

LINDEMANN MENTAL HEALTH CENTER

Programming & Renovation Feasibility Study
October 2023

Division of Capital Asset Management and Maintenance (DCAMM)
Department of Mental Health (DMH)

Prepared by **ICON Architecture**





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EXECUTIVE SUMMARY

Study Goals and Approach

The primary goal of the study is to assess and evaluate occupancy and space use within the Erich Lindemann Mental Health Center (ELMHC), identify critical deferred maintenance needs, and explore the feasibility for a comprehensive building renovation. Initiated at the request of the Executive Office of Health and Human Services (EHS) and Department of Mental Health (DMH), the Division of Capital Asset Management and Maintenance (DCAMM) administered the study process to address the following objectives:

- Review Department of Mental Health (DMH) programs in the building - shelters, group homes, clinical support, administrative, and building support spaces.
- Assess existing programmatic uses, evaluate space utilization and building conditions.
- Seek stakeholder input on safety, security, and space use.
- Conceptualize high-level space planning and reprogramming strategies to ensure full use and efficient building occupancy.
- Identify deferred maintenance upgrades to extend the useful life of the building through the next 50 years.
- Develop a preliminary order-of-magnitude cost estimate to inform capital planning decisions.

Building History

The Lindemann building was designed under the direct leadership of Paul Rudolph and the team at Desmond & Lord. It is the most complex and expressionistic portion of the original Boston Government Service Center (BGSC) site's three buildings. The Hurley Building was designed within Rudolph's guidelines, but under the control of SBRA architect Jean Paul Carlhian. The tower and lower structures at the corner of Merrimac and New Chardon Streets that was part of the master plan were never built. In 1999, Edward W. Brooke Courthouse designed by Kallmann, McKinnell, & Wood was built on the vacant eastern portion of the site. The Courthouse building occupies the area where the lower portions of Rudolph's HEW Building would have stood and introduced a new, intensively used pedestrian passage from Cambridge Street down toward North Station alongside the new park while by-passing the reopened courtyard plaza above.

In September 1990, The Boston Landmarks Commission completed a Building Information Form that recommended the complex "for individual listing on the National Register and designation (exterior and selected interiors) as a Boston Landmark. BOS.1618 (9/90)." The Boston Central Business District Survey Update of October 30, 2008 identifies the BGSC as a "building of major significance" and recommends that the Boston Landmarks Commission consider it for individual National Register listing. While the site is currently eligible for listing there is no record of a designation on MACRIS, the Massachusetts Historical Commission (MHC) digital listing of historic places.

Building Location and Alignment with DMH's Mission

The Lindemann building is sited at the edge of Boston's West End neighborhood - an area of the city that has undergone significant transformation over the last ten years with adjacent redevelopment in the Bulfinch Triangle. The location offers adjacency and access to many resources for DMH clients and staff - public transit, supportive organizations and offices, retail uses in Downtown Crossing, courthouse, Massachusetts General Hospital, the West End branch of the Boston Public Library, and proximity to Boston Common. The mission of DMH is to integrate the client into the larger community and to connect those who are disengaged. Therefore, location matters. Integration into the community includes "practicing everyday things" and having these accessible resources and non-stigmatized public spaces continue to positively impact the individuals served.

Building Assessment

The design and engineering team conducted multiple site visits with facilities managers and various program support staff to understand and evaluate existing facility conditions and building utilization. Key takeaways include:

Failed & Failing Building Systems:

- The majority of the building systems are in their original state. For example, much of the mechanical systems are beyond their useful life and some have failed or are failing. The ongoing maintenance approach to the building has been to repair system issues as they arise.

Wayfinding Challenges:

- Wayfinding throughout the building is a challenge.
- Several notable areas for signage improvements were documented, including difficulty in locating and navigating the building entrance at Merrimac Plaza.
- The rear entrance is also problematic, hidden below the plaza level courtyard, amongst the parking spaces and the parking entry.
- On the interior, curved walls limit visibility. Sections of the building remain isolated due to disjointed core locations.

Lack of Sufficient Daylight:

- Much of the useable interior space is partitioned into small rooms with long hallways. These hallways have little, if any, natural light. Offsetting the lack of natural light at the building interior, significant outdoor space on terraces provides opportunity to access natural light on multiple levels throughout the building.

Accessibility Concerns and Code Issues:

- Current restroom facilities consist of 71 bathrooms, of which only a handful have been retrofitted for accessibility. Several restrooms include a set of steps at their entrance, and do not meet current code requirements.

Life Safety Concerns:

- Lack of functioning emergency lighting is a life safety concern. Emergency lighting is almost non existent and should be immediately addressed, to provide a minimum 1 foot candle throughout paths of egress. Exit signage does not have battery backup and does not appear to be connected to the generator.
- There is a current proposal for a new generator to be located on the roof. The design team recommends that this new generator should include core life safety power.
- Mechanical Room 2 has water infiltration and deterioration resulting in significant cracks in the structural beams and columns. The design team recommends immediate evaluation of this area for shoring and/or repair of this condition.

Stakeholder Feedback

Stakeholder interviews and focus groups provided a foundation for the design team to understand and diagram right-sized program elements. The key takeaways include:

- There is a need for a secure, welcoming and well-equipped building main entrance and for

maintaining/improving the existing common client indoor and outdoor spaces such as the gymnasium, cafeteria, and training spaces.
- Proper tenant entrance spaces are needed with dedicated staff rooms with fully accessible hallways, bedrooms, and restrooms.
- While program staff recommend single-occupancy rooms for the group homes, they also see the value in a range of dorm room configurations - from single bed to twelve bed configurations.
- Engagement spaces such as outdoor areas, conference, and training spaces for clients are also needed.
- In the administrative support offices, there is a need for separate client and staff spaces for privacy and security. Proper and efficient staff spaces need to be provided for smooth office operations and fully equipped exam rooms are the main priority to provide top-level patient care.
- On the upside, despite the inherent limitations of the building, DMH support staff and clients have been successful in adapting the building to user needs. Spaces like the gym, elevator lobbies, hallways, and outdoor spaces continue to bring the resident community together and create opportunities for informal one-on-one interaction.

Reconfigured Lindemann and Alternate Locations

As part of the study, the design team looked at the feasibility of relocating the Lindemann program to a new building in two very different prototypical site conditions, these two alternate location options can be viewed in the appendix:

Option 1: A narrow downtown site.
Option 2: A state-owned public health campus that is not site constrained.

Ultimately, based on collaborative design workshops and extensive discussions with DMH and EHS leadership, it was agreed to proceed with the recommended solution of a Reconfigured Lindemann. Should there be an ideal downtown site that can accommodate all the Lindemann programs, a new build approach might be a better strategy than the renovation and renewal explored in this study. But currently, no such sites or buildings exist on the market. Should opportunities for site acquisition arise in the future, potential acquisition timelines could add another 2+ years to the study and design process.

Phased Construction

The programming layout of the recommended Reconfigured Lindemann, led the design team to further investigate the potential for phased construction. The benefits to reconfiguring the Lindemann building are clear. The site is currently state-owned, and the location is well-connected to essential services.

This phasing investigation resulted in three options:
- Occupied renovation with all tenants on site.
- Occupied renovation with partial tenant relocation.
- Total move out of all tenants for an empty building rehabilitation.

The final location of each tenant is the same throughout all three options. Challenges include the cost of construction and unforeseen circumstances involved in the renovation of a historic building. In addition to these concerns, logistical challenges include disruption to the sensitive population housed in the occupied building. Further study of this reconfiguration leads to a potential strategy which takes advantage of the space made available as the administration uses are relocated to off-site locations, as is currently proposed. The final part of this investigation results in a timeline chart

showcasing the potential building rehabilitation schedule for each phasing option.

Comprehensive Renovation - Pros and Cons

Reasons to Renovate:

- The building has far exceeded its useful life: modest on-going repairs are not sufficient to extend the life of this building to support the Lindemann program.
- Ideal location for service delivery: the current building location will be hard to match for Metro Boston DMH clients. The building is steps away from several transit connections and other downtown amenities. The proximity to Mass General Hospital enables DMH to access necessary clinical support required to address client needs.
- Leverage this state-owned resource in Downtown Boston: with the adjacent Hurley building in the process of being transferred to a developer, the Commonwealth does not have other land or buildings available in Downtown Boston that can be re-purposed or redeveloped for DMH uses.
- Community: as discussed earlier in the Stakeholder Feedback, the users have been able to successfully adapt the building to create spaces where the community can come together.
- Decarbonization: The current systems will not comply with the Massachusetts Decarbonization Roadmap without significant upgrades or replacement.

Challenges:

- Renovation comes with a steep price tag. Preliminary order of magnitude cost estimates point to a Total Project Cost- (TPC) over $260 Million. However, the option for new construction elsewhere may not offer significant cost savings. In addition, without having an alternative site, it may not be possible to accurately estimate the cost for alternative scenarios for new construction and land acquisition.
- Occupied renovation, while possible, may not be compatible with the needs of the vulnerable population currently served in this building. Likely temporary relocation of shelter uses will add to the project cost and complexity.

Conclusion

If the Commonwealth is looking to maintain its Downtown presence for emergency shelters and Group Living Environments for vulnerable populations, we strongly recommend re-investing in Lindemann with comprehensive renovation. Such an approach can render the building code compliant, upgrade building and fire safety systems, enhance accessibility, increase energy efficiency, improve building frontage, and radically transform the building interior spaces to serve the needs of a 21st century facility.



01

EXISTING CONDITIONS

In addition to the historic significance of the Lindemann Building, a review of the existing conditions assists the design team in understanding the needs, priorities and historical aspects of the building and programming. This chapter focuses on facility assessment findings, required action items for the improvement of the building's systems and stakeholder interviews. The stakeholder interviews inform the program needs and improvements as well as how the architecture of the building may best serve the DMH mission. Necessary improvements are recommended within the next year or immediately, including MEP improvements and way-finding design solutions.

1.1. Existing Conditions

Multiple site visits were conducted to understand the existing conditions and architectural importance of the Lindemann Building. The design and engineering team visited the Lindemann Building on September 9, 2022, including interview of the Facility Manager and the Institutional Foreman. The team walked through the building and observed interior spaces currently utilized by the Mental Health Center facilities (not including Central Offices and the Women's Locker Room). This document summarizes current findings, as part of the Feasibility Study.

Originally constructed in 1966, the Erich Lindemann Building Mental Health Center for the Commonwealth of Massachusetts was designed by Paul Rudolph with LeMesseurier and Associates Structural Engineers.

1.1.1 Initial Facilities Assessment

Majority of the building is in its original state, and much of the mechanical systems are beyond their useful life and some have failed or are failing. The ongoing maintenance approach to the building has been to repair system issues as they arise. The following summary is extracted from the engineer's reports.

Wayfinding throughout the building is a challenge. Several notable areas for signage improvement were documented, including difficulty for locating and navigating the building entrance at Merrimac Plaza. The rear entrance is also problematic, hidden below the plaza level courtyard, amongst the parking spaces of parking entry. This access has recently been improved by the intervention of the railing system and ramp at the north entrance. On the interior, curved walls limit visibility and sections of the building are isolated by a separate core. Much of the usable interior space is partitioned into small rooms with long hallways. These hallways have little, if any, natural light. Offsetting the lack of natural light at the building interior, significant outdoor space on terraces provides opportunity to access natural light on multiple levels throughout the building.

Current restroom facilities consist of 71 bathrooms, of which a handful have been retrofit for accessibility. Several restrooms include a set of steps at their entrance, and do not meet current code requirements. Restroom facilities do not meet turning radius, door clearances, or fixture counts. Doorknobs and switches throughout the building do not meet ADA requirements.

1.1.2. Structural

The building consists of cast-in-place structural concrete, comprising primarily one- and two-way waffle slab diaphragm floor systems on reinforced concrete girders and point-loaded piers. Certain areas of the building consist of pre-cast plank flooring. Earthquake loading for seismic reinforcement does not seem to be included in the original engineering of the building. The team noted that ground level wall/floor reinforcement may be required.

1.1.3. Heating, Ventilation and Cooling Systems:

- Heat is provided through gas fired hot water boilers installed in 2003.
- Cooling is supplied through a 350-ton electric chiller installed in 2022. The system has a second back up chiller.
- Twenty-one air handling units are original to the building (56 years old).
- Supply ductwork is original and has loose insulation. There are no access panels at the hot water coils.
- Piping is original to the building (56 years old).
- With the exception of cooling and heating plants, controls are original vintage pneumatic controls.

- Fan coil units are the biggest maintenance problem. They are original and in poor condition, requiring ongoing service. Parts are difficult to procure.
- The building did not have water treatment for 10+ years and the piping, valves, pumps, and specialties are in very poor condition. This has a direct effect on the heating and cooling coils as they are not operating efficiently due to this failure to treat the closed loops.

1.1.4. Plumbing System

- Majority of bathroom fixtures, plumbing and piping are original to the building.
- Domestic hot water is provided through gas-fired boilers installed in 2003.
- Plumbing and piping in the building is failing (hot, cold, rain leaders and sewer).
- The plumbing fixtures in regard to toilets are no longer manufactured and toilet carriers need to be changed out when failed toilets are found.

1.1.5. Fire Protection System

- Fire pump, sprinkler pipe system and sprinkler heads are original to the building.

1.1.6. Electrical System

- There is a current project (DCP2143) for electrical upgrades that will replace the switchgear, both motor control centers with starters, an up-sized emergency generator (750 KW) that will pick up elevators, and additional emergency lighting throughout.
- Electrical panels are original and should be replaced. Electrical feeds should be tested prior to re-use or replaced.
- In an emergency, only three (out of five) elevators can run on the available generator power.
- Two original Motor Control Centers feed electric to the mechanical rooms at the top of the building. One MCC caught fire in the past year. Both MCC's should be replaced.
- Electrical panels, wiring, data, and receptacles are limited, original, and should be replaced.
- Security System:
- Building security is limited and a cohesive system is recommended.
- Fire Alarm System:
- The Fire Alarm Control Panel is 20 years old and should be replaced. Notification devices are missing in several areas (bathrooms, corridors, public spaces). Full replacement is recommended.

1.1.7. Lighting

- Replacement of lighting with LED fixtures is recommended. The wiring is 56 years old and should be upgraded with panels and controls.
- Emergency lighting should be addressed.

1.1.8. Recommendations (within the next year or immediate)

1. Emergency lighting is a life-safety concern. Emergency lighting is almost non-existent and should be immediately addressed, to provide a minimum 1 foot-candle throughout paths of egress. Exit signage does not have battery backup and does not appear to be connected to the generator.

2. The team understands that there is a proposal for a new generator to be located on the roof. The team recommends that this new generator should include a core Life Safety power distribution system to provide capacity for new emergency lighting and existing signage. The new generator should also provide power to run all five elevators in case of outage.

3. Mechanical Room 2 has water infiltration and deterioration resulting in significant cracks in the structural beams and columns. The team recommends immediate evaluation of this area for shoring and/or repair of this condition as necessary.

4. The team understands that there is a proposal to replace the electrical FPE switchgear. Additionally, the team recommends that the Motor Control Centers and all the core electrical panels also be replaced."

5. Fan coil units should be replaced.

6. A comprehensive design for building wayfinding is recommended to improve orientation and access.

1.2. Summary List of Documents

CAD Existing Drawings
Existing Conditions Data
Existing Files from VAV

1.3. Climate Resiliency Analysis

The Lindemann Building is located in downtown Boston, which is highly exposed to sea level rise impacts due to the low-lying coastline. This area is located along multiple inundation paths and it is exposed to flooding from the Charles River and Boston Harbor. The Lindemann Building is adjacent to Flood Zone AE (see figure 1.1.). This is an area designated as a high-risk flood zone due to its proximity to floodplains and other bodies of water such as the Charles River. This zone is also located under the 1% annual coastal flood risk event, which is a flood event that has a 1 in 100 chance of occurring in any given year.



Figure 1.1. FEMA Flood Zone Map

The Climate Ready Boston Plan outlines several steps for municipal facilities, such as prioritizing upgrades to buildings in Downtown exposed to stormwater flooding and extreme heat events. Due to its adjacency to a high-risk flood zone, any future work of the Lindemann Building should include climate readiness reconfigurations, such as relocation of key mechanical systems from the ground level to higher levels, and for extreme heat risks, prioritize backup power installation if Lindemann is to serve as an emergency shelter.

1.4. Accessibility Compliance

Current design and accessibility codes recommend "universal" design approaches prioritizing equitable access to public spaces, ranging from travel paths for everyone to use to incorporation of contrasting finished which improve one's understanding of a space. The Lindemann building falls short in these respects. The Boston Conference room is accessible to the outdoors via long low lying steps and should provide accessibility to its main space with a ramp system.

Current restroom facilities consist of 71 bathrooms, of which a handful have been retrofit for accessibility. Several restrooms include a set of steps at their entrance, and do not meet current code requirements. Restroom facilities used by staff and residents alike do not meet interior turning radius, door clearances, or plumbing fixture mounts. Doorknobs, controls and light switches throughout the building do not meet ADA requirements. Kitchen spaces are not fully compliant, and they are not located equally in the five vendor spaces. Therefore this proposal recommends several interventions to improve access throughout the building.

1.6. Stakeholder Interviews

In order to understand the full existing conditions of the Lindemann Building services, the design team conducted two stakeholder interviews which included group home vendors, administrative support and shelter staff. Through this process, the team learned of the overall Department of Mental Health mission and each Tenant's mission, which share similarities to each other. Key takeaway points included discussions of the advantages of the Lindemann Building location, and existing spaces in the building that cater well to the mission, while critiquing issues that inhibit client success and service. Discussion focused on ideal spatial programming and adjacencies.

1.6.1. Location and Mission

Lindemann is sited at the edge of Boston's West End neighborhood, in an area of the city that is currently being developed and revitalized as the adjacent redevelopment in the Bulfinch Triangle, Bulfinch Crossing, and plans for the abutting Hurley Building are in review. The staff made a point to highlight this location which offers adjacency and access to many resources. Notable resources include public transit, supportive organizations and offices, the Business Innovation District at Downtown Crossing, The Courthouse, Massachusetts General Hospital, The West End branch of the Boston Public Library, and Boston Common. The mission of DMH is to integrate the client into the larger community and to connect those who are disengaged. Therefore, part of their core mission is to be proximately located near transitional resources and housing. Integration into the community includes "practicing everyday things" and having these accessible resources and non-stigmatized public spaces positively impacts the individuals served.

1.6.2. Entrance and Common Spaces

The main entrance to the building is located on the Mezzanine level, where staff described its lack of accessibility, poor way-finding and unwelcoming atmosphere. Staff envision a larger space with art and soothing design elements accompanied with seating and waiting areas for clients waiting for next level care or on-boarding. Necessary adjacencies include a hygiene space, security desk, and storage spaces for client belongings. Staff expressed that an ideal entrance should have an arrival sequence, for welcoming the client, including waiting and hygiene areas for on-boarding spaces to transition new clients into the shelter, group homes or administrative support offices.

The DMH staff conveyed the importance of several existing common spaces such as the gymnasium and basketball court for recovery engagement. This space is utilized as part of an intervention program for basketball leagues games and partnerships. Spaces such as this one, that are not charged with an agenda, also include the Boston Conference Room, used as a multipurpose space, the Cafeteria, which is sized for 80 people and the shutdown Coffee Shop. The Coffee Shop space was used for a workforce/training program for which funding was discontinued, providing an opportunity for a normal day-to-day space for clients to engage with one another and with the public. Staff and clients would like to see this space and program reignited as part of the training programs. The Chapel on the fourth and fifth level is used for gathering for special occasions and provides a space for individuals to practice their religion.

From a wider building perspective, Lindemann contains a series of gracious lobby and hallway spaces. The staff communicated the importance of these spaces, free of an agenda and presenting opportunities for clients to engage in impromptu conversations. Secured outdoor space is also located throughout the building on the Mezzanine, Plaza and Fourth levels, these spaces are largely utilized for events and engagement between tenants. These series of common spaces have led the staff to call Lindemann a “building of neighborhoods”, a key aspect to furthering the DMH mission.

1.6.3. Residential Spaces

At the group homes and shelters entrances, the staff described the existing front desk and nursing spaces to be ideal for greeting clients. Additional spaces needed at the entrance of the residential tenants include, bag search area, waiting and interview spaces. The staff would like to have dedicated spaces which include toilet rooms, locker rooms and secured medical supply closets. The existing layout of the shelter and group home spaces could be better reconfigured to increase security, which would include having direct sight-lines to common residential spaces such as laundry rooms and shared bathrooms.

The staff believes the collection of group homes: Staniford House, Harbor House and Greenway, currently include enough beds. For the longer client stay, the staff expressed a preference for single resident occupancy rooms due to anticipated behavioral concerns, female client priority and privacy. Private bedrooms would provide a social step toward a more independent lifestyle. Fully accessible single private restrooms are ideal for the group homes, existing shower rooms and bathrooms do not provide enough privacy for female clients and their layouts are not fully accessible to clients with mobility issues. In the common client spaces, group home staff expressed the need for full kitchens with dining room space for cooking, for training sessions, and to provide a home-like feel. For the common space layouts, outdoor space is ideal for engagement, currently only Harbor House and Staniford House have access to secure and dedicated outdoor space. The group home staff at Greenway and Harbor House have reconfigured some existing rooms to create meeting, conference, and training spaces. Therefore there is a need for more formal training spaces that provide minimal distraction and hosting opportunities of outside training entities.

The shelter staff described the need of a range of different sized dorm rooms, allowing clients the opportunity to choose from 1 to 12 dorm room configurations. The size of both shelters (Co-Ed with 60 beds and Women's Unit with 20 beds) currently meet the community needs. Staff expressed that their clients have expressed a desired for single restrooms and fully accessible showers. Due to the shorter client stay at the shelters, guests need storage space or overflow space for their belongings. For those clients who are in transition or others who are incoming, the staff would like to provide flex/overflow space while spaces become available.

1.6.4. Administrative Support Spaces

The administrative support offices include the Homeless Outreach Team, NAMI/Greater Boston Consumer Advocacy Network, Adult Community Clinical Services (ACCS), Freedom Trail Clinic and the Lindemann Cambridge Somerville Site Office. These support offices provide outpatient services such as therapy, medical and psychology services. The staff expressed a lack of a welcoming environment with no therapeutic atmosphere at each office entrance and a lack of security. There is a need for separate entrances for outside clients and residential clients, and separate client and staff restrooms. Dedicated staff space is also needed for conference and meeting rooms, efficient office layouts with access to sunlight and kitchen and dining areas are among the staff needs. The need for more office space was discussed with the possibility of staff alternating office cubicles for a more open office environment. The existing exam room spaces and hallways are not accessible and do not have the necessary facilities to carry on with patient service needs. Ideally the staff would like to see proper exam rooms equipped with enough space for clients with mobility issues and sink facilities for outside entities such as Quest Diagnostics for proper client care.

1.6.4. Conclusion of Stakeholder Interviews

These interviews provided a foundation for the design team to lay out the right-size program based on efficient working spaces. The key takeaways for client common spaces include: the need for a secure, welcoming and well equipped building main entrance and maintaining/improving the existing common client indoor and outdoor spaces such as the gymnasium, cafeteria and training spaces. For the residential spaces, proper tenant entrance spaces are needed with dedicated staff rooms with fully accessible hallways, bedrooms, and restrooms. The group homes prefer the single occupancy rooms while the shelter staff described a need for a range of dorm rooms, from single bed to twelve bed configurations. Engagement spaces such as outdoor areas, conference and training spaces for clients are also needed. In the administrative support offices we concluded there is a need for separate client and staff spaces for privacy and security concerns. Proper and efficient staff spaces need to be provided for smooth office operations and fully equipped exam rooms are the main priority to provide top level patient care. These points of concern, staff and client needs are taken into consideration along with the following precedent studies and continued program analysis. This will result in a right-size program which is to be applied to three site opportunities.

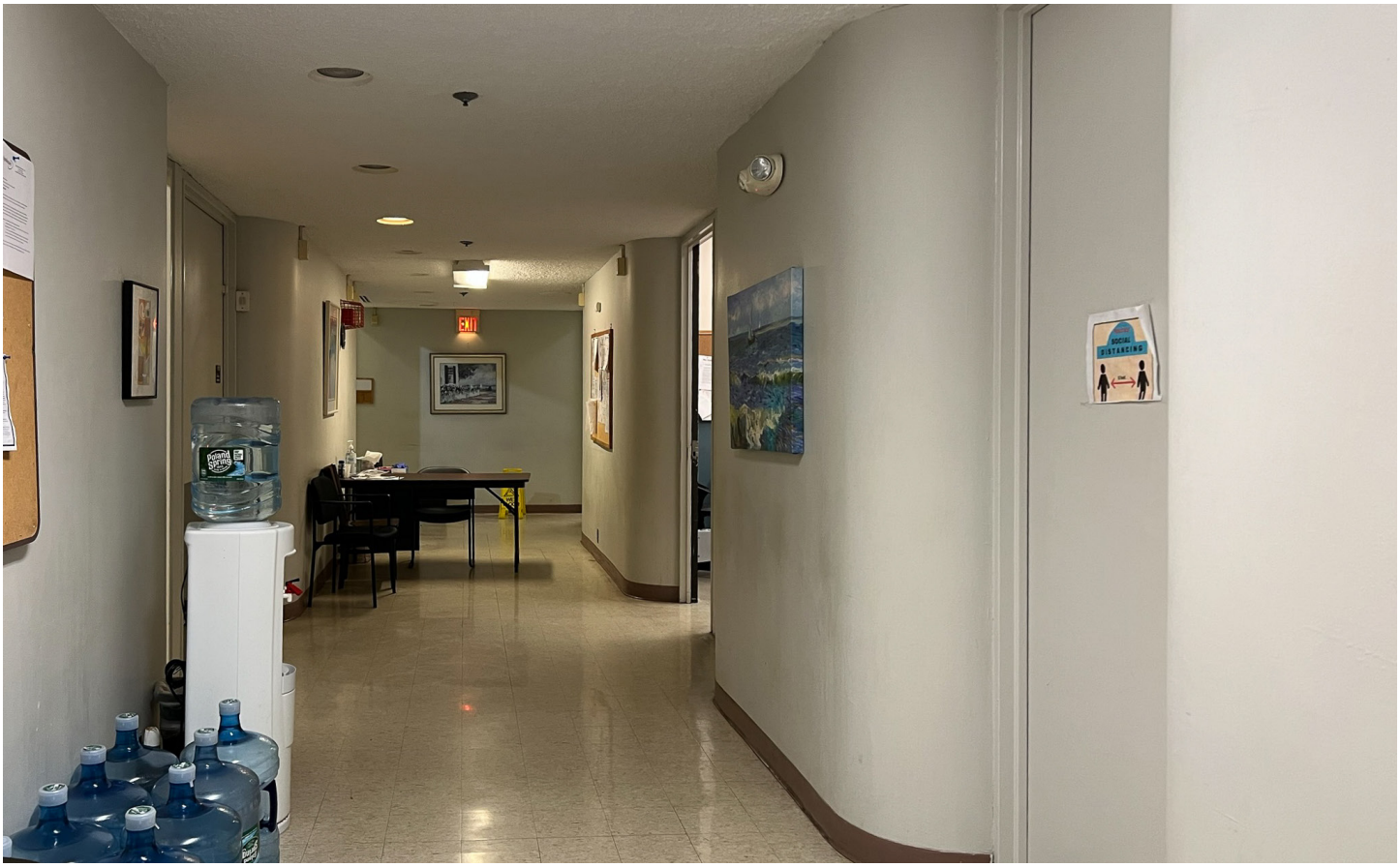


Figure 1.2. Existing Administrative Support Office Hallway in Lindemann Building



Figure 1.3. Existing Greenway House Entrance Lobby in Lindemann Building



Figure 1.4. Existing Staff Office Space in Lindemann Building



Figure 1.5. Existing Kitchen Space in Lindemann Building



Figure 1.6. Existing Co-Ed Shelter Dorm Space in Lindemann Building



Figure 1.7. Existing Co-Ed Shelter Shared Shower Room in Lindemann Building



Figure 1.8. Existing Co-Ed Shelter Common Space in Lindemann Building



Figure 1.9. Existing Common Space in Lindemann Building





02

PRECEDENT STUDIES

The design team referenced supportive housing projects to better understand potential program needs, dorm and single occupancy unit layouts, the importance of common outdoor and indoor space for clients, and building architectural presence in their respective cities.

These supportive housing projects include:

- MLK1101 Supportive Housing, Los Angeles, CA
- Richardson Apartments, San Francisco, CA
- Boston Road, Bronx, NY
- 3368 Washington, Boston, MA

Each of these projects highlight an important aspect: location to accessible community resources for homeless individuals and low-income households. The following projects showcase training spaces such as coffee shops, located within the building, outdoor planting and gathering space on rooftops or ground floor courtyards, and adjacency to transit. Many of these design elements can be applied to the Lindemann building programming, all focused on carrying the DMH mission.

2.1. MLK1101 Supportive Housing

Architects: Lorcan O'Herlihy Architects
Area: 34,000 SF
Units: (26) Studio - Three Bedroom Units
Population: Homeless Veterans, Homeless Individuals, Low-Income Households
Location: Los Angeles, CA

LOHA's design transforms a vacant lot in South Los Angeles County, home to the nation's largest homeless population, into an environment that encourages health and community through successful social spaces. Main goals of this design include prioritizing social equity and well-being of residents, the L-shaped typology allows every unit to receive sunlight and cross ventilation, which also allows for the inclusion of an elevated green patio for relaxation, socialization, and gardening. The hexagonal green-roofed structure serves multiple purposes, on the street level it is a retail component that provides employment opportunities for tenants and generates income to subsidize the complex. On the second floor the structure opens to the patio and house a community room for its residents.



Figure 2.1. Ground, Second and Third Level Plans



Figure 2.2. Ground, Second and Third Level Plans

2.2. Richardson Apartments

Architects: David Baker + Partners
Units: (120) Studio Units
Population: Low-Income, Homeless Population
Location: San Francisco, CA

David Baker + Partners in collaboration with Community Housing Partnership and Mercy Housing California, developed 120 supportive residential studio units. The apartments are approximately 300 square feet, these provide basic furnishings, full kitchenettes, and accessible bathrooms. The residential entrance features a secure lobby leading to the a south facing courtyard framed by an expansive existing mural. The residential levels are connected by an open-air stair, these sit on a neighborhood serving retail base which features a bakery serving as a training program for residents. Additional supporting uses on site include, a medical and counseling center, a rooftop deck for garden plots, solar arrays and city views. Conditioned shared spaces include a residents' lounges and a flexible-use community room.



Figure 2.3. South Facing Courtyard

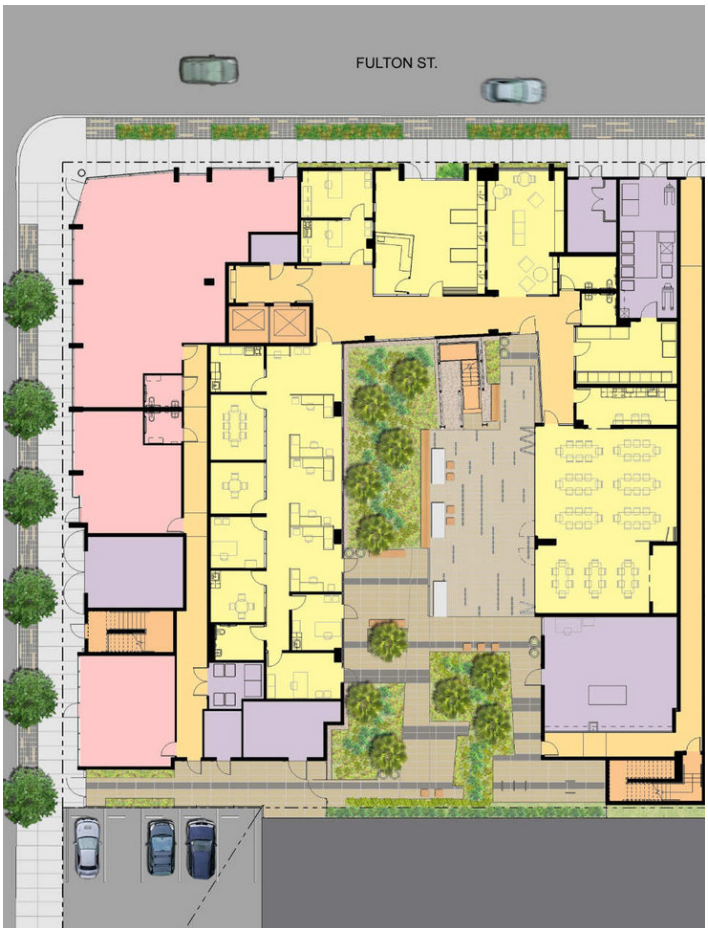


Figure 2.4. Ground Level Plan



Figure 2.5. Rooftop Deck Garden

2.3. Boston Road

Architects: Alexander Gorlin Architects
Area: 100,000 SF
Units: 154 Units
Population: Homeless Senior Individuals, Low Income Adults
Location: Bronx, NY

This supportive housing design places equal emphasis on private room and communal spaces. Its shared areas include multi-purpose rooms serving for social services and tenant gatherings, three separate green spaces: a large patio, garden, and roof terrace. Interior spaces include a computer lab, bicycle storage and laundry facility for resident use. Design elements recalling the site include, the colored metal panels in the facade system, which animate the surface and recalls the history of the site, and a waving ceiling in the secure lobby referring to the geology and topography of the site.



Figure 2.6. Boston Road Elevation

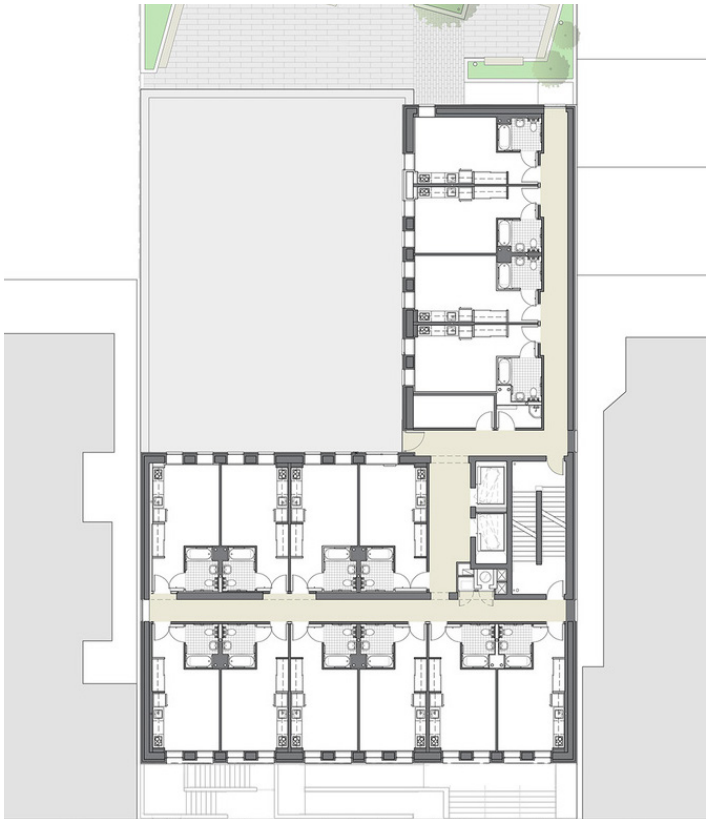


Figure 2.7. Typical Floor Plan



Figure 2.8. Secure Lobby

2.4. 3368 Washington

Architects: RODE Architects
Area: 125,210 SF
Units: 202 Units
Population: Low-Income, Homeless Population
Location: Boston, MA

3368 Washington Street is a TOD proposed five-story, new construction, mixed-use building to serve the formerly homeless and families with a range of incomes. The existing building on the site is owned by Pine Street Inn, upon completion Pine Street Inn will have an on-site office for its case management staff and be able to provide intensive support services to the residents. The design offers 39 parking spaces for vehicles, bike storage, and up to 13,000 SF of outdoor space. An estimated 16,000 SF on the ground floor will consist of office space, community, and amenity spaces for residents. From an urban perspective, the building will integrate itself into the active Washington Street corridor, following the guidelines established by Jamaica Plan/Rox Master Plan.

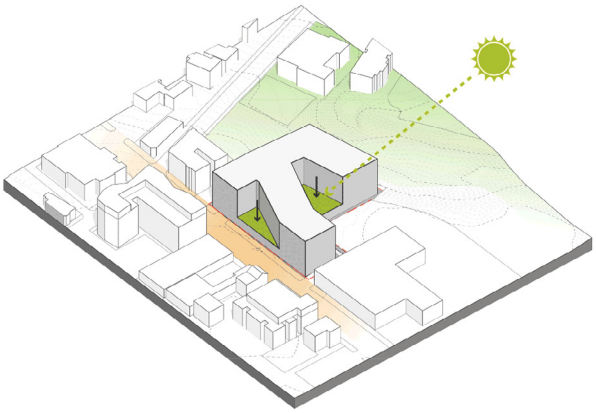


Figure 2.9. Green Space Diagram

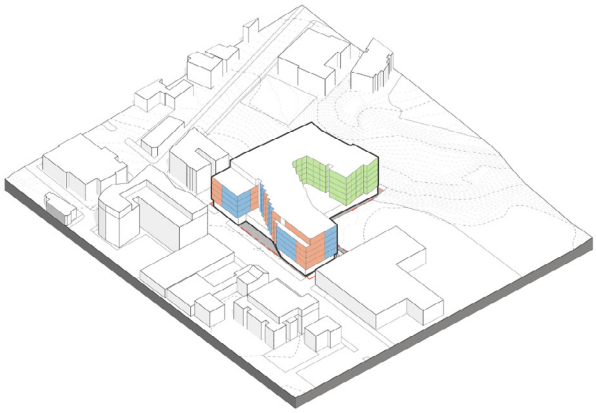


Figure 2.10. Facade Diagram



Figure 2.11. Washington Street Edge





03

PROGRAMMING ANALYSIS

The programming analysis chapter contains existing analysis of the Lindemann building program totaling to approximately 150,000 SF (not including building circulation), and a thorough understanding of the how the design team arrived to the right-sized program, totaling approximately 89,000 SF.

