



NTID **Detroit**
NATIONAL TECHNICAL INSTITUTE OF THE DEAF

INDE 401.01 Multi-Story / Multi-Purpose Design
Chris Beckley, Aleksandra Sprague, Trinh Nguyen

CONTENTS

	TABLE OF CONTENTS	20	RENDERING - COMMUNAL SPACE
03	PROJECT DESCRIPTION	21	RENDERING - FEATURE STAIR
05	PRELIMINARY RESEARCH	22	MATERIAL SELECTION
05	DETROIT FREE PRESS BUILDING	23	CODE ANALYSIS
06	EXISTING CONDITIONS	24	LIFE SAFETY PLAN
07	SITE ANALYSIS		
09	NTID	25	MEZZANINE LEVEL
10	DEAF SPACE	25	FLOOR PLAN
11	RIT SCHOOL OF DESIGN	26	REFLECTED CEILING PLAN
12	SPATIAL ADJACENCIES	27	CODE ANALYSIS
13	CONCEPT	28	LIFE SAFETY PLAN
14	MOOD BOARD		
		29	SECOND LEVEL
15	FIRST LEVEL	29	FLOOR PLAN
15	FLOOR PLAN	30	CONCEPT INTEGRATION
16	RENDERING - ENTRANCE / LOBBY	31	REFLECTED CEILING PLAN
17	RENDERING - FEATURE WALL	32	RENDERING - OPEN STUDIO
18	REFLECTED CEILING PLAN	33	RENDERING - OPEN STUDIO
19	FURNITURE SELECTIONS	34	FURNITURE SELECTIONS

35	RENDERING - SM. CONF. / OFFICE	50	REFLECTED CEILING PLAN
36	MATERIAL SELECTIONS	51	COMMON ROOM LAYOUTS
37	CODE ANALYSIS	52	ADA COMPLIANT STUDIO
38	LIFE SAFETY PLAN	53	RENDERING - ADA COMPLIANT STUDIO
39	THIRD LEVEL	54	RENDERING - ADA COMPLIANT STUDIO
39	FLOOR PLAN	55	CODE ANALYSIS
40	CONCEPT INTEGRATION	56	LIFE SAFETY PLAN
41	REFLECTED CEILING PLAN	57	SEVENTH LEVEL
42	RENDERING - OPEN STUDIO	57	FLOOR PLAN
43	RENDERING - TYPICAL CLASSROOM	58	REFLECTED CEILING PLAN
44	RENDERING - LAB / CLASSROOM	59	CODE ANALYSIS
45	MATERIAL SELECTIONS	60	LIFE SAFETY PLAN
46	RENDERING - WORK CAFE		
47	CODE ANALYSIS		
48	LIFE SAFETY PLAN		
49	FOURTH - SIXTH LEVEL		
49	FLOOR PLAN		

PROJECT DESCRIPTION

BACKGROUND

There has been a paradigm shift in higher education due to multiple factors: rising tuition costs, increase in entrepreneurial hubs with hands-on apprenticeships and training, new research on teaching best practices as well as an enhanced focus on the universality of the student body. With the shift comes the opportunity to rethink how educational institutions are managed, planned and designed.

Higher education facilities have historically segregated their functions: public versus private, learning versus social, hospitality versus study. Classrooms were often developed for maximum occupancy, not one-on-one collaborative or flexible learning environments. Residence halls only focused on the basic housing needs of students and not the creation of community. As the landscape of higher education evolves, institutions are beginning to experiment with entrepreneurial, creative hubs supported by changed in academic policies to incorporate multidisciplinary study and/or personal-paced learning programs, as well as increased interaction between students, faculty,

community members and professionals. Recent trends include retail and restaurant functions that are open to the community, partnerships with developers or corporations, professional research space within the confines of a campus and the blending of social and academic experience within residence halls.

This project requires students to look at the future of the urban university design where multiple functions inhabit a single, multilevel space that combines learning, living, business and community within the classic academic and current social spheres of higher education. Additionally, students will be required to consider the social/cultural and physiological needs of varied occupants in a universal manner with a special emphasis on the deaf and hard of hearing.

PROJECT

The National Technical Institute of the Deaf (NTID) is looking to create a campus center for a School of Design in the Midwest--downtown Detroit, Michigan. NTID has been a central hub of education that celebrates the universality of education for the deaf and hard of hearing community, this project will focus on the newest trends in the academic landscape and further focus on creating spaces which support the specific physical, social and cultural needs of the deaf and hard of hearing.

In 2005, HBHM architects and Gallaudet University began the development of Deaf Space Guidelines; a catalogue of over one hundred and fifty distinct deaf space architectural design elements addressing five major categories that integrate deaf experience and the built environment including: space and proximity, sensory reach, mobility and proximity, light and color and acoustics. Each category emphasizes the concepts of community building, visual language and the promotion of personal safety and well-being. These elements do not just feed the welfare of the deaf community, but to the university of design.



DETROIT FREE PRESS BUILDING

DETROIT FREE PRESS BUILDING
321 W. LAFAYETTE BLVD
DETROIT, MI 48226

RESEARCH

The Free Press Building, located in Detroit, was constructed in 1924 by architect Albert Kahn. When first built, the style of the building was Art Deco and contained limestone carvings by Ulysses Ricci. The building consists of 6 main floors and a center tower reaching a total of 14 stories. It was occupied by the Detroit Free Press starting in 1925. Before moving into this location, The Detroit Free Press had 14 other homes since its first publication in 1831. The building itself was last occupied in 1998 when the Detroit Free Press consolidated into a smaller building. Detroit Free Press was eventually sold in 2017 to billionaire Dan Gilbert.

Being located in Detroit, the building is not far

from the Detroit River. Detroit itself, includes the metropolitan areas of St. Clair River, Lame St. Clair, and the west end of Lake Erie. The climate is influenced by the city's location near the Great Lakes and its position in a major storm track. It experiences climate variations from urban heat islands. A condition that results in high temperatures during the day and limited cooling at night. Despite this, the city experiences four seasons. Winters are generally long and cold, bringing storms of rain, snow, freezing rain, and sleet. During the summer, storms usually pass to the North allowing for days of warm and humid weather. The occasional thunderstorm is expected followed by days of mild and dry weather.



