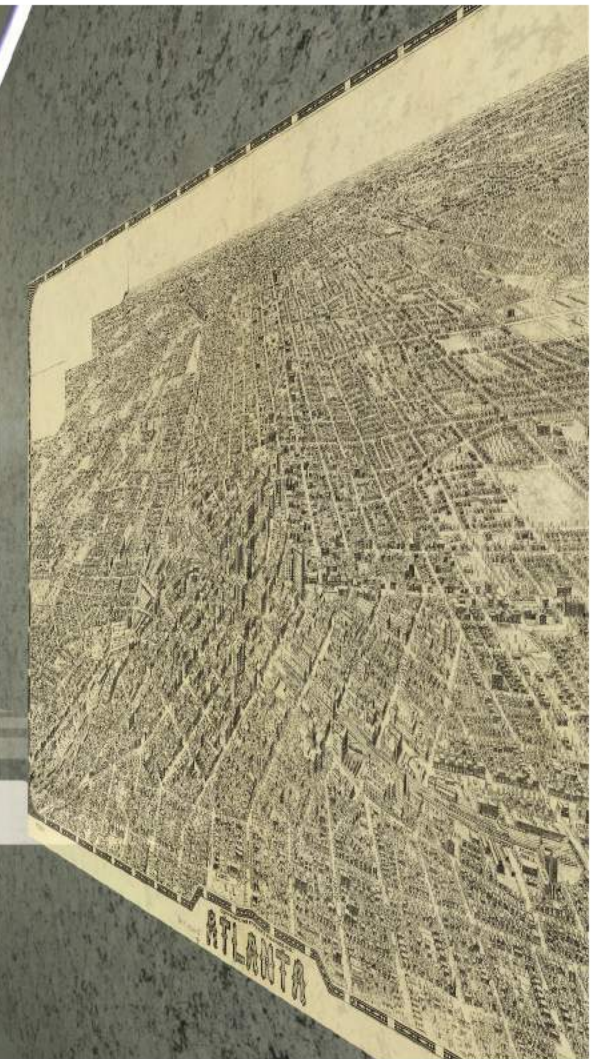


FIGURE 4.13 - ATLANTA HISTORIC CITY MAP

FUTURE:

In the first corridor, Wing A, the informational wing, you are greeted with clean straight geometries and polished granite surfaces to help show the refinement of the site from a rugged quarry to the Westside Reservoir Park.

This corridor will showcase the future design proposals for the City of Atlanta. This will be a positive outlook on all that the City of Atlanta is capable of as-well-as emphasizing the cities push towards more green and environmentally conscious designs and building methods.

The overall feel of the space is very comfortable since everything is finished and what you would expect in today's world or from a futuristic design.

When you are in this space, the atmosphere is very clean and crisp. The walls are made of straight geometries and is meant to show the evolution and development of mankind from hands-on to technical. This space utilizes the latest technologies to be a marvel of the advancements we have made as a society.



FIGURE 4.14 - EDWARD BURTYNSKY OIL FIELD PHOTO #1

FIGURE 4.15 - EDWARD BURTYNSKY OIL FIELD PHOTO #2

PRESENT:

The second corridor, Wing B or the environmental wing, becomes a bit rougher. This wing is carved out by a tunnel drill which gives the effect of walking through a freshly drilled subway tunnel. The circular pattern etched into the wall surfaces shows the impact we have on the natural world via harvesting and machines. The rough surfaces that snake down into the quarry begin the decent into discomfort.

This corridor intersects with the first, more refined, corridor and is a reminder of how all the comfort and technological advancements were made possible. In order to create we must destroy. As our lives are made easier and our built environment is more centered around us, the natural environment is what suffers and pays the price.

This intersection and subtle queue is meant to awaken the visitors consciousness and make them aware of the uncomfortable truth.

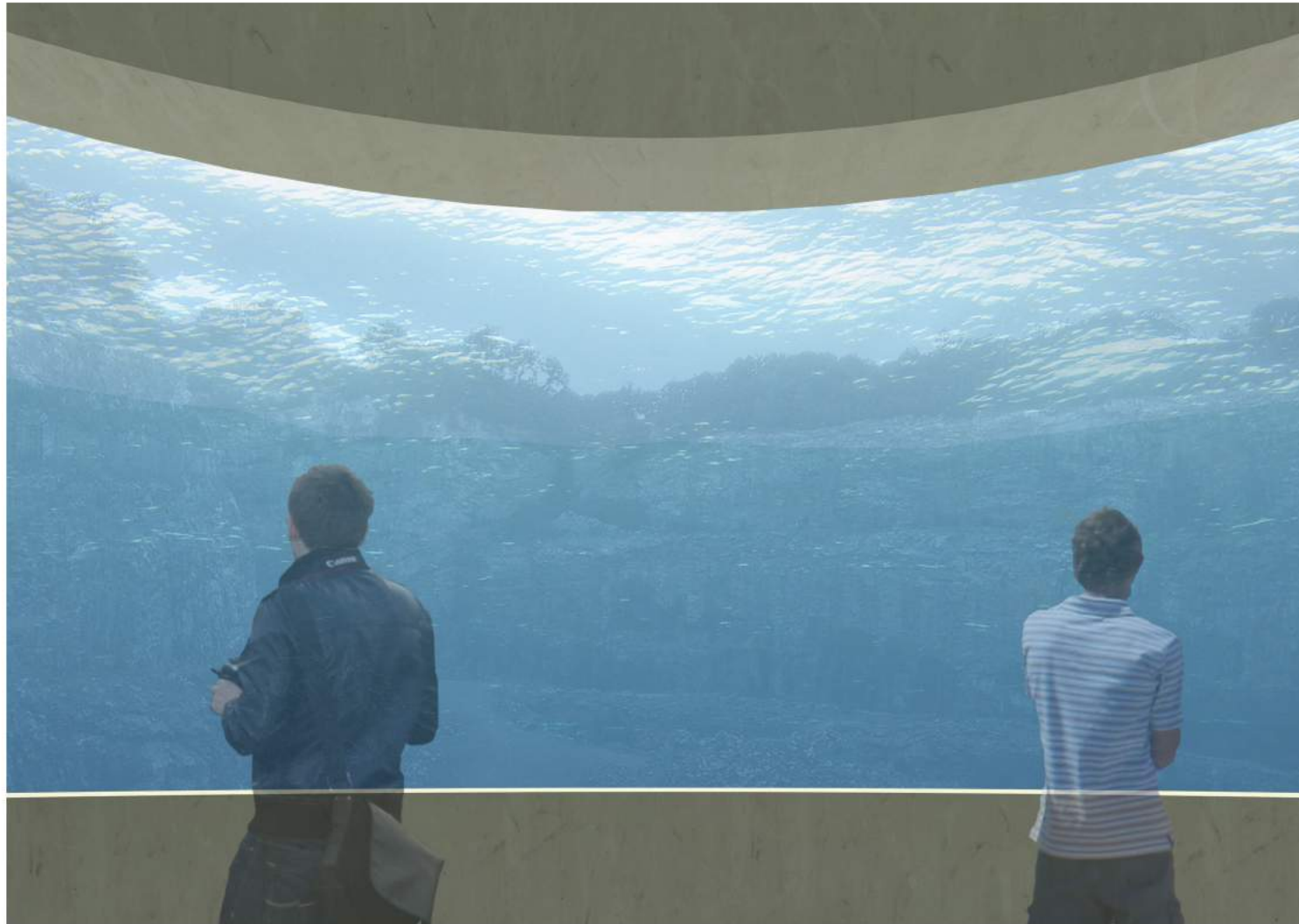


FIGURE 4.4 - ROUGH CARVED CAVE

PAST:

The third corridor, Wing C or the historical wing, is hand carved. This approach coincides with the dark past of the quarry. The hand carved surfaces and constant expansion and contraction of the tunnels are designed to be very uncomfortable and make visitors question whether or not they can get through certain pathways without scraping or bumping into the walls. This discomfort conveys the harsh conditions and near-slavery practices experienced at the site not even a century ago. As you walk through the twisting tunnels you almost get a sense that those that were nearly forgotten are still haunting the halls of the museum.

Wing C terminates at the observation tube which is a massive concrete cylinder that reaches from the quarry floor to the surface of the water filled quarry above. This allows you to view the sky from the opening above while at the same time being able to see below the waters surface through view ports in the tube walls. This leads into the transition wing.



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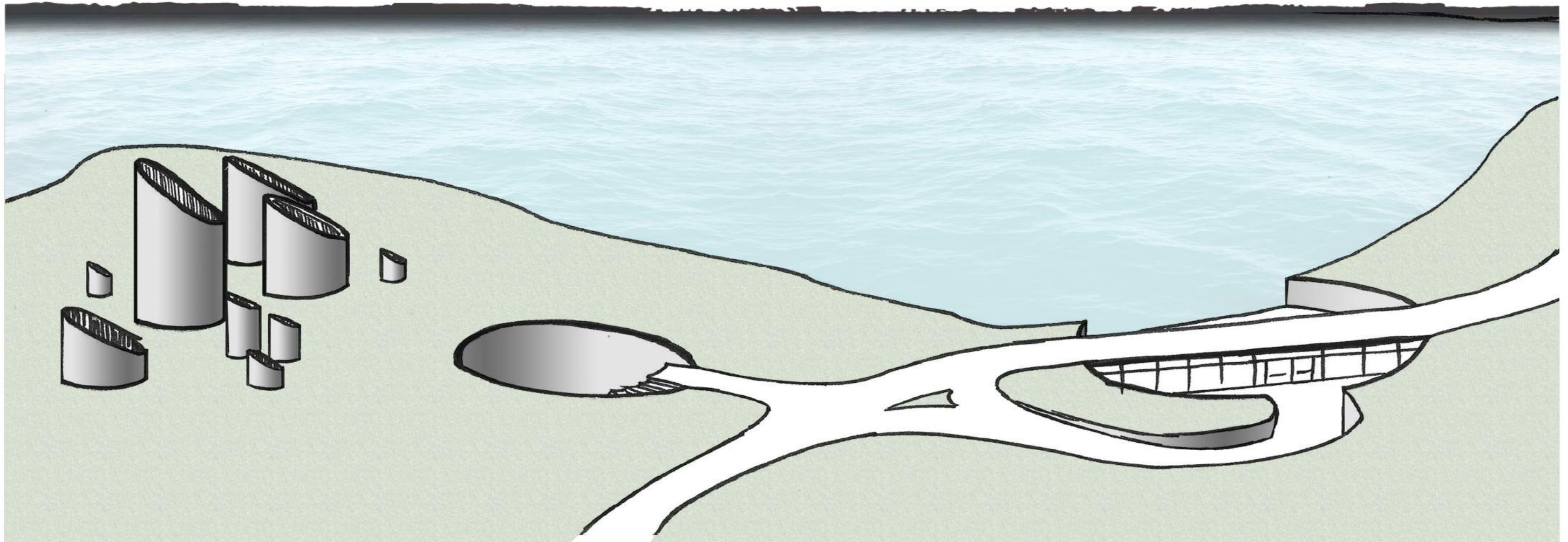
This corridor is the height of the emotional experience in the project. All choices and decisions made throughout your journey have culminated and led to this moment. The corridors before are only made possible by the sacrifices and experience of the prisoners and slaves from not so long ago.

This corridor is meant to show everyone that no matter how beautiful something may be or eventually become there is a past, and more often than not, a dark past. These pasts not only affect the area physically but can be the root of social issues.



We live in a world that is beginning to see everything as disposable, not only the physical resources that our planet has to offer but also personal relationships and memories.

Whether its a diamond on an engagement ring or Bellwood Quarry itself, beautiful things can hold on to dark secrets. It is important that we hold on to these histories and memories so that we do not make the same mistakes in the future.



SURFACE TREATMENT:

In order to avoid this project doing exactly what I have been arguing against, I have decided to use the excavated material on the surface. Since my entire project is focused around historical awareness and environmental responsibility, using the excavated material at the surface could not only provide visual queues for visitors of what lies below but also could be used to house service areas and create land art and sculptures.