The studied program has been divided into five sections:

- Common Outdoor Space
- Common Indoor Space
- Shelters
- Group Homes
- Administrative Support Offices

The DMH central offices have been removed from the overall program to allow for the right-sizing of the residential spaces.

With the aid of the stakeholder interviews and precedent studies, the design team analyzed the importance of the common client spaces, such as training spaces, cafeteria, the chapel, gymnasium and fitness center and outdoor spaces, such as the main one located on the Mezzanine level. A series of scaled comparative diagrams are presented in this chapter, to understand the differences in square footage between the existing and right-sized programs. Additionally, the design team studied dorm and single room occupancy unit configurations to inform residential programming.

3.1. Existing Programming Analysis

The stakeholder interviews provide an insight into the use and existing conditions of the administrative offices and client residential spaces. Based on this information, the following programming analysis seeks to further understand the existing distribution of the administrative offices, central offices, client common spaces, and bedrooms in the shelters and group homes.

The square footage analysis uncovered inefficiencies across all programming due to extensive corridors and unnecessary circulation. Further inefficiencies include multiple under-utilized lobbies on each floor, corridor layouts resulting in lack of sunlight for office and common spaces, lack of accessibility throughout the building and numerous small offices which do not serve the current 50% office occupancy. This initial analysis serves as a guideline for “right-sizing” the proposed program and arriving at the three options for the relocation/redevelopment of the Lindemann Mental Health Center.

3.1.1. Residential Programming

The residential program consists of 114 beds located starting on the plaza level to the fourth level, these range from single to six-bedroom configurations. Each tenant provides shelter for either overnight or temporary stays; Group Homes house up to 34 individuals, and Shelters provide overnight stays for up to 80 individuals. Residential common spaces include laundry rooms, workshop rooms, day/social areas, and outdoor spaces. Each group home and shelter also includes staff spaces, such as locker rooms, nurse stations, utility and medical rooms, and dedicated staff toilets. See figure 3.2. for a summary and scale comparison of the residential tenants.

3.1.2. Overall Building Programming

A tabulation was made to understand the approximately 150,000 square feet of the existing Lindemann Mental Health Center programming and the approximately 50,000



Figure 3.1. Two Bedroom Layout

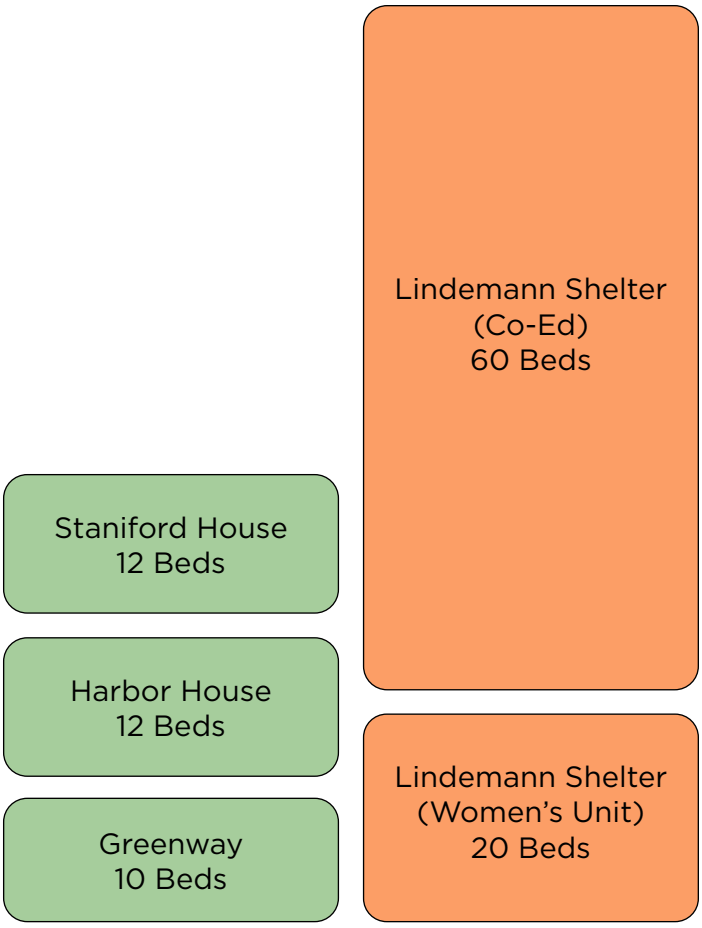


Figure 3.2. Existing Residential Beds Tabulation

square feet of building maintenance space and circulation. From this analysis, the design team learned that the DMH Central offices and building maintenance and circulation areas constitute about 50% of the total building programming (See figure 3.3.).

The distribution of the client common indoor and outdoor spaces are distributed throughout the ground floor to the fifth level. Conveniently located on the ground floor, the cafeteria sized for 80 people and the full sized basketball court are two of the most used common spaces throughout Lindemann. One major problem with the programming on this level is the closed-off access on Merrimac Plaza which makes for minimal activity on the street level. The inactivity is also due to the current distribution of the DMH central office throughout the building. Due to this, key common spaces, such as the coffee shop, HOPE Center, main building entrance and Boston Conference room are located above the ground floor.

The largest common outdoor space shares its perimeter with the DMH central offices on the Mezzanine Level. Currently, the only access to this space is through the DMH offices. The existing use of circulation components, such as the grand circular stair connecting the ground level to the plaza level, makes for poor access and connections between these common spaces. Additionally, the administrative support offices such as the Freedom Trail Clinic, Homeless Outreach Center, and others, are inefficiently laid out resulting in large amounts of unused lobby spaces and corridors with little to no sunlight. This distribution of spaces also results in multiple partitions for exam rooms, conference spaces and offices (see figure 3.4.).

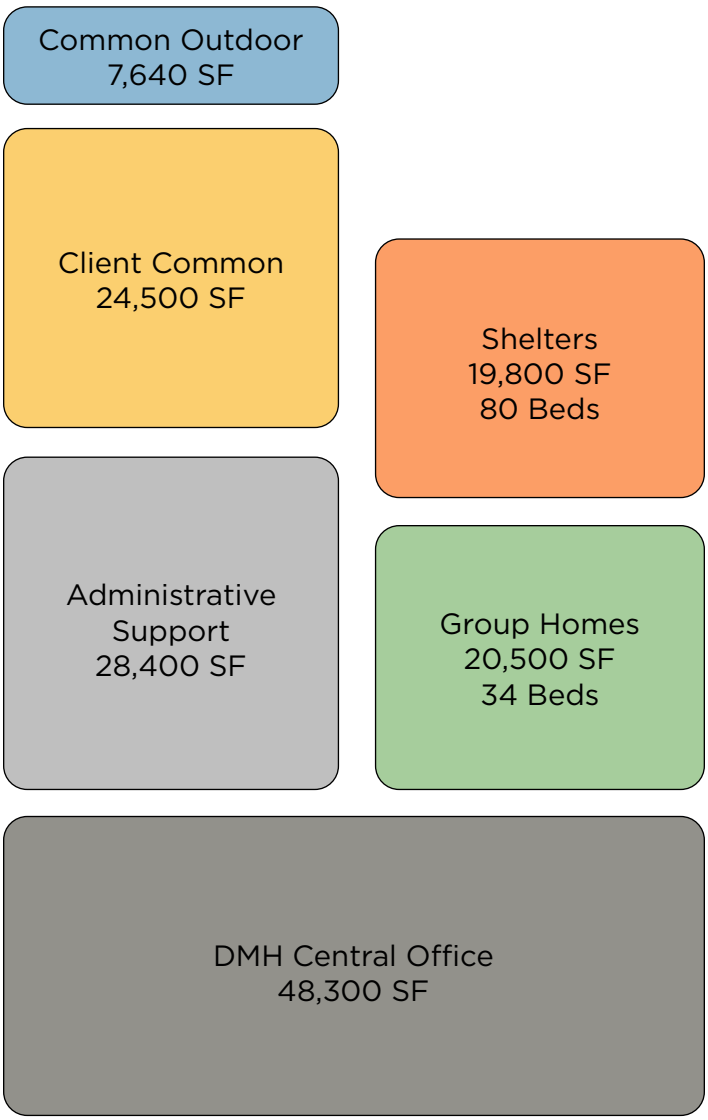


Figure 3.3 Existing Lindemann Mental Health Center Program Tabulation. *Approximately 50,000 SF of Building Maintenance and Circulation Space Not Included.

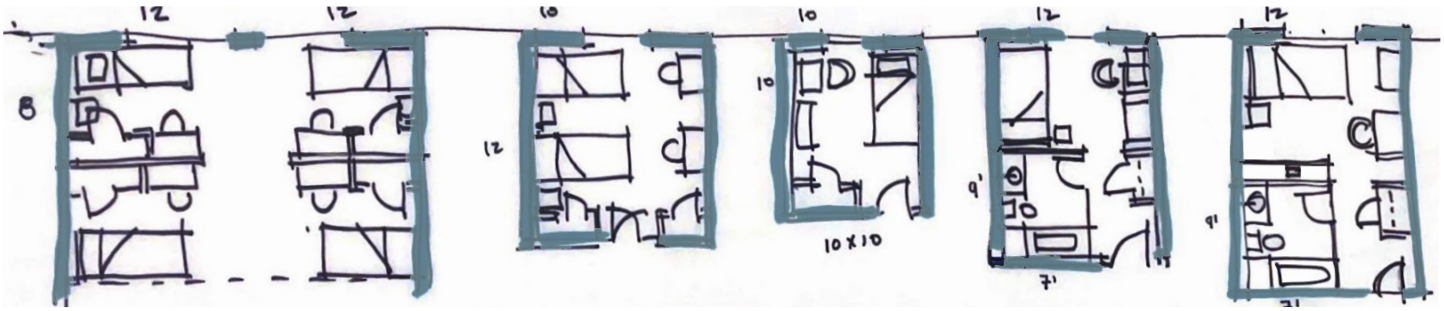


Figure 3.4. Administrative Space Corridor

3.1.3. Dorm to Studio Configurations

Early unit configurations were studied in order be later used in the right-size program. From the existing programming analysis and stakeholder interviews, it was understood that group home clients and staff prefer the single occupancy room or studio units with a private bathroom. This led to further discussion of kitchen in units while also providing a shared dining and kitchen area within each group home tenant. On the opposite end of this bar, for the shelters, a shared dormitory with four to eight beds becomes the most public option with shared bathroom layouts (see figure 3.5.). The bathroom options reflect the existing bathroom layouts in the Lindemann Mental Health Center and the current need for more privacy for its clients.

The following series of bedroom plans studies variations in layouts, which cater to the different tenants (Lindemann shelters and group homes) and site options. If a renovation of the existing Lindemann Building is expected, the longer bedroom layouts may fill corners and narrower spaces of the floor plates.(See figure 3.6.). For building efficiency, a wider building footprint will be beneficial for common client spaces, the longer and narrower bedrooms will allow for smaller circulation spaces in these residential areas. As additional site options are studied, different building perimeters will allow for different room configurations. For example, a larger site, such as a state-owned campus site will give the opportunity to utilize bigger bedroom layouts, whereas a Downtown site may require smaller bedroom footprints.



Dorm:
- Multiple Beds: 4-8 Beds
- 80 SF / Bed

Double:
- 2 Beds
- 60 SF / Bed

Single:
- 1 Bed
- 100 SF / Bed

SRO:
- 1 Bed
- 120 SF / Bed

Studio w/ Kitchen:
- 1 Bed
- 250 SF / Bed

Shared Bathroom Options:
- Groups of WC and Groups of Showers
- Individual WC + Individual Shower
- Private WC + Shower Pods

Private Bathroom:
- WC + Shower

Figure 3.5. Dorm to Studio Configurations

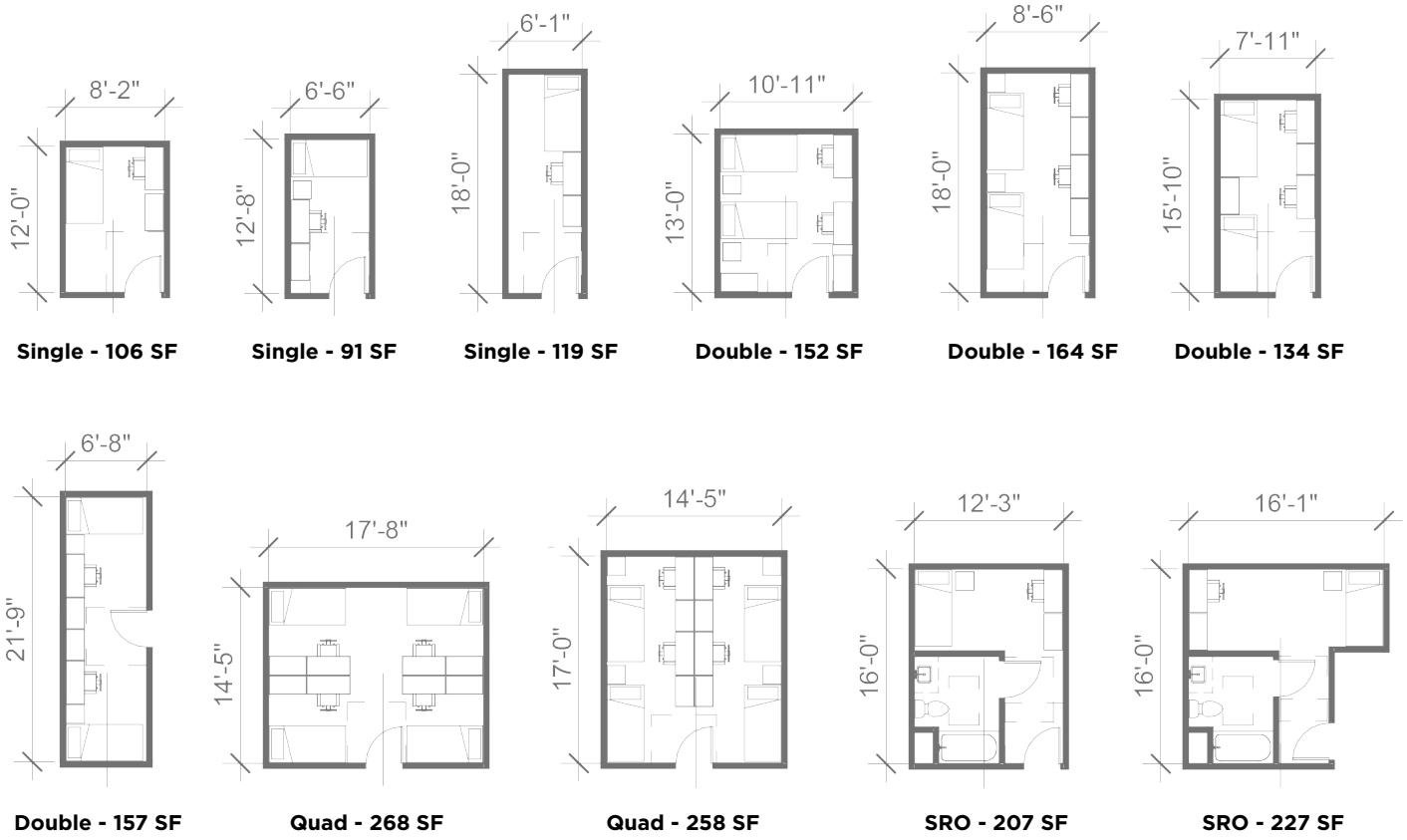


Figure 3.6. Bedroom Variations

3.2. Right-Sized Program

The proposed right-sized program consists of the common outdoor and indoor spaces, administrative support offices, shelters, and group homes. The DMH central offices were taken out of the tabulation and analysis, this results in a total 89,420 square feet of proposed space (see figure 3.7.). A total of 11,420 square feet is the difference between the proposed and existing programming (not including the DMH central offices). For the administrative offices, the design team reduced the number small offices and inefficient lobby spaces, the overly-sized corridors are also eliminated to allow for more space for conference/training rooms and shared cubicles. This reflects the discussion with the administrative offices staff during the interviews and the future of office occupancy. Additional spaces that were laid out efficiently include, secured entry lobbies with reception and waiting areas for the offices, separate restroom facilities for the clients and staff and properly spaced exam rooms for client care.

3.2.1. Residential Program

The total proposed residential program (shelters and group homes), results in 46,900 square feet, in comparison to the 40,300 square feet of existing programming (see figure 3.7.). This proposed number maintains the total 114 beds original to the existing programming.

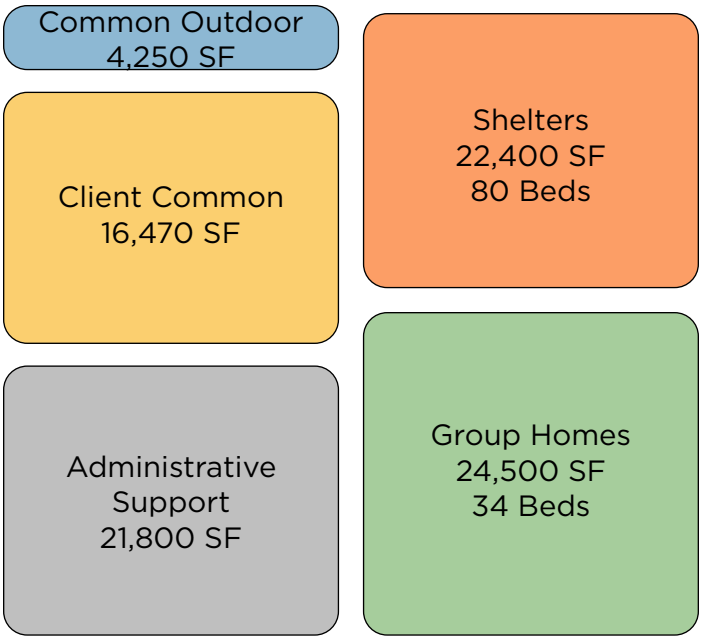


Figure 3.7. Right-Sized Program Tabulation

The slight increase of 6,600 square feet allows for dedicated staff spaces such as restrooms, meeting rooms, nurses' stations, lounges, locker rooms and proper secure entries for clients and staff. For the clients, in both the shelters and group homes, expanded and additional spaces include: kitchens with dining areas, common group rooms for socialization and training sessions, laundry facilities and outdoor recreational space. Cases, such as the Staniford House tenant, occupational therapy and quiet day rooms were maintained and correctly sized.

The private spaces such as the bedrooms and bathroom layouts differ between shelters and group homes. With a shorter stay for the shelters, an array of single, doubles and quadruple bedrooms are provided to serve the diverse population of clients in the Lindemann Inn Co-Ed Shelter. Similar layouts apply for the Women's shelter, with 20 beds divided into eight (8) single bedrooms and 6 (six) double bedrooms. The level of privacy applies for the bathroom facilities, groups of toilets and showers are provided in combination with individual toilet and showers for full accessibility in the shelters.

For the group homes: Staniford House, Greenway and Harbor House the bedroom and bathroom layouts fall under the single resident occupancy unit (SRO). This proposed right-sized program provides a single unit with a private bathroom. Properly sized kitchen, dining and laundry spaces, as previously discussed, will be provided in the common areas, to accommodate for the longer stay in the group home.

3.2.2. Common Client Spaces Program

Similar to the residential program, the changes to the common client spaces within are minimal but reflect and cater to all of DMH's goals and mission for its clients. Starting with the outdoor spaces, there is a 3,390 square feet decrease from the original 7,640 square feet. The reduced outdoor space is brought back into the program through the residential spaces, as previously stated, each residential tenant has dedicated outdoor space, previously not applicable to all tenants. Training spaces such as the HOPE center has increased in size to reflect the

comments and needs from the stakeholder interviews. New spaces within the HOPE center include, computer lab rooms to hold training sessions and host conferences. The cafeteria maintains its original occupancy (80 people) with back of house service spaces and dedicated client restrooms. The only space that is subject to change and varies per site constraints is the fitness center and gymnasium. Upon further study of the three site options, each option allows for either a full size basketball court or half its size. The total space for the client common spaces sums up to 20,720 square feet, for a scale comparison between the existing at 25,400 square feet and the proposed.

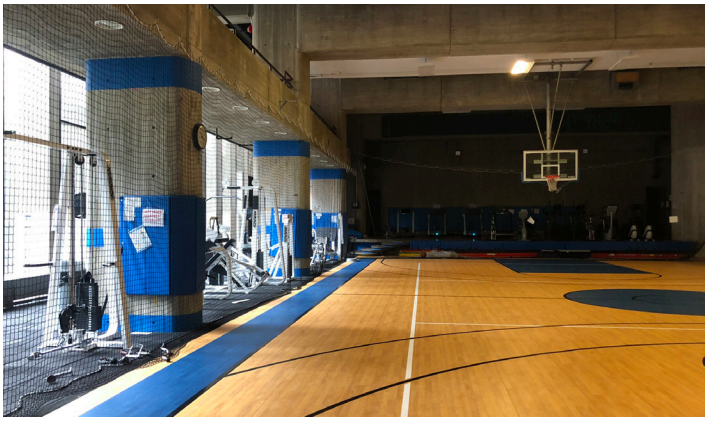


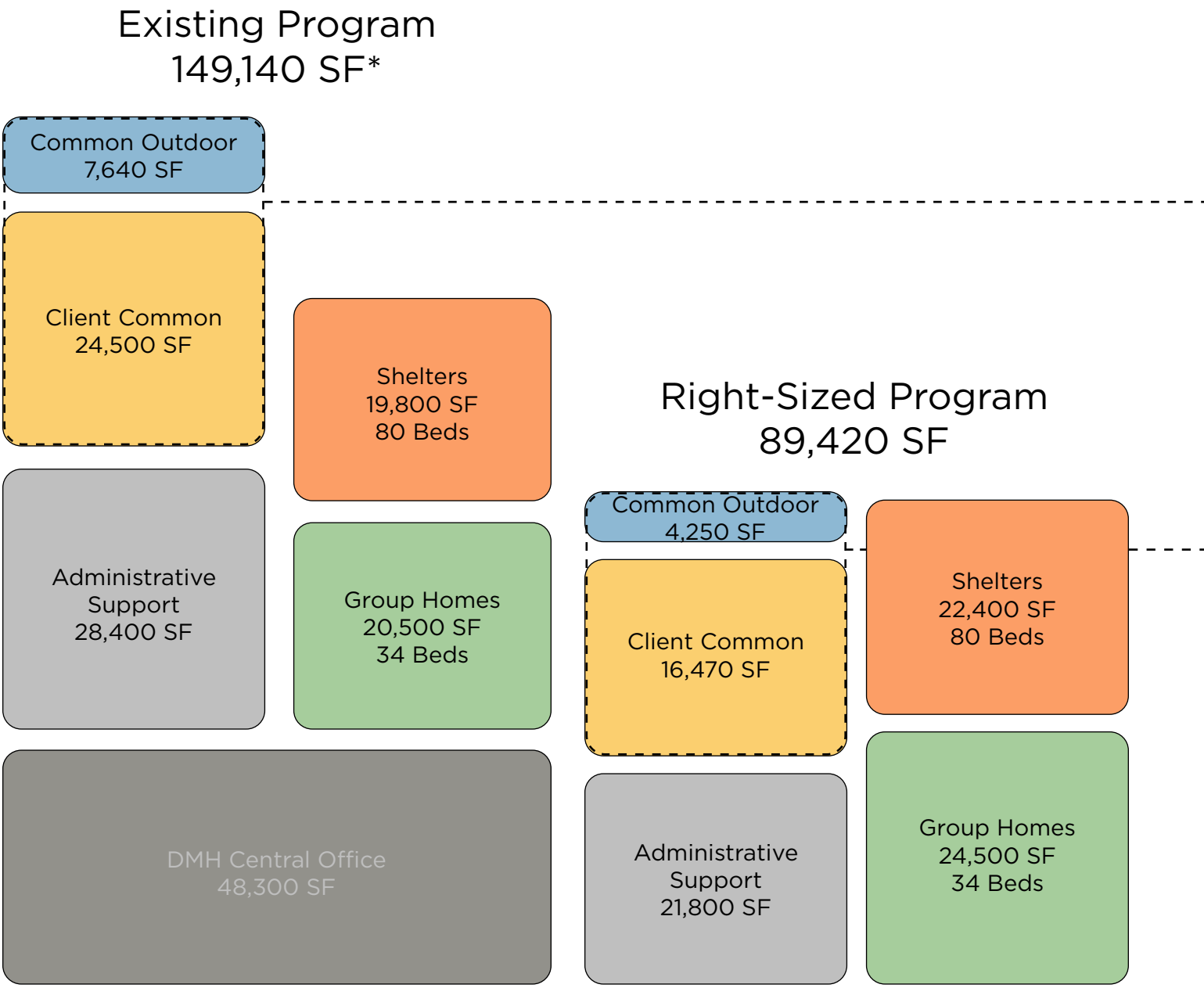
Figure 3.8. Existing Basketball Court



Figure 3.9. Existing Common Client Space

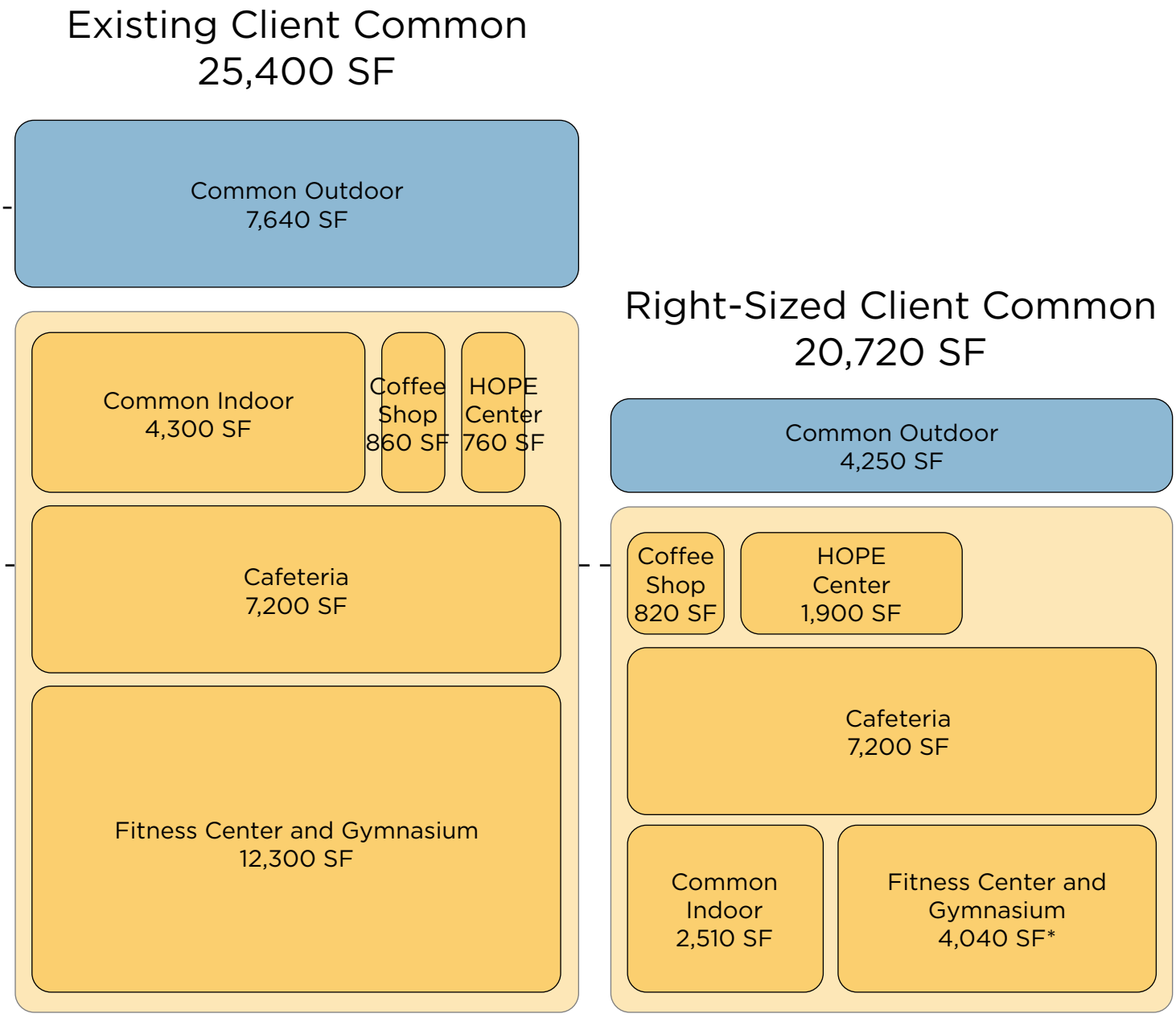


Figure 3.10. Existing Staniford House Outdoor Common Space



*Approximately 50,000 SF of circulation not included.

Figure 3.11. Existing and Right-Size Scale Tabulation Comparison



*Fitness Center and Gymnasium may vary per site constraints.

Figure 3.12. Existing and Right-Size Client Common Space Scale Tabulation Comparison

3.3. Adjacency Diagrams

The design team conducted further analysis of the proposed program with adjacency diagrams. The following diagrams organize the program by direct and indirect adjacencies, main entry points, and necessary sight lines into common spaces. Starting at the building entry, the space is equipped with a secure lobby to welcome staff and clients. Spaces in the lobby include search and waiting areas and on boarding areas for clients. Important adjacencies to the main building lobby include the police station and coffee shop, all to be located on the ground floor. From the on boarding and main lobby spaces, clients and staff have direct adjacency to the group homes and shelters. Two additional diagrams are illustrated for the shelter and group home prototype (see figure 3.13.). At the secure lobby entrance, each client or staff has direct access to the common indoor or outdoor spaces and the bedroom areas. Access to the dedicated staff spaces, such as locker rooms, restrooms and offices are shown to be secured through the lobby

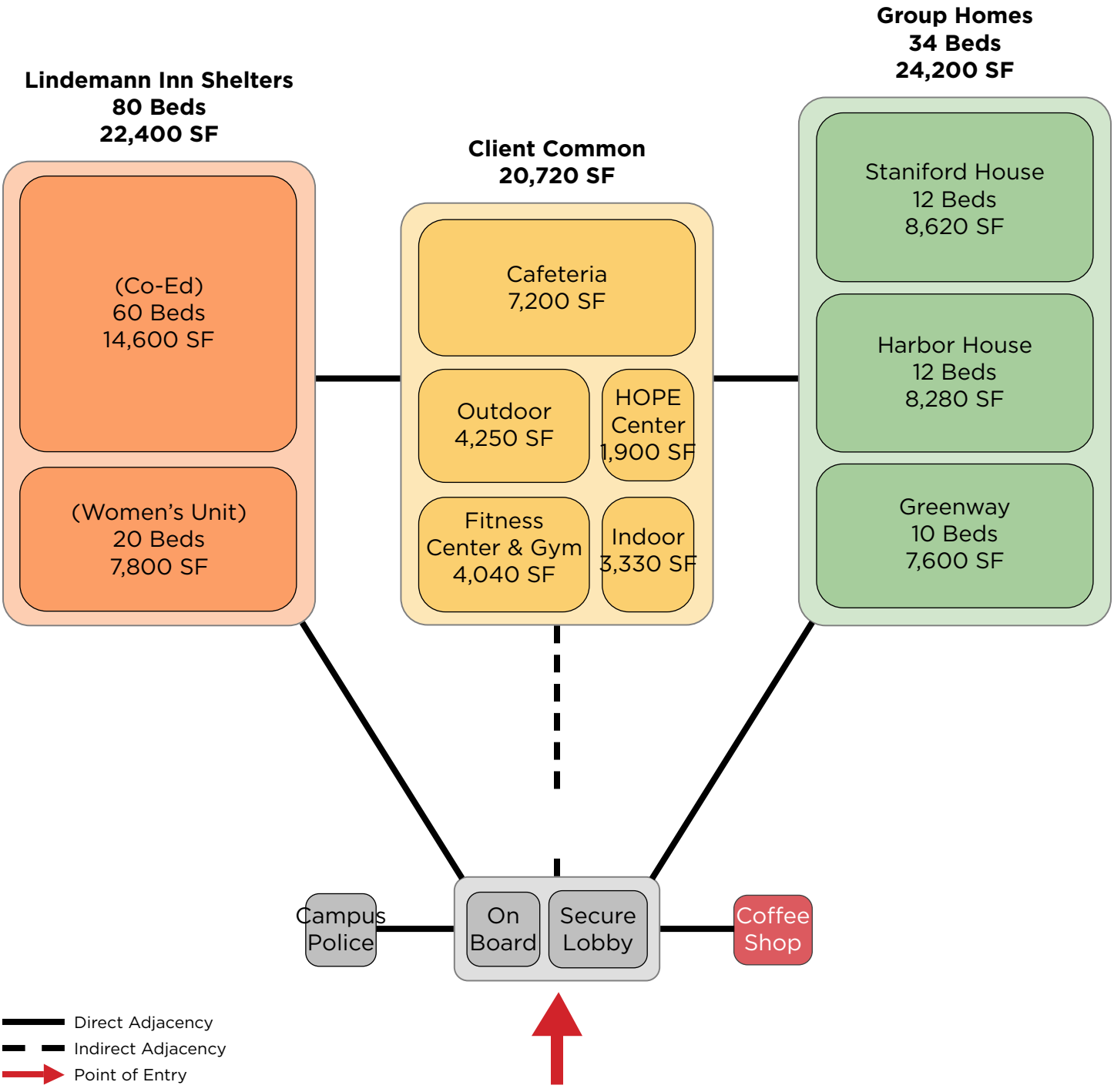


Figure 3.13. Building Adjacency Diagram

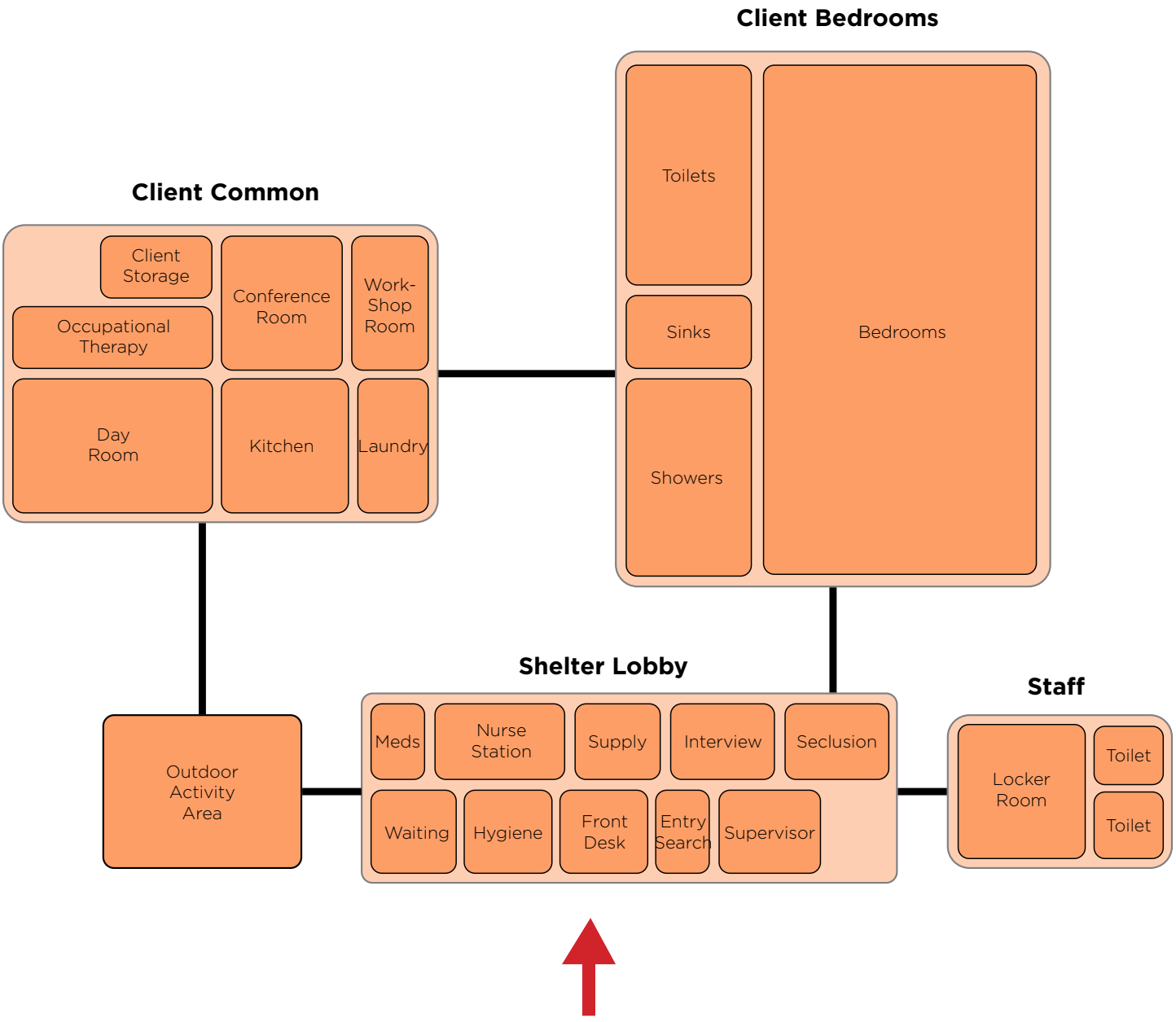


Figure 3.14. Shelter Prototype Adjacency Diagram

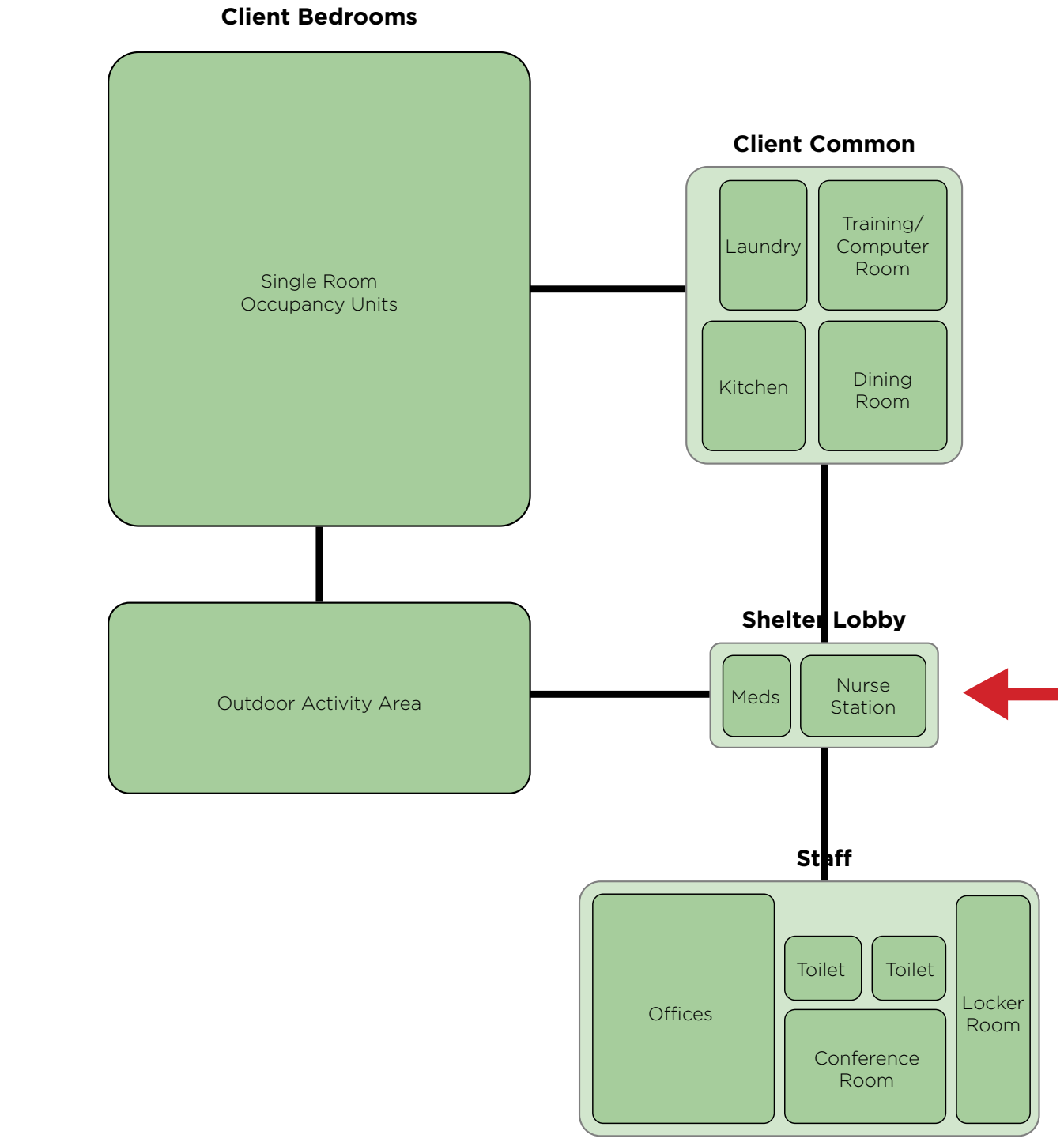


Figure 3.15. Group Home Prototype Adjacency Diagram





04

RECONFIGURED LINDEMANN

Due to its status as a landmark building needing preservation and protection to the established community that is existing at this downtown location, the design team recommends a full renovation and reconfiguration of the Lindemann building. This stems from a thorough alternate site investigation and stakeholder workshops, which resulted in a consensus to maintain the DMH programming in its original location. Maintaining the programming in its downtown location stands in line with the original DMH mission.