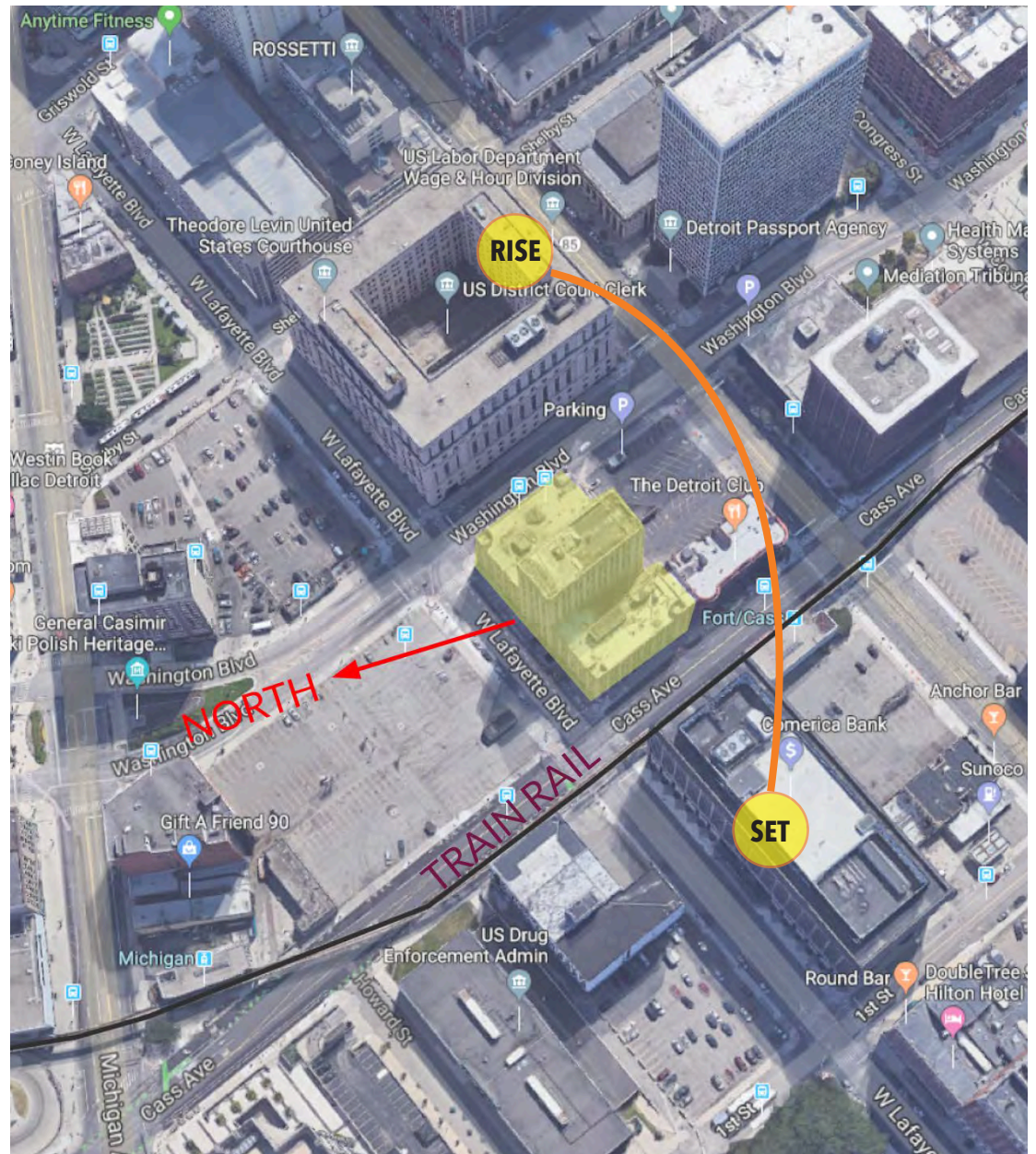
EXISTING CONDITIONS

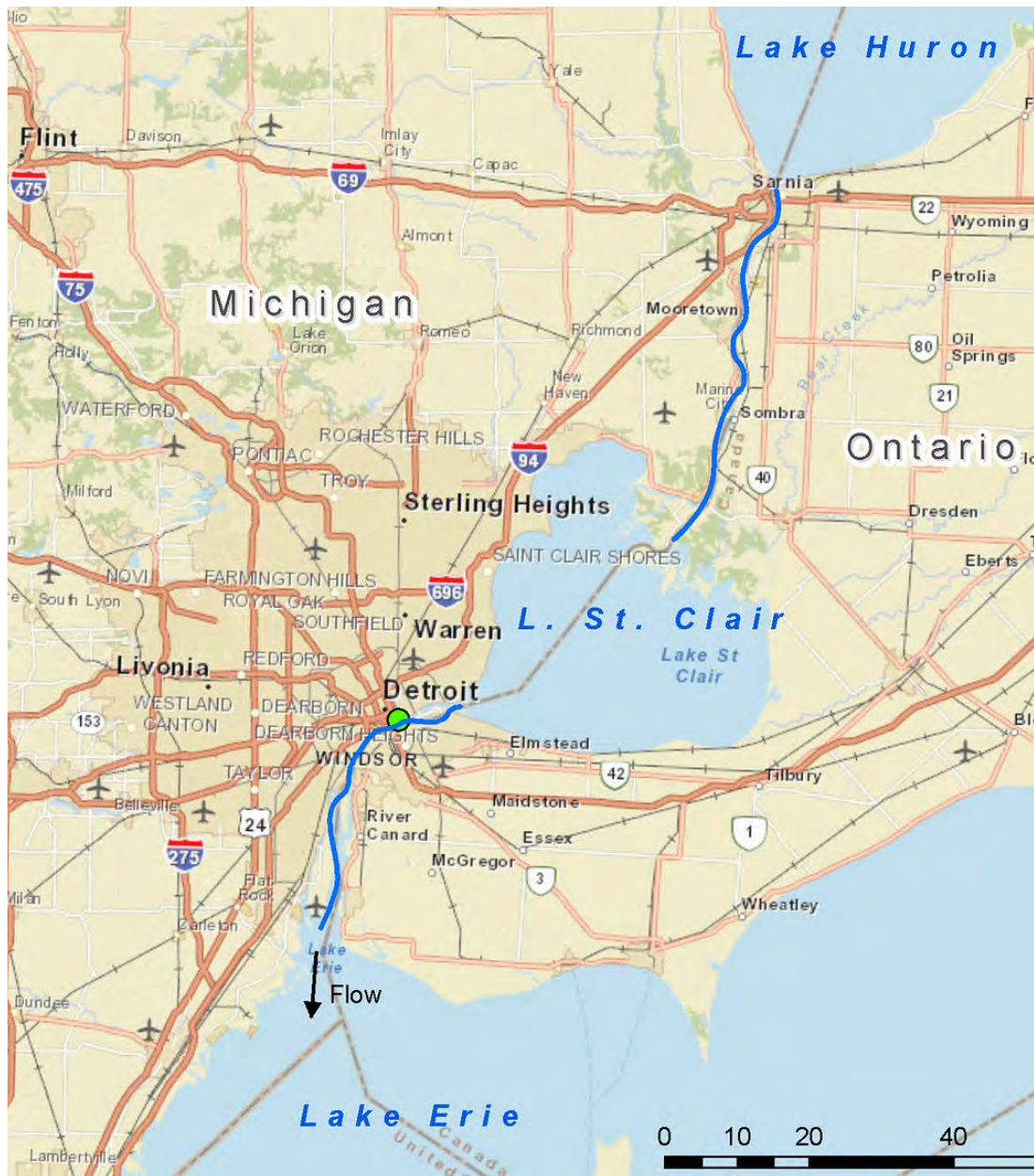
Multiple redevelopment plans have been proposed since the building has been vacant. However, none have been successful. The building itself has remained empty since the Detroit Free Press moved out in 1998. The first plan for redevelopment came in the spring of 2003 when the building was added to a shortlist of possible sites for the Detroit Police Headquarters. An alternative option included the Michigan Central Station. Then in February of 2009, it was announced that the building would be turned into a sound stage for Motor City Film Works production. However, no date was set for completion of the project. Over a year later in June of 2010, Brownfield Redevelopment Authority approved incentive financing for a deal to remake the Free Press Building into residential apartments with office and retail spaces. With owners of the building unable to come to an agreement, the building was auctioned off in November 2012. The building was sold again in September of 2013 for around \$4.15 million with expectations of renovations in late 2014 for retail spaces and 150 apartments. In 2017 the building was sold again. This time to billionaire Dan Gilbert who has yet to do anything with the space.

SITE ANALYSIS

DETROIT FREE PRESS BUILDING

- Train Line that connects many parts of the city together but is formed in a full loop
- Entry onto the train is across the street
- This building is located very close to the heart of Detroit, allowing it to be a social hub once further developed.
- Developing the commercial spaces on the first floor could allow opportunity for the public to have a direct interaction with the deaf community once the building is occupied.





GEOGRAPHY

DETROIT, MICHIGAN

- Detroit is located on the Detroit River with the metropolitan area including the St. Clair River, Lake St. Clair, and the west end of Lake Erie.
- The climate is greatly influenced by the Great Lakes and experiences long cold winter and storms of rain, snow, freezing rain, and sleet.
- In the summer months storms often pass to the north bringing periods of heat and humidity followed by mild and dry weather.

NATIONAL TECHNICAL INSTITUTE OF THE DEAF

National Technical Institute for the Deaf (NTID) began operations in 1968 with the goal to provide deaf and hard of hearing students with technical and professional education programs. Additional emphasis would put into liberal arts and science to prepare students for life and work in the mainstream. NTID's first technical programs offered were architectural drafting, mechanical drafting, machine tool operation, office practice, and bookkeeping. In 1969 a student interpreter training program was established, becoming the first in history. In the early 1980s, NTID's enrollment skyrocketed as deaf students from the "rubella bulge" of the mid-1960s entered their college years. In 1993, NTID established its Center for Arts and Sciences to help boost the numbers of undecided students who stay on to pursue a bachelor's degree. By 2005, this program raised the proportion of NTID students in bachelor's degree programs to 41%. A number that was 12% twenty years earlier. Enrollment has been trending high once again in recent years. NTID's 2008 enrollment was a record high at 1,450, beating the previous record in 1984 of 1,358. The history of NTID and the art, culture, technology, and language of the Deaf community are preserved in the RIT/NTID Deaf Studies Archive, located in the Wallace Library on RIT campus.



Sensory Reach

- Spatial awareness affects our wellbeing.
- Spatial awareness is created through visual and tactile cues, such as shadows, vibrations, or expressions.
- Goals: facilitated spatial awareness “in 360 degrees” as well as orientation and wayfinding; allow people to be aware of what is happening around them.

Space and Proximity

- Need space between individuals to see facial expression and “full dimension of the signer’s ‘signing space’”
- Greater space than spoken conversation
- Goals: Accommodate for the amount of space needed for signing groups of various sizes

Mobility and Proximity

- Walking conversations require a wide distance for clear visual communication
- Search for hazards while talking
- Goals: allow signers to move uninterrupted; make navigation easier

Light and Color

- Need good lighting for visual communication
- Avoid glare, shadow patterns, backlighting, things that cause loss of concentration and create eye fatigue or physical exhaustion
- Goals: soft, diffused light; color to contrast skin tone to highlight sign language; optimize visual communication and decrease eye fatigue.

Acoustics

- Varying hearing levels
- Sound can be a distraction or potentially painful
- Goals: Reduce reverberation and background noise

DEAF SPACE

Vision and touch are the primary means of spatial awareness and orientation in any environment. Therefore, ways to alter a space to better accommodate deaf people would include adjusting these elements. This can be achieved by adjusting the lighting. This includes both natural and artificial lighting. Additionally, adjusting the seating into a more circular pattern can facilitate better conversations. Furnishings can be arranged in a circle allowing for clear sightlines. By placing mirrors, lights, or openings in walls you can extend sensory awareness and maintain a visual connection.

