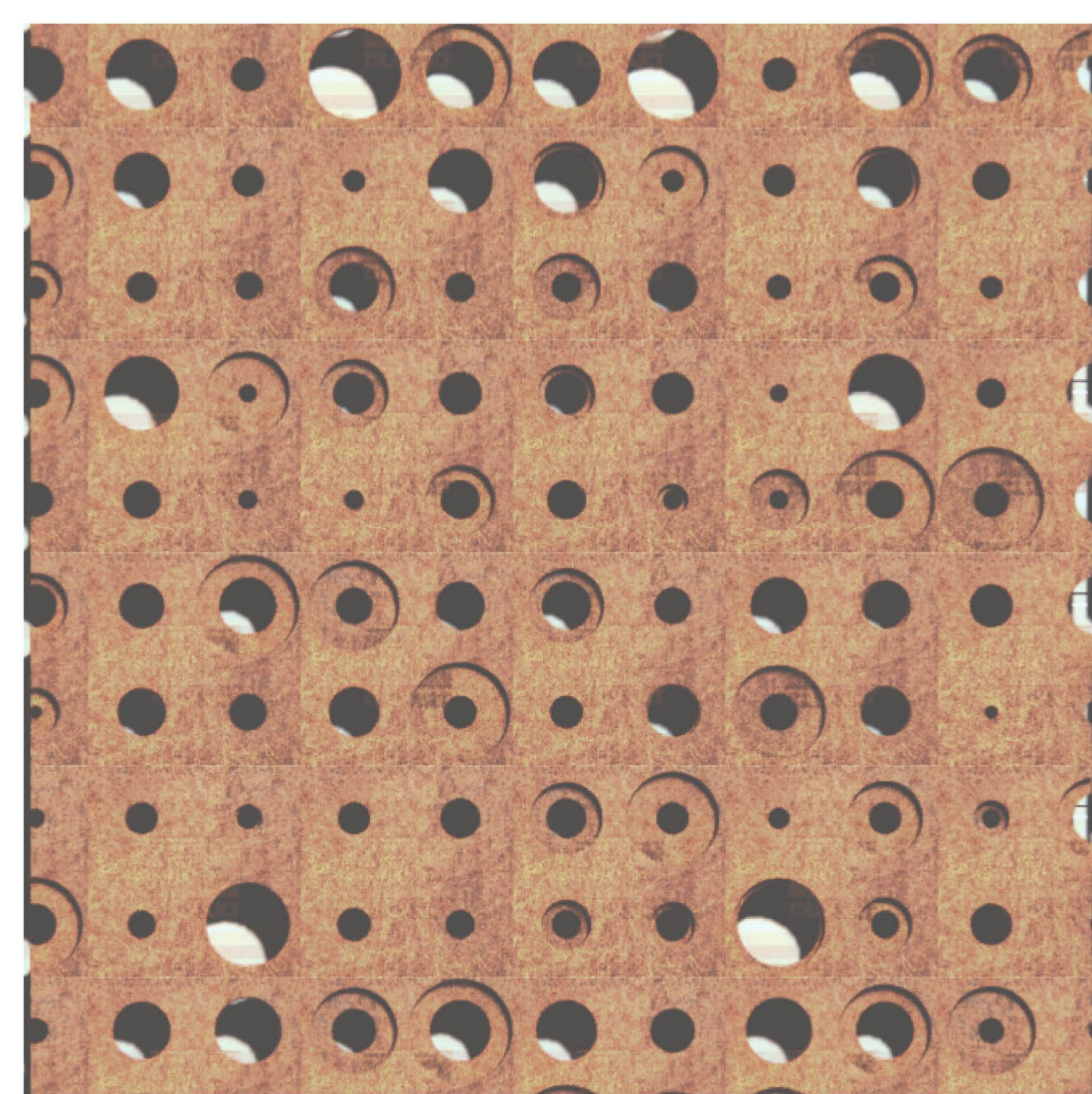


The background of the entire page is a repeating pattern of a rusted metal surface with circular perforations. The metal has a warm, brownish-orange patina, and the holes are arranged in a grid-like fashion, though slightly offset between rows. The lighting creates subtle gradients of color across the surface, giving it a three-dimensional appearance.

2021

JESSICA MARTINEZ

GENESIS REHAB CENTER



introduction



if you or anyone you know is struggling with addiction,
call 1-800-662-help (4357) or visit www.samhsa.gov
for free info and support



committee chair:
dr. kirk hamilton



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michael o'brien



committee member:
dr. carly mccord



studio professor:
dr. james haliburton

acknowledgements

I am grateful for the guidance and patience that dr. kirk hamilton, michael o'brien, dr. carly mccord, and dr. james haliburton have given me. the accumulation of this final study could not have been accomplished without the aid of my committee members. without them, i would not have ended up where i did.

in addition, i am also grateful to texas a&m university, the college of architecture, and first year health track program for the last six years of education that it has given me.

finally, i am grateful for my support system who has been there for me through one of the most challenging times of my life. they pushed me when i felt like i couldn't go any further. it is for you that i will always be forever thankful.



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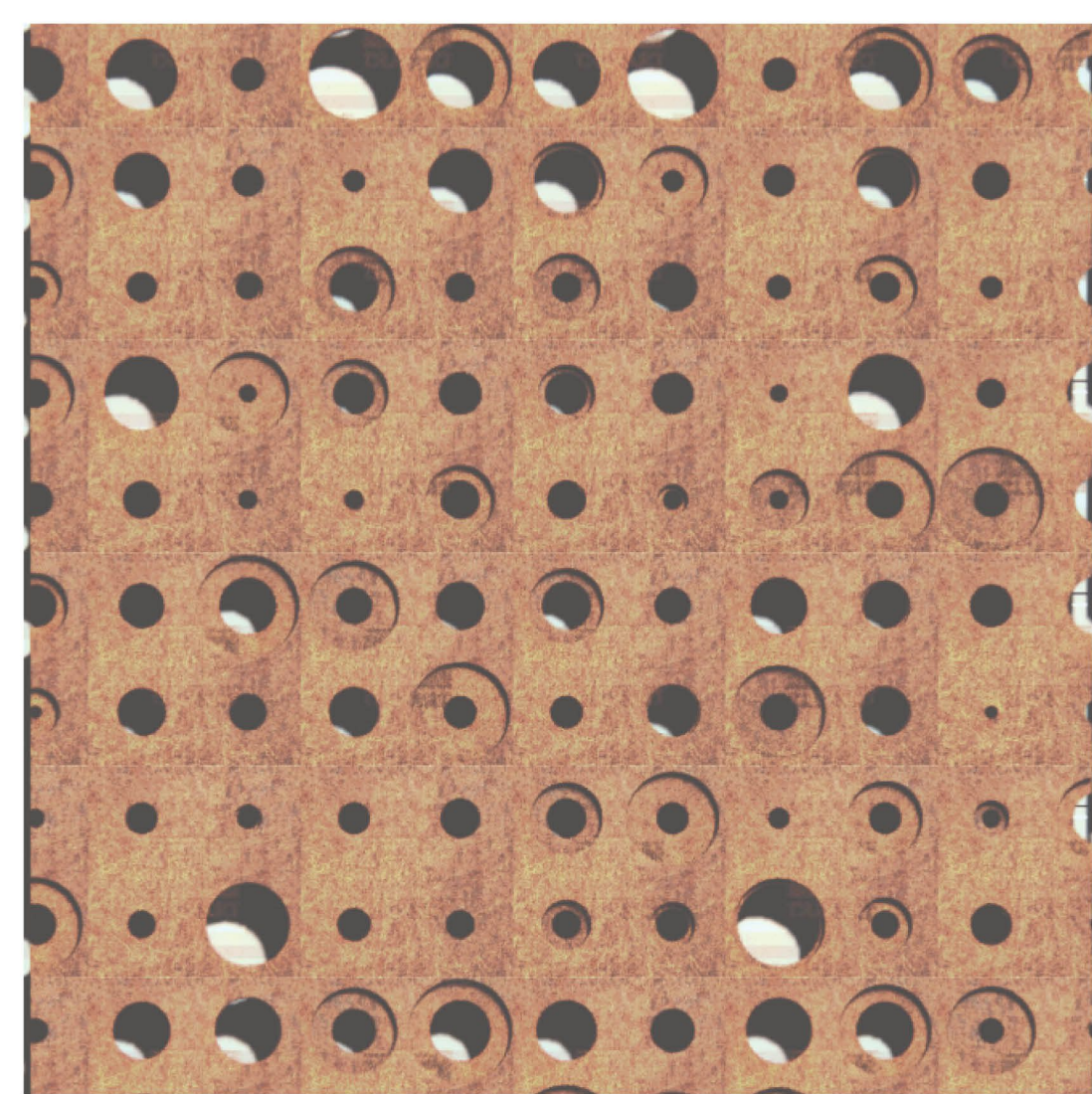
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background & research