This surface treatment shows how to responsibly source materials while at the same time giving me the opportunity of designing land art and sculptures which could, even at the surface level, be a hint to the public of the dark past Bellwood Quarry hides.

This material will be used to:

- Create the sound wall by the substation
- House/Cover emergency exits and MEP systems
- Create land art and sculptures
- Provide structural material for the rest of the site



COURTYARD:

At the end of this project, after you have journeyed through the quarry and history, you are met with a courtyard. This courtyard is still underground, by 25 feet, but is open to the sky. The walls appear as if a cylinder punched the courtyard into the granite.

This courtyard serves as an area of reflection, reflection not only of the strenuous journey you have gone through to end up at this point but also self-reflection. This area forces you to think of the issues displayed and reflect on if and how they affect you and vice versa.

At the center of the courtyard is a large granite sculpture which further enforces the idea that this entire project is about a quarry, and the materials it held on to, and the lengths man went to to harvest these materials. It seeks to show what a man was willing to do not only to the earth but to his fellow people for a stone.

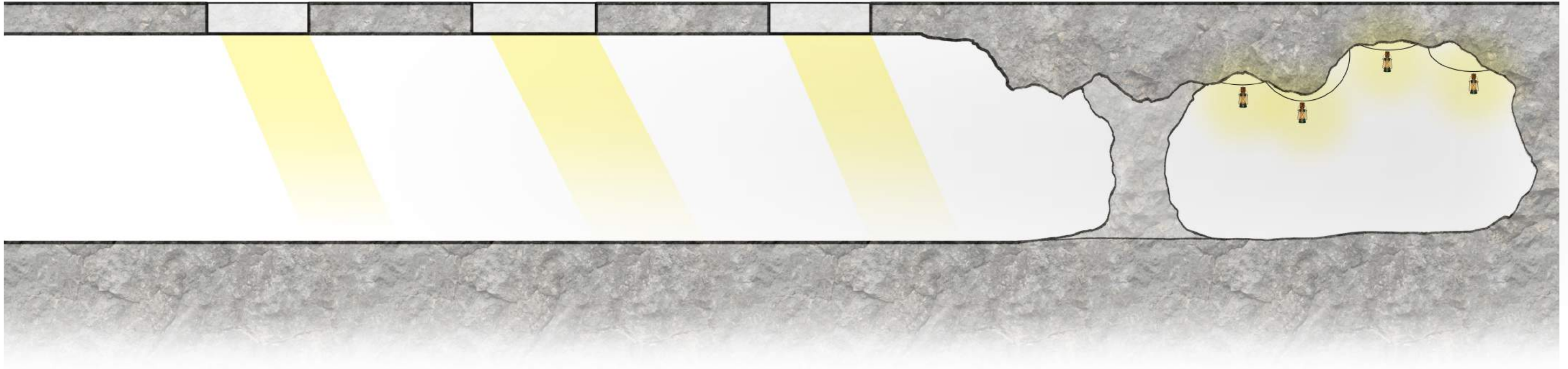


ADMIN. OFFICES:

The administration area is the first thing, beyond the carved path and land art, that you will see when approaching the entrance to this project. This facility is just below the surface of the surrounding park but is exposed to the air and visible from other areas of the park. The only portion below the earth's surface serves both as the pathway to the entrance of the project but also as the roof for the offices below.

This facility will house workers and coordinators as well as most of the MEP systems for the museum below. Similarly to the courtyard, this area appears as if a cylinder was punched into the granite. The back of the space, however, is not underground but instead on the ledge of the quarry which allows a view out over the water.

This, besides the land art and housing structures made of the excavated material, is the only part of the museum that will be visible to the public.



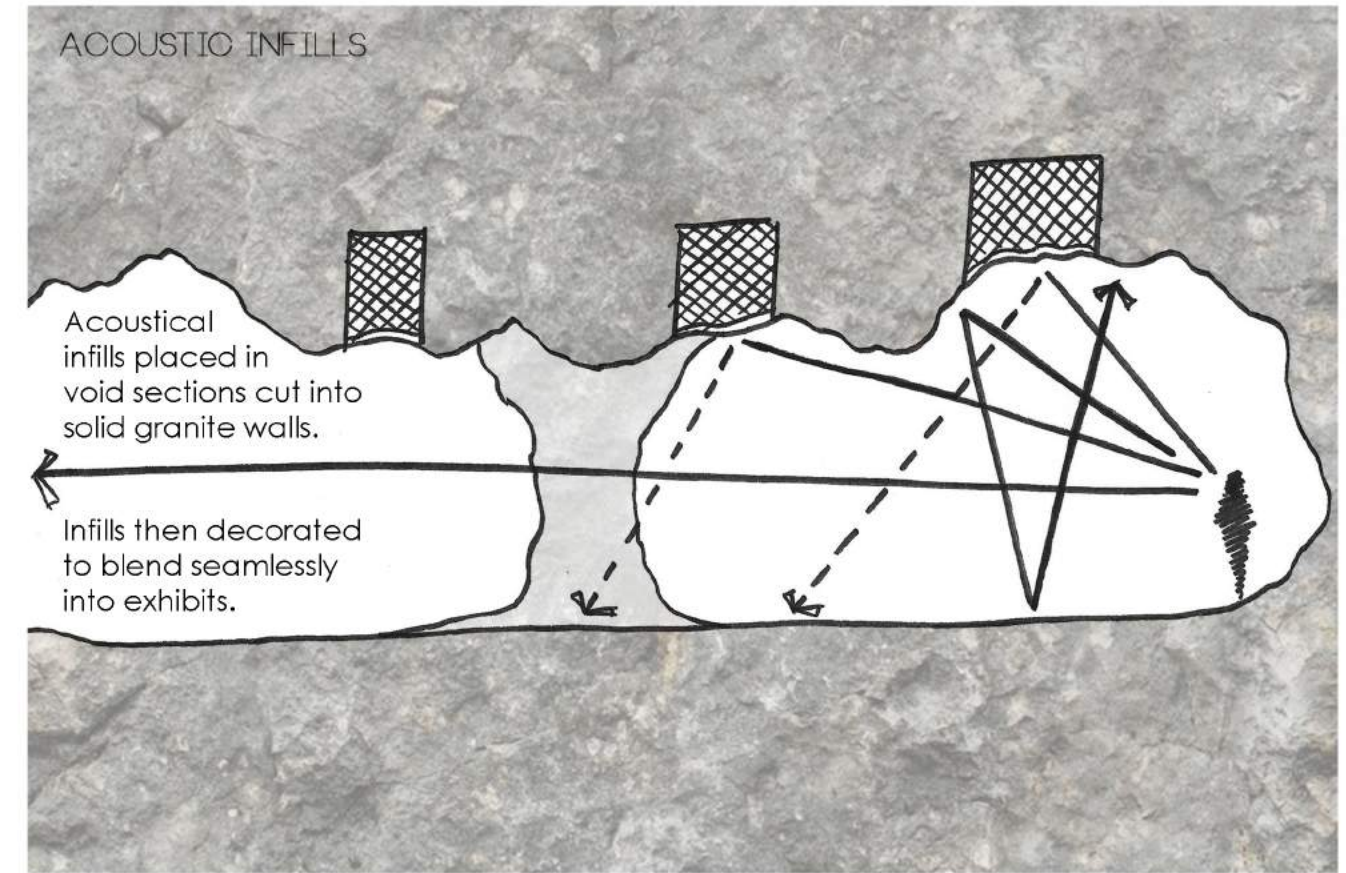
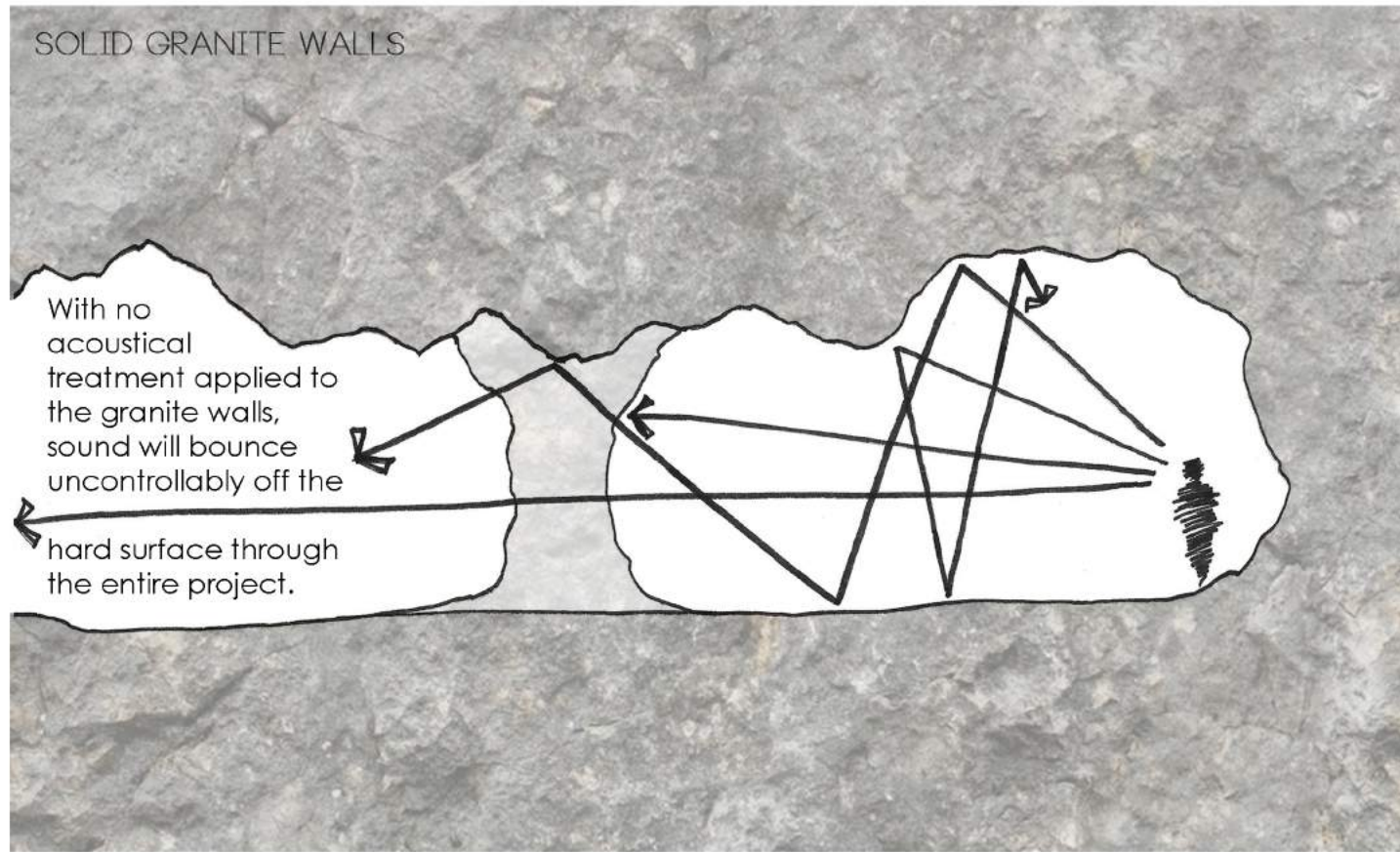
LIGHTING:

Since the project is carved into a quarry, and the quarry is being filled with water, ways for light to penetrate the project are limited. In order for the project to be successful, natural and artificial light must be properly designed. Since the project utilizes three distinct corridors and material finished the same idea should be applied to the lighting of the spaces.

For Wing A, large skylights will span the length of the corridor so as to allow large amounts of natural light to flood the gallery. This will amplify the atmosphere of the space and further the inviting and comforting feel of the space.