SCHOOL OF DESIGN RESEARCH

Current students enrolled in interior design, industrial design, graphic design, 3D digital design, and new media design at Rochester Institute of Technology were interviewed in a study to determine the spatial needs of each major for a new & improved School of Design. By referencing the current facilities at RIT, students provided pros and cons of each space and gave suggestions as to what would help students and faculty be most successful. Bullet points on this research is found in the table below:

Interior Design	Industrial Design	Graphic Design	3D Digital Design	New Media Design
<ul style="list-style-type: none"> * Personal Lab with Dual-Monitor Computers * Material Library * Work Spaces that promote collaboration * Pin-up Spaces * Presentation Spaces * Gallery space * Storage for project materials * Printing Services * Office spaces for Staff * Conference/Huddle rooms for project collaboration 	<ul style="list-style-type: none"> * Flex spaces should be more readily available * Separated Class Spaces * An open communal feeling but have some kind of barrier * Wood Shop * Lab w/ Dual monitors or tablets * Space for in progress projects * Clustered desks * Tack-able/writable wall surfaces * Better Storage Spaces * Better Acoustics 	<ul style="list-style-type: none"> * Average Class size is 17-27 for studios, 20 for lectures * Multi-disciplinary professors * Require studios, lecture rooms, mac labs, drawing tablets, easels, sinks, projectors * Pros of current space include windows, having personal space * Cons of current space include cramped studios with narrow walkways * Not much collaboration 	<ul style="list-style-type: none"> * Need for computer labs * Need for lecture spaces * Require drawing tables, computers with CPU/GPU, printers, graphic cards, etc. * Open 24.7 *SAFETY* * There is a lack of space in their current space * Improvements include more space, and more computer labs that accomodate everyone. 	<ul style="list-style-type: none"> * Cons of current space include cramped studios with narrow walkways * Need for computer labs * Need for lecture spaces * Average Class size is 17-27 for studios, 20 for lectures * Improvements include more space, and more computer labs that accomodate everyone.

SPATIAL ADJACENCIES

Desirable	X
Semi-Desirable	O
Undesirable	-
Visual & Acoustic privacy	●
Natural daylighting	●

First Floor/Mezz

● Reception/Lobby	
Security	X
● Retail	X O
● Hospitality	O O O O X
● Communal Spaces	O O O O X
Elevator/Stairs	X X O
● Outdoor Storage	O X X X
● Restrooms	X X
● Loading Dock	
Mailroom	

Third Floor

●● Classrooms	
● Storage	X
● Restrooms	X X
● Collab. Space	O X X O
●● Cafe/Lounge	X O X X O O
Elevator/Stairs	X O X O
● Computer Labs	X O
IT	

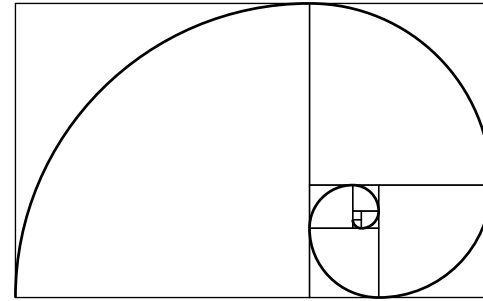
Second Floor

● Student Spaces	-
● Faculty Spaces	
● Storage	X - X X X
● Collab. Space	O X X X O O
● Restrooms	X X X X O O
●● Classrooms	O O X X X X
●● Cafe/Lounge	O O X X X
Printing Services	X X X X
Elevator/Stairs	X X X X
● Computer Labs	

Fourth-Seventh Floor

Elevator/Stairs	
● Storage	X X
Laundry Room	X X X X
● Waste Rooms	X X
● Game room	- - O X X
●● Private Study/Booth	- - O O X X X
● Shared Study	O O X X X
●● Kitchen Facilities	O X X X X
● Wash./Restrooms	- X X X X
●● Student Living Spaces	X X X X X
● Roof	
●● Faculty Living Spaces	-

CONCEPT



CONCEPT

The GOLDEN RATIO is a mathematical concept that is as natural as deafness. It is intrinsically a part of nature and is tied to the history of art and design. NTID Detroit will utilize the golden ratio to unify education, design, and nature, as well as foster an innate feeling of connectivity.

KEY WORDS

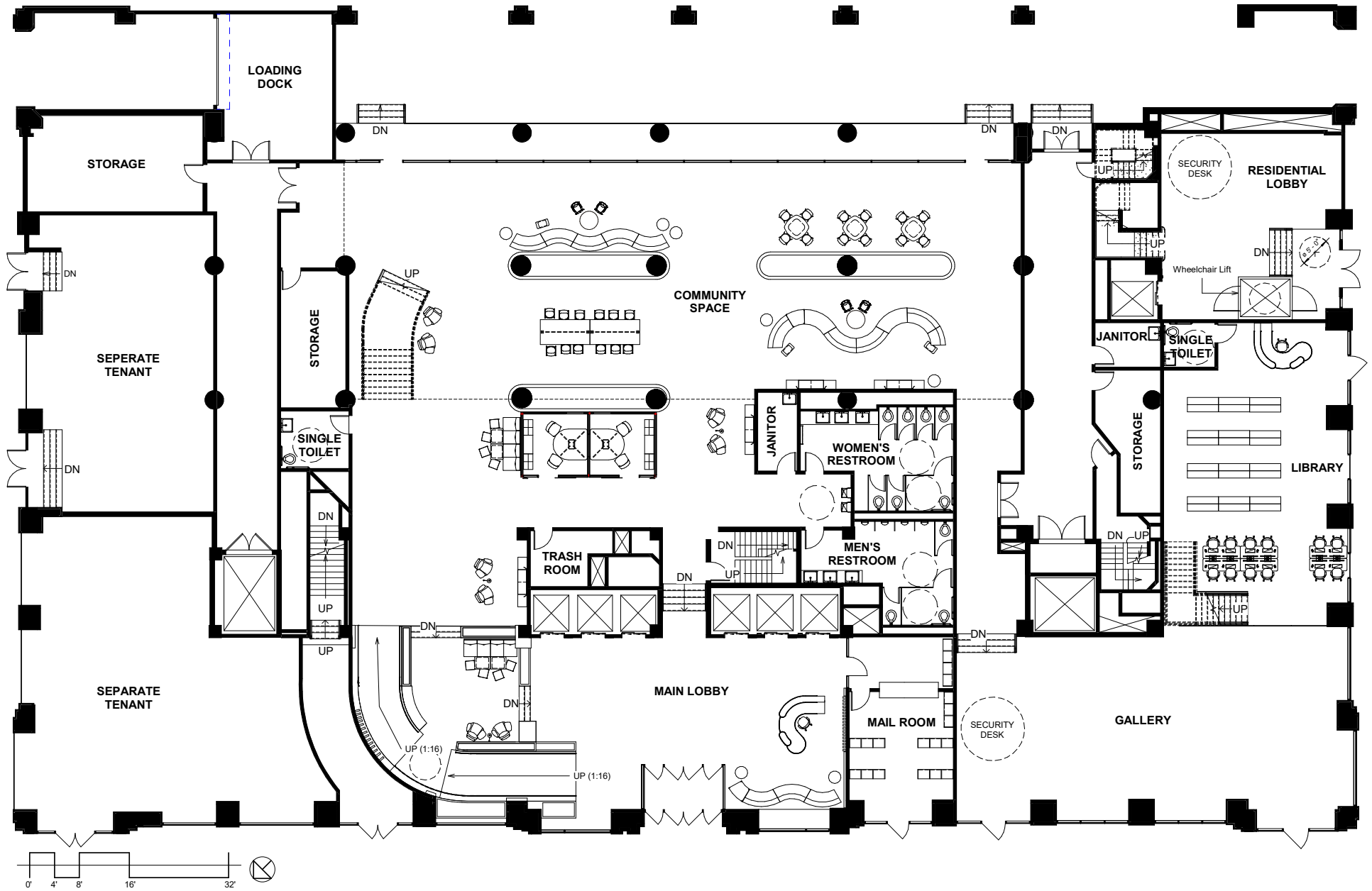
Connectivity *Organic* *Expressive*

Goals

1. Achieve a cohesive sensory DeafSpace experience
2. Utilize interviews with students as a basis for programming the spatial requirements of each major, combined with DeafSpace studies
3. Encourage collaboration between hearing and non-hearing people
4. Focus on the safety and feeling of security of all users of the building
5. Celebrate the historic value of the Detroit Free Press Building



