McKinley County Detention Center

LIFE CONTINUES IN PRISON

A Design Thesis Submitted to the
Department of Architecture
Of North Dakota State University

By
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In Partial Fulfillment of the Requirements
For the Degree of
Master of Architecture

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Thesis Committee Chair - Stephen Wischer

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Acknowledgments

First, I will just say that I am amazed that I have finished this project and I am sitting down writing this. WOW! This has been a good conclusion to these past five years and with that, there are a few individuals that I would like to thank for their support along the way.

To Elvis Presley, for being with me since day one and who will be there well beyond the end. Who taught me if the people like it, it is because they feel it.

To Frank Baum, whom I have the deepest gratitude. Thank you for sharing your adventures. Without you, I could not have changed the white city into my emerald city. I carry your stories with me always.

Furthermore, I would like to acknowledge all the joy I have experienced from the written stories of my favorite authors.

Can I thank my telescope? Or those who invented it, or those who assembled it?.. It is a true gift to have the beyond at my fingertips. One a will never tire of.

Now for the serious acknowledgments. These people in my life are there when times are good and stay when they are not. Without all of you, life would be bleak.

My mom. Thank you for answering all my rambling phone calls and indulging me in my complaining. You have shown up time and time again, there is no one else I would turn to in my times of need. For always cheering me on.

There is nothing greater than your constant love and support.

To my dad, thank you for being someone I can rely upon. You have shown me how to listen to my own heart. No one can make me smile like the way you do (other than maybe my books.) Love you!

Grandma, firstly, thank you for Elvis. Secondly, thank you for your wisdom. You are my person. I want to be you when I grow up. Thank you for all the Tuesdays at your house, you have shaped me into the woman I am today. A favorite phrase of mine is, "if my Grandma likes it, then I must like it too."

Katy! To my best friend and my cousin all wrapped into one. You are my constant. I am thankful that we have each other and that we have remained close even while living apart. When I receive a letter in the mail from you, it always brightens my mood. Plus, who else can read my mirror image writing as well as you do? I would be lost without you! I love you will all my heart. Here is to our hula-hoop teleportation!

Makala Kubischta
April 2023

"We consider a prisoner unfortunate. He is unfortunate in two ways - because he has done something wrong and because he is deprived of his liberty. Therefore, we should treat him kindly, because of his misfortune, for otherwise he would become hard and bitter and would not be sorry he had done wrong. Ozma thinks that one who has committed a fault did so because he was not strong and brave; therefore, she puts him in prison to make him strong and brave. When that is accomplished, he is no longer a prisoner, but a good and loyal citizen and everyone is glad that he is now strong enough to resist doing wrong. You see, it is kindness that makes one strong and brave; and so, we are kind to our prisoners."

Frank Baum; The Patchwork Girl of Oz, 1913

THESIS PROPOSAL

Thesis Abstract

This study is to create a prison environment that is attuned to the users. To design a prison that enhances the safety of interactions between staff and guards with inmates as well as inmates with each other. I want to focus on a project that changes the perception of prisons in the United States. This facility will be a place that has a greater purpose than that of prisons today.

I want to reduce the daily stress of being employed at a prison, being an inmate a prison and as a loved one of someone that is still secure. While providing an environment to connect inmates with their lives outside of prison, it will be a design that has not given up on humanity and human needs.

Through research of case studies of prisons across the world and writings about Navajo justice and spirituality I plan to have a process driven thesis project. By learning where previous case studies have succeeded in their prison ideologies/ designs, I plan to expand these to envision a prison meant to fulfill modern incarceration needs. From here, I plan to create a solution that will serve the Navajo people, community of Gallup, New Mexico and surrounding areas by offering them a safe and uplifting facility.

Design Typology: Detention Center
Location: Gallup, New Mexico

Thesis Narrative

WHY DO PEOPLE COMMIT CRIMES?

Criminals continue to commit crimes even after supposed rehabilitation in prisons. Why is that? The purpose of prisons today is by making criminals pay a debt to society for their crimes by depriving them of their freedom while removing them from society so they are unable to harm innocent people in hopes to deter them from preventing a future crime. Though, many of these criminals keep finding themselves in prison once again after committing additional crimes since their last release. “No one can argue that prisons improve a man or woman better than a zoo cage reforms captive animals” (Sommer). There must be a better solution to what occurs in prison because the prisons we have now bring our criminals right back to where they started.

Society today negatively takes a role in an individual’s personality by jumbling their priorities. When people flaunt their wealth in society it is common for less privileged people to feel compelled to earn more which leads to kids often indulging in criminal activities to make a lot of money. We are shown that money should hold a higher value than relationships in our day to day lives. This leaves us choosing the need to grow our finances over the need to strengthen our relationships with people that can pour back into us whereas money cannot fill us with love.

WHAT THE PURPOSE OF PRISON SHOULD BE

Every single person falters, we all stumble at times, it is not even a question. Some of us fall further and farther than others, some of us have people in our lives that pick us up while others do not. What if we helped each other up? What could that look like? What if we accepted that things happen and they do happen and then what if our focus turned to lifting each other up to a point where getting up is all that matters? "I think maybe everyone falls… I think the asking is whether we get back up again" (Ness, The Knife of Never Letting Go. 2008). We can support one another and ourselves, then each day we will grow a bit taller and in time we will leave taller than we were before our fall.

Each person has an unlimited potential if we are willing to look. We are innovative creatures and should be confident in our abilities. We must always believe in our unlimited potential and maintain an attitude to bravely meet any challenge. Shouldn't prisons destroy internal weakness and lead criminals to a mindset of leading with their unlimited potentials. When we fail to overcome our internal weaknesses, we are easily bullied by external things in our world like someone saying something related to us and external situations created by someone else leading to us engaging negatively in them.

If we let current potential choose our possible future accomplishments than nothing new and challenging can be achieved. So, believe in yourself. Believe in yourself today and rise to the occasion with courage and spread this ideal with each person you meet. This will bring good to our daily lives and if it were to reach prisons, we could move mountains in how we treat one another. While prisons today get criminals off the street while deciding what to do with them, the system could keep them off the street.

Often, when criminals are put into a prison their hearts are filled with bitterness, their liberty taken away filled with discretion from their wrongful acts. The purpose of prison should be to take the bitterness out of criminal's hearts. Upon entering, they will more than likely not be sorry for committing

their crimes, through discovering their self-worth, prisons could open up their hearts to recognizing the terrible acts they have done and turn their hearts away from committing another crime. We need to make them strong and brave. In doing this they will unveil the wrong and hurt in their ways to commit to an even stronger and level minded version of themselves. The mind, once stretched by a new idea, never returns to its original dimensions. (Emerson)

It we were to treat our prisoners with the kindness that they are lacking, it would lead to whole new layers within their minds making stronger and braver these men and women that will never be the same again.

WHY KINDNESS

Why should we be kind to people that have cut other people down? Well, how does being treated with kindness feel, even after having done something terrible? In one word, heavy. Heavy because it shows that someone is there, someone cares about you enough to be there because they know that you are worth it. That you can break through this, that through even the most terrible deeds, it is still in you to be able to turn your life around and make change for the better.

Kindness seeps into one's heart with warmth and light which can wash out negativity. This means our criminals will over time have fewer negative emotions about themselves, their peers and their society after discovering a spark of good within the sea of darkness that society has pushed upon them over the years.

Kindness ignites deeper relationships. The more someone receives or witness's kindness from another, the more they will be kind themselves, which then leads to the passing on love and generosity in relationships. "Love is the only force capable of transforming an enemy into friend." (King Jr., M.) Each day becomes another reason to be emotionally stronger. This then will lead to people beginning to begin again, by placing more of their heart into their relationships rather than material objects such as money. Which then over time

will spread throughout the community and decrease desire to commit crimes including the first initial crimes.

Kindness is contagious.

-NO LONGER SOCIETAL GARBAGE-

Our prisoners are not society's garbage and soon it will be seen across communities that each person has a purpose for good and is able to make choices that bring joy to lives.

Kindness opens one to their own emotions. It opens their minds to figure out what initially caused the desire to commit their crimes. We go through and reflect on our baggage to see how we got to where we are now and why we do not want to go back to before our hearts were filled with peace and love.

Kindness will change the hearts of our prison workers. Through admiring their prisoner's journeys through these programs where they are providing them a positive space it will continue to fill the hearts of those around and in the building from day to day. This is the start to an empathetic community. We all are walking on this journey together, to learn from each other's pasts in need of a future where we understand each step, we have taken to build a community without solid walls. Then by promoting visitation in prisons and having prisoners that are now strong and brave released from this system, empathy will spread outside of the prisons and blossom throughout society. This entails a common ground between crime committers and non-crime committers and soon we will be acceptive of our wrong doers because we have all slipped up and know what it is like to be helped up. Soon we might just welcome all and make our communities a welcoming and safe home for any person. When our prisoners choose the kindness in their hearts, they will find the key unlock all our powerful selves.

WHAT IT SHOULD LOOK LIKE

"We consider a prisoner unfortunate. He is unfortunate in two ways - because he has done something wrong and because he is deprived of his liberty. Therefore, we should treat him kindly, because of his misfortune, for otherwise he would become hard and bitter and would not be sorry he had done wrong. Ozma thinks that one who has committed a fault did so because he was not strong and brave; therefore, she puts him in prison to make him strong and brave. When that is accomplished, he is no longer a prisoner, but a good and loyal citizen and everyone is glad that he is now strong enough to resist doing wrong. You see, it is kindness that makes one strong and brave; and so, we are kind to our prisoners." (Baum, The Patchwork Girl of Oz. 1913).

Being kind to one another has become a weakness in our community. Its much simpler to hurt someone than be kind to them. Kindness takes time and thought and brings greater rewards. How did we let brute force become an overall desire? If we took a step back from the overload of who we are that society stacks upon our shoulders to listen to ourselves and who we truly are, our values might just change. "In this world of numbness and information overload, the ability to feel, my boy, is a rare gift indeed." (Ness, The Ask and the Answer. 2009).

Just as Martin Luther King Jr. has told us, jail is a place of self-purification. Self-purification is the process in which one cleanses the ugliness within himself before going out and changing the world. This should be the purpose of jails. If we are to hold our wrong doers separate from the community, when we allow them back, they should be ready to be there. Rather than just holding them in a cell and then just tossing them out and hoping for the best. Prisons should become a place of retreat from the hectic city, an oasis, to aid on the journey of self-discovery.

This is not a full proof system. People will still stab us in the back even after we offer them love, but so many people will benefit from this updated

prison system that it is worth the payout and the risks. This then leads to the question of punishment. Will our wrong doers still be punished for their crimes? This is not necessary. Some unthinkable crimes can never be repaid, so instead of thinking of how to get back what we have lost from their actions, lets help them stand taller so that we will not have to lose more. There are already many programs ready to help people once they get out of jail that do well to introduce people back into communities, so why not turn prisons into these programs with no choice out of them. Then, what is the difference between rehab and prison? For now, they will both be working towards the same goal of restoring hearts and minds, only in prison criminals do not get to leave until they are ready, when their time is done, or their souls born anew.

A NEW DESIGN

An important part of the proposed prison system is to dive into how prisons should be designed in the future to better expose this notion of presenting our criminals with kindness and love. A way to involve more than just prisoners and employees in this process would be to invite community members to come in and meet with the criminals and just hang out and talk to them, as simple as playing a game of go fish with them. Currently, prisons are not associated with the community unless one is visiting someone, they have relation with. Why not integrate strangers into criminals' lives that are nothing but kind to them? This would have a huge change on their hearts and their lives because it shows that as a full community, we care about each person that lives alongside us. Prisons could benefit from building more inviting visitation areas and then promoting community involvement to come in and visit. This would require enhanced security from having more people in and out of the building with additional barriers of security to pass through.

Having a connection to nature is vital for self-discovery for prisoners to take a step back and evaluate what they have done and how they can rise

stronger. Nature forever puts a premium on reality. What is done for effect is seen to be done for effect; what is done for love is felt to be done for love. A man inspires affection and honor because he was not lying in wait for these. (Emerson) By giving yourself to nature, you discover your power within yourself while in a deep connection to the earth and its simplicities for you. It is a breath of fresh air. You allow yourself a thoughtful connection with your own heart and experience the sunshine in your soul. Putting a prison in a forest could be a beautiful thing, but it contradicts our visitor access so this would leave us with the need to keep nature within the walls of the prison for all inmates to enjoy and have personal connections with so that they give themselves to nature.

We will bring creativity back into our outcast's lives. Each person has a spark and many times prisons inhibit these joys of life. We need to bring back art into their lives and give them back the beauty of imagination through pottery classes, music and a large access to books and knowledge. By designing additional spaces in prisons for hobbies we allow criminals to rediscover joy in their lives through being present in the moment with activities that support positivity and the practice of expressing their emotions.

Color! Frequently, the interior of prisons is exposed concrete masonry units which inhibit expression. A life of slate gray concrete does not do any good, it makes for a prison of the body as well as the mind. Prisons should only imprison the body to the physical space while promoting growth in the mind. Using color and textured materials in prisons will bring life to the spaces. Prisons are not restrictive cages and criminals should not be treated like beasts because they are human beings. Along with color, sunlight is critical to have in the space. We cannot shut out the bright light and energy from their world. Sunlight boosts mood and helps a person feel calm and focused which is what people that are on a journey of self-discovery need!
Prisons will no longer be a negative environment.

Makala Kubischta
May 2020

Project Precedent

Design Intent

The project typology is a detention center also called a prison. Specifically, this project will be a medium security prison. This still allows for exploration in defensible architecture while allowing flexibility and creativity in the design itself. I plan to have the greater influences of this project to be expressed in two iterations.

PLANS INFLUENCED BY CASE STUDIES

With an established initial spacial program, I plan to develop my thesis by diving into the successes and failures of previous prison designs. By determining what unique design features of each case study are a success, I will see if any of these would align with my design intent. From here, I will design my own iterations of these successes to use in my thesis project.

DESIGN INFLUENCED BY RESEARCH

My research will determine much of my thesis. It is important to me to design a prison that will benefit and serve my chosen community. I will be researching the incarceration needs of the community and their methods of handling their criminals to influence the intent and inner workings of my project. I am also passionate about solar geometry as well as water features. My research will examine ways to use both of these ideas throughout my final prison design.

Project Justification

This project is important to me because the rates of re-incarceration are high in the United States compared to other countries in the world. The Native American population is a large portion of the re-incarcerated group. So, this project will design a prison that will cater to their needs and might reduce changes of being imprisoned again by approaching the design with humanity. I want the inmates to have some responsibility over their own lives while imprisoned. It is important to try a new approach to prisons to see what can be changed. I want to design a prison that looks out for its users and gives them a greater purpose than just to deter others from going to prison.

This study is important to our society because it may decrease violence in prisons and in turn improve the safety and personal lives of those working, living or visiting this detention center.

This thesis is an acceptable project to demonstrate my knowledge and skills because it takes a new look at a typology of architecture has become settled into its use. The project will require a of depth knowledge of prison architecture as well as an awareness and philosophical understanding to decide what spaces are required in a prison and what more there could be.

Project Emphasis

The two main focuses of this thesis project are to design a prison specifically for the Navajo culture and to create methods of healing through water.

A PRISON FOR THE PEOPLE

A prison for my chosen site will be done by researching about the people of both Gallup and the Navajo Nation. It is important to reflect their ideals and why of life into a building where some will be staying in for long periods of time.

WATER FEATURES IN THE DETENTION CENTER

Having a bond with water helps with illnesses, enhances creativity, generates awe and a sense of connection to one's surroundings. If these principles were an incorporation of 'blue space' in prisons would they promote inmates sense of self worth and assist in their journeys towards resettlement and deterrence from crime?

Water can be used to reduce PTSD and addiction which are both prevalent in Native American inmates. Water also has significant spiritual meaning to this culture and incorporating it into the design will allow for a greater connection to their lives.

Major Project Elements

INMATE HOUSING

Inmate housing must meet the security needs of the inmates as well as the standards of humaneness and decency.

INMATE SERVICES

- Medical Facility
- Food Service
- Mail Room

Inmates require access to various recourses. Quality inmate service depends on the combination of qualified staff, adequately equipped facilities and a connection with community demographics.

INMATE PROGRAMS

- Visiting
- Education
- Recreation
- Religious Program

These programs are meant to reduce negative psychological means of confinement and help maintain important attitudes for successful reentry into the community.

ADMINISTRATIVE FUNCTIONS

- Control Center
- Entrances
- Perimeter
- Roads and Parking

Administrative functions focus on maintaining security for the institution.

User Description

The users and clients of this project will regularly involve staff, guards, visitors and inmates.

OCCUPANT GROUPS

Other Staff	100-120 total
Guards	70-90 total
Prisoners	400 - (500+ with growth)
Visistors	10-60 at one time

The Bureau of Justice Statistics estimated that the average ratio of inmates to officers in medium security prisons nationally is 4.9 to 1 (U.S. Department of Justice, 2021).

Medium Security Federal prisons house all manner of criminals including, prisoners convicted of drug offenses, white collar crimes, sexual offenses and others. The offenders often have a history of violence, escape, in prison alcohol and substance abuse and a disciplinary record. They generally serving between 20 and 30 year sentences.

While some medium security prisons are relatively safe and easy, others are incredibly violent and dangerous. Some are run comparably to high security federal penitentiaries, while others are more laid back. They usually have strengthened perimeters, high staff to prisoner ratio and many are facing overcrowding issues.

Goals of this Thesis

The purpose of this research project is to enhance the quality of life within the prison system while, for the inmates, continuing to maintain their desire to be released.

ENGAGE the surrounding community with a suitable prison.

Having visitors is an import aspect for inmates. The detention center should not be a stale and unwelcoming environment. It should be a place where community members would be comfortable to approach and enter.

RELIEVE prison guards of strenuous security duties.

The prison must reduce time and effort required by guards to keeps inmates in check and be flexible to meet staff availability. It is important that **the detention center is secure in itself**.

ENCOURAGE life in prison culture.

While being imprisoned, I would like to have little reminders of what inmates are working towards. Some inmates will be in here for life and I would like to bring parts of the natural world outside into this prison.

A Plan for Proceeding

Definitions of Research Direction

The purpose of this research project is to explore what a prison can be. What is the purpose of a prison? What are the benefits of a prison? What kinds of punishment deter criminal actions from re-occurrence?

It will be important to research case studies and studies of prison methods of deterrence to establish a knowledge that will be used while designing.

Further, it will be important to investigate how the institutions create their secure environments. Do they most rely on their guards, inmate integrity or security cameras… etc.?

Design Methodology

For the study of this thesis, I plan to select my site by researching crime rates and incarceration rates to determine which state to choose. Once I have chosen my site, I plan to research the culture of the people there to discover why they are being imprisoned so that I can begin looking for methods to reduce the stress of these issues. It is important to me to learn what I can about the culture of the people at my chosen site so that I can develop a prison that is adjusted towards their needs.

With the use of water in this project, I plan to research the beneficial psychological effects of being near, in and under water focusing on the healing opportunities for individuals. From here I plan to research how water has been implemented in design through case studies to determine their effectiveness with their human connections and security precautions.

Documenting the Design Process

I hope for this thesis project to be a process project. This will be exhibited through process sketches. I want to take my audience from the very beginning of the project all the way to the final render images through a series of sketches.

Many of my charts and graphs will be represented by Adobe Photoshop design software, sketches and models.

Feedback from my thesis instructor will guide and help develop this project. It will be documented in a thesis book, pretension and design board.

Publication of the material will include contributing it to the NDSU institutional repository and the final thesis book will be printed in hard cover format.

Project Schedule 2022

AUGUST	
28-3	Begin thesis book, complete site selection
SEPTEMBER	
4-10	Finish initial program, select case studies
11-17	Start water research
18-24	Design philosophy
25-1	Navajo research, inside criminal mind research
OCTOBER	
2-8	Complete site research, create sun studies
9-15	Complete precedent and water research
16-22	Research solar water heating and solar greenhouses
23-29	Edit and create graphs
NOVEMBER	
30-5	Research detention center standards /NM codes
6-12	Book formatting
13-19	
20-26	Peruse additional research avenues
DECEMBER	
27-3	Go over research and begin considering design
4-10	
11-17	
18-24	
25-31	

2023

JANUARY	
1-7	
8-14	Begin schematic design
15-21	
22-28	
FEBRUARY	
29-4	Complete schematic design
5-11	Make Revit materials, begin presentation and board files
12-18	Design interior spaces
19-25	
MARCH	
26-4	Create final plan renders
5-11	Begin rendering in Enscape
12-18	Photoshop Renders, design book cover
19-25	
APRIL	
26-1	Work on digital presentation and board
2-8	
9-15	
16-22	Project turn in at 5:00 pm April 21
23-29	
MAY	
29-6	Final theses reviews

THESIS RESEARCH

Site Selection

New Mexico's Crime Rate

Crime rate in the United States in 2020, by state (per 100,000 population) Top 10 States Shown

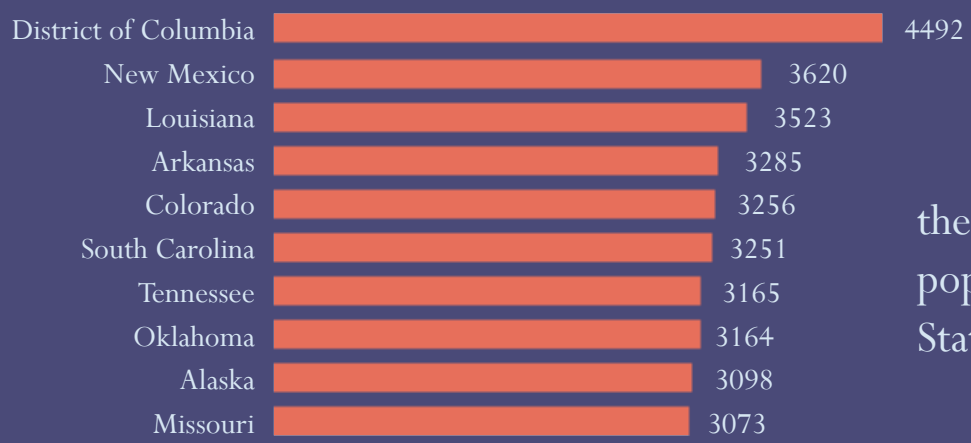


Figure 1–US Crime Rate (from Statistica)

New Mexico = #1 state crime by population

New Mexico had the greatest crime rate by population in the United States in 2020.

Violent Crime Rate by state in 2020 (per 100,000 population)

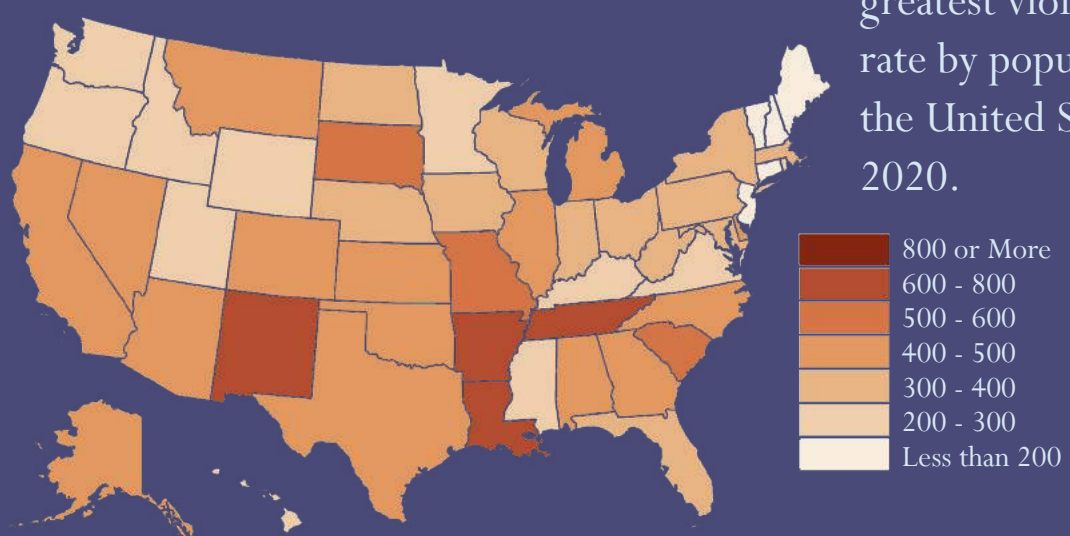


Figure 2–US Violent Crime Rate Map (from Wikipedia)

New Mexico had the second greatest violent crime rate by population in the United States in 2020.

New Mexico's Imprisonment Rate

State	Imprisonment Rate (per 100K)
Louisiana	684
Mississippi	639
Oklahoma	632
Arkansas	582
Arizona	536
Kentucky	514
Texas	513
Georgia	495
Idaho	452
Florida	433
New Mexico	315

Figure 3—2020 Imprisonment Rate (from World Population)

2020 State imprisonment rate in the United States (per 100,000 population)

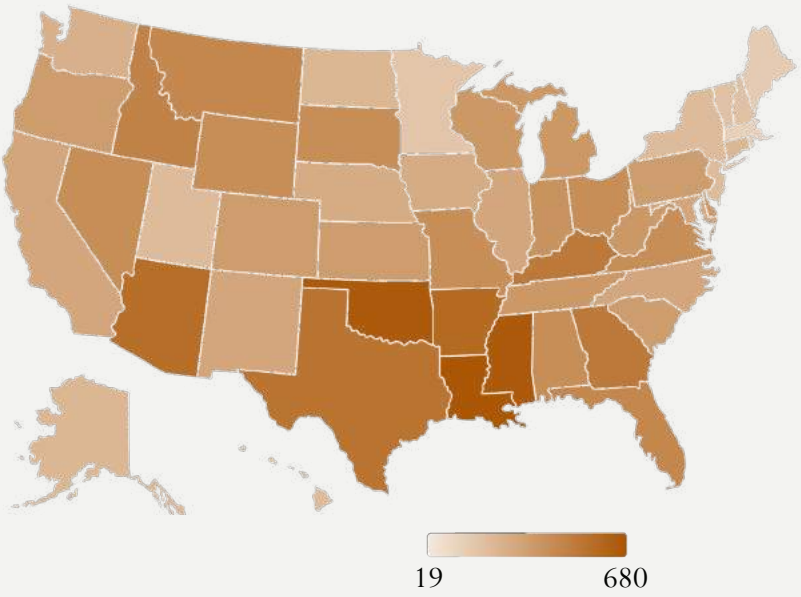


Figure 4—State Imprisonment Rate (from Sentencing Project)

New Mexico comes in 30th for number of people imprisoned per the state's 100,000 population.

New Mexico = #30 imprisonment rate

New Mexico has the greatest amount of crime of any state in the United States of America, yet it comes in 30th for its imprisonment rate.

This brings to attention that New Mexico may be lacking in its prison system and could be in need of an additional prison.

Medium Security Detention Centers in U.S.

Medium Security Detention Centers in the United States
(by type and population)

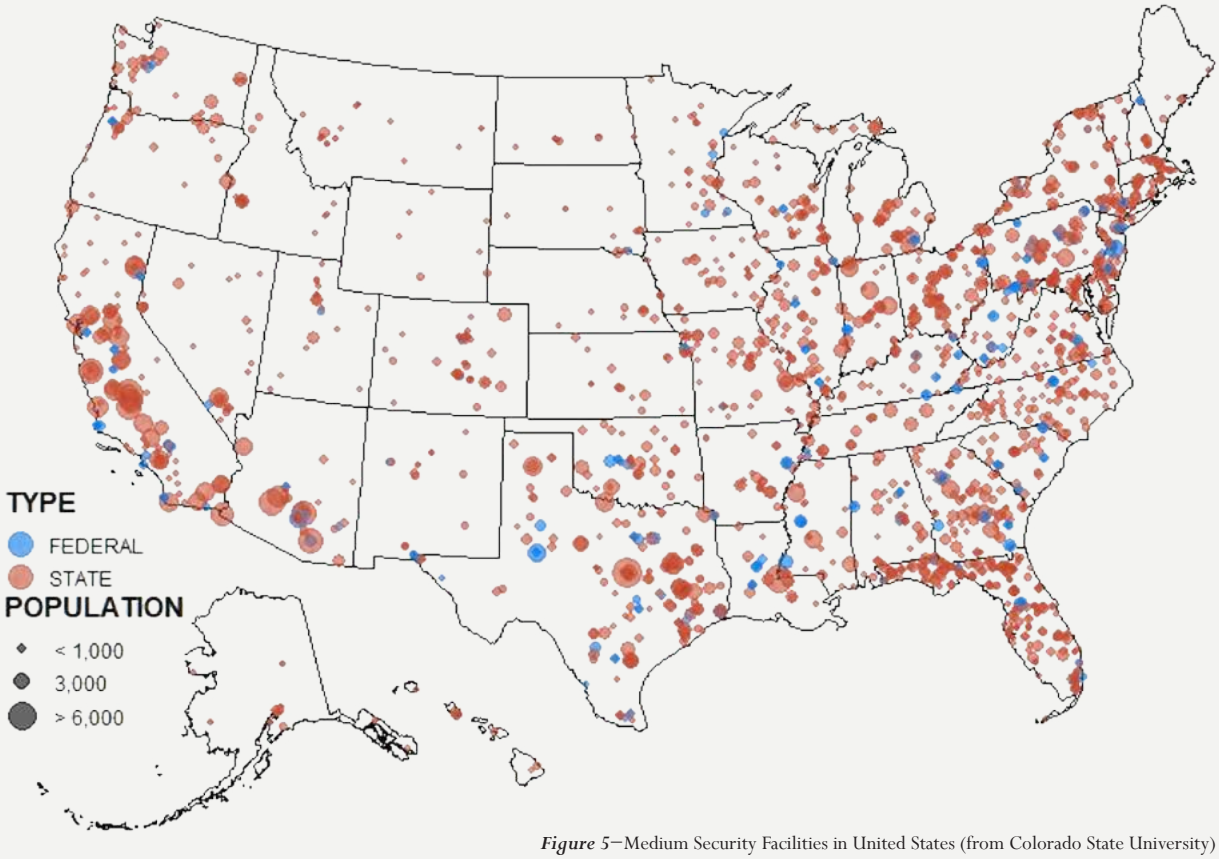


Figure 5—Medium Security Facilities in United States (from Colorado State University)

It is seen that New Mexico has few prisons distributed through the state with low populations compared to the entire United States.

Detention Centers in New Mexico

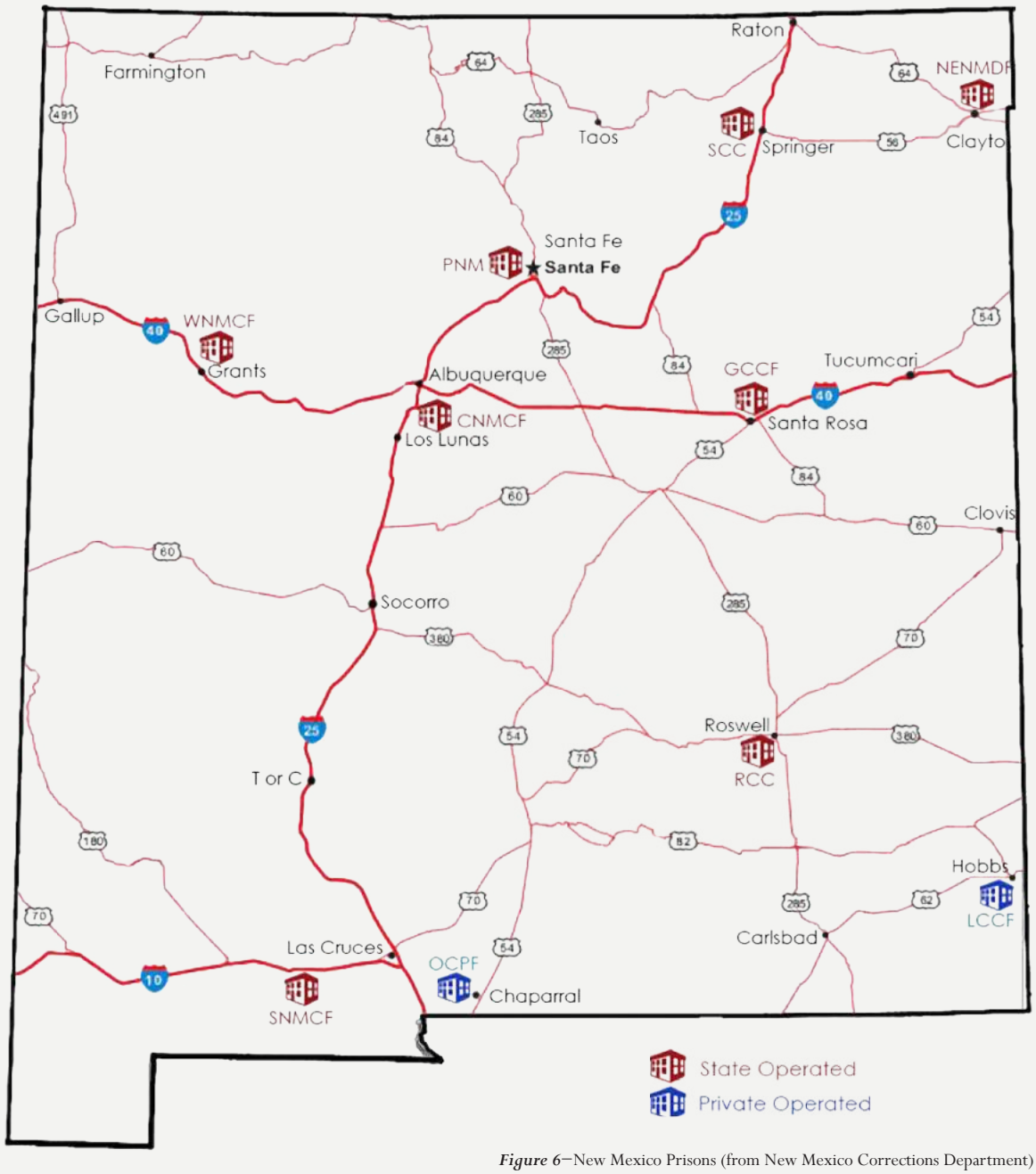


Figure 6—New Mexico Prisons (from New Mexico Corrections Department)

There are 11 prisons in New Mexico, 9 state operated and 2 that are privately operated.

Population of New Mexico

It is important for the proposed prison to be in or near a city to accommodate staffing and visitor needs.

New Mexico Population Density by County

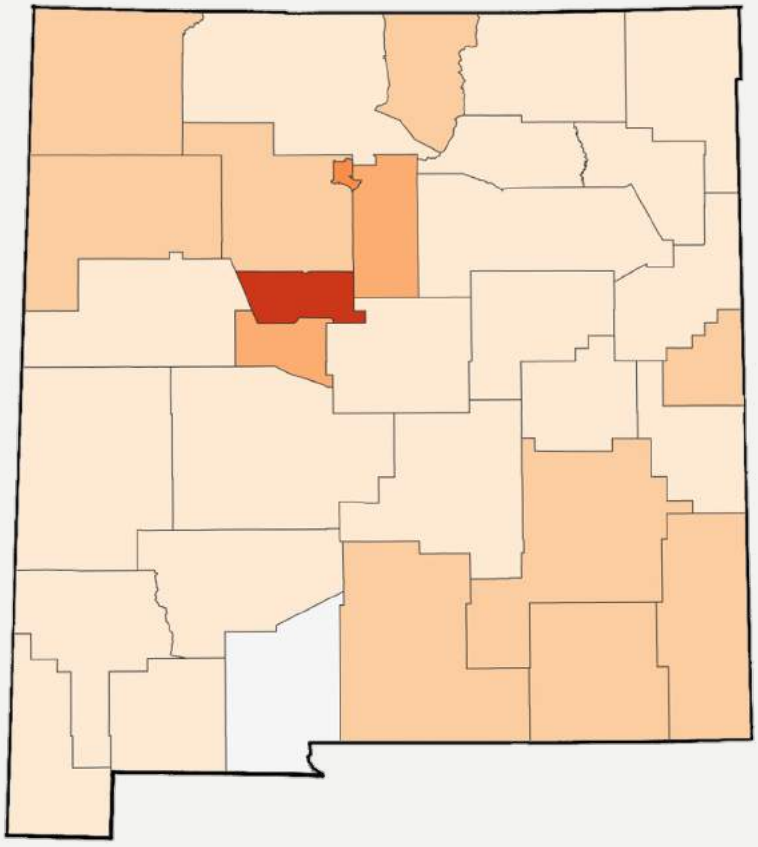


Figure 7—New Mexico Population by County (from World Population Review)

Name	2022 Population	Density mi²
Bernalillo County	679,220	585.12
Santa Fe County	156,953	82.20
Sandoval County	152,288	41.04
San Juan County	119,985	21.76
Lea County	76,401	17.40
Valencia County	76,133	71.41
McKinley County	73,184	13.43

Figure 8—2022 Population of Counties (from World Population Review)

Dangerous Communities of New Mexico

A Visual Representation of Safest to Most Dangerous Counties in New Mexico from 2021 Data

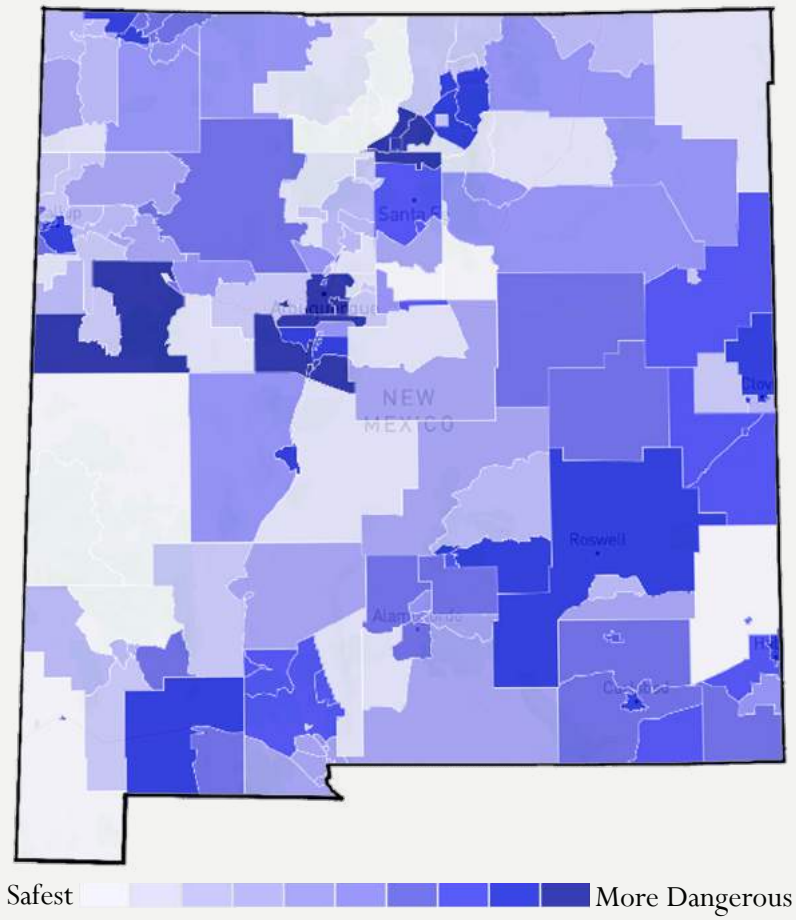


Figure 9—New Mexico Crime Map (from Neighborhood Scout)

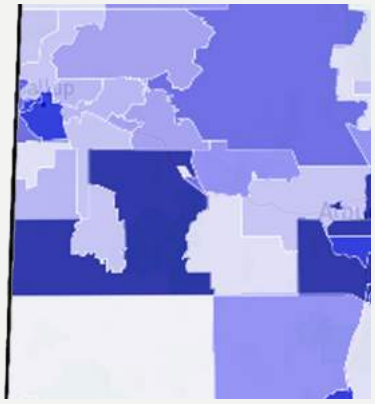


Figure 10—Zoomed in Crime Map (from Neighborhood Scout)

This is a zoomed in look at a more dangerous area. When comparing it with the previous charts this area is laking in prisons and has a moderate surrounding county populations. All together, this is an ideal location within New Mexico to propose this thesis site because there is high crime, moderate population and lack of prisons.

The Most Dangerous City in New Mexico

GALLUP

- Population: 21,935
- Average Annual Growth: Positive 2.37%
- Rank Last Year: 1 (No Change)
- Violent Crimes Per 100k: 1,992 (Second most dangerous)
- Property Crimes Per 100k: 6,368 (Most dangerous)

Located in the northwest corner of New Mexico, Gallup is famous for being mentioned in the song "Route 66". But now, Gallup is also famous because it ranks highest in property crime and second highest in violent crime, making it the most dangerous city in New Mexico for 2021. These numbers may be why Gallup is also known for being one of the worst places to live in New Mexico. Your odds of becoming a crime victim are 1 in 9.

"97% of cities are safer and 3% of cities are more dangerous."

Crime Grade, 2020

Gallup, New Mexico Crime Breakdown, 2021

City	Population	Violent Crime	Murder and Nonnegligent Manslaughter	Rape	Robbery	Aggravated Assault	Property Crime	Burglary	Larceny Theft	Motor Vehicle Theft
Gallup	22,815	352	1	20	87	244	1,493	256	1,046	191

Figure 11—Gallup Crime Breakdown (from FBI: UCR)

Crime Compared to Gallup

Most Violent Cities in the United States, 2022 Data

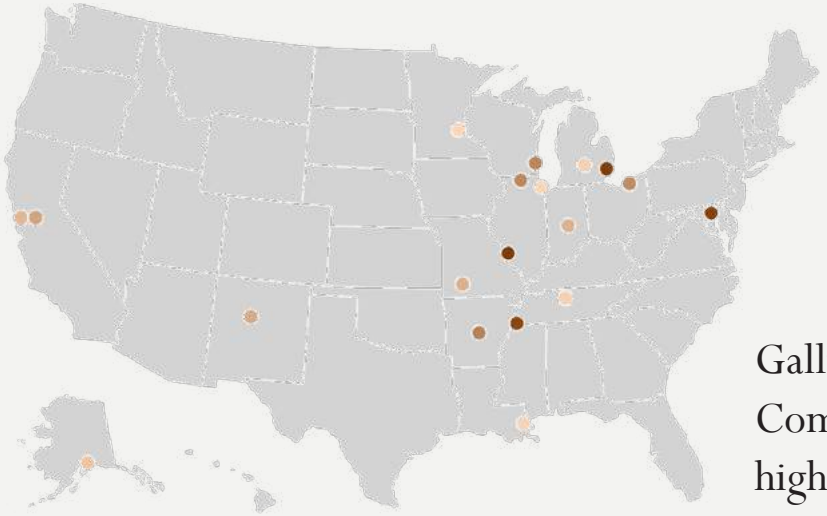


Figure 12– Most Violent Cities in America 2022 (from World Population Review)

Gallup, NM has a high crime rate. Compared to other U.S. cities with high crime it is seen that Gallup has a high rate of property crimes. Unlike Detroit, which has more violent crimes.

Crime Comparison to Gallup, NM, 2022 Crime Rates out of 100

U.S. City	Violent Crime Index	Property Crime Index
Gallup, NM	86.6	95.5
Detroit, MI	94.3	66.7
Albuquerque, NM	51	85.3
St. Louis, MO	86.8	85.1

Figure 13–2022 Compare Crime Filled City Rates to Gallup (from Best Places)

New Mexico Inmate Forecast

FORECAST

New Mexico prison capacity would exceed capacity in 2024

SANTA FE. A forecast prepared by the state sentencing commission shows New Mexico's prison system will have more inmates in the next few years than it currently has cells to hold them. While the growth of New Mexico's prison population has slowed, the state is bucking the national trend as its total prison population continues to grow. The correction system is projected to hold 7,192 men by the 2024 fiscal year. Which will exceed current capacity by more than five dozen. The number of women in the system also is expected to surpass capacity that year.

Figure 14—New Mexico Correction Department Logo (from New Mexico Corrections Department)

Building Next to the Reservation

Map of Reservation Land in New Mexico

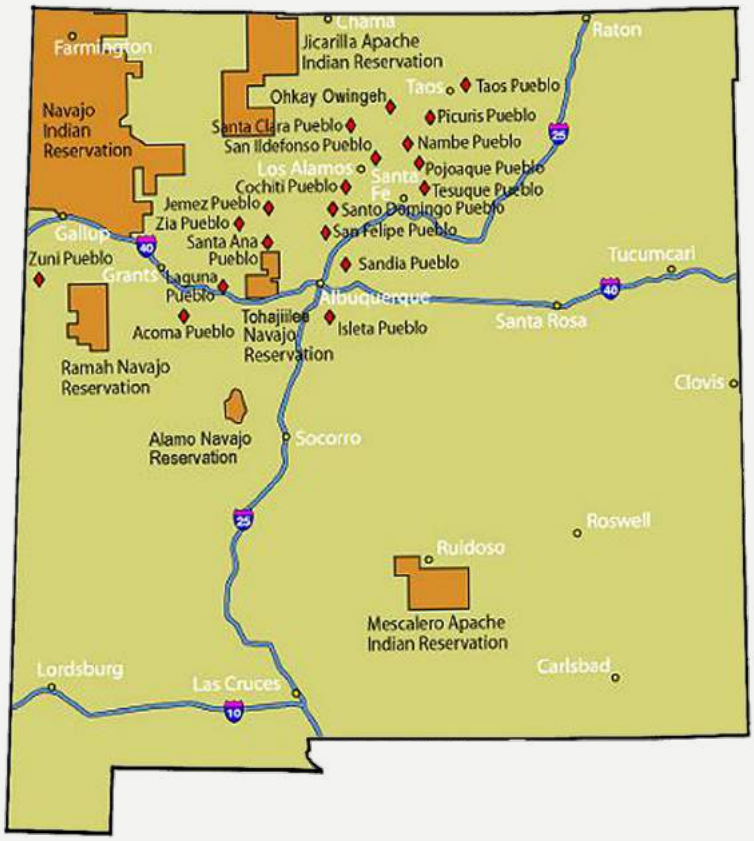


Figure 15—New Mexico Pueblos and Reservations (from NM Health)

Gallup is right on the southern tip of the Navajo Indian Reservation so a prison to help out that area cannot be built directly to the north.

Because land cannot be developed to the north, east or west of Gallup with the reservations, this puts the site on the south part of town right off of route 66.

The Answer is Gallup

Gallup is the most dangerous city in New Mexico and it's closest detention center is 65 miles east, just over an hour drive by car.

Having the prison closer to a big city allows for staff to live close to work and makes it easier for families of inmates to visit.

Figure 16—Gallup Aerial View (from Travel Lens)

The Site

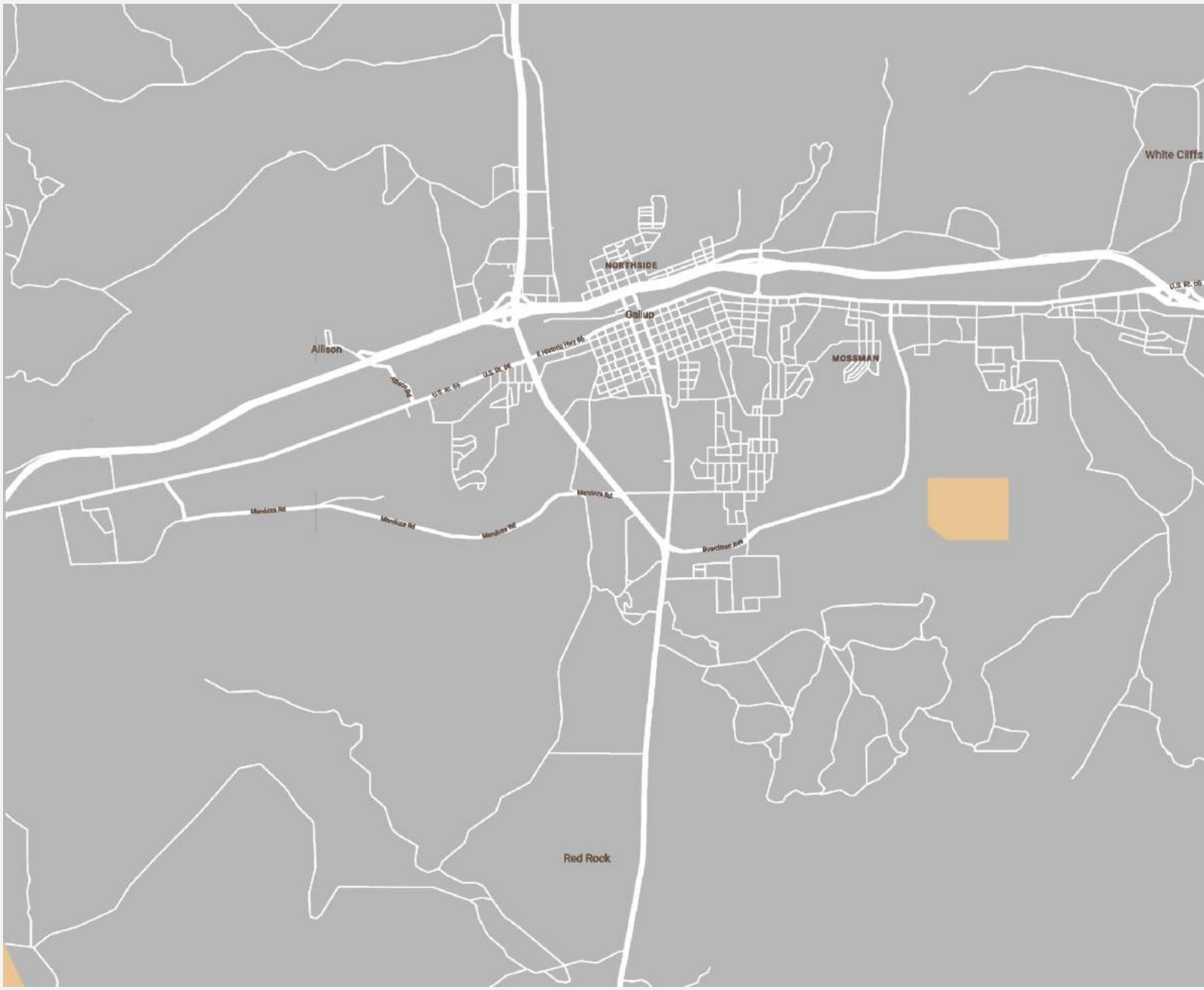


Figure 17—The Site and Gallup

This site was chosen for its connection to Gallup. It is important to have a property that is large enough to hold the main prison building, as well as space between that and the perimeter to keep the area secure.

The site has an angle taken out of it due to the large change of elevation. Having a flatter site will keep the building costs lower. So, it was important to select a site location that was relatively flat.

Site Analysis

Project Location

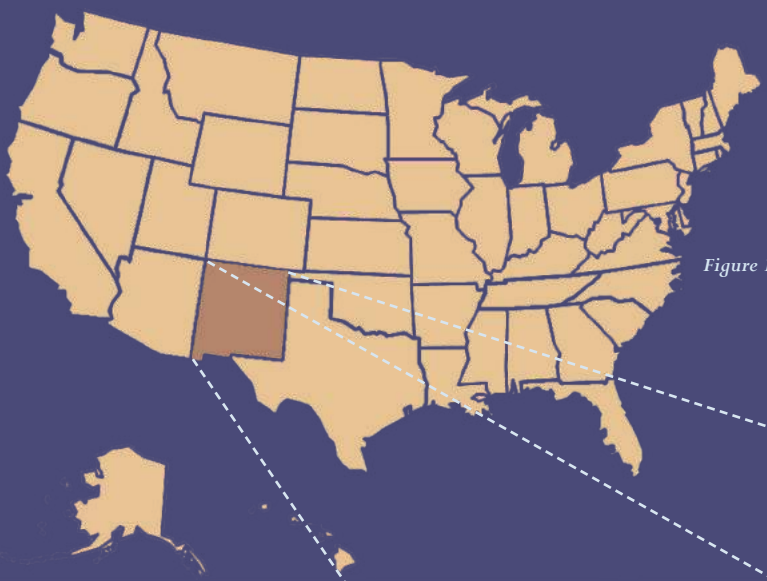


Figure 18—Map of the United States (from Nations Online)

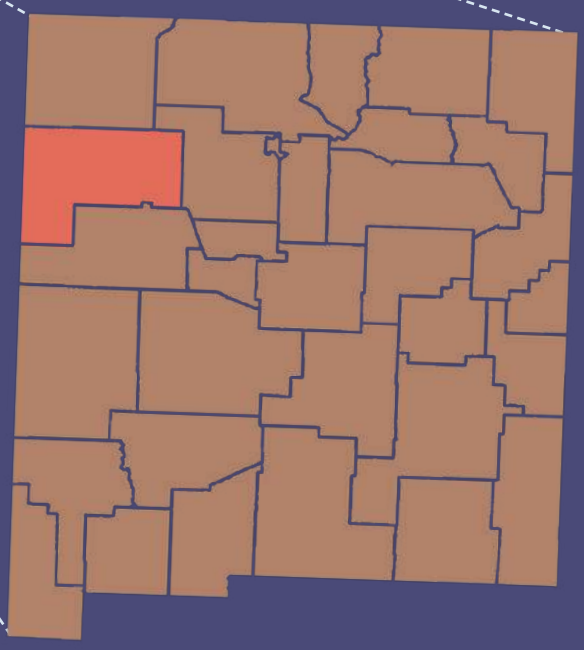


Figure 19—Map of New Mexico Counties (from Maps of the United States)

Project Location: McKinley County:
Gallup, New Mexico

35.481413, -108.670764

Site Survey

Geographic Location

The site for this thesis project is in Gallup, New Mexico. The latitude and longitude of the site is 35.481413, -108.670764. It is in the south west of town, off of Boardman Drive, a major road.

Figure 20—Initial Site Topography

The elevation of the site averages to 6,619 FT.

The total area of the site to the property lines is 1,450,000 SQ. FT.

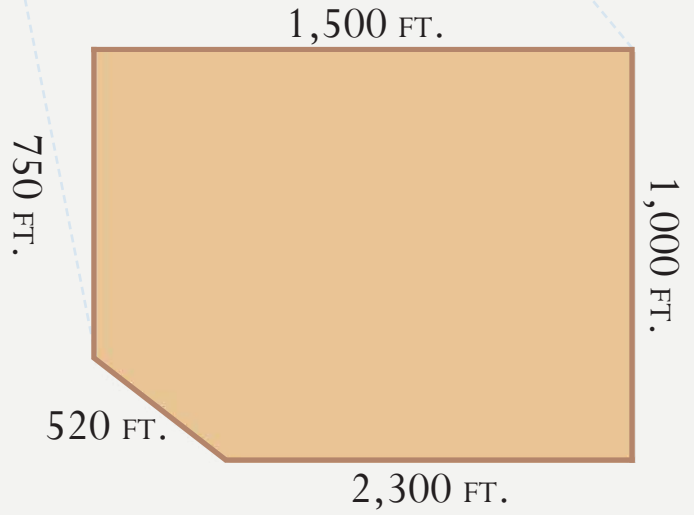


Figure 21—Site Dimensions

Authorities

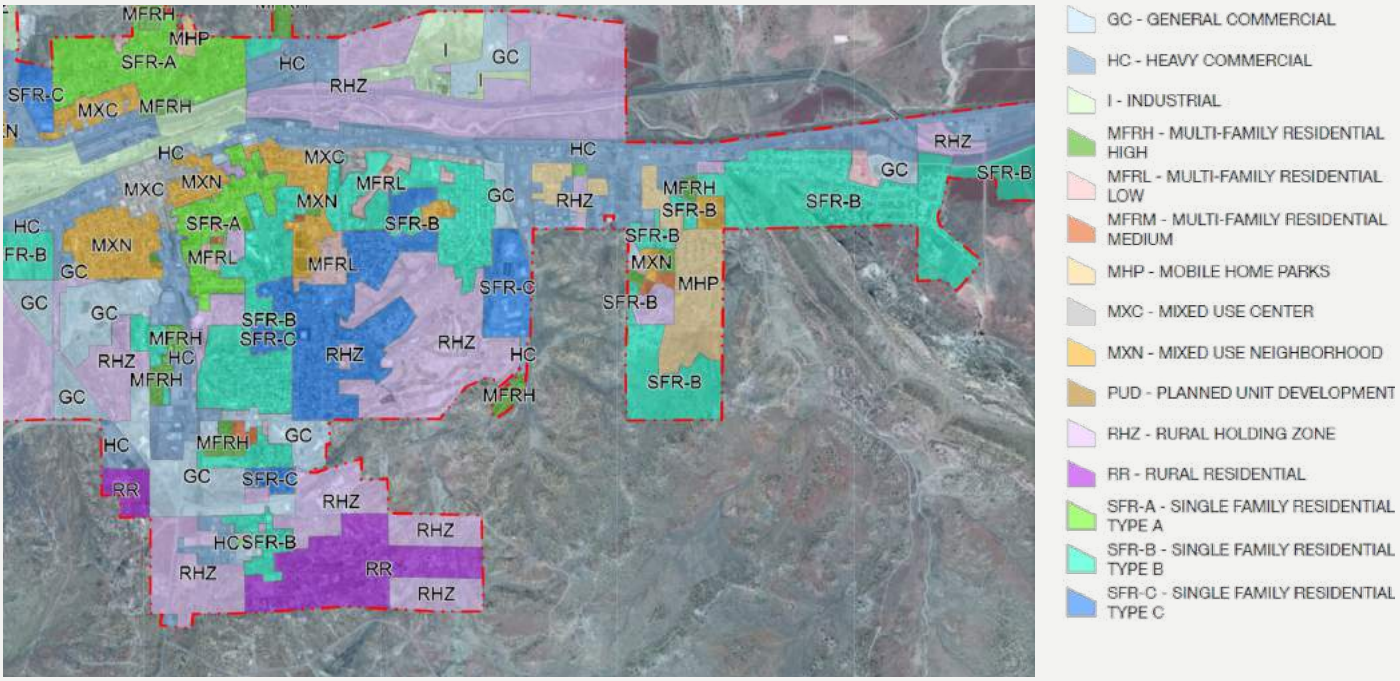


Figure 22—Gallup Zoning Map (from City of Gallup)

The proposed site is outside the city bounds of Gallup, in which zoning laws have not been determined yet for this portion of land. Although, near the site are a mix of rural residential and single family residential zones.

Access and Movement

Figure 23—Gallup Vehicular Traffic

This map shows the vehicular traffic in Gallup. The most used roads are thicker filled.

Gallup's transit system provides rides for the communities on set schedules and routes Saturday through Sunday.

Figure 24—Gallup Transit System (from Gallup Express)

Figure 25—Gallup Neighborhood Density Map

This map shows the neighborhood areas near the site. It is important to know how close the site it to residential areas to ensure that the institution can find adequate staff.

Streetscapes, Views, Elevations and Sections

The views into and out of the site are relatively similar. The landscape is untouched and natural. There are no surrounding buildings at this time to the site. Roads, plumbing and electricity will need to be added to the final site design.

Figure 26—Aerial View of Site (from UNM Gallup)

Figure 27—Watercolor of the Site: Facing East

Figure 28—Watercolor of the Site: Facing West

The natural qualities and characteristics feature an abundance of tans, browns and reds in the New Mexico landscape. The small bushes throughout the site add texture to the site.

Figure 29—Image of the Site: Facing North (from UNM Gallup)

Sounds made from the cars on the roads to the east and north create noise disturbances on the site.

Figure 30—Sounds of the Site

Vegetation

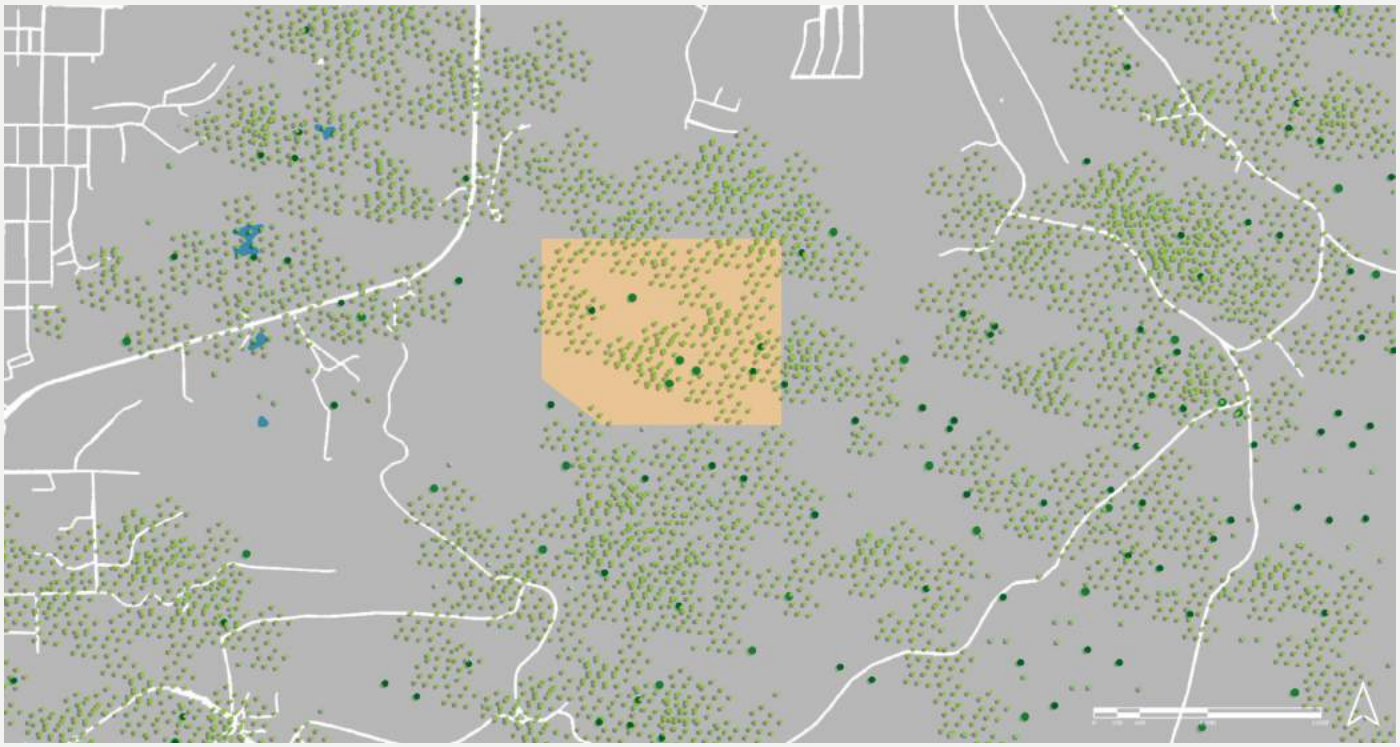


Figure 31—Vegetation Locator Site Map

There are a variety of grasses, wildflowers and small bushes across the site with a spread of a few junipers.

HAREBELL

Campanula rotundifolia

Figure 32—Harebell (from American Southwest)

TRAILING FOUR O'CLOCK

Allionia incarnata

Figure 33—Allionia (from American Southwest)

WHOLELEAF INDIAN PAINTBRUSH

Castilleja integra

Figure 34—Indian Paintbrush (from American Southwest)

WESTERN WHEATGRASS

Agropyron smithii

Figure 35—Wheat Grass (from New Mexico Range Plants)

BLUE GRAMA

Bouteloua gracilis

Figure 36—Blue Grama (from New Mexico Range Plants)

JUNIPER

Juniperus

Figure 37—Juniper (from New Mexico Range Plants)

BIG SAGEBRUSH

Artemisia tridentata

Figure 38—Sagebrush (from New Mexico Range Plants)

FOURWIND SALTBUSH

Atriplex canescens

Figure 39—Saltbush (from New Mexico Range Plants)

WINTERFAT

Ceratoides lanata

Figure 40—Winterfat (from New Mexico Range Plants)

Animal Species

The wildlife population in New Mexico is as diverse as its land.

ANTELOPE

Figure 41—Pronghorn Antelope (from Only in Your State)

NORTHERN HARRIER

Figure 42—Northern Harrier (from Only in Your State)

COLLARED LIZARD

Figure 43—Collared Lizard (from Only in Your State)

BLACK BEAR

Figure 44—Black Bear (from State Symbols USA)

COYOTE

Figure 45—Coyote (from New Mexico Wildlife)

PRAIRIE DOGS

Figure 46—Prairie Dogs (from New Mexico Wildlife)

PECCARIES

Figure 47—Peccary (from Desert Museum)

RATTLESNAKES

Figure 48—Rattlesnake (from New Mexico Wildlife)

SANDIA HAIRSTREAK

Figure 49—Sandia Hairstreak (from New Mexico Wildlife)

Local Materials

A few locally made products of New Mexico.

ADOBE CLAY

Figure 50—Sun Dried Adobe (from New Mexico Earth)

GALLUP SANDSTONE

Figure 51—Sandstone Rock (from Dreams Time)

ALAMOGORDO MARBLE

Figure 52—Alamo Marble Quarry (from Hike Arizona)

COPPER

Figure 53—Mined Copper (from Tyrone Mine)

LIMESTONE ORE

Figure 54—Tijeras Limestone Mine (from Limestone)

MANCOS SHALE

Figure 55—Shale (from Inn on the Alameda)

JUNIPER LUMBER

Figure 56—Juniper (from Cut and Dry Lumber)

ARIZONA CYPRESS

Figure 57—Arizona Cypress (from Cut and Dry Lumber)

CATALPA LUMBER

Figure 58—Catalpa (from Cut and Dry Lumber)

Soil

Figure 59—Soil Wind Erosion (from Soil Science Society of America)

Figure 60—Grazing Livestock (from Soil Science Society of America)

PENISTAJA SOIL

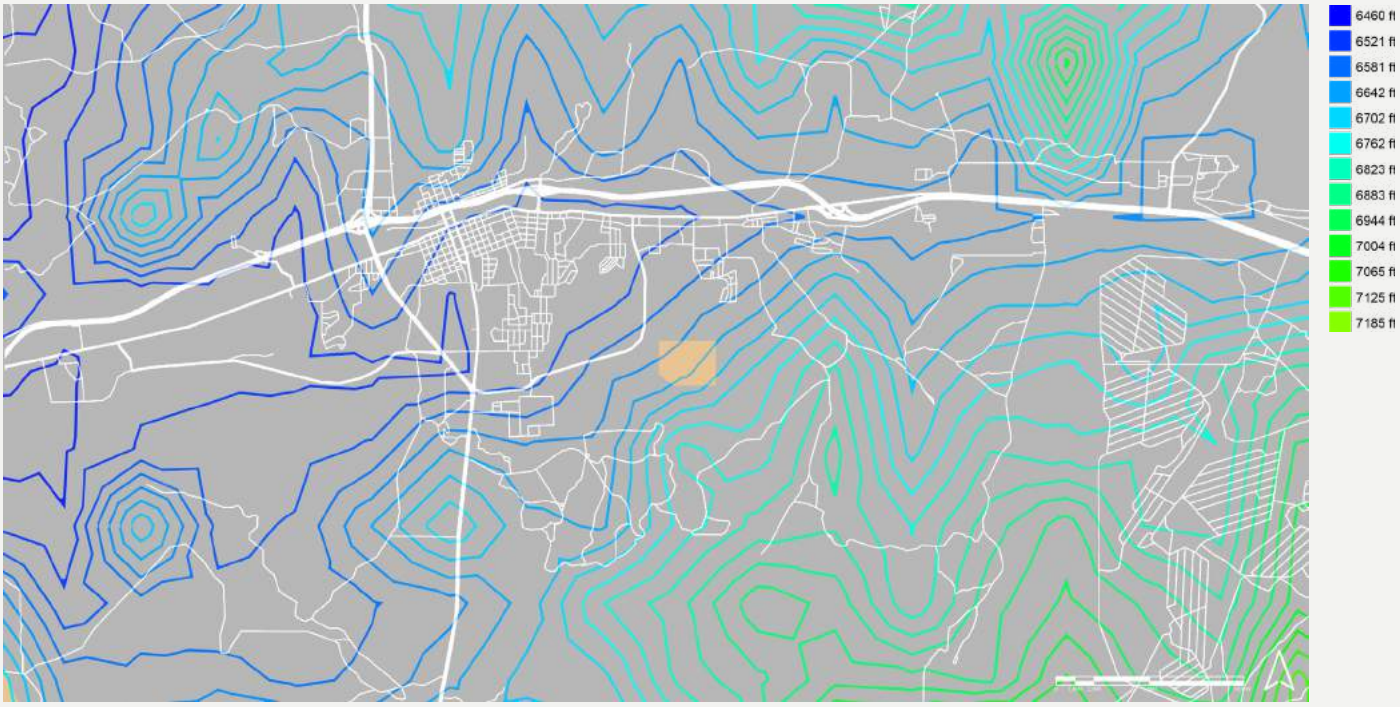
The soil was named after a small farming and stock raising community in Northwest New Mexico. Penistaja is a Navajo word that means forced to sit.

Penistaja soils are aridisols, or desert soils, that formed in arid or semi-arid climates. These soils typically support grassland sites. Penistaja has a shallow sandy topsoil, a clay subsoil and an accumulation of calcium carbonate below the horizon where rainwater does not seep. The soil was formed in a desert climate approximately 130 million years ago, grasses have since incorporated their organic matter through root growth and turnover which has added organic matter to the soil.

The soil is well suited to rangeland uses for grazing and wildlife habitat. The hazard for this soil is wind erosion, in which grazing management should ensure a proper amount of ground cover is maintained.

Figure 61—Soil Profile (from Soil Science Society of America)

Natural Physical Conditions and Features



Contour Interval : 20 FT.

Figure 62–Gallup Topography

The minimum elevation of the Gallup area is 6,440 FT. and the maximum is 7,300 FT. The site is at an elevation of 6,620 FT. This area is not in the 100 year flood zone.

Climate

AVERAGE TEMPERATURE IN GALLUP

The hot season lasts for 3.5 months, from May 29 to September 15, with an average daily high temperature above 78°F. The hottest month of the year in Gallup is July, with an average high of 86°F and low of 55°F.

The cold season lasts for 3.0 months, from November 22 to February 24, with an average daily high temperature below 51°F. The coldest month of the year in Gallup is January, with an average low of 17°F and high of 44°F.

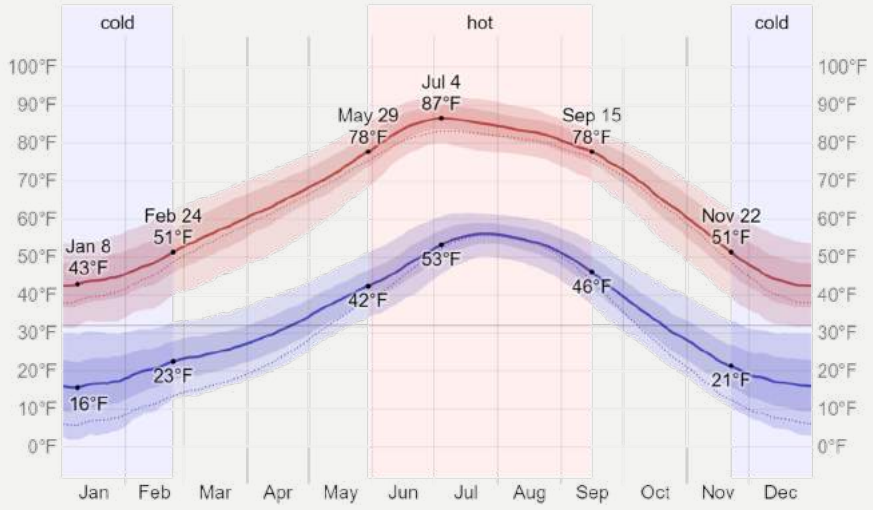


Figure 63—Average Temperature in Gallup (from Weather Spark)

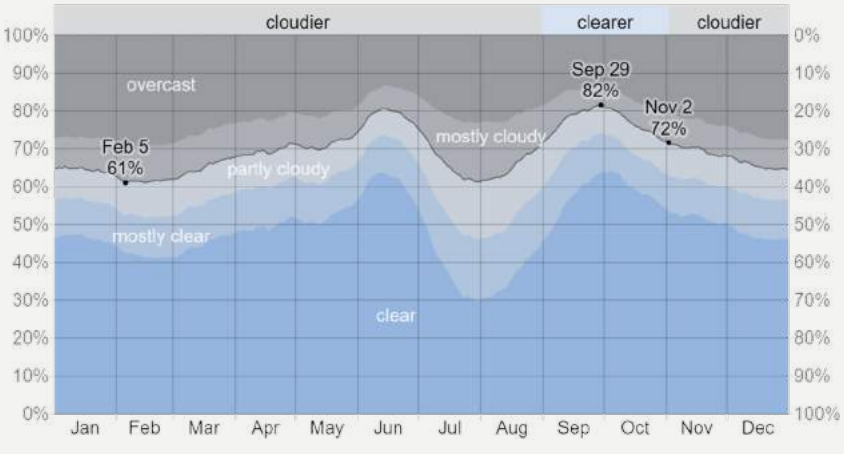


Figure 64—Average Cloud Cover in Gallup (from Weather Spark)

CLEAR SKIES

In Gallup, the average percentage of the sky covered by clouds experiences significant seasonal variation over the course of the year. The clearest month of the year in Gallup is June and the cloudiest month is February.

PRECIPITATION

A wet day is one with at least 0.04 inches of rain. The wetter season lasts 2.0 months, from July 8 to September 10, with an average of 8.1 days each month with at least 0.04 inches of precipitation. The month with the most days of mixed snow and rain in Gallup is January, with an average of 1.1 days.