definitions

mental health

this is a state of well-being in which every individual realizes his or her own potential, can cope with normal stresses of life, can work productively and fruitfully, and is able to contribute to his or her community

it is an individual's well-being in relation to their behavior and is primarily concerned with a person's state of being



behavioral health

this examines how your habits impact your overall physical and mental well-being

examples include bipolar disorder, schizophrenia, depression, anxiety, and substance use disorder

this includes how behaviors such as eating habits, drinking, and/or exercising impact one's physical and mental health



substance abuse

this is a disease that affects a person's brain and behavior

this leads to the inability to control the use of legal or illegal drugs or medication

these substances include alcohol, prescription or over-the-counter medication, cocaine, marijuana, cigarettes and other tobacco products



definitions

supportive housing

supportive housing is a combination of housing and services intended as a cost-effective way to help people live more stable, productive lives, and is an active "community services and funding" stream across the united states of america

providing stable housing after a patient has completed treatment will decrease the risk of relapse



research

design for mental and behavioral health

- there are approximately 55% of individuals with a mental health disorder and 88% with an addiction disorder that do not have access to the appropriate care
- many existing behavioral and mental health facilities are sub-standard. these environments inhibit the treatment process and undermine the activities of staff and patients. unfortunately, patients in behavioral and mental health inpatient and outpatient settings are often treated in spaces that would be demoralizing for healthy individuals.
- multiple studies confirm that the physical environment can influence health outcomes, emotional state, preference satisfaction, orientation, and other physical and mental health-related factors.
- in some cases, appropriate environments may even save lives.



research

design for mental and behavioral health

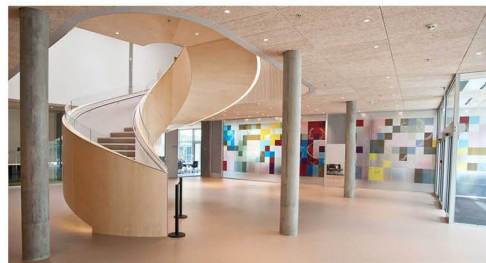
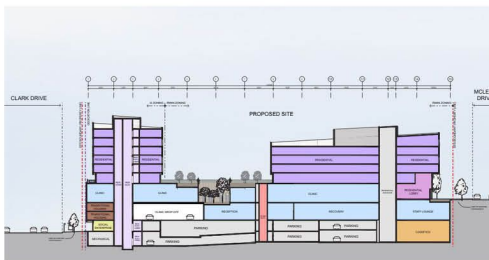
things to consider when designing for behavioral health facilities:

- personal space and density (acoustic privacy)
- choice and control (space that promotes range of activity)
- sensory considerations (neutralize odors/control for noise)
- spatial clarity and organization (clear separation between circulation and functional areas)
- comfortable and homelike surroundings (spaces with paralleled homelike experience)
- high quality, well-maintained environment (furniture with minimal need for repair or replacement)
- positive distraction (provide visual art / interaction with nature)
- social interaction (gathering areas for patients)
- access to nature and daylight (providing window access)
- safety (limiting window openings in secure facilities)
- supervision (visual access to patients in common spaces)

case studies

east vancouver integrated health and social housing

- architect: hdr, inc
- location: vancouver, british columbia
- includes access central, cait, start, sobering department, inpatient detox, star unit, hub (teaching/research sector), admin/staff support, and logistical/support services
- addresses both urgent housing needs and health needs of people living with addiction issues
- this project is what inspired me to design the genesis rehab center because there is a need for more facilities like this in the united states. substance use disorders have been steadily increasing due to the coronavirus pandemic. the rate for substance use disorders had already been high prior to the pandemic as well. having facilities like this would be beneficial to communities in the united states. facilities designed like the east vancouver integrated health and social housing project also eliminate the stigma that comes with seeking help in facilities that aim to treat substance use disorders.



case studies

gaps psychiatric hospital

- architect: karlsson & vilhelm lauritzen arkitekter
- location: slagelse, denmark
- this forty thousand square meter building includes general psychiatry/forensic psychiatry, high security ward, outpatient clinic, center for research and education
- philosophy behind principles of recovery / healing architecture, flexibility, security and hierarchy of space
- incorporates smooth transition to communal areas, light as therapy, ceilings to exude calmness and warmth, and less physical restraint
- this project inspired me to use nature as the main positive distraction within the genesis rehabilitation center. nature has indirect positive benefits to an individual's health, while also serving as a positive distraction. creating a connection from indoors to the outdoors is important because it helps create that healing environment that these clients desperately need.