Figure 4.1. Existing Stair in Lindemann Building Connecting the Ground, Mezzanine and Plaza Levels



4.1. Reconfigured Lindemann

Reconfigured Lindemann recommends a relocation of the right-sized program within the existing building. From the ground level to the fifth level, all seven levels will be gut renovated, this includes demolishing all interior partitions to make room for the new floor plan layouts, inviting sunlight into the building and ease of way-finding. This reconfiguration of the building meets all program requirements along with MAAB ones.

4.1.1. Existing Analysis

Initial existing analysis was conducted throughout all seven levels (see figures 4.7.-4.26.). Major design points that were studied include, closed entrances/access, non-accessible spaces such as restrooms and the Boston Conference Area and lack of sunlight throughout the floor plan. The design team also identified potential demolishing of interior partitions which would not affect the structure and whose materiality is not concrete. Existing common outdoor spaces are also identified for the purpose of maintaining or opening access to these.

4.1.2. Ground Level to Plaza Level Reconfiguration

Given the existing conditions of the ground level and inactivity of the Merrimac Plaza, the design team focused on placing most of the common client spaces on this level. Along with street scape improvements, the relocation of training spaces such as the coffee shop and the HOPE center will promote ground floor activity. Maintaining the fitness center and gymnasium on this level will support the overall mission of recovery engagement for its clients. A new entrance to the building will be located on Merrimac Plaza (see figures 4.2-4.4), equipped with an on boarding space and security desk. Important existing design elements, such as the grand staircase, is utilized to promote activity between the ground and plaza levels. The use of this staircase or new elevator, will take the client, staff or visitor through the main common spaces and administrative services offices (see figure 4.2.). At the mezzanine level, the second DMH entrance is located adjacent to the Cafeteria and main common outdoor space. The Boston Conference room keeps its original location on the plaza level, accompanied by newly located administrative service offices such as Adult Community Clinical Services.

4.1.3. Levels Two to Five Reconfiguration

The upper four levels are designed to host the residential tenants. The Lindemann Inn Shelters (Women's Unit and Co-Ed) are placed the east wing from the second to fourth level. This configuration allows each shelter to have dedicated elevators opening up to the lobbies.

The group homes and potential new group living environment tenants are placed on the west wing. The same concept of dedicated entries and circulation is applied to these tenants. The new elevator will serve a common lobby on each level, additional circulation is provided by the use of the existing stairs at each end of the floor plate. The demolition of the interior partitions allows for sunlight to run through each tenant space and easier way-finding opportunities. The existing Lindemann floor plates on these levels give opportunity for each unit and group home common spaces to receive sunlight. The design of the single residency occupancy unit results in a long unit housing a sleeping space and private bathroom.

The fifth level maintains the Lindemann Site Offices with circulation serving along the south side providing access to outdoor terrace space and the chapel. The demolition of the interior partitions allow for sunlight to run through the offices and logical access to mechanical spaces.



Figure 4.2. Existing Ground Level Conditions on Staniford Street



Figure 4.3. Ground Level Entrance Idea:
Wistar Institute Vestibule by Ballinger, Philadelphia, PA

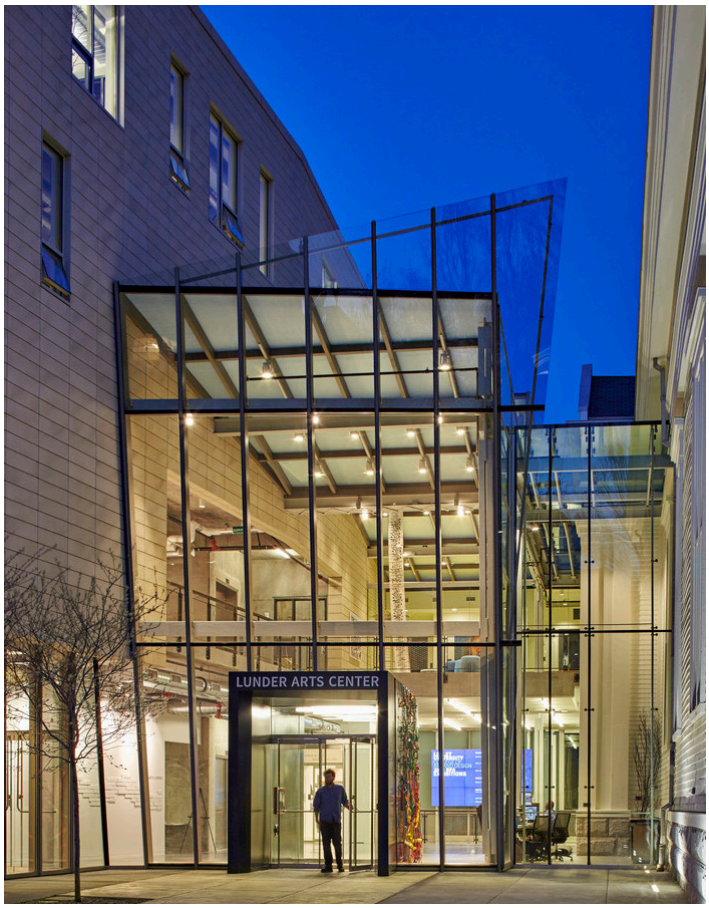


Figure 4.4. Ground Level Entrance Idea:
Lunder Arts Center by Bruner/Cott & Associates, Cambridge, MA

4.2. Existing Building Programming Overview

To understand the difference between the existing layout and the potential reconfiguration of the Lindemann building, below is an overview of the existing programming layout in the building. A significant portion of the ground level houses building common spaces such as maintenance and mechanical rooms, the rest of the space is utilized by the DMH central offices, the cafeteria for an 80 person capacity and the fitness center and gymnasium. The mezzanine level has a similar programming to the ground floor, DMH central offices and additional lobby and circulation space fill the floor plate. On the plaza level, the Boston conference room is located adjacent to administrative service offices such as NAMI, the Homeless Outreach Team and HOPE Center. DMH central offices continue to be housed up to the fourth level. Group homes and shelters are located starting at the Plaza level up to level four.

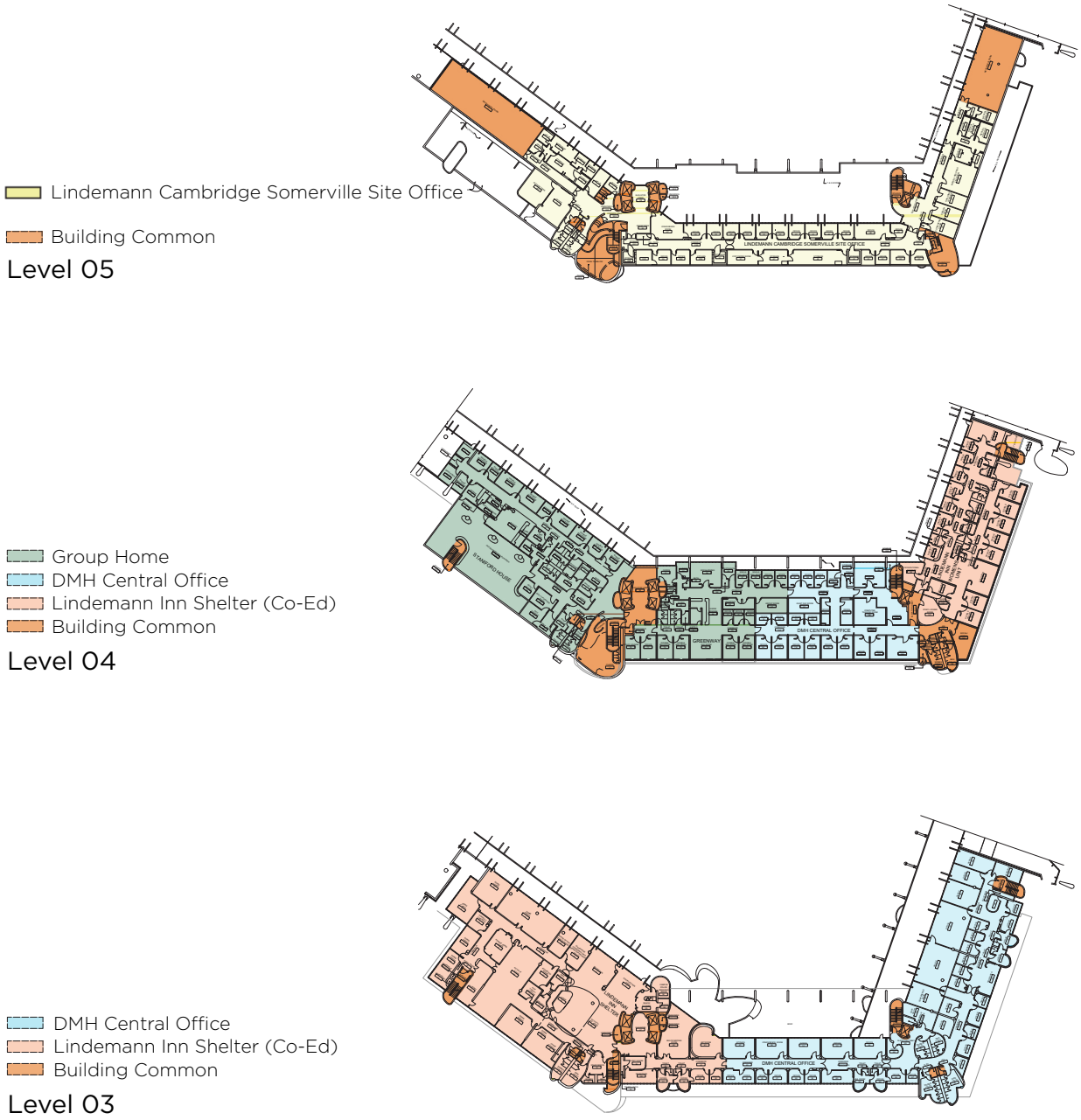
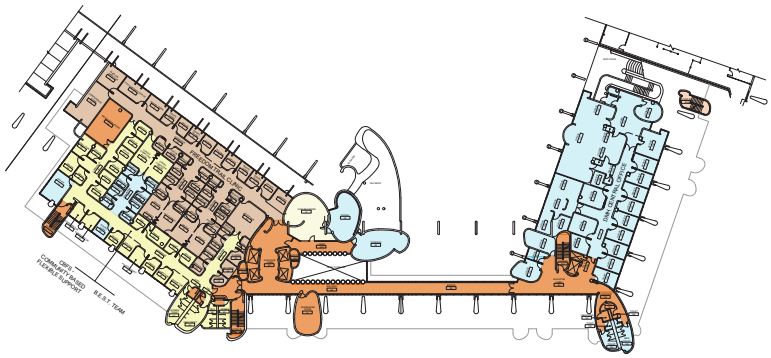
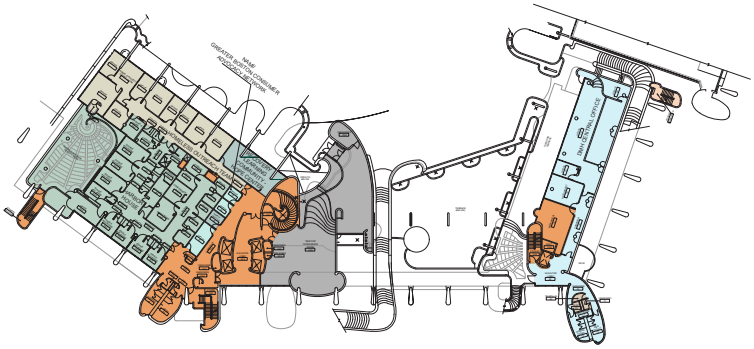


Figure 4.5. Existing Building Plans Overview (Level 03 - Level 05)



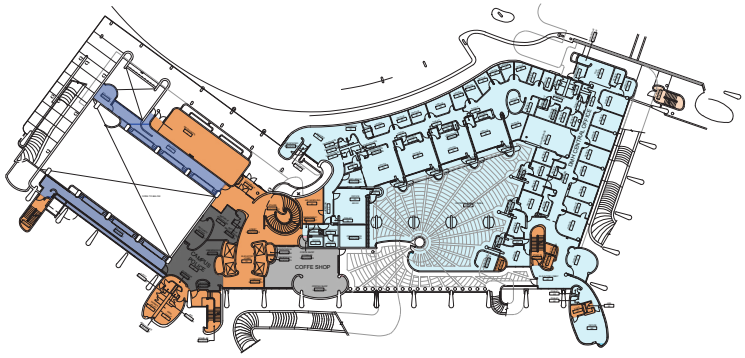
- DMH Central Office
- Freedom Trail Clinic
- Community Based Flexible Support
- Building Common

Level 02



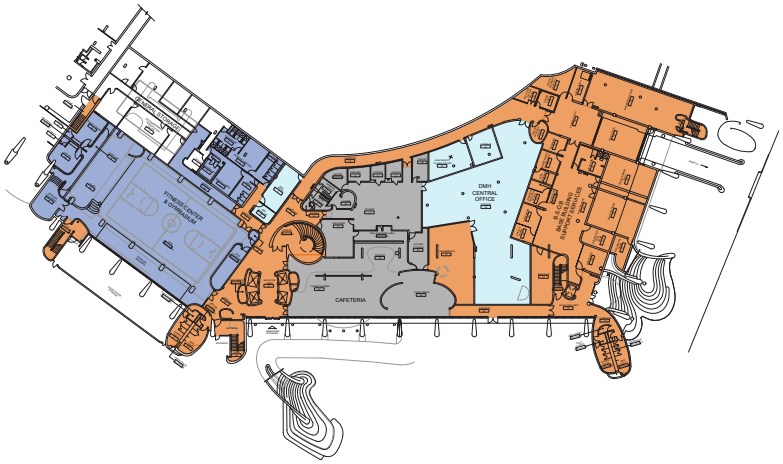
- Client Common Indoor
- NAMI
- Homeless Outreach Team
- HOPE Center
- Group Home
- DMH Central Office
- Building Common

Plaza Level



- Client Common Indoor
- DMH Central Office
- Fitness Center & Gymnasium
- Building Common

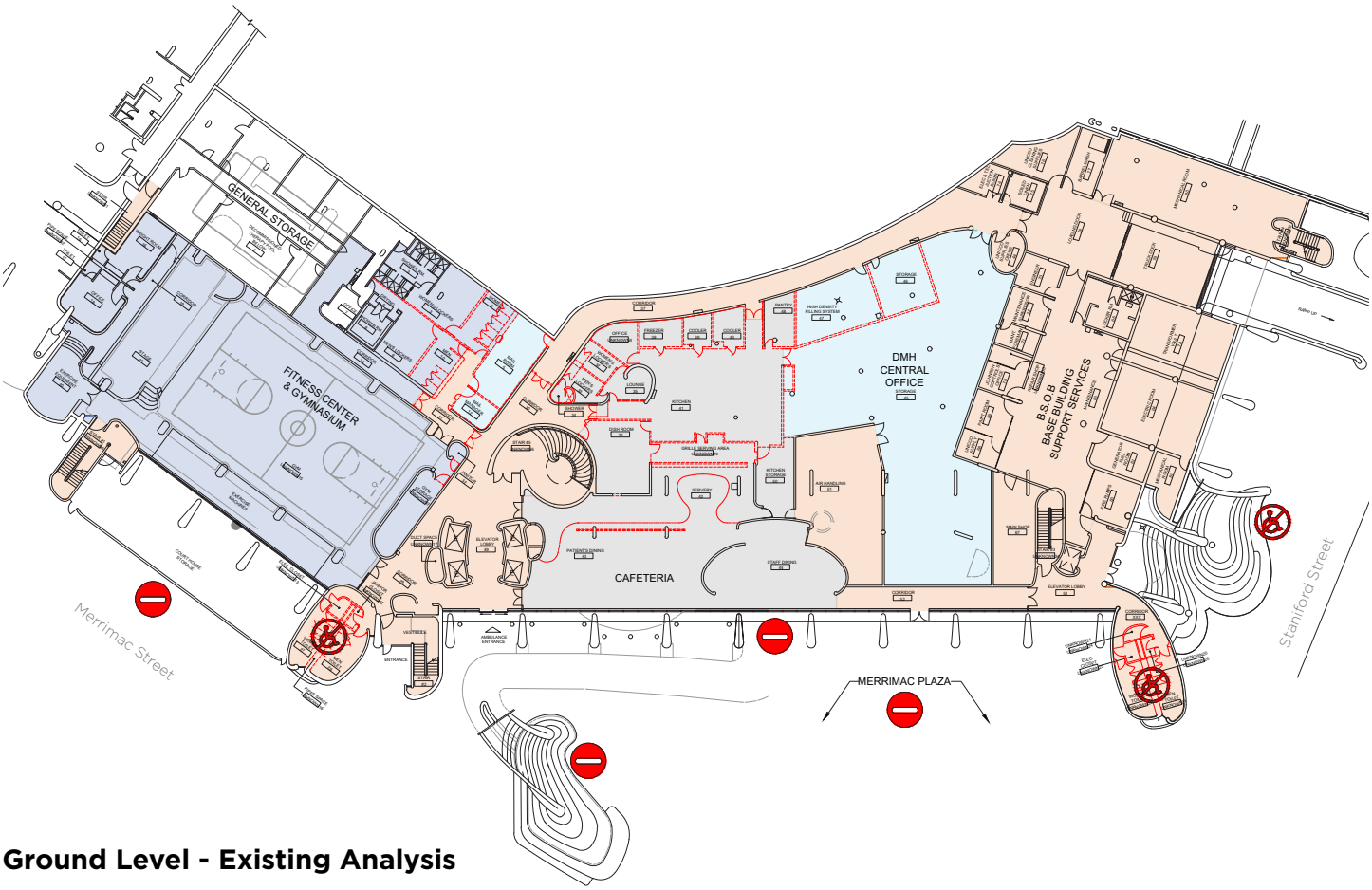
Mezzanine Level



- Client Common Indoor
- DMH Central Office
- Fitness Center & Gymnasium
- Building Common

Ground Level

Figure 4.6. Existing Building Plans Overview (Ground Level - Level 02



Ground Level - Existing Analysis

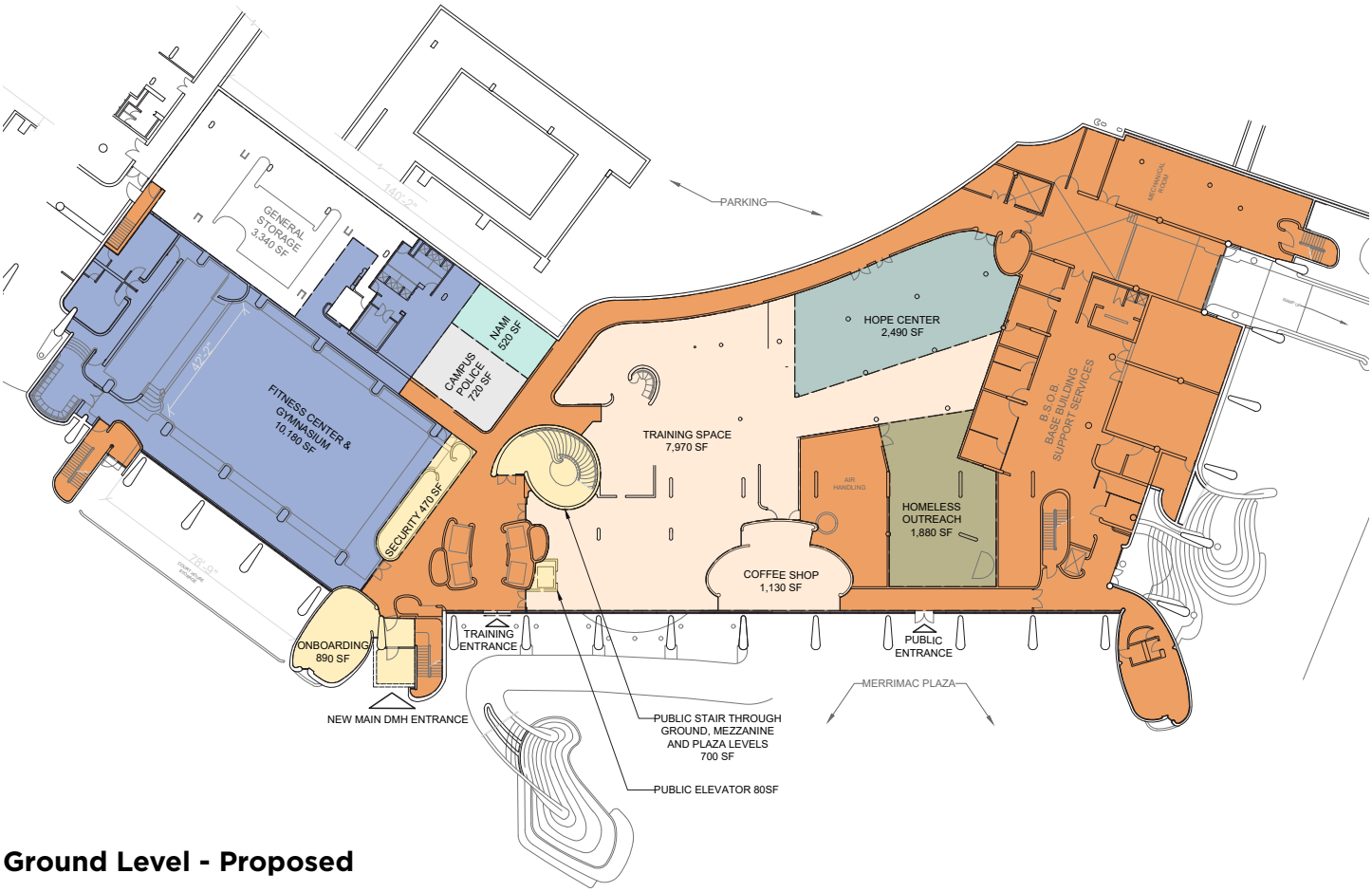
- Client Common Indoor
- DMH Central Office
- Fitness Center & Gymnasium
- Building Common
- Non-Load Bearing Walls May be Removed
- No Entry
- Not Accessible

Figure 4.7. Ground Level Existing Analysis Plan

- A majority of the building's mechanical systems are housed on the ground floor.
- Lack of access throughout Merrimac Plaza and Staniford Street. No access to Cafeteria from the Plaza.
- Grand Stairs are not accessible due to structural concerns.
- Gym entrance is enclosed by a perimeter fence.
- Multiple restrooms lack accessibility including turning radius, fixture counts, doorknobs and light switches that do not meet ADA requirements.



Figure 4.8. Existing Lindemann Building Spaces on Ground Level (From Left to Right): Merrimac Plaza, Cafeteria

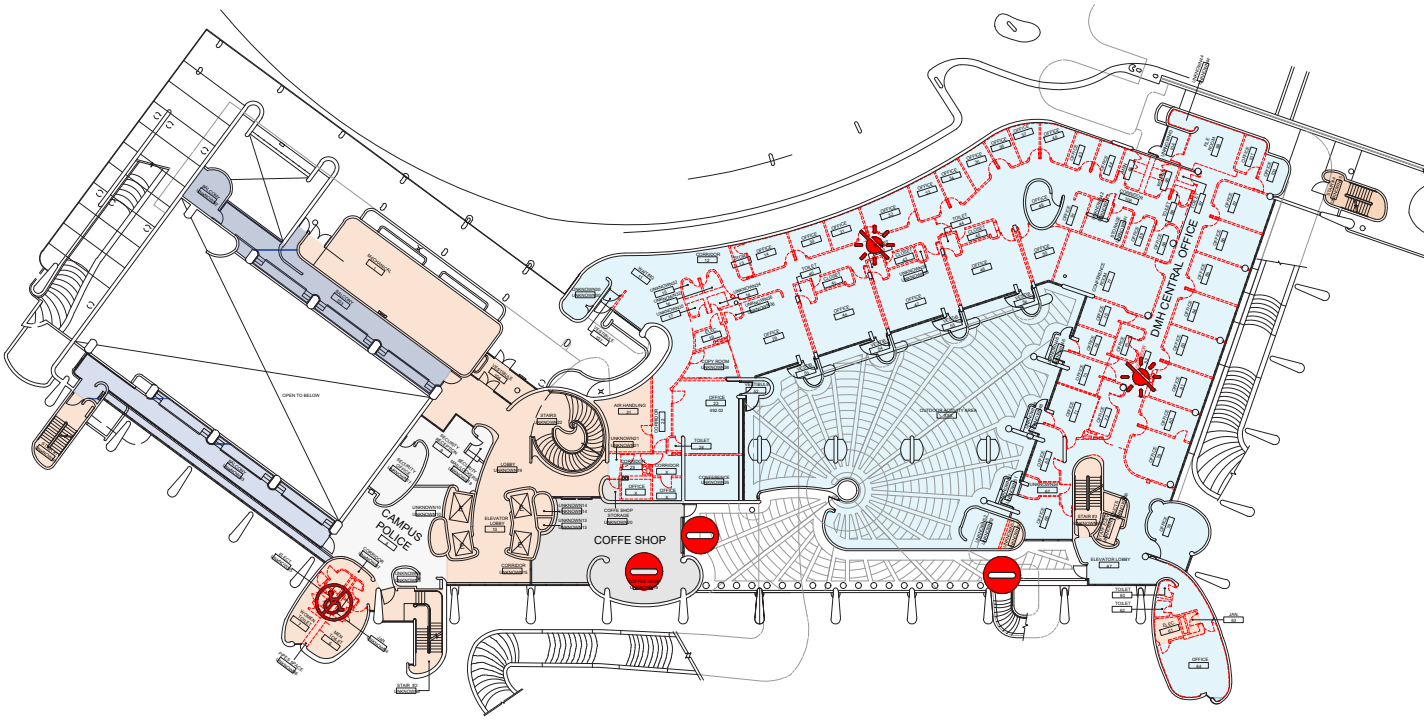


Ground Level - Proposed

- HOPE Center
- NAMI
- Homeless Outreach
- Building Common
- Fitness Center & Gymnasium
- DMH Circulation and Entrance
- Campus Police
- Client Common Indoor - Training Space
- Client Common Indoor - Coffee Shop

Figure 4.9. Ground Level Proposed Plan

Reconfiguration of the program results in placing training spaces on the ground level and maintaining the fitness center and gymnasium at their existing location. Majority of the circulation and maintenance spaces are maintained, while circulation components such as the spiral staircase and a new elevator (in yellow) are utilized for ease of access throughout the ground, mezzanine and plaza levels. Also, in yellow, is the proposed DMH entrance, located between the stairs adjacent to the grand outdoor stairs. Support spaces for the entrance lobby are placed in direct adjacency to the on boarding, elevator lobby and main staircase spaces, these include a security desk and campus police offices.



Mezzanine Level - Existing Analysis

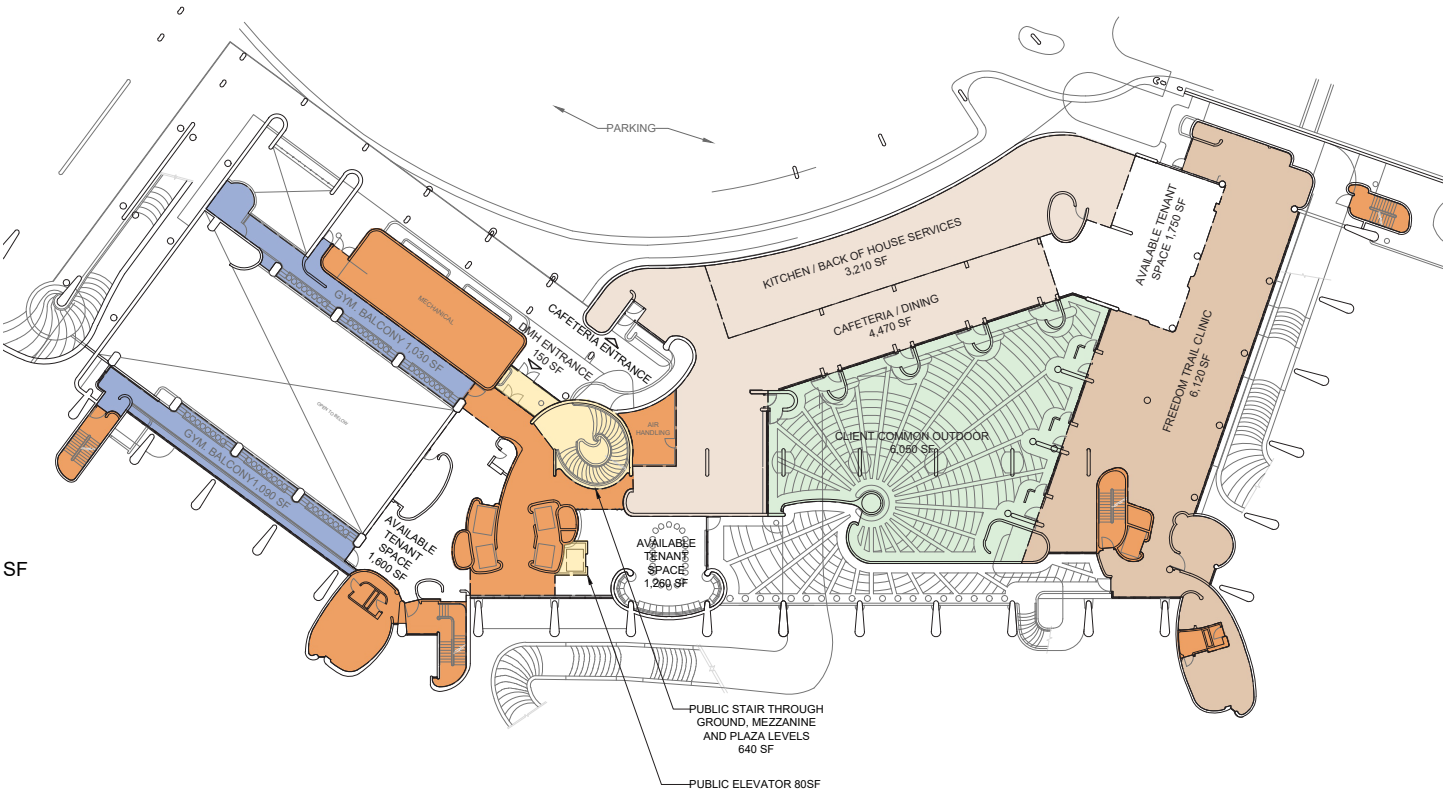
- Client Common Indoor
- DMH Central Office
- Fitness Center & Gymnasium
- Building Common
- Non-Load Bearing Walls May be Removed
- No Entry
- Not Accessible
- No Sunlight

Figure 4.10. Mezzanine Level Existing Analysis Plan

- One training space (currently closed due to funding), the coffee shop is located adjacent to the DMH offices and outdoor space.
- Limited access to main outdoor space, only accessible through DMH Central Offices spaces.
- Little to no sunlight through hallways, multiple partitions result in small offices, difficult way-finding and limited access to outdoor space.
- The design team recognizes this level to provide a great opportunity for community building and implementing the DMH mission of integration of its clients to the community.



