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FIG. 001 - VARIOUS PRISON WEAPONS CONFISCATED BY OFFICERS AT PELICAN BAY PRISON.

ABSTRACT

Currently over 2.4 million people are incarcerated in the state prison system in the United States. This figure is a result of dramatic spike in incarceration since 1980, in which the U.S. prison population has grown 800%. The U.S. prison population far out numbers every other country on a per capita basis. Today, 734 of each 100,000 Americans are behind bars. Within this population, two statistics stand out: 72% of prison inmates are incarcerated are there for non-violent offenses and 55% of the overall prison population is serving time for drug related charges.

Decades of "get tough on crime" initiatives and a poorly devised and implemented drug war have taxed the prison system beyond its capacity. The prison system has long been based on a theory of punishment and atonement. Harsh sentencing guidelines put in place by the justice system were designed to deter crime, and in the alternative, to dissuade criminal offenders from ever returning to the prison system. Underlying the prison system's ideology is that offenders will be rehabilitated in prison and will be less likely to re-offend. Research has shown that this is not the case. Truly, five year prison recidivism rates linger at 70%. The prison system has become a failed experiment that perpetuates itself.

The flaws within the U.S. prison system become more apparent every day and the future of the incarceration prototype is of paramount importance. This thesis explores to what extent architecture can move prisons closer to their goal of rehabilitation and reduced recidivism. Prison conditions, prisoner-officer relations and the psychology of value and worth are evaluated as principal factors in the effort to reform this underachieving model of society.

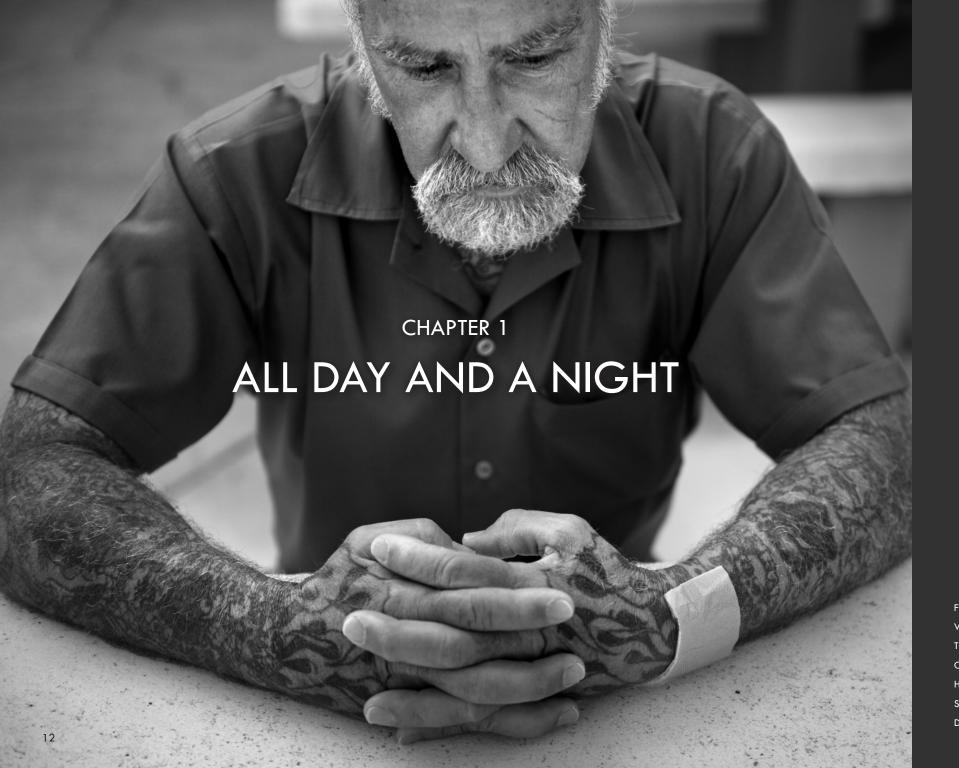


FIG. 002 - 63-YEAR-OLD VIETNAM
VETERAN BRUCE HARRISON AT
THE FEDERAL CORRECTIONAL
COMPLEX COLEMAN IN FLORIDA.
HE IS SERVING A 50 YEAR
SENTENCE FOR NON-VIOLENT
DRUG-RELATED OFFENSES.

NARRATIVE

Beginning in the early 1970's the United States took action against it's growing drug problem. President Nixon enacted legislature that enforced strict penalties for a large range of drug-offenders - from the high-level distributors to the lowest tier users. This caused a massive rise in the prison population; leading to overcrowding, poor facility conditions and ultimately declining prisoner relations.

In the following decades, the condition of the American prison system would be undergo startling changes. Instead of the focus being on the rehabilitation and eventual reintegration of inmates back into society, it shifted to something much more disparaging. Today, prison is an environment of damnation and punishment that is aimed at the stripping away the humanity of the incarcerated. The eventuality of this model turned the common prisoner into a faceless statistic and the effectiveness of the prison as a social tool diminished.

The reality of prisoners is a stark one. Based on crimes against others and society, they enter an oppressive environment defined by the violence, paranoia, dehumanization, and depression within it. They are surrounded by architecture designed to strip away their privacy, dignity, and humanity. Their reality becomes one devoid of all the things that might engender the type of self-reflection and rehabilitation the system should seek to promulgate in prisoners prior to release. Simply put, prison does not provide prisoners with opportunities to grow into better citizens; instead, prison creates a state of perverse institutionalization that hardens prisoners and substantially decreases their odds of leading a productive life outside of prison.

Prisons in the United States are designed in a way that focuses on stripping liberties, amenities and comfort. Personal effects are removed. Individuality is lost. Confidence in personal safety and security is compromised. The typical prison design prototype is a model of efficiency and is made up of concrete walls, metal bars and artificial lighting. Facilities are first and foremost designed with authority in mind, not humanity. The focus on the inmate experience is lost within our culture of "don't do the crime if you can't do the time" mentality. As a society, we would rather push the incarcerated out of our minds than face the level of depravity that our penal system is willing to sink to; as evidenced by the startling inhumanity of certain solitary confinement conditions.

Even the most minor offenders are likely to commit future crimes after spending time in prison. The altered reality that they are thrust into requires great adaptation. Not only have they lost their freedom, they have been placed into a hostile environment that is perpetuated by feelings of punishment, loneliness and loss. Self-worth and value are no longer part of their personal image. Inmates react to this sensation through any number of violent actions, whether internally or otherwise.

As a result of their prison experience, released individuals often find it impossible to reintegrate into society. Most leave the facility with only the clothes on their backs; pushed out the gate and left to fend for themselves. Desperation leads to further criminal activity, another arrest, and more time in prison.

The prison experience is the integral influencing factor in the relationship between the

inmate and society. We can no longer afford to justify inhuman treatment for those who may have acted inhumanely themselves. Our country is not operating under the guidelines that constitute liberty and justice for all.

In order to reform this malfunctioning model, focus must be placed on the incarceration environment. Prison is a place where we keep those who have defaulted from the societal model. Criminal offenders lose the freedom to sleep in their own beds, see loved ones constantly, eat the food they want everyday, etc. They do not lose their fundamental human rights or civic liberties. Society has a moral obligation to treat inmates with dignity and respect, regardless of the offense.

The design of our prisons must reflect this obligation. It cannot be forgotten that prisoners are only temporarily being removed from society, and that they will return as products of their correctional environment. The modern prison facility must humanely provide safety and security for all while instilling inmates with a sense of self-worth and the opportunity for reformative growth.



PROJECT TYPOLOGY

Excluding the death penalty, prison is the harshest punishment that courts of law have at their disposal. Today, prison is used as just that - a punishment for breaking the law. In the 16th and 17th century prison was used more as a holding area for those awaiting trial, much like the modern jail facility. During this time punishment was carried out directly on the guilty parties by whipping, flogging or otherwise. These punishments were held publicly as to act as a deterrent for observers. Prison facilities were poorly maintained or not maintained at all, and led to extremely high rates of illness and death. (Howardleague.org, 2016)

Later in the 18th century a period of enlightenment in began to take hold in Europe. Public opposition of the death penalty was gaining support as new ideas began to take hold regarding human nature, liberty and freedom. New societal conventions began to shift towards using incarceration as a punishment for crime, rather than previously practiced physical means. This change was an early indication of the modern day idealogy of incarceration, wherein the severity of the crime dictates the extent of time an individual will lose their liberties and freedoms. This period is characterized by Jeremy Bentham and his infamous 'panopticon' prison model, in which prisoners were organized around a central observer for maximum control. (Figure 003) (ADPSR, 2016)

Outrage over the prison model came to a head in the 19th century. Capital punishment was now viewed as unacceptable except for convicted murderers. A reformatory movement began that attempted to convert prisons into facilities of reform, rather than just punishment. The first state prison opened in London in 1816 and was characterized by many modern day

FIG. 003 - JEREMY BENTHAM'S PANOPTICON PRISON MODEL IN PRESIDIO MODELO, CUBA qualities - large inmate population, separate cells, shared common areas and mandated work and activities. By the onset of the 20th century several official efforts were made regarding the prison environment, including the establishment of an official Prison Commission to oversee operations. Despite earlier efforts to establish prison as a reformatory environment, struggles between opposing idealogies prevented progressive change and conditions deteriorated. (ADPSR, 2016) (Morris & Rothman, 1998)

The idealogy of the prison system in the beginning of the 20th century was characterized by progressive thought, but not by action. In America, new facilities began construction that were intended to be representative of these new idealogies. However, without a formal governing body overseeing the prisons, the institutions promptly developed their own systems of prisoner treatment. The notoriously deadly Sing Sing prison was one of these 'progressive' facilities. (Howardleague.org, 2016)

In the 1940's prisoner treatment once again came into the light as an important issue, leading to the Criminal Justice Act of 1948 which outlined and abolished certain inhumane prisoner punishments. In the following decades prison conditions saw slight improvements as societal pressure strengthened, but remained largely unregulated as a whole. In the 1980's the United States became engaged in a "War on Drugs", which helped to

usher in the modern day prison model characterized by large populations in remote maximum security facilities. (Drugpolicy. org, 2015) (Kurian, 2006)

Despite centuries of effort to reform the prison environment, complaints of human rights violations are still commonplace today. In the United States, prisons are dangerous environments wherein violence and mayhem are expected aspects of life. Due to this and multiple social and political factors, U.S. prisons boast a staggering recidivism rate of nearly 70%. In addition, the privatization of prisons have turned incarceration into a business of which an inmate is more valuable behind bars then they are as free citizens.

TYPOLOGICAL RESEARCH INTRODUCTION

In order to effectively conceptualize the prison of the future, it is important to analyze precedent facilities and gain an understanding of previous successes and failures. Each case study is chosen based on multiple factors, including: location, proximity to free citizens, operational philosophy, facility design and historical interest.

Each exhibit is representational of a facility that has impacted the history of prison design while concurrently displaying distinct views on criminology and penology. Due to the restrictive and often confidential nature of the prison typology, exhibits were chosen partly based on the availability (and applicability) of public information. Other mentionable facilities include Pelican Bay State Prison in Crescent City, CA and the Metropolitan Correctional Center in Chicago, IL.

EXHIBIT A: SING SING PRISON, OSSINING, NEW YORK, USA

EXHIBIT B: HALDEN PRISON, NORWAY

EXHIBIT C: BASTOY PRISON, NORWAY



LOCATION

IS IT LOCATED IN THE UNITED STATES OR IS IT AN INTERNATIONAL FACILITY?



PROXIMITY

WHAT IS NEAR THE FACILITY? IS IT IN CLOSE PROXIMITY TO RESIDENTIAL OR COMMERCIAL POPULATIONS?



PHILOSOPHY

IS THE FACILITY FOCUSED ON REHABILITATION
TECHNIQUES? HOW ARE INMATES TREATED BY STAFF?



DESIGN

HOW IS THE FACILITY DESIGNED? IS IT SECURE? DOES IT CONSIDER HUMAN NEEDS?



HISTORY

WHAT IS THE HISTORICAL CONTEXT OF THE FACILITY?

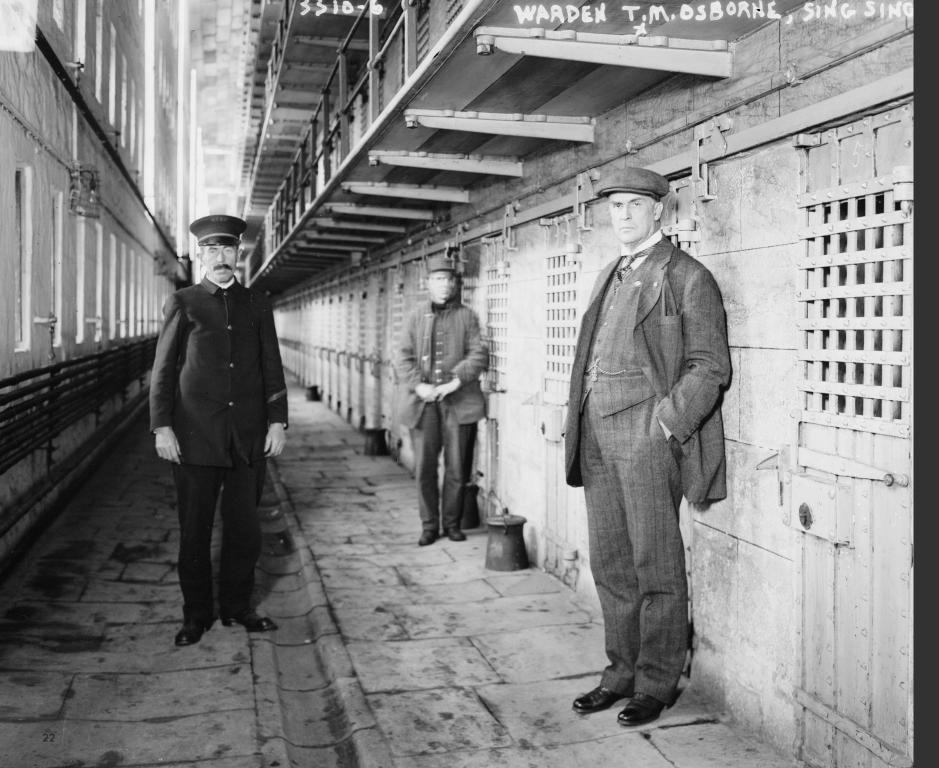


EXHIBIT A: "UP THE RIVER"

SING SING CORRECTIONAL FACILITY
OSSINING, NEW YORK, UNITED STATES
OPENED IN 1826
CURRENTLY OPERATIONAL

Amidst overcrowding concerns at New York's two original state prisons - Auburn and Greenwich Village - the Sing Sing Correctional Facility was commissioned. Shortly thereafter construction began on a plot of land along the banks of the Hudson River in Ossining, New York. The native inhabitants of the land were the *Sint Sink* people, whose name is roughly translated to "stone upon stone." The *Sint Sink* adopted this name in reference to the abundance of stone quarry that existed in their village. The prison adopted an altered version of native name and Sing Sing opened in 1826. (Levine, 2016)

100 inmates were ushered to the new site, where they immediately began construction. There were no structures at Sing Sing when the prisoners arrived. Two years later, after months of backbreaking inmate labor, the original cell block was completed. It had four levels of cells, each cell measuring 7 ft x 3 ft x 6 $^{1}/_{2}$ ft. (Figure 006). (H. Lienhard, 1997)

Over the following decades, life at Sing Sing would be characterized by manual labor, torture, malnutrition, depression, executions and suicide. At this time, there was no code of conduct that governed prison guards. Prisoners had no rights once-so-ever and thus they were at the full mercy of the administration. This translated into a variety of dehumanizing regimes, including the "silent system" in which prisoners were forbade to speak, write or

FIG. 004 - SING SING PRISON WITH WARDEN T. M. OSBORNE AND TWO OTHER MEN IN 1915 otherwise converse with one another. They were forced to work, eat and sleep in silence. Offenders were swiftly and aggressively punished with beatings, torture, solitary confinement or, more likely - all of the above. Common belief said that those who were unlucky enough to be sent "up the river" to Sing Sing were likely to never return. (Gado, n.d.) (Robbins, n.d.)

ORGANIZATION AND DESIGN

Sing Sing is located on the bank of the Hudson River in present day Ossining, New York. It is approximately 30 miles north of midtown Manhattan. The complex is organized in a lineal and contained fashion, characterized by the centralized services and administration with flanking cell blocks A & B (Figure xx). Cell blocks are stacked and multi-story. Interconnected buildings with internalized pathways, attached and adjacent recreation spaces and use of support services near security perimeters suggest this organization style. (Krasnow, 1998) (Robbins, n.d.)

Major elements are denoted as follows: green locates existing guard towers, solid red lines are solid walls, dotted red lines are fences, solid blue lines show pathways, and the solid orange line denotes a railway. (Fig. 007) (Ballard, 2015)





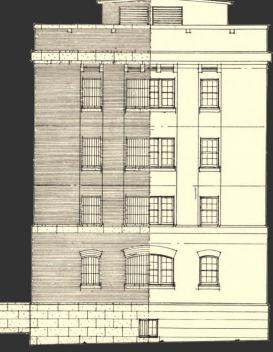
FIG. 005 - SING SING FROM THE HUDSON RIVER
FIG. 006 - TYPICAL 7 FT X 3 FT X 6 1/2 FT WINDOWLESS CELL
FIG. 007 - SITE DIAGRAM



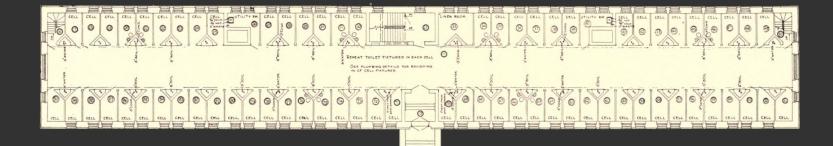
SUMMARY

For 189 years, Sing Sing prison has been a poster child for prison misconduct and the inhumane treatment of prisoners. At the time it was constructed modern views on ethical standards were not yet in place. As a result, this institution operated lawlessly for many decades.

Today, Sing Sing is still in operation and houses about 2,000 inmates. The surrounding town of Ossining supplies many of the security and administrative staff for the prison. Otherwise, the impact on the town has been minimal; Sing Sing is relatively inconspicuous and hides all internal activities behind a perimeter-wide wall. There have only been a handful of documented escape attempts throughout the prison's almost 200 year history.



FIGS. 008-009 - DETENTION CENTER ELEVATION & PLAN



SING SING PRISON

NATURAL LIGHT IN LIVING QUARTERS	1	2
SAFE LIVING QUARTERS	0	2
COMFORTABLE LIVING QUARTERS	0	2
PERSONAL ITEM ALLOWANCE	1	2
WARM MATERIALS	0	2
ACCESS TO NATURE	0	2
SANITARY CONDITIONS		2
NMATE INDIVIDUALITY	0	2
NMATE PRIVACY	0	2
GUARD SAFETY	1	2
NMATE SAFETY	1	2
COMMUNITY SAFETY	2	2
NMATE-GUARD RELATIONSHIPS	0	2
rehabilitative environment	0	2
EDUCATIONAL OPPORTUNITIES	1	2
EMPLOYMENT OPPORTUNITIES		2
recreation availability	1	2
GOOD BEHAVIOR INCENTIVES	0	2
VISITATION AREAS		2
HEALTH CARE SERVICES	2	2
PSYCHIATRIC SERVICES		2
SOLITARY CONFINEMENT	-2	0

TOTAL 14/42

EXECUTIONS

0 = ELEMENTS NOT PRESENT 1 = ELEMENTS PARTIALLY PRESENT 2 = ELEMENTS FULLY PRESENT

CONCLUSIONS

Depending on the side of the "wall" you are standing on, Sing Sing has either been a model of efficiency or among the most brutal prisons ever constructed. From the standpoint of the state it has been a successful tenure; it has been in operation for nearly 200 years and possesses a strong safety record. However, those whom experienced the conditions on the inside tell a different story. For the purposes of this evaluation, Sing Sing has been successful - but only in the way that war successfully kills the enemy soldiers. In reality, Sing Sing was a machine for torture, fear and death for countless inmates spanning over many decades.

Architecturally speaking, the prison is organized safely and efficiently. The campus-like layout and limited passageways have successfully maintained order and the control of inmates. The sloped site is used well to hide the facility and make escape more difficult.



EXHIBIT B: "HALDEN FENGSEL"

HALDEN PRISON
HALDEN, NORWAY
OPENED IN 2010
CURRENTLY OPERATIONAL

Norway's Halden Prison is considered to be one of the world's most humane prisons. It is structured around the knowledge that all prisoners will eventually be released back into society (Norway has a maximum sentencing period of 21 years). Norway believes that when prisoners become free again, they will react to the outside world as products of their correctional environments. In response comes the radically progressive Halden Prison, in which much of the stereotypical prison garb is foregone in favor of more human-centric elements.

The facility lacks barred windows, barbed wire fences, guard towers or armed guards of any kind. The environment is non-threatening and inmates are allowed privacy throughout most activities of their days. Guards and inmates regularly socialize and take place in games with one another. Cell blocks are designed to provide for freedom of movement between personal cells and public areas. Inmates have access to cooking and laundry facilities in which they use to provide their own food and clean linens. (Benko, 2015)

Halden has put forth a system that based on opportunity. Inmates are given the chance to become better members of society, prison or otherwise. Model prisoners receive several privileges, while those with a history of insubordinate behavior have their amenities taken. The culture positively affirms any inmate that is willing to act in a civilized manner. (Kofman, 2015)

FIG. 010 - ARCHITECTURAL

MATERIALS AT HALDEN PRISON

ORGANIZATION AND DESIGN

On the outskirts of the town of Halden, at the end of a long and narrow road, sits an amoebic chain of wall offset by the small access road that surrounds it. To enter the complex, visitors pass through the centrally located gate, immediately encountering the administrative and intake building. Inside the walls, the complex functions like a campus or small community might. Housing units occupy the perimeter and community space is in the middle, along with designated space for working. (ArchDaily, 2011)

Built in the modern era, Halden Prison is designed with all of the latest technologies and provides a user friendly experience. The structures are all new and clad with architecturally-chosen materials, in contrast to the typical concrete block construction as seen often in prison design. The site, located just outside of its namesake town, is organized radially behind a perimeter security wall. The experience within the walls is similar to that of a campus, with ample nature elements included. Inmates are allowed, even encouraged to leave the residential units. The prison provides many opportunities for activities, education and work. (Benko, 2015)







FIG. 011 - COURTYARD FIG. 012 - EXTERIOR FIG. 013 - INMATE CELL



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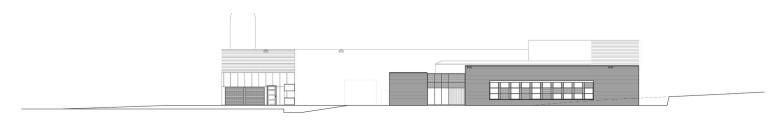


FIG. 015 - BUILDING Y - WORK UNIT - EAST ELEVATION



FIG. 016 - BUILDING F - ADMINISTRATION AND ARRIVALS - EAST ELEVATION

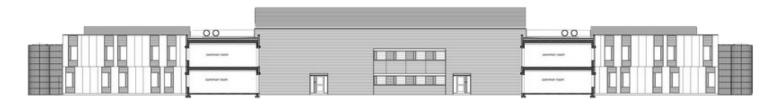


FIG. 017 - BUILDING B - RESIDENTIAL UNIT - EAST ELEVATION

HALDEN PRISON NATURAL LIGHT IN LIVING QUARTERS 2 2 SAFE LIVING QUARTERS COMFORTABLE LIVING QUARTERS PERSONAL ITEM ALLOWANCE WARM MATERIALS **ACCESS TO NATURE** SANITARY CONDITIONS INMATE INDIVIDUALITY INMATE PRIVACY **GUARD SAFETY** INMATE SAFETY COMMUNITY SAFETY INMATE-GUARD RELATIONSHIPS REHABILITATIVE ENVIRONMENT **EDUCATIONAL OPPORTUNITIES** RECREATION AVAILABILITY GOOD BEHAVIOR INCENTIVES VISITATION AREAS HEALTH CARE SERVICES PSYCHIATRIC SERVICES SOLITARY CONFINEMENT EXECUTIONS

TOTAL

0 = ELEMENTS NOT PRESENT 1 = ELEMENTS PARTIALLY PRESENT 2 = ELEMENTS FULLY PRESENT

SUMMARY

2 2

Those with a familiarity of the United States prison system often accuse Halden of being too soft on criminals. Over the past several centuries, the established standard was focused on deterrence through punishment. In short, the threat of incarceration and the unfavorable conditions of prison were used as deterrents of crime. Halden prison breaks away from these ideals, instead focusing on the rehabilitation of criminal offenders.

As a country, Norway is politically progressive. They pride themselves on supporting radical views on humanity, as well as other important issues. For example, the maximum single prison sentence that can be issued for any crime is 21 years. As a reflection of these ideals comes the Halden Prison.

CONCLUSIONS

It is important to understand that Halden Prison is still young in its conception (built in 2010), and time will be needed to fully understand its impact on prisoners and society. From a human-centric standpoint, the program is a success. It completely turns a blind eye to the aggressive standards of the past. Prisoners are treated fairly and humanely while being allowed certain (restricted) freedoms. Additionally, they are rewarded for good behavior and stripped of benefits for the opposite.

The initial results of the design at Halden are positive. The facility is organized in a safe and secure manner without imposing negative impressions.



