

Kennesaw State University

DigitalCommons@Kennesaw State University

Bachelor of Architecture Theses - 5th Year

Department of Architecture

Spring 5-1-2020

Empirical Empowerment - Mental Health in the Built Environment

Emily McClure

Follow this and additional works at: https://digitalcommons.kennesaw.edu/barch_etd



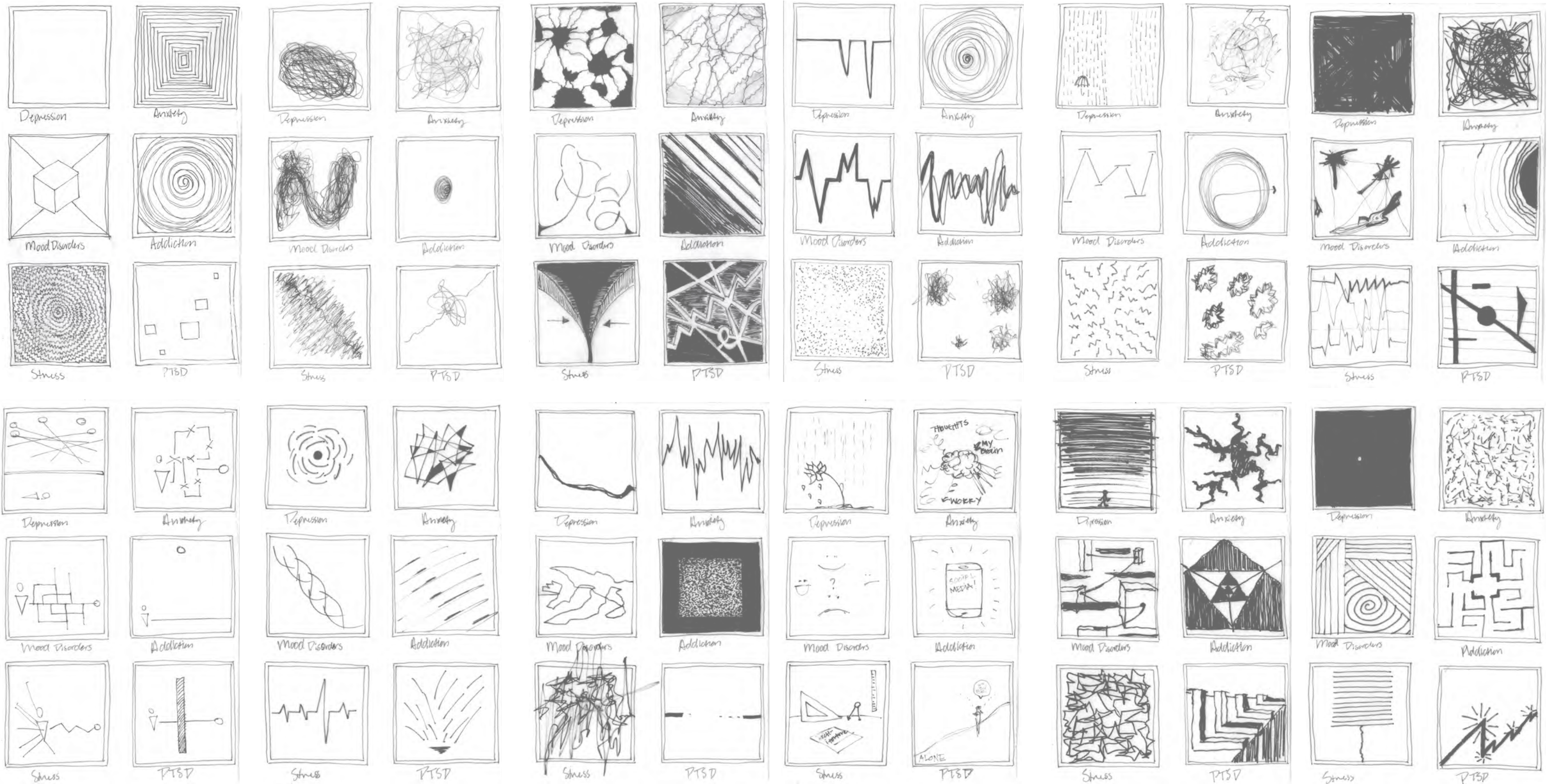
Part of the [Architecture Commons](#)

Recommended Citation

McClure, Emily, "Empirical Empowerment - Mental Health in the Built Environment" (2020). *Bachelor of Architecture Theses - 5th Year*. 119.

https://digitalcommons.kennesaw.edu/barch_etd/119

This Thesis is brought to you for free and open access by the Department of Architecture at DigitalCommons@Kennesaw State University. It has been accepted for inclusion in Bachelor of Architecture Theses - 5th Year by an authorized administrator of DigitalCommons@Kennesaw State University. For more information, please contact digitalcommons@kennesaw.edu.



EMPIRICAL EMPOWERMENT

MENTAL HEALTH IN THE BUILT ENVIRONMENT

Empirical Empowerment Mental Health in the Built Environment

Request for Approval of Thesis Research
Project Book Presented to:

Kathryn Bedette

and to the
Faculty of the Department of Architecture
College of Architecture and Construction Management

by

Emily Kristine McClure

In partial fulfillment of the requirements for the Degree

Bachelor of Architecture

Kennesaw State University
Marietta, Georgia

May 1, 2020

DEDICATION

I AM DEDICATING THIS BOOK FIRSTLY TO MY MOM, MARGARET DAVIS, SHE HAS ALWAYS BEEN MY GREATEST SENSE OF SUPPORT ESPECIALLY DURING MY WEAKEST MOMENTS. I WOULD ALSO LIKE TO DEDICATE THIS BOOK TO ALL OF THOSE WHO HELPED ME ALONG THE WAY, NO MATTER HOW SMALL THE MOMENT THEY ARE ALL CHERISHED. I WOULD ALSO LIKE TO DEDICATED THIS BOOK TO MY FRIENDS AND FAMILY WHO NEVER GAVE UP ON ME WHEN COUNTLESSLY I GAVE UP ON MYSELF.

THIS BOOK IS ALSO DEDICATED TO THOSE WHO ARE STRUGGLING WITH MENTAL ILLNESSES, THEIR FAMILIES, AND THEIR FRIENDS. YOU ARE NOT ALONE. LIFE IS PRECIOUS NO MATTER THE JOURNEY, THE HIGHS OR THE LOWS.

T A B L E O F C O N T E N T

ACKNOWLEDGMENTS

THIS THESIS BOOK WOULD NOT BE POSSIBLE WITHOUT THE MENTORSHIP PROVIDED TO ME BY MY THESIS ADVISOR AND FACULTY MEMBERS WHO HELPED ME ALONG THE WAY.

PROFESSOR KATHRYN BEDETTE- YOU HAVE BEEN A BETTER THESIS ADVISOR AND SUPPORT SYSTEM THEN I EVER THOUGHT THAT I WOULD GET, FOR THAT I AM GRATEFUL, THANK YOU FOR PUSHING ME TO CONTRIBUTE SOMETHING TO THE FIELD OF ARCHITECTURE.

THANK YOU TO ALL OF MY STUDIO CLASSMATES THROUGH THE YEARS AND THE MEMORIES THAT I WILL CARRY WITH ME ALWAYS. LASTLY THANK YOU TO MY WONDERFUL THESIS FAMILY, WOULDN'T OF MADE IT THROUGH THIS YEAR WITHOUT YOU ZACH HART AND MORGAN FREDERICK

CHAPTER 1 - DESIGN THEORY

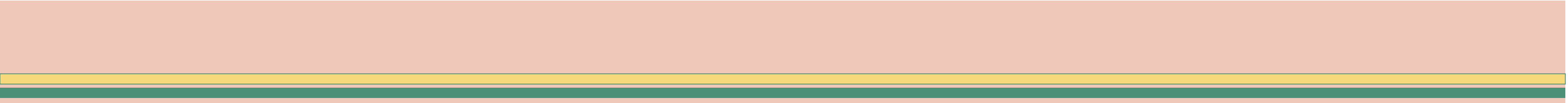
- 8 - THESIS STATEMENT
- 10 - MENTAL HEALTH DISORDERS - STRESS
- 12 - KEY FACTORS THAT EFFECT STRESS
- 14 - MENTAL HEALTH VISUALIZED
- 16 - ANALYSIS OF STUDY
- 18- SENSORY EXPERIENCE
- 20 - COGNITIVE EXPERIENCE
- 22- SENSORY EXPERIENCE - BUILT
- 26- COGNITIVE EXPERIENCE - BUILT
- 30 - PRECEDENCE STUDY ANALYSIS DIAGRAMS
- 32 - EXTREME ENVIRONMENTS TO DESIGN FOR MORE ON AN URBAN LEVEL

CHAPTER 2 - CONNECTION TO SPACE

- 36 - QUESTIONING THE PRACTICES OF TYPICAL SITE ANALYSIS
- 38 - THE GAP IN SITE ANALYSIS AND THE BENEFIT THAT IT HOLDS
- 40 - INTRODUCTION TO SITE

CHAPTER 3 - DESIGN APPROACH

- 44 - DESIGN APPROACH METHOD
- 46 - SITE SELECTION METHOD
- 48 - DESIGN APPROACH METHOD - SITE 1
THE BRIDGE
- 54 - DESIGN APPROACH METHOD - SITE 2
THE DESTINATION
- 60 - DESIGN APPROACH METHOD - SITE 3
THE INTERSECTION
- 66 - DESIGN APPROACH METHOD - SITE 4
THE GAP
- 72 - WORKS CITED



CHAPTER 1:

DESIGN THEORY OF
MENTAL HEALTH AND
THE EFFECTS OF OUR
BUILT ENVIRONMENT

THESIS STATEMENT

One in five adults in the US experienced a mental illness in 2018 and 19.1% Of the adult population suffers from the damages of poor mental health, affecting family, friends, as well as productivity in the workplace and physical health. The environment we occupy often goes unnoticed as the catalyst of neglecting mental health, while we spend more that 80% of our days on average indoors, there is a direct connection between environment and its impact on our mental health. Health and human services defines mental health as our emotional, psychological, and social well-being, affecting how we think, feel, and act, helping determine how we handle stress, relate to others, and make choices. While architects vow to protect the health safety and welfare of those they design for, historically this has been interpreted as physical health safety and welfare. Why is it that we have overlooked the impact of the spaces in which we design and the mental health, safety and welfare of those it can impact? Studies have been conducted observing cancer patients, prisoners, and those suffering from physical and mental illnesses showing the effects that a connection to nature has amplified the ability to naturally heal. Visual connection to nature has shown a drastic impact on the chemical balance of the body increasing serotonin levels and relieving stress—a leading cause of furthered mental illnesses. My thesis argues a new outlook on design thinking and methods focusing on the influences of environmental connection to mental health and wellbeing, focusing on four main aspects: introducing “nature” into the space, creating immersive spaces to spark curiosity and exploration, use of natural analogues and implementing unique way-finding tactics to reduce stress. The thesis proposes design guidelines to reduce the negative impacts that the built environment has on mental health.

MENTAL HEALTH DISORDERS - STRESS

WHAT IS STRESS?

<https://my.clevelandclinic.org/health/articles/11874-stress>

Stress is defined as the body's reaction to change, a change that makes an adjustment or response a necessity. Your body then responds to these changes with emotional, mental and physical responses. The word **"stress"** as we know it today is tied back to Hans Selye's definition from 1936, he defined stress as **"the non-specific response of the body to any demand for change"**. Selye gathered data from laboratory animals that were **exposed to extreme environments**. These extreme environments consisted of emotional and physical stimulants, such as blinding lights, blaring noises, frustration, and environmental conditions of extreme heat and cold. While they learned that these changes created physical changes in the animals, such as stomach ulcerations, and changes in adrenal glands and lymphatic tissue there were also more persistent effects causing the animals to develop various diseases similar to humans, many had heart attacks, kidney diseases, strokes, and rheumatoid arthritis.

This goes on to establish the idea that environment had a strain on us mentally, emotionally, and physically. While many organizations for mental health mention common factors that create or are related to our bodies response to change, such as a loved one passing away, a change in jobs, or physical trauma. Many large organizations look over the fact that environment has so much effect on our mental health, in a positive or negative light.

Stress is completely different from one individual to another, making it impossible to pin down a specific cause for our body's reaction.

These phenomenological qualities that tie stress to an individual make for a range in causes, but our bodies have chemical and physical responses that line up with the introduction and prolonged amount of stress on the individual.

While we all have different sources for stress we all have similar patterns for how we begin to react.

As stress increases we see a string of events that begin to lead to a breakdown and a cause of other mental health issues that stem from stress. These events tend to start as health tension, peaking at fatigue, then falling towards exhaustion and then a breakdown.

STRESS IN THE BUILT ENVIRONMENT

Stress in the built environment has become a focus in environments that are deemed for the greatest amount of need for intervention. These environments are deemed as "extreme environments" where the resources and curiosity for study have been made more commonly available. These environments consist of healthcare facilities, prisons, rehabilitation facilities, and hospitals, because of the very particular circumstances surrounding the unique qualities that make up these spaces there are different results per environment.

These environments hold a special need for intervention on the reduction of stress, most commonly these interventions gather studies from physiologists that have developed theories based off of the study Biophilia. Biophilia otherwise known as "love of life" has been a key player in the interaction of occupants and qualities that reduce stress.

Several studies that have been reviewed look into the chemical and physical responses that our bodies have to biophilia, and the ornate and undeniable desire for human connection to nature. These studies all suggest begin to suggest that as we desire to connect to the natural world we also spend 80 percent of our time, on average, in doors. While we desire to connect with nature we also have the undeniable desire to spend the majority of our time indoors. This desire to stay indoors then blocks or weakens our connection to the natural world.

As we continue to learn from these studies we begin to pull natural design elements into the spaces in which we occupy the most, this is most commonly displayed as a very literal translation and bringing greenery or imagery of nature into spaces. Stress is often developed from common elements such as work, school, financial stability, and even traffic. While we cannot eliminate stress completely from our lives we can try to learn how to minimize it in the built environment before it develops into depression, anxiety, and other more serious mental illnesses.

SS
S
EE
RF
T
S

GENERALIZED ANXIETY DISORDER

3.8%
7.6%

MOOD DISORDERS

6.9%
9.5%

MAJOR DEPRESSIVE DISORDER

3.4%
6.7%

ADDICTION

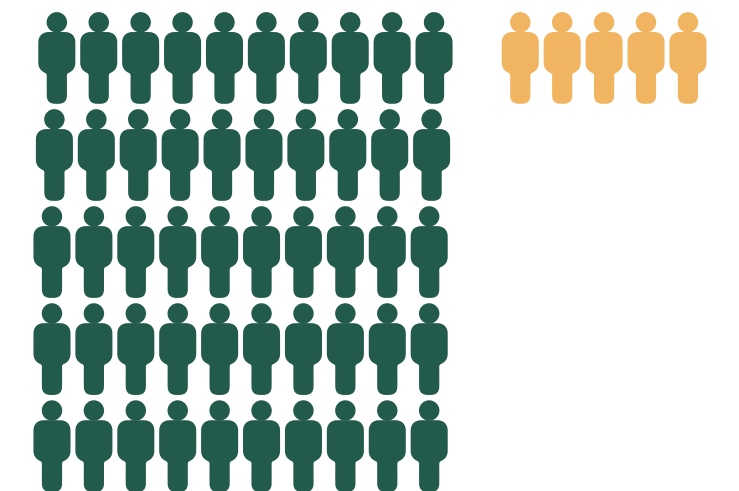
2.3%
5.1%

POST-TRAUMATIC STRESS DISORDER

0.9%
6.8%

WORLD POPULATION AFFECTED
UNITED STATES POPULATION AFFECTED

STRESS IN THE UNITED STATES



KEY FACTORS THAT EFFECT STRESS

IN STUDY CONDUCTED BY ZIPJET IN 2017

URBAN FABRIC |

TAKING INTO ACCOUNT THE PHYSICAL BUILT ENVIRONMENT AND THE FACTORS THAT CAN ADD OR REDUCE STRESS ON THOSE WHO OCCUPY AND EXPERIENCE THE URBAN FABRIC. COMMON FACTORS FOR THE BUILT ENVIRONMENT THAT HAVE BEEN KNOWN TO NEGATIVELY IMPACT MENTAL HEALTH IN A CITY RELATE TO CIRCULATION, LIGHT EXPOSURE, AND GREEN SPACE RELIEF IN AN ENVIRONMENT.

ENVIRONMENTAL TRAUMA |

ENVIRONMENTAL TRAUMA OR POLLUTION REFERS TO THE IMPACT HUMANS HAVE ON THE NATURAL ENVIRONMENT FROM A CITY. WHEN HUMANS FEEL LIKE THEY ARE TAKING CARE OF LIFE THEN MENTAL HEALTH IS GIVEN THE OPPORTUNITY TO THRIVE.

FINANCIAL STABILITY |

FINANCIAL STABILITY HAS A LARGE IMPACT ON STRESS LEVELS WITHIN THE HEAD OF HOUSEHOLD OFTEN CITIES WITH HIGHER POVERTY LEVELS HAVE SIGNIFICANTLY HIGHER SUICIDE RATES, LESS OF AN ABILITY TO ACCESS HEALTHCARE, AND LOWER VALUE OF QUALITY OF LIFE.

POPULATION FACTORS |

A CITIES ABILITY TO MAINTAIN A HEALTHY CONVERSATION ABOUT MENTAL AND PHYSICAL HEALTH IN SCHOOLS, WORKPLACES HELPS OPEN UP THE CONVERSATION ABOUT MENTAL AND PHYSICAL HEALTH AND BECOME AWARE OF THE DECLINE OF EITHER. WITH CONVERSATION COMES AWARENESS OF THE WORLD OF MENTAL HEALTH AND ITS IMPACT ON OUR DAILY LIVES.

URBAN FABRIC |

- POPULATION DENSITY
- GREEN SPACES PROXIMITY
- PUBLIC TRANSPORT AVAILABILITY
- TRAFFIC-CONGESTION

- PERCEPTION OF SAFETY
- HOURS OF SUN EXPOSURE

ENVIRONMENTAL TRAUMA |

- AIR POLLUTION
- NOISE POLLUTION
- LIGHT POLLUTION

FINANCIAL STABILITY |

- UNEMPLOYMENT
- DEBT PER CAPITA
- SOCIAL SECURITY

- FAMILY INCOME

POPULATION FACTORS |

- MENTAL HEALTH CARE
- PHYSICAL HEALTH
- GENDER EQUALITY
- RACE EQUALITY

URBAN FABRIC |

- POPULATION DENSITY
- GREEN SPACES PROXIMITY
- PUBLIC TRANSPORT AVAILABILITY
- TRAFFIC-CONGESTION
- PERCEPTION OF SAFETY
- HOURS OF SUN EXPOSURE

ENVIRONMENTAL TRAUMA |

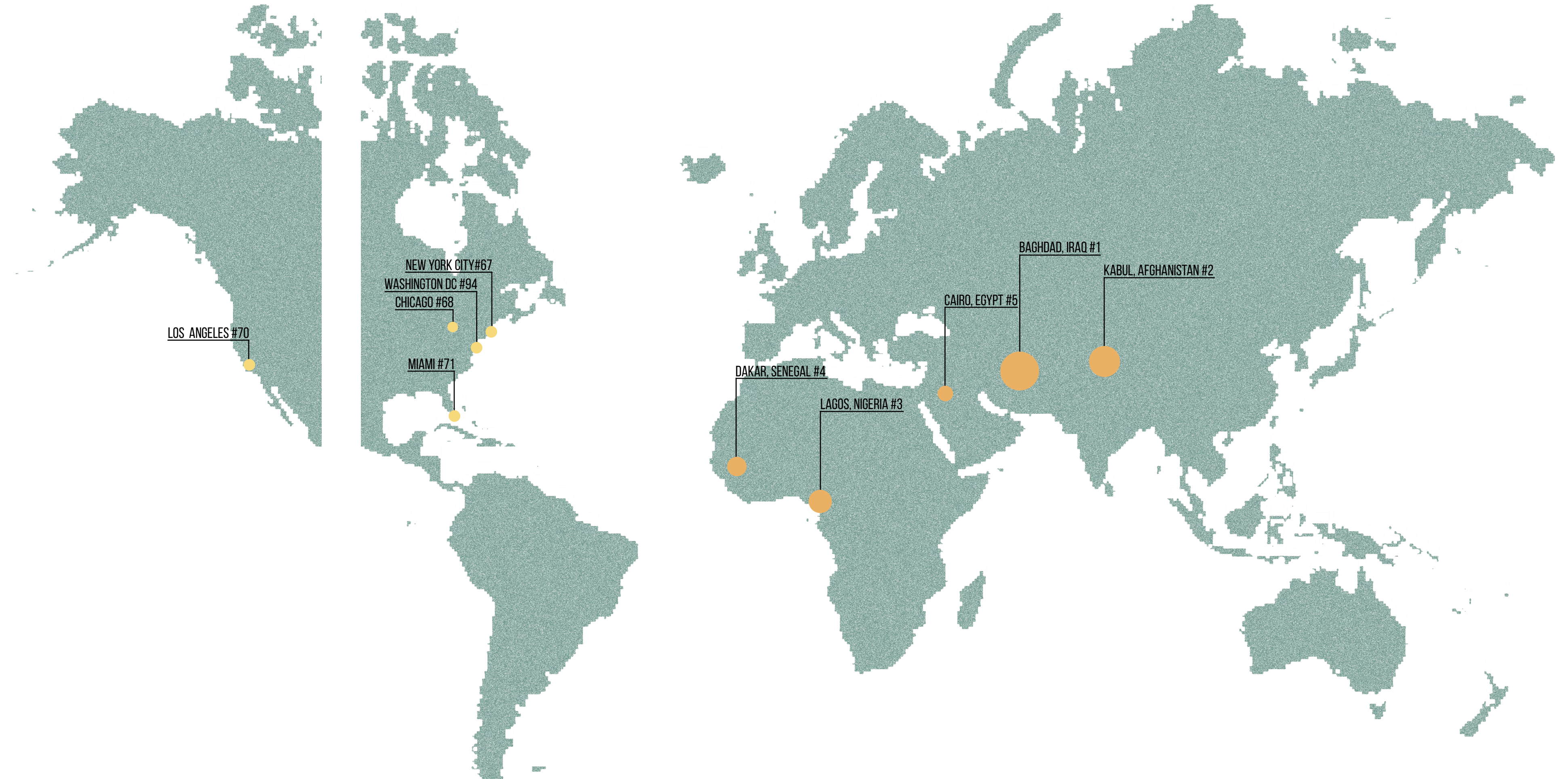
- AIR POLLUTION
- NOISE POLLUTION
- LIGHT POLLUTION

FINANCIAL STABILITY |

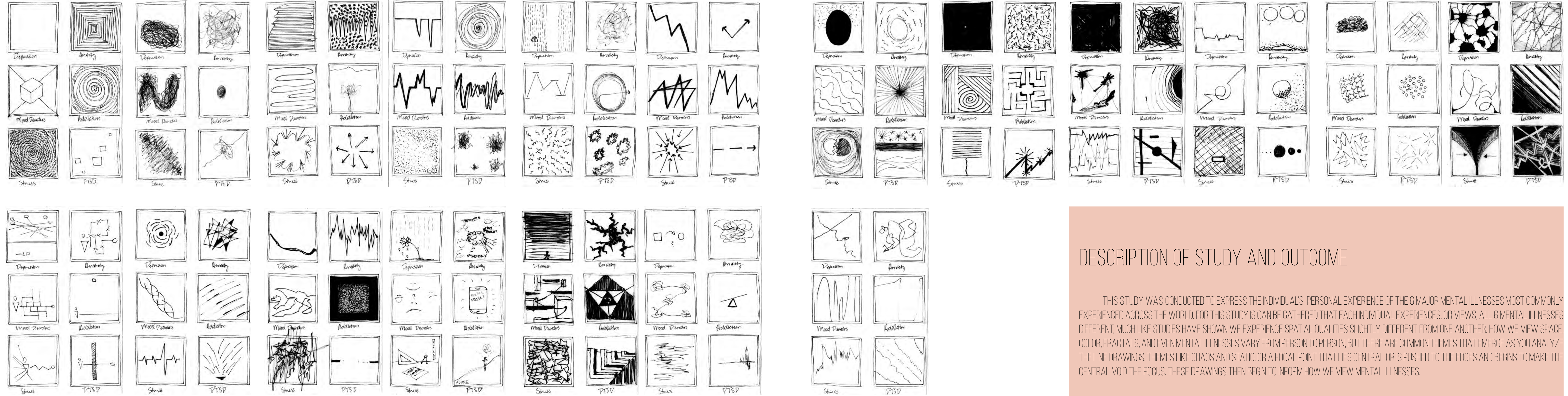
- UNEMPLOYMENT
- DEBT PER CAPITA
- SOCIAL SECURITY
- FAMILY INCOME

POPULATION FACTORS |

- MENTAL HEALTH | AWARENESS
- PHYSICAL HEALTH
- GENDER EQUALITY
- RACE EQUALITY



MENTAL HEALTH VISUALIZED



DESCRIPTION OF STUDY AND OUTCOME

THIS STUDY WAS CONDUCTED TO EXPRESS THE INDIVIDUAL'S PERSONAL EXPERIENCE OF THE 6 MAJOR MENTAL ILLNESSES MOST COMMONLY EXPERIENCED ACROSS THE WORLD. FOR THIS STUDY IS CAN BE GATHERED THAT EACH INDIVIDUAL EXPERIENCES, OR VIEWS, ALL 6 MENTAL ILLNESSES DIFFERENT, MUCH LIKE STUDIES HAVE SHOWN WE EXPERIENCE SPATIAL QUALITIES SLIGHTLY DIFFERENT FROM ONE ANOTHER. HOW WE VIEW SPACE, COLOR, FRACTALS, AND EVEN MENTAL ILLNESSES VARY FROM PERSON TO PERSON, BUT THERE ARE COMMON THEMES THAT EMERGE AS YOU ANALYZE THE LINE DRAWINGS. THEMES LIKE CHAOS AND STATIC, OR A FOCAL POINT THAT LIES CENTRAL OR IS PUSHED TO THE EDGES AND BEGINS TO MAKE THE CENTRAL VOID THE FOCUS. THESE DRAWINGS THEN BEGIN TO INFORM HOW WE VIEW MENTAL ILLNESSES.

