

F

FUTURE

O

OPTIMISM

R

RELIEF

O

ORDER

DEDICATION

TO WHOMEVER HAS EXPERIENCED TRAUMA,
YOUR **FUTURE** IS FILLED WITH
OPTIMISM, YOU FEEL **RELIEF** KNOWING YOU
CONQUERED YOUR TRAUMA, AND BROUGHT
YOUR LIFE BACK TO **ORDER**.

COMMITTEE

CHAIR

Hawkins, Andrew, AIA, LEED AP, NCARB

Texas A&M University

Department of Architecture

Assistant Professor of Practice

MEMBER

Dr. Lu, Zhipeng

Texas A&M University

Department of Architecture

Assistant Professor

MEMBER

Dr. Liberzon, Israel

Texas A&M University

School of Medicine

Distinguished University Professor

William and Dorothy Stearman Endowed Professor

ABOUT THE DESIGNER

Gregory Duits has taken an untraditional path in life. Prior to attending Texas A&M University, he served in the United States Navy for six years after high school.

During his service he was an air traffic controller and was deployed twice during the first four years of his service. Stressful situations became a normal part of life. Overcoming these stressful situations gave him confidence in his own abilities.

For the last two years of service Gregory was stationed at NAS Sigonella on the island of Sicily. This duty station enabled him to travel Europe and experience architecture such as the Roman Pantheon, the Tower of London, Edinburgh Castle and more. Easily fascinated by these great works, he was inspired to understand the built environment around him.

A handwritten signature in black ink, appearing to read 'Gregory Duits', is positioned below the text. The signature is stylized and fluid, with overlapping loops and lines.

ABSTRACT



NOT ALL
WOUNDS
ARE
VISIBLE

When I first started this project I, like many others, had this preconceived notion that the majority of people that experienced Post-traumatic stress disorder (PTSD) were combat veterans. My prior service might be to blame in part, but none-the-less I was able to learn from this mistake.

I soon learned that a majority of people that have experienced PTSD were survivors of sexual assault. Most of these survivors were assaulted by people whom they knew. This revelation has made a traumatic impact on my project. With further examination, I learned that sex assault is comparable to, or larger than, the likelihood of a PTSD diagnosis associated with severe combat exposure or civilian sexual assault.

These compounded discoveries have led me to use sexual assault as the key ingredient in locating a site in Texas that would be prevalent to the community in the vicinity. This location would also embody the safety of privacy, and embrace a setting that would liberate patients from the stressful environment in the city around them.

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PRELUDE

ARCHITECTURAL QUERY



How can architecture
promote spaces
to stimulate healing for
PTSD patients?

RELEVANCE

A diagnosis of PTSD requires exposure to an upsetting traumatic event. Exposure includes directly experiencing an event, witnessing a traumatic event happening to others, or learning that a traumatic event happened to a close family member or friend. It can also occur as a result of repeated exposure to horrible details of trauma such as police officers exposed to details of child abuse cases.

Approximately 60% of men and 50% of women experience a traumatic event at some point in their life.

According to the Nation Center for PTSD, approximately 7-8% of people will be diagnosed with PTSD in their life.

It is my belief that with proper therapy a can turn their PTSD into its antonym FORO.

Post	→	Future
Traumatic		Optimism
Stress		Relief
Disorder		Order

Foro (spanish) = Forum (english)

Forum: a place, meeting, or medium where ideas and views on a particular issue can be exchanged

RESEARCH

WHAT IS PTSD?

Post-traumatic stress disorder (PTSD) is a psychiatric disorder that may occur in people who have experienced or witnessed a traumatic event, series of events or set of circumstances. An individual may experience this as emotionally or physically harmful or life-threatening and may affect mental, physical, social, and/or spiritual well-being.

- PTSD is a potentially debilitating psychological condition arising from traumatic events.
- With PTSD, the survivor regularly experiences unwanted or intrusive memories, or relives the trauma on a frequent and sustained basis.
- PTSD frequently causes survivors to alter their activities and routines to avoid triggering memories or associations.
- It causes anxiety, depression and other problems that adversely affect the survivor's social, family and professional life and lifestyle.
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ACCIDENT RAPE WITNESSING VIOLENCE
WAR
DOMESTIC VIOLENCE COMBAT TRAUMA
GRIEF ABUSE DEATH
CHILD BIRTH SEXUAL ASSAULT
NATURAL DISASTERS COMMUNITY VIOLENCE

SOURCES OF TRAUMA

SEXUAL ASSAULT CHRONIC ILLNESS
COMPLEX TRAUMA
DISASTERS NEGLECT DISCRIMINATION CRIME ASSAULT
WITNESSING DEATH
REFUGEE AND WAR EXPERIENCES
SEX TRAFFICKING
BULLYING

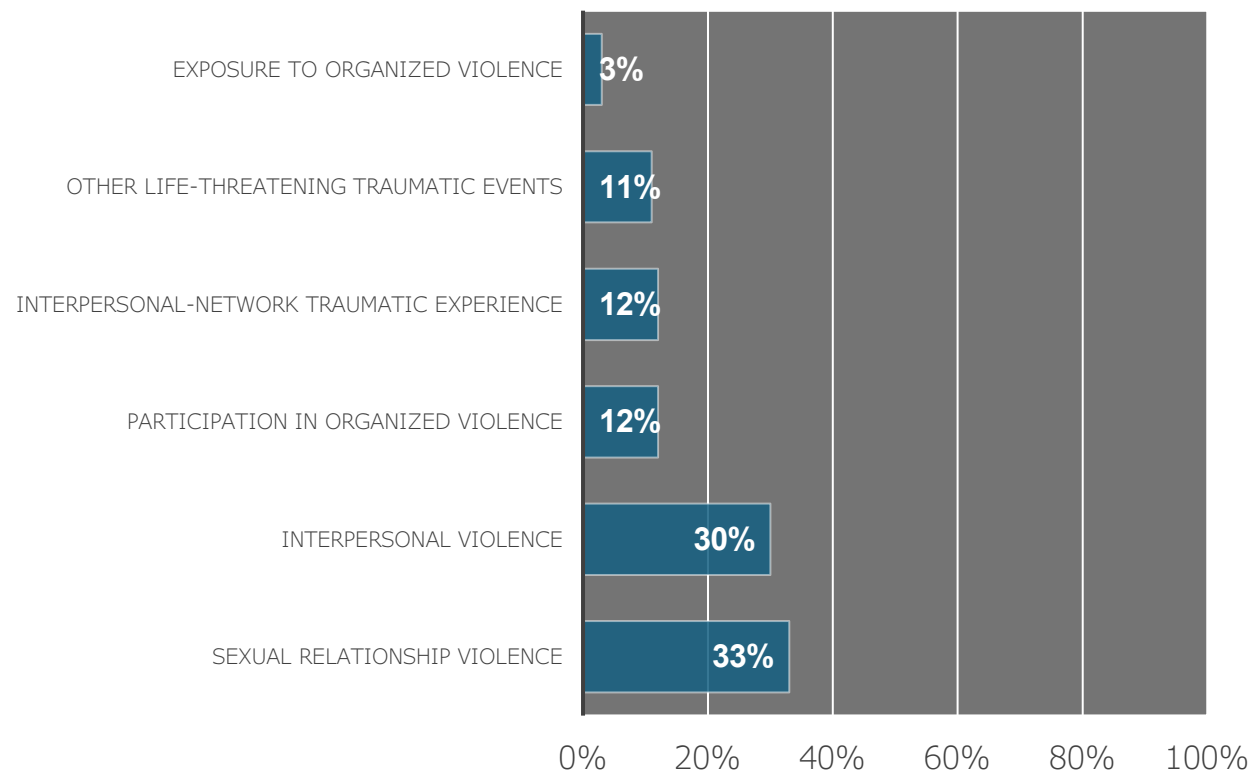
When I first began this project I knew I wanted to site my project in Texas. Although I wanted to find a site in Texas, I didn't want to arbitrarily choose a site location.

To begin justification of my site I began my research to understand what type of trauma was the leading cause in triggering PTSD within an individual. Eventually I stumbled upon two graphs on The Center for Advancing Health (CFAH) website.

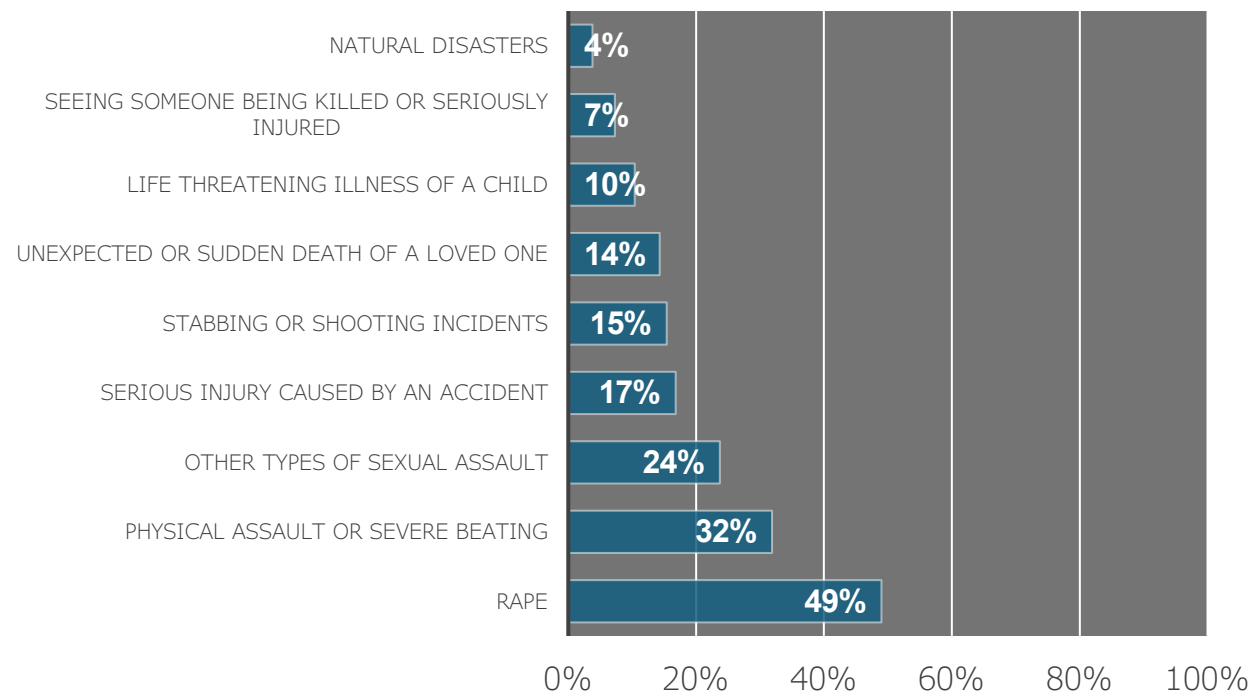
The first graph shows the top six top causes of PTSD. In which, sexual relationship violence was the number one cause. Though PTSD will not always necessarily develop after a person has had a traumatic event. Everyone has their own personal response to trauma.

When you take that into account the second graph will show you a completely different picture. The second graph on the following page strongly depicts that rape has the highest chance of propogating PTSD. These two graphs were my inspiration to find a site based upon sexual assaults within the state of Texas. In doing so, I could site my facility in a locale where PTSD is considerably higher compared to other locations.