TYPOLOGICAL RESEARCH - EXHIBIT C: "BASTØY FENGSEL"

BASTØY PRISON

BASTØY ISLAND, NORWAY

OPENED IN 1982

CURRENTLY OPERATIONAL

45 miles South of Oslo, Norway, on a tiny island in the middle of the Oslofjord Inlet, resides the Bastoy Prison. Measuring only one square mile, the island is home to approximately 115 prisoners and accommodates 60-70 staff (only 5 of which remain overnight). It is the largest minimum-security prison in Norway and it keeps men committed of murder, rape, drug trafficking and otherwise. ("Bastøy Prison," 2016)

There are no walls, barbed wire or other typical prison elements on the island. Several small groups of prisoners are housed in stand-alone homes scattered throughout the island, while the rest are located in a larger main building which operates much like a college dorm. The administration evaluates prisoners on a individual basis to determine their optimum housing situation. Both housing types have individual rooms and allow personal items and amenities. (James, 2013)

All prisoners of Bastoy are required to be employed on the island. Jobs include farming, ranching, horticulture, cooking, construction, maintenance and more; all of which pay roughly \$10.00 per day. The money earned belongs completely to the prisoners, and can be used to purchase goods from the commissary or be sent to loved ones on the mainland. Bastoy is organized like a small community and has approximately 80 separate buildings, of

FIG. 018 - BASTOY ISLAND

which include workshops, a library, health and medical services, a school and a church. (James, 2013) (Chih-Huei Wendy Wang, 2010) ("Bastøy prison," 2012)

Serving a sentence at Bastoy is viewed as an opportunity by the administration. The majority of the population is made up of transfers from other facilities, although some are assigned there directly. Prisoners can request a transfer to Bastoy by submitting an application. The administration reviews the cases and grants a transfer based on worthiness of the individual. The main aspects of Bastoy Prison are opportunity and rehabilitation, and those who are striving towards these are welcome. Similarly, those who abuse this system through insubordination are promptly transferred to other facilities. Escape attempts are extremely low despite the close proximity to the mainland, which can be crossed by swimming. (Sutter, 2012)

ORGANIZATION AND DESIGN

Arguably the most non-institutional prison in the world, Bastoy defies the typical prison expectations. It is operated like a small community and it is largely self-sustaining in terms of food, water and energy production. Prisoners are responsible for managing their own cottages, which are scattered among the evergreen

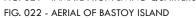






FIG. 019 - INMATES AT WORK
FIG. 020 - INMATES CALL HOME

FIG. 021 - INMATE FROM LIVING QUARTERS





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trees and farmland throughout the island.

SUMMARY

Bastoy Prison is one of several atypical prison environments in Norway. The overriding criticism of these prisons is that criminal offenders are being treated too nicely and being allowed too many luxuries based on the offenses they've committed. In United States and other parts of the world, prison is used as a deterrent to crime. Such that, people do not commit crime because they fear the punishment of prison. Critics argue that places like Bastoy remove that deterrent and therefor devalue their penal system. However, the statistics tell a different story. At Bastoy Prison the three-year recidivism rate is only 16%. In the United States this same rate rests around 43%.

CONCLUSIONS

Forgoing the statistical gap between these differing models, the question of which system is best comes down to a question of humanity and society. The U.S. system is focused on getting vengeance against those who have broken the law. If someone commits a crime and hurts another being, they are expected to

BASTOY PRISON

NATURAL LIGHT IN LIVING QUARTERS	2	
SAFE LIVING QUARTERS	2	
COMFORTABLE LIVING QUARTERS	2	
PERSONAL ITEM ALLOWANCE	2	
WARM MATERIALS	2	:
ACCESS TO NATURE	2	
SANITARY CONDITIONS	2	:
INMATE INDIVIDUALITY	2	
INMATE PRIVACY	2	:
GUARD SAFETY	1	į
INMATE SAFETY	1	
COMMUNITY SAFETY	1	
INMATE-GUARD RELATIONSHIPS	2	
REHABILITATIVE ENVIRONMENT	2	
EDUCATIONAL OPPORTUNITIES	1	
EMPLOYMENT OPPORTUNITIES	2	
RECREATION AVAILABILITY	2	
GOOD BEHAVIOR INCENTIVES	2	
VISITATION AREAS	2	
HEALTH CARE SERVICES		
PSYCHIATRIC SERVICES		
SOLITARY CONFINEMENT	0	(
EXECUTIONS	0	(

TOTAL 37 / 42

0 = ELEMENTS NOT PRESENT 1 = ELEMENTS PARTIALLY PRESENT 2 = ELEMENTS FULLY PRESENT suffer to atone for their actions. This "biblical-style" punishment is typical for countries that consider themselves deeply religious.

In contrast, the Norwegian system is focused on rehabilitating prisoners in an effort focused on providing a greater overall society. Anyone, including the most violent offenders, are allowed a second chance. This system shows promise in the reduction of overall crime, but is potentially disenfranchising to the victims of particular criminal offenses. Those familiar with the U.S. system often do not perceive loss of freedom as extravagant enough of a punishment and prefer prison to be a harsh and demoralizing ordeal.

It is not difficult to understand the urge for justice from the victims of a crime. Unfortunately, this system is failing. The dismal state of the U.S. prison system should be enough of an example of why this mentality is not sustainable.

Bastoy Prison is conducted in a very unique manner and it has similarly unique statistics to prove its legitimacy. This model is successful because it focuses on opportunity and second chances through work and good behavior. Prisoners are treated as individuals, not looked down on as animals. They visit Bastoy so they can reform their lives and eventually contribute back to society.

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TYPOLOGICAL RESEARCH - EXHIBIT D: "DEBRIEF OR DIE"

PELICAN BAY PRISON

CRESCENT CITY, CALIFORNIA

OPENED IN 1989

CURRENTLY OPERATIONAL

In 1989 Pelican Bay State Prison was carved out of redwood forest in Northern California, 350 miles northwest of San Francisco. It is located near the California-Oregon border in an area several miles north of Crescent City, CA. Its name comes from a shallow bay that is located two miles off the coast, in the Pacific Ocean. Pelican Bay State Prison (PBSP) was designed specifically to house "the most serious criminal offenders in a secure, safe, and disciplined institutional setting." (PBSP, 2015)

The facility is broken into two major elements: the mainline and the security housing unit (SHU). The mainline is home to Level IV inmates, or the "foot soldiers" and consists of two separate structures with an overall capacity of 2,000 inmates. The two buildings angle outwards from one another from a common connecting point on one end. Inside, each building is broken into eight wedge-shaped cell blocks that each hold 120 inmates. Each cell block radiates around a central yard that is occupied during recreation time. Due to the consistency of violent outbreaks at Pelican Bay, there are armed men posted in guard towers around the perimeter at all times. Since it's opening in 1989, no one has ever successfully escaped from the facility. (Reiter, n.d.) (PBSP, 2015)

The SHU isolates the most dangerous of the inmates from the mainline. These are typically

FIG. 023 - PELICAN BAY SHU

those who are difficult to manage, leaders or perpetrators of violence, and leaders among other inmates. The SHU has a capacity of 1,100 inmates, and is divided into twenty-two units called "pods." Each pod has six corridors and each corridor has eight cells. Each pod is controlled by a centrally located master control station that is perched above to allow clear views to all cells. (Reiter, n.d.)

Inmates in the SHU spend 22.5 hours a day in a 8×10 ft windowless cell made of smooth white concrete. There is no natural source of light, only a fluorescent strip that is controlled from outside the cell. Phone calls and physical contact of any kind are prohibited. For 90 minutes, also spent alone, inmates are taken outside to exercise in semi-exterior concrete pens. On a normal day, inmates are isolated completely from others expect for when served meals through a narrow slot in the door of their cell. ("If the SHU fits" n.d.) (Reiter, n.d.)

More than 500 inmates at Pelican Bay State Prison have been in solitary for at least 10 years. Almost 80 have spent more than two decades in isolation. The majority are serving indeterminate sentences because they have been labeled as security risks. In 2013, after 23 years in solitary confinement at Pelican Bay, inmate Todd Ashker filed a lawsuit against the prison. He was suffering from symptoms of prolonged isolation including chronic physical pain and severe anxiety.

Askher and fellow inmates fought back against the conditions of solitary in the form of a hunger strike that involved over 30,000 prisoners statewide at its peak. This was the third hunger strike movement against solitary practices at Pelican Bay State Prison and it lasted a full 60 days. It displayed the extreme desperation of those in solitary confinement, many of

whom where there in excess of a decade. (Agathocleous & Meeropol, 2014)

The hunger strikes caught the attention of the public and prompted legislation that leaded to more rights for SHU prisoners. These included allowing for televisions and radios inside the cell and higher allowance for family visits. These improvements, although significant for the inmates, display the depravity of the conditions inside the SHU. (Agathocleous & Meeropol, 2014)

SUMMARY

Pelican Bay State Prison is among the most notorious prisons in the United States. Built for the "worst of the worst", PBSP is designed specifically to cut inmates off from contact with others in an effort to prevent violence. As a result, spaces are designed chiefly with safety and security in mind and do not consider the human needs of the inmates. Pelican Bay is in operation today, and is typically running at full capacity.

CONCLUSIONS

Pelican Bay's design appears to be designed out of a sense of fear. It has all the components of a typical supermax facility - remote location, secure isolation units, use of lethal force, etc. Every element is designed specifically to separate inmates from one another and the public. Based on the fact that this facility is designed to hold the most violent offenders, in many ways the design is successful. For prison reform to work in our society, we have to come to terms with the reality that there will be some individuals that will be beyond reform and must be isolated from others. However, this should not suggest poor or dehumanizing treatment or conditions.

TYPOLOGICAL RESEARCH - SUMMARY

The effectiveness of a correctional environment is largely characterized by the interactions between the controlling party (the staff) and the controlled party (the inmates). These relationships often suffer when inmates are faced with conditions that serve to dehumanize and objectify them; which, in turn, is then projected negatively towards prison staff. Architecture plays a significant role in these exchanges, and can significantly effect the mood, impressions and behavior of inmates (as receivers of punishment) and the staff (as dealers of punishment).

In the United States, most experts that have studied the prison model agree that the method of enforcing heavy discipline as a punishment or penance for crime isn't doing anything to positively effect crime or recidivism rates. In fact, statistics show that its effects are detrimental on a level higher than ever experienced before.

Despite these figures, the United States continues to build new facilities that follow the status quo. Other countries around the world have adapted more quickly. Norway, home of the Halden and Bastoy prisons, approach incarceration differently. To the typical American, Norwegian prisons look more like resorts or vacation homes than facilities for punishment. The focus there is on the concept of "restorative justice" and thus facilities maintain as much civilized normalcy as possible, with the eventual goal of releasing well-adjusted and safe individuals. Treating inmates like bottom-class citizens (like in the United States) is not in this vocabulary. Design-wise, this means that there are no bars on the windows, kitchens come fully equipped, recreation is encouraged, vocation and education are offered and; above all else, staff and inmates share an amiable relationship.

Norwegian prisons are used as tool to protect the "greater good" and prevent dangerous individuals from causing further harm to society. In Norway, stripping freedom *is* the punishment. In the United States, this philosophy is quite different. Criminals are imposed with aggressive sentences as a method of deterring further crime. Prisons are intentionally harsh environments that are meant to enforce punishment on offenders. This has been the operational philosophy since the 1800's, and today has led to the U.S. having the highest incarceration rate in the world and a recidivism rate of nearly 80% - compared to Norway's 20%.

Sing Sing (U.S.) and Bastoy/Halden (Norway), are extreme examples of facilities throughout the world and it is worth understanding that there are more conservative prisons in operation today. Nonetheless, these two facilities accurately display two distinct philosophies in criminology and penology. Architectural design is a reaction to external interests and thus is strongly affected by differing ideals. The built environment serves to project the qualities of its design on its users, so there is a real connection between operational philosophy and the experience of inmates and staff - even if human variables are excluded (such as dehumanization). Proposing an architectural solution to the U.S. prison problem is both complex and simple. In the big picture, a progressive facility is only part of a bigger puzzle that depends on cooperation of multiple entities - including the American public. Architecturally, the basic concepts are more simple because they are rooted in the preservation of human rights, which is inherent to each and every one of us.



USER/CLIENT DESCRIPTION

The proposed new prison facility will be a state institution, and would be owned by the state of New York. Management of facilities, inmates and security will be handled by capable employees hired by the state. All staff, facilities and programs will be governed by elected officials according to a predetermined set of humane treatment guidelines. This facility will conduct operations in a transparent manner whenever possible without compromising confidentiality or security guidelines.

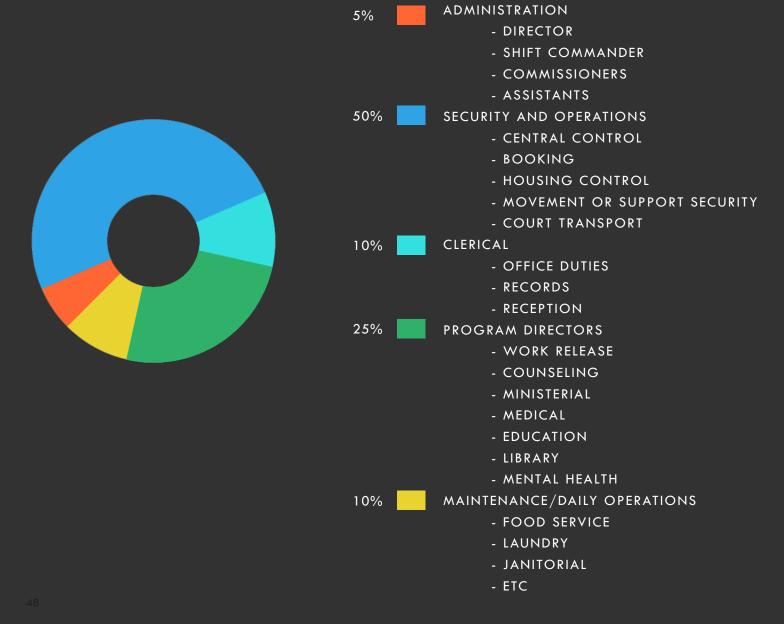
Users of the facility will include the prison personnel (security and non-security), prison inmates, visitors (friends and family) and other contracted personnel. External organizations will be utilized as outreach tools for inmate development and post-release perpetration. The prison will be open to the public by reservation for purposes of academic research.

Based on the prison's goals of rehabilitation and reintegration, this facility will primarily house low to mid-level criminal offenders. The social environment is dependent on a culture that reinforces opportunity post-incarceration - something that is lost among a population of inmates with life sentences.

This facility will serve as the prototype for future correctional environments. Following a successful launch in the parent location in Brooklyn, the prototype can be replicated in other locations in need of prison intervention. Potential future locations include: San Francisco, Los Angeles and Chicago.

FIG. 027 - RIOT CONTROL UNIT

STAFF LISTING & DISTRIBUTION

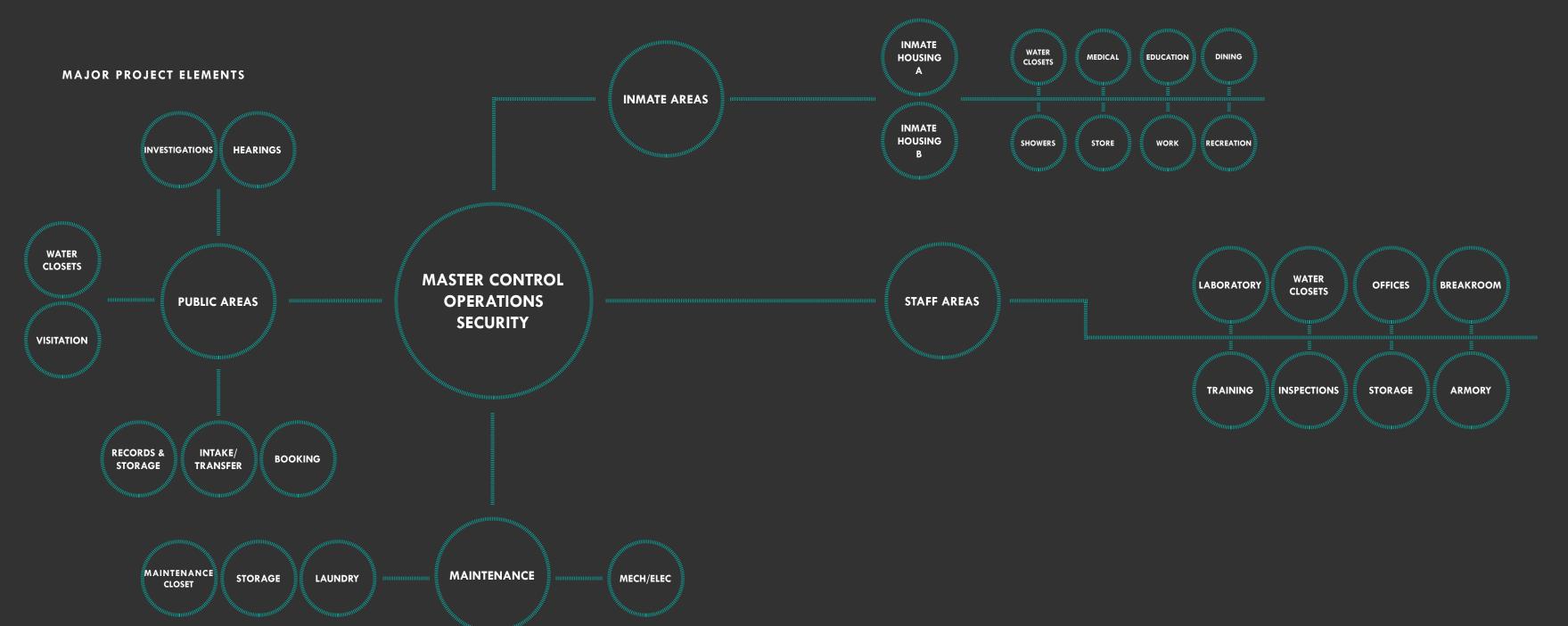


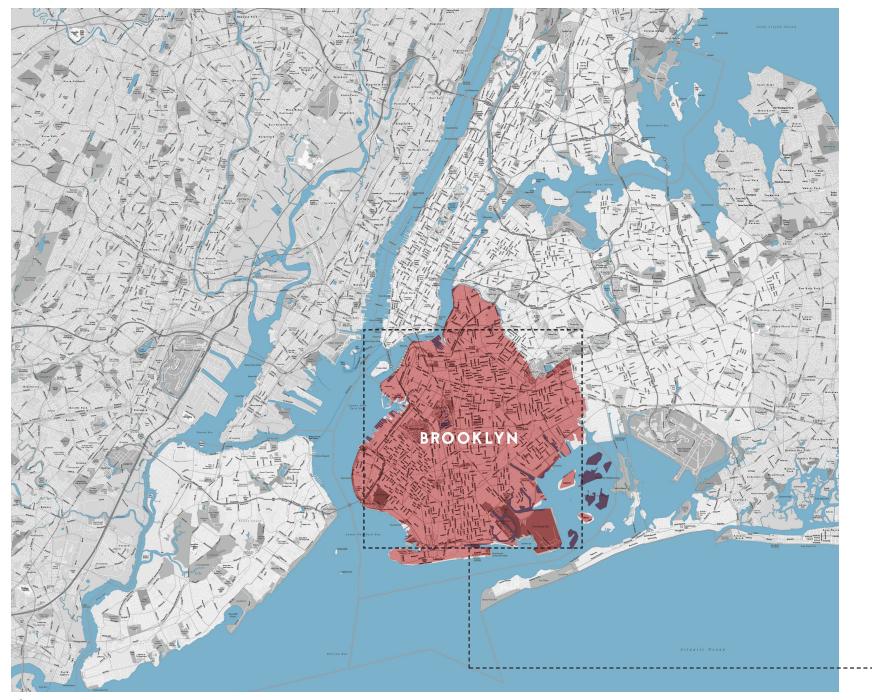
STAFF - INMATE RATIO



FIG. 028 - STAFF DISTRIBUTION

FIG. 029 - STAFF-INMATE RATIOS







THE SITE

NAVAL HOSPITAL - BROOKLYN, NEW YORK 40° 41' 56.6376" N 73° 57' 50.9544" W

Brooklyn is one of the five boroughs of New York City, alongside Queens, Bronx, Staten Island and Manhattan. It is the most populous and culturally diverse of the group. Along the Brooklyn waterfront, facing west towards Manhattan, lies the presently defunct Brooklyn Navy Yard. The future of the prison prototype will debut as adaptive reuse project of the Naval Hospital campus in the Brooklyn Navy Yard.

Founded in 1801 by President John Adams, the yard was commissioned to provide security for a newly liberated country following the American Revolution. In the following years the yard would serve as the launch site for many vessels, including the infamous USS Arizona, which was lost during the attack on Pearl Harbor in 1941. The yard served as an important supportive base throughout World War 2 and reached upwards of 70,000 employees at it's pinnacle. In 1966 the yard was closed as part of a larger plan to reduce military installations throughout the country. Since closing, there has been some commercial development in the yard elsewhere but still the Naval Hospital campus site remains largely closed to public use. ("BNYD Corporation," n.d.)

The site contains two buildings that are registered as landmarks by the city of New York. The majority of structures are in fair condition and structurally sound. The "campus layout" of the grounds will be helpful in designing the type of prison facility that is needed, rather than using a single solitary building elsewhere in the city. Similarly, the natural and man-made features around the site help achieve a level of classification and security that benefits this typology.



54 FIGS. 034 - BROOKLYN NAVAL HOSPITAL



PLAN FOR PROCEEDING

EMPHASIS

A) REFORM OF THE PRISON ENVIRONMENT

Create spaces that are humane, safe and positive for both inmates and guards alike.

B) REHABILITATION OF INMATES

Create an environment that allows inmates to continue to operate in a manner synonymous to life in society.

C) REDUCTION OF RECIDIVISM

Provide pre-release preparation services and create opportunity for newly released individuals outside prison.

THESIS GOALS

- A) DESIGN A HUMANE PRISON FACILITY
- B) INVESTIGATE THE PSYCHOLOGICAL AND SOCIAL ISSUES
 OF THE PRISON ENVIRONMENT
- C) INCREASE PERSONAL KNOWLEDGE AND RAISE THE AWARENESS OF OTHERS

ACADEMIC GOALS

- A) GATHER AND COMPILE INFORMATION IN AN EFFICIENT AND EFFECTIVE MANNER
- B) PRESENT A COMPELLING ARGUMENT FOR PRISON REFORM THROUGH DILIGENT RESEARCH AND EFFECTIVE PRESENTATION.
- C) ENGAGE OTHERS AND CREATE INTEREST IN SOCIAL JUSTICE
- D) GAIN A MASTERS OF ARCHITECTURE DEGREE AND USE MY RESEARCH AS A LAUNCHING POINT FOR FUTURE ENDEAVORS.

PROFESSIONAL GOALS

- A) DEVELOP KNOWLEDGE AND SKILL BY EXPLORING NEW TECHNOLOGIES
- B) DEVELOP NEW DESIGN EXPERIENCE IN THE JUSTICE SECTOR
- C) DEMONSTRATE ABILITY TO FUTURE EMPLOYERS

PERSONAL GOALS

- A) DEVELOP A STRONG PROPOSAL FOR A VERY COMPLEX SOCIAL ISSUE
- B) STAND UP FOR HUMAN RIGHTS
- C) EXPLORE PERSONAL HUMANITY AND GAIN PERSPECTIVE

DESIGN METHODOLOGY

IN CONCURRENCE WITH RESEARCH METHODS, THE DESIGN PHASE WILL STRIVE TO DEVELOP SOLUTIONS BASED ON BOTH QUALITATIVE AND QUANTITATIVE DATA FROM A VARIETY OF DISCIPLINES. DESIGN AND RESEARCH WILL BE CONDUCTED IN A CYCLICAL MANNER WITH STRONG ATTENTION PAID TO DEVELOPING WELL-SUPPORTED DESIGN CONCLUSIONS.

DESIGN DOCUMENTATION

DOCUMENTATION WILL PRIMARILY TAKE PLACE WITHIN THIS THESIS BOOK. ALL CONTENT THAT INFLUENCED OR DEVELOPED DESIGN SOLUTIONS WILL BE DOCUMENTED APPROPRIATELY. DESIGN SOLUTIONS WILL BE INVESTIGATED FIRSTLY THROUGH HAND METHODS (SKETCHING AND DIAGRAMS), THEN THROUGH DIGITAL DESIGN (SKETCHUP, REVIT, AUTOCAD, ETC.). THIS PROCESS WILL BE CYCLICAL IN NATURE.

RESEARCH DIRECTION

RESEARCH WILL BE CONDUCTED THROUGHOUT THE ENTIRE DESIGN PROCESS. PRECEDENTS IN ARCHITECTURE, SOCIOLOGY AND PSYCHOLOGY WILL SERVE AS IMPORTANT ELEMENTS OF DESIGN INFLUENCE.