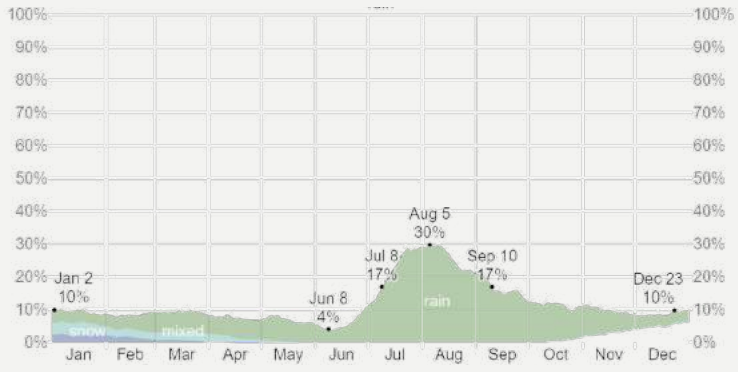


Figure 65—Average Daily Change of Precipitation in Gallup (from Weather Spark)

HUMIDITY

The perceived humidity level in Gallup does not vary significantly over the course of the year, remaining a virtually constant 0% throughout.

Figure 66—Average Humidity Comfort Levels in Gallup (from Weather Spark)

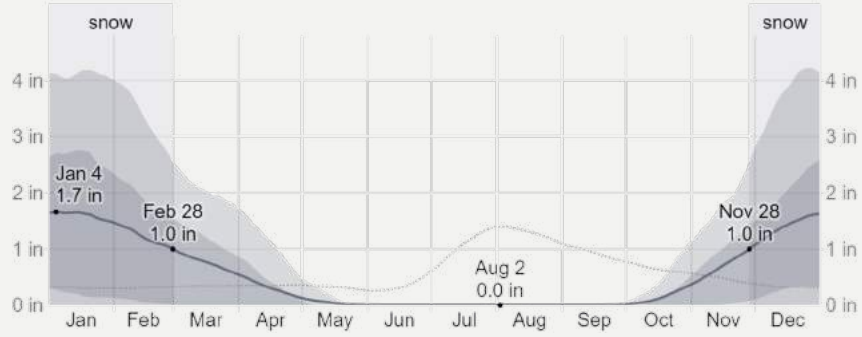


Figure 67—Average Monthly Snowfall in Gallup (from Weather Spark)

SNOWFALL

The snowy period of the year lasts for 3.0 months, from November 28 to February 28 . The snow-less period of the year lasts for 9.0 months, from February 28 to November 28.

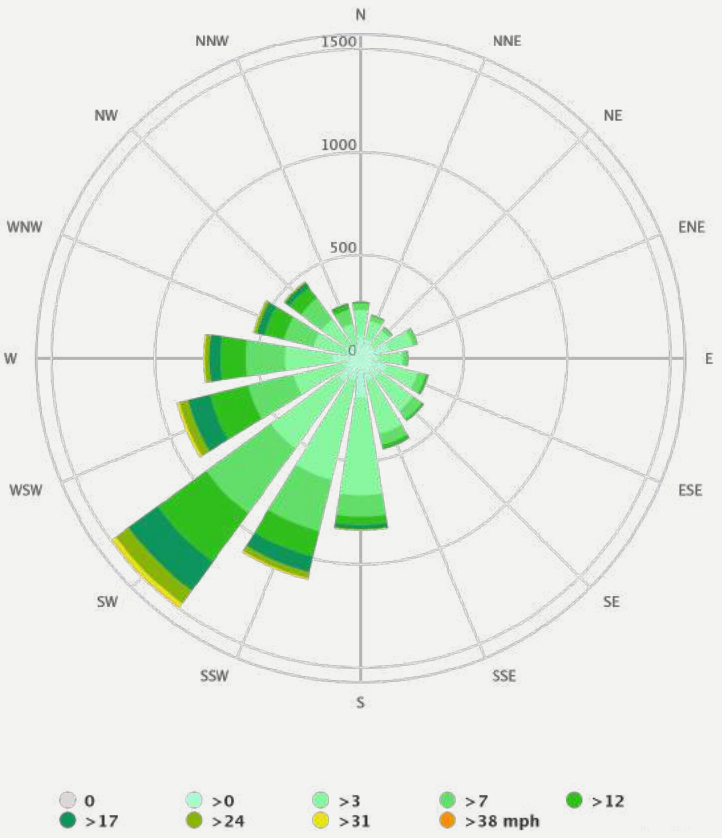


Figure 68—Gallup Wind Rose (from Meteoblue)

WIND ROSE AND WIND SPEED

The annual wind rose and wind speed charts for Gallup show how many hours per year the wind blows from the indicated direction and the speed of the wind. With a majority of the wind throughout the year moving south west and the month with the most wind being April.

Figure 69—Site Summer and Winter Winds

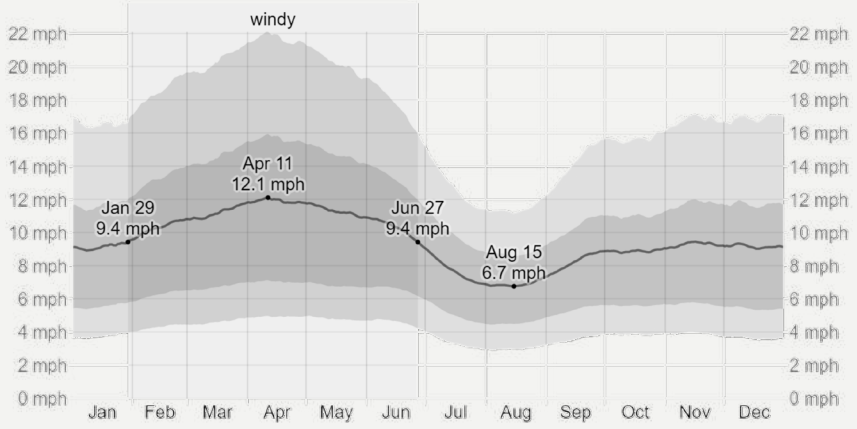
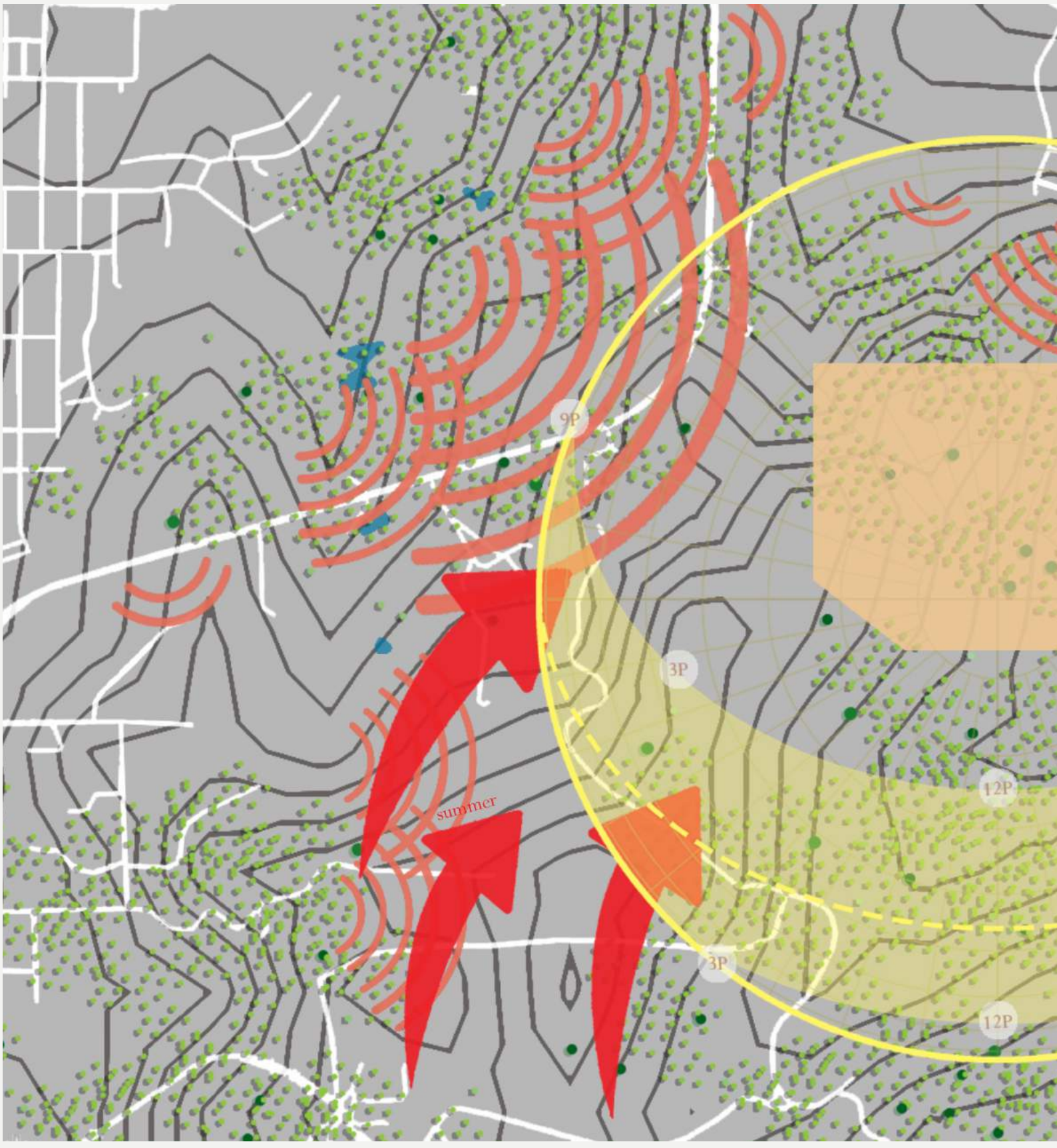


Figure 70—Average Wind Speed in Gallup (from Weather Spark)

Figure 71—Downtown Gallup (from Gallup Main Street)

In Gallup, the summers are warm and dry; the winters are freezing, snowy and windy; and it is mostly clear year round. Over the course of the year, the temperature typically varies from 16°F to 87°F and is rarely below 2°F or above 93°F.


9P
3P
summer
3P
12P
12P

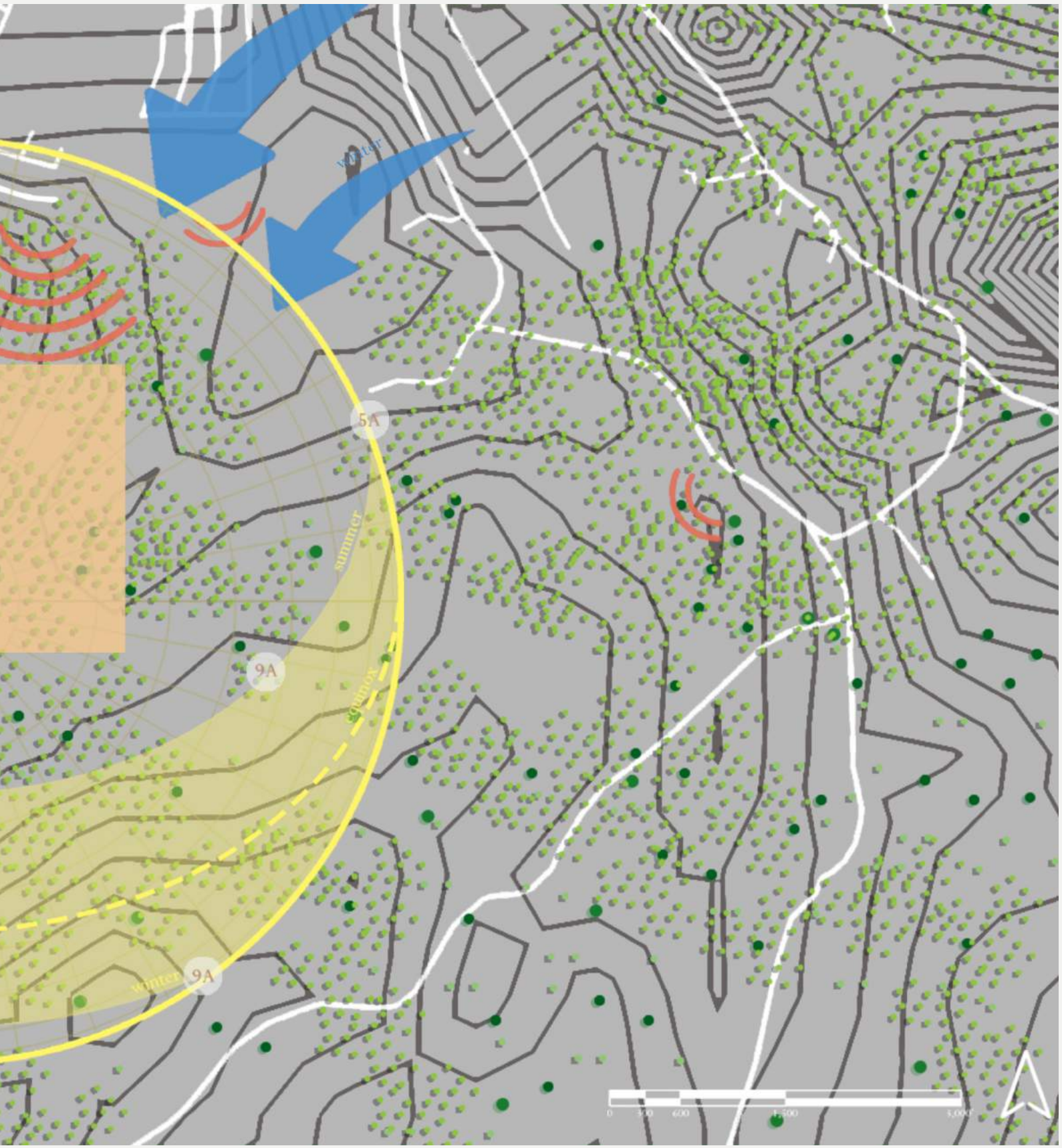


Figure 72—Combined Site Analysis Diagram

Site Context

History of Gallup, New Mexico

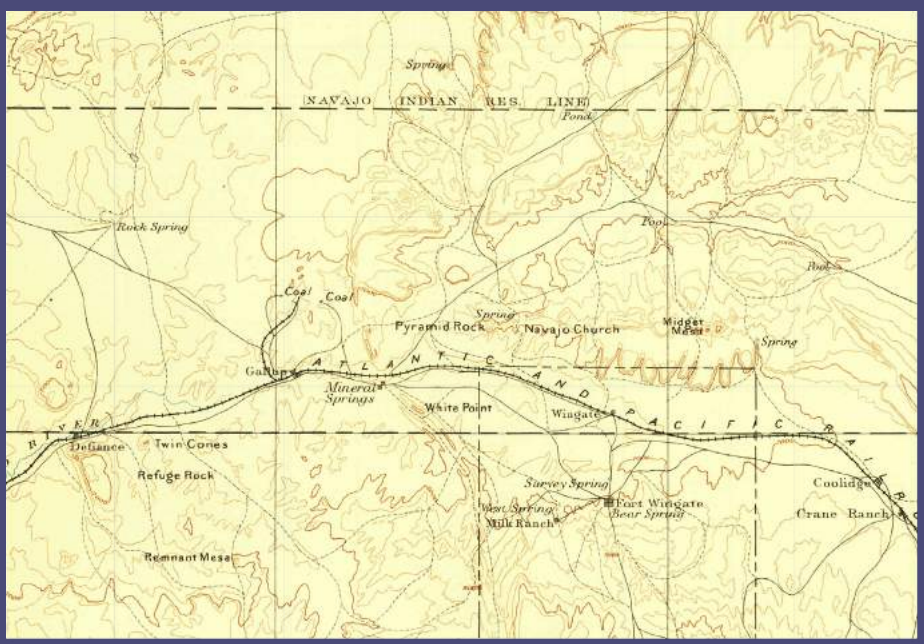


Figure 73—Gallup 1892 Map (from U.S. Topographical Survey

Gallup's population can be traced back to 2500 BC with the settlement of the Anasazi in Canyon de Chelly.

Coal was discovered outside of town in 1885. The combination of mining and railroad interests attracted wealthy, investors from back east, as well as enticing a new wave of immigrants west for work. The railroad paymaster, David Gallup, established a small company headquarter along the projected railroad. Rail workers soon began saying they are going to Gallup to collect their pay. When the tracks were finally laid through the area in 1881, the new settlement was formally named after the paymaster.

National demand for a better system of roads increased in the 1920s as more people purchased automobiles. Route 66 followed the railroad west.

Uranium Mining in New Mexico

Uranium mining had a significant impact on the civilians of New Mexico. New Mexico has the second most amount of ore reserves, following Wyoming. Many Navajo workers manned the mines.

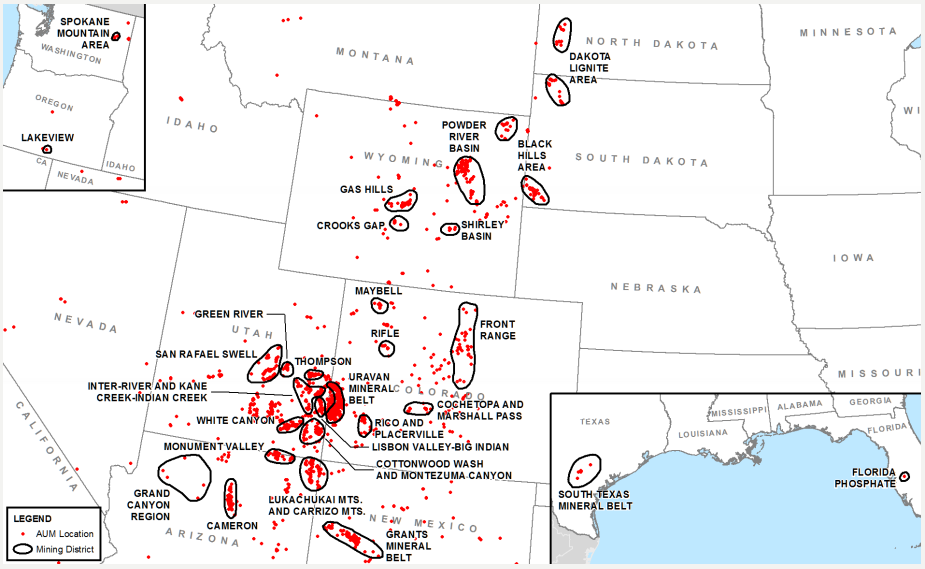


Figure 74—Locations of Uranium Mines in U.S. in Relation to Mining Areas and Districts (from U.S. Uranium Mines)

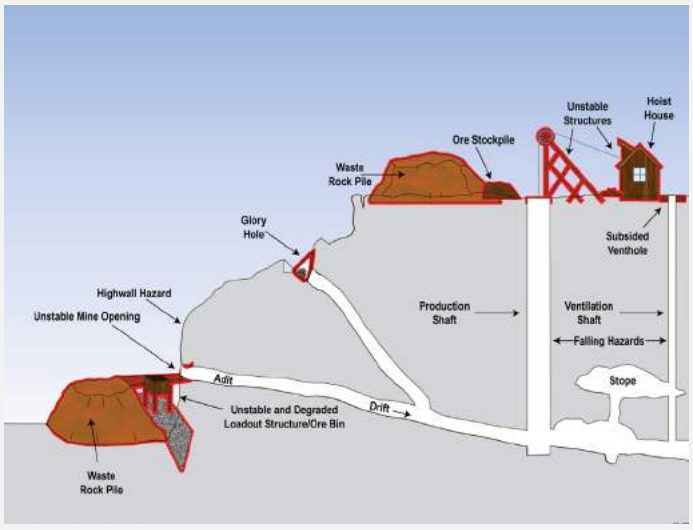


Figure 75—Elements of Underground Mines (from U.S. Uranium Mines)

There has not been active mining in New Mexico since 1998. However, there have been many lasting effects from the Uranium mines. These issues have included lasting health problems and building issues due to the abandoned underground mines.

'Get Your Kicks on Route 66'

Gallup was comparatively quiet to the old west standards and was a typical western frontier town. It had its fair share of saloons, false storefronts, wooden sidewalks and single road along the railroad tracks. Today this road is known as US 66.

Figure 76—Historic Route 66 Map (from Route 66 News)

US 66 is an iconic road trip. Written by Bobby Troup in 1946, it has since become an emblematic song that immortalized the journey on Route 66. The song has been a hit evoked by all those who have driven or dreamed about driving along Route 66.

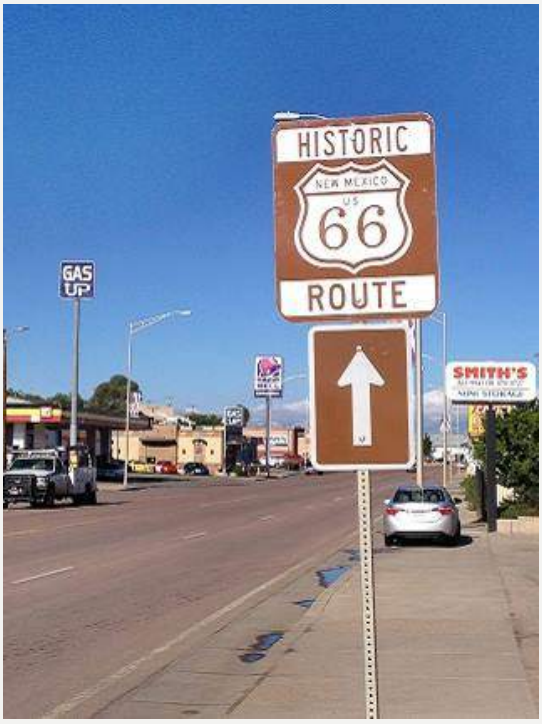


Figure 77—Historic Route 66 Sign in Gallup (from Visit Gallup)

Gallup is the only town in New Mexico mentioned in the song, as it appears:

Now you go through Saint Looey
Joplin, Missouri,
And Oklahoma City is mighty pretty.
You see Amarillo, ***Gallup, New Mexico,***
Flagstaff, Arizona.
Don't forget Winona,
Kingman, Barstow, San Bernandino.

If the Buildings of Gallup Could Talk..

Figure 78—Historic Sites in Gallup

The featured historic sites are shown in the above map.

EL MORRO THEATER

The two-story theater originally opened in 1928. It features a barrel vault roof, clay tile parapet cap and symmetrical facade. The original street facade is stucco with an inscribed tile pattern and a stuccoed arch to resemble a keystone. The facade focuses on its ornate, low-relief, half-round columns and two architrave windows. There was originally a cry room in the theater associated with the ladies' room, complete with a glass panel so mothers could continue to watch the movie while they comforted their children.

Figure 79—El Morro Theater 1928 (from Visit Gallup)

Figure 80—El Morro Theater Today (from El Morro Theater)

Figure 81—El Rancho Hotel Today (from El Rancho Hotel Gallup)

Figure 82—Lucille and Desi (from 90 Notable Nights)

Figure 83—El Rancho Hotel 1937 (from 90 Notable Nights)

HOTEL EL RANCHO

The El Rancho Hotel was built in 1937 and quickly became a temporary home to many movie stars of the time and a booming tourist destination with it being off of the Historic Route 66. The three-story hotel has a central balcony reminiscent of the Southern Plantation style. The National Park Service describes it as having a "rusticated fantasy appearance." Materials include brick, random ashlar stone and a wood shake roof and brick and stone chimneys.

Figure 84—El Rancho Lobby (from Travel Channel)

REX MUSEUM

Formerly the Rex Hotel, the Rex Museum is a staple destination in Gallup. It was built in 1910 as a brothel, later to become a grocery shop and today as a museum. The museum houses a variety of physical artifacts and documents pertaining to the local history of Gallup. It is a stone commercial building.

Figure 85—Rex Museum (from Rex Museum)

DENNY'S DINER

Denny's Diner, today, the Avalon, is a class diner with a boomerang roof. It is a design from Armet & Davis from the early 1960s. There are a few Denny's Diners along US 66.

Figure 86—Avalon Restaurant (from Route 66 Travel Guide)

CODE TALKER MURAL

Navajos in WWII and the Korean war transmitted coded messages in their native language for the U.S. military. Their attributes have been memorialized in a Mural on S. second street.

Figure 87—Code Talker Mural (from Route 66 Travel Guide)

THE GALLUP NEW MEXICO FRED HARVEY HOUSE (EL NAVAJO HOTEL)

Built in 1928, The El Navajo Hotel is a two-story building with decorative brick style facade and "stone commercial style" walls. Today, it is a cultural center and the Greyhound bus station.

Figure 88—Fred Harvey Hotel (from Legends of America)

Figure 89—Harvey Girls Poster (from Movie Collection)

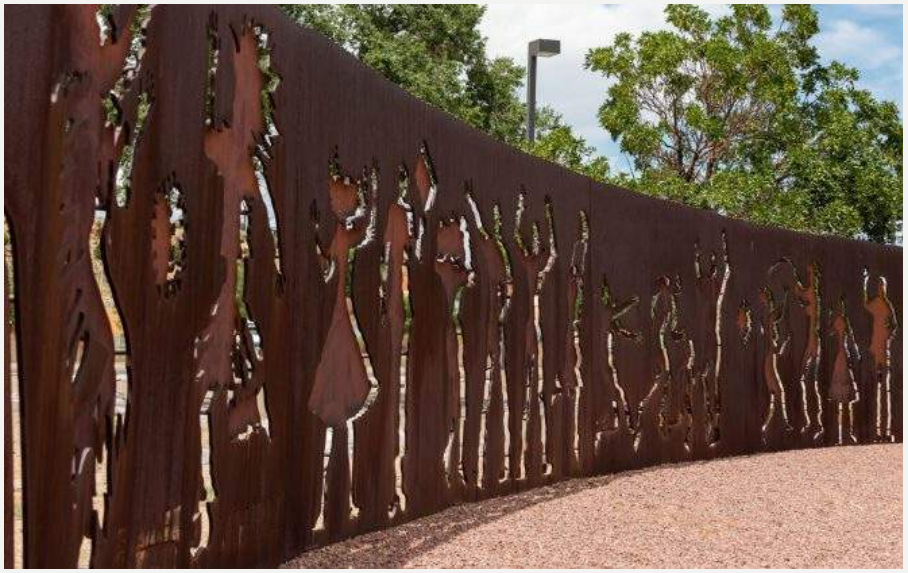
The Harvey House was the oasis of comfort along southwest railway routes. Fred Harvey's name became known for quality accommodations. He provided dining services, lunchrooms, restaurants and hotels along the line. These rest stops became filled with young, hardworking women that serves as hostesses in Harvey's lunchrooms.

Figure 90—Judy Garland in the Harvey Girls (from Movie Collection)

The Harvey Girls
A 1946 movie starring
Judy Garland is based on
Fred Harvey waitresses.

The Harvey Girls became a famous feature of the Fred Harvey chain for their standards of cleanliness and decorum. It was credited for having a civilizing effect on the often rough customers. They not only helped civilize the Wild West but also populate it, as thousands of the girls married their bachelor customers and settled down in the West.

Figure 91—Fred Harvey Hotel Today (from Legends of America)



WE THE PEOPLE PARK

The sculpture is a 110 foot semicircular wall with 113 cut out silhouettes of people in various activities. Along the wall are cutouts of people of different ages, sizes, interactions and activities.

Figure 92—We the People Sculpture (from Visit Gallup)

MCKINLEY COUNTY COURT HOUSE

Figure 93—McKinley County Courthouse (from Four Corners Region)

Built in 1938, the courthouse is Spanish Pueblo Revival Style. The building houses an interesting New Deal Art Collection. The Veteran's Pillars are located in the plaza in front of the courthouse. The pillars are inscribed with the names of local veterans who served from WWI onward, including individual pillars honoring the Bataan Veterans, the Navajo Code Talkers and local Congressional Medal of Honor recipient.

Figure 94—McKinley County Courthouse Limestone (from Courthouses)

Figure 95—Veteran's Memorial (from New Mexico Magazine)

KITCHEN'S OPERA HOUSE

Pat Kennedy and Pete Kitchen built the two-story edifice in 1895. It had a large hall with a stage on the second floor. A saloon and cafe occupied the first floor commercial space. The Opera House, was the setting for plays, musicals, church functions, fancy balls and, later, boxing tournaments.

Figure 96—Kitchens Opera House 1920 (from Preserve America)

Figure 97—Kitchens Opera House Today (from New Mexico Nomad)

MORELLO BROTHERS SALOON AND PALACE

The Morello Brothers built The Palace Hotel with locally quarried sandstone around 1900. When subsequent owners renovated the building, they reconstructed the first floor arches due to prior damage.

Figure 98—Morello Brothers Saloon and Palace Sandstone (from Mapio)

Figure 99—Morello Brothers Saloon and Palace (from Mapio)

Culture of the Navajo Nation

NATIVE LANDS

The Navajo Nation bleeds into the states of Utah, Arizona and New Mexico and is over 27,000 Sq. miles of land. The Navajo Nation is the largest land area held by a Native American times in the United States. Unlike many reservations, the Navajo Nation has expanded its border sever times since its establishment in 1868. The tribes of the Ute Mountain, Southern Ute of Colorado border the Nation to the north, the Jicarilla Apache Tribe to the east, the Zuni Pueblo and White Mountain Apache to the south and the Hualapai Bands tot he west. The Navajo Nation entirely surrounds the Hopi Indian Reservation.

Nearly half of the Navajo population, 300,048, as of July 2011, live outside of the Nation's territory with 173,667 living on their tribal lands.

Figure 100—Navajo Nation Boarders (from Wikipedia)

THE INITIAL PIECES OF NAVAJO LAND

In the 1860s most of the Navajo were forced by the United States government to abandon their homes. Their homes and fields were burned and their livestock were killed in attempts to weaken and starve the Navajo people into submission. 8,000 adults and children were made to walk 300 miles to imprisonment in the Bosque Redondo territory. The treaty of 1868 established the Navajo Indian Reservation, a rectangular 100 x 100 mile piece of land running along the 37th parallel.

Figure 101—Flag of the Navajo Nation (from Wikipedia)

Today, this initial piece of land represents the dark-brown rectangular design of the Navajo Nation's flag. Since, no physical boundaries had been set up at the time, many of Navajo ignored the formal boundaries and returned to where they were originally living. Many of the later expansions of the Nation were to encompass these areas.

Figure 102—Navajo Nation in Arizona's Winter (from Travel & Leisure)

Figure 103—Navajo Nation Leaders (from NHO News)

A NEW TRIBAL GOVERNMENT

A tribal government was established after the discovery of oil on Navajoland in the early 1920s to lease land to American oil companies. The Navajo government has evolved into the most sophisticated form of American Indian government, which represents the 110 Navajo Nation chapters to determine the future of the Navajo people. Their government is an example of the importance of cultural heritage to the Navajo people because the delegates carry on the tradition of speaking in Navajo while in session.

Figure 104—State of the Navajo Nation Address (from NHO News)

Figure 105—Navajo Nation Council (from Navajo Times)

EDUCATION IN THE NATION

Education in the Navajo Nation is limited, post-secondary education and vocational programs are available on and off the territory including public schools in Utah, Arizona and New Mexico. The Nation runs community Head Start Programs and one school for grades K-8 in Fort Defiance, Arizona. The school is a Navajo language immersion school that strives to revitalize Navajo among children of the Window Rock Unified School District.

Figure 106—Navajo Graduate and Family (from Diné College)

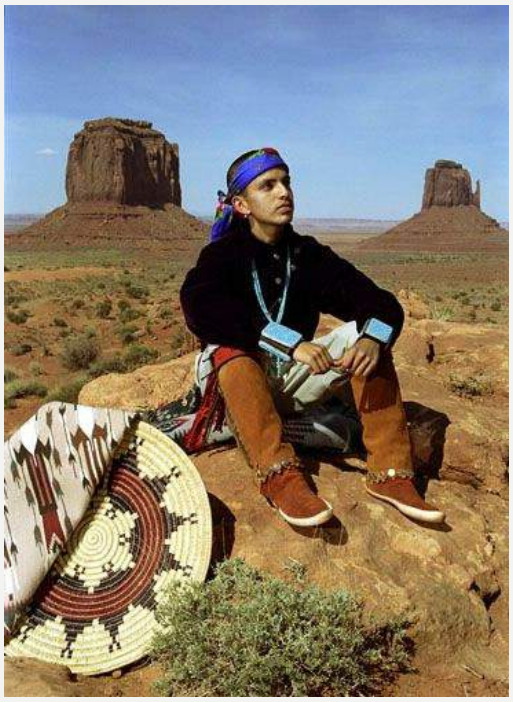


Figure 107—Navajo Man (from NHO News)

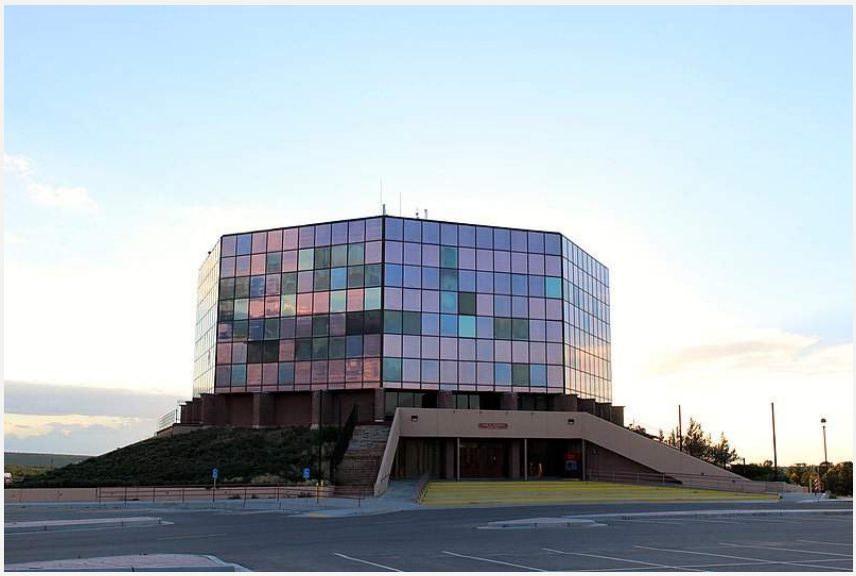


Figure 108—Ned A Hataałi Center at Diné College (from Diné College)

The first tribal college in the United States was the Diné College, a two year tribal community college in Apache County, Arizona. Diné College has as of 2012 had 1,830 students enrolled, of which 210 students were seeking to transfer to four-year institutions to earn bachelor's degrees.

HEALTH CARE CONCERNS FROM ENVIRONMENTAL CONSEQUENCES

Areas of the Navajo Nation, from the 1940s to the early 1960s, underwent extensive uranium mining. During these times, there were not any environmental safety laws to protect the land and worker's health. There have been studies concluding that the uranium mining created severe consequences for the miners and nearby residents. Several types of cancer are more prevalent in these areas that the national average. The greatest negative effects of the uranium were in ovarian cancers in teenage Navajo girls, averaging seventeen times higher than the national average of the United States girl.

Figure 109—Navajo Uranium Miners (from Science History)

Figure 110—Uranium Mining on Navajo Land (from NPR)

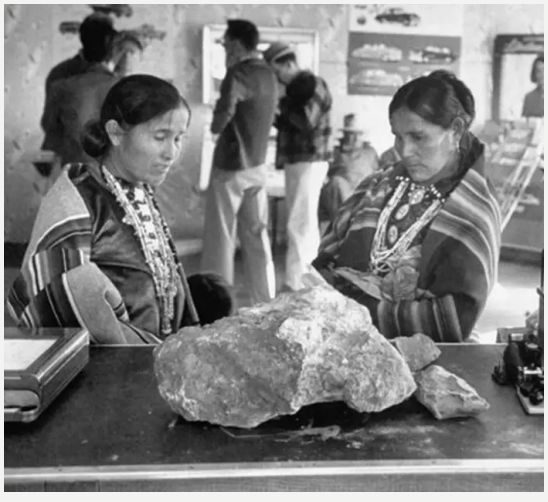


Figure 111—Uranium Still Poisoning Young Navajo Women (from Navajo Times)

Figure 112—Navajo Girl 1941 (from Ansel Adams Photography)

THE LIMITED ECONOMIC DEVELOPMENT OF THE NAVAJO NATION

The Navajo nation's economy has been fueled by the raising of sheep and goats. Families would process the wool to sell or spin it into yarn to weave blankets and rugs for sale. The Navajo people also make turquoise and silver jewelry. The Navajo tribe has grown peaches since the 1700s. Their trees have a distinguishable gene from peach trees grown elsewhere making them a popular treat. Tourism is an important aspect to the Navajo economy. They offer access to traditional Navajo parks and attractions.

Figure 113—Navajo Handmade Turquoise Jewelry (from Durango Silver)

Navajo college students enrolled in universities beyond the reservation are often choosing to stay outside of the Nation due to the abundance of employment opportunities, connections with classmates and higher qualities of life. This has continued the limited economic development withing the Navajo Nation.

Figure 114—Navajo Woman Herding Sheep (from New York Times)

Using federal standards, about 40% of families live below the federal poverty rate with the Nation's median household income being $20,000 per year.

Figure 115—Navajo Farmer Man (from New York Times)

THE FOODS OF A NATION

In the 1500s the tribe relied on maize. The summer corn harvest was an important event of the year for the Navajo, they held religious ceremonies praying for a plentiful crop. Maize continues to be central in their arts, culture and lifestyles. Corn was eaten raw, roasted over hot coals, baked into soups and breads. It was ground into cornmeal to make tortillas and tamales. Often, the tribe stored enough dried corn to be able to feed their community through two full years of drought.

The Navajo people ate foods native to their lands. This consisted of yucca, pumpkins, wild onions, potatoes, pears, grapes, raspberries and walnuts. After the 300 mile walk in the 1860s the United States government gave the Navajo people flour, salt, lard, sugar and powdered milk which they used to create fry-bread. It has since become a staple food within their community to symbolize their perseverance.

NAVAJO ASTRONOMY

The Navajo people have personal connections to the stars. Their star constellations may be used for healing body, mind and spirit. Many of their constellations are depicted in human form, to provide principles and living values.

The Navajo's circumpolar constellations represent family relationships. The stars of the Big Dipper, called *Náhookòs Bi'kà'*, the Male Revolving One, is seen as a father that provides spiritual and physical protection to his family. The stars of Cassiopeia form the constellation *Náhookòs Bi'áád*, the Female Revolving One, she exemplifies motherhood, regeneration, provides growth, stability in the home and the strength necessary for harmony.

Figure 116—Náhookòs Bi'kà' (from Star Lore of the Navajo)

Figure 117—Náhookòs Bi'áád (from Star Lore of the Navajo)

That which awaits the dawn, *Yikáísdáhá*, is the annual Milky Way process. *Yikáísdáhá* can be experienced by the full emergence of the Milky Way in the early pre-dawn hours of mid January. This time is when the full circle of the Milky Way aligns with the horizon. A person can observe the full Milky Way in every direction, as it lays on the horizon in a circle.

Figure 118—Náhookòs Bikò', Central Fire (from Star Lore of the Navajo)

Figure 119—Yikáísdáhá (from Star Lore of the Navajo)

Navajo Arts & Architecture

WINDOW ROCK TRIBAL PARK

The Navajo Nation government officers were built in close proximity to this rock formation. The capitol is named after the graceful red stone arch.

Figure 120—Window Rock Tribal Park and Veteran's Memorial (from Discover Navajo)

VETERAN'S MEMORIAL

The Navajo people built the Veteran's Memorial at the base of Window Rock in honor of the Navajos whom have served in the United States military. Many are recognized for their role in WWII as Code Talkers. The native Navajo language was used as a code that was never broken by the enemy. The park has a variety of symbolic structures, it outlines the cardinal directions, has 16 angled steel pillars with names of war veterans and a healing sanctuary fountain for reflection and solitude.

NAVAJO WEAVING

Today, Weaving in Beauty is a local shop in Gallup that offers Navajo weaving tools, supplies and classes. They specialize in Navajo weaving techniques. The churro wool is sourced from Roswell, New Mexico and is processed in shop.

Figure 121—Navajo Woman Weaving (from Discover Navajo)

Navajo weaving features colorful, well made fiber blankets and rugs. The tradition began when the Spanish brought in churro sheep to the area in the 1500s. According to Navajo oral history, Navajo weaving was bestowed by two holy ones, the Spider Man and Spider Woman. Legend says that Spider Man created the loom out of sunshine, lightning and rain, while Spider Woman taught the Navajo how to weave on it.

Figure 122—Navajo Rug Making (from Arizona State Museum)

Figure 123—Navajo Nation Council Chamber (from Daily Times)

NAVAJO NATION COUNCIL CHAMBER

The Navajo Nation Council is the center of government for the Navajo Nation. The building is built next to Window Rock to draw from their sacred rock. The chamber was designed to harmonize with the natural surroundings. The main material of the building seen is the red sandstone facade. The design incorporates indigenous materials and architectural traditions tied to Navajo heritage.

Figure 124—Navajo Nation Council Chamber Interior (from Daily Times)

FOUR SACRED MOUNTAINS

The Navajo land is between four mountains. They are referred to as the four sacred Navajo mountains. In Diné Bahane, the Navajo creation story, it is said that the creator placed the Diné on land between four mountains that represent the four cardinal directions.

Figure 125—Blanca Peak (from 100 Summits)

Blanca Peak, the sacred mountain of the east, sisnaajiní. The name means the dawn or white shell mountain.

Figure 126—Mount Taylor (from 100 Summits)

Mount Taylor, the sacred mountain of the south, tsoodził. It is known as the turquoise mountain or blue bead.

Figure 127—San Francisco Peak (from Arizona Highways)

San Francisco Peak, the sacred mountain of the west, dook'o'oosłíid, is the summit which never melts.

Figure 128—Hesperus Mountain (from Mapio)

Hesperus Mountain, the sacred mountain of the north, dibé nitsaa. It is called the big sheep.

Initial Spatial Program

Housing Performance Criteria

DETENTION CELL 80 Sq. ft. 1-2 Inmates per room.	Single rooms reduce the likelihood for conflict that occurs in two person rooms and are flexible in their ability to accommodate different types of inmates. Single rooms offer privacy, dignity and personal space. Should include toilet, bed, desk, chair, bookshelf, wardrobe and sink. Fixed furniture is only required in maximum security prisons. Windows should face the edges of the prison, so they do not show control areas. At least 100 feet should separate inmate housing from prison site boundary for proper supervision. Must be constructed from fire-resistant materials.
DETENTION CELL PODS 40-60 per unit	Pods should have 40 to 65 inmates to not overwhelm guards. Since resources are often scarce, combining two unites under one staff team is frequently necessary. Pods create a campus like circulation, unlike rigid circulation that has a greater cause to inmates causing disruptive behavior and violence. There should be eight showers per pod, so they are easy to supervise, but provide privacy to the inmates. Having inmates in pods leads to a permanent group of inmates. Which fosters better interpersonal relationships and leads to more knowledgeable decision-making.

DAY ROOMS 1: At least 1,500 Sq. ft. Day Room 2: 150 Sq. ft. Multi-Use 1: 300 Sq. ft. Multi-Use 40-65 Inmates in the unit have access to the day rooms in their pod	This is often the open middle space of a pod like design. Adds casual surveillance by eliminating traditional corridors that had to be religiously controlled. Staff can see the face of each cell door without having to move from a central area. Multi-Use rooms for watching television, playing table games and reading or quiet space that have large glass partitions to central space with sound absorbing materials. A beverage alcove of 80 Sq. ft. with a drinking fountain and ice. 2 Telephone stations connected to central space for collect calls. 2 Storage rooms 50 Sq. ft. each to hold supplies and equipment. 1: 50 Sq. ft. Janitor's closet per pod.
STAFF OFFICES IN DETENTION CELL PODS 120 Sq. ft. 5 per pod	Toilet room near staff areas for staff and visitors.

SEGREGATED HOUSING
Hours: 24
20 Rooms per 500 Inmates
Used a couple days to a few months
Staff Required: 2

Segregated housing is needed to detain inmates who are being punished for violating institutional rules and would be a danger to lose in the main population.

Each room should be provided its own shower to combat the difficult to manage segregation.

Daily visits are made by medical staff to check on inmates.

Inmates remain in these rooms for most or all of the day.

This should be away from major circulation paths, general inmate housing and the parking lot because the section is restricted and regulated for security reasons.

Segregated housing does not have a central day room.

60 SQ. FT. Vestibule that provides a security entrance into the segregation housing.

1: 120 SQ. FT. An office will be provided for correctional officers with clear view of the vestibule.

2 Multi-Use 150 SQ. FT. rooms near the front of section.

A hearing room of 250 SQ. FT. for administrative purposes near front.

Counseling and interview room of 100 SQ. FT. near front.

Small toilet/ janitor's closet for staff.

A meal distribution area will hand out meals from a central room of 100 SQ. FT.

A separate outside recreation area of 1,000 SQ. FT. that is not visible to general population inmates is needed.

Admissions and Discharge Performance Criteria

ENTRY 150 Sq. ft.	Admissions activity is used to receive, identify and preform the initial screening of new inmates. The entry acts as a vestibule into the holding room.
PROCESSING AREA 400 Sq. ft. Administrative nucleus room	It is central to all the admissions and discharge functions. Contains a station for staff to process necessary forms that allow staff to see entry, holding rooms and search and shower rooms. Will enter and exit from this room.
GROUP HOLDING 250 Sq. ft. Connected to entry	Used to hold inmates until staff can begin the admissions process that is secure against violent inmates. Calm area to ease inmates nerves as they enter the prison. For a facility of 500, there should be 3 holding rooms of 200 Sq. ft. each with its own single person restroom of 80 Sq. ft. Should have windows so staff can monitor from the processing area.
SEARCH AND SHOWER 65 Sq. ft.	Semiprivate area adjacent to processing area. Should have a dressing area, shower and toilet.

PERSONAL PROPERTY STORAGE 1,000 SQ. FT.	Will be equipped with storage shelves or lockers for inmates to store their belongings.
GENERAL PURPOSE STORAGE 200 SQ. FT.	General purpose storage is used store forms and supplies as well as a small supply of inmate issued clothing.

Medical Facility Performance Criteria

ADMINISTRATION 400 Sq. ft. 2 Private Offices	120 Sq. ft Office for clinic administrator and the rest for clerks and medical record storage.
DIAGNOSTIC SERVICES 150 Sq. ft. Medical laboratory and 175 Sq. ft. X-ray room	Separate rooms for routine tests connected to each other.
PHARMACY 150 Sq. ft. Able to dispense drugs easily	Adjacent to outpatient waiting area to eliminate unnecessary traffic. It is important that materials of this room be sufficiently secure to unwanted break-ins.
OUTPATIENT CLINIC At least 150 Sq. ft.	A waiting area should be at the entrance of the clinic. Should allow direct access to the medical records clerk, pharmacy, dental unit and examination and treatment rooms.
EXAM ROOMS 2 Rooms of 120 Sq. ft. each	Privacy for both inmates and staff is necessary for these rooms.
TREATMENT ROOM 200 Sq. ft.	Should be between the 2 exam rooms.

PHYSICIAN'S OFFICE 150 Sq. ft.	Used for consultations and recording medical treatments.
PHYSICAL THERAPY 160 Sq. ft.	Determine the types of therapy used in this room to determine its size and equipment.
BULK STORAGE 250 Sq. ft.	The bulk storage room is used to sort supplies and equipment. Must be a secure design to prevent unauthorized access to medical supplies.
JANITOR'S CLOSET 100 Sq. ft.	Holds cleaning supplies.
TOILET ROOMS 60 Sq. ft.	One that is handicap accessible should be near the diagnostic services and the other near the waiting area. Both are for use by staff, inmates and visitors.
DENTAL OPERATING ROOM 250 Sq. ft.	Will have two dental stations to be used for routine exams and treatments.
DENTAL LABORATORY 150 Sq. ft.	A dental laboratory will be used to perform routine tests.

STORAGE SPACE 50 Sq. ft.	A small storage space is required near the dental care rooms.
DENTIST'S OFFICE 100 Sq. ft.	A secure room for storing patient records.
PRIVATE IMPATIENT ROOMS 5 Plus single person rooms Hours: 24	These rooms are available for inmates that require continuous care. Should be under 24 hour monitoring by staff.
NURSE STATION 80 Sq. ft.	Provides staff a place to supervise the impatient rooms. Requires a work station and storage space.
MEDICAL ISOLATION ROOMS 2 Rooms of 130 Sq. ft. each	These rooms are equipped with a private shower and 30 Sq. ft. entry/ exit vestibule with wash basin for visitor and staff use. Used to quarantine inmates with infectious diseases.
FOOD PREPARATION 100 Sq. ft.	Used to reheat and serve meals. Equipped with supplies that do not have to returned to the main food service area.
SINGLE SHOWER BATHROOM 100 Sq. ft.	Provided for ambulatory patients.

STORAGE ROOMS 3 Rooms	One clean linen storage room of 75 SQ. FT. One clean utility storage room of 100 SQ. FT. for utilities and equipment. One storage room for soiled linens and cleaning equipment of 150 SQ. FT.
NEURO-PSYCHIATRIC 100 SQ. FT.	The neuropsychiatric room is used to isolate inmates with violent behavior. Should be adjacent to the medical services area.
PRIVATE OFFICES At least 2 offices 150 SQ. FT.	Private offices for psychiatrists, psychologists and other medical staff should be provided. These offices should be adjacent to the waiting room.
MORGUE 300 SQ. FT.	A morgue is required to serve the needs of the prison. It must be accessible to medical staff and be relatively adjacent to an exterior door, so pickups can be made. Proper storage methods should be provided.

Food Service Performance Criteria

CAFETERIA 4,000 SQ. FT.	The dining room should be large enough to seat 45 to 50 percent of all inmates at once and 10 percent of staff. This should be a formal and attractive setting. Tables of 4 to 6 people is sufficient. Many facilities use a common dining room for both staff and inmates. Fixed furniture is only required in maximum security prisons. The cafeteria should only be for dining to allow enough time for sanitation each day.
SERVING LINES 2 Lines of 250 SQ. FT. each	Food is most commonly served in a lunch line style. The serving lines should be designed so that there is minimal interference with those eating. They should be between the dining area and food preparation. 2 Serving lines are needed for prisons of 500 inmates.
BEVERAGE STATION 2 Stations of 25 SQ. FT. each	Hot and cold beverages are served at a beverage station. They should be near serving lines, but not apart from them, to allow for refills.

FOOD PREPARATION AREA 1,500 Sq. ft.	Used to prepare daily meals. The food preparation area should be adjacent to the cafeteria. This does include the 500 Sq. ft. dish washing area, but it could be separated. A vocational training program could be added with food preparation. Additional spaces, classrooms or offices would be added.
FOOD SERVICE OFFICE 200 Sq. ft.	Provided for food service administrator and support staff. Should provide clear view of food preparation area with a clear partition.
DAILY SUPPLY STORAGE 100 Sq. ft.	Used to store the food supplies needed for each day's meal.
DRY FOOD STORAGE 1,600 Sq. ft.	The dry food storage stores all foods that do not need refrigeration. This should be directly connected to the truck dock and adjacent to the food preparation area.
COOL STORAGE 600 Sq. ft.	Cool storage houses all foods that require refrigeration. Should be adjacent to food preparation area.
FREEZER STORAGE 500 Sq. ft.	Adjacent to the food preparation area, freezer storage is a walk in freezer.

DROP OFF WINDOW DISH WASHING AREA 1,200 SQ. FT.	A dish washing room that provides a drop-off window near the dining room exit. The window will only require 500 SQ. FT. if the dish washing is a part of the food preparation area. Since this is next to the dining room, it will require noise reducing measures. If a window is not desirable, 20 carts could be used to move dishes into the dish room.
STAFF LOCKERS AND TOILETS 2 of 150 SQ. FT. each	2 Separate lockers and toilet rooms are needed for staff usage.
JANITOR'S CLOSET 150 SQ. FT.	A closet for cleaning materials adjacent to the food preparation area.

Canteen Performance Criteria

WAITING LINE 200 SQ. FT.	To organize circulation should have two doors, one entrance and one exit. This area provides space for a line to form leading to the sales counter and can accommodate 20 inmates at once. There should be a display sign of purchasable items.
SALES AREA 150 SQ. FT.	The waiting line will connect to the sales area that has a sales counter and shelving behind the counter for purchasable goods. The counter should be long enough to accommodate 2 to 3 staff at once. To combat theft, a transparent window may be used over the counter.
CANTEEN OFFICE 150 SQ. FT.	The canteen office is large enough to accommodate 2 staff members at once and used to store the canteen's bookkeeping. Should have easy access to both the sales area and the storage room.
STORAGE ROOM 800 SQ. FT.	Will store items for the canteen. Should have direct connecting to truck dock.

Mail Room Performance Criteria

MAIL ROOM
150 to 300 SQ. FT.

All incoming and outgoing mail passes through the mail room.

Inmates generally drop outgoing main in a box in their housing unit.

There is always 1 staff member in the mail room, with additional clerks during busy times.

The mail room is off limits to the inmate population and should be located near major staffing areas and should be constructed with secure materials.

It should also be near the cashier's office so that money sent to inmates can be given to the cashier to put credit on their accounts.

Personal Care Services Performance Criteria

LAUNDRY ROOM About 1,000 Sq. ft.	The size of the laundry room depends on the types of fabrics being washed, frequency of doing laundry and amount of laundry.
CLOTHING EXCHANGE 800 to 1,000 Sq. ft.	The clothing exchange is a storage room to accommodate shelving or bins for sorting clothing by individual names so that inmates receive the same sets of clothing. Should be adjacent to the laundry room and clothing exchange lobby.
CLOTHING EXCHANGE LOBBY 120 Sq. ft.	The clothing exchange lobby should be adjacent to the clothing exchange so inmates can pick up and drop off their clothing.
STORAGE / WORKROOM 750 Sq. ft.	Should be adjacent to laundry room and it stores off-season clothing and other supplies.
JANITOR'S CLOSET AND TOILET 150 Sq. ft.	Located adjacent to the laundry for staff use and supplies.
CENTRAL HAIR SHOP 400 Sq. ft.	Most hair care services will be done by inmates that already have barber skills or have received training. Two or three stations will serve this function and should include barber chairs, sinks and storage cabinets.

Orientation Performance Criteria

SEPARATE HOUSING UNIT
40: 60- 80 SQ. FT. Rooms

Providing separate housing will keep new inmates apart from the general population to create a smoother transition into institutional life.

This unit should be adjacent to the admissions area to bring them over after processing.

Inmates in the orientation process will often attend lectures that provide handouts and films that explain the facility's mission, programs, rules, regulations and staff expectations of inmates. This could bring a need for a few classrooms connected to the housing unit.

Inmates will be escorted to functions including the dining center, gym and medical facility.

Staffing offices are also needed in this area.

Visiting Areas Performance Criteria

VISITING ROOM 2,000 SQ. FT.	The size of the visiting room is determined by the number of visiting hours and the average number of visitors at a given time. To supervise visitor traffic, have the control center attached to the visitor vestibule. Separate entrances for inmates and visitors is required. The visiting room should be a multipurpose space that is comfortable, informal and pleasant. Seating arrangements and interior design of the space should have a residential character. An effort to minimize sounds from other parts of the institution should be made.
PRIVATE VISITING ROOMS A few of various SQ. FT.	Several private rooms are needed to allow inmates to meet with their visitors, lawyers, parole officers and other private meetings. One of these rooms should be large enough for six people, while the others should all handle four.
NON-CONTACT VISITING ROOM 200 SQ. FT.	One or two non-contact visiting rooms should be adjacent to the visiting area. These should be visible from the visiting area and, if possible, from the control center.

SEARCH ROOM 120 Sq. ft.	This private room should be between two waiting rooms from the inmate entrance and exit to the visiting room. Toilet rooms should be connected to this room.
WAITING ROOMS 2 of 120 Sq. ft. each	Waiting rooms should be placed on either side of the search room to hold inmates while others are being searched.
CHILDREN'S AREA 300 Sq. ft.	Should be connected to the visiting area and have play equipment for small children.
VENDING AREA 150 Sq. ft.	A vending area adjacent to the visiting room should dispense drinks and snacks.
VISITOR TOILETS 150 Sq. ft. each	Women's and men's toilet facilities should be adjacent to the visiting room. These need to handicap accessible.
OUTSIDE VISITING AREA 150 Sq. ft. each	An outside visiting area should be connected to the visiting room to allow for outdoor visitation when the weather provides. Tables with sun shades can be used in this area. A play area for children should be included.

Education Performance Criteria

GENERAL LIBRARY About 1,750 Sq. ft.	The general library is the nucleus of the education portion of the institution. It will be similar to a public education library. There should be tables to read and study within the library. Stacks should be arranged in a way that they do not create unnecessary blind spots.
LEGAL LIBRARY 200 Sq. ft.	This library provides resources such as photo copiers and access to legal materials. Separate from the general library so it can be open late.
CLASSROOMS 1 Room of 800 Sq. ft. 2 of 500 Sq. ft. 2 of 350 Sq. ft.	A variety of classrooms should be included to house different needs. The design of these classrooms will be similar to that of public education and do not require extra security measures.
VIDEO / SOUND RECORDING CLASSROOM 500 Sq. ft.	Will be used to record video and audio and can be used as a regular classroom when not in use.
MEDIA PREPARATION 150 Sq. ft.	Adjacent to the video classroom, this is used to hold supplies and edit video.

STAFF OFFICES 4 Offices of 120 Sq. ft. and 1: 250 Sq. ft.	Four teacher offices and one office for record storage will be adjacent to the general library.
TOILET ROOMS 60 Sq. ft.	There should be separate toilet rooms for staff and inmates around the general library.
STORAGE ROOM 200 Sq. ft.	A storage room should be connected to the general library.

Vocational Training Performance Criteria

VOCATIONAL SHOPS 15,000 Sq. ft.	Should be adjacent to the education section. This is generally a large open space that can be adapted to fit different activities. Traditionally, trades including carpentry, plumbing, welding, painting, automotive repair and electrical work are taught in this space. The space has a minimum ceiling height of 12 ft. Little or no offices are needed because staff can use those in the education sector.
TOILET ROOMS 100 Sq. ft.	There should be toilet rooms for staff and inmates near the entrance to the vocational shops.

Recreation Performance Criteria

OUTDOOR RECREATION FIELD	The outdoor recreation field should be adjacent to the gymnasium for convenience of the indoor recreation facilities and for staff to monitor both areas at once. Sufficient space is needed for several activities including baseball, volleyball, basketball, weight lifting and track. Night lighting must be provided for the field.
GYMNASIUM 7,500 Sq. ft.	A full size gymnasium with bleachers for spectators is recommended. The ceiling height minimum is 22 ft. This should not be near the medical facilities or visiting area, to limit noise to those areas of the building.
CHAIR STORAGE 150 Sq. ft.	A room should be provided to store additional seating.
WEIGHT LIFTING 500 Sq. ft.	A weight lifting room should be adjacent to both the gymnasium and supervisor's office. It should also have direct access to the outdoors to allow for outdoor weight lifting when the weather permits. Water filling stations should be in this area.
EQUIPMENT STORAGE 350 Sq. ft.	This should be near the gymnasium and outdoor field for direct access to equipment, with a few entrances to move equipment through.

TOILETS / SHOWERS / LOCKERS 250 SQ. FT.	This should include 25 lockers, 2 toilets, 3 sinks and 4 showers. A larger facility is usually unnecessary because many inmates use the toilets and showers in their housing units.
SUPERVISOR'S OFFICE 150 SQ. FT.	This office requires views of the gymnasium and recreation yard for supervision.
RECREATION ROOM 1,800 SQ. FT.	This is a large indoor area for inmates to play games and socialize. Billiards, table tennis, shuffleboard, checkers and card games are usually planned for this room.
ARTS AND CRAFTS ROOM 1,200 SQ. FT.	Both the arts and crafts room and recreation room should be located along the path of inmate circulation because of its popularity. Possibly near the education section. This room should include a kiln for pottery and potentially a separate room for pottery, including a damp room with rooms to mix glazes and make clay.
SECURE STORAGE 150 SQ. FT.	This room should be adjacent to the arts and crafts room with storage to hold in process projects.
TOILET ROOMS 60 SQ. FT.	There should be toilet rooms for staff and inmates near the recreation and arts and crafts rooms.

Religious Program Performance Criteria

CHAPEL 350 Sq. ft.	A small chapel accommodating a minimum of 15 people is used exclusively for religious services. It should be adjacent to the multipurpose auditorium with a movable partition for larger services. The chapel should be located so that inmates do not have to pass through other sections to gain access. The chapel should be simple and not contain any fixed artifacts so that it can be used by all denominations. A small storage room should be connected to the chapel for various supplies and artifacts.
OFFICES 3 Offices of 120 Sq. ft. each	Offices should be provided for clerks and record keeping.
LOBBY / WAITING AREA 150 Sq. ft.	The chapel should have a waiting area leading to it. It serves as a waiting room for inmates who wish to see the chaplain.
TOILET ROOMS 60 Sq. ft.	There should be toilet rooms adjacent to the waiting room.

Multi-Use Performance Criteria

AUDITORIUM 2,000 Sq. ft.	The auditorium should be able to hold 60 percent of the inmate population at once. This is used for movies, plays, ceremonies, concerts and a place to meet with volunteer organizations. Movable seating is recommended to allow for fluidity in the room. A raised stage is useful in this space. This could connect to the chapel to allow for additional space for the chapel and should be in a high inmate circulation zone.
STORAGE ROOM 300 Sq. ft.	This area will provide storage for additional chairs and stage equipment. Should be adjacent to the stage area to function additionally as a dressing room.
MULTI USE ROOMS 1: 200 Sq. ft. Room 2: 300 Sq. ft. rooms and 1: 450 Sq. ft. room	These rooms are best placed around the recreation and arts and crafts rooms. They provide additional space for meeting, entertainment and special programs.
TOILET ROOMS 60 Sq. ft.	There should be toilet rooms adjacent to the auditorium.

Industrial Performance Criteria

FACTORY SPACE, WAREHOUSE SPACE, OFFICES AND TOILET ROOMS	The industrial area must have truck docks to facilitate deliveries and shipments of products. Good access by inmates is important. Although, it does not need to be on an inmate circulation path. The total area of these spaces will depend on the number and type of operations planned. There should be a minimum ceiling height of 12 ft. Allow 300 SQ. FT. per inmate working in the industrial area at one time. An institution can usually employ 45 to 50 percent of its inmate population into the industrial production program. Offices and toilets should be near the entrance to monitor inmates.

Staff Services Performance Criteria

WAITING ROOM 150 SQ. FT.	Should be centrally located to service the executive and business offices. A receptionist will be stationed here.
EXECUTIVE OFFICES	An executive office of 250 SQ. FT. should be provided to accommodate meetings of 8 people. An adjacent office of 150 SQ. FT. will be for the executive's secretary. Additional offices of 100 to 150 SQ. FT. should be provided in this area for various administrative positions, approximately 6 of these offices.
CONFERENCE ROOM 400 SQ. FT.	A conference room should be provided in this area for seminars and meetings.
TOILET ROOMS 60 SQ. FT.	There should be toilet rooms adjacent to the executive offices.
BUSINESS OFFICES	The business manager's office should a 120 SQ. FT. private office. A cashier's office of 120 SQ. FT. should connect with a small pass window into a major staff circulation corridor. 1,500 SQ. FT. of open office area should be provided for additional staff office space.

STORAGE ROOM 250 Sq. ft.	A storage area for supplies including printers and copy machines should be adjacent to the open office space.
ADMINISTRATIVE SECURITY OFFICES	A 120 Sq. ft. office should be provided for the chief of security. A 300 Sq. ft. office should be connected to the chief office for support security staff.
PERSONNEL OFFICES 2 Offices of 120 Sq. ft. each	Two private offices for small meetings or interviews should be near the staff lounge, locker rooms and training facilities.
OPEN WORK AREA 250 Sq. ft.	This should be adjacent to the personnel offices to serve as a waiting room and place to get information.
STORAGE ROOM 75 Sq. ft.	A storage room should be adjacent to the open work area.
CLASSROOM 500 Sq. ft.	This classroom needs to be able to hold 40 percent of staff population at one time.
TRAINING OFFICER'S OFFICE 120 Sq. ft.	This should be near the classroom.
STORAGE ROOM 100 Sq. ft.	This storage room will be adjacent to the training officer's office and will house copy machines and other equipment.

TOILET ROOMS 60 Sq. ft.	There should be toilet rooms adjacent to the staff classroom.
STAFF LIBRARY 250 Sq. ft.	A library for staff will provide space to keep reference materials. Space for shelving and a reading area is required.
STAFF LOUNGE 800 Sq. ft.	This is a room for staff to congregate. It should be near the personnel offices, mail room, lockers and cashier's office. Vending machines, tables, chairs and a kitchenette should be provided in this room.
LOCKER ROOMS 2 Rooms of 300 Sq. ft. each	A male and a female locker room should be in the staff area for staff members to change into their uniforms. Each locker room should have toilets, sinks, lockers and showers.
RESEARCH OFFICE 300 to 500 Sq. ft.	A research office should be provided to allow for full-time research. The room will hold the research staff, student interns and computer terminals.
INFORMATION MANAGEMENT OFFICE 500 Sq. ft.	An office should be provided in the administrative area adjacent to the research office.

STORAGE ROOM 200 SQ. FT.	A storage room should be adjacent to the information management office to store files.
EQUIPMENT ROOM 300 to 500 SQ. FT.	Will house equipment for research. The room will be adjacent to the information management office.
TOILET ROOMS 60 SQ. FT.	There should be toilet rooms adjacent to the research portion of the administrative area.

Plant Maintenance Department Performance Criteria

GENERAL MAINTENANCE SHOPS 5,000 Sq. ft.	This department is near the food service sector, laundry, industry areas and placed, so it provides direct access to the outdoors. This will hold the utility systems, including electrical power and water tanks. The general maintenance shops are adjacent to the truck loading dock. The general maintenance shops will be used by both staff and inmates. The minimum ceiling height of this room is 12 ft.
SECURE TOOL STORAGE 150 Sq. ft.	A secure room for tool storage should be adjacent to the general maintenance shops.
PAINT STORAGE 20 Sq. ft.	A separate room for paint storage will be apart of the general maintenance shops. It must be along an exterior wall and be made of explosive proof materials.
ADMINISTRATOR'S OFFICE 120 Sq. ft.	This office should be near the entrance to the general maintenance shops.

SUPPORT STAFF AREA 400 SQ. FT.	This area should be adjacent to the administrator's office and provide working space for 6 staff and 2 draftsmen.
TOILET ROOMS 60 SQ. FT.	There should be toilet rooms near the entrance to the general maintenance shops.
POWER HOUSE SQ. FT. Varies	Typically, a power house is outside the secure perimeter near the outdoor warehouse. Offices and a toilet facility will be required within the building.

Safety and Sanitation Performance Criteria

SANITATION AND SAFETY OFFICE 350 SQ. FT.	The sanitation and safety office should be near the truck loading dock, food service, vocational training and warehouse areas.
STORAGE ROOM 200 SQ. FT.	A storage room should be adjacent to the sanitation and safety office to store equipment and supplies.
TOILET ROOMS 60 SQ. FT.	There should be toilet rooms adjacent to the sanitation and safety office.
FIRE STATION 800 SQ. FT.	A fire station may be provided outside the secure perimeter. The station should be near the vehicle sally port, so personnel can enter quickly. A 24 ft. pump truck is ideal for this institution. A bay with 800 SQ. FT. and minimum depth of 40 ft. will house the fire truck and provide space for maintenance. Garage doors of 12 ft. and 14 ft. will allow clearance for the fire truck.
LOCKSMITH SHOP 200 SQ. FT.	Ample space for a locksmith should be provided and inaccessible to inmates.
ARMORY 150 SQ. FT.	A space is required for storing firearms and security equipment that is easily accessible to staff. It should be outside the secure perimeter and is often near the front entrance.

Garage and Warehouse Performance Criteria

GARAGE 4,000 SQ. FT.	Three 800 SQ. FT. bays for vehicle maintenance and a large bay for landscape equipment is required in the garage. 2 garage doors connecting to the outdoors are needed.
SUPERVISOR'S OFFICE 250 SQ. FT.	A supervisor's office should be placed in between the vehicle and landscape bays to facilitate supervision of activities in the garage.
STORAGE ROOM 200 SQ. FT.	A supply and equipment storage room should be near to the supervisor's office and connect to the garage.
TOILET ROOMS 60 SQ. FT.	There should be toilet rooms adjacent to the office for staff and inmate use.
OUTSIDE WAREHOUSE 1,500 SQ. FT.	The outside warehouse should be outside the secure perimeter and adjacent to the vehicle sally port and near any other outside structures. The warehouse will have a minimum of 12 ft. ceiling height. It should have overhead and pedestrian doors and a truck loading dock.
OUTSIDE WAREHOUSE OFFICE 250 SQ. FT.	An office should be provided for staff to observe the truck loading dock and the warehouse.

TOILET FACILITY 300 SQ. FT.	There should be toilet rooms, wash basin and service sink adjacent to the office for staff and inmate use.
INSIDE WAREHOUSE 4,500 SQ. FT.	The inside warehouse is used for long term storage. The warehouse will have a minimum of 12 ft. ceiling height. A truck loading dock, overhead door and pedestrian doors are needed in this space.
INSIDE WAREHOUSE SECURE STORAGE 400 SQ. FT.	A space of secure storage is needed within the inside warehouse to keep certain items inaccessible to inmates.
INSIDE WAREHOUSE OFFICE 250 SQ. FT.	An office should be provided for staff to observe the truck loading dock and the warehouse.
TOILET FACILITY 250 SQ. FT.	There should be toilet rooms, wash basin and service sink adjacent to the office for staff and inmate use.

Control Center Performance Criteria

CONTROL CENTER
450 SQ. FT.

The control center should be 50 ft. in from the front pedestrian sally port so that staff can observe the main entry.

This is often attached to the administration sector.

It has large amounts of secure glazing windows for great visibility needed for staff supervision.

A toilet and janitor's room must be provided in this space for staff.

A small vestibule is required to enter this space. There should be secure construction around the perimeter of this space.

Watch Tower Performance Criteria

WATCH TOWERS	Watch towers allow staff areas for 24 hour surveillance.
	Toilet rooms are required in the watch towers and must still allow staff visibility to see the outside and along the fence.
	Staff require a small kitchenette consisting of a refrigerator and microwave.
	Towers are generally outside the secure perimeter.
	A maximum of 600 ft. between each tower is recommended.
	The tower floor's should be a minimum of 30 ft. from the ground level.
	Perimeter lighting should put the eye level of the tower officer above the level of the lights.
	Search lights are often attached to the tops of these towers.
	Windows must be able to open quickly, so weapons can be fired through them.
EXTERIOR LIGHTING SYSTEM	6 to 8 ft. Light poles allow for lights to be placed on 100 to 200 ft. intervals from each other.

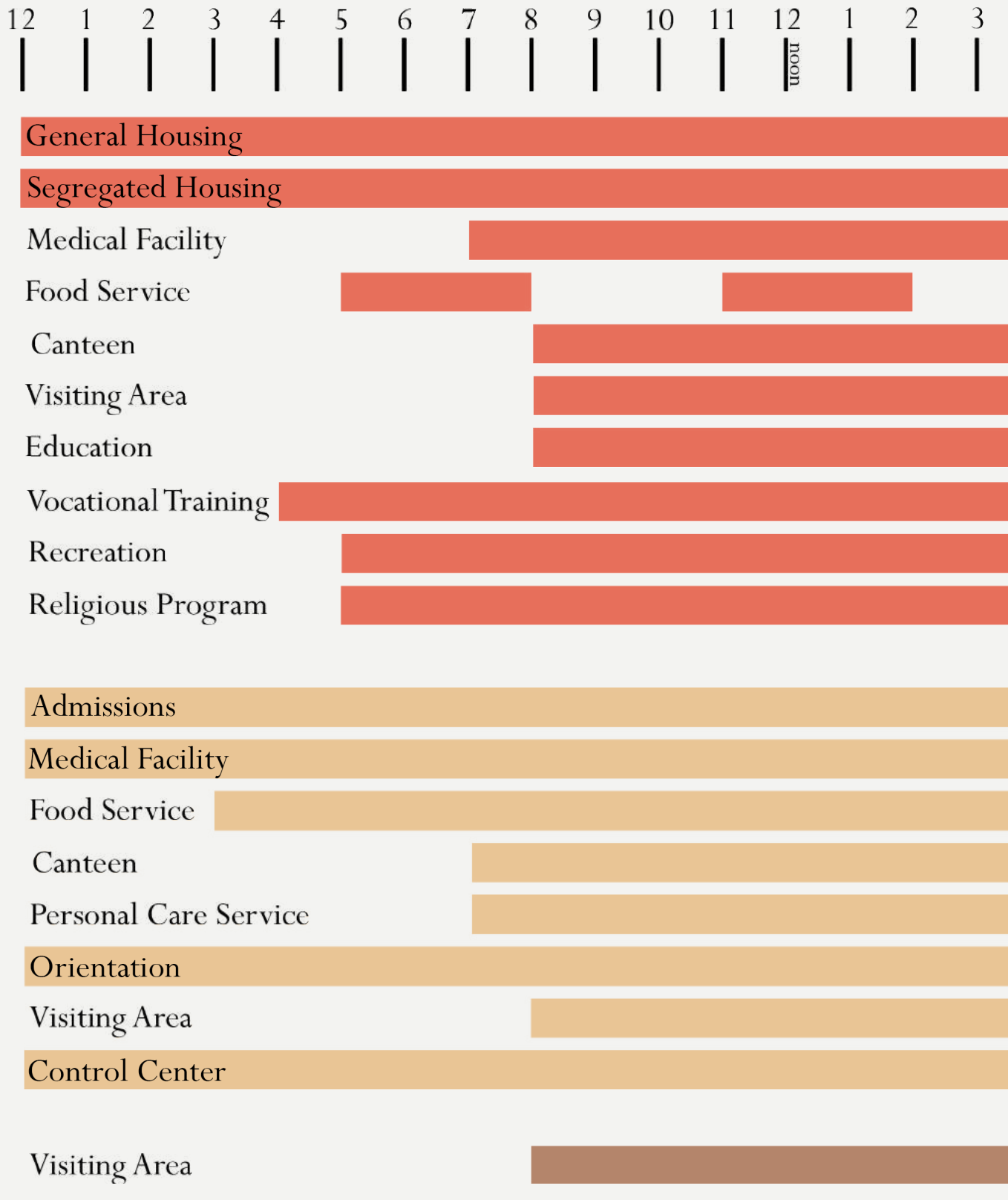
Entrance Building Performance Criteria

ENTRANCE BUILDING 800 SQ. FT.	The main entrance should be separate from the main buildings. It should be on the path of perimeter between the parking lot and the control center, roughly 50 FT. apart. It should have a waiting area, receptions station, armory, locksmith shop and 150 SQ. FT. sally port. The walls should have considerable glazing for good visibility for surveillance. All visitors will pass through a metal detector upon entry. Lockers should be provided for items not allowed in the facility. Both a women's and men's restroom are required in the building adjacent to the waiting area.
VEHICULAR SALLY PORT 2,800 SQ. FT.	The vehicular sally port is usually constructed of the same material as the perimeter fence. This area is large enough to hold two trucks, one entering and one being detained. Removable posts should be placed in front of the gates to deter escape attempts by inmates who might commandeer a vehicle and try to crash though the gates.