For Wing B, skylights will be placed at the "pause moments" or nodes along the corridor. The skylights will be much smaller but will be paired with artificial light so as to give the feeling of being in a subway tunnel or mine during construction. The skylights will serve as indicators of when to stop and take a breath in the descent into discomfort.

For Wing C, only artificial light will be used. Since this is the peak of the emotional experience of the project, the light should mimic the atmosphere. This lighting along with the hand carved tunnels will create a sense of oppression and discomfort.



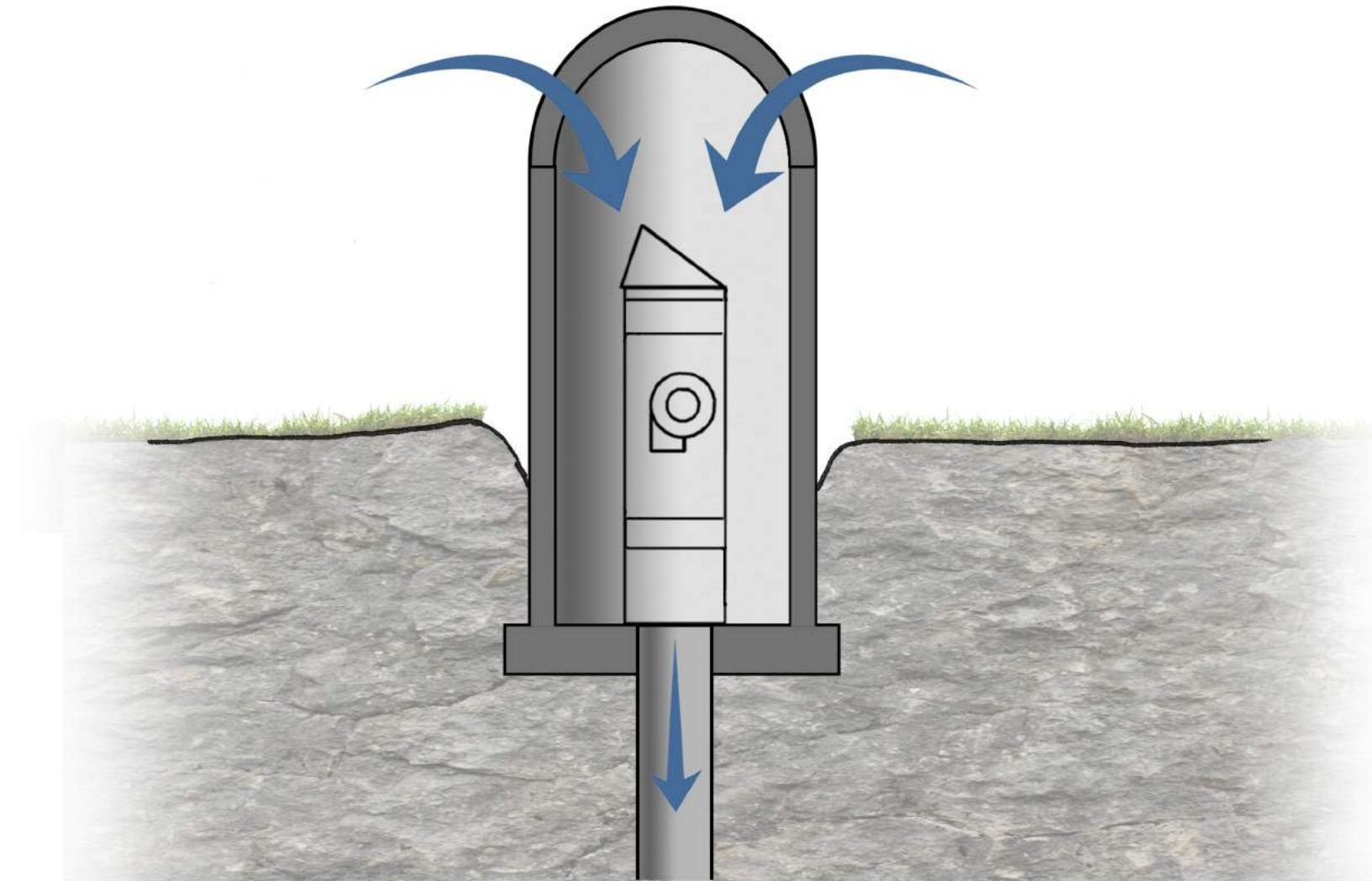
ACOUSTICS:

The acoustics of this project was an unforeseen issue to arise during development. Since this project is carved into the solid quarry walls, sound will bounce around off the walls without being absorbed. To prevent the constant reverberation of sound through the corridors I've utilized several design techniques to counter this.

First comes the actual design of the corridors. For Wings B and C the corridors either drop in elevation or wind through the quarry providing obstacles to block or redirect the sound from moving down the corridors, however, this is not enough to provide a comfortable auidal experience in the project.

While discomfort is a very important part of this project, the discomfort must be strategically controlled.

The solution would be pockets carved into the project walls and filled with acoustic materials then decorated to look like the material finish of their respective corridors. These pockets would blend seamlessly into the environment but would allow a space for sound to escape. This strategy would be implimented in all corridors and would prevent sounds from travelling from the beginning to the end of particular corridors.



- Field of exhaust tubes which house air handling units and supply fresh air down below.
- At the surface level, the tubes appear to be pillars which protrude from the ground, a juxtaposition to the punched courtyard and office space.
- The series of pillars create a sculptural park that visitors can meander through.

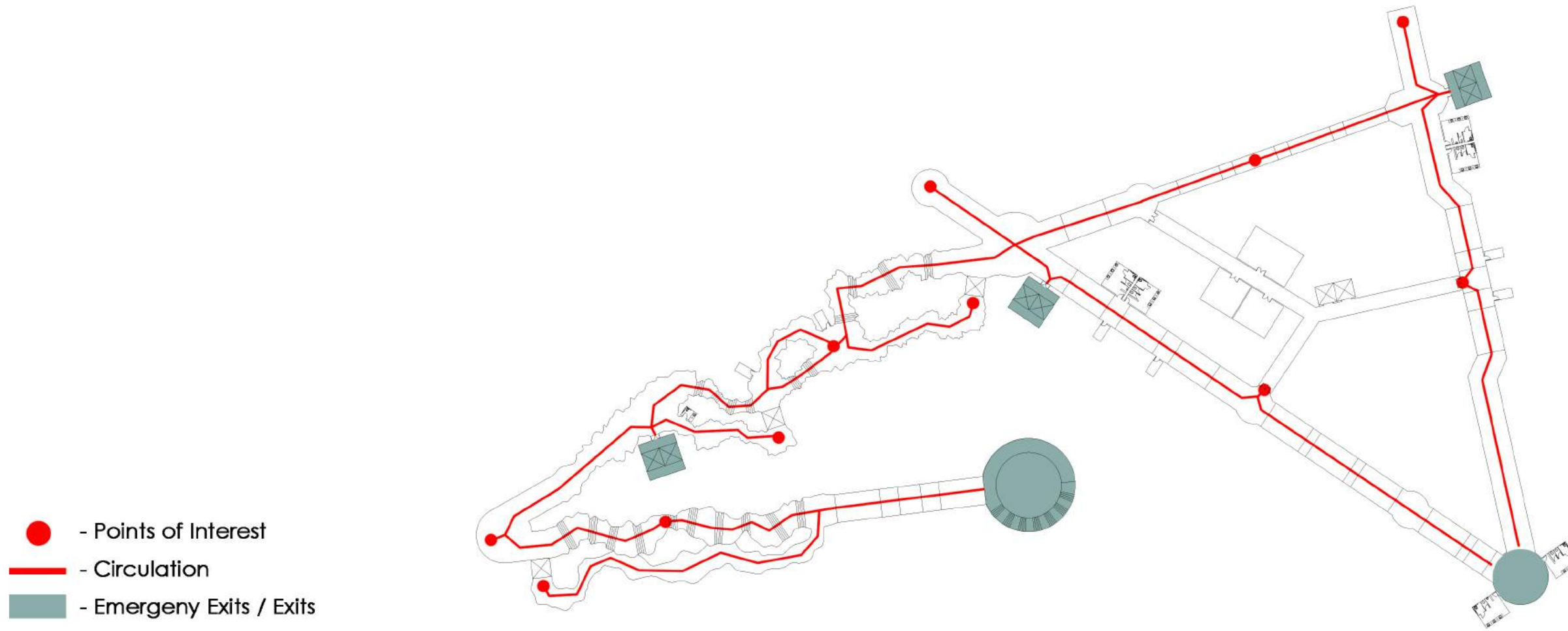
AIR HANDLING:

Getting fresh air underground can be a bit of a problem. Being underground, the air of the space, left on its own, would be stale, humid, and cool. While these qualities may be good for emphasizing the emotion and atmosphere of certain parts of the project, this is not an appropriate response for the rest of the project.

There would need to be three distinct air supply and management systems, one per wing, allowing three distinctly different atmospheres depending on the mood or feel desired within the space.

These air handling units would best be placed at the surface level with tubes dropping down into the project to supply the air. This makes the maintenance of this machinery easy to reach and helps to limit excavation below. This also provides the opportunity to utilize the excavated material to create housing stations for these units.

At the surface level these tubes would extrude from the ground and create a sculptural field that visitors could meander through while being reminded, via the materiality, of the environmental impact this site has had.



ACCESS AND SAFETY:

Since this project is almost entirely underground and several stories under, emergency exits and safety are a huge concern. The typical way of designing for egress is now inverted and instead of having to get people down to ground level I have to get them up to ground level.

The original proposal was for a counter weight elevator system to be used, however, this only solves the issue if you are trying to get down into the project, not up and out. Unless the counter weight elevator was modified, the best means of escape would be a standard fire stair situation.

To solve this issue I've utilized a standard fire stair as the primary escape route with counter weight elevators being used to facilitate emergency response teams getting into the project. The counter weight elevators do not rely on an electrical source and thus can be used in cases of emergency.

In order to ensure those who are handicapped are able to escape, I propose the use of an electric elevator which will be run off an emergency backup power supply separate from the main supply.