PROJECT SCHEDULE

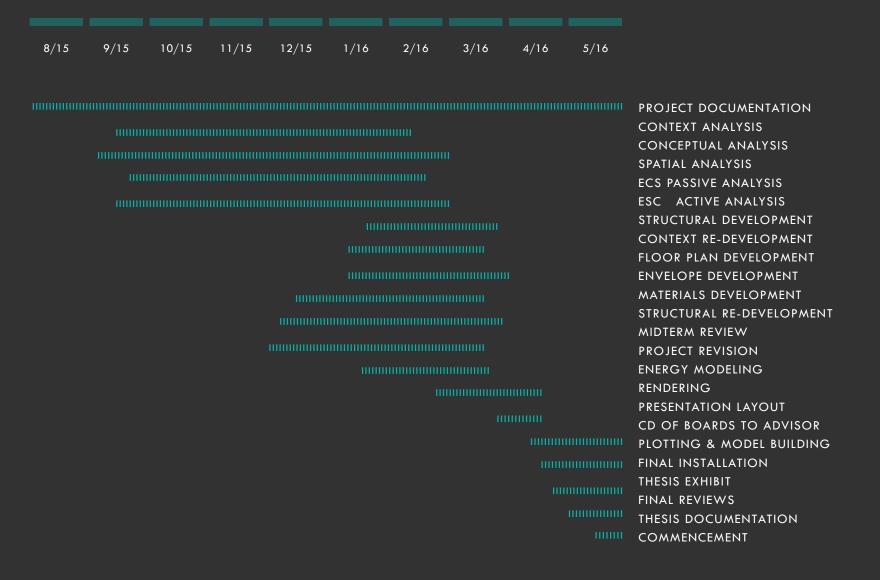


FIG. 036 - SEMESTER SCHEDULE



THE THEORETICAL PREMISES

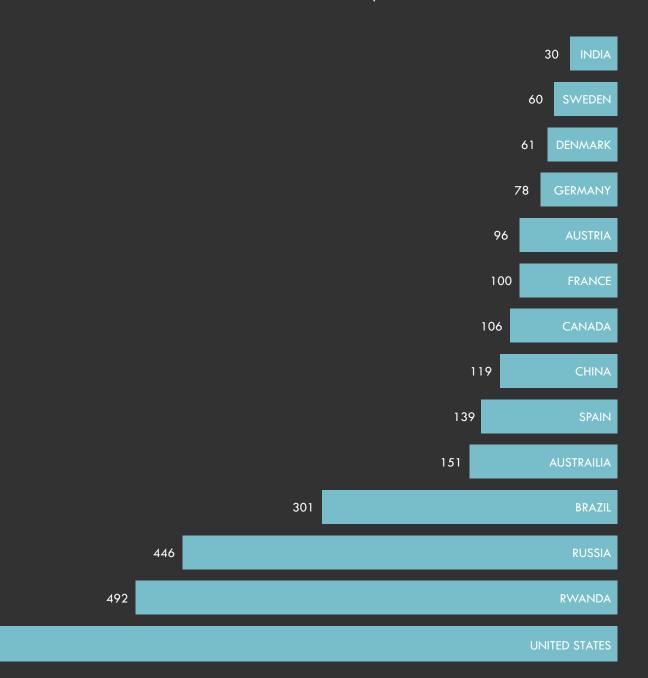
Currently, the United States leads the world with a total of 2.4 million individuals behind bars in the nation's nearly 4,600 prisons and jails. This figure has more than quadrupled since 1980, due to changes in sentencing practices. Today, 1 out of every 100 Americans is incarcerated.

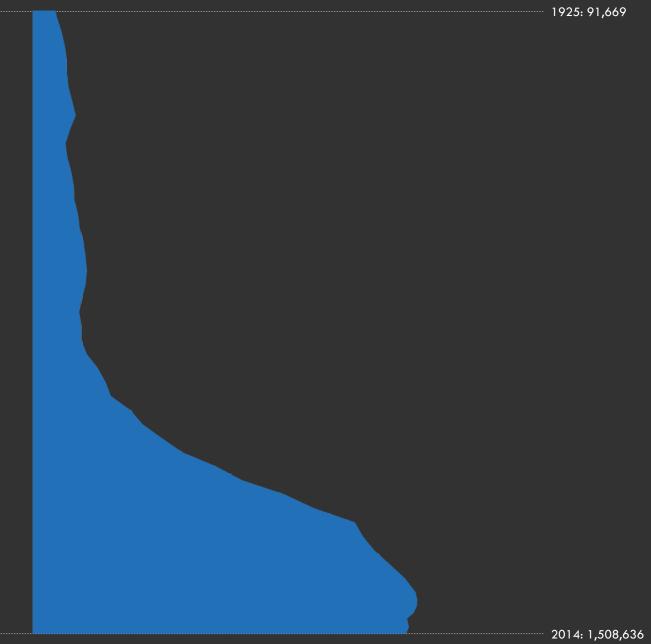
The War on Drugs policy of the 1980's allowed for harsher sentencing of drug offenders and resulted in a dramatic spike in the U.S. prisons and jail population. Half of the total federal prison population is a result of drug-offenses, most of which are low-level dealers or users with no history of violent crime. Since 1983, average sentences for these offenses raised from 22 months to 62 months.

Demographically, the highest concentration of inmates are African-American men, followed by Latino men, and then Caucasian men. Women follow the same distribution, but at significantly lower rates.

Despite dropping violent crime rates, life sentences have been increasing steadily over the past 20+ years. 1 in 9 inmates has a life sentence, and one-third of them do not have the possibility of parole.

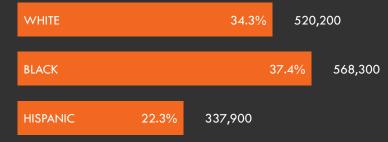
FIG. 037 - EXERCISE YARD IN THE SHU AT PELICAN BAY



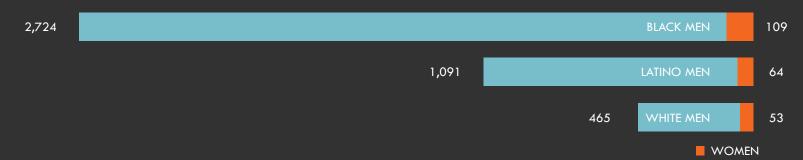


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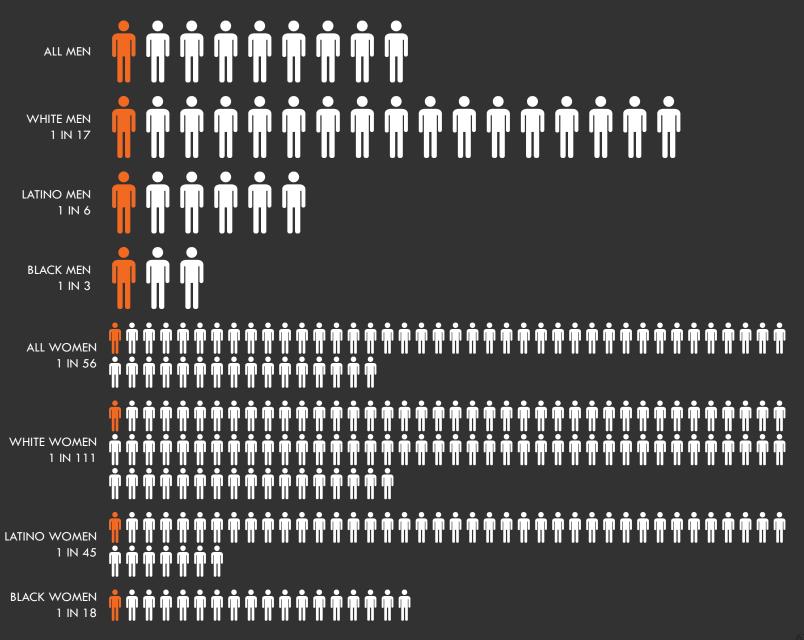
PEOPLE IN U.S. STATE AND FEDERAL PRISONS, BY RACE AND ETHNICITY, 2013/2014



RATE OF INCARCERATION PER 100,000, BY GENDER, RACE, AND ETHNICITY, 2014



LIFETIME LIKELIHOOD OF IMPRISONMENT OF U.S. RESIDENTS BORN IN 2001



FIGS. 041 - 042 - PRISON STATISTICS

CONCERNING ETHICS AND SOLITARY CONFINEMENT

Solitary confinement is the practice isolating an inmate from others in a confined cell for 22 - 24 hours a day. It is estimated that between 80,000 and 100,000 American inmates are in currently in some form of solitary confinement. This has been known to last for periods in excess of 30 years for some inmates. These figures are estimations because prisons are not under any obligation to share this information with the public. The actual inmate count could be much higher, and the lengths even more dramatic.

Due to negative connotations, the term "solitary confinement" is not typically used by prisons in the United States. Instead, terms like "segregation groups", "management units" or "restrictive housing" are used, depending on the institution. Some monikers include:

Restricted Housing Units (RHUs)

Segregation Housing Units (SHUs)

Management Control Units (MCUs)

Intensive Management Units (IMUs)

Communications Management Units (CMUs)

Security Threat Group Management Units (STGMUs)

All of these, despite the variations in terminology, are similar in the fact that they all are units meant to isolate inmates from others for a length of time. Inmates in solitary confinement can expect to be locked in a small cell for 22 to 24 hours a day and subject to severely limited contact with others.

They typically lose privileges as well, including the ability to have visitors, make phone calls or possess personal property. This creates a environment characterized by isolation and loneliness, and provides little to circumvent negative thoughts and emotions.

Inmates can find themselves in segregation for a variety of accused misconduct. This ranges from serious crimes to minor offenses. For example, an inmate receiving disciplinary action following an deadly altercation can be in the confinement cell next to someone serving time for disturbing the peace. The sentencing practices from within prison are not typically overseen by outside entities; it is left to the staff to determine what is appropriate.

The effects of prolonged isolation are well documented. In a study conducted in 1951 by Donald O. Hebb, a professor of psychology at Montreal's McGill University, studied the effects of sensory deprivation on male graduate participants. The students were left alone in a small room without visual, auditory or sensory stimulation. After only a short period of isolation, they were unable to properly solve simple grade-school level English and math problems. Additionally, they became prone to lashing-out at interviewers and often had emotional mood swings and breakdowns. The study, originally planned to last six-weeks, was cancelled when the last participant opted out after only seven days.

Psychiatrist Stuart Grassian studied the effects of isolation in prisoners in his 2006 publication *Psychiatric Effects of Solitary Confinement*. He describes the men he observed as expressing strong feelings of "panic, fears of suffocation, and paranoid distortions". Grassian outlined a set of specific psychiatric symptoms that appeared consistently among those in solitary confinement, including hypersensitivity to external stimuli, perceptual distortions, illusions,

and hallucinations, panic attacks, difficulties with thinking, concentration, and memory and intrusive obsessive thoughts.

"The restriction of environmental stimulation and social isolation associated with confinement in solitary are strikingly toxic to mental functioning, producing a stuporous condition associated with perceptual and cognitive impairment and affective disturbances. In more severe cases, inmates so confined have developed florid delirium—a confusional psychosis with intense agitation, fearfulness, and disorganization." - Stuart Grassian, 2006

In 2004, statistics showed that 73% of all suicides in California prisons occurred in isolation units. Another study, from the *National Center on Institutions and Alternatives* found that 38% percent of all prison suicide victims were those held in isolation.

ETHICS

The ethical issues surrounding this subject are heavily discussed among the fields of sociology, psychiatry, psychology, and architecture - among others. The American Friends Service Committee (AFSC), an organization that promotes peace and justice within the penal system, is fighting against the use of solitary confinement practices. AFSC is an organization of Quakers; a religious group with a long history of fighting for justice (SEE ALSO: HISTORICAL CONTEXT, PG 000). They vehemently define isolation as a tortuous practice and they are working to eliminate it's use in U.S. prisons. (afsc.org, 2016)

In the design community, the ADPSR (Architects/Designers/Planners for Social Responsibility) is attempting to convince the AIA (American Institute of Architects) to amend the *Code of Ethics and Professional Conduct* to include prohibitions against the design of "spaces for killing, torture, and cruel, inhuman or degrading treatment." The ADPSR argues that designing isolation units, execution chambers or anything meant to inflict punishment on human beings is fundamentally incompatible with the creed of the architect; a profession dedicated to designing the built environment with respect to human beings and their rights. (ADPSR, 2015)

The AIA code does include literature concerning humanity, but the laws are vague and incomplete. The laws state, in section 1.4, titled "Human Rights" that "Members should uphold human rights in all their professional endeavors." It includes a single sub-law, regarding discrimination.

Rule 1.401: Members shall not discriminate in their professional activities on the basis of race, religion, gender, national origin, age, disability, or sexual orientation. - AIA Code of Ethics & Professional Conduct, 2012.

The ADPSR is lobbying to add content that is specific to the design of prison facilities.

(*Proposed*) Rule 1.402: Members shall not design spaces intended for execution or for torture or other cruel, inhuman, or degrading treatment or punishment, including prolonged solitary confinement. - ADPSR Human Rights Proposal to AIA, 2014.

The AIA rejected the proposal, stating they "do not regulate building types" and commenting on the inability to enforce such a law. Most recently, the ADPSR announced via their website that AIA had reopened the case regarding the organization's proposal. There has not been any indication that any changes will be made. (Kimmelman, 2015).

SUMMARY

The use of solitary confinement is unconstitutional, even at its origins. It was originally developed as a tool for personal reflection and rehabilitation in the 1800s; at which its failures were undisputable. Today it is used as a response to wide range of problems, much of which could be handled in by more humane methods. The U.N. Convention Against Torture has repeatedly condemned the use of solitary confinement, stating that it is torture.

"Torture means any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity." - Part I, Article I - U.N. Convention Against Torture

THE DETERRENCE & REHABILITATION THEORIES

The deterrence theory of punishment states that an individual will abstain from criminal activity if the resultant punishment is appropriately severe. This concept claims that specific punishments prevent a individual from committing specific crimes. When a crime is committed, the punishment of the individual then deters others from committing said crime. These two types of deterrence are categorized as general and specific deterrence. (Onwudiwe, I., Odo, J., & Onyeozili, 2005)

General deterrence focuses on the general prevention of criminal activity on a macro-level. This type is most often utilized by imposing harsh sentences on convicted individuals in an effort to dissuade others from partaking in criminal activity. For example, John never drives after drinking because his friend was charged with a DUI and received fines, jail time and loss of his driving privileges. In short, the convicted individual is used as warning to others. (Wright, 2010)

Specific deterrence focuses on a particular individual in an effort to prevent or halt criminal activity. Similarly, this concept focuses on deterrence through punishment. For example, John, an at risk youth, is placed in a "scared straight" program after he is caught with alcohol at school. Years later, John is charged with a DUI and receives the maximum punishments possible. Both are examples of specific deterrence and are intended to stop criminal behavior at a micro-level. (Wright, 2010)

Classical philosopher Thomas Hobbes (1588–1678) believed that men are neither good nor evil, but simply creatures of their own volition that strive for their own self-interests regardless of the consequences to others. Hobbes further states that humans are rational creatures and they understand that a society of people, all with self-serving interests, inevitably fosters malcontent and struggle. (Hobbes & Gaskin, 2008)

In response to this quarry, humans proposed a "social contract", a agreement to equally sacrifice some ego-centricity in order to avoid war, crime and conflict. By agreeing to the social contract, one also agreed to allow the state to enforce laws as necessary to uphold said contract. Hobbes argued that upholding the social contract and controlling conflict was imperative for a society to function. He states that conflict can be controlled by enforcing penalties that are more severe than the benefits of committing a crime. These theories are at the root of the deterrence principle. (Onwudiwe, I., Odo, J., & Onyeozili, 2005)

Philosopher Cesare Beccaria (1738–1794) expanded the social contract theory in his treatise "On Crimes and Punishments." Beccaria questions the absolute rights of the sovereign authority, stating:

Every act of authority of one man over another, for which there is not an absolute necessity, is tyrannical. It is upon this then that the sovereign's right to punish crimes is founded; that is, upon the necessity of defending the public liberty.

Beccaria was interested in concisely defining the role of punishment as to avoid a authoritative

¹deter / de∙ter (verb)

- To cause (someone) to decide not to
 do something
 - 2. To prevent (something) from happening

¹rehabilitate / re·ha·bil·i·tate (verb)

- 1. To bring (someone or something) back to a normal, healthy condition
- 2. To teach (a criminal in prison) to live a normal and productive life
- 3. To bring (someone or something) back to a good condition

ruling of society. Punishment is not a retributive action against an individual and it is not emotional or personal. The sole purpose of punishment is to protect the rest of the society and its liberties and freedoms. (Beccaria, "Of The Right To Punish", 1963)

The intent of punishments is not to torment a sensible being, nor to undo a crime already committed. Can the groans of a tortured wretch recall the time past, or reverse the crime he has committed? The end of punishment, therefore, is no other than to prevent the criminal from doing further injury to society.

Beccaria argued for fairness in criminal proceedings. He believed that criminal offenders ought to be treated amicably as individuals, and processed in a way that was appropriate for their specific situation. The social contract was as it suggests, a contract. In that sense, Beccaria believed that since all citizens signed the same contract, their rights entail them to be treated equally amidst their peers and the sovereign authority alike. (Beccaria, "Of The Intent of Punishments", 1963)

Jeremy Bentham, (1748–1832) a prominent criminologist, shared many of Beccaria's views on punishment. Bentham's publication, "An Introduction to the Principles of Morals and Legislation" outlines his thoughts on the role of the state in a social contract. He believes that the state is responsible for providing the maximum happiness for the greatest number of people. Bentham states:

Nature has placed mankind under the governance of two sovereign masters,

pain and pleasure.

This principle stems from his "utility" doctrine, stating that happiness is reached when "pleasure" predominately outweighs "pain", whether on a societal or individual level. (Bentham, 1907)

The deterrence theory operates according to three separate components: severity, certainty, and celerity. Assuming an individual is operating in a rational manner, he/she would consider three factors before choosing to engage in a crime.

- 1. Severity: the more severe a punishment, the more likely an individual will desist from criminal activity.
- 2. Certainty: the more certain that the punishment will carried out, the more likely an individual will desist from criminal activity.
- 3. Celerity: the quicker the punishment will be carried out, the more likely an individual will desist from criminal activity.

Philosophers believed that if the punishment is severe, certain and swift, a rational person will not partake in the adjoining criminal act. If the punishment is too severe, it is deemed inhumane; if it is too weak, it will not deter crime. (Onwudiwe, I., Odo, J., & Onyeozili, 2005)

Modern criminology still applies the principles of the deterrence theory. Proponents of

deterrence support harsh sentences, larger prisons, more police and other authoritative tools. The United States operates under this model today. (Wright, 2010)

REHABILITATION

The rehabilitation theory of punishment was first introduced in the late 19th century. Reformers first believed that prisoners could be rehabilitated through solitude, faith and contemplation of sin. Later, the components changed to focus on redemption through work and labor. Towards the end of the century the first "reformatories" were established, initiating a shift to educational and vocational reform. Although these were the most progressive concepts of the time, progress suffered due to a unwillingness to separate from physical punishments for nonconformity. The human urge for retribution prevented reformatories from becoming successful at the time. (Campbell, 2005)

Fueled by recent scientific exploration, a new theory of medical rehabilitation surfaced early into the 20th century. Criminology, psychology, and psychiatry were emerging as disciplines and new theories about the criminal mind began to develop. Scientists and doctors believed that the causes of crime can be linked to particular defects within an individual. During this time, criminals were viewed as "sick", and in need of medical help. The medical model of rehabilitation, although seemingly humane compared to the previous practices, befell to several disturbing practices. Criminals characterized as "in-treatment" were at the mercy of doctors, some of whom did not have the best interests of the patient in mind. They were exposed to radical medical experiments, including electroconvulsive therapy, psychosurgery, and surgical castration. (Campbell, 2005)

In 1974 author Robert Martinson published an article titled "What Works? Questions and Answers About Prison Reform." This editorial reviewed the empirical evidence currently available regarding prisoner rehabilitation and the effect on recidivism rates. Martinson concluded that "with few and isolated exceptions, the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism." (Martinson, p. 25, 1974).

Although heavily disputed and fundamentally flawed, Martinson's editorial nonetheless began the downfall of the prison rehabilitation efforts of the time. In 1984 the United States established the Sentencing Reform Act which included provisions that removed all consideration of rehabilitation potential when sentencing.

In the case of a sentence to imprisonment, the court is precluded from using rehabilitation as the basis for that choice of sanction and the decision on sentence length. - Sentencing Reform Act of 1984 (18 U.S.C. 3582(a))

From this point on, sentencing practices became more streamlined and standardized. The courts now only needed to consider the crime when sentencing, forgoing potentially relevant factors concerning future rehabilitation efforts. This blind-eye tactic effectively perpetuated the stereotype of the "faceless" criminal offender as a societal outcast.

PRISON DESIGN AND PSYCHOLOGY

EVIDENCE-BASED DESIGN

Evidence-based design is a field of study that uses credible evidence to reach design solutions. In the healthcare industry, this strategy is used to create environments that encourage patient healing by reducing stress and other antagonizing features. Although largely associated with the design of healthcare facilities, EBD is now being used to design schools, offices, hotels, restaurants, museums, prisons and other spaces with a heavy focus on human experience. (Center for Health Design, 2015) (Whitemyer, 2010)

The Center for Health Design includes eight steps in the evidence-based design process:

- 1. Define evidence-based goals and objectives.
- 2. Find sources for relevant evidence.
- 3. Critically interpret relevant evidence.
- 4. Create and innovate evidence-based design concepts.
- 5. Develop a hypothesis.
- 6. Collect baseline performance measures.
- 7. Monitor implementation of design and construction.
- 8. Measure post-occupancy performance results.

The behavior, perceptions and attitudes of inmates and staff are the critical points of emphasis when designing a correctional environment.

MITIGATING FACTORS

Because there are a large range of variables present, there are no inclusive design formulas that can be guaranteed as effective models across all cultures, countries or populations. However, some elements can be identified as major mitigating factors in the correctional experience.

1. THE SENSORY ENVIRONMENT

Inmates and staff, and relations between the two, are influenced heavily by their environment. In *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates*, Goffman refers to prison as "total institution", which is a place that encompasses life and work for extended periods of time. In this institution, there is a large social divide between the staff and inmates which inevitably harbors malcontent between the two groups. Due to the extended periods of exposure, issues of environmental perception become significantly more important. Aggravation of simple comforts due to noise, lighting and thermal conditions are perceived much more radically under the high stress conditions of prison.

Psychological health is dependent on many factors, and the correctional environment, at the very least, must not be harmful to the psyche of inmates or staff. It is inhumane to design space specifically aimed at creating uncomfortable experience for users. Using harsh materials and poor lighting, for example, creates a ripple effect which often ends with negative behavior within the correctional environment. Designing with punishment in mind sends the wrong message entirely to inmates and staff alike. Designers have an incredible amount of control and must adhere to a doctrine of doing no harm. (Fairweather, 2010)

Principal aggravating factors in behavior are largely sensory related. In confinement, monotony and boredom become a daily part of life. As a result of this inactivity, issues that were perhaps lessened otherwise become much more perceptible. Environmental issues related to an inmates everyday living conditions are a major influencer of behavior. Complaints over thermal comfort are extremely common and inmates usually have no control over temperature or air movement. The rate of aggressive actions increases greatly when an environment is thermally uncomfortable, more so when it is too warm. Similarly, aggression increases when air quality is compromised with a foul odor. Allowing inmates with some level of regulatory ability over thermal comfort and providing consistent fresh air can prove wonders in reducing violent actions. (Fairweather, 2010) (Wener, 2012)

Noise is another significant problem in the correctional environment. Sleep disturbances, stress and discomfort are common due to high levels of indiscriminate noise from unruly inmates, radios and televisions, shouting, inmate conversations, etc. Additionally, most facilities are designed with hard and non-absorbent materials like concrete and metal, which only further aids the dispersion of unwanted noise. As sleep regulation is lost, stress levels rise and aggression increases. (Fairweather, 2010) (Wener, 2012)

The element of personal control is important when dealing with noise pollution. The 1972 psychological study on noise disturbance, *Urban Stress: Experiments on Noise and Social Stressors*, states:

The presence of control, or even perceived control, is one of the most important predictors of adverse behavioral effects. Subjects who perceive that they have control over the noise show significantly greater tolerance for frustration than

subjects without control, even if the control is never exercised.

The psychological effects of noise are widely known and the subject consistently produces new scholarly articles. Singer states, "noise has been used as a noxious stimulus in a variety of investigations because it produces the same biological and psychological effects as other stressors." Noise is so effective at inducing stress that it is still utilized around the world as a torture tactic. In the United States, the CIA uses loud music as a interrogation technique against terrorist detainees. (Glass & Singer, 1972)

Lighting, both natural and artificial, is perhaps the most significant influencing factor in inmate aggression levels. Proper artificial lighting in regards to brightness, color and location is crucial for environmental comfort. Natural light (and the corresponding views) is similarly vital as sunlight provides us with Vitamin D, an essential element in feelings of happiness. Studies have shown that humans are generally happier on sunny days. We tend to help others more willingly, forgive transgressions faster, donate to charity, etc. (Wener, 2012)

The effects of lighting are linked closely to those of color. Cells that are painted in light, warm tones provide a positive inmate response. The combination of color and light can provide sensory stimulation that can be used to influence good behavior, as well as provide spatial organization and directional information. The connection between color and mood is apparent to users almost without exception. In the article *Emotional Reactions to Color*, the author describes the effect color has on us. Red is associated with feelings of aggression, bravery and passion. Yellow symbolizes energy and cheerfulness. Neutral colors, like beige and gray, symbolize durability, quality and nature. (Lamancusa, 2003) (Fairweather, 2010)

2. STAFF AND INMATE RELATIONS

In favor of more advanced security methods, the correctional environment has continued implement measures that increase the distance and barriers between inmates and staff. Many modern facilities operate from several central points, sometimes referred to as a "perch", in which a single officer monitors a large group of inmates remotely. While this approach allows for more control and lower operating costs for the prison, it creates stress and aggression between inmates and staff.

Another facet of one's sensory environment is their control of their social interactions. This includes an allowance of privacy and some control over a personal schedule. Aggression increases when either is comprised, which is typically the case in the modern model. Constant surveillance from a non-human entity, such as a remote camera, harbors territorial aggression from inmates. Not surprisingly, inmates react negatively to de-humanizing actions of prison staff. Due to the disconnect between the two groups, they are more likely to view staff entering their cells as intruders. Similarly, the staff views inmates less favorably when they do not maintain human connection with them. This results in increased fear and ultimately, aggressive behavior.