Roads and Parking Performance Criteria

STAFF AND VISITOR PARKING 250 Spaces	The parking area for staff and visitors should be located near the front entrance and be sufficiently away from the perimeter fence so that surveillance is not hindered. This area should be well lit for the 24-hour work schedule. An area for a public transportation stop is a must.
ROAD ENCIRCLING COMPOUND	The perimeter security road should contain at least three turn arounds so that patrol vehicles can reverse their direction quickly. It should run parallel to the perimeter fence for optimum visual surveillance, with approximately 50 FT. in between. Then, about 300 FT. from the road to the property line.
SIDEWALKS .	Sidewalks are required for visitor use and should connect the main roads, prison roads and public transport stop to the main entrance building. A sidewalk should also connect the entrance building to the main prison building.

Spatial Program Hour Usage Chart



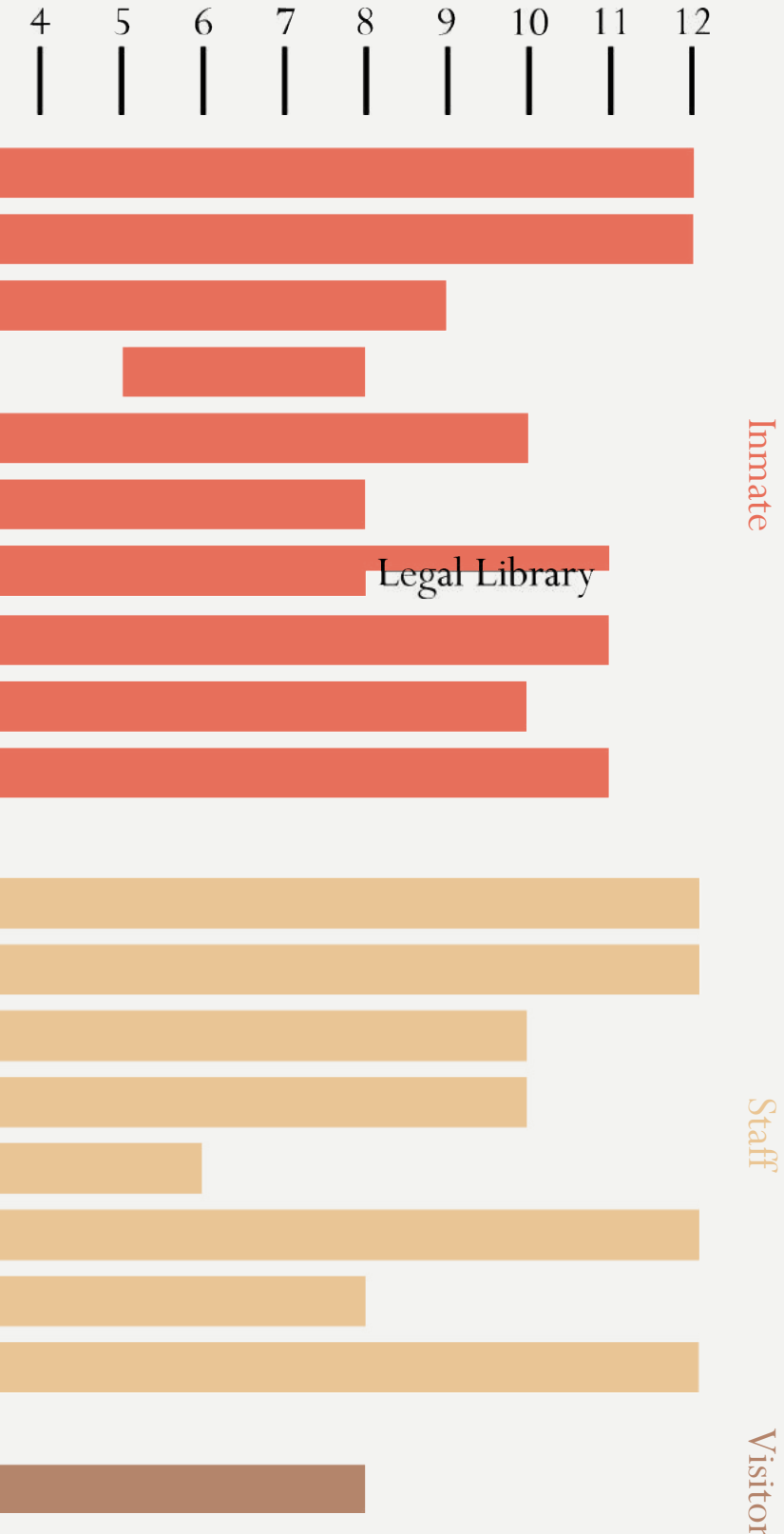


Figure 129—Spatial Program Hour Usage Chart

Correctional Standards

American Correctional Association Standards

GENERAL HOUSING

2-4129 Single cells should be no less than 60 Sq. ft. If inmates spend more than 10 hours a day in their cells, 80 Sq. ft. is required. The ceiling height in a cell must be 8 ft. or greater.

2-4130 Each cell must have a toilet, wash basin with warm and cold water, bed above floor level, desk, hooks or closet space, chair or stool and natural light. There must be one shower for every eight occupants and one wash basin for every six.

2-4137 Day rooms will be equivalent to 35 Sq. ft. per inmate. A day room is required for each general population housing unit.

2-4144 Handicap cells must provide maximum integration into the general population.

SEGREGATED HOUSING

Single occupancy cells will have a floor area of at least 80 Sq. ft. A toilet, basin with warm and cold water, natural light, bed above floor level, desk and writing stool is needed in each cell.

2-4159 An indoor exercise room is required for the segregated housing that has an equivalent of 35 Sq. ft. per segregated inmate.

CAFETERIA

2-4143 Kitchen dining floor space should be the equivalent of 10 Sq. ft. per inmate.

RECREATION

2-4156 The gymnasium should be no less than 60 x 100 ft. with a ceiling height of no less than 22 ft.

2-4157 An outdoor of area of 2 acres is required for institutions up to 500 inmates.

GENERAL

2-4133 Males and females housed in the same institution must have separate sleeping quarters.

2-4134 Two identifiable exits in each inmate housing area and other high density areas are required.

2-4150 Approximately 8 percent of the total floor area will be used for maintenance/ mechanical purposes.

2-4166 Furnishings, mattresses, cushions or other items of foamed plastics or foamed rubber may pose a severe hazard due to high smoke production.

New Mexico Building Codes

408 GROUP I-3

MEANS OF EGRESS

Doors to resident sleeping units shall have a clear width of not less than 28 inches.

Spiral stairways are permitted for access to between staff locations.

Exits into a fenced or walled courtyard be not less than 50 feet from the building. The yard area should be not less than 15 square feet per person.

Egress from any portion of the cell tier to an exit or exit access door shall not require travel on more than one additional floor level within the housing unit. (Housing units may not be more than 2 floors).

SECURITY GLAZING

Individual panels of glazing (windows) shall not exceed 1,296 square inches (0.84 m2).

AUTOMATIC SPRINKLER SYSTEM

Group I-3 occupants shall be equipped throughout with an automatic sprinkler system.

The English Prison Service's Safe Cell Design

The English Prison Service designed a safe cell based on the PDBS standard cell. It has been designed to avoid suicide attempts and provides a more ordered quality. Each element in the cell was analyzed and redesigned with new furniture and materials to give a unifying character. They defined the areas and layouts as uncrowded or crowded.

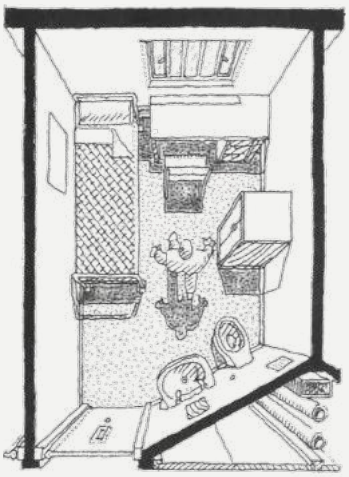


Figure 130—Standard Single Cell (from Prison Architecture)

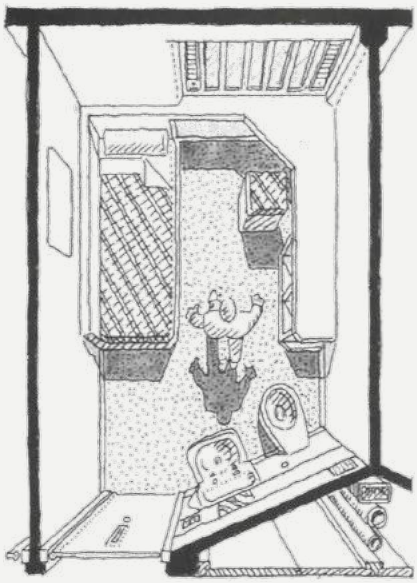


Figure 131—Redesigned Safe Single Cell (from Prison Architecture)

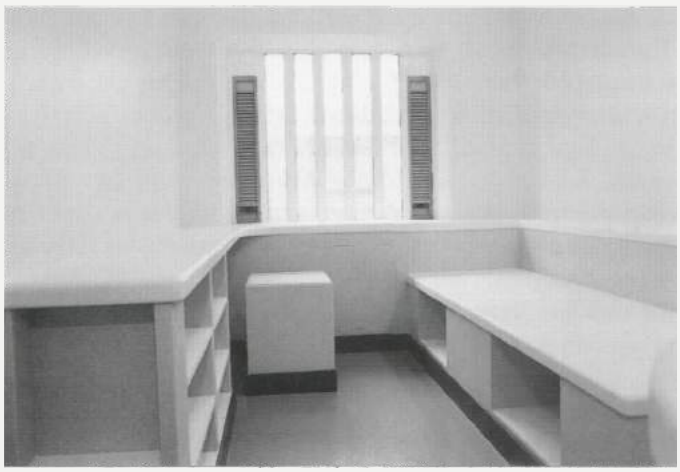


Figure 132—New Single Cell Design (from Prison Architecture)

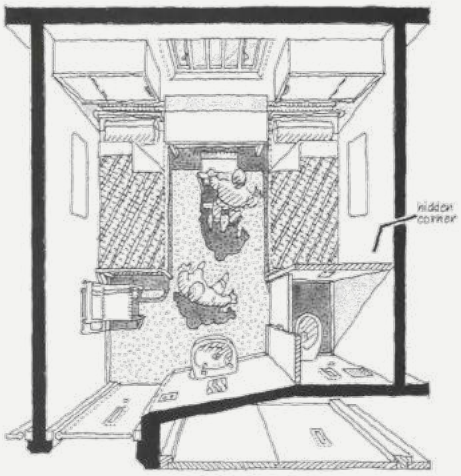


Figure 133—Standard Double Cell (from Prison Architecture)

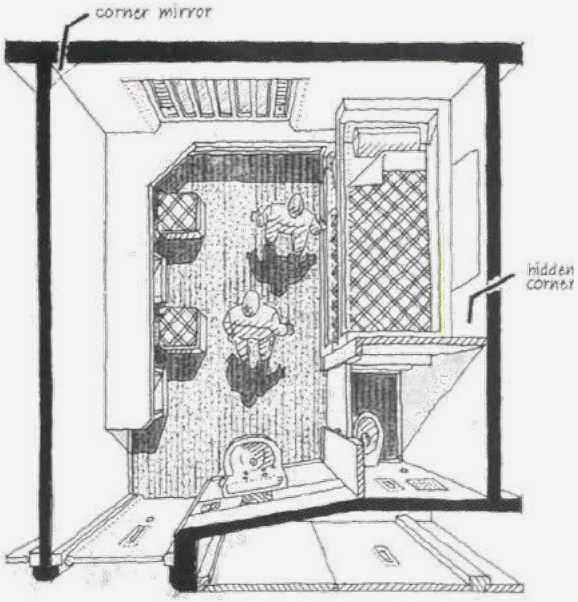


Figure 134—Redesigned Safe Single Cell (from Prison Architecture)

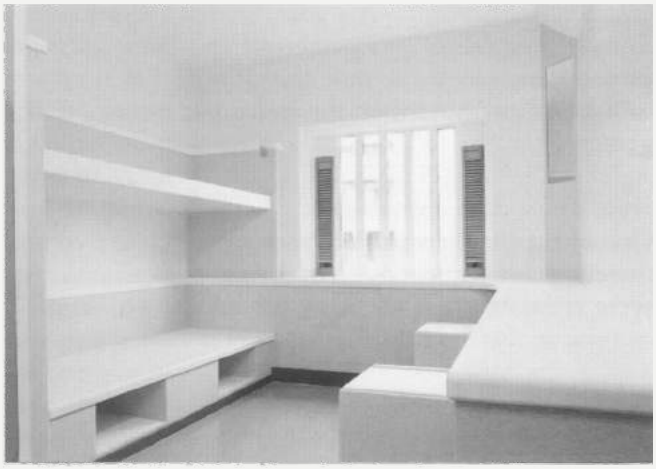


Figure 135—New Double Cell Design (from Prison Architecture)

Precedent Research

The precedent research for this project is done through four built prisons. These prisons include Anstalten Correctional Facility in Greenland, Cook County Maximum Security Facility in Chicago, West Kimberley Regional Facility in Australia and Jeremy Bentham's imagined Panopticon Prison. Each of these projects enhanced and developed the initial program requirements.

Anstalten Correctional Facility

Figure 136—Anstalten Aerial View (from *SHL Anstalten Correctional Facility*)

NUUK, GREENLAND

A new prison in Greenland, Anstalten, envelops Danish methods of incarceration. The project is three miles outside of Greenland's capital, Nuuk, where it engages with the rugged landscape. Anstalten was designed as a village of buildings to mimic local Greenland communities. Before Anstalten, incarcerated people of Greenland served their time in Denmark. This prison reduces travel costs and makes family visits easier.

ARCHITECT
Friis & Moltke Architects, Schmidt Hammer Lassen (SHL)

CLIENT
Danish Ministry of Justice/ Danish Prison and Probation Service

YEAR
2019 (2013 Competition)

PROGRAM
76 male and female prisoners in 5 residential blocks

BUILDING AREA
86,000 Sq. ft.

AWARDS
2017, WAN Future Projects Civic Award

MAJOR MATERIALS
Poured-concrete structures clad with weathering-steel panels

Figure 137—Anstalten Entrance (from *Cold Comfort*)

A Gentle Approach to Incarceration

Surrounded by a perimeter wall, Anstalten houses minimum, medium and maximum security prisoners. Their rooms are 130 Sq. ft. with their own bedroom, bathroom and desk. The rooms are placed in units of four to eight, with these sharing living, cooking and dining spaces. Each residential room has angled windows for unrestricted views to the sea and to provide privacy from the other rooms. Staff have key access to every room, but inmates are able to lock their own rooms from the inside. The common areas in the three clusters have video surveillance systems and an observation room adjacent to provide views to staff into each unit. These are rarely used, as the staff are often in the common area with the prisoners.

Figure 138—Residential Windows (from *Plans: Arch Daily: Adam Mørk*)

Figure 139—Burnt Sienna Facade (from *SHL*)

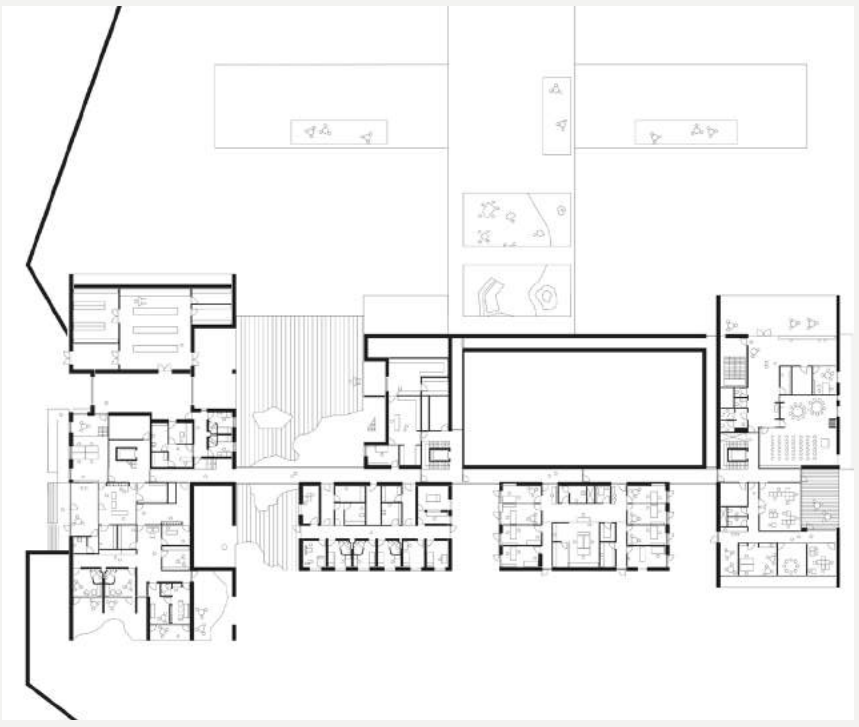


Figure 140—Anstalten Floor Plan (from *The Architectural Review*)

A few buildings beyond the wall are for staff and prisoners whom are close to release that may work or attend classes in town and return in the evening.

Listening to the Landscape

SHL designed the prison as a series of accurately shaped blocks. Their positions follow the contours of Nuuk's rocky landscape. They paid attention to the orientation and scale of the project to best blend the prison into the natural landscape.

Figure 141—Anstalten Perspective (from *SHL Anstalten Correctional Facility*)

The poured-concrete structures reflect the characteristics of the surrounding rocky landscape. The concrete has a similar light gray coloring and a simple rough texture which blends it into the ground. The majority of the first level ground connections are concrete as a way to connect the building into the earth. Burnt sienna corten stall facades frame the prison above the grounding concrete to reflects the tops of surrounding hills where the burnt sienna hills poke through the melted snow.

SHL's walkway connects the residential housing to the remainder of the facility to give inmates a physical and metal separation between their housing and workplace to mimic like outside the prison. This walkway is permeated by the landscape. The designers wanted to keep the landscape present in the inmate's daily lives.

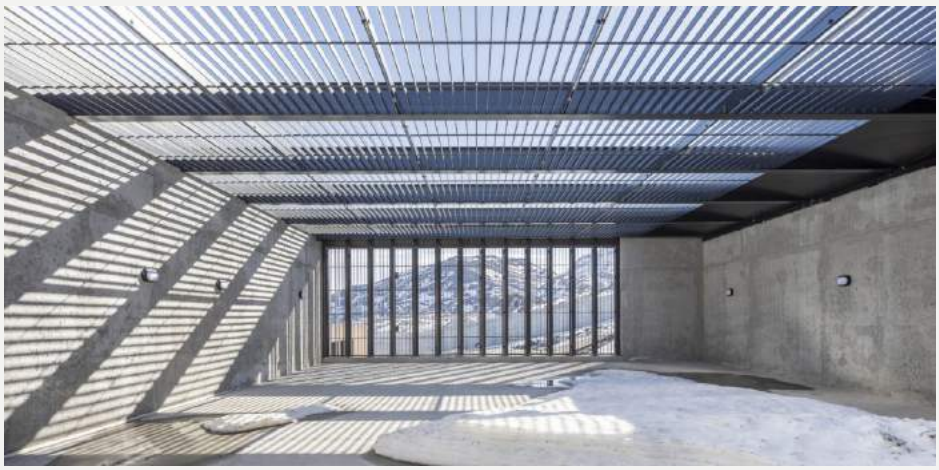


Figure 142—Anstalten Walkway (from *SHL Anstalten Correctional Facility*)

Danish Methods of Incarceration

Instead of shielding inmates from the rest of the world, Anstalten provides education programs that involve elements of the society. Prisoners participate in actives to build a daily life with routines and content. It is designed to resemble as close as possible to their lives outside of prison. The inmates are responsible for their own laundry, shopping for food from the prison grocery store and preparing their own meals. By allowing them control over these areas of their lives, Anstalten is encouraging its prisoners to take responsibility for their actions and manage their own lives.

Those whom are not allowed outside the prison walls are involved in education within the facility. The prison tries to prepare a convicted person to return to their society by perhaps equipping them with a new job, teaching life skills or offering opportunities to get a school degree while incarcerated.

The prison is focused on developing inmate's skills so that they get to acquire tools to use when they are released. The facility has a library, workshop for learning employment skills, health center, education classrooms and recreation spaces.

Figure 143—Anstalten Resident Room (from *SHL Anstalten Correctional Facility*)

With these methods of incarceration, Anstalten represents Danish methods of incarceration. Scandinavian counties have taken a vastly different approach to their imprisonment. They emphasize the good release method. They believe that their members of the population can provide more to the society while being an active member of it rather than in their prisons, so while imprisoned the Scandinavian countries try to equip the inmates with life skills that will allow them to better contribute to society upon release and deter them from committing additional crimes.

Figure 144—Anstalten Interior Hall (from *SHL Anstalten Correctional Facility*)

Anstalten encourages family visits. They have a playground and accommodations for overnight stays. It is expensive to stay overnight in town, so the prison has rooms for families to come visit and stay.

Greenlandic Artistry

Figure 145—Anstalten Perimeter Wall (from *SHL Anstalten Correctional Facility*)

Figure 146—Anstalten Gymnasium (from *SHL Anstalten Correctional Facility*)

Surrounding the prison, a five-meter high wall has animal motifs by Greenland artist Aka Høegh.

The interior spaces are adorned with works from visual artist Julie Edel Hardenberg. The gymnasium wall motifs are inspired by Greenlandic mythology. The prayer room has snowflakes formed by animal motifs.

These works of art bring Greenland's culture inside the walls of Anstalten. These enhance SHL's notion of bringing nature and local culture into the facility.

Figure 147—Anstalten Prayer Room (from *SHL Anstalten Correctional Facility*)

Why Anstalten Works

BENEFITS

- Views of nature
- Art inspired by Greenland's culture
- Opportunities for inmate to manage their lives: laundry, food shopping, meal preparing
- Overnight accommodations for visitors
- Single inmate rooms
- Rooms that can lock from the insides

Cook County Maximum Security Facility

2700 S CALIFORNIA AVE
CHICAGO, IL 60608

1 Master Control
2 Women's Lockers
3 Training
4 Men's Lockers
5 Day-room
6 Yard
7 Pod Control

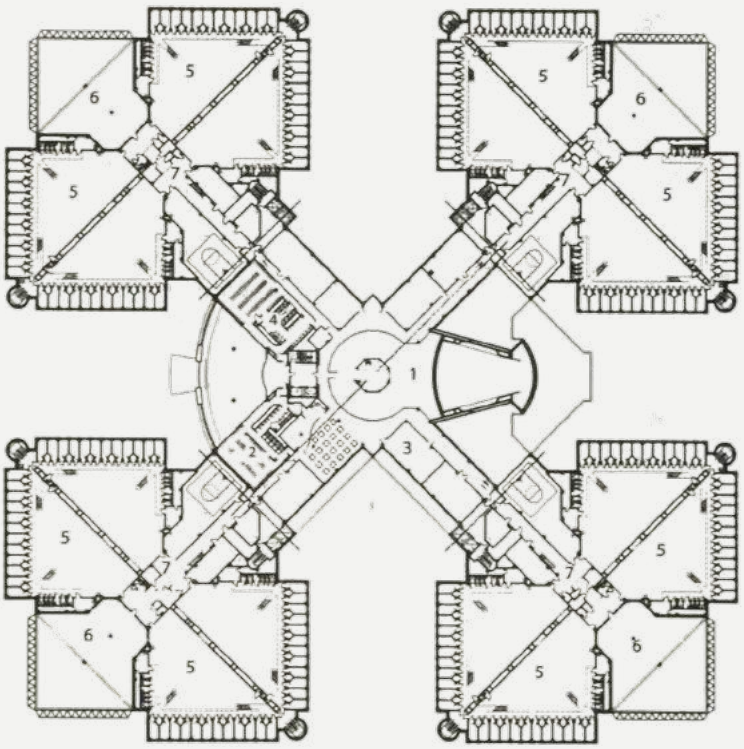


Figure 148—Cook County Floor Plan (from *Plans: Prison Facilities*)

The Cook County Maximum Security Facility Division XI is home to 1,600 inmates grouped into 4 pods of 400 inmates each. These are broken down into two floor tiers with 48 inmates in each. It has a central core that connects with each pod that hosts centralized activities and holds the central control system. The design is modular that lends to the decentralization of daily routine, creating centralized inmate functions that efficiently regulate inmate schedules, resulting in reduced staffing.

Figure 149—Cook County Maximum Security Prison (from ABC Chicago)

ARCHITECT
Roula Associates Architects, Chtd. Chicago

CLIENT
Cook County Board of Capital Development

YEAR
1995

PROGRAM
1,600 bed, male, maximum security institution

BUILDING AREA
685,000 SQ. FT. on a 17.5 acre site

COST
$92 million construction cost, $134 per SQ. FT.

MAJOR MATERIALS
Pre-cast concrete skin on steel framing, CMU interior, epoxy floors

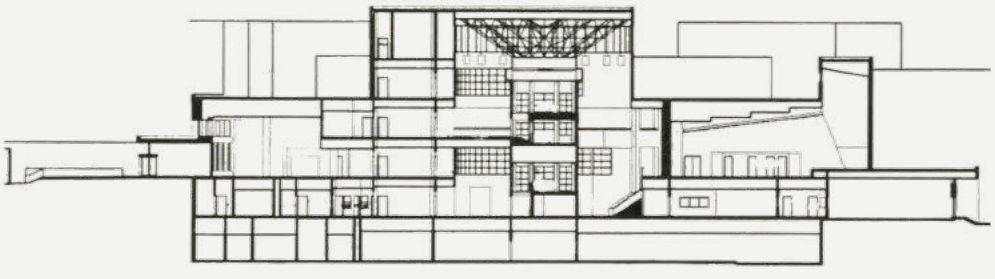


Figure 150—Section through Core (from *Plans: Prison Facilities*)

Life in Pods

Each tier has access to the two ground levels of their pod, where daily inmate activities relating to their housing pods are held. Each pod has its own access to a separate visitors wing for secure, authorized visitation. The pods create closer connections between the inmates and staff assigned to the pod.

The core of the facility is where the centralized services for all the prison are. It is used by the staff, inmates and the public. Their activities are separated by floors so that they are not mixing with each other.

Figure 151—Aerial View (from Inmate Aid)

Figure 152—Cook County Maximum Security Prison Division XI (from ABC Chicago)

Inmate Attacks with Bars of Soap in His Socks

About 3:40 a.m., an inmate in the Cook County Maximum Security Facility grabbed a correctional officer by the neck and chocked him, leaving him unconscious. The detainee allegedly used bars of soap in a sock wrapped around his wrist to attack the officer. The detainee took the unconscious officer's keys and began unlocking his fellow inmate's cells. A sergeant with a stun gun was able to contain the situation. In their statement, the sheriff's office said the attack "makes clear the dangers" correctional officers in the institution face daily.

Figure 153—Apr. 2020 Deputies Attacked (from ABC Chicago)

Figure 154—Jan. 2017 Cafeteria Brawl (from Chicago Tribute)

At about 8:430 p.m., paramedics rushed over to Cook County's Division XI Facility to help injured inmates from a fight that broke out in a common area of a pod. The fight began between a few inmates and then spiraled into a brawl, with inmates flinging food trays at each other across the common area of the detention center. The injuries of the inmates and correctional officers included some puncture wounds, but no injuries were life-threatening.

Why?

Compared to the other case studies, Chicago's Cook County facility may have too much control over their establishment, which is causing its inmates to rebel more frequently.

Here, the inmates know how closely guarded they are, they are able to learn the patters of the guards and predict openings/ shift changes. These together provide predictable openings to cause a commotion.

BENEFITS

- Pods allow for close relationships with other prisoners and guards
- Pods allow for a larger prison population
- Controlled/ regulated inmate schedules and functions

AVOIDANCES

- The harsh environment reminds inmates that they committed a crime
- Too much prevalent security causes inmates to rebel

"If you've got people who like doing what they're doing, they're more likely to participate" (TAG Architects, 2012).

West Kimberley Regional Facility

LOT 500 DERBY HWY,
DERBY WA 6728,
AUSTRALIA

Figure 155—Kimberley Aerial View (from ABC Local Australia)

This minimum security facility consists of 42 buildings arranged around an oval to encourage life aspirations among the prisoners. TAG claims that the space refocuses the importance of recreational activities where family and community members can participate in prison life. The buildings near the single gatehouse are shared facilities including the administration block, medical center, visiting areas and education spaces. Their placement was informed by existing boab trees to keep as many as they could.

The color pallet used in this design was referenced from the natural landscape. It reflects the seasonal changes of the subtropics to increase connection to the country. It was important to the architects to reduce the number of solid barriers to keep views of the landscape beyond the perimeter.

Figure 156—Kimberley Boab Trees (from West Kimberley Regional Facility)

ARCHITECT
TAG Architects, Iredale Pedersen Hook Architects

CLIENT
Department of Corrective Services, Western Australia

YEAR
2012

PROGRAM
120 male, 30 female inmates, 42 buildings laid out within a campus master-plan, minimum security

COST
$122 million construction cost

MAJOR MATERIALS
Electronic locks, lightweight steel, color-bond and compressed sheets, cyclone glass, mesh woven screens

Awards
2013 International Architecture Award, 2013 National Architecture Awards for Sustainable Architecture

Figure 157—Indigenous Outback of Kimberley Australia (from Borders of Adventure)

Security, Where Did You Go?

West Kimberley Regional Prison is not a typical prison. Their main focus is around openness. Here, security is invisible. Absent are the high walls, bars and heavy building materials that are typically found in prisons. The prison was designed to welcome prisoners and visitors alike.

Figure 158–Kimberley Gatehouse (from West Kimberley Regional Facility)

This prison has been able to normalize its security through the use of surveillance cameras. Rather than making the inmates feel like they are being watched 24 hours a day (which they still are), the non-oppressive cameras are used to keep an eye on things without intruding.

The cameras make the security seem invisible, they reduce reliance upon prison guards. The staff members patrolling the prison are the second measure of security here, often walking around and interacting with inmates.

There is a maze of cables underneath the buildings that connect the surveillance cameras to a centralized control room. Here, they are able to watch inmates and lock rooms remotely.

1 Visitor Center
2 Gatehouse
3 Prisoner Reception
4 Management / Crisis Care
5 Administration
6 Laundry / kitchen
7 Workshops
8 Recreation
9 Education
10 Family Visits
11 Court Services
12 Programs
13 Women's Health Services
14 Women's Accommodation
15 Men's Maximum Security
16 Spiritual Center
17 Men's Accommodation
18 Oval

Figure 159—Kimberley Site Plan (from West Kimberley Regional Facility)

Permitted Outdoor Sleeping Arrangements

Figure 160—Kimberley Housing Building 1 (from West Kimberley Regional Facility)

Housing was designed in mind with respect to their Indigenous prisoner needs. The prisoners stay connected to the country, maintain relationships with the family and kins and live within specified social groups. The housing units sleep six to eight prisoners with communal living space, individual rooms, bathroom, kitchen and dining. The Aboriginal people generally prefer to live with alike people, so the architects allowed the prisoners to live with others from their own country. A cluster approach was used to reduce potential conflict between groups.

Inmates are allowed greater control over their living accommodations. Air-conditioning, not a typical provision in Australian prisons, was installed to make the prison safer and more humane.

The housing buildings differ with security. West Kimberley Regional Facility offers a mix of minimum, medium and maximum security living units.

Inmates in minimum security units have access to the entire prison. Shared buildings are locked each night, but these inmates are still allowed to wander the grounds. The sleeping arrangements are very flexible, each housing unit has a mix of shared and single rooms. This gives prisoners the choice to peruse their desired lifestyles, including optional outdoor sleeping arrangements. Those in the maximum security units have individual cells with personal bathrooms that are locked down each night.

Figure 161—Kimberley Housing Building 2 (from West Kimberley Regional Facility)

Environmental Planning

TAG Architects did careful observations of the principles of sustainable development. They selected appropriate building materials to minimize the impact of the development on the environment. The vegetation water retention was planned to reduce erosion across the site.

Figure 162—Kimberley Programs Building (from West Kimberley Regional Facility)

Figure 163—Kimberley Services Building (from West Kimberley Regional Facility)

Water and power are being brought to the site from a nearby town, while a black-water system diverts water back onto the lawn of the oval and irrigation system for the vegetation.

Figure 164—Kimberley Oval (from West Kimberley Regional Facility)

Specialty Design

Each of the West Kimberley Regional Facility's buildings are connected with a ribbon-like roof design that "ducks and weaves" between each building. Even though most buildings and roofs are separate, the flow of the roof makes them appear as if they were connected. In some spots the roof structure does connect between buildings in which the roof provides shelter and shade. IPH was interested in how a simple roof can create beautiful sections from being wrapped and morphed while still sheltering its inhabitants from the elements. They wanted the forms to have an organic feel to soften the atmosphere.

Figure 165—Kimberley Wrapping Roof (from West Kimberley Regional Facility)

West Kimberley Regional Facility's Notable Elements

BENEFITS

- Inmates are free to roam
- Inmates can make/ choose their own living accommodations
- Prison walls filled with native, mature plants
- Sense of control and calmness
- Good relationship between prisons and guards which relaxes the environment
- Inmates are good to each other and able to work with one another
- Have a weekly budget and take care of their own meals to learn responsibility, how to cook meals and carry out a routine
- Their features of the average jail, with plenty of guards, high fences and security cameras remind inmates this is no vacation
- The local communities informs the prison of what skills have shortages and the prison focuses their education and training programs on them

“There is a routine because it’s still a prison. Prison is no snooze fest.”

TAG Architects 2012

Jeremy Bentham's Panopticon Prison

The Panopticon theory states that people can be controlled when they believe themselves to be under constant surveillance even if no one is watching.

"Morals reformed - health preserved - industry invigorated - instruction diffused - public burthens lightened - economy seated, as it were, upon a rock - the gordian knot of the poor laws are not cut, but united all by a simple idea in architecture!" (Bentham, 31).

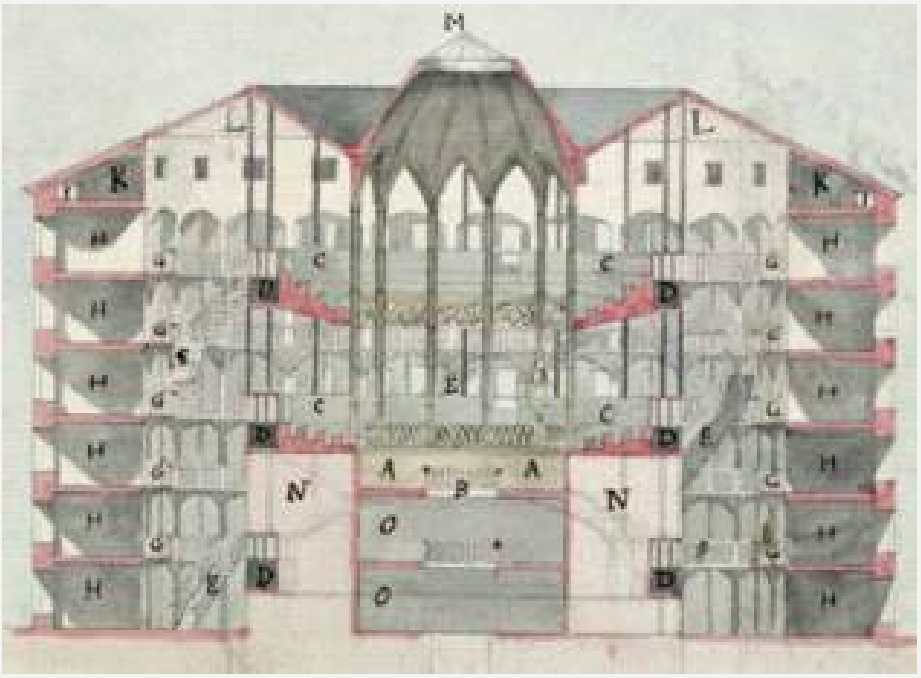


Figure 166—Panopticon Section (from Wikipedia)

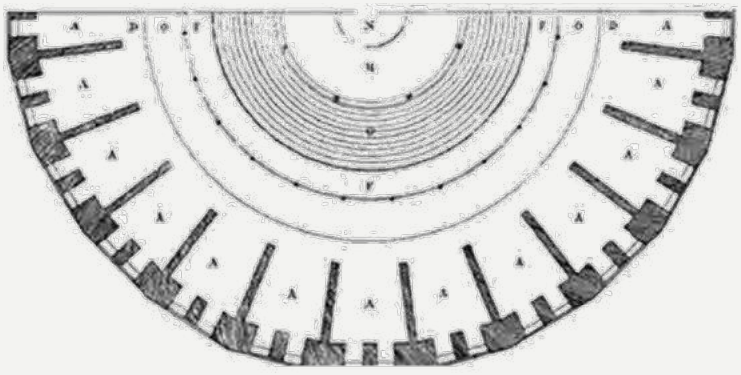


Figure 167—Panopticon Half of Spiral Floor Plan (from Wikipedia)

Bentham expected that his new mode of obtaining power of mind over mind would ensure that the prisoners would modify their behavior and work hard in order to avoid punishment.

ARCHITECT
Jeremy Bentham

YEAR
1791 (Not built)

PROGRAM
5 floors each with 93 cells

MAJOR MATERIALS
Circular, glass-roofed, with cells along the external that face a central rotunda

Figure 168—Panopticon Section Perspective (from Utilitarianism)

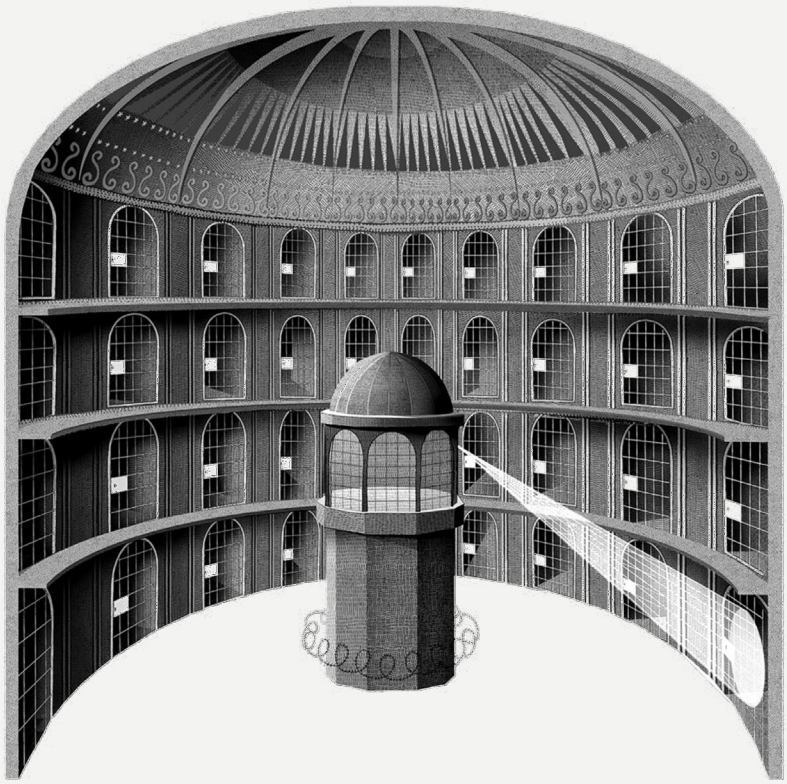


Figure 169—Panopticon by Jenni Fagan (from New York Times)

Power should be visible and unverifiable.

Not only are there blinds on the windows of the central observation hall but, on the inside, partitions that intersected the hall at the right angles. In order to pass from one quarter to the other zigzag openings instead of doors to block the slightest noise, gleam of light and brightness in a half opened door, so the presence of the guard would not be betrayed. ***The architecture apparatus is a machine that creates and sustains power relation independent of the person who exercises it.***

Bentham conceived the basic plan as being equally applicable to hospitals, schools, sanatoriums and asylums, but he devoted most of his efforts to developing a design for a panopticon prison.

Modern Panopticon Surveillance

THE ALL SEEING EYE

Jeremy Bentham designed the panopticon prison in 1787. He got his idea from his brother. His brother Samuel was working with an unskilled force in Russia, to keep an eye on everything he arranged his workforce in a circle. Jeremy visited in the 1780s and saw his set-up the workforce around a central desk and decided that it could have greater implications.

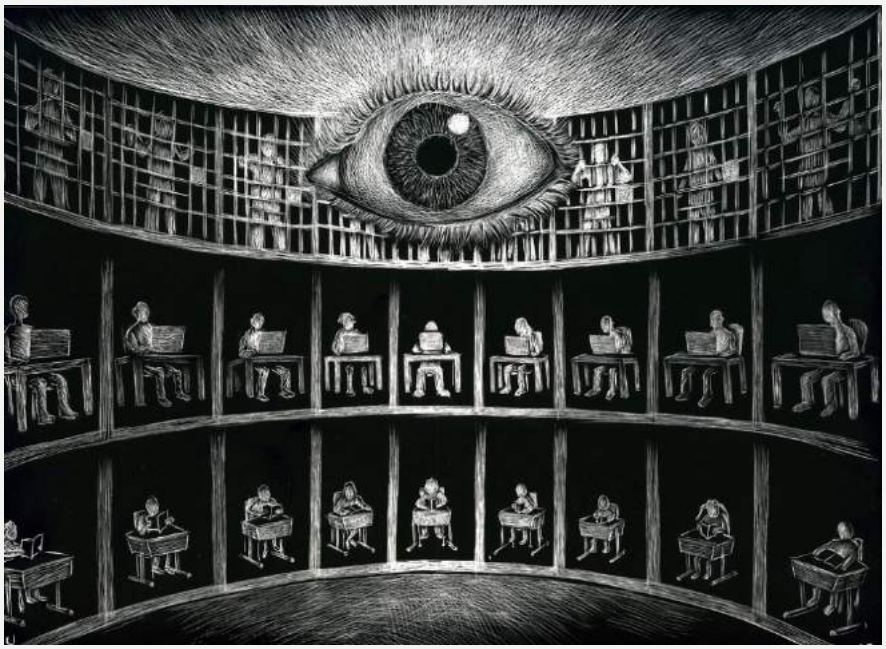


Figure 170—The All Seeing Eye (from Medium)

Bentham's cylinder of cells does not allow prisoners to hide. They are always visible and in the light, while the guards in the center dark. The prisoners are not able to tell when they are being watched and have no choice but to presume that they are always being watched. Since it is impossible to watch an inmate during all hours of the day, this is the best replacement.
This induces a state of conscious and permanent visibility that assures the automatic functioning of power. The perfection of power renders its existence unnecessary.

Figure 171—Abandoned Presidio Modelo Prison (from The Guardian)

A number of prisons have since incorporated panopticon elements into their design, but it wasn't until the 1920s that the closest thing to a panopticon prison was built. The Presidio Modelo complex in Cuba is infamous for corruption and cruelty and is now abandoned.

CENTRAL INSPECTION

In the panopticon, the prisoner is on the receiving end of asymmetrical surveillance. "He is seen, but he does not see; he is an object of information, never a subject in communication" (The Guardian, 2015). The principle of the panopticon is the central inspection. A round building or space is not needed to attain these results. Central scanning can be done with CCTV, closed-circuit television, no round building needed. The monitoring of the electronic communications from a central location is what makes it panoptic.

Figure 172—CCTV Control Room (from Evolution News)

The watchtower at the heart of the panopticon is a precursor to the cameras fastened to our buildings; purposely visible machines with human eyes hidden from view.

THE INVISIBLE POWER, IS THERE SOMEONE WATCHING?

"Does the fact that we don't know we're being watched mean we are being normalized in the way the panopticon was intended to correct behavior?" (The Guardian, 2015). In the panopticon the occupants are constantly aware of the threat of being watched, but state surveillance on the internet is invisible; there is no looming tower, no dead eye lens staring every time a URL is entered.

Figure 173—Convex Mirror in Shopping Center (from The Guardian)

THE MAKING OF "NORMAL" PEOPLE

Individuals know that they can be identified and punished if they break the rules, so they begin to conform. This kind of power relies on laws and systems of surveillance. Disciplinary power operates in institutions to produce people whom are considered normal by their standards.

Figure 174—Mark Kostabi Painting (from The Plains Art Museum 2019)

Living Inside Prison Walls

Preparing for Prison

It is not possible to accurately describe how every prison may be. This will be a more general portrayal of how Prison life is in the United States of America is.

BEFORE IMPRISONMENT

The average federal prison sentence imposed is approximately 147 months. Less than 20 percent of offenders serve a prison term below five years. It is important for an inmate to prepare for life in prison. This involves research about the prison, getting their affairs in order and preparing their family for this time.

THE FIRST DAY

The first day of prison is one of the most challenging moments for a new inmate. It begins with the transport bus en route to the prison, here, each inmate is on edge. Everyone's goal is obscurity, they want to take care of themselves and not stand out.

From the bus, the inmates go into possessing/ receiving and discharge. All personal property is seized and inspected before allowed items are returned. A strip search is used to find contraband. Inmates are then given basic toiletries, uniforms and sheets. Next, inmates are interviewed by various staff to determine their housing assignment. Infectious diseases, psychological concerns and separations orders are taken into account. Sex offenders are often separated from the general inmate population. Following processing, inmates are escorted to their inmate housing unit by a guard.

A Prisoner's Daily Schedule

4AM	Breakfast
5AM	
6AM	Report to work assignment/ class/ personal time
7AM	
8AM	
9AM	
10AM	
11AM	Lunch
12AM	Report to work/ go to gym/ recreation activities
1PM	
2PM	
3PM	
4PM	Dinner
5PM	Attend classes/ call families/ watch television
6PM	
7PM	
8PM	

Figure 175—Typical Day in Prison (from Prison Fellowship)

A typical day for someone in low or medium security begins with breakfast around 4:30a.m. Then, report to their work assignments around 6am. If they have no work assignment, they may have a class to attend or spend the morning in their bunks reading, writing letters, or listening to the radio. Lunch is around 11am. Afterwards, they may report to work or go to the gym or recreation yard for exercise. The third meal of the day is usually around 4p.m. Prisoners may spend evening hours attending classes, watching television, calling their families or playing dominoes.

Evening hours and weekends may additionally involve, chapel programs and/ or worship services or a visit with a friend or family member during visitation hours. All of these activities depend on prisoners having good behavior and obtaining necessary permissions and clearances.

In prison you are your only protector.

Educational Programs in Prison

The Federal Bureau of Prisons offers inmates various prison education programs. These range from ESL and GED programs to Adult Continuing Education classes and correspondence college courses. If prisoners cannot read or write, they can learn to do so and those who cannot speak or understand English receive tutoring. Inmates without a high school diploma certificate are able to earn a GED.

Many federal prisons also offer self-paced classes. These classes are based on educational DVDs/VHS tapes that correspond to written lessons in the library. Most federal prisons offer a parenting program. These include classes designed to help inmates stay in contact with their families, strengthen parental bonds while incarcerated and learn valuable parenting skills.

Enrolling in correspondence education from prison is relatively simple. Inmates must locate a program of interest, complete the application to enroll in the program and pay all the associated fees.

Figure 176—Prison Classroom (from Federal Bureau of Prisons)

Every federal prison maintains both a leisure and law library. These libraries are an educational source for inmates. The leisure library allows inmates to check out books, magazines and newspapers. The law library facilitates inmate legal activities.

Family Visits

Prisoners typically can receive 5 or 6 visitation sessions each month, the idea is that prisoners can only receive so many visits each month. Inmates will be searched prior to and after any visits. Visitors must abide by the dress code, or they may be refused visitation. During visits, there are also limits to physical contact permitted. Prisoners and visitors are allowed to embrace at the beginning and end of visits. There is often a maximum of four visitors at a time, not including children under 16. Visits last about 3 to 4 hours. Prisons enforce quiet, orderly and dignified visits. If visitors or inmates are acting inappropriately, visitation can be terminated.

Figure 177—Navajo Woman (from Ohio University)

The Prisoner's Mindset

An assessment on the non-cognitive skills was done on over 100 inmates by psychologist Dr. Brian Davidson. The inmate skills that are significantly different from the general population are listed below.

Believing one's potential in life is largely fixed and incapable of being changed

+

Possessing few, if any, highly meaningful goals that contribute to a cause greater than oneself

+

Having little sense that your decisions and efforts will influence the outcomes that occur

+

Struggling with resisting temptations and controlling one's impulses

+

Having low levels of integrity

Dr. Davidson discovered that inmates were low in their non-cognitive skills. Relative to other people not incarcerated, the inmates tended to possess fixed mindsets, had low self-determination, possessed an external locus of control, as well as low levels of self-control and integrity.

Working Inside Prison Walls

THE DUTIES OF CORRECTIONAL OFFICERS

They're responsible for maintaining order in detention facilities and keeping prisoners safe. As a prison guard, it is required to stop fights between inmates, inspect their cells, review their mail and protect colleagues from prisoner assaults. In this role, prison guards deal with assaults, disturbances, fights and escape attempts on a regular basis. Their day-to-day duties are mentally taxing and affect their lives outside of work.

LIFE AS A CORRECTIONAL OFFICER

Prison guards oversee individuals who have been sentenced to jail. They usually work between eight and twelve-hour shifts. Guards are required to supervise prisoner interactions, perform regular checks, serve meals to inmates and document behavior.

Corrections officers have to be prepared for the unexpected. It's not uncommon for guards to see inmates killing each other, engaging in large scale fights or setting their cells on fire. Some prisoners will harm themselves or commit suicide.

Guards have a greater risk of chronic injury, high cholesterol, hypertension and heart disease compared to other law enforcement occupations due to stress and burnout of their job. Work conflicts, fatigue, heavy workload and inadequate resources all contribute to stress among correctional officers. The stress they experience on a daily basis can affect their work as well as their personal relationships and family life. They live in constant fear of being sexual harassed or getting hurt in and outside of work. They are constantly aware of their surroundings, previously released inmates may take violent actions against the correctional guards they had while they were in prison.

A Guard's Typical Shift

Wake up
Get dressed and grab some food and drink
Drive to the prison and punch in
Receive assignment
Go and relieve the previous shift
Do a round
Count your inmates
Let them out to eat and other stuff
Lock them all back into there cells
Count them again
Answer the phone a lot
Deal with minor issues
Respond to a fight maybe
Eat food
Wait for relief
Punch out
Go home

Figure 178–Typical Guard Shift (from Security Guard Training)

A TYPICAL DAY FOR A CORRECTIONAL OFFICER

Guards have to be firm, fair and consistent. Basically, be strong of character and have good morals. Not all inmates are bad and not all officers are good. It is important to treat everyone with respect until they give a reason to act otherwise.

The job is set around times. Times to count inmates, 6 or 8 times a day, chow hall schedule, the recreation schedule and many more. Their day is planned around movements.

95% of the time it is the same routine. Guards go to work, watch over the inmates, doing their counts and filing paperwork. However, 5% of the time is an adrenaline rush nightmare where they have mere seconds to decide on how to deal with fights, riots, medical emergencies and injuries to staff. In those moments, training that the facility provides to their guards is vital.

"Oh yes. I've been involved in assaults and with individuals who are self-harming. They don't want you to intervene, but that's your job. Preserving life, at the end of the day, is the most important thing."

Christa Huggins, Ontario correctional officer, 2017

CORRECTIONAL OFFICER STRESSES AND BURNOUT

Correctional officers often experience post-traumatic stress disorder from their job. Researchers believe that traumatic events, such as being injured on the job, receiving threats and witnessing inmates attempting suicide, play a major role in the onset of this disorder. These usually include extreme fear and anxiety, nightmares, chills, heart palpitations, flashbacks, loss of motivation feelings of guilt and more.

SUICIDE RATES AMONG CORRECTIONAL OFFICERS

As a result of extreme stress, depression and PTSD, prison guards are more likely to commit suicide. Suicide rates among prison employees are 39 percent higher than those of the average person. Approximately 10 percent of current correctional officers and 14 percent of retired guards have attempted suicide or thought about killing themselves. Most correctional officers don't make it past the age of 58. Some take their own lives, while others are killed in riots and assaults.

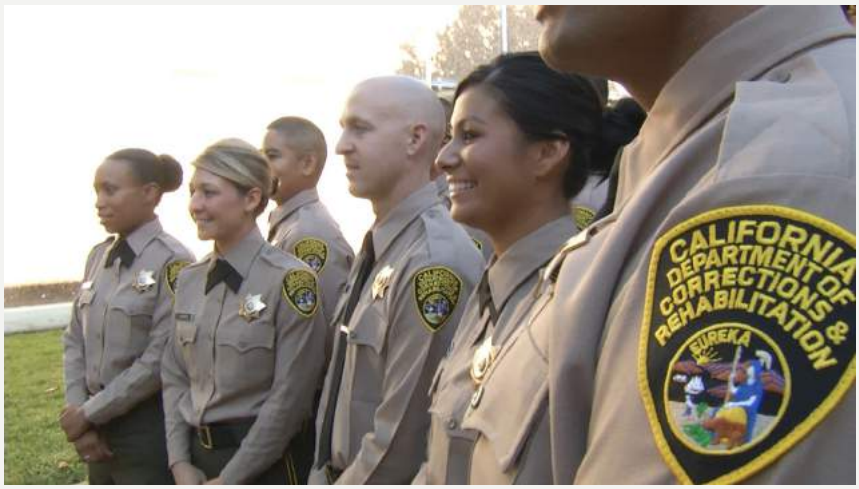


Figure 179—Correctional Officers (from California Department of Corrections)

Understanding the Criminal Mind- Early Indicators

CHILDHOOD BEHAVIORAL TRAITS

Many criminals share early childhood indicators that may lead to their crime leading lives. From a study of 36 incarcerated serial killers, it was discovered that many displayed similar behavior traits during their childhood. The top ten traits in order are "daydreaming, compulsive masturbation, isolation, chronic lying, enuresis (bed-wetting), rebelliousness, nightmares, destroying property, fire setting and stealing" (Meadows, 66).

Another diagram pertaining to serial killers is called the MacDonald triad. It is proposed that as a child, the combination of animal torture, fire setting and enuresis may one day led to multiple murders. The child set fires and tortured animals to satisfy their need for power and control. Enuresis may be linked to the lack of control, anxiety or a hatred towards their parents.

Figure 180–MacDonald Triad (from Evil Minds)

A Nurturing Childhood

FAMILY BACKGROUND

More often than not, there is a ***clear history of abuse, usually from the mother.*** "Serial killers such as Ed Kemper, Henry Lee Lucas and Charles Manson all suffered extraordinary abuse by dominant females in a home that lacked the presence of a male" (Meadows, 67). Bonding with their family as a child is rare and results in few friendships and interpersonal connections as an adult.

INFANT CARE

Browlby's Attachment Theory is based off his research with human and primate infants. Infants develop the ability to establish and reestablish an attachment with others when the primary caregiver is accessible and nurturing. When the caregiver in inaccessible and undependable, the infants permanently detach which is maintained through adulthood in all future relationships. These individuals can develop superficial social skills, but that are unable to emotionally bond to others. Sex offenders and serial killers show high rates of insecure attachment.

Figure 181—Mother Chimp's Love (from National Geographic)

Creating and Replacing Unacceptable Impulses

INFANT EGOS

An infant's ego is established as the infant becomes aware that they are being separated from the people and objects around them. It is the interface between the desires of the imaginary and the real world and in turn operates on the principle of reality. The ego functions as the gratifying of needs by the process of remembering how to meet these needs in the real world through planning and problem-solving. The violent offender that is seen as impulsive has a weak ego development. As an example, "the perpetrator who breaks into a house to rob may impulsively rape a woman whom he finds at home" (Meadows, 87). While, criminals with highly developed egos may carefully select their victims and plan their crimes and cleanup, so they will not get caught or interrupted.

DISPLACEMENT REPRESSION

Defense mechanisms allow the ego to repress the impulsive unacceptable. Displacement replaces sexual and aggressive urges towards unacceptable methods and replaces them with more acceptable outlets. There may aggression based on anxiety to the ego towards a parent whom a child is dependent on. Instead of taking their aggression out on their parent, the child redirects this impulse towards a safer object such as a sibling, neighbor child or an animal. An example of this is a child that has been abused by a parent and in turn goes into the woods and kills a small animal. As the killers age, the needs to take out their aggression and enact their fantasies becomes uncontrollable, resulting in the use of human victims.

Crime as an Act Learned

DIFFERENTIAL ASSOCIATION THEORY

This theory states that crime in learned through small, intimate groups and ongoing encounters. Violent offenders learn criminal behavior from groups that define criminal behavior as acceptable, which leads to copied unacceptable criminal behavior. Deviant behavior, like normal behavior, is a product of socialization acquired through daily family or peer interaction.

MEDIA INFLUENCE

"More than 3,500 research studies have examined the association between media violence and violent behavior; all but 18 have shown a positive relationship" (Meadows, 142). Three types of effects have been produced from this research.

> When children see characters on television or in movies triumph by using physical force, they begin to view violence as an acceptable way of resolving conflict.
>
> Children may also become less sensitive to the pain and other's suffering. Viewing violence encourages children to consider other people as an enemy rather than as individuals with their own thoughts and feelings like themselves.
>
> Children's natural anxieties may become magnified by watching television and movies in which the world is a dangerous place where violence triumphs over peace. In which they may become more fearful of the world around them.

ENVIRONMENTAL CONDITIONS

Offenders commit more crime where there are more opportunities and incentives for committing it. Poverty and the poor environmental conditions surrounding a community have a major role in violent crime. "In one study of 326,000 calls to the police, 50 percent of the calls were found to come from just 3 percent of the city's addresses" (Meadows, 145). Lax law enforcement or a low perceived risk or apprehension can create opportunities or incentives for crime. In such an environment, it is difficult for young adults to avoid being drawn into violence.

Much of the culture in the United States socializes people to the values and themes of the success goal, acquiring material things through hard work. In reaction to this success goal, people have several typologies of adaptation that are either legitimate or unlawful. Many violent offenders blame their actions on social conditions or their early upbringing.

Judicial Implications

Elements of Punishment

WHAT MAKES AN ACTION A CRIME?

Utilitarianism states that actions are considered right if they produce happiness and wrong if they produce unhappiness and pain. The actions that produce unhappiness and pain are those that are considered to be a crime.

WHAT IS PUNISHMENT?

Punishment is a penalty for an offense. It is permitted through the infliction of pain or loss upon a person for their misdeed. It is intended to be a deterrent from committing additional crimes.

WHY PUNISHMENT?

In the view of a retributive, "we are justified in punishment because and only because offenders deserve it" (Murphy, 96). Their moral culpability is what gives society the duty to punish the offender. The business of the government is to promote these protections of happiness of society, by punishing and rewarding individuals who inhibit it. "What happiness consists of we have already seen: enjoyment of pleasures, security from pains" (Murphy, 23).

Retributive Justice

WHY IS PUNISHMENT JUST?

Punishment is a method used to take what is owed to both those the crimes were committed against; individuals and society. "A person who violates the rules has something others have, the benefits of the system, but by renouncing what others have assumed, the burdens of self-restraint, he has acquired an unfair advantage. Matters are not even until this advantage is in some way erased" (Murphy, 76). ***Justice is restoring the equilibrium of benefits and burdens by taking from an individual what is owed.***

Having rights to act freely also means you have a right to be punished. "A person received by way of punishment he himself had chosen" (Murphy, 81). It is one's right to be punished, after the crime done, this is what is deserved in return.

WHY CAN INDIVIDUALS BE PUNISHED?

When one steels from another, therefor now depriving themselves, must not own anything. "Whatever undeserved evil you inflict upon another within the people, that you inflict upon yourself" (Murphy, 15) If one steals from someone, they steal from themselves. While incarcerated, the individual has nothing and can also acquire nothing. Now, to continue living it is possible only if others provide for them, they must let it have their powers for any kind of work it pleases in convict or prison labor.

Responsibility for Your Crimes?

WHAT IS REFORM?

Reform is a "fundamental transformation in the character of the person, a change that makes the person not merely a more law-abiding human being but a morally better human being" (Murphy, 4). "Prison life does not reform, it only reaches cunning, lying, hypocrisy and other evil traits, making people unfit to live within a decent world. ***No one can argue that prisons improve a man or woman any more than a zoo cage reforms captive animals"*** (Sommer, 52).

REFORM IN PRISONS

Therapy teaches individuals that they don't have to take responsibility for their actions. ***Therapy responds to the individual, not because of what they have done, but because of conditions from which they may be suffering from.*** It, then, is not a response to a person who is at fault.

Punishment focuses on the past; therapy on the present. Therapy is normally associated with compassion for what one undergoes with hope that the individual can be cured, not with resentment for what one has illegitimately done. Therapy does not restore a fair distribution of benefits and burdens, which is why it is not a form of punishment.

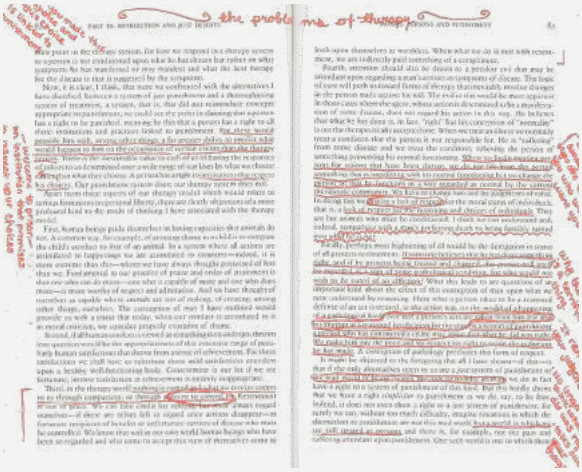


Figure 182—Notes in Punishment and Rehabilitation 82-83 (from Punishment and Rehabilitation)

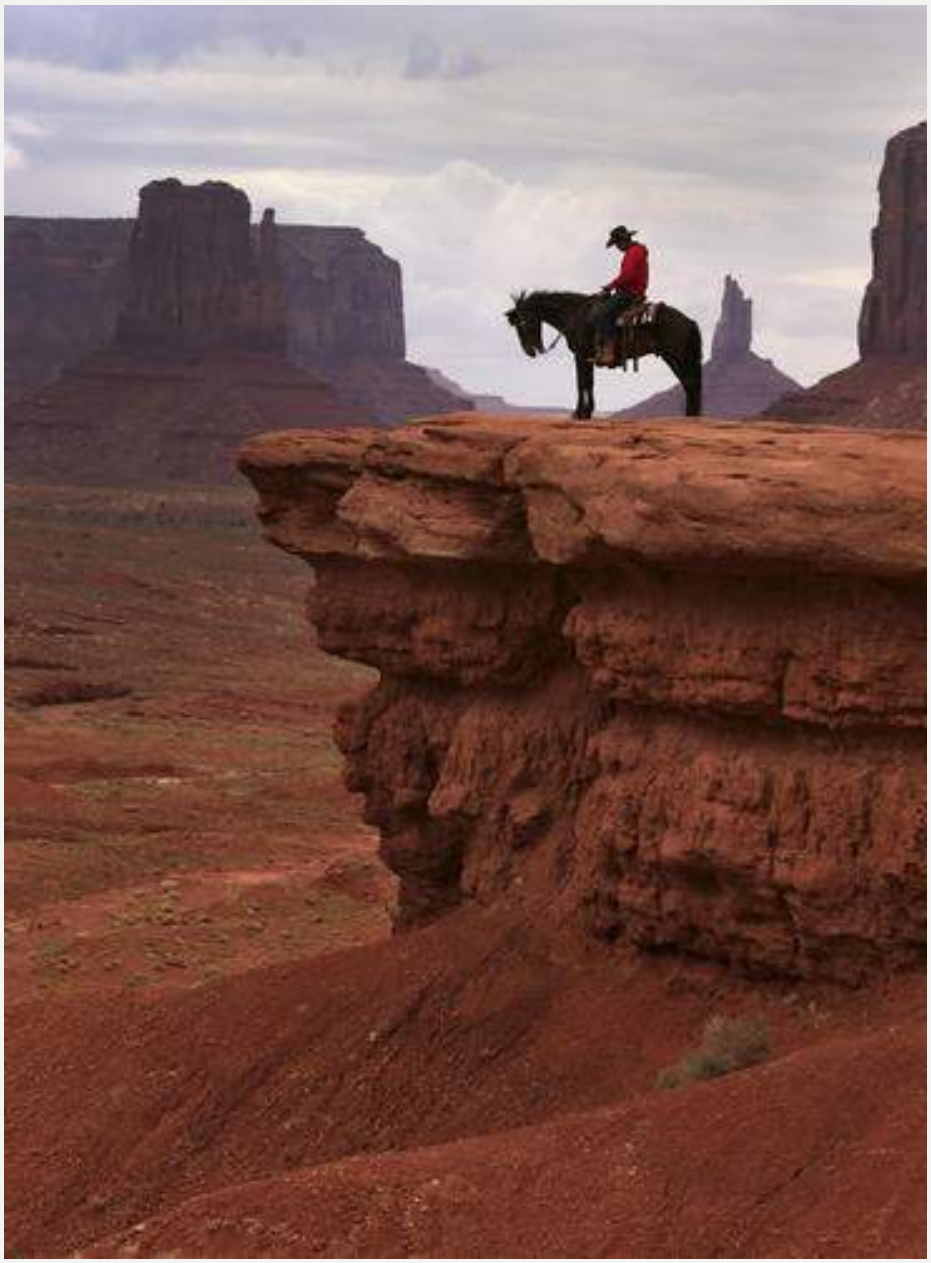


Figure 183—Monument Valley Man on Horse (from NRDC)

The Problems of Reform in Detention Centers

MOLD INMATES TO SOCIETY'S STANDARDS

When correctional centers focus on inmate therapy programs, they change the criminal so that they function in a way that is regarded as normal by current therapeutic communities. In this process, their judgments of value are changed. Therapy replaces who an individual is with whom institutions want them to be. In forcing therapy, a lack of respect is displayed for the moral status of individuals.

WHY IS THERAPY A TERRIFYING THING?

When a person is looked upon as less than a person or not a person, the person is considered as incapable of a rational choice. In a system of therapy, a person who has committed a crime may not argue that what they did was right. "If someone believes that he has done something right and if he protests being treated and changed, the protest will itself be regarded as a sign of some pathological condition, for who would not wish to be cured of an affliction?" (Murphy, 83). Not just a person's acts are taken from him, but also their right to retain judgment for their acts. These institutions do not respect inmate choices by changing them to fit their mold.

SELF CHOSEN THERAPY IS OKAY

Therapy is only humane when given the choice to participate. "This right to be treated as a person is a fundamental human right belonging to all human beings by virtue of their being human. It is also a natural, inalienable and absolute right" (Murphy, 87).

Punishment is Not for the Criminal

SPECIFIC DETERRENCE

Specific deterrence is that punishing one will give ***themselves*** incentives not to commit additional crimes. When an individual commits a crime, society will put them into prison so that they will know what will be taken from them if they choose to commit crime again.

GENERAL DETERRENCE

General deterrence is that punishing one will give ***other citizens*** incentives not to commit crimes. "Merely the threat of such treatment, limits the liberty of all citizens by making them afraid to engage in certain conduct" (Murphy, 2). An excerpt from the Native American Heritage Programs states:

> ***Prisons are often not for the individuals serving time in them.*** They are made and used to deter the general population from committing crimes. Inmate Harold Kankanton, the first chief of the Wildwood Prison Native Culture Club in Kenai, Alaska, having served five years in the Arizona private prison, stated, "All they do is warehouse you. They don't have a clue." Other Native inmates nodded in agreement. He remarked about private prison corporations, "They're using us as a pawn."

If it Does Not Work, Why Keep Trying?

Punishment is a consequence that temporarily suppresses a behavior. Behaviors that are followed by a consequence such as physical or emotional pain or the removal of something pleasurable will probably stop the behavior for a while. Harsh punishments, however, have negative side effects. The punisher through respondent conditioning comes to elicit negative emotions including anxiety, fear or anger in the recipient. With its temporary effect and permanent side effects, ***punishment has been viewed as ineffective*** and an unpredictable learning tool.

Extinction eliminates behaviors by removing the positive consequences. When positive reinforcement is used in response to a behavior, it eliminates the positive reinforcements. If these positive reinforcements are eliminated, the behavior will eventually stop.

Navajo Judicial Practices

NAVAJO PEACEMAKING

In the Navajo culture, there is a deep connection between justice and spirituality. In both, it is essential to restore harmony and balance. Reintegrating individuals into their community is more important than punishment. Their justice philosophy is one of healing. Native peacemakers bring together the victims, offenders and supporters to get to the bottom of the problem.

Figure 184—Navajo Peacemaking Seal (from Navajo Nation Council)

Figure 185—Navajo Judicial Branch (from Court Innovation)

Since before the Europeans arrived, the Navajo have done a lot of prevention; the teaching and training of children. In Navajo families, parents, grandparents, aunts and uncles were involved in the upbringing of a child. It is difficult today to teach children about the traditional lifeway when they are distracted and drawn to other cultural forces and the music industry.

Figure 186—Peacemaking the Navajo Way (from Court Innovation)

A number of the life teachings are about the spirit of nature, "there is a thought that begins with each day. Thinking, speaking, the ability to plan" (Mirsky). An excerpt from Mirsky explains the Navajo peacemaking approach:

> The Navajo way is to focus on the individual. You separate the action from the person. The Holy People say that the human being is a creation of the Holy People and we have no part, ***we cannot destroy the human being or change it to something else.*** It's not within our authority to do that. In fact, what you must do is respect yourself, because you are the creation of the Holy People.
>
> What matters here is: why did this act happen in the first place? There's a reason why the harm has occurred. Let's deal with that. If we can get to the bottom of a problem, all the other stuff will fall into place.

The peacemaking process is meant to restore the dignity and worthiness of both the victim and the offender. In the end, there is healing through different levels. The relatives would also feel relief after being involved in the process. The Navajo let the people involved whom else should be involved to facilitate.

COMPASS OF SHAME

As people grow from childhood, they learn scripts. These scripts are how they respond to things that frighten or anger them. The scripts follow what the Navajos call, the compass of shame. The compass is the combination of scripts such as withdrawal, avoidance, aggression. If the script is intense, the withdrawal may turn into alcohol, hurting others, hurting self by drug use, suicide and other self-destructive behaviors. These harmful scripts cannot be addressed using suppression tactics. They are best addresses when the individual is shown the negative effects of their conduct and the better ways of dealing with the things that frighten or challenge them. "Navajo peacemaking speaks precisely to 'the compass of shame' by subduing harmful scripts and teaching people how to avoid hurting others" (Mirsky).

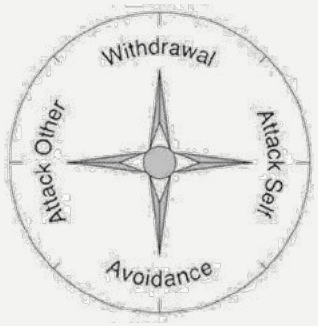


Figure 187—The Compass of Shame (from Wordpress)

THE RIPPLE EFFECT

The basic concepts of Indian justice are relationships, reciprocity, solidarity and process. This concept is simply, what I do has an impact on you and what you do has an impact on me. The people are not just individuals in society, each person's actions create a ripple effect. There are consequences, either good or bad, for everything. Their notion of peacemaking is that of people talking together to reform relationships with each other and the universe.

The Navajo are trying to find ways to decolonize the Western style of justice by making sense of how their traditional concepts and ways of thinking. They are determining how they can be revived and incorporate their traditional ways back into today's world.

LACK OF ACCESS TO HOME COMMUNITY

For state prisoners, the distance from home varies depending on the state's size, but averages to about 100 miles. Distance and lack of transportation are the two major challenges that put burdens on families trying to visit their loved ones in prison.

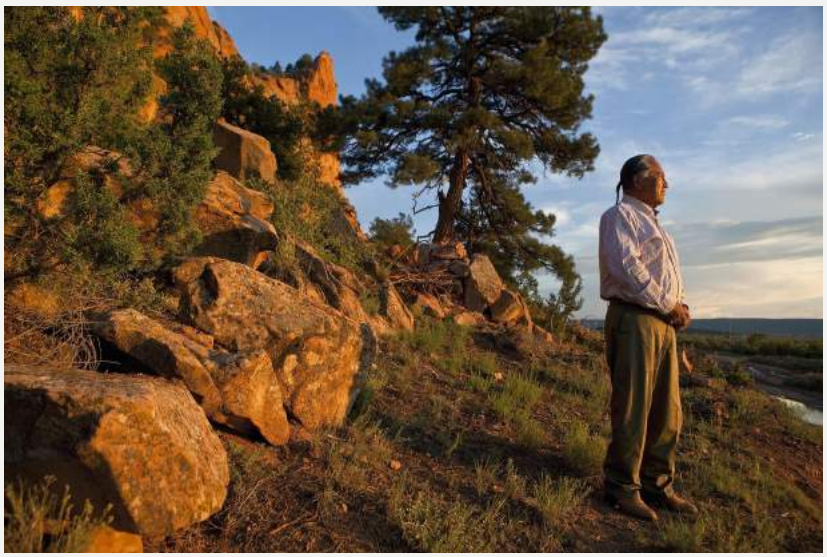


Figure 188—Navajo Man in Thought (from NRDC)

Research has shown that in prison, contact with family members leads to closer family relationships following release, which can help smooth the transition to post-prison life. Maintaining connections with their children encourages parents to get their lives on track after returning home, yielding major benefits. Exiting prisoners with strong, positive relationships with their children tend to hold legal employment longer.