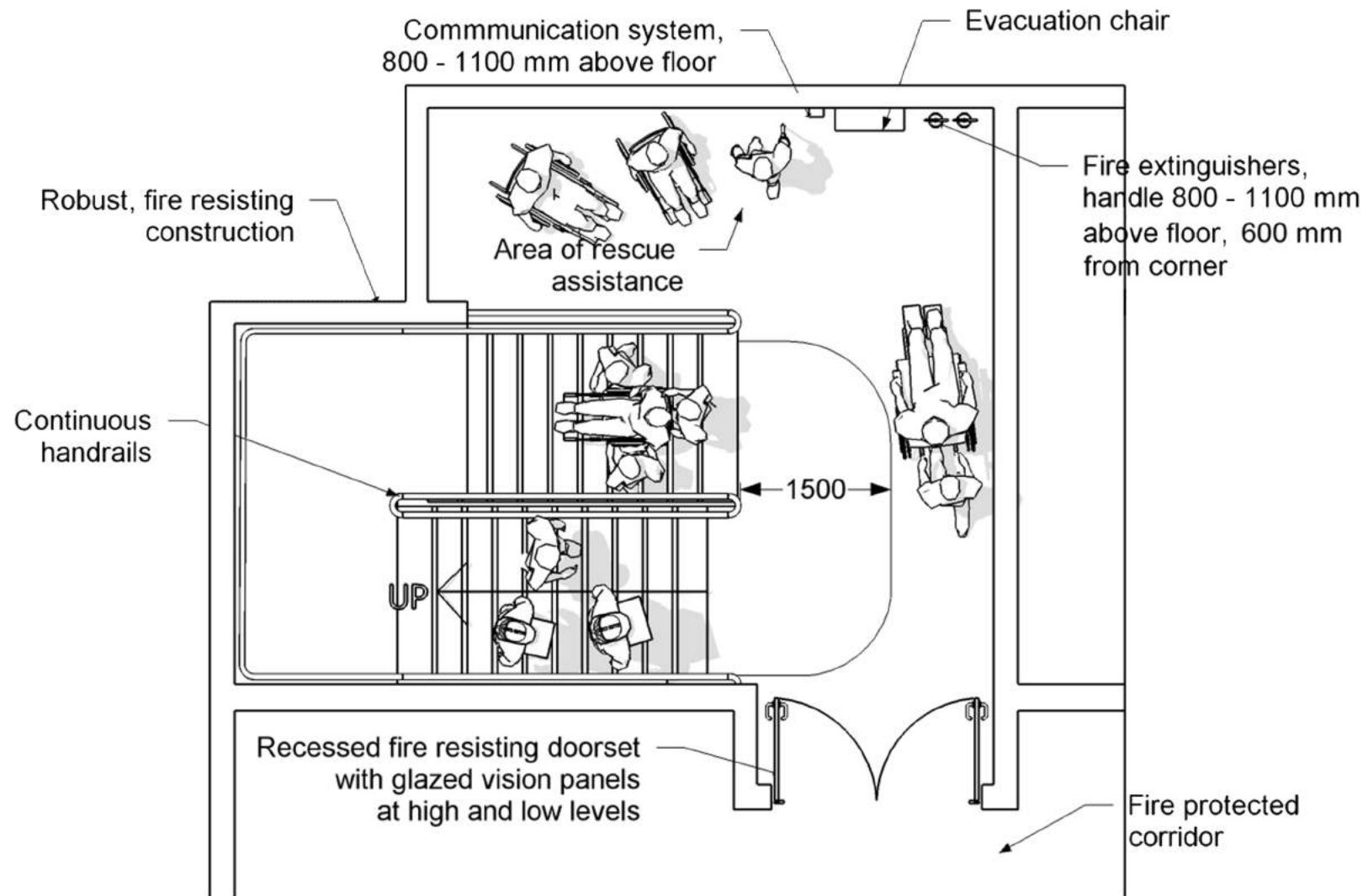
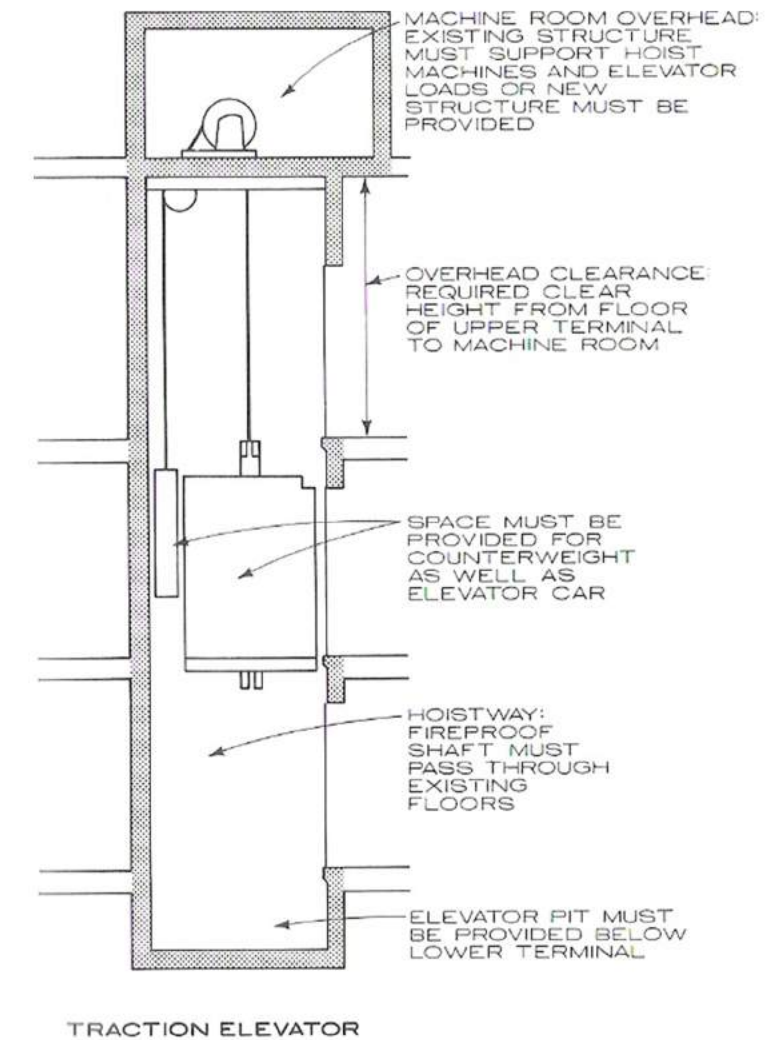


FIGURE 4.16 - EMERGENCY STAIR DETAIL

CONTINUED:

However, the counter weight elevator system could work in emergency situation if modifications were made to its design.

If each elevator, one at surface level and the other at gallery level, had a large counter weight attached to the underside of each then both would remain in their respective positions until weight was added or taken away from the other. This is great for getting down, since gravity is working in the direction you are trying to go, but this is useless if you are down trying to get up.



TRACTION ELEVATOR

FIGURE 4.17 - COUNTERWEIGHT ELEVATOR DETAIL

So to counter gravity, I propose an emergency release of the counter weight under the elevator at gallery level so as to instantly offset the balance and allow the lower elevator to rise even without someone or something at the upper elevator. This would allow the counter weight elevator to be used in an emergency situation, however, it would only be viable for one use.

This, along with emergency response training of employees of the project, will ensure that all individuals, regardless of level of mobility, will be able to escape in emergency situations.

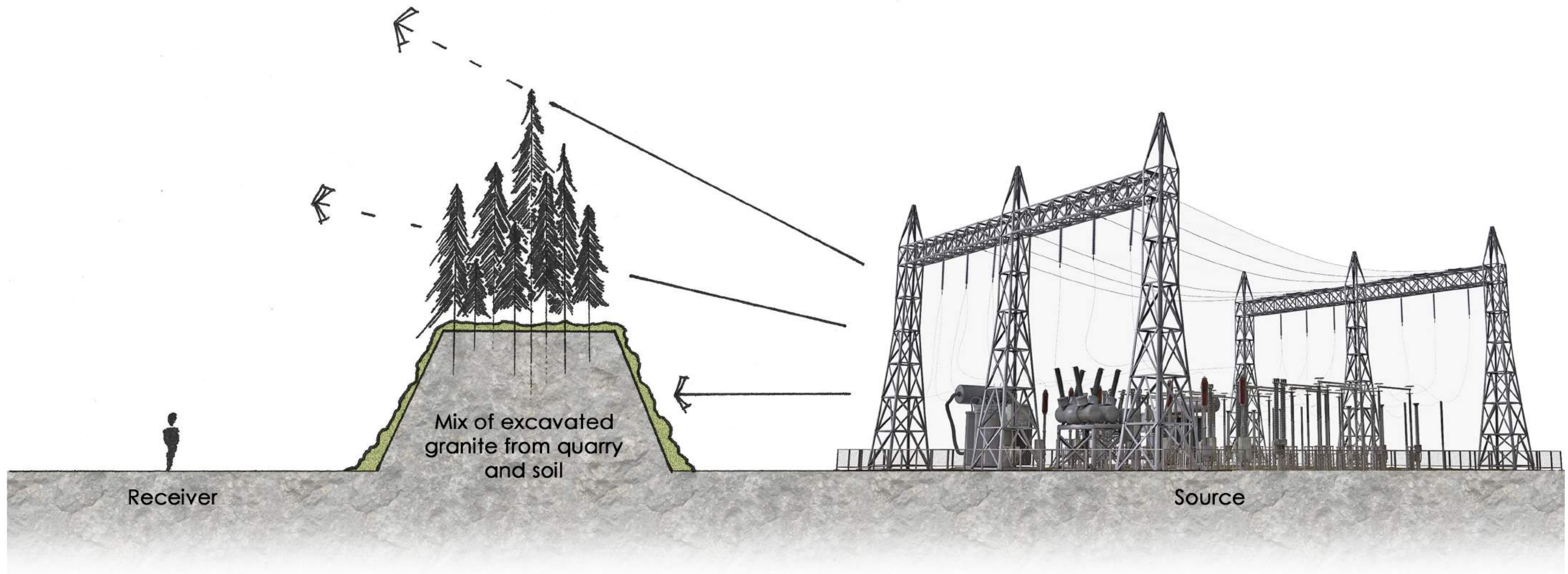


FIGURE 4.18 - ELECTRIC POWER SUBSTATION

OBSTACLES:

The area of the site that I had originally proposed to design upon is right next to the Georgia Power Substation. This station would not only be an eye sore while approaching the project but also, and perhaps more off putting, the noise electric substations generate. This would have the potential of seriously impacting the experience or memory of the project when leaving. With a project so focused and centered around immersion and emotional experiences, any distraction from the outside world could alter the story the project wants to tell.

This obstacles was unfortunately realized later into the design process. Rather than starting over at a new area I decided to find a way to resolve the problem.

Due to the mass amounts of material which would be excavated for this project, creating a sound wall to buffer not only the sight but also the noise would not be an issue. This combined with landscaping would allow the project to remain close to the substation without impacting the experience.