3. STAFF SATISFACTION AND SAFETY

Safety and security is important for all staff and inmates alike and represents the prime objective of the authoritative prison entity. Some elements of safe imprisonment include: single occupancy rooms, 24 hour access to a locked personal cell, increased visibility of problem areas like washrooms or stairwells, staff control over amenities to avoid inmate-to-

inmate manipulation and staff presence in inmate areas. Research shows that when these elements are introduced in a correctional environment, violence, assault, tension and gang activity decrease. (Fairweather, 2010)

PRIVATE PRISON AND CONFLICTS OF INTEREST

Private prisons, or "for-profit" prisons, are third-party institutions that incarcerate inmates for the government in exchange for monetary gain. The presence of the private sector is not a new concept in the prisons of the United States - select services have long been contracted out to other organizations. These include medical care, vocational training, food preparation, and more.

Up until the 1980's, the use of outside services was limited to a select amount of appropriate tasks, as determined by the government. With the onslaught of the War on Drugs campaign, prison populations skyrocketed - resulting in a steep rise in overcrowding and operational costs. In response, the government began to completely privatize prison management to outside organizations. In 1983, today's largest private prison operator, the CCA (Corrections Corporation of America) was formed.

In 1990, the private prison population consisted of about 7,700 inmates. By 2009, that number rose to over 129,000. The government pays private organizations on a per diem basis that is dependent on the amount of beds that are occupied at any given time. Financially, operators have incentive to incarcerate more inmates, for longer periods of time. By 2010, the two largest private operators had posted annual revenues totalling nearly three billion dollars.

CORRECTIONS CORPORATION OF AMERICA (CCA)

2010 Revenue: \$1,700,000,000

Prisoner Capacity: 90,037

1 / - /

Year Founded: 1983

Headquarters: Nashville, Tennessee

Head: Damon Hininger (President and CEO)

Executive Compensation: \$3,266,387 compensation package for Hininger in 2010

THE GEO GROUP

2010 Revenue: \$1,269,968,000

Prisoner Capacity: 81,000

Year Founded: 1984

Headquarters: Boca Raton, Florida

Head: George Zoley (Chairman, CEO, Founder)

Executive Compensation: \$3,484,807 compensation package for Zoley in 2010

In lieu of the incredible cost of incarceration that is paid by taxpayers and the United States government, the private prison organizations have profited handsomely. Additionally, one study showed that private prisons in Mississippi issued extended sentences for misbehavior twice as much as their public counterparts, averaging in thousands of dollars of additional profit per inmate.

Advocates of prison privatization claim that it creates more cost-effective and efficient facilities. However, most experts agree that there is either an miniscule benefit or there is too little comparable information to come to any significant conclusions. The main argument

against private facilities is that the opportunity of financial gain can create a conflict of interest between upholding public policy and gaining profits. Additionally, public oversight is limited in the sense that private institutions can use private funds to construct new facilities without approval from voters. These facilities can then be contracted out for the government for inmate housing, which is paid for by the same voters.

SUMMARY

Flexibility in housing is important to effectively create safe living quarters for all prisoners. Different varieties of units will be designed in a manner consistent with ethical and environmental guidelines. The psychological effects of material, light and beauty will be carefully considered as tools of behavior modification. This prison environment will be focused on providing inmates with feelings of opportunity and rehabilitation, rather than that of regret or exclusion.

The community of Brooklyn will play a major role in the success or failure of this system. It is important to realize the social stigma that may be felt when placing a correctional facility within proximity to free citizens. With regards to the community, the appearance of the prison should be attractive and not perpetuate feelings of institutionalism. Simultaneously, there should be no doubt that the facility is secure and safe. The residents of Brooklyn need to embrace this as "their prison", much like they embrace other institutions.

A social conflict exists between those who believe that prison is a tool of punishment and those who believe it should be focused on rehabilitation. The first step in redesigning the

PROJECT JUSTIFICATIONS

1. PRISON REFORM IS HUMAN RIGHTS ISSUE

When an individual is convicted of a criminal offense and sentenced to serve time, that individual loses his/her basic right of liberty. They should not lose any further human rights, however this is often not the case. By virtue of the prison environment they are disadvantaged and displaced from society, long after they are released, and usually for the rest of their lives. Our prisons should not be accelerating the problem.

2. MASS INCARCERATION NEGATIVELY AFFECTS COMMUNITIES AND FAMILIES

Strict laws and mandatory sentences have widened the reach of the criminal system to include a larger group of individuals that commit low-level victimless crimes. The War on Drugs has disproportionately effected minority communities and pulled apart countless families.

3. INCARCERATION IS EXPENSIVE AND FUELS POVERTY

The yearly cost to house a single inmate can range in excess of \$50,000. These costs compound upon the lost wages of the inmate due to arrest. The inmate is usually a man and typically the provider of his household. Mass incarceration has far reaching consequences.



CONTEXT

Prior to around the 18th century, early prison facilities acted as detention facilities for criminal offenders whom were awaiting punishment - usually by physical means. Incarceration for determined periods of time was not typically used as a punishment for crime. The modern prison model has replaced the earlier "prisons" with "jails" and switched out physical punishments for prison sentences.

EARLY HISTORY

Evidence of imprisonment can be dated back to the Babylonian Empire around 3000 B.C.E, wherein prisons were maintained to hold thieves and miscreants of various levels of criminal offenses. The Christian Bible contains several accounts of imprisonment by the Egyptians, Philistines, Israelites, and Assyrians. The Romans are also cited as imprisoning Christians and forcing them into battle in the coliseum era. (Kurian, 2006)

Bibilical Law, as it was, generally allowed for three potential punishments for criminal offenders.

- 1. Death by stoning, burning, beheading, or strangling, etc.
- 2. "Eye for an eye" punishment.
- 3. Lashes, not to exceed 40, typically 39.

The list of crimes that could qualify you for a punishment of death included attacking or cursing a parent (Exodus 21:15,17), disobedience to parents (Deuteronomy 21:18-21), doing work

FIG. 043 - NEW INMATES

FRESH MEAT: NEW INMATES

on the Sabbath (Exodus 31:14, 35:2), homosexual acts (Leviticus 20:13), false claim of a woman's virginity at time of marriage (Deuteronomy 22:13-21) and so on. The bible describes the due process for the crime of disobeying one's parents as:

"If someone has a stubborn and rebellious son who does not obey his father and mother and will not listen to them when they discipline him, his father and mother shall take hold of him and bring him to the elders at the gate of his town. Then all the men of his town are to stone him to death."

-Deuteronomy 21:18-21 (Christianbiblereference.org, 2016)

Both the Greek and Roman Empires also maintained prisons in some manner of the term, however history similarly shows that other methods of punishment were favored heavily. In Greece, criminal offenders were subject to fines, flogging, exile or death (by various methods), depending on the severity of the offense. (Kurian, 2006)

Around 380 BCE, Greek philosopher Plato wrote *The Republic* - a manuscript concerning definitions of justice, the city-state and it's residents. The writings feature a conversation between Socrates and his friends in which they draw comparisons between a civilian the city-state. They theorize that the justice of a single person is akin to the justice of the entire community as a ruling figure. Most civilians are rational and good-natured - the most rational are to control a class of soldiers to enforce law when confronted with irrational, passion-led beings. (Iep.utm.edu, 2016)

In Rome, imprisonment was introduced as punishment for lesser criminal offenses, like being a debtor. In the third century BCE, the Romans built the Tullianum, an underground

prison within a rock quarry. Later in the first century BCE, they constructed the Mamertine, a series of dungeons hidden beneath the city. In 428 CE, Roman Emperor Theodosius II issued the Theodosian Code, which attempted to define the role of prison, establish ethical standards for prisoners and eliminate corruption. It was among the first attempts to establish standards for prisons and prisoner treatment. (Kurian, 2006)

Later, in the Middle Ages in Europe, the Roman Catholic church established monastic and ecclesiastical prisons in monasteries, convents and other holy places. Originally intended to imprison religious heretics, their role expanded to include any person that was perceived to be "of sin" by the church. Inmates of these prisons lived in poor conditions that often included regular beatings, living disease-ridden environments, starvation and otherwise. Despite regular protest, the Church prison facilities operated uninterrupted for hundreds of years - from around the 12th century until the 19th century. Despite undeniably inhumane conditions, the Roman Catholic church ushered in a new way of thinking regarding punishment. They saw prison as a place for repentance and reform, rather than just a place to hold those awaiting a harsher punishment. This showed a shift in perception that opened the door for future prison reform conversation.

At the end of the Middle Ages, the punishment for most crimes was still mutilation, torture or death. Following the fall of feudalism, Europe was flooded with a large number of undocumented individuals as they spread across the country in search of better lives, often by dishonest means. The English Parliament ordered each country to establish "bridewells", or work-camps - to deal with this new flow of criminal activity.

With the rise of the era of exploration, a new method of dealing with criminal offenders

took hold - transportation to penal colonies. Spain established penal colonies in the Canary Islands, Russia exported to Siberia, France used New Caledonia and England transported and sold convicts as servants throughout North America, to name a few. (Kurian, 2006) (Encyclopediavirginia.org, 2016)

In the eighteenth-century, new ideals were taking place across Europe. Pioneered by the work of intellectuals from France, Prussia, Italy and England, public unrest regarding the penal system was strengthening. Capital and corporal punishments began quickly losing favor and being replaced with ideals of prisons that are rehabilitative in nature and provide basic ethical care standards for inmates. Both England and France enacted laws that established that prisons must be well-maintained, corruption-free and subject to inspection from government officials. Additionally, criminal divisions were to be created that segregated men from women and kept inmates of similar criminal offense together. (History.org, 2016)

SETTLEMENT IN AMERICA

Members of the religious group the Quakers, including William Penn, began to settle in the North American colony of Pennsylvania in 1682, Penn, the first governor of the colony, renounced the European penal system following first-hand exposure while being imprisoned for a length of time back in England. Pennsylvania instead instated a set of criminal laws called the "Great Code of Law", which outlawed corporal punishment and only stated murder as a capital offense - as opposed to over 200 capital offenses at the time in England. (Phmc.state.pa.us, 2016) (History.org, 2016)

"And be it further Enacted by the Authority aforesaid that if any Person

shall with Malice or premeditation Kill or be accessary to the death of an Other Person Man Woman or Child being Legally Convicted thereof Shall according to the Law of God and all Nations Suffer death and that the Estates of such Capital offenders shall go one half to the Next of Kin to the Sufferer and the remainder to the next of Kin of the Criminal." - Chapter 7, Great Code of Law, 1682

As far of the code, prisons would be government funded institutions, father than being fee-based. Furthermore, it established standards for inmates that included fair trials, ethical treatment and otherwise. (Phmc.state.pa.us, 2016)

In 1718, following the death of William Penn, England swiftly repealed the Great Code of Law. Colonies were forced to adopt England's laws once again which included a large spectrum of capital and corporal offenses. Murder, manslaughter, rape and kidnapping were considered capital offenses; along with such crimes as adultery, blasphemy and witchcraft. Corporal punishments were executed through beating, whipping, stoning and otherwise. (Kurian, 2006) (History.org, 2016)

These laws remained in effect until America gained it's independence in 1781. Many colonies reinstated the Great Code of Law shortly after, however, the conditions of the penal and prison systems had suffered setbacks. (Kurian, 2006)

PENNSYLVANIA, AUBURN AND THE PANTOPTICON

Two differing prison models emerged in the United States in the early 1800's, the Pennsylvania

system and the Auburn system. Each was based on different idealogies of the role of prison. The Pennsylvania system (also called the separate system) is based on the theory that inmates will experience penitence and be rehabilitated by spending time in solitary confinement. Inmates had no encounters with one another, instead each inmate was visited by staff at specific times of day as a means of rehabilitative conversation. Each cell was large, measuring 16 H x 12 L x 7.5 W. Eastern State Penitentiary was the first to put this system into practice. (Encyclopedia Britannica, 2016)

The separate system states that the solitary environment a) makes inmates easier to control and provides a safer experience for prison staff, b) Stops inmate-to-inmate criminal activity, and c) provides inmates have time and solitude to pray and repent for their transgressions. (Encyclopedia Britannica, 2016) (Kurian, 2006)

The Auburn system (also called the silent system), followed the Pennsylvania system and eventually replaced it. In an Auburn prison, inmates did manual labor during the day and were kept in solitary confinement at night, all of which was required to be in total silence. Inmates were issued striped prison suits for easy identification and were required to walk in *lockstep* - a single file march by inmates, each with their hand on the right shoulder of







FIG. 043 - AUBURN SYSTEM FIG. 044 - SILENT SYSTEM FIG. 045 - PANTIPITICON





FIG. 046 - AUBURN CELL INTERIOR FIG. 047 - SING SING CELL

the next, while facing the guard. Sing Sing prison, in Ossining, New York, is an example of an Auburn system. (Encyclopedia Britannica, 2016)

The Panopticon system, proposed by English philosopher Jeremy Bentham, features a circular organization of cells that are stacked on top of one another and face outwards towards a central observation area. As opposed to the other models, the Panopticon was not universally accepted and only resulted in a small number of facilities. The central ideas behind the design are a) increased staff visibility and safety and b) greater control of inmates based on the perception of being watched continuously. The Illinois State Penitentiary, in Statesville, IL is an example of this design.

The Auburn system of silence and solitary confinement took hold in the United States and continues to influence prison design today. In 1890 U.S. Supreme Court Justice Samuel Freeman Miller issued a comment regarding his observations of the men in solitary confinement.

"A considerable number of the prisoners fell, after even a short confinement, into a semi-fatuous condition, from which it was next to impossible to arouse them, and others became violently insane; others still, committed suicide; while those who stood the ordeal better were not generally reformed, and in most cases did not recover sufficient mental activity to be of any subsequent service to the community." - 134 U.S. 160

Despite Miller's observations, the system did not make any significant shift away from solitary confinement. However, the next year the U.S. Federal Prison System (FPS) was established with the passing of the "Three Prisons Act" which opened the first three official federal prisons - USP Leavenworth, USP Atlanta and USP McNeil Island. At the time, prisons were largely unregulated and individual wardens operated their facilities without government supervision. Unfortunately, the establishing of the FPS ultimately did little to monitor conditions or uphold ethical regulations at the time. (Bop.gov, 2014) (U.S. Department of Justice, 2015)

THE AMERICAN PRISON LANDSCAPE

29 years later, in 1930, the Federal Bureau of Prisons was created to provide "more progressive and humane care for Federal inmates, to professionalize the prison service, and to ensure consistent and centralized administration." By the end of the calendar year, the Bureau was overseeing 15 prisons and about





FIG. 048 - PELICAN BAY CELL FIG. 049 - PELICAN BAY AERIAL



FIG. 050 - PELICAN BAY SOLITARY EXERCISE YARD

13,000 inmates. Ten years later, in 1940, these numbers rose modestly to 24 institutions and about 24,000 inmates. For the next 40 years, prison populations did not fluctuate dramatically, but the number of institutions rose to 42. The Bureau was making the transition to operating smaller facilities with less inmates; that had similar security needs. (U.S. Department of Justice, 2015)

In 1971 President Nixon declared "War on Drugs" and worked towards creating harsh penalties for drug offenders. 10 years later, the Reagan administration unveiled the highly-publicized anti-drug campaign "Just Say No", which set the stage for the sentencing reforms that would come just years later. (Drugpolicy. org, 2015)

In 1983, at USP Marion in Illinois, Officer Clutts and Officer Hoffmann are attacked and killed by prisoners at two different times in the same day. Before this incident, Marion was considered to be the most secure of the federal prisons. Shortly following the incident, USP Marion went into a state of "permanent lock down", wherein prisoners were locked in their cells for 23 hours a day with very limited freedoms. This was the first time this policy had been instated anywhere in the United States. It remained this way for the next 23 years. (Peters, 2013)

In 1984, Comprehensive Crime Control Act was enacted. This created many new Federal crimes, established minimum sentencing guidelines and abolished much of federal parole. (U.S. Department of Justice, 2015)

In 1989, Pelican Bay State Prison opens in Cresent City, CA. It is the first supermax prison and is designed specifically for solitary confinement. Inmates housed in the SHU (Secure Housing Unit) spend 22.5 hours a day in a smooth, windowless 8ft x 10ft concrete cell. They are allowed 1.5 hours a day of outside time in a concrete recreation yard. There are no classrooms, cafeteria or recreation yard. Meals are served through a small slot twice each day. (Prisonhistory.net, 2016) (Sullivan, 2006)

In 1994, the U.S. Bureau of Prisons opens ADX Florence, the only Federal Supermax prison, to house the highest profile and most dangerous of prisoners. (Sullivan, 2006)

In 2005, 16 years after the original supermax facility opened at Pelican Bay, associate professor Daniel P. Mears publishes a study revealing the presence of supermax divisions in at least 40 states. (Sullivan, 2006)



SITE ANALYSIS: NARRATIVE

From 1776 to 1783, New York City was at the heart of the American Revolution. Wallabout Bay served as the home for decommissioned British warships that held American soldiers, sailors and citizens for disobeying the British embargo. As many as 11,500 die from disease aboard.

In 1801, President Adams authorized the establishment of the first five naval shipyards which included Brooklyn. In 1807 Commodore John Rogers established a hospital near the Brooklyn shipyard in Wallabout Bay. Two years later, the hospital moved to two smaller structures nearby. Later, in 1838, construction completed on the main hospital building (see figure) as it stands today. In the early 1900's the hospital served as an important treatment center for tuberculous patients from throughout the city. Leading up to America's invovlement in WWII, the hospital added buildings rapidly as needed to serve the region. At the start of the war, the campus had 37 structures.

In 1812, the yard became a hub for ship building and repair in response to British attacks. With the advent of steam engineering in 1837 came the first U.S. steam warship, the 9-gun side-wheel steamer Fulton II. In 1857 Naval Surgeon E.R. Squibb founded a pharmaceutical company as an extension to the hospital.

The Yard closed in 1969 along with 90 other military bases, laying off 9,000 workers. In 1981 with the Brooklyn Navy Yard Development Corporation is founded and takes overseeing of the yard over, diservifiying the yard to accommodate small industry. This led to 98% occupancy in 1998. In the 2000's the yard saw steady growth, growing to 275

FIG. 051 - MAIN HOSPITAL
BUILDING AT THE BROOKLYN
NAVAL HOSPITAL

businesses and over 6,000 employees. Between 2010 and 2014, tweleve new buildings were added. In 2011 BLDG 92, an exhibition and visitor center opens to promote the yard.



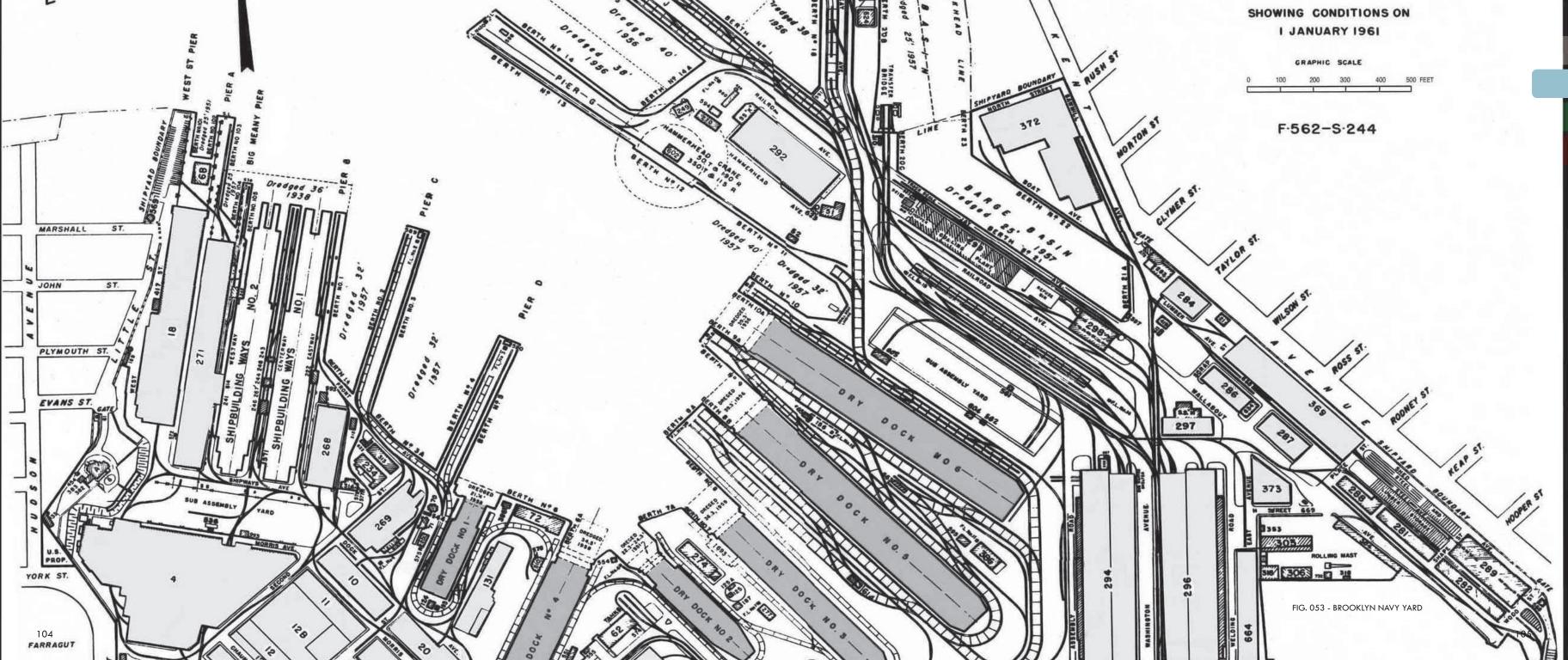
FIG. 052 - BUILDING 92, INFORMATION CENTER AT THE NAVY YARD