THANK YOU TO ALL WHO PARTICIPATED IN THE VISUALIZATION OF MENTAL ILLNESSES

ANALYSIS OF STUDY



DEPRESSION

4,6,10,15,19 - LINE DRAWING

ANNOTATES A BEGINNING AND AN END/START AND FINISH SHOWS A RELATION TO TIME AND SPACIAL AWARENESS.

2,11,12 - CHAOS

SHOWS A CENTRALIZED MASS OF CHAOS ALMOST AS IF IT IS CONTAINED WITHIN SOMETHING OR A SPACE.

1,9 - EMPTY/NOTHINGNESS

REPRESENTS THE IDEA OF NOTHING, LONELINESS, EMPTINESS THAT IS ANYWHERE AND EVERYWHERE.

13,18 - DEFINED SEPARATION

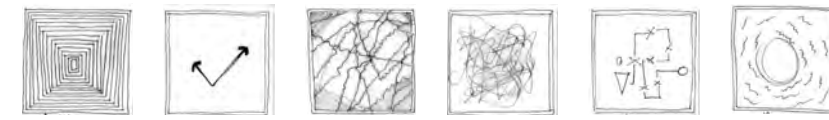
ANNOTATES A BEGINNING AND AN END/START AND FINISH SHOWS A RELATION TO TIME AND SPACIAL AWARENESS.

8,14,17- SURROUNDED/ENGULFED

REVEALS THE IDEA OF SEPARATION BUT AS SOMETHING THAT IS SURROUNDING THE PURITY OR OBJECT THAT IS INSIDE.

3,5,7,16 - SURROUNDED WITH SEPARATION

SHOWS A SEPARATION AND DISTINCTIVE DIFFERENCE SUCH AS LIGHT AND DARK, GOOD AND BAD.



ANXIETY

1,4 - SPIRAL TO CENTRAL LOCATION

SHOWS A THEME WITH A HEAVY CONNECTION TOWARDS SURROUNDING AND CENTRALITY.

6,13,15 - LINE DRAWING

REPRESENTS A PATH, CHOICE, AND SEPARATION AS IF ALLUDING TO THE FACT THAT WE HAVE A DECISION OR A FRACTURED PATH.

12,17 - SHATTER OR BREAK

ANNOTATES THE IDEA THERE IS SOMETHING IN THE PROCESS OF BREAKING OR BROKEN, BEYOND REPAIRING.

2,5,9,16,18,19 - CENTRAL CHAOS

THE COMMON THEME OF CENTRALIZED CHAOS CONNECTS THE IDEA OF AN INWARD FOCUS OF ANXIETY OR DISRUPTION.

6,13,15 - CENTRALIZED SEPARATED CHAOS

ANNOTATING A DISTANCING OF TWO IDEAS AS AN ATTEMPT TO SHOW THE DIFFERENCE BETWEEN SELF AND CHAOS.

3,7,10 - SURROUNDING STATIC

SHOWS THE IDEA OF ONE FEELING SURROUNDED BY NOISE, ENGULFED IN STATIC OR CHAOS, DISORIENTED.

8 - CONSISTENT STATIC

REVEALS THE IDEA OF COMPLETE DISORIENTATION IN ALL DIRECTIONS AND NO RELIEF.



MOOD DISORDERS

5,11,12,14 - BROKEN SCATTERED PATH

ALLUDES TO THE IDEA OF A FRAGMENTATION OF A PATH OR A DIRECTION, A BROKEN TIME LINE.

1,8,10 - CONFLICT

ESTABLISHES THE IDEA OF CONFLICTING SHAPED OR PATTEENS, AS AN INTERNAL CONFLICT WITHIN THE MIND.

6,15 - OVERLAPPING PATH

A PATH THAT CONTINUES IN ONE DIRECTION THEN LAPS BACK ON ITSELF AS TO RELAPSE.

9,13,17,18 - PATH WITH MULTIPLE DESTINATIONS

REVEALS THE IDEA THAT THERE ARE MULTIPLE OUTCOMES FROM ONE SINGLE MOMENT, LIKE WE DECIDE THE PATH WE TAKE.

2,4,19 - PATH WITH VERTICAL JUMPS

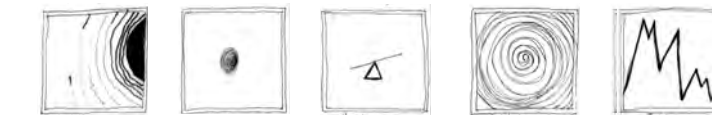
NOTES THAT THE PATH SET ON HAS HIGHS AND LOWS AS IT KEEPS MOVING FORWARD OR EVEN BACKWARD.

3,7 - CURVED PATH LAPPING BACK AND FORTH

FLIPS THE IDEA OF A HORIZONTAL TIME LINE AND PUSHES AND PULLS TO EITHER SIDE OF THE SPECTRUM ALONG A CENTRAL DIVIDE.

16 - CONFUSION

INDICATES THE IDEA OF CONFUSION IN A SOCIAL MANOR WITH A DIRECT CONNECTION TO HUMANS AND PHYSICAL CUES.



ADDICTION

9,12,15,17 - TONAL EXPRESSION

THIS SHOWS A BATTLE BETWEEN OPPOSING IDEAS OR PRACTICES, LIGHT VERSUS DARK, RIGHT VERSUS WRONG.

2,3,10,11,16 - CENTRAL FOCUS ON AN OBJECT

ESTABLISHES THE IDEA THAT THERE IS A CENTRALIZED FOCUS ON SOMETHING, GOOD OR BAD THERE IS A FOCAL POINT WORTH NOTING.

18 - BALANCE

EXPRESSES THE IDEA OF BALANCE, GIVE AND TAKE, THE IDEA THAT EVERYTHING ENDS UP EVENING OUT.

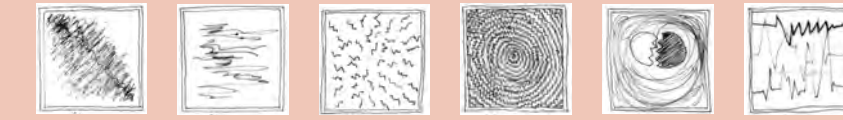
1,7,8 - CENTRALITY

INDICATES THE IDEA OF A PATH WITH A KEY MOMENT OR A SPIRAL TO AN INWARD OR OUTWARD MOMENT.

4,5,6,13,14,19 - LINEAR PATH

SHOWS A BEGINNING AND AN END WITH VERTICAL JUMPS ALONG THE LINEAR PATH, INDICATING STRUGGLE, HIGHS AND LOWS ALONG A PATH.

S T R E S S S



STRESS

2,4,5,11,15,17,18 - STATIC OR CHAOS

ESTABLISHES THE COMMON THEME OF CHAOS AND DISARRAY AS A NOTATION OF STRESS.

2,4 - HIERARCHY OF CHAOS

NOTES THAT THERE IS A HIERARCHY TO THE LEVEL OF DISARRAY AND CHAOS.

15,17,18 - ABSOLUTE CHAOS

SHOWS A LACK OF ORDER OR HIERARCHY, A CONSUMING FORCE THAT COVERS ANY AND EVERYTHING.

5,11 - CENTRAL FORCE

HINTS AT THE IDEA OF CONDENSING CHAOS AND STATIC TO A CENTRAL FOCAL POINT.

1,7,10- CENTRAL FOCAL POINT

INDICATES THAT THERE IS A FOCUS ON A CENTRAL POINT OR OBJECT THAT IS SURROUNDED BY STATIC OR CHAOS.

7,13 - FRACTURED OBJECT

EXPRESSES THE IDEA OF FRACTURING OR SPLITTING, THERE IS A NOTION OF BROKEN-NESS.

9,14,19, - HEARTBEAT

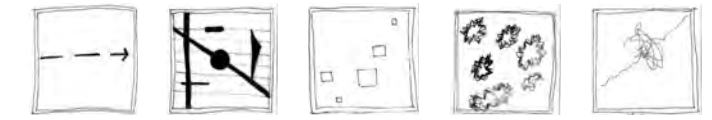
INDICATES A STRONG CONNECTION OF STRESS AND HEART-RATE.

3,6,8,12 - COMPRESSION OR FORCE

ESTABLISHES THE IDEA OF COMPRESSION OR PINCHING, FORCEFUL CONTAINMENT NARROWING THE OBJECT.

13,16 - RELATION TO SELF

SHOWS A DIRECT CONNECTION OF STRESS TO ONES SELF



POST TRAUMATIC STRESS DISORDER

6,15,19 - BROKEN LINES

RELATES THE PATH TO FRAGMENTATION, BROKEN, BUT NOT DISORGANIZED, LIKE PIECES ARE MISSING FROM THE PATH.

7,9,12,17 - FRAGMENTATION

EXPRESSES MIXED PATTERNS THAT LAYER BUT DO NOT REFLECT ONE ANOTHER.

1,10- SCATTERED

SHOWS A SIMILAR USE OF PATTERN BUT BEGINS TO BREAK THE PATTERN AND FOLLOWS NO RULE OF HIERARCHY.

4,5,11 - INSTANCES OF CHAOS

FOCUSSES ON THE IDEA PF SCATTERED DISARRAY OR CHAOS IN SPACE WITH NO TIE TO ONE ANOTHER.

2,8,18 - CHAOS ALONG A PATH

ESTABLISHES A CONNECTION WITH A LINEAR PATH LIKE TIME THAT IS DISRUPTED BY A KNOT OR A MOMENT.

SENSORY EXPERIENCE-LITERATURE REVIEWS

LITERATURE REVIEW - "BIOPHILIA & HEALING ENVIRONMENTS"

The article discussing Biophilia and Healing Environments is analyzed through the teachings of Edward O. Wilson who thought of the essence of man was catalyzed by the innate human desire and need for a deep connection to nature in the everyday built environment in which we reside. What is discussed as the biophilic effect is described by Wilson as two parallel strands of conjuncture stating the origin of biophilic instinct.

1. *Thought to come from inherited memory, from our evolution and development in the environment of the Savannah long ago.*

2. *Stemming from biological structure itself: the geometrical rules of biological forms with which we share a template.*

The idea that we have a desire to be in nature because of our ancestors living and thriving in the Savannah is a little far fetched for me but for the sake of discovery the idea makes sense that we want and desire a connection to a familiarity of what we believe our simple beginnings to be before technology, and mechanisms. While the desire to connect with nature connecting with our physical makeup is structurally very similar to natural occurring geometries. That being said biologically humans are drawn to nature despite the believed background, several studies have been conducted observing the relationship and connection between people and nature and its ability to act as a catalyst healing. Reducing need for pain medications, as well as faster healing post operative when patients were placed into a room with a window looking out at trees. While this connection to nature is a positive on the healing of the human body there is also an inverse effect that when we are disconnected to nature it effects our biophilia. The absence of natural geometries and structural balance signal the body to cope with anxiety and illness.

While we can assume that we absence of nature effects our biophilia in a negative manor, Salingaros breaks the biophilic effect into 8 points.

1. Light
2. Color
3. Gravity
4. Fractals
5. Curves
6. Detail
7. Water
8. Life

Light - Eyes | light is necessary to for three-dimensional imagery and depth perception, skin | Light on our skin is how our body produces Vitamin D, sleep | or circadian rhythms are regulated by the sunlight on the eyes and skin controlling our sleep cycles via melanin secretion.

Color - Pigmentation of partial intensity but overall harmony generates a healthy effect that links directly with our emotions

Gravity - The idea of balance in growth puts the observer at ease with a naturally occurring structure dictated by gravity

Fractals - Biological forms are broken down into fractals, like a circulation system or how an arm breaks down to a hand and then fingers, naturally occurring fractals help the brain intemperate patterns

Curves - Curved forms are commonly found in nature connecting the brain back to naturally occurring geometries

Detail - lack of detain creates a disconnect of the observer to nature, perfectly smooth or even systems do not occur in nature

Water - the desire to be close to water is a reassurance that there is supple for survival

Life - connection to other living forms and things creates companionship and lack of loneliness

LITERATURE REVIEW - "IMPROVING MENTAL HEALTH IN PRISON THROUGH BIOPHILIC DESIGN"

The article *Improving Mental Health in Prison Through Biophilic Design* is looked at through the lens of Erich Fromm who was looked at as the creator of the term **biophilia** meaning "love of life" is derived from his discovery of the "essence of man". Fromm's research began with his discovering of awareness and the idea of "being". Fromm's understanding of our root for our love of life stems from the innate connection to nature and other life, Fromm sees the idea of development of mankind as the disconnect with us and other life or nature, and how this separation has created a decay. Fromm believes that we are either in a phase of growth or decay, because these two are a trade off you can be only one or the other and the two phases of growth or decay are tied to ones connection to life.

Life or Death, Growth or Decay.

From this we gather that the key to awareness and growth is a connection to nature through three key areas, it is broken down into the ideology of connection to nature through unique queues that create a connection to life through nature in the space, exploring nature of the space and and introducing natural analogs into a space.

Broken down into:

Nature in space, Natural analogues, and Nature of the space

1. Nature in Space -
 - Visual connection with nature
 - Non-visual connection with nature
 - Non-rhythmic sensory stimuli
 - Access to thermal and airflow variability
 - Presence of Water
 - Dynamic and defused light
 - Connection with Natural systems
2. Natural Analogues -
 - Biomorph forms and patterns
 - Material Connection with nature
 - Complexity and order
3. Nature of the Space -
 - Prospect
 - Refuge
 - Mystery
 - Risk

From this the idea of non direct connections allowing nature into the space through these three lenses, cultivating a pattern of growth in our day to day lives. The connection of space and mental health can be improved through these lenses, and they too will allow mental health to flourish in design. By having a connection to life in a discreet way can create a more complex biophilic design theory integrated into design.

LITERATURE REVIEW - "CANCER TREATMENT FACILITIES: USING DESIGN THINKING TO EXAMINE ANXIETY AND PATIENT EXPERIENCES"

The world of cancer treatment facilities and the way in which they operate and function are being put into question with this article is how we can re imagine a world of care that effects so many people in the United States and all over the world. "In 2015 14 million people were diagnosed with cancer worldwide." The vast number of those and the extension of their families involved in the care of patients fighting cancer come to effect a large percentage of the worlds population. So this article dives in to the way that patients, caregivers, and facility see the rose, thorn, and bud of the design and environment in which encompasses cancer treatment.

The environment in which we place a healing body has a lot more influence than we think, the environment can be thought of almost like an incubator, if the environment is clean and working successfully the occupant will begin to heal without any negative effects on the body like germs or bacteria. While a sick body in a contaminated incubator will no longer function as it is supposed to as a healing environment. This is a simple way that we can look at a patient and their co-dependence on environment in which they reside.

"Negative patient experiences are common, not due to substandard care but difficulty in understanding medical terminology, feeling lost, stressful built environmental features, or an inability to have emotional needs met to name a few" (Agutter, 2011). As there are many obvious negative aspects to being diagnosed with cancer or any illness our bodies go into a state of shock, and the environment in which we are supposed to heal in becomes a secondary worry as opposed to the medical technology in which will cure you. The way in which hospitals are designed is to create a highly functional structure that can house medical personnel and technology to diagnose and treat those who come in its doors. The programmatic fiction of a hospital or treatment facilities primary focus is on healing people through medicine. "Medicine being a broad term but defined as - **The science or practice of the diagnosis, treatment, and prevention of disease** - begins to question the foundations of treatment facilities and their

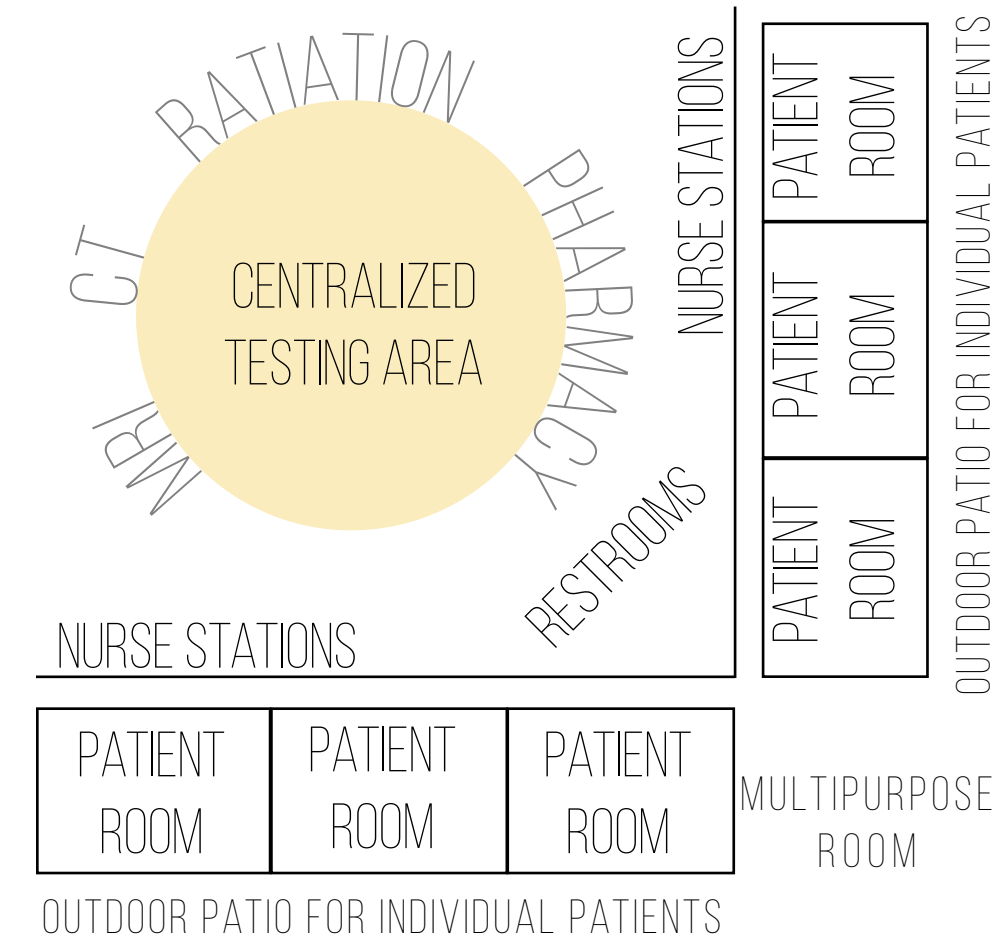
functionality geared towards the medical personnel in which help it fiction rather than those who are supposed to heal within the environment in which they occupy.

The question is raised:
"How can we optimize patients' time & movement within a facility?"

This question then went on to ask how can the awareness of patient experience using design-thinking strategies to examine if the physical environment in which patients occupy during cancer care affects patients mental health, like anxiety, and how it contributes to negative experiences, and how new design thinking can generate user sensitive design solutions that can help reduce stress. To develop sensitive design thinking through the eyes of the faculty member, the caregiver and the patient. Through workshops the "thorns" were the negatives of patient care and experience, the "buds" were opportunities for improvement and growth, and the "roses" were the positives. As the different roles were represented there were commonalities between the three, which addressed separation of patient and caregiver, the "institutionalized" feel in which older facilities give, the scale and lack of comfortable environments for caregivers or families, and stress of unclear way finding and feeling lost with no awareness of place.

Through this collaborative design process the final design solution was a concept of individualized Patient Treatment Pods (PTP). These PTP provide "control, privacy, comfort, minimal travel within oncology units." While surrounding the immediate patient needs with "restrooms,

patient lounges, nurse's stations, and nutrition. Utilizing participants' personal experiences along with design thinking led to a prototype that creates a cancer treatment facility that may better suit patient needs while potentially reduce anxiety.



LIGHT

COLOR

GRAVITY

FRACTALS

CURVES

DETAILS

WATER

LIFE

NATURE IN THE SPACE

NATURAL ANALOGUES

NATURE OF THE SPACE

LIGHT

CONNECTION TO NATURE

MICRO ENVIRONMENTS

BASIC MASS/CIRCULATION

MATERIALITY

COLOR

This data was then collected and analyzed as to how we can begin to look at built studies on the idea of stress reduction in the built environment. Looking at how we can begin to look at spaces and understand their abilities to reduce stress for the individual with spatial qualities.

SENSORY EXPERIENCE

CENTRE FOR CANCER AND HEALTH

NORD ARCHITECTS



Image 1

LIGHT

GREEN SPACE

ENVIRONMENTS

BASIC CIRCULATION

How does the design approaches of sensitivity to the human scale in an environment attribute to creating a healing environment?

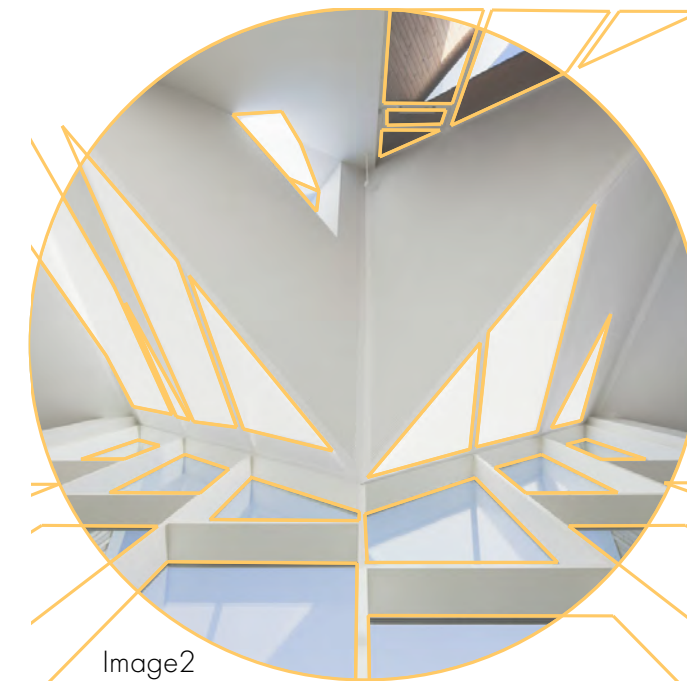


Image 2

LIGHT

High vaulted open ceiling allow the compact design to flood the interior spaces with light and light creating natural lighting in interior patient spaces.



Image 3

GREEN SPACE

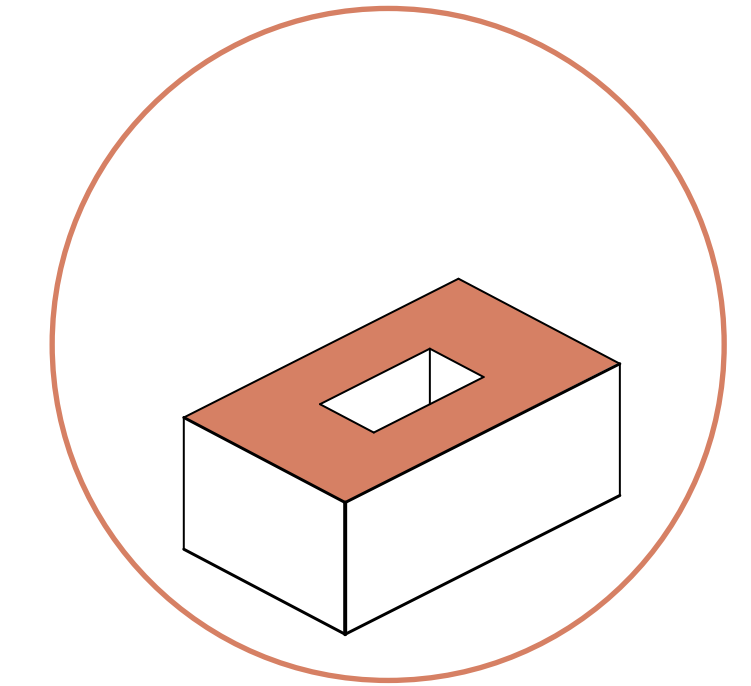
The Green Space limited and is pushed to the exterior of the spaces presenting a lack of a connection to nature, but focuses on connection to nature with the use of light.



Image 4

ENVIRONMENTS

Human scape and the perception of space is a key part of the design to bring a hospital back down to the human scale and reduce stress by overwhelming.



BASIC MASS/CIRCULATION

The circulation is pushed to the walls of the courtyard creating a shared connection to the private courtyard within the design connecting the patients to one another and their shared spaces.

SENSORY EXPERIENCE

NEW YORK PRESBYTERIAN DAVID H KOCH CENTER

HOK + BALLINGER + PEI COBB FREED & PARTNERS



Image5

LIGHT

GREEN SPACE

ENVIRONMENTS

BASIC CIRCULATION

How do the designers rethink way finding and efficiency creating a sense of place within the overwhelming environment of the hospital?



Image6

LIGHT

With the location of the hospital being in the middle of a busy city the program must be built up and the facade utilized in order to allow light into the space, the skin of NY Presbyterian allows filtered light to flood into the hall allowing views out and prioritizing the occupant when circulating the building.