CAUSES OF PTSD



TYPES OF TRAUMA THAT CAUSES THE MOST PTSD

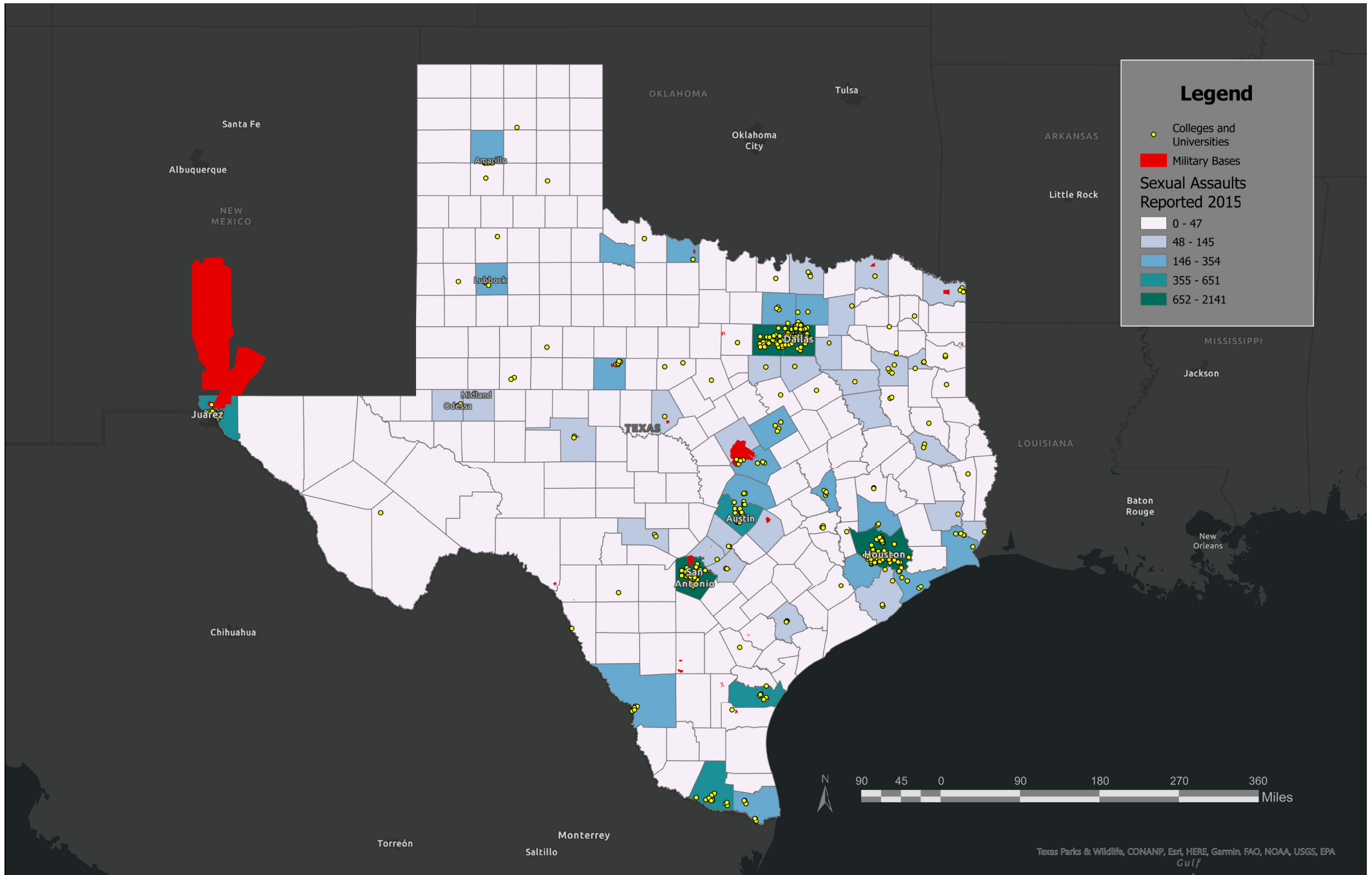


This new information inspired me to determine a site with sexual assaults being the key factor that would help narrow down where I would put my site.

I was able to find a 2015 crime report from the Texas Department of Public Safety (DPS) website. In which, Chapter 7 displayed the reported sexual assaults by City and County. I then carefully extrapolated this data into ArcGIS Pro and made a choropleth map, which would assist me in visually determining the counties that were had the most reports in Texas.

As you can see from the map on the next page, most of the reports seemed to gravitate around major cities, colleges, and military bases. Though the one thing the choropleth map doesn't account for is the population density from one county to the next.

Now that I could visually see the data I wanted to go one step farther and determine the incidence rate for the top ten counties from the 2015 report.



Some of the counties such as Harris County for example had a much larger population compared to others. In order to really understand an underlying issue without looking at the quantity of reports I needed to determine how many incidents were occurring per 100,000 or incidence rate for the top ten counties.

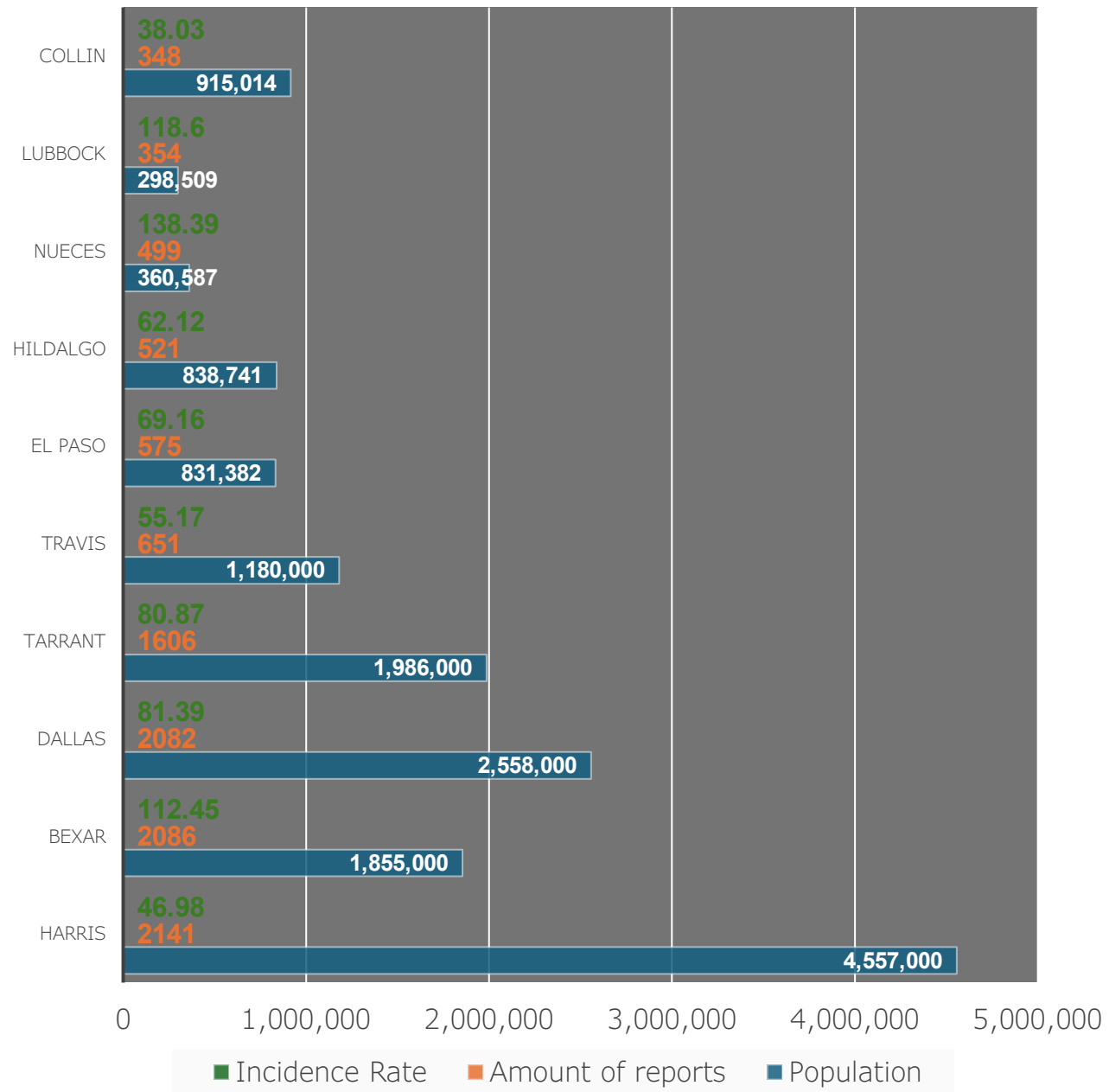
Although the more populated counties had four times or more than some of the smaller counties in the top ten; the population pool was much more.

Calculating the Incidence Rate:

$$\frac{\# \text{ of reports} \times 100,000}{\text{County population}} = \text{Incidence Rate}$$

After calculating the incidence rate, Nueces clearly has a disproportionate amount of sexual assaults compared to the other counties.

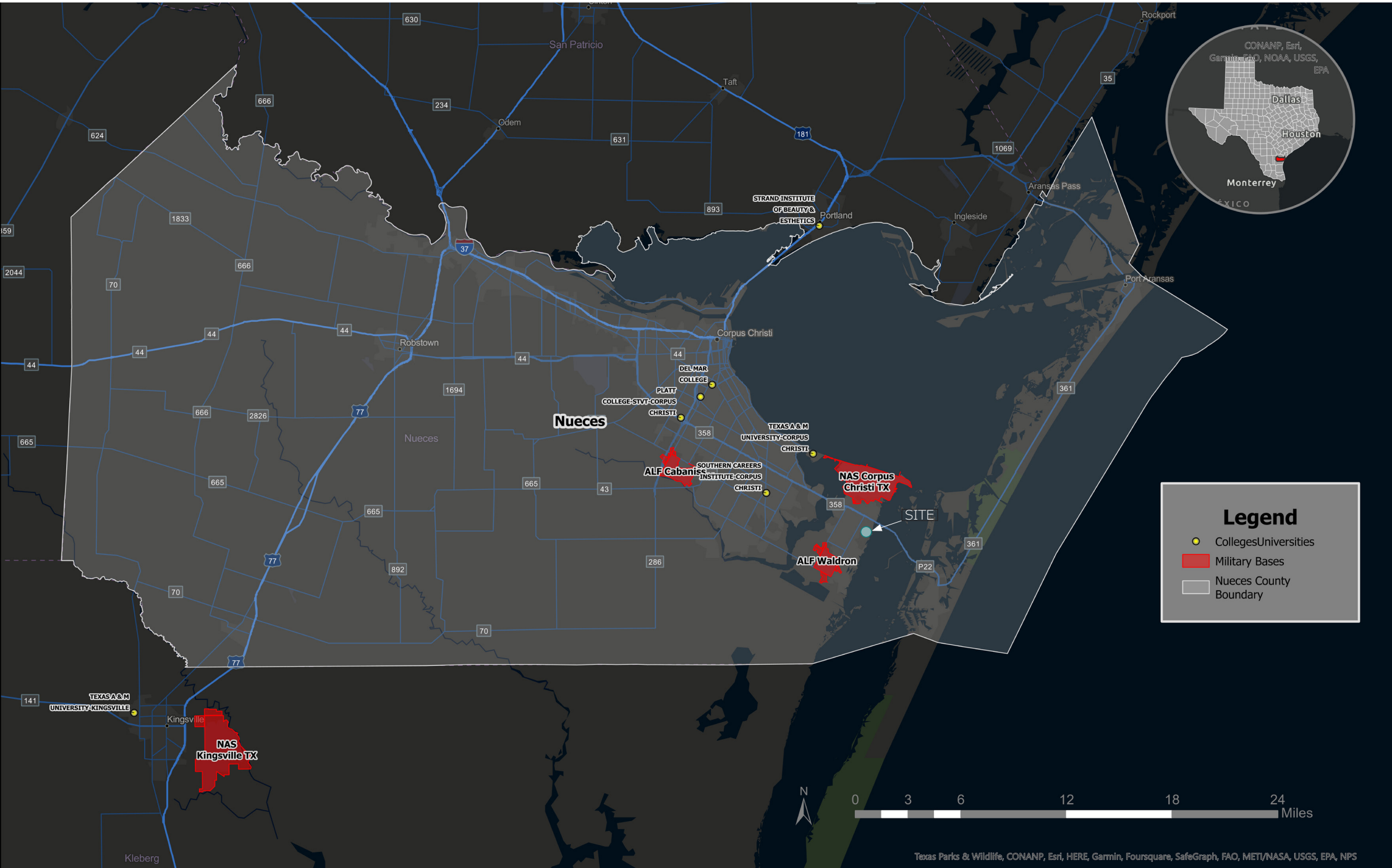
TOP 10 COUNTIES BY INCIDENTS REPORTED



Now that I've determined the county, I can further determine where I wanted to site the facility within Nueces County. My first step was determining the major city within the confines of the county. In this case it was Corpus Christi, TX.

When I think of therapy for PTSD, I think about a setting that would have less people, less noise, and overall less stress. So, I wanted my site to be located within the city limits of Corpus Christi, but in a quiet area within city limits in which the patients could feel at ease.

I was in luck when I found a nearly untouched area between NAS Corpus Christi and ALF Waldron. This would enable the facility to serve military members as well as the public that experienced PTSD.