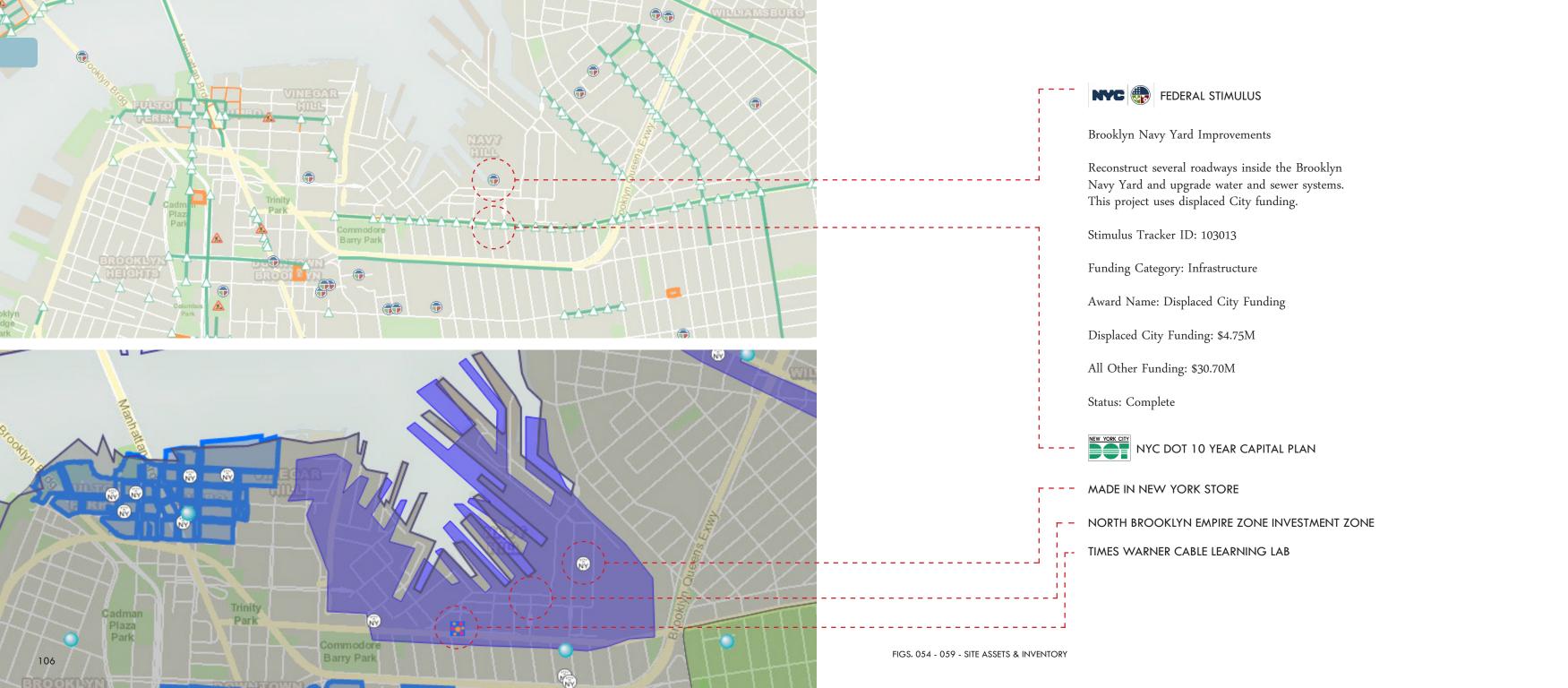
INVENTORY

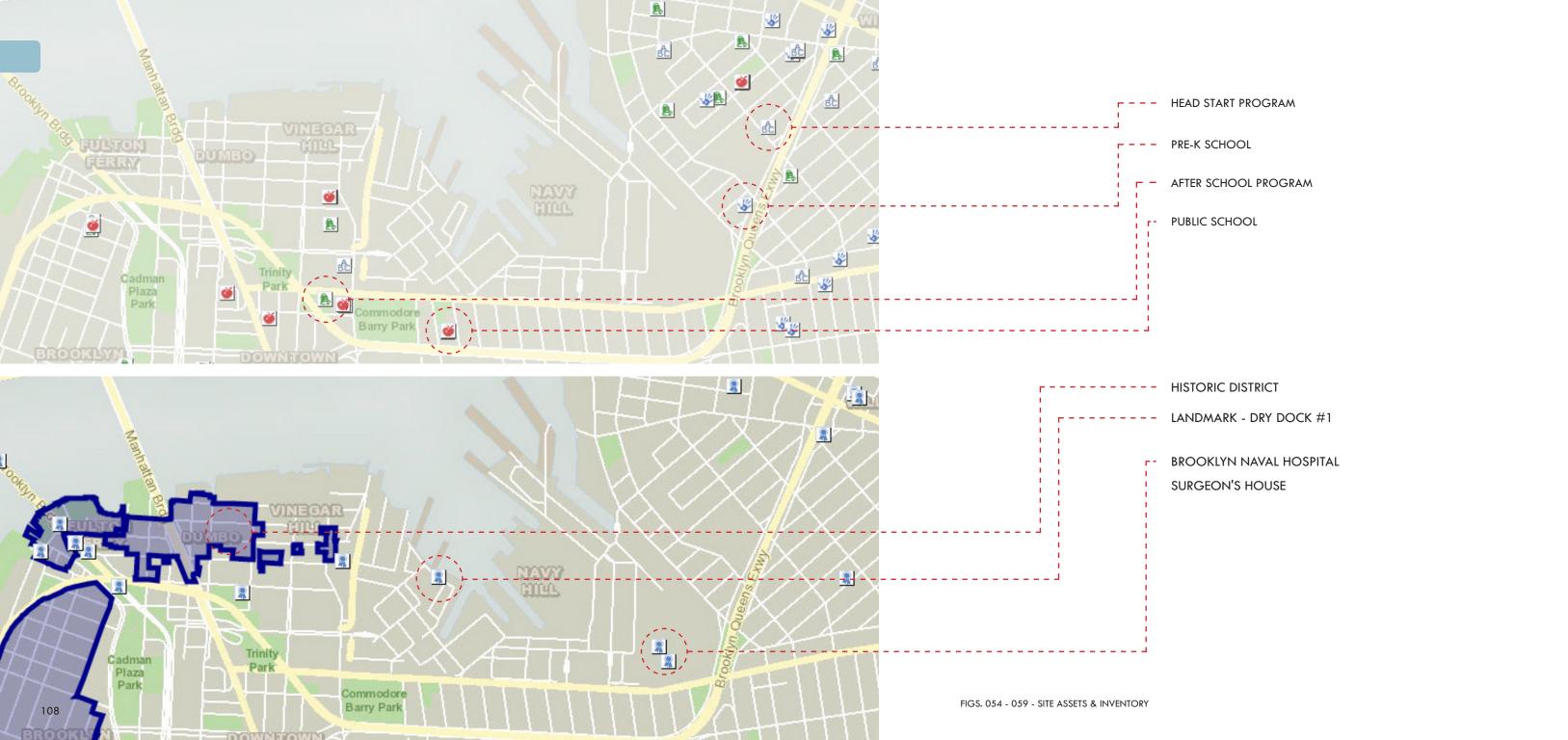
NATURAL ELEMENTS

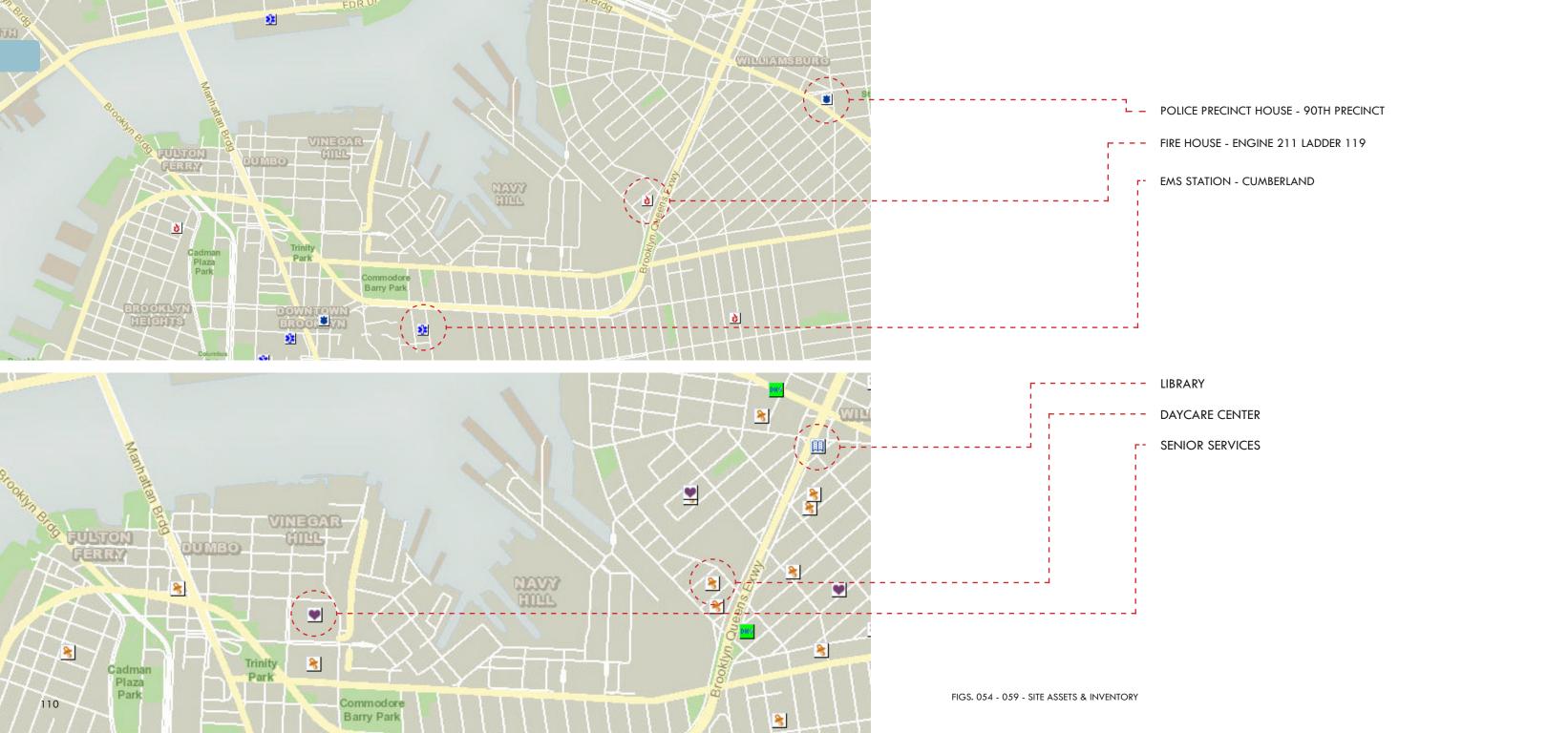
HUMAN ELEMENTS

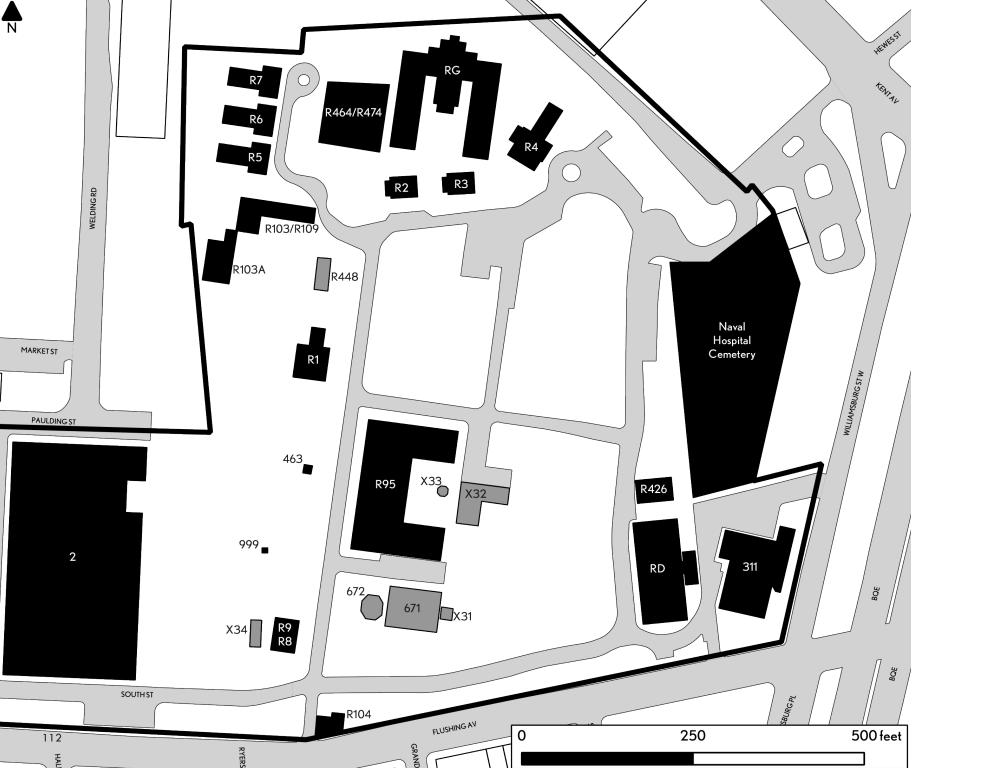
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NAVAL HOSPITAL CAMPUS BUILDING LIST

Building R1. Surgeon's House (1863).

Building R2. Quarters No. 2 (1905).

Building R3. Quarters No. 3 (1905).

Building R4. Quarters No. 4 (ca. 1864; additions 1900, 1917 & 1947).

Building R5. Infectious Diseases Quarters (1915).

Building R6. Infectious Diseases Quarters (1915).

Building R7. Infectious Diseases Quarters (1915).

Building R8. Bachelor Officers' Quarters (1926).

Building R9. Bachelor Officers' Quarters (1926).

Building R95. United States Naval Hospital (1830-38).

Building R103/R109. Stable (ca. 1872) / Carriage House (ca. 1900).

Building 103a. Garage (ca. 1947).

Building R104. Guard House and Gate Keeper Lodge (1850).

Building 311. Motion Picture Exchange (1942).

Building R426. Lumber Shed (1909).

Site R448. Greenhouse (ca. 1928).

Object R463. Flagstaff (ca. 1921).

Object 999. Barrier Forts Monument (1858)

Building RD. Medical Supply Depot (1910).

Building RG. Nurses' Quarters (1919; addition ca. 1980).

Structure R464 and R474. Tennis Courts (ca. 1920).

Structure 671. Pool (1978).

Building 672. Bathhouse (1978).

Building X31. Pool Shed (1978).

Building X32. Steam Reducing Station (ca. 1980).

Structure X33. Gazebo (ca. 1980).

Structure X34. Chicken Coop (unknown).

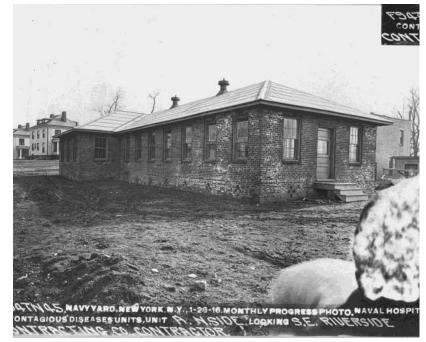
FIG. 060 - SITE FEATURES LISTING







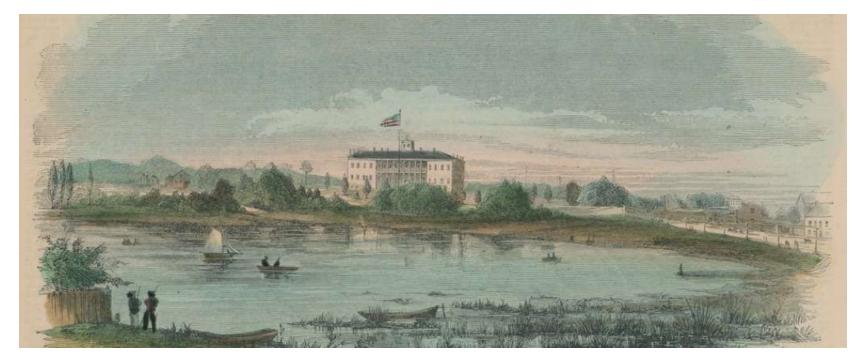




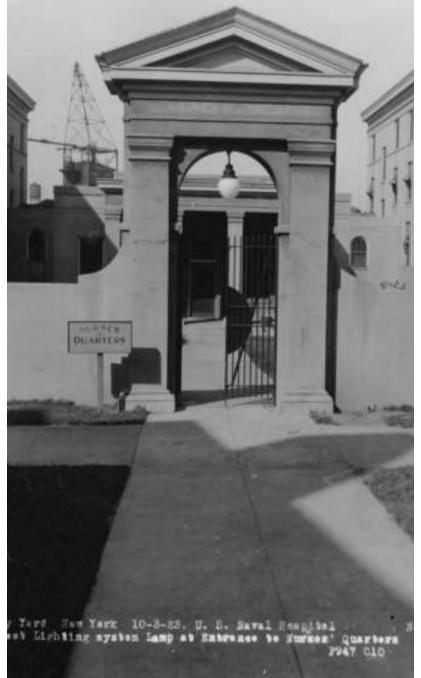


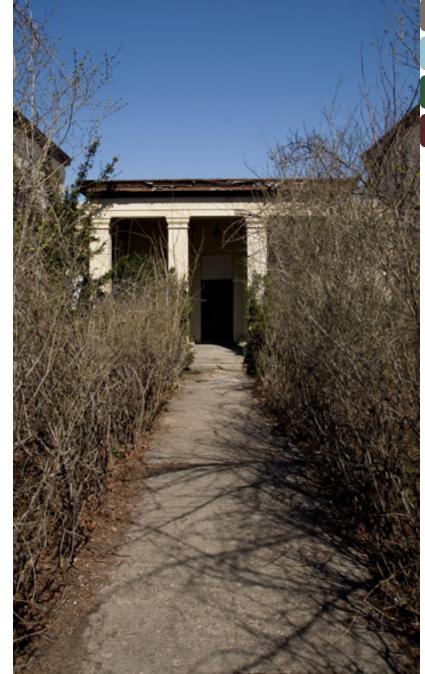












FIGS. 069 - 072 - ORIGINAL AND CURRENT SITE PHOTOS







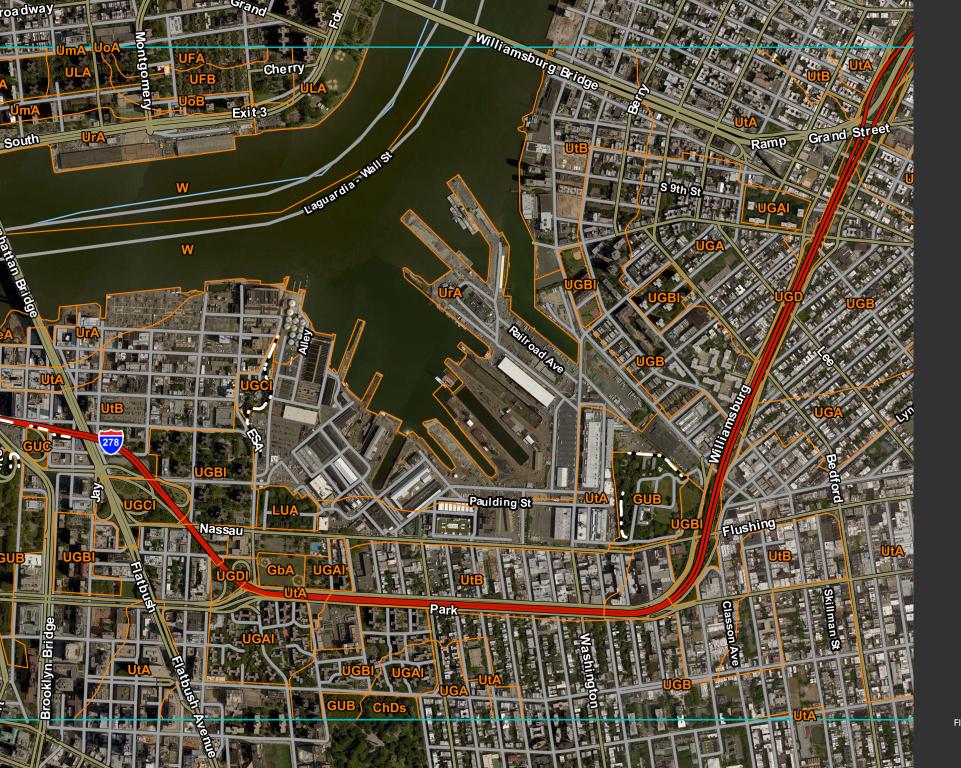








118 FIGS. 073 - 079 - CURRENT SITE PHOTOS 119



NATURAL ELEMENTS

SOIL CHARACTERISTICS

The Naval Hospital site falls under two soil classifications:

GUB (Greenbelt-Urban land complex, 3 to 8 percent slopes) &

UGBl (Urban land-Greenbelt complex, 3 to 8 percent slopes,
low impervious surface)

FIG. 080 - SOIL CLASSIFICATIONS

GUB CLASSIFICATION

Greenbelt-Urban land complex, 3 to 8 percent slopes

National map unit symbol: 2pdf5

Elevation: 0 to 390 feet

Mean annual precipitation: 40 to 52 inches

Mean annual air temperature: 47 to 62 degrees F

Frost-free period: 216 to 234 days

Farmland classification: Not prime farmland

Map Unit Composition

Greenbelt and similar soils: 60 percent

Urban land, till substratum: 25 percent

Minor components: 15 percent

DESCRIPTION OF GREENBELT

Landform position (two-dimensional): Summit, backslope, footslope

 $Land form\ position\ (three-dimensional):\ Crest,\ sideslope,\ baseslope,\ talf$

Down-slope shape: Linear, convex Across-slope shape: Linear, convex

Parent material: Loamy human-transported material

> TYPICAL PROFILE

^A - 0 to 5 inches: loam

 $^{\wedge}Bw1$ - 5 to 16 inches: loam

 $^{\wedge}\text{Bw2}$ - 16 to 30 inches: loam

 $^{\wedge}\text{C}$ - 30 to 79 inches: sandy loam

> PROPERTIES AND QUALITIES

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat):

Moderately high (0.43 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Available water storage in profile: Moderate (about 8.4 inches)

→ INTERPRETIVE GROUPS

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

DESCRIPTION OF URBAN LAND, TILL SUBSTRATUM

Landform position (two-dimensional): Summit Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Asphalt over human-transported material

> TYPICAL PROFILE

M - 0 to 15 inches: cemented material

2^C - 15 to 79 inches: gravelly sandy loam

> PROPERTIES AND QUALITIES

Slope: 0 to 8 percent

Depth to restrictive feature: 0 inches to manufactured layer

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low

(0.00 to 0.00 in/hr)

Calcium carbonate, maximum in profile: 10 percent

Available water storage in profile: Very low (about 0.0 inches)

→ INTERPRETIVE GROUP

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8s

123

122

^{*} USDA WEB SOIL SURVEY GIS INFORMATION

UGBI CLASSIFICATION

> Urban land-Greenbelt complex, 3 to 8 percent slopes, low impervious surface

National map unit symbol: 2pblr

Elevation: 0 to 410 feet

Mean annual precipitation: 40 to 52 inches

Mean annual air temperature: 47 to 62 degrees F

Frost-free period: 216 to 234 days

Farmland classification: Not prime farmland

Urban land, till substratum: 60 percent Greenbelt and similar soils: 25 percent

Minor components: 15 percent

DESCRIPTION OF URBAN LAND, TILL SUBSTRATUM

Landform position (two-dimensional): Summit Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Asphalt over human-transported material

> TYPICAL PROFILE

M - 0 to 15 inches: cemented material

2^C - 15 to 79 inches: gravelly sandy loam

) PROPERTIES AND QUALITIES

Slope: 0 to 8 percent

Depth to restrictive feature: 0 inches to manufactured layer

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low

(0.00 to 0.00 in/hr)

Calcium carbonate, maximum in profile: 10 percent

Available water storage in profile: Very low (about 0.0 inches)

) INTERPRETIVE GROUPS

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

DESCRIPTION OF GREENBELT

Landform position (two-dimensional): Summit, backslope, footslope

) INTERPRETIVE GROUPS

Hydrologic Soil Group: B

Land capability classification (irrigated): None specified

125

Land capability classification (nonirrigated): 2e

Landform position (three-dimensional): Crest, sideslope, baseslope, talf

Down-slope shape: Linear, convex

Across-slope shape: Linear, convex

Parent material: Loamy human-transported material

> TYPICAL PROFILE

^A - 0 to 5 inches: loam

^Bw1 - 5 to 16 inches: loam

^Bw2 - 16 to 30 inches: loam

 $^{\ }$ C - 30 to 79 inches: sandy loam

) PROPERTIES AND QUALITIES

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat):

Moderately high (0.43 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Available water storage in profile: Moderate (about 8.4 inches)

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^{*} USDA WEB SOIL SURVEY GIS INFORMATION

AVAILABLE WATER CAPACITY

<= 0.08

> 0.08 and <= 0.14

Available water capacity (AWC) refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in centimeters of water per centimeter of soil for each soil layer. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems.

WIND ERODIBILITY INDEX

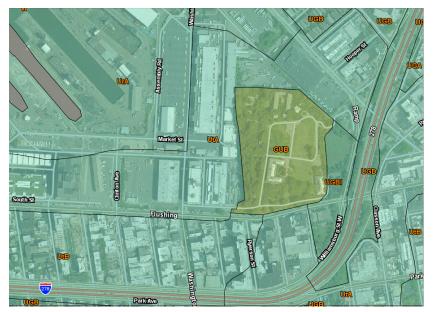
56 (tons per acre per year)

Not rated or not available

The wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.









SOIL PH LEVELS

Slightly acid (pH 6.1 - 6.5)

Neutral (pH 6.6 - 7.3)

Soil reaction is a measure of acidity or alkalinity. It is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion. In general, soils that are either highly alkaline or highly acid are likely to be very corrosive to steel.

ORGANIC MATTER

<= 0.10 (percent)

> 0.10 and <= 1.24 (percent)

Organic matter is the plant and animal residue in the soil at various stages of decomposition. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms. Soils that are very high in organic matter have poor engineering properties and subside upon drying.

FIGS. 081 - 084 - SOIL IDENTIFICATIONS

^{*} USDA WEB SOIL SURVEY GIS INFORMATION

PERCENT CLAY

- <= 5.0 (percent)
- > 5.0 and <= 14.0 (percent)

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrinkswell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties.

PERCENT SAND

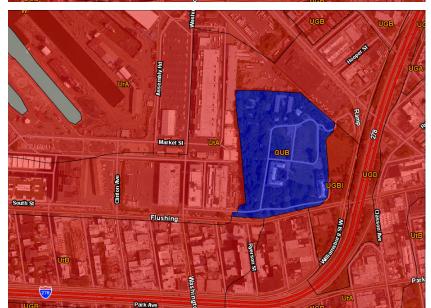
- <= 53.9 (percent)
- > 53.9 and <= 70.0 (percent)

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.









PERCENT SILT

- <= 25.0 (percent)
- > 25.0 and <= 32.2 (percent)

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

PLASTICITY INDEX

- <= 2.0 (percent)
- > 2.0 and <= 8.5 (percent)

Plasticity index (PI) is one of the standard Atterberg limits used to indicate the plasticity characteristics of a soil. It is defined as the numerical difference between the liquid limit and plastic limit of the soil. It is the range of water content in which a soil exhibits the characteristics of a plastic solid.

128 FIGS. 085 - 088 - SOIL IDENTIFICATIONS 129

SURFACE TEXTURE

Cemented material

Loam

Loam is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand.



0 - 25

> 20

A "restrictive layer" is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers.









DRAINAGE CLASS

Well drained

Not rated or not available

Drainage class refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil.

FROST INDEX

Moderate

Not rated or not available

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

FIGS. 089 - 092 - SOIL IDENTIFICATIONS

FROST FREE DAYS

180 - 365

The term "frost-free days" refers to the expected number of days between the last freezing temperature (0 degrees Celsius) in spring (January-July) and the first freezing temperature in fall (August-December). The number of days is based on the probability that the values for the standard "normal" period of 1961 to 1990 will be exceeded in 5 years out of 10.

HYDROLOGIC SOIL GROUPS

Not rated or not available

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups, group B includes soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.









PARENT MATERIAL

Asphalt over human-transported material

Loamy human-transported material

Parent material name is a term for the general physical, chemical, and mineralogical composition of the unconsolidated material, mineral or organic, in which the soil forms. Many soil properties relate to parent material. Among these properties are proportions of sand, silt, and clay; chemical content; bulk density; structure; and the kinds and amounts of rock fragments.

SLOPE GRADIENT

15 - 30

Slope gradient is the difference in elevation between two points, expressed as a percentage of the distance between those points.

132 133 FIGS. 093 - 096 - SOIL IDENTIFICATIONS

UNIFIED SOIL CLASSIFICATION

SC

The Unified soil classification system classifies mineral and organic mineral soils for engineering purposes on the basis of particle-size characteristics, liquid limit, and plasticity index. Three divisions are subdivided into a total of 15 basic soil groups. ASTM D 2487 shows the criteria chart used for classifying soil in the Unified system and the 15 basic soil groups of the system and the plasticity chart for the Unified system.

DEPTH TO WATER TABLE

> 200

"Water table" refers to a saturated zone in the soil. It occurs during specified months. A saturated zone that lasts for less than a month is not considered a water table.