CHAPTER 5

MODEL PHOTOS

PROJECT PHOTOS

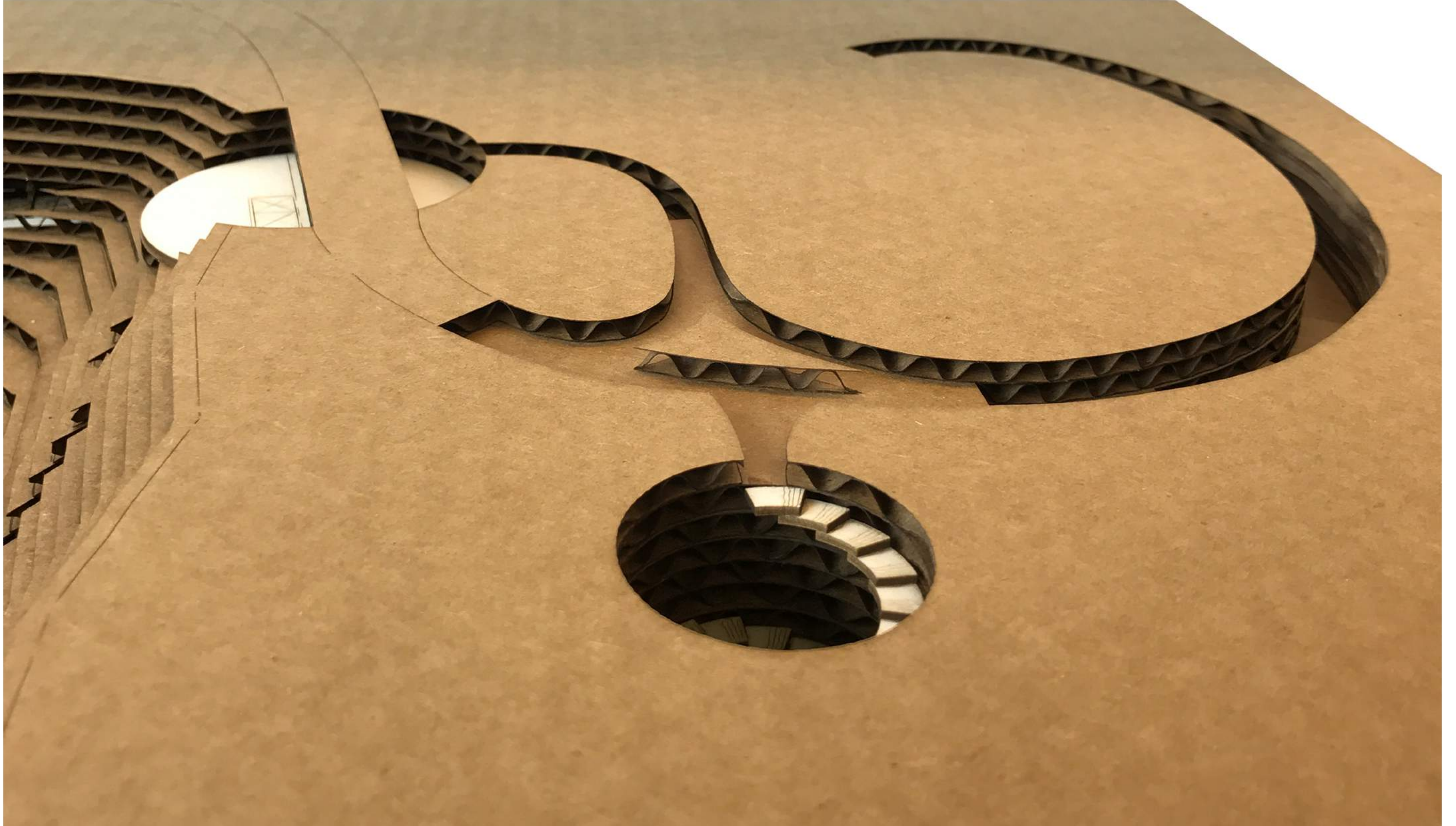
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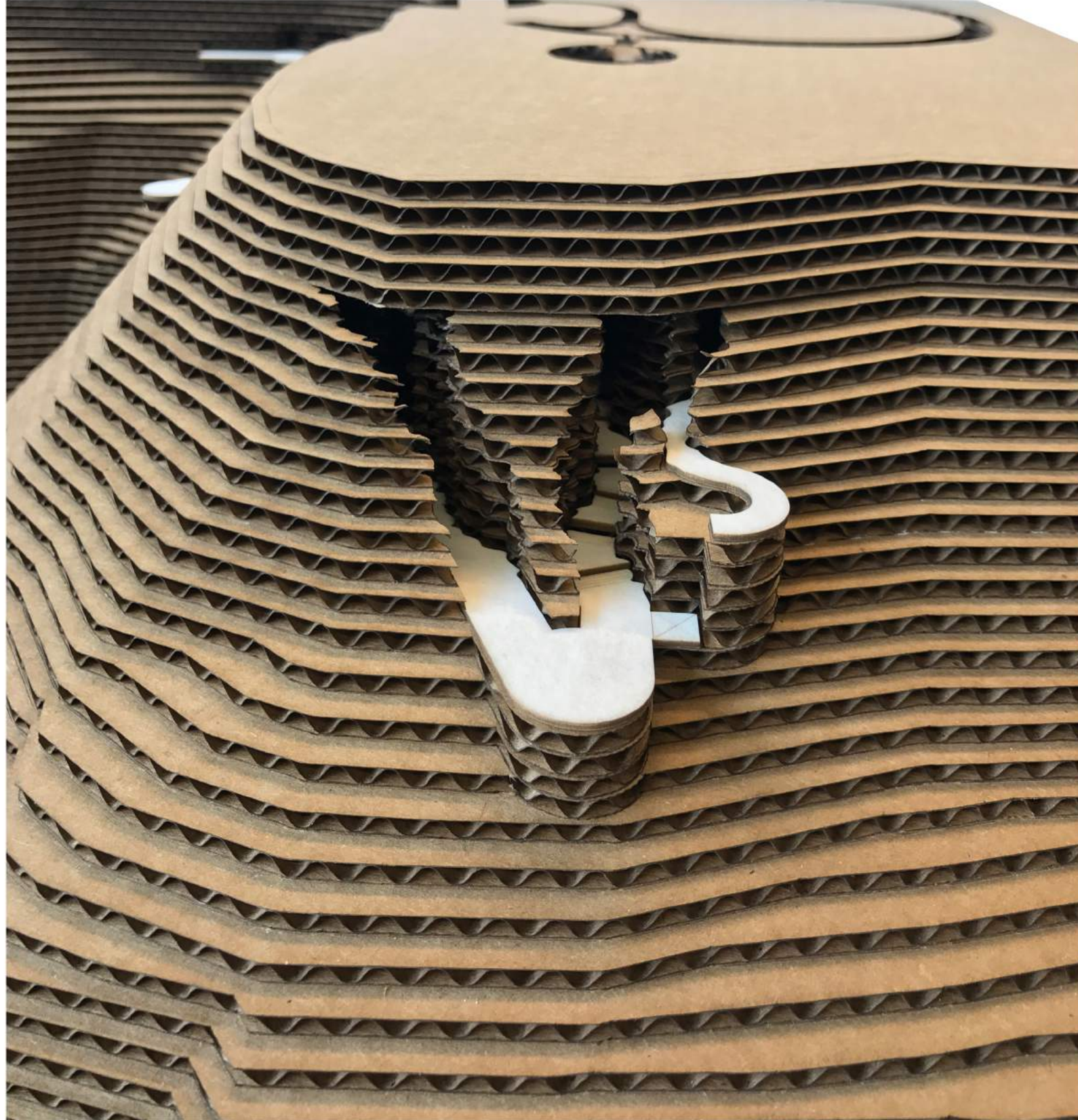
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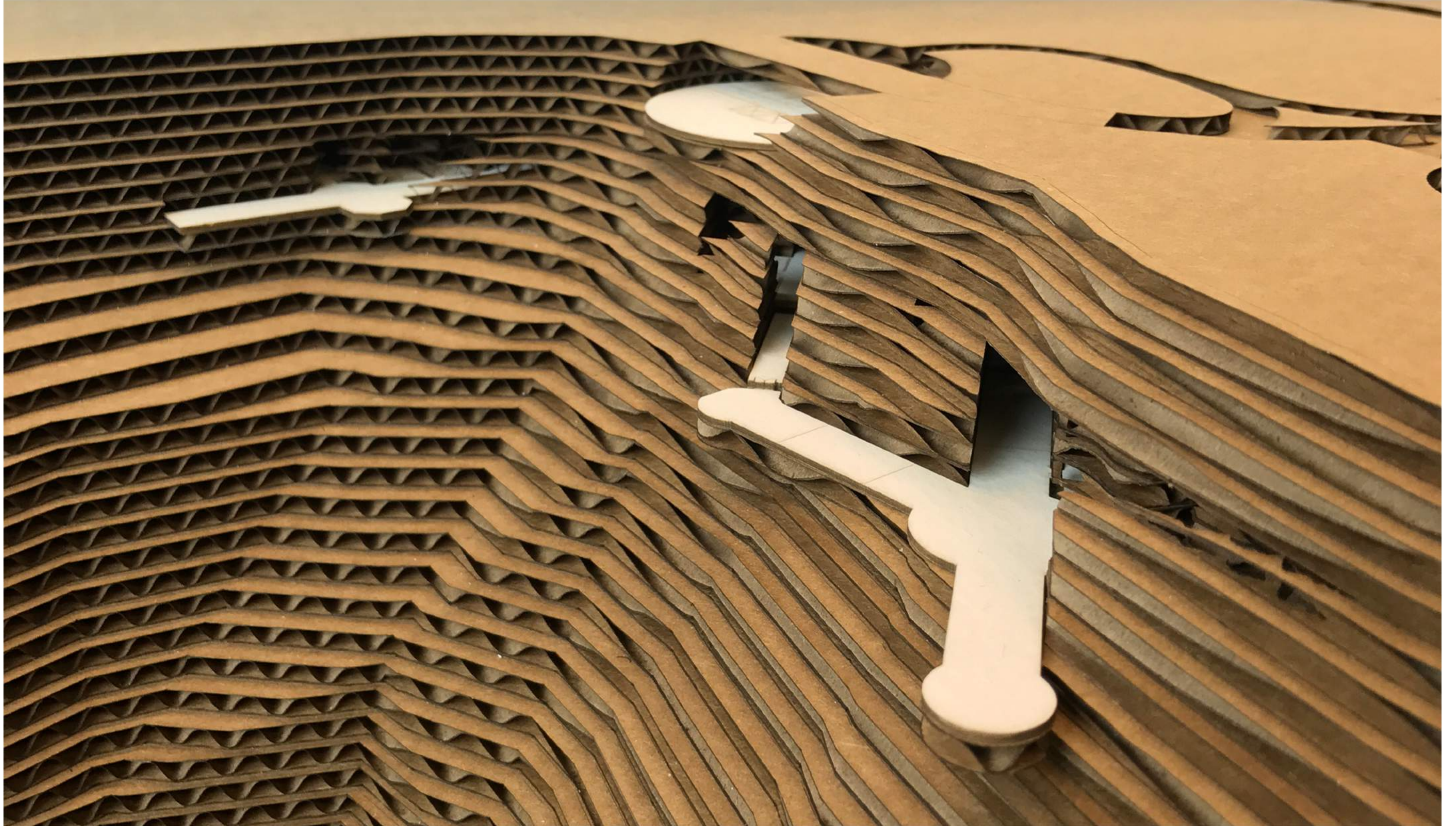
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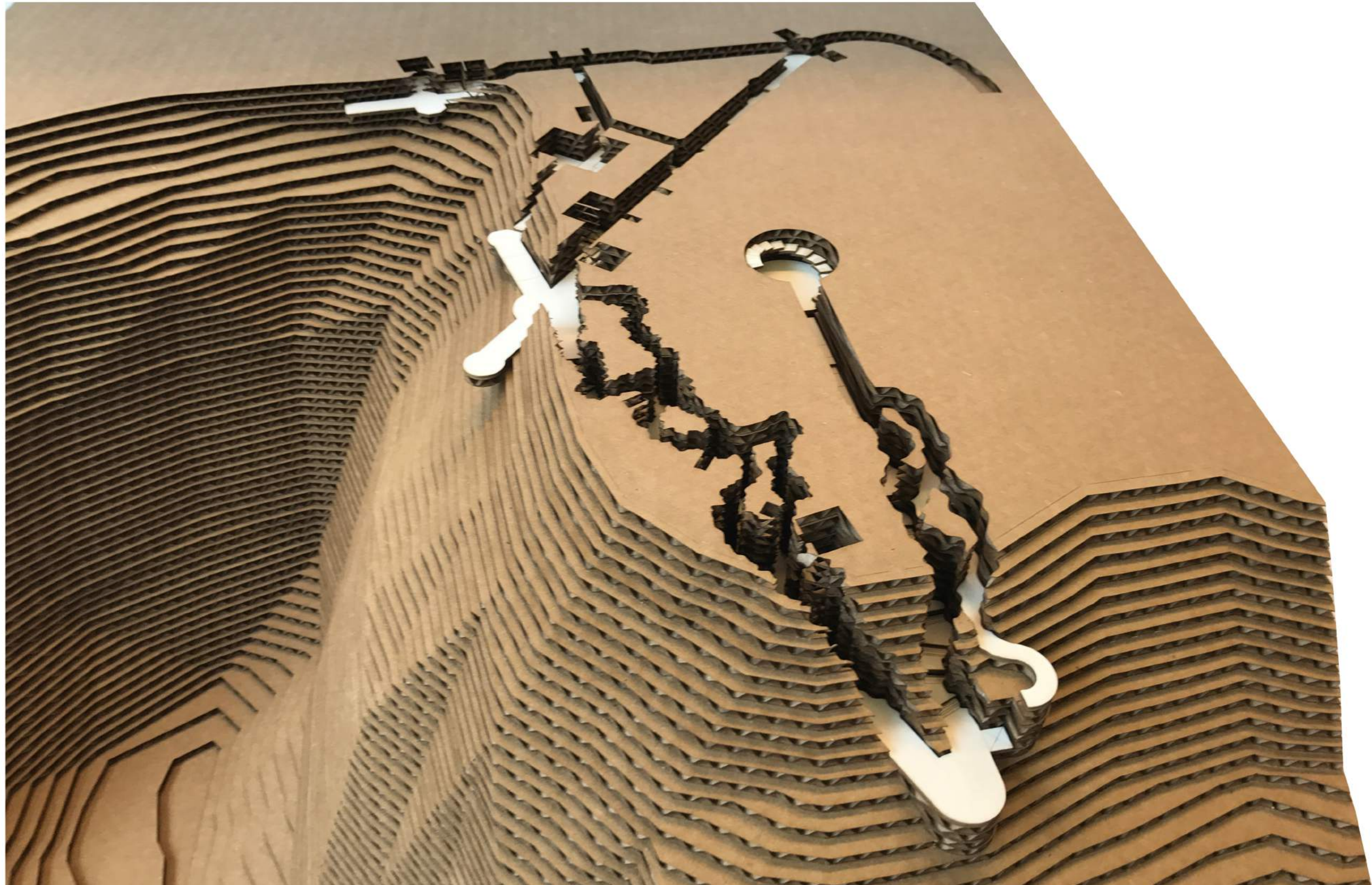
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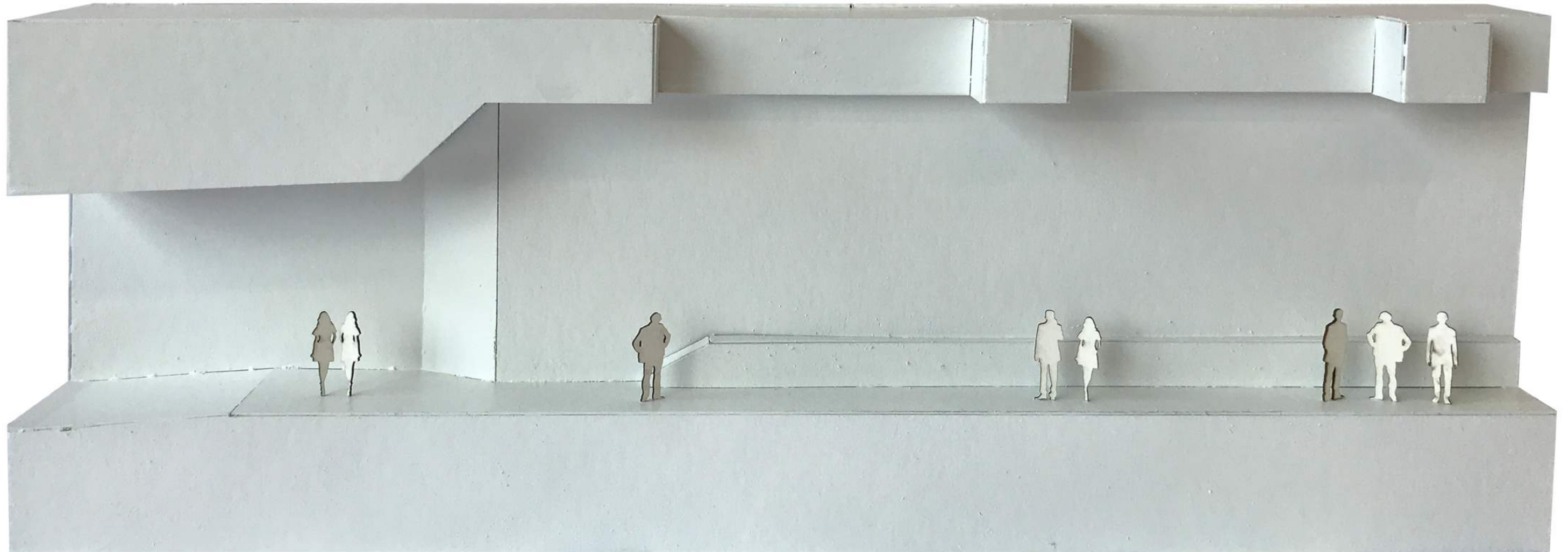
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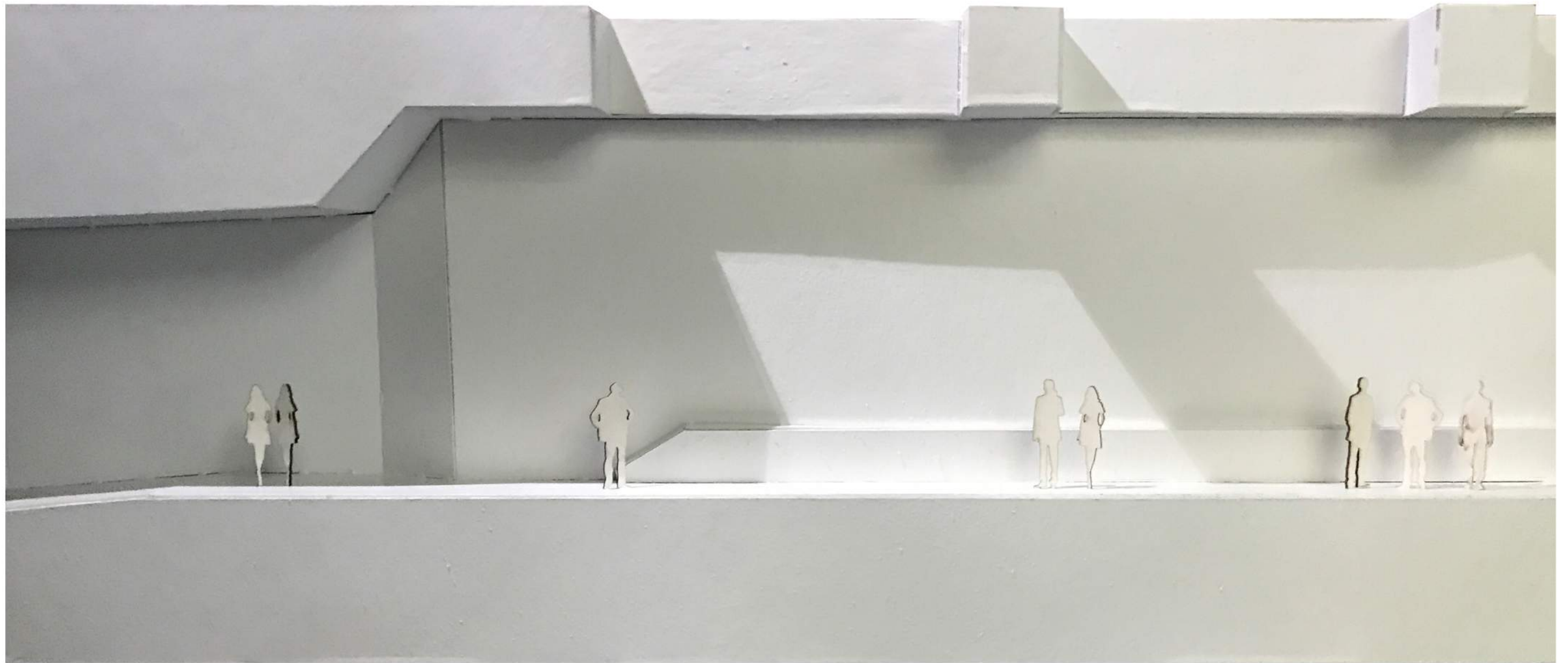
SECTION PHOTOS