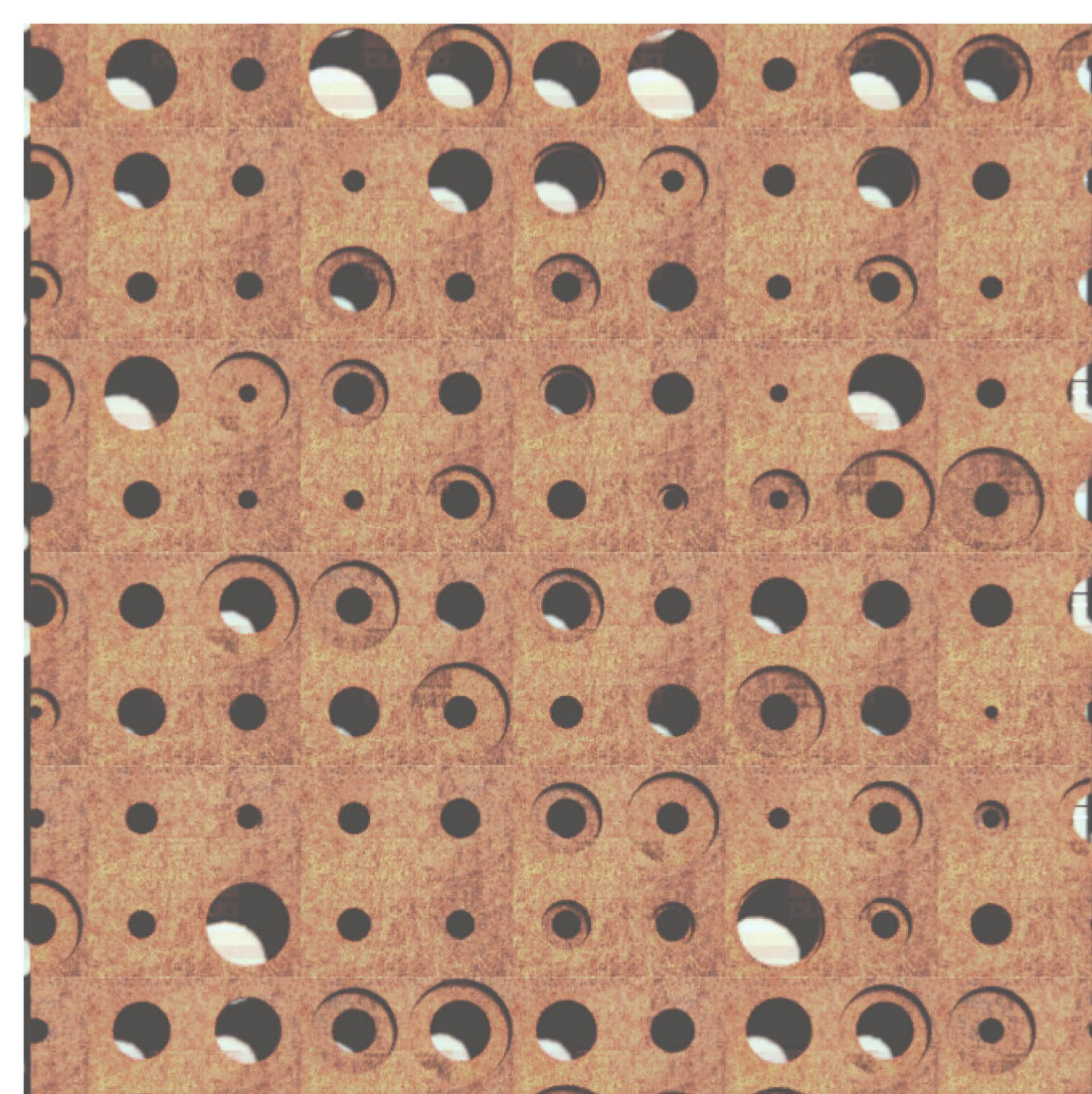
concept

to offer those struggling with a substance use disorder the chance to recover and reintroduce themselves into society by providing rehabilitation and housing in a healing and supportive environment



question

what key elements could be introduced in a behavioral health setting, specifically a substance abuse clinic, that would help mitigate demoralization for the clients inhibiting this type of facility?



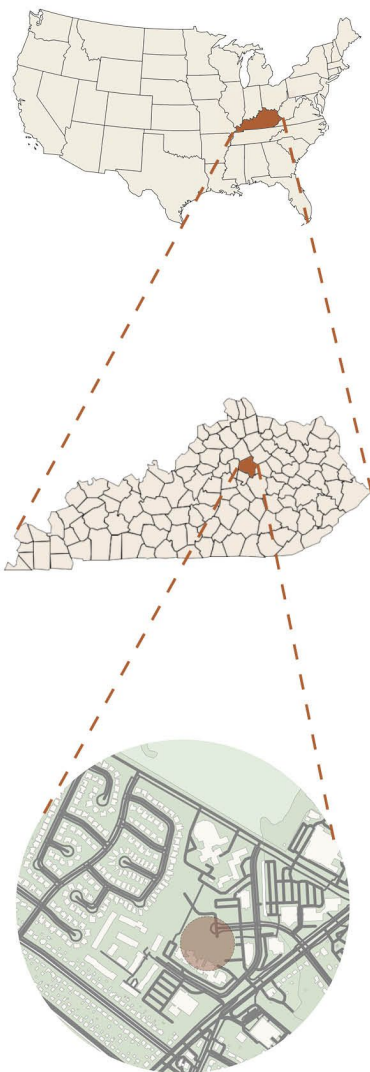
process

project introduction

the genesis rehabilitation center will aim to provide a design that benefits the well-being of the patient and staff, while promoting recovery and allowing those that inhabit the space to feel good while doing so. this project will provide 140,000 square feet of rehabilitation space and supportive housing.

the rehabilitation and supportive housing buildings were placed strategically on site for several reasons. the main reason was to preserve the existing site elements, such as the baseball diamond and tennis courts. this will create an opportunity to expand these existing site elements in order to create an environment that everyone in the area will be able to occupy. the rehabilitation building was placed where the existing cul de sac was located in order to create a direct covered drop-off area for the police department that leads directly into the sobering department.

south of the building will be a service road that connects to a garage in either building for waste management or deliveries. in addition, there will be space to create additional parking spaces for the staff, patients, family members, and park goers of the genesis rehabilitation center.



building code

this project classifies as an occupancy of institutional (i-2) based off of information from the 2018 international building code. the occupancy classification of institutional includes "buildings and structures used for medical care on a 24-hour basis for more than five persons who are incapable of self-preservation" (ibc, 2018, ch. 3 section 308.4).

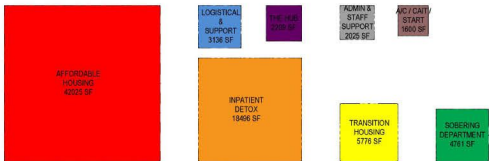
this determines that the construction type for this project will be 2a - protected non-combustible; therefore, the allowable building height for a sprinkled building is 85 feet tall, the allowable number of stories for a sprinkled building is 3 stories, and the allowable area factor for each level for a sprinkled building is 45,000 square feet.

the rehabilitation portion will be split into three separate levels with the focus on treating those who are suffering from a substance abuse disorder. the affordable housing will be split into three separate levels which will provide those who have already completed treatment with temporary housing.

program

eight departments

- cait, start, and access central
- sobering unit
- inpatient withdrawal management (inpatient detox)
- transition housing
- logistical and support
- academics (teaching/research) and learning hub
- administration and staff support services
- affordable housing units



sobering unit:

- client group: males and females that are nineteen years and older. majority of clients are homeless, repeat clients, or have addiction issues and have no support within their communities. clients are either identified as subjects intoxicated in public places or self-referrals. they will be here for a minimum of four to twelve hours. if they are unable to care for themselves, they will be referred to the detox unit.

inpatient withdrawal management:

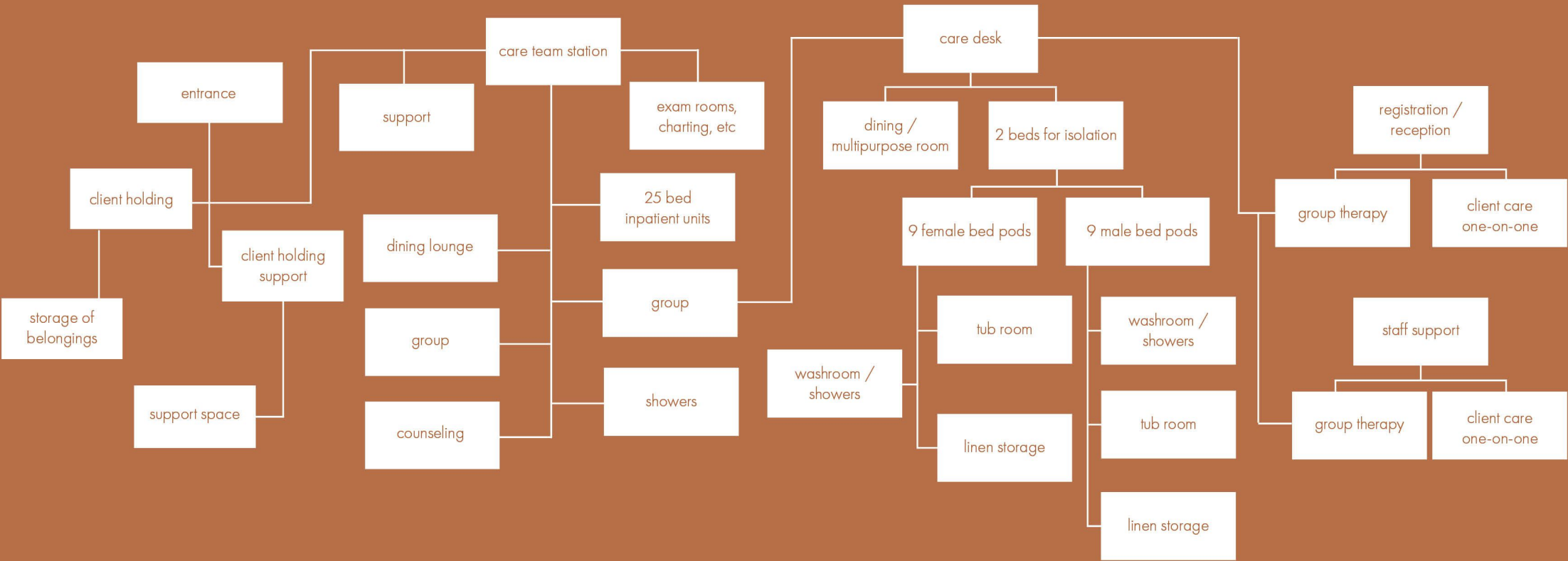
- client group: males and females that are nineteen years and older. half of clients have stable housing, while rest are homeless or live alone. these clients have some form of substance misuse with concurrent mental health and addiction disorders. they must go through a series of contracted services and will be here for three days or sent to a higher level of care. operational twenty-four / seven.