FLOOD PROBABILITY

None

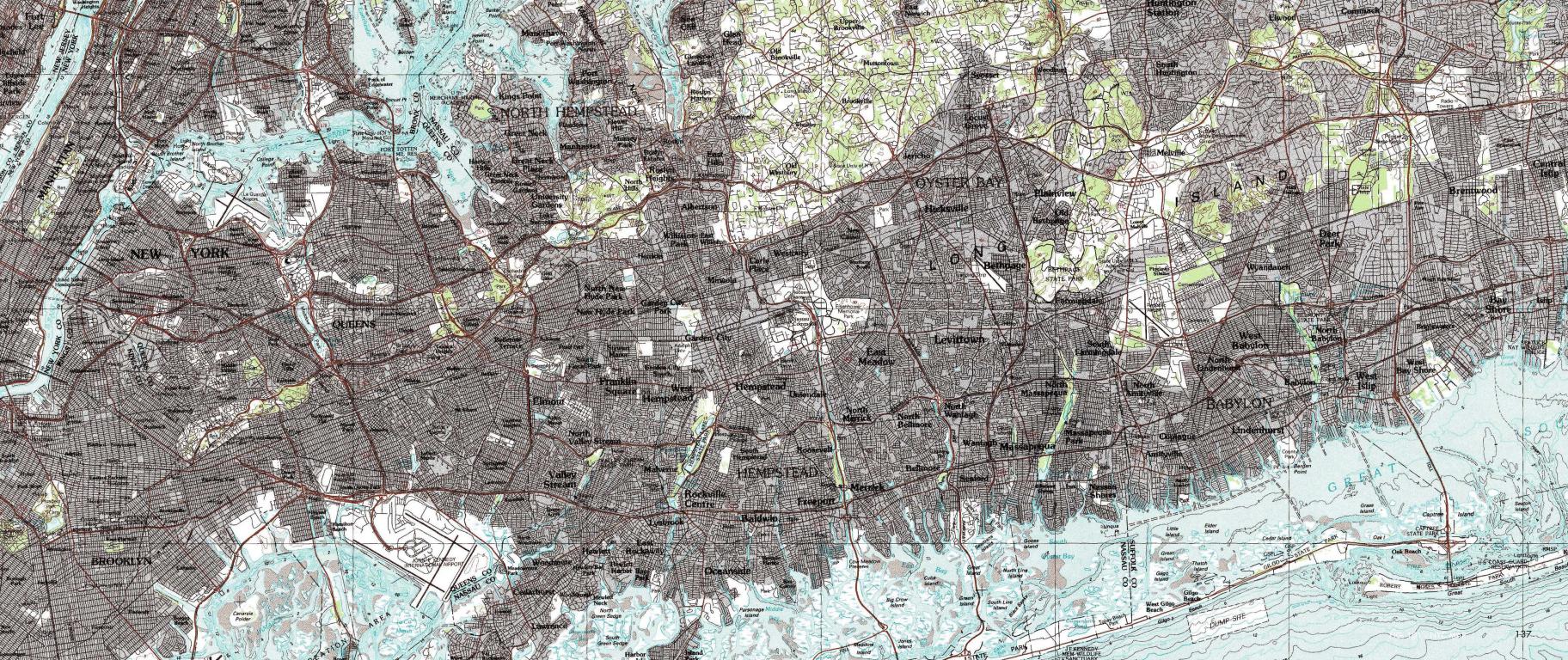
Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. "None" means that flooding is not probable. The chance of flooding is nearly 0 percent in any year. Flooding occurs less than once in 500 years.

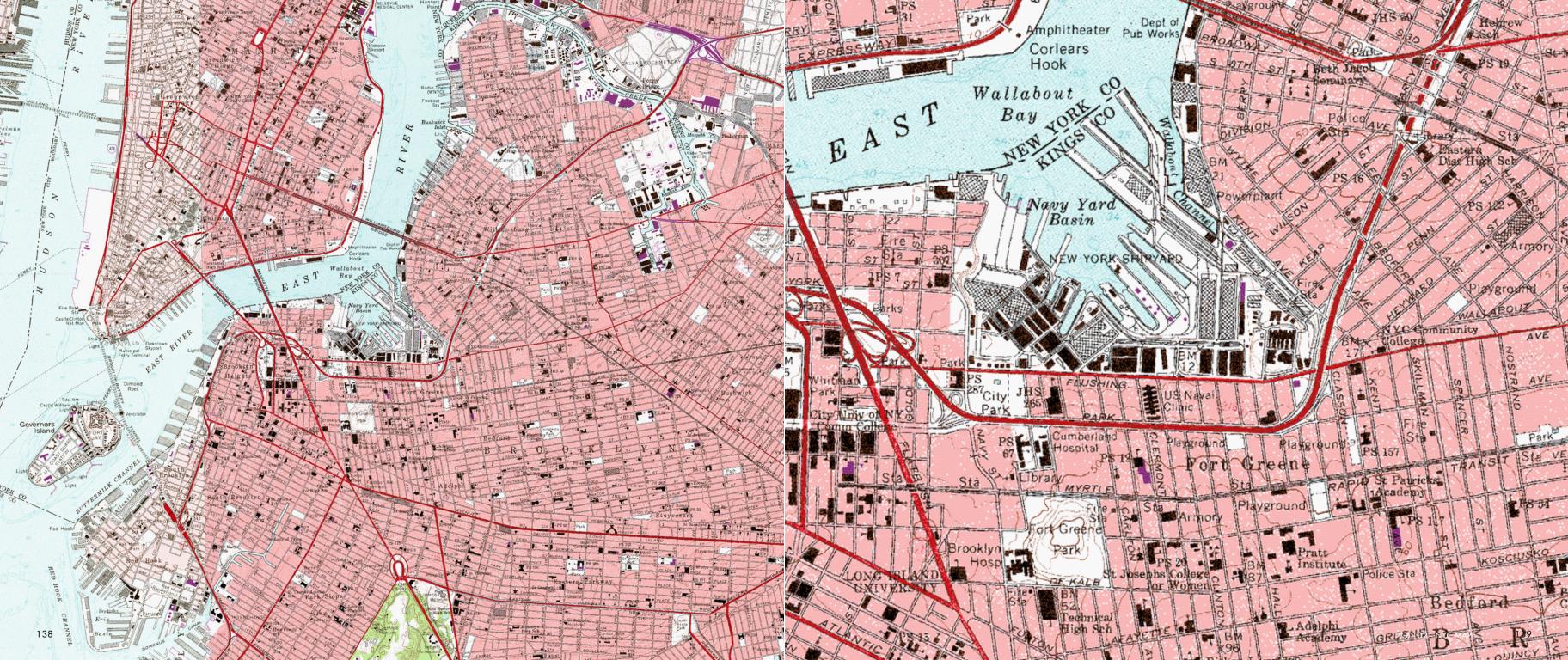
PONDING PROBABLITY

None

Ponding is standing water in a closed depression. The water is removed only by deep percolation, transpiration, or evaporation or by a combination of these processes. Ponding frequency classes are based on the number of times that ponding occurs over a given period. "None" means that ponding is not probable. The chance of ponding is nearly 0 percent in any year.

FIGS, 097 - 100 - SOIL IDENTIFICATIONS





USDA HARDINESS ZONE

USDA Zone 6b (-5°F to 0°F)

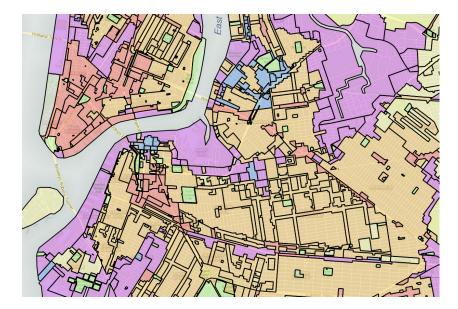
USDA Zone 7a (0°F to 5°F)

WATER BEST USE CLASSIFICATION

Boating and Fishing







ZONING

Residence District (Medium & High Density)

Residence District (Lower Density)

Commercial District

Mixed Use District

Manufacturing District

Battery Park City

Park

PRIMARY USES

One & Two Family Residence

Multi-Family Residence (walkup)

Multi-Family Residence (elevator)

Mixed Residential & Commercial

Commercial

Industrial/Manufacturing

Transportation/Utility

Public Facilities and Institutions

Open Space and Recreation

Parking

Vacant Land



United States Country: State: New York Kings County: New York City Zip code 11201 Longitude: -74 Latitude: 40.69 Altitude - Elevation: 102 feet

Annual high temperature: 62.3°F

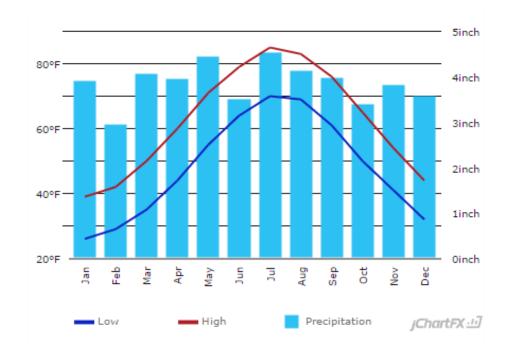
Annual low temperature: 48°F

Average temperature: 55.15°F

Average annual precipitation - rainfall: 46.23 inch

Days per year with precipitation - rainfall: 121 days

Annual hours of sunshine: 2677 hours



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Average high in °F:	39	42	50	60	71	79	85	83	76	65	54	44
Average low in °F:	26	29	35	44	55	64	70	69	61	50	41	32
Av. precipitation in inch:	3.9	2.95	4.06	3.94	4.45	3.5	4.53	4.13	3.98	3.39	3.82	3.58
Days with precipitation:	11	10	12	11	11	10	11	10	8	8	9	10
Hours of sunshine:	154	171	213	237	268	289	302	271	235	213	169	155

CLIMATE GRAPH

With an average high temperature of 85 °F, July is the warmest month. January is the coldest, averaging temperatures of 26 °F. NYC receives the most precipitation in July, with an average rainfall of 4.53 in. The driest month is February, with an average of 2.95 in of precipitation.

*USCLIMATEDATA.COM

SUN

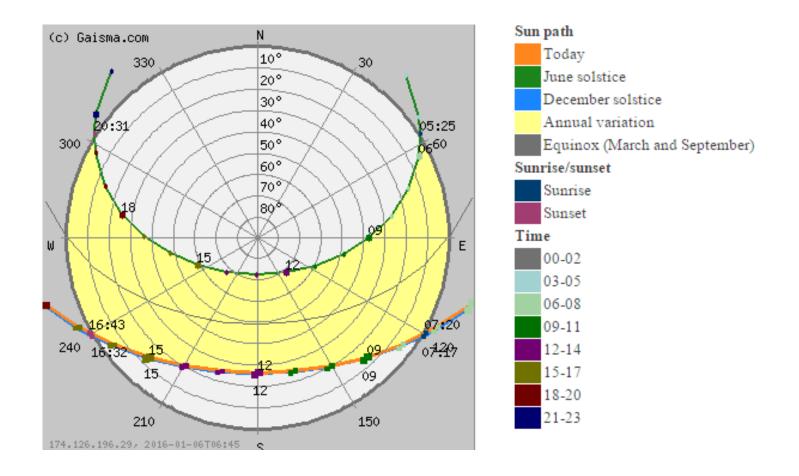
ANNUAL DAYS OF SUNSHINE

PLACE	SUNNY	PARTLY SUNNY	TOTAL W/ SUN
New York Central Park	107	127	234
New York, JFK Airport	98	116	214
New York, LaGuardia Airport	96	117	213

PERCENT SUNSHINE YEARLY

PLACE % SUN
New York Central Park 58

Variable	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Insolation, kWh/m²/day	1.79	2.66	3.66	4.44	5.21	5.70	5.65	5.00	3.98	2.89	1.89	1.57
Clearness, 0 - 1	0.45	0.49	0.49	0.47	0.48	0.49	0.50	0.50	0.48	0.47	0.43	0.44
Temperature, °C	-3.49	-1.86	2.75	9.00	15.63	20.98	23.45	22.41	18.34	11.60	5.60	-0.39
Wind speed, m/s	6.12	6.19	6.27	5.96	5.23	4.83	4.39	4.25	4.52	4.99	5.72	6.04
Precipitation, mm	86	79	102	102	107	87	111	103	96	84	105	93
Wet days, d	10.4	9.6	10.8	10.4	11.3	10.3	9.6	9.2	8.1	7.7	10.4	11.0



*GAISMA.COM

PRECIPITATION & HUMIDITY

AVERAGE YEARLY RELATIVE HUMIDITY (%)

AVERAGE ANNUAL SNOWFALL

				DAYS	PLACE
DAILY	PLACE	MORNING	AFTERNOON	11.9	New York City, Brooklyn
63	New York City, Central Park	71	54		, ,
68	New York JFK Airport	74	61	11.1	New York City, Central Park
	ı ı		01	13.7	New York JFK Airport
63	New York La Guardia Airport	70	55		New York La Guardia Airport
				13.1	Tien Tork La Gaardia Import

ANNUAL AVERAGES FOR DAILY HIGH AND LOW RELATIVE HUMIDITY (%)

•••	 	 	 	(, 0)

HIGH	TIME	PLACE	LOW	TIME	DATS
71.1	7 am	New York City, Central Park	53.6	4 pm	121
76.2	7 am	New York JFK Airport	58.2	1 pm	122
71.1	4 am	New York La Guardia Airport	54.8	4 pm	119
					0

13.7	New York JFK Airport	23.8
13.1	New York La Guardia Airport	26.9
AVERAG	E ANNUAL PRECIPITATION	
DAVC	NACE	NICHEC
DAYS	PLACE	INCHES
121	New York City, Brooklyn	46.6

New York City, Central Park

New York La Guardia Airport

New York JFK Airport

22.7 25.1

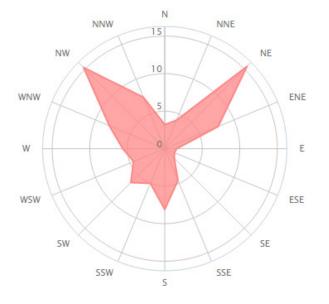
49.9

42.8

44.7

WIND

Month of year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
	01	02	03	04	05	06	07	08	09	10	11	12	1-12
Dominant wind direction	4	4	4	4	-	-	-	-	-	-	4	4	-
Wind probability >= 4 Beaufort	47	50	49	48	34	33	25	25	33	42	39	49	39
(%)							20	20					
Average Wind speed (mph)	13	14	13	13	12	12	10	10	10	13	12	13	12
Average air temp. (°F)	33	35	44	55	66	73	80	77	71	60	50	41	57

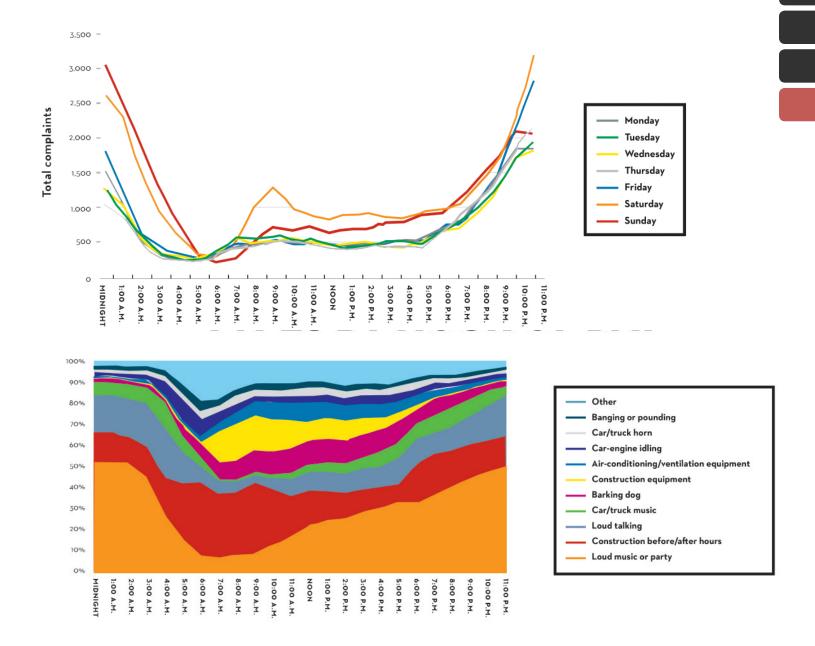


*WINDFINDER.COM

NOISE

COMPLAINT TYPE	COUNT	PERCENTAGE
Loud music or party	52,368	37%
Construction before/after hours	23,180	16%
Loud talking	18,210	13%
Car/truck music	8,962	6%
Barking dog	7,480	5%
Construction equipment	5,819	4%
Air-conditioning/ventilation equipment	4,200	3%
Car-engine idling	3,886	3%
Car/truck horn	3,374	2%
Banging or pounding	3,087	2%
Other	10,098	7%

RANK	NEIGHBORHOOD	COMPLAINTS PER THOUSAND RESIDENTS
1	Midtown/Midtown South	104.51
2	North Side/South Side	75.59
3	SoHo/Tribeca/Civic Center/Little Italy	75.57
4	Battery Park City/Lower Manhattan	59.98
5	West Village	59.96
6	East Village	58.64
7	Washington Heights North	56.85
8	East Williamsburg	56.79
9	Hudson Yards/Chelsea/Flatiron/Union Square	56.34
10	Clinton	56.21
179	Williamsburg	3.64
180	Bellerose	3.60
181	Arden Heights	3.53
182	Annadale/Huguenot/Prince's Bay/Eltingville	3.46
183	Brownsville	3.22
184	Todt Hill/Emerson Hill/Heartland Village/Lighthouse Hill	3.16
185	Oakland Gardens	3.05
186	Rossville/Woodrow	3.03
187	Starrett City	2.25
188	Co-op City	1.10



*NEWYORKER.COM

UTILITIES

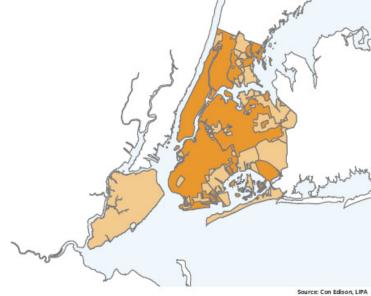
NYC ELECTRIC SYSTEM¹²

- Created in the 1880s
- First centralized electric generation and distribution system
- Designed by Thomas Edison
- Serves 250,000 businesses
- NYC uses about 1.4% of all electricity produced in the U.S.A

The NYC electric system contains three elements:

- 1. Generation production of electricity
- 2. Transmission system transportation to substations
- 3. Distribution system distribution to homes, businesses, etc.





ELECTRIC SERVICES TERRITORIES

Con Edison (3 Million customers)

Long Island Power Authority (LIPA) (34,000 customers)

ELECTRIC DISTRIBUTION SYSTEMS

Underground Network Areas

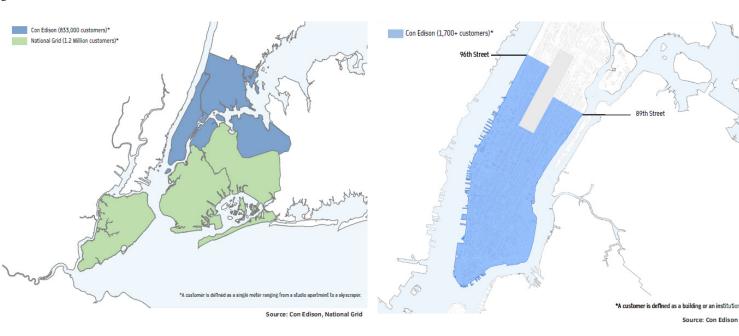
Overhead Radial and Loop System Areas

NYC NATURAL GAS SYSTEM

- Fuels about 65 percent of heating needs in buildings
- Fuels more than 98% of in-city electricity production
- Four privately-owned interstate pipelines transport natural gas from the Gulf Coast, Western Canada, and others
- Natural gas enters city at interconnection points called "city gates"

NYC STEAM SYSTEM

- One of the largest district steam systems in the world
- Provides 1,700 buildings in Manhattan with energy for heat, hot water, and even air conditioning.



NATURAL GAS SERVICE TERRITORIES

Con Edison (833,000 customers)

National Grid (1.2 Million customers)

STEAM SERVICE TERRITORY

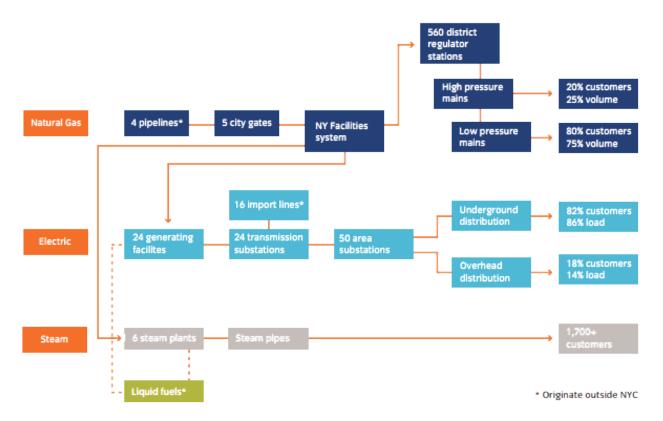
Con Edison (1,700 customers)

¹NYC Special Initiative for Rebuilding and Resiliency, 2013 ²Con Edison of New York, 2013

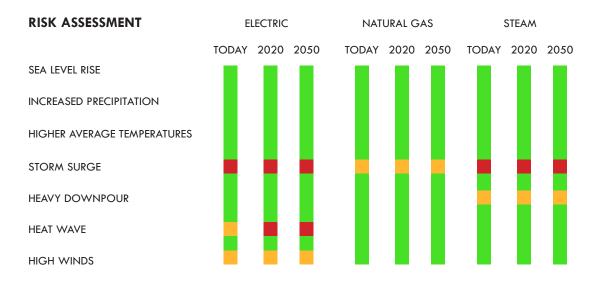
Source: Con Edison

151

150 FIGS. 107 - 110 - UTILITIES MAPS



Source: OLTPS

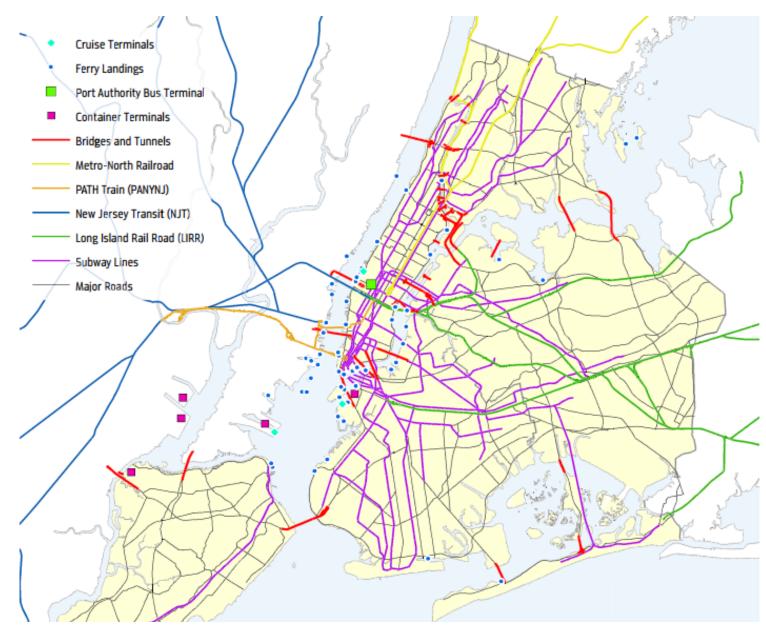


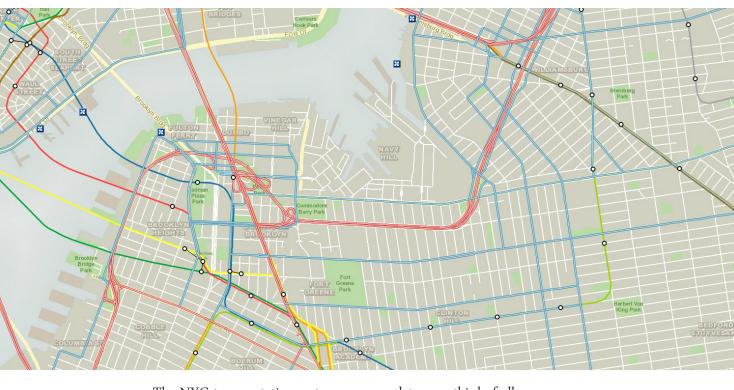
It costs the residents of New York around 19 billion dollars each year to power, heat and cool the city. NYC has one of the oldest, yet most reliable power system in the country. It relies on a interconnected system of natural gas, electricity, and steam power. (NYC Special Initiative for Rebuilding and Resiliency, 2013)

¹NYC Special Initiative for Rebuilding and Resiliency, 2013

152 FIG. 111 - ENERGY FLOWCHART 153

TRANSPORTATION





DOT Truck Route

Limited Local

___ Local

Through

Ferry Terminal

O Subway

The NYC transportation system accommodates one-third of all transit riders and two-thirds of all rail riders in the nation. It includes 6,000 miles of streets, 12,000 traffic signals, and almost 800 bridges. (NYC Special Initiative for Rebuilding and Resiliency, 2013)

155

(NYC Special Initiative for Rebuilding and Resiliency, 2013)

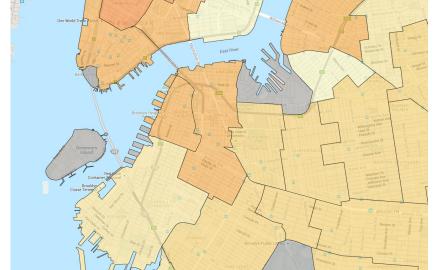
154 FIGS. 112 - 113 - TRANSPORTATION SYSTEMS

