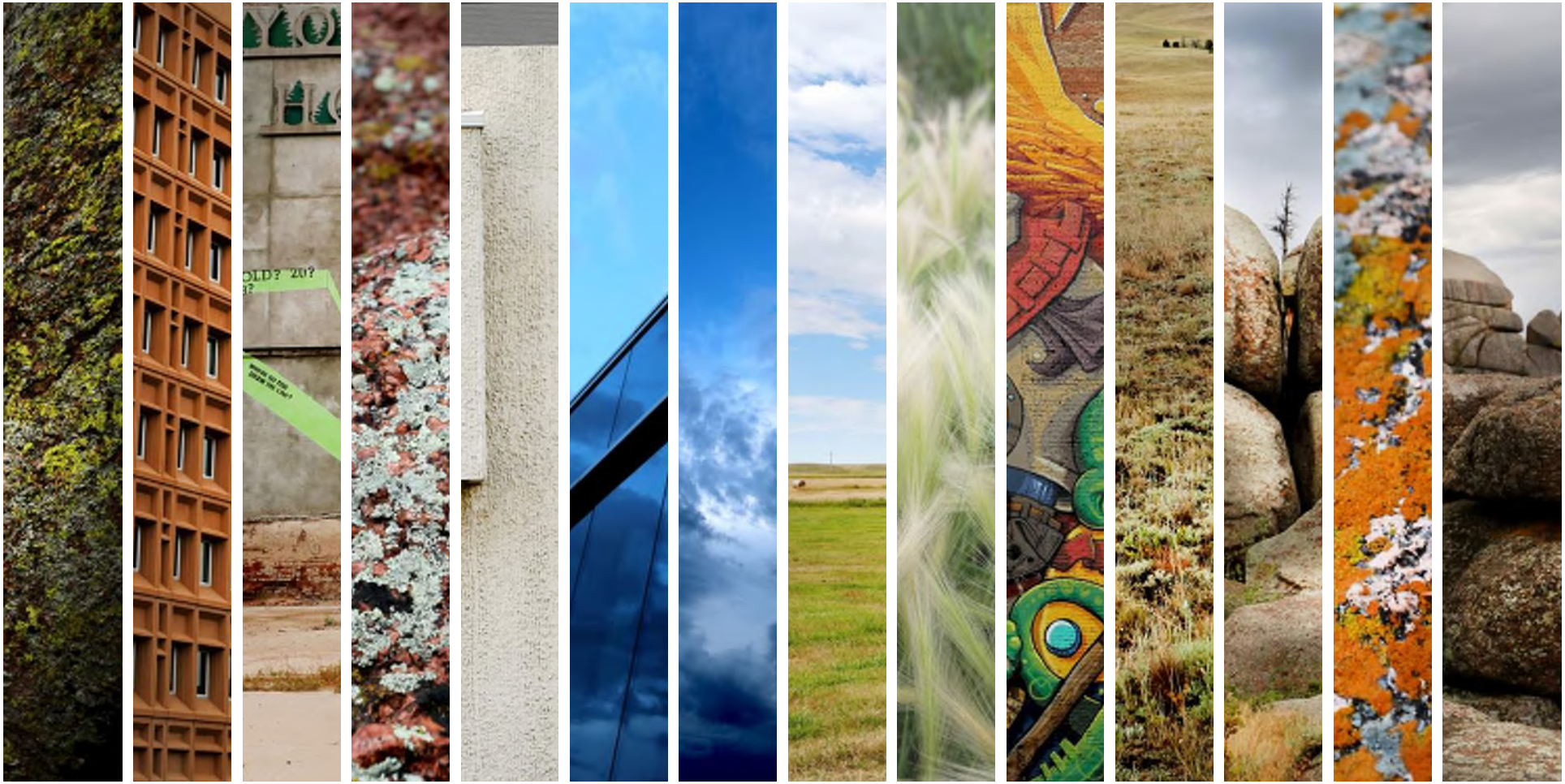

LARAMIE COUNTY COMMUNITY COLLEGE

RESIDENCE HALL

LEVEL 1 RECONNAISSANCE & LEVEL 2 FEASIBILITY REPORT

CHEYENNE, WYOMING

LARAMIE COUNTY COMMUNITY COLLEGE REVIEW SIGNATURES

We have reviewed the Program for the Laramie County Community College, Residence Hall and confirm that it adequately represents our request for a program and performance specification document and that it fulfills our mission and goals. The appropriate parties listed below have reviewed it for approval.

Joe Schaffer | President of LCCC — Date

Carol Merrell | Trustee Board Chair — Date

Rick Johnson | V.P. Administration + Finance — Date

00 | ACKNOWLEDGEMENT + DESIGN TEAM

LARAMIE COUNTY COMMUNITY COLLEGE
Joe Schaffer | President of LCCC
Carol Merrell | Trustee Board Chair
Rick Johnson | V.P. Administration + Finance
Judy Hay | V.P. Student Services
Jill Koslosky | Dean of Students
James Miller | Interim Dean, Student Life
Bill Zink | Director, Physical Plant
James Crosby | Director of Campus Safety
Sarah Hannes | Admissions
Brynn Elliott | Residence Hall Disability Services
Chad Marley | CTO/IT
Scott Noble | Athletics/Rec.
Ted Whickham | IT Network
Ken Bunya | IT

LCCC STUDENTS
Jake Thomas | Residence Hall
Faith Balkenbush | Residence Hall
Alex Loeffelholz | Residence Hall
Abby Morillon | Residence Hall
Sebastian Houston | Student Government

ARCHITECTURE - METHOD STUDIO
Joe Smith | Principal In Charge
Becky Hawkins | Interior Design Lead
Jake Gines | Senior Designer + Programmer
Shawn Benjamin | Project Manager
Jared Barnett | Junior Designer + Programmer
Nathan Blair | Programmer
Angela Flicker | Program Support

STRUCTURAL
Mark Harris | Reaveley Engineers + Associates

MECHANICAL
Kim Harris | Van Boerum & Frank Associates

ELECTRICAL
Chris Kobayashi | Spectrum Engineers

CIVIL
Scott Larson | Benchmark Engineers
Erin Gates | Benchmark Engineers

LANDSCAPE
Brandon Reed | Loft Six Four

COST ESTIMATING
Kris Larson | Construction Control Corporation

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04 DESIGN CONCEPT + COST ESTIMATION

05 DATA SHEETS + ROOM DIAGRAMS

06 APPENDICES

EXECUTIVE SUMMARY

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01

PROJECT JUSTIFICATION

NEED FOR THE PROJECT

The addition of a new residence hall at LCCC is driven by two distinct needs. One is more localized and the other is a longer-term need facing the state of Wyoming.

First, as Wyoming's largest community college, and residing in the state capital with close proximity to the growing Front Range of Colorado, LCCC is woefully under-equipped to provide student housing on campus. Among one-campus institutions, the College has the fewest residence hall beds of all of the community colleges expect for one – Eastern Wyoming College, which is the state's smallest of the seven community colleges. In the Fall of 2017, LCCC had nearly 600 applicants that expressed interest in living on campus. Unfortunately, the College only had capacity to house less than half of those students. This challenge is compounded by the extremely low vacancy rates for rental properties in Laramie County (2-5% vacancy as compared to a state average of more than 12%). This lack of approximate and affordable rental properties addressing the living requirements for students attending LCCC becomes a significant barrier.

The second need is more future-oriented. Recently the state has launched various efforts to diversify its economy. Guided by Governor Matthew Mead's ENDOW Initiative (Economically Needed Diversification Options for Wyoming), it is quickly becoming evident that for the state to diversify its economy it must seek to increase the state's population. Specifically educated individuals are sought to become the next generation of employees and business leaders. The community colleges provide an exceptional value for the education they offer, especially for students from outside of the state of Wyoming. Community college graduates in Wyoming tend to stay in state (it is estimated that nearly 88% of all grads do so). Thus, institutions like LCCC provide a conduit to recruit young individuals from other states, educate them, and help keep them in Wyoming.

STATUS OF PROPOSED SITE OWNERSHIP

The proposed site for this project is on land owned by Laramie County Community College. There are no existing conflicts or other potential obstacles that would hinder the use of this land for the proposed intended purpose, public or private.

LEGISLATION CONSIDERATION

The proposed project was presented for consideration at a public hearing of the Wyoming State Building Commission on July 12, 2017. No adverse input was received by the Commission at that time.





THE CHALLENGE

LCCC is Wyoming's largest community college, but has less student housing than all but one community college in the state.

On-campus student housing is an important consideration for many students. The college's lack of student housing has been a significant obstacle in its recruiting efforts.

Vacancy rates for off-campus rental units in Cheyenne range from two to five percent. Significantly lower than the state average of 12.2 percent.* Available off-campus apartments are often not affordable for LCCC students.

This year, LCCC had 598 fall applicants who expressed an interest in living on campus. However, there are only 276 beds available. The demand currently outweighs the supply.

THE SOLUTION

Construct a 350-bed on-campus residence hall.

The new facility will have more than just residential space – it will include kitchens, classrooms and communal spaces for students to study together.

The new residence hall will greatly aid recruitment. Students want to live and work close to other students.