transition care unit:

- client group: males and females that are nineteen years and older who lack effective and consistent social support. these clients are provided with rigorous schedules of programmed activities. They will be here

community withdrawal management:

- client group: males and females that are nineteen years and older who are referred from detox program. majority of clients are employed, but cannot afford private services. they are provided with a rigorous schedule of programmed activities. this typically runs from two to six weeks to one year. operational twelve / seven.



	establish goals	collect & analyze facts	uncover & test concepts	determine needs	state the problem
function <i>people/activities/relationships</i>	<ul style="list-style-type: none"> to provide a sense of safety for the staff & patients 	<ul style="list-style-type: none"> care team is required to have an enclosed working area sippets brought by police are typically in an aggressive state patients need to be separated due to level of intoxication file:///c:/users/jess3/downloads/draft%20vch%20wdm%20addendum%20jan%2017%202018.pdf 	<ul style="list-style-type: none"> rooms in sobering department to have automatic locking mechanism staging room by level of intoxication rooms for aggressive sipp patients to be near entrance rooms for non-sipp patients to be located away from entrance 	<ul style="list-style-type: none"> 10 single occupancy room 6 of 10 rooms need to have locking mechanisms 2-4 sipp rooms directly in front of entrance 2 care team desks to monitor 4 rooms each 	<ul style="list-style-type: none"> if project is to succeed separate levels of aggression need to be created
form <i>site/environment/quality</i>					
economy <i>inlt cost/operating cost/life-cycle cost</i>					
time <i>past/present/future</i>					

	Establish Goals	Collect & Analyze Facts	Uncover & Test Concepts	Determine Needs	State the Problem
Function <i>People/Activities/Relationships</i>	<ul style="list-style-type: none"> For this project to have services rendered at lower costs 	<ul style="list-style-type: none"> For the good of the public Non-profit organization https://www.investopedia.com/ask/answers/08/p-ro-bono.asp 	<ul style="list-style-type: none"> To have drawings. Materials, and labor be either donated or rendered at lower cost Match cost of project with donor of land and contractors 	<ul style="list-style-type: none"> Passionate clients and donors Architect Engineers 	<ul style="list-style-type: none"> If project is to succeed there needs to be donors that are invested in the betterment of the community
Form <i>Site/Environment/Quality</i>					
Economy <i>Inlt Cost/Operating Cost/Life-Cycle Cost</i>					
Time <i>Past/Present/Future</i>					

	Establish Goals	Collect & Analyze Facts	Uncover & Test Concepts	Determine Needs	State the Problem
Function <i>People/Activities/Relationships</i>	<ul style="list-style-type: none"> To create an additional parking lot for new buildings To create a drop off near sobering department for police department 	<ul style="list-style-type: none"> Parking is needed mostly for staff and patients that have vehicles For every 101-150 parking spaces, 5 needed to comply with ADA https://www.tdlr.texas.gov/ab/2012abtas2.htm#208 SIPP patients must be dropped off at sobering department 	<ul style="list-style-type: none"> Converting open grassland into parking lot Incorporating surface level garage on the first floor of building Using existing roundabout and adding drop off with 25' turning radius 	<ul style="list-style-type: none"> 118 parking spots 5 of 118 parking spots to be ADA accessible Adjust roundabout to have proper clearances and proper turning radius of 25' Drop-off canopy 	<ul style="list-style-type: none"> If project is to succeed there needs to be successful drop-off and parking design
Form <i>Site/Environment/Quality</i>					
Economy <i>Inlt Cost/Operating Cost/Life-Cycle Cost</i>					
Time <i>Past/Present/Future</i>					

	Establish Goals	Collect & Analyze Facts	Uncover & Test Concepts	Determine Needs	State the Problem
Function <i>People/Activities/Relationships</i>	<ul style="list-style-type: none"> To preserve existing site elements To incorporate existing site elements into project 	<ul style="list-style-type: none"> There is currently an existing underdeveloped baseball diamond, tennis court, badminton court, and pergola Reference Site Analysis Map 	<ul style="list-style-type: none"> Develop existing baseball diamond to have surrounding fencing and bleachers Incorporate existing site elements for the purpose of outdoor communal gathering spaces 	<ul style="list-style-type: none"> 360' of chain link fencing 2 sets of standard aluminum bleachers Benches Canopies to shade areas 	<ul style="list-style-type: none"> If project is to succeed existing site elements must be preserved
Form <i>Site/Environment/Quality</i>					
Economy <i>Inlt Cost/Operating Cost/Life-Cycle Cost</i>					
Time <i>Past/Present/Future</i>					

gaming diagrams

option one:

pros:

- entire program in one mass
- building on one level
- clinic near entry of site
- housing and clinic will not be connected

cons:

- mass takes up too much site space
- elevation change will interfere with building layout
- existing site elements would have to be demolished

option two:

pros:

- affordable housing divided into two levels
- inpatient detox to be separated from rest of clinic
- housing & clinic will not be connected
- inpatient detox to be separate from rest of clinic

cons:

- existing site elements would be demolished
- elevation change will interfere with building layout
- transition housing not separate from rest of clinic



option one, level one



option three, level one



option two, level one



option three, level two



option two, level two



option three, level three

gaming diagrams

option three:

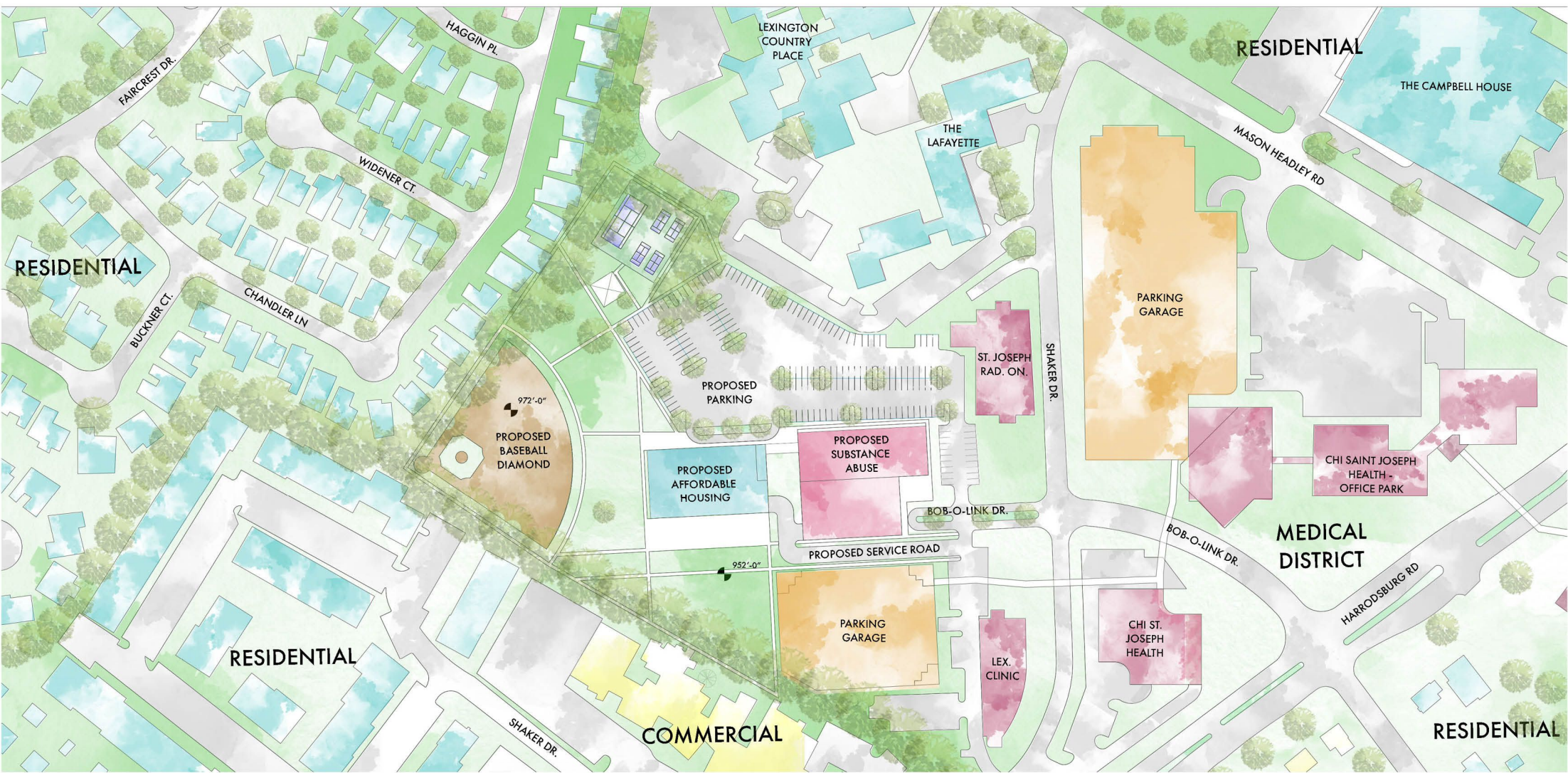
pros:

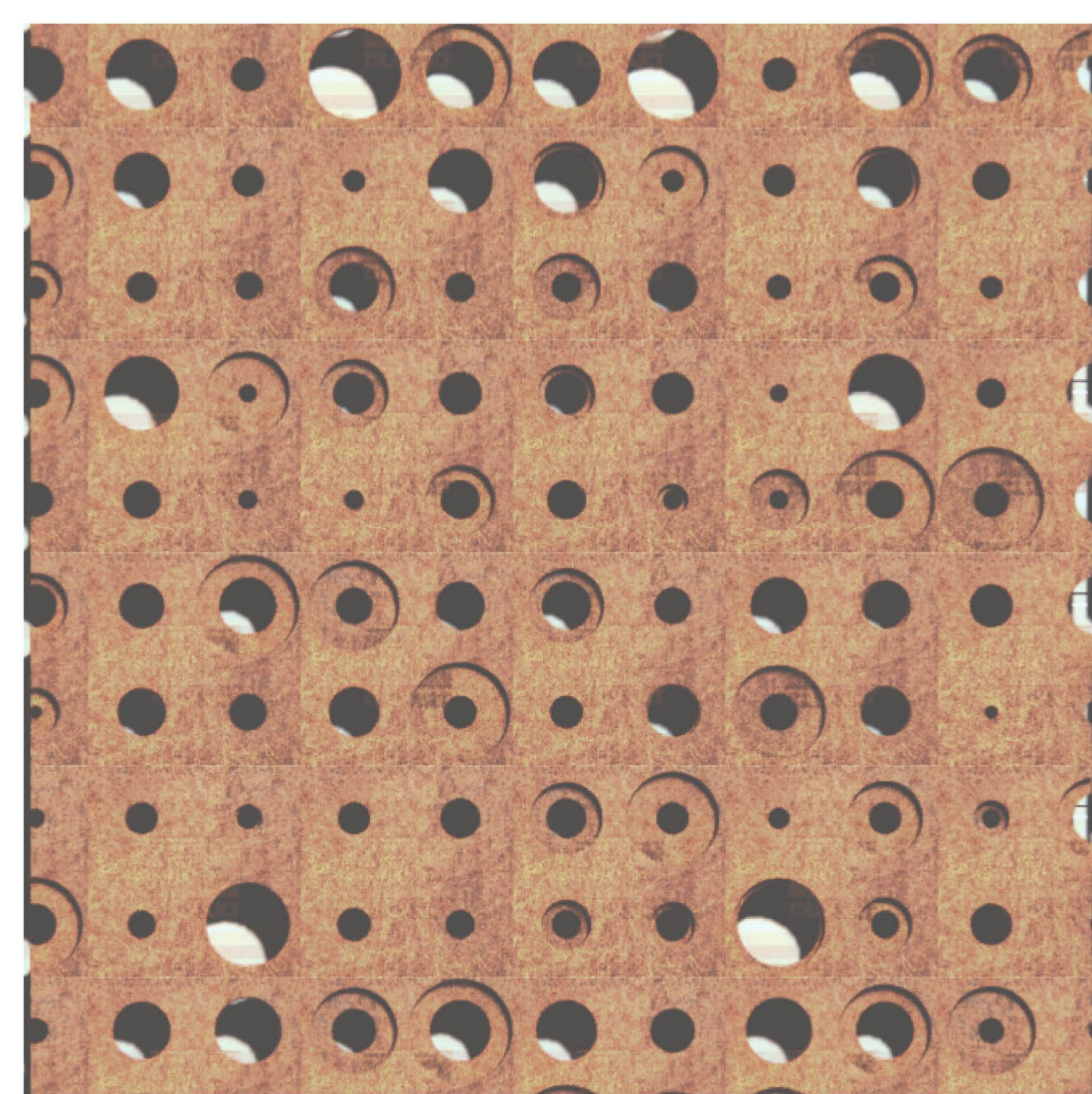
- housing and clinic will not be connected
- communal space between clinic and housing
- inpatient detox separate from rest of clinic
- transition care separate from rest of clinic
- meets code requirement of three levels for i-2
- existing site elements to remain and be expanded

cons:

- elevation change will interfere with building layout

- housing ■
- inpatient withdrawal ■
- transition housing ■
- support and logistics ■
- administration and staff ■
- the hub (teaching and research) ■
- ac/cait/start ■
- sobering department ■