SITE ANALYSIS

SITE AERIAL VIEW





Laguna Shores Rd, Corpus Christi, TX 78418 Corpus Christi, TX 78418

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PERSONAL SITE PHOTOS

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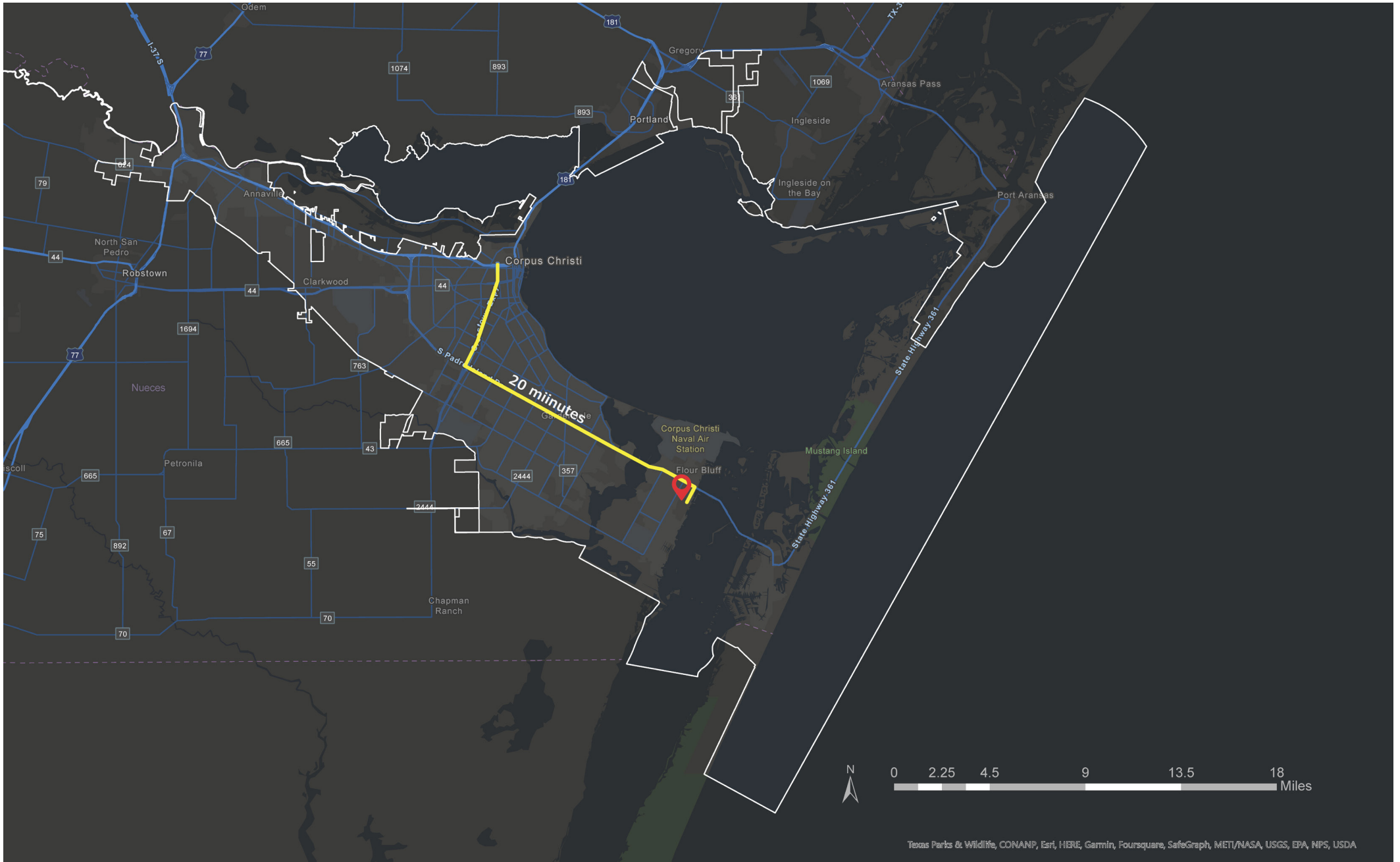
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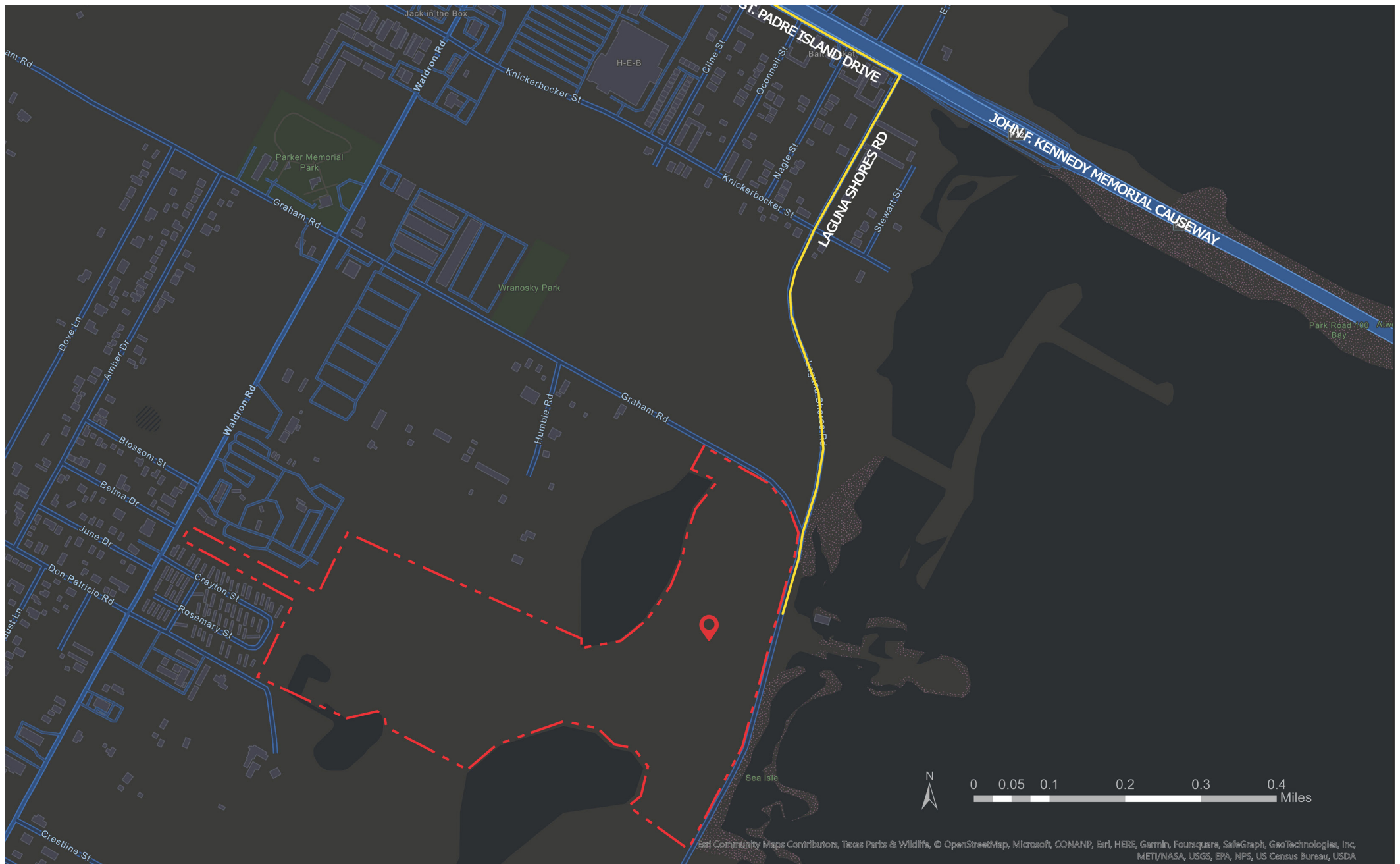
COMMUTING TO SITE

Traveling from downtown Corpus Christi takes 20 minutes by car, if needed there would be shuttle service available to bring patients to the site for their inpatient or outpatient therapy.



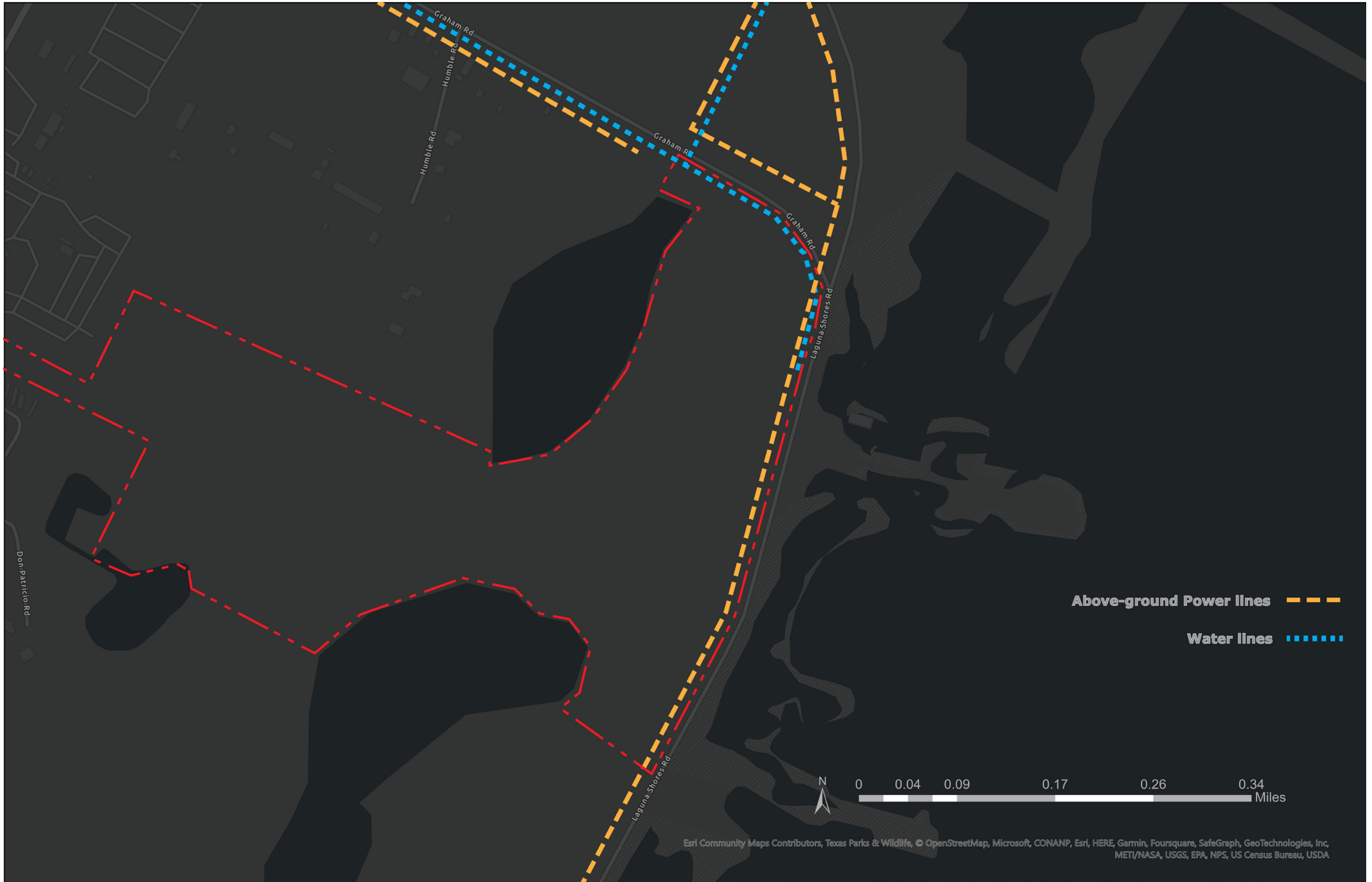
COMMUTE CONCLUSION

Coming off the JFKMC towards the site, the cityscape context slowly converts into a more natural landscape with the Corpus Christi Bay glimmering on the left and green spaces gently rising on the right.



SITE UTILITIES

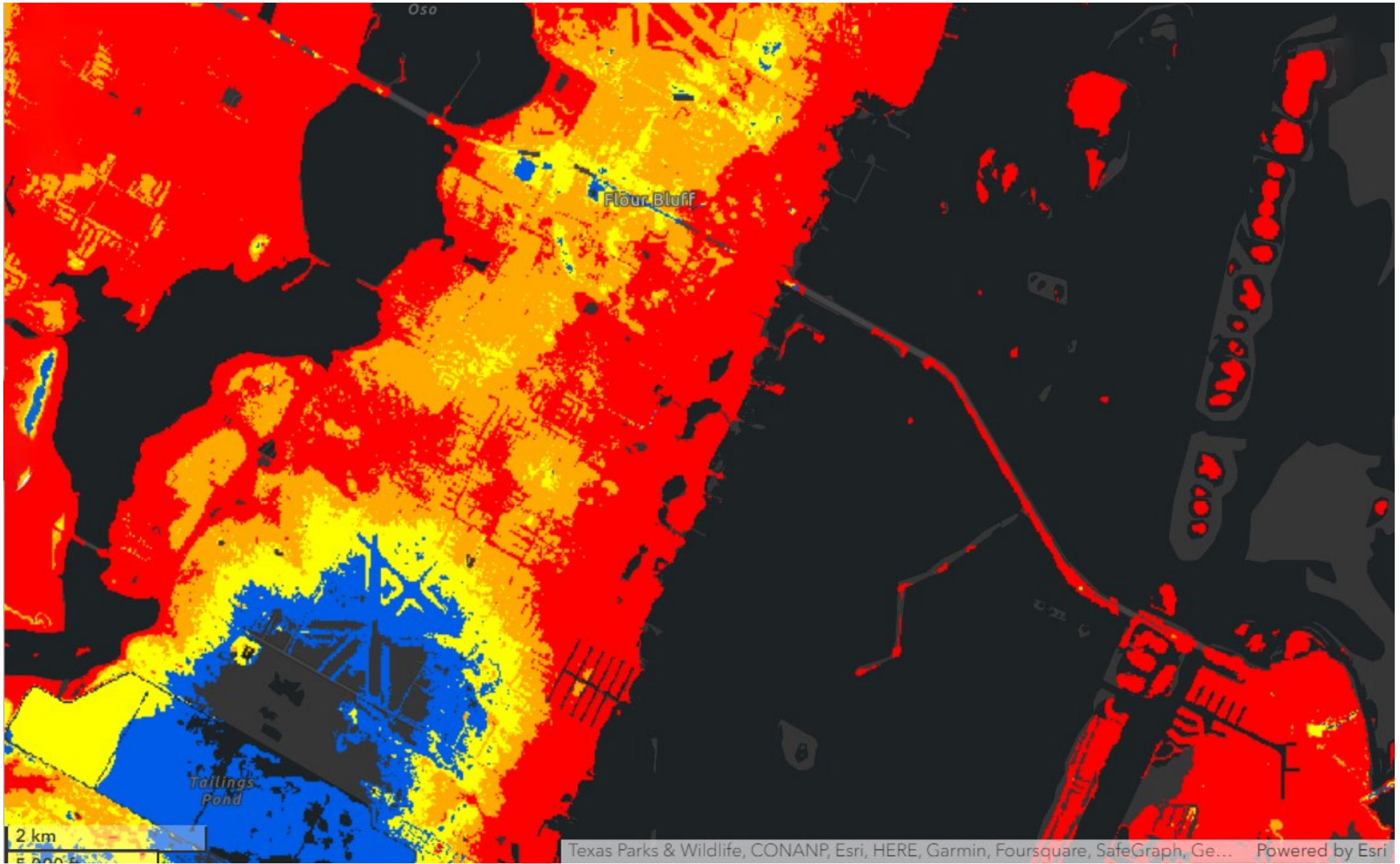
The existing water and power utilities are available on the site closer to the main road adjacent to the site. The site itself has so much usable square footage, the project only requires me to utilize approximately half the site.