Students who live on campus their freshmen year are far more likely to graduate.** Research shows that 88 percent of Wyoming community college graduates stay in Wyoming.***

* Source: http://eadiv.state.wy.us/housing/Rentvac_rate86_16.htm see page 27 at http://www.wyomingeconomicdata.com/_pdfs/2016/Dec/ThirdQuarterIndicatorsDec2016.pdf

** Source: LCCC Office of Institutional Research

*** Source: The Economic Value of Wyoming Community Colleges, Main Report, March 2016

01

PROJECT DESCRIPTION

BUILDING PROGRAM SUMMARY

The LCCC Student Housing will provide Laramie County Community College with a new student housing complex that meets the following requirements:

- $23,000,000 construction budget
- Approximately 26,500 SF footprint
- Predominantly two bed units, select single bed units for resident assistants
- Approximately 350 beds
- Multi-level structure
- Stacked rest room core
- Sink vanities included in units
- Live In Director's apartment
- Admin areas, mail room, multi-purpose room
- Full kitchens in common areas
- Common lounge areas

To meet the programmatic needs, it has been sized to approximately 99,000 gross square feet. A 1.4 grossing factor (28% efficiency factor) was applied to the net square footage to get to the final gross square footage amount. The gross factor accounts for circulation, wall thickness, shafts and ancillary spaces.

SPACE REQUIREMENT SUMMARY

METHODSTUDIO INC.

LARAMIE COUNTY COMMUNITY COLLEGE

LCCC STUDENT HOUSING

SPACE AREA SUMMARY

10.16.2017 — **2 BED UNITS**

SPACE TYPE	DESCRIPTION	QTY	NET SF	TOTAL NET SF
UNITS				
1 Bed Unit		4	140	560
2 Bed Unit		168	196	32928
RA Unit		12	140	1680
Number of Beds		352		
	Subtotal			**35168**
RD APARTMENT				
Apartment s.f.				826
Number of Apartments		1		
Number of Beds		2		
	Subtotal			**826**
AMENITIES				
Lobby		1	548	548
Common Laundry	varies	varies	varies	2496
Restroom Cores	6:1 ratio 87 beds per floor = 29 fixtures or (6) 5 fixture cores per floor	varies	varies	9084
Fitness Room		1	596	596
Classroom/Theater Room		1	461	461
Student Lounge/Game Room	On Level 01	1	4818	4818
Vending	1 per floor	4	20	80
Print Station	1 per floor, 2 computer stations & 1 printer	1	45	45
Prep Kitchen		1	163	163
Common Kitchen	amount varies per floor	varies	varies	1792
Common Lounge/living rooms	amount varies per floor	varies	varies	3768
Multi-Purpose Room		1	811	811
Music Room	all on first floor	0	0	0
Craft Space		1	244	244
Classroom		1	353	353
Study Room	varies	1	1728	1728
Storage		1	384	384
Restroom		2	58	116
	Subtotal			**27487**
ADMINISTRATIVE				
Reception		1	114	114
Staff Office		1	122	122
Campus Safety Office		1	145	145
Storage		1	100	100
Mailroom		1	100	100
	Subtotal			**581**
STORAGE & MAINTENANCE				
Support-Electrical/Comm		4 vary		1174
Support-Mechanical		5 vary		974
Custodial Storage		1	141	141
Custodial Office		1	115	115
Main - Electrical		1	2458	2458
Main - Mechanical		1	2458	2458
Elevator Equipment Room		1	137	137
Elevator		2	87	174
	Subtotal			**7631**

Total Number of beds — **354** (348 student + Live in Director)

	Net SF	Gross SF	Cost
Student Housing Building	**71693**	**99,294**	**$ 22,986,561.00**
		28% grossing factor	$231.50/sf
		20% soft costs	$ 4,942,110.62
Total			**$ 27,928,671.62**

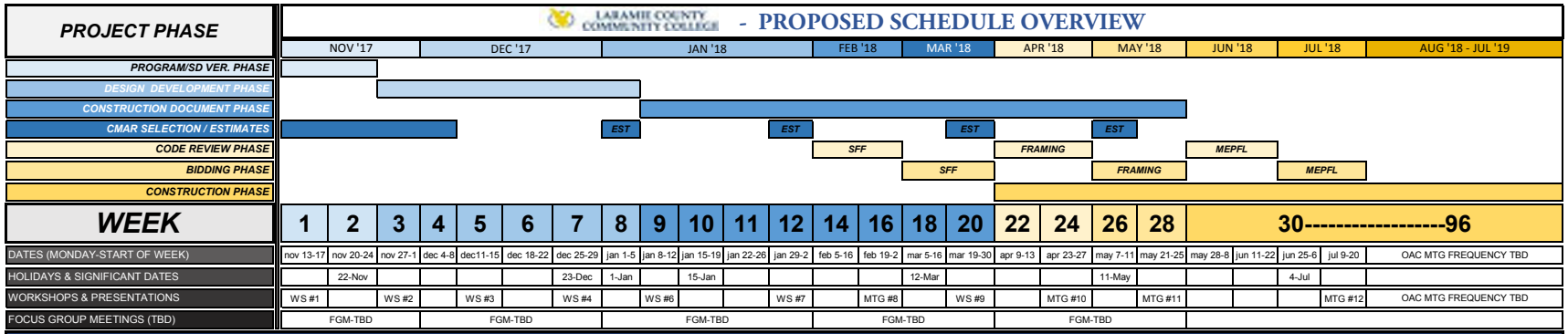
01

SCHEDULE NARRATIVE

In any project, schedule is always of primary concern. However, in this case, the College has proposed an aggressive schedule, but sufficient time for the contractor to complete their required scope before the Fall 2019 semester begins.

There are several factors that begin to define the duration of this schedule, starting with the upcoming bond election ballot item for a minority share of the project budget. Assuming the initiative passes, the College is prepared to engage the Design team to continue into the Level III scope to continue into design development and construction documents. That phase of the project will push into the early months of 2018 and continue as construction has initiated. The permit application will be submitted to the County for review in March and will remain an open permit as different phases become available for review. In meeting with the County during the pre-application meeting, it was discussed that an early site submittal may make sense about one month prior to the construction application is submitted to allow for a smoother review process. This may be helpful for the College in replacing the existing parking lot prior to its demolition. Since the current working loads and staffing resources at the County are somewhat strained, the anticipated review time will be longer than usual, but could be helped with phases packages.

LCCC has expressed a desire to review the documents and make application to the County prior to bidding the project, but this will push the ultimate start of construction into late May or early June. While an April/early start may be slightly more ideal, the phasing will have to be reviewed with the contractor that is ultimately selected. It is important to time the project to fit the needs of the College and their financing plan.



LCCC Student Housing Proposed Sequence of Events - DETAILED WORK PLAN

week	dates	phase	objectives	deliverables	attendees
1-2	nov 13-24	sd	**WORKSHOPS #1-2/SD PROGRESS/PRESENTATION:** Meet with Design Team • review schematic design with LCCC including site, massing, floor plan and basic volume concepts for interior spaces • review cost estimates, & Project manual, drawings as required • discuss delivery methods and work with state consultants to ensure conformance with local standards	minutes, incorporate feedback, SD feedback incorporation, revised schedule and approval from LCCC/WYFMD	OC, SR, DT (MEETINGS TBD)
3-8	nov 27 to jan 5	dd	**WORKSHOPS #2-6/DD INTRO/PROGRESS/PRESENTATION:** Meet with Design Team • develop design with LCCC including site, building elevations, solidify floor plans and basic interior concepts • review code requirements with WYFMD, County & fire marshal • DD deliverables: updated Cost model, & Project manual, drawings as required • continue to work with state consultants to ensure conformance with local standards	minutes, incorporate feedback, WYFMD DD deliverables for review and approval from LCCC/WYFMD	OC, SR, DT, ET (MEETINGS TBD)
9-28	jan 8 to may 25	cd	**WORKSHOPS #7, 9, & 11/CD INTRO/33-60-95% REVIEWS:** Meet with Design Team • develop construction drawings and specifications for bid packages• meet to review progress and define unknown items per LCCC preferences and standards • get periodic feedback from LCCC engineers • incorporate feedback as appropriate	minutes, incorporate feedback, progress sets for LCCC/WYFMD review, construction document for WYFMD review	OC, SR, DT, ET (MEETINGS TBD)
14-32	feb 5 to jun 22	code review	**CODE REVIEW MTG #8, 10, & 12:** Design Team to respond to comments from County, et al. • Review submitted construction documents from County and associated/interested parties • respond to comments from various agencies as needed • conduct final internal quality control prior to bidding • prepare bid documents for contractors	respond (as needed) to WYFMD or other comments noted in reviews, provide revised documents for bidding	OC, DT, ET (MEETINGS TBD)
18-36	mar 5 to jul 20	bidding	**PRE-BID MTG #8, 10, & 12:** Design Team to respond to comments from Contractors, et al. • review questions from contractors & issue addenda as needed • assist owner in negotiating subcontract bidders • issue conformed documents for construction	addenda as needed, conformed documents for construction, bid review	OC, DT, ET (MEETINGS TBD)
22-96	apr 9 to jul '19	constr.	**CONSTRUCTION:** Design Team to respond to comments from Project Team, Contractor, et al. • Attend construction coordination & progress meetings • address any issues that arise as appropriate for RFIs, ASIs, PRs, COs, etc. • Review submittals & submit deferred submittals for review • observe construction progress and conditions • review and certify pay applications • prepare as-built drawings in a timely manner after receipt from contractor • finalize project close out	RFIs, ASIs, Submittals, COs, PRs, etc., field observations	OC, DT, ET (MEETINGS TBD)

*FINAL SCHEDULE TO BE COORDINATED WITH STEERING COMMITTEE AT FIRST MTG.