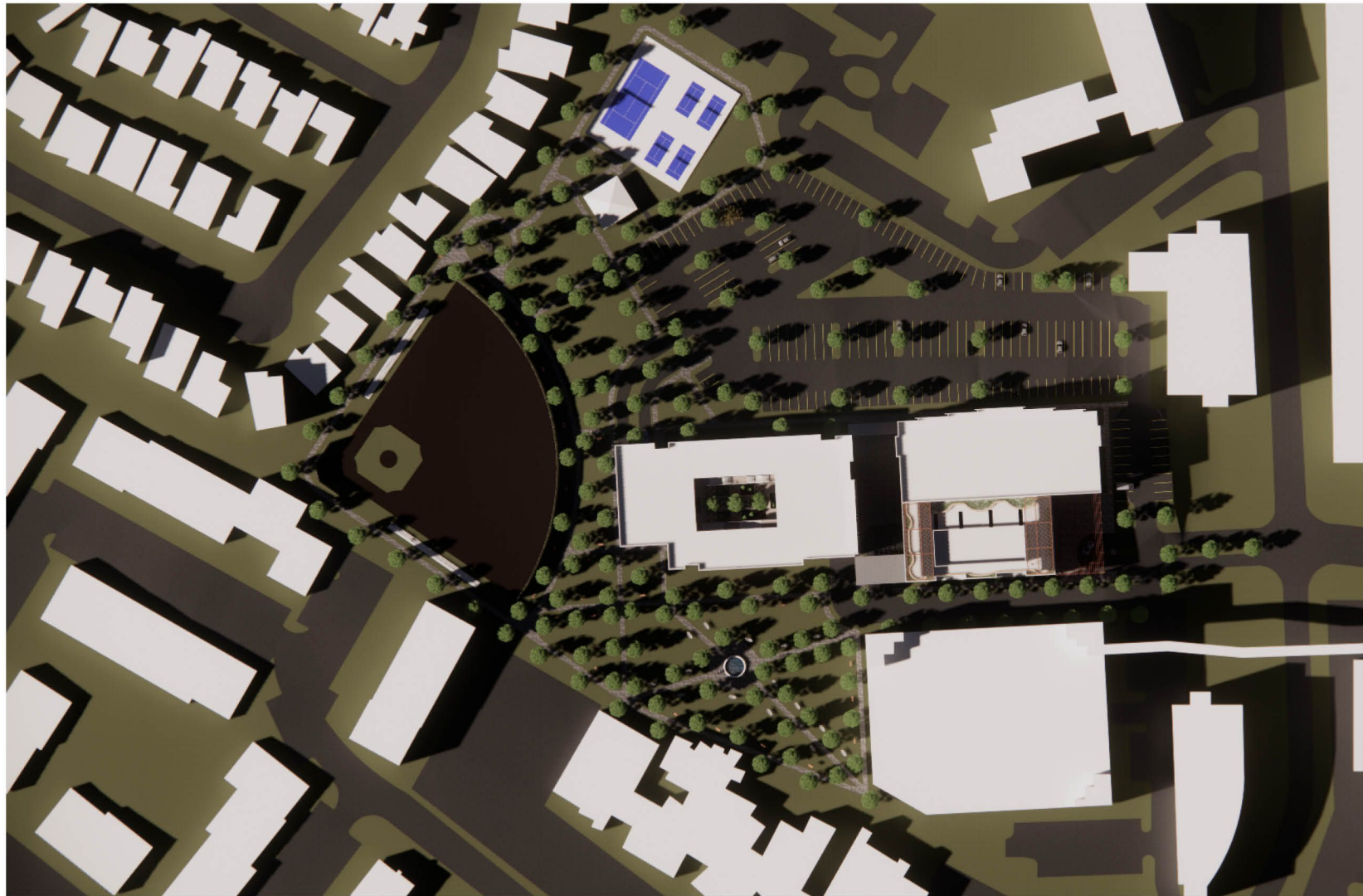
final product

final site plan

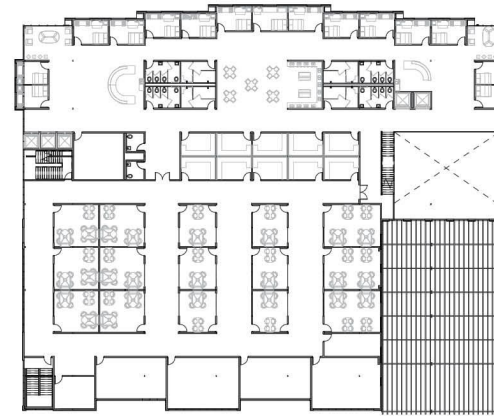
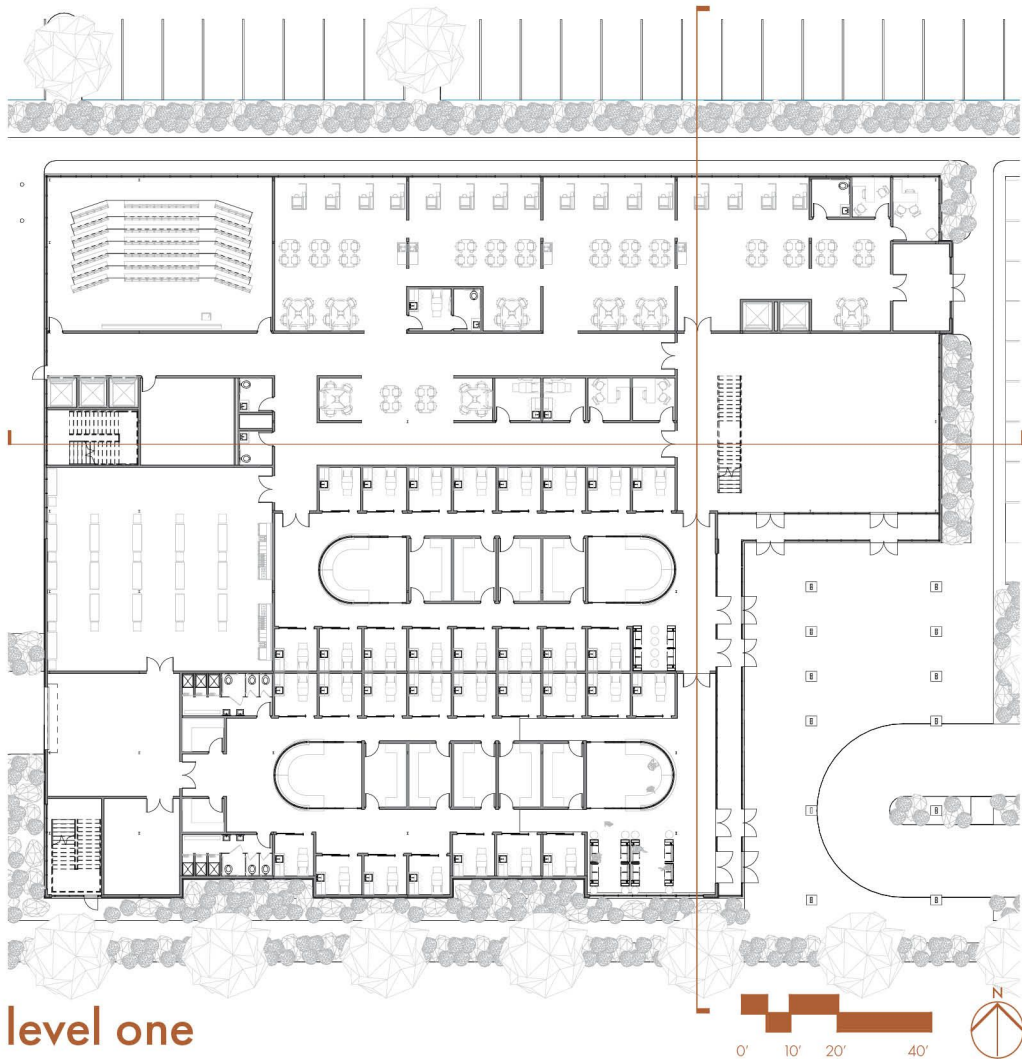
the genesis rehabilitation center is located in lexington, kentucky, approximately thirty minutes southeast from the state capital of frankfort, kentucky. the 100,000 square foot site is located between the st. joseph medical district and headly green residential district.

this site was chosen due to statistics on substance abuse in lexington. it remains one of the most critical public health and safety issues in this location. overdose had been on a steady decline from 2017 to 2019; however, due to the pandemic, abusing substances increased drastically in 2020. by august, the number of overdose deaths surpassed the numbers from 2019 (roberts, 2020). the health and community leaders of lexington were urging substance abusers to seek treatment. with the stress and uncertainty of the pandemic rising, more individuals turned to drug and alcohol use.

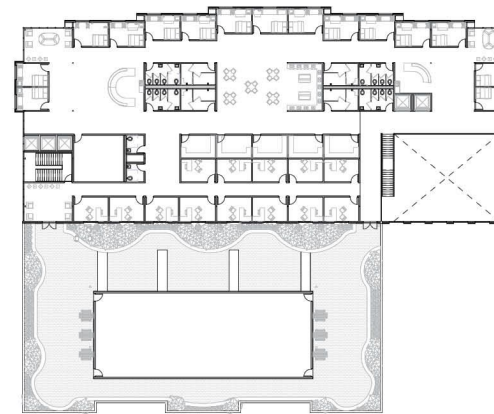
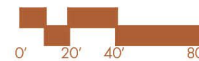
kentucky has made it their mission to introduce several programs and policies for substance abuse treatment. incorporating a rehabilitation center that offers both treatment and supportive housing opportunities could increase efforts in kentucky to decrease the use of substances and increase overdose fatalities.