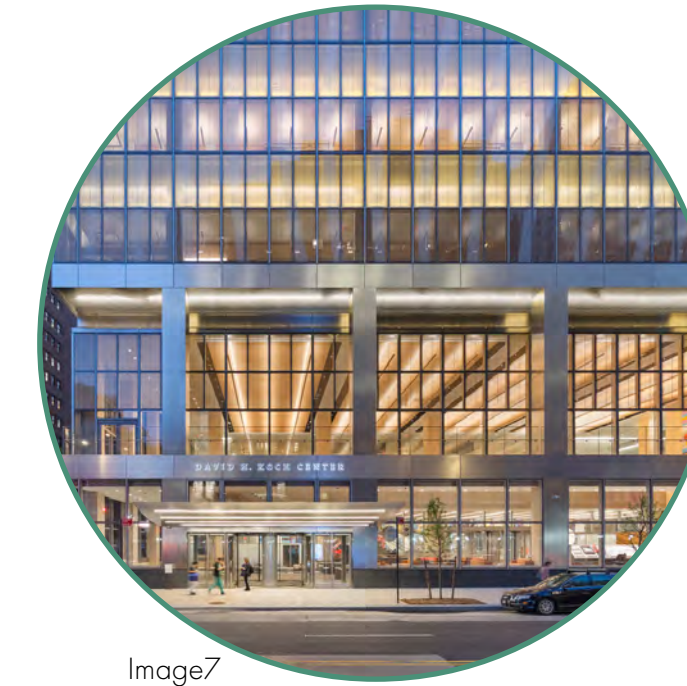


Image7

GREEN SPACE

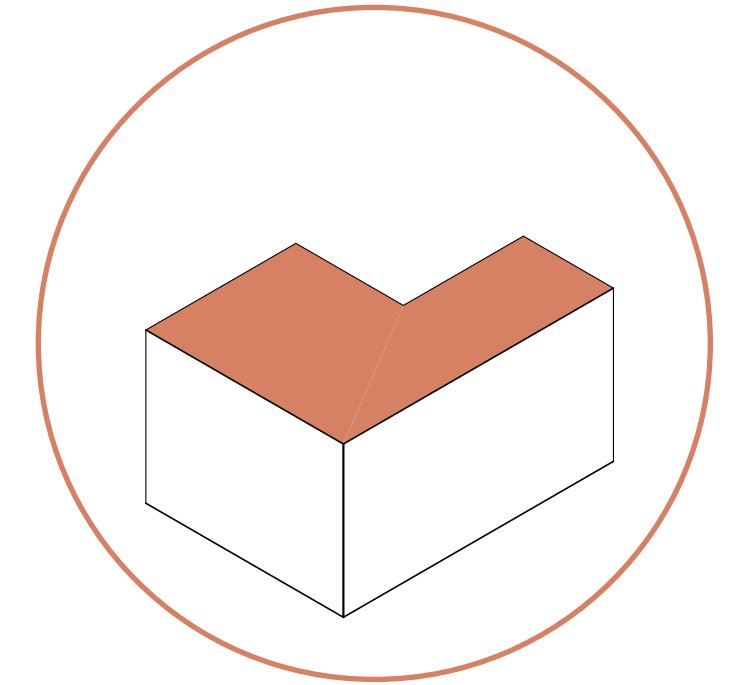
Green space and the desired connection to nature is diminished in this project, the location of the project does not allow the easy access to green space or nature much like a more suburban project would allow, with a compact design the priority for the design is the occupant and not green space.



Image8

ENVIRONMENTS

Environments and circulation is a key part of this design with easing stress and the stigma of a hospital hallway, there is a clear consideration and separation of the patient and the staff as well as the visitor and the staff. The environment created is a separation of visitor and staff which helps easing circulation for both parties allowing work and healing to work separately but also in tandem as well.



BASIC CIRCULATION

The main circulation is a large hall pushed to the edges of the mass again prioritizing the person circulating the design keeping their orientation as a focus. Separating the circulation of the visitor versus the staff, through this design move we see a sensitivity to the stress and environmental factors that go into the idea of healing and care.

COGNITIVE EXPERIENCE

NATIONAL INTERPID CENTER OF EXCELLENCE

SMITH GROUP JJR



Image 9

LIGHT

GREEN SPACE

ENVIRONMENTS

BASIC CIRCULATION

How does technology and immersing environments help heal patients rather than overwhelm the occupant?



Image 10

LIGHT

Light in this project was thought of in a different manor that is sensitive to the occupant and the idea of consistency and uniformity. The center is design with the soldier in mind and traumatic brain injuries and PTSD heavily in consideration. Natural light is limited and defused into spaces allowing patterns of light only in the lobby space while the hallways and treatment areas allow more even artificial lighting the illuminate the spaces evenly.



Image 11

GREEN SPACE

Green space is limited in this design because of the prioritizing of healing through immersive technology. The green space and connection to nature is limited to surroundings and to the simulated environments that the patients occupy in therapeutic immersive therapy.

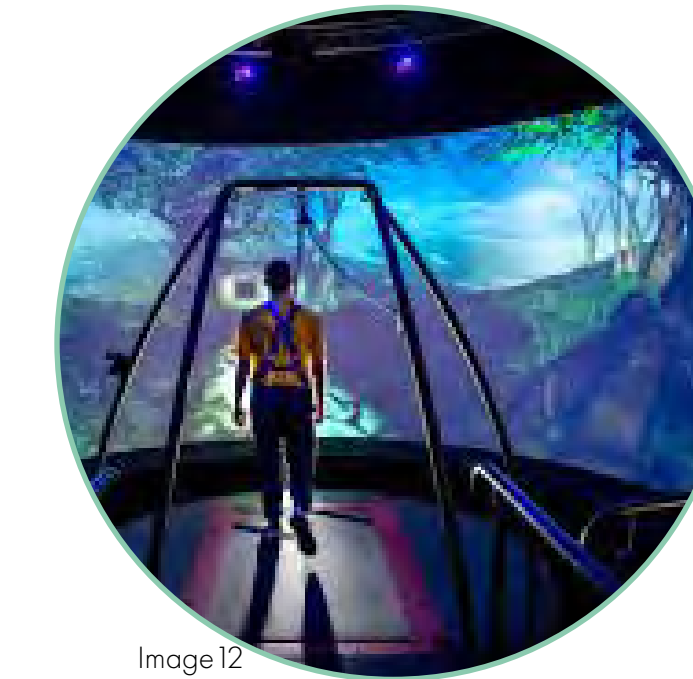
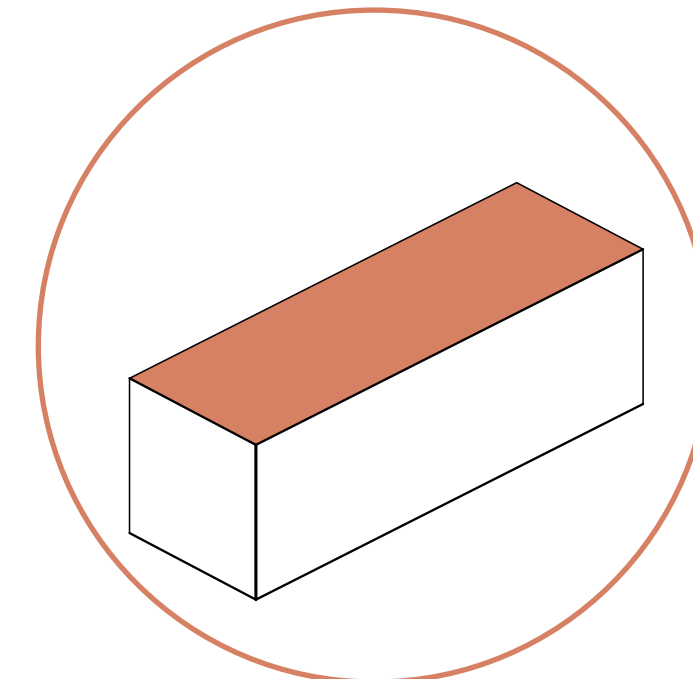


Image 12

ENVIRONMENTS

The soldier and healing is a priority for this design and the art of healing through simulations and technology in controlled environments allowing the patient to be immersed into a scene. The environments created although very specifically geared towards the occupant allow us to see the cohesion of design and awareness to the occupant being the main goal of healing.



BASIC CIRCULATION

Basic circulation is sensitive to uniformity in the main mass of the structure creating straightforward circulation for the occupant and patient in the therapy wing and the patient rooms, but breaks away from stright perpendicular circulation in the auxiliary programmatic areas of the mass where the shared spaces like the auditorium, lobby and other open spaces.

COGNITIVE EXPERIENCE

NORTHERN BEACHES HOSPITAL
BVN



Image 13

LIGHT

GREEN SPACE

ENVIRONMENTS

BASIC CIRCULATION

How does the design approach the idea of reinventing hospital design and the way in which we occupy and navigate the hallways we share with patients, faculty, and the caregiver?



Image 14

LIGHT

Much like in a typical hospital layout the patient rooms are pushed to the exterior for natural lighting in the patient rooms keeping the circulation to the central vertical atrium. The massing of the design optimizes the perimeter surface area maximizing the allowable daylighting for the patient.



Image 15

GREEN SPACE

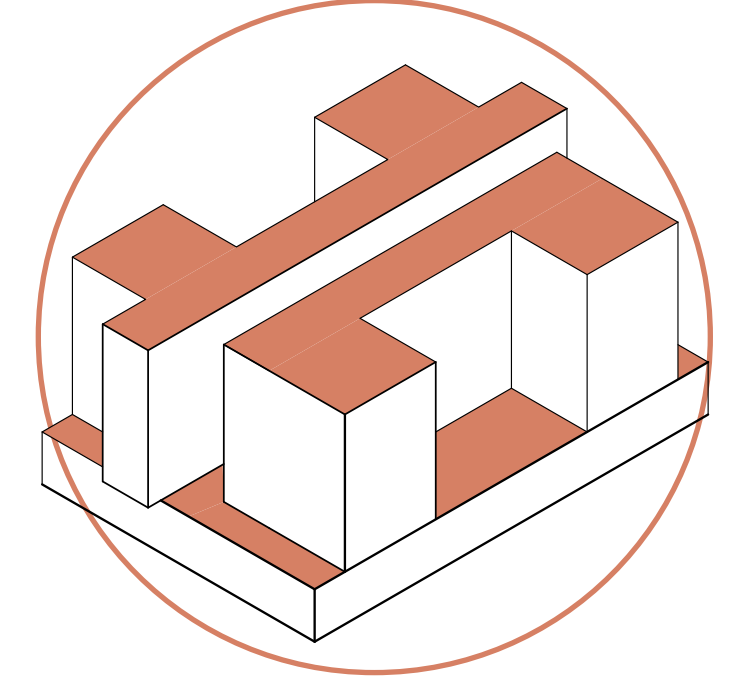
Green space is pulled into the space but still limited, the direct connection to nature is limited in small doses, and is most prominent in shared spaces much like the eating hall. There is landscaping around the design allowing the patient rooms to overlook the landscape but the connection to nature is not prioritized a use of healing.



Image 16

ENVIRONMENTS

Environments and circulation is a key part of this design with easing way finding with cues that allow the occupant to orient themselves as they travel down long repetitive hallways. These cues are unique in their placement and program creating "landmarks" helping visitors circulate the hospital in a stress free manner.



BASIC CIRCULATION

The circulation of this hospital takes way finding into high priority when easing visitor circulation, sharing one main vertical circulation path for all wings of the building creating a large central organization keeping the occupant oriented and aware. The circulation is integrated with "cues" or "landmarks" helping orient visitors in their way finding.

PRECEDENCE STUDY ANALYSIS DIAGRAMS

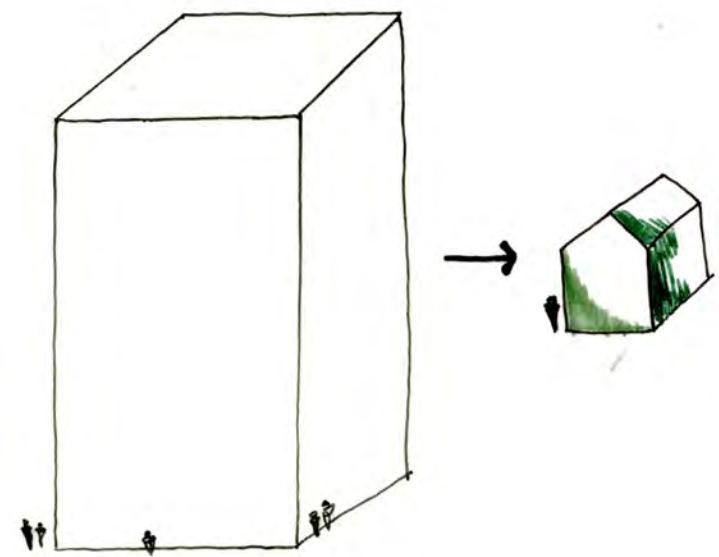
HUMAN SCALE

CENTRE FOR CANCER AND HEALTH

NORD ARCHITECTS

Question asked: How does the design approaches of sensitivity to the human scale in an environment attribute to creating a healing environment?

Spatial response: Bringing the design down to a human scale makes it much easier to digest for the observer, want to connect to our spatial environments and when we are overwhelmed it becomes harder for the individual to connect and find comfort with the environment that they are occupying. **Therefore bringing the design to a more human scale will help us identify and find comfort within a space.**



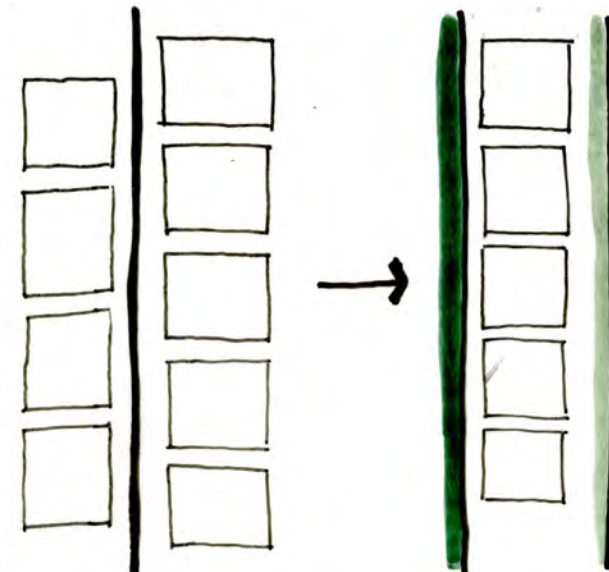
SEPARATION

NEW YORK PRESBYTERIAN KOCH CENTER

HOK + BALLINGER + PEI COBB FREED & PARTNERS

Question asked: How does the design approach the idea of reinventing hospital design and the way in which we occupy and navigate the hallways we share with patients, faculty, and the caregiver?

Spatial response: Separation of chaos and the individual is a key factor in this design to reduce stress for visitors. By separating the "work" aspect of the hospital from the visitor the environment has a reduction of sound, stimulants, smells, and chaos. **Therefore separating the aspects of back or house and the stage while the patients are nested in the middle creates availability for work as well as a buffer for visitors and leisure.**



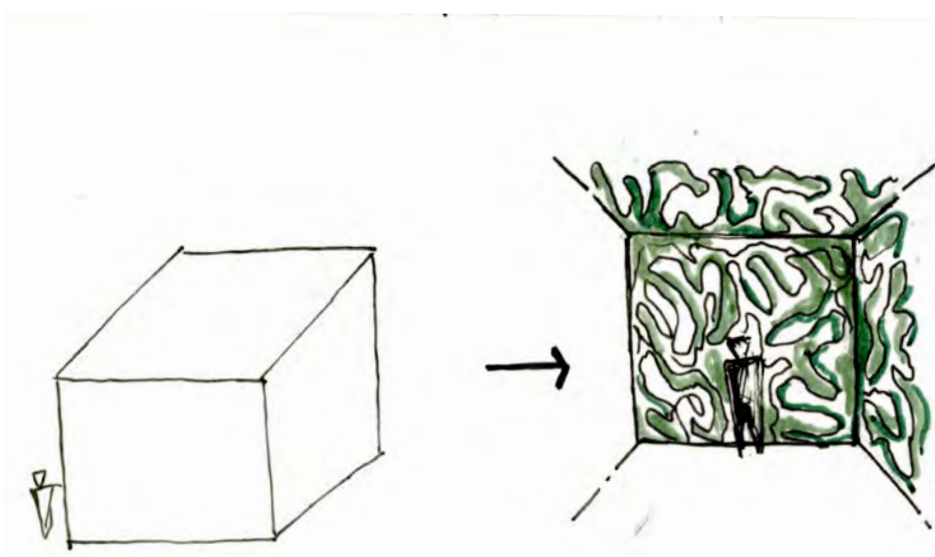
ENVIRONMENTS

NATIONAL INTERPID CENTER OF EXCELLENCE

SMITH GROUP JJR

Question asked: How does technology and immersing environments help heal patients rather than overwhelm the occupant?

Spatial response: The aspect of environment for healing is amplified in this design when it is calling for an intense immersion for healing. Individuals at this center are immersed in environments with technology in order to heal. **Therefore allow in technology and environment to begin to heal the brain calls for the idea that immersive spaces can hold healing qualities.**



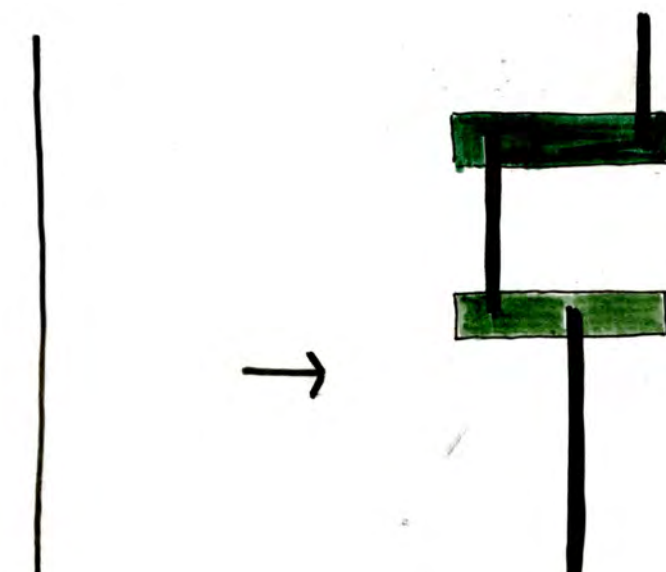
PATH VARIATION

NORTHERN BEACHES HOSPITAL

BVN

Question asked: How do the designers rethink way finding and efficiency creating a sense of place within the overwhelming environment of the hospital?

Spatial response: This design embodies the idea that way-finding is manifesting a connection of the occupant to space, we desire the ability to break down and understand where we are and how to get where we want to go. **Therefore breaking down the design and long hospital hallways into a less repetitive more destination based space we are able to comprehend and way find at a different pace.**



How will this help us begin to design for mental health on a larger scale to combat the immense amount of stress we feel in our day to day lives?

EXTREME ENVIRONMENTS TO DESIGN FOR MORE ON AN URBAN LEVEL

How will this help us begin to design for mental health on a larger scale to combat the immense amount of stress we feel in our day to day lives?

When designing for mental health we have to begin to ask ourselves how we can make the spaces and environments we create and design more digestible but also tie in our innate design to connect to nature and other qualities that occur in tandem with nature, such as natural analogs, the expression and attention to the idea of gravity, while implementing attention to natural lighting, feeding into the sense of wander we all crave, and the detailing within fractals often found in nature.

We have a desire to explore as we move through spaces and discover new paths, details, while feeling a sense of comfort and belonging. This will help us embody all of the qualities we desire in design for others on a larger for meta scale rather than designing for specific extreme environments we need to begin

to move this to a more urban scale for a larger impact on mental health around the world.


All over the world one out of every thirteen individuals is effected by longterm exposure to stress. In the United States alone where there is less wide spread poverty, and higher average income, and a greater sense of security one in every five individuals suffers from the impacts of poor mental health.

The gap where individuals are impacted in our daily lives by stress is within the urban environment, housing dense populations, to suburbia. Majority of individuals have to travel to work, school, or to essential businesses, these paths we take host different levels of temporary or for some long term stress.

Society has a need for stress relief in not only extreme environments but also an urban level where many more individuals are impacted.

This thesis is looking at the gap that needs to be addressed on an urban level and how we begin to design from the first stages of site analysis.

Architects vow to protect the health safety and welfare of those they design for, but how can we begin to expand that statement and design for more than just the client but for the communities mental health safety and welfare.



CHAPTER 2:

**ADDRESSING THE
GAP** OF MENTAL
HEALTH AWARENESS
WHEN CONDUCTING
SITE ANALYSIS

QUESTIONING THE PRACTICES OF TYPICAL SITE ANALYSIS

Why is typical site analysis not enough when it comes to designing for mental health?

Cities have been the start of civilizations across the world, housing and connecting multiple micro-environments to one another. Dense urban landscapes host a range of connections and iterations on a daily basis on many different levels such as social interactions, physical connections from one place to another and also connections to the built environment and history. Dense urban environments can not be dwindled down to an exact science of how to design a successful city over night, the ever changing factor that can make one city successful over another when it is almost an exact replica has to do with the people who occupy a city or a region, town centers and plazas have been modeled after ancient successes and have fallen short. This is because there is an ornate quality that ties the occupant to the environment that cannot be predicted, fabricated or replicated. The built environment we occupy can either encourage and host interaction or it can become a dead space that then lacks interaction. We then have to ask ourselves what qualities make us want to interact with a space and how is that desire then ties back to the feeling or security, safety, and the tie to nature we all desire.

How can we use site analysis to create a better built environment and street-scape that betters our physical and psychological wellbeing that is not just by putting a green bandied on an urban wound?

This is where we begin to question the beginning stages of design and the sensitivity to our existing surroundings.

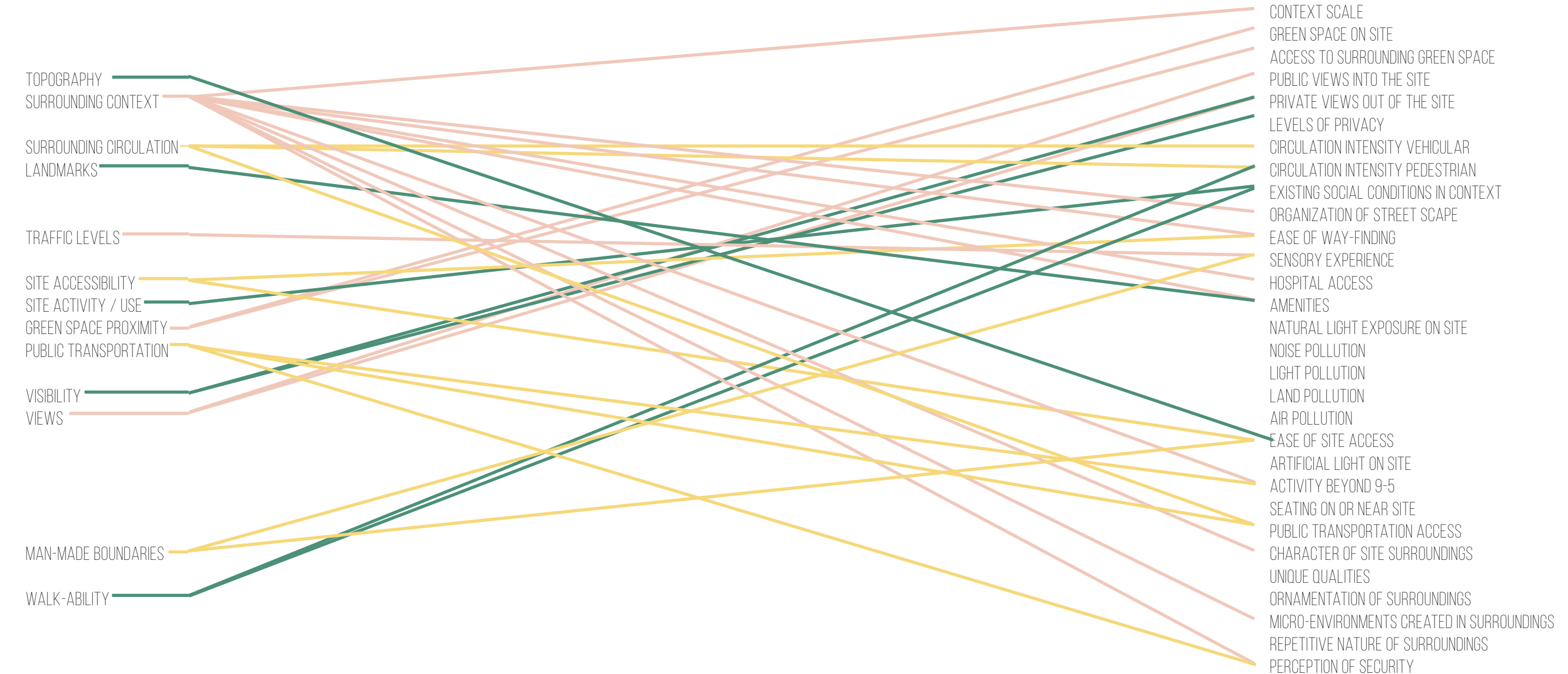
MICRO TYPICAL SITE ANALYSIS

- GEOGRAPHIC LOCATION
- ORIENTATION
- NEIGHBORHOOD CONTEXT
- TOPOGRAPHY**
- SURROUNDING CONTEXT**
- SITE BOUNDARIES
- SURROUNDING CIRCULATION**
- LANDMARKS**
- TYPOLGY / GROUPINGS / DISTRICTS
- MATERIALITY OF CONTEXT (TO BLEND WITH SURROUNDINGS OR STANDOUT)
- TRAFFIC LEVELS**
- JURISDICTION / OVERLAYS
- SITE ACCESSIBILITY**
- SITE ACTIVITY / USE**
- GREEN SPACE PROXIMITY**
- PUBLIC TRANSPORTATION ANALYSIS**
- FLOOD ZONES
- VISIBILITY**
- VIEWS**
- SUN PATH DIAGRAM FOR SOLAR GAIN
- WIND PATTERS / DIRECTION AND EXPOSURE
- NOISE LEVELS ON SITE FOR ACOUSTIC VALUES
- PRIVATE AND PUBLIC ZONES
- NATURAL BOUNDARIES
- MAN-MADE BOUNDARIES
- HISTORY
- WALK-ABILITY

MACRO

- POPULATION
- DENSITY
- LANDMARKS / ATTRACTIONS**
- AVG HOUSEHOLD INCOME**
- AGE RANGE**
- ETHNICITY
- EDUCATION
- CLIMATE**