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NEGATIVE SITE ISSUES

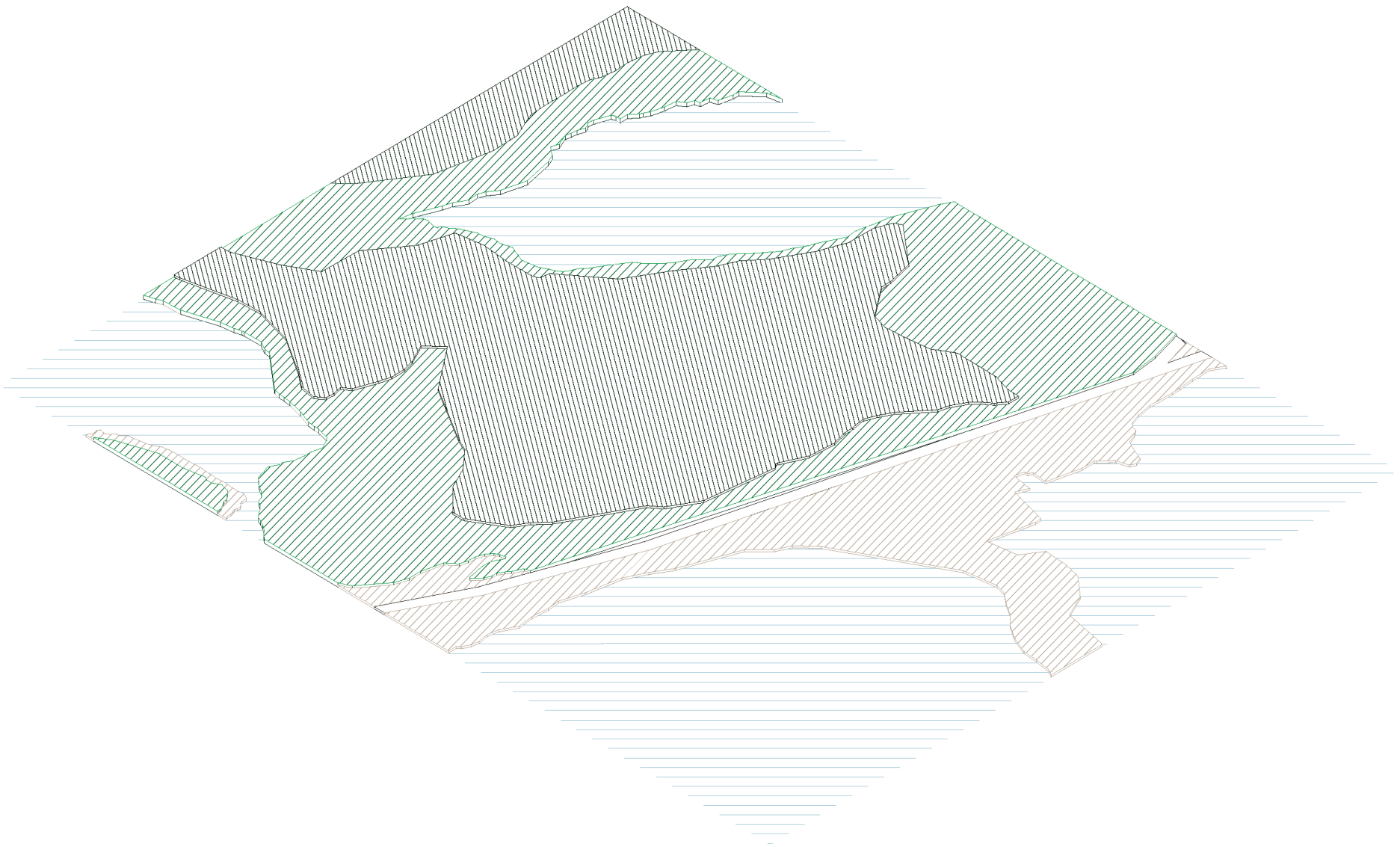
The biggest design factor for the site involves the possibility that hurricanes could make landfall. With hurricanes coming stormsurge and flooding. To protect the site I've raised the structure sixteen feet to protect from storamsurge and flooding.



PROJECT DRAWINGS

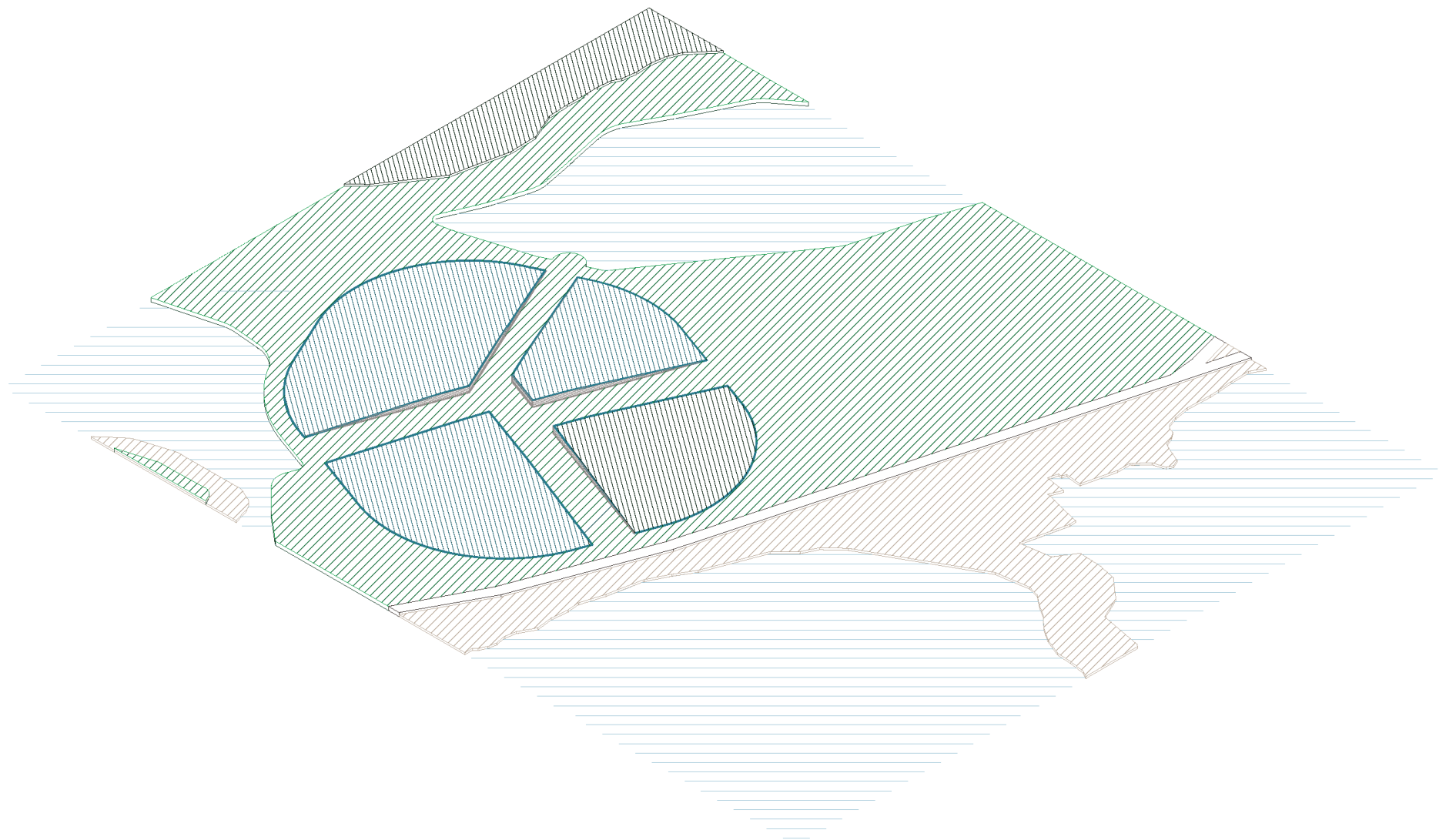
SITE PART I 01

The original site topography wasn't tall enough to protect a building from the storm surge or flooding that is caused by a hurricane. Due to the amount of usable space on the site itself, and surrounding context to disturb, it gave me the option to alter the site's topography.



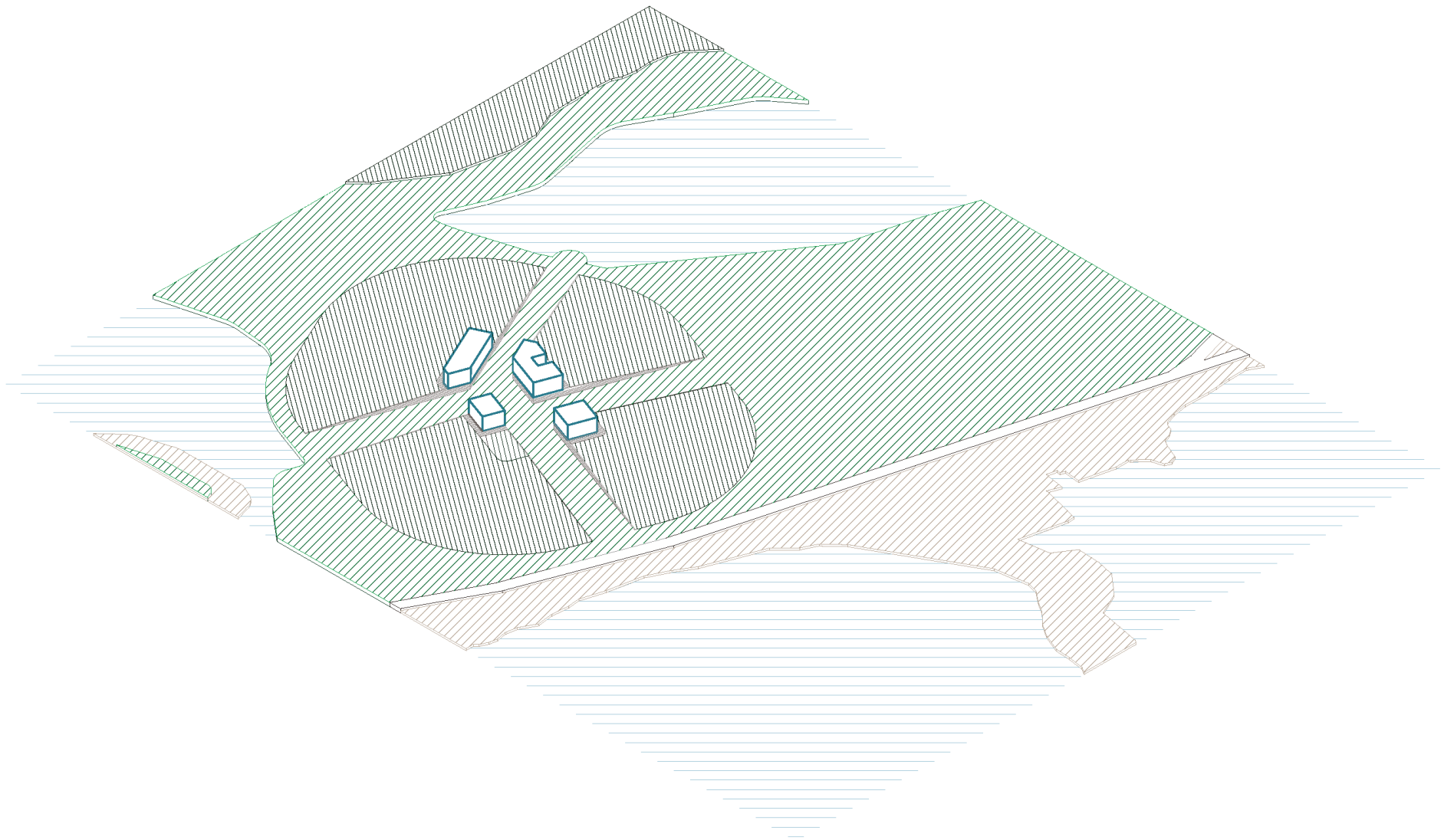
SITE PART I 02

In doing I wanted to protect the beautiful landscape surrounding my site by making putting sub-level parking beneath the site. To grant access to the site itself I made incisions which would create a unique space between the neighboring burms.