OC- OVERSIGHT COMMITTEE - WYFMD / LCCC
SR- STUDENT REPRESENTATIVES
DT- DESIGN TEAM: METHOD STUDIO
CC- COST CONSULTANTS: - CCC
GC- GENERAL CONTRACTOR: TBD
ET- CONSULTING ENGINEERS: MECHANICAL & PLUMBING-VBFA, ELECTRICAL/TECHNOLOGY - SPECTRUM ENGINEERS, STRUCTURAL - REAVELEY ENGINEERS, CIVIL - BENCHMARK ENGINEERS & LANDSCAPE ARCHITECT - LOFT 64

SITE ANALYSIS

02

OVERVIEW

ANALYSIS

The Site Analysis portion of the program document identifies the impact of the site on the program, project budget and schedule. It identifies the physical characteristics of the direct building site and the surrounding geographical region. The analysis includes diagrams, maps and photographs to illustrate key features including: site topography, site climate, pedestrian and vehicular circulation, view corridors, key physical and visual adjacencies. The site analysis for the programming phase is intended to be a useful tool for the design phase of the project.

LOCATION

The proposed project is located along the southwest edge of the existing campus core, on the north side of South College Drive, a primary access route along the edge of campus. The existing site is open with a minor slope from south to north. The sole existing building on site is a modular unit intended for high school programs. It would be removed to make way for the proposed student housing. The site is bounded on two sides; to the west, existing residence halls and to the east, an existing auxiliary parking lot. To the north is the main campus mall, an east-west axis circulation core connecting to majority of buildings on campus. The site is open to the south.

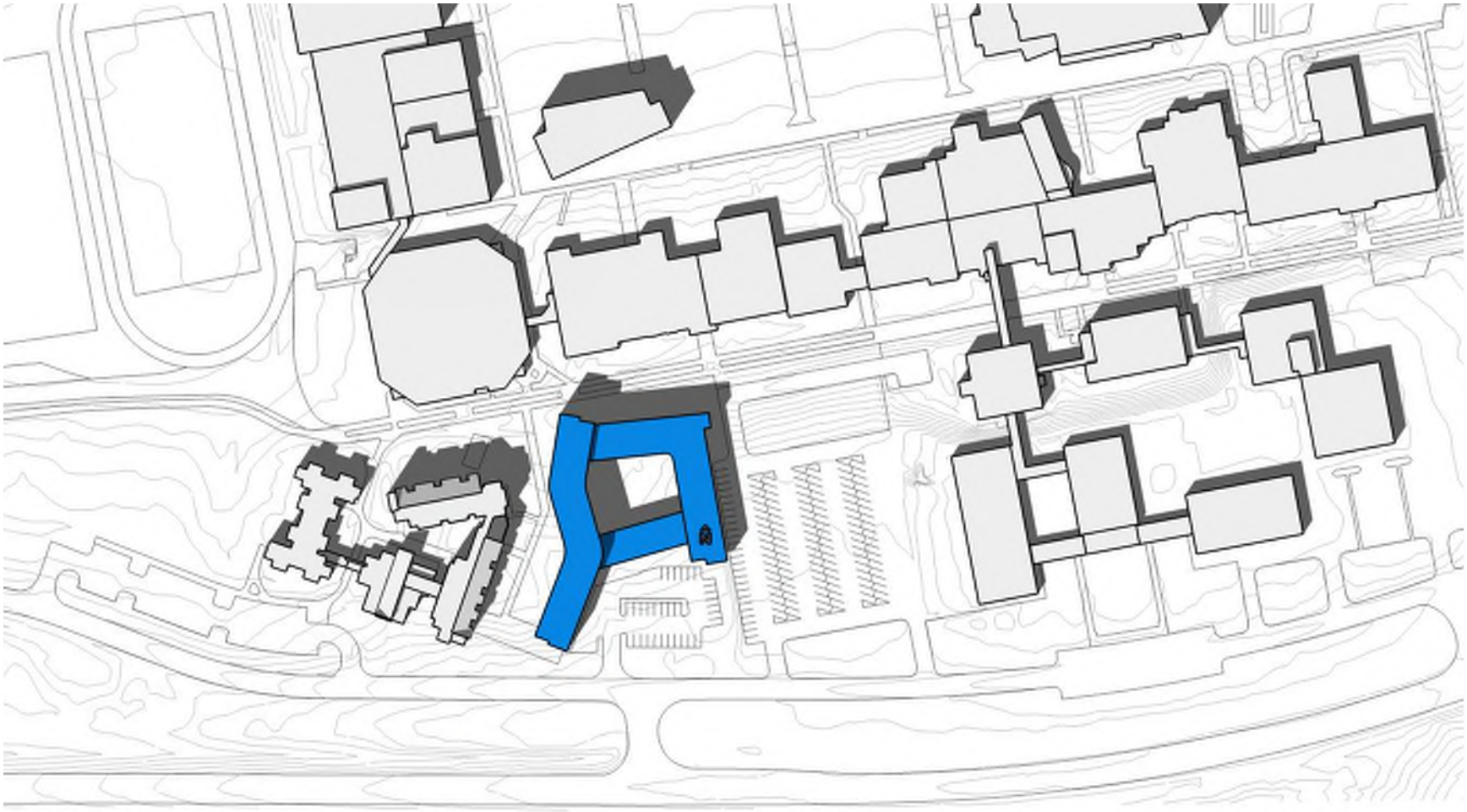
SITE SUMMARY

Laramie County Community College (LCCC) is planning to construct a new housing facility along the southwest edge of the existing campus core. The project is planned to include approximately 350 beds distributed among 180 units to meet the demand for new housing on the LCCC campus, with an anticipated footprint of approximately 26,500 sf.

The project will fit within the context of the existing residence hall parking lot. To make up for this reduction in parking, along with fulfilling the new need for parking, a new lot is also being proposed to the west of the existing residence hall.

Special consideration has been given to mitigating the challenge of frequent wind on site by positioning massing to help protect from winds.

It is planned that this facility should be well connected to the existing pedestrian network and should provide to clear access to the Academic core of campus.



SITE TOPOGRAPHY *1' - 0" BEETWEEN TOPOGRAPHY LINES*

SITE LOCATION + PLANNING PRINCIPLES

OUTDOOR SPACES

Outdoor spaces for gathering are limited on the existing site. The space itself has a primary purpose for outdoor recreation and has restricted access points to facilitate the on field play during events. There is some informal gathering that occurs to the south of the site, closer to the housing facilities, where people can find shade and large expanses of grass for relaxation, study and other passive recreation activities.

LANDSCAPE

Landscape on the site is very open and green. Open space surrounding the site features accessible grass and occasional clusters of mature deciduous and coniferous trees. The primary site does not have any mature, woody vegetation however, the site does have some prominent vegetation around the perimeter edges and between adjacent buildings.

The south edge on the opposite side of South College Dr. has a open landscape buffer between the highway and campus , running east west. The buffer provides space between the occasionally trafficked highway and the calm of campus.

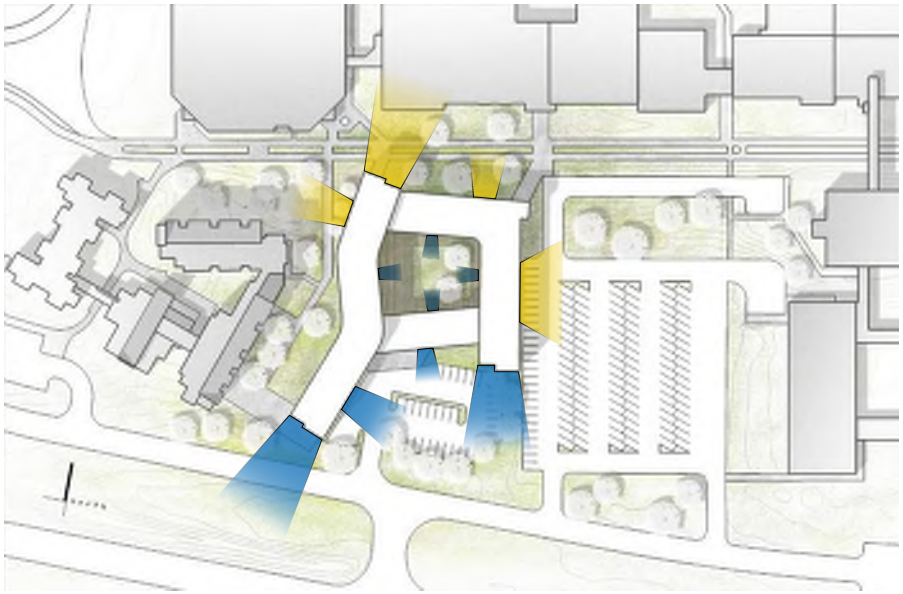
The south edge of the site does have some mature and juvenile evergreen and leafy vegetation and foundation planting along the existing housing structures and parking lots Depending upon health and condition of the vegetation on this edge, it should be preserved.

As the site is located on the edge of campus, great views open up to the south, offering sweeping views of the Great Plains of Wyoming.