MICRO MENTAL HEALTH CONSCIOUS



MACRO

- DENSITY
- LANDMARKS / ATTRACTIONS
- AVG HOUSEHOLD INCOME
- AGE RANGE
- CLIMATE
- DENSITY
- LANDMARKS / ATTRACTIONS (AMENITIES?)
- CRIME RATE
- AVG HOUSEHOLD INCOME
- AGE RANGE
- LANDSCAPE TO GREEN SPACE RATIO
- PUBLIC SPACES
- HISTORICAL AREAS
- CONSTRUCTION ZONES
- URBAN ORGANIZATION

MICRO NEW APPROACH

- CONTEXT SCALE
- GREEN SPACE ON SITE
- ACCESS TO SURROUNDING GREEN SPACE
- PUBLIC VIEWS INTO THE SITE
- PRIVATE VIEWS OUT OF THE SITE
- LEVELS OF PRIVACY
- CIRCULATION INTENSITY VEHICULAR
- CIRCULATION INTENSITY PEDESTRIAN
- EXISTING SOCIAL CONDITIONS IN CONTEXT
- ORGANIZATION OF STREET SCAPE
- EASE OF WAY-FINDING
- SENSORY EXPERIENCE
- HOSPITAL ACCESS
- AMENITIES
- NATURAL LIGHT EXPOSURE ON SITE
- NOISE POLLUTION
- LIGHT POLLUTION
- LAND POLLUTION
- AIR POLLUTION
- EASE OF SITE ACCESS
- ARTIFICIAL LIGHT ON SITE
- ACTIVITY BEYOND 9-5
- SEATING ON OR NEAR SITE
- PUBLIC TRANSPORTATION ACCESS
- CHARACTER OF SITE SURROUNDINGS
- UNIQUE QUALITIES
- ORNAMENTATION OF SURROUNDINGS
- MICRO-ENVIRONMENTS CREATED IN SURROUNDINGS
- REPETITIVE NATURE OF SURROUNDINGS
- PERCEPTION OF SECURITY

THE GAP IN SITE ANALYSIS AND THE BENEFIT THAT IT HOLDS

A NEW APPROACH TO SITE ANALYSIS

MICRO

- | CONTEXT SCALE
- | GREEN SPACE ON SITE
- | ACCESS TO SURROUNDING GREEN SPACE
- | PUBLIC VIEWS INTO THE SITE
- | PRIVATE VIEWS OUT OF THE SITE
- | LEVELS OF PRIVACY
- | CIRCULATION INTENSITY VEHICULAR
- | CIRCULATION INTENSITY PEDESTRIAN
- | EXISTING SOCIAL CONDITIONS IN CONTEXT
- | ORGANIZATION OF STREET SCAPE
- | EASE OF WAY-FINDING
- | SENSORY EXPERIENCE
- | HOSPITAL ACCESS
- | AMENITIES
- | NATURAL LIGHT EXPOSURE ON SITE
- | NOISE POLLUTION
- | LIGHT POLLUTION
- | LAND POLLUTION
- | AIR POLLUTION
- | EASE OF SITE ACCESS
- | ARTIFICIAL LIGHT ON SITE
- | ACTIVITY BEYOND 9-5
- | SEATING ON OR NEAR SITE
- | PUBLIC TRANSPORTATION ACCESS
- | CHARACTER OF SITE SURROUNDINGS
- | UNIQUE QUALITIES
- | ORNAMENTATION OF SURROUNDINGS
- | MICRO-ENVIRONMENTS CREATED IN SURROUNDINGS
- | REPETITIVE NATURE OF SURROUNDINGS
- | PERCEPTION OF SECURITY

MACRO

- | DENSITY
- | LANDMARKS / ATTRACTIONS (AMENITIES?)
- | CRIME RATE
- | AVG HOUSEHOLD INCOME
- | AGE RANGE
- | LANDSCAPE TO GREEN SPACE RATIO
- | PUBLIC SPACES
- | HISTORICAL AREAS
- | CONSTRUCTION ZONES
- | URBAN ORGANIZATION

Architecture does more than provide a simple shelter or space in which activities happen. Architecture creates the backdrop of our lives, and then obtains the representation of our personal "mental-scape". Can we then assume that then our built environment and architecture also have the power the inflict the same reflection inward?

We can learn from this new approach to site analysis and create categories that reflect the ability for our built environment to induce stress and effect out mental health while we are experiencing the environment. These categories then can begin to simplify site analysis when looking for triggers that change the state of our mental health. These categories are broken into:

DEGREES OF ENCLOSURE

NATURE

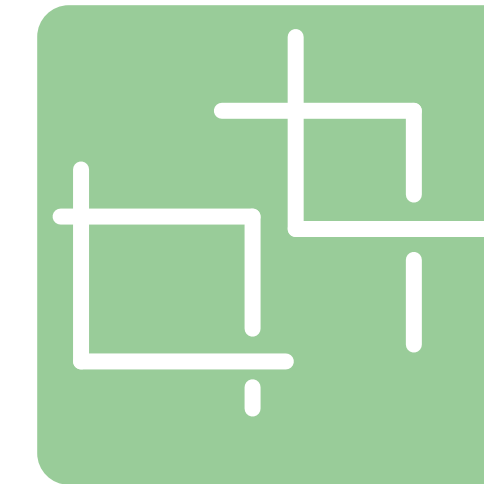
ENVIRONMENTS

ACCESSIBILITY

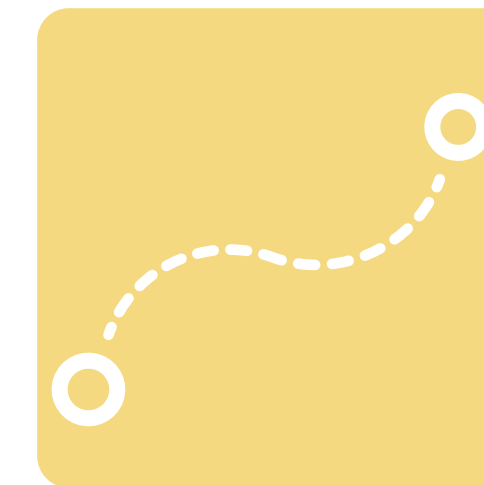
SCALE

CHOICE

DEGREES OF ENCLOSURE



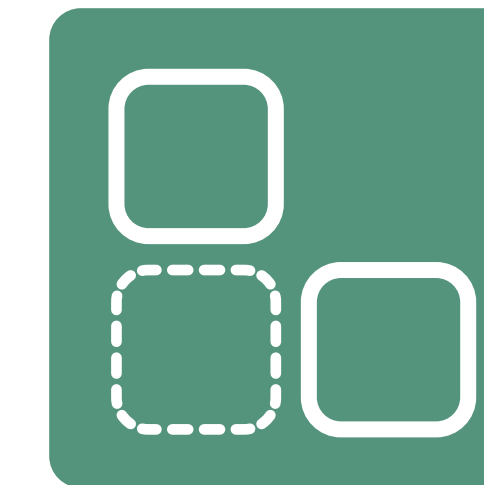
ACCESSIBILITY



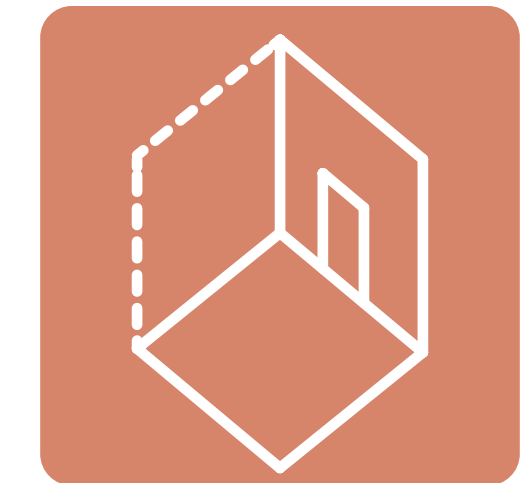
NATURE



SCALE



ENVIRONMENTS



CHOICE

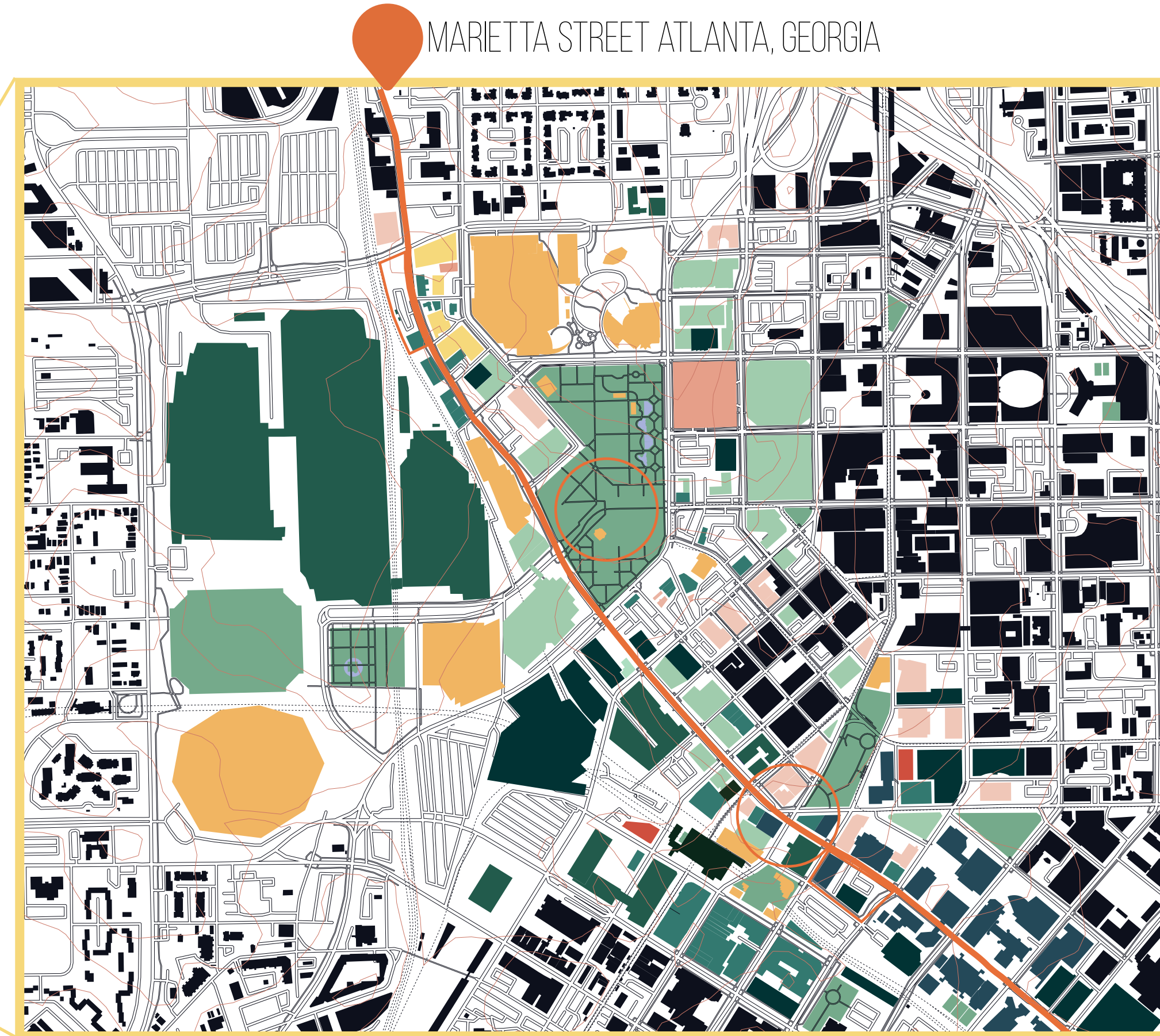
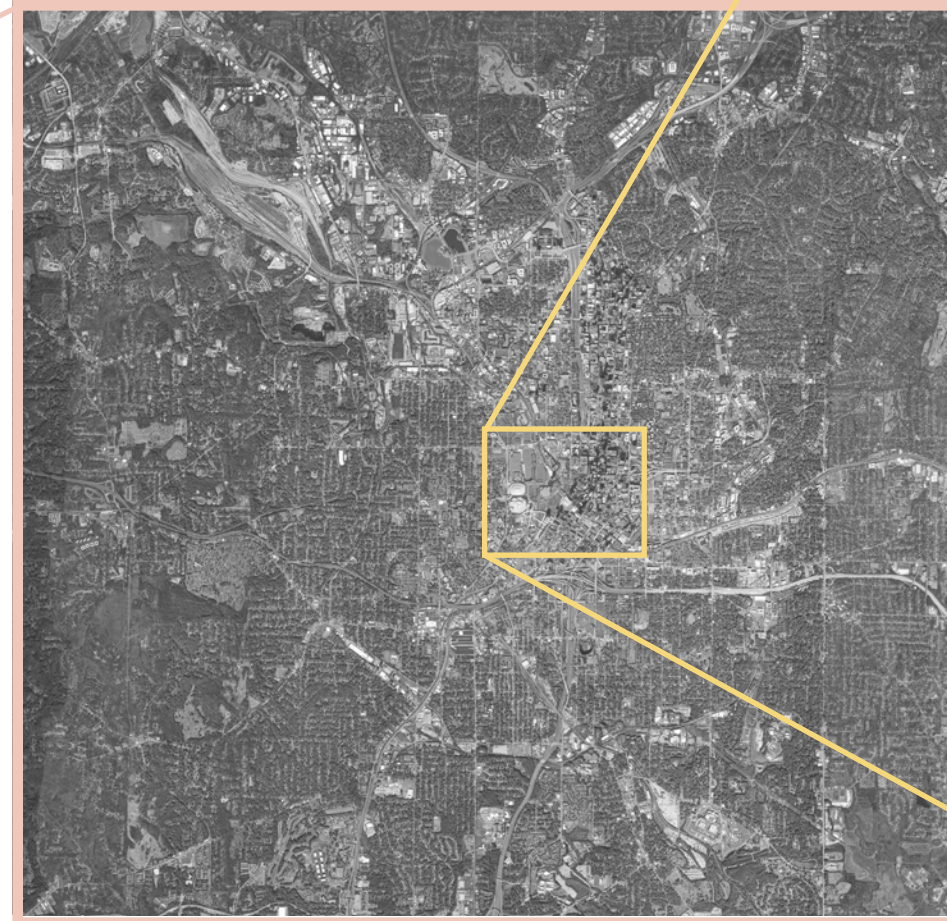


INTRODUCTION TO SITE

MARIETTA STREET ATLANTA, GEORGIA

ATLANTA GEORGIA IS HOME TO A UNIQUE DENSE ENVIRONMENT AT THE HEART OF ITS CITY THAT EXPERIENCES THE REPERCUSSIONS OF URBAN SPRAWL IN THE GREATER ATLANTA AREA, BECAUSE OF THIS WE SEE A HEAVY AMOUNT OF VEHICULAR TRAFFIC THAT IS PAIRED WITH COUNTLESS PARKING DECKS AND AREAS THAT EXPERIENCE HEAVY PEDESTRIAN TRAFFIC. THIS COLLISION OF QUALITIES MAKES ATLANTA AN IDEAL LOCATION FOR THE STUDY OF MENTAL HEALTH IN THE BUILT ENVIRONMENT.

THIS SECTION OF MARIETTA STREET HAS BEEN CHOSEN TO STUDY BECAUSE OF ITS LOCATION TO SO MANY DIFFERENT ATTRACTIONS THAT BRING TOURISTS AND RESIDENCE TO THE AREA YEAR ROUND. THIS PART OF DOWNTOWN IS A MAIN ARTERY THAT FEEDS INTO THE BUSY ATLANTA AREA AND THE PREDOMINANT ATTRACTIONS THAT MAKE ATLANTA A TOURIST HOT-SPOT, FROM THE GEORGIA AQUARIUM TO THE CENTENNIAL OLYMPIC PARK, FIVE POINTS TO THE GEORGIA STATE UNIVERSITY CAMPUS THIS STREET DENSE WITH ACTIVITY .



MARIETTA STREET ATLANTA, GEORGIA

KEY FOR CONTEXT MAP

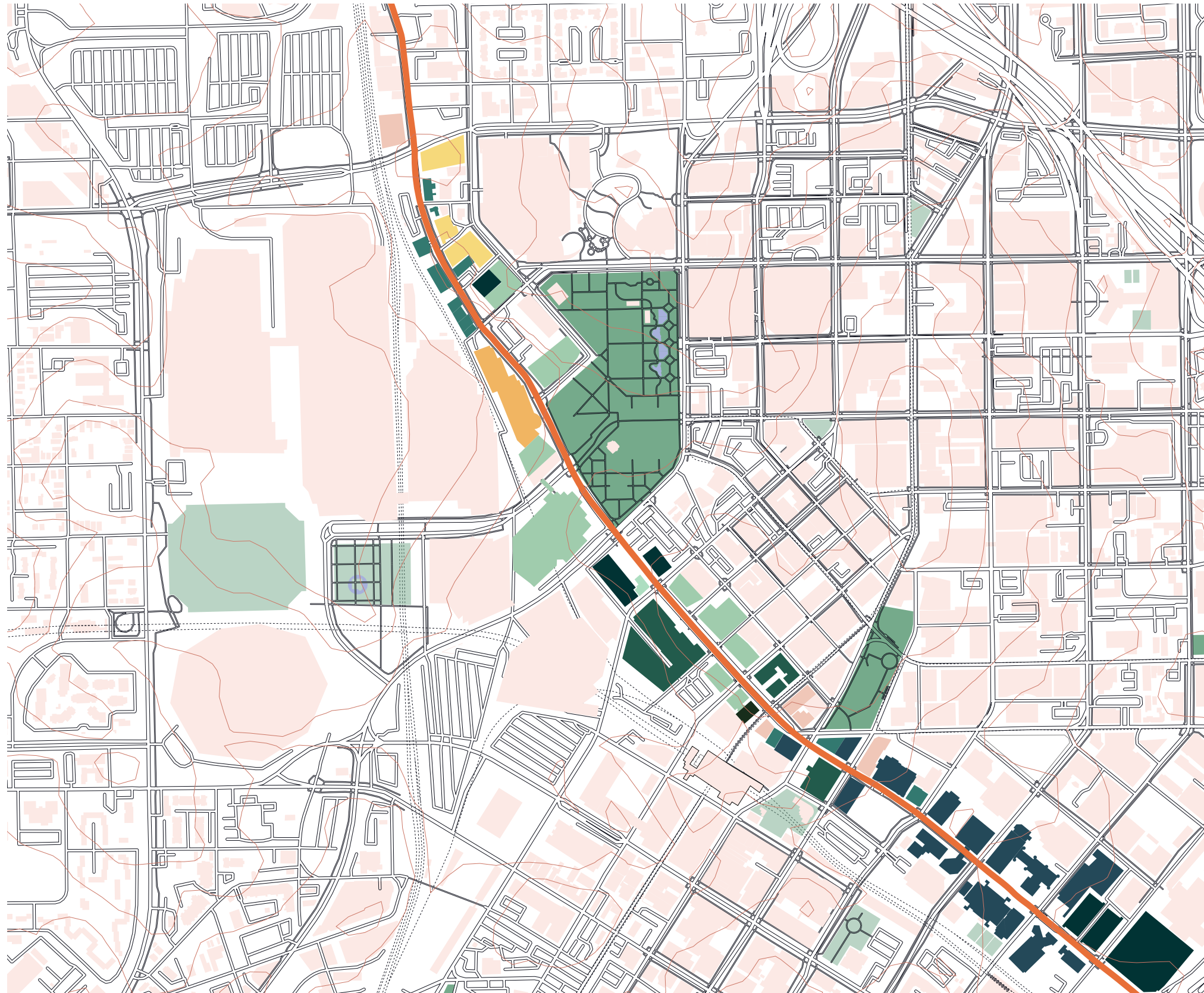
- CONSTRUCTION ZONE
- PUBLIC SPACE | ATTRACTIONS
- MEDICAL FACILITIES
- ABANDONED BUILDINGS
- MIXED USE | COMMERCIAL RESIDENTIAL
- SMALL COMMERCIAL
- LARGE COMMERCIAL
- GOVERNMENT BUILDINGS
- PARKING DECKS
- BUILDING MASSES
- PARKS



CHAPTER 3:

ANALYSIS AND DESIGN FOR MENTAL HEALTH IN THE BUILT ENVIRONMENT

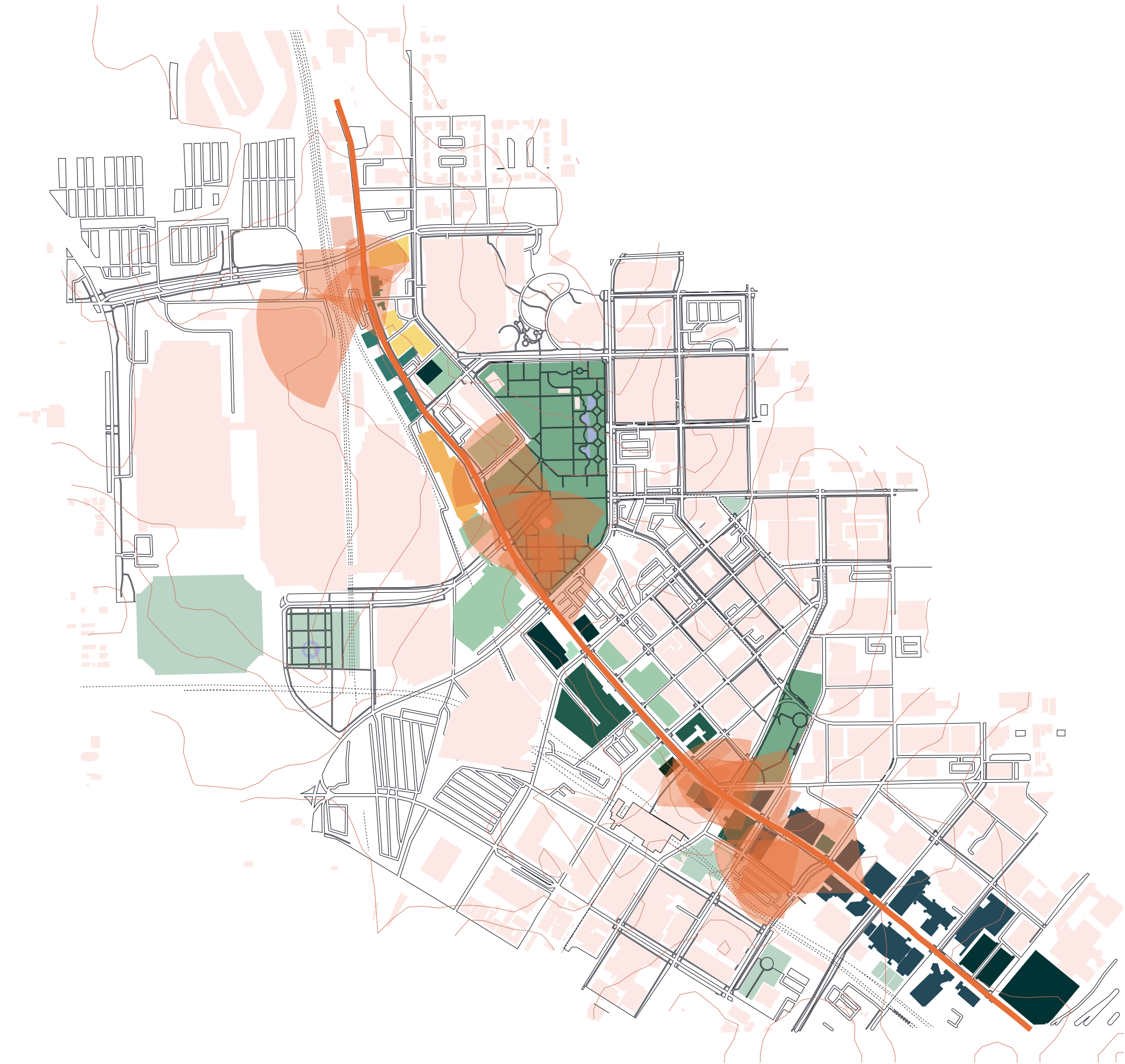
DESIGN APPROACH METHOD



Utilizing Marietta St, as a main artery for the city of Atlanta, there were a series of “stressors” located along the street, making it a hot spot for damaging mental health in the urban environment. As we begin to further analyze Marietta Street it becomes obvious that there are different fragments of the street-scape that invoke different feelings of stress in the built environment. This then leads to the selection of specific sites that begin to reflect spaces where our mental health has the ability to become compromised.

From issues of lack of sensitivity to scale to an absence of variety in degrees of enclosure, to a complete lack of connection to nature there is a need for intervention along Marietta Street.

Different areas call for different forms of intervention as well as completely different setting for design. Four areas began to show the highest level of density for negative effects on mental health.



SITE SELECTION METHOD



SITE ONE:

LOCATION: INTERSECTION OF IVAN ALLEN JR BLVD AND MARIETTA STREET

CONDITION: SITE LACKS PLACE AND IDENTITY, THE SITE BACKS UP THE RAILROAD TRACKS AND OVER LOOKS THE MASSIVE DEHUMANIZING ROOFTOPS OF THE WORLD CONGRESS CENTER, AND WHILE THE SITE IS ABANDONED, THE LACK OF SOCIAL ACTIVITY AND PEDESTRIAN MOVEMENT MANIFESTS A LACK OF LIFE ON THE STREET.

SITE TWO:

LOCATION: BETWEEN MARIETTA ST AND CENTENNIAL OLYMPIC PARK

CONDITION: PATHS MIMIC THE AXIS OF THE SURROUNDING STREETS. WHILE THE INDIVIDUAL EXPERIENCES THE SPACE IS SURROUNDED BY THE CITY HOW CAN YOU STRETCH THE VIEW OUT FURTHER INTO THE CITY AND CHANGE THE PERSPECTIVE OF THE SURROUNDINGS.