FIRST LEVEL FLOOR PLAN - COMMUNITY SPACE / SEPARATE TENANTS

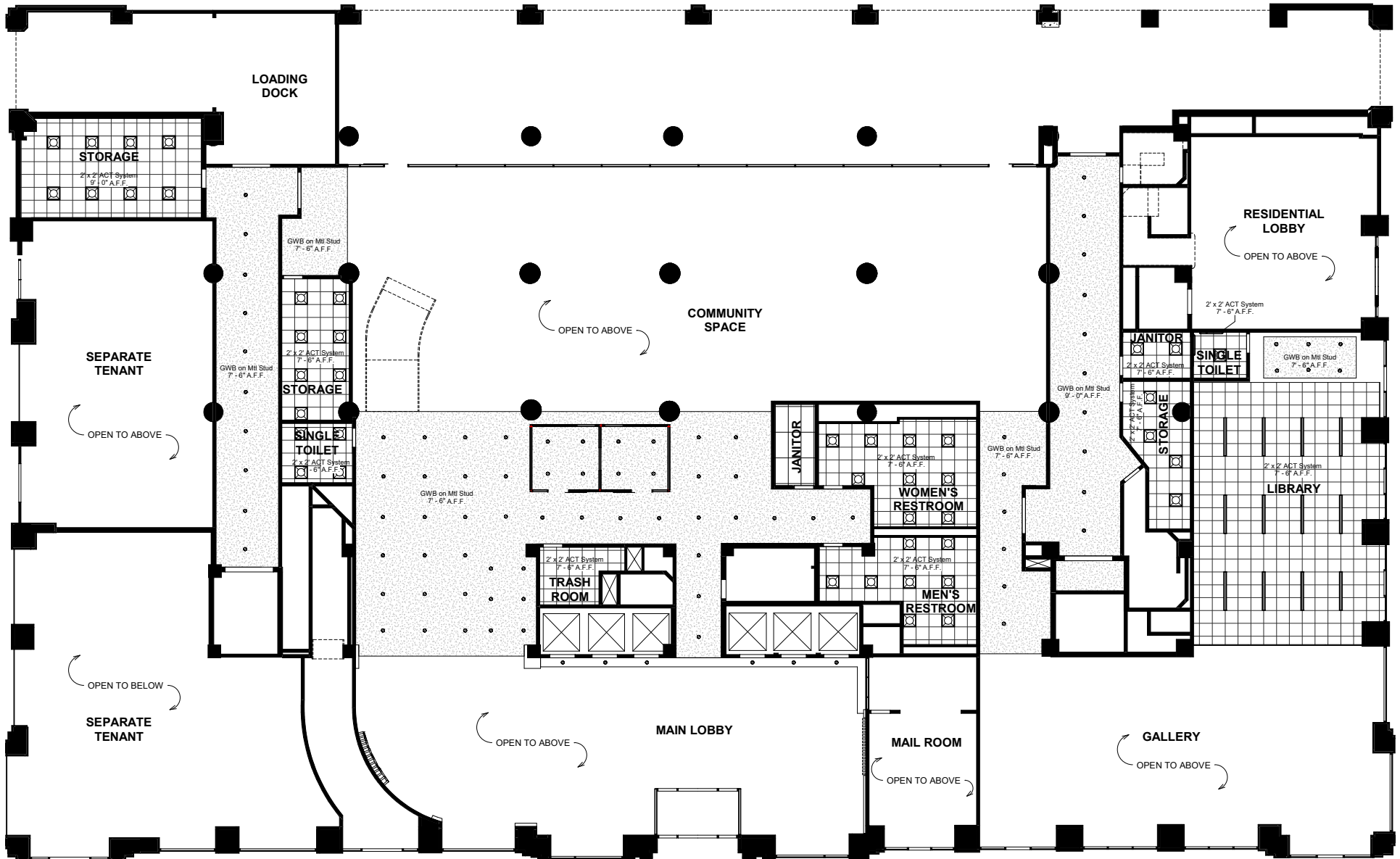




RENDERING - ENTRANCE / LOBBY



FIRST LEVEL REFLECTED CEILING PLAN



FURNITURE SELECTIONS



**COALESSE MASSAUD
ARMCHAIR**



TURNSTONE CAMPFIRE BIG TABLE



**STEELCASE COALESSE ENEA
LOTTUS BAR SEATING**



**COALESSE LAGUNITAS
LOUNGE SEATING**







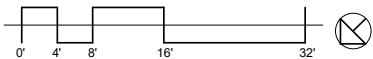
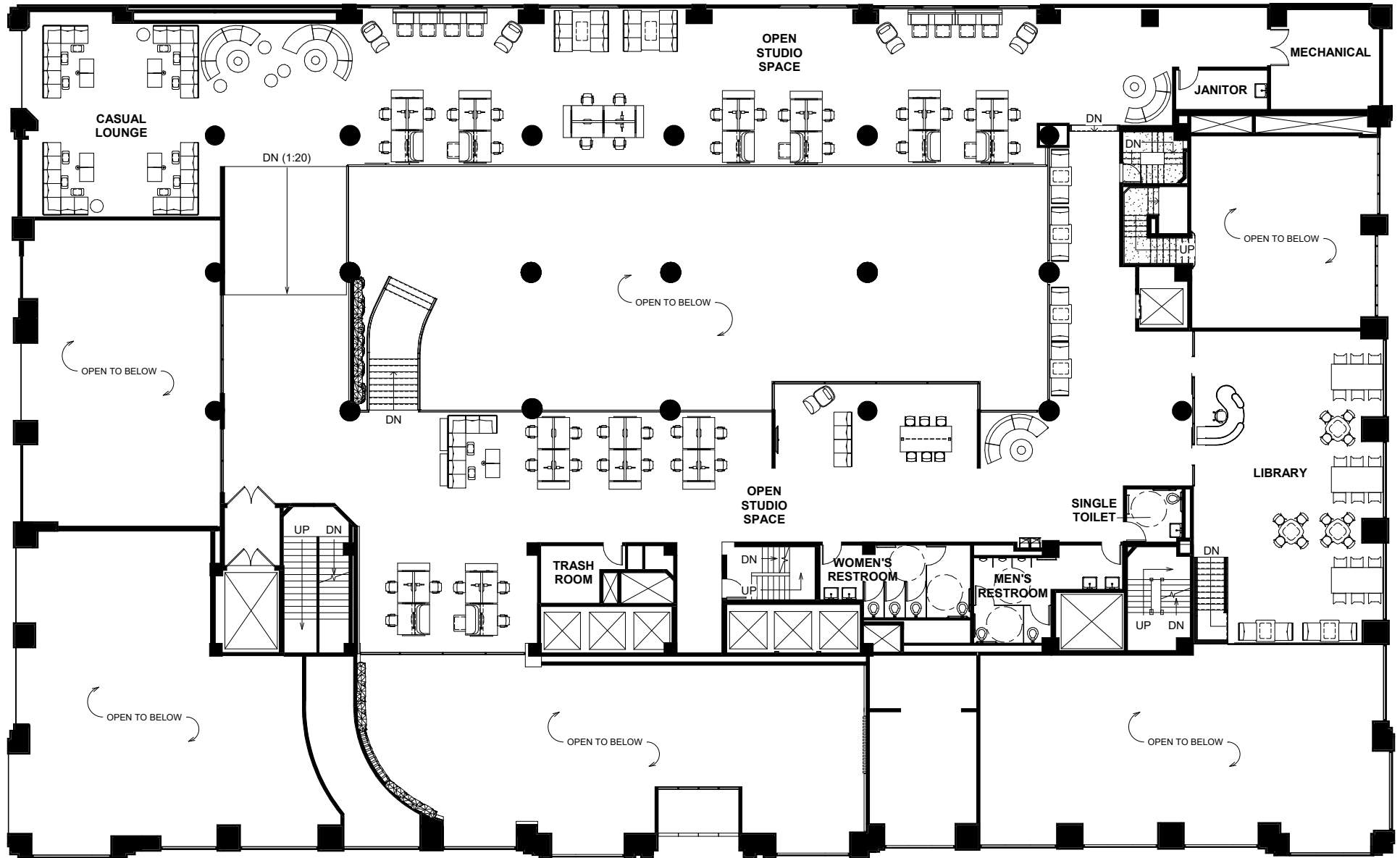
MATERIAL SELECTIONS

1. STONE
2. PAINT - LIGHT GREY
3. PAINT - SW ALABASTER
4. ISLAND TIMBER - WOOD PLANKS
5. CARNEGIE - GROOVE
6. CARNEGIE - IMPRESS
7. FORBO - LVT CENTRAL OAK
8. INTERFACE - UR501 CHARCOAL

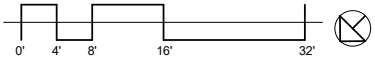
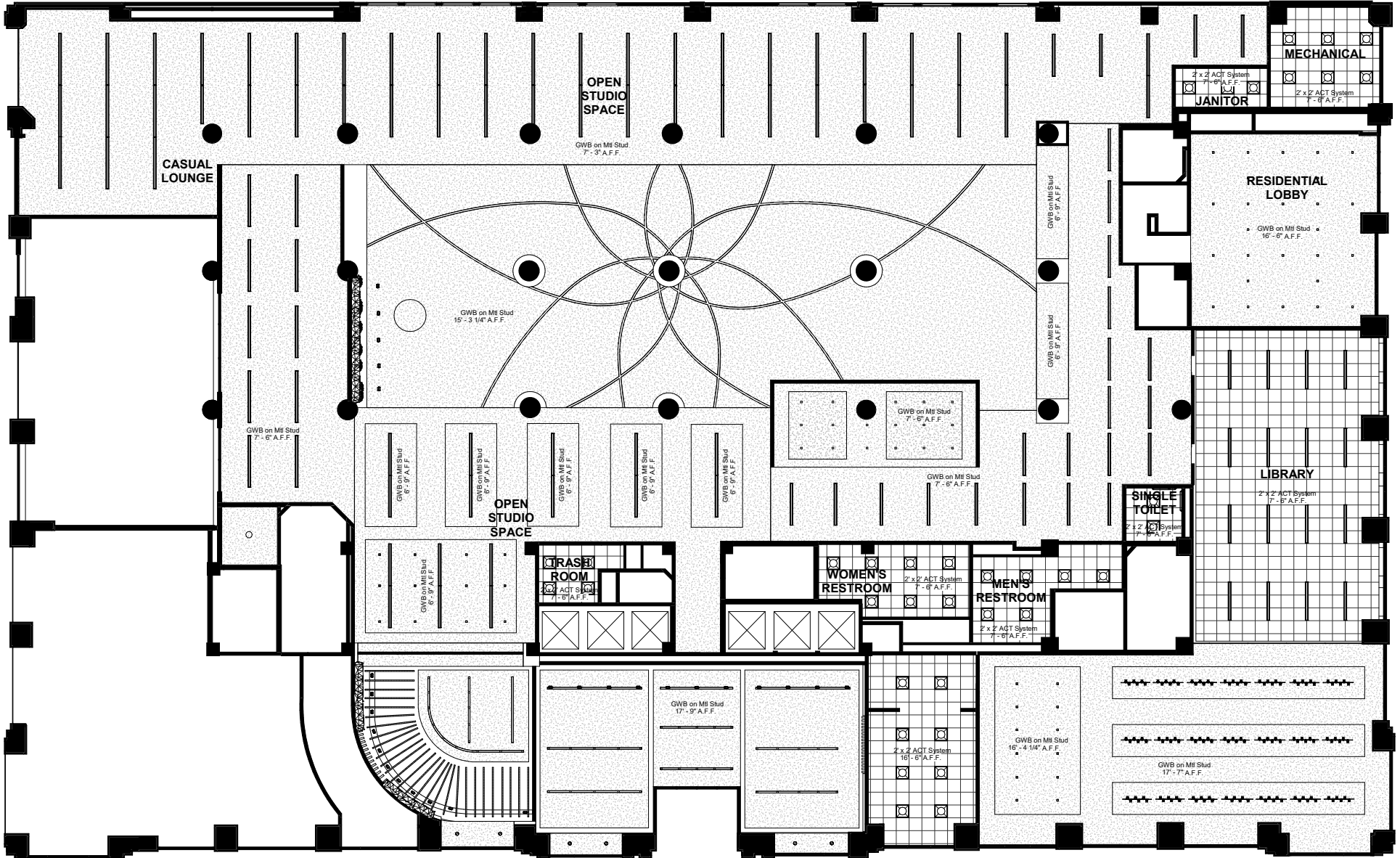
FIRST LEVEL CODES ANALYSIS