Figure 4.13. Existing Lindemann Building Spaces on Mezzanine Level (From Left to Right): Main Outdoor Area, Coffee Shop



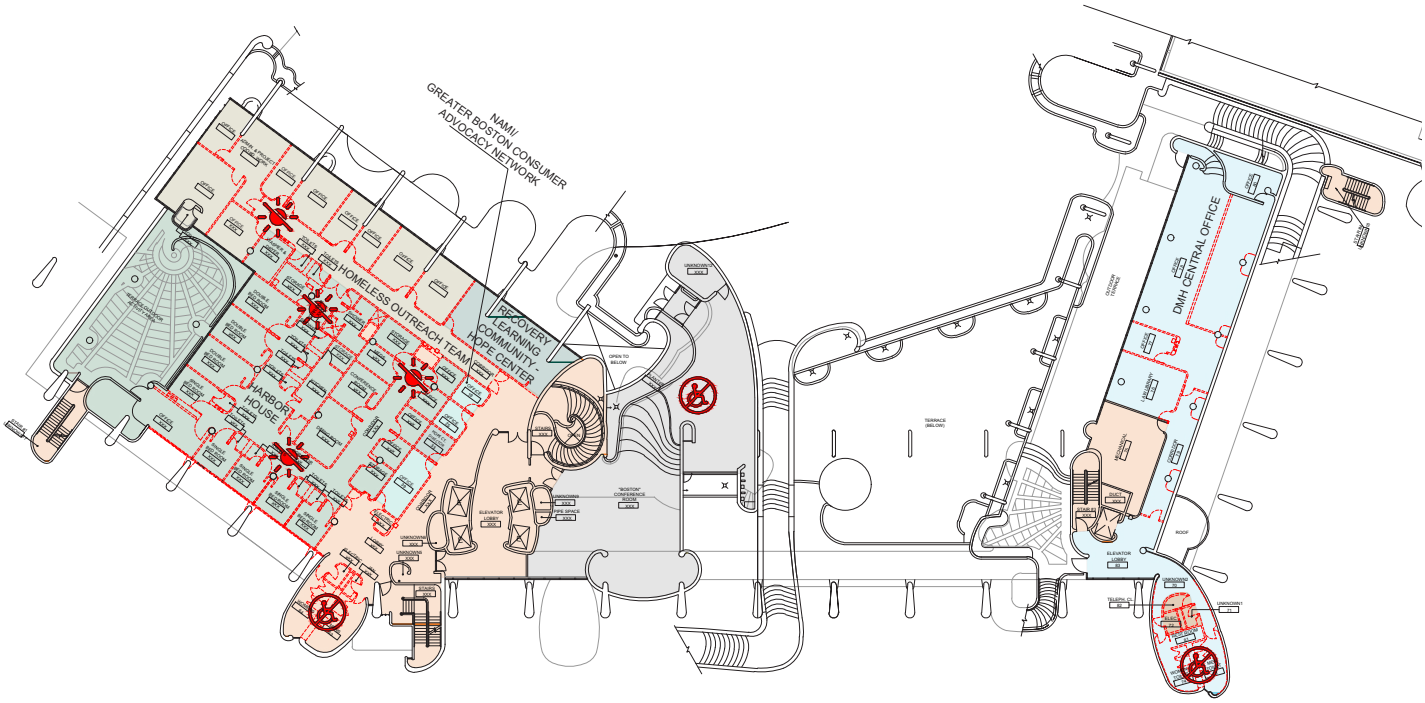
Mezzanine Level - Proposed

- DMH Circulation and Entrance
- Client Common Indoor - Cafeteria
- Client Common Indoor - Kitchen / Back of House Services
- Freedom Trail Clinic
- Building Common
- Fitness Center & Gymnasium
- Client Common Outdoor

Figure 4.12. Mezzanine Level Proposed Plan Analysis

Spaces maintained on this level include the Fitness Center and Gymnasium balcony, the common lobby servicing the elevators and central stair, the centralized outdoor space and the existing DMH entrance. The program reconfiguration places key client common spaces on this level which include the Cafeteria and Dining space, along with Kitchen/Back of House Services adjacent to the main DMH entrance. The Coffee Shop space is reconfigured to be available tenant space for future training space or an additional client common space that opens to the common outdoor area. The Freedom Trail Clinic is also relocated on this level to create a seamless integration and adjacencies of common client spaces and service offices.

As previously mentioned, this level provides opportunity for key client and community engagement, existing elements such as the DMH entrance on the north, central staircase and outdoor space, work together to create easy way-finding, access and synergies between the spaces.



Plaza Level - Existing Analysis

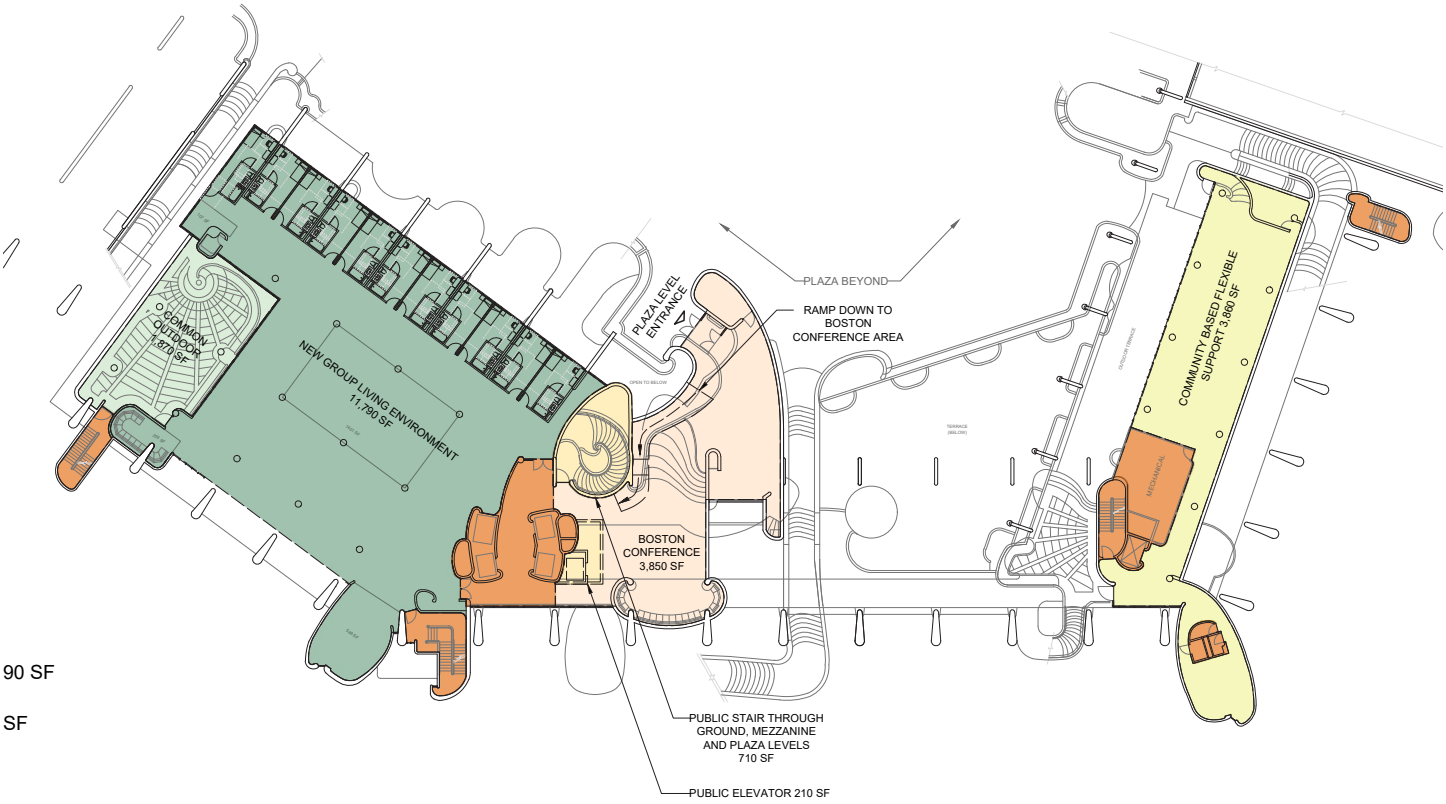
- Homeless Outreach Team
- HOPE Center
- Group Home
- DMH Central Office
- Building Common
- Client Common Indoor
- NAMI
- Non-Load Bearing Walls May be Removed
- Not Accessible
- No Sunlight

Figure 4.14. Plaza Level Existing Analysis Plan

- Central staircase reaches the Plaza level to connect directly into the Boston Conference Room.
- Partition walls divide Harbor House and the Homeless Outreach Team offices, creating dark corridors and limited access to outdoor space for all.
- Lack of accessibility is noted in the restrooms spaces as well as the Boston Conference Room Courtyard entrance, a series of steps leading into the main conference room space is the only entrance available from this end.



Figure 4.16 Existing Lindemann Building Spaces on Plaza Level (From Left to Right): Offices Hallway, Restrooms

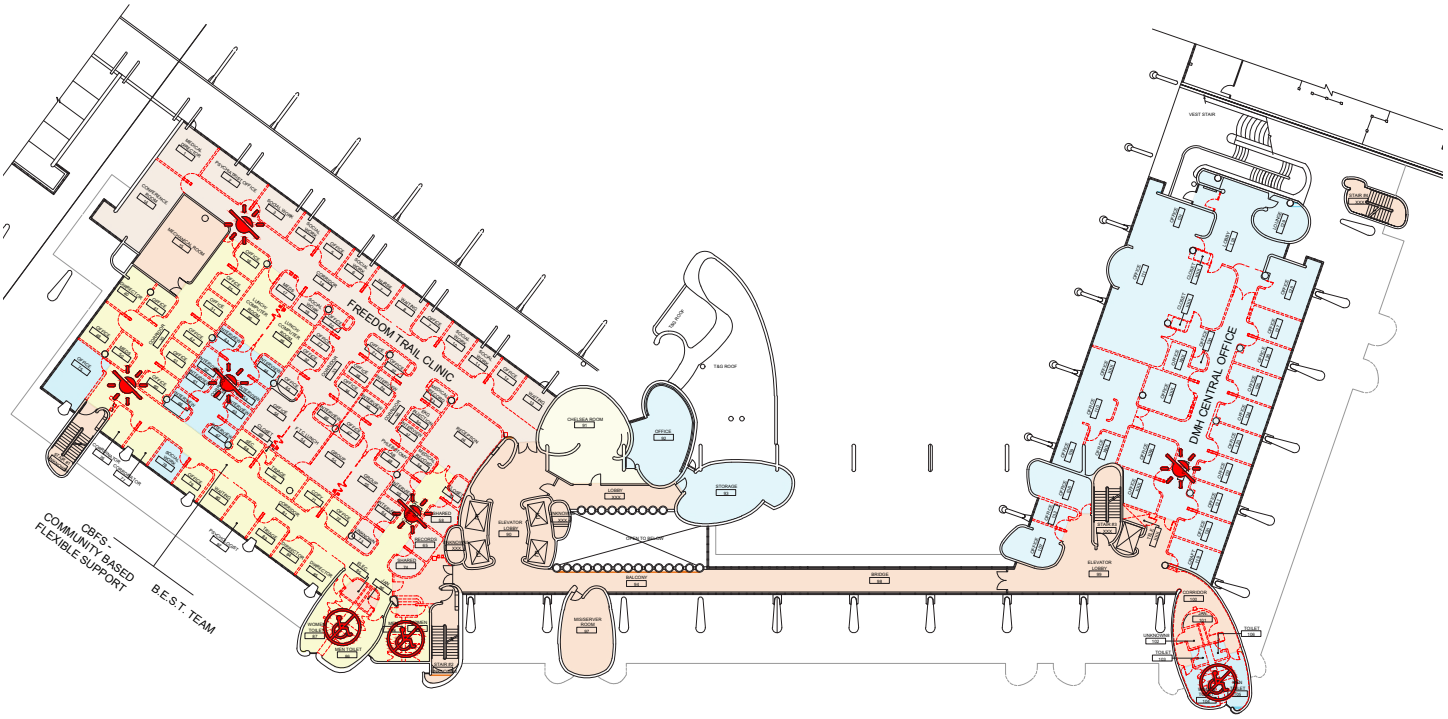


Plaza Level - Proposed

- New Group Living Environment
- DMH Circulation and Entrance
- Client Common Indoor - Boston Conference
- Community Based Flexible
- Building Common
- Client Common Outdoor

Figure 4.15. Plaza Level Proposed Plan

The outdoor space on this level is maintained and becomes a common outdoor space accessible to staff and clients by eliminating the partition walls limiting its access. The administrative support office, Adult Community Clinical Services, is relocated on this level. The Boston Conference Room is maintained and made accessible with the integration of a ramp starting at the courtyard entrance. The west portion of this level becomes available for future group living environment tenants.



Level 02 - Existing Analysis

DMH Central Office

Freedom Trail Clinic

Community Based Flexible Support

Building Common

Non-Load Bearing Walls May be Removed

Not Accessible

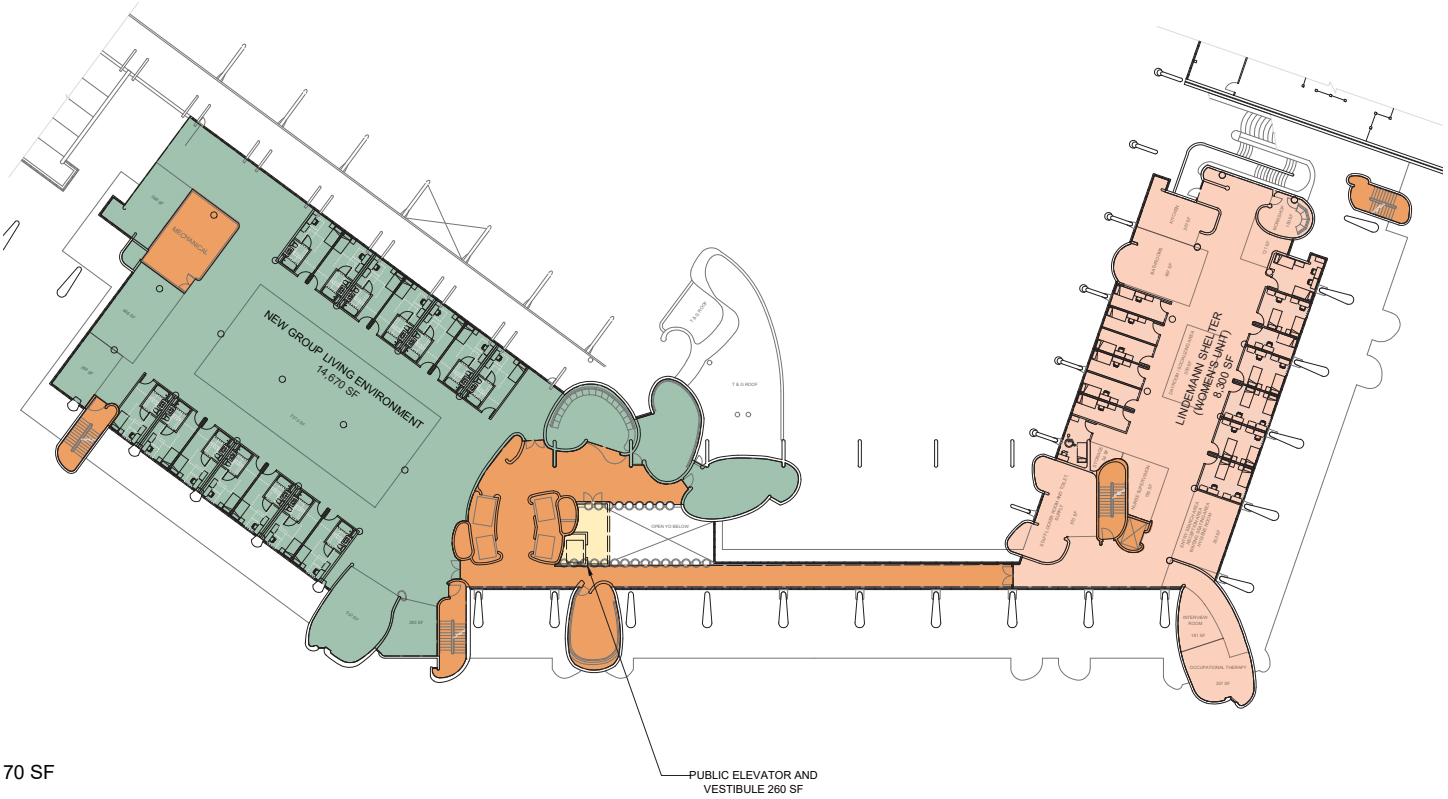
No Sunlight

Figure 4.17. Level 02 Existing Analysis Plan

- A large number of partition walls divide the administrative service offices and DMH Central offices, resulting in small office spaces, inefficient conference room layouts and exam rooms with poor space for necessary equipment.
- Way-finding becomes confusing due to the dark corridors and office layout.
- Common restrooms are not accessible and there is little to no distinction between staff and client restrooms.



Figure 4.19. Existing Lindemann Building Spaces on Level 02 (From Left to Right):Steps leading up to Restrooms, Dark Corridor



Level 02 - Proposed

New Group Living Environment

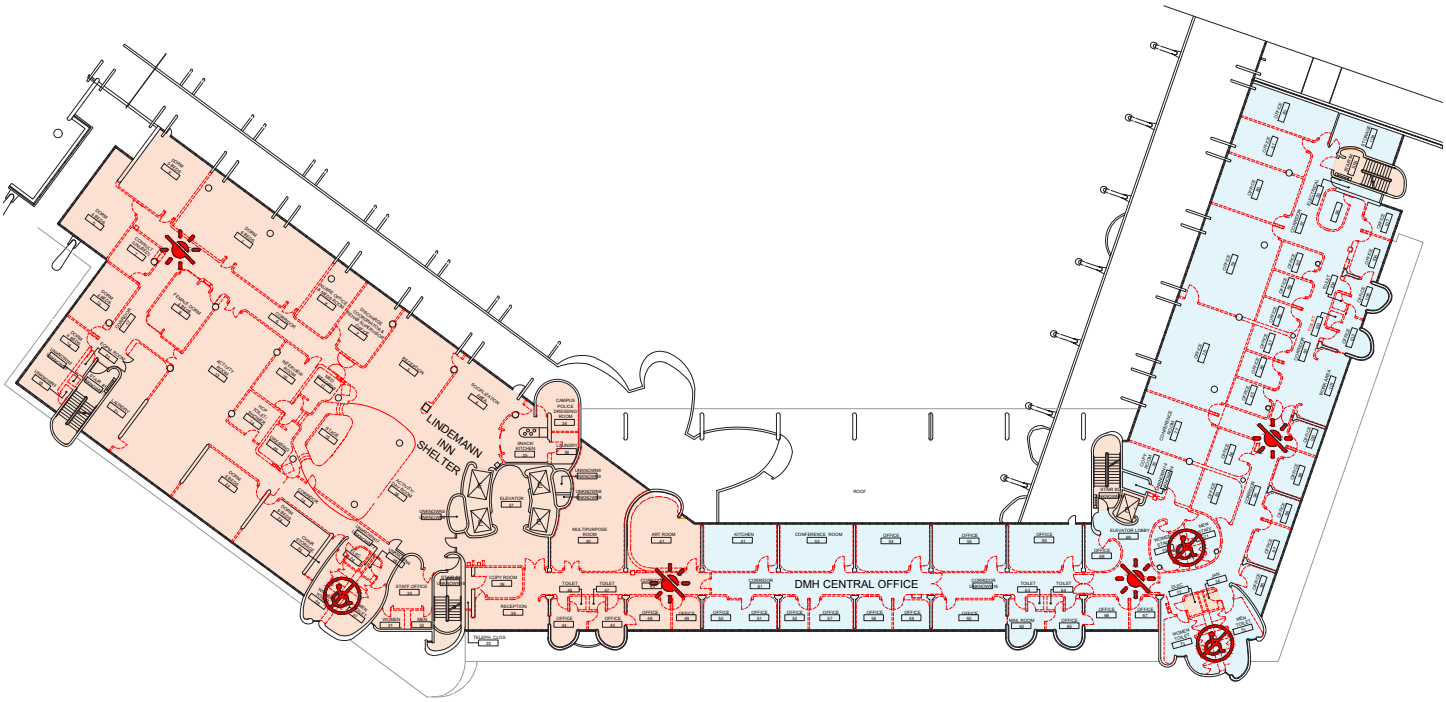
Lindemann Shelter (Women's Unit)

DMH Circulation and Entrance

Building Common

Figure 4.18. Level 02 Existing Plan

Considering the reconfiguration of the first three levels housing the main common public spaces, the design team begins to lay out the residential spaces on this level. All partition walls creating a lack of sunlight and confusing way-finding are removed to create space for Lindemann Inn Shelter (Women's Unit) and an available space for a new group living environment tenant. The Women's Unit is located on the east wing housing 20 clients will have a dedicated elevator opening to its lobby with a secured entry. The free plan creates opportunity for efficient dormitory layouts with access to sunlight. Since the central staircase ends at the Plaza level, the public elevator (in yellow) continues to provide access throughout each level, giving clients and staff easy access to the common spaces below this level.



Level 03 - Existing Analysis

DMH Central Office

Lindemann Inn Shelter (Co-Ed)

Building Common

Non-Load Bearing Walls May be Removed

Not Accessible

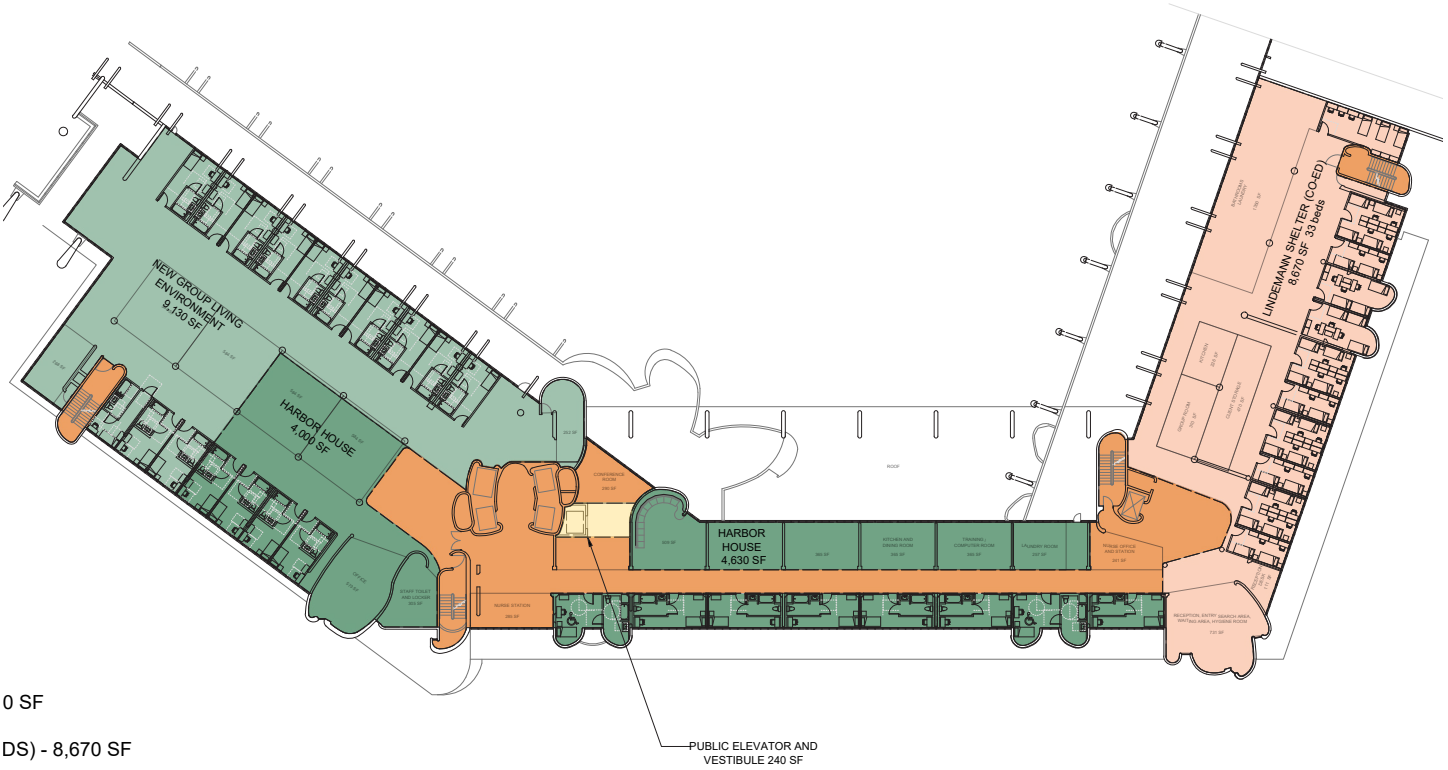
No Sunlight

Figure 4.20. Level 03 Existing Analysis Plan

- In the shelter, there are underutilized and inefficient spaces, such as the large activity/day room, reception area housing the nurse's station and stage area.
- On the east side, the DMH Central offices are divided into large and small offices, multiple of these offices do not have access to sunlight.
- The existing windows along the DMH Central offices perimeter are not well utilized, these windows are used exclusively for the large office spaces.



Figure 4.22. Existing Lindemann Building Spaces on Level 03 (From Left to Right): Shelter Laundry Facilities, Shelter Shared Dorm Area



Level 03 - Proposed

- New Group Living Environment
- Lindemann Inn Shelter (Co-Ed)
- Group Home
- DMH Circulation and Entrance
- Building Common

Figure 4.21. Level 03 Existing Plan

One group home is relocated on this level, Harbor House with 12 beds. With the removal of the partition walls, the free floor plan gives opportunity for this group home to have efficient unit layouts and common spaces all with access to sunlight. Additional space is available for a potential new group living environment. Harbor House and the potential new group living environment are placed on the west wing and central area of the plan, each tenant will have a dedicated secured entrance from the common lobby (in orange), and the hallways leading up to the units are to be equipped with common spaces such as laundry rooms, kitchen/dining areas and dedicated training/group spaces. Following the placement of the Women's Unit Shelter below this level, the Co-Ed Shelter is relocated starting on this level and ending on the fourth level. The shelter will house 60 beds and will have a dedicated lobby servicing both shelter levels.



Level 04 - Existing Analysis

Group Home

DMH Central Office

Lindemann Inn Shelter (Women's Unit)

Building Common

Non-Load Bearing Walls May be Removed

Not Accessible

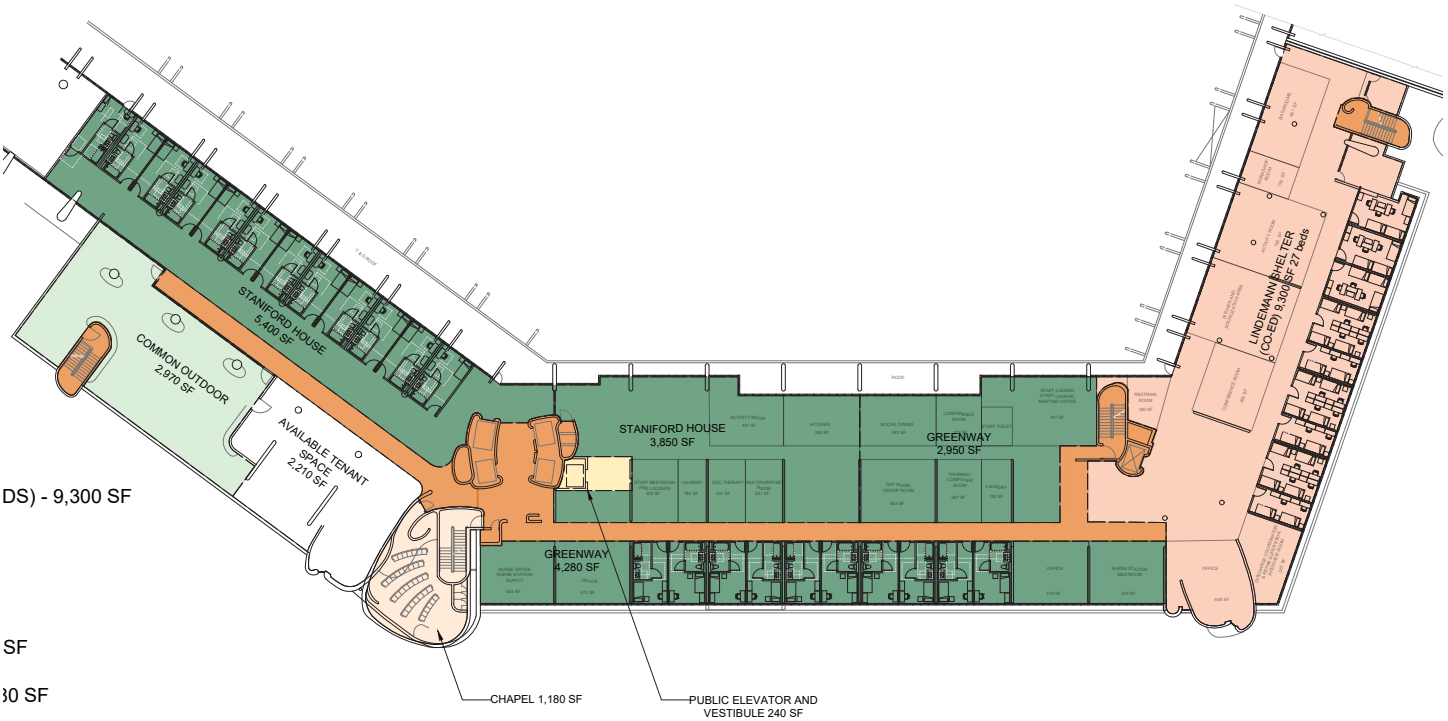
Not Sunlight

Figure 4.23. Level 04 Existing Analysis Plan

- The Chapel, on of the main common indoor space is located on this level, accessible through a series of steps.
- The third common outdoor space is only accessible through Staniford House, therefore the design team identified partition walls to be potentially removed to provide equal access to this amenity.
- A series of partition throughout the plan once again creates a lack of sunlight.



Figure 4.25. Existing Lindemann Building Spaces on Level 04 (From Left to Right): Group Home Hallway, Staniford House Outdoor Space

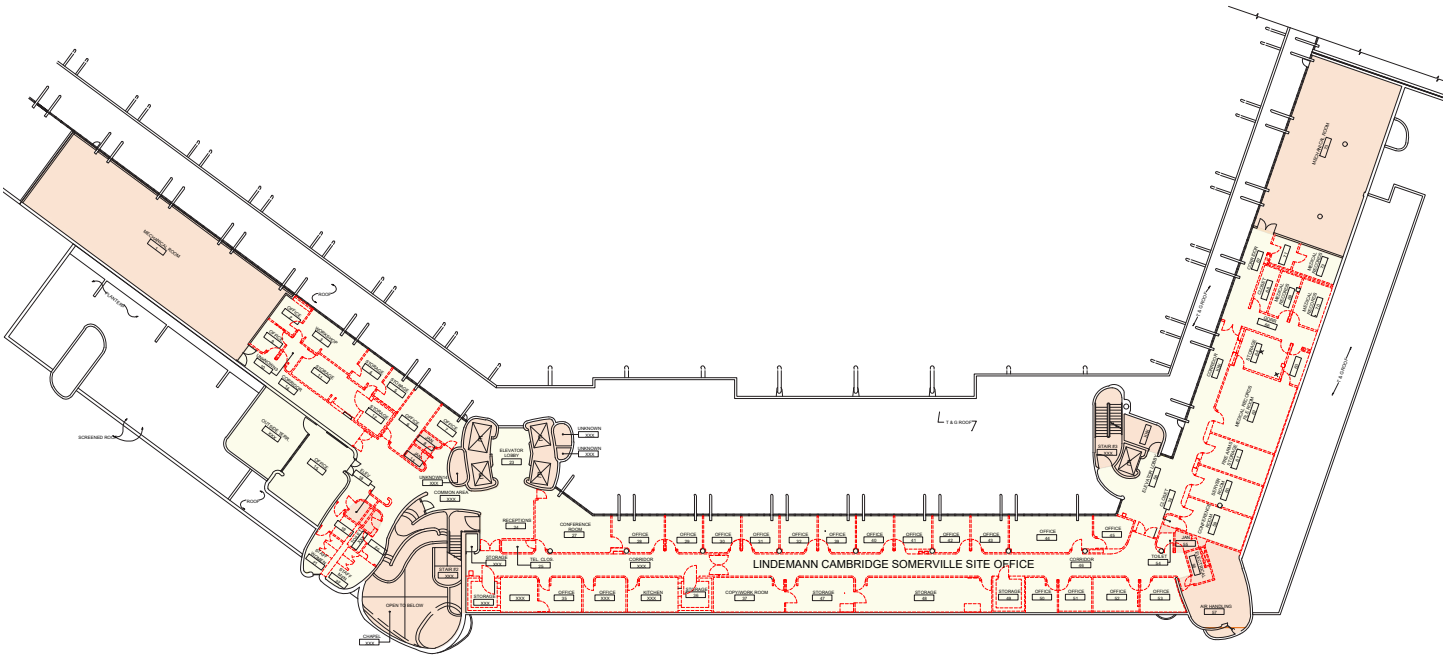


Level 04 - Proposed

- Lindemann Inn Shelter (Co-Ed)
- Group Home
- DMH Circulation and Entrance
- Client Common Indoor - Chapel
- Building Common

Figure 4.24. Level 04 Existing Plan

Common spaces are located on the west wing of the plan, these include an outdoor space and the chapel which extends to the fifth level. A continuous hallway is carved out (in orange) to create new access opportunities to Staniford house and Greenway. On the east wing of the plan, the Co-Ed shelter is continued on this level.



Level 05 - Existing Analysis

Lindemann Cambridge Somerville Site Office

Building Common

Non-Load Bearing Walls May be Removed

No Entrances

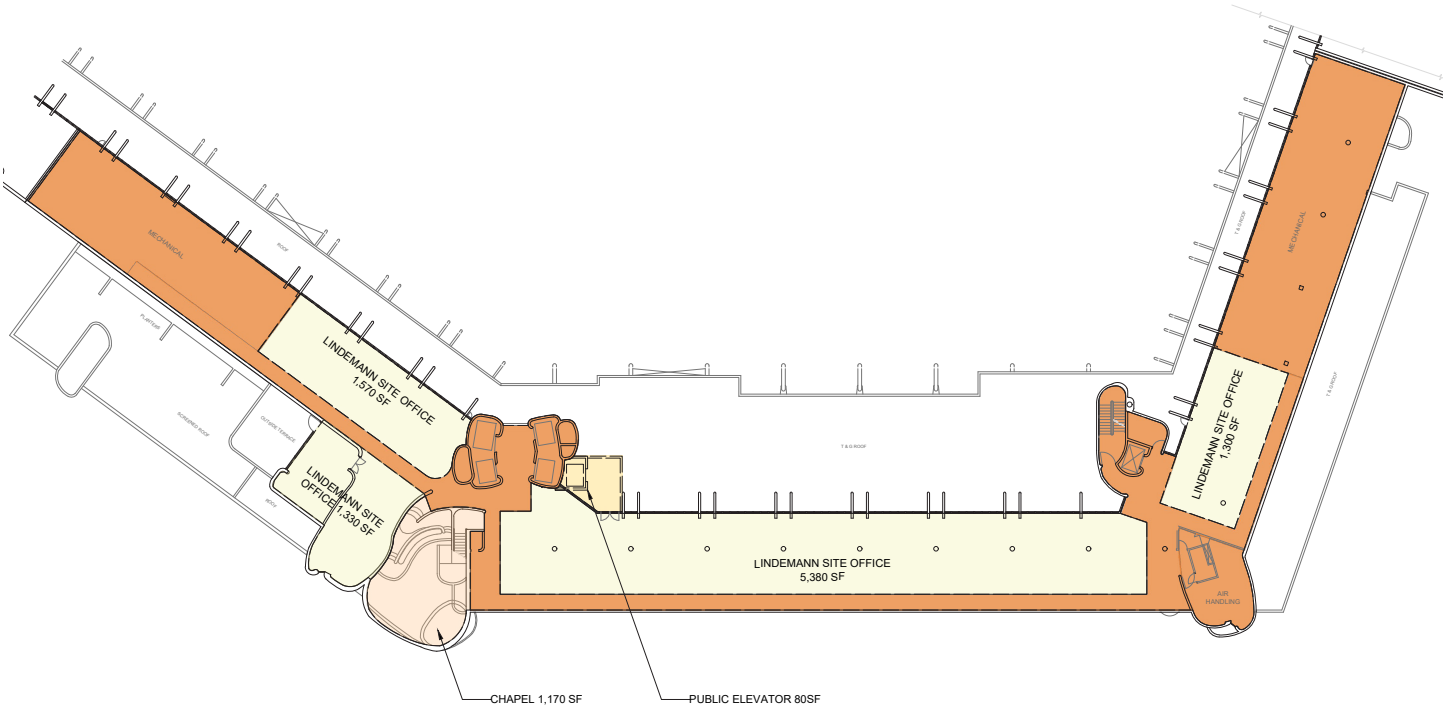
Not Accessible

Figure 4.26. Level 05 Existing Analysis Plan

- The Site offices house an outdoor terrace area on the west wing of the plan.
- A series of mechanical and other building service spaces are located on the ends of each wing.
- The steps leading to the Chapel balcony are not fully accessible by all clients/guests, similar to the Boston Conference room this series of steps require an accessibility retrofit.



Figure 4.28. Existing Lindemann Building Spaces on Level 05 (From Left to Right): Hallway leading to Mechanical Area, Staff Kitchen



Level 05 - Proposed

- Lindemann Cambridge Somerville Site Office
- DMH Circulation and Entrance
- Building Common
- Client Common Indoor - Chapel

Figure 4.27. Level 05 Existing Plan Analysis

The design team maintains the mechanical and air handling spaces due to regulatory requirements. The reconfiguration of the program also maintains the balcony space of the Chapel, leaving this common client space intact. A conceptual circulation space (in orange) allows for access to the administrative site offices.