SITE THREE:

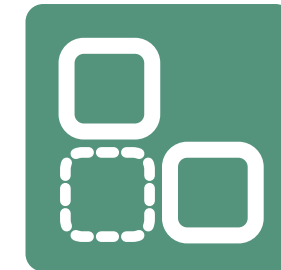
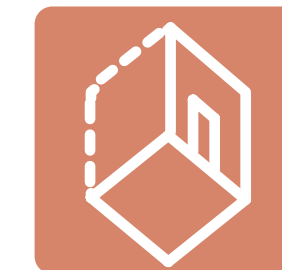
LOCATION: LOCATED AT FIVE POINTS AND WOODRUFF PARK

CONDITION: THIS INTERSECTION IS COMPOSED OF ORGANIZED CHAOS, WHILE THE INTERSECTION IS GEARED TOWARDS VEHICULAR CIRCULATION THERE IS ALSO A UNIQUE FLOW OF PEDESTRIAN CIRCULATION THAT HOW CAN YOU GIVE POWER TO THE PEDESTRIAN AND HOW THEY VIEW THE INTERSECTION.

SITE FOUR:

LOCATION: INTERSECTION OF DECATUR ST AND CENTRAL AVE

CONDITION: ON THE CORNER OF THESE TWO STREETS STANDS A SCULPTURE THAT IS SURROUNDED BUT NAKED LIFELESS SURFACE PARKING AND PARKING DECKS CREATING A SENSE OF "PLACELESS-NESS" FOR THOSE WHO CIRCULATE THROUGH THE SITE. THE AREA IS BARREN IN TERMS OF HAVING AND SORT OF CONNECTION TO NATURE, THERE IS A LACK OR GREENERY AND LIFE.

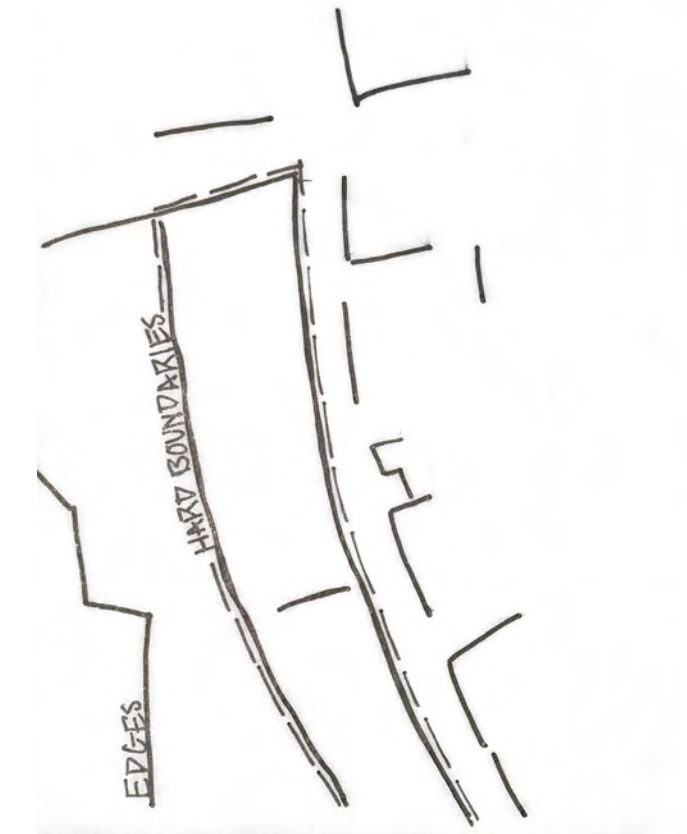


DESIGN APPROACH METHOD



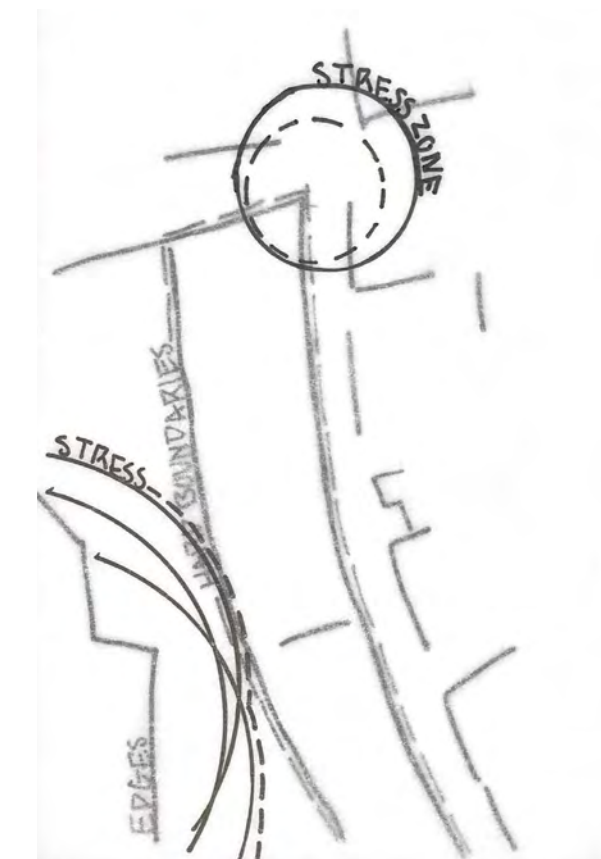
SITE ONE:

INTERSECTION OF IVAN ALLEN JR BLVD AND MARIETTA STREET
CONDITION IS FOUR LANES WIDE WITH A SHARED BIKE PATH
ON OUTER LANES. SITE LACKS PLACE AND IDENTITY, WHILE
THE SITE IS ABANDONED THE LACK OF OTHER PEOPLE OR LESS
PEOPLE MAKES YOU FEEL MORE SAFE.



WHAT CAN BE GATHERED FOR THE SITE?

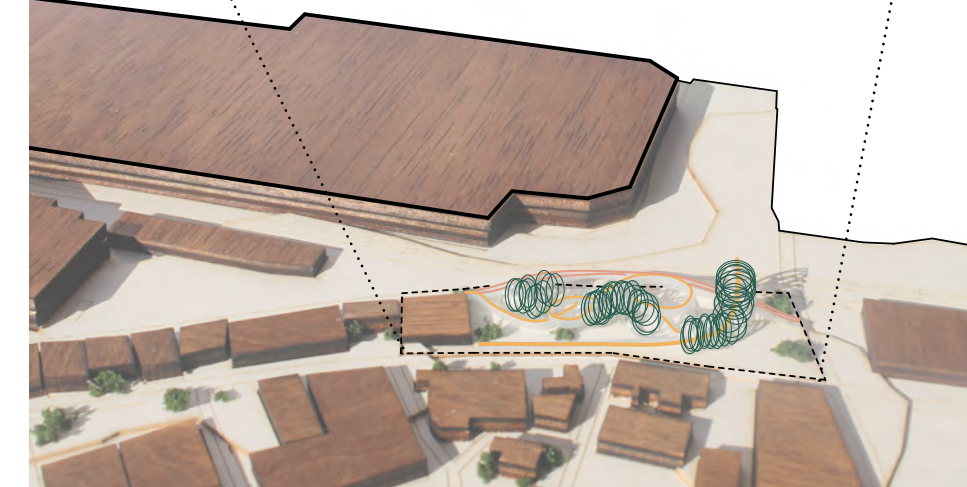
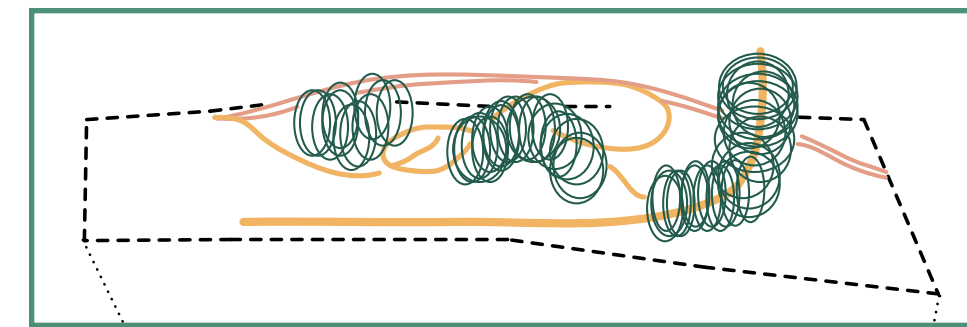
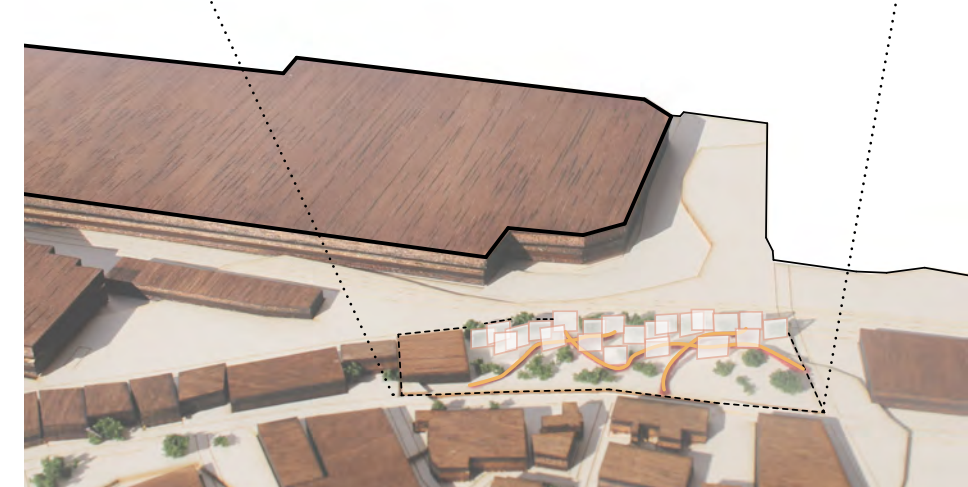
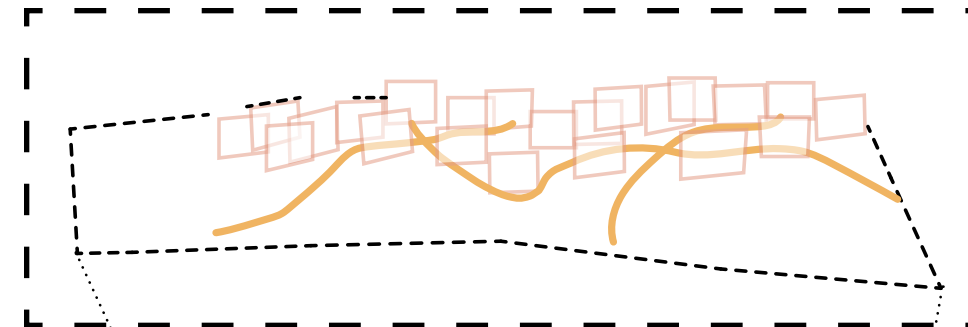
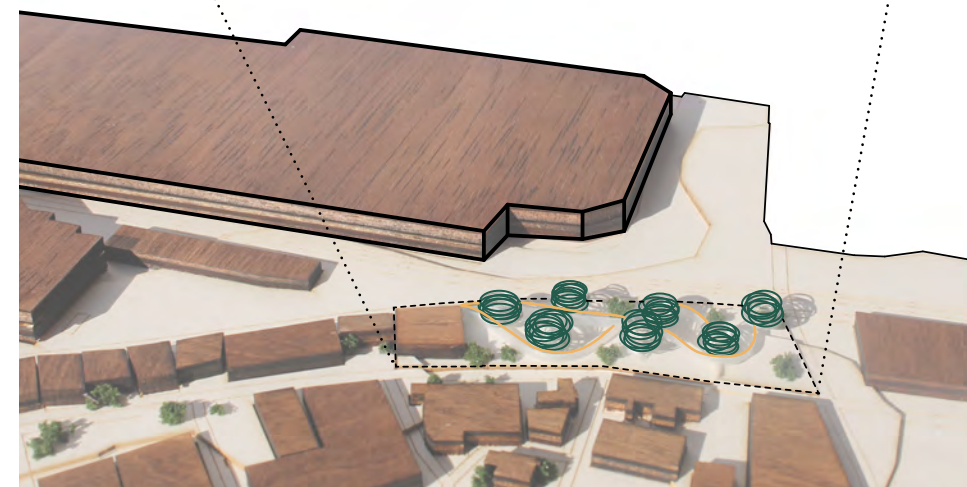
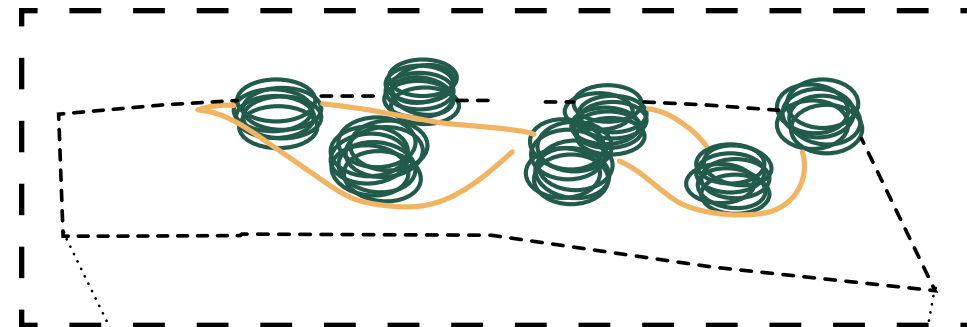
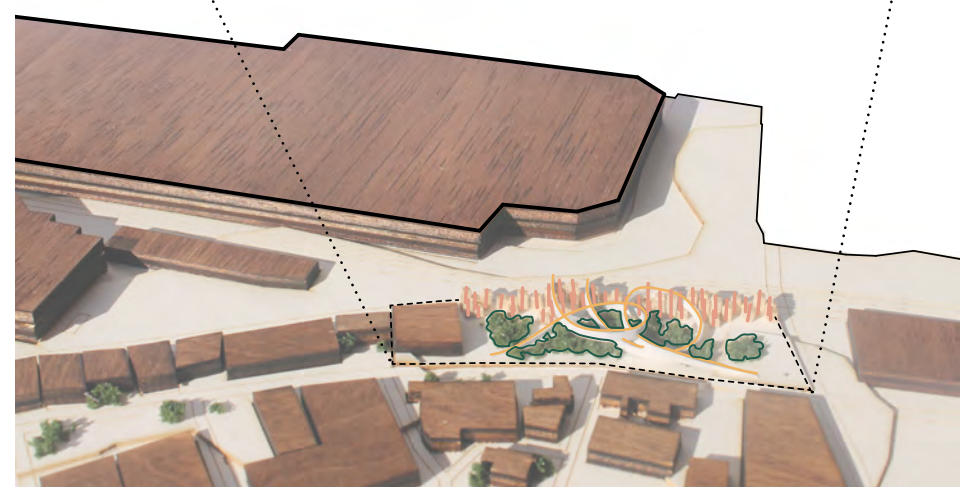
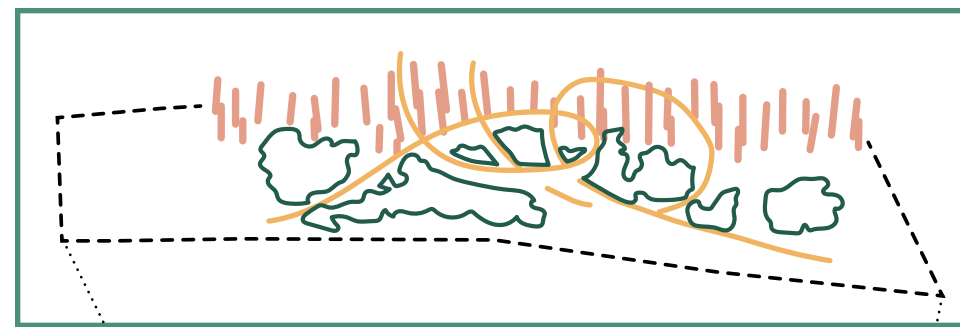
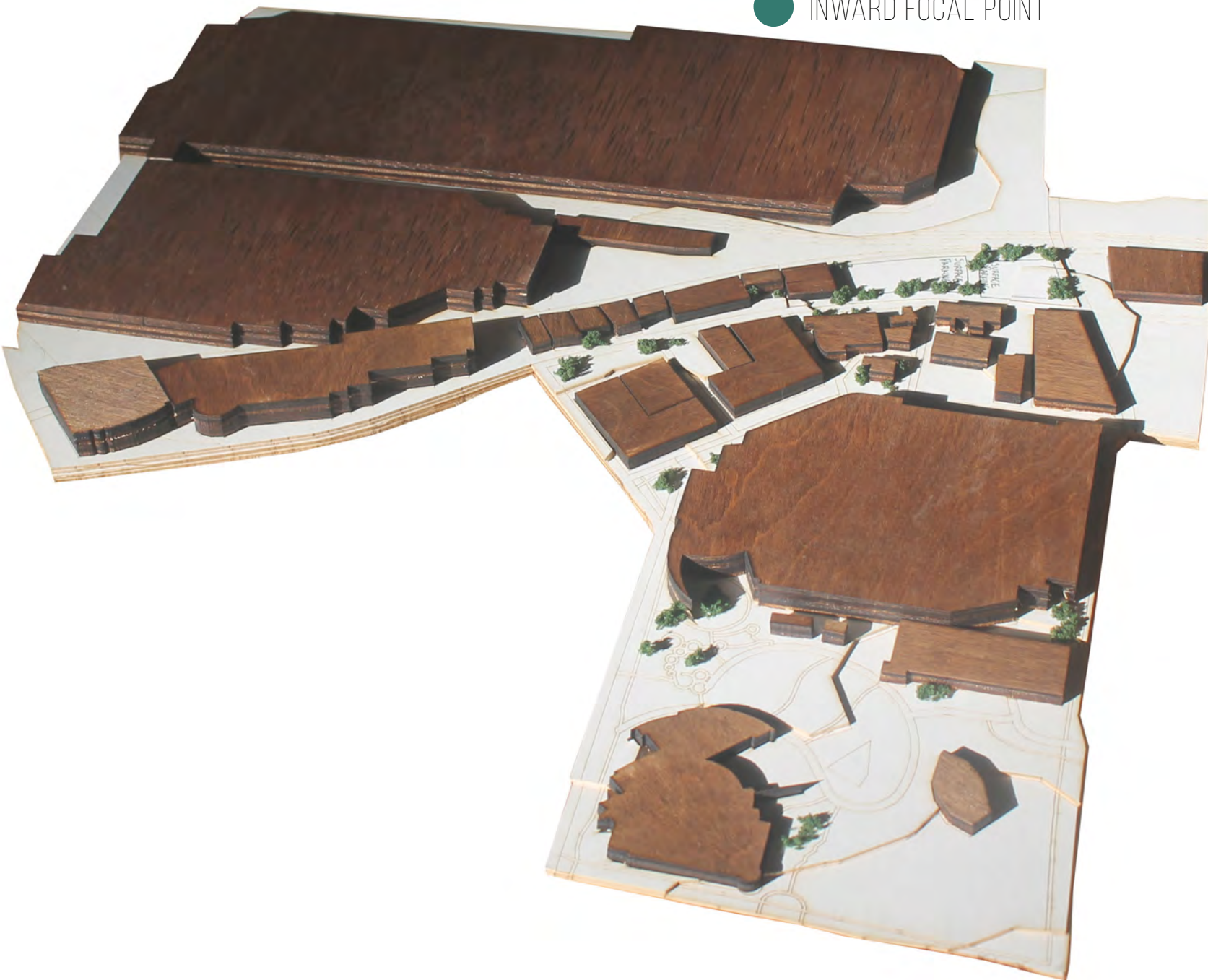
WITH THE LACK OF PEDESTRIAN MOVEMENT ON THE SITE I WANT TO CREATE A COMFORTABLE PLACE TO GATHER AND UTILIZE THE HEAVY STRUCTURE OF THE BUILDINGS ACROSS THE TRACKS AS AN OPPORTUNITY TO EXTEND GREEN SPACE ACROSS THE GRAY ROOF SCAPE. BY IMPLEMENTING A DESIGN TACTIC TO CREATE MORE OF A CONNECTION TO NATURE. THE SITE WILL ALSO HAVE A NEW BUS STOP AND A PAVILION WITH A POSSIBLE LIBRARY AND A PLAYGROUND.



MODEL DESIGN ANALYSIS

KEY

-  CIRCULATION PATH
-  DISTORTING PERCEPTION
-  INWARD FOCAL POINT



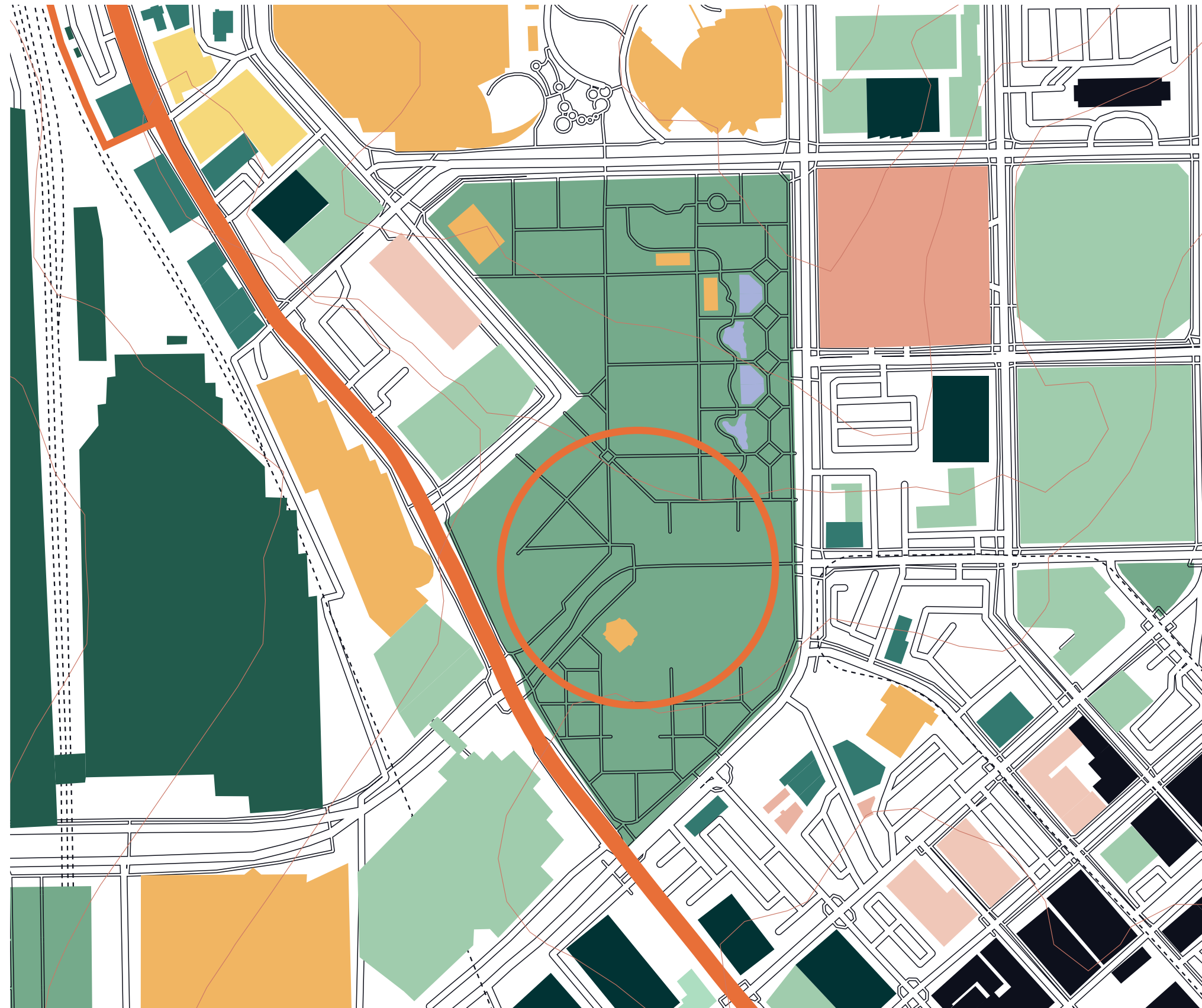


FINAL DESIGN AXON



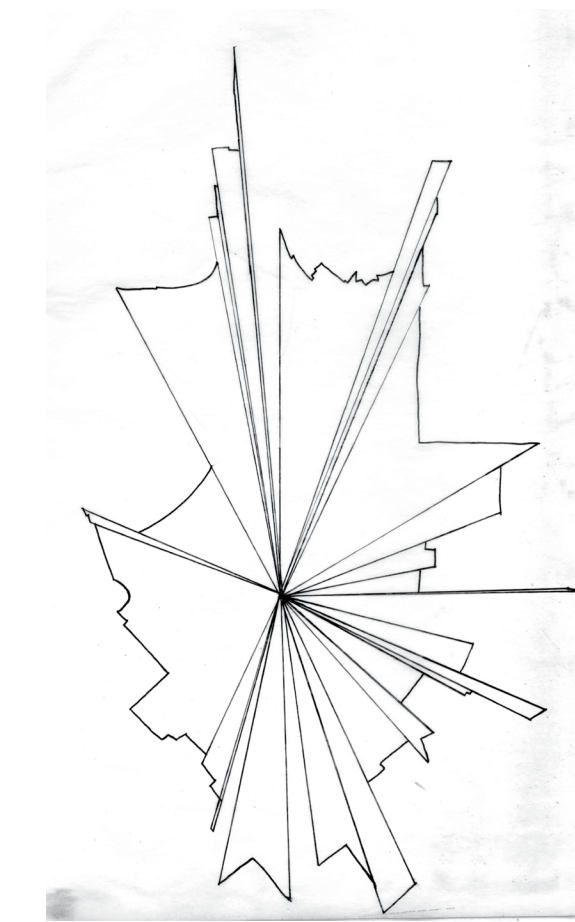
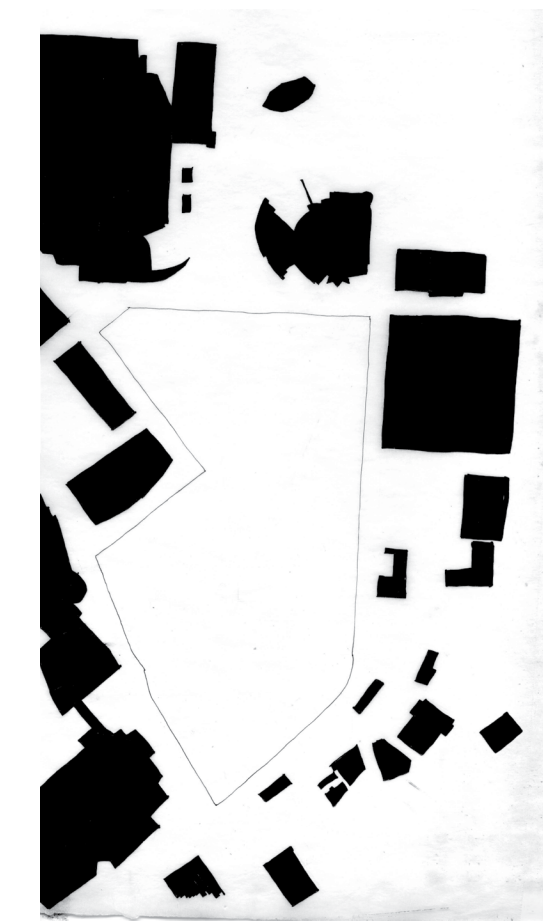
FINAL DESIGN PERSPECTIVE

DESIGN APPROACH METHOD

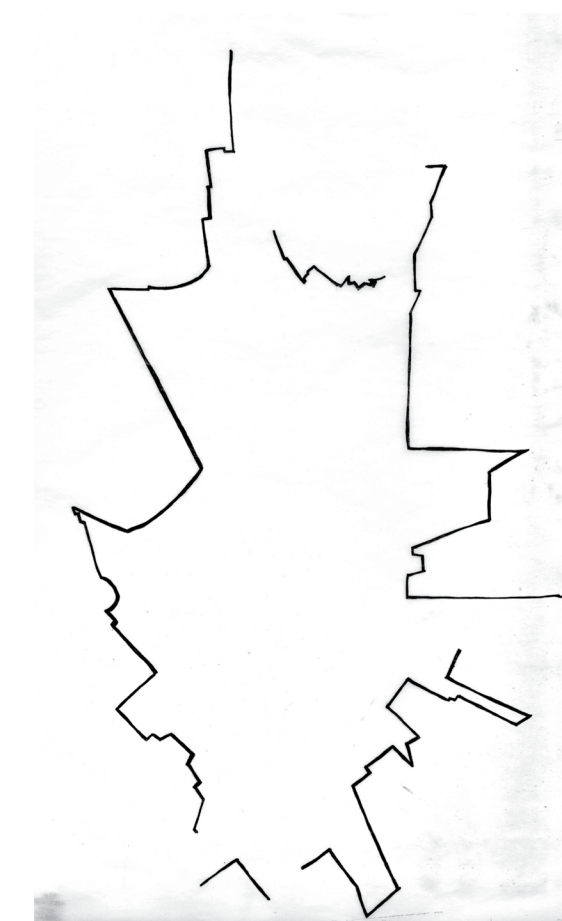


SITE TWO:

BETWEEN MARIETTA STREET AND CENTENNIAL OLYMPIC PARK DR PATHS MIMIC THE AXIS OF THE SURROUNDING STREETS CREATING A COHESIVE PLAN, WHILE THE PLAN IS FUNCTIONAL IT RESTRICTS NATURE OF THE SPACE, THE HARSH PATHS RESTRICT CREATIVITY AND MAKE YOU FEEL EXPOSED AND WATCHED.