Figure 189—Navajo Community (from CBS News)

Figure 190—Navajo Nation (from ABC News)

"Daring wickedness is never suffered to triumph over helpless innocence."

Mohawk Indian leder, 1971

NATIVE WORSHIP IN AMERICAN PRISONS

As stated by Lenny Foster, Director of the Navajo Nation Corrections, "The Paramount Native American human rights problem in American prisons today is the denial of their right to practice tribal religion" (Echo-Hawk). The Supreme Court ruled that "when a prison regulation impinges on inmates constitutional rights, the regulation is valid if it is reasonably related to legitimate phenological interests" (Echo-Hawk). This allowed for those incarcerated to be vulnerable to the prison system, as many of their rights could be denied without safeguard because virtually anything could be seen as related to the prison's interest. Along with the Supreme Court's leniency ruling came two cases that effectively cut the government's responsibility to accommodate minority religious needs. A few of these rulings were overturned in the 1990s, but did not specify what religious freedoms and accommodations had to be made in prisons. This has since been left up to religious leaders to determine what practices will better accommodate Native Americans in a correctional setting. More often than not these needs are not, met due to proposed security concerns.

SWEAT LODGES: THE NATIVE PLACE OF WORSHIP

The sweat lodge resembles a giant bee hive, a split cedar frame sunk two feet into the ground and arching four feet high, covered with dark New Mexico earth. These earthen mounds are not uncommon throughout the reservation. A log fire blazed in their centers. Native tribes then gather on the inside to be cleansed and healed. The entrance into a sweat lodge faces east, source of life and power, dawn of wisdom, while the fire heating the rocks is the undying light of the world, eternity.

The spirits of Earth, Air and Water are summoned to weave their bodies and souls with the elements. There are a series of chants calling for strength and courage to their people and warriors.

NAVAJO SPIRITUALITY

Navajo spirituality is seen through, the Navajo graciousness, Navajo self-belief, self-identity, self-respect, Navajo spiritual value system, peace and harmony of mind. These traits are meant to honor and respect the Earth, Nature and the Universe. Navajo spiritual practice is about restoring balance and harmony to a person's life.

The Diné believed in two classes of people: Earth People and Holy People. As Earth People, the Diné must do everything within their power to maintain the balance between Mother Earth and man. The Navajo people believe they passed through three worlds before arriving in this world, the Fourth World or the Glittering World.

THE NATIVE AND THE NATURAL WORLD

Traditional Navajos have a deep spiritual bond with the forest and view the natural environment as provider and parent. Humans, as the children of that natural world, must respect and learn from it - or it will cease to provide for their needs. Nature is the location of spiritual reality that Native Americans live within and apart from.

Figure 191—Navajo Woman (from Navajo Times)

"You say that I use the land and I reply, yes, it is true; but it is not the first truth. The first truth is that I love the land; I see that it is beautiful; I delight in it; I am alive in it."

Scott Momaday, 2010

THE IMPORTANCE OF WATER TO THE NAVAJO PEOPLE

Water is among the four basic elements, which include fire, air and earth and is vital for life and energy. These elements are integral parts of matter or the physical universe and the human body is a physical creation existing in the material realm. The human beings were seen to be governed by the four elements. Maintaining a balance between these elements was advocated to ensure physical as well as psychological well-being.

Thought to have cleansing power, water symbolized many things including life and death, strength, change, healing, dreaming and unconditional love.

Water can symbolize different things depending on the way it is represented visually. As an example, running water is a symbol of the continuity of life.

Water as Architecture

Why Water?

CONNECTION TO PLANET

Water can lead to a deeper understanding of who we are and how our minds and emotions are shaped by our interaction with the most prevalent substance on our planet. “Humans naturally seem drawn to the color blue” (Nichols, 87). Humans are surrounded by man-made buildings, objects and environments and it is becoming harder and harder to remember our intimate relationships with this beautiful planet, but magic happens in fleeting moments when we notice our natural world.

Figure 192—View of Earth from Space (from Discovery)

WATER AS A HUMAN NEED

"Is it possible that some experiences produce happiness because they reflect 'universal psychological needs'?" (Nichols, 49). Thousands have lived without love, but none without water.

Figure 193—Water Faucet (from University of Hawaii News)

IT IS GOOD TO LIVE BLUE

When removing the awareness of our reliance on everything that is not man made, we sever the incredible beauty that our senses take in, "yet when the architectural beauty of the tower, bridge, street, café, tunnel, walkway, taste, sound and smell of the village, town, city and megalopolis are woven and suffused with blue and green spaces, life can be so very good" (Nichols, 100).

Water is the Key to Your Mental Relief

CAN WATER IMPROVE MENTAL WELL-BEING?

"What if we could treat stress, addictions, autism, PTSD and other ills with surfing or fishing? What if your doctor handed you a prescription for stress or ill health that read, take two waves, a beach walk and some flowing river and call me in the morning?" (Nichols, 141).

Scientific Reports found that people who lived near blue spaces had lower risks for mental health issues. Water creates a sense of awe, provides soothing sensory experiences and facilitates mindfulness and reflection.

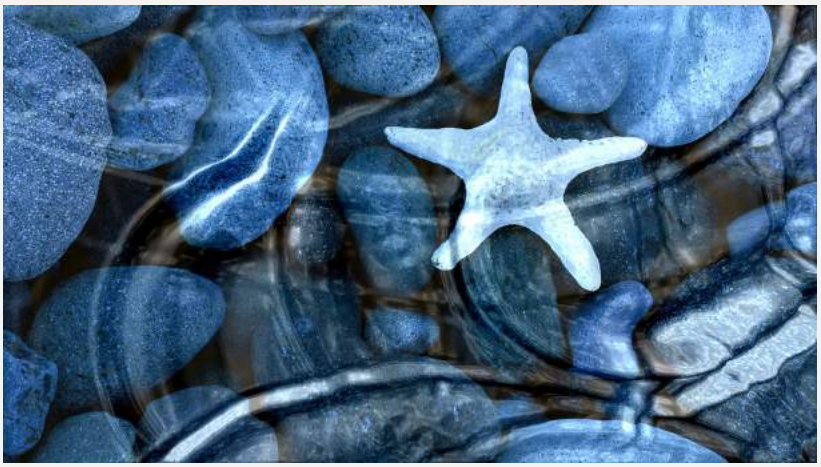


Figure 194—Blue Rocks (from Color Meanings)

SIGHT BEYOND WATER

Neurosurgeon, Amir Vokshoor, specializes in adult spinal and cranial disorders, remarked on the color blue, "due to its specific wavelength, the color blue is known to exert a calming, relaxing, yet energizing effect and thus stimulate a positive emotional response" (Nichols, 89). Vokshoor theorized that the reason blue produces such positive feelings is that humans evolved on a planet that is primarily shades of water and sky blue.

Prisoner Backgrounds and Water Needs

Recent history of mental health problems among prison and inmates in 2004

Mental Health Problem	State Prison Percent
Any mental health problem	56.2%

Figure 195—Mental Health Problems Among Prisoners (from Bureau of Justice)

Prevalence of symptoms of mental disorders among prison inmates in 2004

Symptoms in Past 12 Months	State Prison Percent
Major depressive or mania symptoms	
Persistent sad, numb or empty mood	32.9%
Loss of interest or pleasure in activities	35.4%
Increased or decreased appetite	32.4%
Insomnia or hypersomnia	39.8%
Feelings of worthlessness or excessive guilt	35.0%
Diminished ability to concentrate or think	28.4%
Ever attempted suicide	13.0%
Persistent anger or irritability	37.8%
Increased/decreased interest in sexual activities	34.4%
Psychotic disorder symptoms	
Delusions	11.8%
Hallucinations	7.9%

Figure 196—Mental Disorders Among Prisoners Breakdown (from Bureau of Justice)

WATER FOR OVERCOMING ADDICTION

Addiction is a complicated illness and it cannot be claimed that being around water will reverse its effects, but with an increasing number of those struggling with the most merciless of addictions the curative effects of water could provide some relief. "The person has to be able to identify a stronger alternative reward" (Nichols, 172). Water can provide alternative rewards by satisfying the brain's desire for stimulation, novelty and neurochemical rush.

WATER HAS HELPED VETERANS WITH PTSD

"Many veterans feel like the most interesting, exciting and important experiences of their lives are behind them. Felling that there is no longer any need for (or physical ability to carry out) the suite of high-octane, adrenaline-rich, highly technical skills they've acquired can exacerbate detachment, lower esteem and led to depression and addiction" (Nichols, 169). Being in the wilderness can produce feelings of respect and wonder and a greater sense of connection with oneself and nature. "These programs let Mother Nature do what she's done for hundreds of years and that's to heal" (Nichols, 166).

Figure 197—Navajo Family (from LIFE)

Water Strikes Creativity

WATER FOR CLARITY AND CREATIVITY

Simply touching a hard object increased mental and psychological inflexibility. "A fluid can move in multiple directions with ease and the ability to generate multiple thoughts fluently and flexibly is essential for creativity" (Nichols, 201). Waves are curves and ***just by touching these curves of water makes the mind more flexible***.

Just touching water makes the mind more flexible.

The chance to be away from their usual surroundings and by the water where they can hear, see and smell it clears out the cobwebs in the mind and gets them back into the creative state." 191

Figure 198–Creative Child (from Renzuli Learning)

Figure 199—Making Art in Prison (from New York Times)

The curved lines we make with our pencil recall some of the deep reactions offered by actual waves. Straight and firm objects diminish creativity and intellectual performance with its psychological inflexibility.

Research and experience suggests that prison arts programs have significant benefits and positive outcomes for the incarcerated, their families, the prison environment and society. Prisoners with art education and practice are statistically more likely to approach problems with greater creativity and intellectual flexibility compared with those without exposure to art. The research also found a strong correlation between arts education and self-confidence, motivation to pursue other educational and vocational programs and self-discipline to manage time more efficiently and effectively.

"It reminded me that to be creative is a luxury. It is remarkable, although really so obvious: through creativity, we nurture a skill within ourselves and we can escape into that skill if need be."

Josie Bevan, 2019

STARING AT WATER HAS CREATIVE BENEFITS

Scientists thought there was not anything going on in the brain when daydreaming or spacing out occurs. It has since been learned that in those moments the brain's default mode network is incredibly active. The default mode network is active unless we are paying attention to something. It creates large amounts of glucose and oxygen during these times.

Figure 200—Water Droplets (from Britannica)

Novel connections or ideas often insinuate themselves into the conscious mind when attention is directed elsewhere. "Letting the mind wander off the topic of a problem will lead to more creative solutions than focusing exclusively on the problem itself" (Nichols, 216).

The little changes in a natural environment such as the sound of waves or the sight of rushing water engages the brain's default mode network. "Most of these small changes produce just enough alertness to keep us curious and aware, but not so much that we cannot relax our focus" (Nichols, 217).

"Creativity is the residue of wasted time."

Albert Einstein, (1879-1955)

Figure 201—Prisoner Music Program (from Miscellany News)

Ceramic Tiles

CURVES TO EVOKE CREATIVITY

I wanted to incorporate ceramics into this thesis project. With water, there is an opportunity to include handmade tiles into the project. The lines of these tiles were carved out to deepen the connection to curves. Touching the deep grooved curves in these tiles will reflect the deep connections of the curves in waves.

Figure 202—Fiesta Tile Original

DURABILITY TO ALLOW FOR REPETITIVE TOUCH

Since curved lines make the mind more flexible and therefore creative, I wanted to make a ceramic object that is accessible to touch and that has many curves. This led to an idea of making tiles that can be attached to either walls or floors that will be touched or walked upon by inmates. Having tiles made out of fired clay makes for a durable material option for the facility that cannot be broken or removed from the walls by inmates. With ceramics, they are ensured to only be experienced as intended.

Figure 203—Wave Tile Original

MASS-PRODUCE THE HANDMADE DESIGNS

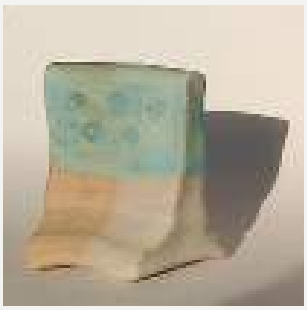
To be able to have tiles throughout the prison, the tiles need to be able to be easily duplicated. After making the 2 initial tile designs, I made a mold of each one out of plaster so that many tiles can be replicated from the 2 molds.

Figure 204—Fiesta Tile Plaster Mold

Figure 205—Wave Tile Plaster Mold

WATER ON THE TILES

To be able to have tiles throughout the prison, the tiles need to be able to be easily duplicated. They need to be made of a sturdy material to not deteriorate under running water.



BLUE GLAZE 1

BLUE GLAZE 2

BLUE GLAZE 3

BLUE GLAZE 4

Figure 206—Blue Glaze Tests

A VARIETY OF BLUE GLAZES

For the times when the water is turned off, I wanted the tiles to be glazed blue for a continuous water effect. I made a series of blue glaze tests to determine which I wanted to use on my tiles. The glazes I decided upon and their recipes are provided.

BLUE GLAZE 1

46g Feldspar (Custer)
28g Silica
10g Dolomite
6g Gerstley Borate
3g Whiting
2g Kaolin
5g Zircopax

6g MS Robins Egg
4g Copper Sulfate
3g Frit 3819

BLUE GLAZE 2

46g Feldspar (Custer)
28g Silica
10g Dolomite
6g Gerstley Borate
3g Whiting
2g Kaolin
5g Zircopax

4g MS Mazerine
3.5g Spodumene

BLUE GLAZE 3

40g Nepheline Syenite
15g Gerstley Borate
10g Whiting
10g Ball Clay
25g Silica

5g Titanium Dioxide
1g Copper Carbonate
3g Cobalt Carbonate
3g Spodumene
2g Bentonite
1g Velecast

BLUE GLAZE 4

41g Feldspar (Custer)
20g Silica
5g Kaolin
7g Dolomite
15g Talc
12g Gillespie Borate

2g Cobalt Carbonate

Figure 207—Fiesta Tile Final

Passive Heating

Solar Altitude and Azimuth

Figure 209—34°N Latitude Line (from Simplified Design of Building Lighting)

Site latitude and longitude

35.481413, -108.670764

Gallup, New Mexico is at 35°N latitude, which determines the altitude angle of the sun and the comparative azimuth angle.

	Solar time			
Date	AM	PM	Altitude	Azimuth
Dec 21	6	6		
Winter Solstice	7	5		
	8	4	9	54
	9	3	18	43
	10	2	26	30
	11	1	31	16
	12		33	0

Figure 210—Winter Solstice Solar Position for 34°N Latitude (from Mechanical and Electrical Equipment for Buildings)

Date	Solar time AM	PM	Altitude	Azimuth
Mar / Sept 21	6	6		
Spring/ Fall Equinox	7	5	13	82
	8	4	25	73
	9	3	37	62
	10	2	47	48
	11	1	55	27
	12		58	0

Figure 211–Spring/ Fall Equinox Solar Position for 34°N Latitude (from Mechanical and Electrical Equipment for Buildings)

Date	Solar time AM	PM	Altitude	Azimuth
Jun 21	6	6	12	110
Summer Solstice	7	5	24	103
	8	4	37	97
	9	3	50	89
	10	2	62	80
	11	1	74	61
	12		82	0

Figure 212–Summer Solstice Solar Position for 34°N Latitude (from Mechanical and Electrical Equipment for Buildings)

HOURS OF DAYLIGHT AND TWILIGHT IN GALLUP

The earliest sunrise is at 5:58 AM on June 12 and the latest sunrise is at 7:40 AM on November 5. The earliest sunset is at 5:01 PM on December 5 and the latest sunset is at 8:34 PM on June 28.

Daylight saving time (DST) is observed in Gallup.

Figure 213–Average Hours of Daylight and Twilight in Gallup (from Weather Spark)

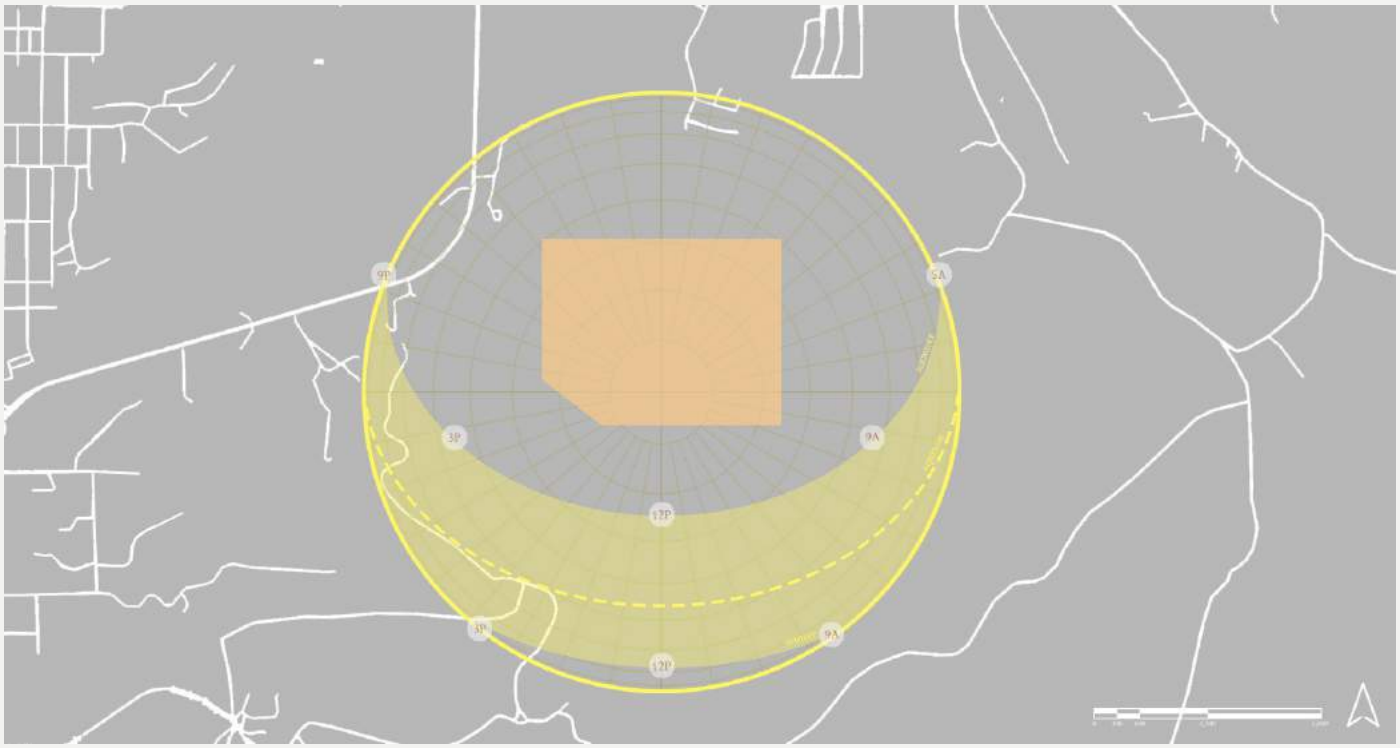


Figure 214—Sun Diagram on the Site Map

Direct Gain System

BASIC CHARACTERISTICS

Direct gain systems are the most commonly used passive solar building solution. They are characterized by daily indoor temperature fluctuations.

The basic characteristics of a direct gain building are; a south facing collector area with the conditioned spaces exposed directly behind and the absorber/ storage floors and walls. Typically, the double-glazed windows, clerestories or skylights are used for collection. The floors, walls, ceiling or freestanding masonry elements or containers of water absorb heat and store it within their mass.

ADVANTAGES OF A DIRECT GAIN SYSTEM

- Flexibility of the architectural design
- Standard construction materials can be used
- Ease of operation
- Collection glass area provides light to occupied space and allows for additional view

DISADVANTAGES OF A DIRECT GAIN SYSTEM

- Building orientation is dictated by sun position
- Glare and overheating are possible without well-designed controls
- Ultraviolet degradation and fading of fabrics occurs without controls
- Solar collection temperatures and limited by occupant comfort needs

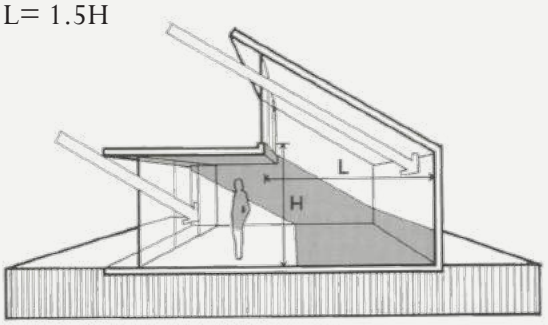
COLLECTOR

The most important factor in a direct gain system is the collector's size and placement of the glazing in efforts to capture the sun's energy. Glazing that faces south and opens directly into a space is an effective solar collector. In cold climates, most or all of the heat collected will be lost back out the window unless night insulation is used.

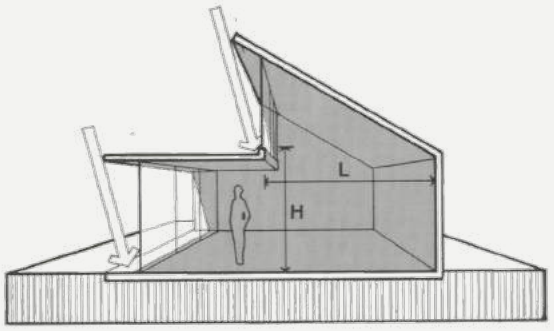
CLERESTORY

A vertical or near vertical opening projecting up from the roof plane is a clerestory. It effectively directs sunlight to strike an interior thermal storage wall. A clerestory should be at a distance in front of the wall that ensures the direct sunlight will strike near the base of the wall during the winter. This distance will vary with latitude and ceiling height, but is roughly 1 to 1.5 times the height of the wall.

Clerestory Windows
L= 1.5H



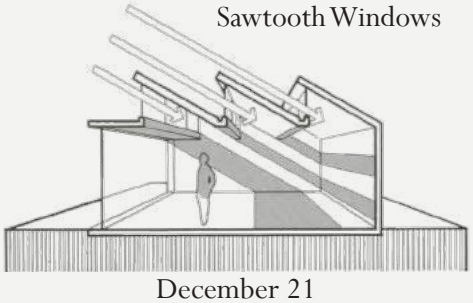
December 21



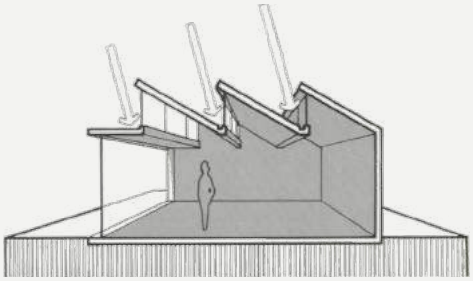
June 21

Figure 215—Clerestory Windows (from Passive Heating)

Sawtooth Windows



December 21



June 21

Figure 216—Sawtooth Windows (from Passive Heating)

Sawtooth glazing is a form of clerestory. It is a series of clerestories, one directly behind the other, that can effectively distribute sunlight in an entire space.

SIZING SOUTH FACING GLAZING

The table provides the amount of south facing glazing needed to keep the space at an average temperature of 65˚F to 70˚F on sunny winter days.

Average Winter ˚F	Glazing/ Floor Area
	36˚N
30	.19

Figure 217—Sizing South Facing Glazing (from Passive Heating)

SIZING MASONRY AND WATER STORAGE

The table provides the recommended thermal storage mass of water or masonry for each square foot of south glazing. The mass is assumed to be in direct sun all day.

Expected Solar Savings	Recommended Effective Thermal Storage per Sq. ft. of solar collection area	
	Pounds of Water	Pounds of Masonry
10%	6	30
20%	12	60
30%	18	90
40%	24	120
50%	30	150
60%	36	180
70%	42	210
80%	48	240
90%	54	270

Figure 218—Sizing Masonry and Water Storage (from Passive Heating)

SOLAR ABSORPTION OF VARIOUS MATERIALS

The typical solar absorption values for various surfaces are indicated in the accompanying table. The overall absorption of a space should be at least 0.5 but not exceed 0.8 for effective absorption of solar radiation.

Element	Absorption
Flat Black Paint	.95
Black Concrete	.91
Dark Brown Paint	.88
Red Brick	.7
Uncolored Concrete	.65
Medium Blue Paint	.51
White Gloss Paint	.25
Polished Aluminum	.12

Figure 219—Solar Absorption of Various Materials (from Passive Heating)

GROUND REFLECTANCE OF VARIOUS MATERIALS

Direct sunlight can be diffused over the surface area by using a translucent glazing material, placing a number of small windows, so they admit patches of sunlight or by reflecting direct sunlight off of reflective ground materials in front of the window or off of a light colored interior surface.

Element	Reflectance
Grass	.06
Slate	.08
Asphalt	.07-.15
Earth	.1
Gravel	.13-.15
Concrete	.2-.4
Marble	.45
White Paint	.6-.75
Snow	.65-.75

Figure 220—Ground Reflectance (from Simplified Design of Building Lighting)

Indirect Gain System

BASIC CHARACTERISTICS

The indirect gain system differs from the direct gain system in that sunlight strikes a thermal mass located between the sun and the space, rather than through the space to strike the thermal mass. The two basic types of indirect gain systems are thermal storage walls and roof ponds.

THERMAL STORAGE WALLS

Thermal storage walls are made of masonry or water. Typically, the south facing side is covered with glazing to prevent the escape of thermal radiation. This method often leads to daytime overheating without the use of vents. An airspace of 3.5 inches or so is must exist between the wall and either double glazing or nighttime insulation.

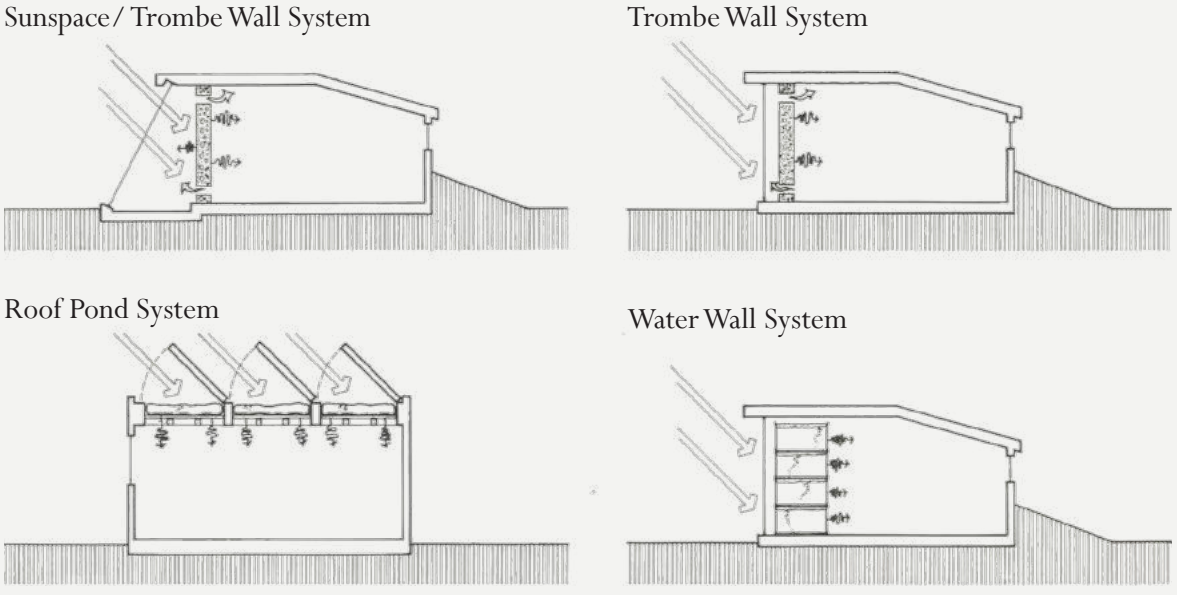


Figure 221—Indirect Gain Systems (from Passive Heating)

TROMBE WATER WALLS

Trombe walls combine radiant distribution with a convection loop that draws cool air from inside the building through low wall vents and delivers warm air back to the building through upper vents. The convective heating is almost immediate. It can provide warmth to the space during the day and release the radiant heat at night.

Percentage of heating load to be provided by thermal storage wall	Recommended Vent Area
25%	3%
50%	1%
75%	.5%

Figure 222—Recommended Vent Areas (from Passive Heating)

Water walls can be placed in a variety of containers. Larger containers provide greater and longer term heat storing capacity, while smaller containers provide greater heat exchange surfaces and faster distribution. A variety of containers are available including in cans, bottles, tubes, bins, barrels, drums, bags and complete water walls.

An advantage of using water is its ability to obtain a high thermal storage value within a reasonable space.

Average Winter °F	Square Feet of Wall Needed for each One Square Foot of Floor Area to be Heated
	Water Wall
30	.31-.55

Figure 223—Thermal Storage Wall/ Floor Area Ratio (from Passive Heating)

ROOF PONDS

In this second indirect gain system, the passive collector storage mass is moved to the roof of a building. It requires a body of water on the roof that is exposed to direct solar gain that it absorbs and stores. Since the thermal storage is in the ceiling of the building, it will radiate uniform, low temperature heat to the entire building in both sunny and cloudy conditions. Since the distribution of solar heat is by radiation only, the ceiling must be close to the individuals being warmed. Movable insulation is generally required to reduce heat losses to the environment on sunless winter days and to block unwanted heat gain in the summer.

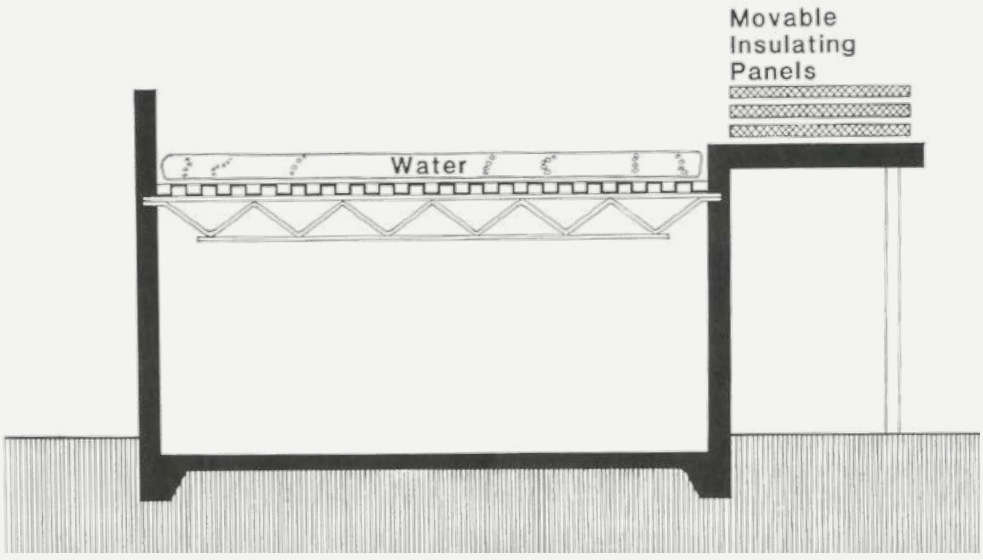


Figure 224—Roof Pond System (from Passive Heating)

In this system, bags containing 2 to 6 inches of water are places on a sheet metal deck and are covered during the day by movable insulation panels.

CONTROLS

For optimal efficiency in the winter, external movable insulation is needed to protect the storage mass from heat loss to the overcast or night sky. In the summer, unwanted heating of the storage mass is prevented by shading the glazed area with overhangs or by closing the external insulation.

Since the roof is the heat collector, this system is suitable for heating one-story buildings or the top floor of a 2 or 3-story building. This system may be restrictive to building height, but allows freedom of size and shape. The area of the roof pond varies with the use of movable insulation, type of glazing, climate and building load.

Roof pond heating is characterized by its stable indoor temperatures because of the large area of thermal storage. Daily fluctuations of space temperature range from only 5˚F to 8˚F in a masonry building.

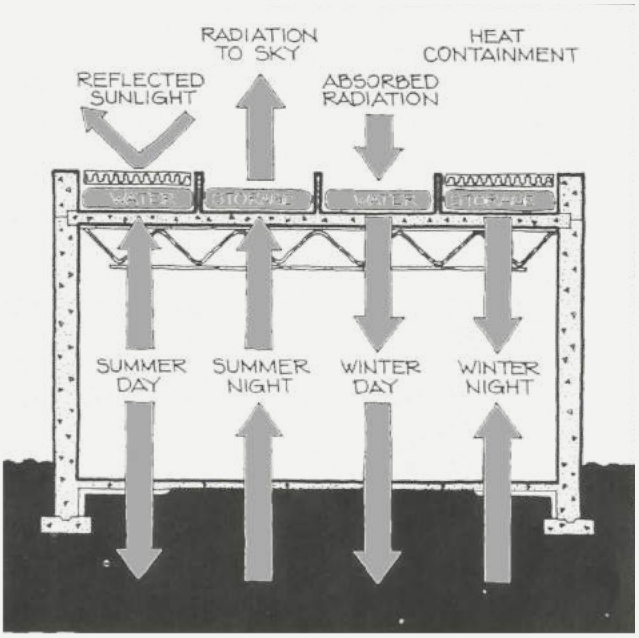


Figure 225—Night Sky Radiation (from Passive Heating)

The recommended ratios of roof pond area to the floor area heated are provided in the following table.

Average Winter ˚F	Double glazed ponds with night insulation	Double glazed bond with night insulation and reflector	South sloping collector cover with night insulation
25˚F to 35˚F	.85-1.0	.5-1.0	.4-.6

Figure 226—Roof Pond Area/ Floor Area Ratios (from Passive Heating)

Isolated Gain System

BASIC CHARACTERISTICS

In the isolated gain system, the solar collection and storage elements are in a sun space, separate from the spaces they heat. Solarium, greenhouses and atria are common examples of sun spaces in isolated gain.

A solarium is a narrow one or two story space running the length or part of the length of the south side of the building. Greenhouses are glazed attached rooms on the south side of the building used for plant growing. Atria are an integral part of the building and is adjacent to the major parts of the building.

Sunlight enters the sun space and strikes an absorber surface. These light wight materials re-radiate the sunlight immediately, unlike thermal masses that store it. A rock bed below the first floor is common because sun spaces can reach high daytime temperatures, it acts as a thermal mass to provide heat at night.

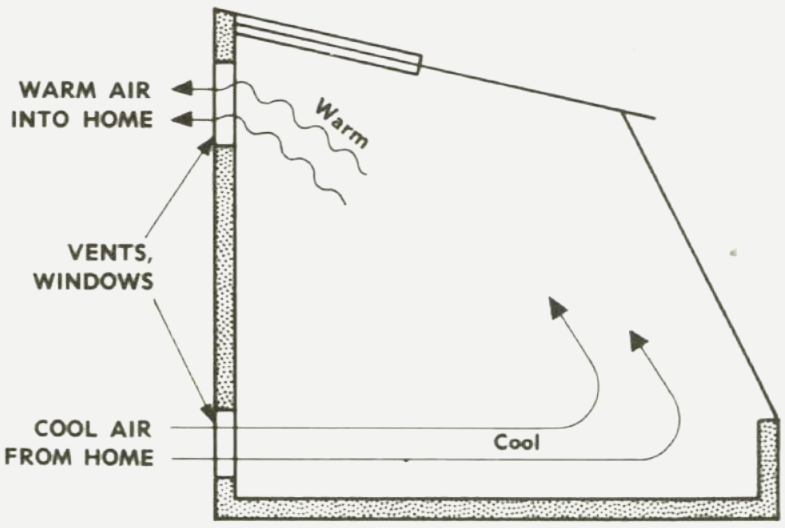


Figure 227—Greenhouse System (from Solar Greenhouse)

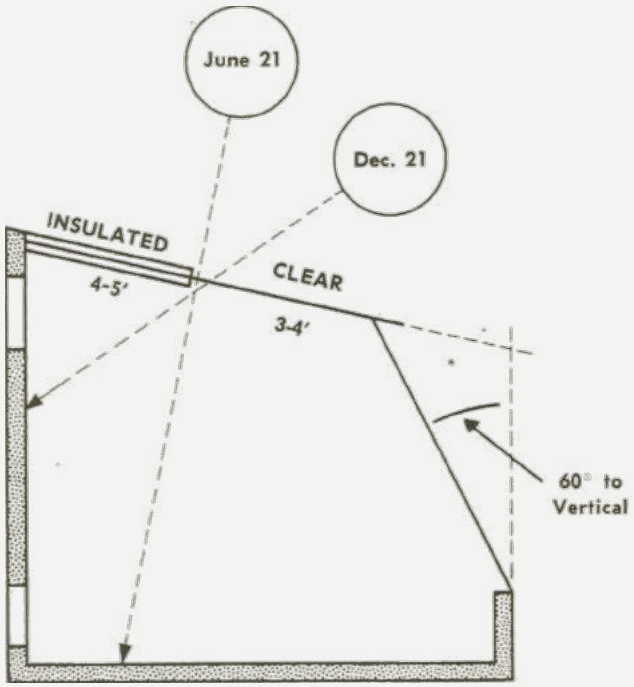


Figure 228—Greenhouse Roof (from Solar Greenhouse)

ROOF DESIGN

The primary function of the insulated roof section is to keep heat losses in the warmest part of the greenhouse to a minimum in winter. It also blocks direct sunlight during the summer months, to be reducing the effective collector area.

NIGHTTIME AIR MOVEMENT

At night, when the clear glazing is colder than the thermal mass of the greenhouse, a collection loop is established. The greater the temperature differences between cool glazing and the warm objects, the faster the convection currents move and the more heat is lost.

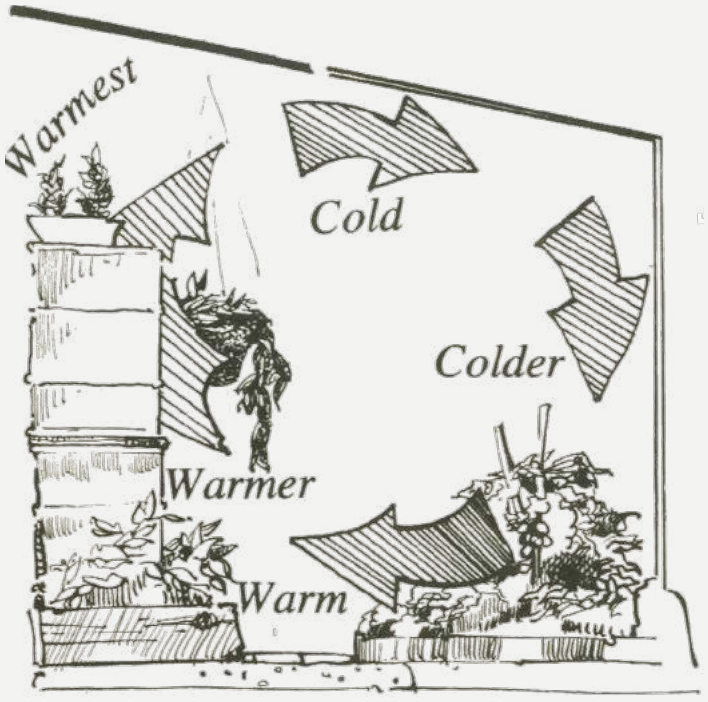


Figure 229—Nighttime Air Movement in Greenhouse (from Solar Greenhouse)

Gallup Growing Season

GROWING SEASON

The frost free growing season in Gallup is, on average, from Apr 16 to Oct 28, for a total of 195 days.

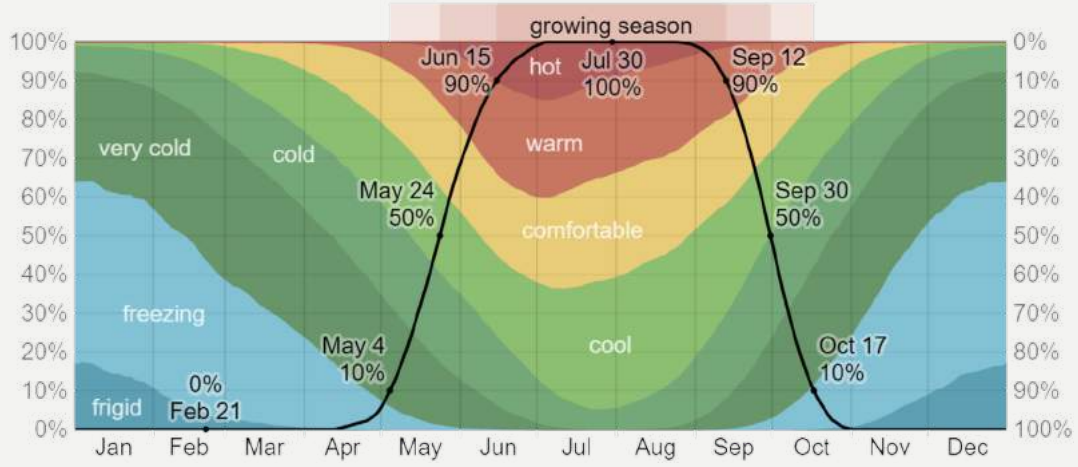


Figure 230—Annual Growing Season in Gallup (from Weather Spark)

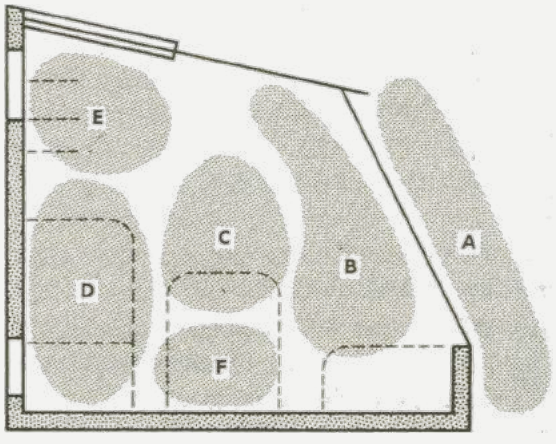


Figure 231—Vegetable Planting Guide (from Solar Greenhouse)

Spring, Summer & Fall Greenhouse Profile	
A.	Shading plants
B.	Fruits, Tomatoes, Cucumbers, Squash, Melons
C.	Seedlings, Herbs
D.	Low light, Climbing flowers
E.	Shade loving flowers
F.	Shade loving berries

Figure 232—Spring-Fall Vegetable Planting Guide (from Solar Greenhouse)

DESIGN SOLUTION

Process Documentation

Included in these pages is the entire process of my thesis project. Featured here are a majority of my progress sketches that were each scanned from my sketchbook and then edited in Adobe Photoshop. I then documented my design decisions in words near each of the sketches. It shows the project from the first days to the completed work.

The order is slightly differed from the sketch progress of time. I compiled the sketches by their space allocation. The process documentation begins loosely with the floor plan layout. Then, the individual spaces are designed. The exterior is shown next, followed by the interior design documentation. I did my best to record and share my thought process for this project.

Layout Documentation

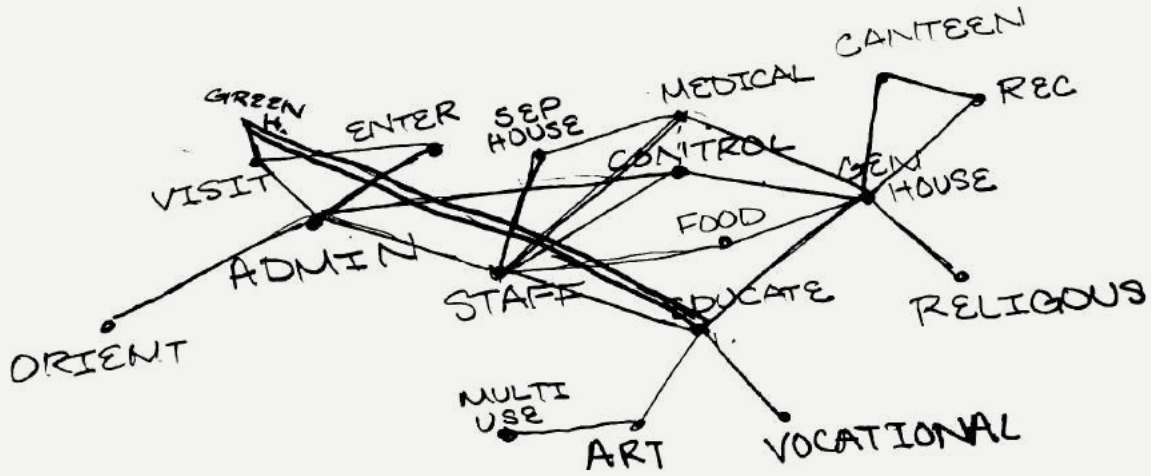


Figure 233—Space Connections Diagram

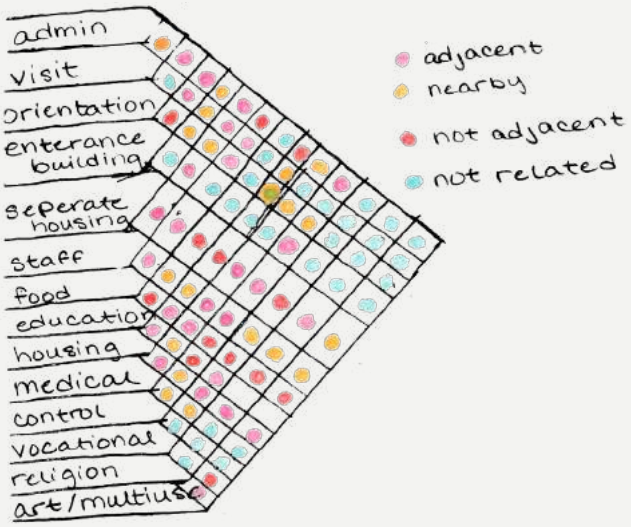


Figure 234—Space Interaction Matrix

The spatial program developed from the interaction matrix and connection diagram. Determining what spaces are related them by group and use.

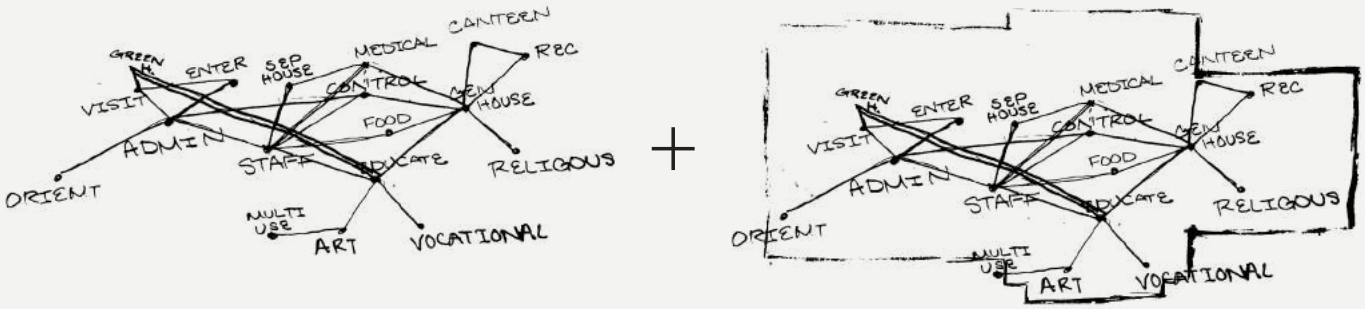


Figure 235–Space Connections Developing the Form

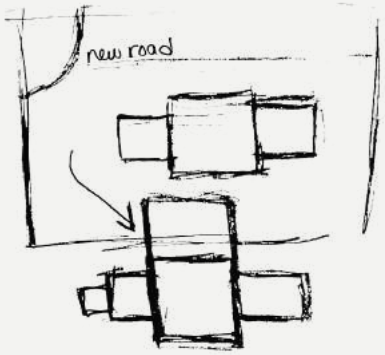


Figure 236–Form Development from Site

The initial exterior shape of the prison came from the connection diagram. The dense combination of spaces needed a larger area. The spaces on the right were contained in a smaller area.

A mix of squares are rectangles create the overall shape. This is done for security purposes. Nooks and crannies would have reduce visibility. Keeping the form simple keeps the visibility unobstructed.

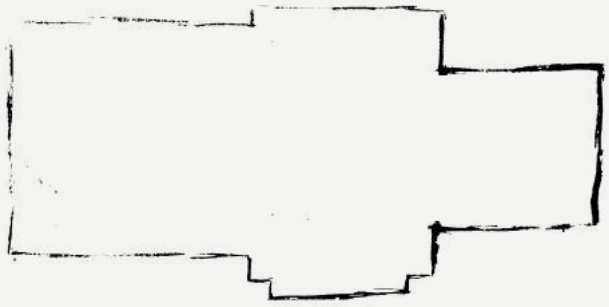


Figure 237–Perimeter Form

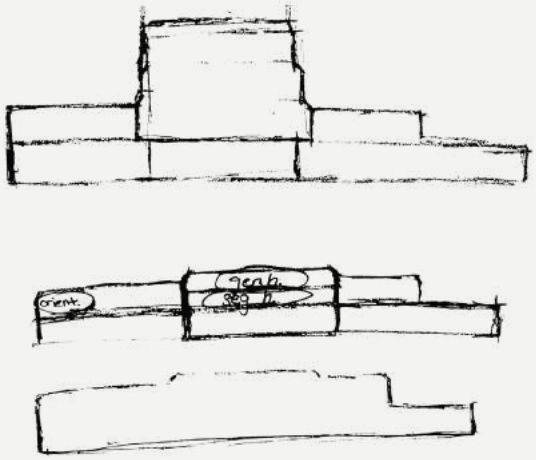


Figure 238–Level Exploration

Since the cells need access to the entire prison, I placed them in the center. A few levels of cell pods are required to meet the prison's needs, so they rise from the center. The edges of the cell pods taper in to break up the form and bring additional daylight into each cell.

Figure 239–Cell Pod Exterior Walls

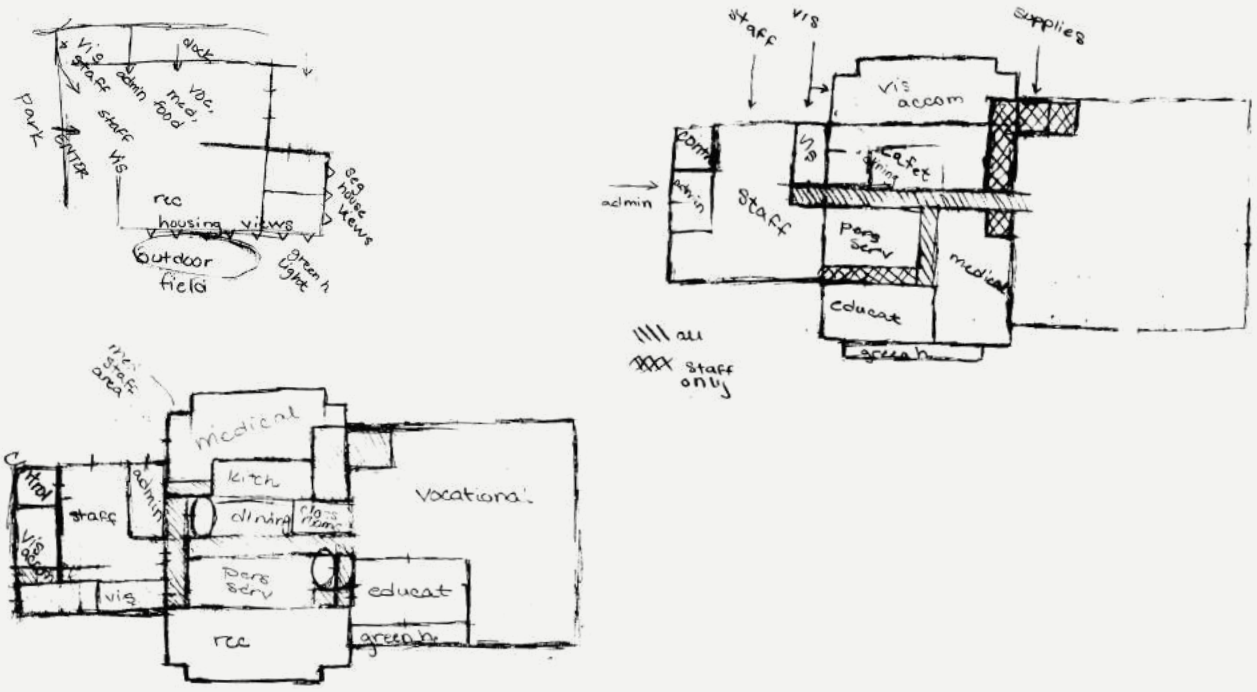


Figure 240—Space Layout Exploration

These plans got caught up in secure circulation and noise requirements. Each of the layouts failed in various ways. I got stuck trying to piece the project together which lead to a jigsaw sort of plan. This design is not secure, there are many corners and exterior visibility issues.

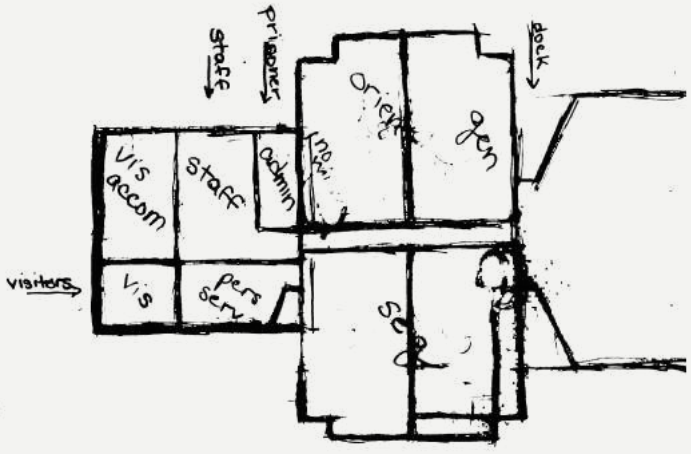


Figure 241—Space Layout Notches

Through this exploration of layouts, I created notches. These notches on the 2nd level allow for more general housing cells. More daylight and views are opened up when the building is drawn back. The angled walls will have special care with views so that prisoners can not see in from the cells and cause a disruption.

Experimental Exteriors

Figure 242—Exterior Exploration

As my original layout was bringing about many dead ends, I experimented with alternative cell window layouts. The shape of the cells influenced the entire design. I ended up reverting back to my original layout once I reversed, but would not have done so without venturing in different directions.

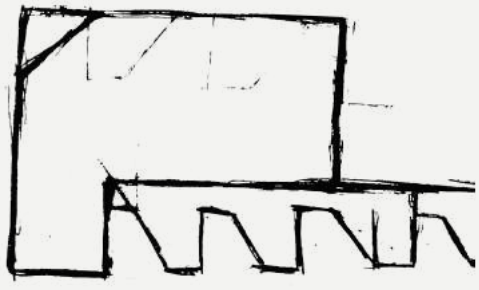


Figure 243—Exterior Cell Window Layout Exploration

Cracking the Code

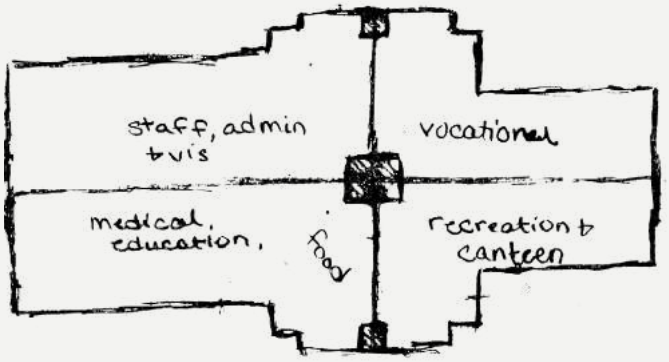


Figure 244—First Level Layout and Circulation

What made this layout work is its circulation paths. The previous layouts were messy and unclear. Having set the circulation paths first, the spaces were placed neatly in between.

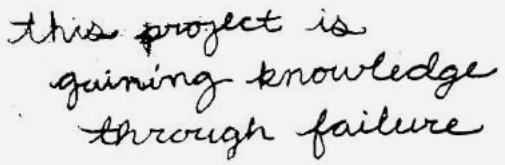


Figure 245—Project Mantra

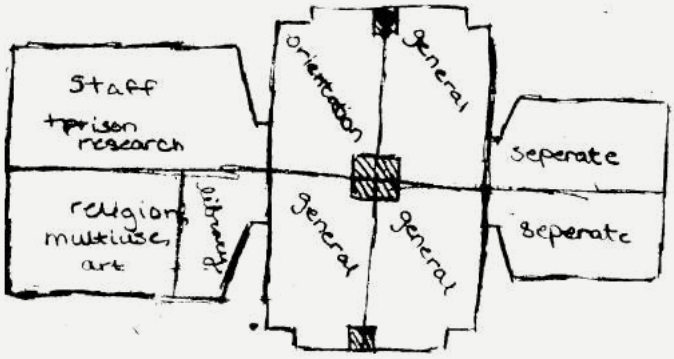


Figure 246—Second Level Layout and Circulation

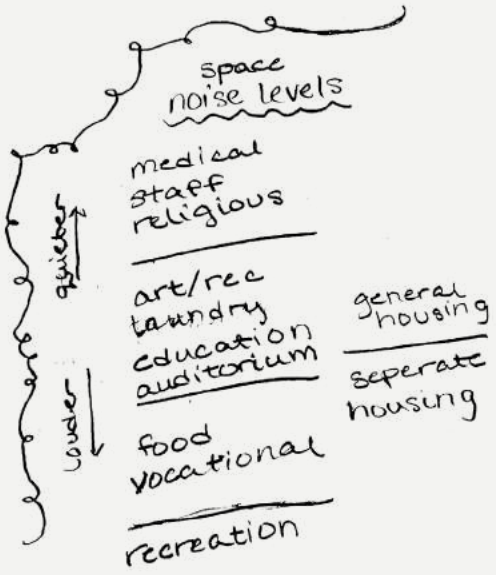


Figure 247—Sound Levels

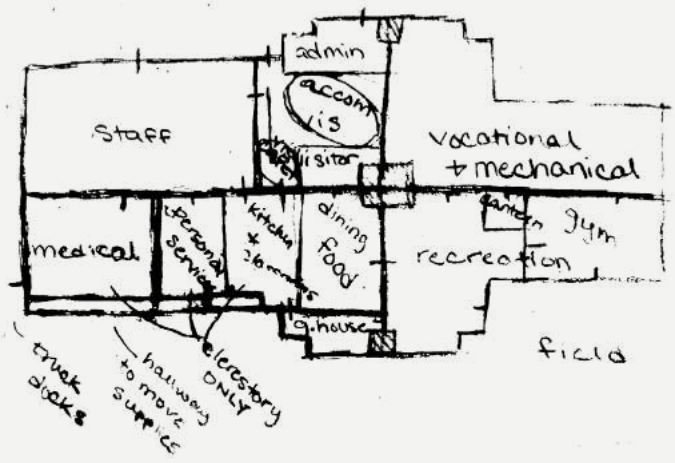
The spaces were organized by their relation needs and their sound levels. Recreation cannot be near medical because of the loud noise of the gym is and the quietness needed in the labs. The dashed squares represent initial stairwell placement.

As the layout progressed, a separate hallway was needed to distribute goods that is not accessible by prisoners. Where this ended up was determined by the truck dock. The dock must not be visible from the outdoor field and not near the staff and visitor entrances. It is placed along the southern wall and connects to medical, laundry and food services.

The staff was split among the levels to give them greater access to the prison. This also offers an opportunity to design a nicer staircase for the staff.

Education was moved to the second floor because laundry needed access to the service hallway. In the end, education now has greater connection to daylight and views.

Separate housing is above recreation and mechanical. The separate housing can get loud and rowdy so I placed it above the loud section of the lower level, since a majority of the other spaces need silence.



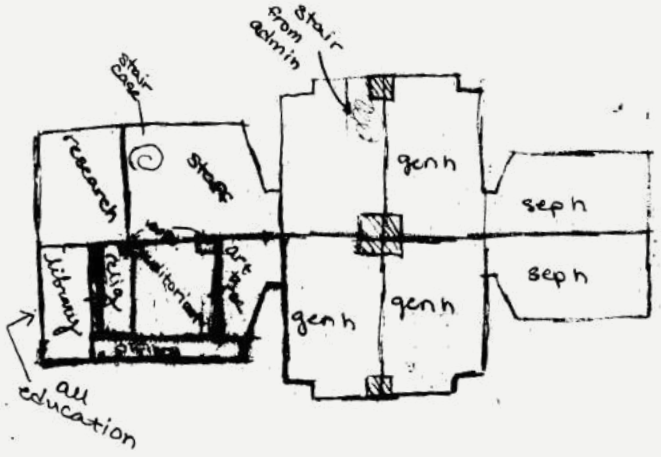


Figure 248—Service Hallway Planning

General Housing Spatial Documentation

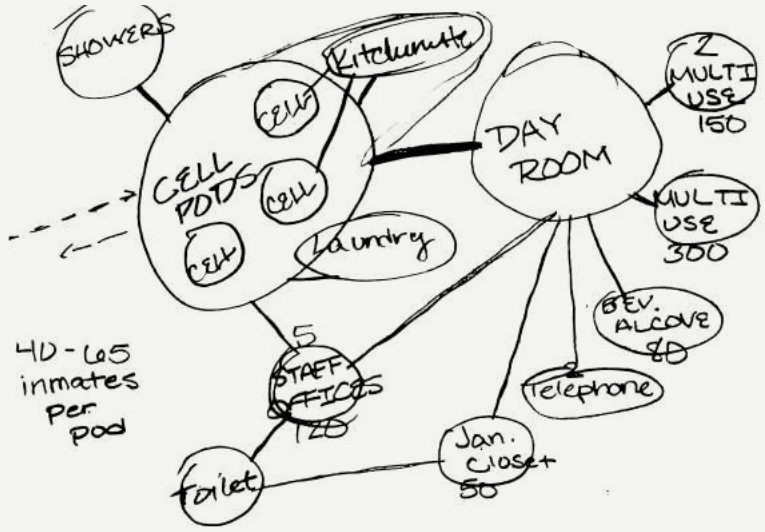


Figure 249—General Housing Bubble Diagram

The general housing floor planning composed of a mixture of elements from the initial spatial program with ideas from the precedent research.

The biggest decision was whether or not to include the kitchenette and laundry services in the cell pods. From the precedent study of both Anstalten and West Kimberley, having the prisoners in charge of their own daily lives seemed promising. It has had positive outcomes in both of the institutions, but since each was a much smaller scale than this thesis project I determined to not put a kitchenette and laundry facility in the pods. It would also have been a large safety risk that I did not want to take for an institution that will have a broad range of inmate backgrounds.

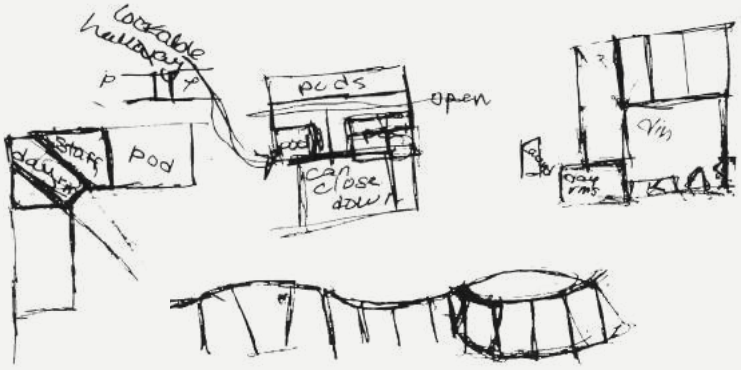


Figure 250—General Housing Preliminary Documentation

My preliminary layouts consisted of kitchenettes and were smaller pods of 6-8 inmates each. This is the time when I explored a variety of shapes while having a main focus on how a guard could see into each room. Another important aspect is a question of it a window must be provided in each cell. After some of these first sketches I came to a conclusion that it is not economical for the space to have each cell along an exterior wall.

I experimented not including windows and tried out about other ways to supplement for the lack of individual views. I found that light wells could be a safe way to deliver daylight through the interior spaces and to a majority of the cells. So, even though the inmates do not have their own views to the outdoors they will still be able to keep a sense of time throughout their days. The light wells are the open squares between the half hexagons of cells. They bring light into the space on the floor below the general housing.

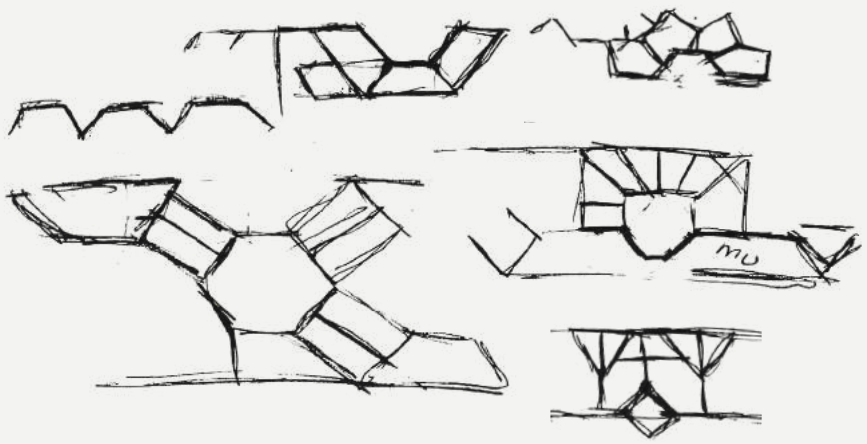


Figure 251—General Housing Cell Layout Exploration

It is important that the cell pods may be easily mirrored and duplicated. This was becoming fairly complicated with the obscure layouts. As exciting as it is to design a wacky layout, many security issues arose. Finding a balance between design and function was tricky with the cell layout.

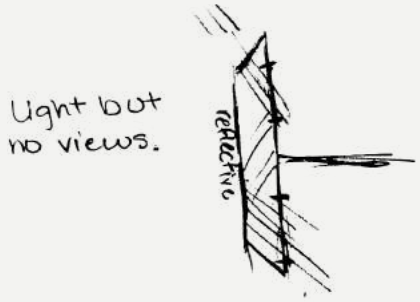


Figure 252—General Housing Light Well Exploration

Figure 253—General Housing Cell Hexagonal Layout Exploration

Then came designing for the guard's perspective. After picturing what angle of space can reasonably be seen at one point in time I placed the guard station in a corner/ along a wall and went about placing the cells relative to it. My main design criteria here were that:

- All inmates can be seen in their cells at a given time
- The prisoners are unable to see each other while in their cells
- The multi use rooms are clear to the guard
- The guard is able to see inmates entering and exiting each shower

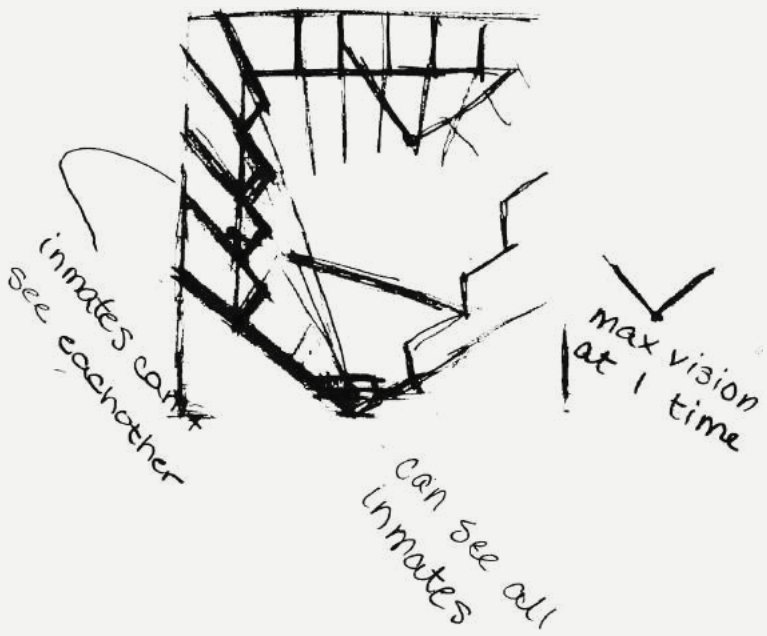
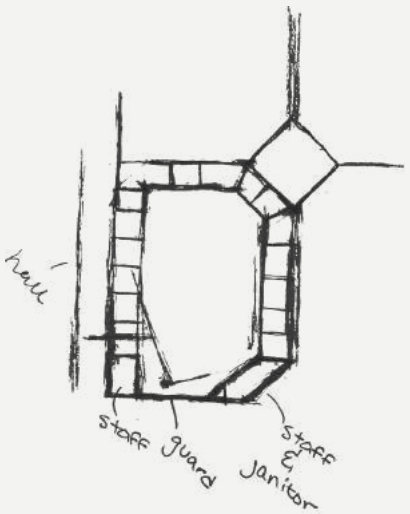


Figure 254—General Housing Unobstructed Vision Planning

To maximize efficiency for each guard it is not possible to fully encompass each of these goals. With that, I tried to fulfill each as much as I could. Another issue that arose was to determine if I did indeed want the guard to have a clear sight of all the cells at once. Yes, this does allow full uninterrupted vision for the guard, but that means it also has a clear vision for the inmates. So, the inmates are able to see when their guard is not watching them and lets them know when they are able to get away with creating havoc. The guards will have a security camera in each of the cells that allows them to see into each while at their station, but technological issues may arise at any time. It is important to put security from a guard first. In the end, I decided to go with a mix of clear vision. Any cell can be seen into, but for some the guard will have to move within the space.



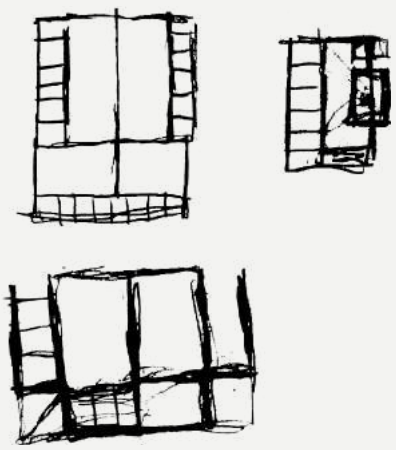


Figure 256—General Housing Cell Pod Visibility Analysis

Figure 255—General Housing Cell Pod Layout Exploration

These ideas were merged into one cell layout that focuses on visibility and daylighting. The space behind the guard that is not visible is a staff office. Otherwise, the staff have views in this layout of the inmates in their cells, in the multi use rooms or out in the day room. This sketch is only of the lower level of the two level pod.

This layout initially hits all the marks, but lacks a few important notions. I am not moving foreword without each cell having daylight and a view. So, as nice as the light wells are, this iteration only gained me more knowledge. Circulation was also poor in this design, which does not allow firemen to get quickly around the space in case of a fire or guards in case of a fight.

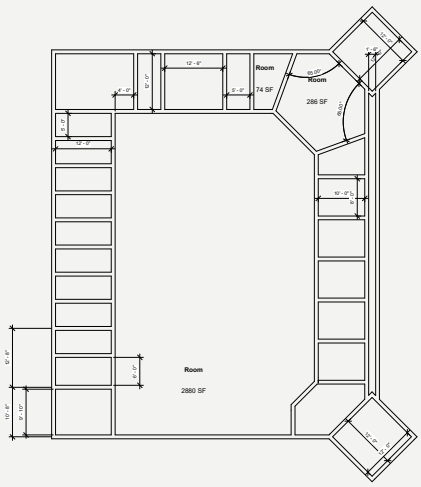


Figure 257—General Housing Sizing Exploration

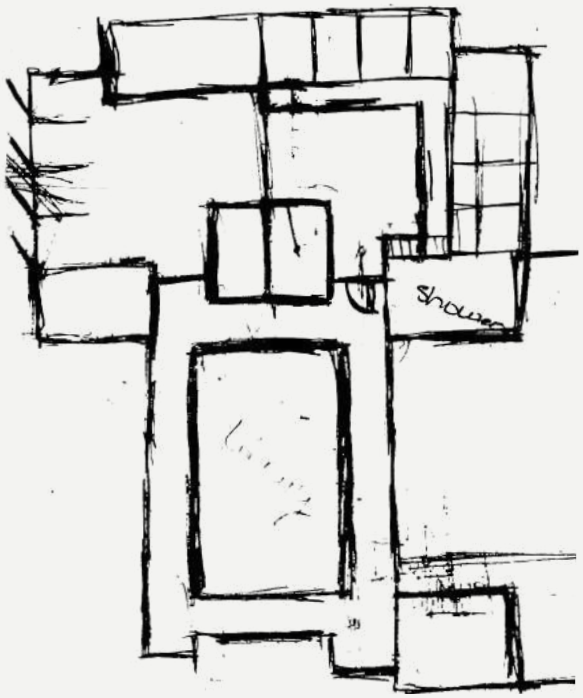


Figure 258–General Housing Combining Iterations

The previous iterations lead to this sketch. These rooms lack secure views so it may only be used for general housing. The cells line the exterior two walls in each pod, a staff control center is in the opposite corner. The guards are able to see into each of the cells from their safe room.