WING A

WING A SECTION MODEL:

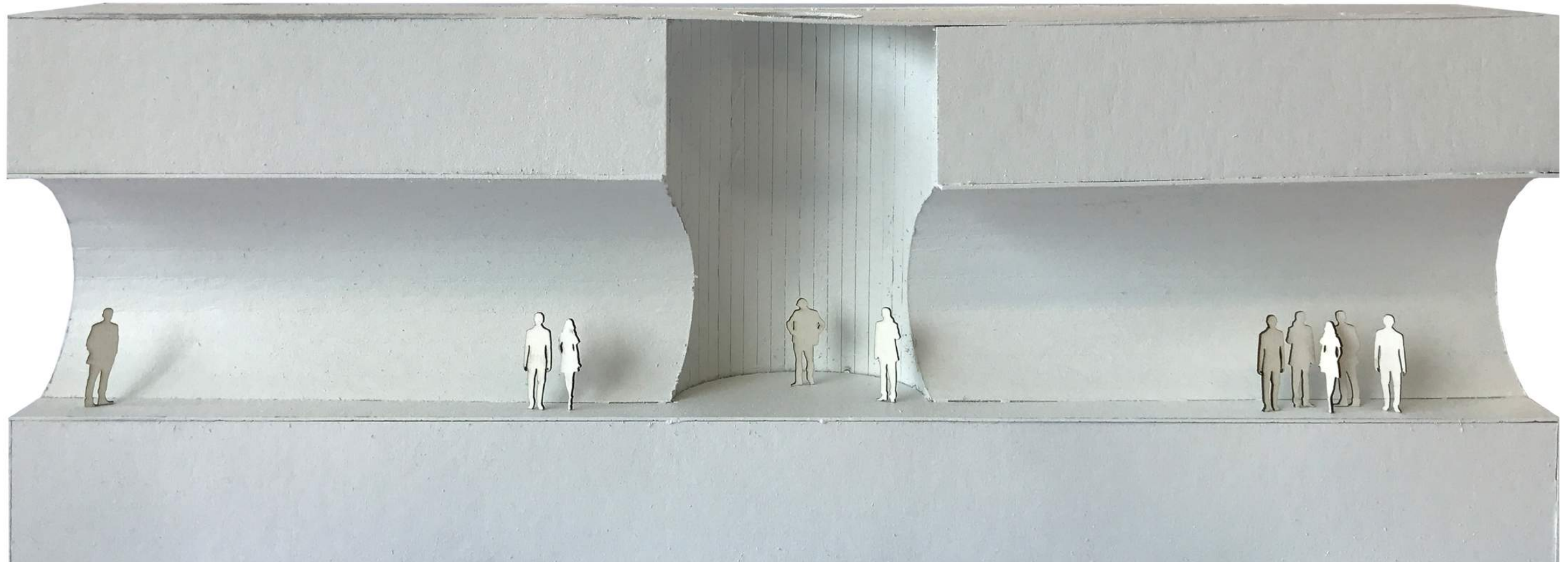


WING A SECTION MODEL:



WING B

WING B SECTION MODEL:



WING B SECTION MODEL:



WING C

WING C SECTION MODEL:



WING C SECTION MODEL:



WING C SECTION MODEL:



CHAPTER 6

BEYOND THE PROJECT

PROJECT DEVELOPMENT:

If I had time to further develop this project there are several things I would like to do. First, I would introduce more programmatic spaces that are seen in typical museums. Things like classrooms and lecture halls which could offer more to those who visit than just the purity of the projects intent. These spaces could bring in visitors even after they have seen what this project has to offer and could also provide more intimate learning environments.

I would also like to develop the surface of the project. Currently, all that is visible from the surface are the carved pathways, air handling pillars, access structures, and administration. Given more time I would like to focus more on the design and layout of these elements since a majority of my time was spent developing the experience once inside the project.

COURSE ASSESSMENT:

This course as a whole has been both good and bad.

The good is the time frame. Having three semesters to work on one project allowed me to thoroughly develop ideas and design choices. Having multiple professors critique my work helped to ensure that the strongest design decisions were made and forced me to develop strong arguments for my projects and decision. Three-Minute Thesis also helped to solidify my thesis statement and argument for decisions that my professors and I didn't necessarily see eye-to-eye on.

The bad is that due to this project taking up so much time, I personally got burned out near the end. While the length of time helped project development it also left little time to work on anything else. Also, Three-Minute Thesis and thesis competition, put additional stress on me which furthered the burning out feeling I experienced.

All in all, this course has been a great learning experience and has helped me see what exactly I, as a designer, am capable of when allowed to be the exclusive decision maker. This has let me experience what it would be like to be a star-architect.

PROFESSOR ASSESSMENT:

Professor Bronne Dytoc has been a tremendous help during this projects development. He has helped me to broaden my view of the potential of this project and the impact it could have not only from an environmental standpoint but also socially.

He also encouraged me to develop and pursue my own ideas instead interjecting his own thoughts and opinions on the project.

With the guidance and influence of Professor Dytoc, this project has evolved from simply doing underground architecture into a socially conscious and environmental awareness project. Professor Dytoc has forced me to think beyond designing a building and to instead design a space, experience, and an emotion to really help the message sink into the minds of those who visit.