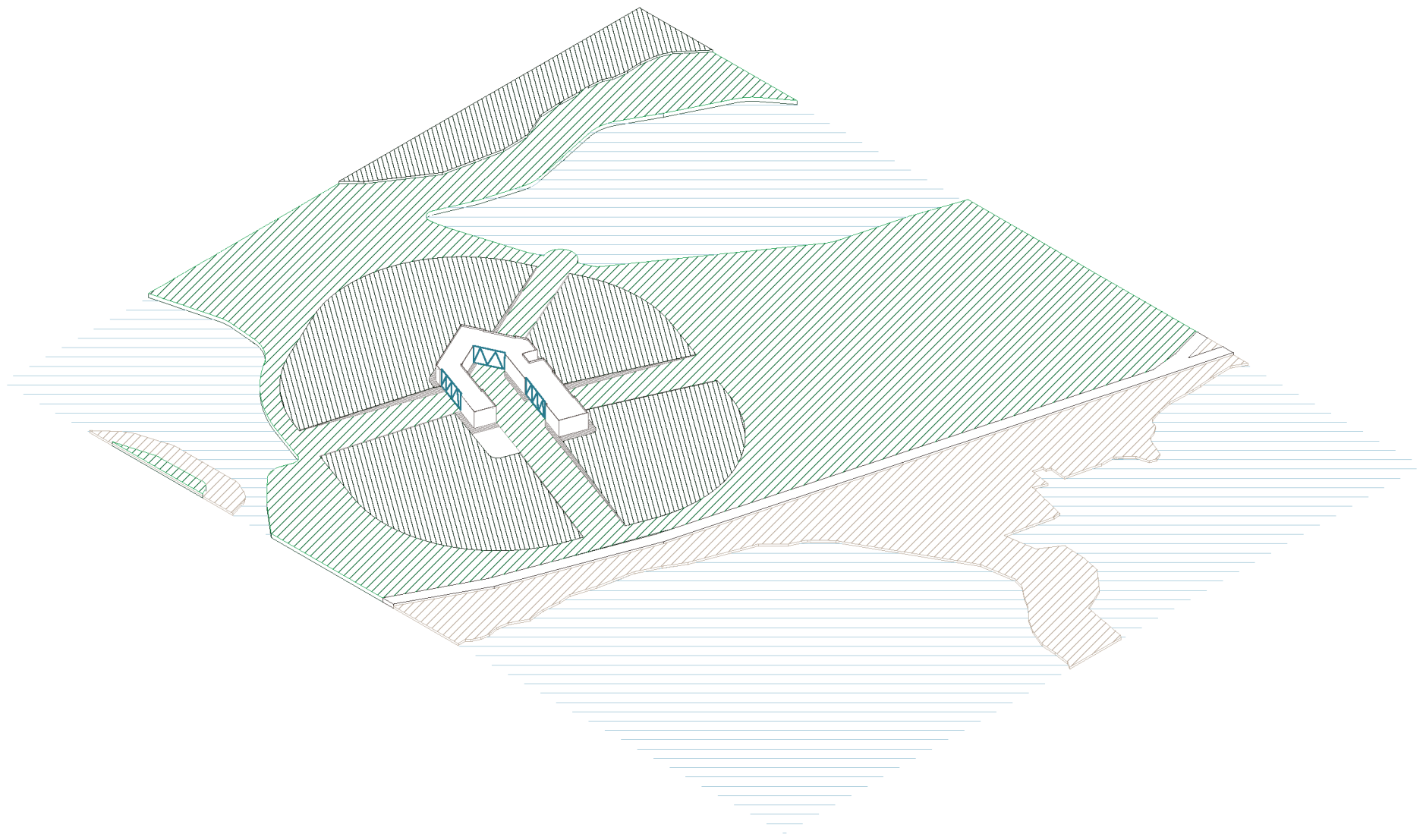
SITE PART I 03

On each corner of the burm I would utilize a heavy timber structure to celebrate the natural landscape beneath. Each corner would house different programming for the facility. The three burms closest to the maid road would have the parking garages beneath.



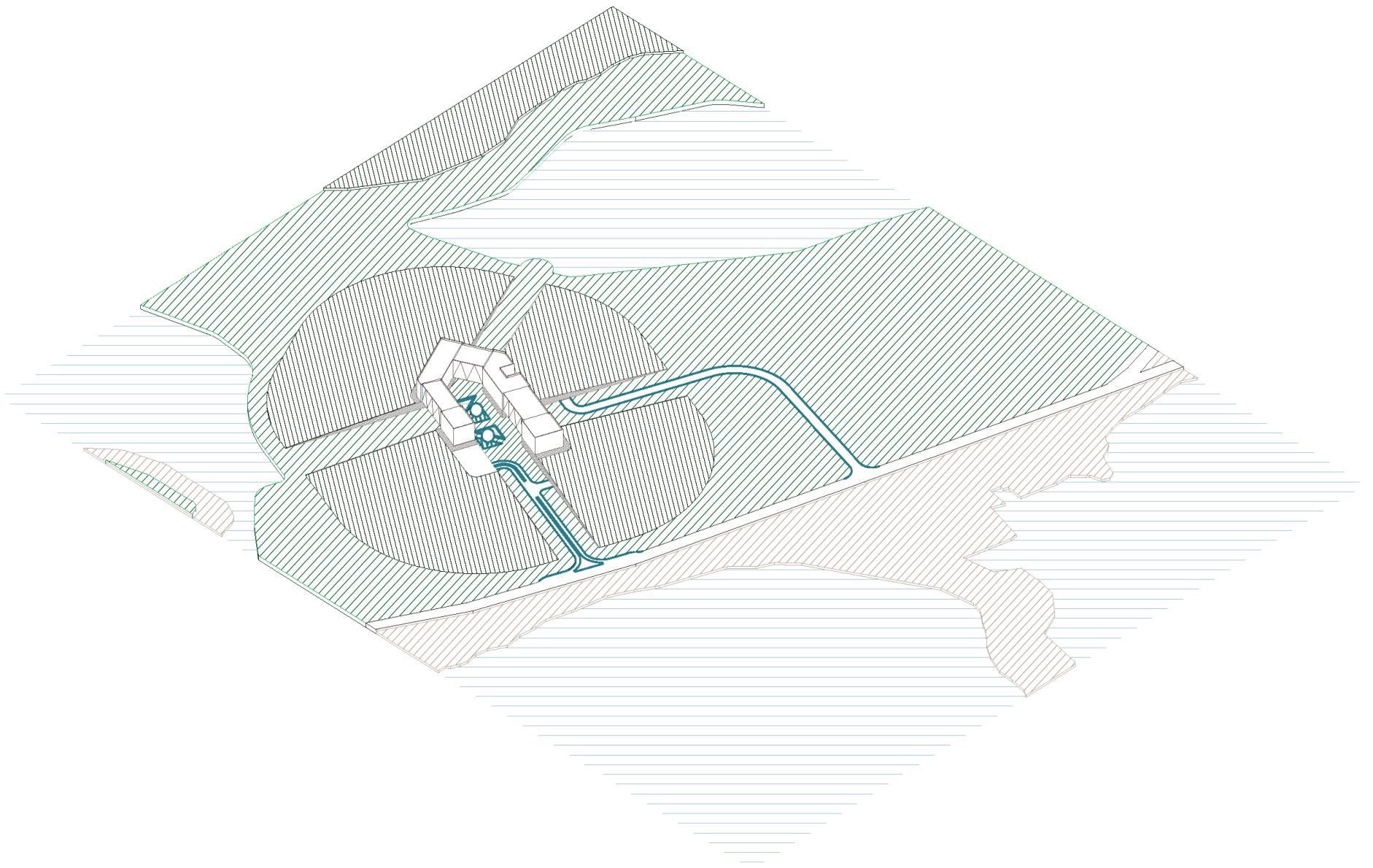
SITE PART I 04

When connecting the burms together I wanted to represent the strength that therapy can have in a patient's life and potray how they can build connections that would allow them to overcome the trauma(s) that they've experienced.



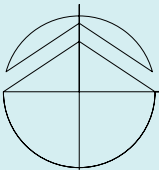
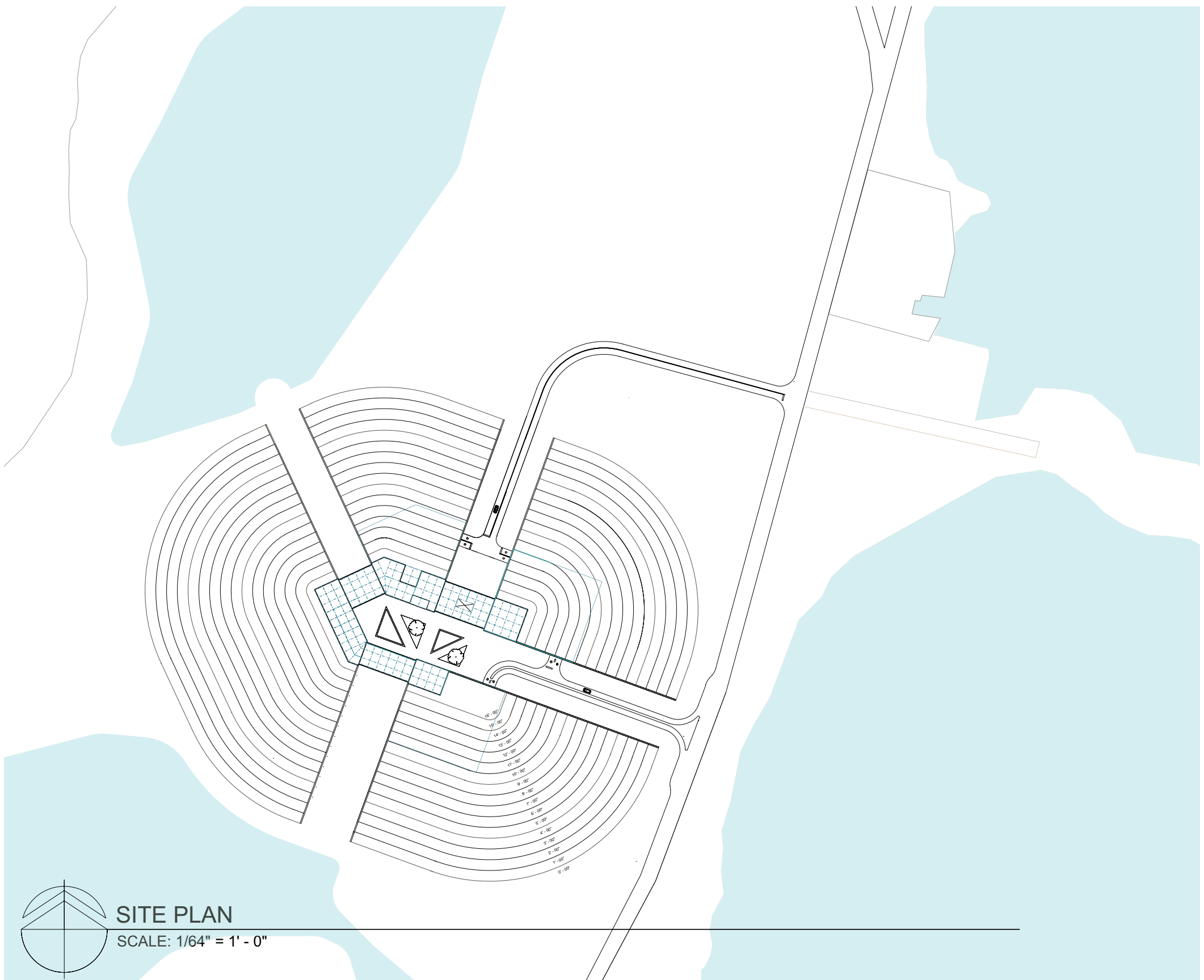
SITE PART I 05

The last iteration needed is connecting the facility to the main road adjacent to the site and creating a circulation that would allow patient to easily navigate. Lastly I wanted a central courtyard to aid in the site's vertical and horizontal circulation.