PARKING

The existing site contains surface parking that will be removed for construction. The total quantity of spaces lost is 143. In addition to stalls being added in the proposal, an additional lot is being proposed west of the residence hall site. There is parking immediately adjacent to the site on the east. The following parking counts for each area is listed below:

PARKING WEST OF SITE	PARKING EAST OF SITE
Existing – 55 stalls	Existing – 131 stalls
Proposed – 157 stalls	Proposed – 32 stalls



OPEN TO CAMPUS
OPEN TO COURTYARD
OPEN TO PLAINS

VIEW CORRIDORS

PROPOSED SITE PLAN *COURTESY OF LOFTSIXFOUR*

SITE CIRCULATION AND RELATIONSHIPS

VEHICLE TRAFFIC FLOW

Existing traffic flow for the site is primarily along the south edge of campus. East College Drive is the main artery accessing campus from the west and from the north. Occasional vehicular gateways allow access to a secondary drive aisle that loops around campus. Such a gateway is located directly south of the site. Parking lots and ingress to the interior of campus are accessed from this loop. The massing treatment and proposed parking lot adjacency fortify this loop road as a campus street. Access to the site is from a direct connection to the campus loop road. This lot also supports a drop off zone to support student's needs.

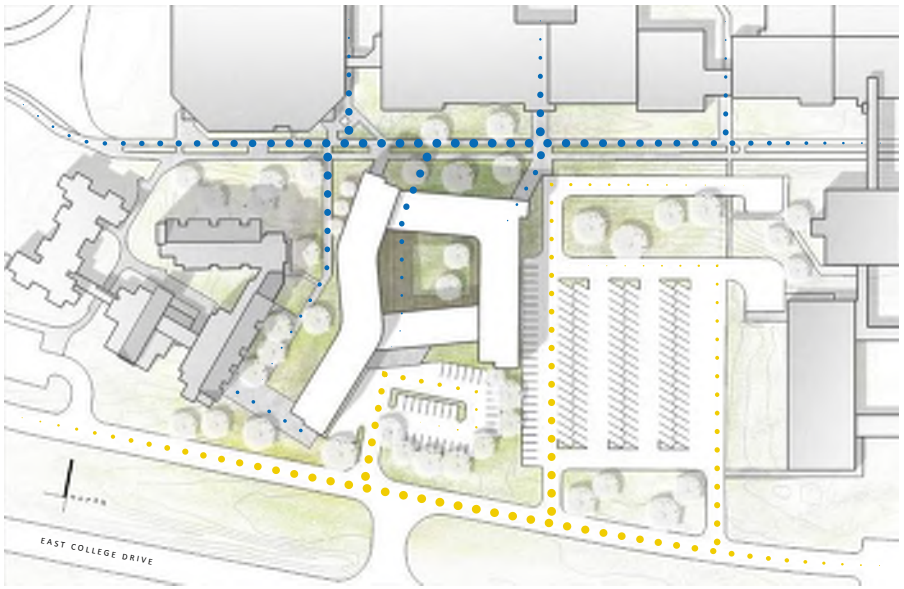
PEDESTRIAN TRAFFIC FLOW

Pedestrian traffic flow through and around the site is very open, offering many paths and points of connection. The site can operate as a destination or passthrough to access other points on campus.

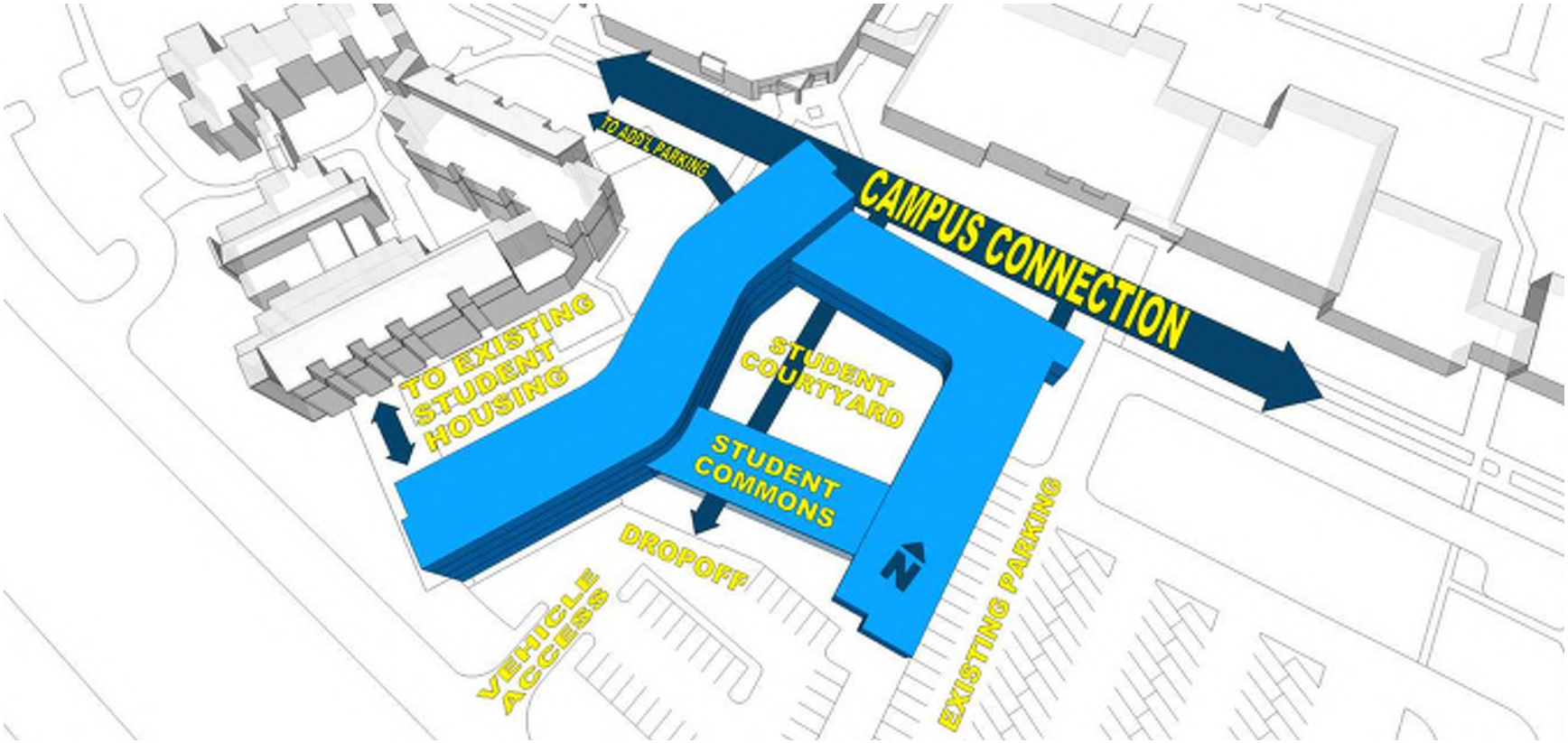
The predominant academic mall offers pedestrian & bicycle traffic flows that run adjacent to the site and facilitate access to the broader campus. The sidewalk immediately north of the site has been identified by LCCC campus planning as a primary east/west walkway and receives a moderate volume of foot traffic as pedestrians travel from the residence neighborhood to the plaza nodes and academic core of campus.

Another predominant pedestrian corridor is the corridor that runs north/south adjacent to and on the west side of the site. This is considered a significant campus walkway and is intended to provide safe pedestrian thoroughfare from the existing housing facilities to the academic core. This corridor also facilitates the existing housing facilities to the site.

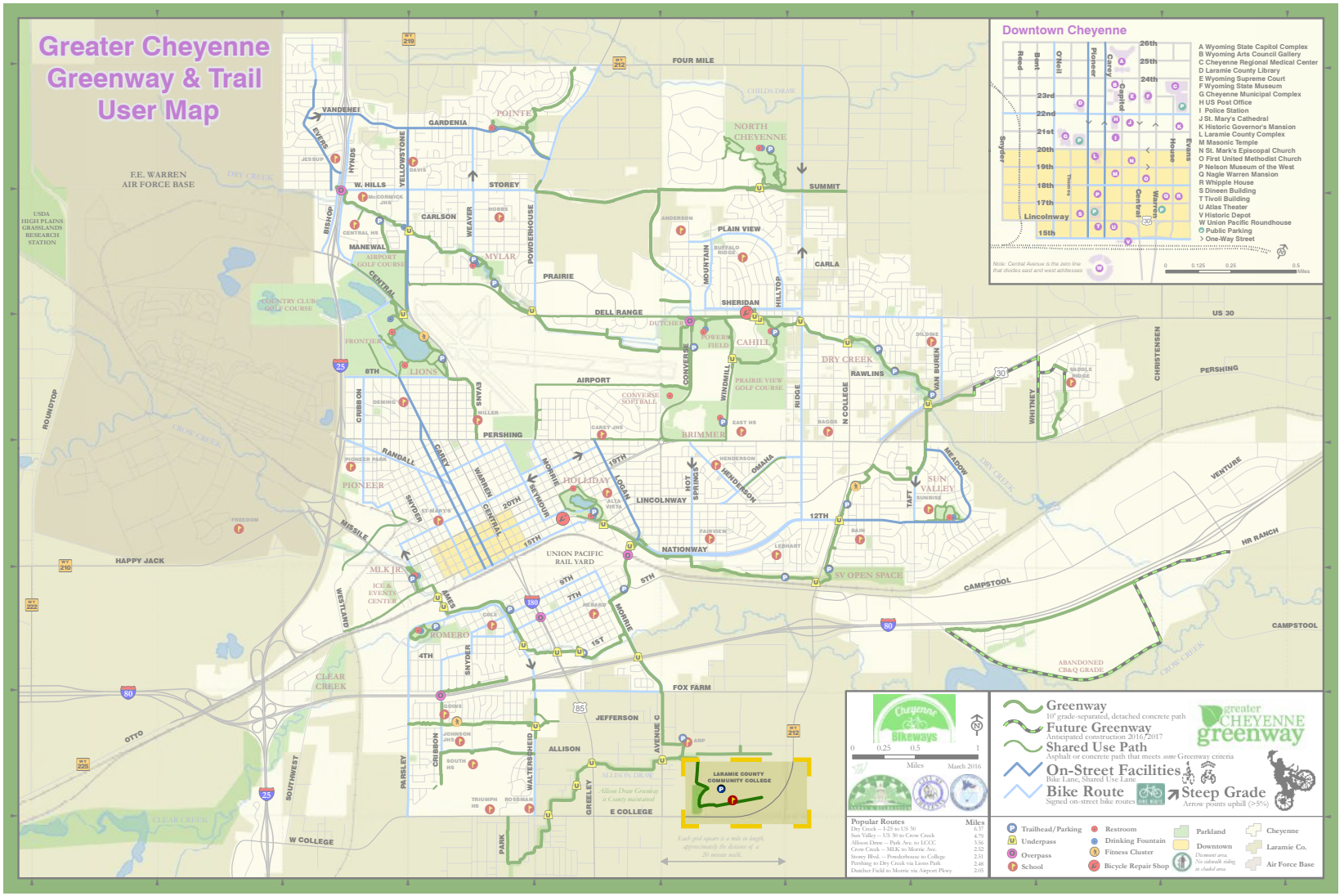
A semi public walkway will run directly through the site on a north/south axis. It will pass through the student common area, but will pass through an open breezeway on the north side of the site. This path is intended to further strengthen the pedestrian pathway to the academic mall and vehicular to pedestrian access from the loop road around campus.