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[HTTP://WWW.DETAILED-ONLINE.COM/INSPIRATION/SITES/INSPIRATION_DETAIL_DE/UPLOADS/IMAGESRESIZED/PROJECTS/780_1021-10543-DOWNLOADANSICHTEN-BUDDISTISCHER_TEMPEL_IN_SAIJO_2.JPG](http://www.detail-online.com/inspiration/sites/inspiration_detail_de/uploads/imagesresized/projects/780_1021-10543-downloadansichten-buddistischer_tempel_in_saijo_2.jpg)

FIGURE 2.25 - WATER TEMPLE BUDDHA SHRINE
[HTTP://WWW.INTERIORSBYCOLOR.COM/WP-CONTENT/UPLOADS/2013/11/TADAO-ANDO-WATER-TEMPLE-1.JPG](http://www.interiorsbycolor.com/wp-content/uploads/2013/11/tadao-ando-water-temple-1.jpg)

FIGURE 2.26 - WATER TEMPLE ENTRANCE
[HTTP://KWC.ORG/PHOTOS/MEDIA/HONPUKUJI/800W/WATER%20TEMPLE%20-%20SHINGONSHU%20HONPUKUJI%20-%20TADAO%20ANDO-6.JPG](http://kwc.org/photos/media/honpukuji/800w/water%20temple%20-%20shingonshu%20honpukuji%20-%20tadao%20ando-6.jpg)

FIGURE 2.27 - WATER TEMPLE HALLWAY #2
[HTTPS://S-MEDIA-CACHE-AK0.PINIMG.COM/736X/77/EE/96/77EE96A18B5D63556D88CC586F1C0039.JPG](https://s-media-cache-ak0.pinimg.com/736x/77/ee/96/77ee96a18b5d63556d88cc586f1c0039.jpg)

FIGURE 2.28 - OAM GALLERY #1
[HTTPS://WWW.LANGLIFETRAVEL.COM/WP-CONTENT/UPLOADS/2015/11/ARCHAEOLOGICAL-MUSEUM-OF-OLYMPIA-4-PELOPONNESE-GREECE.JPG](https://www.landlifetravel.com/wp-content/uploads/2015/11/archaeological-museum-of-olympia-4-peloponnesse-greece.jpg)

FIGURE 2.29 - OAM MAIN GALLERY #1
[HTTP://GREEKTAXITOURS.COM/SITES/DEFAULT/FILES/FIELD/IMAGE/MORE-IMAGES/OLYMPIA_GREECE_MUSEUM.JPG](http://greektaxitours.com/sites/default/files/field/image/more-images/olympia_greece_museum.jpg)

FIGURE 2.30 - OAM GREEK SCULPTURE
[HTTP://GOLDENDOLPHIN.GR/WP-CONTENT/UPLOADS/PHOTO-GALLERY/OLYMPIA/AAAPRAXITILES_HERMES.JPG](http://goldendolphin.gr/wp-content/uploads/photo-gallery/olympia/aaapraxitiles_hermes.jpg)

FIGURE 2.31 - OAM SPARTAN HELMETS
[HTTP://1.BP.BLOGSPOT.COM/_OCYBDFCOTC8/TBQJUVR3DLI/AAAAAAAAALA/8_6BDBNQWIO/S1600/IMG_3128.JPG](http://1.bp.blogspot.com/_OCYBDFCOTC8/TBQJUVR3DLI/AAAAAAAAALA/8_6BDBNQWIO/S1600/IMG_3128.JPG)

FIGURE 2.32 - OAM MAIN GALLERY #2
[HTTP://WWW.ACHTYPISTOURS.GR/SITES/DEFAULT/FILES/IMAGECACHE/GALLERYFORMATTER_SLIDE/11/03/OLYMPIA-GREECE-ARCHAEOLOGICAL-MUSEUM.JPG](http://www.achtypistours.gr/sites/default/files/imagecache/gallery/formatter_slide/11/03/olympia-greece-archaeological-museum.jpg)

FIGURE 2.33 - OAM GALLERY #2
[HTTP://VISITKATAKOLON.GR/WP-CONTENT/UPLOADS/2015/03/EXHIBITS-IN-THE-OLYMPIA-MUSEUM-3.JPEG](http://visitkatakolon.gr/wp-content/uploads/2015/03/exhibits-in-the-olympia-museum-3.jpeg)

FIGURE 2.34 - OAM ENTRANCE
[HTTP://WWW.DISCOVERGREECE.COM//MEDIA/IMAGES/HIGHLIGHT-LARGE-IMAGES/AZ/A/ANCIENT-OLYMPIA/MUSEUM-IN-ANCIENT-OLYMPIA.ASHX](http://www.discovergreece.com//media/images/highlight-large-images/az/a/ancient-olympia/museum-in-ancient-olympia.ashx)

FIGURE 2.35 - JEWISH MUSEUM EXTERIOR
[HTTPS://I.YTIMG.COM/VI/DNj5RGEbyEE/MAXRESDEFAULT.JPG](https://i.ytimg.com/vi/dNj5RGEbyEE/maxresdefault.jpg)

FIGURE 2.36 - JEWISH MUSEUM STAIRWELL
[HTTP://ARCHIKEY.COM/PICTURE/READ/201/JEWISH-MUSEUM.JPG](http://archikey.com/picture/read/201/jewish-museum.jpg)

FIGURE 2.37 - JEWISH MUSEUM MEMORIAL WALK
[HTTPS://C1.STATICFLICKR.COM/8/7058/7032158407_2B8089BFF1_B.JPG](https://c1.staticflickr.com/8/7058/7032158407_2b8089bff1_b.jpg)

FIGURE 2.38 - JEWISH MUSEUM EXILE GARDEN
[HTTP://IMAGES.ADSTTC.COM/MEDIA/IMAGES/5037/ED6A/28BA/OD59/9B00/04CD/LARGE_JPG/STRINGIO.JPG?1414219273](http://images.adsttc.com/media/images/5037/ED6A/28BA/OD59/9B00/04CD/LARGE_JPG/STRINGIO.JPG?1414219273)

FIGURE 2.39 - JEWISH MUSEUM HOLOCAUST VOID
[HTTPS://S-MEDIA-CACHE-AK0.PINIMG.COM/ORIGINALS/BD/C8/3C/BDC83C3EADE2157944A3EF941F93E195.JPG](https://s-media-cache-ak0.pinimg.com/originals/bd/c8/3c/bdc83c3eade2157944a3ef941f93e195.jpg)

FIGURE 2.40 - 911 MEMORIAL
[HTTP://ASSETS.INHABITAT.COM/WP-CONTENT/BLOGS.DIR/1/FILES/2015/09/911MEMORIAL-AERIAL-SHOT.JPG](http://assets.inhabitat.com/wp-content/blogs.dir/1/files/2015/09/911memorial-aerial-shot.jpg)

FIGURE 2.41 - 911 MEMORIAL ORIGINAL STAIRWELL
[HTTPS://I2.WP.COM/WWW.MATERIALWORLDBLOG.COM/WP-CONTENT/UPLOADS/2015/11/IMG_4624.JPG](https://i2.wp.com/www.materialworldblog.com/wp-content/uploads/2015/11/img_4624.jpg)

FIGURE 2.42 - 911 MEMORIAL ECHO
[HTTPS://STATIC01.NYT.COM/IMAGES/2015/09/10/MULTIMEDIA/911-LIGHTS/911-LIGHTS-SUPERJUMBO.JPG](https://static01.nytimes.com/images/2015/09/10/multimedia/911-lights/911-lights-superjumbo.jpg)

FIGURE 2.43 - 911 MEMORIAL FLORAL MEMORY
[HTTP://ASSETS.NYDAILYNEWS.COM/POLOPOLY_FS/1.1452400.1378997815!/IMG/HTTPIMAGE/IMAGE.JPG_GEN/DERIVATIVES/GALLERY_1200/9-11-MEMORIAL-SERVICES-MARK-12TH-ANNIVERSARY-ATTACKS.JPG](http://assets.nydailynews.com/polopoly_fs/1.1452400.1378997815!/img/httpimage/image.jpg_gen/derivatives/gallery_1200/9-11-memorial-services-mark-12th-anniversary-attacks.jpg)

FIGURE 2.44 - 911 MEMORIAL FOUNTAIN
[HTTPS://WWW.911MEMORIAL.ORG/SITES/DEFAULT/FILES/STYLES/ARTICLE_MAIN/PUBLIC/ARTICLES/FOR_LIVEIMAGEMEMORIAL%20%282%29.JPG?ITOK=4CG_HMKS](https://www.911memorial.org/sites/default/files/styles/article_main/public/articles/for_liveimagememorial%20%282%29.jpg?itok=4CG_HMKS)

FIGURE 2.45 - 911 MEMORIAL WALKWAY
[HTTPS://WWW.911MEMORIAL.ORG/SITES/DEFAULT/FILES/STYLES/ARTICLE_MIDDLE/PUBLIC/ARTICLES/NATIONAL%209.11%20MEMORIAL%20APRIL%202012%20-%20CREDIT%20JOE%20WOOLHEAD%20-%20008.JPG?ITOK=FDXLY4-8](https://www.911memorial.org/sites/default/files/styles/article_middle/public/articles/national%209.11%20memorial%20april%202012%20-%20credit%20joe%20woolhead%20-%20008.jpg?itok=FDXLY4-8)

FIGURE 2.46 - 911 MEMORIAL MUSEUM
[HTTPS://WWW.911MEMORIAL.ORG/SITES/DEFAULT/FILES/STYLES/ARTICLE_MAIN/PUBLIC/ARTICLES/MUSEUM%20PAVILLION%20NIGHT.JPG?ITOK=RGXSC3OV](https://www.911memorial.org/sites/default/files/styles/article_main/public/articles/museum%20pavillion%20night.jpg?itok=RGXSC3OV)

FIGURE 2.47 - 911 MEMORIAL SITE PLAN
[HTTPS://WWW.ASLA.ORG/2012AWARDS/IMAGES/LARGESCALE/512_01.JPG](https://www.asla.org/2012awards/images/largescale/512_01.jpg)

FIGURE 2.48 - GOVERNOR'S ISLAND HISTORIC
[HTTP://NATIONALCIVILWARFIELDMUSICSSCHOOL.COM/IMAGES/GOVISL_AND_FORT_NY_HARBOUR_1865.JPG](http://nationalcivilwarfieldmusicsschool.com/images/GOVISL_AND_FORT_NY_HARBOUR_1865.jpg)

FIGURE 2.49 - GOVERNOR'S ISLAND FORT JAY
[HTTP://WWW.FITZPATRICKAUTHOR.COM/WP-CONTENT/UPLOADS/2016/05/1910POSTCARD.JPG](http://www.fitzpatrickauthor.com/wp-content/uploads/2016/05/1910postcard.jpg)

FIGURE 2.50 - GOVERNOR'S ISLAND PARK PROPOSAL
[HTTP://WWW.MELK-NYC.COM/WP-CONTENT/UPLOADS/2015/07/MELK-LANDSCAPE-ARCHITECTURE-URBAN-DESIGN-GOVENORS-ISLAND-5.JPG](http://www.melk-nyc.com/wp-content/uploads/2015/07/melk-landscape-architecture-urban-design-governors-island-5.jpg)

FIGURE 2.51 - GOVERNOR'S ISLAND FORT JAY BLACK AND WHITE
[HTTPS://C1.STATICFLICKR.COM/4/3348/3308995257_7C6B50D546_B.JPG](https://c1.staticflickr.com/4/3348/3308995257_7c6b50d546_b.jpg)

FIGURE 2.52 - GOVERNOR'S ISLAND FORT WILLIAMS
[HTTPS://WWW.NPS.GOV/GOIS/LEARN/HISTORYCULTURE/IMAGES/FJ-AERIAL.JPG](https://www.nps.gov/gois/learn/historyculture/images/fj-aerial.jpg)