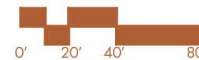




level two

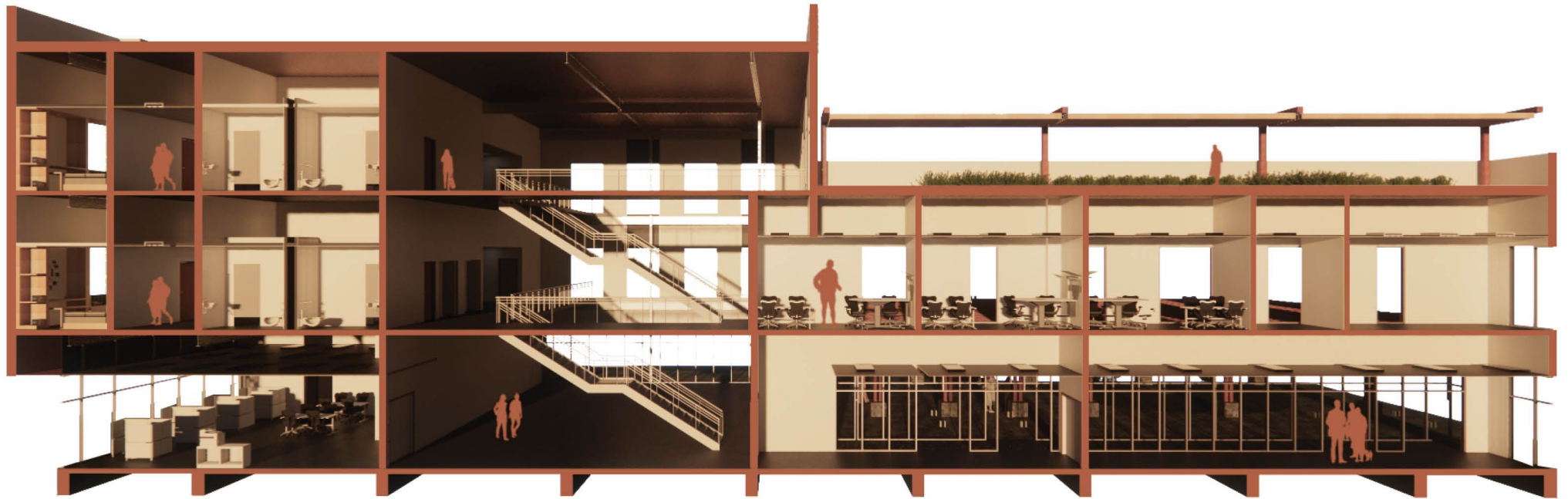


level three



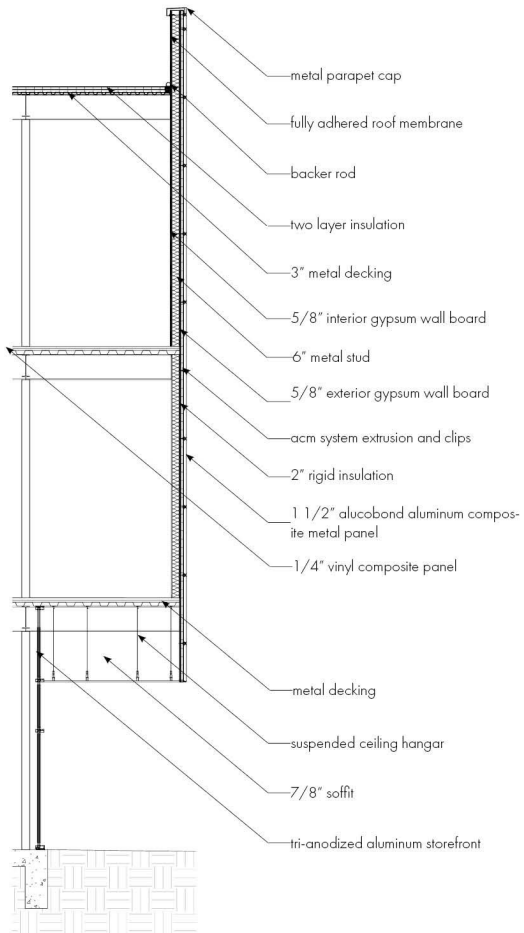
designing spaces for these types of individuals becomes challenging because there are several design considerations that must be incorporated. some of these key elements include designing a safe environment, providing access to nature and daylight, and creating spatial clarity and organization. "supervision protocols are essential to creating a safe environment for patients" (shepley & pasha, 2017, p.36). the genesis rehabilitation center will receive two types of clients: subjects intoxicated in public places (sipp), and clients that come out of their own free will to receive treatment. sipp are generally brought by the police department when they are found roaming around under the influence. these clients are typically aggressive and not in control of their actions. this requires safety measures to ensure the safety of other patients and staff. providing access to nature and daylight is a design consideration that has been shown to create a healing environment. hamilton and watkins (2009) consider a healing environment to be a "complementary treatment modality that makes a therapeutic contribution to the patients' care"(p.78). roger ulrich confirmed this therapeutic contribution when he was able to show that the environment positively contributes to the healing process with his study of patients recovering from gallbladder surgery that had a view to an exterior courtyard versus those that had a view of a brick wall (ulrich, 1984). he was able to show that patients with views to the courtyard healed faster, required less medication, and were calmer than the other patients with a view to the brick wall. finally, creating spatial clarity and organization provides a clear expression of the public versus the private spaces. it strays away from creating "confusion and conflict [that] may take place if public versus private space is not effectively distinguished" (shepley & pasha, 2017, p.31). it is most crucial for patient satisfaction.

transverse section



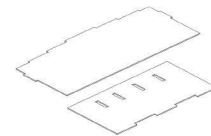
elevations



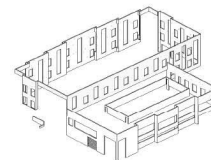


wall section

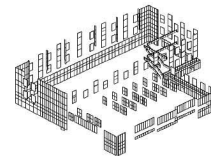
roof system



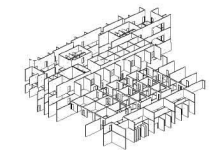
exterior metal wall panels



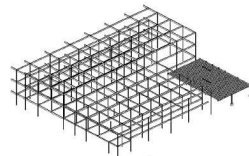
tri-anodized aluminum storefront



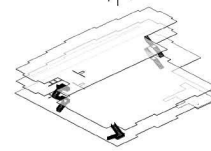
interior gypsum walls



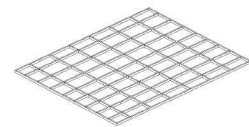
steel structure



flooring system

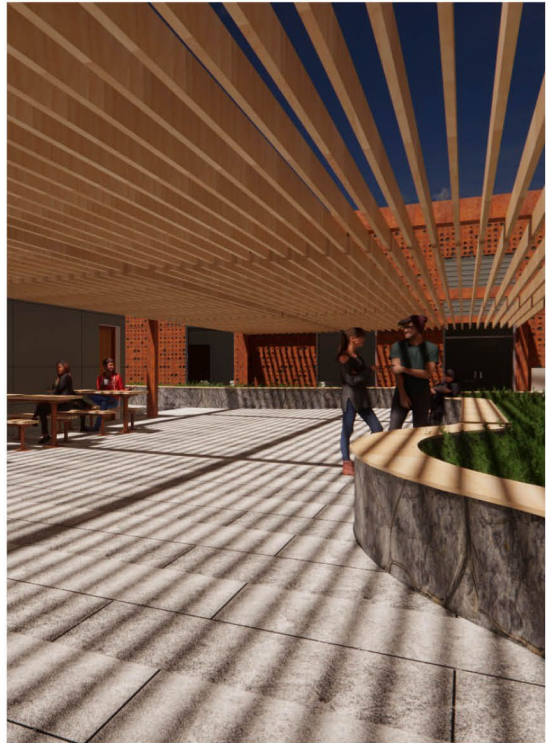


foundation



exploded axon

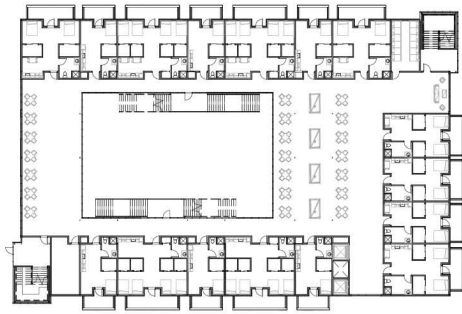
sobering department, rooftop garden, client room



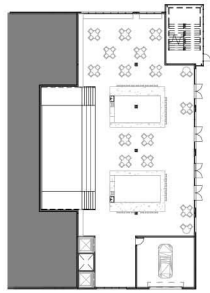
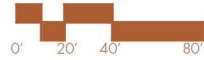


housing

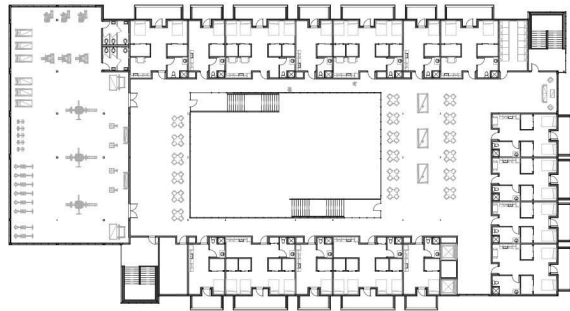
“substance abuse is both the cause and result of homelessness; [therefore,] both issues need to be addressed simultaneously” (nch, 2009, p.1). it has been shown that providing stable housing after a patient has completed treatment will decrease the risk of relapse. this is only possible because these supportive housing programs offer a multitude of services such as “mental health treatment, primary health care, education and employment opportunities, peer support, and daily living and money management skills training” (nch, 2009, p.2). this not only provides treated substance abuse patients with additional treatment, but the opportunity to re-establish themselves into society.