WHAT CAN BE GATHERED FOR THE SITE?

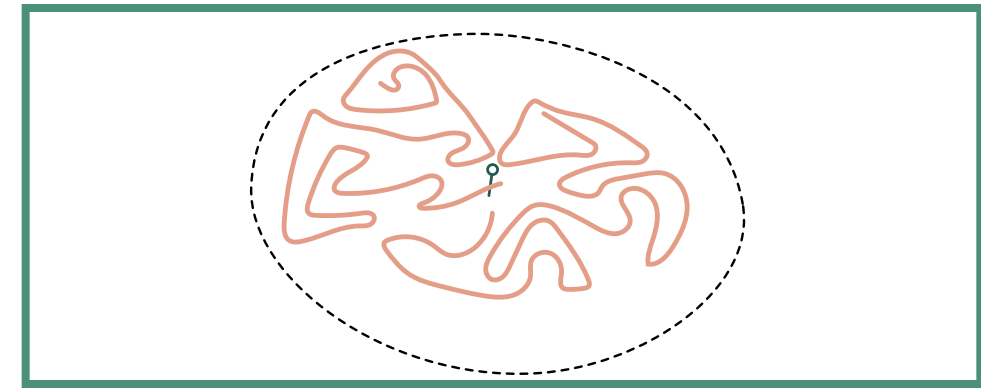
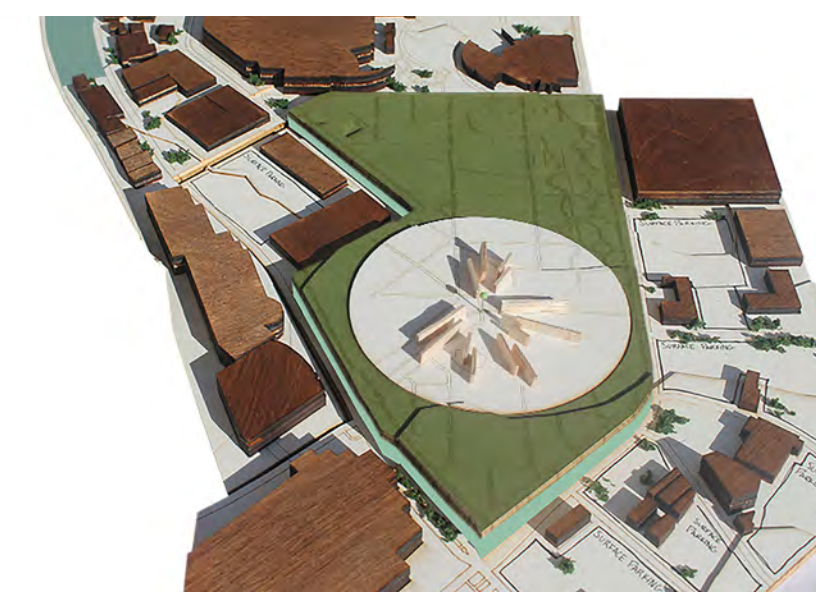
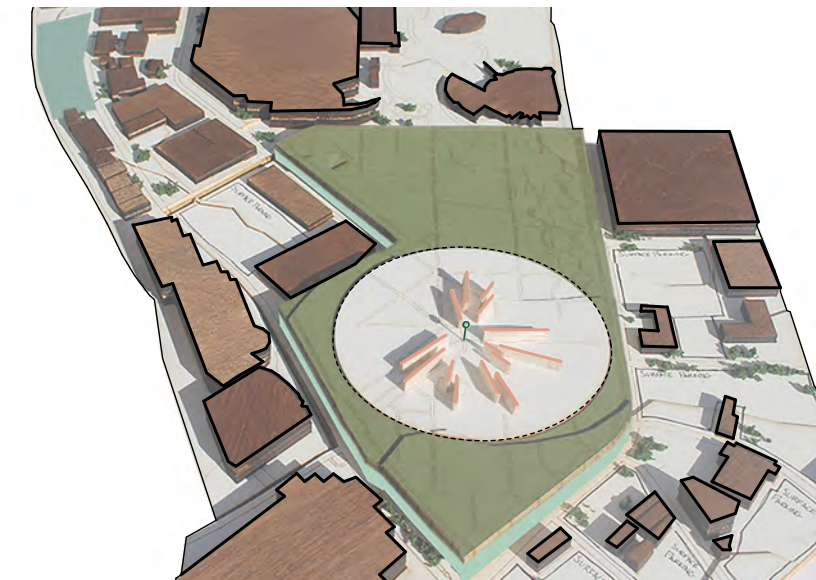
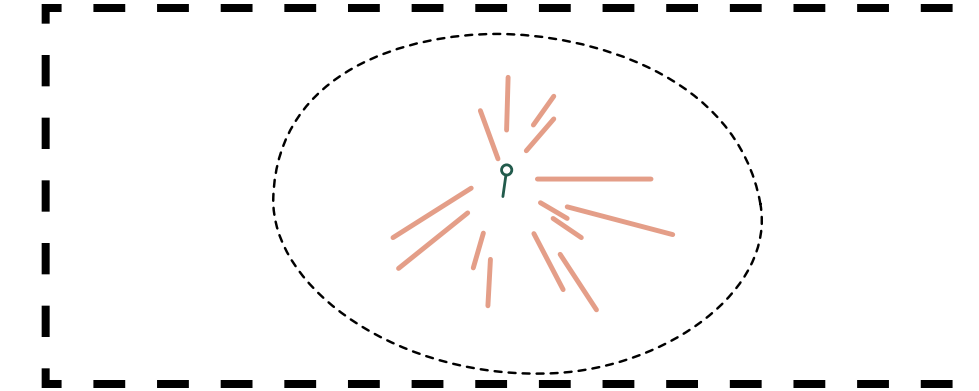
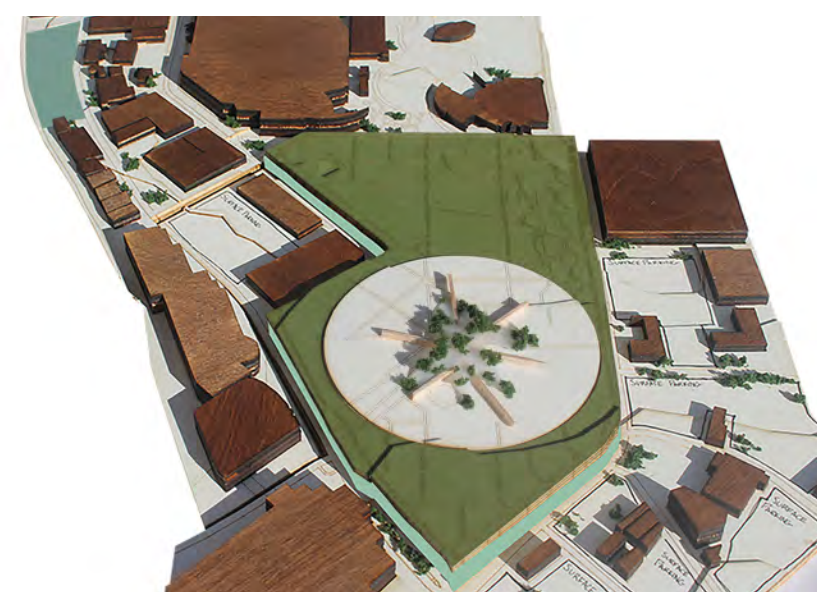
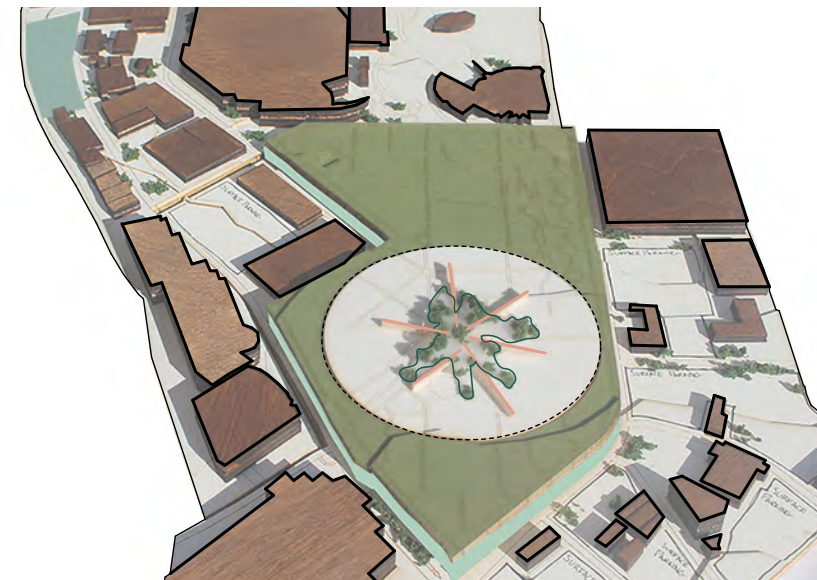
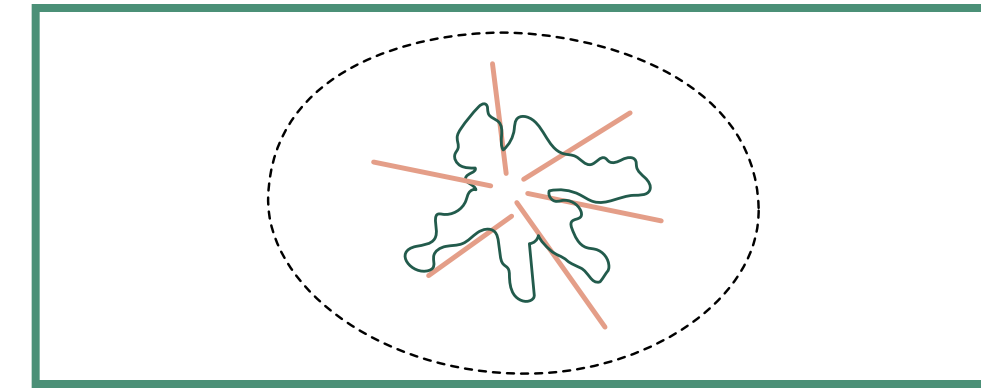
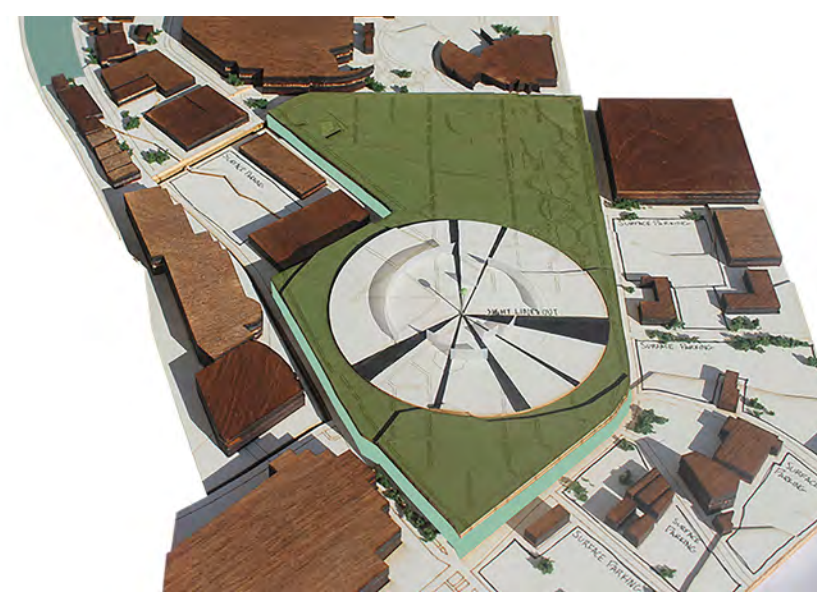
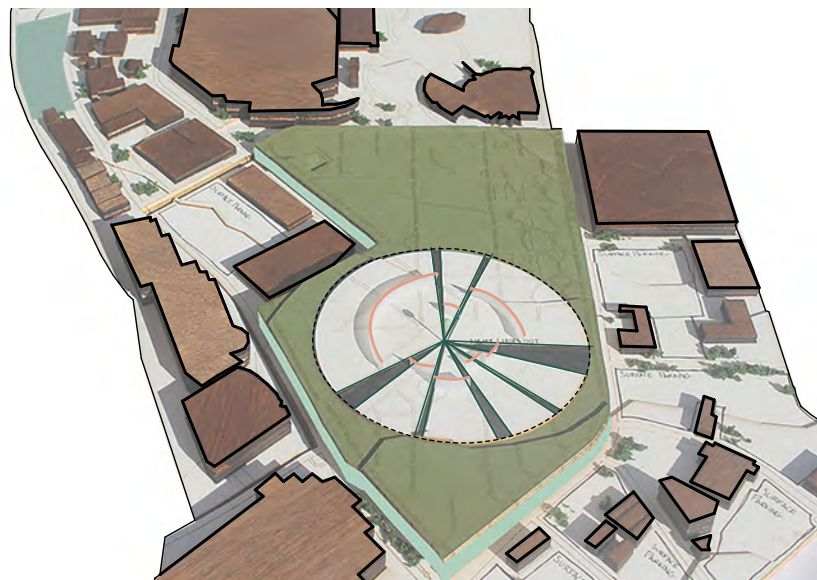
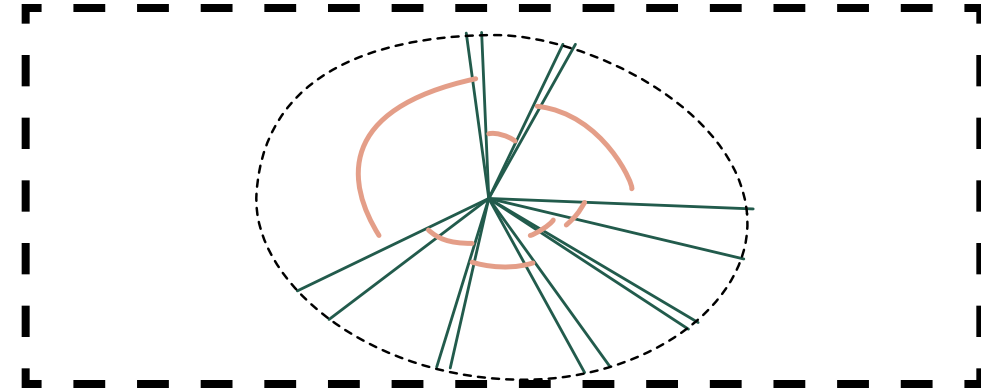


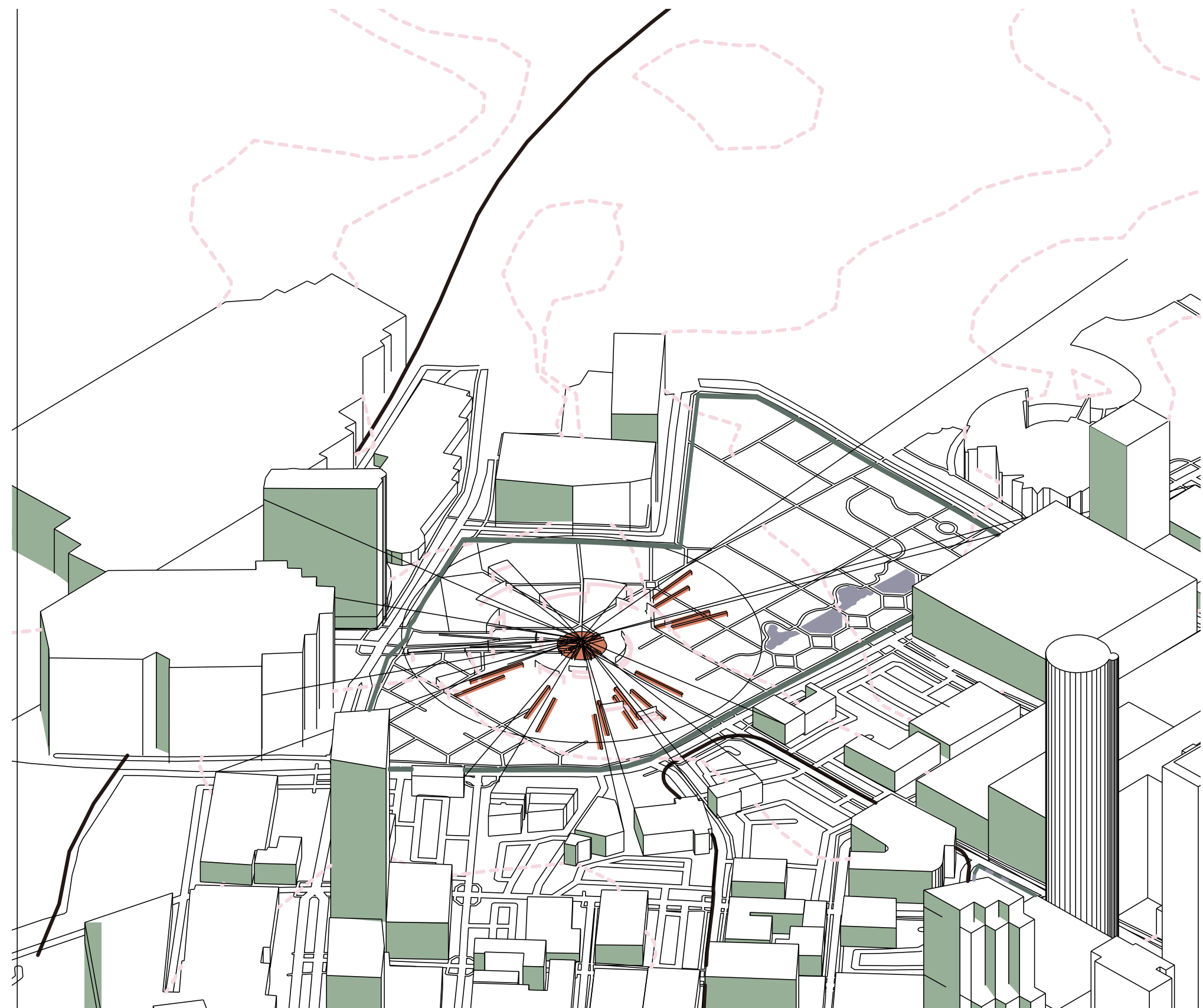
THE DESIGN APPROACH FOR THE PARK WILL BE REDEFINING THE WAY-FINDING IN THE PARK, REDUCING THE UNDER UTILIZED OPEN SPACE AND CREATING A MORE PLAYFUL LANDSCAPE THAT INSPIRES EXPLORATION THROUGHOUT THE ENTIRE SITE, WHILE KEEPING THE EXISTING FEATURES USING THE DESIGN GUIDELINES TO CREATED A GREATER CONNECTION TO NATURE AND REDUCE STRESS FOR THOSE WHO OCCUPY IT, POSSIBLE ADDITIONS OF PAVILIONS GEARED TOWARDS EASING THE STRESS OF COMMON MENTAL DISORDERS EXPERIENCED BY SO MUCH OF THE POPULATION.