FIGURE 2.53 - GOVERNOR'S ISLAND SITE PLAN
[HTTP://WWW.STARRWHITEHOUSE.COM/WP-CONTENT/UPLOADS/2012/05/GOVERNORS_ISLAND_08.JPG](http://www.starrwhitehouse.com/wp-content/uploads/2012/05/governors_island_08.jpg)

FIGURE 2.54 - VIETNAM MEMORIAL CONCEPT
[HTTPS://S-MEDIA-CACHE-AK0.PINIMG.COM/ORIGINALS/75/8F/B2/758FB2C0E6D1CBB0EEE293801F7D578C.JPG](https://s-media-cache-ak0.pinimg.com/originals/75/8f/b2/758fb2c0e6d1cbboeee293801f7d578c.jpg)

FIGURE 2.55 - VIETNAM MEMORIAL WALL #1
[HTTPS://MYSENDOFF.COM/WP-CONTENT/UPLOADS/2011/08/VIETNAM-WAR-WALL-FOTOLIA.COM.JPG](https://mysendoff.com/wp-content/uploads/2011/08/vietnam-war-wall-fotolia.com.jpg)

FIGURE 2.56 - VIETNAM MEMORIAL WALL #2
[HTTP://BLOXIMAGES.NEWYORK1.VIP.TOWNNEWS.COM/MYSUNCOAST.COM/CONTENT/TNCMS/ASSETS/V3/EDITORIAL/F/4D/F4D89BD2-54B1-11E4-A0BA-0017A43B2370/543EE81533F15.IMAGE.JPG](http://bloximages.newyork1.vip.townnews.com/mysuncoast.com/content/tncms/assets/v3/editorial/f/4d/f4d89bd2-54b1-11e4-a0ba-0017a43b2370/543ee81533f15.image.jpg)

FIGURE 2.57 - VIETNAM MEMORIAL WALL #3
[HTTPS://IMG.WASHINGTONPOST.COM/RF/IMAGE_1484W/2010-2019/WASHINGTONPOST/2015/02/25/LOCAL/ADVANCE/IMAGES/WILDART00913608619861360872437.JPG](https://img.washingtonpost.com/rf/image_1484w/2010-2019/washingtonpost/2015/02/25/local/advance/images/wildart00913608619861360872437.jpg)

FIGURE 2.58 - VIETNAM MEMORIAL REFLECTION
[HTTP://WWW.TOLEDODLADE.COM/IMAGE/2002/11/10/VIETNAM-MEMORIAL-WALL.JPG](http://www.toledoblade.com/image/2002/11/10/vietnam-memorial-wall.jpg)

FIGURE 2.59 - VIETNAM MEMORIAL VETERAN'S STATUE
[HTTPS://S-MEDIA-CACHE-AK0.PINIMG.COM/736X/77/21/8F/77218F6F1ECFC7A0891DOB43E833432C.JPG](https://s-media-cache-ak0.pinimg.com/736x/77/21/8f/77218f6f1ecfc7a0891d0b43e833432c.jpg)

FIGURE 2.60 - VIETNAM MEMORIAL NURSING STATUE
[HTTP://WWW.CYBERLEARNING-WORLD.COM/IMAGES/DIGICAM.JUN6.04028.JPG](http://www.cyberlearning-world.com/images/digicam.jun6.04028.jpg)

FIGURE 2.61 - VIETNAM MEMORIAL SITE PLAN
[HTTP://3.BP.BLOGSPOT.COM/-ZJK19YIEHYG/VYWGYNWVMJI/AAAAAACUR4/WAHHFCXNJNS/S1600/VIETNAM-CENTER-SITE-PLAN.JPG](http://3.bp.blogspot.com/-ZJK19YIEHYG/VYWGYNWVMJI/AAAAAACUR4/WAHHFCXNJNS/S1600/VIETNAM-CENTER-SITE-PLAN.JPG)

FIGURE 2.62 - WESTSIDE RESERVOIR PARK PROPOSAL
[HTTP://WWW.BROCKBUILT.COM/WP-CONTENT/UPLOADS/2016/05/BELTLINE-PLAN-WESTSIDE-RESERVOIR-PARK.JPG](http://www.brockbuilt.com/wp-content/uploads/2016/05/beltline-plan-westside-reservoir-park.jpg)

FIGURE 3.1 - INTERACTIVE WALL
[HTTP://JOHNBARCO5.WEEBLY.COM/UPLOADS/6/0/4/7/60479315/8833128_ORIG.JPG](http://johnbarco5.weebly.com/uploads/6/0/4/7/60479315/8833128_orig.jpg)

FIGURE 4.1 - TIME LAPSE PHOTOGRAPHY
[HTTPS://S-MEDIA-CACHE-AK0.PINIMG.COM/ORIGINALS/1F/CE/CF/1F0ECF8E6EEDCECC613AD9F45A103AC7.JPG](https://s-media-cache-ak0.pinimg.com/originals/1f/ce/cf/1f0ecf8e6eedcecc613ad9f45a103ac7.jpg)

FIGURE 4.2 - POLISHED STONE ARCHITECTURE #1
[HTTP://IMG.ARCHIEXPO.COM/IMAGES_AE/PHOTO-G/72726-8908175.JPG](http://img.archiexpo.com/images_ae/photo-g/72726-8908175.jpg)

FIGURE 4.3 - CARVED SUBWAY TUNNEL
[HTTPS://WI-IMAGES.CONDECDN.NET/IMAGE/EOGQYM4ZEMR/CROP/1440/LANDSCAPE](https://wi-images.condecdn.net/image/eogqym4zembr/crop/1440/landscape)

FIGURE 4.4 - ROUGH CARVED CAVE
[HTTPS://THEOTHERHUDSONVALLEY.FILES.WORDPRESS.COM/2014/04/IMG_2735.JPG](https://theotherhudsonvalley.files.wordpress.com/2014/04/img_2735.jpg)

FIGURE 4.5 - CAVERN CATWALK
[HTTP://WWW.NATIONALPARKS.NSW.GOV.AU/~MEDIA/E68AC888E6164EB3B1B1E8359BA73D8D.ASHX](http://www.nationalparks.nsw.gov.au/~media/E68AC888E6164EB3B1B1E8359BA73D8D.ASHX)

FIGURE 4.6 - MINE TUNNEL
[HTTP://DONTSTARVE.RU/UPLOADS/POSTS/2013-05/1368362207_INSIDE-MINE-LIGHTS.JPG](http://dontstarve.ru/uploads/posts/2013-05/1368362207_inside-mine-lights.jpg)

FIGURE 4.7 - TUNNEL EXCAVATION
[HTTP://WWW.TUNNELTALK.COM/IMAGES/CHINA-YELLOW-RIVER/CHINA-TUNNEL-BIG-EXCAVATION.JPG](http://www.tunneltalk.com/images/china-yellow-river/china-tunnel-big-excaavation.jpg)

FIGURE 4.8 - ROUGH SUBWAY TUNNEL
[HTTPS://S-MEDIA-CACHE-AK0.PINIMG.COM/ORIGINALS/0F/02/82/0F02824D3C5967E62A58ECC0A52EFDDDB.JPG](https://s-media-cache-ak0.pinimg.com/originals/0f/02/82/0f02824d3c5967e62a58ecc0a52efddb.jpg)

FIGURE 4.9 - TUNNEL ENTRANCE
[HTTP://WWW.GEOCONSOL.COM/PHOTOS/DFW%20TUNNEL%20&%20PIPE.JPG](http://www.geoconsol.com/photos/dfw%20tunnel%20&%20pipe.jpg)

FIGURE 4.10 - POLISHED GRANITE ROOM #1
[HTTP://IMG.ARCHIEXPO.COM/IMAGES_AE/PHOTO-G/143133-10845536.JPG](http://img.archiexpo.com/images_ae/photo-g/143133-10845536.jpg)

FIGURE 4.11 - POLISHED STONE ARCHITECTURE #2
[HTTP://IMG.ARCHIEXPO.COM/IMAGES_AE/PHOTO-G/72726-8908185.JPG](http://img.archiexpo.com/images_ae/photo-g/72726-8908185.jpg)

FIGURE 4.12 - STONE SCULPTURE
[HTTPS://NEATLYART.FILES.WORDPRESS.COM/2013/06/8FFCF194B2B056467ADF4AA6A8C01898.JPG?W=620](https://neatlyart.files.wordpress.com/2013/06/8ffcf194b2b056467adf4aa6a8c01898.jpg?w=620)

FIGURE 4.13 - ATLANTA HISTORIC CITY MAP
[HTTP://WWW.BIGMAPBLOG.COM/MAPS/MAP_D-I/KCOUGKFILWXFMKPLW.JPG](http://www.bigmapblog.com/maps/map_d-i/kougkfilwxfmkplw.jpg)

FIGURE 4.14 - EDWARD BURTYNSKY OIL FIELD PHOTO #1
[HTTP://ODLP-STAGING1.S3.AMAZONAWS.COM/UPLOADS/2015/01/C357775D10DD275588D8E5370E7D9194.JPG](http://odlp-staging1.s3.amazonaws.com/uploads/2015/01/c357775d10dd275588d8e5370e7d9194.jpg)

FIGURE 4.15 - EDWARD BURTYNSKY OIL FIELD PHOTO #2
[HTTP://WWW.PARISPHOTO.COM/CONTENT/EVENTS_IMAGES/5388/FILE/SLIDESHOW/552CE314E8D86EDWARD-BURTYNSKY-MARKARFLJOT-RIVER-3-EROSION-CONTROL-ICELAND-2012.JPG](http://www.parisphoto.com/content/events_images/5388/file/slideshow/552ce314e8d86edward-burtynsky-mark-arfljot-river-3-erosion-control-iceland-2012.jpg)

FIGURE 4.16 - EMERGENCY STAIR DETAIL
[HTTPS://S-MEDIA-CACHE-AK0.PINIMG.COM/ORIGINALS/37/E0/04/37E00448FA43159E5EAF421D5C8E99B1.JPG](https://s-media-cache-ak0.pinimg.com/originals/37/e0/04/37e00448fa43159e5eaf421d5c8e99b1.jpg)

FIGURE 4.17 - COUNTERWEIGHT ELEVATOR DETAIL
[HTTP://2.BP.BLOGSPOT.COM/-DTVCDIKMYWC/THH7DZM0EPI/AAAAAAAAAIQ/588QTUACIQG/S1600/ELEVATORS.JPG](http://2.bp.blogspot.com/-DTVCDIKMYWC/THH7DZM0EPI/AAAAAAAAAIQ/588QTUACIQG/S1600/ELEVATORS.JPG)

FIGURE 4.18 - ELECTRIC POWER SUBSTATION
[HTTPS://WWW.GOOGLE.COM/URL?SA=I&RCCT=J&Q=&ESRC=S&SOURCE=IMAGES&CD=&VED=0AHUKEWJSX-U1Z8ZTAHVCRSYKHD1UCX4QJBWIBA&URL=HTTPS%3A%2F%2FSTATIC.TURBOSQUID.COM%2FPREVIEW%2F2014%2F12%2F02__10_56_23%2FSUBSTATION5_1.JPG6BD739AF-4681-4171-B61F-45C136F62CB4ORIGINAL.JPG&PSIG=AFQJCNFEJFYCHTGSJOINKZ4YTUI6PVOCHQ&UST=1493653779957042](https://www.google.com/url?sa=i&rcct=j&q=&esrc=s&source=images&cd=&ved=0AHUKEWJSX-U1Z8ZTAHVCRSYKHD1UCX4QJBWIBA&url=https%3A%2F%2Fstatic.turbosquid.com%2Fpreview%2F2014%2F12%2F02__10_56_23%2Fsubstation5_1.jpg6bd739af-4681-4171-b61f-45c136f62cb4original.jpg&psig=afqjcnfejfychtgsjoinkz4ytui6pvochq&ust=1493653779957042)