4.3. Proposed Building Programming Overview

The overview of the reconfigured Lindemann building illustrates the right size program on the first five levels. Thorough analysis of the existing elements, such as circulation components, existing main entrances and key common outdoor spaces led the design layout of the right-size program. Starting at the ground level, the team identified the existing central staircase as an opportunity to connect the first three levels and its proposed common client spaces: Coffee Shop, Cafeteria, Training Spaces, Administrative Services, and Outdoor Spaces. The private residential spaces are placed on the next two levels, housing the three group homes and two shelters. Each residential tenant has a dedicated and secured lobby spaces, along with common client spaces for training, kitchen, dining, and group activities. The right-size program meets all needs of each tenant, and provides opportunity for this efficient layout. This results in available tenant space on the last two levels, along with maintaining key mechanical space to meet regulatory requirements.

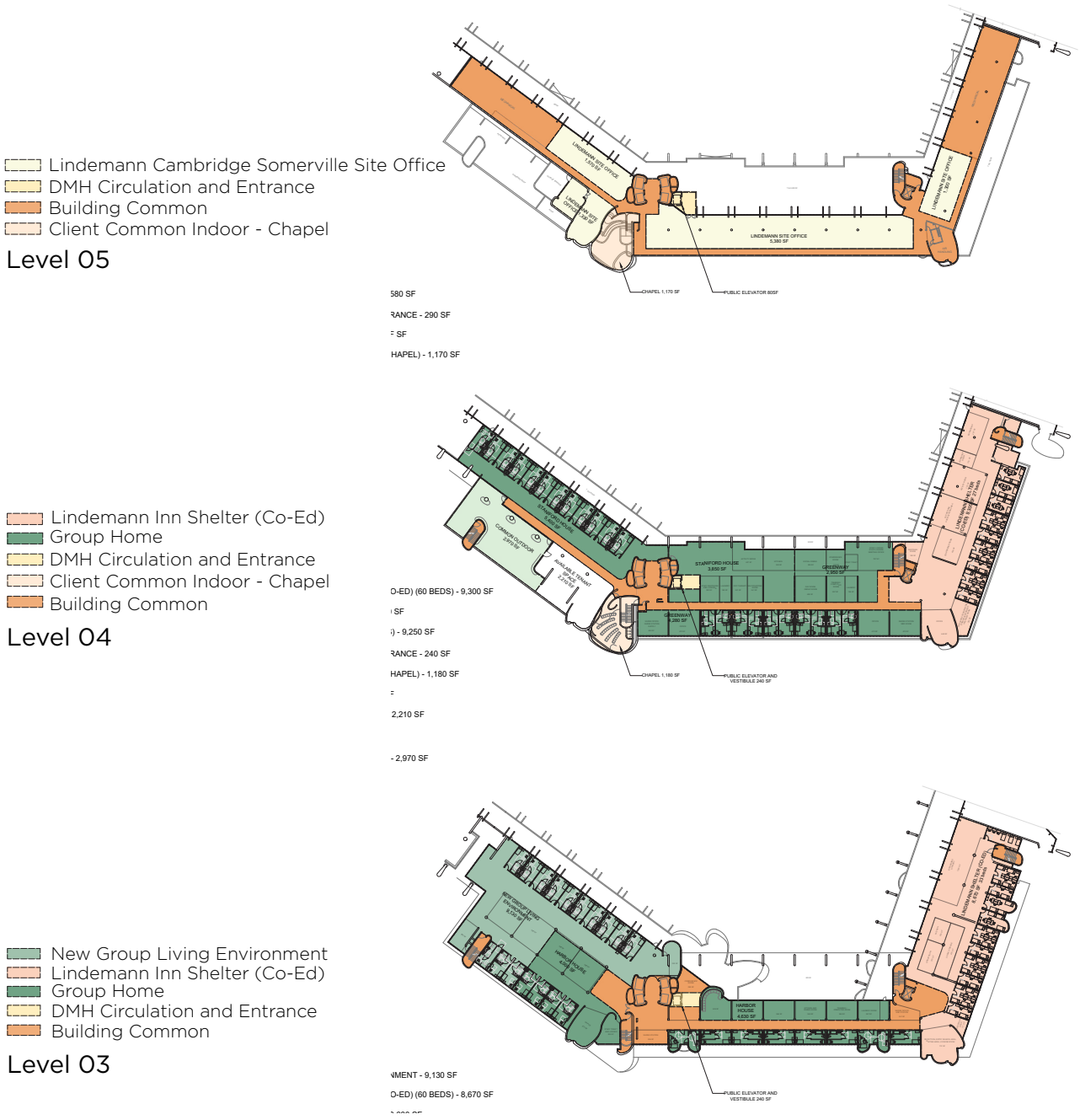
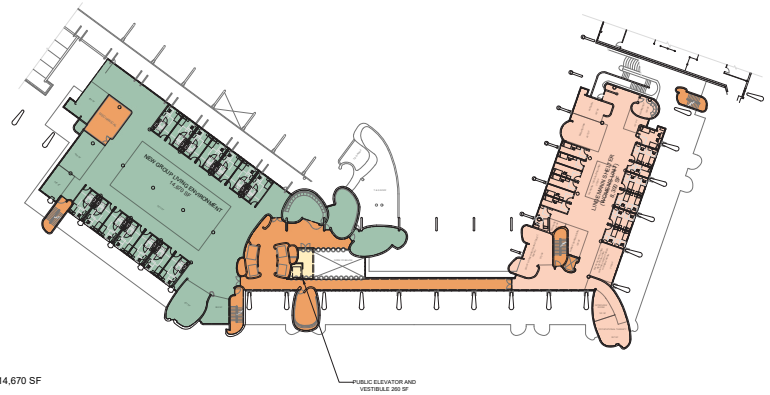


Figure 4.29. Existing Building Plans Overview (Level 03 - Level 05)

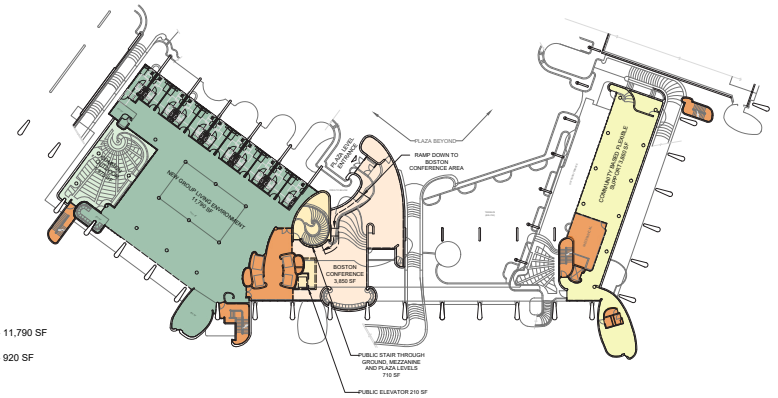
New Group Living Environment
Lindemann Shelter (Women's Unit)
DMH Circulation and Entrance
Building Common

Level 02



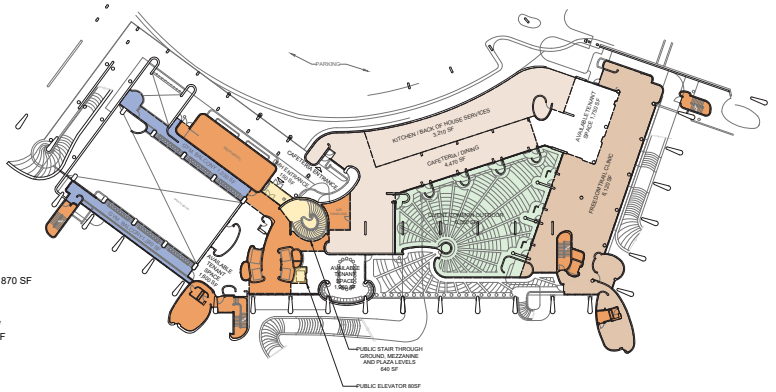
New Group Living Environment
DMH Circulation and Entrance
Client Common Indoor - Boston Conference
Community Based Flexible
Building Common
Client Common Outdoor

Plaza Level



DMH Circulation and Entrance
Client Common Indoor - Cafeteria
Client Common Indoor - Kitchen / Back of House Services
Freedom Trial Clinic
Building Common
Gymnasium Balcony
Client Common Outdoor

Mezzanine Level



DMH Circulation and Entrance
Campus Police
Client Common Indoor - Training Space
Client Common Indoor - Coffee Shop
HOPE Center
NAMI
Homeless Outreach Team
Building Common

Ground Level

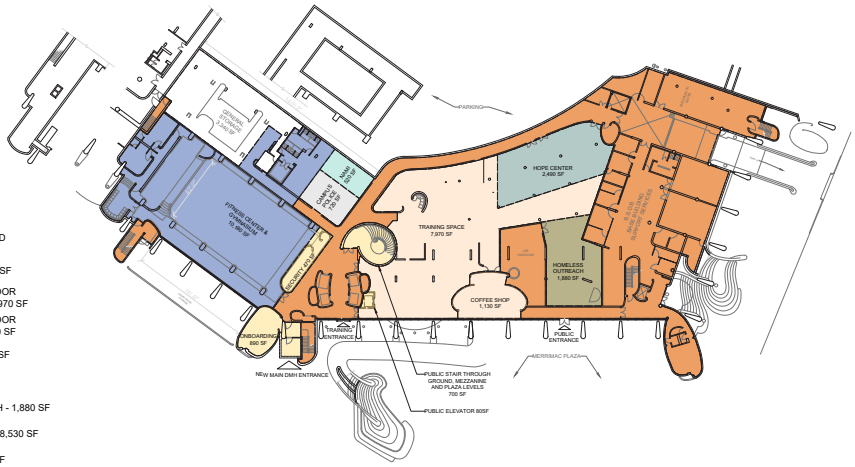


Figure 4.30. Existing Building Plans Overview (Ground Level - Level 02





05

PHASING & IMPLEMENTATION

Reconfigured Lindemann led the design team to further investigate a potential phasing construction. This phasing investigation results in three options:

1. Occupied rehabilitation with all tenants on site
2. Occupied rehabilitation with partial tenant relocation
3. Total move out of all tenants for an empty building rehabilitation.

The design team considered multiple factors during this investigation such as minimizing tenant relocation, locating client support services on the first three levels of the building, placing all residential tenants on the upper levels, and providing opportunity for construction and building upgrades to be divided into three building locations: west, central and east wings.

The final location of each tenant is the same throughout all three options. The final part of this investigation results in a timeline chart showcasing the potential building rehabilitation schedule for each phasing option.

Option 1:
Occupied Rehab: All Tenants on Site

The first phasing option seeks to maintain all tenants on site and reduce the number of times a tenants has to temporarily relocated within the building. This results in six phases with client support service on the first three levels and residential programming on the upper levels.

Phase 1 permanently moves all DMH Central Offices to an off campus site, and temporarily relocates the Site Offices to an off campus site. On the ground level the Fitness Center and Gymnasium will provide space for a temporary relocation of two support service offices. This creates space for the Women's Shelter and Greenway to be temporarily relocated on level 2 during phase 2A. During the first phase, building upgrades will occur throughout the empty spaces. Phase 2 and 2A result in empty central and east wings, this provides for a full build out of these wings. Phases 3 and 4 permanently locates site offices and residential tenants in the newly constructed central and east wings. This empties the west wing for a full build out and provides residential space for the new group living environments.

This phasing option allows for client services to be active throughout construction, and maintains all tenants on site. Services such as the cafeteria and fitness center remain open during the build out timeline.

Option 2:
Semi-Occupied Rehab: Partial Tenant Relocation

Similar to phasing option 1, this option seeks to empty each building wing for a full and orderly build out of each wing. This option results in five phases. The first phase permanently relocates DMH Central Offices off site, temporarily relocates the Site Offices, Women's Shelter and Greenway off site. Compared to the first option, the main difference in option 1A is the off site relocation of the Women's Shelter and Greenway.

This relocation of tenants allows for a full build out of the central and east wings during phase 2. With the newly constructed space of these two wings, the support site offices, shelters and group homes are relocated to these wings. Phase 4 allows for new construction to happen on the west wing, creating the new homes of the new group living environments. This phasing option, similar to option 1, maintains client services, such as the cafeteria and fitness center to be open during construction.

Option 3:
Total Move Out

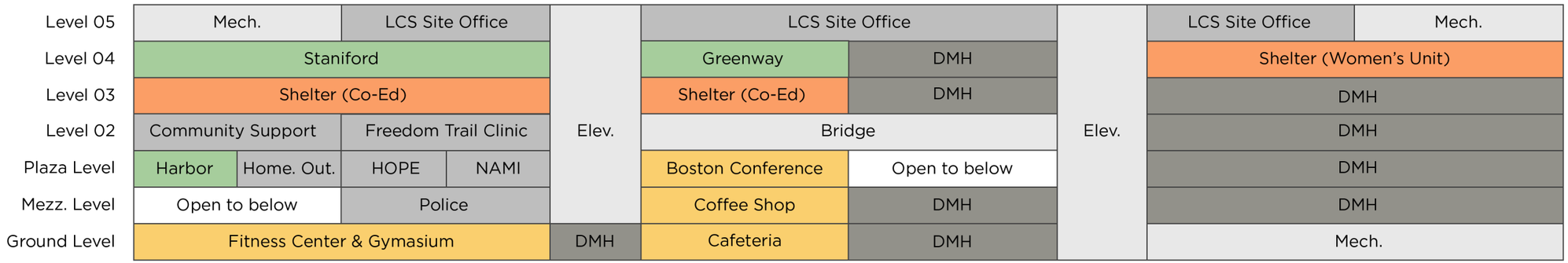
A total move out of all tenants to an off site location results in three phases. This option provides the least amount of phases, and a potential shorter project timeline.

Like option 1, this option's phase 1 permanently relocates DMH Central Offices off site, and temporarily relocates all other tenants off site. This allows a full build out and building upgrades of all interior spaces to occur in phase 2. Final relocation of all tenants except DMH Central Offices, would occur in phase 3. As previously stated, all residential tenants, new and existing are located on the upper levels. The administrative Site Offices are located on level 05, while the ground, mezzanine and plaza level serve the common client and support offices spaces.

Compared to the previous phasing options, option 2 results in a temporary disruption to services and clients during their relocation. This in turn, provides a shorter construction timeline, which allows for an orderly interior space build out and building upgrade.

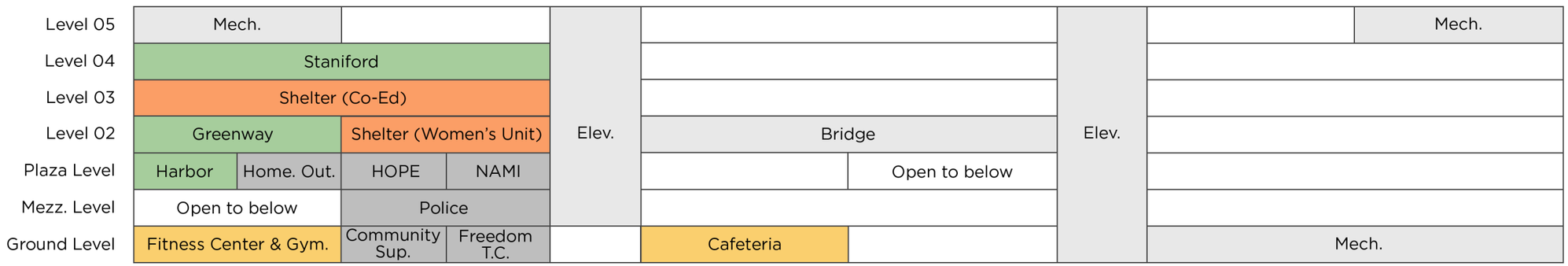
EXISTING BUILDING

- Building System
- Admnistrative Support Office
- Group Home/ NGLE
- Shelter
- Client Common Indoor



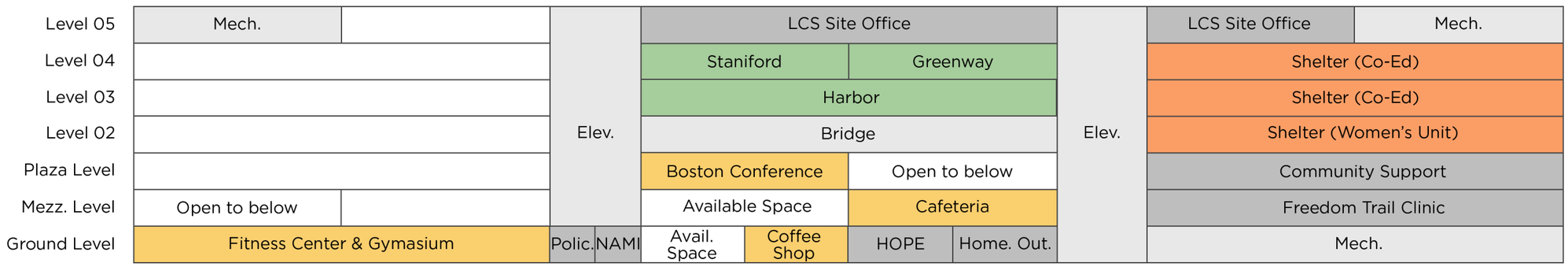
PHASE 1

- Relocate DMH Central Offices permanently off site.
- Relocate LCS Site Office temporarily off site.
- Half size Gym. for temporary Support Office relocation.
- Relocate Greenway and Women's Shelter temporarily on West wing.
- Building system upgrades.
- Build out construction of empty spaces in Central and East wings.



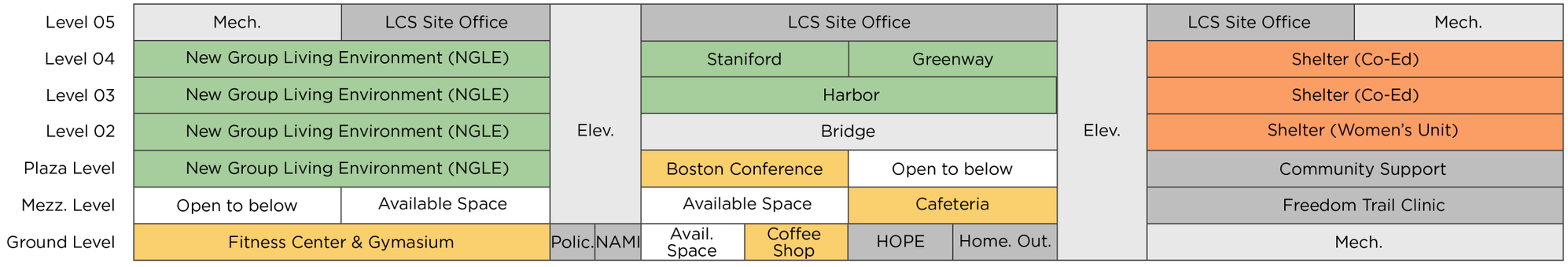
PHASE 2

- Relocate Support Offices, LCS Site Office and Shelters to new spaces in Central and East Wings.
- Start Build out/construction of West Wing.



PHASE 3

- Locate New Group Living Environments
- Relocate remaining LCS Site Office in West wing.

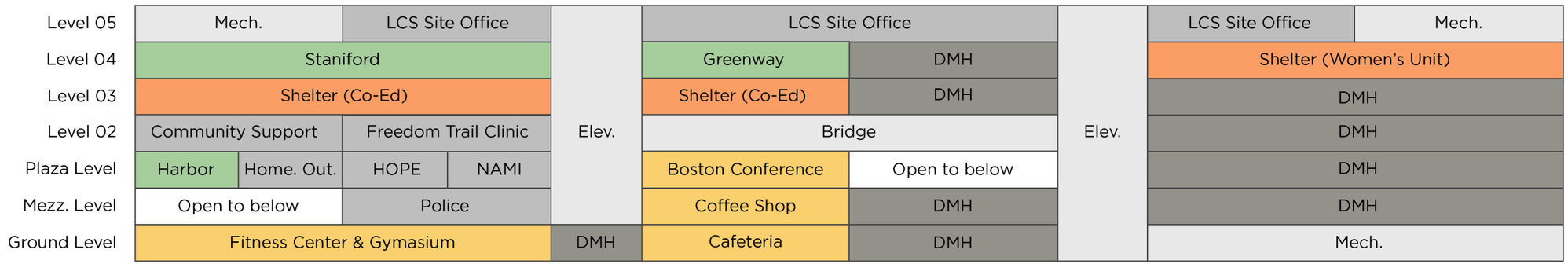


OPTION 1: OCCUPIED REHAB

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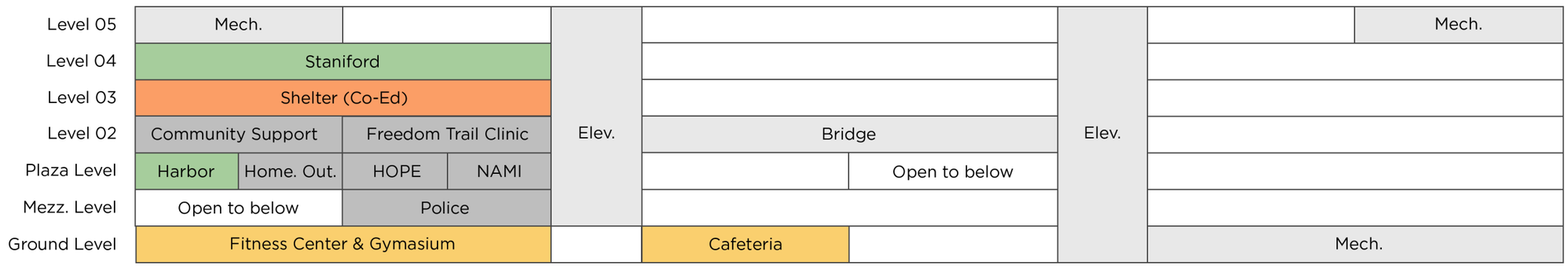
EXISTING BUILDING

- Building System
- Admnistrative Support Office
- Group Home/ NGLE
- Shelter
- Client Common Indoor



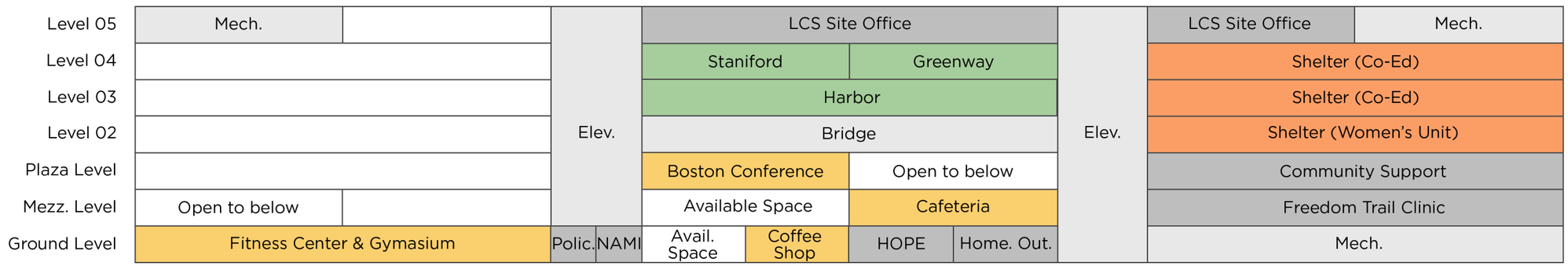
PHASE 1

- Relocate DMH Central Offices permanently off site.
- Relocate Greenway, Women's Unit Shelter and LCS Site Office temporarily off site.
- Building system upgrades.
- Build out construction of empty spaces in Central and East wings.



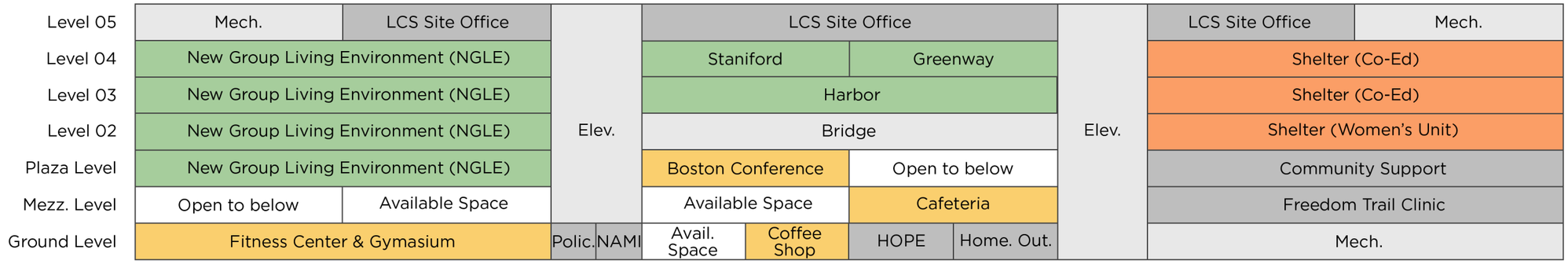
PHASE 2

- Relocate Support Offices, LCS Site Office and Shelters to new spaces in Central and East Wings.
- Start Build out/construction of West Wing.



PHASE 3

- Locate New Group Living Environments
- Relocate remaining LCS Site Office in West wing.

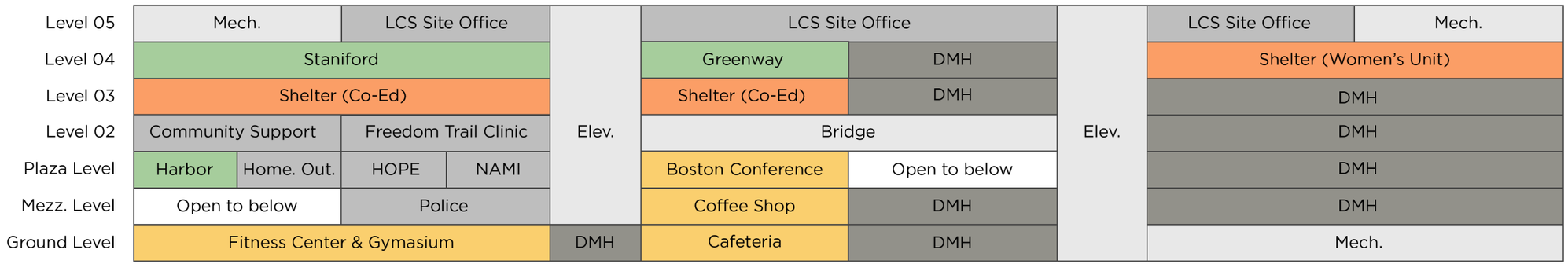


OPTION 2: SEMI- OCCUPIED REHAB

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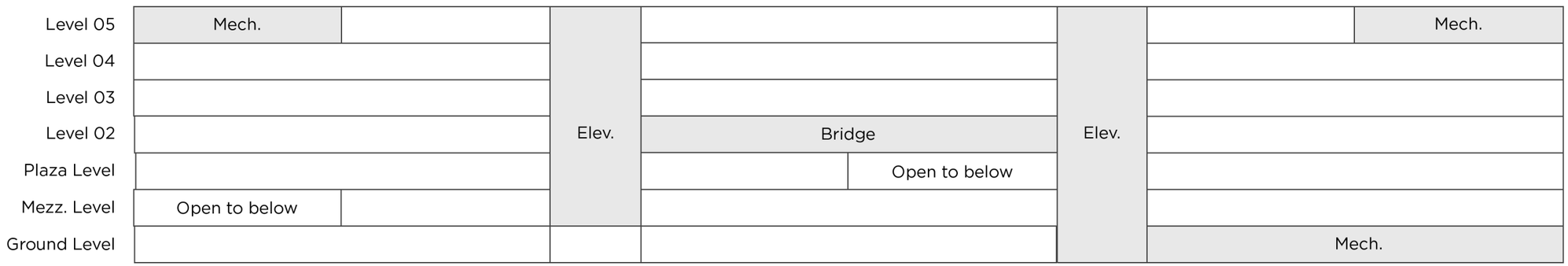
EXISTING BUILDING

- Building System
- Admnistrative Support Office
- Group Home/ NGLE
- Shelter
- Client Common Indoor



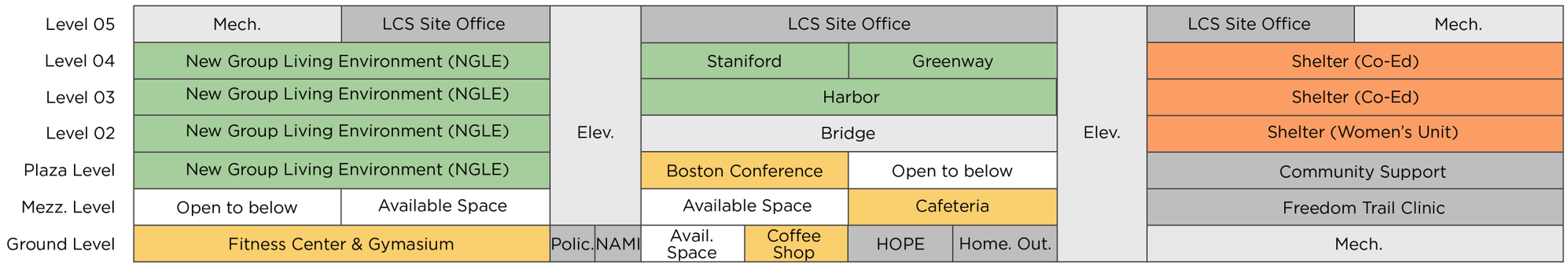
PHASE 1

- Relocate DMH Central Offices permanently off site.
- Relocate LCS Site Office, support offices and residential tenants temporarily off site.
- Demolition/Construction of empty spaces



PHASE 2

- All tenants move into renovated Lindemann spaces



OPTION 3: TOTAL MOVE OUT

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5.2. Timeline Options

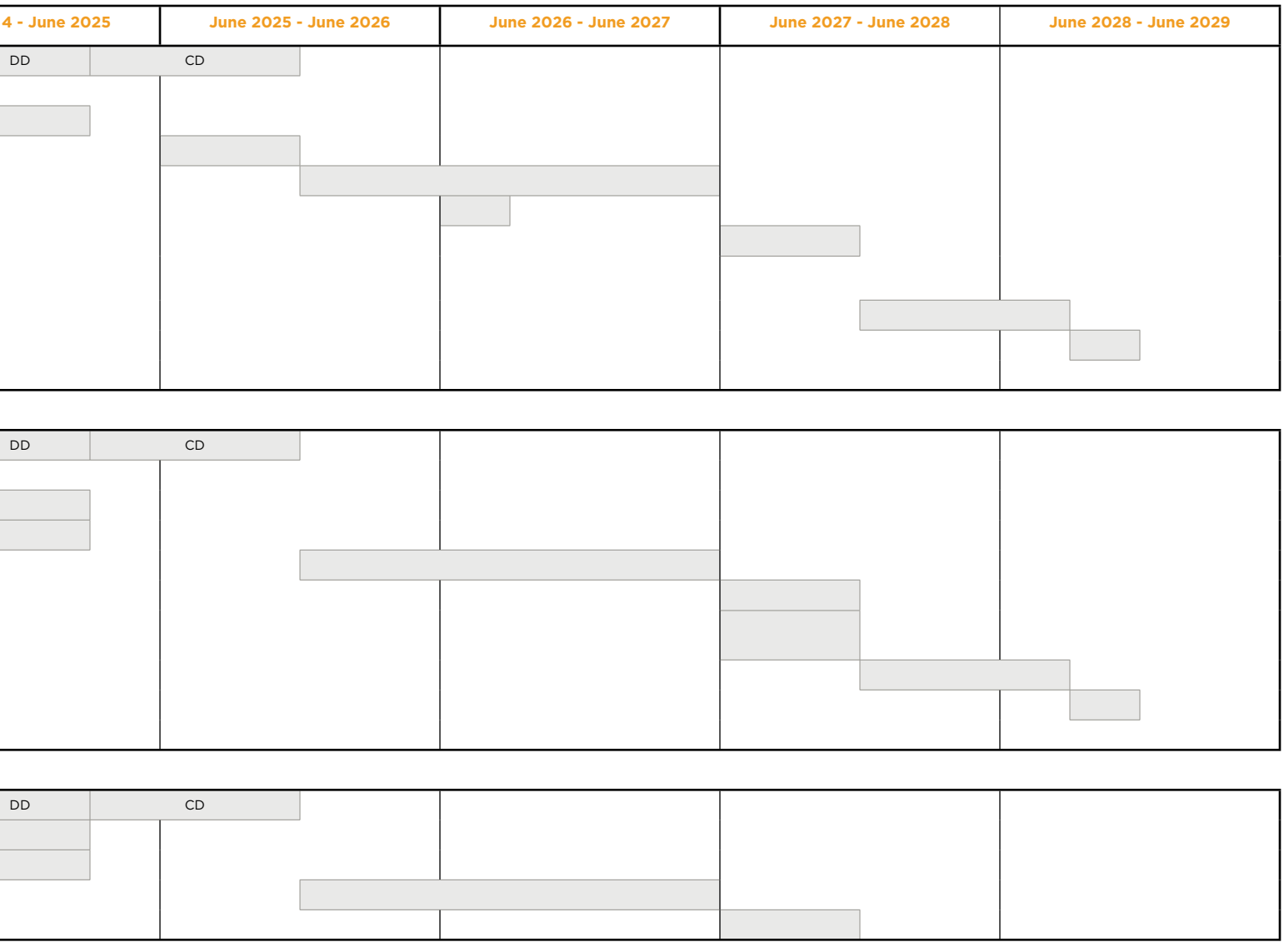
The final step to the phasing investigation results in a timeline for each phasing option. This phasing timeline is a more detailed version of the phasing sections previously shown, as it breaks down into additional phases to understand the rehabilitation process. The design team has divided the year into quarters beginning in June of 2023. Each phasing option begins with the State's Design Selection Board (DSB) procurement, estimating this process to be six months long. The study and schematic design phases would begin after DSB procurement, the design team estimates the architectural design phases to occur over the span of eight months. The timeline for these early stages are the same for all phasing options. The design team has also identified an opportunity for site and central offices to be relocated during the design phases.

Phasing option 1 and 1A are similar and result in the same timeline. The main difference in these options occurs during the temporary relocation of the Women's Shelter and Greenway to be off site. The timeline of these two options estimates the total build out of Lindemann to be 5.5 years. option 2, the total move out option, results in a shorter project timeline. Relocation, whether permanent or temporary, would occur during the design development phase, allowing for the timeline to shorten. In comparison the previous two options, there are no tenants relocation to happen within the building during construction, rather all tenants move permanently into the building after approximately 1.5 years of construction. This results in a total of 4.5 years for the project timeline.

