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.
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Texas A&M University
Department of Architecture
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Distinguished University Professor
William and Dorothy Stearman Endowed Professor
Gregory Duits has took 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.
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 comat 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
How can architecture promote spaces to stimulate healing for PTSD patients?
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.

\[
\begin{align*}
\text{Post} & \quad \text{Future} \\
\text{Traumatic} & \quad \text{Optimism} \\
\text{Stress} & \quad \text{Relief} \\
\text{Disorder} & \quad \text{Order}
\end{align*}
\]

Foro (spanish) = Forum (english)

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

ACCIDENT    RAPE    WITNESSEING VIOLENCE

DOMESTIC VIOLENCE    COMBAT TRAUMA

GRIEF    ABUSE    DEATH

CHILDBIRTH    SEXUAL ASSAULT

NATURAL DISASTERS    COMMUNITY VIOLENCE

SEXUAL ASSAULT    CHRONIC ILLNESS

COMPLEX TRAUMA

DISCRIMINATION    CRIME

ASSAULT

WITNESSING DEATH

REFUEGEE AND WAR EXPERIENCES

BULLYING

SEX TRAFFICKING
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 propagating 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.
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

Collin
- Incidence Rate: 38.03
- Amount of reports: 348
- Population: 915,014

Lubbock
- Incidence Rate: 118.6
- Amount of reports: 354
- Population: 298,509

Nueces
- Incidence Rate: 138.39
- Amount of reports: 469
- Population: 360,587

Hidalgo
- Incidence Rate: 62.12
- Amount of reports: 521
- Population: 838,741

El Paso
- Incidence Rate: 69.16
- Amount of reports: 575
- Population: 831,382

Travis
- Incidence Rate: 55.17
- Amount of reports: 851
- Population: 1,180,000

Tarrant
- Incidence Rate: 80.87
- Amount of reports: 1,986,000

Dallas
- Incidence Rate: 81.39
- Amount of reports: 2,558,000

Bexar
- Incidence Rate: 112.45
- Amount of reports: 1,855,000

Harris
- Incidence Rate: 46.98
- Amount of reports: 2141
- Population: 4,557,000
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
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.

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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.
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.
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.
The biggest design factor for the site involves the possibility that hurricanes could make landfall. With hurricanes coming storm surge and flooding. To protect the site I’ve raised the structure sixteen feet to protect from storm surge and flooding.
PROJECT DRAWINGS
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.
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.
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.
When connecting the burms together I wanted to represent the strength that therapy can have in a patient’s life and portray how they can build connections that would allow them to overcome the trauma(s) that they’ve experienced.
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.
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MAIN LOBBY DETAIL

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

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

A

B

C

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

1. 8 x 8 in HSS Column
2. Batt insulation
3. Metal stud
4. Triple glazing
5. Plastic board
6. Gypsum board
SOUTHERN TRUSS DETAIL

LEVEL 2
32' - 0"

LEVEL 1
16' - 0"

LEVEL 0
0' - 0"

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

A

B

C

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
**OPEN SKYLIGHT DETAIL**

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

1. Blocking
2. Concrete
3. Roof membrane
4. Roof insulation
5. Concrete slab
6. Metal decking
7. 18 x 12in HSS
8. Coping
9. Roof insulation
10. Triple glazing