MODEL DESIGN ANALYSIS

KEY

- CIRCULATION PATH
- DISTORTING PERCEPTION
- INWARD FOCAL POINT





FINAL DESIGN AXON



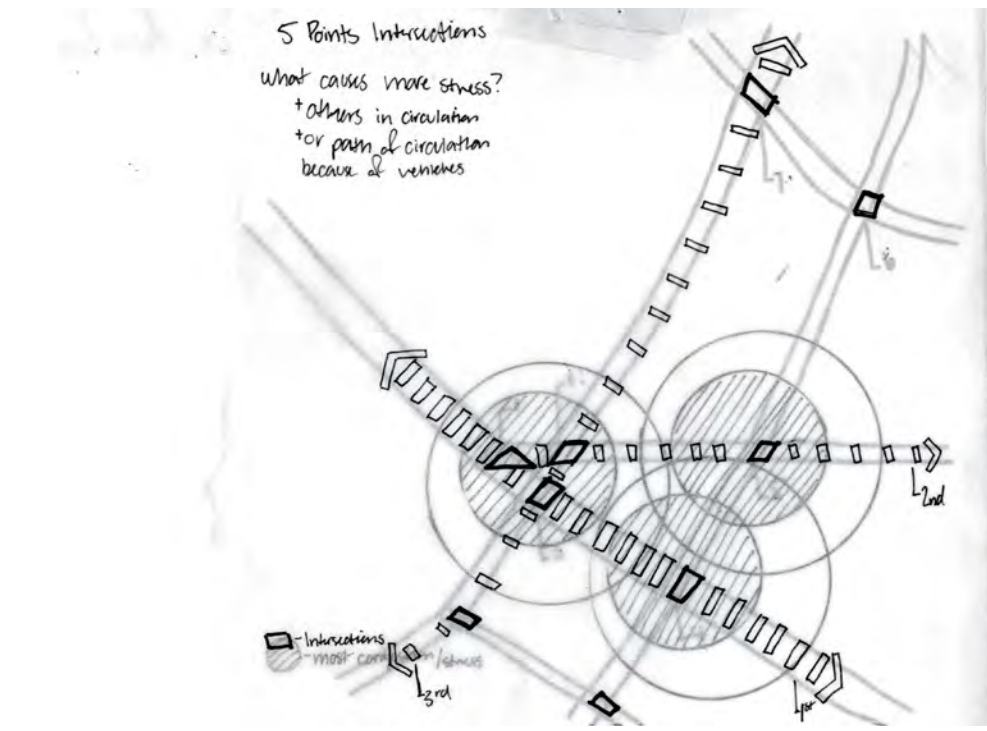
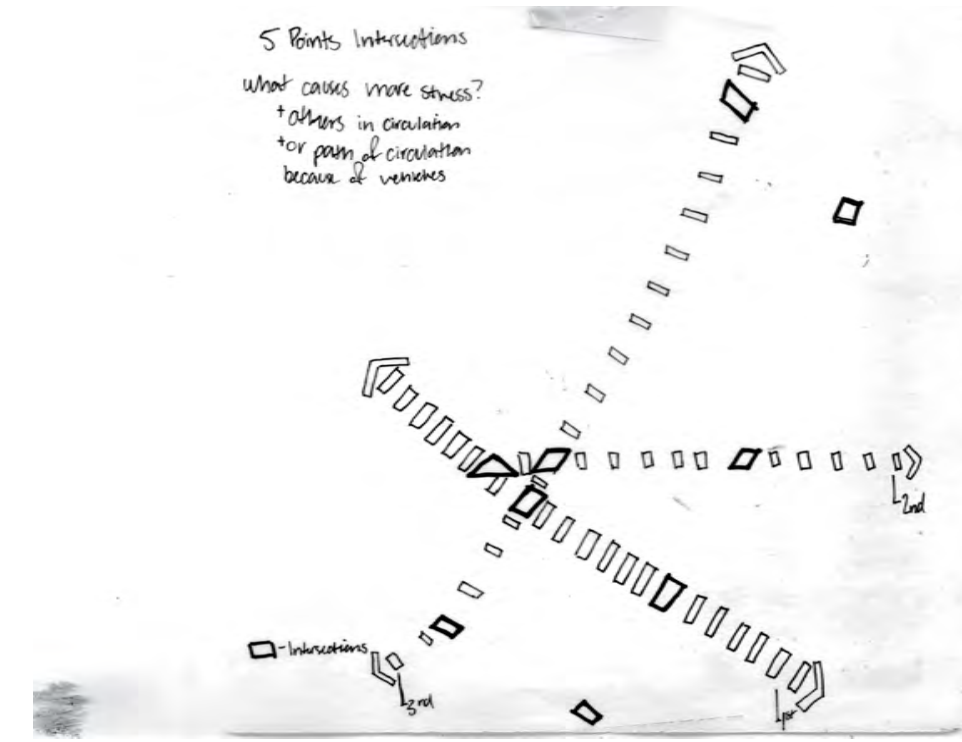
FINAL DESIGN PERSPECTIVE

DESIGN APPROACH METHOD



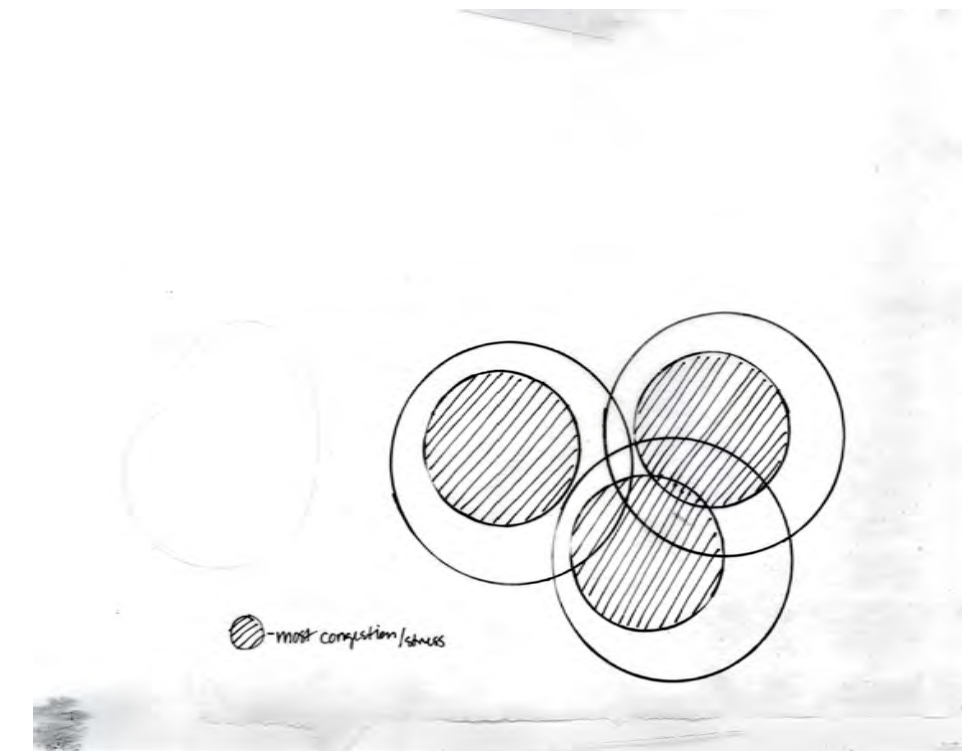
SITE THREE:

LOCATED AT FIVE POINTS AND WOODRUFF PARK
THIS INTERSECTION IS COMPOSED OF ORGANIZED CHAOS
WHILE THE INTERSECTION IS GEARED TOWARDS VEHICULAR
CIRCULATION HOW CAN YOU GIVE POWER TO THE PEDESTRIAN
AND HOW THEY VIEW THE INTERSECTION.



WHAT CAN BE GATHERED FOR THE SITE?

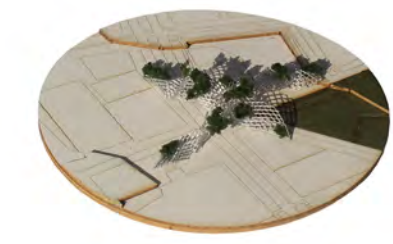
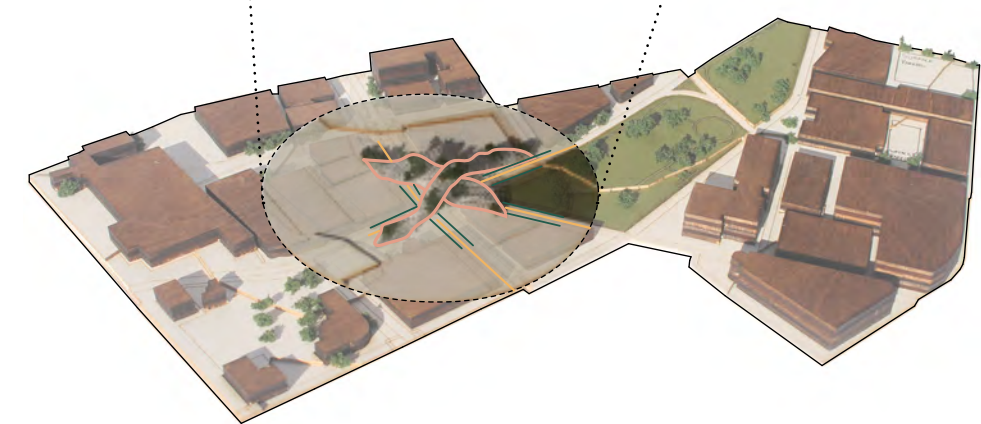
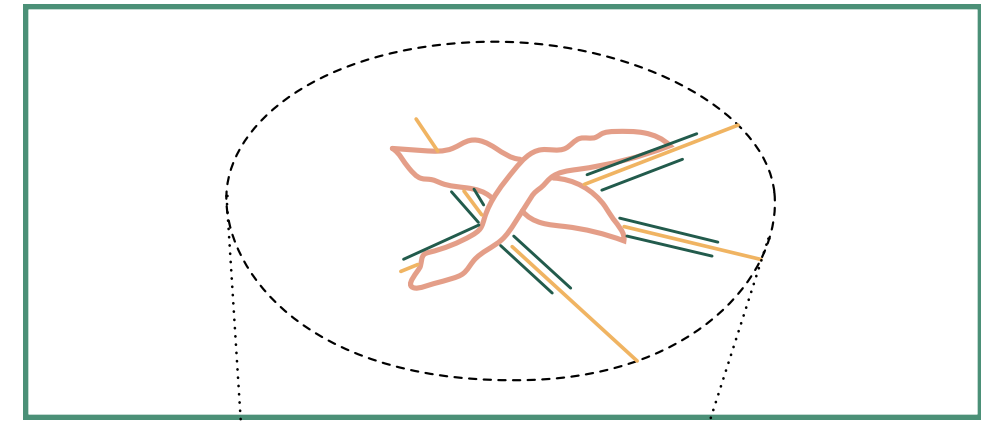
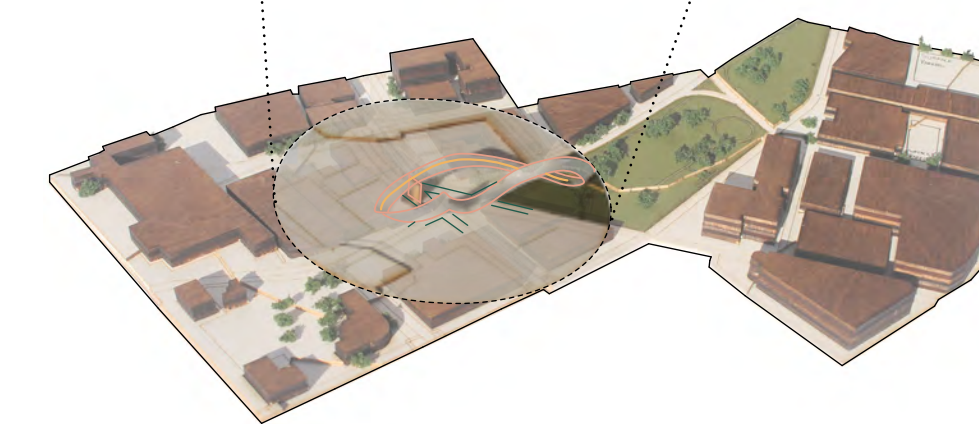
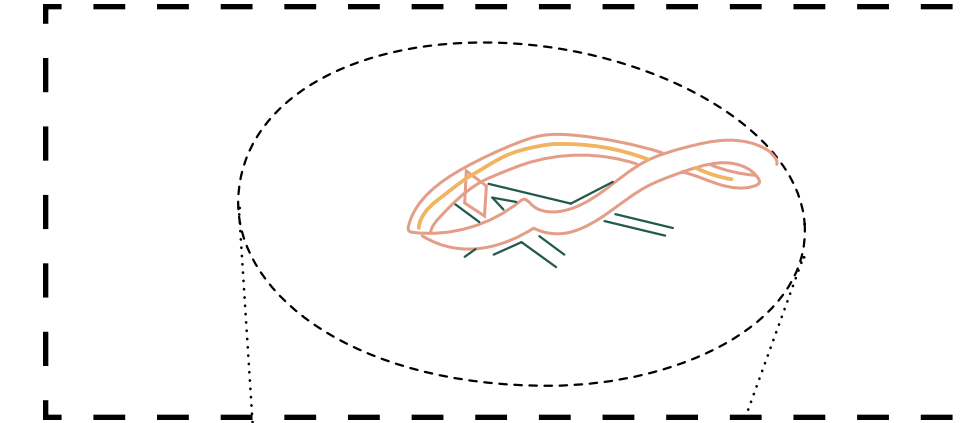
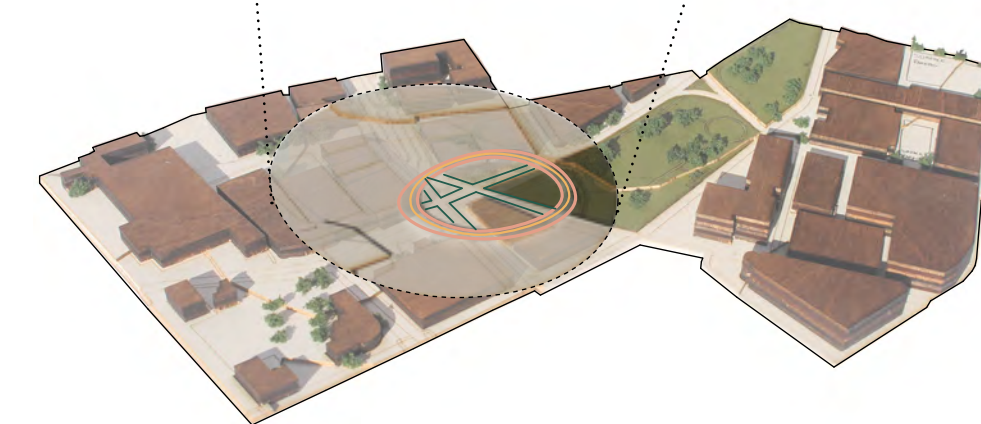
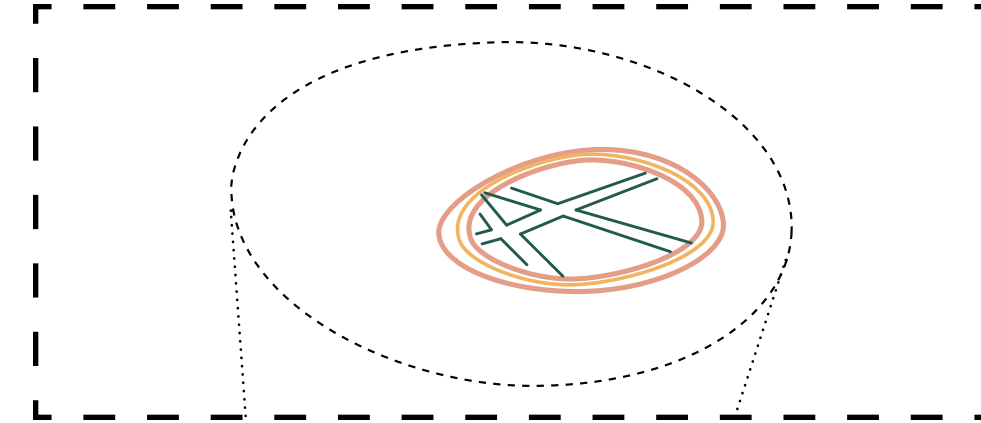
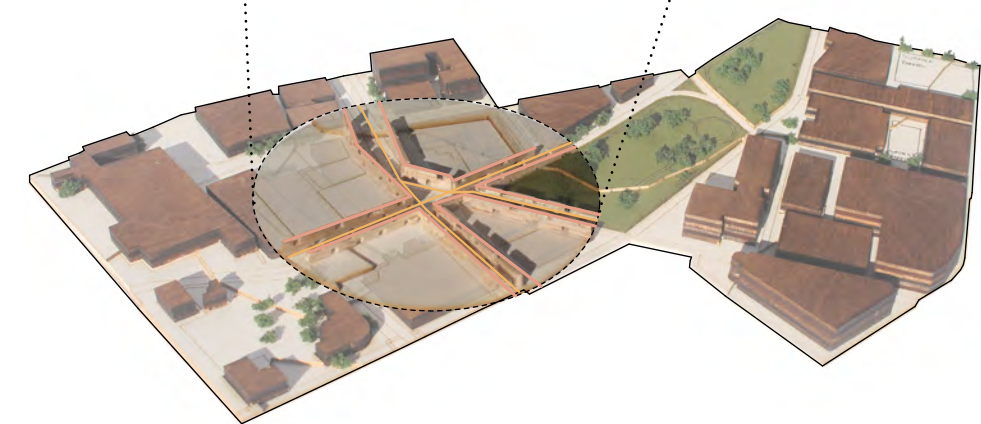
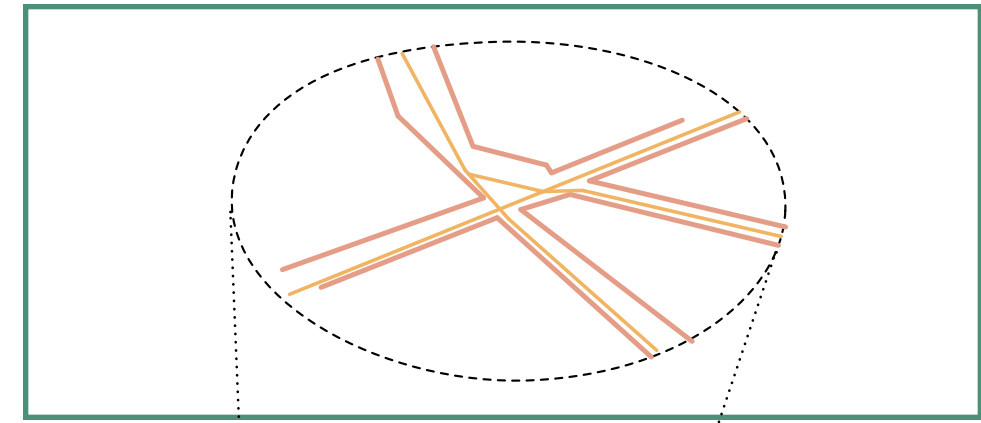
THE INTERSECTION FOR LITTLE FIVE AND WOODRUFF PARK WILL BE APPROACHED IN THE EYES OF A SPACE TO MAKE SOMEONE WHO IS UNFAMILIAR FEEL LESS STRESSED ABOUT ENTERING THE SPACE AND CIRCULATING AN UNFAMILIAR AREA. THIS WILL CONSIST OF SPACES TO STAND AND RE-ORIENT OUT OF THE WAY OF THOSE RUSHED TO GET FROM ONE POINT TO ANOTHER.



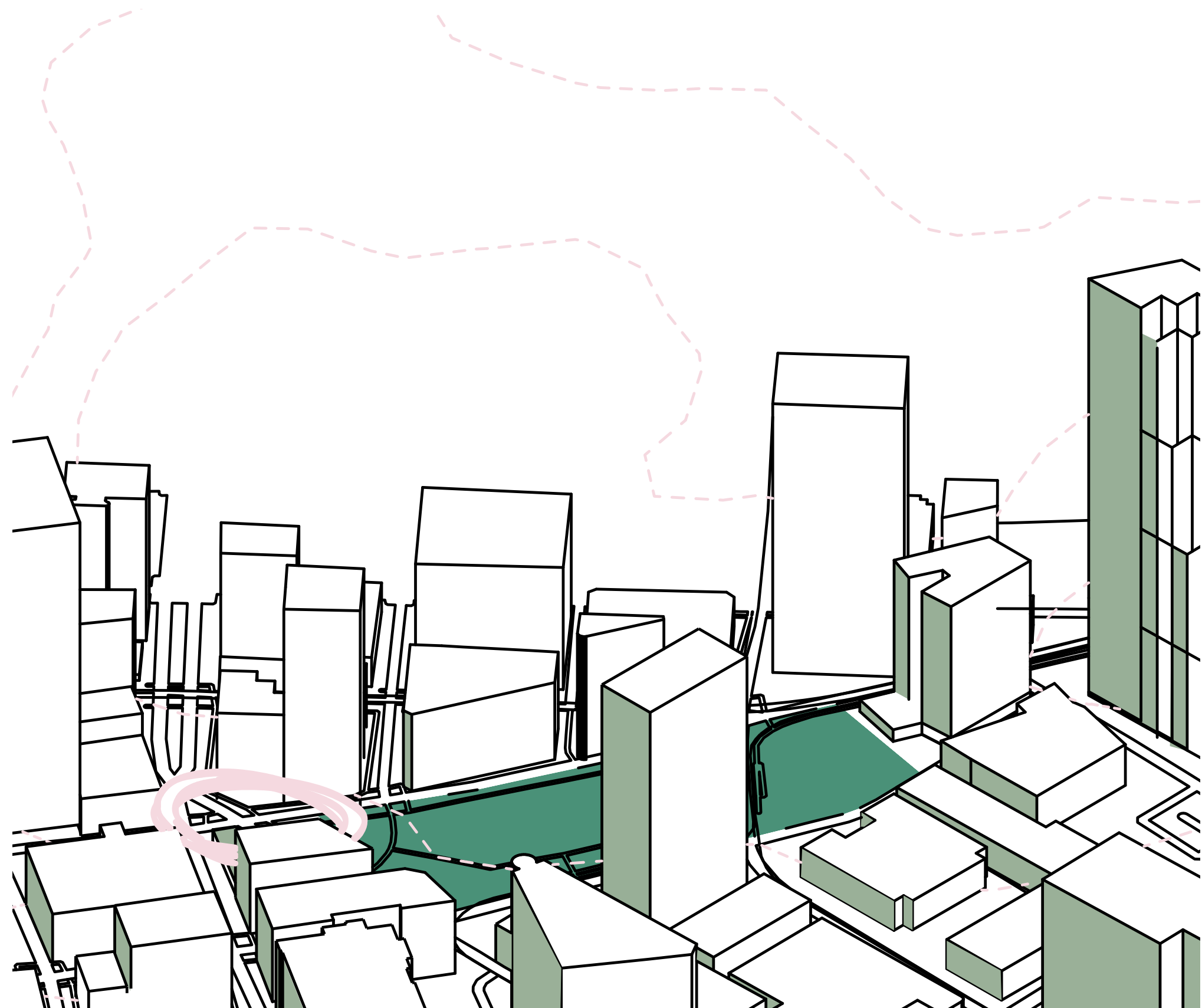
MODEL DESIGN ANALYSIS

KEY

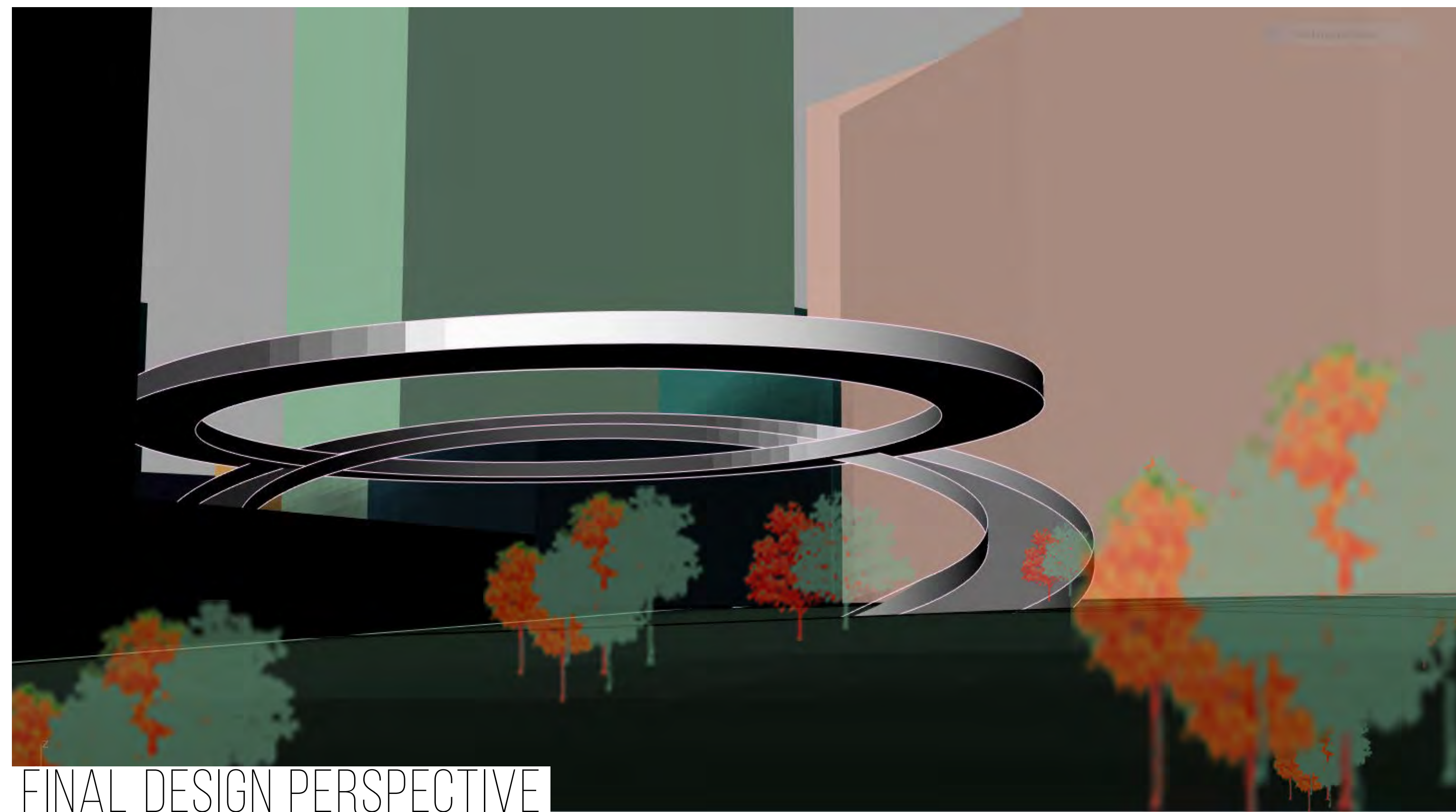
- CIRCULATION PATH
- DISTORTING PERCEPTION
- INWARD FOCAL POINT



FINAL DESIGN



FINAL DESIGN AXON



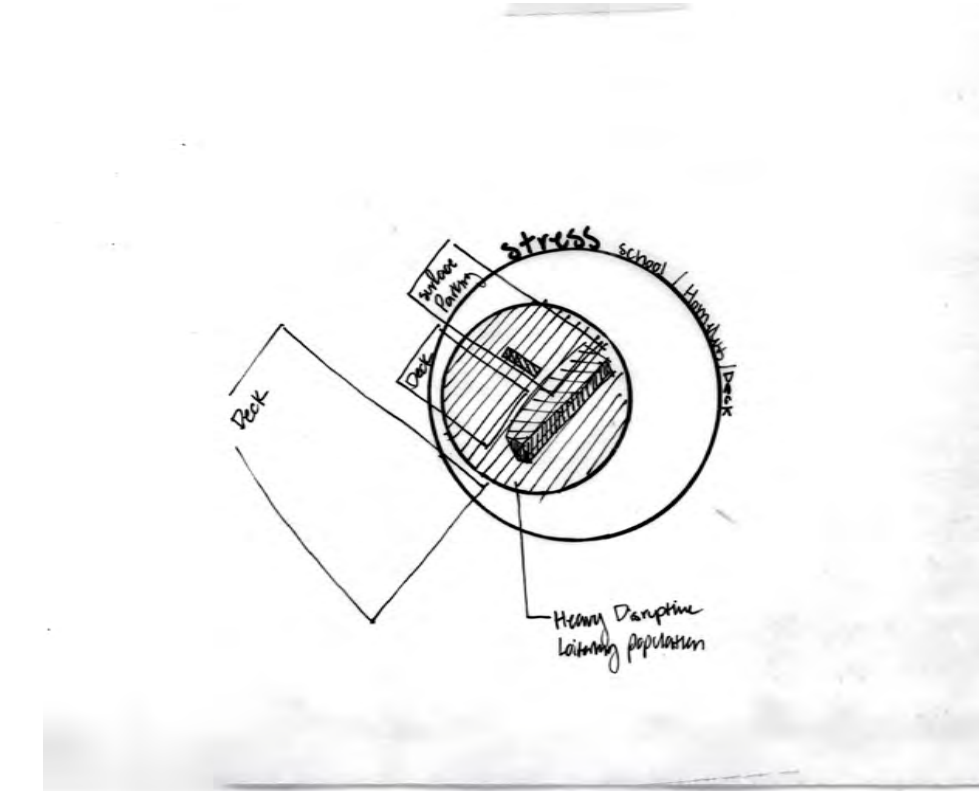
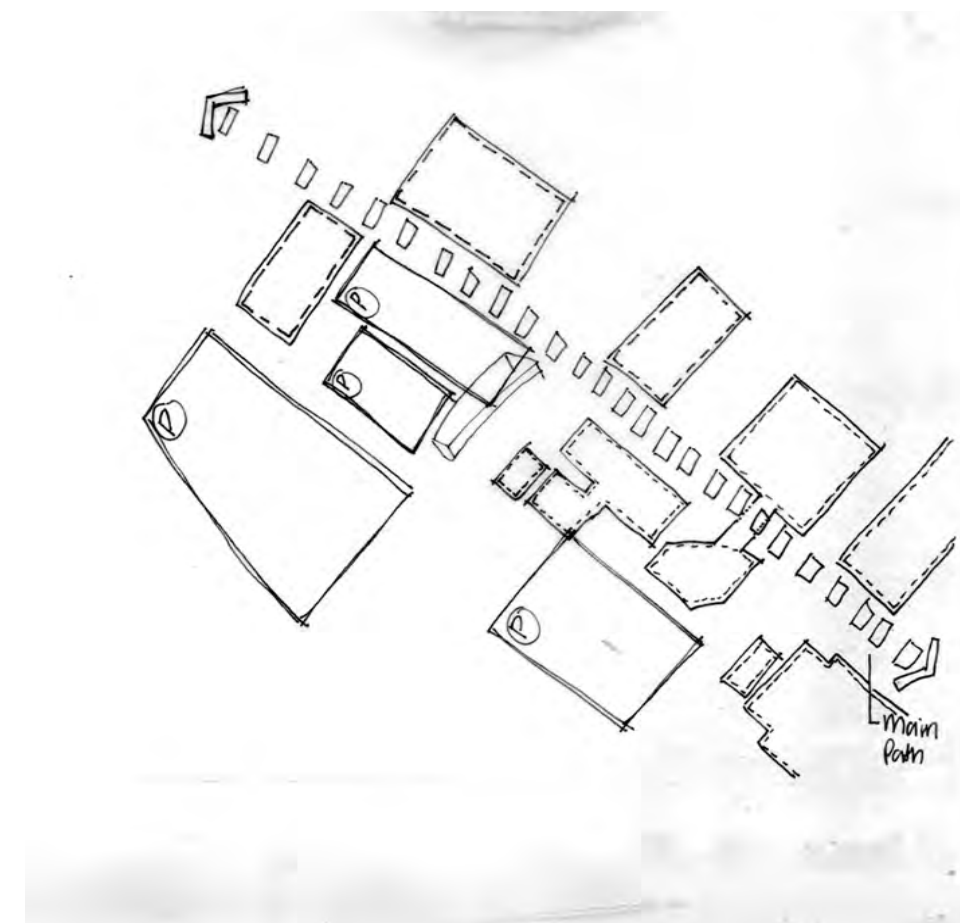
FINAL DESIGN PERSPECTIVE