FIRST LEVEL LIFE SAFETY PLAN

MEZZANINE LEVEL FLOOR PLAN - COMMUNITY SPACE



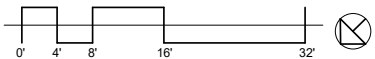
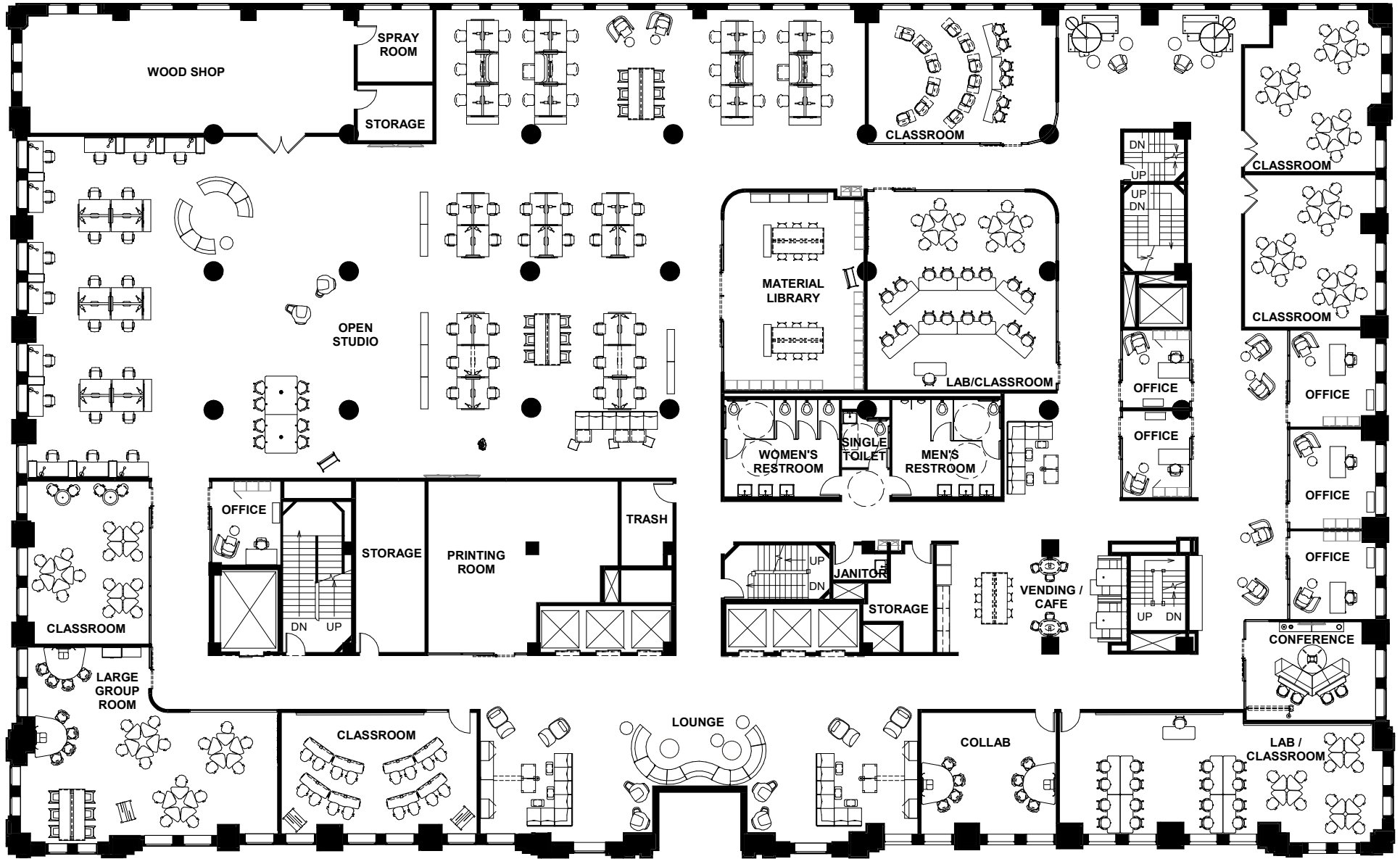
MEZZANINE LEVEL REFLECTED CEILING PLAN



MEZZANINE LEVEL CODES ANALYSIS

MEZZANINE LEVEL LIFE SAFETY PLAN

SECOND LEVEL FLOOR PLAN - SCHOOL OF DESIGN



CONCEPT INTEGRATION

As a way of spatial recognition, the second and third floor education spaces are color coordinated based on the function of the room. Specific colors were strategically placed based off of deaf space and color theory research.



COLOR COORDINATION

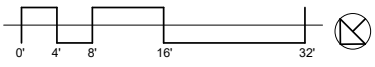
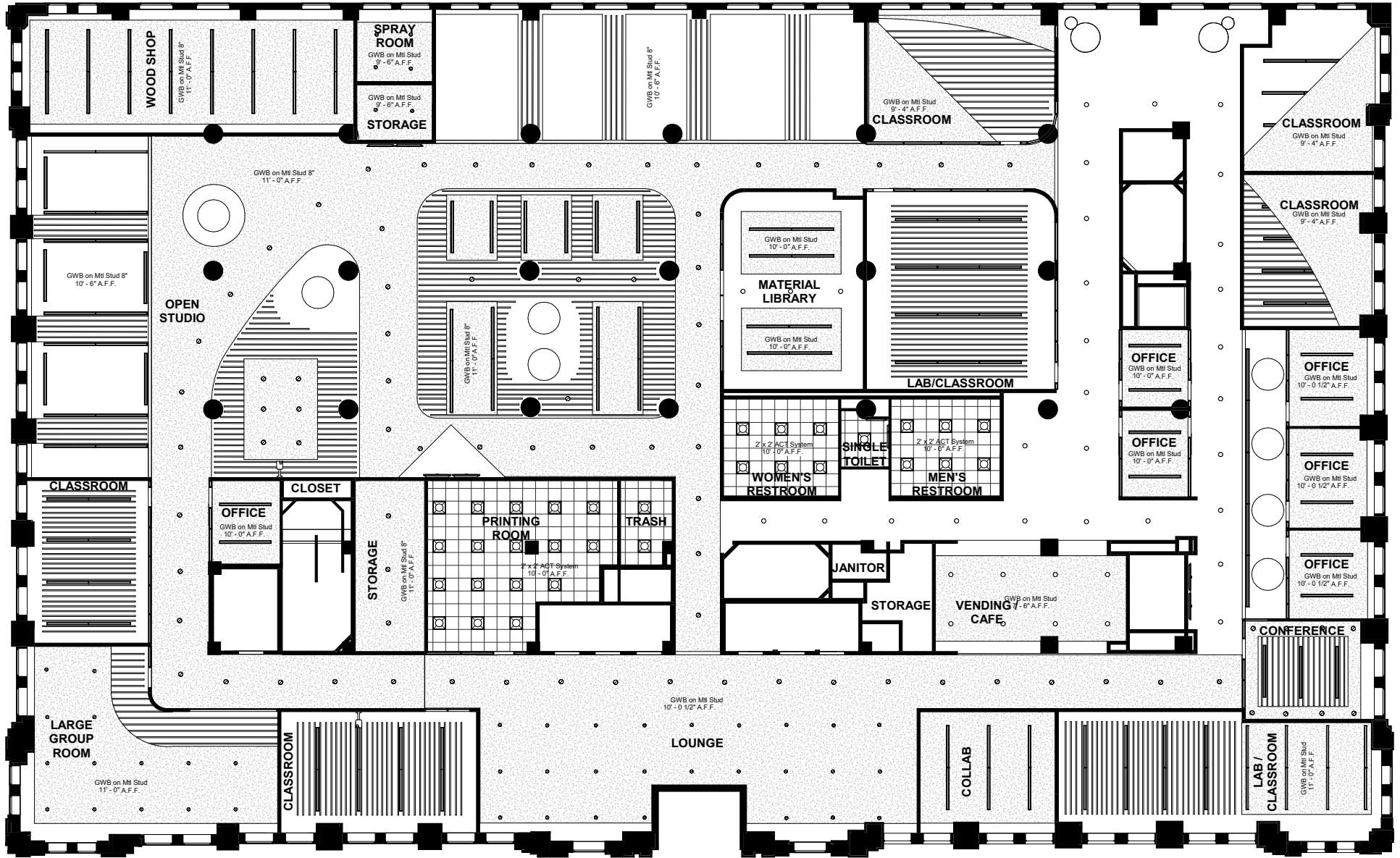
MAIN CIRCULATION ROUTES are colored with a creamy white paint and a light wood LVT. Smaller 'break-away' spaces along the common path of travel are designated with a darker LVT.