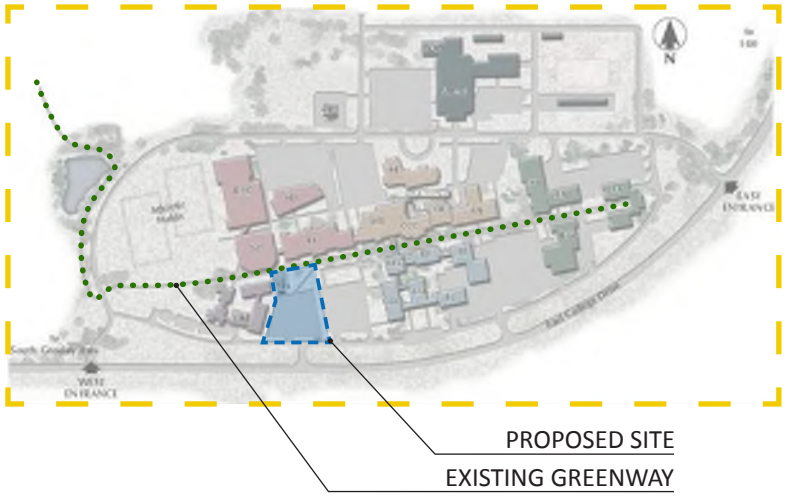


CIRCULATION SITE PLAN



SITE ADJACENCIES


Greater Cheyenne Greenway & Trail User Map
Downtown Cheyenne
A Wyoming State Capitol Complex
B Wyoming Arts Council Gallery
C Cheyenne Regional Medical Center
D Laramie County Library
E Wyoming Supreme Court
F Wyoming State Museum
G Cheyenne Municipal Complex
H US Post Office
I Police Station
J St. Mary's Cathedral
K Historic Governor's Mansion
L Laramie County Complex
M Masonic Temple
N St. Mark's Episcopal Church
O First United Methodist Church
P Nelson Museum of the West
Q Nagle Warren Mansion
R Whipple House
S Dineen Building
T Tivoli Building
U Atlas Theater
V Historic Depot
W Union Pacific Roundhouse
Public Parking
One-Way Street
Greenway
10' grade-separated, detached concrete path
Future Greenway
Anticipated construction 2016/2017
Shared Use Path
Asphalt or concrete path that meets some Greenway criteria
On-Street Facilities
Bike Lane, Shared Use Lane
Bike Route
Signed on-street bike routes
Steep Grade
Arrow points uphill (>5%)
Popular Routes
Miles
Trailhead/Parking
Underpass
Overpass
School
Restroom
Drinking Fountain
Fitness Cluster
Bicycle Repair Shop
Parkland
Downtown
Cheyenne
Laramie Co.
Air Force Base
F.E. WARREN AIR FORCE BASE
HAPPY JACK
FOUR MILE
NORTH CHEYENNE
SUMMIT
PLAIN VIEW
CARLA
SHERIDAN
DELL RANGE
PRAIRIE
MYLAR
STOREY
CARLSON
MANEWAL
W. HILLS
YANDEMEI
GARDENIA
POINTE
AIRPORT
DRY CREEK
RAWLINS
CAHILL
PRAIRIE VIEW GOLF COURSE
BRIMMER
PERSHING
LINCOLNWAY
HOLLIDAY
NATIONWAY
SUN VALLEY
PIONEER
UNION PACIFIC RAIL YARD
SY OPEN SPACE
ROMERO
FOX FARM
ALLISON
JEFFERSON
E COLLEGE
W COLLEGE
CLEAR CREEK
CAMPSTOOL
ABANDONED CB&Q GRADE
HR RANCH
VENTURE
US 30
CHRISTENSEN
LARAMIE COUNTY COMMUNITY COLLEGE
Cheyenne Bikeways
greater CHEYENNE greenway



GREENWAY OVERVIEW

The Greenway is a 10-foot wide grade-separated, detached, reinforced concrete path that works it's way throughout the city of Cheyenne. More than just a fancy sidewalk, the Greenway serves as a safe and accessible recreational corridor; a key component of the non-motorized transportation system; an open-air science, ecology, history, and health classroom for students of all ages; and a vital public space integral in building sustainable, vibrant and healthy neighborhoods and a cohesive community.

The man made and natural barriers that traditionally divide a community are the same corridors the Greater Cheyenne Greenway has employed to connect neighborhoods, school districts, and socioeconomic divides. Connecting governmental agencies, businesses, citizen volunteers and schools, Cheyenne boasts approximately 37 miles of completed Greenway path with plans for additional path.

The goal of the pathway system is two-fold: create a hub-and-spoke system that encircles the city in one continuous loop; and connect the non-contiguous segments to serve all neighborhoods while accommodating future growth. A segment of the Greenway terminates along the academic mall of the LCCC campus. The proposed site is located directly adjacent to the Greenway.

SITE CLIMATE + ORIENTATION

SOLAR AZIMUTH

The angle of the sun is at its highest during the Summer Solstice (June 20th). As the seasons change, the height of the sun gets lower in the sky until it is at its lowest point during the Winter Solstice (December 21st). Using the proper length of over hangs will help to shade the interior from the summer sun, while allowing the winter sun to enter, adding heat to the interior. The amount of lighting and electrical loading from the building uses will necessitate the management of direct sunlight entering the building to improve building efficiency.

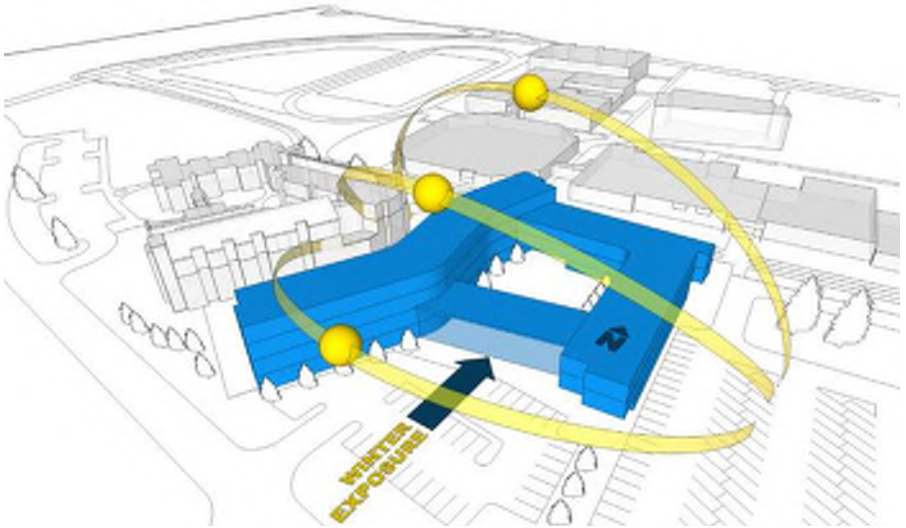
SOLAR GRAPH

The length of the day varies significantly over the course of the year. The shortest day is December 21 with 9:13 hours of daylight; the longest day is June 20 with 15:09 hours of daylight.

The number of hours during which the Sun is visible (black line), with various degrees of daylight, twilight, and night, indicated by the color bands. From bottom (most yellow) to top (most gray): full daylight, solar twilight (Sun is visible but less than 6° from the horizon), civil twilight (Sun is not visible but is less than 6° below the horizon), nautical twilight (Sun is between 6° and 12° below the horizon), astronomical twilight (Sun is between 12° and 18° below the horizon), and full night.

The solar information and other climate data included in this section is sourced from weatherspark.com.

https://weatherspark.com/y/3765/Average-Weather-in-Cheyenne-Wyoming-United-States-Year-Round



SOLAR ORIENTATION

DAILY HOURS OF DAYLIGHT AND TWILIGHT

The number of hours during which the Sun is visible (black line). From bottom (most yellow) to top (most gray), the color bands indicate: full daylight, twilight (civil, nautical, and astronomical), and full night.