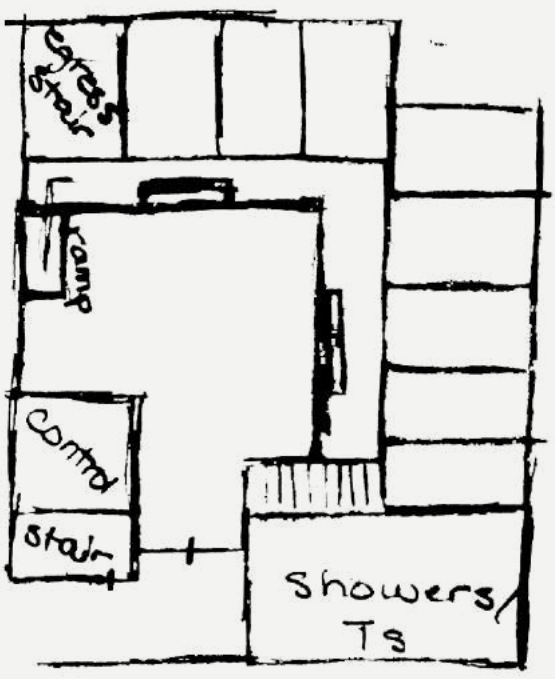


Figure 259–General Housing Cell Pod First Level Planning

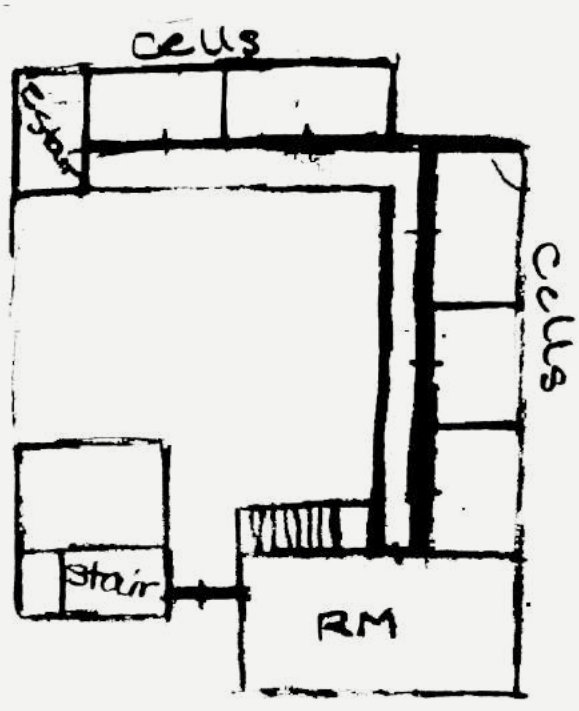


Figure 260–General Housing Cell Pod Second Level Planning

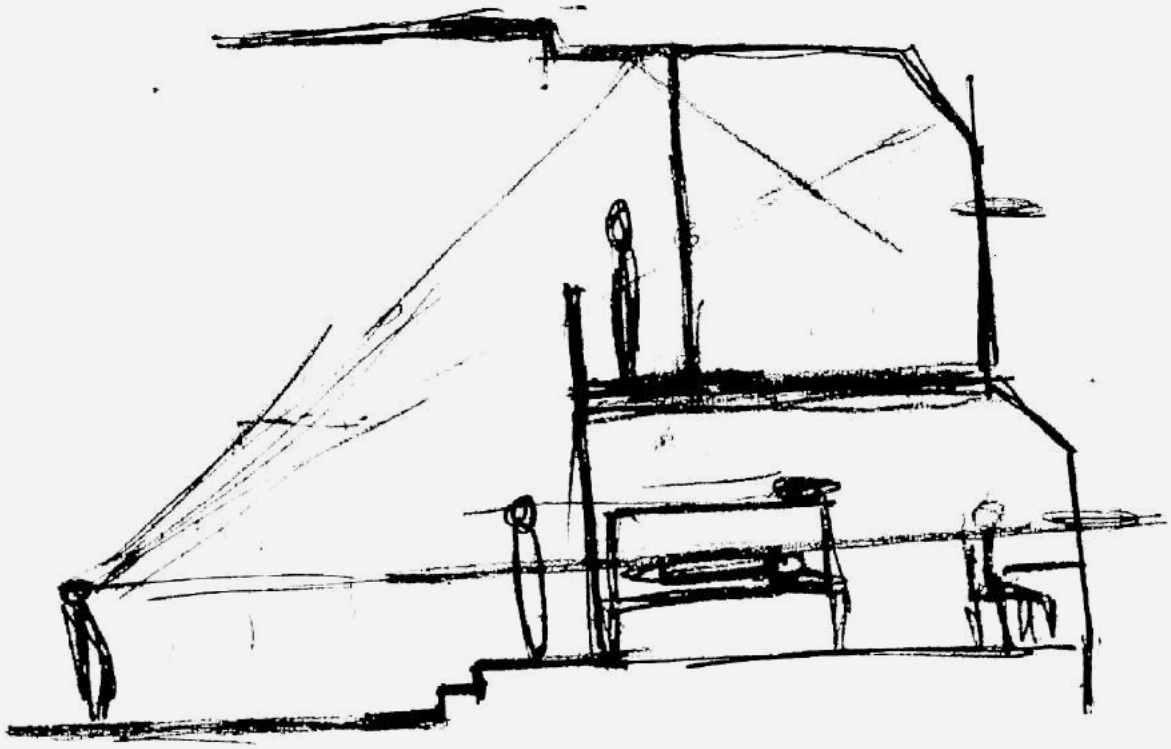


Figure 261—General Housing Cell Pod Section

A sketched section of the pod cells shows the first and second levels. The lower level has shifted up a couple feet so that guards of enhanced visibility in the cells. They have clearer vision of various activities that prisoners do in the cells, such as sleeping in bunks and writing at their desk. The second level rooms are rotated to allow for a walkway that is set in. I did want the walkway to be floating off because it would need columns that would reduce visibility. A mirror will be placed above the walkway so that guards can see deeper into the top level cells. Security cameras will be used in each cell, but it is still a priority for guards to have a clear sight into each. The exterior of the cell walls are tapered to bring in additional daylight.

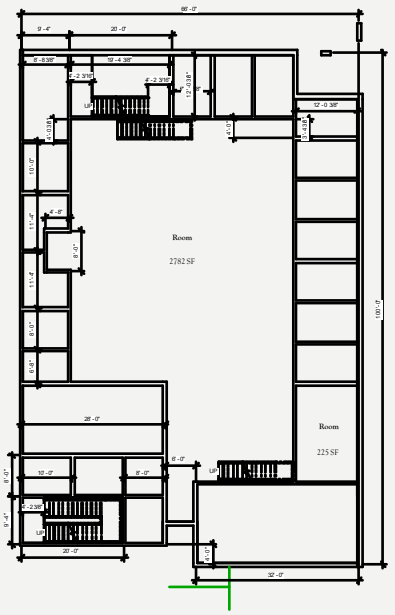


Figure 262—General Housing Screenshot with Large Control Center

Then, came how I wanted to conduct security in the cell pods. When initially designing the pods I had staff tucked away in their own control centers. This separated them from the prisoners which is not what I wanted for this project. From my research, have them separated enhances the power shift between them. I chose to make a smaller control room so that the staff members may either be directly involved with the prisoners in the day room or choose to monitor from their office. I did this for the staff rather than the prisoners. This method has humbled staff in other prisons since they can choose to directly interact with the prisoners. It does though, still have a positive effect on the prisoners. They interact and create personal relationships with staff.

I considered eliminating the entirety of the control center office, but in the end kept it because of the false sense of personal relationship. Guards may be kind and friendly to the prisoners, but they still are the ones running the show. I wanted to give staff the opportunity, but ultimately their safety comes first.

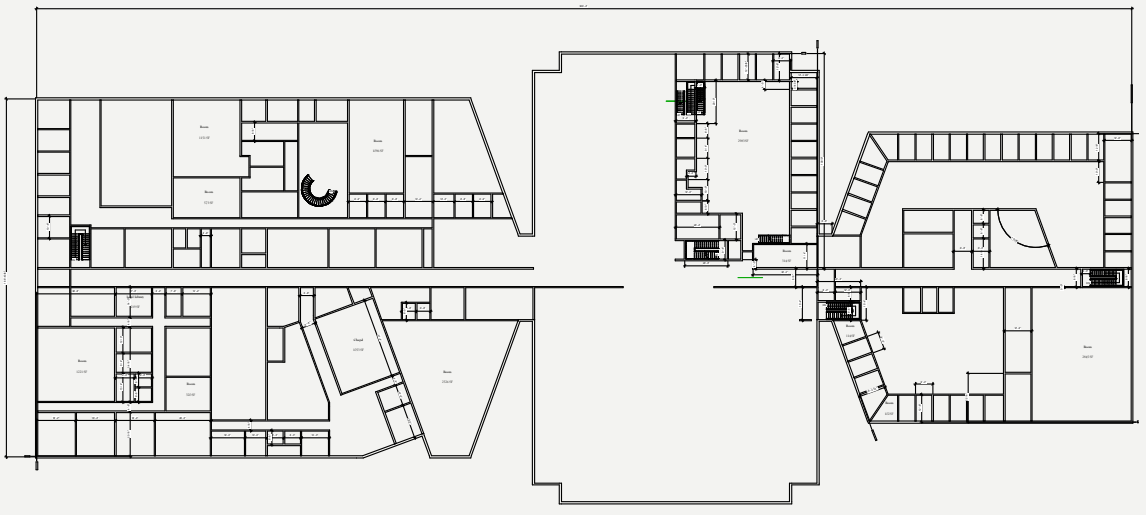


Figure 263—Second Level Screenshot with Reduced Cell Pod Control Center

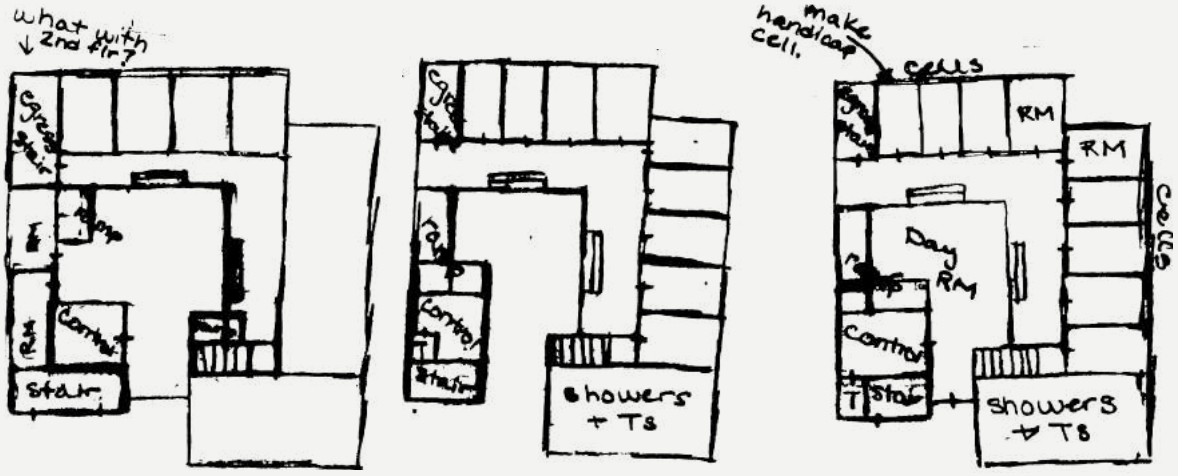


Figure 264—General Housing Cell Pod Ramp Exploration

I experimented with the lower level day room stairs and ramp. Some of the methods cut into the day room and decreased the open circulation. I also explored various organizations of the counselor and staff rooms during this time. This focused on what staff would be able to see and the distance to their rooms. The day rooms can be stressful for the staff, so I wanted to include space for them where they can relax for a couple moments.

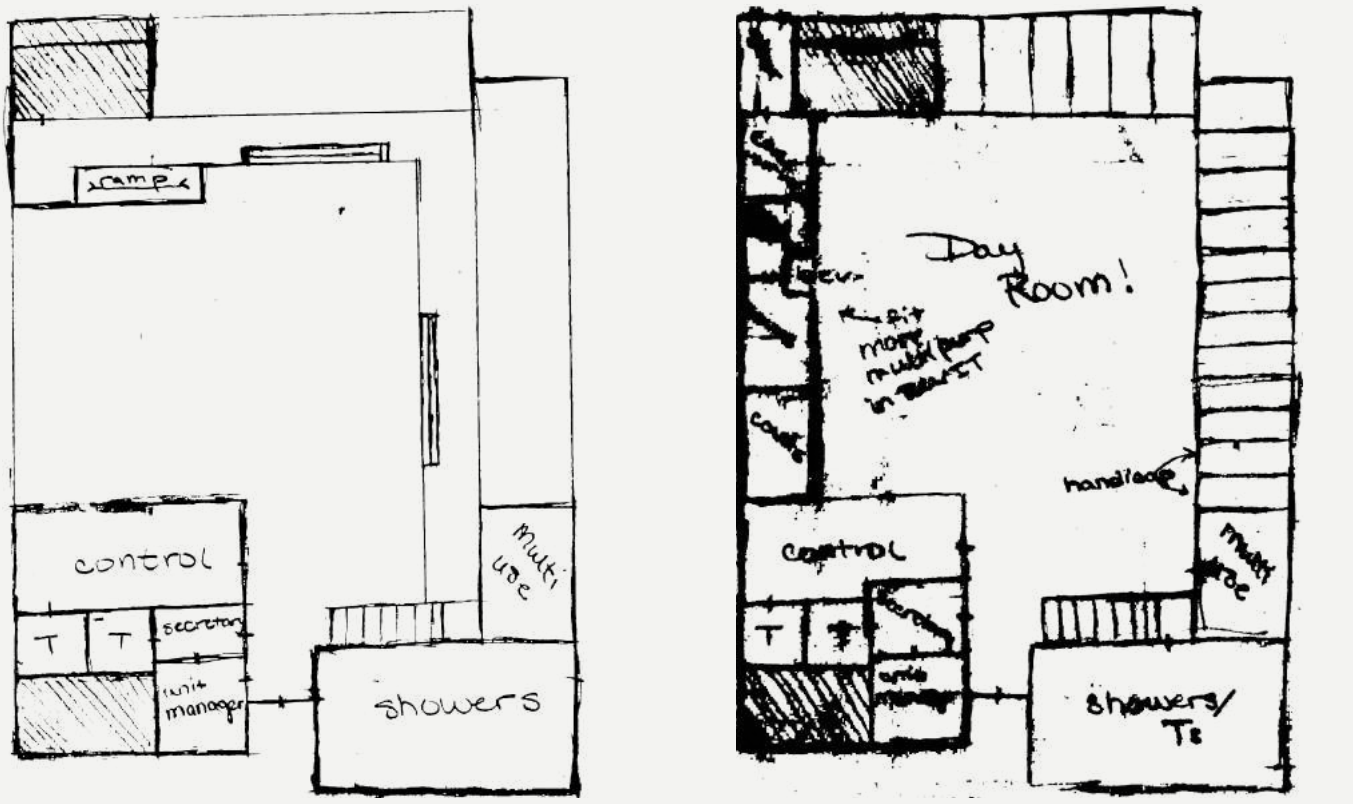


Figure 265—General Housing Cell Pod Sketch Iterations

The day rooms altered as rooms were added. I initially wanted to included a few steps to increase guard visibility into the rooms, but ultimately decided against it because of ramp placement. Had I kept the ramp, it would have blocked the doors into the counseling rooms and been in the path of the emergency stairs.

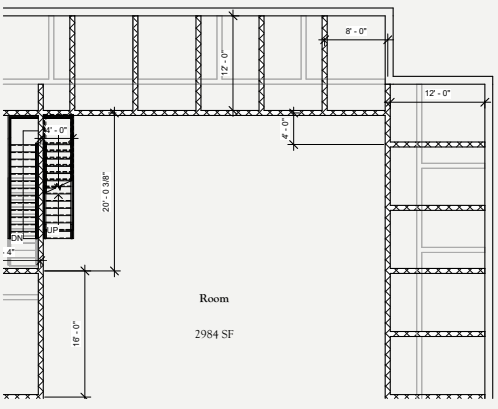


Figure 266—General Housing Cell Pod Dimensional Screenshot

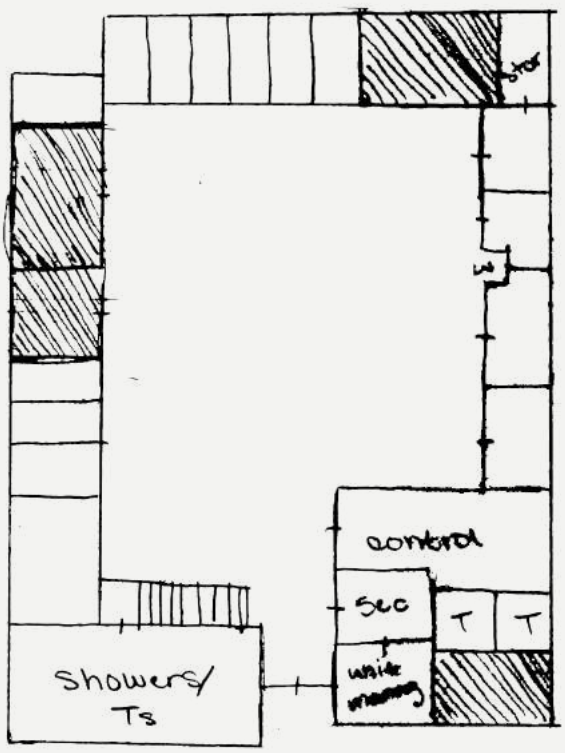


Figure 267—General Housing Complete Lower Level Sketch

The second level of the day room has rotated cells to allow space for the walkway. The pipes required for the showers required the second level space to be open to below. It would not make sense to move the piping back and forth. Since, some of the first level plans had toilet rooms next to the stairwell, I decided to continue that in the general housing pods for the staff members.

Figure 268—Cell Pod Wall Ceiling Attachment Section Sketches

Since the second level is open above the counseling rooms, I explored how the first level could have met the second level ceiling. In the end, I went with the continuation of the vertical wall because it would be the easiest and cheapest to construct.

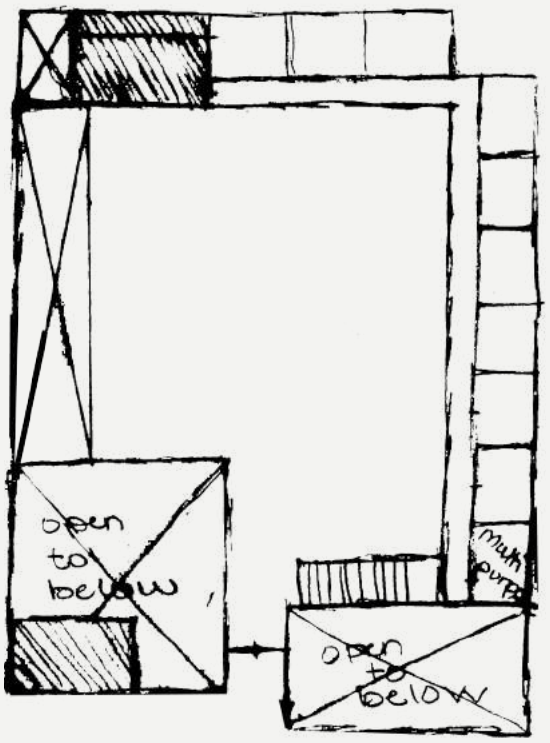


Figure 263—General Housing Complete Upper Level Sketch

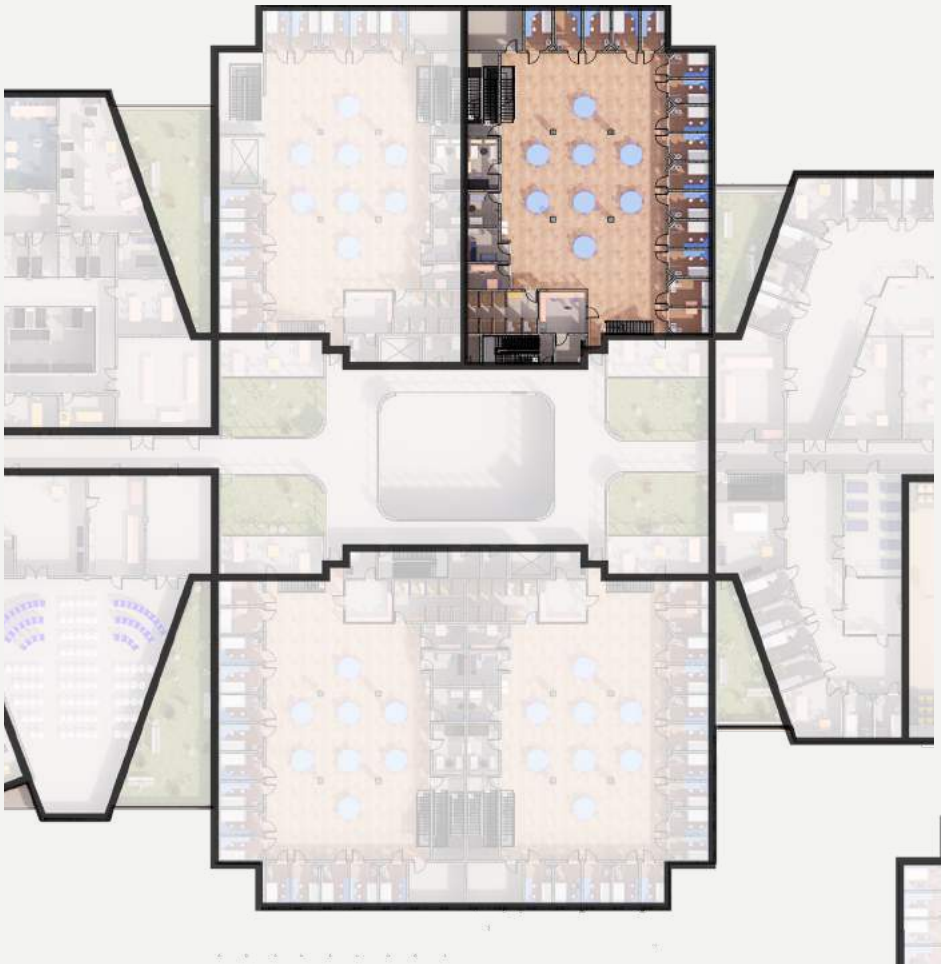


Figure 270—General Housing Cell Pod Lower Level

Figure 271—General Housing Cell Pod Upper Level

Figure 272—General Housing

	GENERAL	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Day Room	3415	1500	78%
2	Staff Control Room	144	150	-4%
3	Showers	220	200	10%
4	Counseling	65	120	-59%
4	Counseling	65	120	-59%
5	Staff Office	65	120	-59%
5	Staff Office	65	120	-59%
6	Day Room Multi Use Room	134	150	-11%
	Detention Cell	86	80	7%

Figure 273—General Housing Program Analysis

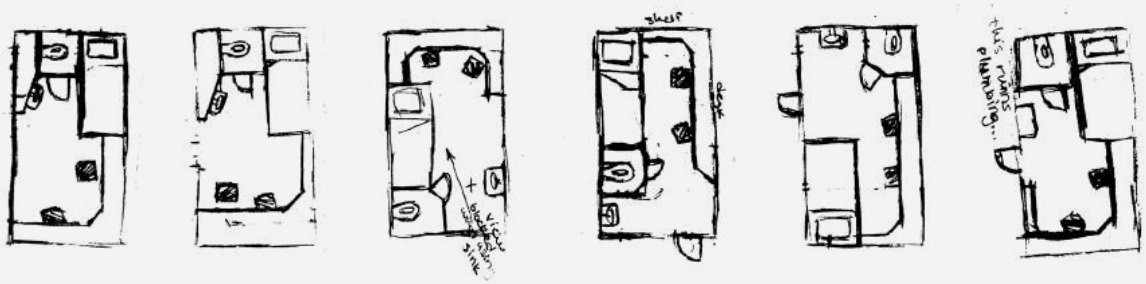


Figure 274—General Housing Cell Sketches

The cell design was worked around security views from outside of the cell. This created an open center with the furniture along the walls. The exterior windows of the cells also drove the design because they are not centered. Thus, the desk area went underneath the ribbon windows. Since the cells had to be stacked directly, the ADA cell is sized to code for one prisoner and the rest are doubles. This also allows the prison the option of using the double as either a sing or a double.

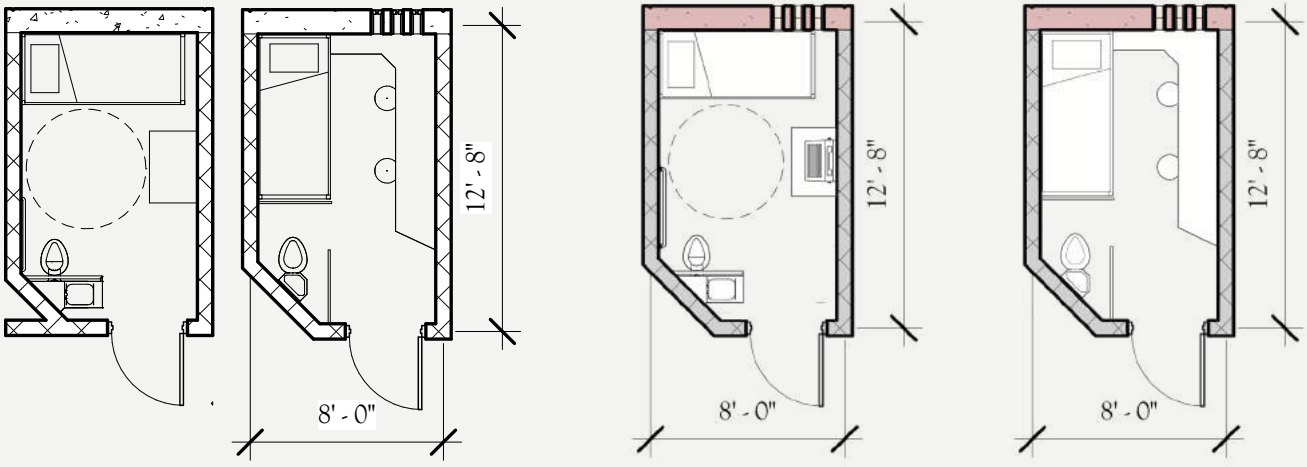


Figure 275—General Housing Cell Initial Plans

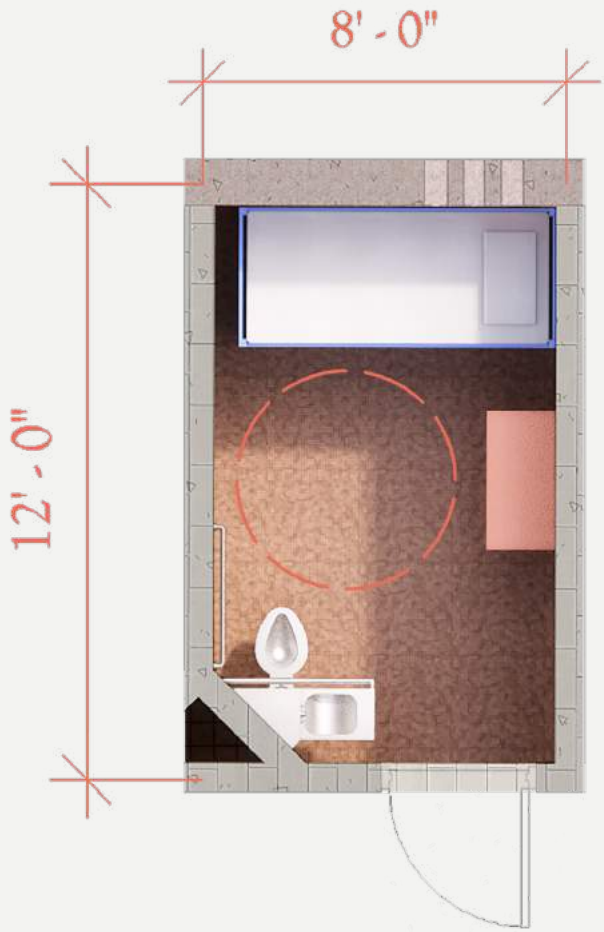


Figure 276—General Housing ADA Cell

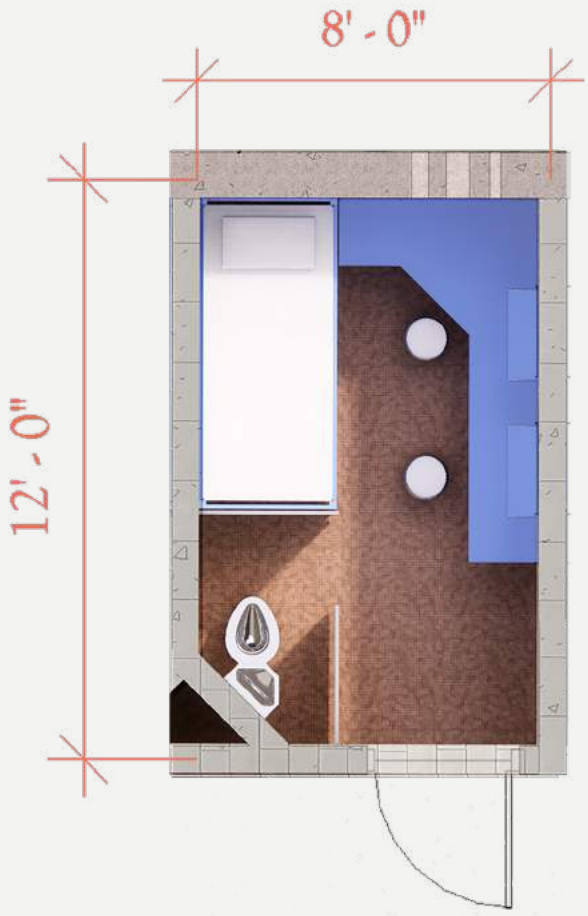


Figure 277—General Housing Cell

Figure 278—General Housing Cell Pod Interior

Figure 279—General Housing Cell Pod Progress Rendering

Here, this work in progress rendering shows the saying, "Life Continues in Prison" on the back wall above the guard's control station. I enjoyed having my project motto within the cell pod, but ultimately decided against reminding the prisoners that this is indeed prison.

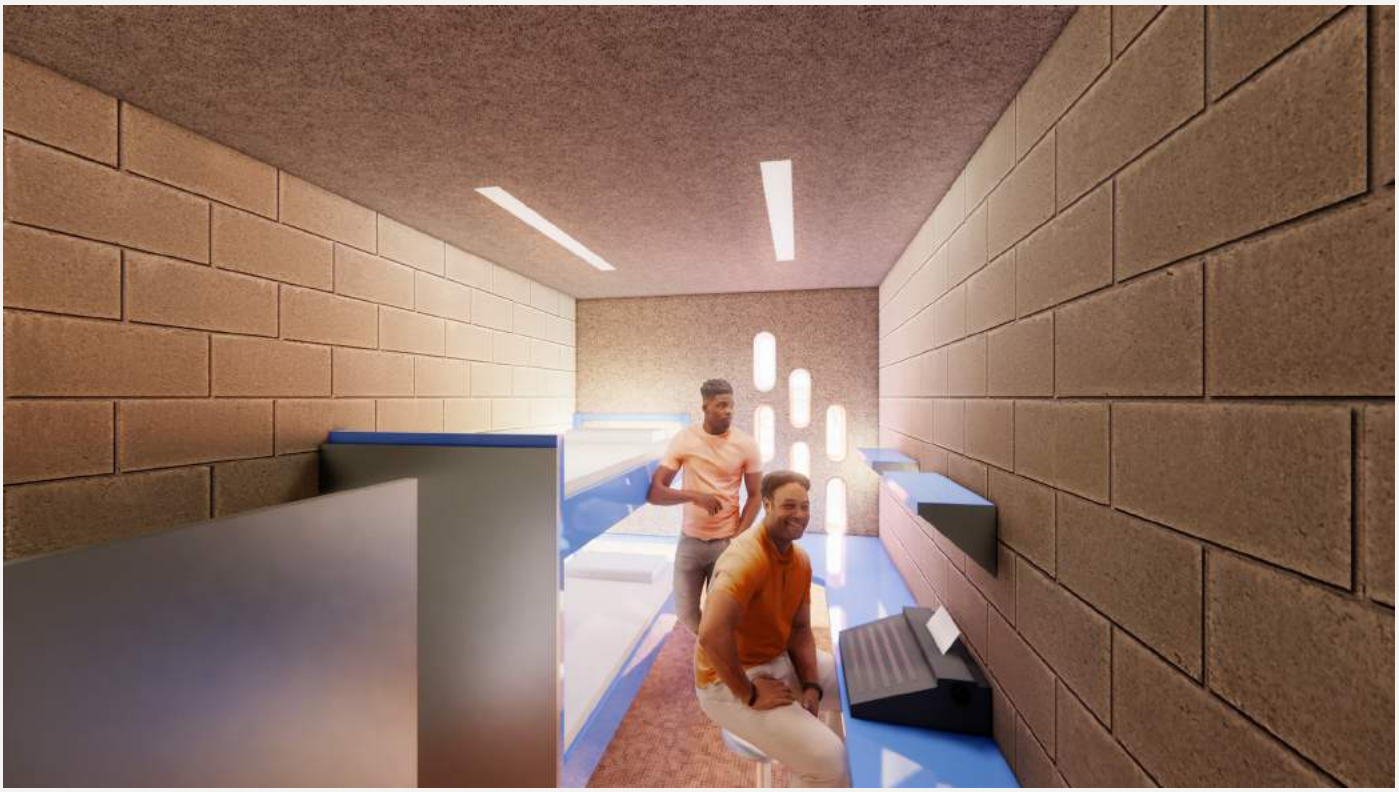


Figure 280—General Housing Cell Interior



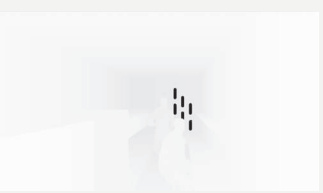



Figure 281—Cell Interior Progress Renderings

Segregated Housing Spatial Planing

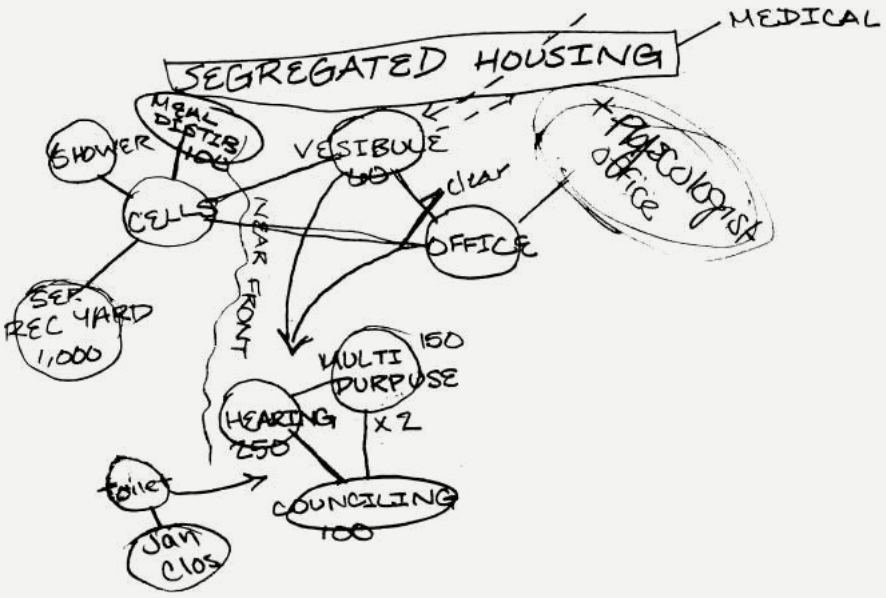


Figure 282—Segregated Housing Bubble Diagram

Segregated housing functions somewhat as its own prison within a prison. Since, the segregated housing prisoners rarely leave this wing of the prison, the required amenities are duplicated in this space. The staff and prisoners will have all that they need readily at their disposal.

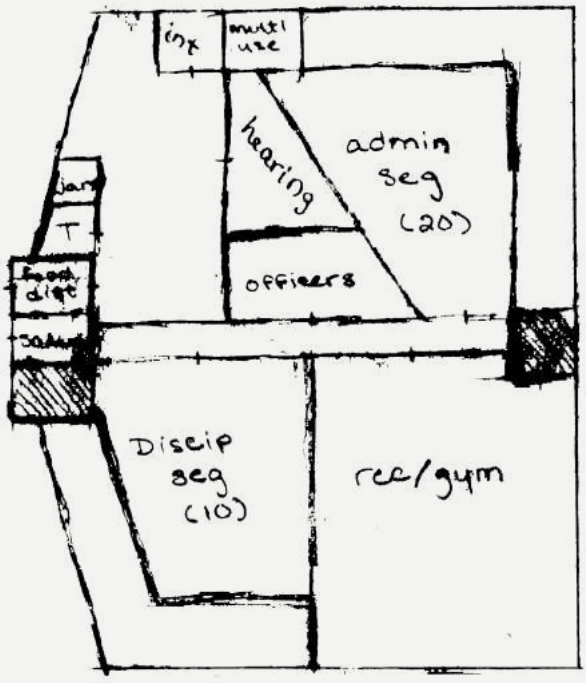
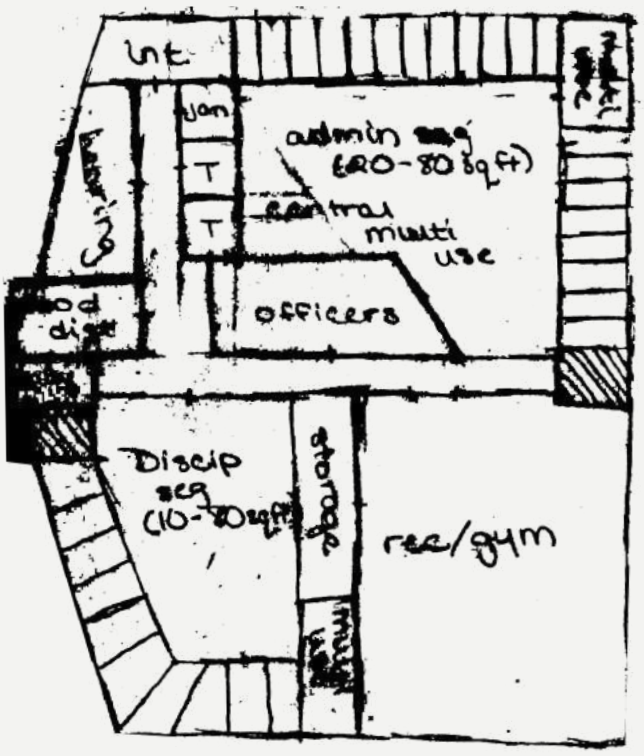


Figure 283—Segregated Housing Layout Exploration

The administration cells had to separated from the disciplinary cells. This was difficult to initially place because of the need for secure views. In the end, the disciplinary cells have views of the recreation fields and prisoner maintained garden. The administration segregation does not require as secure views as disciplinary does, so it faces the warehouse and firehouse. Since, the general housing sticks out further than the two wings of the building, views of the main entrance are blocked from prisoner view.



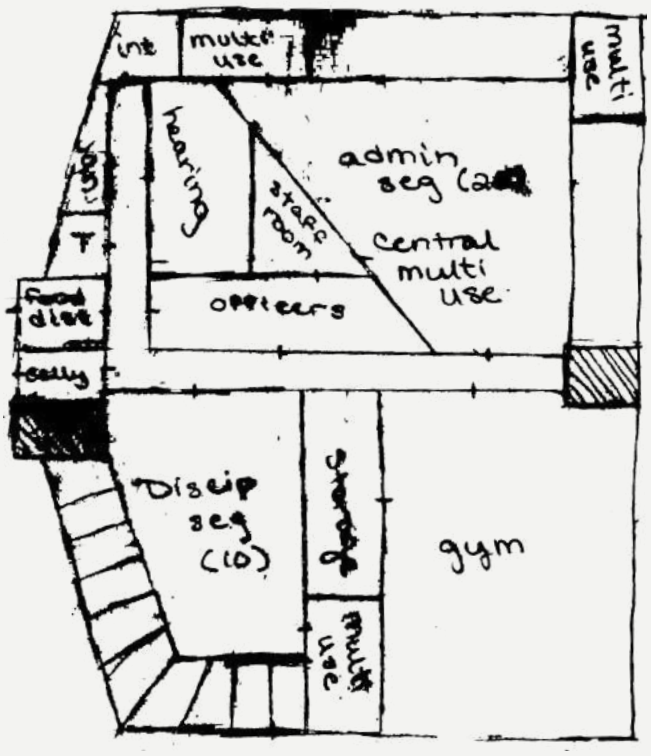


Figure 284—Segregated Housing Cell Layout Exploration Sketches

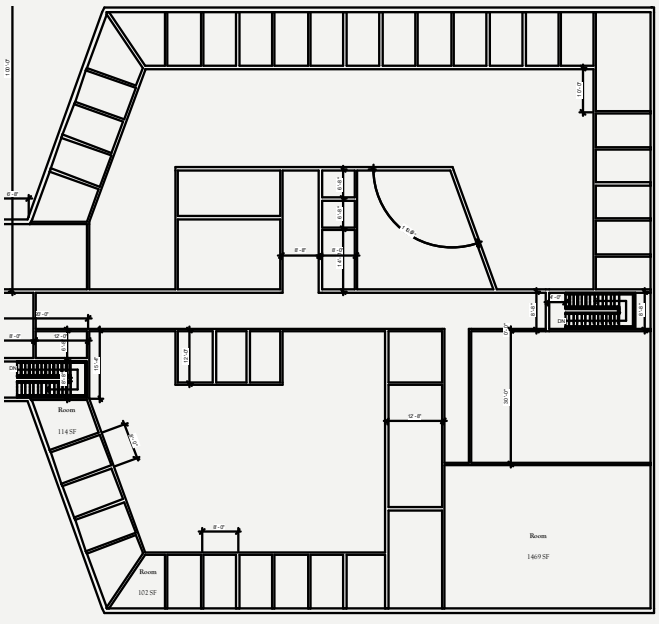


Figure 285—Segregated Housing Prior Screenshot

To fit all of the required administration cells the plan had to be modified. This worked in my benefit, there was an abundance of space in the segregation wing while sketching. When put into Revit, it the scale evened out.

Another change I made was in the gym. I added a room for inmates on suicide watch or those that need to be watched for 24 hours. The officers have a clear view into the large room in front of the gym and can call for help when they see that it is needed.

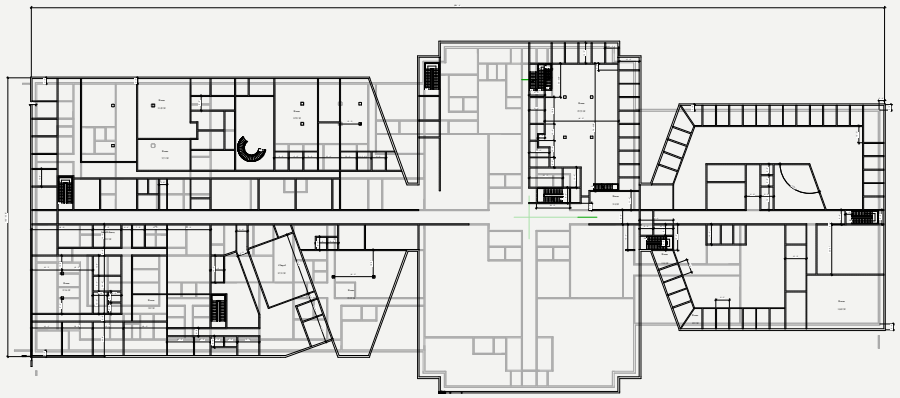


Figure 286—Segregated Housing Screenshot

The segregated housing plan had a dramatic change when I realized that the gym on the first level required a greater ceiling height, This then shifted the disciplinary cells over. This ended up being beneficial to the project because there initially there was an excess of space in the segregated housing sector.

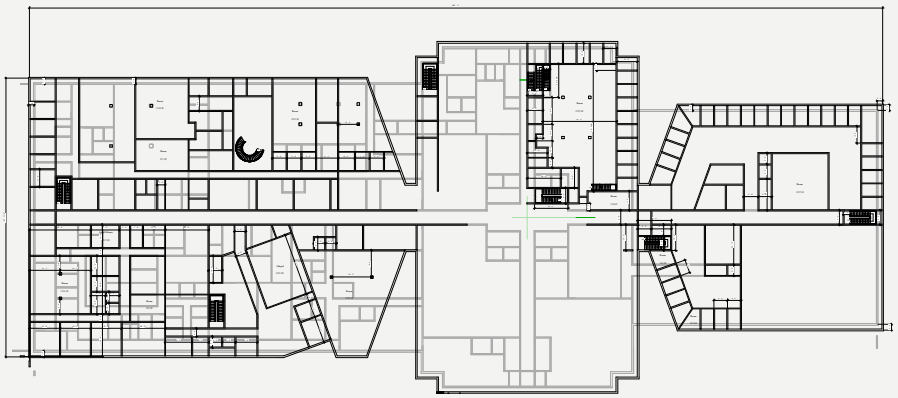


Figure 287—Segregated Housing Updated Screenshot

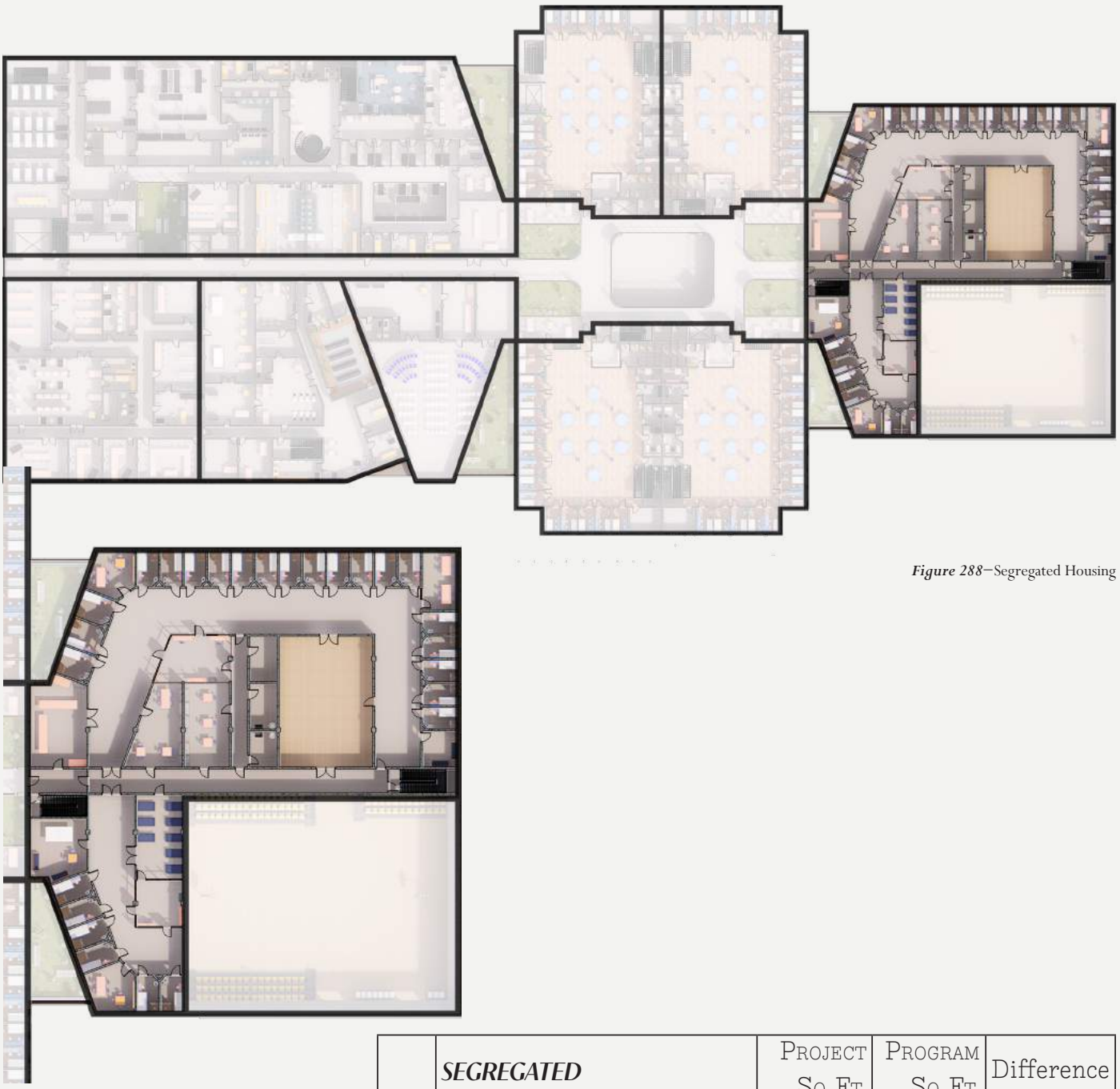


Figure 288—Segregated Housing

	SEGREGATED	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Meal Distribution Room	324	100	105%
2	Staff Control Room	345	120	96%
3	Hearing Room	413	250	49%
4	Counseling and Interview	432	100	124%
5	Recreation Area	1385	1000	32%
6	Suicide Watch	345	350	-2%
7	Multi Use Room	265	150	55%
7	Multi Use Room	524	150	110%
	Segregated Detention Cell	86	80	7%

Figure 289—Segregated Housing Program Analysis

Admissions Spatial Documentation

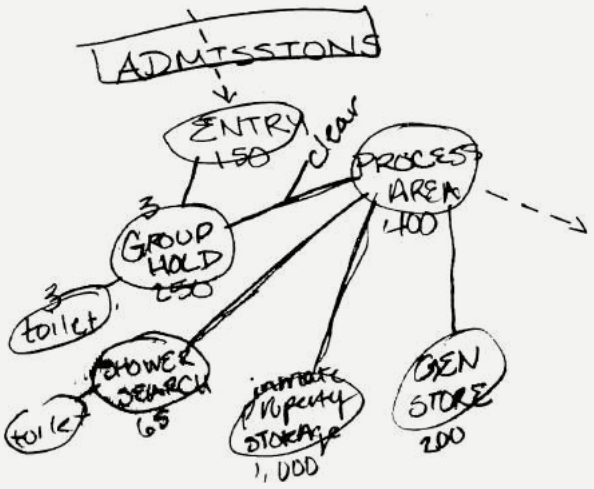


Figure 290—Admissions Bubble Diagram

Admissions took on many variations of layouts. What was most difficult for this section was visualizing the vast difference of square footages between rooms. The inmate property storage is larger than the rest of the rooms combined. Once past that hurdle, determining the circulation of the prisoners and staff in the space developed the spatial plan.

Figure 291—Admissions Layout Exploration

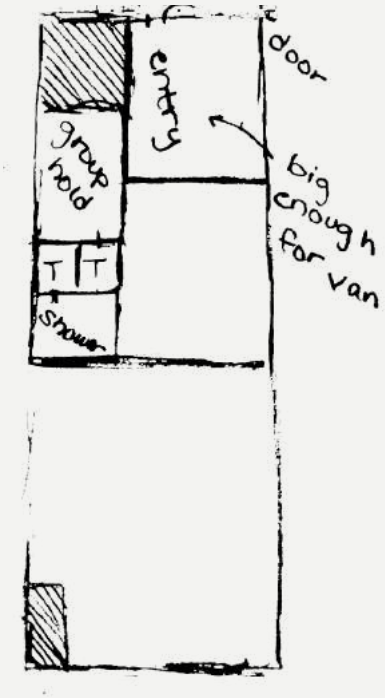


Figure 292—Admissions Layout Sketch

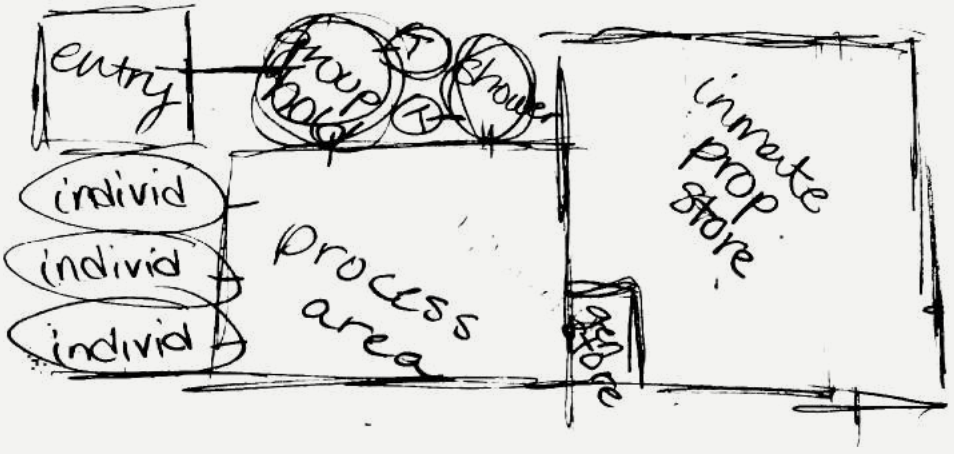


Figure 293—Admissions Layout Planning

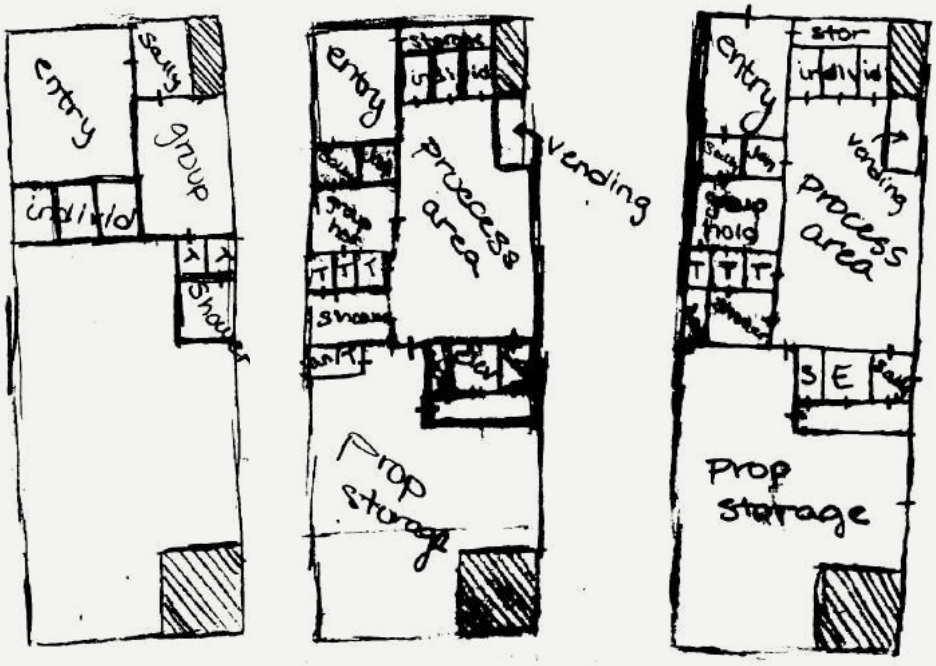


Figure 294—Admissions Progression Sketches

The other issue in the admissions sector was determining how to bring prisoners into the prison. I researched a few different methods and decided to have the vehicle transporting the prisoners to drive into an indoor stall/ room. From here, they are securely moved into the group holding cell. Once documentation is compete the prisoner is escorted up the elevator into the orientation housing pod directly above admissions.

Figure 295—Admissions

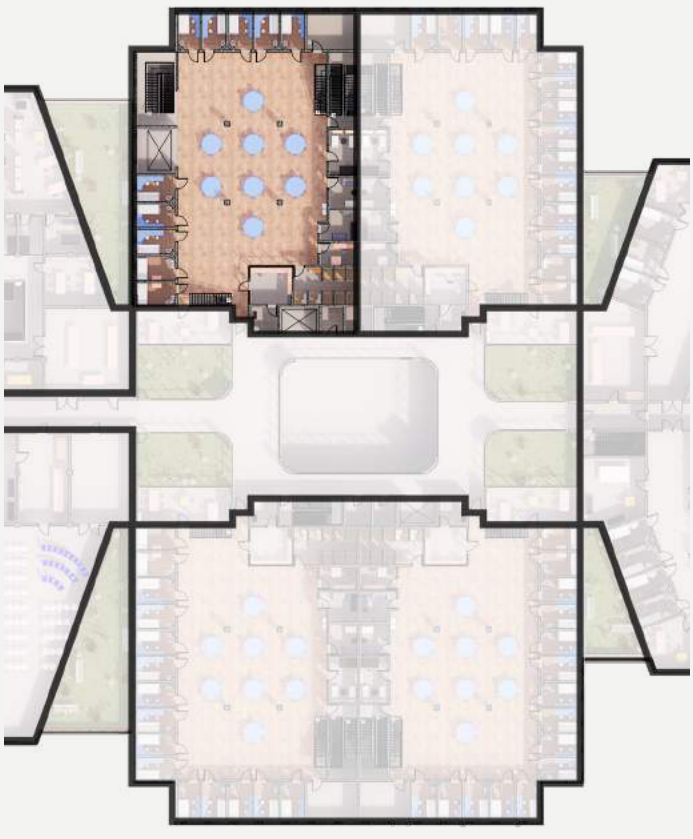


Figure 263—Admissions 2nd Level Orientation Housing

	ADMISSIONS	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Entry	306	150	68%
2	Group Holding	187	250	-29%
3	Search and Shower	131	65	67%
4	Personal Property Storage	2393	1000	82%
5	Single Holding Room	72	100	-33%
5	Single Holding Room	47	100	-72%
5	Single Holding Room	47	100	-72%
6	Processing Area	747	400	61%
7	General Purpose Storage	437	200	74%

Figure 297—Admissions Program Analysis

Medical Spatial Documentation

Since the prison has to be self reliant it requires a full medial department. I went about planning its layout in steps, each with a bit more detail than the previous version. The first step was to determine where the prisoners enter and exit and then where the staff. Then, what spaces need greater access were placed closer to the waiting room. I began by grouping the labs into a general group, the exam rooms, the 24 hour private care and the physical therapy areas.

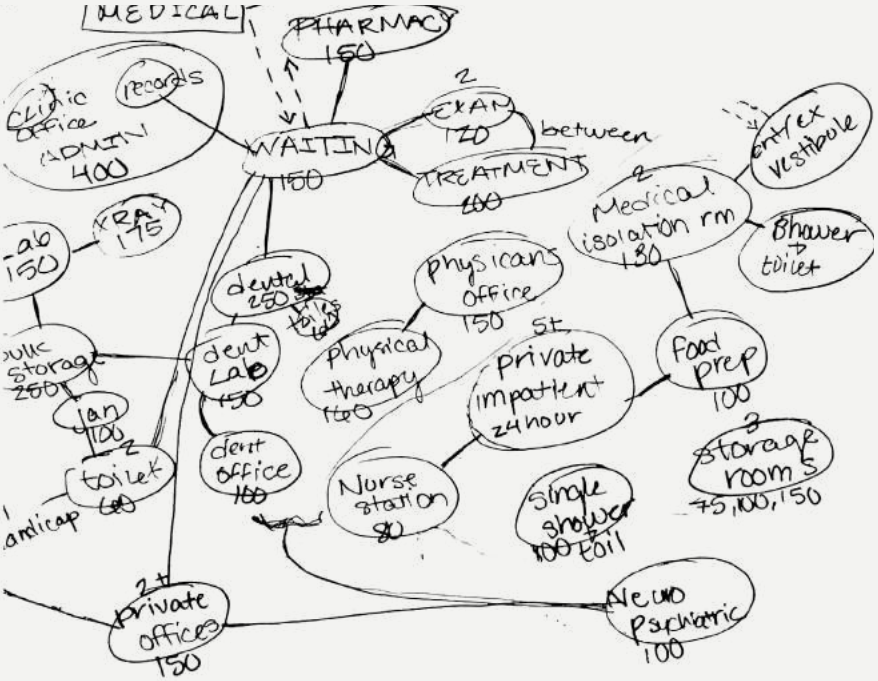


Figure 298–Medical Bubble Diagram

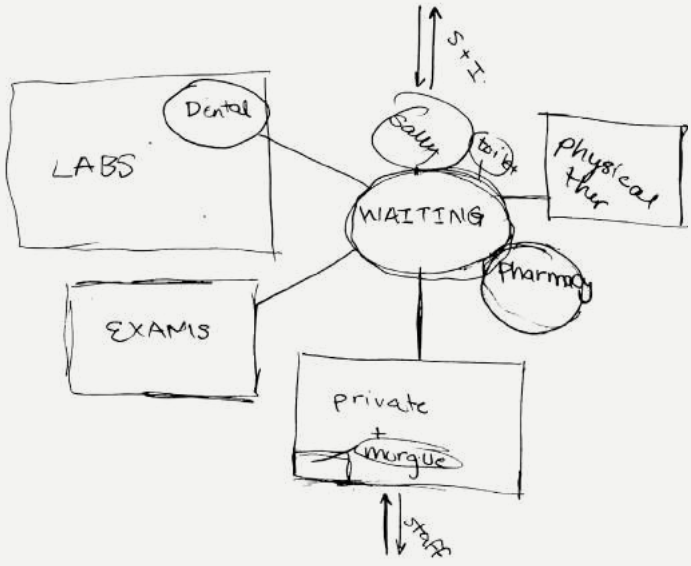


Figure 299–Medical Layout Diagram

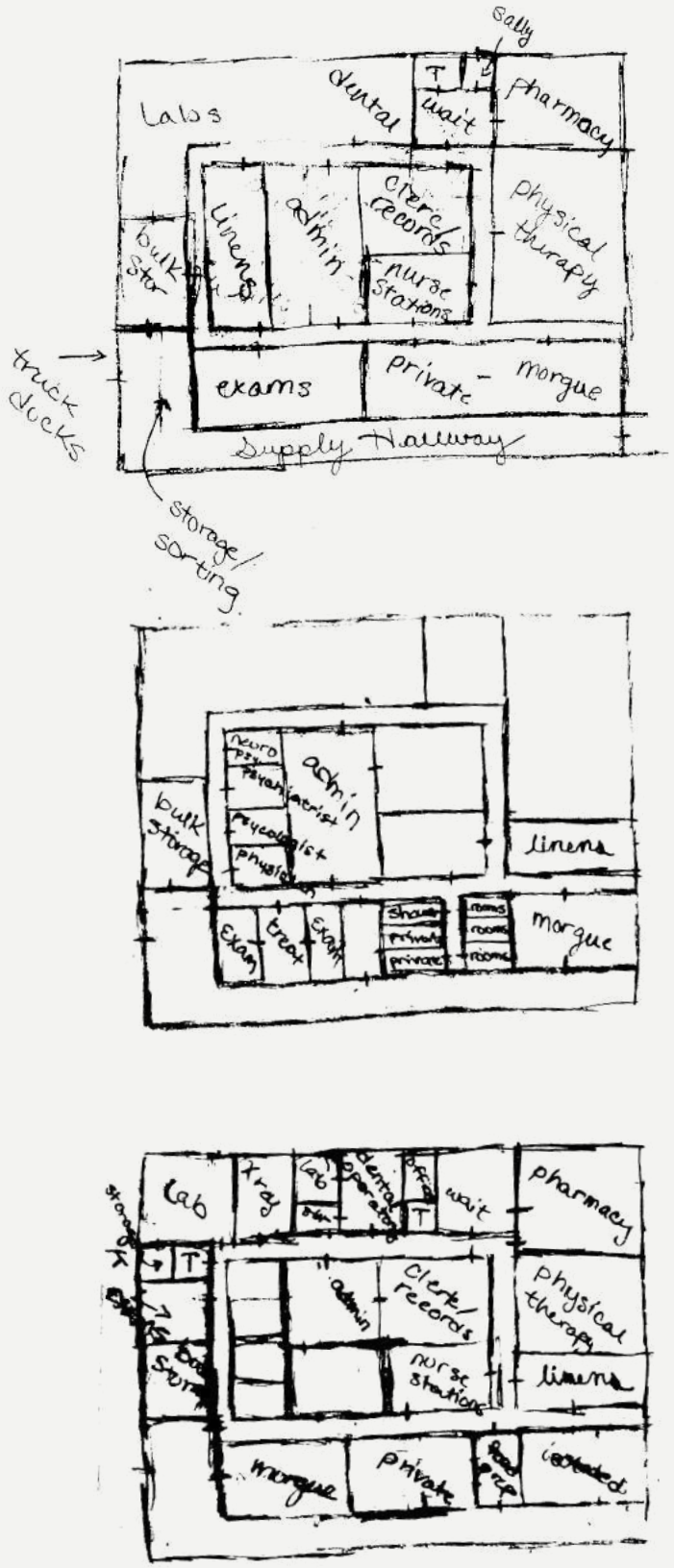


Figure 300—Medical Progression Sketches

This space progressed in slight changes. The exam rooms, private rooms and morgue shifted around as this area was designed. The administration and records moved as I moved them near the spaces that need to be adjacent.

The truck dock evolved through this process. Elements were added as I learned about the process of getting goods in and out of the prison and how much space is required to move forklifts.

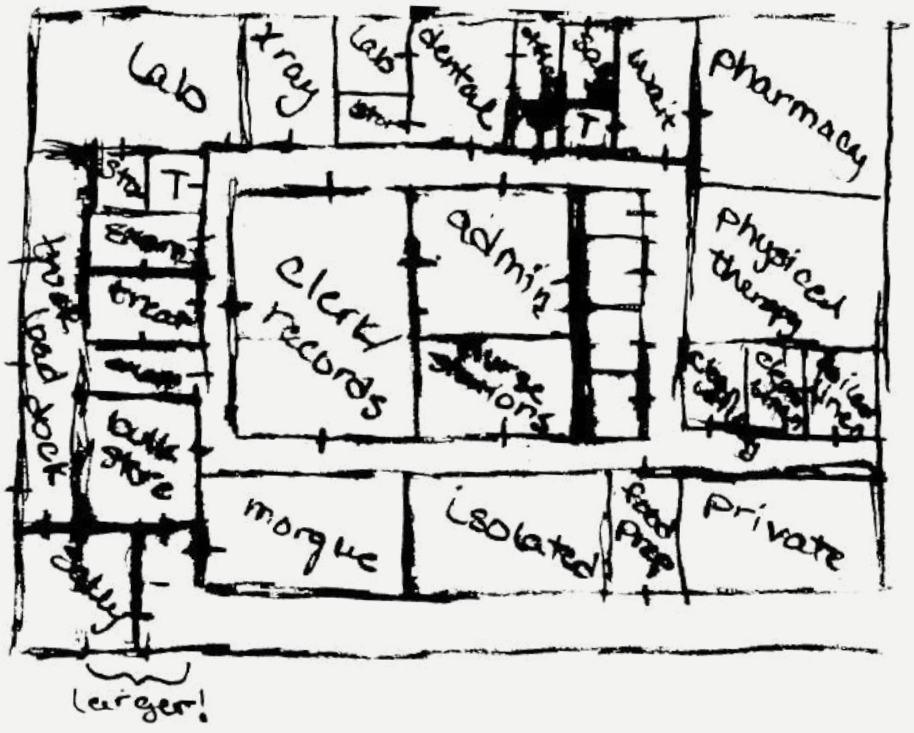


Figure 301–Medical Complete Sketch

Figure 302–Medical Private Room Sketches

The circulation of the medical department is a continuous loop. Staff and prisoners have greater access to the spaces without dead ends. The admin is in the center near the waiting room since it is often the first stop. The labs are grouped together with the dental labs and are across the hall from records. This is for the staff, so they can walk their records across the hall. The records also connect to the morgue for the same purpose. The bulk storage, morgue and food preparation have access to the supply hallway. These rooms require goods and services to come in and out of the medical department. They psychologists are across the hall from physical therapy since their needs are similar and will be used in conjunction. The nurse stations meet the isolated and private rooms, they are across from the isolated rooms since those prisoners need 24 hour care.

Figure 303—Medical

Figure 304—Medical Program Analysis

	MEDICAL	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Forklift Storage	451	450	0%
2	Truck Dock Organization	651	600	4%
3	Record Storage	479	280	52%
4	Clerk Office	240	120	67%
5	Nurse Station	108	80	30%
6	Neuropsychiatric Room	82	100	-20%
7	Physician's Office	82	150	-59%
8	Psychiatrist Office	82	150	-59%
9	Psychologist Office	82	150	-59%
10	Medical Laboratory	178	150	17%
11	X-ray Room	375	175	73%
12	Dental Operating Room	220	250	-13%
13	Dental Laboratory	173	150	14%
14	Waiting	235	250	-6%
15	Pharmacy	175	150	15%
16	Exam Room	122	120	2%
17	Treatment Room	235	200	16%
16	Exam Room	122	120	2%
18	Bulk Storage	235	250	-6%
18	Bulk Storage	235	250	-6%
19	Morgue	336	300	11%
20	Isolation Room	127	130	-2%
20	Isolation Room	127	130	-2%
21	Food Preparation	128	100	25%
22	Private Impatient Room	69	60	14%
22	Private Impatient Room	69	60	14%
22	Private Impatient Room	86	60	36%
22	Private Impatient Shower	86	60	36%
23	Clean Utility Storage	84	100	-17%
24	Clean Linen Storage	84	75	11%
25	Soiled Linen Storage	84	150	-56%
26	Physical Therapy	451	160	95%

Figure 304—Medical Program Analysis

Personal Services Spatial Documentation

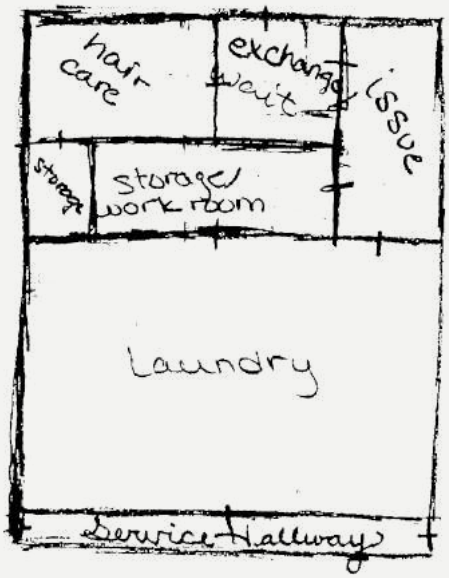


Figure 305—Personal Services Sketch

The personal services section is alongside the medical section and food service for their connections to the service hallway.

Figure 306—Personal Services

	PERSONAL CARE	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Central Hair Shop	418	400	4%
2	Clothing Exchange Lobby	418	120	111%
3	Clothing Exchange	661	800	-19%
4	Workroom	479	750	-44%
5	Laundry Room	1958	1000	65%

Figure 307—Personal Services Program Analysis

Food Service Spatial Documentation

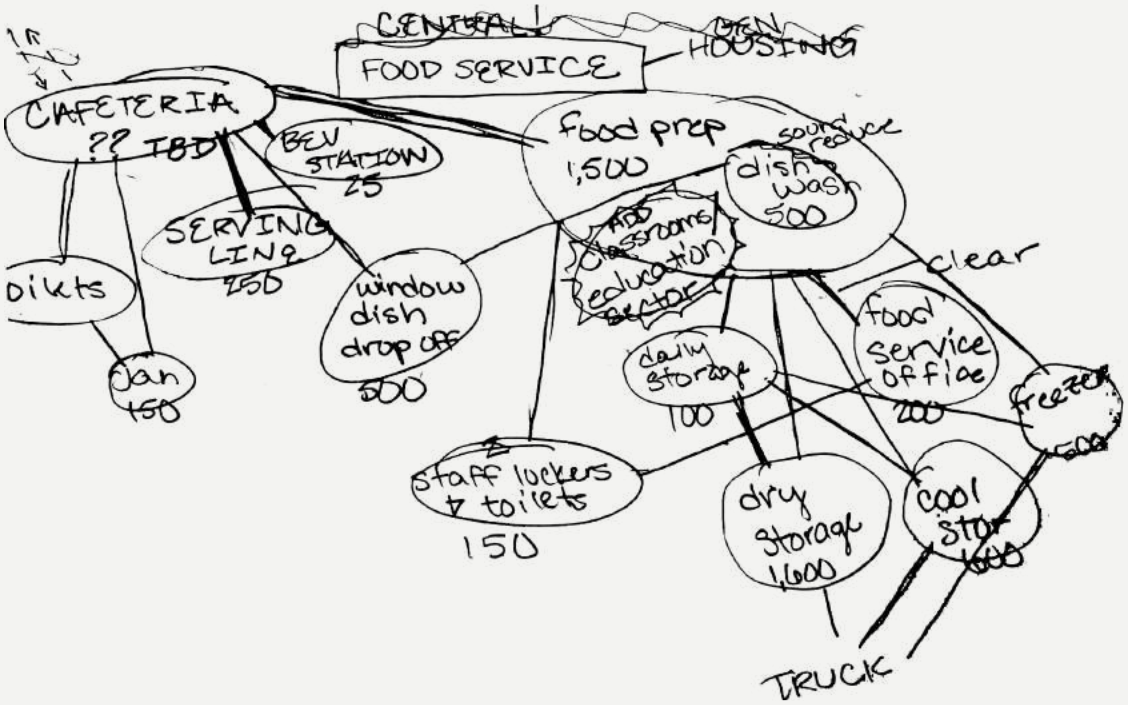


Figure 308—Food Service Bubble Diagram

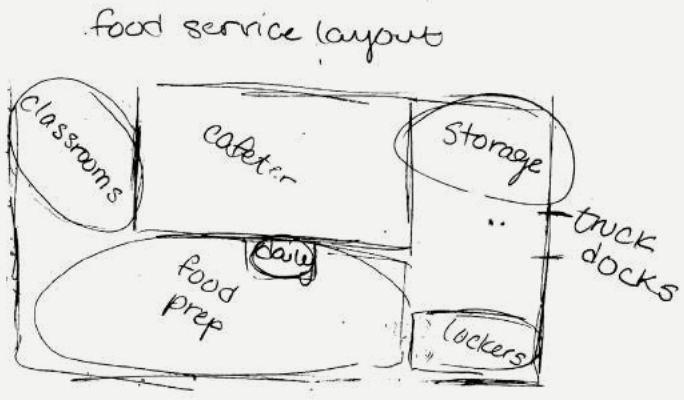


Figure 309—Food Service Layout Diagram

These first layouts were when I was getting into the mindset of the food service section. There are many parts that require an assortment of connections.