STUDIO SPACES are accented with various shades of blue. Blue causes less eyestrain and it contrasts skin tone well, a benefit when communicating through sign language.

CLASSROOMS / LABS are accented with various shades of green. Green is inviting and invokes biophilic design. It creates a lively space students will be excited to learn in.

OFFICE AND COLLABORATION ROOMS are accented with red to energize users of these spaces towards productivity.

SECOND LEVEL REFLECTED CEILING PLAN







**TURNSTONE CAMPFIRE
BIG TABLE**



VERB MEDIA TABLE

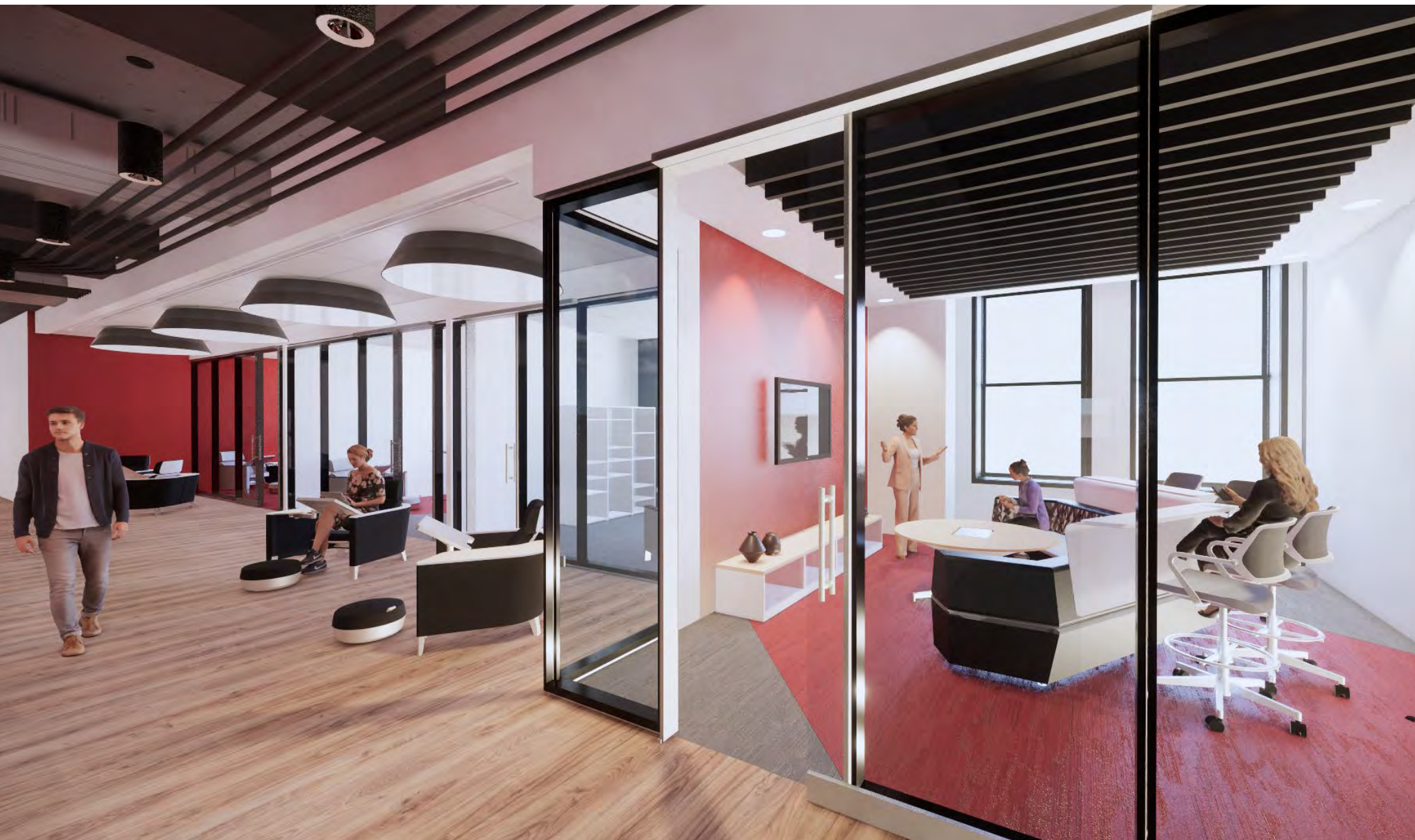


STEELCASE NODE DESK CHAIR



BIVI TABLE FOR TWO & TURNSTONE SHORTCUT 5-STAR CHAIR

FURNITURE SELECTIONS





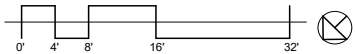
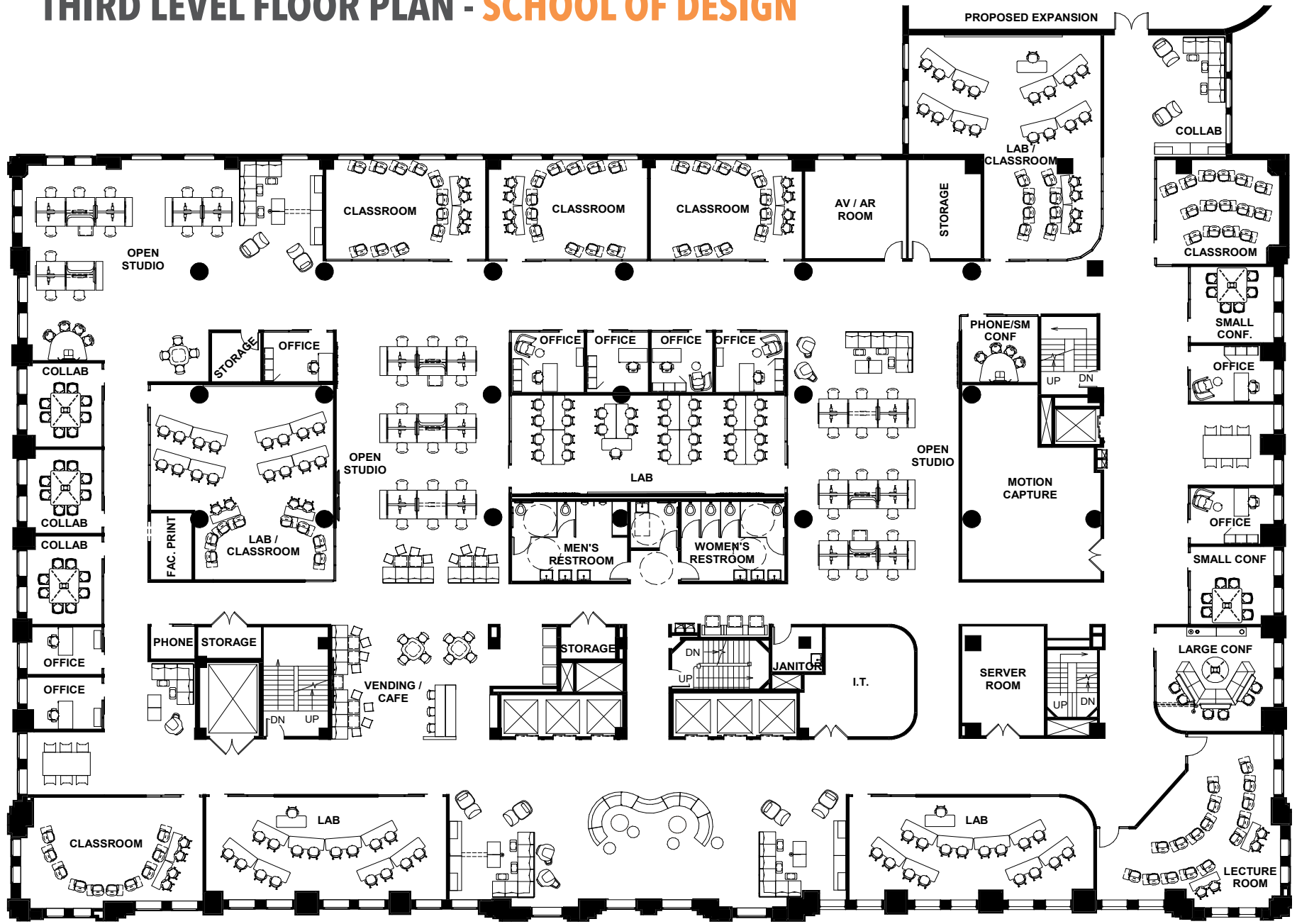
MATERIAL SELECTIONS

1. CARNEGIE - IMPRESS
2. DESIGNTEX - FLOW
3. PAINT - SW HEARTTHROB
4. PAINT - SW ALABASTER
5. FORBO - LVT CENTRAL OAK
6. INTERFACE - UR501 STONE
7. INTERFACE - UR501 RED

SECOND LEVEL CODES ANALYSIS

SECOND LEVEL LIFE SAFETY PLAN

THIRD LEVEL FLOOR PLAN - SCHOOL OF DESIGN



CONCEPT INTEGRATION

As a way of spatial recognition, the second and third floor education spaces are color coordinated based on the function of the room. Specific colors were strategically placed based off of deaf space and color theory research.