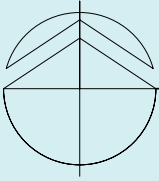
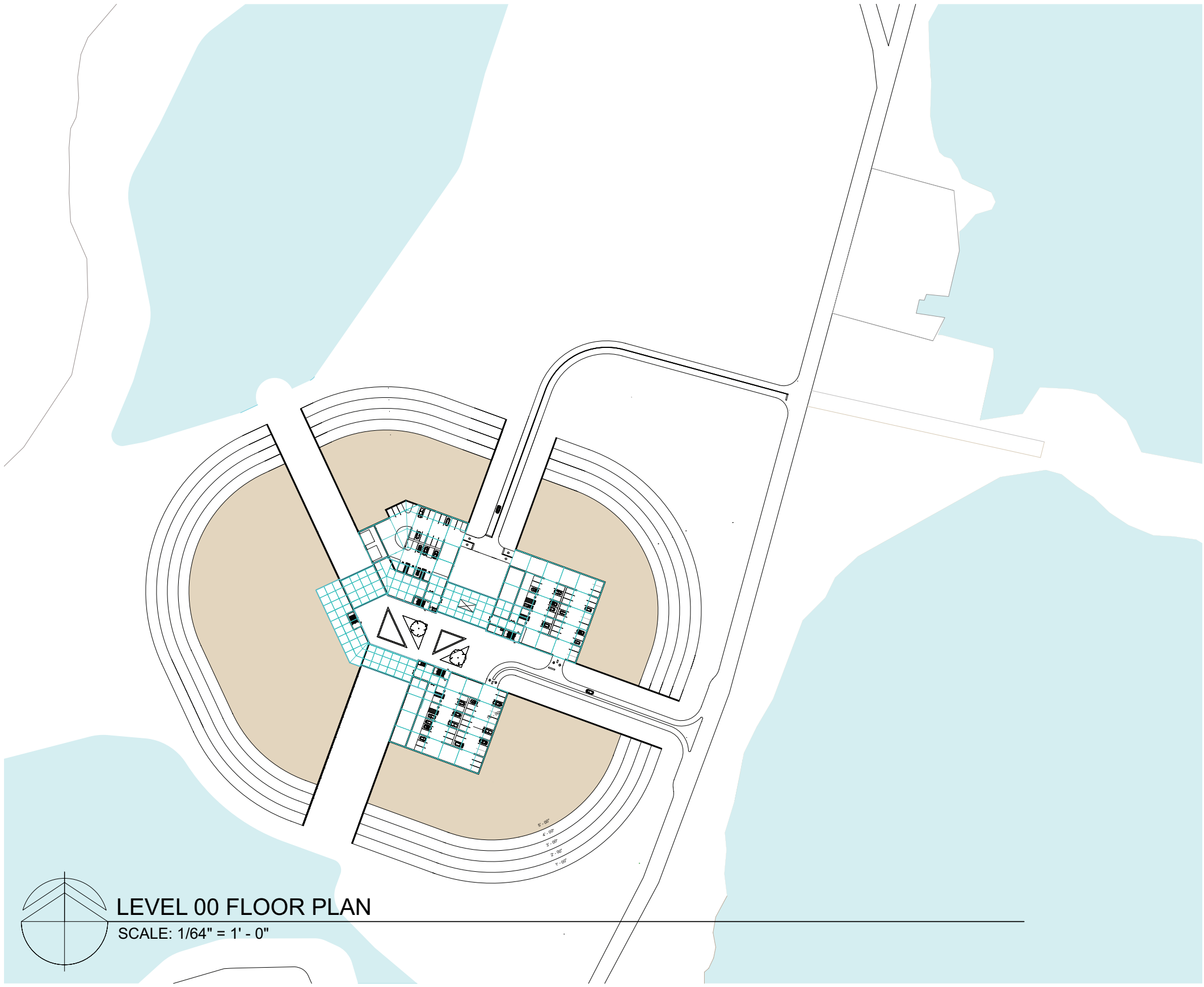
SITE PLAN

The biggest design factor for the site involves the possibility that hurricanes could make landfall. With hurricanes coming stormsurge and flooding. To protect the site I've raised the structure sixteen feet to protect from storamsurge and flooding.



SITE PLAN
SCALE: 1/64" = 1' - 0"

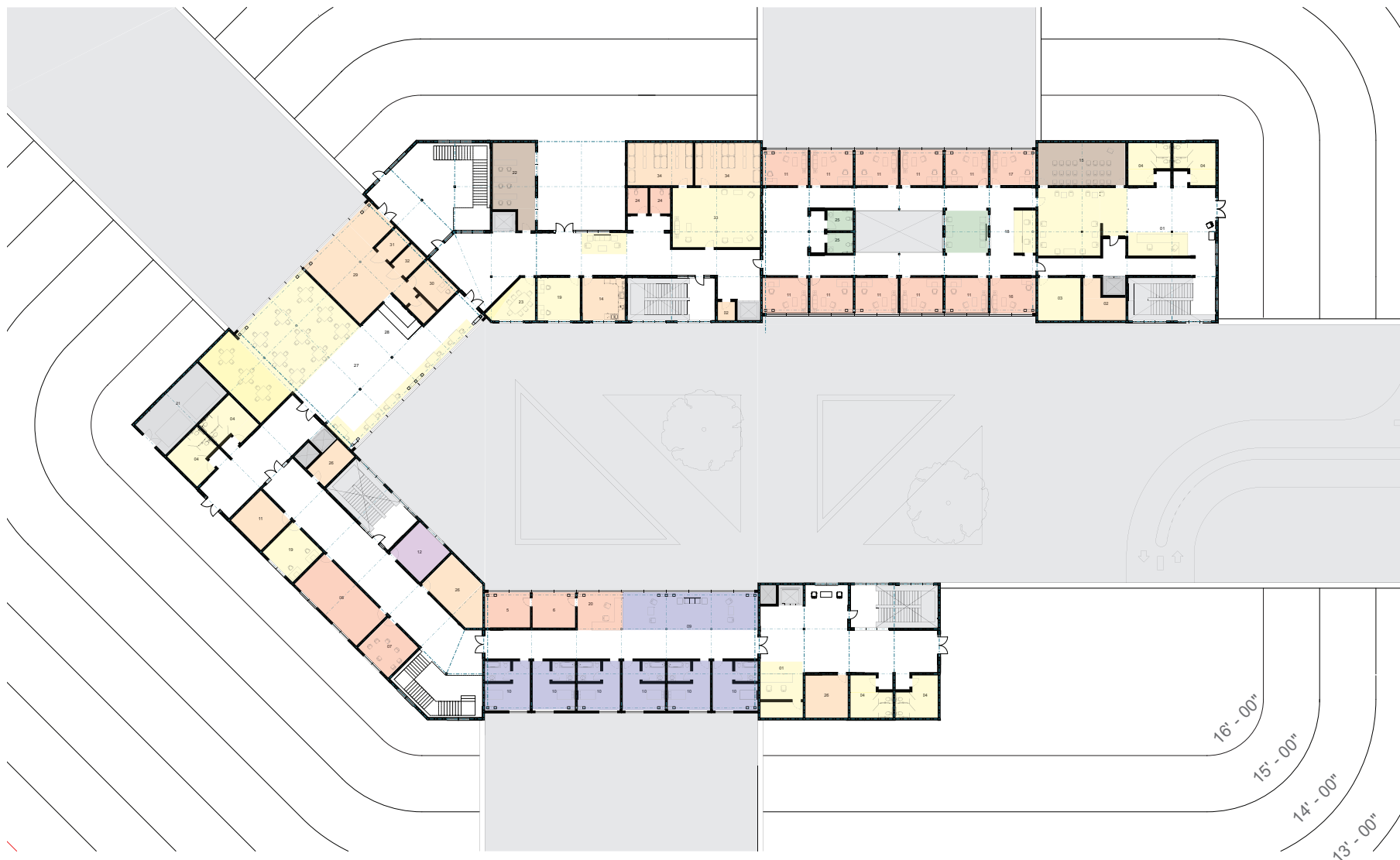
LEVEL 00 FLOOR PLAN



LEVEL 00 FLOOR PLAN

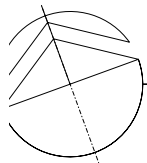
SCALE: 1/64" = 1' - 0"

LEVEL 01 FLOOR PLAN



- 01 Reception Desk
- 02 Hospitality Storage
- 03 Security Office
- 04 Restroom
- 05 Medical Closet
- 06 Dictation
- 07 Inpatient Group Therapy
- 08 Inpatient Group Physical Therapy
- 09 Inpatient Lounge
- 10 Inpatient Suite
- 11 Clinician Office
- 12 Meditation Room
- 13 Flex Storage Space
- 14 Breakroom
- 15 Presentation Room
- 16 Intake Clinician Office
- 17 Psychiatrist Office
- 18 Post Appt. Scheduling
- 19 Case Managers
- 20 Nursing Station
- 21 HVAC Space
- 22 Onboarding
- 23 Interview Space
- 24 Staff Toilet
- 25 Patient Toilet
- 26 Storage
- 27 Dining
- 28 Service Counter
- 29 Facility Kitchen
- 30 Kitchen Office
- 31 Dry Storage
- 32 Cold Storage
- 33 Staff Lounge
- 34 Staff Changing Rooms

- LEGEND
- Inpatient Space
 - Diagnostic & Treatment
 - Public & Admin
 - Logistics
 - Outpatient Space
 - Education
 - Mechanical
 - Spiritual or Religious



LEVEL 1 FLOOR PLAN

SCALE: 1/16" = 1' - 0"

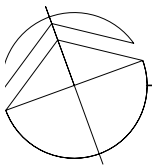
LEVEL 02 FLOOR PLAN



- 01 Reception Desk
- 02 Hospitality Storage
- 03 Security Office
- 04 Restroom
- 05 Medical Closet
- 06 Dictation
- 07 Inpatient Group Therap
- 08 Inpatient Group Physica
- 09 Inpatient Lounge
- 10 Inpatient Suite
- 11 Clinician Office
- 12 Meditation Room
- 13 Flex Storage Space
- 14 Breakroom
- 15 Presentation Room
- 16 Intake Clinician Office
- 17 Psychiatrist Office
- 18 Post Appt. Scheduling
- 19 Case Managers
- 20 Nursing Station
- 21 Outpatient Group Thera
- 22 Onboarding
- 23 Interview Space
- 24 Staff Toilet
- 25 Patient Toilet
- 26 Storage
- 27 Conference Room
- 28 Executive Suite
- 29 Administrative Asst.
- 30 HR Director
- 31 HR Coordinator
- 32 Inpatient Recreation

LEGEND

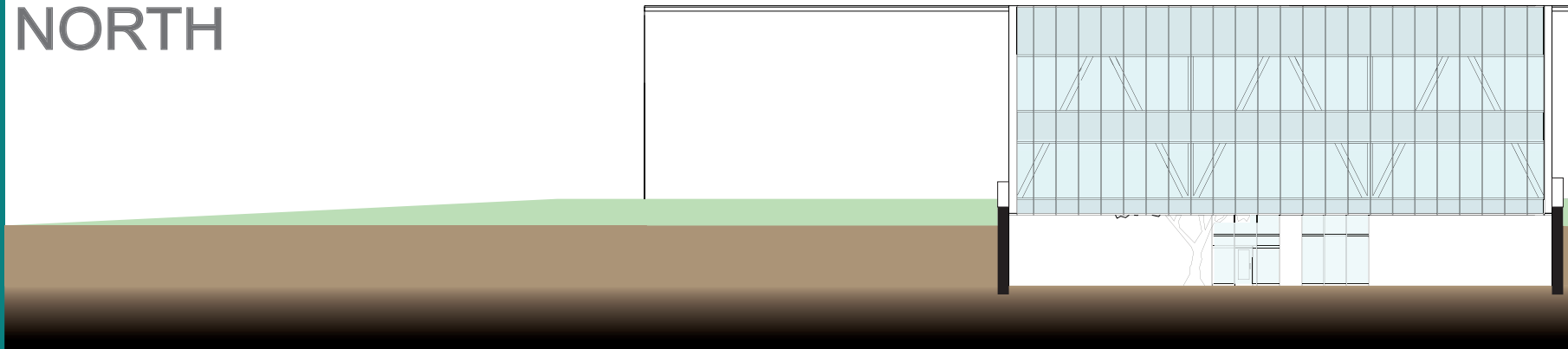
- Inpatient Space
- Diagnostic & Treati
- Public & Admin
- Logistics
- Outpatient Space
- Education
- Mechanical
- Spiritual or Religio