PEDESTRIAN ACTIVITY

Lowest

Highest

Not Applicable



PEDESTRIAN COUNTS

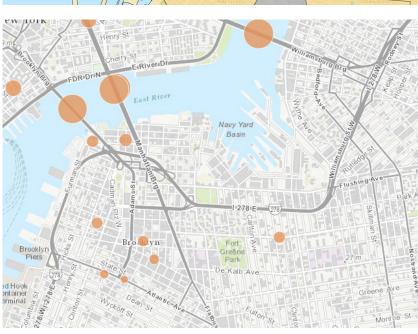
> 11

,

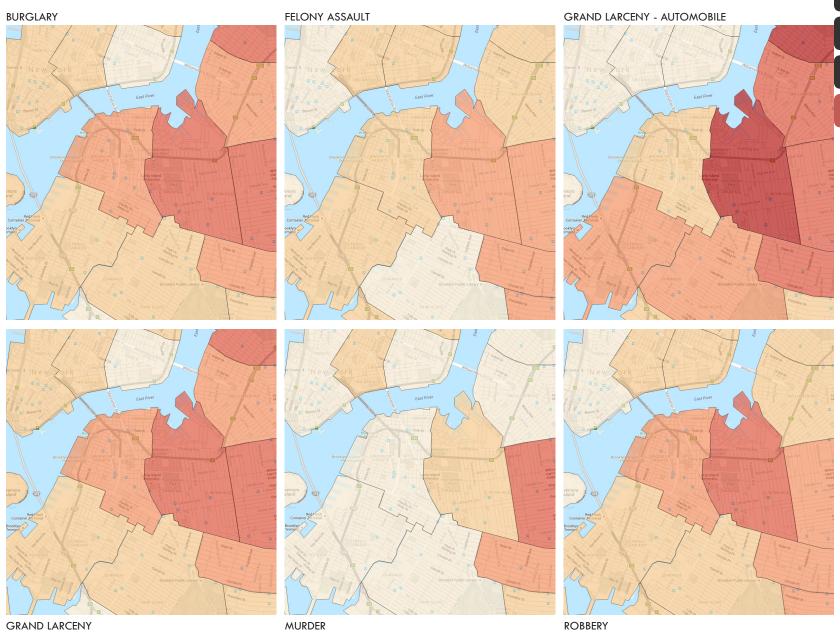
90

• < 1

- Counts taken twice a year in May & September
- Counts conducted on one midweek (Tue/Wed/Thu) day and an adjacent Saturday
- Counts conducted from 7-9am, 4-7pm on weekday & 12-2pm on Saturday



CRIME



FINAL BUILDING PROGRAM (SPACE ALLOCATION)

Full Site:

Approx: 26.74 acre

1,164,600.50 square foot

60% buildable

698760.3 sq ft

Parking

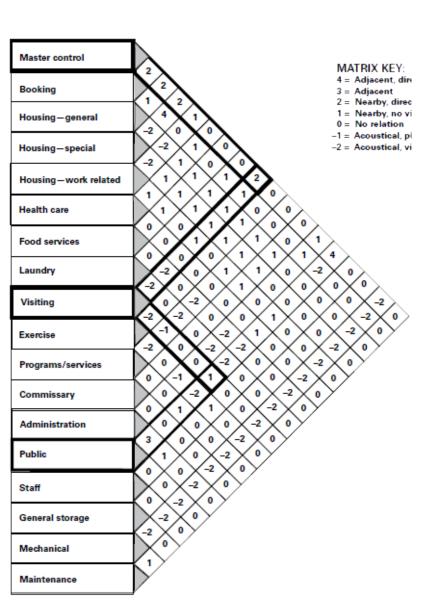
- Staff 5%
- Pedestrian visitors
- Other visitors

Outdoor Spaces

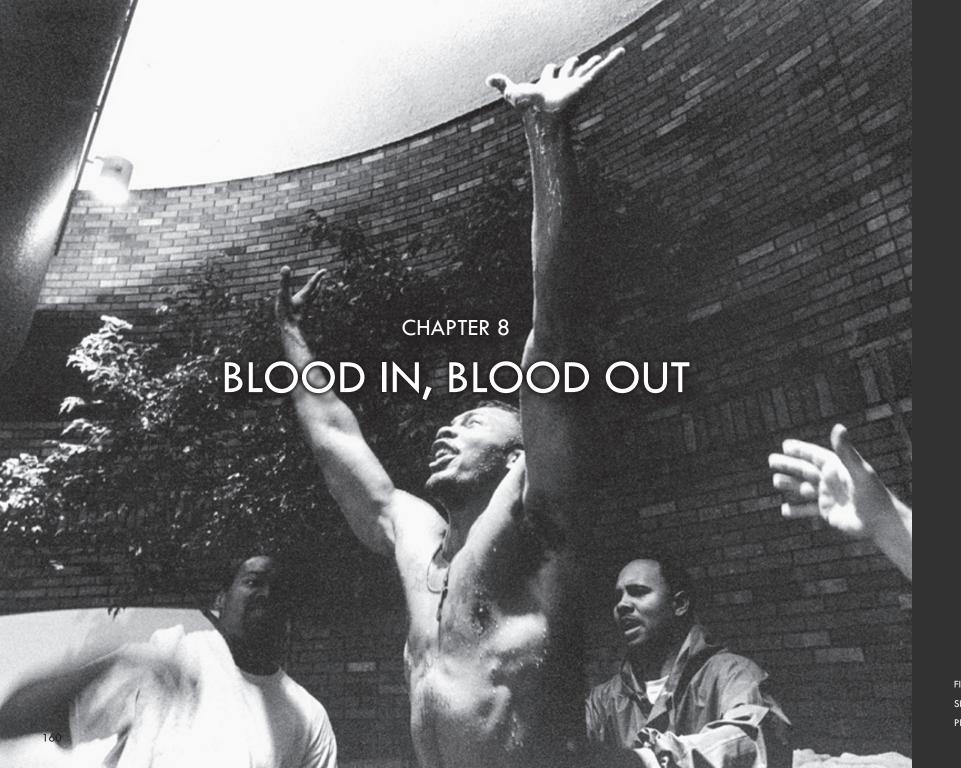
- Exercise 10%
- Visiting 5%
- Garden 2%

Interior Spaces

- Master Control 5%
- Intake Release 3%
- Housing 40%
- Health Care 5%
- Visiting 5%
- Exercise 20%
- Other 15%



158 FIG. 122 - RELATIONSHIP DIAGRAM



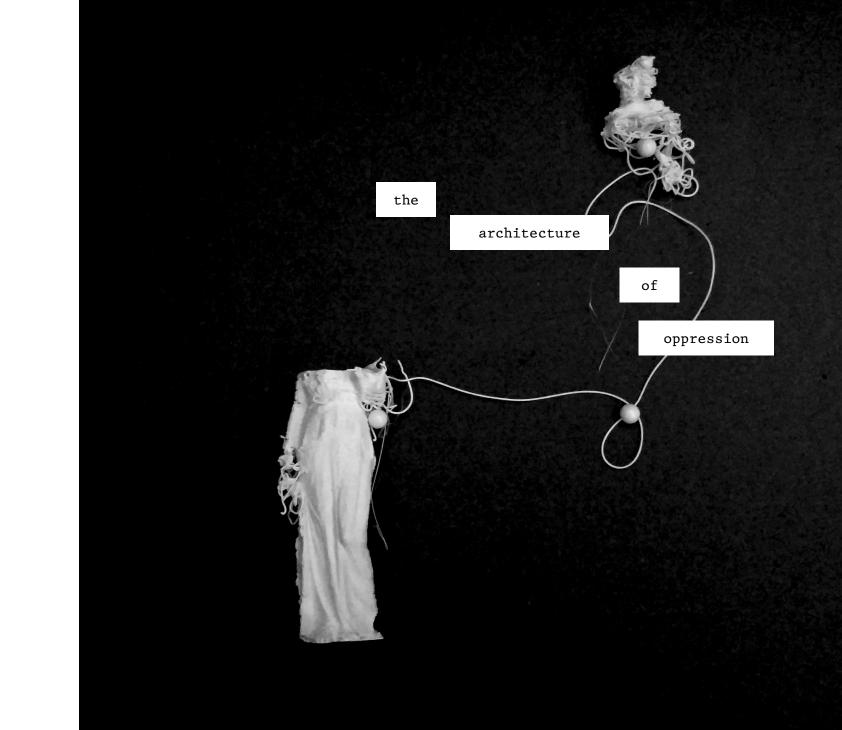
ARCHITECTURAL RESPONSE TO EXTREME REALITIES

The following are theories, processes and responses in reaction to one of society's biggest ethical dilemmas. This thesis is a commentary that is shaped by the many particular characteristics of the prison environment. I would like to invite you to free your unconscious mind from the domination of reason and tradition. For us to further this conversation, as mutually dependent beings, I'd suggest that we disconnect ourselves from any preemptive positions or prejudice.

The following concepts do not consent to accept any one name or descriptor that may imply a deterministic result, nor does it require syntax as such to effectively proceed. The following is a response to the extreme realities that enfold our civilization; encompassing the ambiguous concept of ethics, the perception of human rights and the justification of evil actions. Consequently, any of these realities may generate difficult questions about humanity, the role of society, or the purpose of ethical characteristics.

This is the Architecture of Oppression.

FIG. 123 - A RELIGIOUS MOMENT SHARED AMONG INMATES IN PRISON



Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

- Eight Amendment of the U.S. Constitution

Excessive be. Punishments nor; Bail nor cruel inflicted not imposed unusual required; fines, and excessive shall

- Amendment the Eight U.S. of Constitution



a.01: extreme realities



SOLITARY CONFINEMENT SENTENCES CAN LAST DAYS, WEEKS, MONTHS, YEARS OR EVEN DECADES.

There is no official organization that regulates the use of solitary confinement. Individual institutions freely use isolation tactics however they see fit.



5 OUT 6 SENTENCES TO SOLITARY CONFINEMENT ARE FOR NON-VIOLENT MISBEHAVIOR.

This includes infractions such as:

Excessive possession of postage stamps
Selling of chewing tobacco
Failure to meet dress standards



'I tried to measure the passing of days by counting food trays. Without being able to keep track of time, though, sometimes I thought the officers had left me and were never coming back. I thought they were gone for days, and I was going to starve. It's likely they were only gone for a few hours, but I had no way to know.'

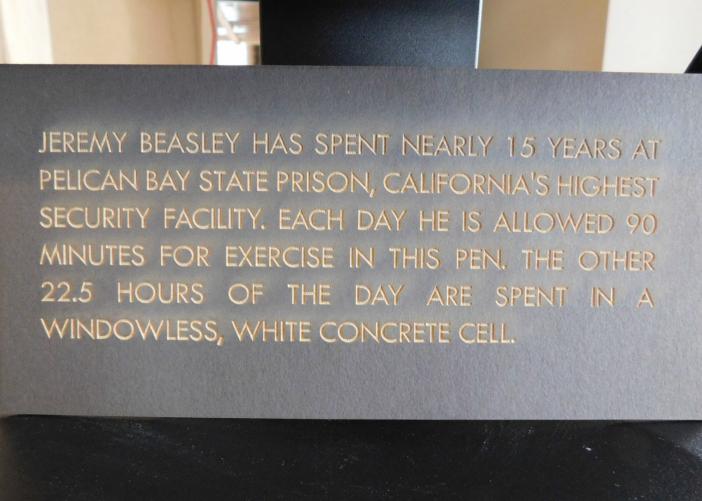






FULL SCALE SOLITARY CONFINEMENT CELL





FULL SCALE SOLITARY CONFINEMENT CELL





ALL DAY AND A NIGHT

SOLITARY CONFINEMENT IS THE PRACTICE OF ISOLATING AN INMATE FROM OTHERS IN A CONFINED CELL FOR 22 - 24 HOURS A DAY. IT IS ESTIMATED THAT BETWEEN 80,000 AND 100,000 AMERICAN INMATES ARE IN CURRENTLY IN SOME FORM OF SOLITARY CONFINEMENT. THIS CAN LAST FOR PERIODS MEASURED IN DAYS, WEEKS, YEARS AND DECADES. SOME INMATES HAVE SPENT IN EXCESS OF 30 YEARS IN SOLITUDE.

INMATES CAN FIND THEMSELVES IN SEGREGATION FOR A VARIETY OF ACCUSED MISCONDUCT. THIS RANGES FROM SERIOUS CRIMES TO MINOR OFFENSES. FOR EXAMPLE, AN INMATE RECEIVING DISCIPLINARY ACTION FOLLOWING AN DEADLY ALTERCATION CAN BE IN THE CONFINEMENT CELL NEXT TO SOMEONE SERVING TIME FOR DISTURBING THE PEACE. THE SENTENCING PRACTICES FROM WITHIN PRISON ARE NOT TYPICALLY OVERSEEN BY OUTSIDE ENTITIES; IT IS LEFT TO THE STAFF TO DETERMINE WHAT IS APPROPRIATE.

THE IMPACTS OF PROLONGED ISOLATION INCLUDE FEELINGS OF PANIC, FEARS OF SUFFOCATION, PARANOID DISTORTIONS, HYPERSENSITIVITY TO EXTERNAL STIMULI, PERCEPTUAL DISTORTIONS, ILLUSIONS, AND HALLUCINATIONS, PANIC ATTACKS, DIFFICULTIES WITH THINKING, CONCENTRATION, AND MEMORY AND INTRUSIVE OBSESSIVE THOUGHTS.

IS SOLITARY CONFINEMENT ETHICALLY PERMISSIBLE?

IS SOLITARY CONFINEMENT A NECESSARY EVIL?



FULL SCALE SOLITARY CONFINEMENT CELL



FULL SCALE SOLITARY CONFINEMENT CELL

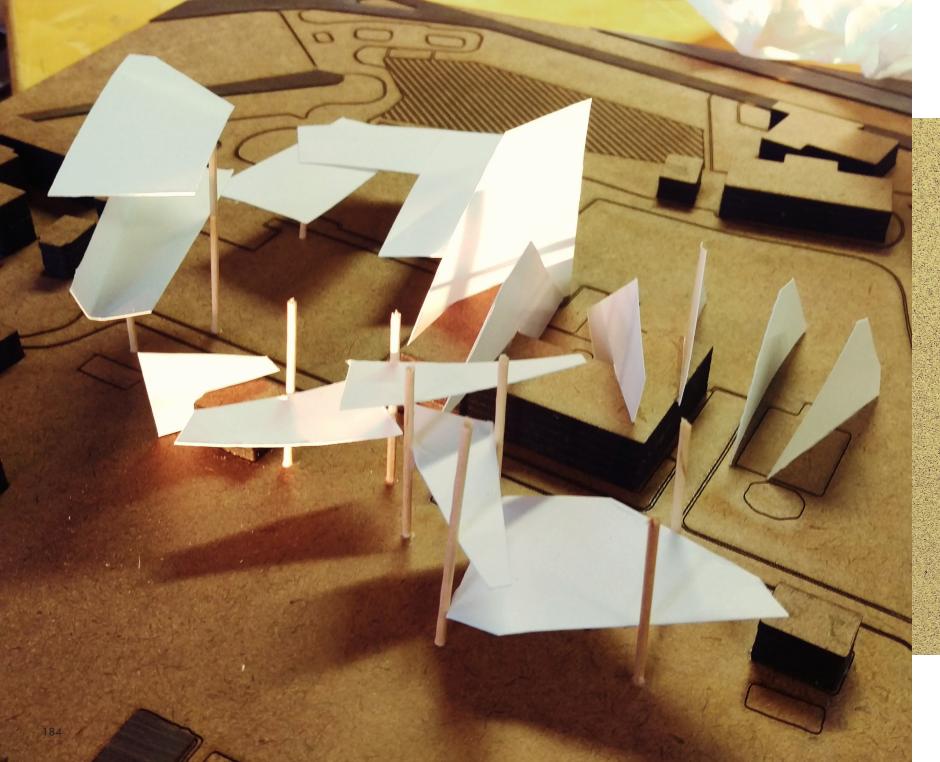




a.02: institution

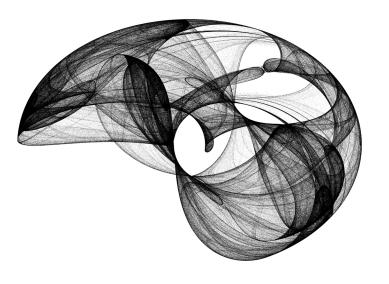


brooklyn, new york



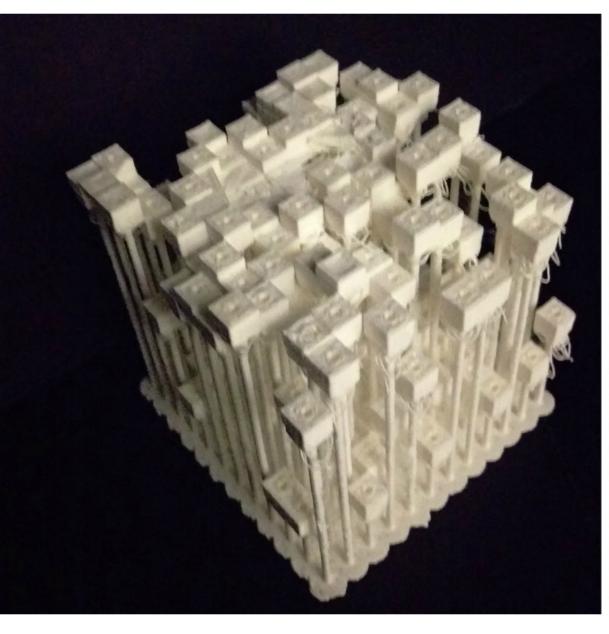




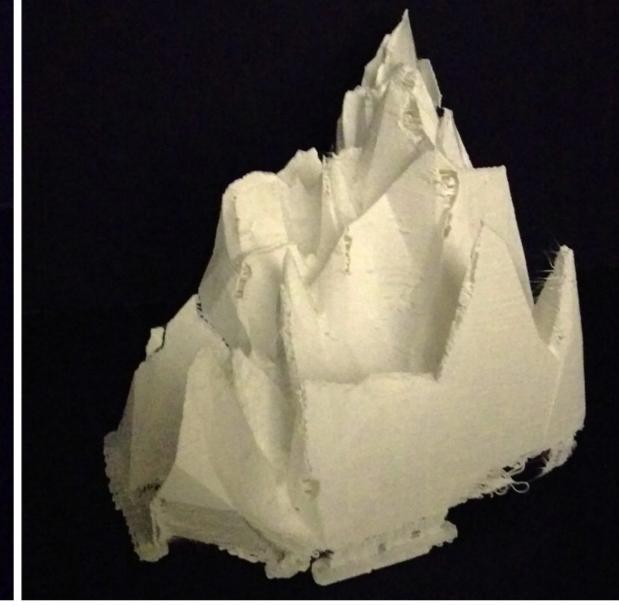


a.03: strange attractors

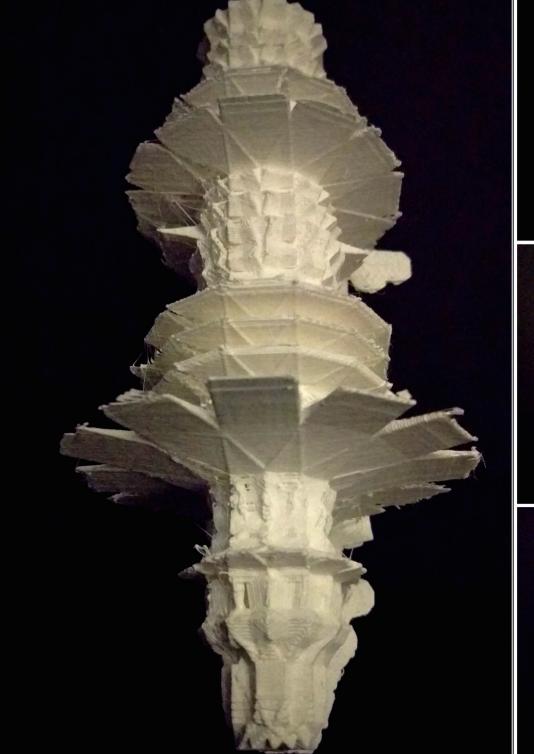


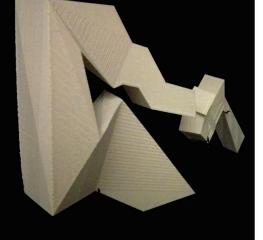


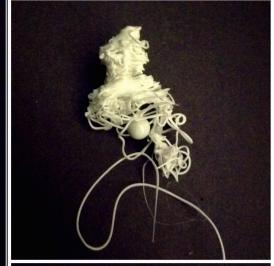




3D PRINT ITERATIONS











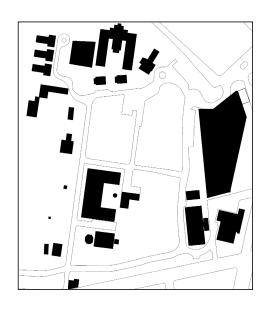
3D PRINT ITERATIONS



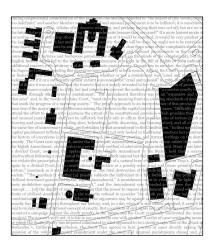
a.04: de/re

'It is sometimes necessary to hang a man, villains often deserve whipping, and perhaps having their ears cut off; but are we in the future to be prevented from inflicting these punishments because they are cruel?'

d a campaign against the death penalty in the 1960s, and the Court eventually confronted the ch the death penalty was imposed culminated in what appeared to be a decisive reject too of the at table v. California. Nonetheless, the Court then agreed to hear a series of eases directly rais no of the validity of capital punishment under the cruel and unusual punishments clause, a



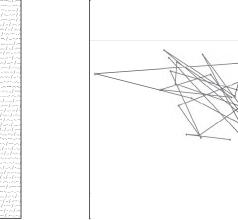
b.loci a.syntax



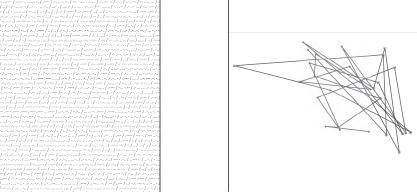
abl.overlay

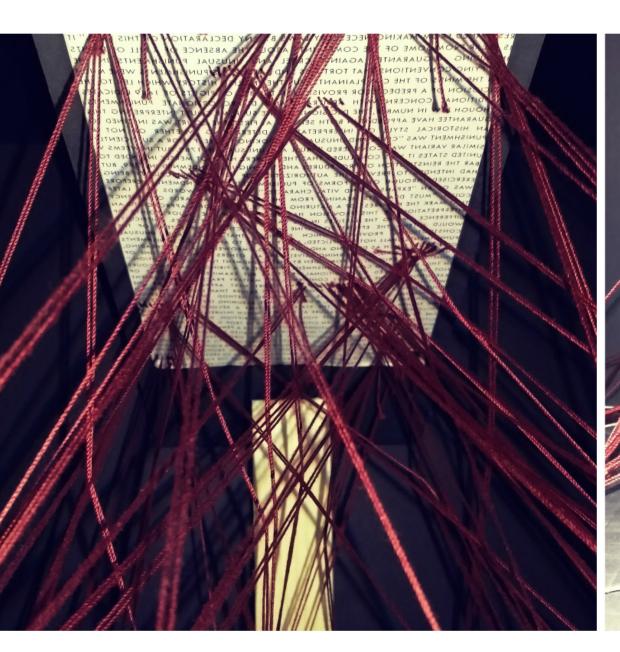


ab2.subtract ab3.exclude



ab4.translate ab5.analyze ab6.project







ING VICE AND DETERRING OTHERS FROM THE COMM TED, IT WOULD BE VERY PRUDENT IN THE LEGISLATURE TO IAVE SOME SECURITY THAT THIS WILL BE DONE, WE OUGHT NOT TO BE M MAKING NECESSARY LAWS BY ANY DECLARATION OF THIS KIND." IT IS CLEAR FROM SOME OF THE COMPLAINTS ABOUT THE ABSENCE OF A BILL GUARANTEE AGAINST CRUEL AND UNUSUAL PUNISHMEN ONVENTIONS THAT TORTURES AND MANA S PUNISHMENTS WERE MUCH S OF THE COMPLAINANTS, BUT TH BILL OF RIGHTS OF 168 ADDITIONAL CONCERN WITH AND READ DISPROPORTIONATE PUNISHMENTS. THOUGH FW IN NUMBER, THE DECISIONS OF THE SUPREME COURT INTER RETING THIS HAVE APPLIED IT IN BOTH SENSES. AN HISTORICAL STYLE ON INTERPRETATION, PUNISHM INT WAS "CRUEL AND UNUSUAL" BY LOOKING TO SEE IF IT OR A SUFFICIENTLY SIMILAR YARIANT WAS CONSIDERED "CRUEL AND UNUSUAL" IN 1789. BUT IN WEEMS V. UNITED STATES IT WAS CONCLUDED THAT THE FRAMERS AD NOT MERE Y INTENDED TO BAR THE REINSTITUTION OF PROCEDURES AND TECHNIQUES CONDEMN D IN 1789, BUT HAD IN ENDED TO PREVENT THE AUTHORIZATION OF LA CERTAL CRUELTY BEING EXERCISED THROUGH OTHER FORMS OF PUNISHMENT." THE AMENDMENT THEREFORE WAS OF AN "EXPANSIVE AND VITAL CHARACTER" AND, N THE WORDS OF A LATER COURT, "MUST DRAW ITS MEANING FROM THE EVOLVING STANDARDS OF DECENCY MARK THE PROGRESS OF A MATURING SOCIETY." THE PROPER APPROACH TO AN INTERPRETATION OF THIS PROVISION HAS BEEN ONE OF THE MAJOR POINTS OF DIFFURENCE AMONG THE JUSTICES IN THE CAPITAL PUNISHMENT CASES. "DIFFICULTY WOULD ATTEND THE EFFORT TO DEFINE WITH EXACTNESS THE EXTENT OF THE CONSTITUTIONAL PROVISION WHICH PROVIDES THAT CRUEL AND UNUSUAL SHMENTS SHALL NOT BE INFLICTED; BUT IT IS SAFE TO AFFIRM THAT PUNISHMENTS WE [SUCH AS DRAWING AND QUARTERING, EMBOWELING ALIVE, BEHEADING, PUBLIC DISSECTING, AND BURNING ALIVE], AND ALL OTHERS IN THE SAME LINE OF INNECESSARY CRUELTY, ARE FORBIDDEN BY THAT AMENDMENT TO THE CONSTITUTION." THUS UPHOLING CAPITAL PUNISHMENT INFLICTED BY A FIRING SQUAD, THE COURT NOT ONLY LOOKED TO TRADITIONAL PRACTICES BUT EXAMINED THE HISTORY OF EXECUTIONS IN THE TERRITORY CONCERNED, THE MILITARY PRACTICE AND CURRENT WAITINGS ON THE WINA THE COURT NEXT APPROVED, UNDER THE FOURTEENTH AMENDMENT'S DUE PROCESS CLAUSE RATHER THAN UNDER THE EIGHTH AMINDMENT, ELECTROCUTION AS A PERMISSIBLE METHOD OF AMMINISTERING PUNSHMENT, MANY YEARS LATER, A DIVIDED COURT, ASSUMING THE APPLICABILITY OF THE EIGHTH AMENDMENT TO THE STATES, HELD THAT A SECOND MACHINETINE FOLLOWING AMECHANICAL FAILURE AT THE FIRST WHICH INJURED BUT DID THE WOLLD MAN DID NOT VIOLATE THE PROSCRIPTION DIVESTITU CITIZENSHIP OF A NATURAL BORN CITIZEN WAS HELD DIVIDED COURT, TO BE CONSTITUTIONALLY FORBIDDEN AS A PENALTY MORE CRUEL AND "MORE PRIMITIVE THAN TORTURE," INASMUCH AS IT ENTAILED STATELESSNESS OR "THE