COLOR COORDINATION

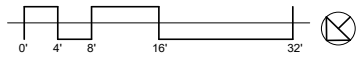
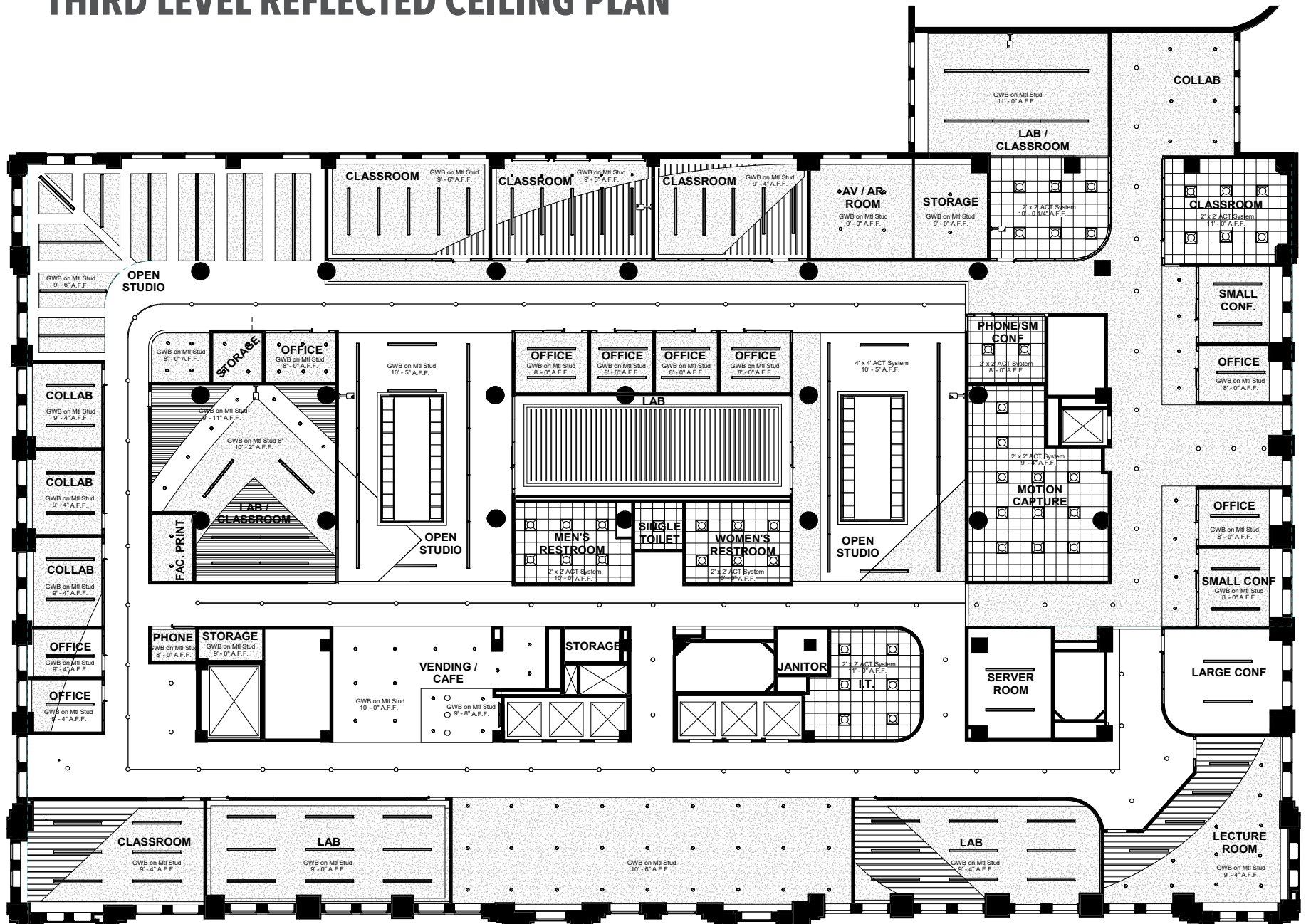
MAIN CIRCULATION ROUTES are colored with a creamy white paint and a light wood LVT. Smaller 'break-away' spaces along the common path of travel are designated with a darker LVT.

STUDIO SPACES are accented with various shades of blue. Blue causes less eyestrain and it contrasts skin tone well, a benefit when communicating through sign language.

CLASSROOMS / LABS are accented with various shades of green. Green is inviting and invokes biophilic design. It creates a lively space students will be excited to learn in.

OFFICE AND COLLABORATION ROOMS are accented with red to energize users of these spaces towards productivity.

THIRD LEVEL REFLECTED CEILING PLAN









MATERIAL SELECTIONS

1. PAINT - SW ALABASTER
2. CARNEGIE - IMPRESS
3. FORBO - LVT DEEP COUNTRY OAK
4. PAINT - SW GECKO
5. INTERFACE - UR501 STONE
6. INTERFACE - HNC LIMESTONE
7. INTERFACE - UR501 GRASS



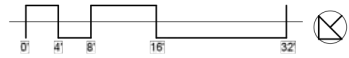


THIRD LEVEL CODES ANALYSIS

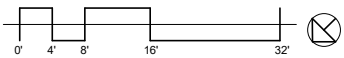
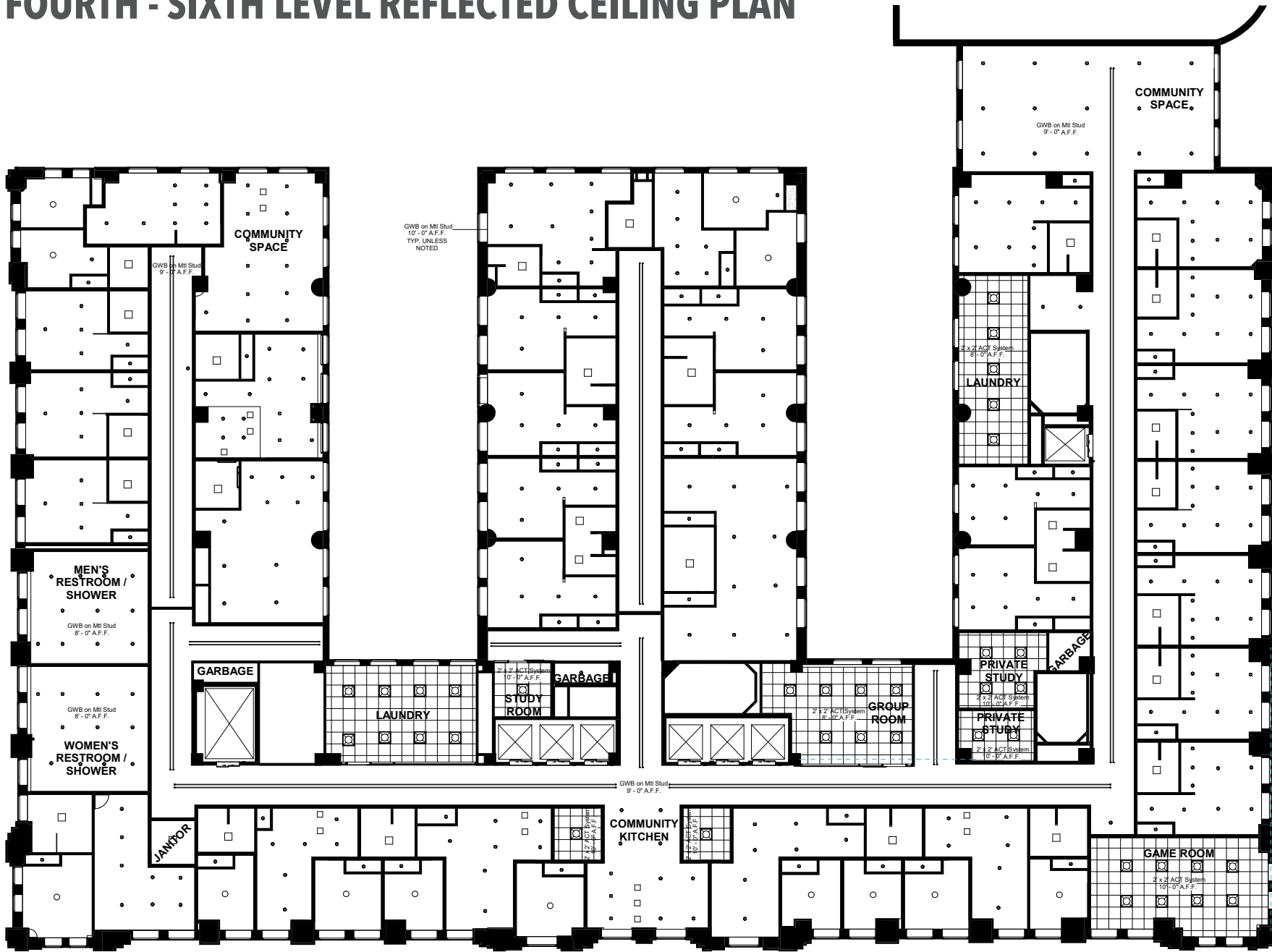
THIRD LEVEL LIFE SAFETY PLAN