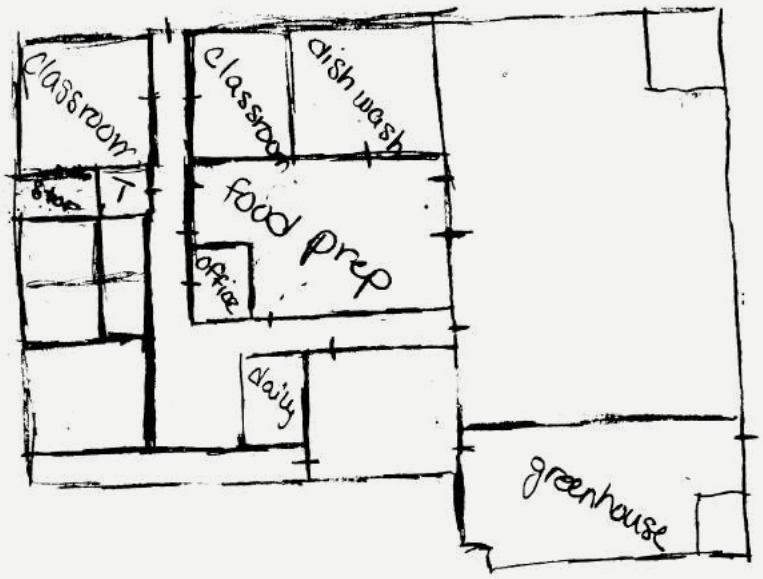


Figure 310—Food Service Layout Exploration

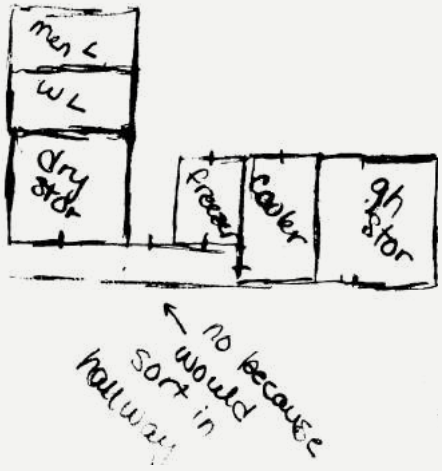


Figure 311—Food Service Food Storage Sketches

Noise levels determined the placement of the cafeteria. The cafeteria was put underneath general housing rather than the food preparation because the cafeteria is much louder and should not be under the auditorium.

Then, came connecting the service hallway to the appropriate storage rooms. I imagined myself driving the forklift into the rooms and what loading and unloading would be like in here. This resulted in a couple iterations.

I put the greenhouse in the food service portion of the prison so the grown food will have a short transport to the dry storage. It also worked in this space because of the southern sun access. The daylight will go directly into the greenhouse for the plants to grow. The outdoor garden will be beyond these exterior walls next to the field. As with the greenhouse, these grown goods will have a direct connection to the food storage. The dry storage is purposely placed along the exterior for this process.

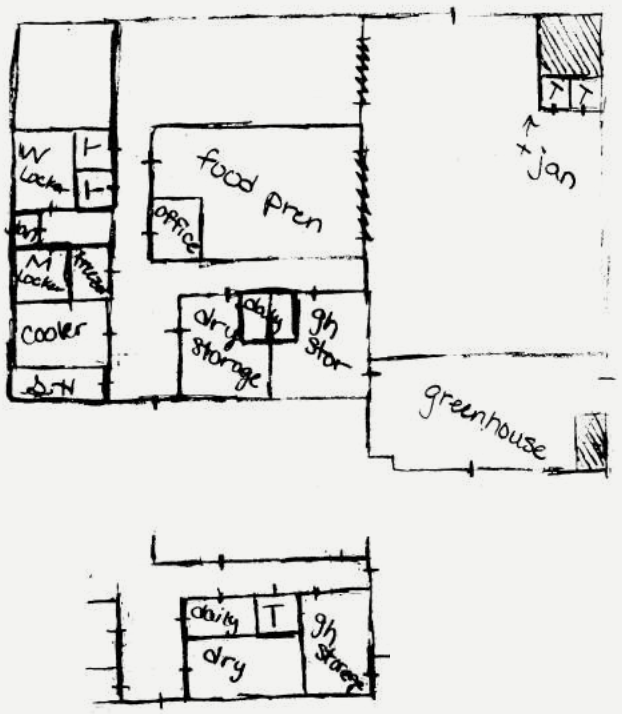


Figure 312—Food Service Circulation Sketches

The rest of the floor plan is based off of the bubble diagram. I added classrooms into the food service sector for staff and inmate use. It may be needed to teach a class about food safety or how to cook.

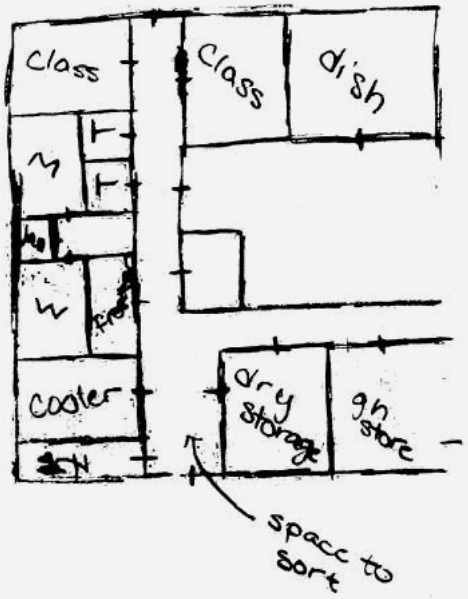


Figure 313—Food Service Service Hallway Connection Sketch

Figure 314—Food Service

Figure 315—Food Service and Greenhouse

Figure 316—Food Service Program Analysis

	FOOD SERVICE	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Classroom	304	350	-14%
1	Classroom	578	350	49%
2	Staff Locker Room	266	150	56%
3	Staff Locker Room	266	150	56%
4	Food Service Office	83	200	-83%
5	Freezer Storage	358	500	-33%
6	Cool Storage	357	600	-51%
7	Dish Washing Area	586	500	16%
8	Food Preparation	1099	1500	-31%
9	Daily Supply Storage	125	100	22%
10	Dry Food Storage	642	1600	-85%
11	Cafeteria	4198	4000	5%

	GREEN HOUSE	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Green House	1155	1000	12%

Figure 316—Food Service Program Analysis

Visitation Spatial Documentation

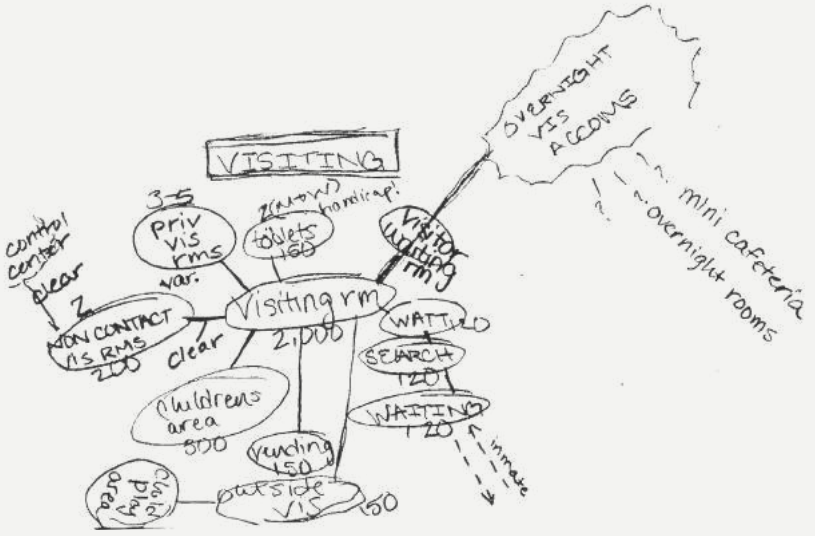


Figure 317—Visitor Bubble Diagram

The visitor area of the building has often lacked in design elements. This space needs to warm and friendly to calm visitors and children when visiting their loved ones. From the precedent research, overnight accommodations were added into the design. If visitors have to travel to visit the prison, hotels in the area may not have vacancies or may be expensive so by providing overnight accommodations will reduce the visitors stress of the trip. This will bring in more visitors which will enhance the moral of the prisoners. The visitor screening/ search is an important aspect of this process. It is not connected directly to the visiting room for if something were to happen such as a bomb. The effects would not compromise prisoner security measures.

The visitor waiting room is often sterile. The poor environment does not soothe the nerves of families and children that are usually waiting a couple hours to visit their loved ones. This room will fit the privacy needs of families in a comfortable atmosphere. A variety of textures and materials can be used in this room because the security needs are not high. The design intent of this room needs to reflect that of the visitors home lives. Having a modern design would be different from the home and therefor add unnecessary stress to the visit.

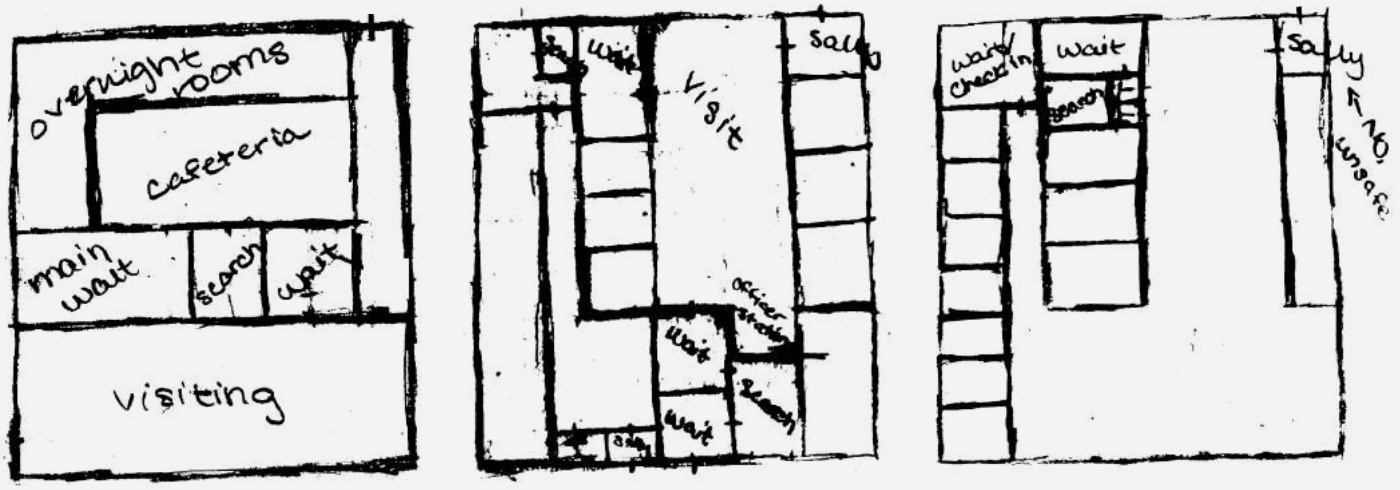


Figure 318—Visitor Room Initial Sketches

The visitor room needs to meet the needs of children. These visits often have the most impacts on younger children. So, this room must not be sterile and uninviting rather it should be flexible and comfortable. This room does need more security than the waiting room because inmates are also using this room. Guards will be watching while these interactions occur, but the room must accommodate security needs on its own.

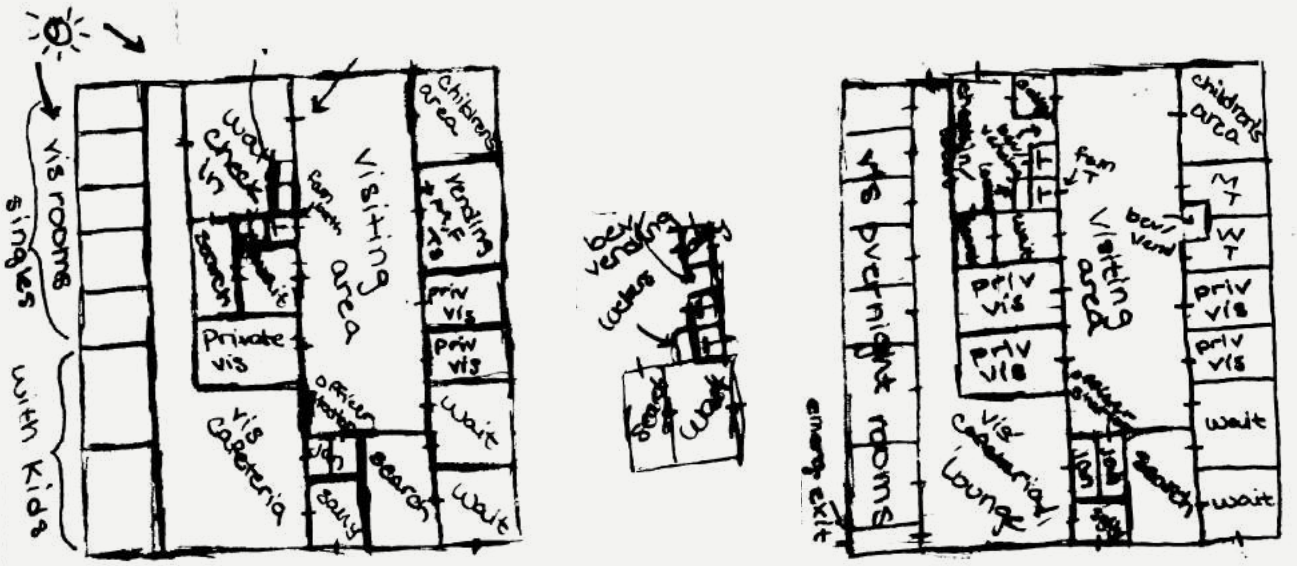


Figure 319—Visitor Waiting Room Sketches

The safety of the staff, inmates and visitors is crucial to the visitor section. It is important they each have their required sally ports and search areas. The visitors need a separate entrance and exit into the visiting area so that they do not have hassle on their way out without passing through the search room again.

For the traveling visitors, there are a few overnight rooms for their use. These connect to a visitor cafeteria/ lounge. All the rooms have windows to the outdoors which face west.

Figure 320—Visitation

	VISITING AREA	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Overnight Visitor Room	264	200	28%
2	Waiting Room	264	120	75%
3	Search Room	264	120	75%
4	Waiting Room	140	120	15%
5	Private Visiting Room	264	120	75%
6	Visitor Cafeteria	800	800	0%
7	Private Visiting Courtyard	823	800	3%
8	Waiting Room	264	120	75%
9	Search Room	264	120	75%
8	Waiting Room	140	120	15%
10	Children's Area	152	300	-65%
11	Visiting Room	2021	2000	1%
12	Women's Restroom	204	200	2%
13	Men's Restroom	204	200	2%

Figure 321—Visitation Program Analysis

The visitor center had careful design consideration. It is important that the space is not sterile and uncomfortable and also important that this space did not resemble home life and comfort. The design had to be a blend of comfortable and uncomfortable. Thus, to take the visitor center away from the sterile environment, the walls and the ceiling took upon an enriched design. These areas are not often touched and are harder to reach, allowing for greater design freedom, allowing the design to be playful in these areas. The carpeting designates paths of where to walk while replicating the triangle pattern seen on the ceiling. The furniture is kept simple and open to maintain a secure environment.

Figure 322—Visitor Center Interior Progress Renderings

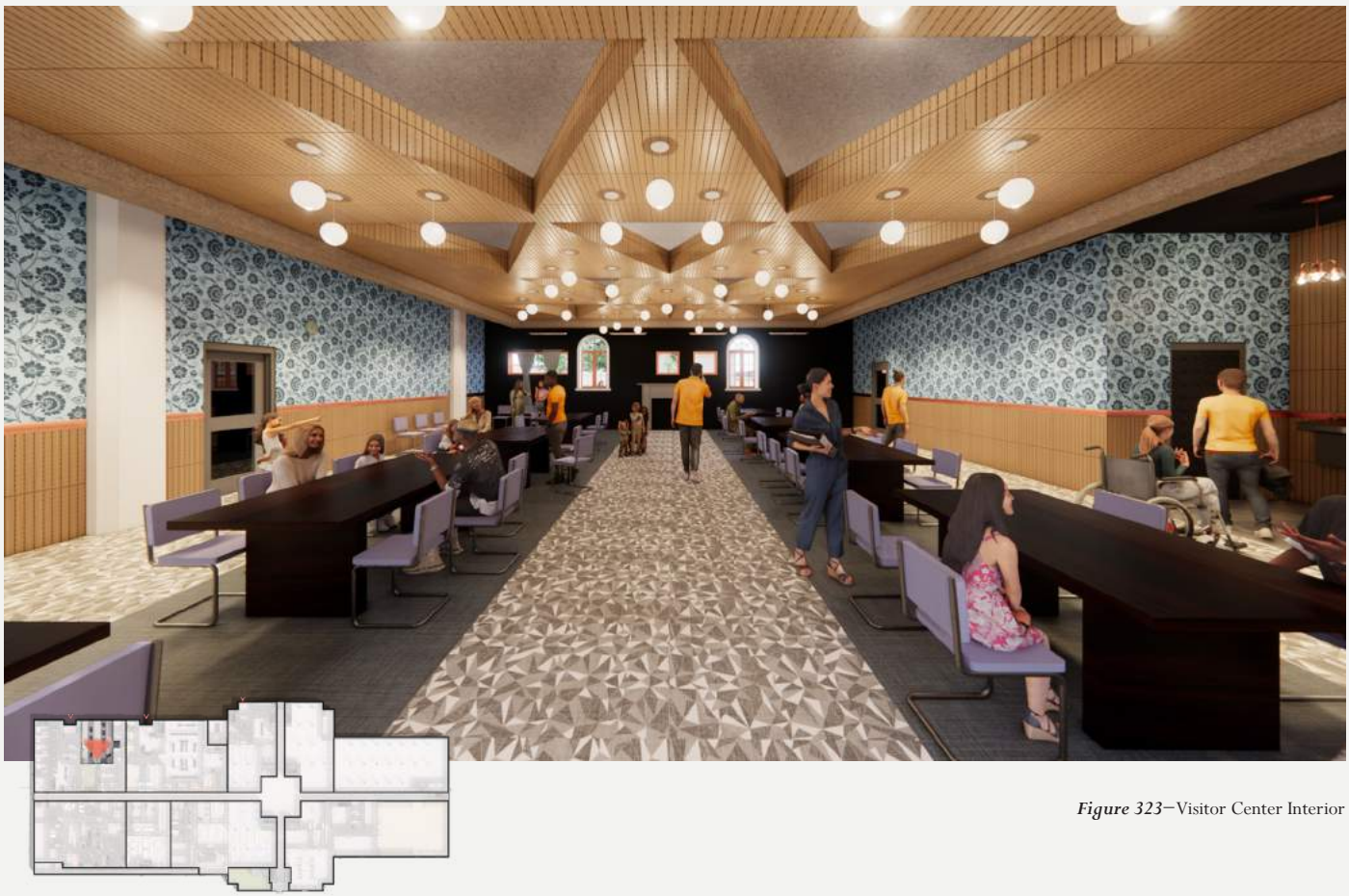


Figure 323—Visitor Center Interior

Education Spatial Documentation

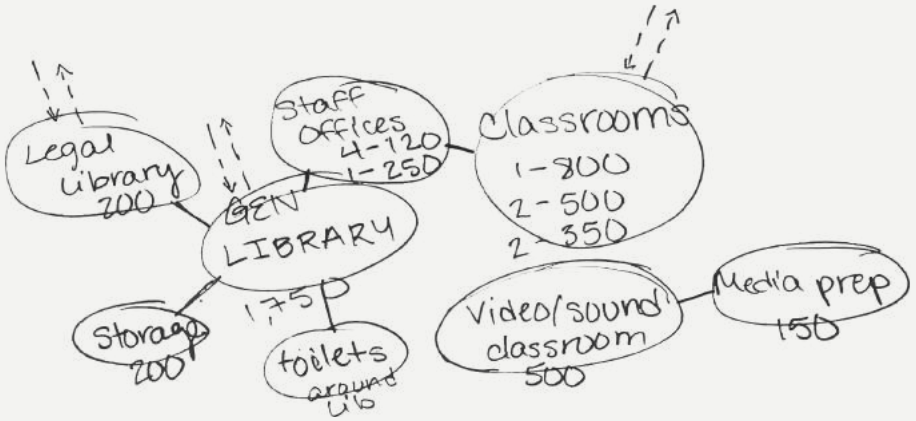


Figure 324—Education Bubble Diagram

The education section is composed of rooms that are available at different times of the day. The legal library is open during the night whereas the general library is not. This placed the general library further from the entrance to the education sector so inmates do not have to walk past other closed rooms. This also allowed for the general library to be put toward the edges of education which will let in more daylight to a space that requires daylighting for the tasks performed.

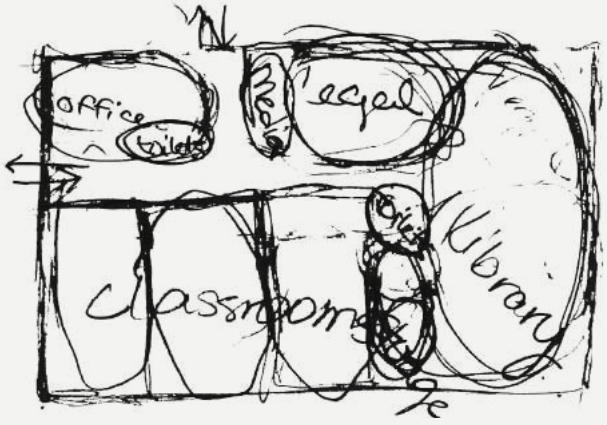


Figure 325—Education Layout Planning

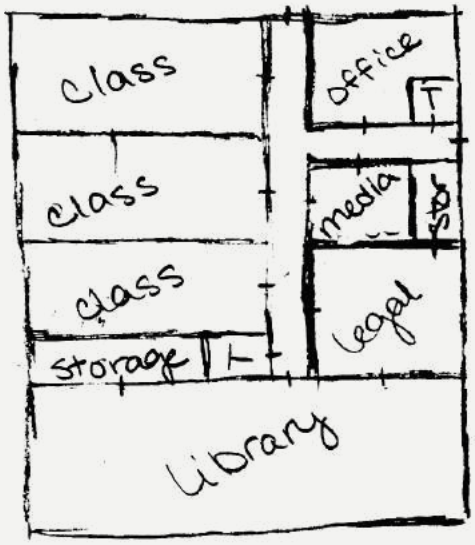


Figure 326—Education Layout Exploration

The library initially determined the layout of the education section of the prison. I wanted it to have south facing windows. To me, natural light is necessary for a library. Once it's placement was set, the classrooms took the wall with the west windows, so that the learning was occurring in a room with daylight.

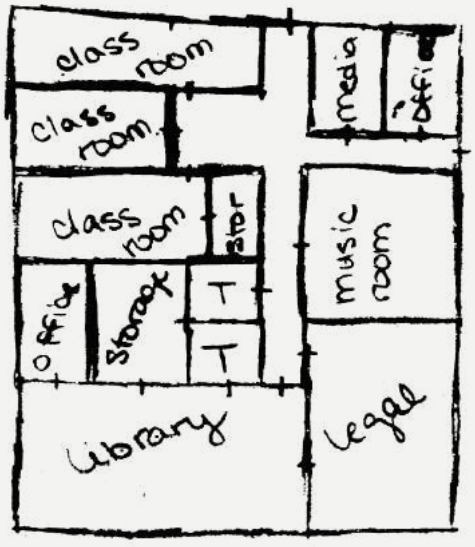


Figure 327—Education Sketch

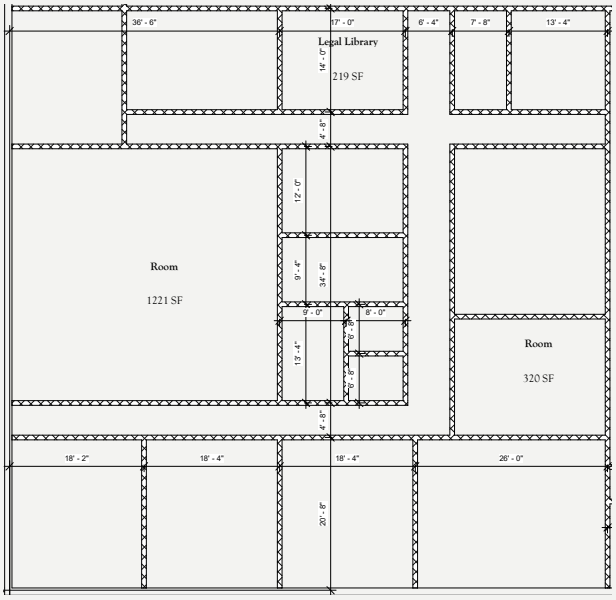


Figure 328—Education Modified Circulation Screenshot

For circulation needs, the library moved to the west wall and classrooms are lined along the south wall. Now, classrooms can be used throughout the day with natural light rather than just in the evening. The circulation is similar to the loop in the medical section. Just, in the education to complete the loop one must go through the library. This layout greater encourages use of the library.

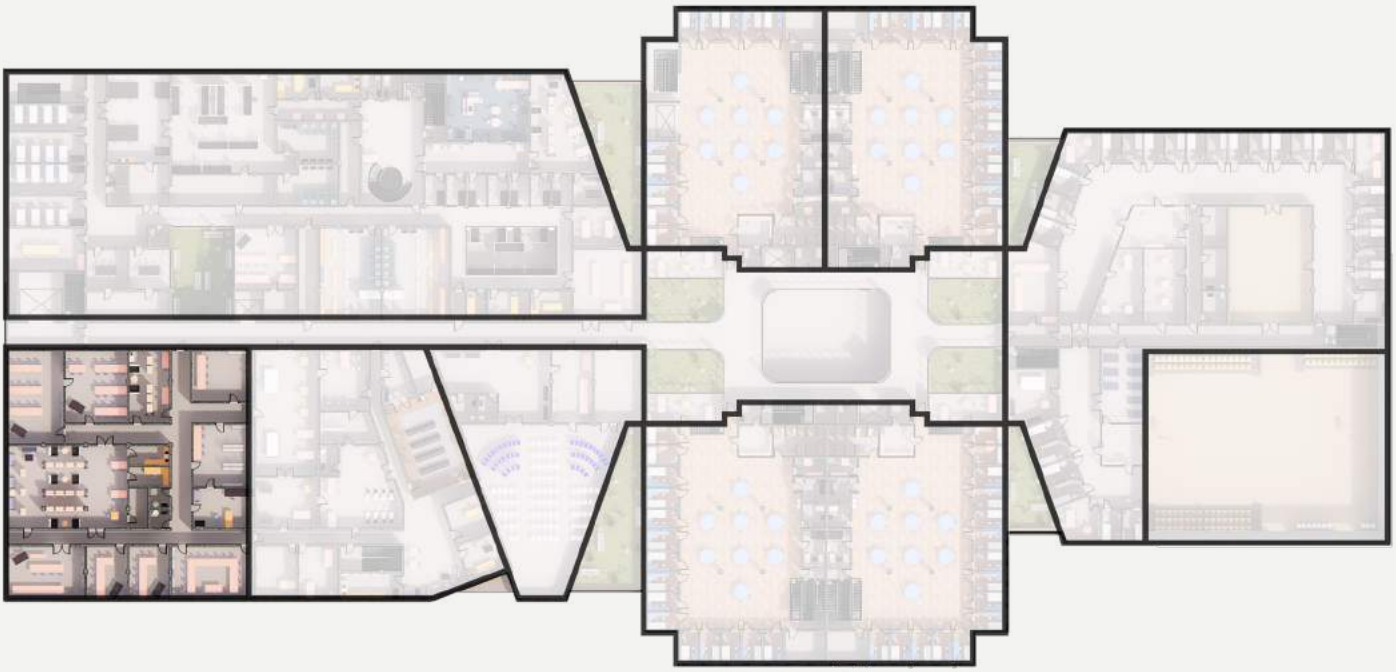


Figure 329—Education

	EDUCATION	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Classroom	747	800	-7%
1	Classroom	638	500	24%
1	Classroom	622	500	22%
1	Classroom	578	350	49%
1	Classroom	304	350	-14%
2	General Library	1410	1750	-22%
3	Legal Library	474	200	81%
4	Video Recording Classroom	539	500	8%
5	Media Preparation	372	150	85%
6	Staff Office	355	250	35%
6	Staff Office	113	120	-6%
6	Staff Office	113	120	-6%

Figure 330—Education Program Analysis

Recreation Spatial Documentation

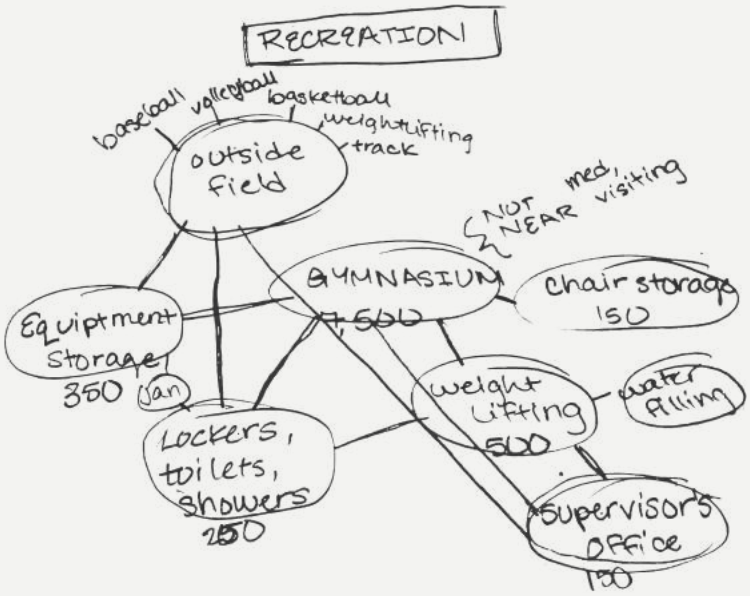
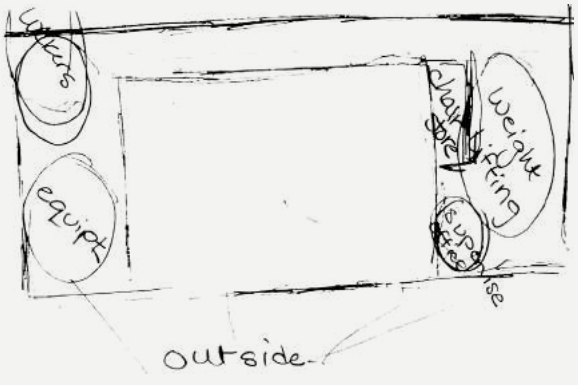


Figure 331—Recreation Bubble Diagram

Recreation is composed a variety of spaces that connect to an outdoor field. The gymnasium and weight room dominated the recreation layout because these two spaces require access to the outdoor field.



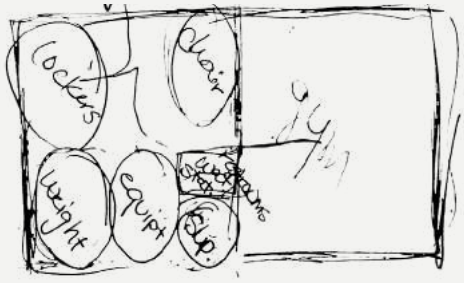


Figure 332—Recreation Layout Planning

The gymnasium shifted around during the initial sketching period. It ultimately ended along the two exterior walls so that it could have additional daylight. This also helped with the second level segregated housing layout, so the two gymnasiums could be stacked and keep the loud noise in one area. The gymnasium ceiling height was difficult to achieve because it is taller than the rest of the ground level. This caused the gymnasium to be built a few feet into the ground. Stairs and a ramp were added in to accommodate the transition.

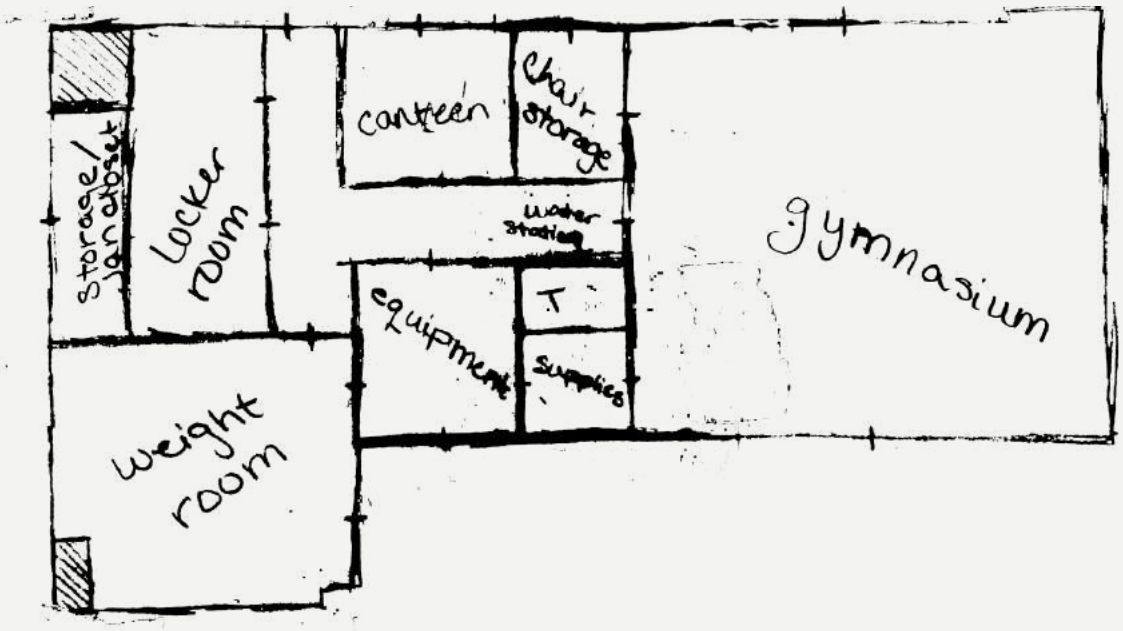


Figure 333—Recreation Sketch

The canteen is in the recreation section. Placed here, it is adjacent to both recreation and the vocational training area. Prisoners are able to purchase snacks during their workouts or jobs in the shop. It is only accessible from the major hallway and not directly from recreation to keep it cleaner.

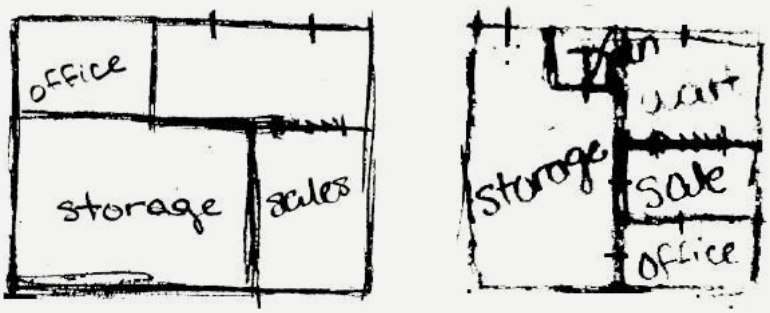


Figure 334—Canteen Progression Sketches

Figure 335—Recreation

	RECREATION	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Locker Room	1095	250	126%
2	Supervisor's Office	343	150	78%
3	Weight Lifting	2717	500	138%
4	Equipment Storage	1298	350	115%
5	Chair Storage	554	150	115%
6	Gymnasium	6061	7500	-21%

	CANTEEN	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Storage Room	675	800	-17%
2	Waiting Line	187	200	-7%
3	Sales Area	174	150	15%
4	Canteen Office	174	150	15%

Figure 336—Recreation and Canteen Program Analysis

Religious Services & Multi Use Spatial Documentation

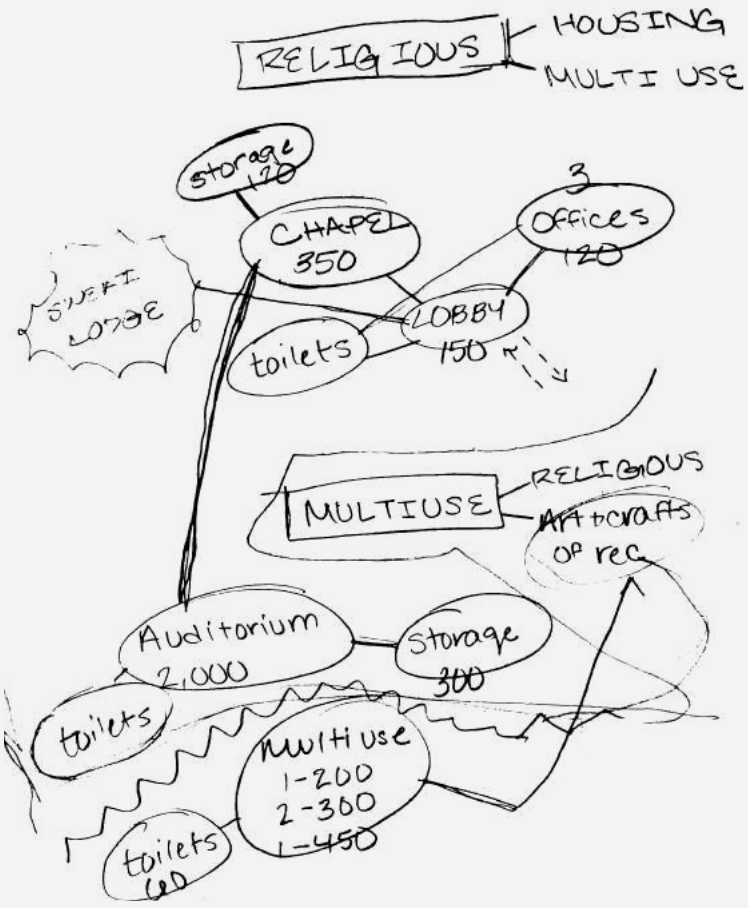


Figure 337—Religious Bubble Diagram

Combining the religious services spaces and the multi use areas has many benefits. The chapel is able to combine with the auditorium when additional space is needed and the arts and crafts rooms go along well with the recreational multi use rooms.

Religious services is important to the culture and site of the prison. Focusing on an designing an area for multi denominational use is needed in the institution. An additional area specific to Navajo culture will also be provided. The chapel is one of the spaces in the prison that allows for a larger design flexibility.

This space does not require views outside of the building. With this, the space allows for a roof pond. The space is one that will be used throughout the day and often various hours of the night so heat is essential. An indirect gain system can achieve the heating needs of the area. Using water in the design of this room is ideal. With the calming qualities of water, it can be integrated into the chapel to create a serene environment. Combining the two ideas leads to the use of a roof pond over the space.

These sketches are the initial ideas of the chapel with the roof pond above it. The entrance and exit into this space are particularity important to me. I wanted it to be more than a destination. The chapel could be a clarifying journey for the user. They would enter the space and then a water ceiling would be revealed to them and the exit the room the occupant will have to shift their direction while then becoming aware of the rest of the room.

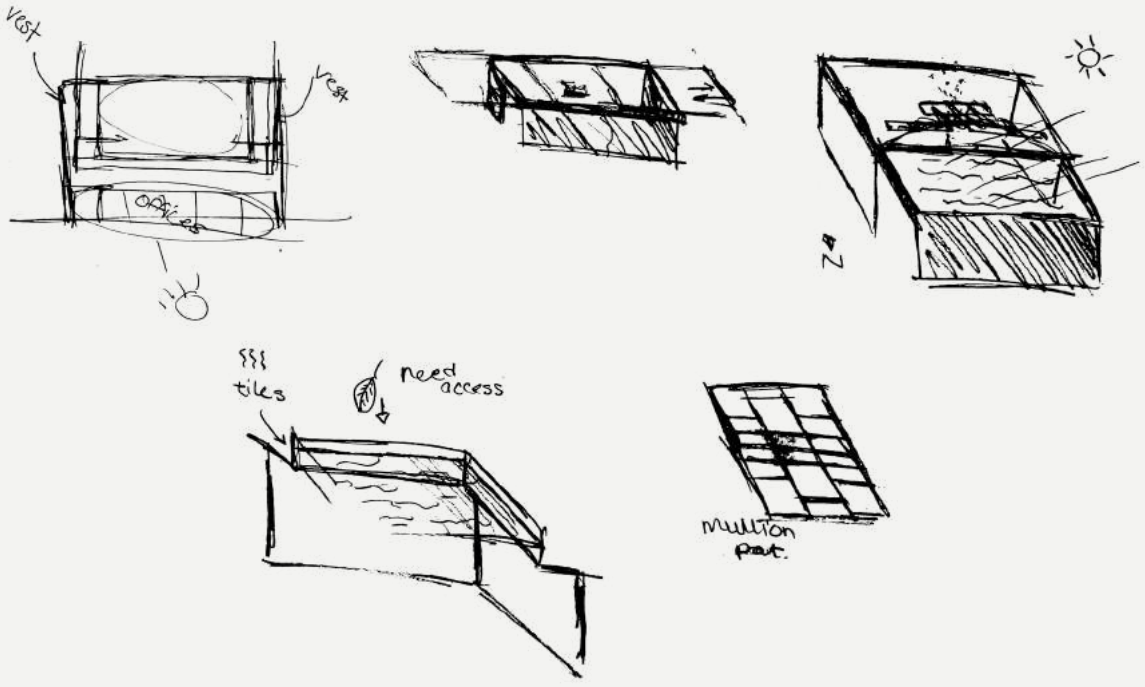


Figure 338—Religious Roof Pond Exploration

One of the limitations to the roof pond design is the maintenance access. Roof access will be required in this area.

I wanted to incorporate my tiles into the roof pond design of the structure. The tiles could be damaged if enough force is applied. Such as something being thrown or being shoved into them. Then, the tiles should be less accessible to the prisoners in the space. Rather than attaching the tiles to the walls, rising the roof pond of the chapel a couple feet will create a lip around the perimeter of it. This space presents a good opportunity for the tiles because they are well above head height so they cannot be reached. Here they will be safely viewed and can reflect water reflections off of their glossy surfaces. The tiles bring in the opportunity to add additional materials to their design. Having narrow sheets of metal on each side of the running strip of tiles will be an additional tie to the design element. I want the metal to have texture similar to rain/ water on the exterior of a window where the water droplets slide down the panes.

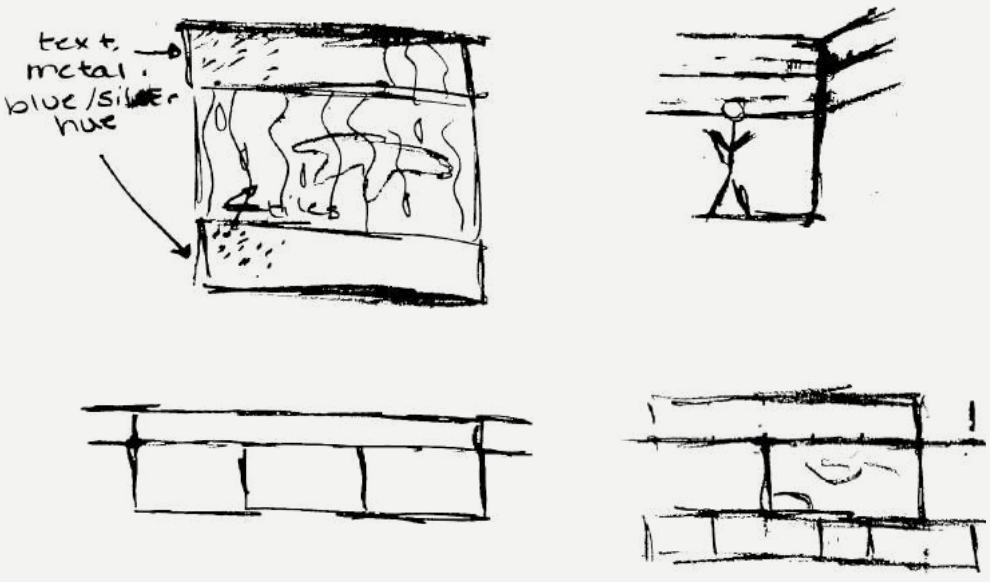


Figure 339—Religious Roof Pond Tile Design Element

The surface of the roof pond will require mullions because the New Mexico code does not allow continuous glazing to exceed 108 SQ. FT. The mullion pattern loosely reflects Navajo culture.

When it came to arranging the layout of the religious and multi use spaces I knew that I wanted them to be along an exterior east side wall. Users of the space would be able to watch the sunrise from the chapel and recreation rooms. The auditorium is generally used in the evening should not have daylight in it for the shows and performances so having it on the east takes away light from the setting sun to the west. From there the only spaces that require daylight from windows are the recreation rooms so they are on the south side of the area. The offices made many moves early on in the design. The auditorium and chapel had to meet so that the wall between could be open up and the rooms combine.

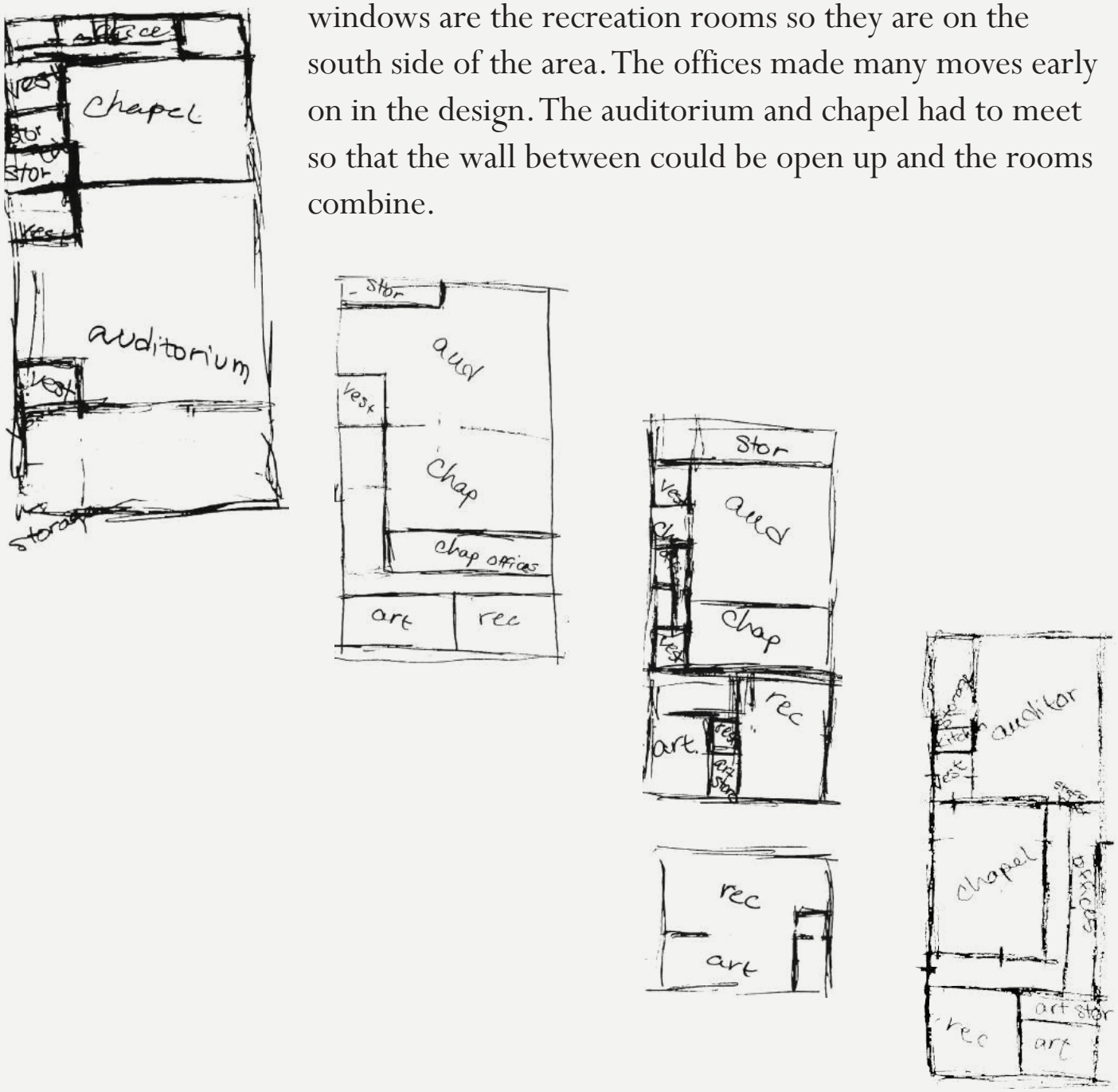


Figure 340—Religious & Multi Use Layout Planning Sketches

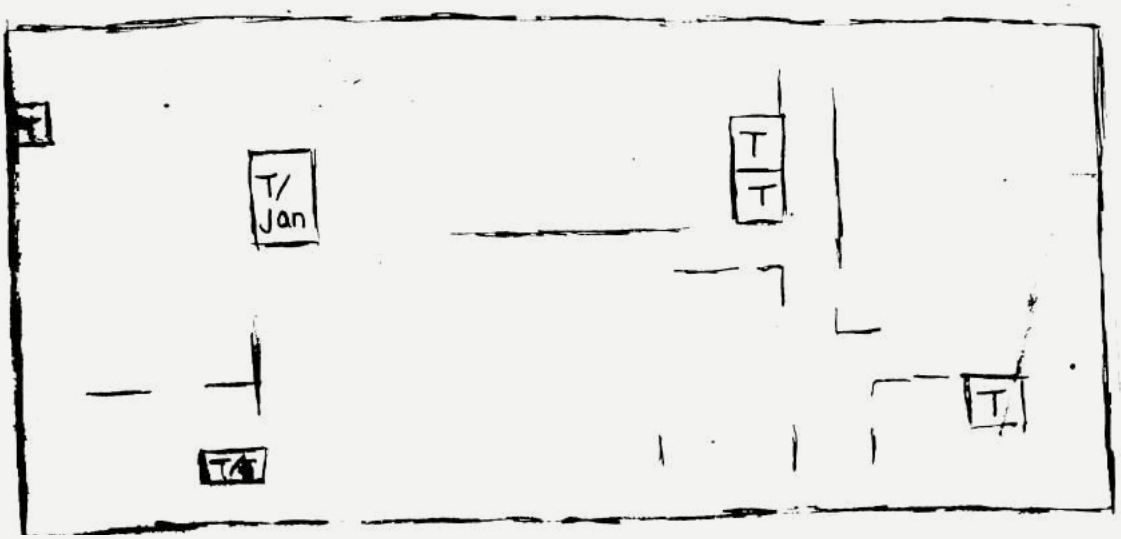


Figure 341—Religious Services & Multi Use Overlapping Ground Level Toilets Sketch

When sketching out the second level spaces I first traced out the toilet rooms and major walls from the previous floor.

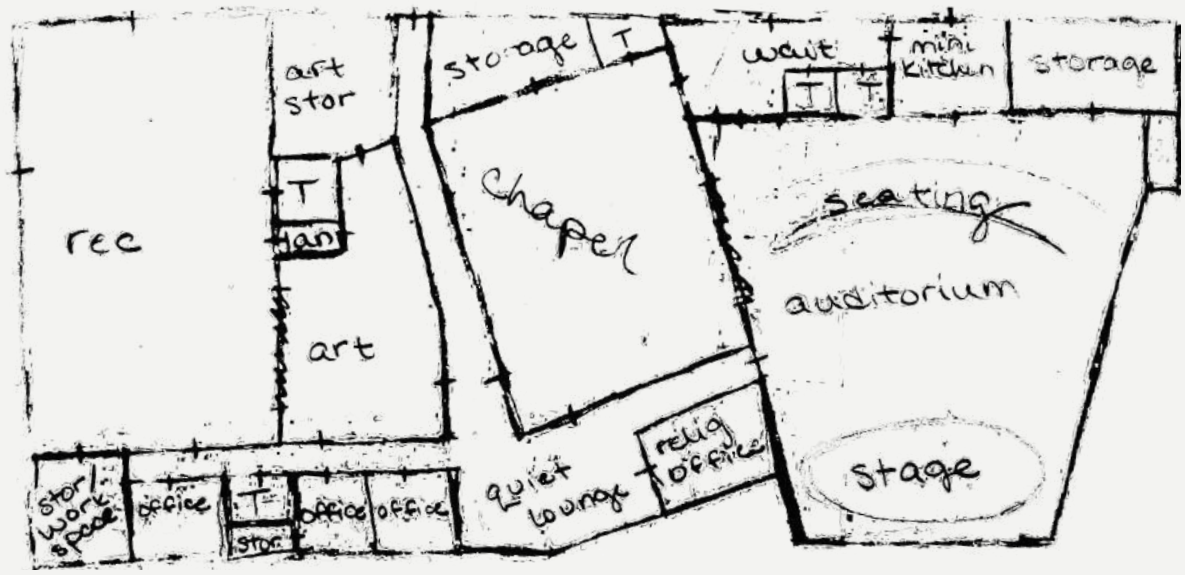


Figure 342—Religious Services, Multi Use & Auditorium Sketch

It was important that the offices did not reduce the views of the other spaces by creating pockets. They also had to have views to the outdoors for the staff working in them which moved them along the east wall. The chapel turned to allow for a separate entry and exit. I ended up putting a small kitchen off of the auditorium for events that may have catering needs.

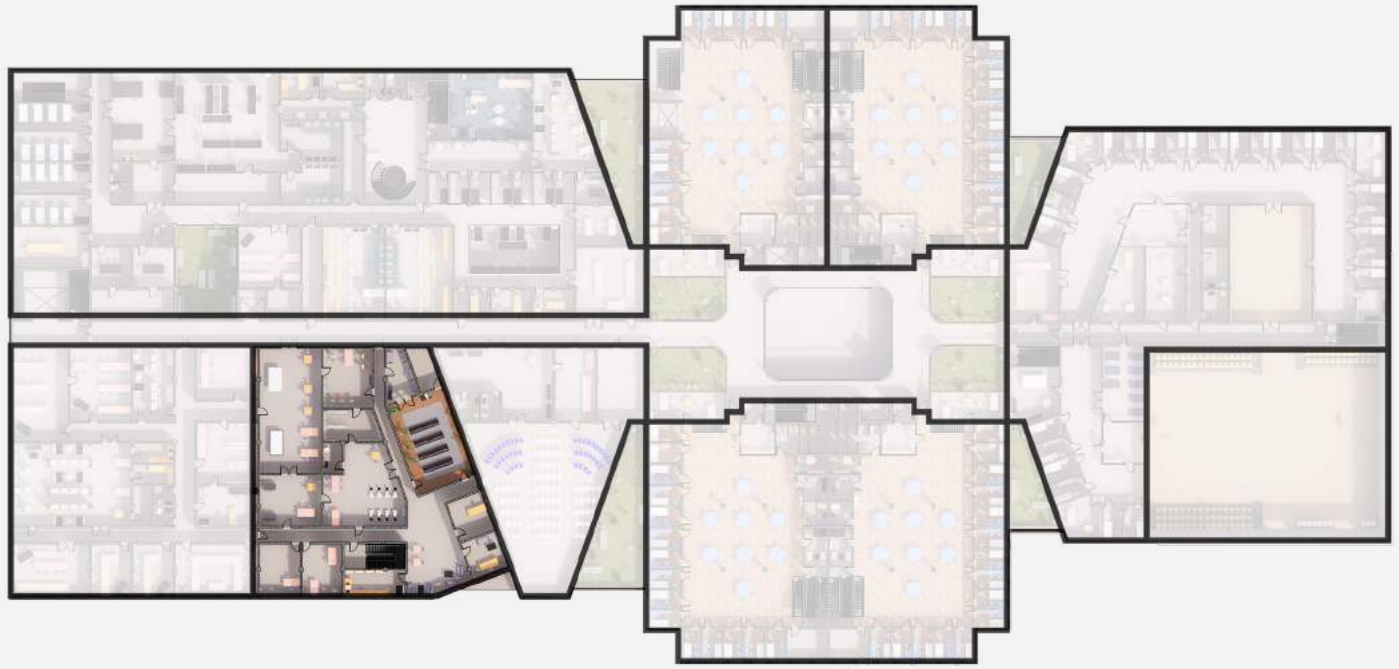


Figure 343—Religious Services & Multi Use Space

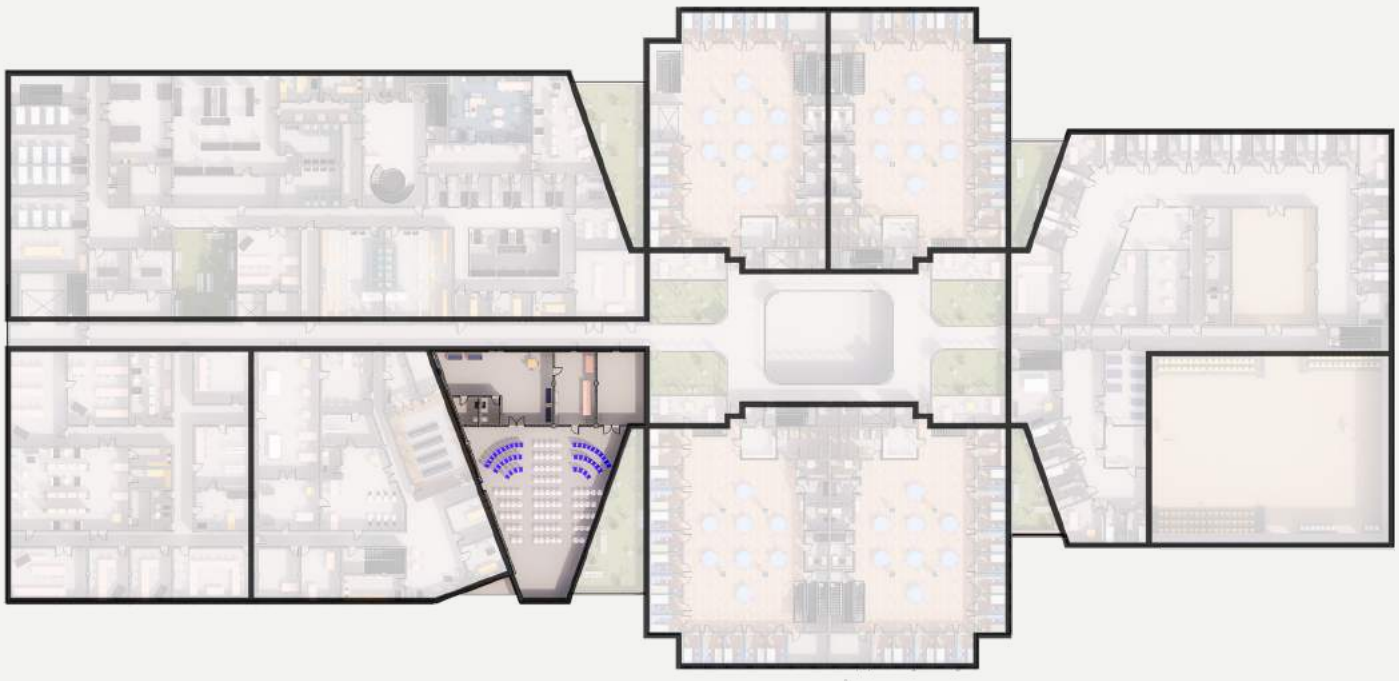
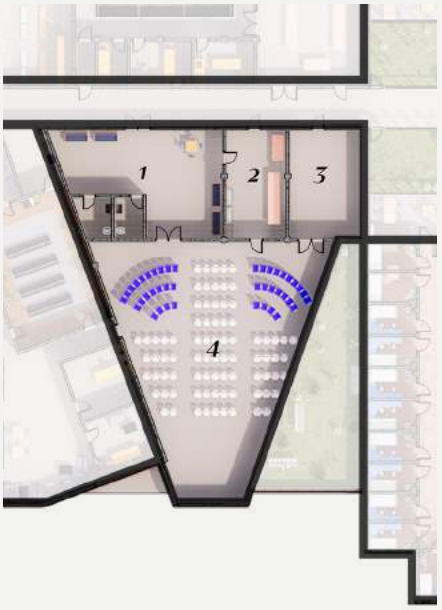


Figure 344—Auditorium

	MULTI USE	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Recreation Room	1556	1800	-15%
1	Recreation Room	451	450	0%
2	Multi Use Room	304	450	-39%
2	Multi Use Room	304	300	1%
3	Arts & Crafts Room	1227	1200	2%
4	Secure Storage	253	150	51%
3	Arts & Crafts Room	426	400	8%
5	Chapel Lobby	194	150	26%
6	Chapel	879	350	86%
7	Staff Office	243	120	68%
7	Staff Office	243	120	68%
7	Staff Office	230	120	63%
8	Quiet Lounge	569	550	3%

Figure 345—Religious Services & Multi Use Space Program Analysis



	AUDITORIUM	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Waiting Room	889	900	-2%
2	Kitchen	419	400	4%
3	Storage	525	300	55%
4	Auditorium	2618	2000	27%

Figure 346—Auditorium Program Analysis

Figure 347—Chapel Section

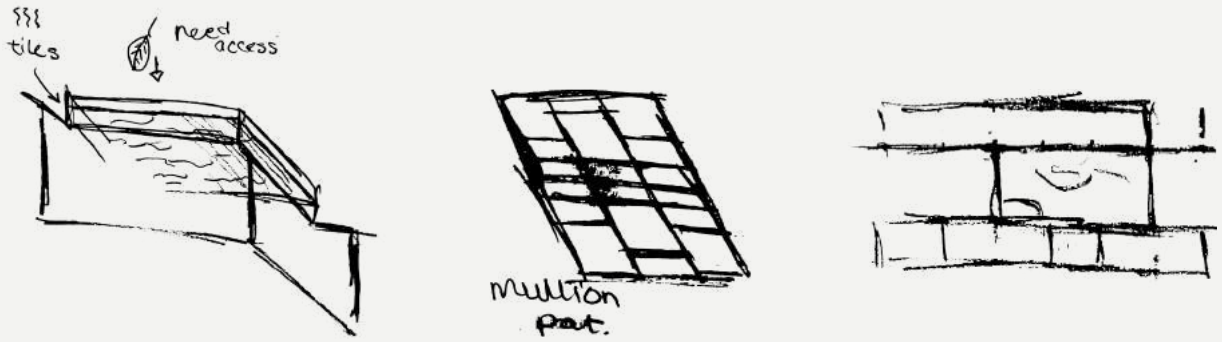


Figure 348—Chapel Sketches

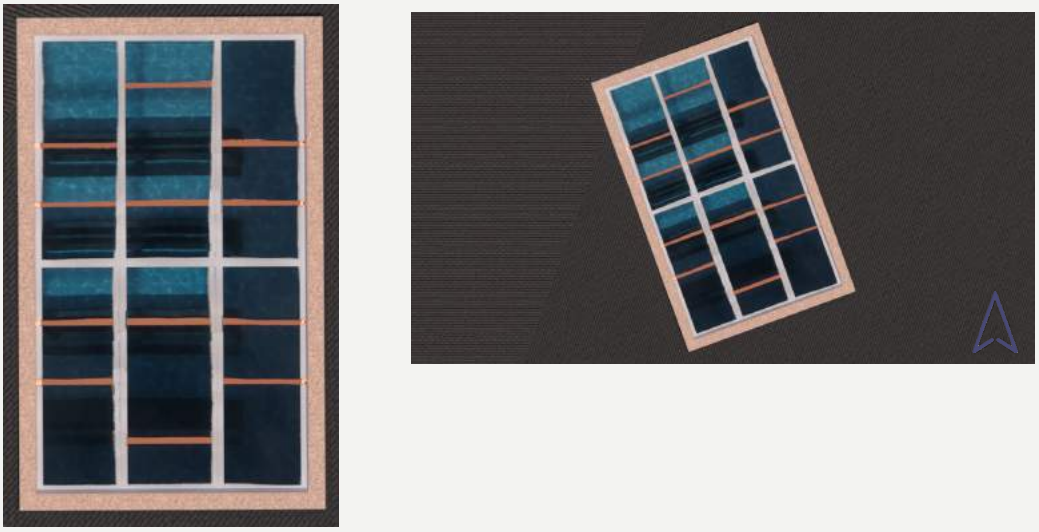


Figure 349—Chapel Mullion Pattern

Figure 350—Fiesta Tile

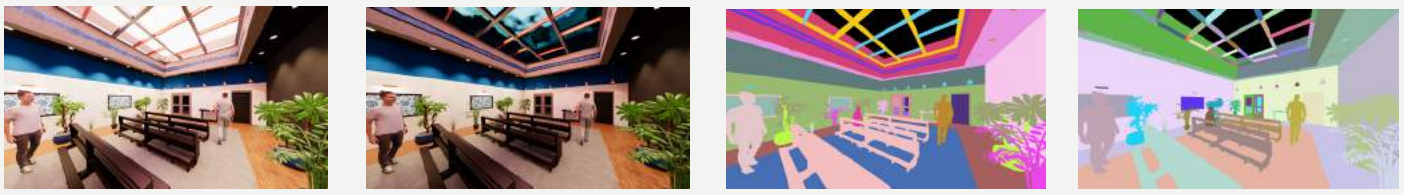


Figure 351—Chapel Interior Progress Renderings

Figure 352—Chapel Interior

The chapel was the first element of this prison to be designed. The sketches of this interior space came before I had any idea of what the rest of the prison would look like. The chapel is used as a private place of worship for prisoner and staff use. It features a roof pond that allows natural light into the space while it obstructs distractions in the sky. It returns the focus in the space to the happenings of the chapel. The floor, then, reflects the outline set in the ceiling to separate walking paths from the pews. It is a small and intimate space intended to bring peace and restoration.

Staff Services Spatial Documentation

The staff services break up into groups of business offices, executive offices and staff resources.

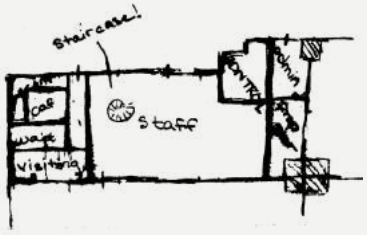


Figure 354—Staff Services Initial Sketch

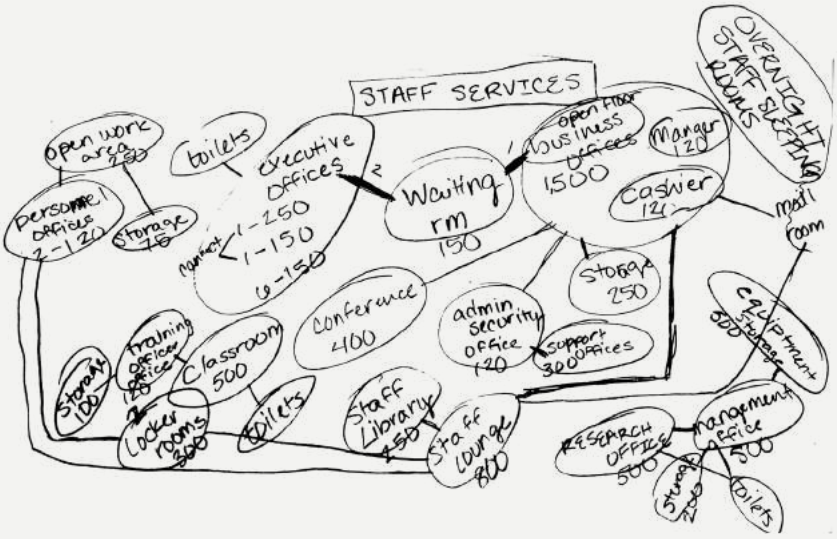


Figure 353—Staff Services Bubble Diagram

Since this project has an emphasis on staff well being, care is taken into the order of which staff walk through. As such, the staff lounge and staff library on the 2nd level are the first rooms the staff walk by. These rooms are to in service to the well being of staff members.

The offices are kept on the main level for access reasons. These staff are on the administrative side and the space is adjacent to the control center and prisoner administration. The second level staff include those in research and staff that have an involvement with the prisoners. They can reach the prisoner pods faster since their space is adjacent.

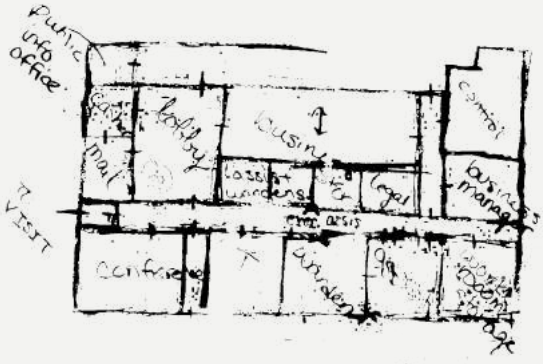


Figure 355—Staff Services Level 1 Sketch

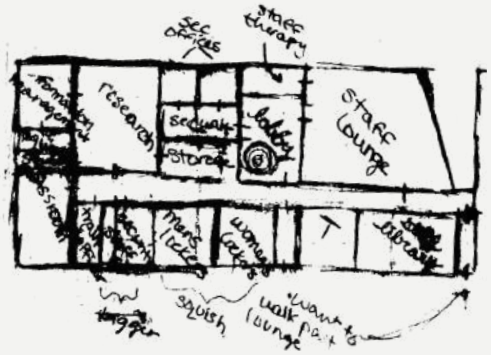


Figure 356—Staff Services Level 2 Initial Sketch

In the New Mexico code, for prisons, an open stair is only permitted in a staff area. I decided to implement an open stair into the staff lobby. Since, the staff section is split into two sections, an open stair would elegantly connect the transition between levels.

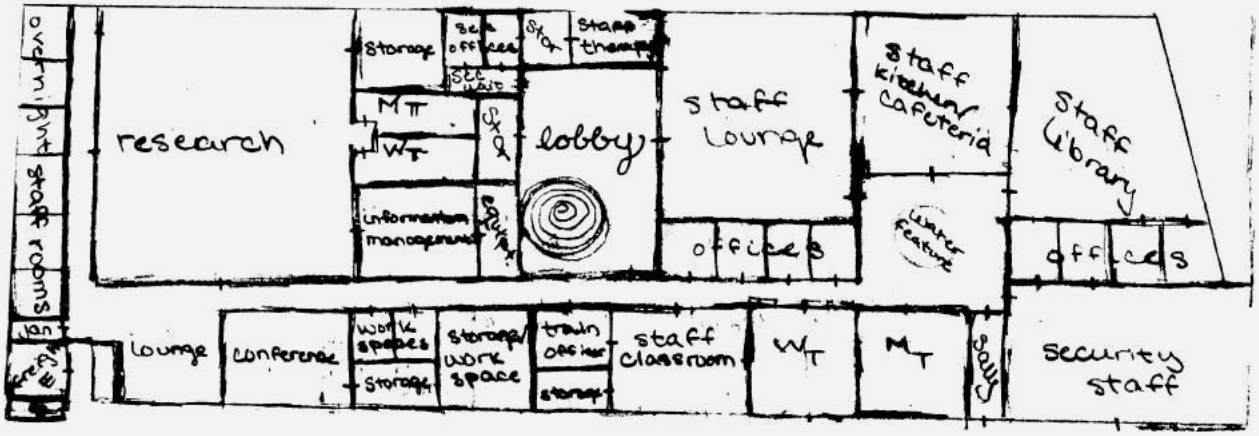


Figure 357—Staff Services Level 2 Sketch

A few overnight rooms are provided for the staff that overlap the visitor rooms from the below level. These staff overnight rooms will have bunk-beds for when a few hours of sleep are needed during and between shifts.