			June 2023 - June 2024		June 202
	Design Phase		DSB Procurement	Study/SD	
OPTION 1 Occupied Rehab All Tenants on Site	Phase 1	Building Upgrades			
		Site and central offices off site relocation (Out by early 2025)			
		Freedom Trial Clinic and Community Support Relocate to Ground Level			
	Phase 2	Construction of Central, East, and Level 02 West Wing			
	Phase 2A	Greenway and Women's Unit temporarily relocated to Level 02			
	Phase 3	Relocate Support and Site Offices, Group Homes, and Shelters into new locations *Old Cafeteria closes, Client Common Spaces open, Residential Tenants are up and running			
	Phase 4	Construction of West Wing			
	Phase 5	Locate New GLE on West Wing *New GLE are up and running			

	Design Phase		DSB Procurement	Study/SD	
OPTION 1A Occupied Rehab Partial Tenant Relocation	Phase 1	Building Updates			
		Site and Central Offices off site relocation (Out by early 2025)			
		Greenway and Women's Unit temporarily relocated off site			
	Phase 2	Construction of Central and East Wing			
	Phase 3	Relocate Support and Site Offices, Group Homes, and Shelters into new locations *Old Cafeteria closes, Client Common Spaces open, Residential Tenants are up and running			
	Phase 4	Constructing of West Wing			
	Phase 5	Locate New GLE on West Wing *New GLE are up and running			

	Design Phase		DSB Procurement	Study/SD	
OPTION 2 Total Move Out	Phase 1	Site, Support, and Central Offices off site relocation (Out by early 2025)			
		Residential tenant of site relocation			
	Phase 2	Demolition/Construction			
	Phase 3	All tenants move into renovated Lindemann			


4 - June 2025
June 2025 - June 2026
June 2026 - June 2027
June 2027 - June 2028
June 2028 - June 2029
DD
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06
APPENDICES

7.1. Alternate Location Options
7.2. Engineers' Existing Conditions Reports (Structural, Mechanical and Electrical)
7.3. Workshop Presentation (12-08-2022)

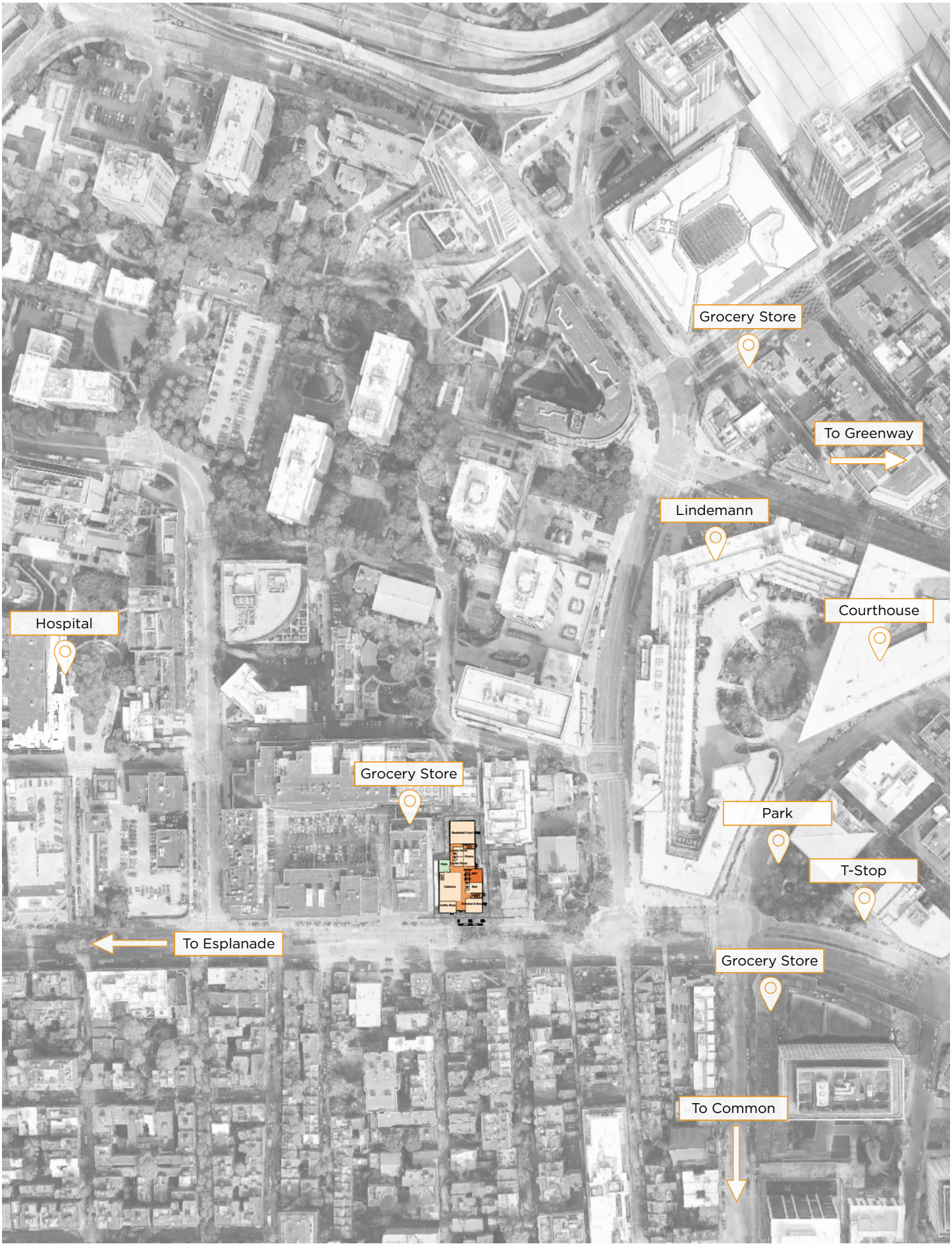


Figure 6.1. Existing Building Plans Overview (Level 03 - Level 05)

7.1. Alternate Location Options

Option 1: Relocation of Lindemann to Downtown Site

The design team identified the Library Site as a potential area for a new construction building. This site currently houses the West End Public Library Branch, on Cambridge Street and approximately quarter of a mile away from the existing Lindemann Building. Removal of the existing 6,000 SF library building would be necessary for the single phase construction and landscape and sidewalk improvements. The site dimensions and floor plate footprint are significantly smaller than the existing Lindemann Building, these are as follow:

Minimum Site Dimension: 100' Frontage
Approximate Site Area: 15,000 SF
Typical Building Floor plate: 11,500 SF
Floor-to-Floor Height: 18' Ground, 14' Typical
Total Height: 8 Stories
Approximate Total GSF: 90,550 SF

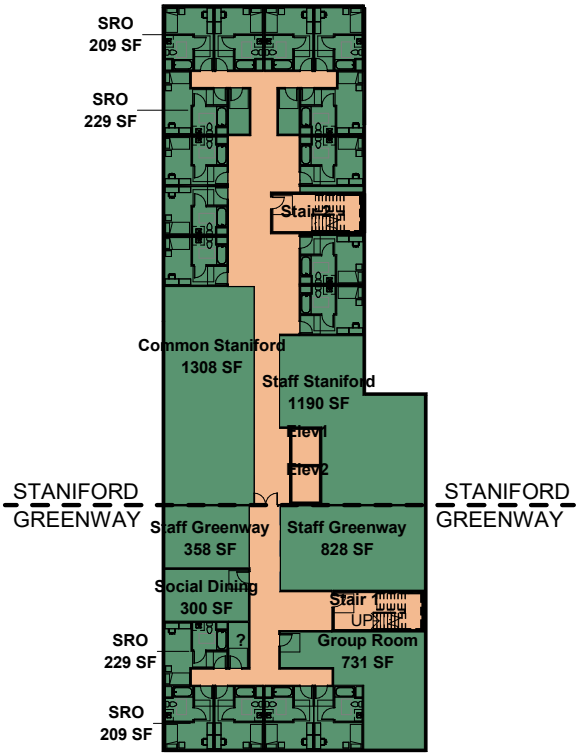
This site option provides an opportunity to maintain the Lindemann Mental Health Services building adjacent to client resources: The Innovation District, Downtown Crossing, The Common, Massachusetts General Hospital and other transitional resources, which reinforces the overall DMH mission. Starting at the ground floor, the street edge would activate this level and give the building the opportunity to partake on city life activities, such as the coffee shop training services. Outdoor space would also be designed for the third and fifth levels with additional space for an outdoor roof terrace on the seventh or eighth floor (see next page for plan drawings). For the residential program, this option provides is designed with additional available tenant space on the seventh and eighth floors.

The design team also analyzed some disadvantages to this site location. These include: limited parking and outdoor spaces located only on roof decks. Additionally, due to limited floor area, common client and staff areas would require to be minimized to fit the floor plate footprint resulting in specific tenants to be distributed on more than one floor.

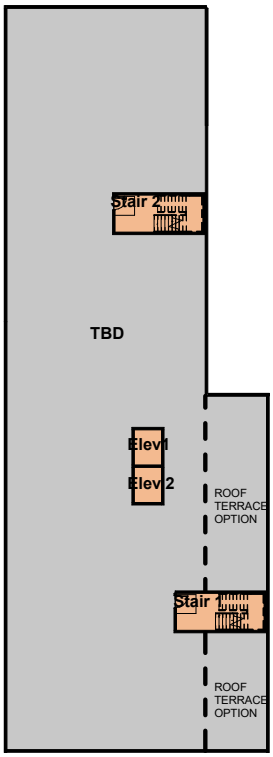


Figure 6.2. Existing Building Plans Overview (Ground Level - Level 02

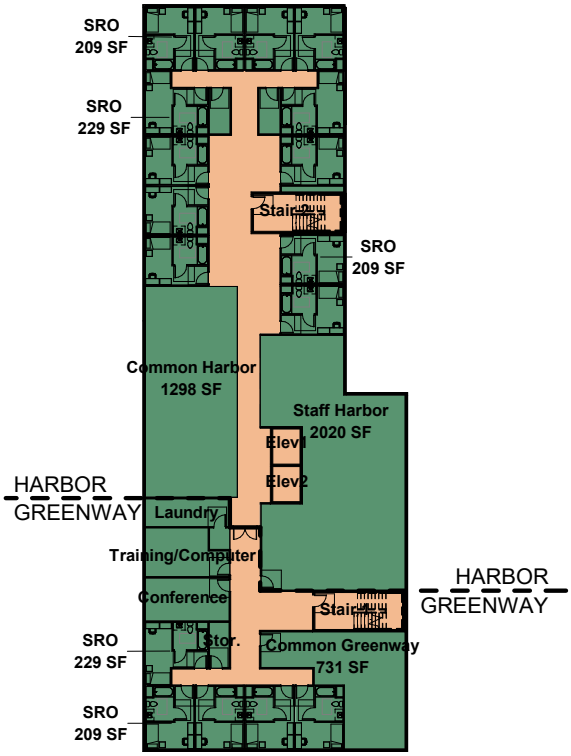
- Circulation
- Mechanical
- Client Common Indoor
- Client Common Outdoor
- HOPE Center
- Lindemann Shelter (Co-Ed)
- Lindemann Shelter (Women's Unit)
- Greenway
- Harbor House
- Staniford House
- Green Roof
- Roof
- Available Tenant Space



Level 06

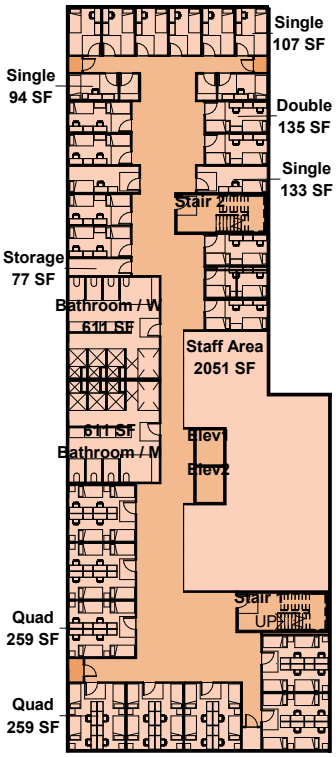


Levels 07 - 08

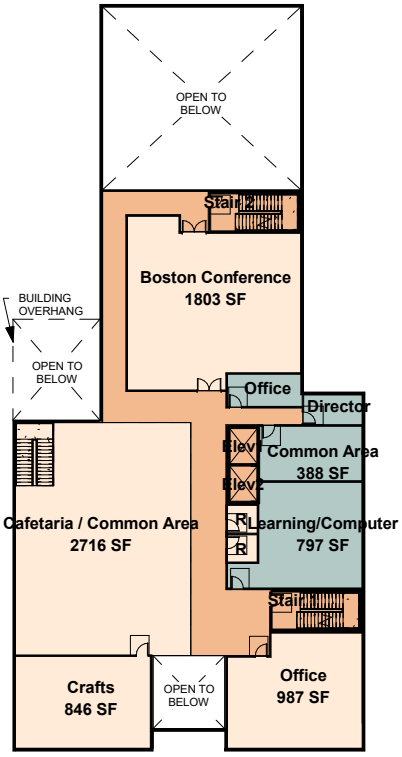


Level 05

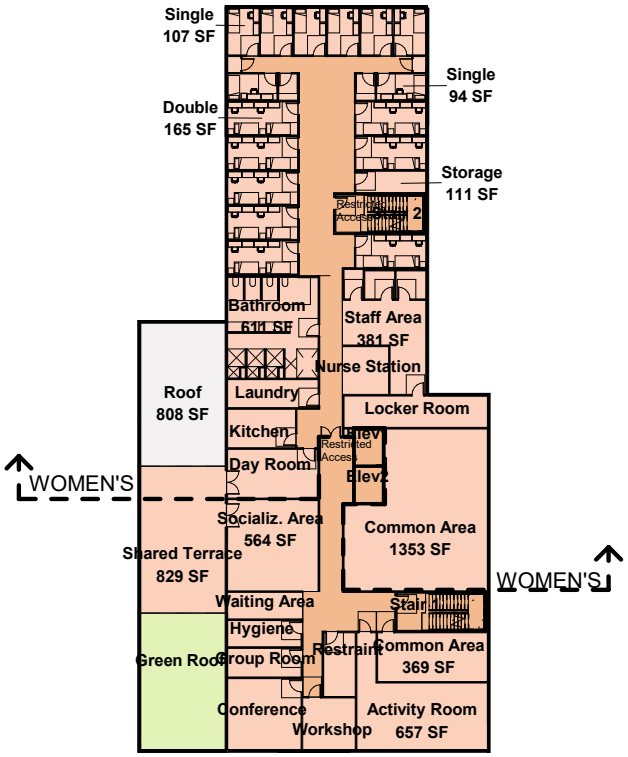
Figure 4.4. Existing Building Plans Overview (Level 03 - Level 05)



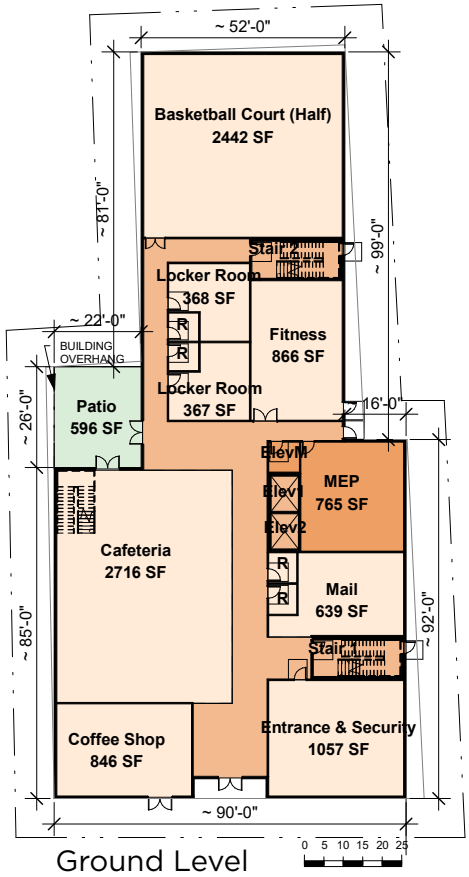
Level 04



Level 02



Level 03



Ground Level

Figure 4.5. Existing Building Plans Overview (Ground Level - Level 02

Option 2: Relocation of Lindemann to State-Owned Campus Site

The State-Owned Campus Site option is located approximately 7 miles outside of the city center and adjacent to the Lemuel Shattuck Hospital Correctional Unit. Similar to option 1, this site provides the opportunity for a new construction building. The main factor differentiating these options is the lot area. The Campus site provides for more flexibility in programming/ tenant location and additional outdoor and indoor space, there are no space restrictions. Unlike option 1, spacious outdoor activity areas are possible on all levels, including a 6,900 SF ground level courtyard and roof terraces. For the residential tenants, large sized dorm rooms and single residence occupant units are possible if preferred. A range of bathroom options from shared to private and fully accessible is also a provided opportunity.

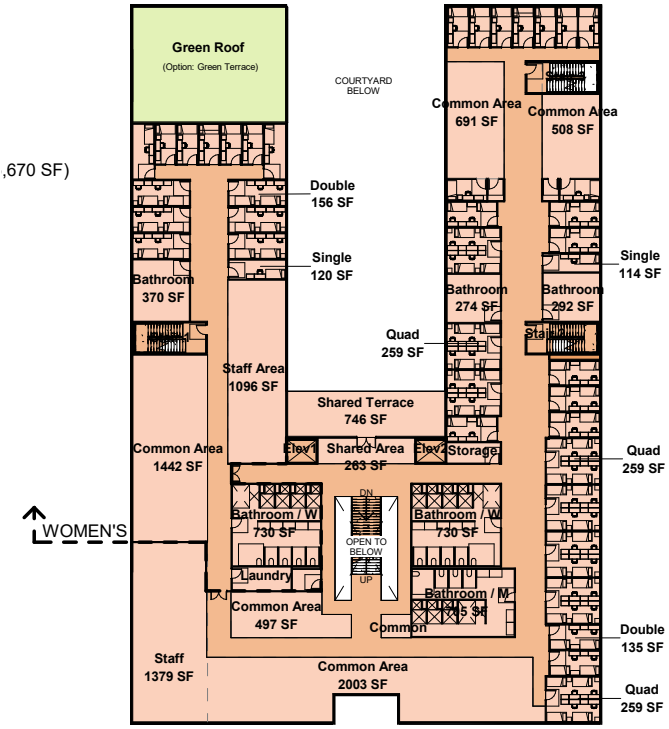
On the ground level, the design team accommodated a full size basketball court and fitness center spaces. Other common client spaces on this level include, the chapel, cafeteria, Boston conference room, and Hope Center training spaces. The second level houses the Lindemann Inn Shelters (Co-Ed and Women's Unit). The floor area allows for properly sized dedicated staff spaces, an array of accessible restrooms for clients and shared terrace spaces between the shelters. On the third level the group homes are located with a common shared lobby and terrace areas. Similar to the Lindemann building, the three levels of this new construction will be connected through a central common stair.

The design team considered the disadvantages of this option, the main one consisting of the distance from the city center. Although this site provides ample lot are, the site's location lack integration into Boston city life and proximity to the constantly used client transitional resources. Additionally, public commuting options are limited and become time consuming for the staff and client.

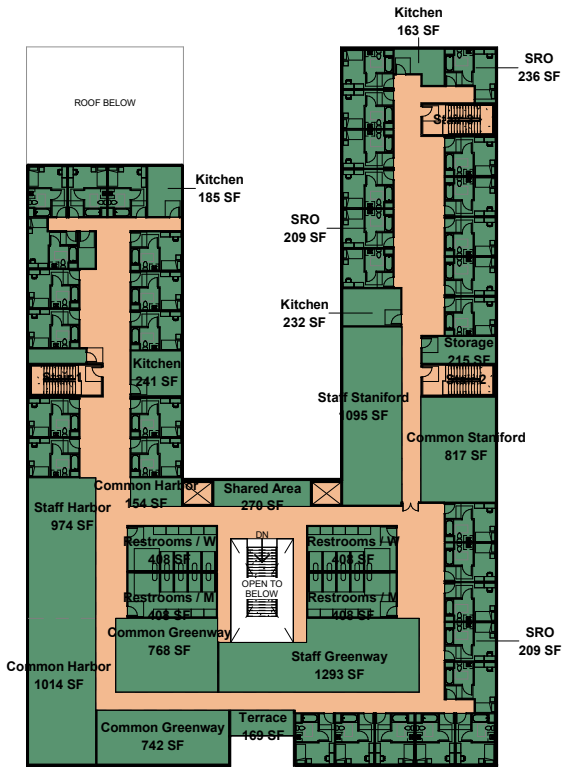


Figure 4.4. Existing Shattuck Hospital, view from Circuit Drive

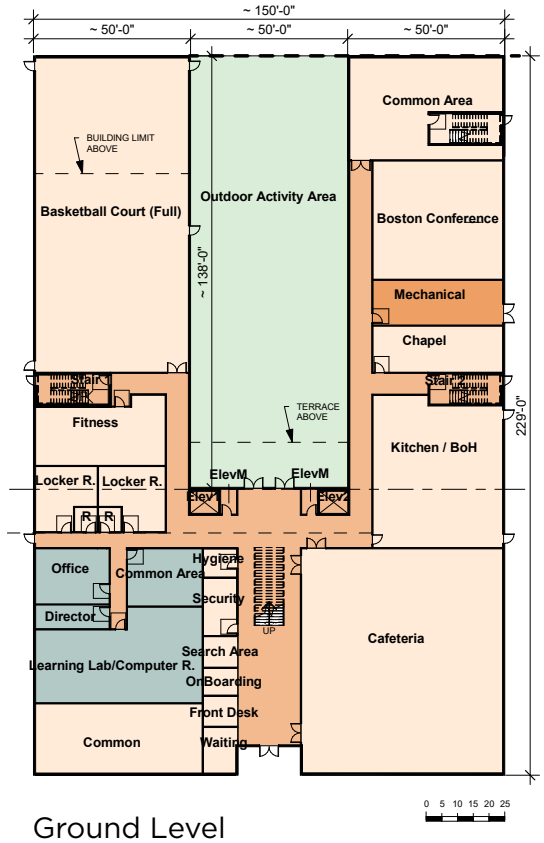
- Circulation
- Mechanical
- Client Common Indoor
- Client Common Outdoor
- HOPE Center
- Lindemann Shelter (Co-Ed)
- Lindemann Shelter (Women's Unit)
- Greenway
- Harbor House
- Staniford House
- Green Roof
- Roof



Level 02



Level 03



Ground Level

Lim Consultants, Inc.

Structural Narrative
Lindemann Building, Boston, MA
September 29, 2022

Structural Narrative

INTRODUCTION

This report describes the existing condition of the Lindemann Building in Boston, MA.

Discussions and findings in this report are based on:

- A walk-through site visit performed by staff of Lim Consultants, Inc. on September 12, 2022 to observe the general condition of the building.
- Original architectural and structural drawings dated September 20, 1965 by Paul Rudolph Architects, and William J LeMessurier and Associates Structural Engineers

EXISTING STRUCTURAL SYSTEM

The Lindemann Building was designed in 1965 by Paul Rudolph as the “Mental Health Center for the Commonwealth of Massachusetts”. The structure of the building is largely cast in place concrete. The building is 5 stories tall plus a roof. The building is an L shape, separated into two structurally integrated wings. The building is structurally isolated from the garage structure.

The roof level is constructed of cast-in-place concrete. The majority of the floor is a ribbed one way slab system. The ribbed system is 1’-2 ½” deep, of which 2-1/2” is the slab and 1’-0” is the pan depth. Most ribs span 24’-2” between reinforced concrete girders. The girders span between cast in place concrete columns. There are several roof protrusions above the irregularly shaped stairwells and elevators. At these areas, the slab is a 12” two-way flat slab. The roof slab is cast with construction joints to accommodate shrinkage during construction, but is structurally a single integrated diaphragm.

The 5th floor is constructed of cast-in-place concrete. The majority of this floor is a ribbed on-way-slab system. The ribbed system is 1’-2 ½” deep, of which 2-1/2” is the slab and 1’-0” is the pan depth. Most ribs span 24’-2” between reinforced concrete girders. The girders span between cast in place concrete columns, and are downturned 1’-0” lower than the bottom of the ribbed slab. Some columns from above transfer on the girders. There is a small section of slab near gridlines 38 and 39 that are precast concrete planks spanning between the girders instead of the typical ribbed slab. The 5th floor slab is cast with construction joints to accommodate shrinkage during construction, but is structurally a single integrated diaphragm.

The 4th floor is constructed of cast-in-place concrete. The majority of this floor is a ribbed on-way-slab system. The ribbed system is 1’-2 ½” deep, of which 2-1/2” is the slab and 1’-0” is the pan depth. Most ribs span 24’-2” between reinforced concrete girders. The girders span between cast in place concrete columns or shear walls, and are downturned 1’-0” lower than the bottom of the ribbed slab. Some columns from above transfer on the girders. There is a section of slab in the center of the building between the east and west wings (gridlines 47-53) constructed of 4” precast concrete plank. These planks span between cast in place concrete beams and girders. The 4th floor slab is cast with construction joints to accommodate shrinkage during construction, but is structurally a single integrated diaphragm.

The 3rd floor is constructed of cast-in-place concrete. The majority of the east and west wings of this floor are a ribbed on-way-slab system. The ribbed system is 1'-2 ½" deep, of which 2-1/2" is the slab and 1'-0" is the pan depth. Most ribs span 24'-2" between reinforced concrete girders. The girders span between cast in place concrete columns or shear walls, and are downturned 1'-0" lower than the bottom of the ribbed slab. Some columns from above transfer on the girders. There is a section of slab north of grid 60 on the east wing that is 4" precast concrete plank over cast in place beams and girders. In the center of building between the east and west wings (gridlines 45-54), the floor is constructed of 4" precast concrete plank over cast in place beams and girders. This section has a smaller footprint than the floors above, resulting in columns that span multiple floors. This central section also does not provide a rigid diaphragm connection between the east and west wings.

.

The 2nd floor is constructed of about half cast-in-place concrete, and half precast concrete planks. About three quarters of the east and west wings of this floor are a ribbed on-way-slab system. The ribbed system is 1'-2 ½" deep, of which 2-1/2" is the slab and 1'-0" is the pan depth. Most ribs span 24'-2" between reinforced concrete girders. The girders span between cast in place concrete columns or shear walls, and are downturned 1'-0" lower than the bottom of the ribbed slab. Some columns from above transfer on the girders. There is a section between gridlines E and F on the east wing, and 39 and 40 on the west wing that are 4" precast concrete plank over cast in place beams and girders. In the center of building between the east and west wings (gridlines 45-54), the floor is only a 8'-9" wide walkway constructed of 4" precast concrete plank over cast in place beams and girders. The girders are cantilevered off the columns. This corridor has a much narrower footprint than the floors above, resulting in columns that span multiple floors. This narrow central section does not provide a rigid diaphragm connection between the east and west wings.

The plaza floor is constructed of mostly cast-in-place concrete. The majority of this floor is a ribbed on-way-slab system. The ribbed system in the east and west wings is 1'-2 ½" deep, of which 2-1/2" is the slab and 1'-0" is the pan depth. Most ribs span 24'-2" between reinforced concrete girders. The girders span between cast in place concrete columns or shear walls, and are downturned 1'-0" lower than the bottom of the ribbed slab. The floor in the central section is a ribbed slab system with 18" total depth, of which 4" is the slab and 14" is the pan depth. The ribs span between 36" deep girders supported over 1'-0" thick exterior walls and interior cast in place concrete columns. The plaza floor slab is cast with construction joints to accommodate shrinkage during construction, but is structurally a single integrated diaphragm.

The mezzanine floor is constructed of mostly cast-in-place concrete. The majority of this floor is a ribbed on-way-slab system. The ribbed system is 1'-2 ½" deep, of which 2-1/2" is the slab and 1'-0" is the pan depth. Most ribs span 24'-2" between reinforced concrete girders. The girders span between cast in place concrete columns or shear walls, and are downturned 1'-0" lower than the bottom of the ribbed slab. There are select sections in corridors and ramps which are 8" solid one-way flat slabs instead of ribbed slabs. The mezzanine floor slab is cast with construction joints to accommodate shrinkage during construction, but is structurally a single integrated diaphragm.

The ground floor is constructed of cast-in-place concrete. About two thirds of this floor is a framed slab. The remainder is slab on grade. In the west wing between grids 38 and 43, the ground floor

slab is a 10” thick one-way slab spanning between grade beams. The grade beams span between the pile caps supported over cassions. Between grids 43 and 52 of the central section, the floor is a 12” thick two-way slab spanning between pile caps supported over cassions. Between gridlines 52 and the Hurley Building, the floor is a 6” thick slab on grade. The cassions in this area only support the columns. Near gridline 60, several of the columns are transferred by grade beams to the cassion locations.

There is no reference to a building code or seismic loading on the drawings. Since the building’s design in 1965 predates the first edition of the Massachusetts State Building Code, which became effective in 1975, earthquake loading was unlikely to be considered in the design.

OBSERVED CONDITIONS AND REPAIRS NEEDED

We performed a general walk-through of the interior and exterior of the building and noted areas that would be relevant to the addition of another floor. Observations were made from accessible, non-locked locations where the structure was exposed to view. No investigative demolition was performed. The structure appeared to be in overall good condition except for a few select locations. The following are the observations pertaining to the structure:

1) On the mezzanine level ramp, the existing concrete beam and column between B and E north of gridline 60 appeared to be in very poor condition. Much of the reinforcing steel had lost section, and much of the concrete cover had spalled off. There is also a longitudinal crack that propagates through the beam as well as column. Some of the cracks are nearly 3/4" wide. We recommend the owner to retain an engineer to evaluate, shore, and repair this condition as necessary. This work should be done as soon as possible.



Figure 1A&B – Cracking and spalling of the concrete column and beam on the mezzanine floor ramp.

2) Water infiltration is observed on the ground floor walls and columns in mechanical room 2. We recommend addressing the source of water infiltration to prevent further corrosion and concrete damage.

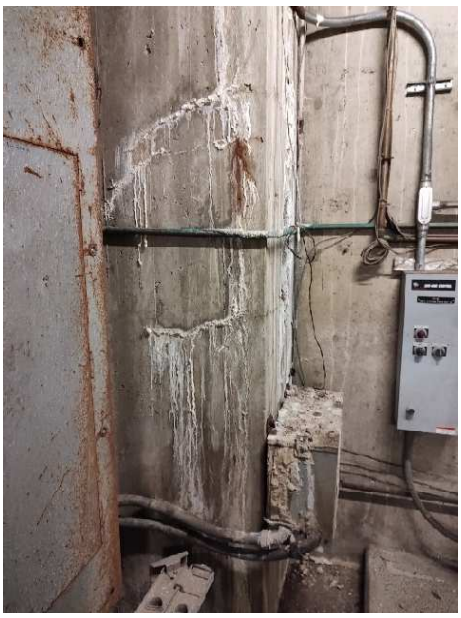


Figure 2 – Water infiltration through the cracks of the concrete column.

3) Water infiltration is observed from underside of the plaza and mezzanine level slabs. The water infiltration has corroded some of the ribbed joists. These joists will require structural repair. Structural repair will likely entail chipping out the bottom of the rib, splicing on new rebar, and patching the concrete.



Figure 3 – Bottom of the concrete rib is cracked, and rebar is experiencing section loss.

4) At the garage, many locations were experiencing spalling concrete. Most of the locations only require chipping off loose concrete, cleaning the reinforcing steel, and patching with a bonding agent. Most locations do not require structural rebar repair.



Figure 4 A&B – Spalled concrete at the garage.

5) At the exterior stairs, many of the stair treads have nosing bars that have improper cover. The nosing bar has corroded and spalled off the concrete. We recommend chipping out the entire stair nosing and re-casting the stair nosing.



Figure 5 – Stair nosings are spalled.

6) At the exterior face of the building, there are many locations where the reinforcing steel has improper coverage. At these locations, the rebar has rusted, and spalled the concrete. We recommend chipping and patching around rusted areas. The deterioration is worst near the plaza levels where they are exposed to the most de-icing salts.



Figure 6 – Corroded wall reinforcing near the sidewalk due to improper concrete coverage.

RENOVATION CONSIDERATIONS AND BUILDING CODE IMPLICATIONS

The renovation of the building will be governed by the 9th Edition of the Massachusetts State Building Code, which is an amended version of the 2015 International Building Code (IBC), and 2015 Existing Building Code (IEBC). The IEBC allows three compliance methods: Work Area Method, Prescriptive Method or Performance Method. On a given project, all aspects of compliance must use the same method. For purposes of this discussion, the Work Area Method is proposed.

The proposed renovation of the building will qualify as a Level 3 Alteration using the Work Area method, in which more than 50% of the floor area is reconfigured. No change of use is envisioned. The following code considerations will be taken into account for this renovation:

Gravity Load Supporting System

According to IEBC, all new structural members must be designed to comply with the requirements of the current edition IBC. For any existing element supporting additional loads, the affected element must meet or be upgraded to meet the current code unless the stress increase is less than 5% for the altered building compared to the original condition. Any element whose capacity is reduced by the alteration must comply with Code requirements for new construction.

Lateral Load Supporting System

The IEBC states that any existing lateral load-resisting structural element whose demand-capacity ratio with the alteration considered is more than 10% greater than its demand-capacity ratio with the alteration ignored shall comply with the reduced IBC level seismic forces.

If the demand-capacity ratio increases by more than 10% due to weakening/removal of lateral members, increased seismic mass, increased wind area, etc., the structure will require re-analysis and reinforcement where necessary. If the demand-capacity ratio increase does not exceed 10%, the proposed upgrades on lateral load carrying members will not be required.

As stated in the existing structural system section, the building was designed without an explicit lateral system and seismic load was likely not considered. Any re-assessment or re-analysis of the lateral system will likely lead to building wide upgrades to meet new reduced level IBC seismic forces. It is therefore recommended that the proposed alterations affecting lateral load carrying elements be minimized such that the 10% threshold is not exceeded.

Substantial Structural Alteration

If over 30% of structure have been or are proposed to be involved in structural alteration in a 5 year period, the entire building must be evaluated and reinforced to comply with the International Building Code for wind and seismic loading in accordance with Section 301.1.4.1, 100% of wind and seismic loads for new construction.

Diaphragm Anchorage

There are two triggers for diaphragm anchorage per the MSBC. If either of these triggers are met, the connection between the roof and floor diaphragm and the masonry wall must be analyzed to take the IBC level reduced seismic loads. If found inadequate, reinforcement of the diaphragm-wall connection with shear connectors, clip angles, or studs will be necessary on the entire building.

The first trigger is specified in IEBC section 907.4.5. It applies to buildings alterations which meet all of the following:

- Level 3 alteration (defined as reconfiguration of space in over 50% of building area)
- Building contains unreinforced masonry
- Are in seismic design category B or worse

This would only apply to the Lindemann Building should the renovation be classified as a Level 3 Alteration.

The second trigger is specified in IEBC section 707.3.2 and amended by MSBC section 302.7. It applies to building alterations which meet all of the following:

- Re-roofing work is planned for the entire area of the roof
- Building is located where the ultimate design wind speed is greater than 150 mph and the building is Risk Category IV per table 1604.5 of IBC 2015

This would not apply to the Lindemann Building as the building is not in Risk Category IV, and the wind speed is not greater than 150 mph in Boston.

STRUCTURAL IMPLICATIONS OF PROPOSED IMPROVEMENTS

Improvements are proposed to renovate or partially demolish the building. The implications based on the code requirements discussed above are as follows:

1) Renovation

Should the building be renovated, we recommend structural work to be limited to less than 30% of the building area. Should this be exceeded, the renovation would be classified as a substantial structural alteration and require lateral upgrades the entire building.

Should the floors be re-purposed, we recommend that the new use does not exceed their original design load: 80 PSF on the existing typical floors and 100 PSF on the lobbies and corridors, 250 PSF at the mechanical rooms. Should this be exceeded by more than 5%, the load path would need to be re-evaluated and reinforced for gravity loads.

New concentrated loads from equipment should also be located such that the loads are not exceeded by greater than 5% to avoid structural reinforcement.

Removal or new openings in existing concrete walls should be limited, as it would reduce the lateral capacity of the existing building. The new openings should be limited such that the lateral demand-capacity ratio does not change by more than 10% to avoid re-analysis and reinforcement of the entire building.

Diaphragm anchorage. Should the renovation be considered a level 3 alteration, diaphragm anchorage would be required for the entire building. Diaphragm anchorage would involve adding L8x8 angles @ 6’-0” OC on both sides of all CMU walls secured by epoxy anchors.



Figure 7 – Existing CMU walls are not clipped to the slab.

2) Partial Demolition

Should the building be partially demolished, the lateral load carrying system would be greatly altered. It would certainly exceed the threshold for 10% change in lateral demand capacity ratio. As a result, a partial demolition would require the re-analysis and reinforcement of the building's lateral system to meet present day IBC wind and reduced seismic demands. Reinforcement would likely be very invasive and entail: new shear walls up the height of the building, new grade beams beneath the existing ground floor slab, and new cassions or pile foundations beneath the ground floor slab. Some existing foundations that are non-confirming to the IBC wind and seismic demands will also need to be underpinned and supported with additional cassions and piles. All this work would be performed inside the existing ground floor.

VAV International, Inc. Consulting Mechanical Engineers
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Lindemann Building Study

25 Staniford St
Boston, MA

Mechanical Existing Conditions Narrative

9/29/22

A. General:

1. Built in 1966.

B. HVAC Systems:

1. Existing System Description:

a. Heating is provided by five (5) Aerco 2,000 mbh gas-fired hot water boilers located in a small Basement Level Mechanical Room adjacent to the Loading Dock. The boilers were installed in 2003 and are now 19 years old.

The building was converted from district steam to a gas-fired hot water plant in 2003. Three (3) plate and frame heat exchangers were installed as part of the project to provide domestic hot water from the boilers. Two (2) heat exchangers provide house domestic hot water heating. One (1) heat exchanger provides kitchen domestic hot water heating.

The hot water circulation system consists of six (6) pumps located in a Basement Level Mechanical Room adjacent to the Loading Dock.

Pumps P-1 and P-2 are original (now 56 years old) and serve a separate piping loop that serves the AHU heating coils and 2-pipe fan coil units.

Pumps P-3 and P-4 are original (now 56 years old) and serve a separate piping loop that serves the perimeter finned tube radiation.

Primary circulation pumps P-5 and P-6 were installed in 2003 and are provided with variable frequency drives. The pumps are now 19 years old.

b. Cooling is provided by chilled water. The building is provided with two (2) 350-ton electric water-cooled chillers located in the Fifth Floor Mechanical Room. Due to system limitations, only one chiller can operate at a time.

There was a cooling system upgrade project in 2022 which installed one of the 2 chillers and disconnected a back up chilled water piping connection to the Hurley building.

The cooling system upgrade project replaced the chilled water pumps, the

condenser water pumps and installed a new sidestream filter on the condenser water side. The chilled water and condenser water pumps are provided with variable frequency drives.

The 2022 project also made upgrades to the existing cooling tower.

c. The building is provided with twenty one (21) air handling units located in Mechanical Rooms throughout the building. Each AHU is original to the building and is now 56 years old.

Each AHU is provided with a hot water heating coil and chilled water cooling coil.

Damper operators and control valves are original pneumatic type.

Original steam humidifiers were disconnected in 2003 when the building was converted to hot water.

Mechanical rooms have no heat. The original steam unit heaters were disconnected when the building was converted to hot water.

d. The building is provided with sixteen (16) return fans and exhaust fans located in Mechanical Rooms throughout the building. Each fan is original to the building and is now 56 years old.

e. Supply ductwork is original to the building is internally lined with fiberglass insulation. Over time, the insulation has deteriorated and became loose in the airstream which blocks up duct mounted hot water reheat coils and creates other duct blockages. There are no access panels at the reheat coils.