FOURTH - SIXTH LEVEL FLOOR PLAN - RESIDENTIAL

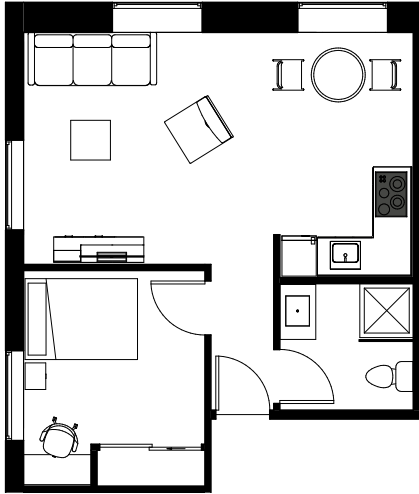
- STUDIO
- COMMUNAL
- OUTDOOR AREA
- TWO BEDROOM
- DOUBLE DORM



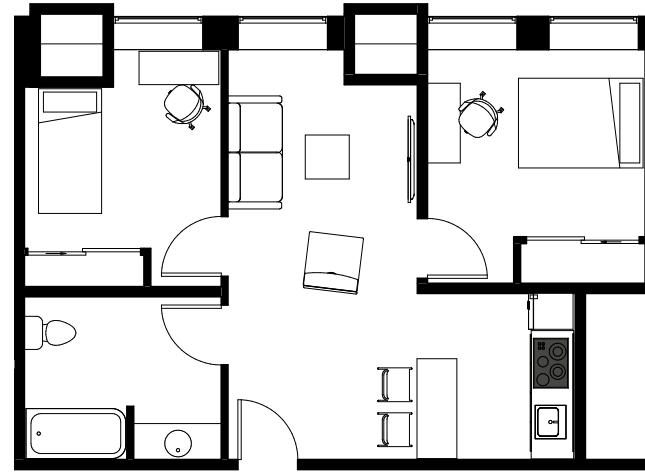
FOURTH - SIXTH LEVEL REFLECTED CEILING PLAN



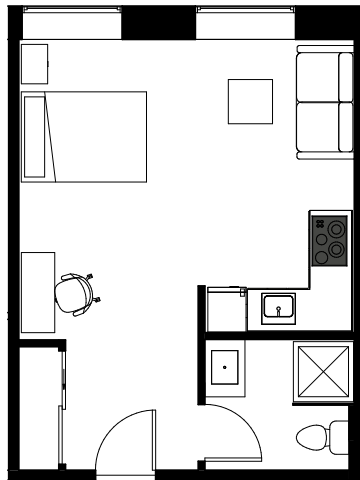
COMMON ROOM LAYOUTS



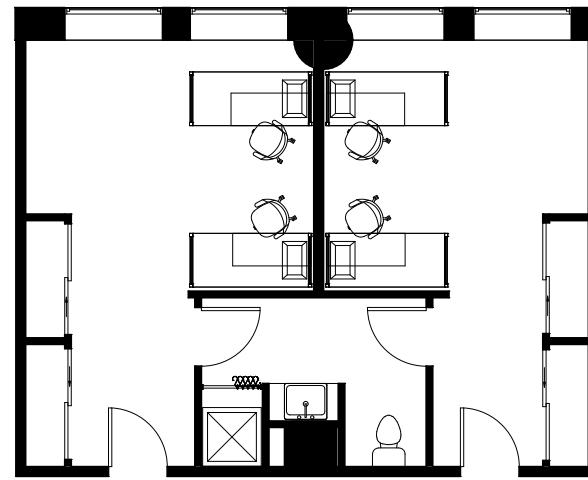
1 BEDROOM



2 BEDROOM



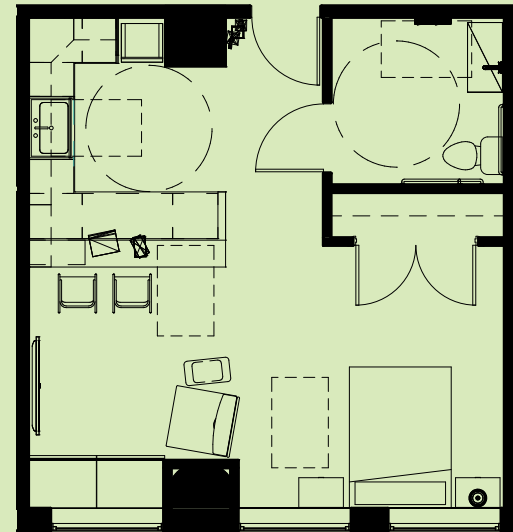
STUDIO



DOUBLE W/ SHARED BATH



ADA COMPLIANT STUDIO







RENDERING - ADA COMPLIANT STUDIO

FOURTH - SIXTH LEVEL CODES ANALYSIS

FOURTH - SIXTH LEVEL LIFE SAFETY PLAN

SEVENTH LEVEL FLOOR PLAN - RESIDENTIAL

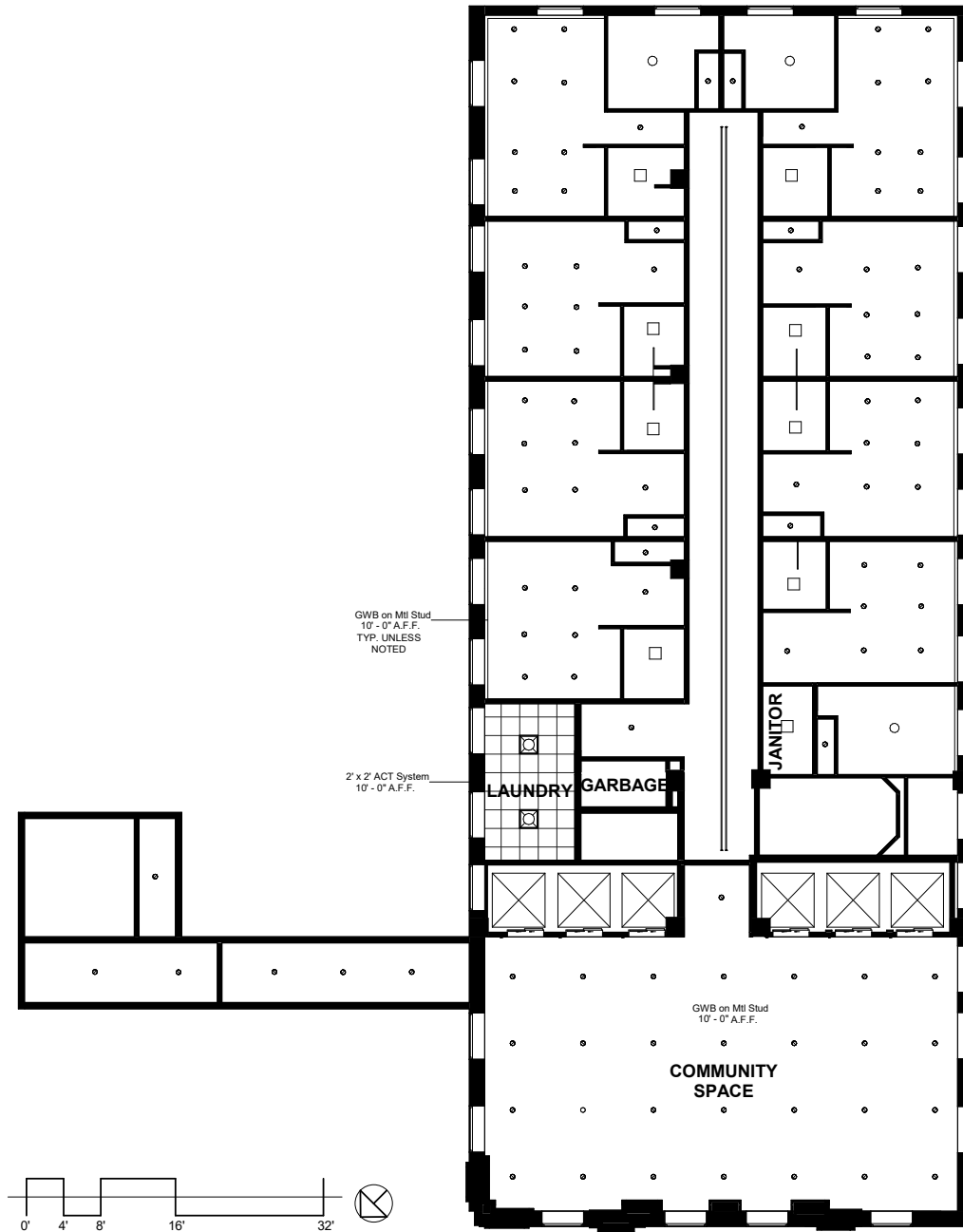
STUDIO

ONE BEDROOM

COMMUNAL



SEVENTH LEVEL REFLECTED CEILING PLAN



SEVENTH LEVEL CODES ANALYSIS

SEVENTH LEVEL LIFE SAFETY PLAN

NTID **Detroit**
NATIONAL TECHNICAL INSTITUTE OF THE DEAF

INDE 401.01 Multi-Story / Multi-Purpose Design

Chris Beckley, Aleksandra Sprague, Trinh Nguyen