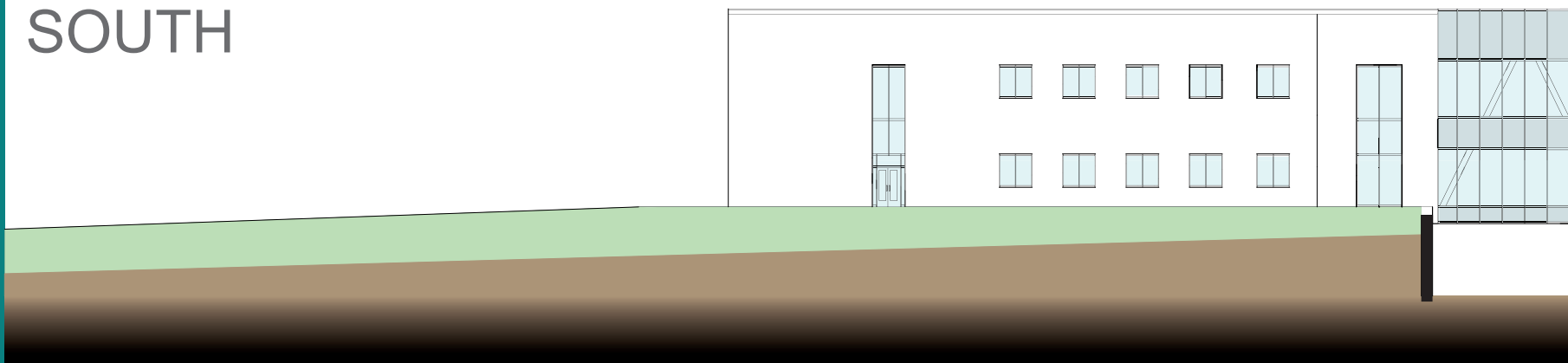
LEVEL 2 FLOOR PLAN

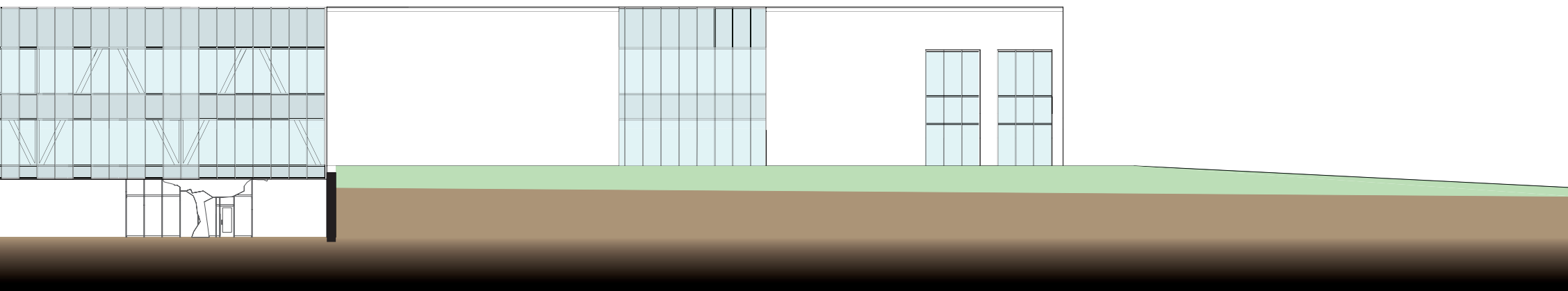
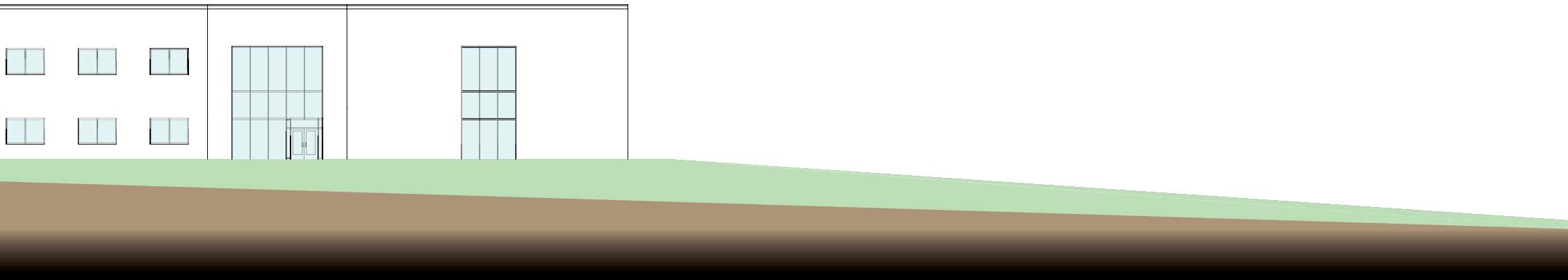
ELEVATIONS

NORTH



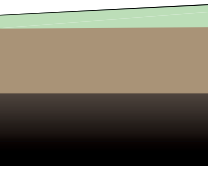
SOUTH



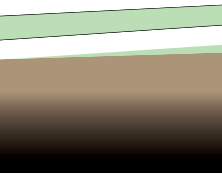


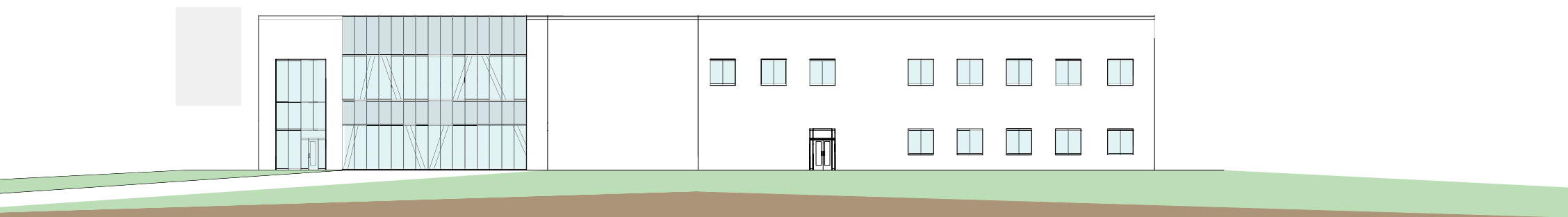
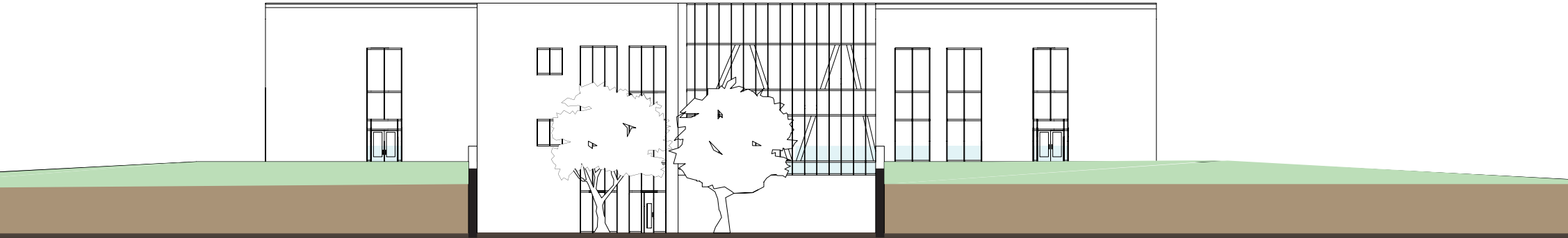
ELEVATIONS

EAST



WEST



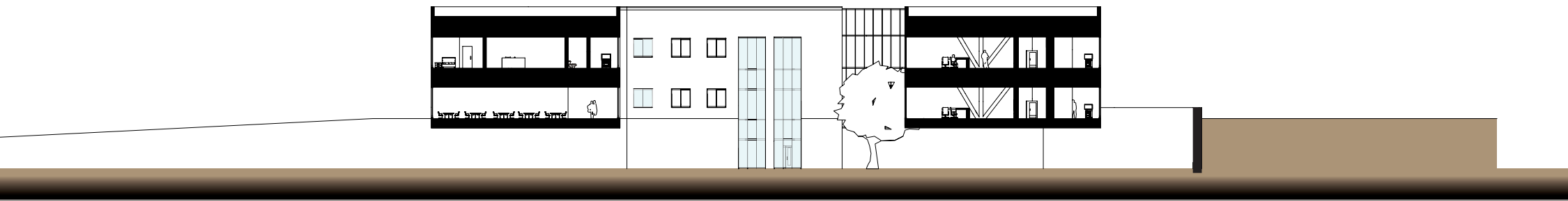


SECTIONS



SECTION A - A

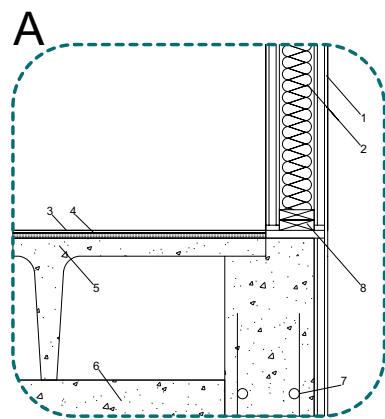
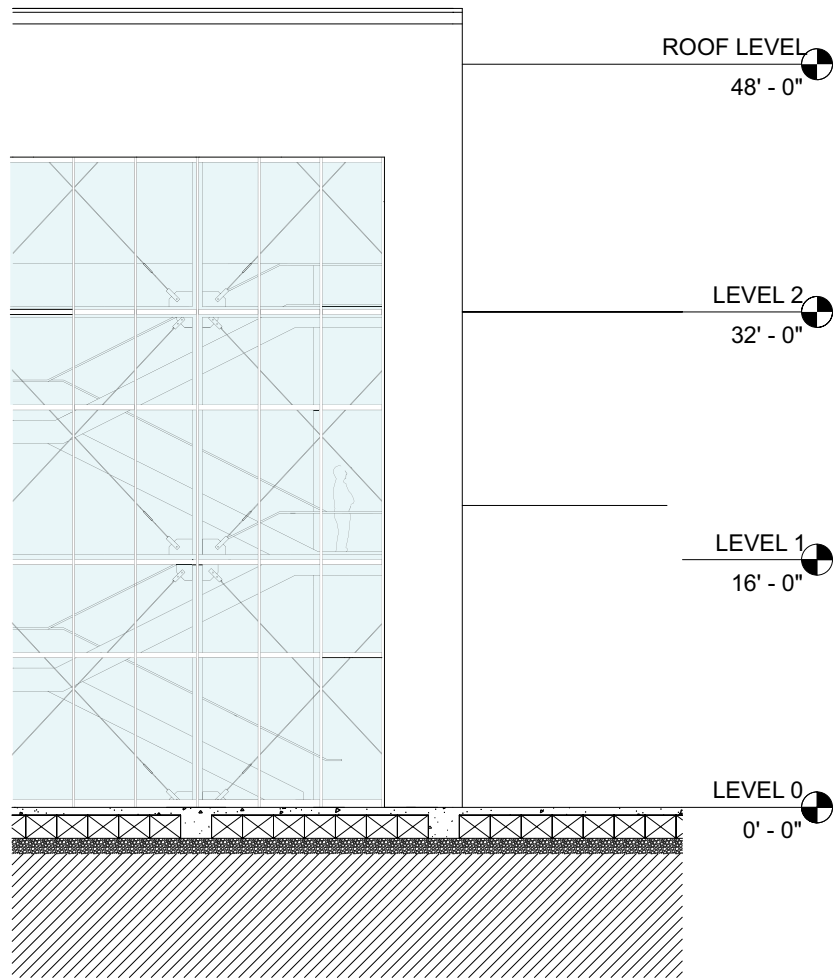
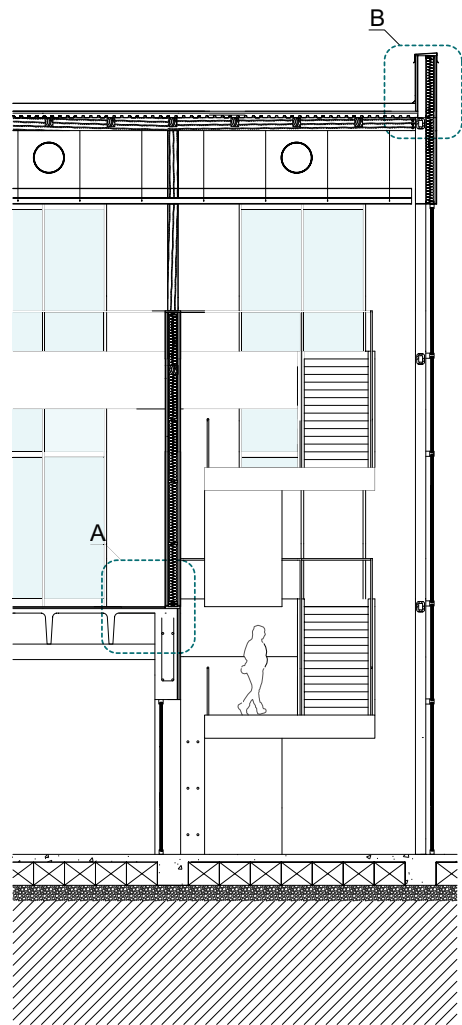
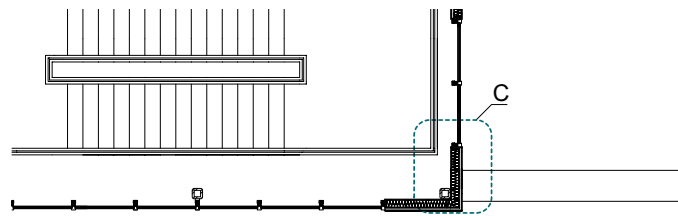
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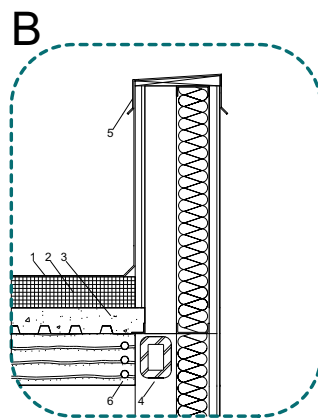
SECTION B-B