There is one section of ductwork in the Cafeteria that is constructed of concrete.

f. Maintenance staff reports that the fan coil units are their biggest maintenance problem. The fan coil units are original (now 56 years old) and are in poor condition. The fan coil units require constant service and maintenance due to age, valves not working, clogged condensate drain pans, antiquated pneumatic controls and client vandalism. The fan coil units are powered by 277V/1 phase power.

g. Toilet exhaust fans are original and now 56 years old.

h. Piping throughout the building is original and now 56 years old.

i. Except for the newer hot water and chiller water plants, controls throughout the building are original vintage pneumatic.

C. Plumbing System:

1. Existing System Description:

a. Domestic hot water is heated by the gas-fired hot water heating plant.

Three (3) plate and frame heat exchangers were installed in 2003 as part of the boiler project. Two (2) heat exchangers provide house domestic hot water heating. One (1) heat exchanger provides kitchen domestic hot water heating.

b. The building is provided with a domestic water service. The incoming water pressure is 120 psi. Duplex domestic water pumps are located on the Basement

Level but have never operated since the incoming pressure is so high. A pressure reducing valve was installed on the Third Floor to regulate pressure.

c. Bathroom fixtures throughout the building are original and not handicap accessible. There are 95 bathrooms throughout the building.

Maintenance staff reports that shut-off valves at lavatories do not work which requires extra time to repair and in some cases causes water damage when the valve can't be closed.

Maintenance staff reports that bathroom water closets are provided with tamper-proof push button flushometers that are located behind recessed wall panels. The access panel screws requires a special key which is not readily available. This requires extra time to repair and in some cases causes water damage when the valve can't be closed.

d. Drinking fountains throughout the building are not handicap accessible.

e. Piping throughout the building is original and now 56 years old.

D. <u>Fire Protection System</u>:

1. Existing System Description:

a. The entire building is sprinkler protected.

b. A 6" fire service, double check valve assembly and Peerless electric fire pump are located on the Ground Level.

c. The fire pump is original and now 56 years old.

d. Fire hose cabinets are located throughout the building.

e. Sprinkler heads and sprinkler piping throughout the building are original and now 56 years old.

OWL Engineers
105 Abbot Street
Andover, MA 01810
tel:(978)621-2391

Lindemann Building Study

25 Staniford St
Boston, MA

Electrical Existing Conditions Narrative

9/29/22

A. General:

1. Built in 1966.

B. Electrical Systems:

1. Existing System Description:

   a. The existing electrical service enters the building into the utility transformer vault which is only accessible to the utility. The transformers are indicated on the plans to be (3) 750KVA, 13.8KV-480/277V; this provides 2613Amps at 480/277V. The utility transformer feeds the existing FPE switchboards in the main electrical room, the busway feeding the switchboard are 3000A at 480/277V. There are (2) sections of older FPE switchgear and (1) new section feeding the chiller on the 5th floor. The new switchgear is in good condition the older FPE gear has reached the end of it's useful life and should be replaced.
   b. The switchgear feeds distribution panels throughout the building. These feeders leave the switchgear from below and run under the slab to risers which run through core electrical rooms, these panels are all FPE and are original to the building. All of these panels have also reached the end of their useful life and should be replaced. The feeders connecting these panels to the switchboard should not be utilized until tested, as similar underground feeders in the building have been tested and found to have insulation breakdown.
   c. The generator feeding the building is a 150KW/187.5KVA, 480/277V, 3 phase, 4 wire. This has a capacity of 225A but is feeding a 600A transfer switch which in turn feeds a 600A, 480/277V emergency distribution panel DE, an area protection relay cabinet, (2) 30A/3P disconnects for the east and west emergency lighting riser (normally off, on for emergency power only) and a 70A/3P disconnect for the elevator selector switch. Panel DE feeds Elevator #5 (west elevator) 100A disconnect in the elevator machine room, elevators 1&4, & 2&3 (4)100A disconnects (east elevators). Elevator #5 and #4 run on both normal and emergency power, elevators 1,2 &3 run on normal power and in an emergency condition only (1) of the three elevators can run at one time. Currently the selector switch is in auto mode which indicates that the elevator controller software selects which elevator to run. The selector switch control panel located in the main electrical room has an override so that one of the three elevators can be manually selected which will override the elevator software, there are also fire department controls than can also override the elevator software to run any selected elevator. The feeders from panel DE run under the slab. These feeders have been tested and found the insulation to be failing. These feeders need to be replaced sometime soon.

d. There are mechanical rooms on the fifth floor both on the east and west side. Each mechanical room is equipped with a motor control center. These motor control centers feed the majority of equipment in these mechanical rooms. These MCCs are FPE and are original to the building. These MCCs are beyond their useful life and need to be replaced. One of the MCCs has had an electrical fault which caused a fire last year. Feeders to these MCC are from the main switchboard and are also feed under the slab. Reuse of these feeders is not recommended unless tested for insulation breakdown.

e. The fire alarm control panel is located in the main electrical room on the lower level. This panel was noted to be 20years old. Fire alarm equipment useful life is 15 years, therefore this equipment is past it's useful life and it is time to schedule replacement. The building is fully sprinklered limiting the number of required initiation devices. Initiation devices are in electrical rooms and outside of elevators; pull stations are located at exits. The majority of the initiation devices do meet current code spacing but some of the heights do not meet current ADA requirements. Fire alarm notification devices are located throughout the building. There are several areas where notification devices are missing based on current code equipment. These areas include several bathrooms, corridors and public space. Many devices do not meet the required spacing according to current code. Full replacement is recommended but budget allows.

f. Lighting consists mostly of older fluorescent lighting, there are some incandescent fixtures with LED screw in type lamping and some have been replaced with LED but the majority are still fluorescent. The lighting controls are mostly switching. Current energy code is not being met and the majority of the lighting and controls would need to be replaced to meet this requirement. Replacement is also recommended as a cost savings measure. Wiring is original, 66 years and should also be replaced when core panels, lighting and controls are replaced.

g. Emergency lighting is almost non-existent and should be addressed immediately. 1 FC (footcandle) of emergency lighting is required throughout the paths of egress, in the bathrooms, in all common areas and outside each egress door. Exit signage was limited and did not appear to have battery back-up and did not appear to be connected to the generator. Emergency lighting assessment and replacement should be done immediately as this is a life safety concern.

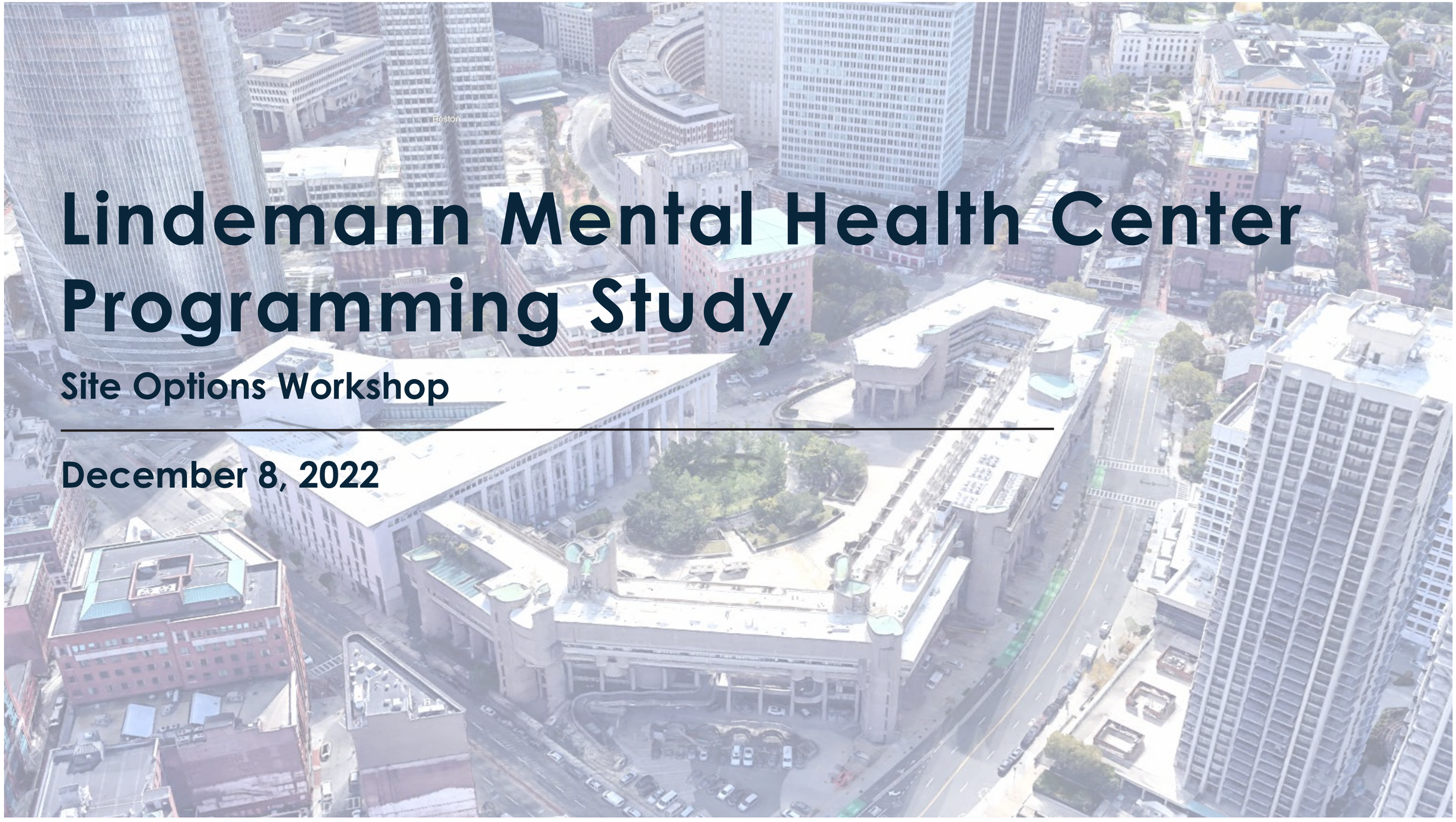
h. General receptacles and data devices are limited. Some additional devices have been added and are surface mounted. There are no code required floor receptacles in conference and training rooms. The core electrical panels do not have sufficient space or capacity to provide sufficient receptacles in the majority of the areas. Wiring is original, 66 years and should also be replaced core panel and receptacles are replaced.

i. Security is limited and is mainly for the tenant areas. Building security as a whole is not sufficient and complete replacement with a cohesive system is recommended.

j. Known on going projects.

   Elevator replacement
   New larger generator on the roof
   New switchgear to replace older FPE gear

   Note: The new generator project should consider a new core Life safety power distribution system to provide power in the future for new emergency lighting and exit signage.



Lindemann Mental Health Center Programming Study

Site Options Workshop

December 8, 2022

Agenda

Project Overview

Work to Date:

- Existing Conditions
- Stakeholder Interviews
- Right Sized Program + Adjacency Analysis
- Precedent Examples
- Residential Program

Discussion:

- **Site Options**
- **Evaluation of Options**

Summary

Team

DIVISION OF CAPITAL ASSET MANAGEMENT & MAINTENANCE

Commonwealth of Massachusetts
Executive Office of Health and Human Services

ICON ARCHITECTURE

VAV International Inc. CONSULTING MECHANICAL ENGINEERS

OWL ENGINEERS

SLS

Lim Consultants, Inc.

Work to Date

Existing Conditions

Stakeholder Interviews

Existing Program

Precedent Examples

Residential Program

Study Goals

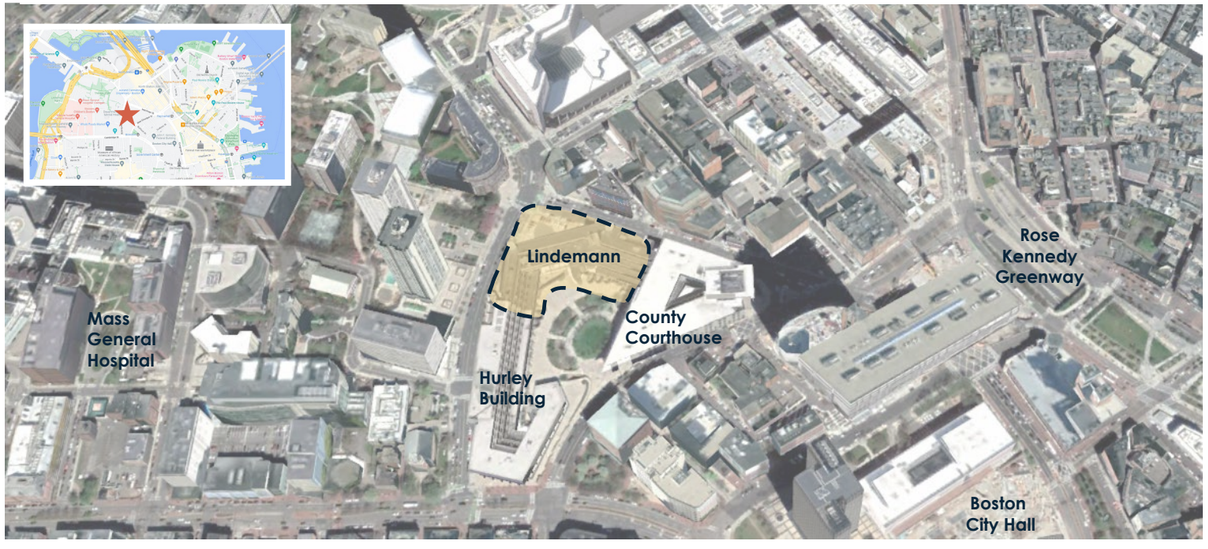
1. Serve as a strategic planning document for DCAMM, EOHHS, and DMH leadership in helping decide the future of Lindemann Building
2. Understand existing DMH programs within the building. Evaluate existing facility conditions
3. Seek stakeholder input on evolving DMH program components.
4. Develop preliminary program for an alternative facility based on changing needs and regulatory standards
5. Develop three distinctive conceptual approaches to renovate/relocate Lindemann supplemented by order-of-magnitude cost estimates.



How do you solve a problem like Lindemann?



Site Location

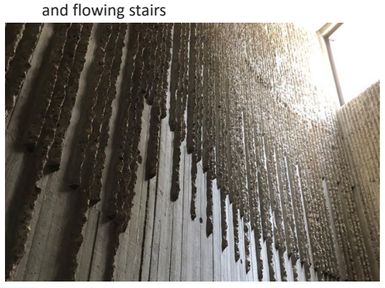


Lindemann Building

- Designed by Paul Rudolph, programmed for mental health use, opened in 1971
- 1990 recommended as Boston Landmark
- MHC: Significant cultural resource
- Eligible for listing on State and National Register of Historic Places
- Character-defining elements include expressive forms, bush-hammered concrete and flowing stairs

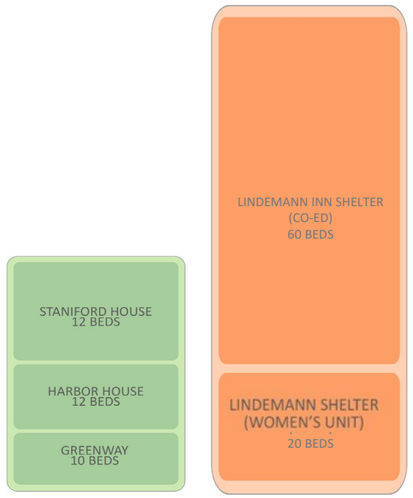








Lindemann Building: Existing Beds



Stakeholder Interviews: Key Points

Social Engagement:

- Lindemann is a Building of Neighborhoods
- Proximity to Community Resources
- Recovery engagement through the larger community (in common spaces)

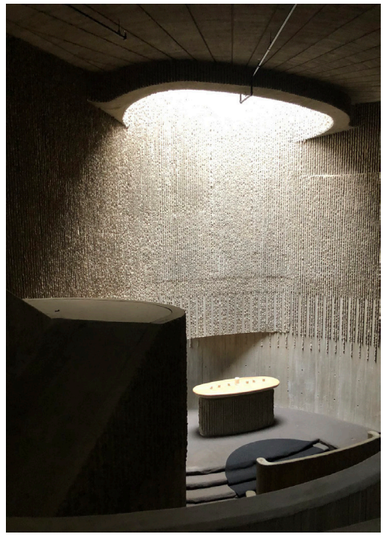


Stakeholder Interviews: What is working?

Building Successes:

- Gym as key space for engagement
- Corridors for spontaneous meetings
- Coffee Shop for training
  (Not currently in use)
- Boston Conference Room (Multipurpose event space)
- Cafeteria (Sized for 80 people)
- HOPE Learning Center



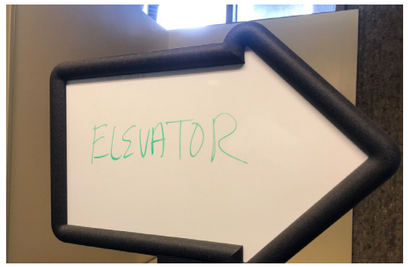




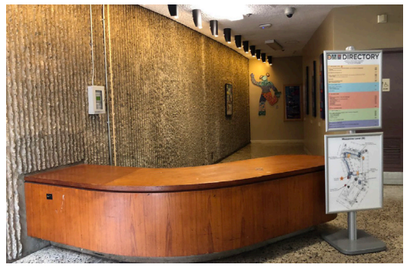
Learning from Stakeholders: What's not working?

Building Entrance:

- Wayfinding
- Entry sequence – confusing and not welcoming
- Waiting Space and Hygiene Room for onboarding
- Security space





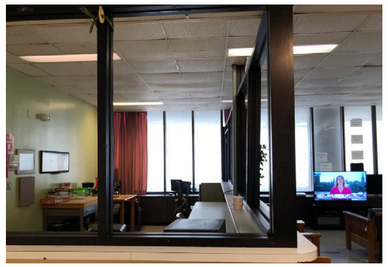
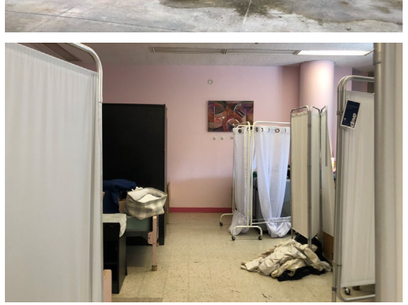




Learning from Stakeholders: What's not working?

Residential Communities:

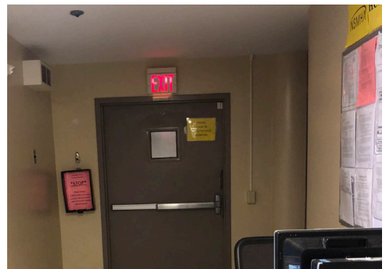
- Nursing station – location and visibility issues/ prefer to be at the entry
- Space for Training
- Outdoor Space for Homes and Shelters
- Bathroom facilities – Accessibility
- Overflow Space
- Additional Storage for Resident belongings
- Lack of Privacy


Learning from Stakeholders: What's not working?

Administrative + Staff Spaces:

- Welcoming +Therapeutic Spaces
- Medical Exam Rooms (incl. sinks)
- Dedicated Staff Spaces (WC, Locker Room, Conf. Rm)

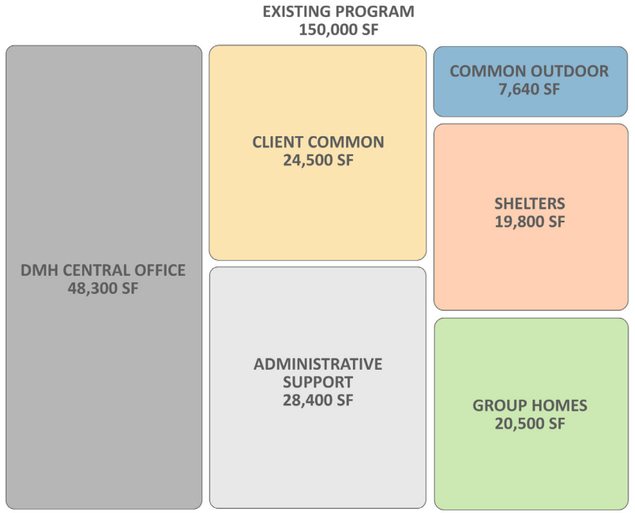





Existing Program

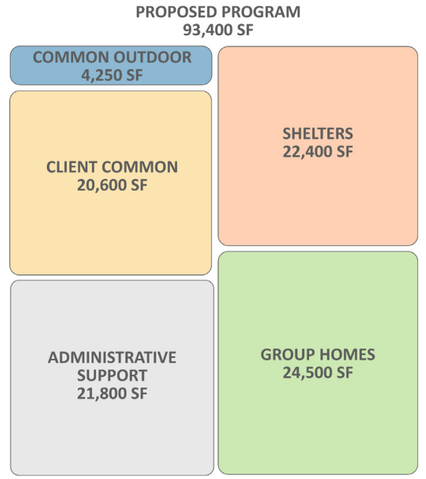
- Administrative support included
- Central offices included
- Existing Program*: Approx 150,000 SF
- Inefficient Layout
- Extensive corridors and circulation
- Multiple lobbies
- Future of work: 50% in office per day
- Total Lindemann GSF: Approx 200,000 SF

* Does not include building circulation (Approx 50,000 SF)

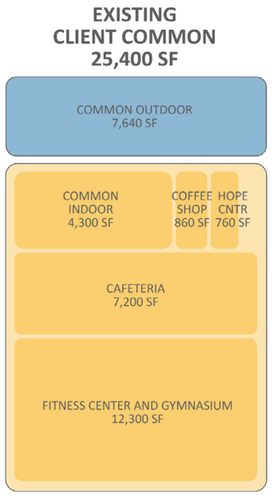


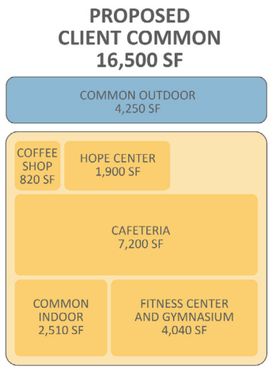
Right-sized Program

- Administrative support included
- Central offices excluded
- Existing Program: 101,740 SF
- Proposed Program: 93,400 SF
- Group Homes and Shelters increase



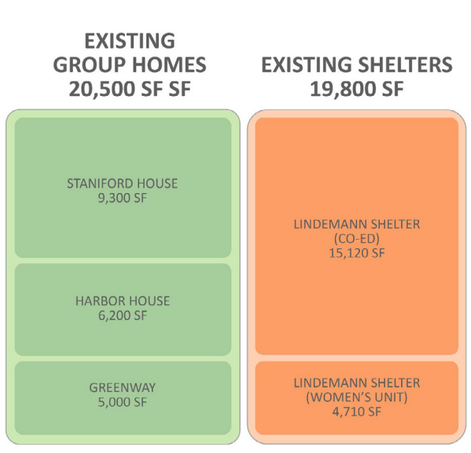
Client Common Space

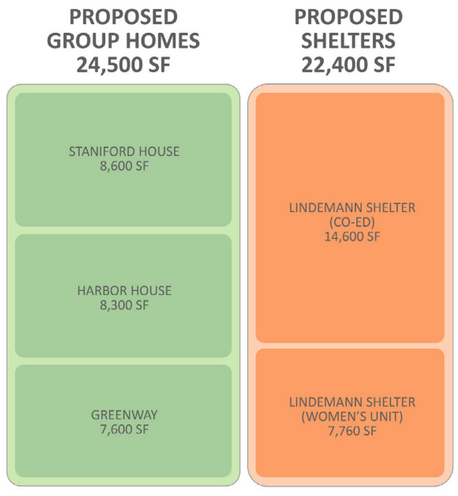




* Fitness/Gymnasium may vary per site constraints

Shelter & Group Homes





Precedent Examples

MLK 1101
Los Angeles, CA

Richardson Apartments
San Francisco, CA

Boston Road
South Bronx, NY

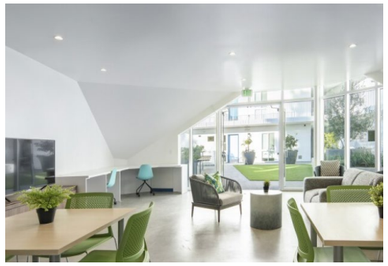
3368 Washington
Jamaica Plain, MA

Precedent Examples

MLK 1101 Supporting Housing
Los Angeles, CA

- Connection to outdoors
- Connection to the community
- Natural light and visual access
- Herb garden and retail space
- 38,000 SF
- Studio to 3 Bedroom Units









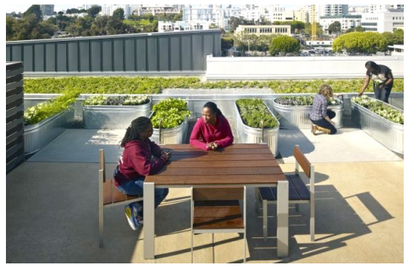


Architect: Lorcan O'Hearlihy

Precedent Examples

Richardson Apartments
San Francisco, CA

- Connection to outdoors
- Connection to community
- Private Courtyard
- Green roof deck + Solar PV
- Social Enterprise Bakery
- Lounge and Library
- Art by local artists and residents
- 120 beds
- Cost per unit: $233,000







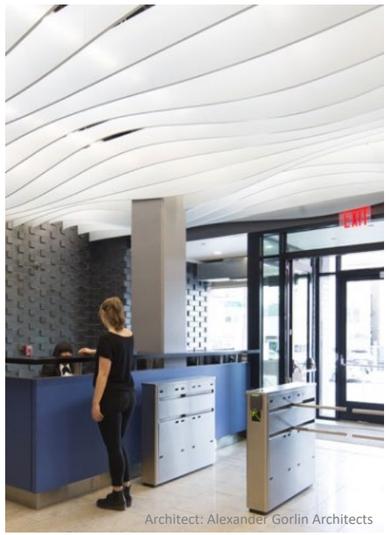


Precedent Examples

Boston Road
South Bronx, NY

- Large Patio + Garden
- Roof Terrace
- Multipurpose Room
- Computer Lab
- Exercise Room
- Bike Storage
- Laundry
- 154 Beds
- 100,000 SF









Precedent Examples

3368 Washington Street
Jamaica Plain, MA

- TOD Site
- 16,000 SF Client Services & Clinic
- Training Center and Computer Lab
- Exercise Room
- Bike Storage
- Laundry
- Green Roof Deck
- 144,000 SF
- 140 beds + 202 affordable units
- 13,000 SF open space
- 39 parking spaces

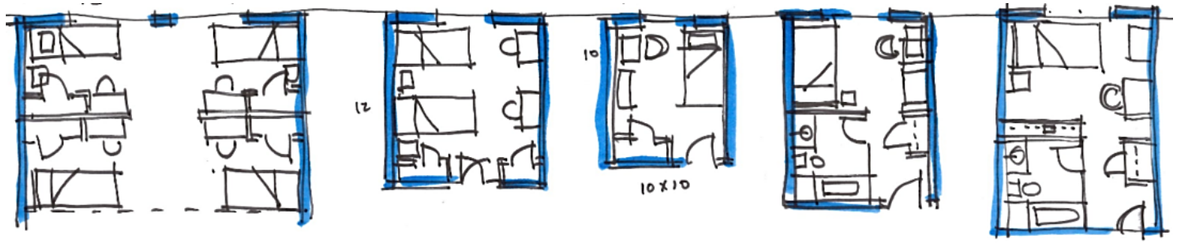








Bed Configuration Options



Dorm: Multiple Beds; 4-8 beds
80 SF / bed

Double: 2 beds
60 SF / bed

Single: 1 bed
100 SF / bed

SRO: 1 bed
120 SF / bed

Studio: 1 bed
250 SF / bed

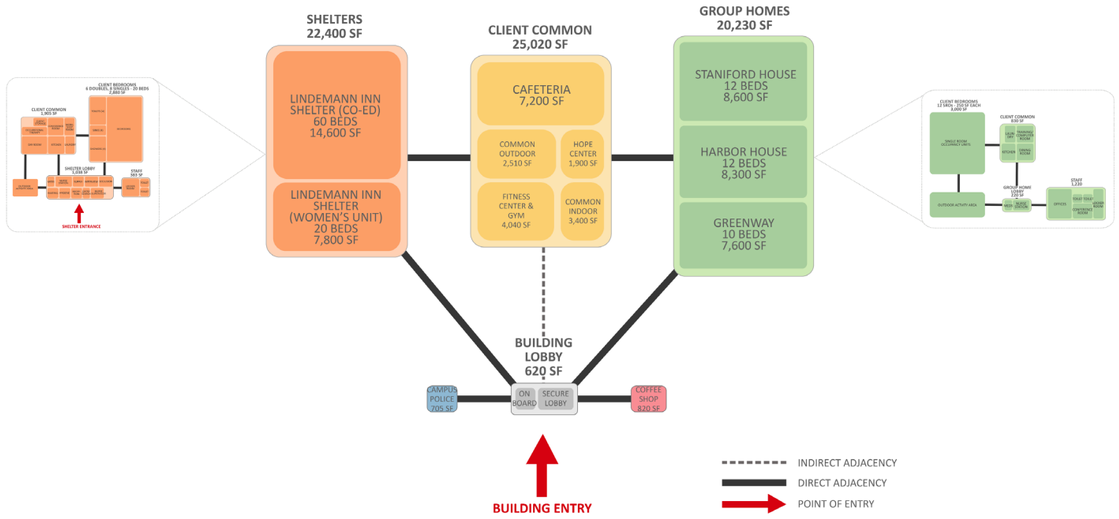
Shared Bathroom Options:
- Groups of WC and groups of showers
- Individual WC + Individual shower
- Private WC + shower pods

Private Bathroom:
WC + shower

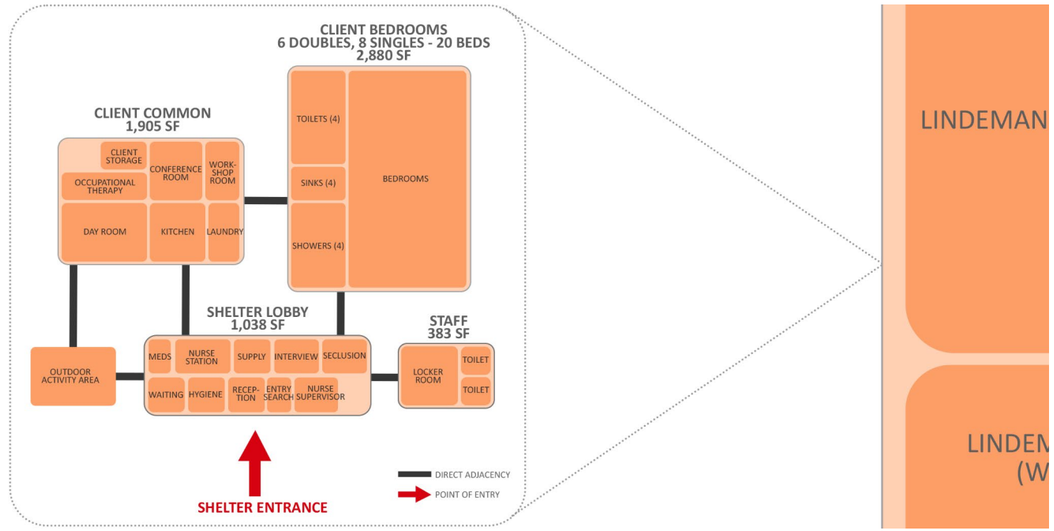
Private Bathroom:
WC + shower
+ kitchen

Dormitory Residential (Shared Hygiene) ⟷ **SRO Residential (Private Hygiene)**

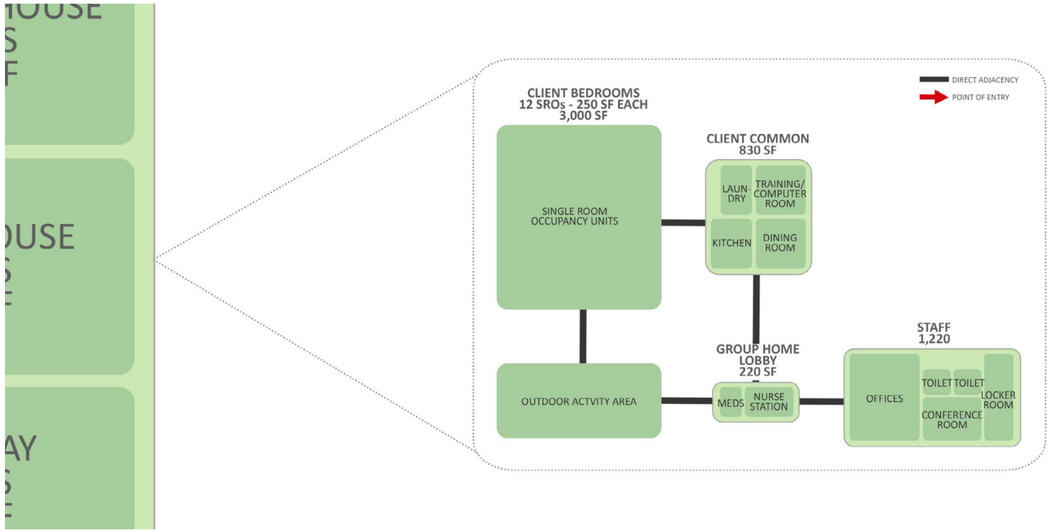
Adjacency Diagram



Adjacency Diagrams: Shelters

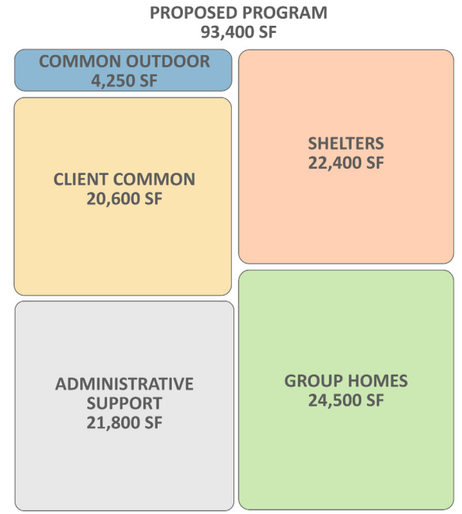


Adjacency Diagrams: Group Homes



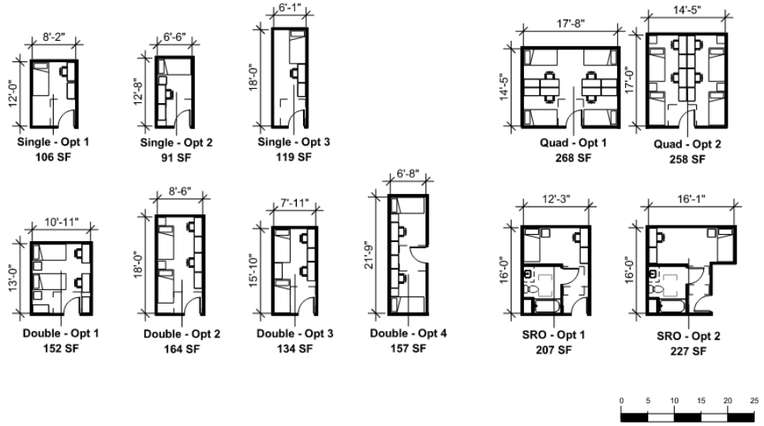
Summary Program

- Administrative Support
- Common Client Space
- Residential: 114 beds
  - Group Homes:
    - Staniford House: 12 beds
    - Harbor House: 12 beds
    - Greenway: 10 beds
  - Lindemann Inn Shelter:
    - Co-Ed: 60 beds
    - Women's Unit: 20 beds



Residential Program

- Different tenants (Lindemann Shelter, Group homes,…) may utilize different room layouts
- Longer rooms may fill in corners and narrower spaces
- A wider building footprint will be beneficial for common client spaces; to create smaller circulation spaces in the residential areas, longer rooms will help with building efficiency
- Different building perimeters require different room configuration:
- State -owned Campus site is more flexible and may utilize bigger rooms, whereas the Downtown site may require smaller rooms



Discussion Topics: Site Options

Advantages + Disadvantages:

- Connections
- Access
- Adjacencies
- Cost
- Logistics / Phasing

*Vacate Central Office functions all options

Option 1:
Reconfigured Lindemann



Option 2:
Downtown Site



Option 1:
State Owned Campus Site

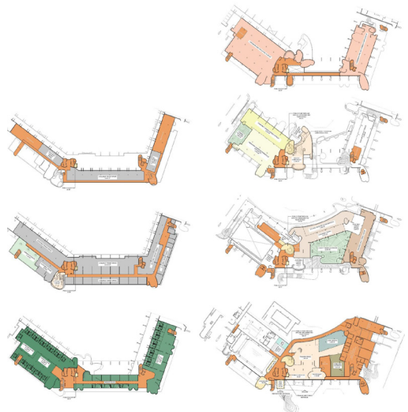


DCAMM

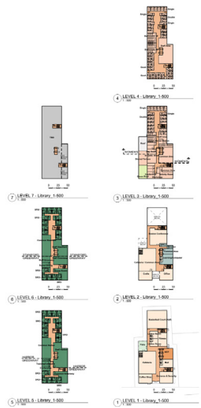
29

Site Options

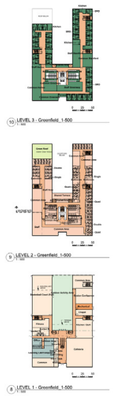
Option 1:
Reconfigured Lindemann



Option 2:
Downtown Site



Option 3:
State Owned Campus Site



*Plans shown at the same scale

Option 1: Reconfigured Lindemann Site



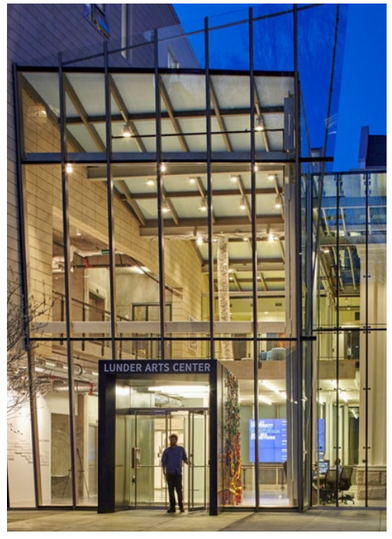
Proposed Hurley Redevelopment



Option 1: Reconfigured Lindemann

- Relocated DMH program on 5 floors
- Gut renovation
- Meets program and MAAB
- Streetscape improvements
- Ground level Café/ Training Spaces
- New DMH Expanded Entrance on Staniford Street