DESIGN APPROACH METHOD



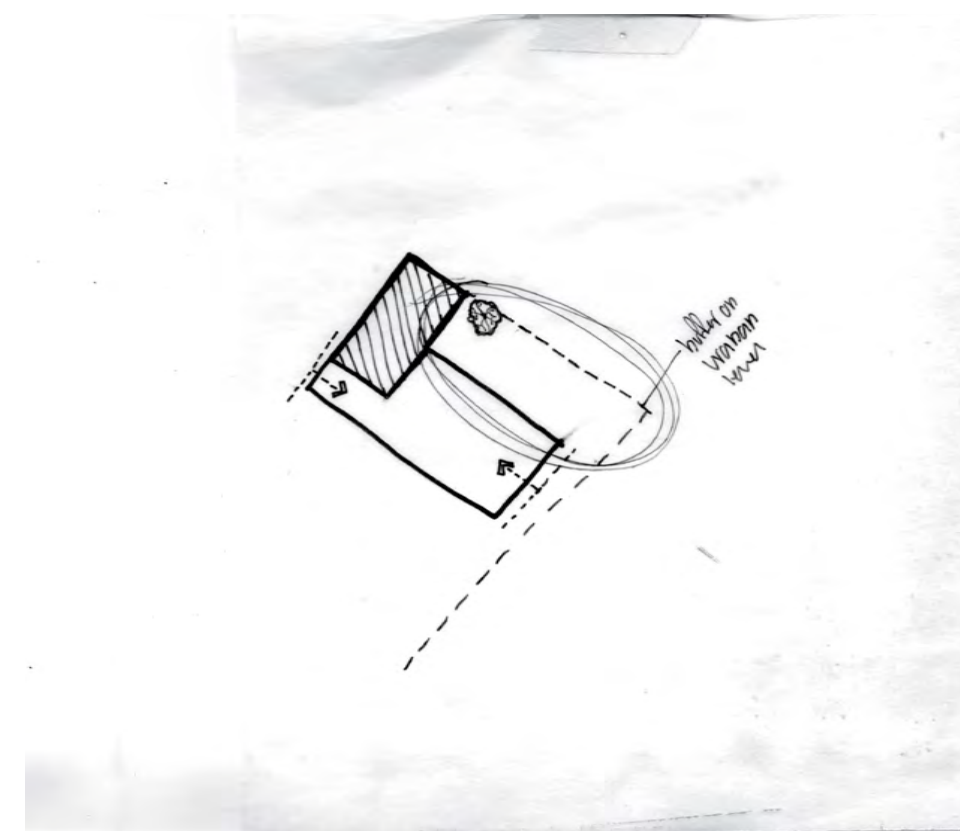
SITE FOUR:

INTERSECTION OF
DECATUR ST AND CENTRAL AVE
ON THE CORNER OF THESE TWO STREETS STANDS A NAKED
SCULPTURE THAT STUDENTS AVOID. THE SITE CONSISTS OF
SURFACE PARKING AND PARKING DECKS CREATING A SENSE OF
‘PLACELESS-NESS’ FOR THE STUDENTS ON CAMPUS.






WHAT CAN BE GATHERED FOR THE SITE?

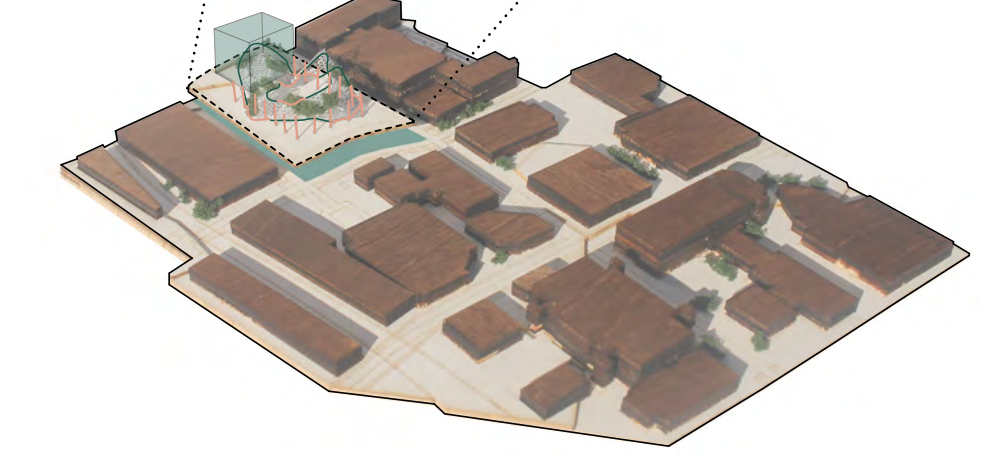
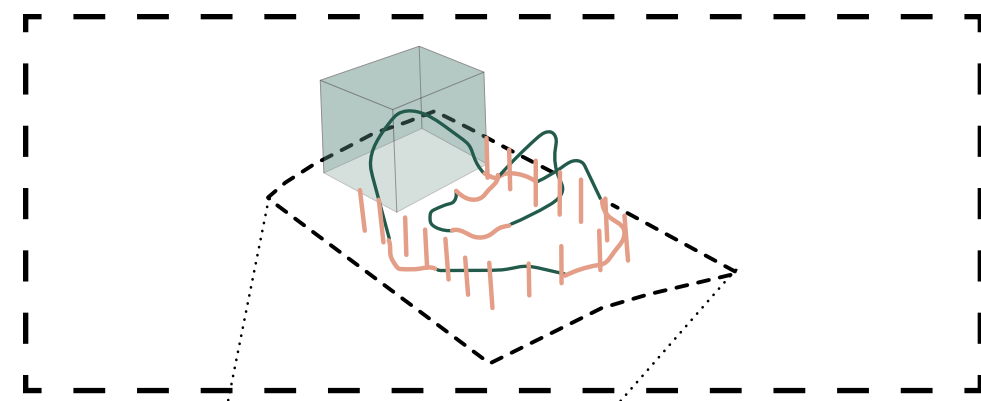
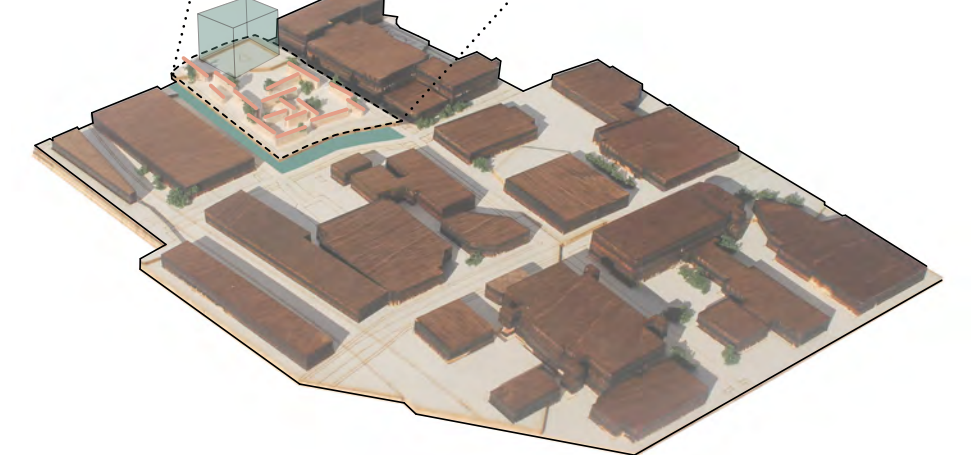
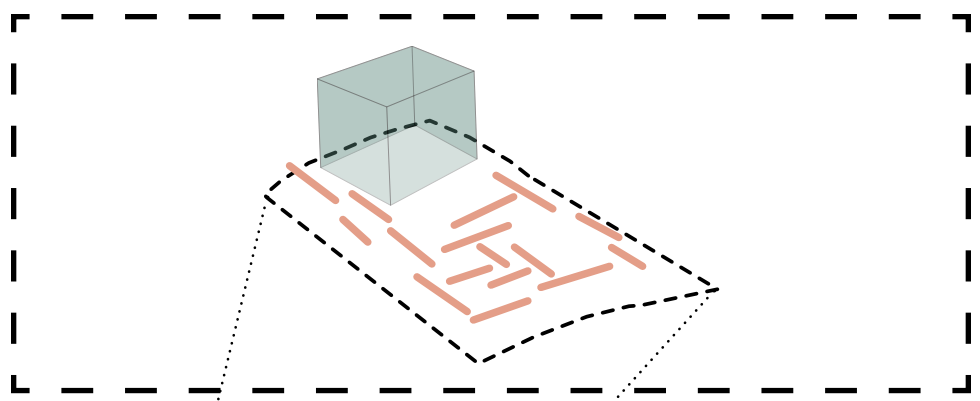
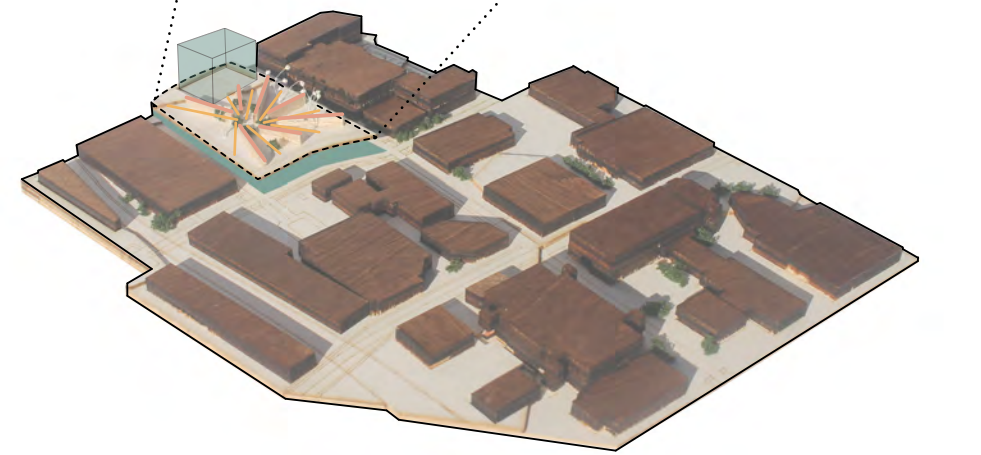
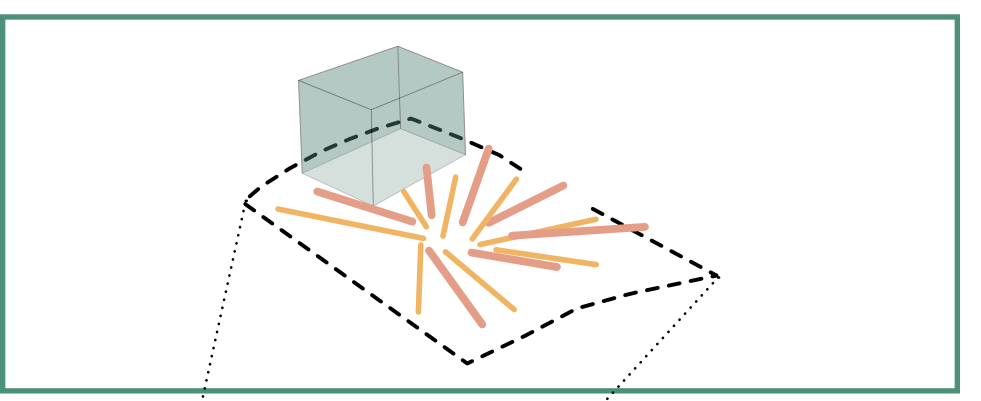
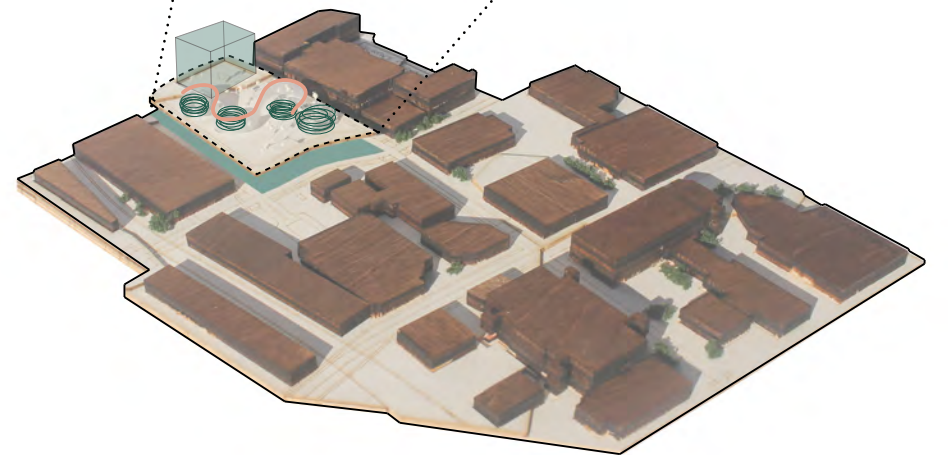
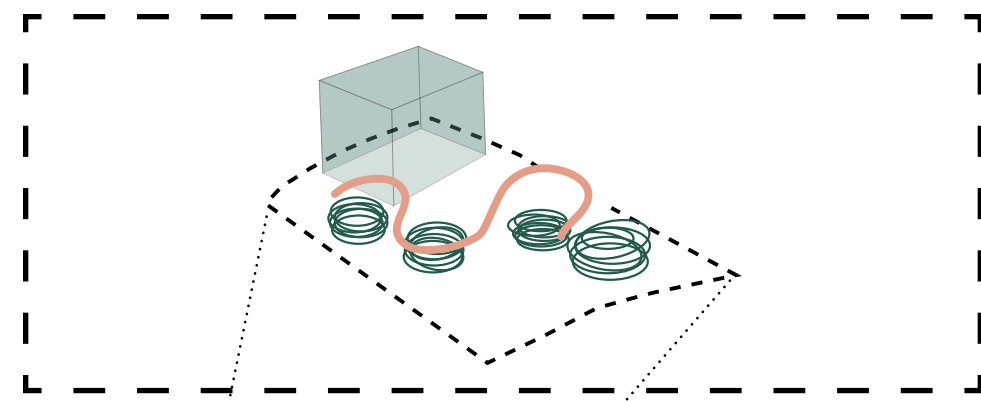
THE INTERSECTION FOR LITTLE FIVE AND WOODRUFF PARK WILL BE APPROACHED IN THE EYES
OF A SPACE TO MAKE SOMEONE WHO IS UNFAMILIAR FEEL LESS STRESSED ABOUT ENTERING THE
SPACE AND CIRCULATING AN UNFAMILIAR AREA. THIS WILL CONSIST OF SPACES TO STAND AND
RE-ORIENT OUT OF THE WAY OF THOSE RUSHED TO GET FROM ONE POINT TO ANOTHER.

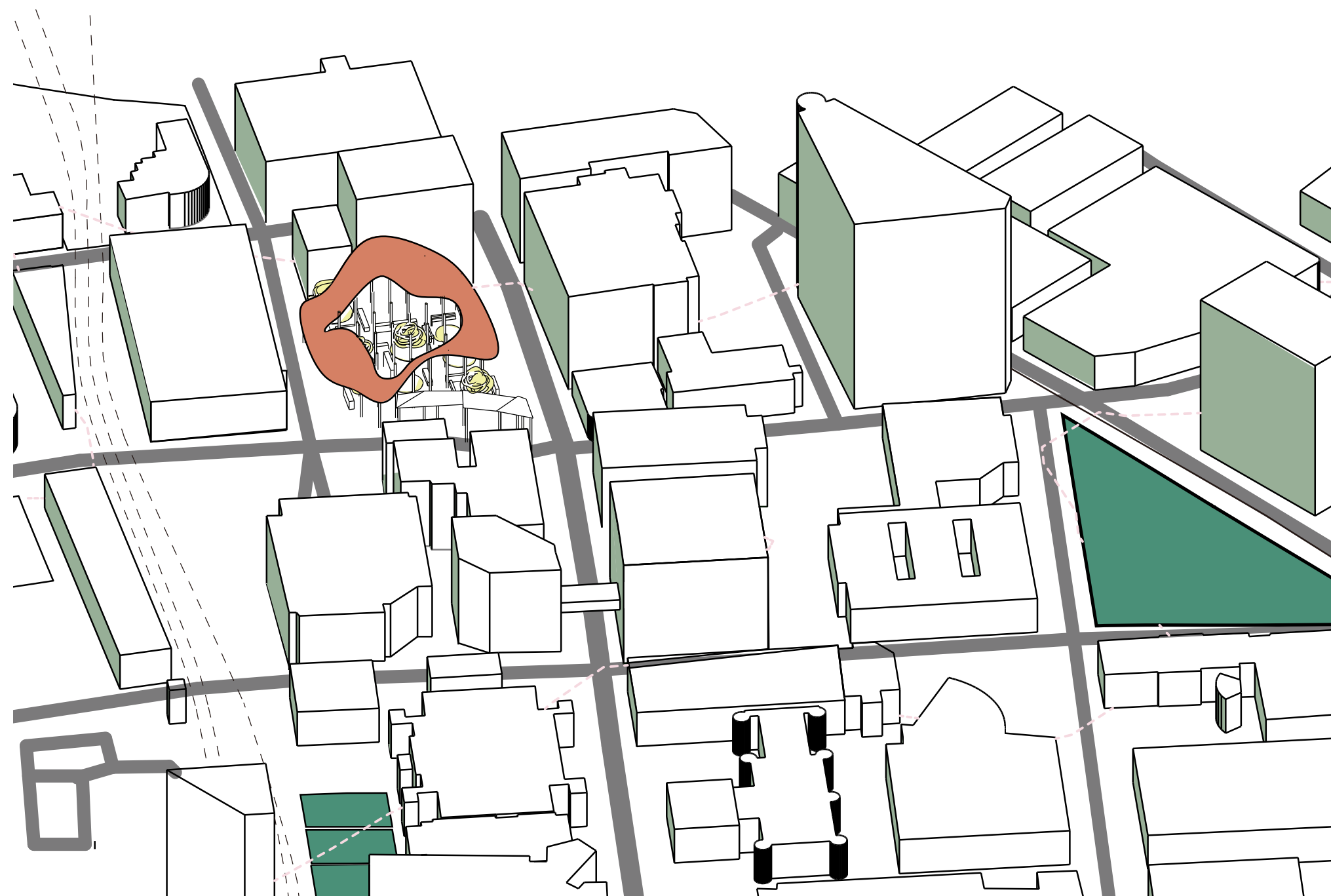


MODEL DESIGN ANALYSIS

KEY

-  CIRCULATION PATH
-  DISTORTING PERCEPTION
-  INWARD FOCAL POINT





FINAL DESIGN AXON



FINAL DESIGN PERSPECTIVE

WORKS CITED

1. Cartwright, Benjamin D. S., Mathew P. White, and Theodore J. Clitherow. "Nearby Nature 'Buffers' the Effect of Low Social Connectedness on Adult Subjective Wellbeing Over the Last 7 Days." *International Journal of Environmental Research and Public Health* 15.6 (2018): 1238. Print.
2. Channon, Ben. "Rethinking Mental Health in Architecture." *Architecture Ireland*.303 (2019): 20-1. Print.
3. Cox, Daniel T. C., et al. "Doses of Nearby Nature Simultaneously Associated with Multiple Health Benefits." *International Journal of Environmental Research and Public Health* 14.2 (2017): 172. Print.
4. Duff, Cameron. "Atmospheres of Recovery: Assemblages of Health." *Environment & planning A* 48.1 (2016): 58-74. Print.
5. ---. "Atmospheres of Recovery: Assemblages of Health." *Environment & planning A* 48.1 (2016): 58-74. Print.
6. Gascon, Mireia, et al. "Mental Health Benefits of Long-Term Exposure to Residential Green and Blue Spaces: A Systematic Review." *International Journal of Environmental Research and Public Health* 12.4 (2015): 4354-79. Print.
7. Gonchar, Joann. "After the Storm: Architects Create a Healing Environment for Post-Katrina New Orleans." *Architectural Record* 204.7 (2016): 104-9. Print.
8. ---. "Nature Nurtures: Two Hospitals in very Different Settings Rely on Similar Strategies to Create Environments for Healing." *Architectural Record* 200.8 (2012): 114. Print.
9. Link, Jeff. "The Road to Evidence: The Military-Medical Complex is Looking at Environmental Approaches to Treating Trauma." *Landscape architecture magazine* 106.11 (2016): 58. Print.
10. Michalec, Sarah, et al. "Cancer Treatment Facilities: Using Design Thinking to Examine Anxiety and the Patient Experience." *Journal of Interior Design* 43.4 (2018): 3-20.
11. Parr, Hester. "Mental Health, Nature Work, and Social Inclusion." *Environment & planning D, society & space* 25.3 (2007): 537-61. Print.
12. Salingaros, Nikos A. "Biophilia and healing environments." *Healthy principles for designing the built world*. ed. Metropolis magazine e Terrapin Bright-Green, New York (2015).
13. Söderlund, Jana, and Peter Newman. "Improving mental health in prisons through Biophilic Design." *The Prison Journal* 97.6 (2017): 750-772.
14. Tucker, Ian. "Everyday Spaces of Mental Distress: The Spatial Habituation of Home." *Environment & planning D, society & space* 28.3 (2010): 526-38. Print.
15. Wilson, Edward O. *Biophilia*. Cambridge, Mass: Harvard University Press, 1984. Print.

IMAGES CITED

Images numbered 5,6,7,8

Esto, Albert. "Arch Daily." *Arch Daily*, 2019, www.archdaily.com/915173/newyork-presbyterian-david-h-koch-center-hok-plus-ballinger-plus-pei-cobb-freed-and-partners/?ad_source=myarchdaily&ad_medium=bookmark-show&ad_content=current-user.

Images numbered 13,14,15,16

Gollings, John. "Arch Daily." *Arch Daily*, 2018, www.archdaily.com/923536/northern-beaches-hospital-bvn/?ad_source=myarchdaily&ad_medium=bookmark-show&ad_content=current-user.

Images numbered 9,10,11,12

JRR, SmithGroup. "Arch Daily." *Arch Daily*, 2012, www.archdaily.com/274743/aia-selects-four-projects-for-national-healthcare-design-awards/?ad_source=myarchdaily&ad_medium=bookmark-show&ad_content=current-user.

Images numbered 1,2,3,4

Mark, Adam. "Arch Daily." *Arch Daily*, 2011, www.archdaily.com/430800/centre-for-cancer-and-health-nord-architects/?ad_source=myarchdaily&ad_medium=bookmark-show&ad_content=current-user.