SCALE: 1/16" = 1' - 0"

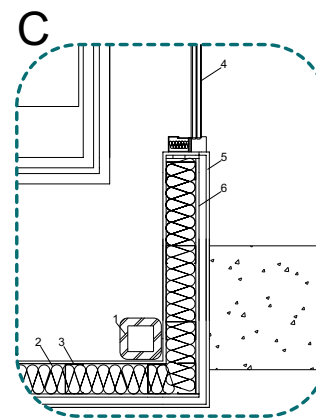
MAIN LOBBY DETAIL



- 1 Gypsum board
- 2 Batt insulation
- 3 Flooring
- 4 Subfloor
- 5 Concrete Double-tee
- 6 Inverted Tee Beam
- 7 Rebar
- 8 Sill plate



- 1 Roof membrane
- 2 Rigid insulation
- 3 Concrete slab floor
- 4 12 x 8 in HSS beam
- 5 Coping cover
- 6 HSS to Timber Fin connection

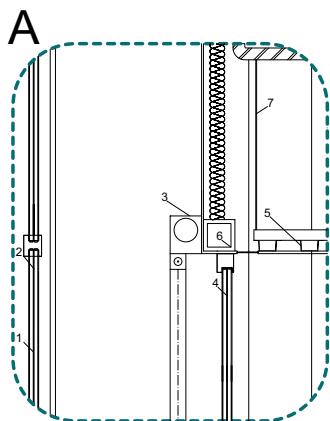
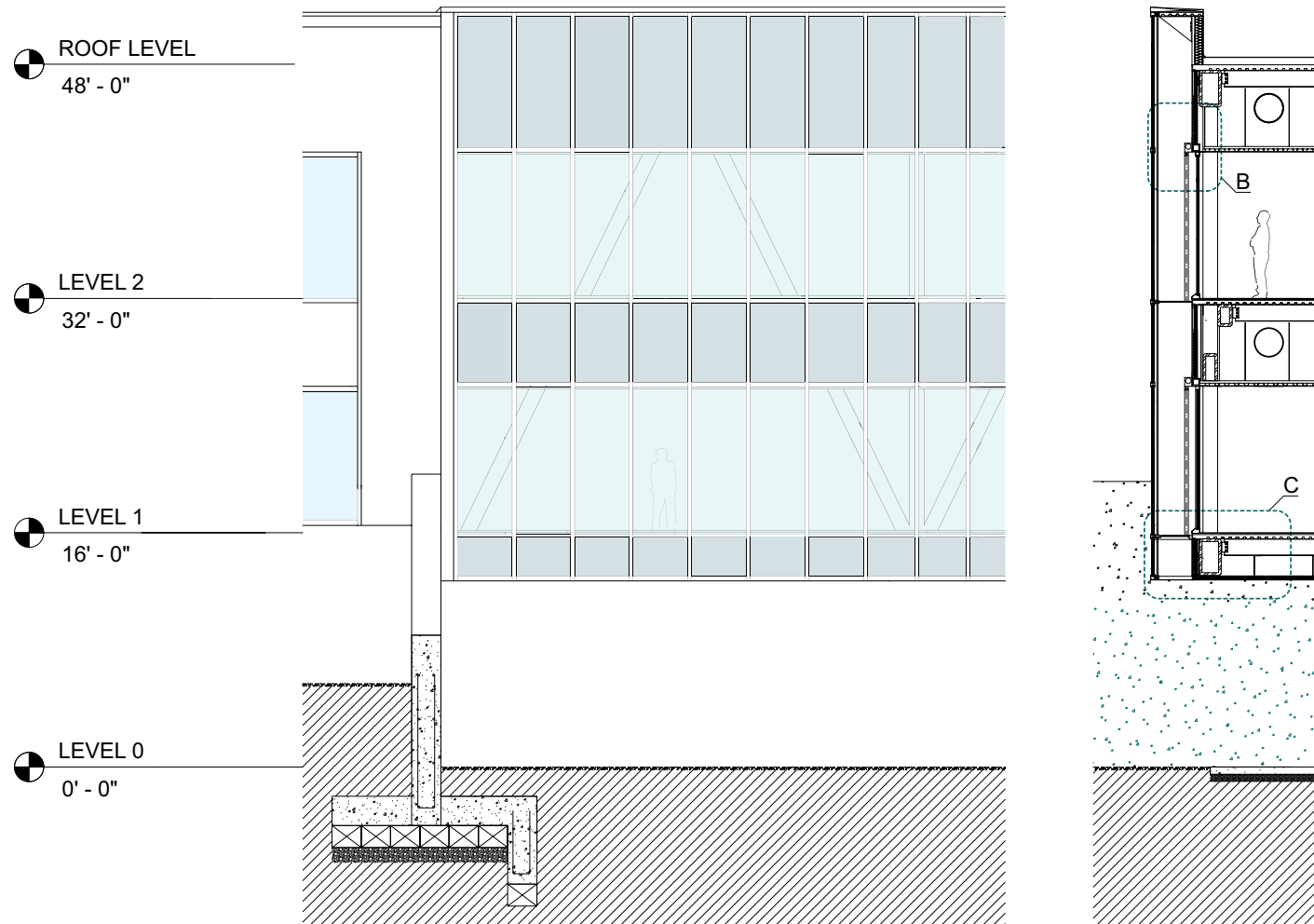
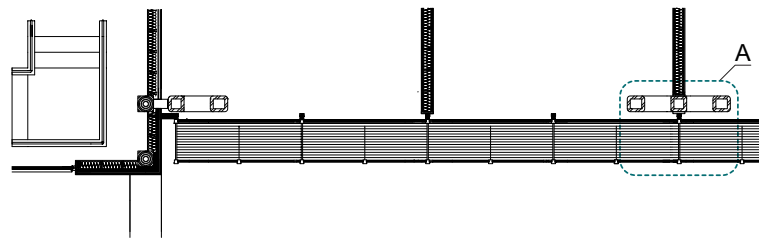


- 1 8 x 8 in HSS Column
- 2 Batt insulation
- 3 Metal stud
- 4 Triple glazing
- 5 Plaster board
- 6 Gypsum board

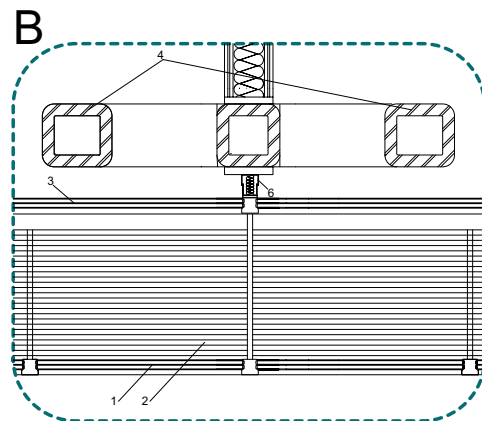
MAIN LOBBY DETAIL

SCALE: 1/4" = 1' - 0"

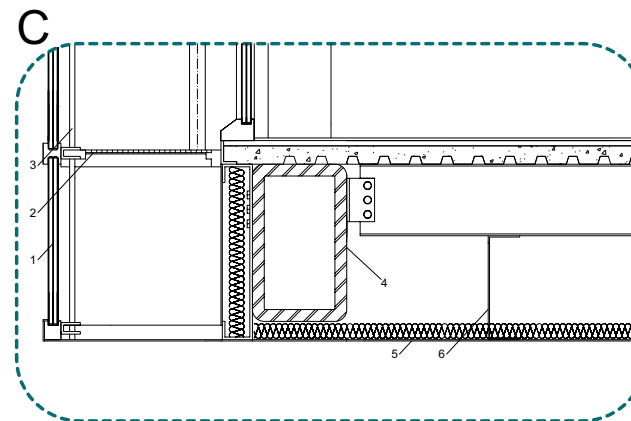
TRUSS DETAIL



- 1 Exterior Glazing
- 2 Mullion
- 3 Horizontal Louver Motor
- 4 Interior Glazing
- 5 Ceiling Joist
- 6 6" x6" HSS
- 7 Suspension rod



- 1 Exterior glazing
- 2 Service catwalk
- 3 Interior glazing
- 4 1 x 1 ft HSS Column
- 5 1 x 1 ft bracing
- 6 Mullion mate



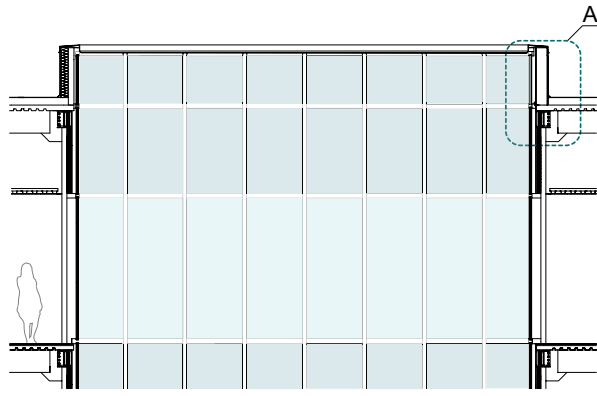
- 1 Exterior glazing
- 2 Service catwalk
- 3 Suspension rod
- 4 2.5 x 1.5 ft HSS
- 5 Aluminum exterior sheathing
- 6 C channel

SOUTHERN TRUSS DETAIL

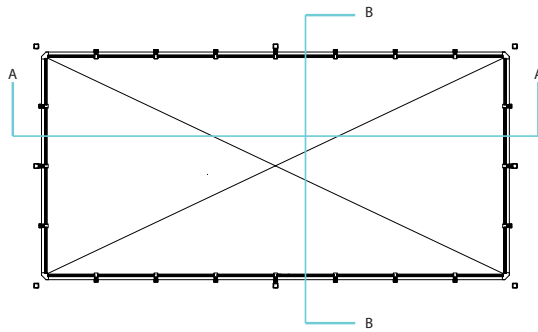
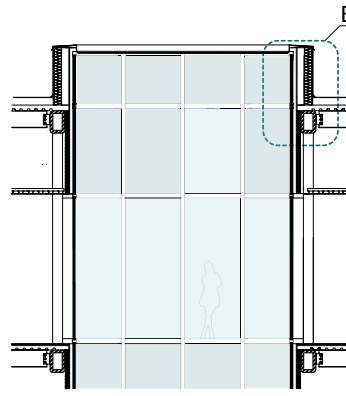
SCALE: 1/4" = 1'-0"

OPEN SKYLIGHT DETAIL

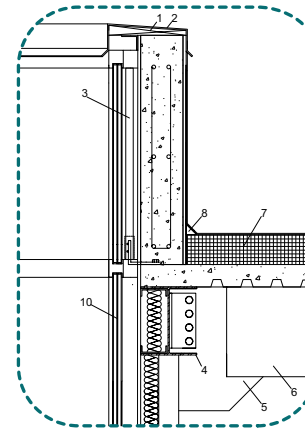
A-A



B-B

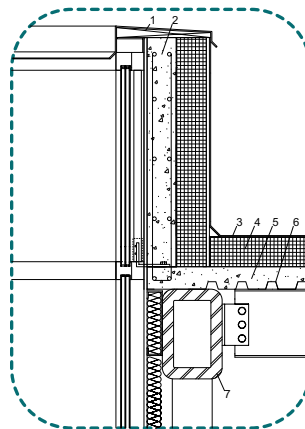


A

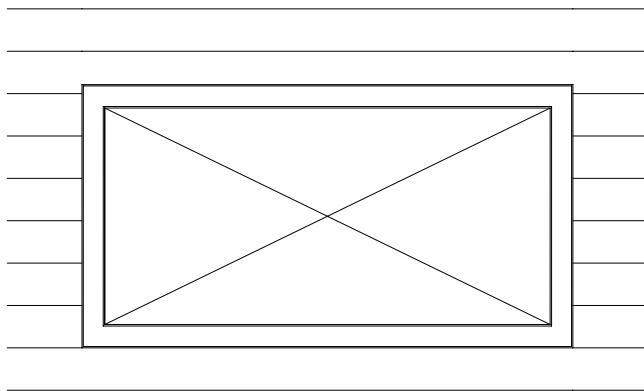


- 1 Blocking
- 2 Flashing
- 3 Sprandrel assembly
- 4 W 16 x 89
- 5 Gusset plate
- 6 18 x 12in HSS
- 7 Roof insulation
- 8 Coping
- 10 Triple glazing

B



- 1 Blocking
- 2 Concrete
- 3 Roof membrane
- 4 Roof insulation
- 5 Concrete slab
- 6 Metal decking
- 7 18 x 12in HSS



OPEN SKYLIGHT DETAIL

SCALE: 1/4" = 1' - 0"