Figure 358—Staff Services Level 1

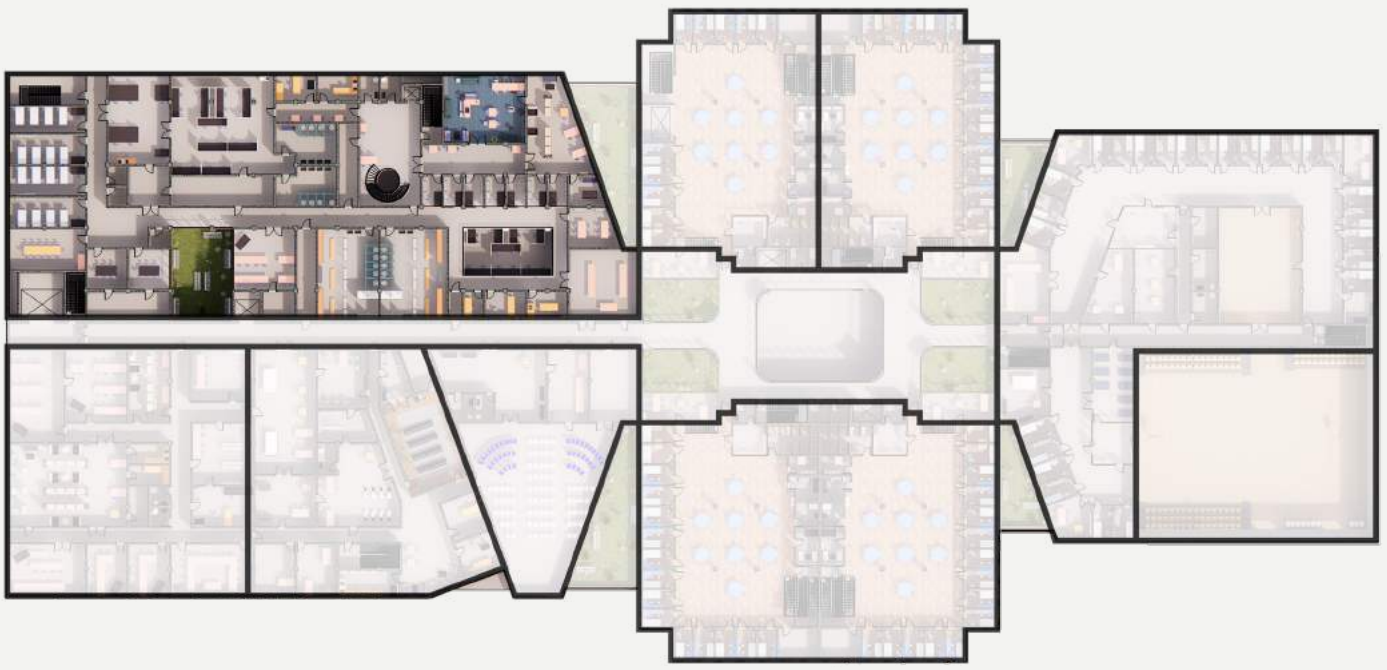
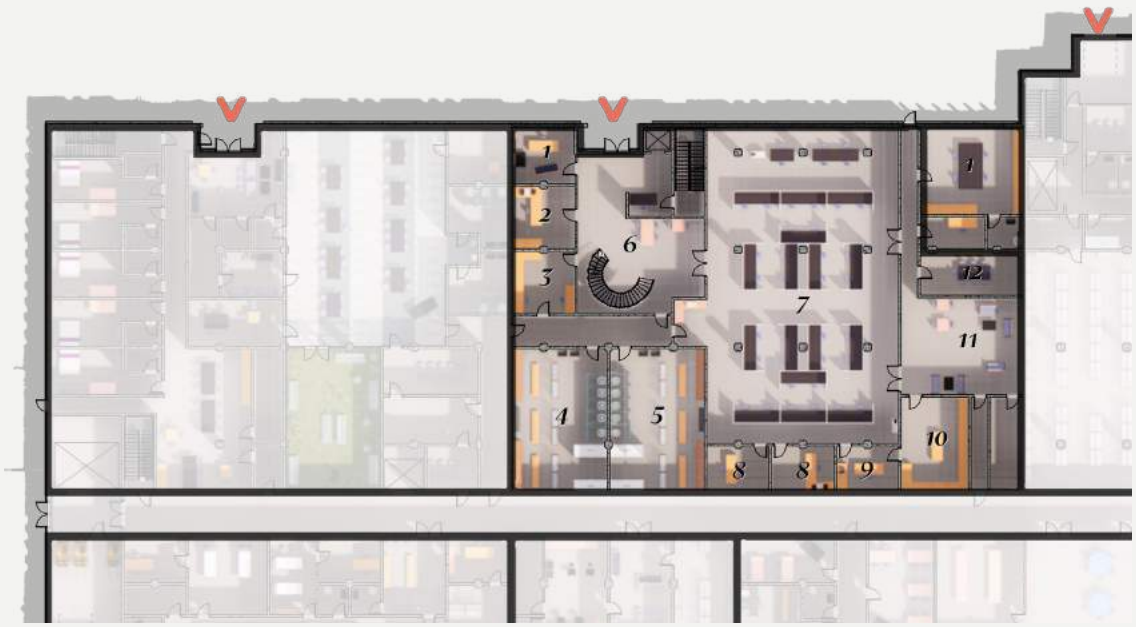


Figure 359—Staff Services Level 2

	CONTROL CENTER	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Control Center	445	450	-1%



	STAFF LEVEL 1	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Public Information Office	211	200	4%
2	Cashier's Office	234	120	64%
3	Mail Room	235	300	-24%
4	Locker Room	822	300	93%
5	Locker Room	822	300	93%
6	Staff Lobby	964	1000	-8%
7	Business Staff Office Space	3569	1500	81%
8	Executive Office	173	150	14%
8	Executive Office	173	100	53%
9	Assistant Warden's Office	173	100	53%
10	Warden's Office	390	250	43%
11	Open Work Area	195	250	-24%
12	Business Office	124	120	3%

Figure 360—Staff Services Level 1 & Control Center Program Analysis

	STAFF LEVEL 2	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Overnight Staff Room	330	300	18%
1	Overnight Staff Room	330	300	18%
1	Overnight Staff Room	330	300	18%
1	Overnight Staff Room	330	300	18%
2	Conference Room	466	400	15%
2	Conference Room	233	250	-6%
2	Conference Room	233	250	-6%
3	Information Management Office	790	500	45%
4	Research Office	1547	500	102%
5	Equipment Room	447	500	-11%
6	Women's Restroom	204	200	2%
7	Men's Restroom	204	200	2%
8	Secretary Office	151	150	1%
8	Secretary Office	151	150	1%
9	Storage Room	236	200	17%
10	Staff Lobby	964	1000	-8%
11	Classroom	544	500	8%
12	Training Officer's Office	140	120	15%
13	Locker Room	822	300	93%
14	Locker Room	822	300	93%
15	Staff Lounge	810	800	1%
16	Staff Library	745	250	99%
17	Personnel Office	83	120	-36%
17	Personnel Office	195	120	40%
17	Personnel Office	174	120	36%
18	Security Staff Office	1061	300	112%

Figure 361—Staff Services Level 2 Program Analysis

Here, I wanted to bring the staff room to life. Since prisoners are not in this area, it allowed for the design to not be as focused on secure needs. A variety of furniture options are used alongside a variety of wall textures. Instead of having a water feature in the space, I implemented a water motif into the wallpaper. Then, the bright ceiling holds the entire room together.

Figure 362—Staff Lounge Interior Progress Renderings

Figure 363—Staff Lounge Interior

Progress Floor Plans

These next three pages feature my combined floor plans from my sketchbook that show the full floor plans.

Below are a few screenshots taken during my modeling process.

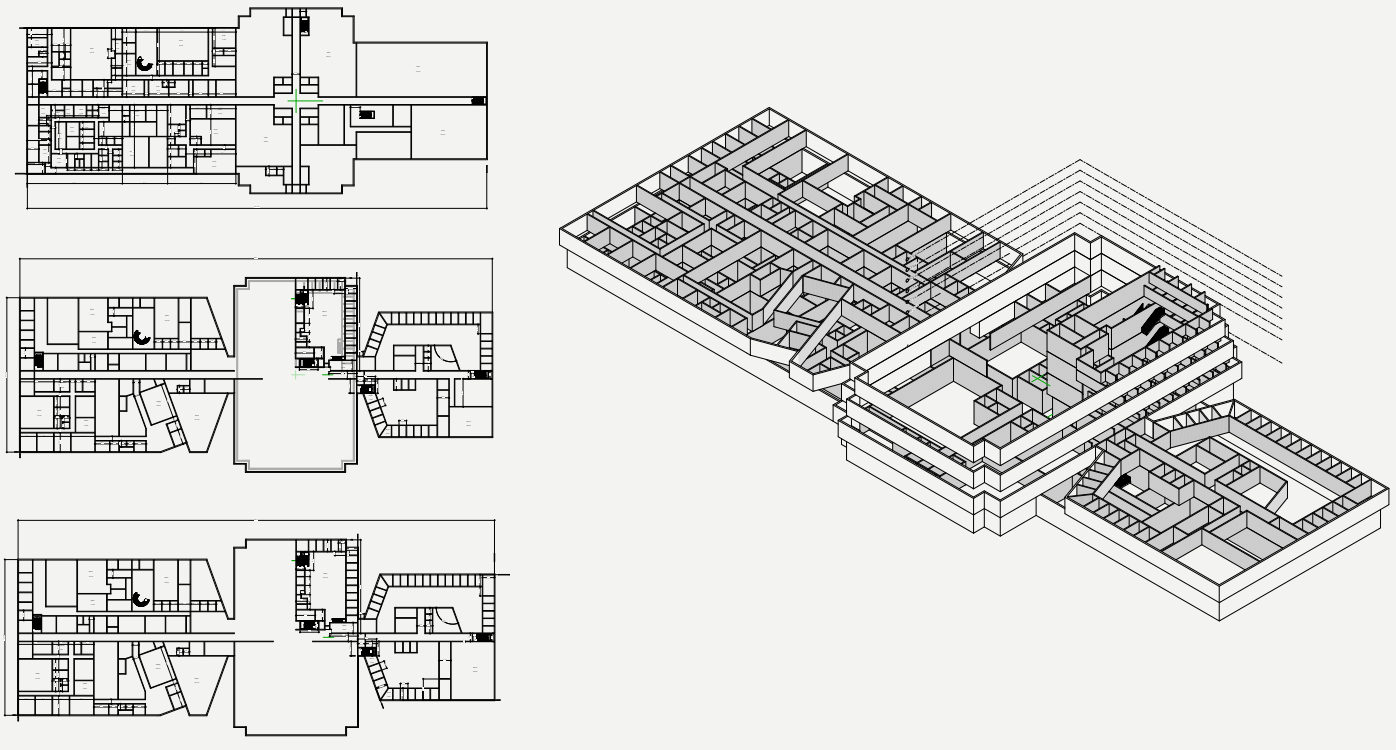
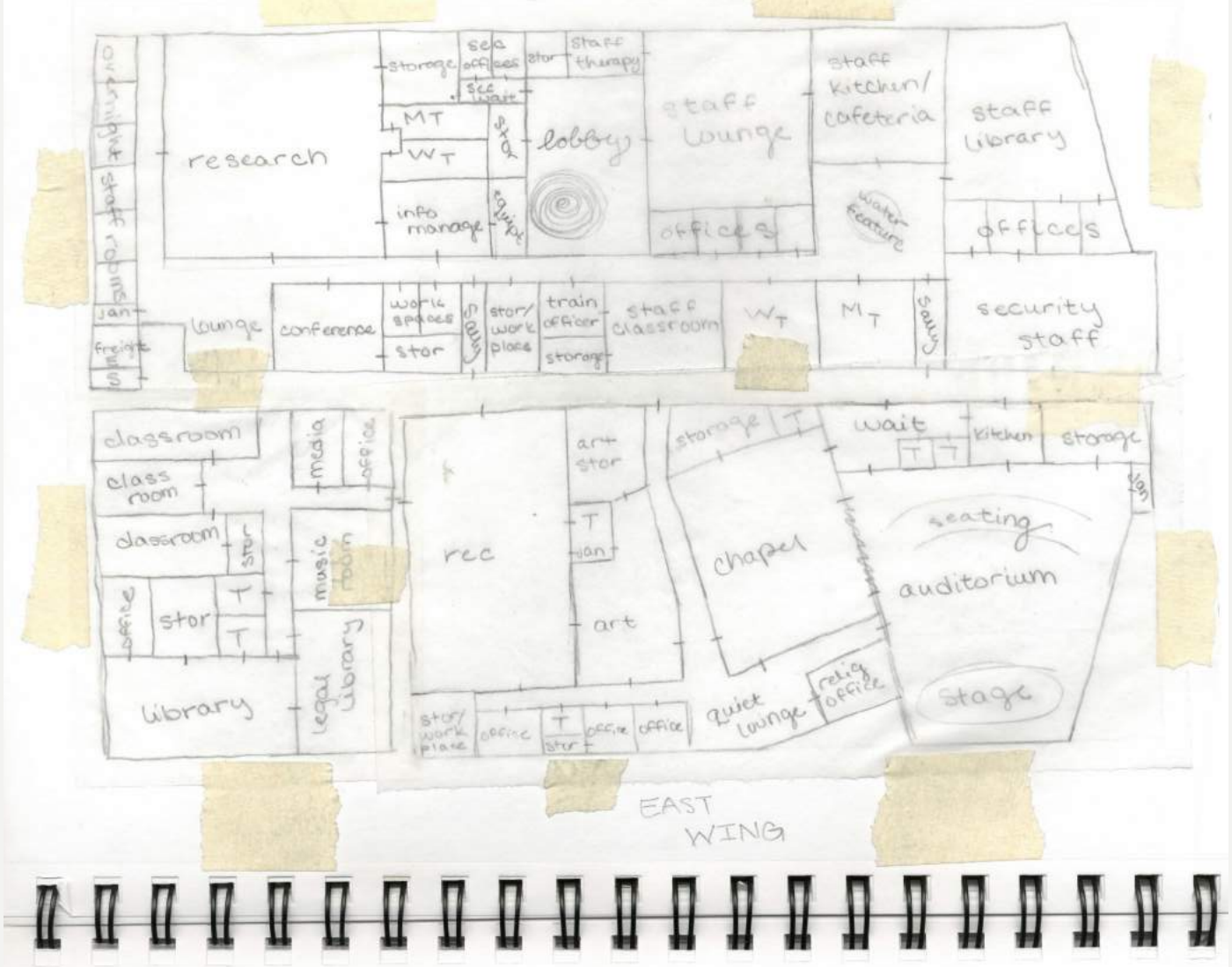
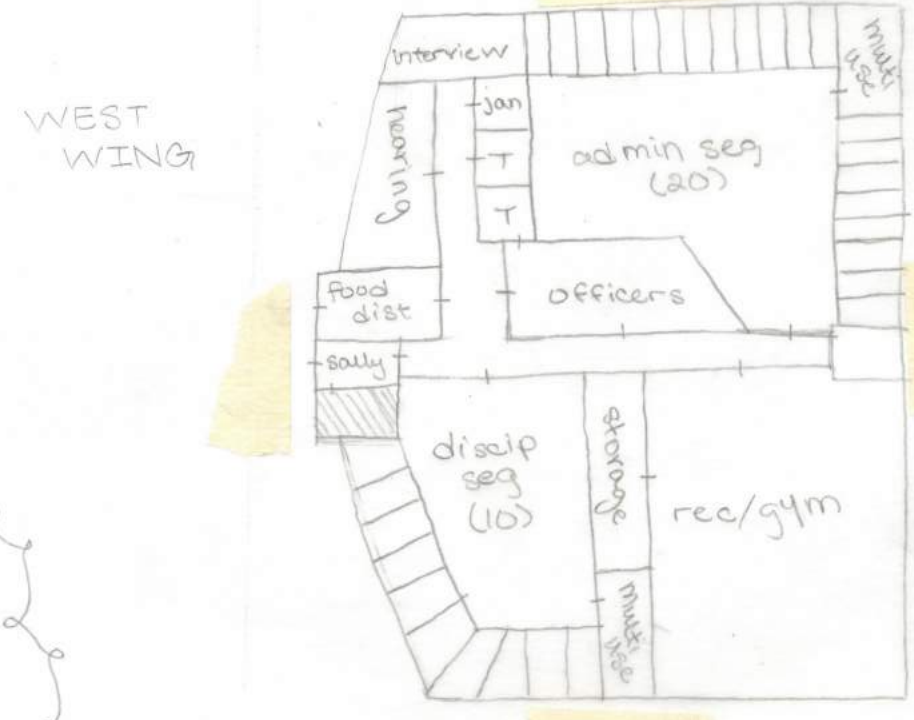


Figure 364—Progress Floor Plan Screenshots

Figure 365—Level 1 Sketchbook Plan





putting level 2 together

Figure 366—Level 2 Sketchbook Plan

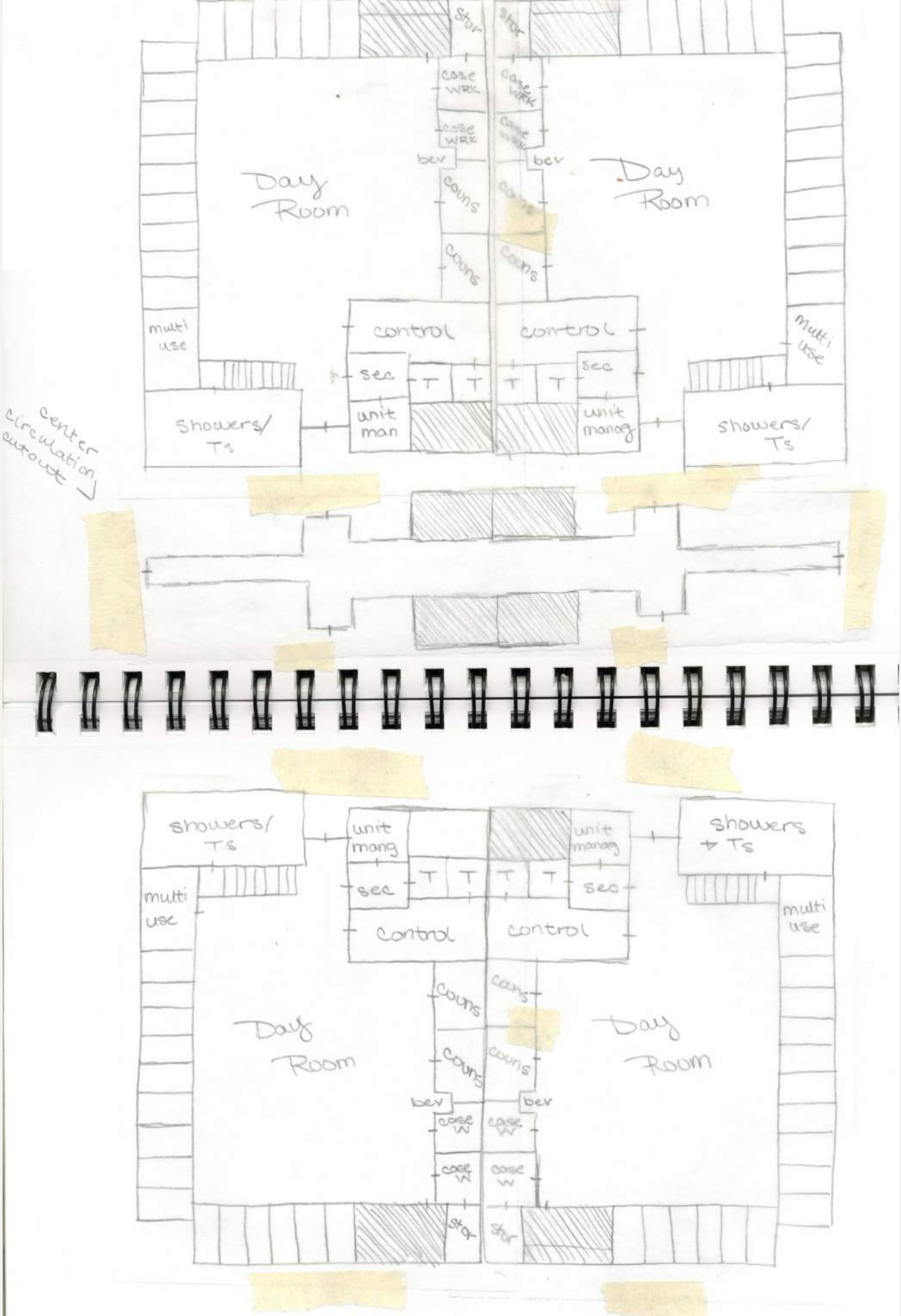


Figure 367—Level 2 General Housing Portion Sketchbook Plan

Egress Documentation

Figure 368—Egress Motto

I was startled by the amount of exits I needed in this building. While drawing my initial sketches, I made a general layout of stairwells and elevators. It was important to have access from the direct circulation on the ground level to the cell pods above.

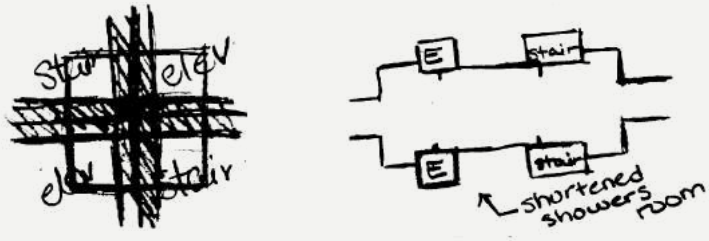


Figure 369—Egress Central Sketches

Then, came the issue of the tapering cell pods in the upper levels of the prison. When the exterior walls shift in, so do the exterior stairwells.

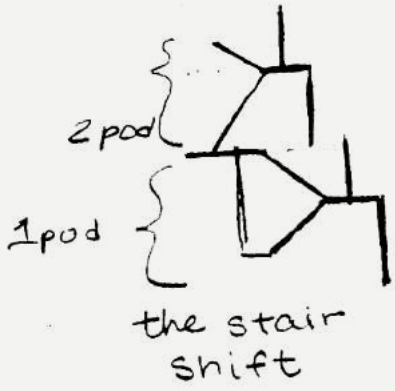


Figure 370—Egress of Shifting Stairwell Sketch

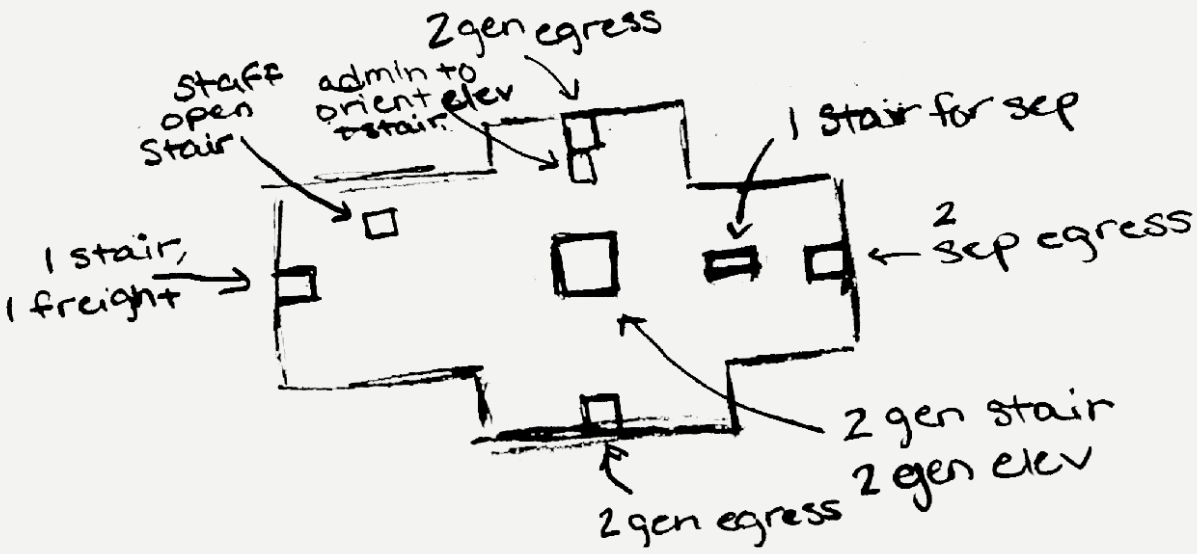


Figure 371—Egress Ground Level Sketch

My general knowledge of egress needs went into the first renditions of the prison's layout.

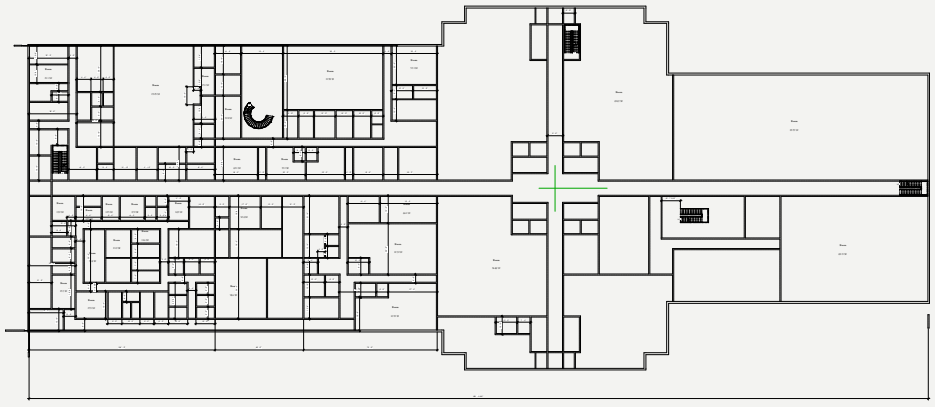


Figure 372—Egress Initial Ground Level Screenshot

Occupancy	Maximum Occupant Load of Space	Maximum Common Path of Egress Travel Distance Ft.		
		Without Sprinkler System Ft.		With Sprinkler System Ft.
		Occupant Load		
		OL ≤ 30	OL ≥30	
I-3	10	NP	NP	100

Figure 373—Table 1006.2.1: Spaces with One Exit of Exit Access Doorway Code (from Up Codes)

Once checking the code, I learned that the maximum distance of the egress path could be 100 ft. In my model, I had much more than 100 ft. from particular spots to an exit. At this point, my prison was 502 ft. across which clearly showed that there were not enough exit routes.

Parts of my floor plan had to be reworked to support addition stairwells from the upper floors along the exterior walls. There was then, the security issue of the stairwells that connect to the exit doors. So, each of the egress stairwells are first adjacent to a sally port and then to the outside.

The egress is a cross separating the building into quadrants. The linear egress allows for efficient and clear paths. Thus, the prison will be evacuated in a designated manner. In addition, officials such as firefighters and security personnel will have clear entry into the prison and further into their destination. The hallways intend for the guards and inmates to pass by without evoking one another.

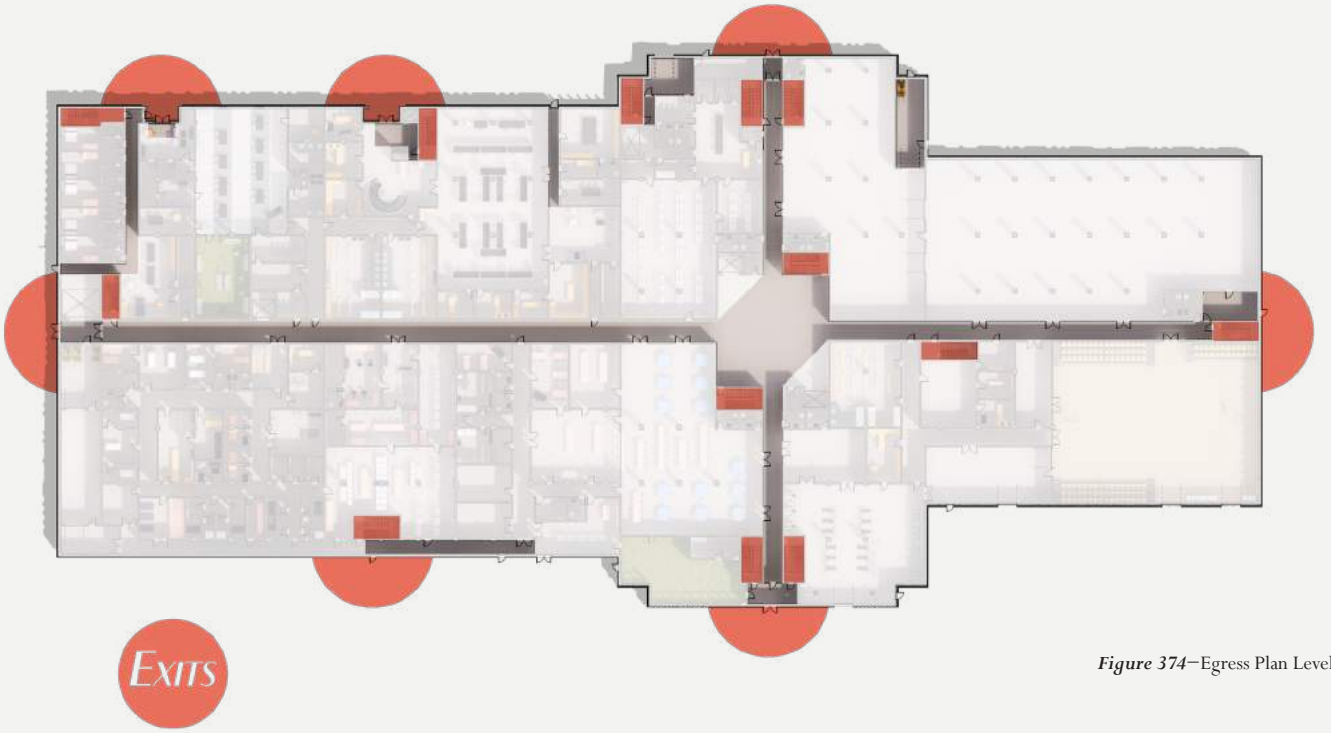


Figure 374—Egress Plan Level 1

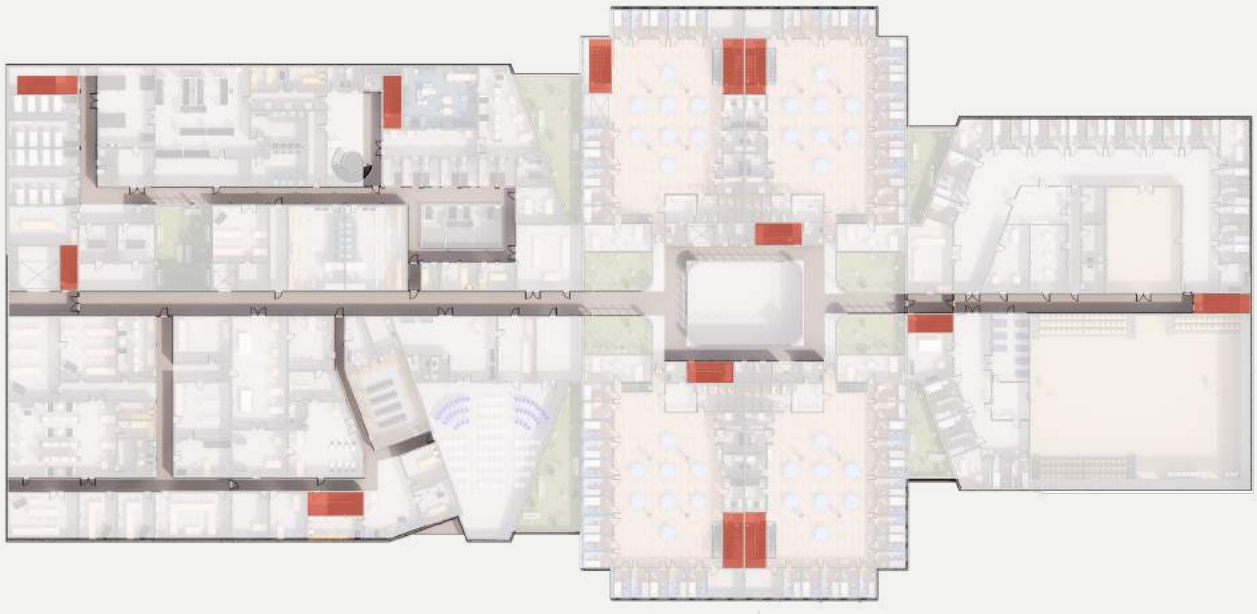


Figure 375—Egress Plan Level 2

Circulation & Daily Paths Documentation

Inmate	
4AM	
5AM	*Breakfast*
6AM	*Report to work assignment/ attend classes/ personal time*
7AM	
8AM	
9AM	
10AM	
11AM	
12AM	*Lunch*
1PM	*Report to work/ go to gym/ recreation activities*
2PM	
3PM	
4PM	
5PM	*Dinner*
6PM	*Attend classes/ call families/ watch television*
7PM	
8PM	

Guard
Wake up & get ready
Punch in
Receive assignment
Relieve the previous shift
Conduct a round
Count inmates
Let inmates out
Answer the phone
Deal with minor issues
Respond to a fight?
Eat
Lock inmates back into their cells
Count inmates
Wait for relief
Punch out
Go home

Figure 376—A Day in the Life Schedule

Making the prison habitable puts the desire to escape out of mind. When an environment that is comfortable and suitable for long-term use factors that might conjure the need to escape are eliminated. Here, inmates' time can be purposeful. With a chapel for self reflection, art studios to create hand made works and various classrooms throughout the prison for hands on skill improvement, this prison intends to fill its users time with positive activities.

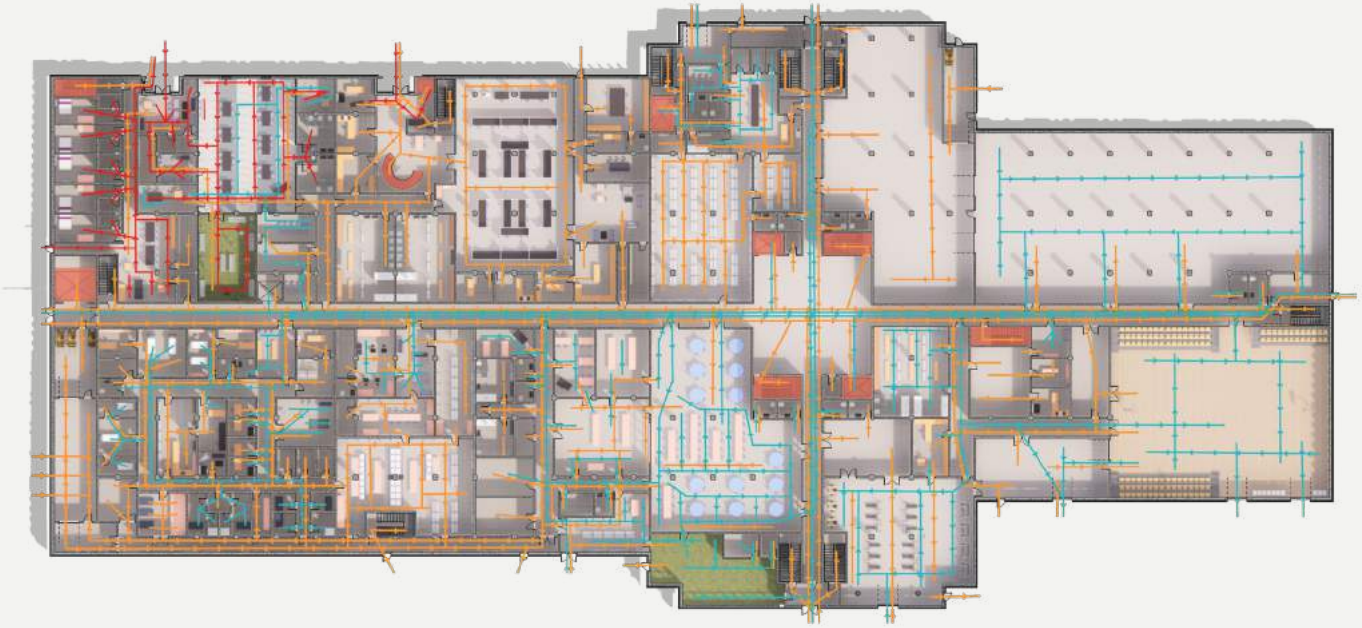


Figure 377—Circulation Plan Level 1

Figure 378—Circulation Plan Level 2

The circulation diagram follows the staff- orange, inmates- blue and visitors- red. Following a typical day, these paths showcase the dynamics of the floor plan circulation paths.

Final Floor Plans

Figure 379—Final Floor Plans

Figure 380—Final Dimensioned Floor Plans

Site Plan Spatial Documentation

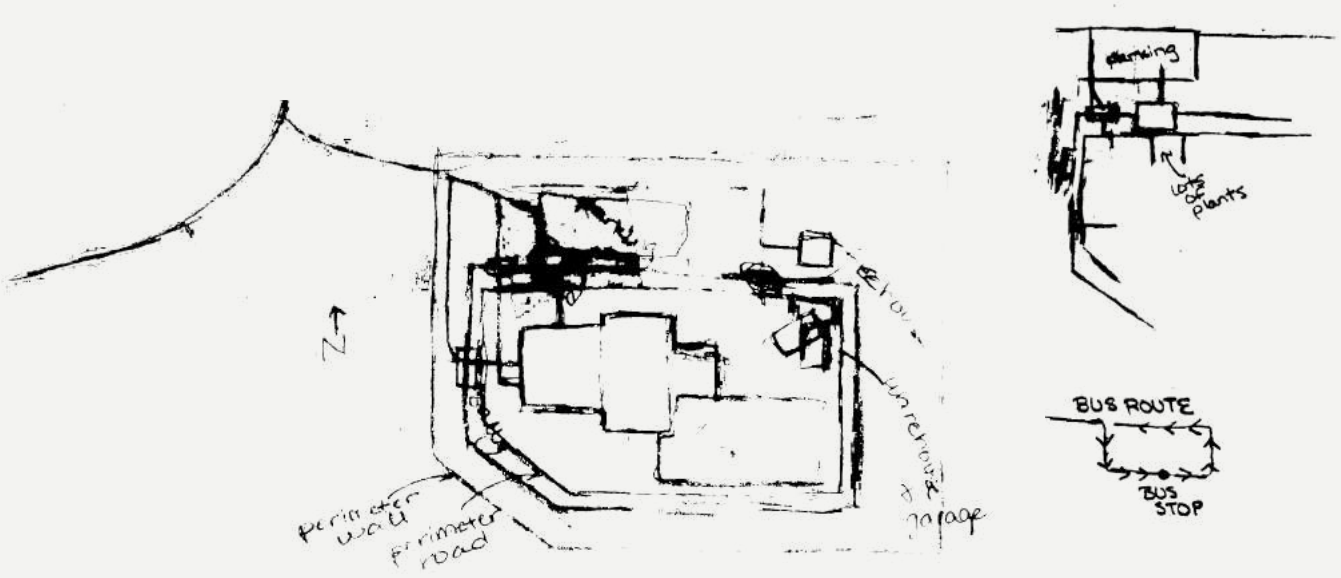


Figure 381—Site Initial Sketches

The site requires a new road to be built out to the prison. The road follows the contours of the site.

Around the perimeter of the prison is a road and wall. The road connects all of the access points into and from the prison. The entrance building is in view from the control center and is placed in front of the staff and visitor entrances. This provides workers and visitors a clear path into the building from the parking lot. Two vehicular sally ports are constructed into the perimeter wall. One is next to the entrance building for the prisoner administration and supply trucks. The other vehicular sally port is next to the fire station. In the event of a fire, firetrucks can go right in without unnecessary driving.

The outdoor field connects to recreation. The field does not allow views of staff, visitors, prisoners and supplies entering and exiting the prison. It is a large area of land so it can include the various sport fields and a running track.

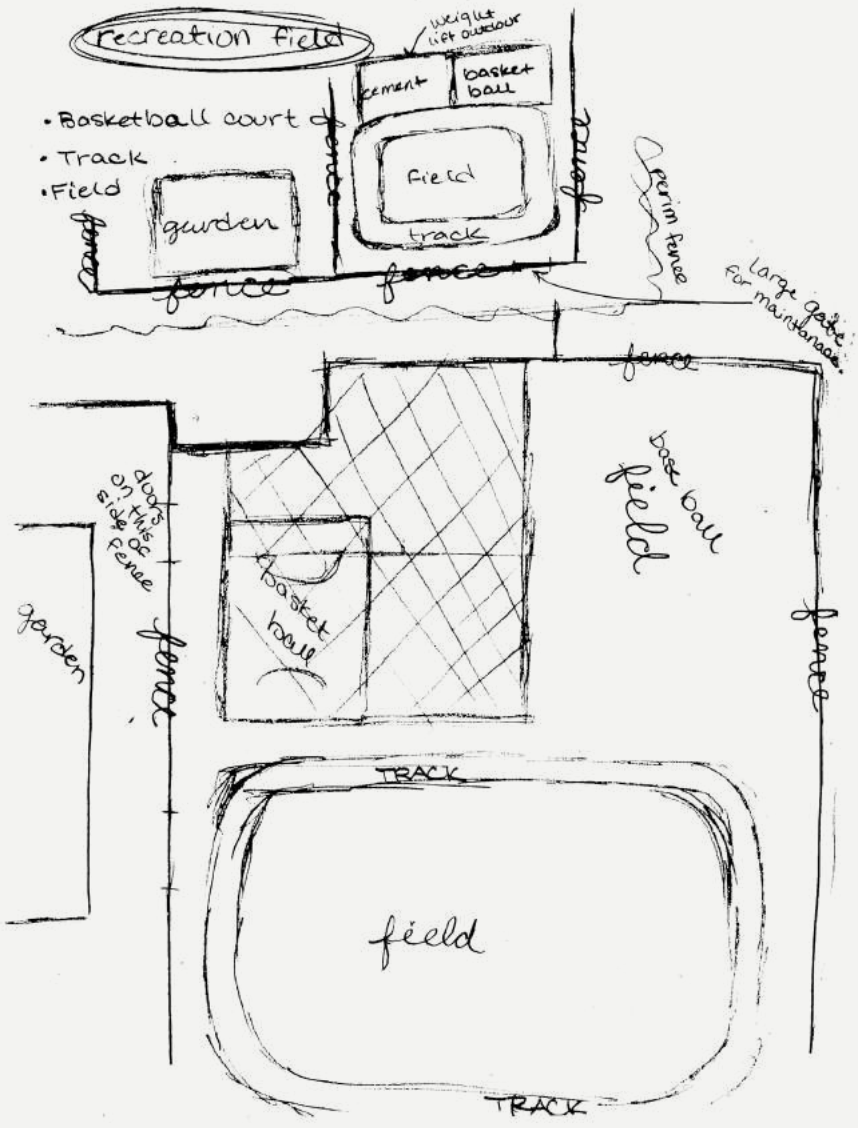


Figure 382—Site Plan Partial Sketch

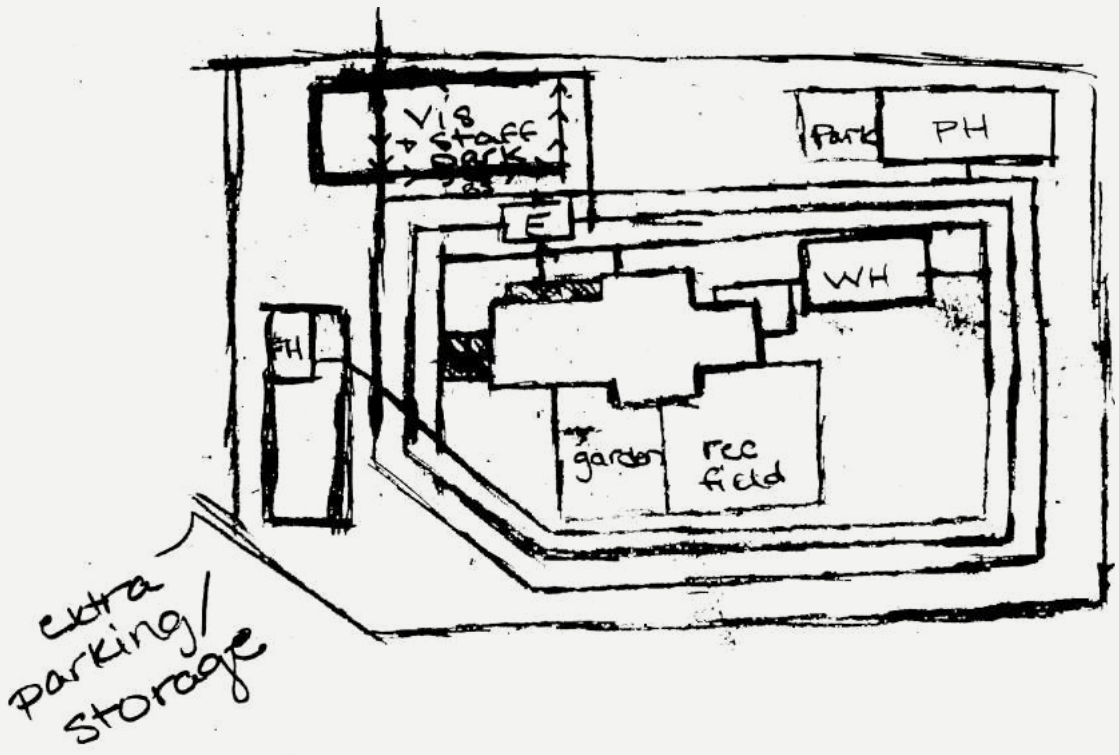
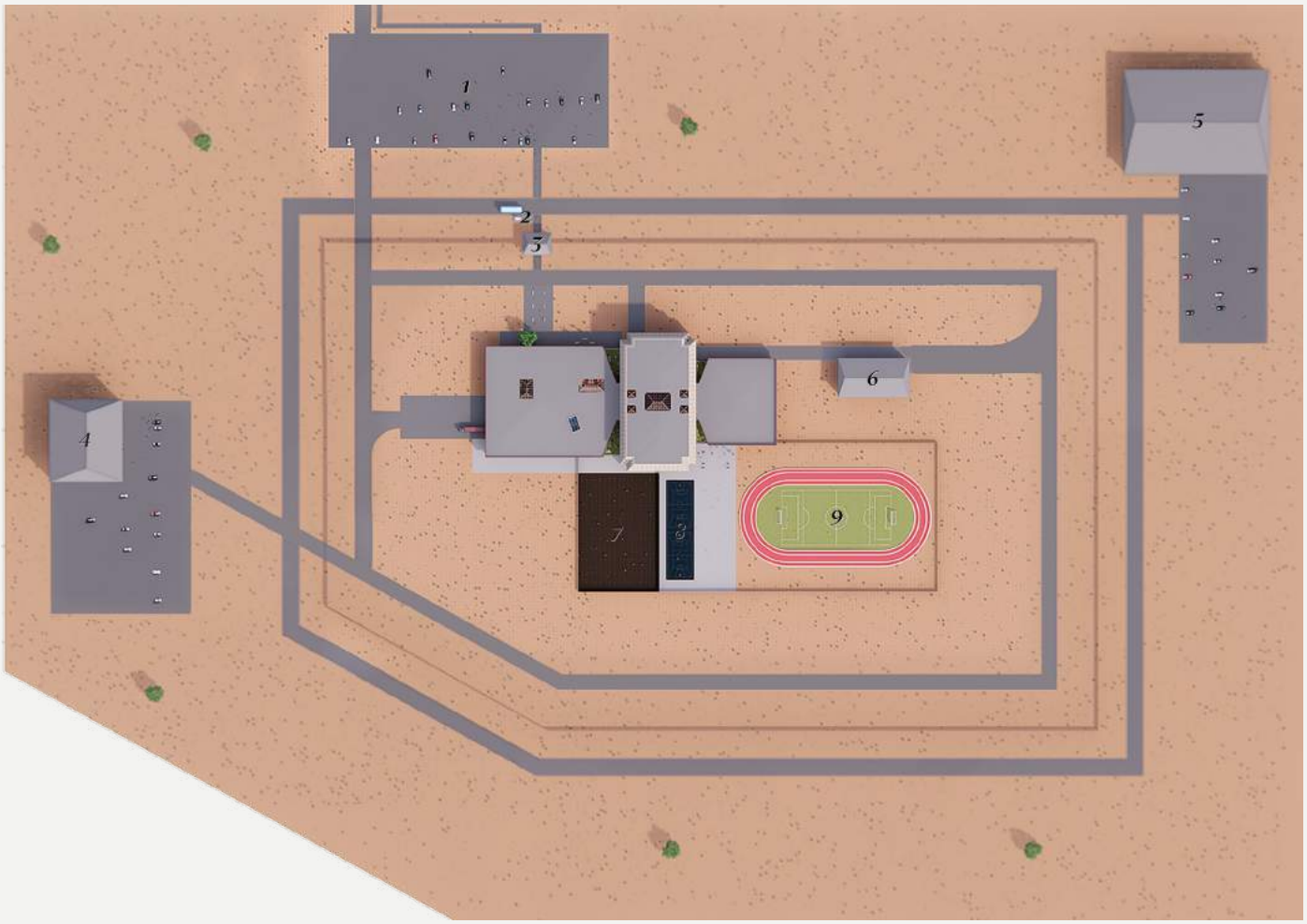


Figure 383—Site Plan Sketch

The site evolved as the project evolved. The perimeter roads and perimeter fence took on the shape of the site while the designated entry points moved for ease of access.



	Site Factors	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Visitor & Staff Parking			
2	Bus Station			
3	Entrance Building	1189	800	39%
4	Fire Station	16974	800	182%
5	Power House	44929	40000	11%
6	Garage	7297	4000	58%
7	Seasonal Garden			
8	Basketball Courts			
9	Outdoor Recreational Field			

Figure 384—Site Plan & Site Plan Program Analysis

Prison Exterior Documentation

Material uses dominated the design of the exterior. I wanted to use materials naturally from New Mexico. I was inspired by limestone, sandstone and slate. These materials pushed the design and lead to a variety of ideas. In the end, a majority of the stone had to be replaced with pre-cast concrete for security precautions.

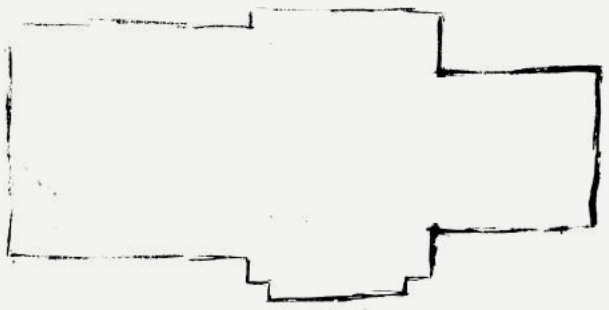


Figure 385—Exterior Wall Plan

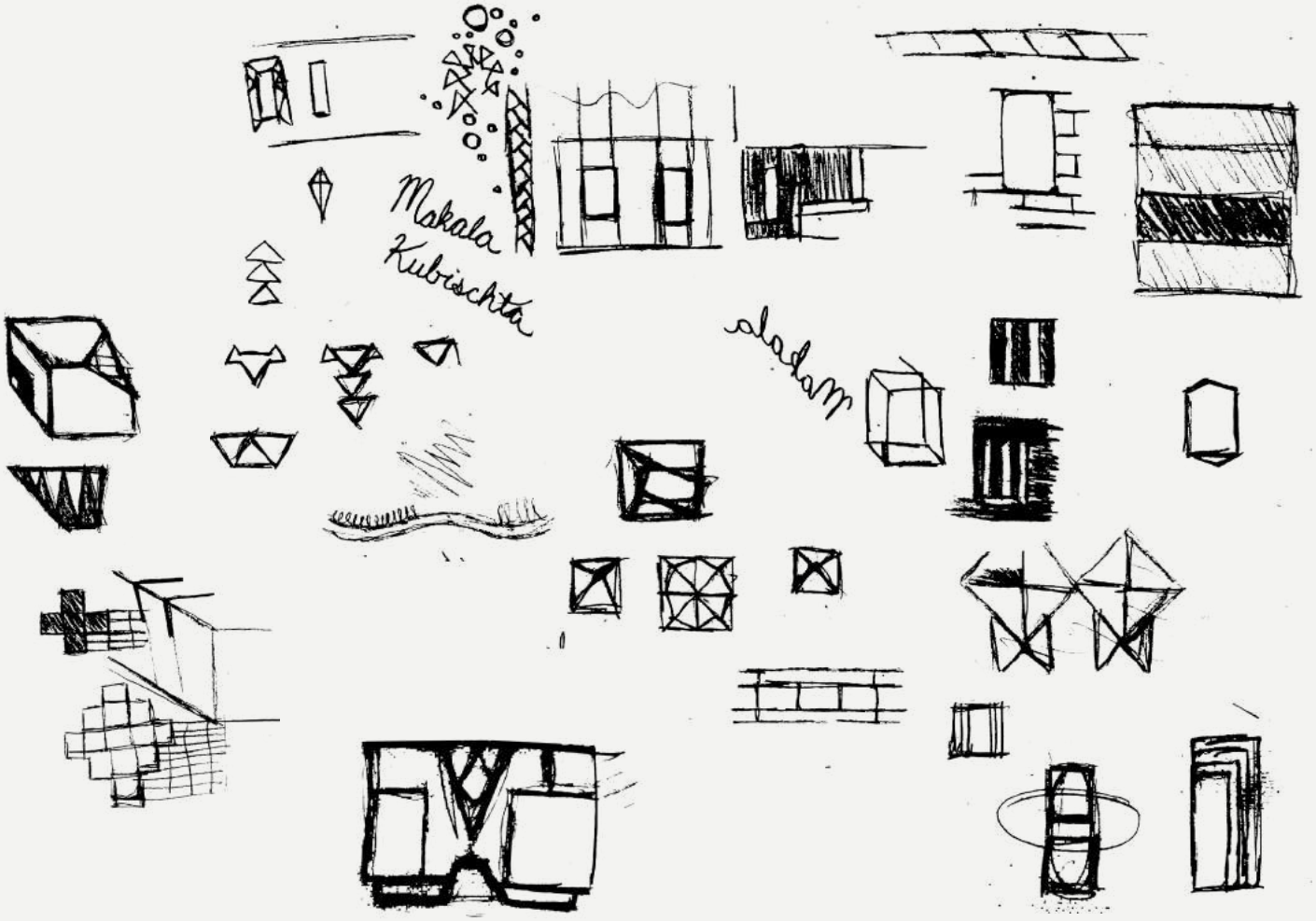


Figure 386—Exterior Exploration Sketches

Figure 387–Exterior Elevation Sketch

The first elevations are of the stacked floor plan levels. This concept gave vision to the prison's form.

Reflecting on the flow of water, I have the design carved into the stone. I have the stone curving over the edge to tie in the angled cell pod clerestory windows.

The lower level began coated in slate for a contrast in color from the above limestone and sandstone mix. The slate accessible to the prisoners had to be changed because of its fragility. If a basket ball was thrown against the slate it may break and these shards can be used as weapons. So, the natural slate is only on the front of the building.

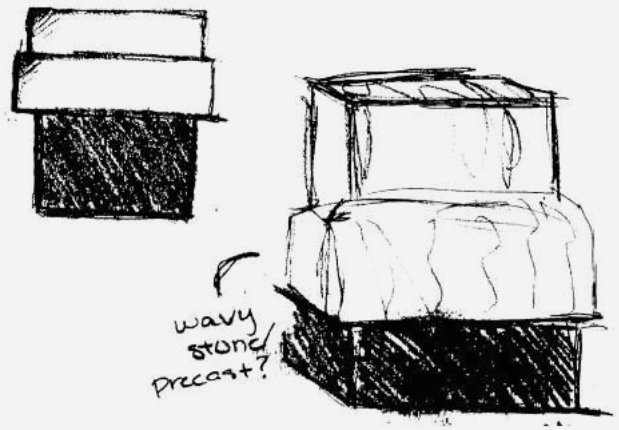


Figure 389–Exterior Material Exploration Sketches

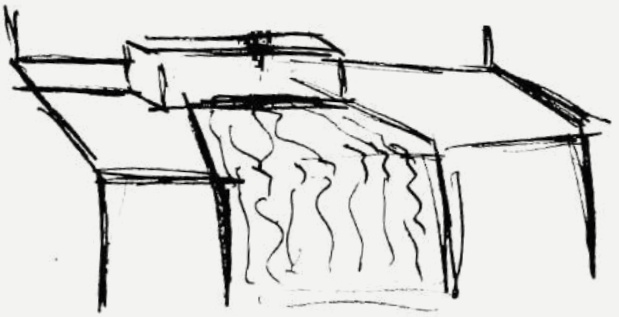


Figure 389–Exterior Water Motif Exploration

I experimented with having the stone flow off of the building. This would only been seen from the above floors which are the cell pods. To have gone in this direction I want the staff to be able to enjoy this feature. I also would like for the entire building to follow a cohesive concept.

Many of the historic buildings in Gallup have arched windows. Panel shapes and sizes began as arches as a reflection of the city.

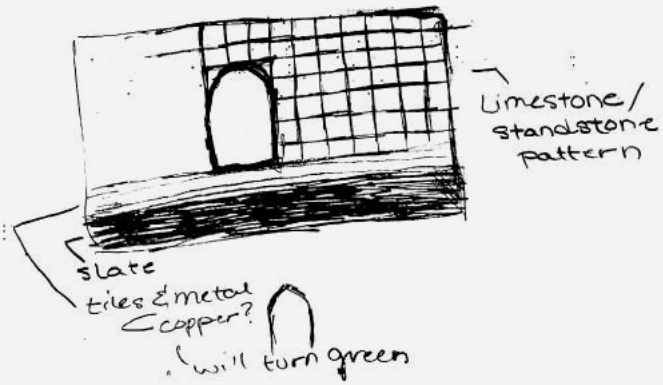


Figure 390–Exterior Window Shape Exploration

Figure 391–
Exterior Water
Texture Sketch

Openings in the panels were made while exploring facade design. I was inspired by Navajo weaving. The stitches of the weaving are replicated as ovals. This came about by inversing the arches. These small oval openings spread out the daylight entering the space in an artistic manner.

After determining the cell pods would have two square panels, the next step was to determine how the square panels/ reliefs would line up with the top curved. I had to decided if I wanted it to part in the center of the entire sheet of if it the sweep would be in the center of the portion visible from the ground.

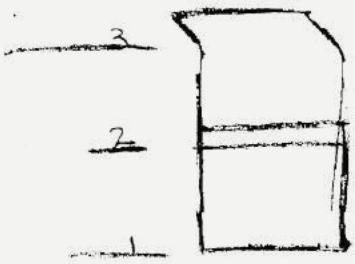


Figure 392–Exterior Pre-cast Panel Exploration

I went with parting the panel in the center because it will rarely be seen from a view point other than the ground.

Due to code, the cells require secure walls. Opening in secure walls can be no more than 5 inches wide. I moved forward with the idea of stitch influenced windows because they could be long and skinny.

Figure 393—Ribbon Window Shape

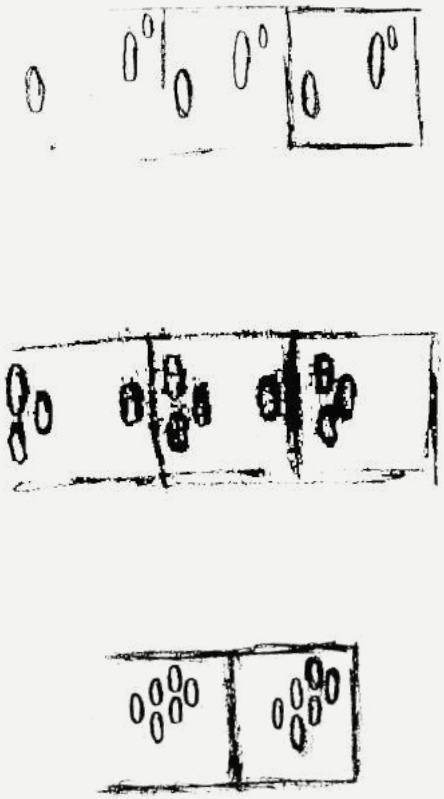


Figure 394—Exterior Window Position Exploration

These windows then had to be arranged on the facade. This was difficult at first because the walls of each of the cell levels do not line up. Since I rotated the upper level of the cell block to allow space for a built in walkway, the exterior windows cannot directly stack.

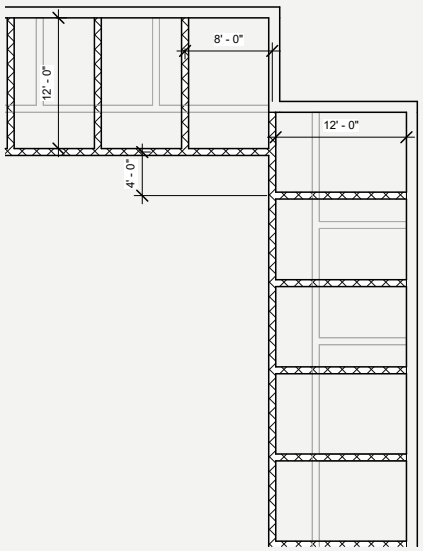


Figure 395—Cell Pod Interior Layout Change Due to Exterior Reveals

The pattern of the windows evolved through a variety of sketches. I had to determine if there would be varying sizes and if the pattern would break across panels. After trying out different arrangements I landed on a set of six that cascade across the concrete. I was not intentionally going for a flowing pattern, but once I had it, I knew this was how it should be. It ties in with my original water design intent.

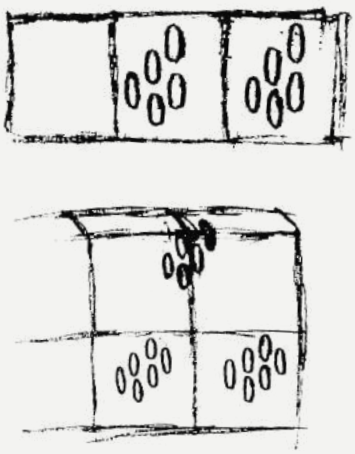


Figure 396—Exterior Window Layout Exploration

Once I had the lower level of the cell block design figured out, I had to create a pattern for the top. I tried having the pattern flow from the folded part of the facade, but it did not make sense. When the prison is viewed from the ground level these details would look odd because only the bottom portions would be seen.

Figure 397—Exterior Skylight Exploration

I began with a stitch window across the top. I tried having two of those windows there and it still did not work. Then, think back to the invisibility of the bent facade, this would not be seen, so I went with a simple rectangular window/ skylight to let light into the upper level cells.

This skylight reduced the need to have as many windows as the lower level cells, since they would receive the same amount of daylight. I kept with the flowing theme of the lower level, but only kept half of the openings. This set of three will be equally spaced with the lower level cells to keep the squares even, so the windows will occur at different positions in each of the cells. Although, the skylights will remain in the same position in each upper level cell.

Figure 398—Exterior Panel Layout

Figure 399—Exterior Offset Elevation Reveal Exploration

The indent of each set of levels is roughly half the height of one floor. With this, the squares will be able line up along the exterior cell pods. The middle pods will end with half of a square.

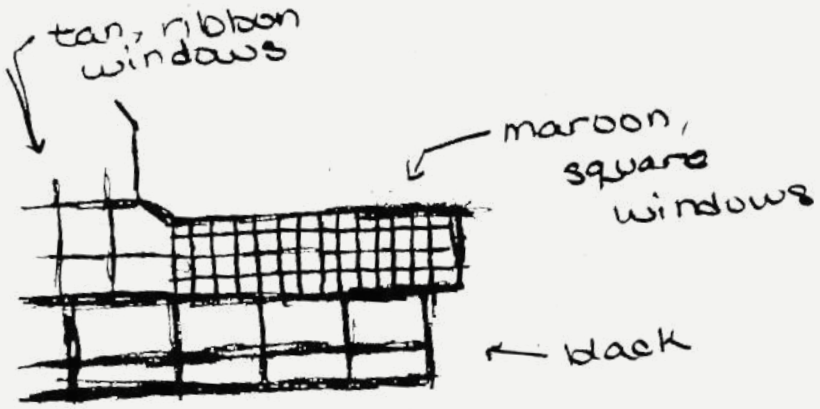


Figure 400—Exterior Material Sketch

This is my first sketch of the exterior that I moved foreword with. It lays out the large cell pod tan pre-cast concrete squares with the secure stitch/ ribbon windows. The 2nd level wings of the prison have maroon pre-cast panels with squares that are half the size of the cell pod squares. Their windows do not need to be as secure because prisoners are not in these spaces alone, so they are squares that fit into the panels. The lower level began initially as black with segments that are twice the size of the cell pod squares.

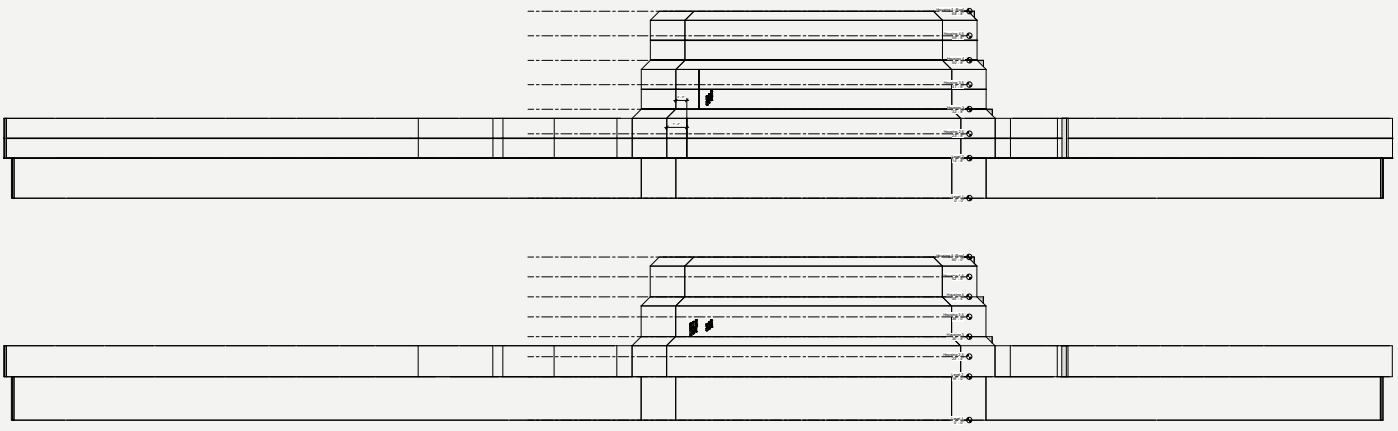


Figure 401—Exterior Reveals Progress Screenshots

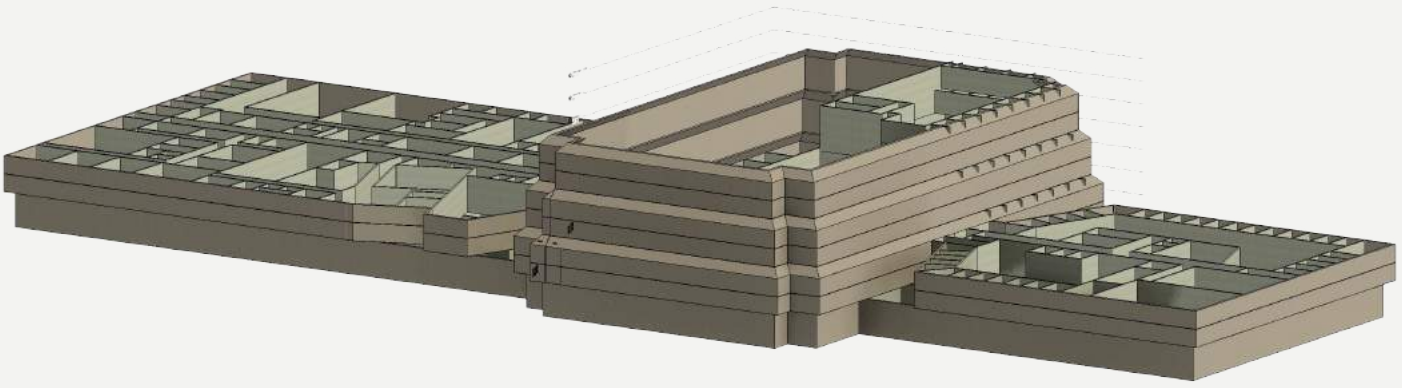


Figure 402—Exterior Progress 3D Screenshot

The exterior of the project evolved while working on it in Revit. Many profiles were made for the various reveals and sweeps used.

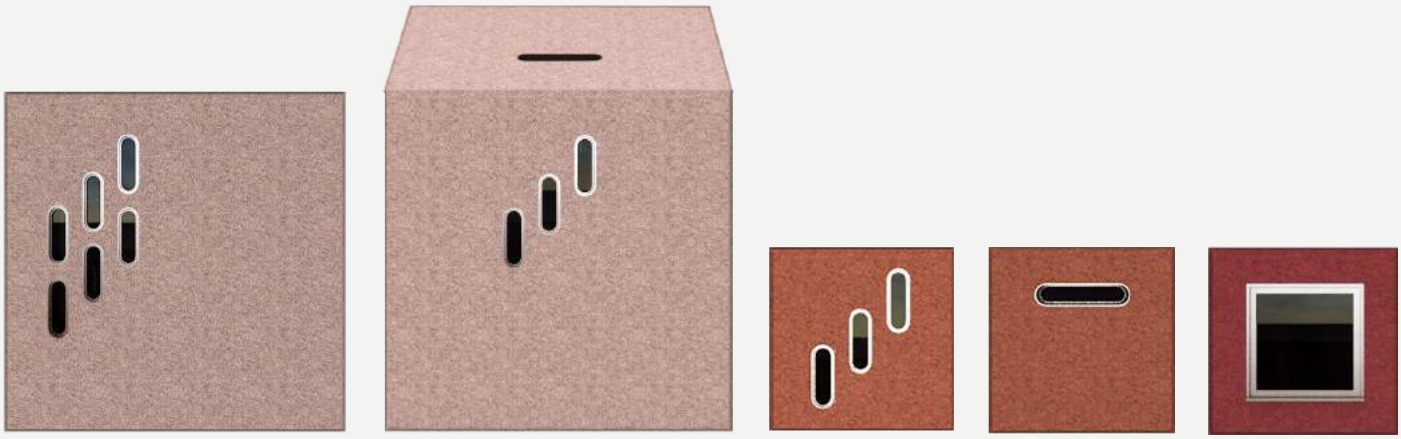
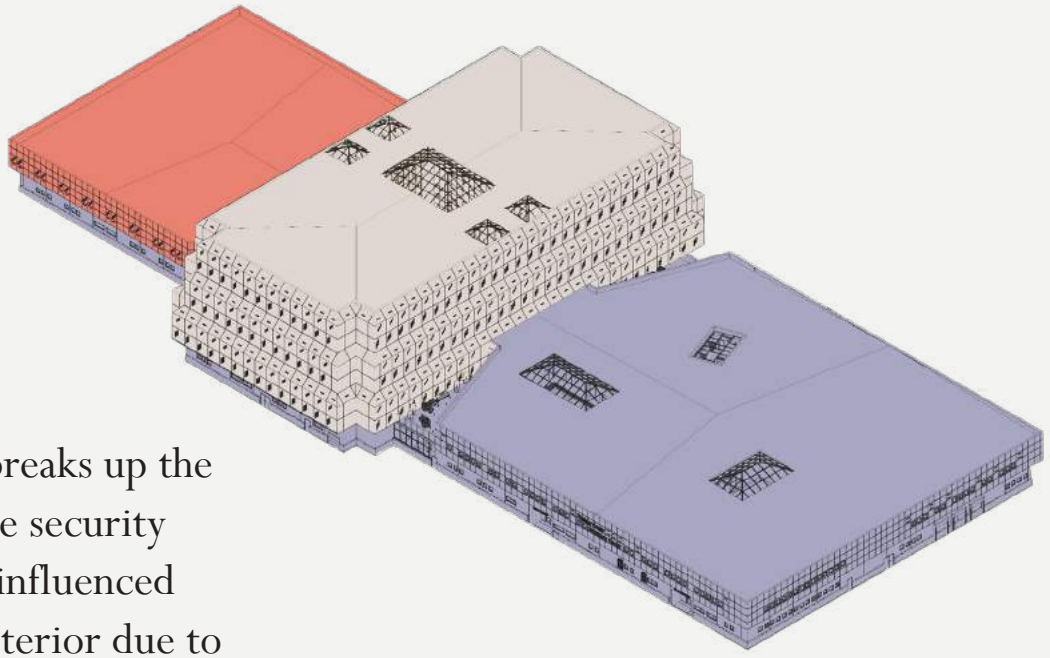


Figure 403—Exterior Pre-cast Panels

These are the final pre-cast panels used in this project. Using them will reduce construction time and costs because of their simple replication. Once one mold is made for each design, concrete can be poured as many times as needed to complete the exterior. The larger ones being 8' x 8' and the smaller 4' x 4'.



This graphic breaks up the prison into the three security zones. These zones influenced the design of the exterior due to each section's needs.

Figure 404—Zone Security Map

Midterm Documentation

For midterms, I had the beginnings of a final board and slide presentation. I have included the board as well as the first project renderings that I did not use in my final rendition.

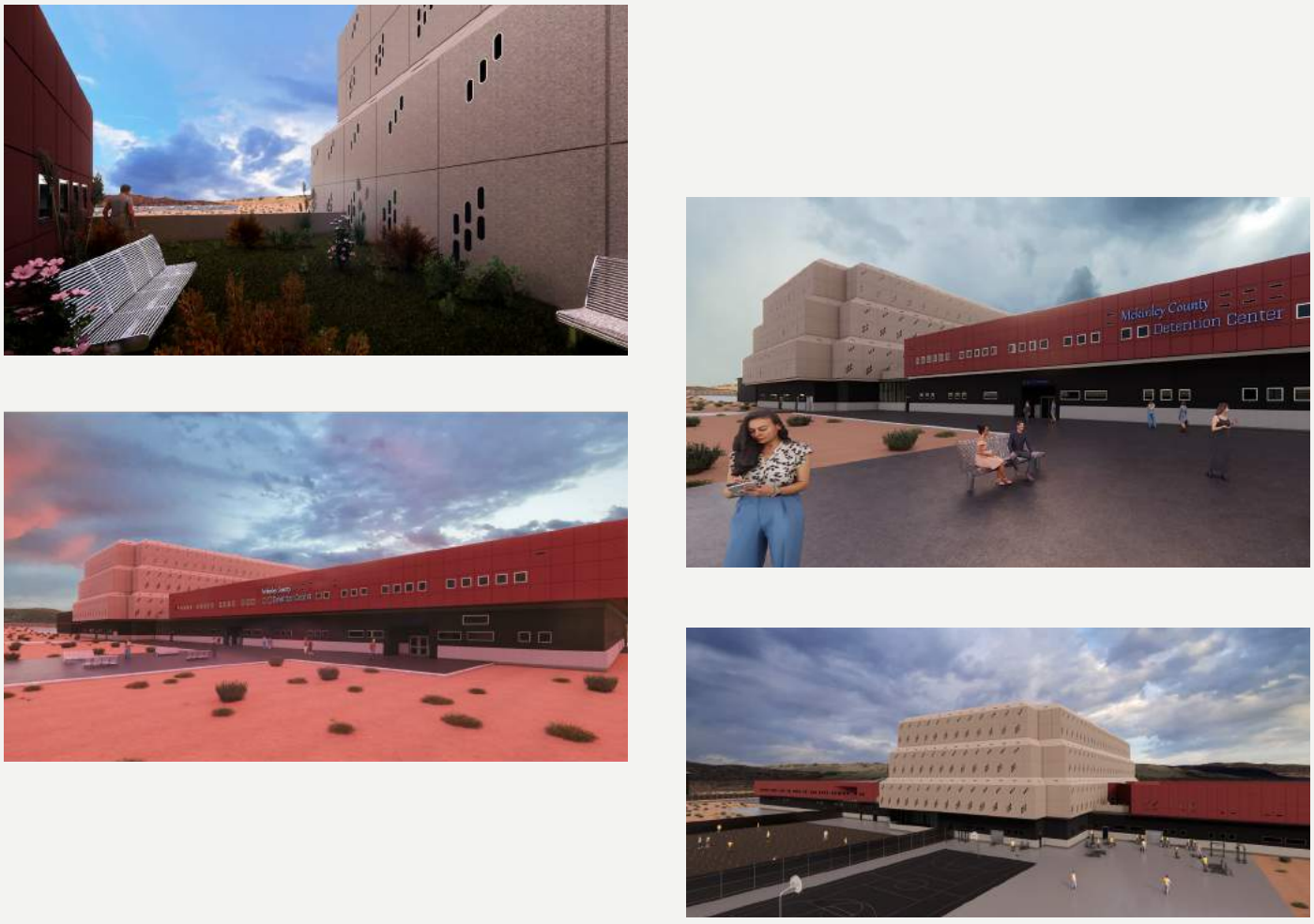


Figure 405—Early Exterior Renderings

The feedback that I received from midterms drove the remainder of the project. The main takeaway was to add life into the building. To make this prison a place that people would enjoy staying in to deter them from escaping and to encourage positive attitudes.