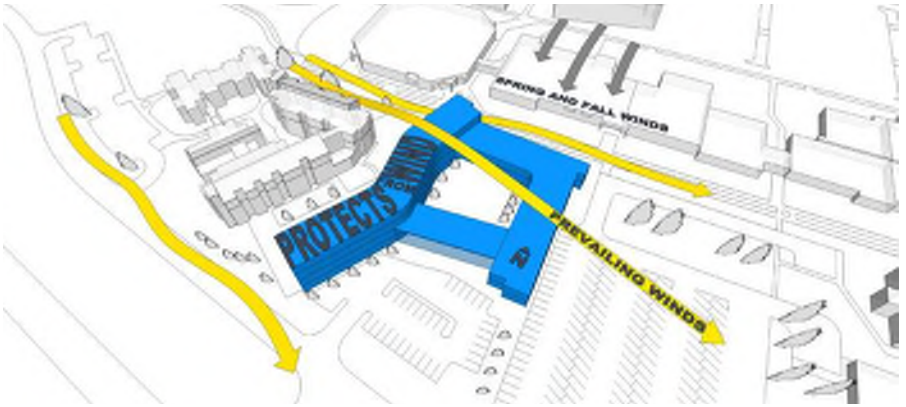
WIND PATTERNS

Over the course of the year average wind speeds vary from 4-8 mph (light to gentle breeze), with gusts rarely exceeding 22 mph (fresh breeze). It is calm roughly 6% of the year.

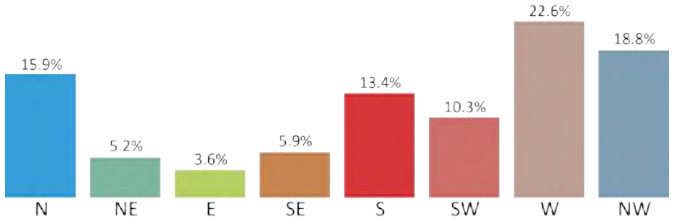
The highest average wind speed of 8 mph (gentle breeze) occurs around January 18, at which time the average daily maximum wind speed is 13 mph (moderate breeze).

The lowest average wind speed of 4 mph (light breeze) occurs around August 10, at which time the average daily maximum wind speed is 7 mph (gentle breeze).

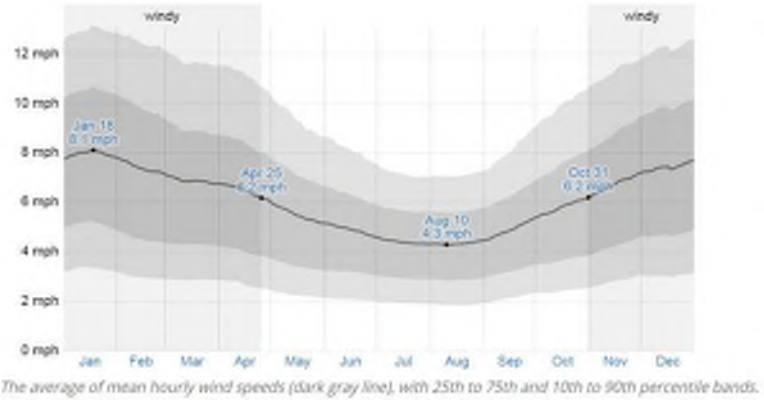
The wind is most often out of the west (23% of the time). The wind is least often out of the east (4% of the time).



WIND DIAGRAM

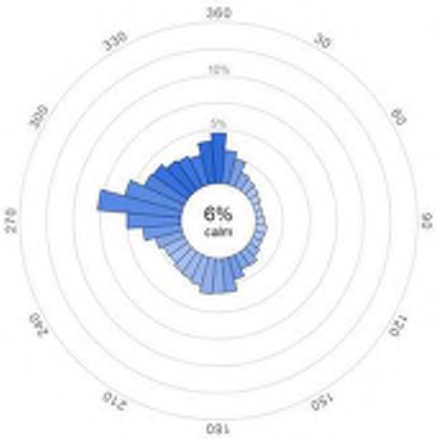


ANNUAL FREQUENCY BY DIRECTION

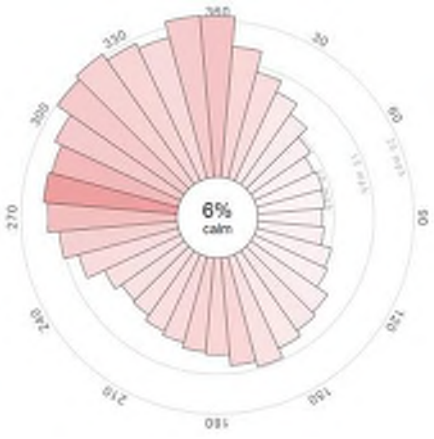


The average of mean hourly wind speeds (dark gray line), with 25th to 75th and 10th to 90th percentile bands.

AVERAGE WIND SPEED



ANNUAL FREQUENCY BY DIRECTION



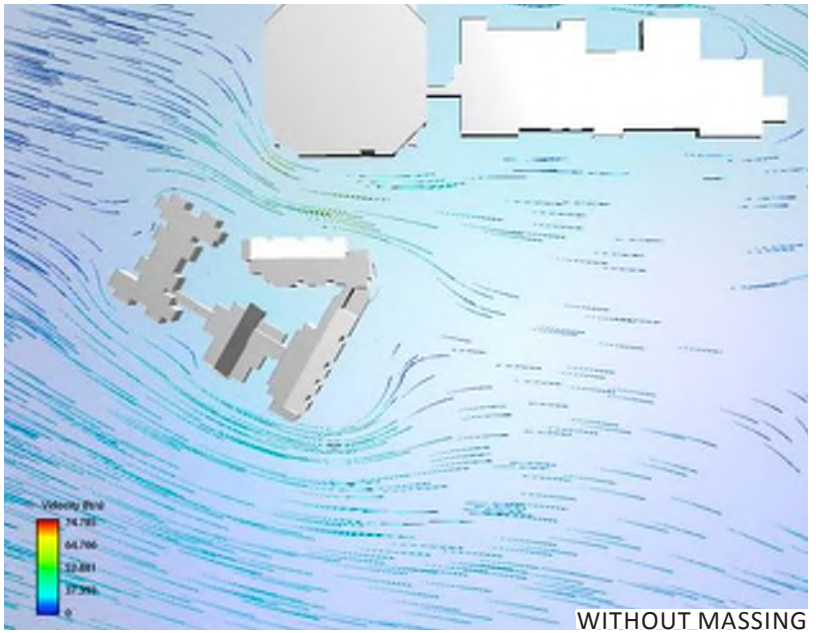
AVERAGE SPEED BY DIRECTION

SITE CLIMATE + ORIENTATION

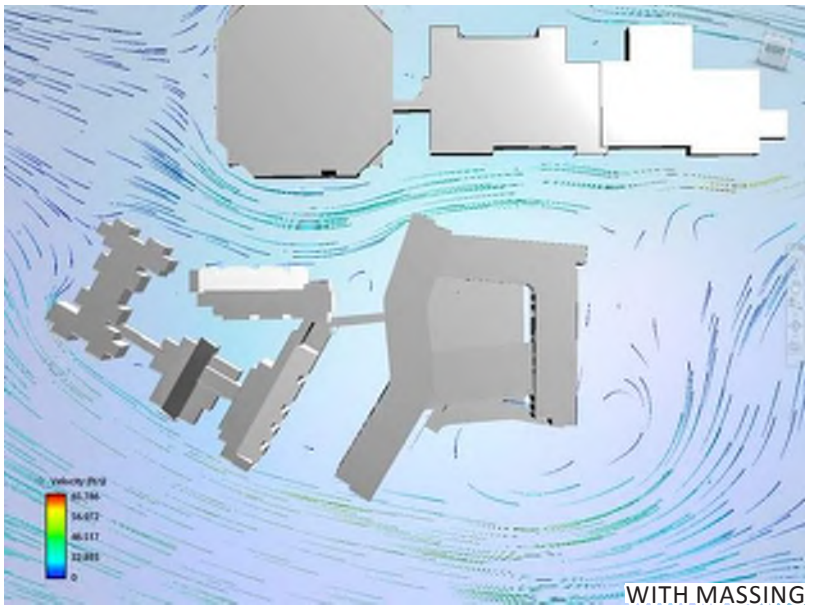
WIND TUNNEL STUDY

Due to the challenging nature of wind on site, attention was given to the specific effects of the prevailing wind from the West. A virtual wind tunnel shows windflow lines before and the resulting lines after the model mass is placed in the environment.

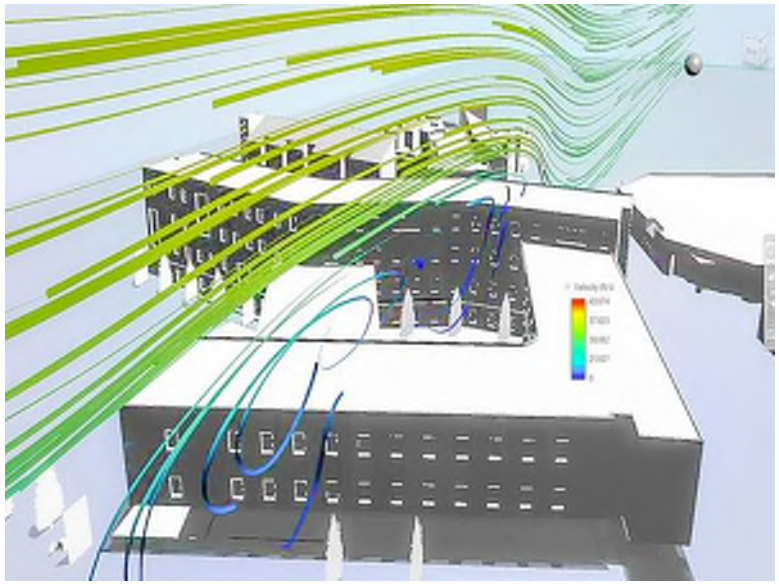
The initial wind velocity modeled is 20 ft/s, or roughly 13 mph, the average daily maximum wind speed in January.