THE STRING MODEL

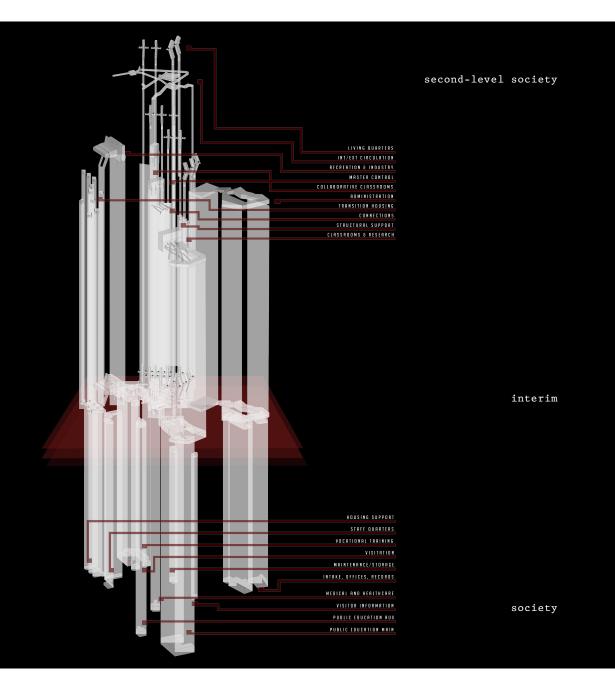


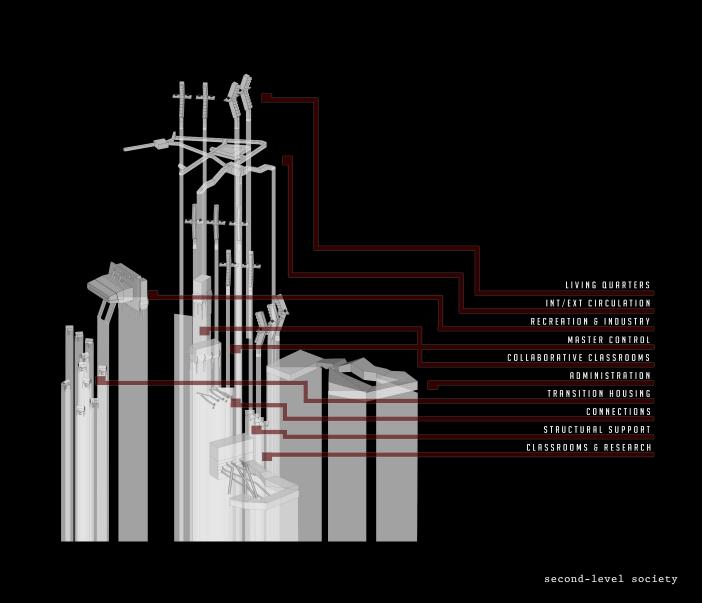
a.05: ar·chi·tec·ture



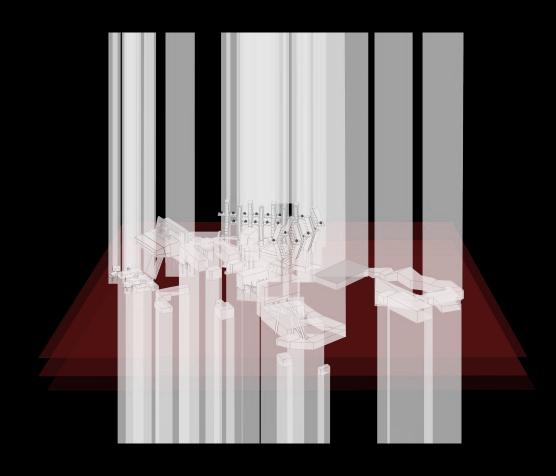


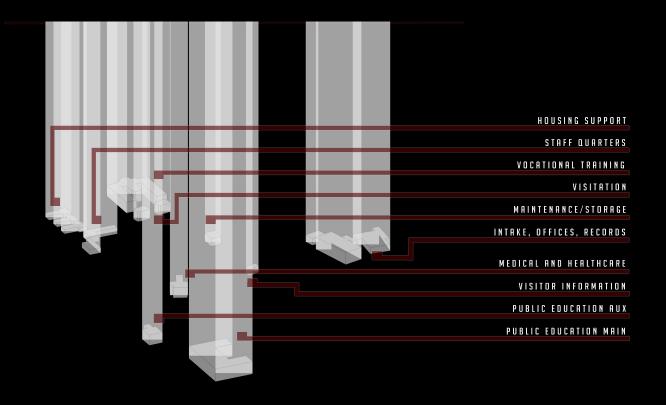
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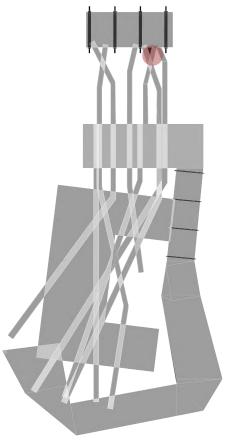
FINAL DRAWINGS 203

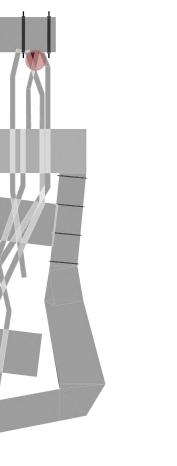




interim



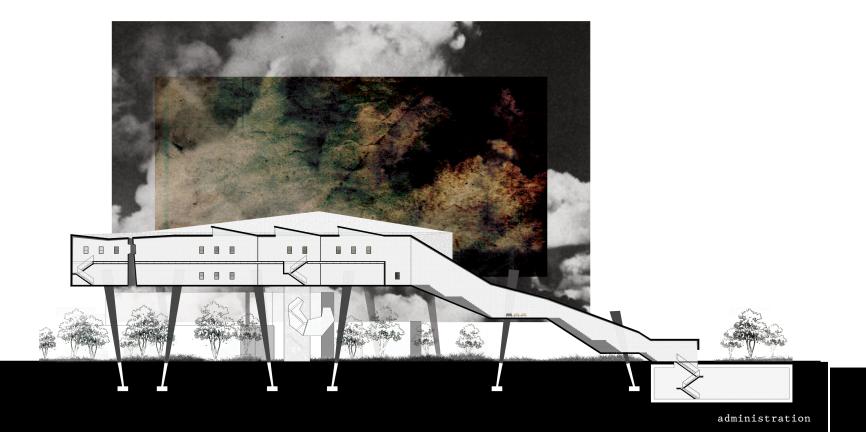


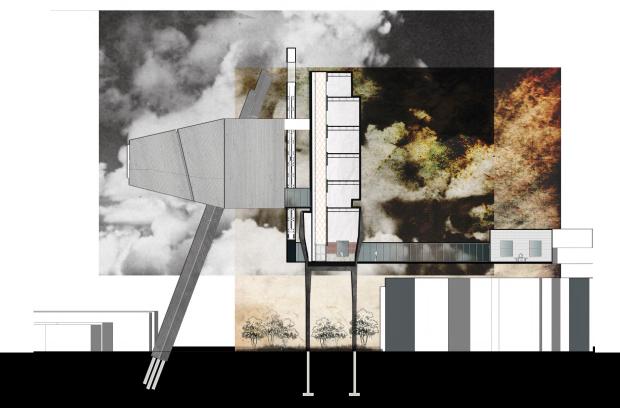


admin.plan\\education.plan

education

FINAL DRAWINGS

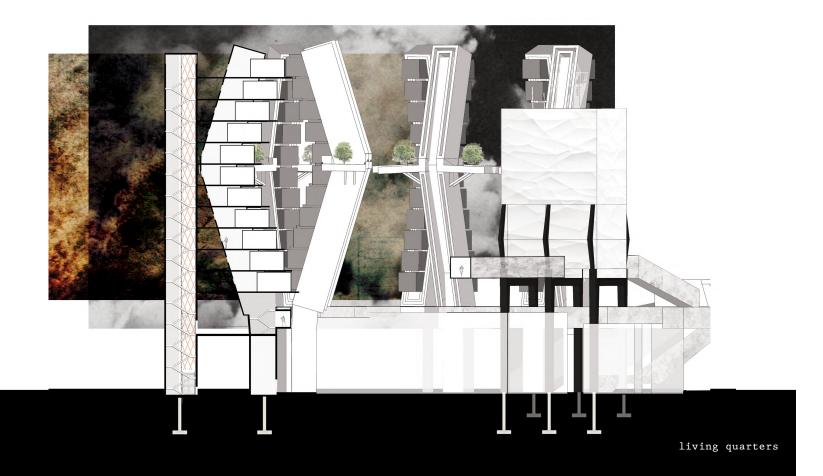


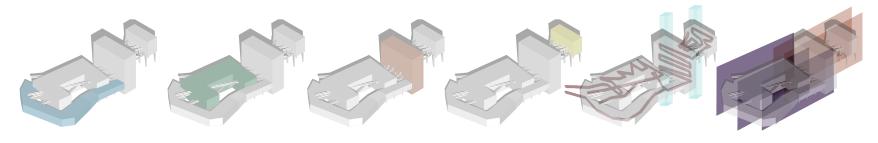


industry & recreation

209

FINAL DRAWINGS



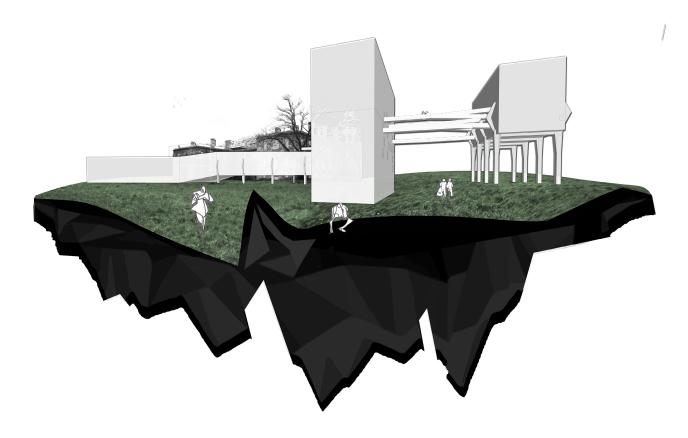


// ENTRANCE, COMMUNITY SPACES, CLASSROOMS, STUDENT SERVICES

// DINING, AMENITIES, OFFICES

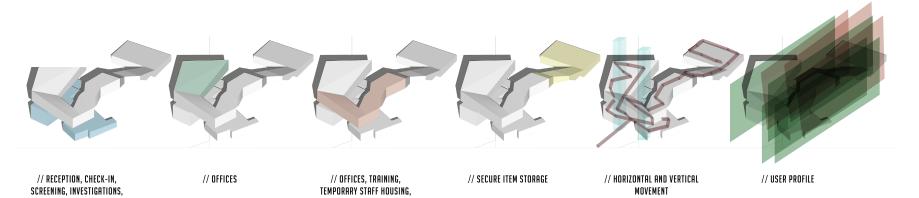
// CLASSROOMS, RESEARCH, Laboratories, Lecture Halls // STUDENT - INMATE COLLABORATIVE CLASSROOMS

// HORIZONTAL AND VERTICAL Movement // USER PROFILE

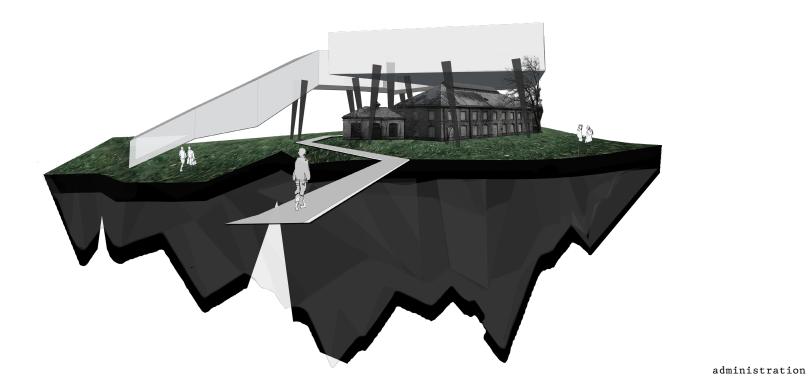


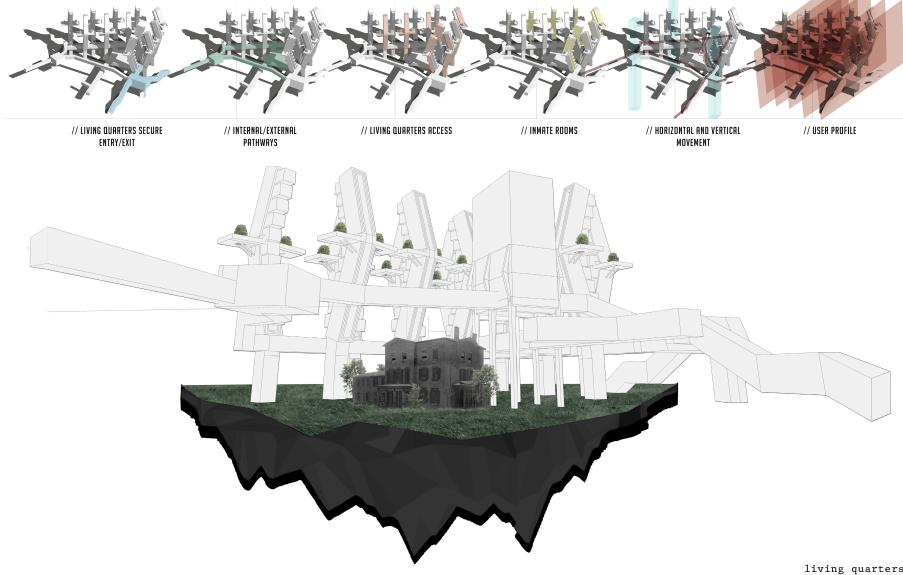
education

FINAL DRAWINGS



RESEARCH AND DEVELOPMENT





FINAL DRAWINGS
213

OFFICES, STORAGE





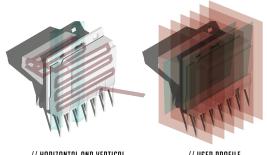
// INDUSTRY, MECHANICS, CRAFTING, PRODUCTION





// KITCHEN, PREPARATIONS, EXERCISE, RECREATION

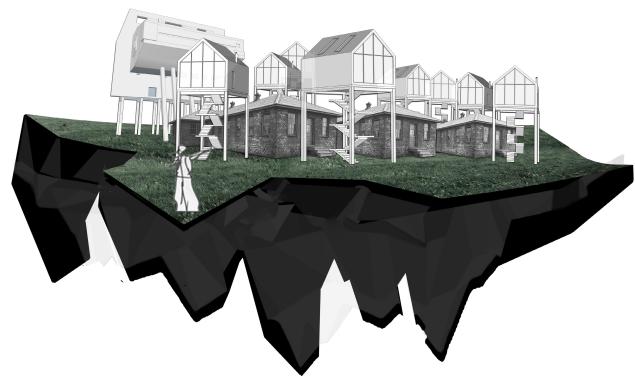


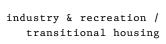


// DINING, EVENT & MULTI-USE Space, religious services

// HORIZONTAL AND VERTICAL MOVEMENT

// USER PROFILE

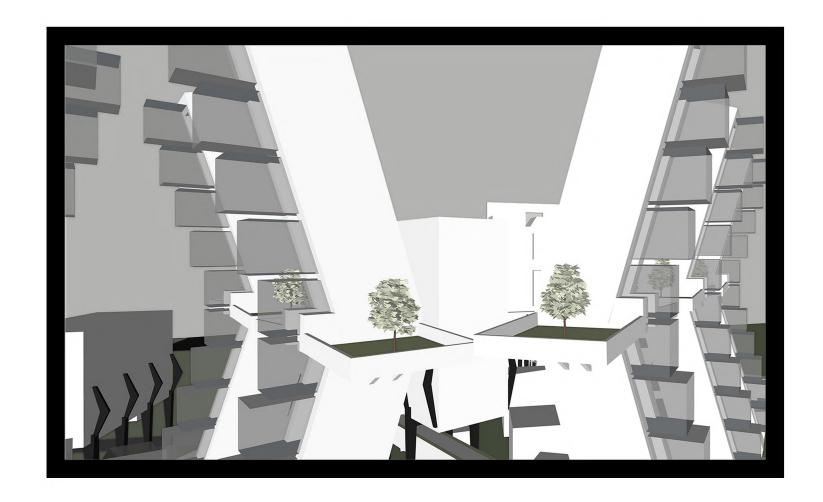


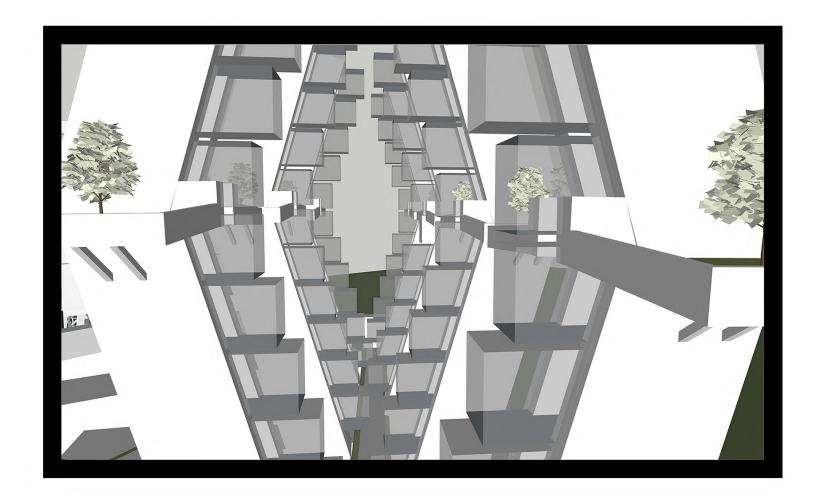




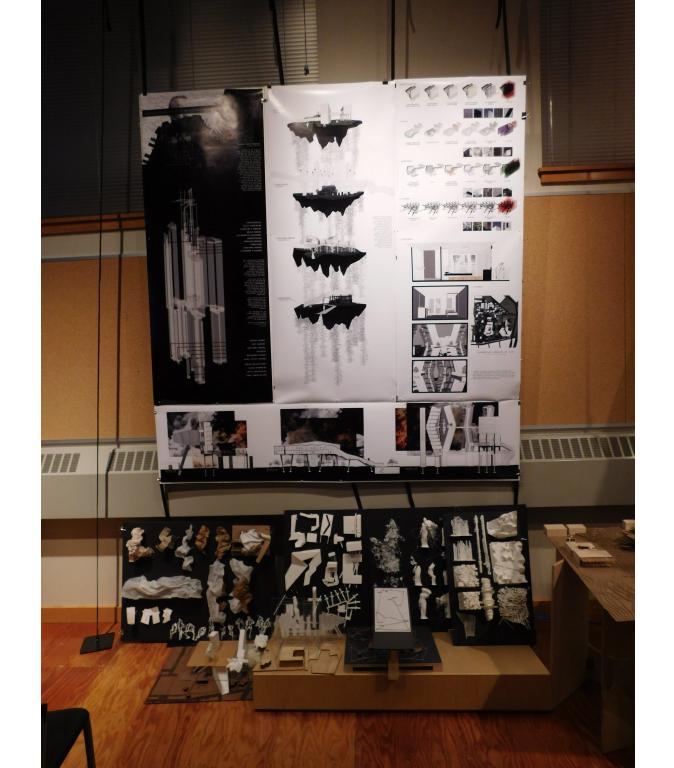
inmate living space

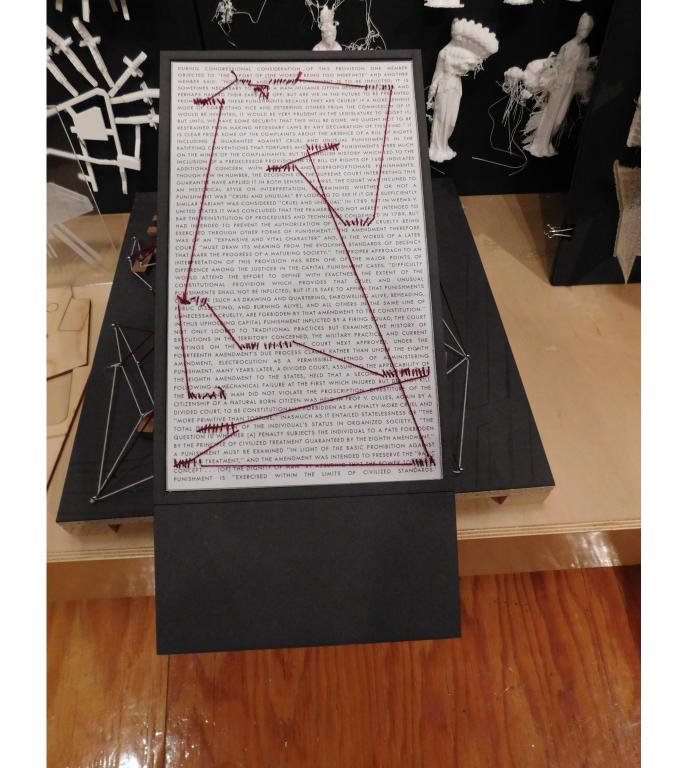
FINAL DRAWINGS





living quarters

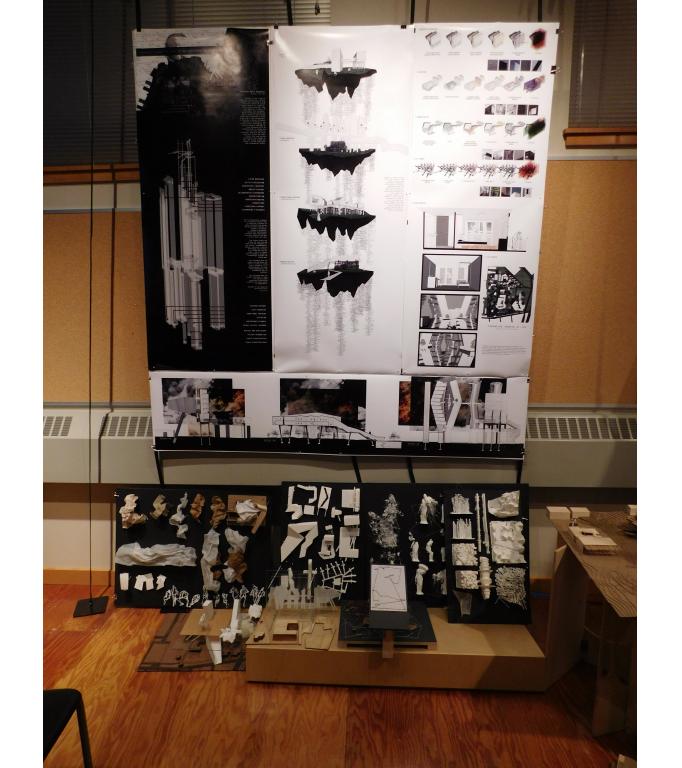












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2ND YEAR

Fall: Joan Vorderbruggen Tea House | Fargo, North Dakota Minneapolis Boat House | Minneapolis, Minnesota

Spring: Phil Stahl
Dance Studio | Moorhead, MN
Biomimicry Dwelling | Siteless
The Chair - "Corruption" | Design Build

3RD YEAR

Fall: Milton Yergens
Fishing Museum | Angle Inlet, MN
Literary Center | Glasgow, Scotland

Spring: David Crutchfield Mid-America Steel | Fargo, North Dakota Community Center | Chicago, Illinois

4TH YEAR

Fall: Don Faulkner High Rise | San Francisco, California

Spring: Don Faulkner Marvin Windows Competition | Fargo, ND Redesigning the Greenway | Minneapolis, MN

5TH YEAR

Fall: Regin Schwaen Krakow Oxygen Home | Krakow, Poland

Spring: Mike Christenson The Architecture of Oppression | Brooklyn, NY



THOSE WHO SEE THE COSMIC PERSPECTIVE AS A DEPRESSING OUTLOOK, THEY REALLY NEED TO REASSESS HOW THEY THINK ABOUT THE WORLD. BECAUSE WHEN I LOOK UP IN THE UNIVERSE, I KNOW I'M SMALL BUT I'M ALSO BIG. I'M BIG BECAUSE I'M CONNECTED TO THE UNIVERSE, AND THE UNIVERSE IS CONNECTED TO ME.

NEIL DEGRASSE TYSON