Initial Sketches

The initial exterior shape of the prison came from the connection diagram. The dense combination of spaces created a larger central area in the final plan.

Material Selection

Material uses dominated the design of the exterior. The materials reflect natural stone from New Mexico. The project was inspired by limestone, sandstone and slate. These materials pushed the design and lead to a variety of ideas. Pre-cast concrete is used for durability, production replication and security precautions.

Just Outside the City

This site was chosen for its connection to Gallup. It is important to have a property that is large enough to hold the main prison building, as well as space between that and the perimeter to keep the area secure.

Prison Serving Area Map

Site Selection

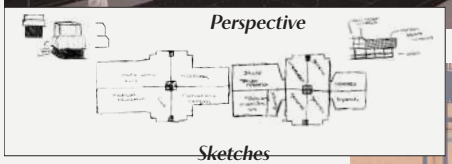
New Mexico has the greatest amount of crime of any state in the United States of America, comes in 30th for its imprisonment rate and their prison capacity is predicted to exceed capacity in 2024. Therefore, additional inmate beds/ prisons are required.

Window Design

Since openings in secure walls can be no more than 5 inches wide, the cell block windows are thin. Their design is a combination of three notions. The windows reflect arches used in New Mexico architecture that are then inverted on both ends. Their staggered effect is found as the stitches used Navajo weaving patters. Then, the flow of the windows is inspired by the project's connection to water

Precast Panels and Windows

Section



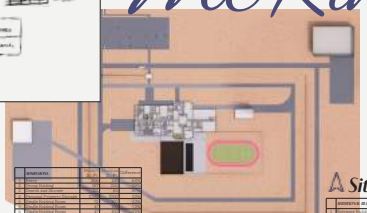
Perspective

Sketches

McKinley County Detention Center

Building for Hope

Life continues in prison. During this time alloted to reflection, daily hands on activities engage inmates with positive outlets through workshops, creative classes and use of courtyards and outdoor walking paths.



Site Plan

South Elevation

East Elevation

West Elevation

North Elevation

1st Level Plan

Visiting Room Interior

Sample writing here is cool

Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell.

Front Entrance Exterior Perspective

Sample writing here is cool

Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell.

2nd Level Plan

Vis Waiting Interior

Sample writing here is cool

Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell.

Cell Interior

Staff Lounge Interior

Sample writing here is cool

Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell.

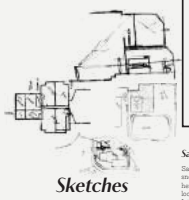
Cell Plan ADA Cell Plan

Chapel Interior

Sample writing here is cool

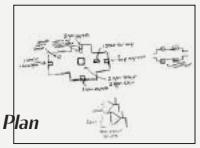
Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell. Sample writing here is cool because I get to see my fonts in action. It is snowing now and it looks cold. Maybe its not, I cannot tell.

2.5 Level Plan



Sketches

Cell Pod Interior



Egress Planning

The egress is a cross separating the building into quadrants. The linear egress allows for efficient and clear paths. Thus, the prison will be evacuated in a designated manner. In addition, officials such as firefighters and security personnel will have clear entry into the prison and further into their destination. The hallways intend for the guards and inmates to pass by without evoking one another.

Egress Plan

Figure 406—Midterm Thesis Board

Exterior Elevations & Exterior Renderings

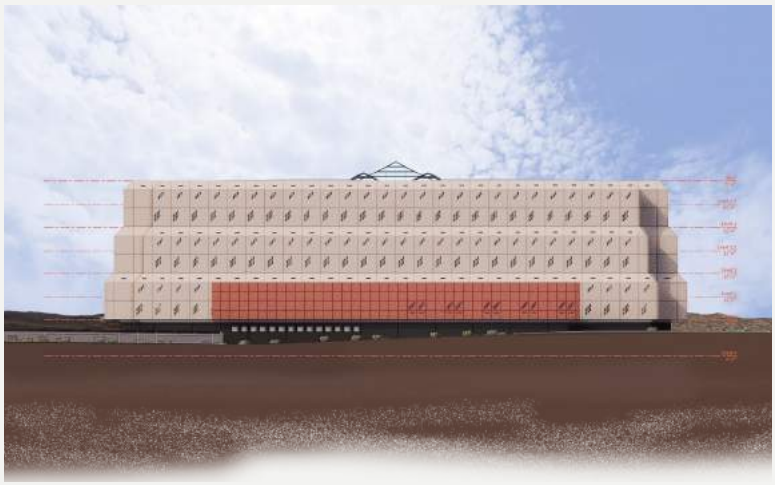


Figure 407—East Elevation

Figure 408—South Elevation

Figure 409—North Elevation

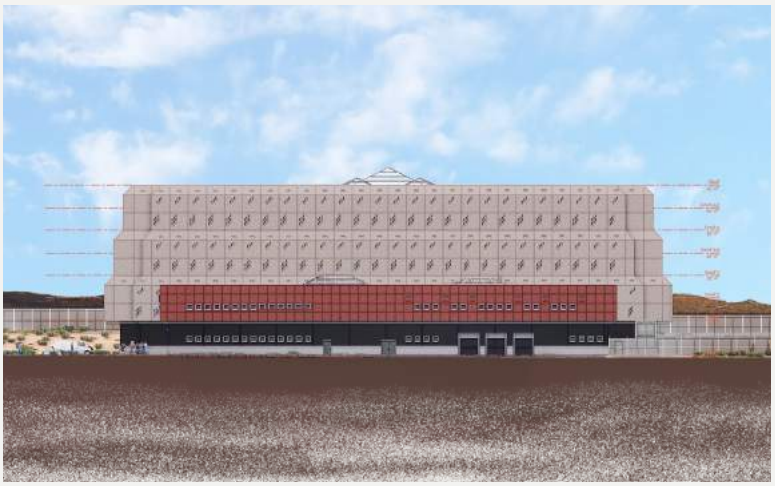


Figure 410—West Elevation

Thesis Reflection

I came across this quotation while researching the West Regional Kimberly Facility and set it aside to reflect upon after completing a design myself.

> "I certainly had preconceptions about what that meant, as an architect, to design a correctional facility. Having now designed one, my views have changed quite radically."
> -Jurg Hunziker, from TAG Architects

This is the truth, for this thesis project at least. Going into the project, I thought I had a clear concept of how this process would go. Boy was I wrong! (To an extent.) The same spaces went into the project, but to understand a prison I had to imagine myself in every predicament in every given space. You must imagine yourself as a staff member, prisoner or handyman even at each spot and ask yourself questions such as "if someone were around the corner, what would I do?" or "what happens when I break through this ceiling?" I would say that I pulled off a few imaginary heists within this prison while bringing it all together.

Then, designing a prison is a large question of morals. Should I even be doing this?… I do not know. This was more than a design project, it evolved into a philosophical project. I can only hope that the project helps and improves on what has been done before.

My views on designing a prison now differ greatly after having completed this project. I empathize with each user of this building. The people living and working here each day, as well as those in the surrounding community. The prison should not be forgotten. It is important that they be designed well, just as any other new build because life continues in prison. Not only does it continue,

but it evolves. A stagnant prison will hinder change/ personal development/ whatever it may be called. I think a prison should celebrate growth. Time is precious and time is found in abundance within prison walls. There could be a great benefit if put towards learning and reasoning.

Do I know if this prison will help reduce crime and recidivism? No. I cannot say without testing it and seeing clear results, but I would hope it would. For each of these prisoners are seen and I hope to give each one a positive memory to hold on to. Furthermore, I do not believe that prisons are the fix all method to recidivism, but this is my part.

I do think that it is important to do a study such as this one before going in and working with a team to design a prison that will have actual effects on people. Without experiencing the ins and outs of prison designing in an experimental manner, I do not think a prison could be designed well. If I were to practice in the field of prison design, I would like to first visit a prison for a greater personal connection. Our ability to create enhances our ability to empathize.

Overall, this project has contained a lifelong learning of secure spaces. I greatly enjoyed working on this project and on all the dead ends. Gosh, the amount of times I said to myself, "wait, no this won't work for reason c." There were many small issues that worked in one area, but then caused a flaw in another. Oh, my! The joys of this being completed compare to no previous project of mine.

Makala Kubischta
March 2023

Project Solution

Life continues in prison. During this time alloted to reflection, daily hands on activities engage inmates with positive outlets through workshops, creative classes and use of courtyards and outdoor walking paths.

Figure 411–Thesis Brochure Icon

Featured in these pages are my final renderings enlarged for your viewing pleasure. These renderings represent countless hours of hard work and dedication. Each line, shadow and detail has been meticulously crafted to bring these designs to life. As you examine them closely, I hope you can appreciate the skill and creativity that went into their creation.

These final renderings are more than images on a page; they are a culmination of my vision. I am proud to share them with you and hope they inspire you as much as they have inspired me.

So take your time, study each rendering carefully and immerse yourself in the McKinley County Detention Center. Let these images transport you to new heights of prison design.

Detention Center
KUBISCHTA

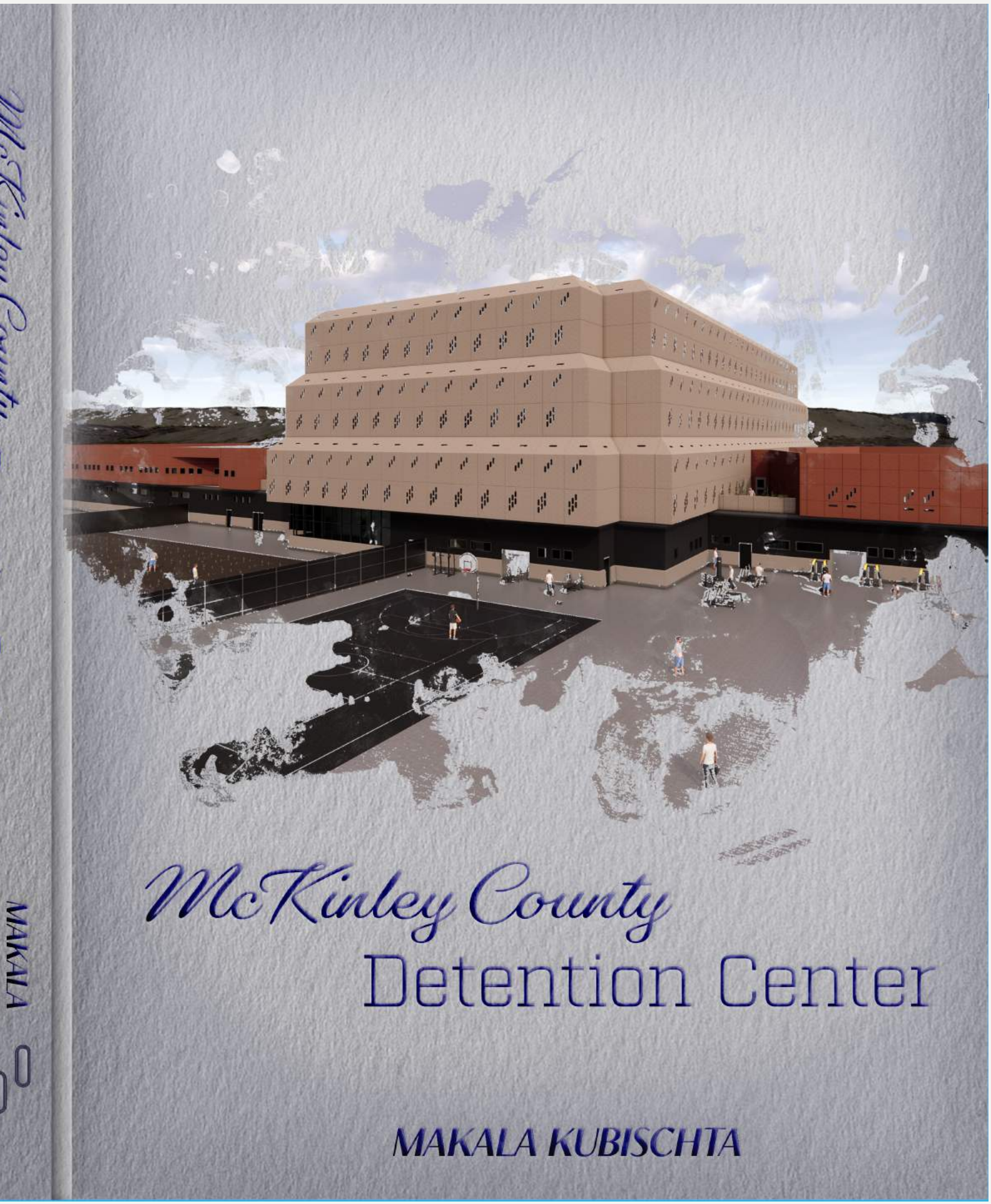
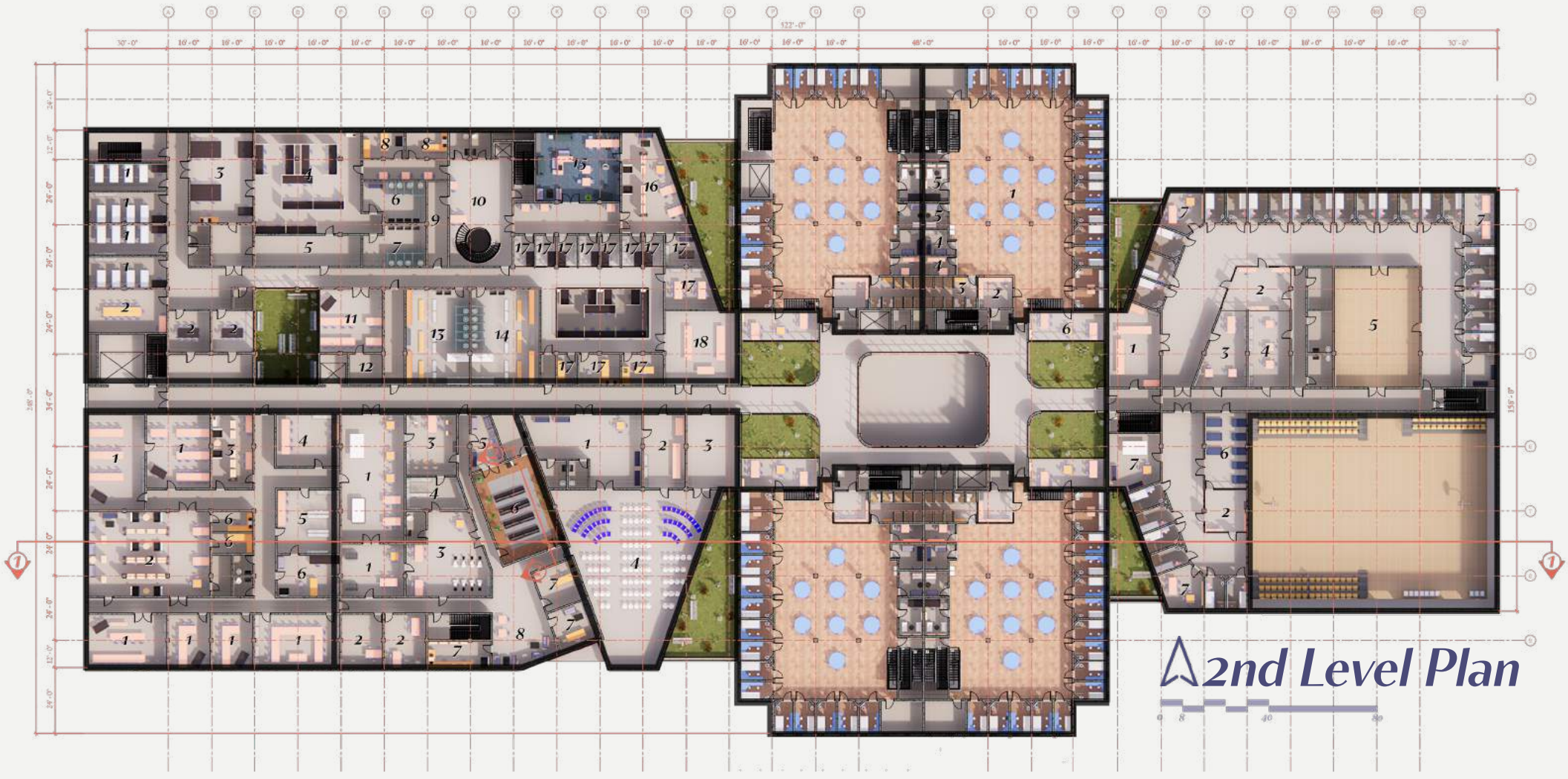
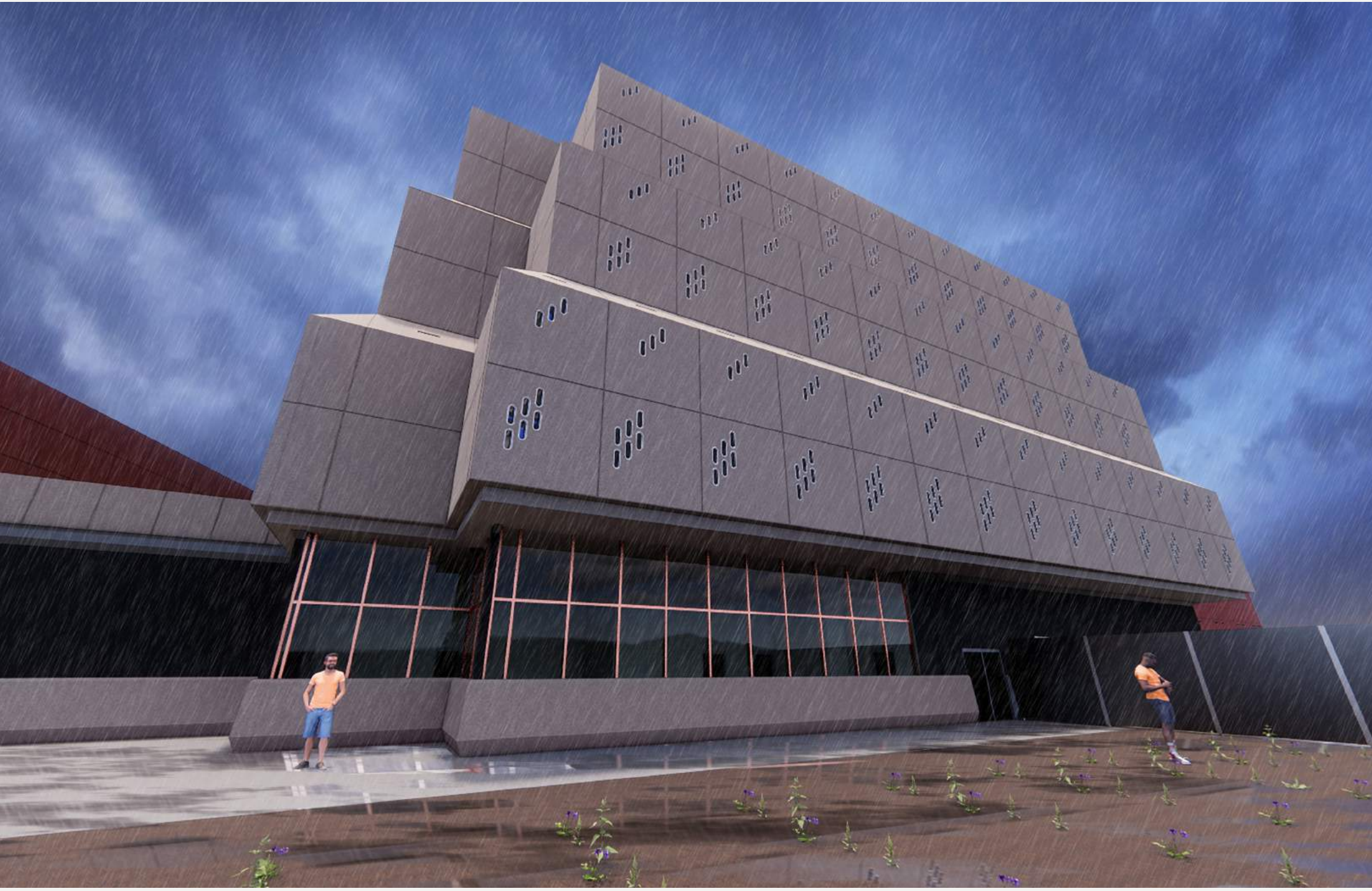


Figure 412—Thesis Book Cover

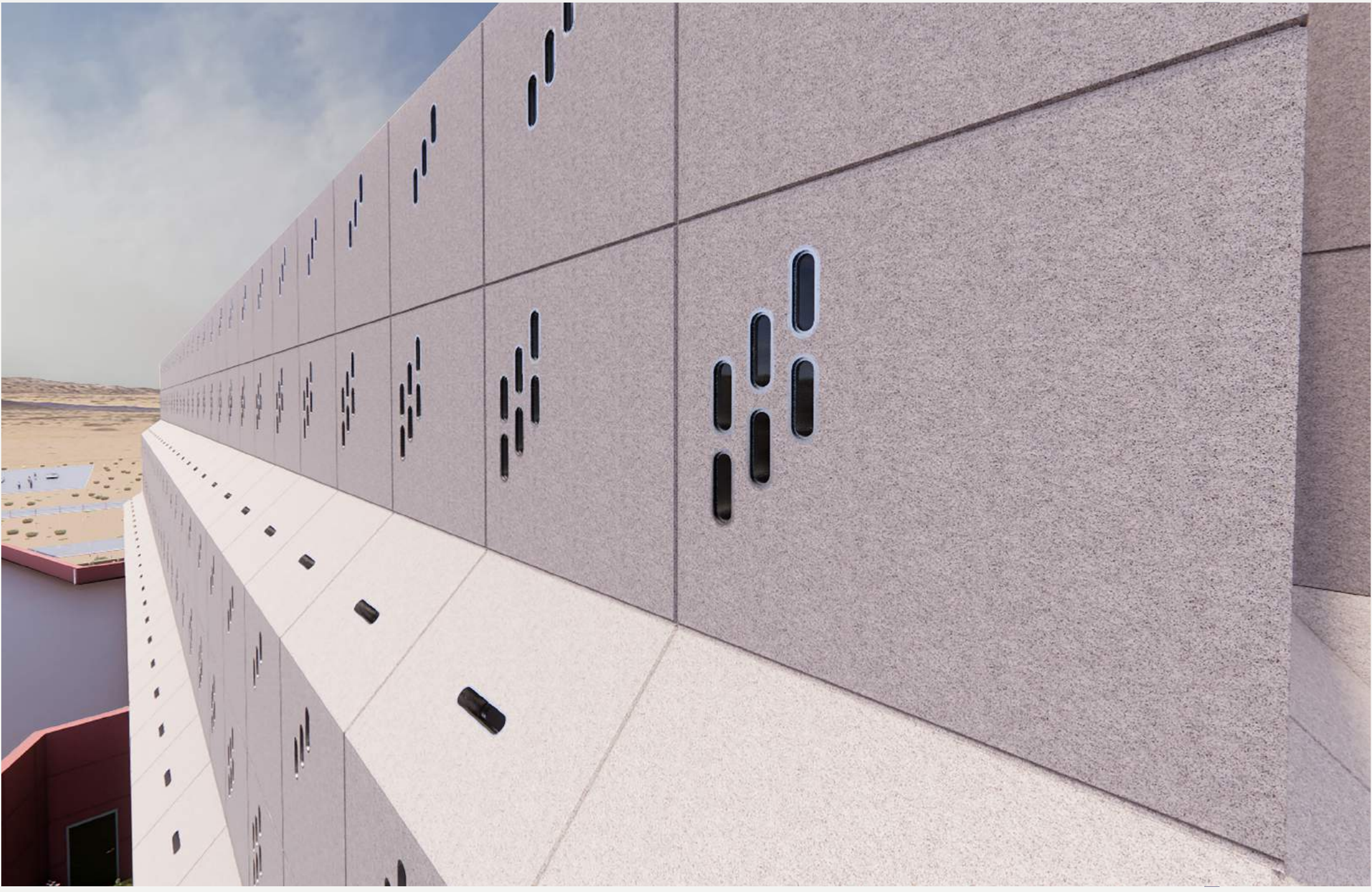
1st Level Plan

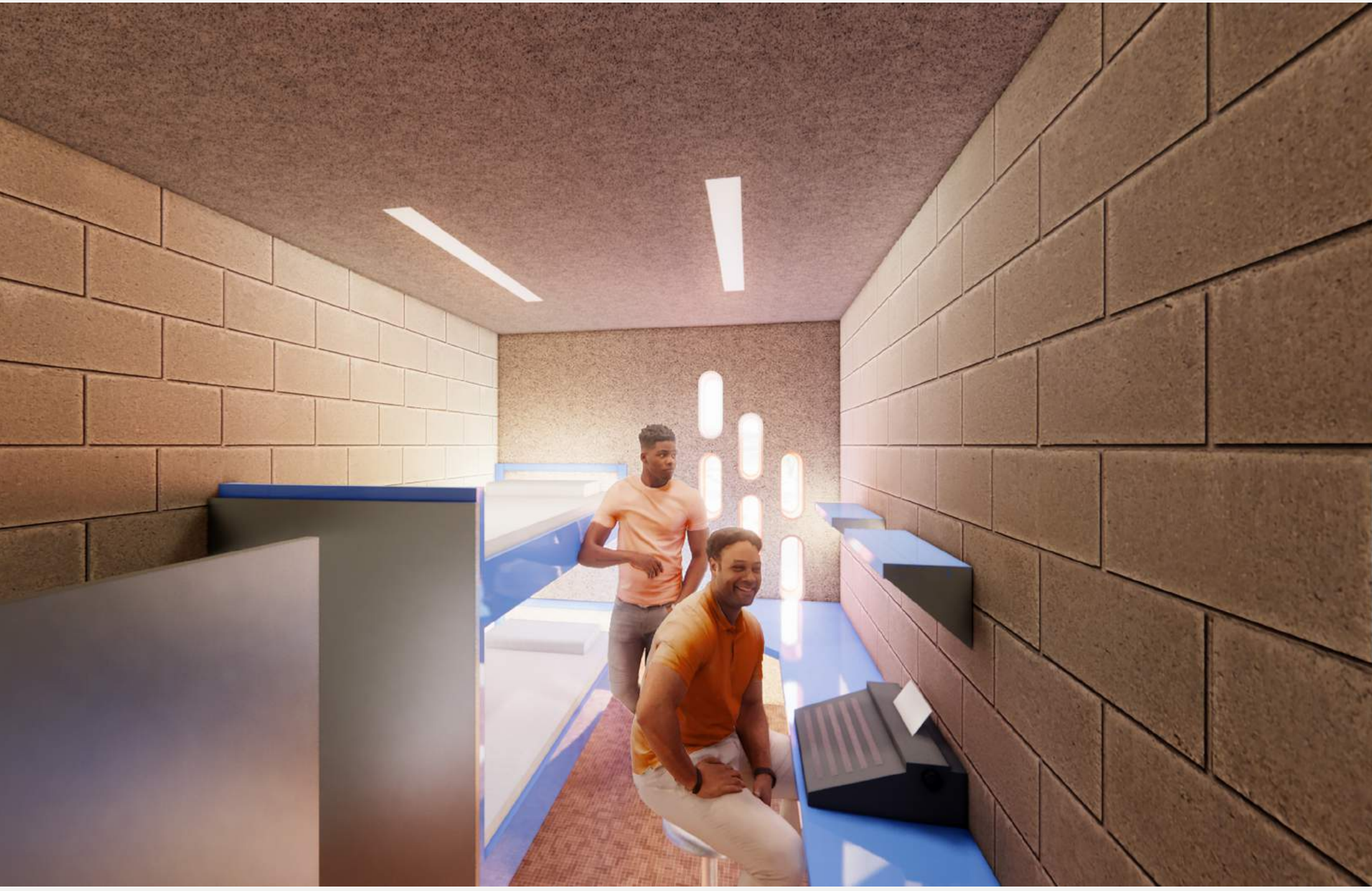


2nd Level Plan




Mckinley County
Detention Center
Staff Entrance





Digital Presentation

These boards present a well-detailed account of every feature within the facility, demonstrating an understanding of both architectural and psychological principles that come together when designing prisons.

This design illustrates thoughtful choices made after thorough evaluation utilizing all available research resources on current incarceration issues and trends in modern-day penitentiaries for an innovative project that could potentially greatly impact society's perspective on correctional facilities.

The printed size of the board is 72" x 84".

Following the board, the slides fill the remaining pages. There are four digital presentation slides per page. They are numbered as shown.

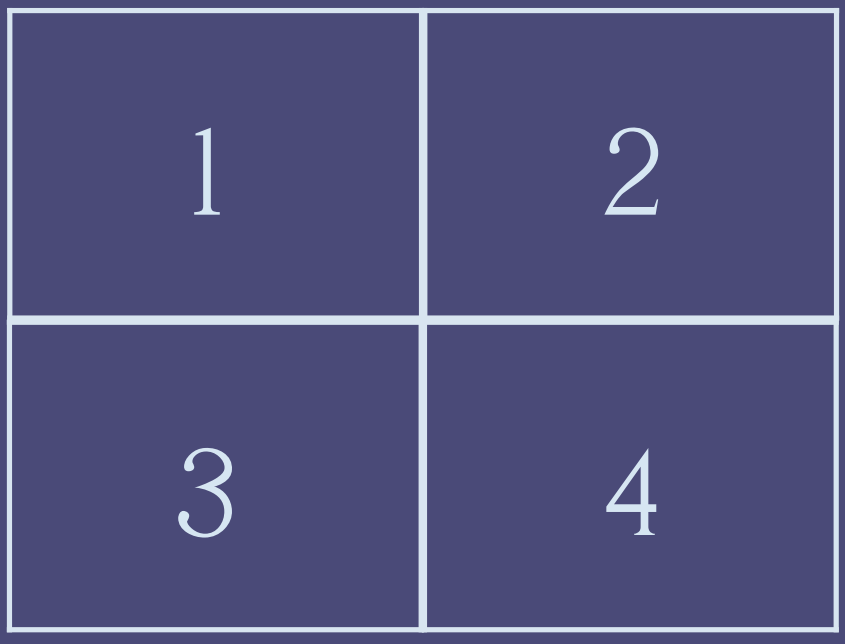


Figure 413—Digital Slide Sequence Diagram

McKinley County Detention Center

Engage **RELIEVE** Encourage

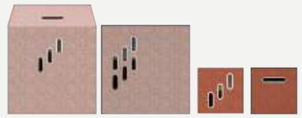
Garden & Field Exterior Perspective

Color Palette

The desert landscape boasts an array of colors, ranging from sandy yellows to rusty oranges, deep reds and muted greens. These hues complement the traditional Navajo weaving patterns, creating a harmonious and visually striking color palette.

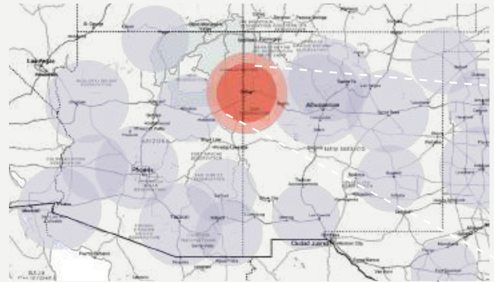
Window Design

Since openings in secure walls can be no more than 5 inches wide due to code, the cell block windows are thin. Their design is a combination of three notions. The windows reflect arches used in New Mexico architecture that are then inverted on both ends. Their staggered effect is found as the stitches used Navajo weaving patters. Then, the cascading flow of the windows is inspired by the project's connection to water.



Material Selection-Concrete Precast Panels

Material uses dominated the design of the exterior. The materials reflect natural stone from New Mexico. The project was inspired by limestone, sandstone and slate. These materials pushed the design and lead to a variety of ideas. Pre-cast concrete is used for durability, production replication and security precautions. A portion of the metals use in the project reflect copper since it is mined in New Mexico.



Site Selection-Area Service Map

New Mexico has the greatest amount of crime of any state in the United States of America, comes in 30th for its imprisonment rate and their prison capacity is predicted to exceed capacity in 2024. Therefore, additional inmate beds/prisons are required.

Just Outside of Gallup, NM

This site was chosen for its connection to Gallup. It is important to have a property that is large enough to hold the main prison building, as well as relatively flat land to reduce construction costs.

Site in Gallup, NM

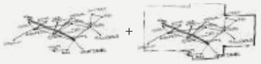
Garden Exterior Perspective

Courtyard Exterior Perspective

Cell Pods Exterior Perspective

Life continues in prison. During this time alloted to reflection, daily hands on activities engage inmates with positive outlets through workshops, creative classes and use of courtyards and outdoor walking paths.

LEVEL	TOTAL SQ. FT.
1	97,000
2	99,000
2.5	13,000
3	30,000
3.5	11,000
4	27,000
4.5	9,500
TOTAL	286,500



LEVEL	TOTAL CELLS	Total Inmates
2	47	94
	ADA 8	8
2.5	60	120
3	44	88
	ADA 8	8
3.5	52	104
4	44	88
	ADA 8	8
4.5	52	104
TOTAL	323	Max of 622

The program total for the inmates housed is ≥ 500. This accommodates the prison's needs. This prison can house 622 inmates in general housing and 26 inmates in solitary at maximum capacity. With double cells, the prison can either hold one or two inmates in each. This provides flexibility to fit the needs of the prison.

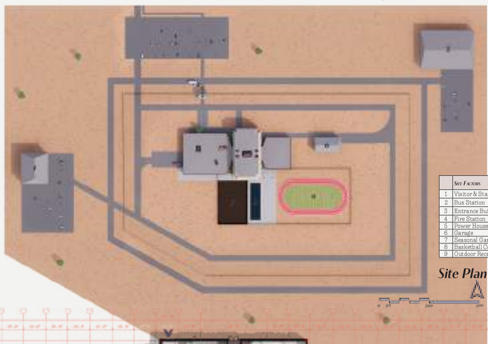
	CONTROL CENTER	PROJECT SQ. FT.	PROGRAM SQ. FT.	Difference
1	Control Center	445	450	-1%

	STAFF LEVEL 1	PROJECT SQ. FT.	PROGRAM SQ. FT.	Difference
1	Public Information Office	211	200	4%
2	Cashier's Office	234	120	64%
3	Mail Room	235	300	-24%
4	Locker Room	822	300	93%
5	Locker Room	822	300	93%
6	Staff Lobby	964	1000	-8%
7	Business Staff Office Space	3569	1500	81%
8	Executive Office	173	150	14%
8	Executive Office	173	100	53%
9	Assistant Warden's Office	173	100	53%
10	Warden's Office	390	250	43%
11	Open Work Area	195	250	-24%
12	Business Office	124	120	3%

	VISITING AREA	PROJECT SQ. FT.	PROGRAM SQ. FT.	Difference
1	Overnight Visitor Room	264	200	28%
2	Waiting Room	264	120	75%
3	Search Room	264	120	75%
4	Waiting Room	140	120	15%
5	Private Visiting Room	264	120	75%
6	Visitor Cafeteria	800	800	0%
7	Private Visiting Courtyard	823	800	3%
8	Waiting Room	264	120	75%
9	Search Room	264	120	75%
8	Waiting Room	140	120	15%
10	Children's Area	152	300	-65%
11	Visiting Room	2021	2000	1%
12	Women's Restroom	204	200	2%
13	Men's Restroom	204	200	2%

	MEDICAL	PROJECT SQ. FT.	PROGRAM SQ. FT.	Difference
1	Forklift Storage	451	450	0%
2	Truck Dock Organization	651	600	4%
3	Record Storage	479	280	52%
4	Clerk Office	240	120	67%
5	Nurse Station	108	80	30%
6	Neuropsychiatric Room	82	100	-20%
7	Physician's Office	82	150	-59%
8	Psychiatrist Office	82	150	-59%
9	Psychologist Office	82	150	-59%
10	Medical Laboratory	178	150	17%
11	X-ray Room	375	175	73%
12	Dental Operating Room	220	250	-13%

	ADMISSIONS	PROJECT SQ. FT.	PROGRAM SQ. FT.	Difference
1	Entry	306	150	68%
2	Group Holding	187	250	-29%
3	Search and Shower	131	65	67%
4	Personal Property Storage	2393	1000	82%
5	Single Holding Room	72	100	-33%
5	Single Holding Room	47	100	-72%
5	Single Holding Room	47	100	-72%
6	Processing Area	747	400	61%
7	General Purpose Storage	437	200	74%



	SITE FACTORS	PROJECT SQ. FT.	PROGRAM SQ. FT.	Difference
1	Visitor & Staff Parking			
2	Bus Station			
3	Entrance Building	1189	800	39%
4	Fire Station	16974	800	182%
5	Power House	44929	40000	11%
6	Garage	7297	4000	58%
7	Seasonal Garden			
8	Basketball Courts			
9	Outdoor Recreational Field			

Site Plan

South Elevation

East Elevation

West Elevation

North Elevation

	MECHANICAL	PROJECT SQ. FT.	PROGRAM SQ. FT.	Difference
1	Mechanical Room	5194	5000	10%
	Truck Dock Organization	458	450	1%

	VOCATIONAL TRAINING	PROJECT SQ. FT.	PROGRAM SQ. FT.	Difference
1	Vocational Shop	9230	15000	-48%

	CANTEEN	PROJECT SQ. FT.	PROGRAM SQ. FT.	Difference
1	Storage Room	675	800	-17%
2	Waiting Line	187	200	-7%
3	Sales Area	174	150	15%
4	Canteen Office	174	150	15%

The zone security map delineates the three levels of security used in this prison. The levels determined their exterior conditions. The segregated housing is in the red zone. It requires the greatest security, since inmates alone are in their cells 23 hours a day. The soft pink zone is the general housing. Inmates spend time not directly supervised in their cells, thus, the exterior has to be secure. The purple zone has minimum security because where there is an inmate, there is direct supervision.

Building For Hope

11	X-ray Room	375	175	73%
12	Dental Operating Room	220	250	-13%
13	Dental Laboratory	173	150	14%
14	Waiting	235	250	-6%
15	Pharmacy	175	150	15%
16	Exam Room	122	120	2%
17	Treatment Room	235	200	16%
16	Exam Room	122	120	2%
18	Bulk Storage	235	250	-6%
18	Bulk Storage	235	250	-6%
19	Morgue	336	300	11%
20	Isolation Room	127	130	-2%
20	Isolation Room	127	130	-2%
21	Food Preparation	128	100	25%
22	Private Impatient Room	69	60	14%
22	Private Impatient Room	69	60	14%
22	Private Impatient Room	86	60	36%
22	Private Impatient Shower	86	60	36%
23	Clean Utility Storage	84	100	-17%
24	Clean Linen Storage	84	75	11%
25	Soiled Linen Storage	84	150	-56%
26	Physical Therapy	451	160	95%

	PERSONAL CARE	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Central Hair Shop	418	400	4%
2	Clothing Exchange Lobby	418	120	111%
3	Clothing Exchange	661	800	-19%
4	Workroom	479	750	-44%
5	Laundry Room	1958	1000	65%

	STAFF LEVEL 2	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Overnight Staff Room	330	300	18%
1	Overnight Staff Room	330	300	18%
1	Overnight Staff Room	330	300	18%
1	Overnight Staff Room	330	300	18%
2	Conference Room	466	400	15%
2	Conference Room	233	250	-6%
2	Conference Room	233	250	-6%
3	Information Management Office	790	500	45%
4	Research Office	1547	500	102%
5	Equipment Room	447	500	-11%
6	Women's Restroom	204	200	2%
7	Men's Restroom	204	200	2%
8	Secretary Office	151	150	1%
8	Secretary Office	151	150	1%
9	Storage Room	236	200	17%
10	Staff Lobby	964	1000	-8%
11	Classroom	544	500	8%
12	Training Officer's Office	140	120	15%
13	Locker Room	822	300	93%
14	Locker Room	822	300	93%
15	Staff Lounge	810	800	1%
16	Staff Library	745	250	99%
17	Personnel Office	83	120	-36%
17	Personnel Office	195	120	40%
17	Personnel Office	174	120	36%
18	Security Staff Office	1061	300	112%

	EDUCATION	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Classroom	747	800	-7%
1	Classroom	638	500	24%
1	Classroom	622	500	22%
1	Classroom	578	350	49%
1	Classroom	304	350	-14%
2	General Library	1410	1750	-22%
3	Legal Library	474	200	81%
4	Video Recording Classroom	539	500	8%
5	Media Preparation	372	150	85%
6	Staff Office	355	250	35%
6	Staff Office	113	120	-6%
6	Staff Office	113	120	-6%

1st Level Plan

	FOOD SERVICE	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Classroom	304	350	-14%
1	Classroom	578	350	49%
2	Staff Locker Room	266	150	56%
3	Staff Locker Room	266	150	56%
4	Food Service Office	83	200	-83%
5	Freezer Storage	358	500	-33%
6	Cool Storage	357	600	-51%
7	Dish Washing Area	586	500	16%
8	Food Preparation	1099	1500	-31%
9	Daily Supply Storage	125	100	22%
10	Dry Food Storage	642	1600	-85%
11	Cafeteria	4198	4000	5%

	GREEN HOUSE	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Green House	1155	1000	12%

	RECREATION	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Locker Room	1095	250	126%
2	Supervisor's Office	343	150	78%
3	Weight Lifting	2717	500	138%
4	Equipment Storage	1298	350	115%
5	Chair Storage	554	150	115%
6	Gymnasium	6061	7500	-21%

	SEGREGATED	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Meal Distribution Room	324	100	105%
2	Staff Control Room	345	120	96%
3	Hearing Room	413	250	49%
4	Counseling and Interview	432	100	124%
5	Recreation Area	1385	1000	32%
6	Suicide Watch	345	350	-2%
7	Multi Use Room	265	150	55%
7	Multi Use Room	524	150	110%
	Segregated Detention Cell	86	80	7%

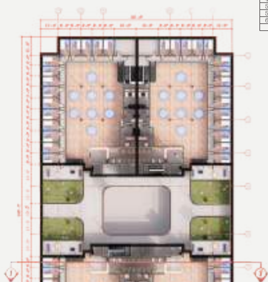
3	Sales Area	174	150	15%
4	Canteen Office	174	150	15%

2nd Level Plan

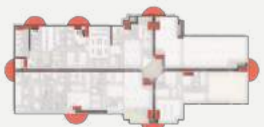
	MULTI USE	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Recreation Room	1556	1800	-15%
1	Recreation Room	451	450	0%
2	Multi Use Room	304	450	-39%
2	Multi Use Room	304	300	1%
3	Arts & Crafts Room	1227	1200	2%
4	Secure Storage	253	150	51%
3	Arts & Crafts Room	426	400	8%
5	Chapel Lobby	194	150	26%
6	Chapel	879	350	86%
7	Staff Office	243	120	68%
7	Staff Office	243	120	68%
7	Staff Office	230	120	63%
8	Quiet Lounge	569	550	3%

	AUDITORIUM	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Waiting Room	889	900	-2%
2	Kitchen	419	400	4%
3	Storage	525	300	55%
4	Auditorium	2618	2000	27%

	GENERAL	Project Sq. Ft.	Program Sq. Ft.	Difference
1	Day Room	3415	1500	78%
2	Staff Control Room	144	150	-4%
3	Showers	220	200	10%
4	Counseling	65	120	-59%
4	Counseling	65	120	-59%
5	Staff Office	65	120	-59%
5	Staff Office	65	120	-59%
6	Day Room Multi Use Room	134	150	-11%
	Detention Cell	86	80	7%



2.5 Level Plan



Level 1 Egress Plan

Level 2 Egress Plan

The egress is a cross separating the building into quadrants. The linear egress allows for efficient and clear paths. Thus, the prison will be evacuated in a designated manner. In addition, officials such as firefighters and security personnel will have clear entry into the prison and further into their destination. The hallways intend for the guards and inmates to pass by without evoking one another.

Level 2 ADA Cells, ADA Elevators & ADA Restrooms

Future Use

The need for a prison in Gallup, NM may pass, in which this prison needs to be able to change as well. The prison could be transformed into a hotel with its cafeteria and gymnasium, an office from the cells, a school that hosts a multitude of classes during the day in the various rooms, or it could be repurposed as a museum.

ADA Cell Plan

Double Cell Plan

The cell design stemmed from a need for secure views from the cells. An open path into the cell was elected. The off-centered exterior window design determined the bunk-bed and desk placement. The cells had to be stacked directly due to plumbing, so the ADA cell is sized to code for one prisoner and the remainder are suited for two.

Section 1

Visiting Room Interior Perspective

The visitor center had careful design consideration. It is important that the space is not sterile and uncomfortable and also important that this space did not resemble home life and comfort. The design had to be a blend of comfortable and uncomfortable. Thus, to take the visitor center away from the sterile environment, the walls and the ceiling took upon an enriched design. These areas are not often touched and are harder to reach, allowing for greater design freedom, allowing the design to be playful in these areas. The carpeting designates paths of where to walk while replicating the triangle pattern seen on the ceiling. The furniture is kept simple and open to maintain a secure environment.

Staff Lounge Interior Perspective

Bright colors and diverse patterns bring the staff lounge to life. Since prisoners are not in this area, the design did not need to focus on security. A variety of furniture options are implemented alongside a variety of wall textures. Instead of having a water feature in the space, a water motif is seen in the wallpaper. The compelling ceiling design then holds the entire room together.

Aerial Exterior Perspective

Chapel Interior Perspective

The chapel is used as a private place of worship for prisoner and staff use. It features a roof pond that allows natural light into the space while it obstructs distractions in the sky. It returns the focus in the space to the happenings of the chapel. The floor, then, reflects the outline set in the ceiling to separate walking paths from the pews. It is a small and intimate space intended to bring peace and restoration.

Chapel Interior-Section-2

Cell Interior Perspective

Cell Pod Interior Perspective

Zone Security Map

Entrance Exterior Perspective

Level 1 Circulation Plan

Level 2 Circulation Plan

The circulation diagram follows the staff- orange, inmates- blue and visitors- red. Following a typical day, these paths showcase the dynamics of the floor plan circulation paths.

Level 1 Activity Rooms

Level 2 Activity Rooms

A Day in the Life

Inmate

4am	
5am	*Breakfast*
6am	*Report to work assignment/ attend classes/ personal time*
7am	
8am	
9am	
10am	
11am	
12am	*Lunch*
1pm	*Report to work/ go to gym/ recreation activities*
2pm	
3pm	
4pm	
5pm	*Dinner*
6pm	*Attend classes/ call families/ watch television*
7pm	
8pm	

Guard

Wake up & get ready
Punch in
Receive assignment
Relieve the previous shift
Conduct a round
Count inmates
Let inmates out
Answer the phone
Deal with minor issues
Respond to a fight?
Eat
Lock inmates back into their cells
Count inmates
Wait for relief
Punch out
Go home

Making the prison habitable puts the desire to escape out of mind. When an environment that is comfortable and suitable for long-term use factors that might conjure the need to escape are eliminated. Here, inmates' time can be purposeful. With a chapel for self reflection, art studios to create hand made works and various classrooms throughout the prison for hands on skill improvement, this prison intends to fill its users time with positive activities.

Engage Relieve Encourage

Garden & Field Exterior Perspective

Color Palette

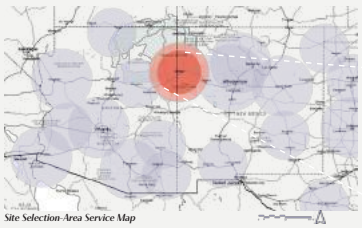
The desert landscape boasts an array of colors, ranging from sandy yellows to rusty oranges, deep reds and muted greens. These hues complement the traditional Navajo weaving patterns, creating a harmonious and visually striking color palette.

Window Design

Since openings in secure walls can be no more than 5 inches wide due to code, the cell block windows are thin. Their design is a combination of three notions. The windows reflect arches used in New Mexico architecture that are then inverted on both ends. Their staggered effect is found as the stitches used Navajo weaving patters. Then, the cascading flow of the windows is inspired by the project's connection to water.

Material Selection-Concrete Precast Panels

Material uses dominated the design of the exterior. The materials reflect natural stone from New Mexico. The project was inspired by limestone, sandstone and slate. These materials pushed the design and lead to a variety of ideas. Pre-cast concrete is used for durability, production replication and security precautions. A portion of the metals use in the project reflect copper since it is mined in New Mexico.



Site Selection-Area Service Map

New Mexico has the greatest amount of crime of any state in the United States of America, comes in 30th for its imprisonment rate and their prison capacity is predicted to exceed capacity in 2024. Therefore, additional inmate beds/ prisons are required.

Just Outside of Gallup, NM

This site was chosen for its connection to Gallup. It is important to have a property that is large enough to hold the main prison building as well as relatively flat land to reduce construction costs.

Site in Gallup, NM

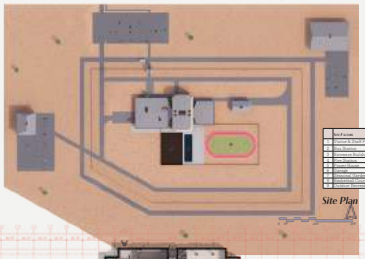
McKinley County Detention Center

Garden Exterior Perspective

Courtyard Exterior Perspective

Cell Pods Exterior Perspective

The program total for the inmates housed in a 500 This accommodates the prison's needs. This prison can house 622 inmates in general housing and 26 inmates in solitary at maximum capacity With double cells, the prison can either hold one or two inmates in each. This provides flexibility to fit the needs of the prison.



Site Plan

Life continues in prison. During this time alloted to reflection, daily hands on activities engage inmates with positive outlets through workshops, creative classes and use of courtyards and outdoor walking paths.

South Elevation

East Elevation

West Elevation

North Elevation

1st Level Plan

Section 1

The zone security map delineates the three levels of security used in this prison. The levels determined their exterior conditions. The segregated housing is in the red zone. It requires the greatest security, since inmates alone are in their cells 23 hours a day. The soft pink zone is the general housing. Inmates spend time not directly supervised in their cells, thus, the exterior has to be secure. The purple zone has minimum security because where there is an inmate, there is direct supervision.

Zone Security Map

Visiting Room Interior Perspective

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2nd Level Plan

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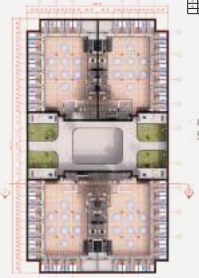

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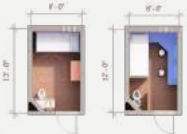

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Level 2 Activity Rooms

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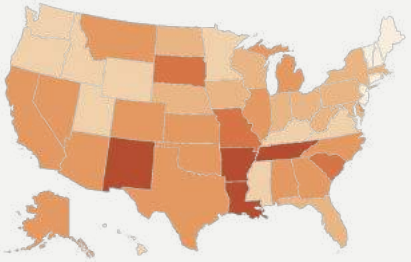
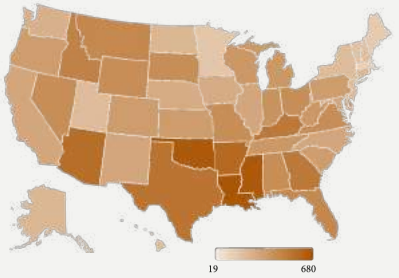
Building For Hope

Site Selection



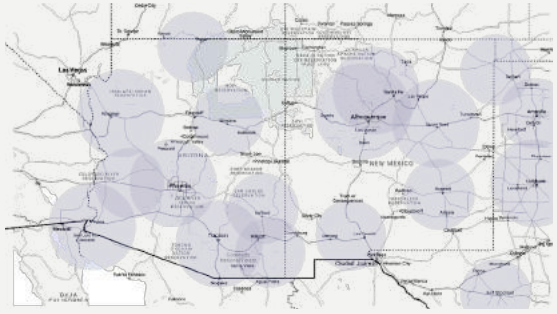


800 or More
600 - 800
500 - 600
400 - 500
300 - 400
200 - 300
Less than 200

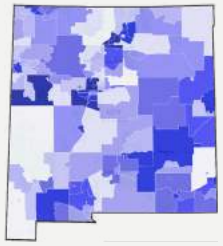
US Violent Crime Rate Map (from Wikipedia)

State Imprisonment Rate (from Sentencing Project)

New Mexico has the greatest amount of crime of any state in the United States of America, yet it comes in 30th for its imprisonment rate.

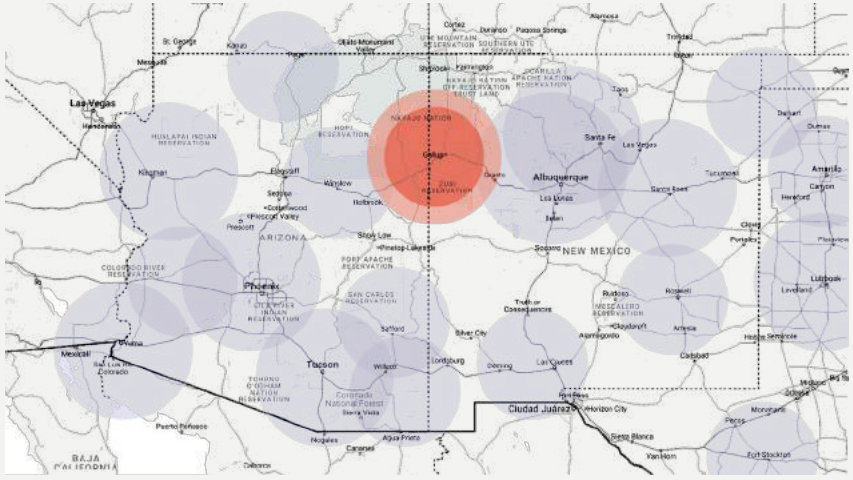


A Visual Representation of Safest to Most Dangerous Counties in New Mexico from 2021 Data



Safest — Most Dangerous

New Mexico Crime Map (from Neighborhood Scout)



Aerial View of Site (from UNM Gallup)

Case Studies

Figure 141–Anstalten Perspective (from *SHL Anstalten Correctional Facility*)

Figure 145–Anstalten Perimeter Wall (from *SHL Anstalten Correctional Facility*)

Figure 160–Kimberley Housing Building 1 (from West Kimberley Regional Facility)

Research

Restricted Native Worship

Navajo Woman (from Ohio University)

Guard PTSD

Correctional Officers (from California Department of Corrections)

Inmate Education Programs

Prison Classroom (from Federal Bureau of Prisons)

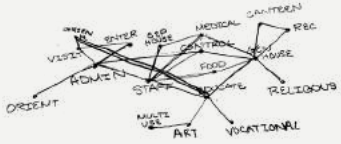
Goals

ENGAGE the surrounding community with a suitable prison.

RELIEVE prison guards of strenuous security duties.

ENCOURAGE life in prison.

Design Process



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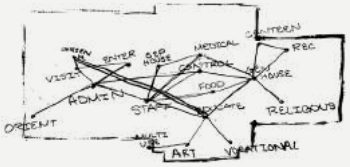
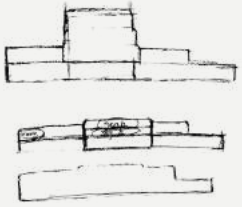
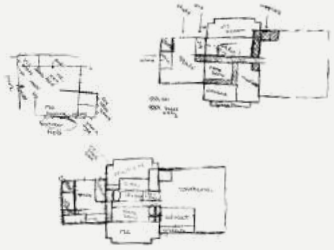
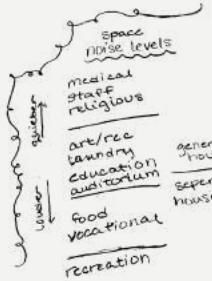
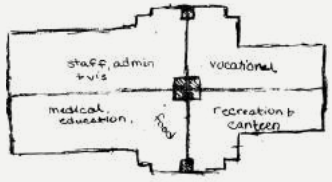
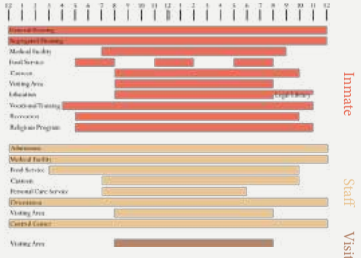


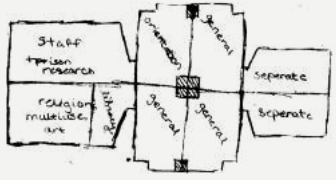


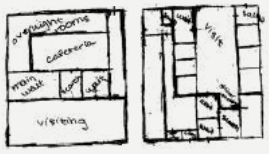


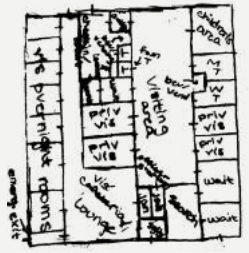


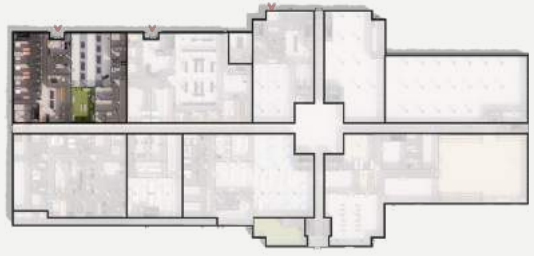






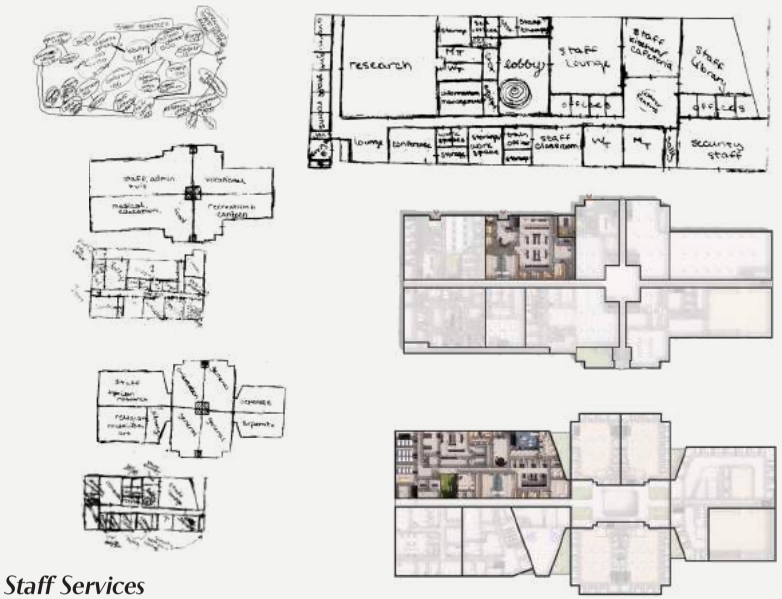




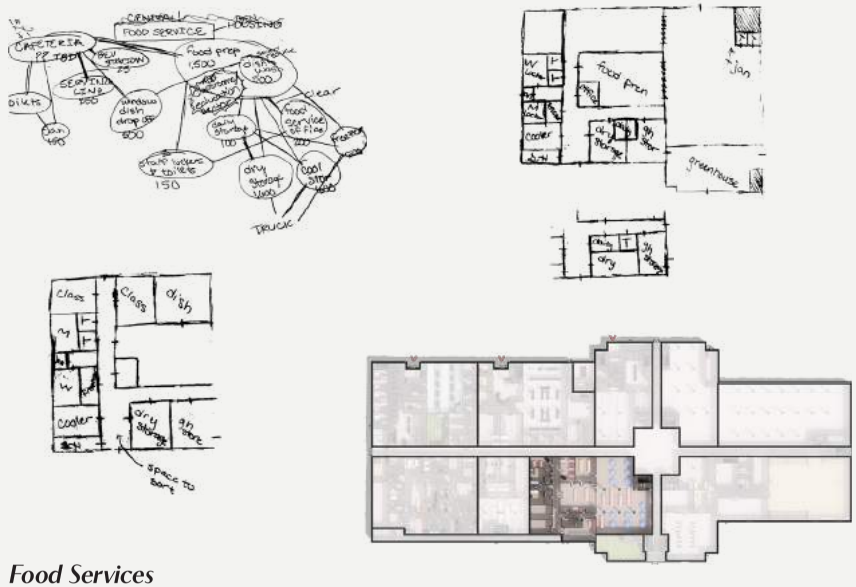


Visitation

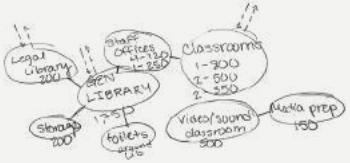
ENGAGE the surrounding community with a suitable prison.

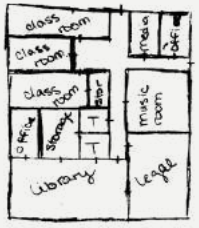


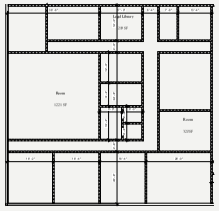
Staff Services

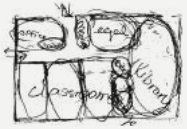


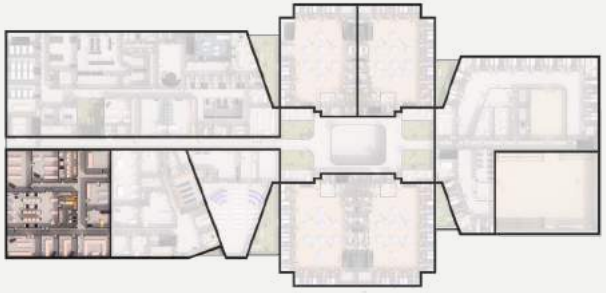
Food Services



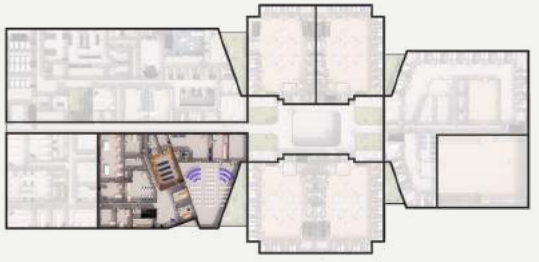




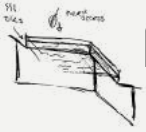


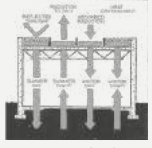


Education

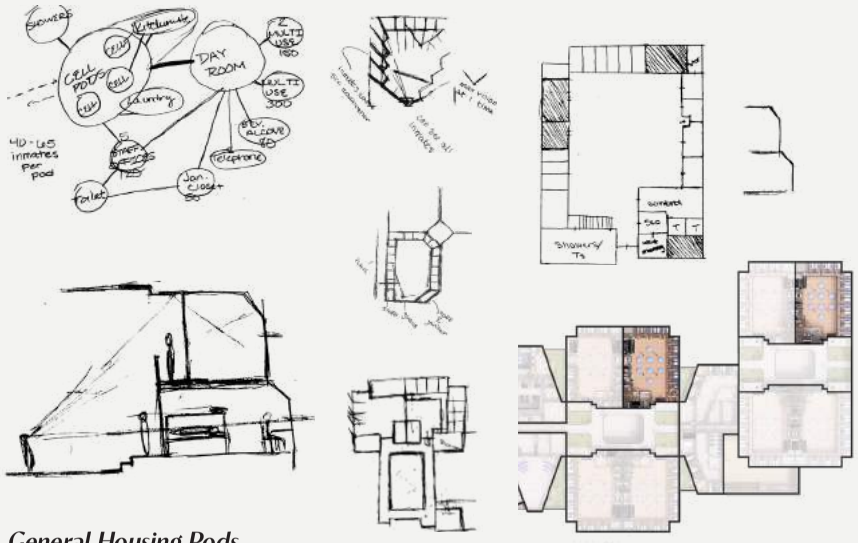


Religious & Multi Use

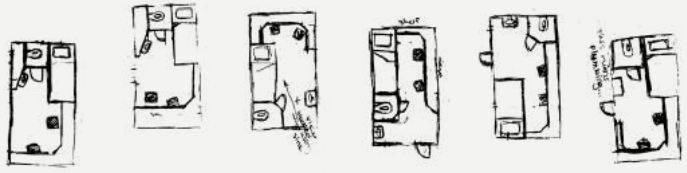


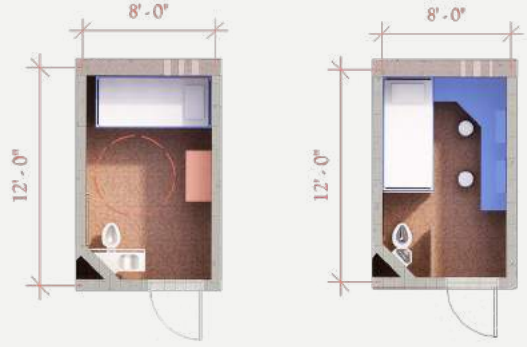


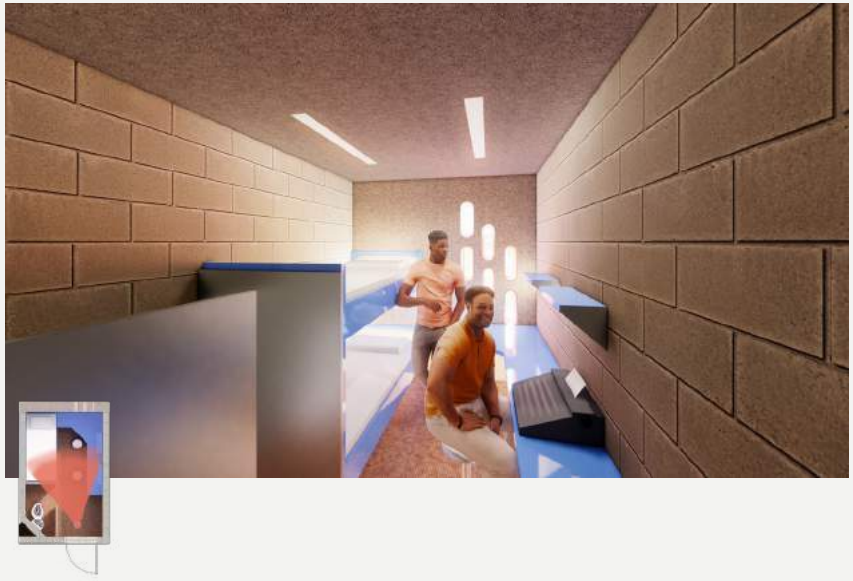
Roof Pond System
Night Radiation (from Passive Heating)

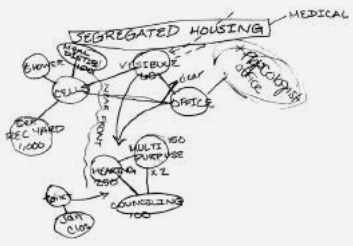


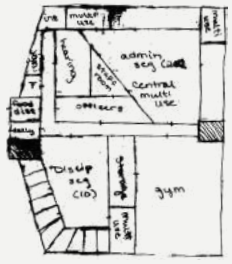
General Housing Pods

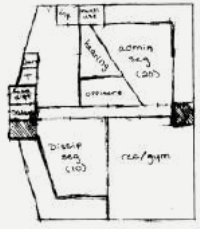


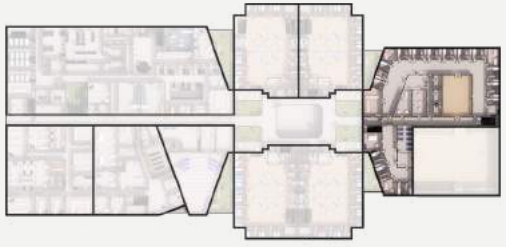












Segregated Housing

Level 1

Level 2

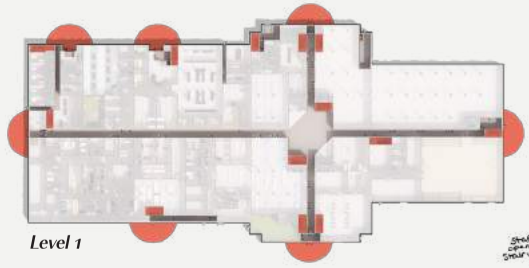
Level 2.5

RELIEVE prison guards of strenuous security duties.

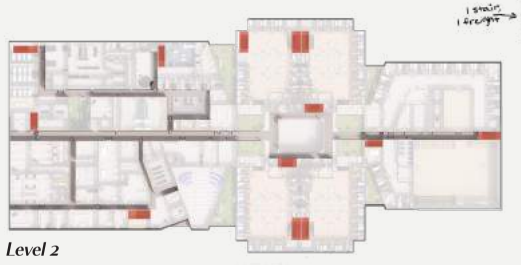
Level 1

Level 2

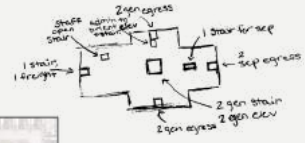
Circulation Paths



Level 1



Level 2



Egress Stairwells & Exits

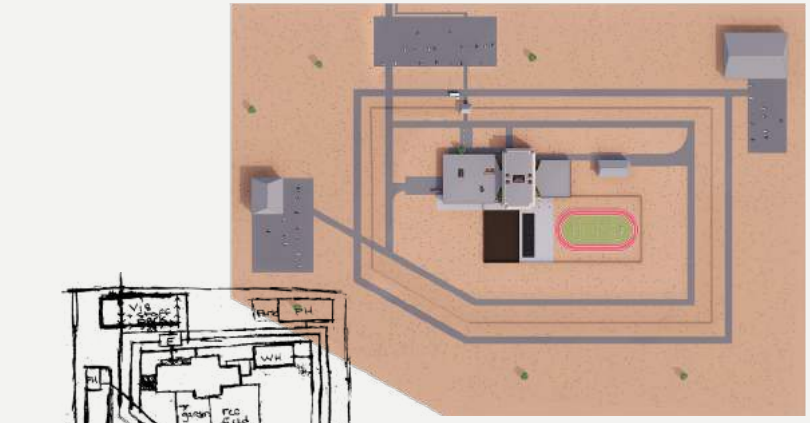
A Day in the Life

	Inmate	Guard
4AM		Wake up & get ready
5AM	Breakfast	Punch in
6AM	Report to work assignment/ attend classes/ personal time	Receive assignment
7AM		Relieve the previous shift
8AM		Conduct a round
9AM		Count inmates
10AM		Let inmates out
11AM		Answer the phone
12AM	Lunch	Deal with minor issues
1PM	Report to work/ go to gym/ recreation activities	Respond to a fight?
2PM		Eat
3PM		Lock inmates back into their cells
4PM		Count inmates
5PM	Dinner	Wait for relief
6PM	Attend classes/ call families/ watch television	Punch out
7PM		Go home
8PM		

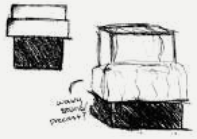
Level 1

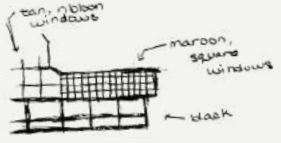
ENCOURAGE life in prison.

Level 2

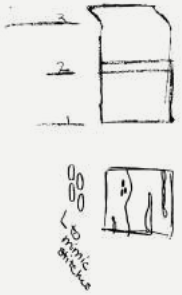


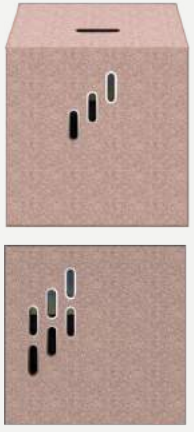
The Site





Morello Brothers Saloon and Palace (from Mapio)





Navajo Woman Herding Sheep (from New York Times)

Navajo Weaving (from Navajo Rugs)


Mckinley County
Staff Entrance

THESIS APPENDIX

Research Appendix

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These methods can be applied to already built prisons. When implementing new techniques and methods in prison management, it is important to consider the existing infrastructure and layout of a facility. Correctional staff can incorporate mindfulness-based practices into their daily routines by simply facilitating quiet meditation sessions or practicing yoga with inmates in communal spaces such as gyms or outdoor yards. Additionally, implementing positive reinforcement strategies, such as providing incentives for good behavior or offering educational and job training programs, can improve the overall morale and well-being of prisoners regardless of the facility's age or design. By evaluating each prison's unique strengths and limitations, professionals can adapt evidence-based practices to fit within their individualized context to create a positive impact on both staff and inmates alike.

Previous Studio Experience

2ND YEAR	
Milton Yergens	Land Artist Studio Dwelling, Boathouse
Ronald Ramsay	Small Dwelling, Birdhouse, Safe House
3RD YEAR	
Paul Gleye	Cultural Art Center, Student Resource Building
Emily Guo	Nursing Home
4TH YEAR	
Cindy Urness	High-Rise
David Crutchfield	Residential, Affordable Housing
5TH YEAR	
Ganapathy Mahalingam	Thesis Project, Prison Design