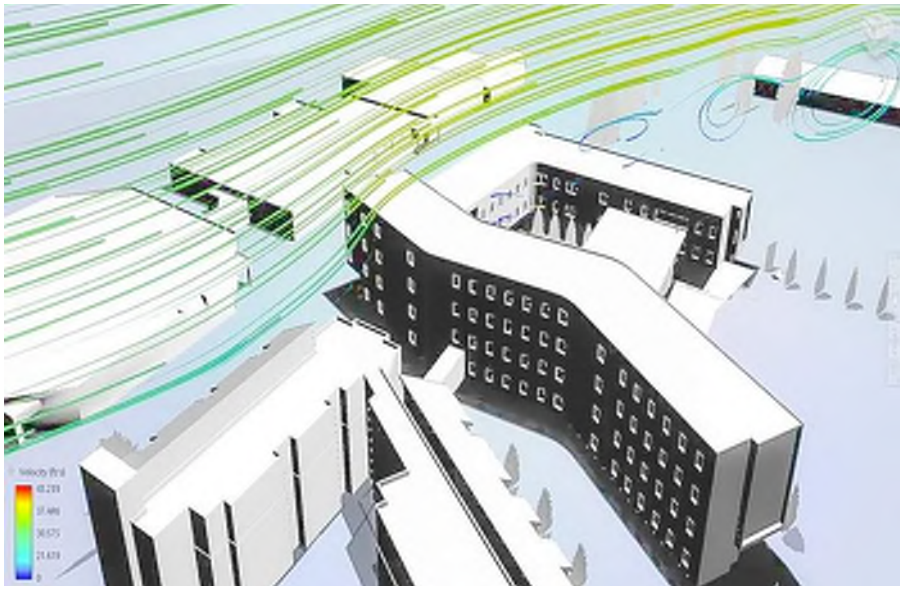


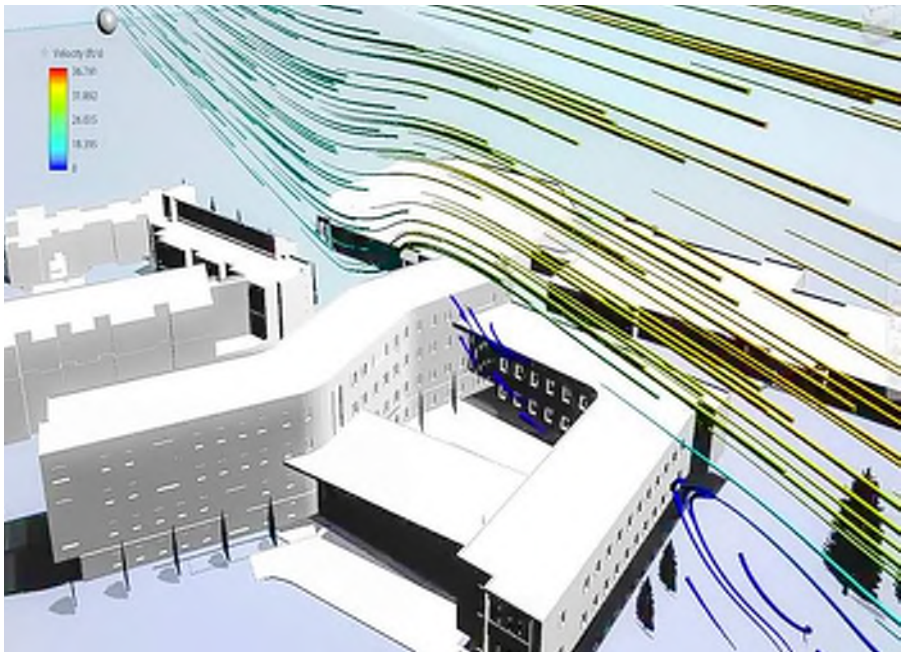
WITHOUT MASSING



WITH MASSING





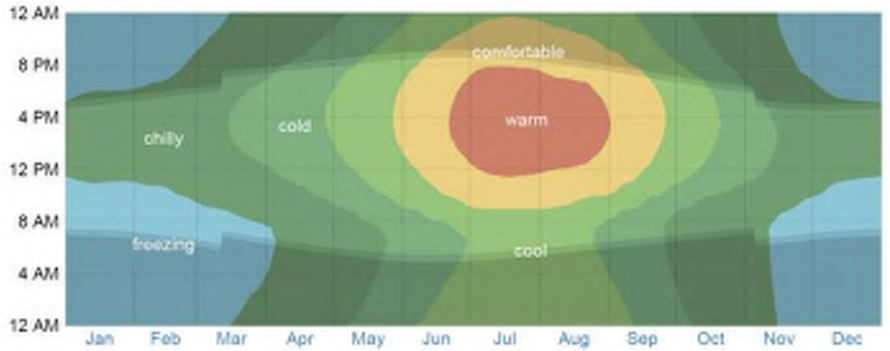


SITE CLIMATE + ORIENTATION

TEMPERATURE GRAPHS

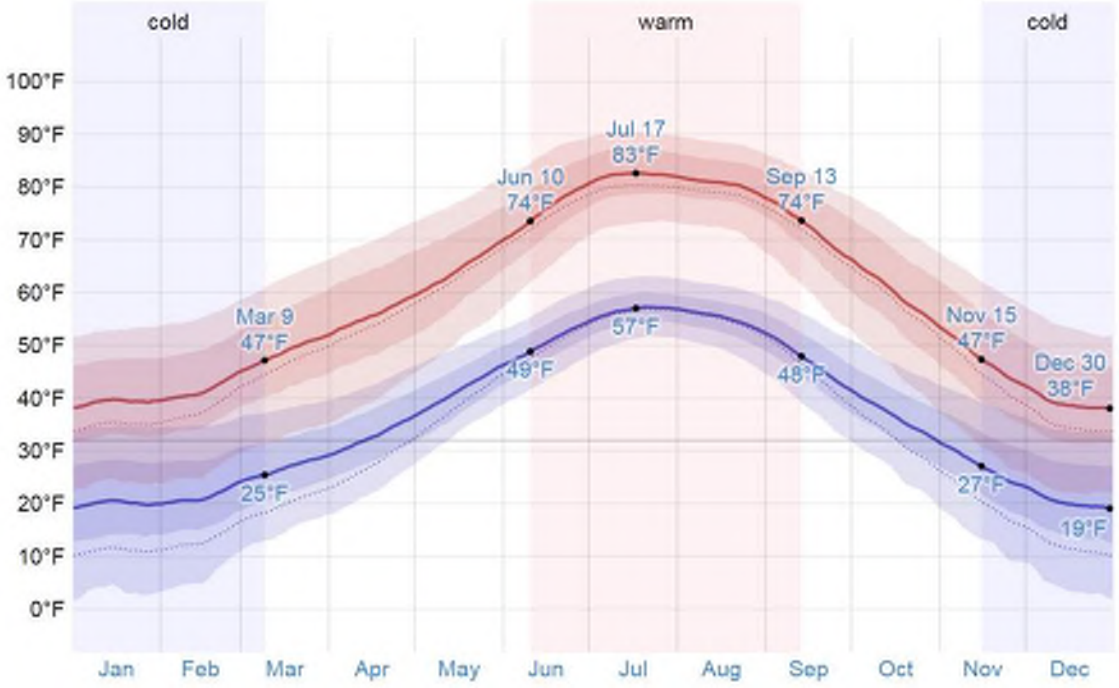
The warm season lasts from June 17 to September 9 with an average daily high temperature above 79°F. The hottest day of the year is July 20, with an average high of 91°F and low of 56°F.

The cold season lasts from November 20 to March 8 with an average daily high temperature below 42°F. The coldest day of the year is January 14, with an average low of 14°F and high of 31°F.



AVERAGE HOURLY TEMPERATURE

The average hourly temperature, color coded into bands: frigid < 15°F < freezing < 32°F < chilly < 45°F < cold < 55°F < cool < 65°F < comfortable < 75°F < warm < 85°F < hot < 95°F < sweltering. The shaded overlays indicate night and civil twilight.



AVERAGE HIGH AND LOW TEMPERATURE

The daily average high (red line) and low (blue line) temperature, with 25th to 75th and 10th to 90th percentile bands. The thin dotted lines are the corresponding average perceived temperatures.

PRECIPITATION GRAPHS

The wet season lasts about five months, from the beginning of April til the end of August, usually raining about once a week. The highest probability of rain occurs near the end of May, with precipitation every three days on average. The remainder of the year is the drier season with very little precipitation.

Rain is the most common precipitation 8 months out of the year, followed by snow for 4 months out of the year.

Cheyenne receives 16 inches of rain per year. The US average is 39 inches. Annual snowfall accumulation is 59 inches. The US average is 26 inches of snow per year. The number of days with any measurable precipitation is 41.