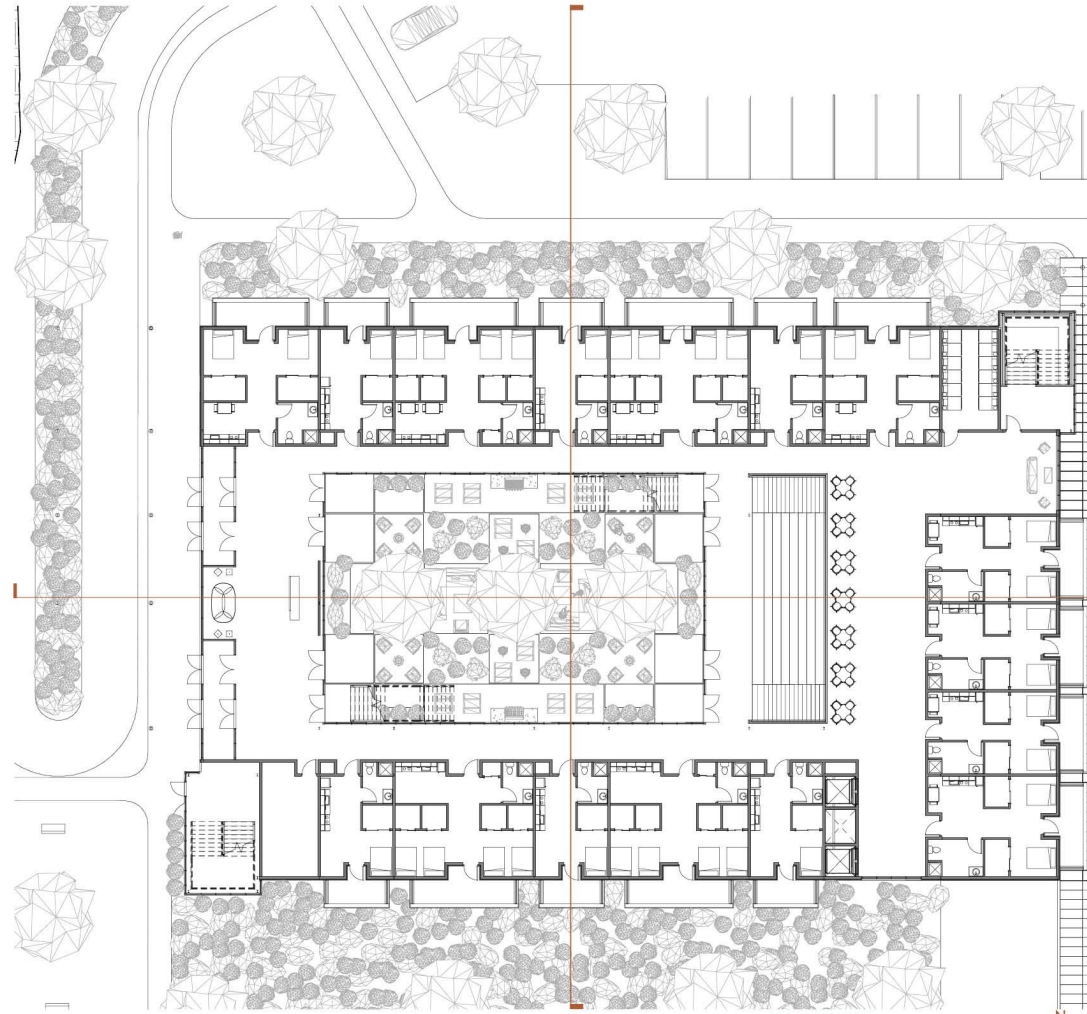
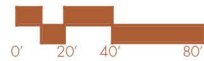
level two



sub-level one



level three



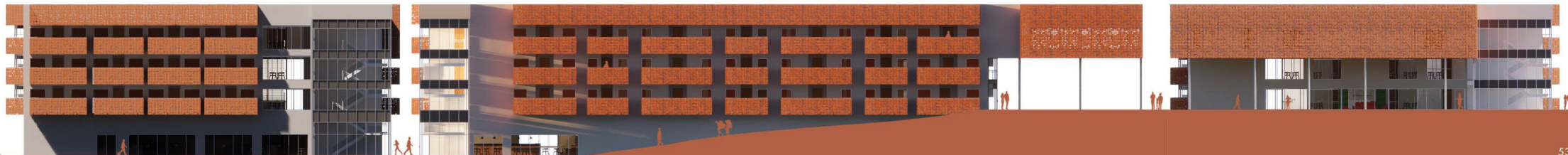
level one

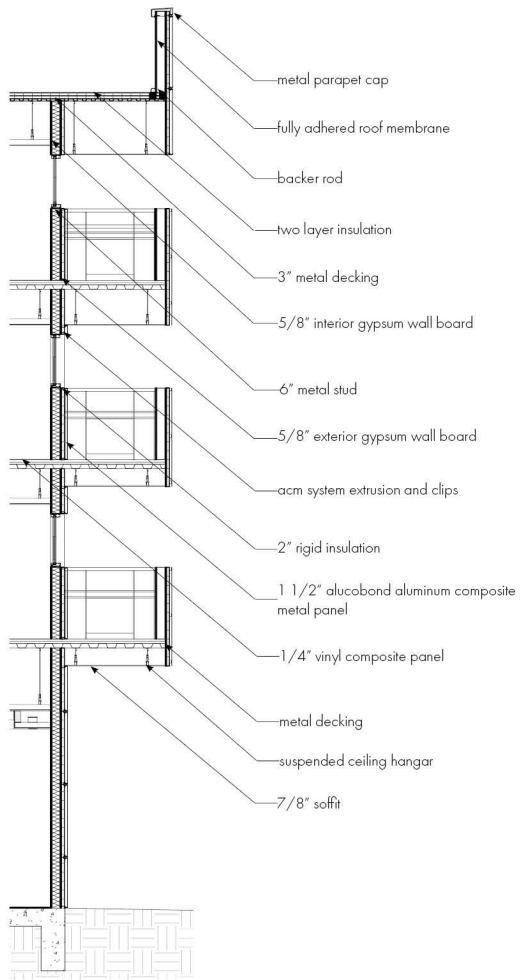


longitudinal section



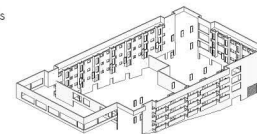
elevations



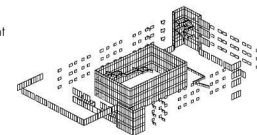


wall section

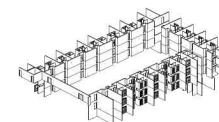
exterior metal wall panels



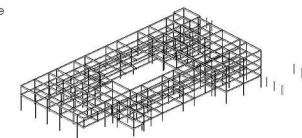
tri-anodized aluminum storefront



interior gypsum walls



steel structure



flooring system



foundation



exploded axon

hallway, cafe, interior garden



image references

East Vancouver integrated health and social housing. (2020, June 09). Retrieved April 18, 2021, from <http://www.hdrinc.com/portfolio/east-vancouver-integrated-health-and-social-housing>

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