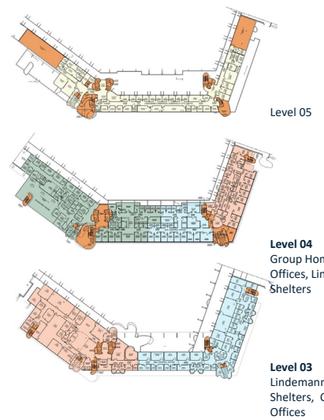




Existing Building Overview

Program

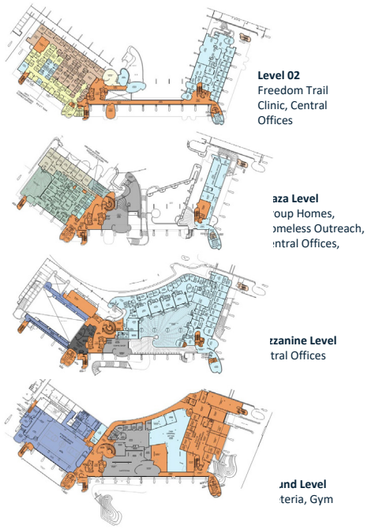
- Group Home
- Lindemann Inn Shelter
- Freedom Trail Clinic
- Community Based Flexible Support
- NAMI
- Homeless Outreach Team
- HOPE Center
- Group Home
- Client Common Indoor
- DMH Central Office
- Fitness Center & Gymnasium
- Building Common (Mechanical & Circulation



Level 05

Level 04
Group Homes, Central Offices, Lindemann Inn Shelters

Level 03
Lindemann Inn Shelters, Central Offices



Level 02
Freedom Trail Clinic, Central Offices

aza Level
oup Homes,
meless Outreach,
ntral Offices,

zzanine Level
tral Offices

nd Level
teria, Gym

Existing Documentation – Initial Observations

HVAC systems
- Fancoil equipment (x350) is original/ poor condition
- Insulation in Ductwork Systems

Plumbing systems
- Original Fixtures
- Requires special (hard to find) equipment

Fire Protection
- Sprinklers installed in the 90s
- System is original - Annual testing

Electrical and Fire Alarm Systems
- Nonfunctioning emergency lighting in stairwells
- Aged Switchgear
- Changing out lighting

Structural Conditions
- Old leaks
- Cracked rebar and crumbling concrete
- Ladies Locker Room/ Mail Room
- Wall clips at CMU

Hazardous Materials
- 5th floor humification system

Accessibility
- Wayfinding - Elevators
- Restrooms
- Door hardware

Code
- Building is a Highrise- Standpipes to meet current code

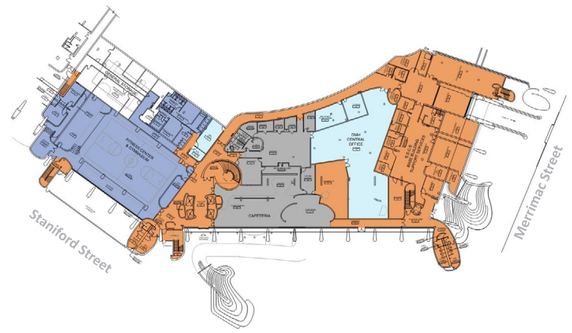
Climate Resiliency
- Sea Level Rise Base Flood Elevation 18 ft
- Mech spaces below flood level

Critical Repairs Include
- Deterioration of beams and columns due to leaks at mechanical rooms
- Elevator upgrades
- Electrical Equipment
- Fan coil Equipment
- Emergency Lighting



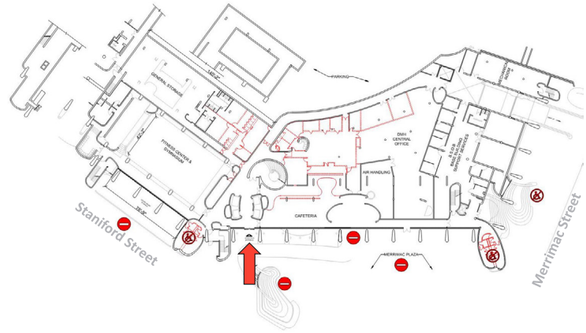


Ground Level – Existing Analysis



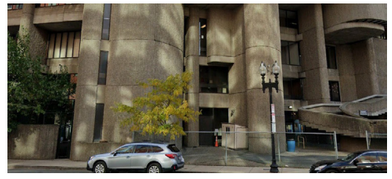
CLIENT COMMON INDOOR (CAFETERIA)
DMH CENTRAL OFFICE
FITNESS CENTER & GYMNASIUM
BUILDING COMMON

GROUND LEVEL – EXISTING

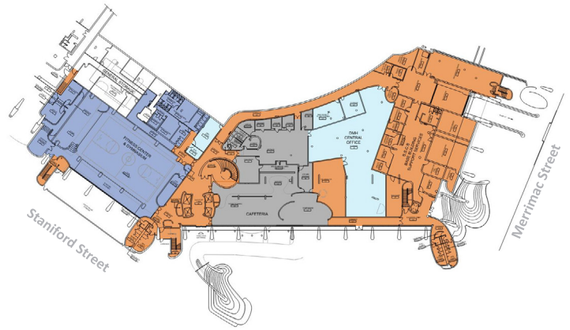


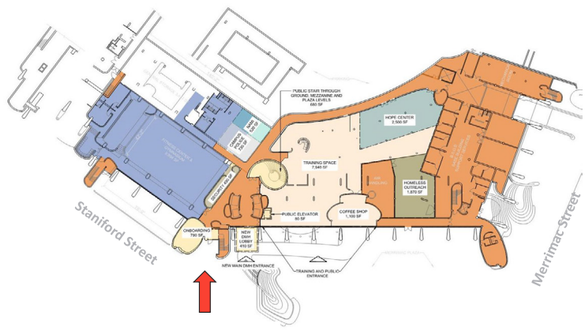
NO ENTRY/ACCESS
NOT ACCESSIBLE

GROUND LEVEL – ANALYSIS



Ground Level – Reconfigured





- CLIENT COMMON INDOOR (CAFETERIA)
- DMH CENTRAL OFFICE
- FITNESS CENTER & GYMNASIUM
- BUILDING COMMON

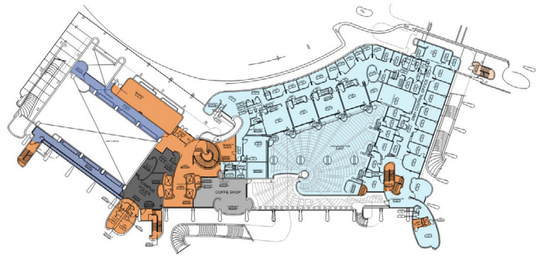
GROUND LEVEL – EXISTING

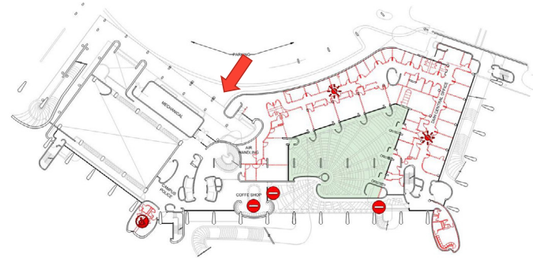
- DMH CIRCULATION AND ENTRANCE - 2,450 SF
- CAMPUS POLICE - 730 SF
- CLIENT COMMON INDOOR (TRAINING SPACE) - 7,940 SF
- CLIENT COMMON INDOOR (COFFEE SHOP) - 1,100 SF
- HOPE CENTER - 2,500 SF
- NAMI - 520 SF
- HOMELESS OUTREACH - 1,870 SF
- BUILDING COMMON - 17,160 SF
- GYMNASIUM - 9,994 SF
- GENERAL STORAGE - 3,647 SF

TOTAL - 47,911 SF

GROUND LEVEL – RECONFIGURED

Mezzanine – Existing Analysis





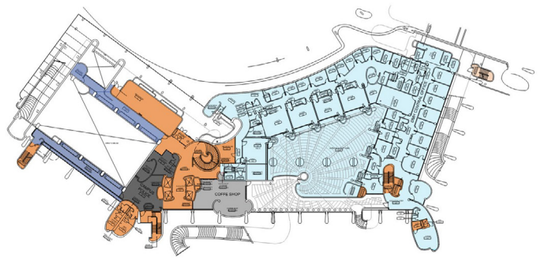
- CLIENT COMMON INDOOR (COFFEE SHOP)
- DMH CENTRAL OFFICE
- FITNESS CENTER & GYMNASIUM
- BUILDING COMMON

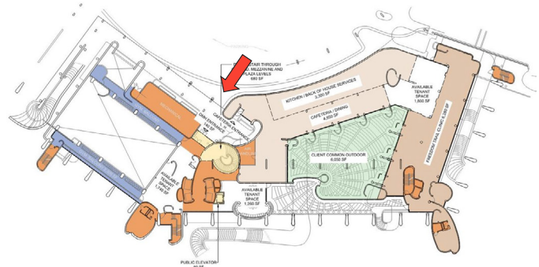
MEZZANINE LEVEL – EXISTING

- NO ENTRY/ACCESS
- NOT ACCESSIBLE
- NO DAYLIGHT

MEZZANINE LEVEL – ANALYSIS

Mezzanine – Reconfigured





- CLIENT COMMON INDOOR (COFFEE SHOP)
- DMH CENTRAL OFFICE
- FITNESS CENTER & GYMNASIUM
- BUILDING COMMON

MEZZANINE LEVEL – EXISTING

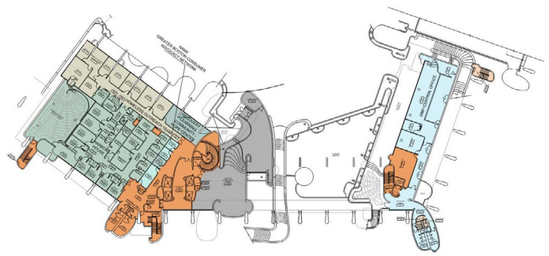
- DMH CIRCULATION AND ENTRANCE - 900 SF
- CLIENT COMMON INDOOR (CAFETERIA / DINING) - 4,550 SF
- CLIENT COMMON INDOOR (KITCHEN / BACK OF HOUSE SERVICES) - 3,300 SF
- FREEDOM TRAIL CLINIC - 6,280 SF
- AVAILABLE TENANT SPACE - 4,800 SF
- BUILDING COMMON - 5,100 SF

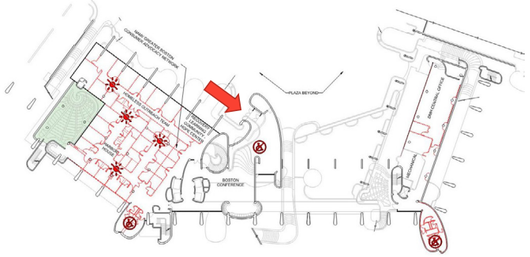
GYMNASIUM BALCONY - 2,300 SF

TOTAL - 27,230 SF

MEZZANINE LEVEL – RECONFIGURED

Plaza Level – Existing Analysis



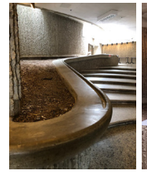


- CLIENT COMMON INDOOR (BOSTON CONFERENCE)
- NAMI
- HOMELESS OUTREACH TEAM
- HOPE CENTER
- GROUP HOME
- DMH CENTRAL OFFICE
- BUILDING COMMON

PLAZA LEVEL– EXISTING

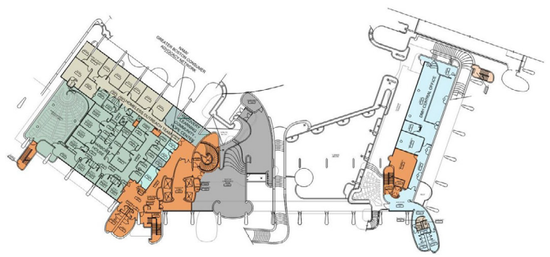
- NOT ACCESSIBLE
- NO DAYLIGHT

PLAZA LEVEL – ANALYSIS





Plaza Level – Reconfigured



CLIENT COMMON INDOOR (BOSTON CONFERENCE)

NAMI

HOMELESS OUTREACH TEAM

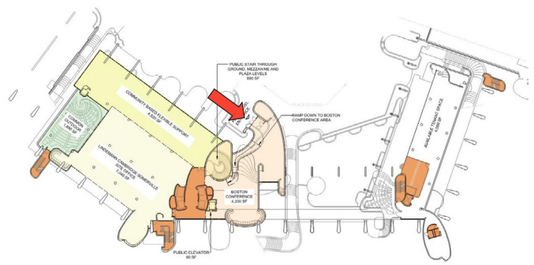
HOPE CENTER

GROUP HOME

DMH CENTRAL OFFICE

BUILDING COMMON

PLAZA LEVEL– EXISTING



DMH CIRCULATION AND ENTRANCE - 770 SF

CLIENT COMMON INDOOR (BOSTON CONFERENCE) - 4,200 SF

COMMUNITY BASED FLEXIBLE SUPPORT - 4,920 SF

LINDEMANN CAMBRIDGE SOMERVILLE SITE OFFICE - 7,040 SF

AVAILABLE TENANT SPACE - 4,000 SF

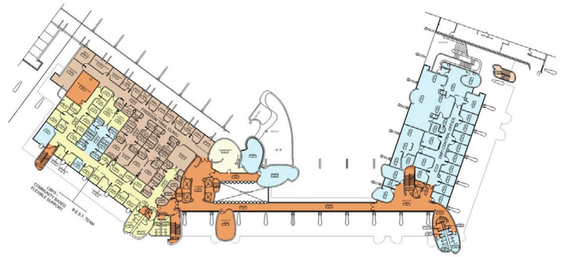
BUILDING COMMON - 3,030 SF

TOTAL - 23,960 SF

CLIENT COMMON OUTDOOR - 1,890 SF

PLAZA LEVEL – RECONFIGURED

Level 02 – Existing Analysis



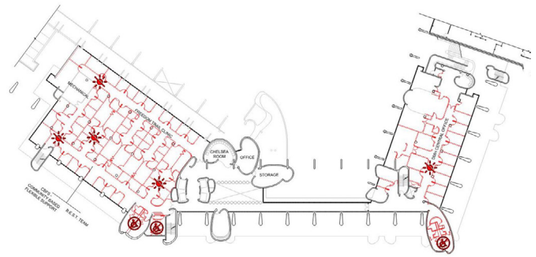
DMH CENTRAL OFFICE

FREEDOM TRAIL CLINIC

COMMUNITY BASED FLEXIBLE SUPPORT

BUILDING COMMON

LEVEL 02– EXISTING



NOT ACCESSIBLE

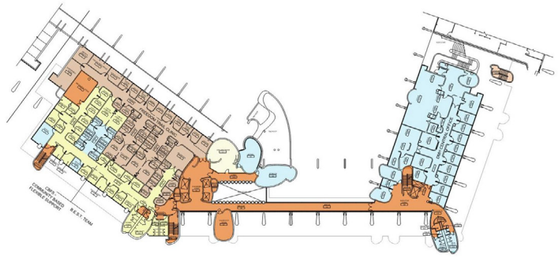
NO DAYLIGHT

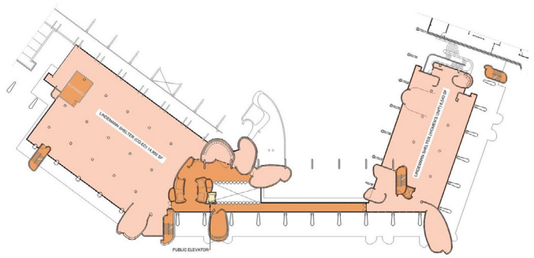
LEVEL 02 – ANALYSIS





Level 02 – Reconfigured





DMH CENTRAL OFFICE

FREEDOM TRAIL CLINIC

COMMUNITY BASED FLEXIBLE SUPPORT

BUILDING COMMON

LEVEL 02– EXISTING

DMH CIRCULATION AND ENTRANCE - 80 SF

LINDEMANN SHELTER (CO-ED) - 14,950 SF

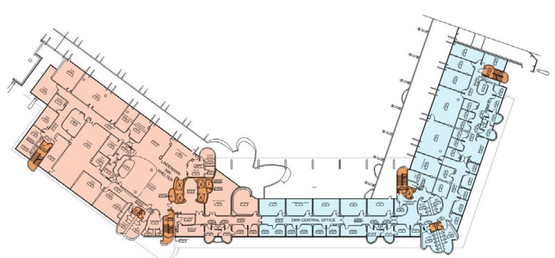
LINDEMANN SHELTER (WOMEN'S UNIT) - 8,540 SF

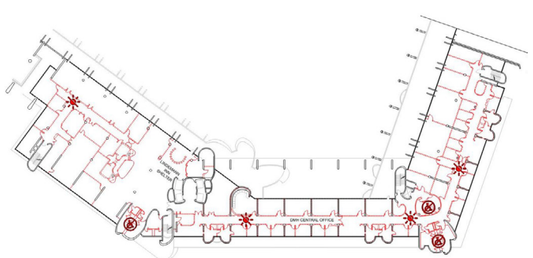
BUILDING COMMON - 3,410 SF

TOTAL - 26,982 SF

LEVEL 02 – RECONFIGURED

Level 03 – Existing Analysis





DMH CENTRAL OFFICE

LINDEMANN INN SHELTER (CO-ED UNIT)

BUILDING COMMON

LEVEL 03– EXISTING

NOT ACCESSIBLE

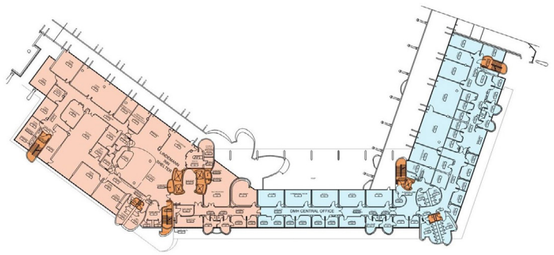
NO DAYLIGHT

LEVEL 03 – ANALYSIS





Level 03 – Reconfigured

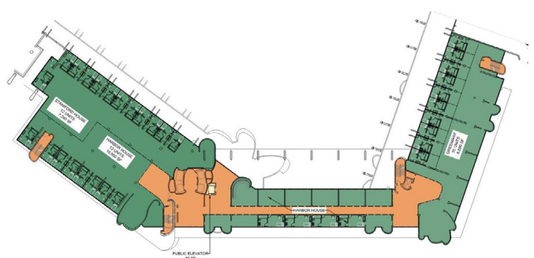


DMH CENTRAL OFFICE

LINDEMANN INN SHELTER (CO-ED UNIT)

BUILDING COMMON

LEVEL 03– EXISTING



DMH CIRCULATION AND ENTRANCE - 90 SF

STANIFORD HOUSE - 7,240 SF

GREENWAY - 10,600 SF

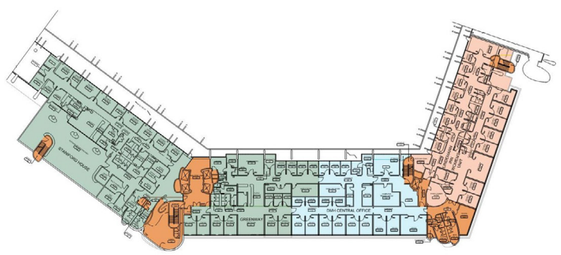
HARBOR HOUSE - 8,890 SF

BUILDING COMMON - 6,680 SF

TOTAL - 33,493 SF

LEVEL 03 – RECONFIGURED

Level 04 – Existing Analysis



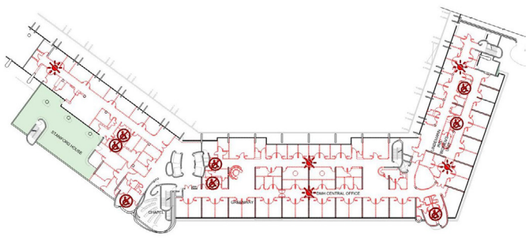
GROUP HOME

DMH CENTRAL OFFICE

LINDEMANN INN SHELTER (WOMEN'S UNIT)

BUILDING COMMON

LEVEL 04– EXISTING



NOT ACCESSIBLE

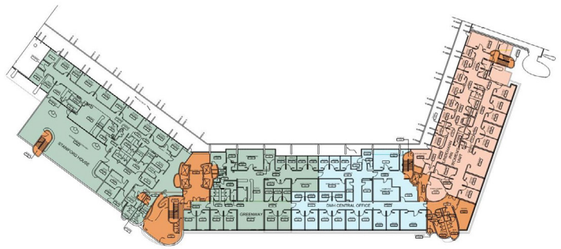
NO DAYLIGHT

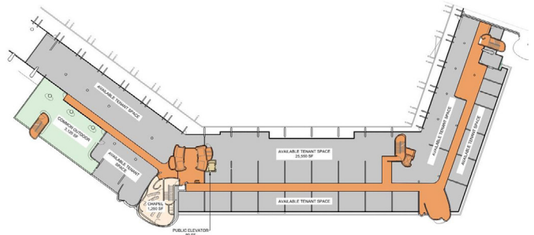
LEVEL 04 – ANALYSIS





Level 04 – Reconfigured





GROUP HOME

DMH CENTRAL OFFICE

LINDEMANN INN SHELTER (WOMEN'S UNIT)

BUILDING COMMON

LEVEL 04– EXISTING

DMH CIRCULATION AND ENTRANCE - 80 SF

CLIENT COMMON INDOOR (CHAPEL) - 1,250 SF

AVAILABLE TENANT SPACE - 25,550 SF

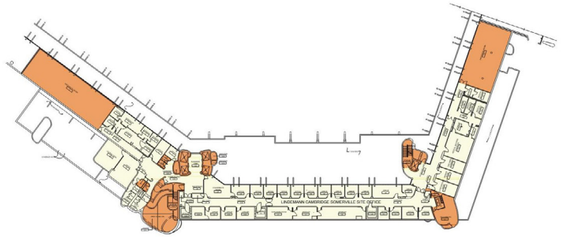
BUILDING COMMON - 6,990 SF

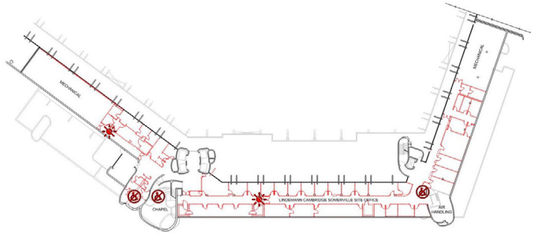
TOTAL - 33,870 SF

CLIENT COMMON OUTDOOR - 3,120 SF

LEVEL 04 – RECONFIGURED

Level 05 – Existing Analysis





LINDEMANN CAMBRIDGE SOMERVILLE SITE OFFICE

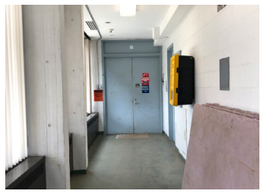
BUILDING COMMON

LEVEL 05– EXISTING

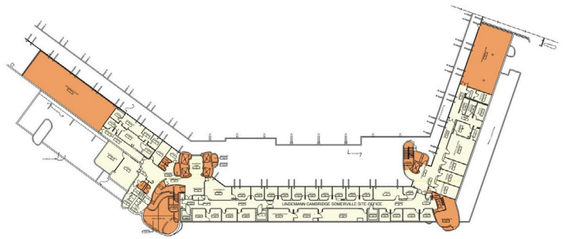
NOT ACCESSIBLE

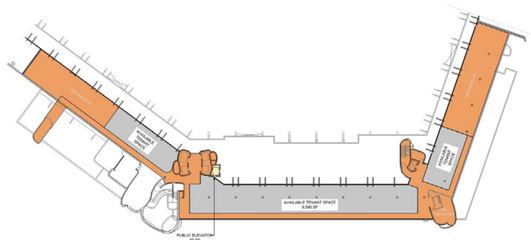
NO DAYLIGHT

LEVEL 05 – ANALYSIS



Level 05 – Reconfigured





LINDEMANN CAMBRIDGE SOMERVILLE SITE OFFICE

BUILDING COMMON

LEVEL 05– EXISTING

DMH CIRCULATION AND ENTRANCE - 80 SF

AVAILABLE TENANT SPACE - 9,590 SF SF

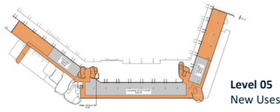
BUILDING COMMON - 10,430 SF SF

TOTAL - 20,100 SF SF

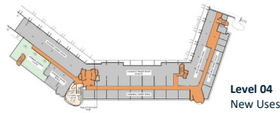
LEVEL 05 – ANALYSIS

Option 1 – Reconfigured Lindemann

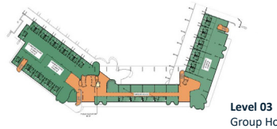
- Improved front entry
- Cafe and training on ground level
- Removed Central Office functions
- Cafeteria on level 2 (Mezzanine)
- **Floors 4 + 5 available for alternate use (35,000 SF)**



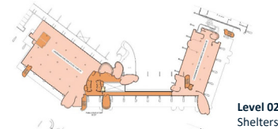
Level 05
New Uses



Level 04
New Uses



Level 03
Group Homes



Level 02
Shelters



Plaza Level
Vendors, Support Services



Mezzanine Level
Cafeteria



Ground Level
Café, Training, Gym

Option 2: Relocate Lindemann uses within Downtown



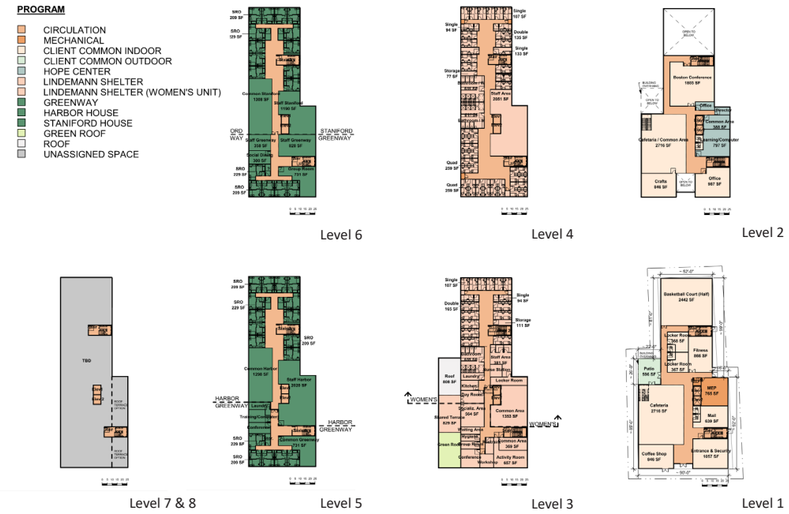


Option 2: Relocate Lindemann uses within Downtown

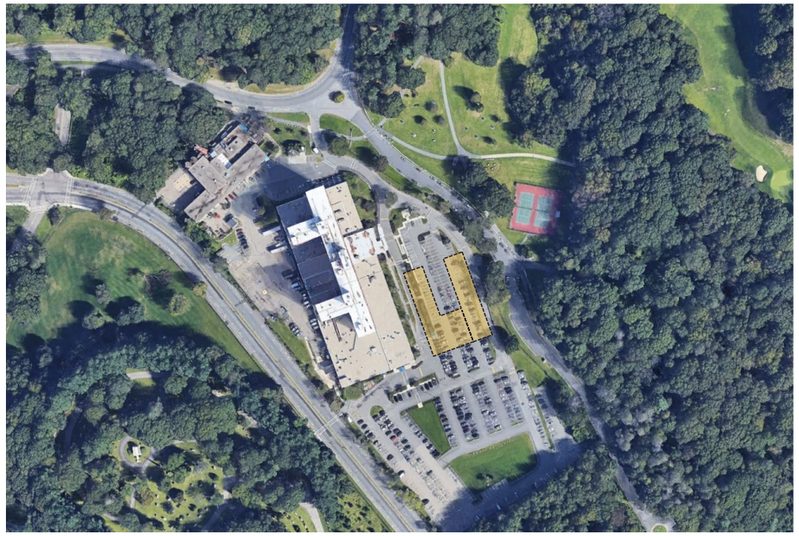
Minimum Site Dimension: 100' Frontage
Approximate Site Area: 15,000 SF
Typical Building Floorplate: 11,500 SF

Pro
- Proximity to city center and hospitals
- Potential for additional residential on 7th & 8th floor
- Ground floor is active part of city life (Coffee shop/ Training)
- Roof terrace options on Level 3, 5 or 7 (8)

Contra
- No Parking
- Outdoor Spaces on roofdecks
- Common and staff area spaces have less SF
- Due to limited floor area, specific programs are distributed on more than one floor



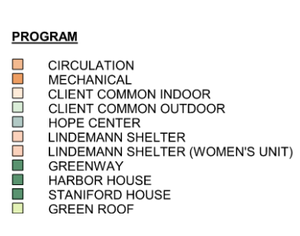
Option 3: Relocate to State-Owned Campus Site

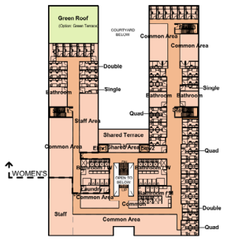


Option 3: Relocate to State-Owned Campus Site

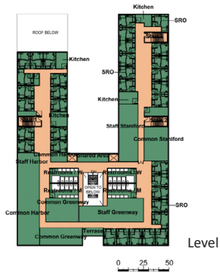
Pro
- Flexibility & Space – no space restrictions
- Spacious outdoor activity area
- Roof terraces are an option
- Bigger dorm rooms and SROs possible if preferred
- More bathroom options (shared/not shared) possible
- Full Ball Court

Contra
- Distance from Boston
- Not integrated in Boston city life
- Public commuting options are limited, time consuming and costly

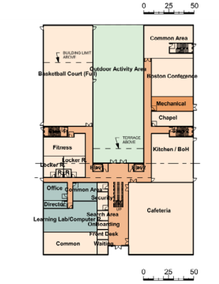




Level 2



Level 3



Level 1

Comparison of Options: Program

	Option 1: Reconfigured Lindemann		Option 2: Downtown Site		Option 3: State-Owned Campus Site
	Gut Rehab		**New Construction**		**New Construction**
Permitting/ Entitlements	BPDA/ Landmarks/ Mass Hist.		Article 80 BPDA		NA
Construction Type	Type I: Concrete (CIP)		Type IA Steel		Type IA Steel (allows flexibility and durability)
Height	5 Stories - Existing		8 Stories - New Construction		2 Stories - New Construction
Floor-to-Floor Height	18' ground floor, 16' typical		18' ground floor. 14' typical		14' typical
Ground Level	47,911	Ground Level	13,250	Ground Level	33,000
Mezzanine Level	27,230	Second Flr	11,460	Second Flr	33,000
Plaza Level	23,960	Third Flr	11,460	Third Flr	33,000
Second Flr	26,982	Fourth Flr	11,460		
Third Flr	33,493	Fifth Flr	11,460		
Fourth Flr	33,870	Sixth Flr	11,460		
Fifth Flr	20,100	Seventh Flr	10,000		
		Eighth Flr	10,000		
Total GSF	**213,546**	**Total GSF**	**90,550**	**Total GSF**	**99,000**

Comparison of Options: Enabling Scope

	Option 1: Reconfigured Lindemann	Option 2: Downtown Site	Option 3: State-Owned Campus Site
Demolition + Remediation	Remove interior non-loadbearing walls. Retain existing structure. Include markup to protect historic materials and assemblies.	Remove existing 6,000 SF library building. Shore building at west side.	Site clearing
Construction Phasing	1. Relocate Central Office 2. Repurpose for Shelter Use 3. Relocate Shelters within Building. 4. Complete Renovation	Single phase construction	Single phase construction
Hazardous Materials	Abatement required	Abatement - Limited (6,000 SF)	None
Infrastructure/ Sitework	Adjacent infrastructure. Forecourt landscape improvements	Adjacent infrastructure. Small courtyard landscape improvements	Distance to Infrastructure. Include water, sewer, electrical. Flat site, no remediation. Landscaping
Streetscape/ public realm	Streetscape improvements along Staniford and Merrimac Streets	Streetscape improvements along Cambridge Street	Improvements for access/ roadway
Resiliency	AE Flood Zone: All MEP systems above ground floor	NA	NA
Parking	No Parking	No Parking	Surface parking for 50 vehicles

Comparison of Options: Construction Costs

	Option 1: Reconfigured Lindemann		Option 2: Downtown Site		Option 3: State-Owned Campus Site	
Demolition + Remediation	$500,000		$200,000		$0	
Sitework	$1,500,000	*Incl. in Hurley Redevelopment	$1,250,000		$3,000,000	
Public Realm/ Streetscape	$2,500,000		$750,000		$250,000	
Construction Cost per SF	600-675		575-650		500-600	
	675		650		600	
Total Construction Cost	**$148,643,550**		**$61,057,500**		**$62,650,000**	
2 yr Escalation (+ 8% per annum)	**$173,912,954**	(+ 8% per annum)	**$71,437,275.00**	(6% per annum)	**$70,794,500.00**	
Phasing + 3-5%	**$182,608,601**		NA		NA	
Multiplier	1.4		1.4		1.4	
Total Project Cost	**$255,652,042**		**$100,012,185**		**$99,112,300**	FF+E Included

Questions + Discussion

Option 1:
Renovate Lindemann. Vacate Central Office functions. Reconfigure uses within the building



Option 2:
Relocate Lindemann uses to new/repurposed building in Downtown



Option 3:
Relocate Lindemann uses to a new building in a State-owned Campus



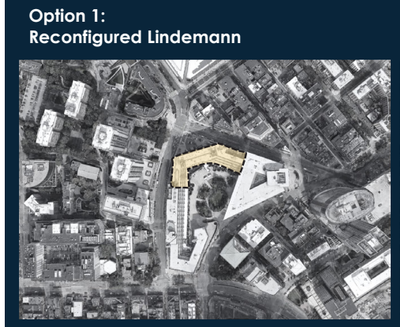
*Plans shown at the same scale

Questions + Discussion

Advantages + Disadvantages:
- Connections
- Access
- Adjacencies
- Cost
- Logistics / Phasing

*Vacate Central Office functions all options

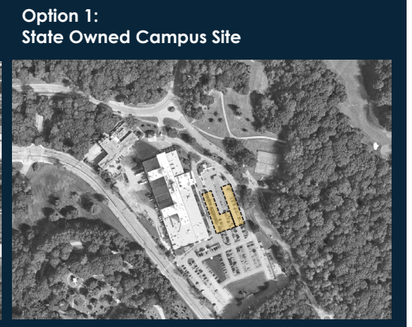
Option 1:
Reconfigured Lindemann



Option 2:
Downtown Site

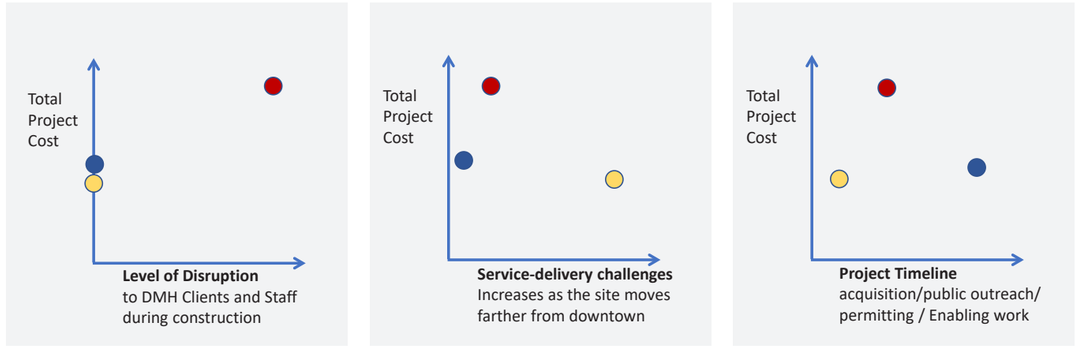


Option 1:
State Owned Campus Site



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Questions + Discussion



- Renovate and reconfigure Lindemann
- New building/Acquisition/Renovation at an alternative Downtown site
- New building in a State-owned Campus

Thank You!

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Prepared by **ICON Architecture**