AVERAGE MONTHLY RAINFALL

The average rainfall (solid line) accumulated over the course of a sliding 31-day period centered on the day in question, with 25th to 75th and 10th to 90th percentile bands. The thin dotted line is the corresponding average liquid-equivalent snowfall.

DAILY CHANCE OF PRECIPITATION

The percentage of days in which various types of precipitation are observed, excluding trace quantities: rain alone, snow alone, and mixed (both rain and snow fell in the same day).

AVERAGE LIQUID-EQUIVALENT MONTHLY RAINFALL

The average liquid-equivalent snowfall (solid line) accumulated over the course of a sliding 31-day period centered on the day in question, with 25th to 75th and 10th to 90th percentile bands. The thin dotted line is the corresponding average rainfall.

BUILDING REQUIREMENTS

03

ARCHITECTURAL NARRATIVE

CONCEPT

Located on the high plains of Wyoming, just outside of Cheyenne, rests a landscape seasoned by time and the elements. This enchanting landscape of Veedauwoo is primarily defined by its 1.4 billion-year-old Sherman Granite outcroppings and hoodoos. It is a place where recreation and joy are found amongst the stones. But Vedauwoo is more. In the words of the poet Gerry Spence, this landscape is where silence resides and "the silence has always been my friend".

Lori Howe provides another vivid description of Vedauwoo in her poem Winter Archipelago. Some portions have been redacted for clarity.

MINDLESS OF TIME, THESE LAST FEW MAMMOTHS STOOD STILL
WRITTEN IN HEAT AND WATER ON THE INSIDES OF THEIR IGNEOUS SKINS,
UNTIL THEY HARDENED, IMMORTAL

IN SOFTER SEASONS, HUMANS COME
BRIGHT, FRAGILE, TINY AS BEETLES,
TO DRY THEMSELVES AGAINST THE PLACID STONE

VEDAUWOO GAZES OUT ACROSS THE PLAINS,
SOFTENING THE WORLD BACK TO AN ANCIENT SEA.
LOST TO ALL BUT ELEPHANT ISLANDS,
AND THEIR LONG MEMORIES OF WATER

The architectural concept for the New Student Housing at Laramie County Community College seeks to engage in the philosophical understanding of place as the catalyst for architectural discovery and design development. Vedauwood provides a contextual condition that removes itself from the immediate and positions our work in the timeless and the relevant. As such, the architectural concept is derived from our own experience of the place, poetic descriptions of the landscape, and other observations. Our concept for the project is…

THE CLOSENESS OF TOWERING MOUNTAINS OF SKY
FRAMED BY SEASONED MAMMOTHS
BORN OF THE EARTH

The architecture of this project will figuratively and literally rise up from the earth as great monoliths of material to greet and frame the closeness of the great Wyoming sky.

The following are 6 key concepts developed in concert with the primary concept to give image, reality, and further definition to the abstract.

NO. 1 CAPTURE THE CLOSENESS

Gerry Spence continues to describe Wyoming's landscape as one filled with "towering mountains of sky". Others have commented on their arrival to Cheyenne that the sky feels closer. This ever-present closeness of the sky can be felt and observed. The idea is that the proposed architecture rises to meet the sky and the sky will provide a canopy over the courtyard of the building.

NO. 2 INHABIT THE VOID

As the monoliths of stone position themselves in the landscape of Vedauwoo, curious voids develop in the spaces between. These voids are hubs for activity and inhabitation. The architecture proposal seeks to examine the spaces between as environments of engagement – both for the communal and for the individual.

NO. 3 CONTEXT AND COLOR

Material palette and color are to be derived from the natural and man-made landscapes – rustic orange, soft teal, fluorescent green, and natural earthen red and grey. Contextualizing color keeps the proposal rooted in place and speaks of the energy and liveliness of campus life.

NO. 4 IMMERSE, EMERGE, ENVELOPE

The architecture will envelope its inhabitants and create a place of rest from the rigors of academic life. It will be a refuge where students are

immersed in all aspects of residential life. And it will serve as a portal wherein students emerge ready to embrace their successes.

NO. 5 EROSIVE SOFTNESS

Vedauwoo's landscape is seasoned and shaped by the elements – wind and water. The stones manifest as softened, yet strong and resilient, forms. The architectural proposal seeks to relate to the softness of material through form and geometry. Durable, resistant materials are used in ways that elicit softer, more gentle expressions.

NO. 6 EXPANDING THE SPACE BETWEEN

As stones are stacked stone upon stone the space between is of particular interest. This is the zone of habitation, of activity, of transparency. The proposal engages the spaces between architectural elements to articulate their potentialities. The basic formal move of the proposal is to position a heavier mass on top of a lighter one – thus articulating zones of communal activity.

INTERIOR DESIGN NARRATIVE

OVERALL APPROACH

The overall approach to the interior space is to create a warm and inviting environment that captures the beauty and heritage of the great state of Wyoming while creating a sense of place and school spirit. It also includes the desire to enhance learning, encourage social interaction and engage students in a way that isn't evident on campus to date. Both formal and informal gathering spaces are provided in main lounges, gathering and study spaces but also created in niches like "wet core" entries, corridors and other nooks resulting from the shape of the floor plan. It is the colleges desire that students feel they have "arrived at something different" with a 21st century, high tech and leading edge facility.

Utilizing accents of indigenous materials like stone and wood but with bold accents that build upon school spirit and "breaks the mold" in student housing both on campus and in the region. With a goal to enhance recruiting within and without of the state and a desire to enhance campus atmosphere which includes interior spaces in this new residence life building, this energetic and unique interior will draw students in. It will also reflect through murals, graphics, and art the beauty of its surroundings and the breadth of opportunity on campus and in this beautiful surrounding geographic area. Colors, textures, finishes and furniture will be carefully selected and placed to promote an evolving spirit of campus, that creates an innovative living experience that is durable and maintainable. Colors should also be used to enhance wayfinding throughout the building. Durability and maintainable materials appropriate for a highly trafficked, student environment are essential.

A balance of hard and soft flooring materials will be utilized where appropriate; soft materials in accent areas and hard surfaces in corridors, units, and highly trafficked entry's and exits. Seating and spaces with access to views and/or adjacent to windows promote connection to the outdoors. Warmth of wood is desired as accents whether in accent wall(s), ceiling treatment, columns or furniture. Concrete flooring in lobby and other areas is a beautiful and desired look for certain public areas. A fireplace to promote gathering and warmth is also desired. Flexible spaces are also of great importance to allow the university to adapt and mold as needs, technology and student demographic changes.

spaces that ENGAGE INTERACTIVE spaces STUDY SPACES QUIET SPACES
LIVING LEARNING encourage SOCIAL INTERACTION indoor outdoor space
storage spaces BREAK THE MOLD game spaces INNOVATIVE LIVING expe
break up HALLWAYS consistency and uniformity in LIGHTING natural ligh
ACOUSTICS between floors + across hall INTERACTION places to CONNEC
individual GROWTH student SPIRIT enhance STUDENT SUCCESS academ
EXCELLENCE out of state RECRUITING enhance COMMUNITY social GATHEI
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APPROACH TO KEY SPACES

COMMON SPACES

- Spaces visually and physically connected to the outdoors
- To feel like a home or family room
- Outdoor/indoor fireplace
- Polished concrete preferred for look and maintenance
- Flexible seating arrangements are preferred
- Seating variety and built in seating should also be included
- Avoid the futuristic or "jetson" furniture
- Material palette to match the surrounding context
- Preferred a balance between rich materials and neutrals
- Like the hidden lighting that grazes the wall
- LCCC wants to create interior space that relate more to the future of the student rather than past of Cheyenne
- Like the idea of bringing in pops of color to highlight a space
- The campus is mainly a neutral tone and LCCC would like to bring in more color
- LCCC likes neutral floors with a warm colored/ceiling

KITCHENS

- Like the kitchen as a gathering space for the students
- Various levels of seating to break the space into different eating spaces
- Prefer the polished concrete floors
- Rich materials: wood and brick
- Plug-in on islands

CORRIDORS

- Like the idea of colored doors in the corridor. Also like the idea of texture on the wall and/or use of color on the corridor walls, if bold color is not used on entry doors.
- Desire murals in spaces to help break up long and/or narrow spaces and add student spirit
- Use pattern in flooring to break up corridors and colors for wayfinding/floor differentiation
- LCCC like the depth at the door but it does cause a security concern – need to make sure corridors are visually open so no issue with security of places for someone to hide.
- Like the idea of the light plan corresponding with the door location
- Like the seating that could be integrated into the corridors adjacent to the wet wore
- Seating in the corridor to orient towards the courtyard

STUDY ROOMS

- High seating with outlets preferred
- Seating variety is desired
- White board or chalk board to be the adjacent wall

UNITS

- Rooms more "vanilla" to encourage kids to spend more time out of the room. But do we add some color? Shelving? Slider door? Liked this concept and can further consider as interiors develop and furniture is discussed.
- Storage is key, even using walls – and creatively – for additional storage. Like storage under the bed in controlled drawers.
- Hard surface flooring in units
- Loftable beds are desired with potential for desks/furniture underneath.

Note: Please review the Interiors Inspiration material located in the appendix section of this document for further detail on aesthetic objectives.

PROGRAM REQUIRES + SPECIFICATIONS

All interior materials will be designed to meet or exceed the program requirements and specifications while bringing a unique sense of student life to the project. Each material will be responsive to the specific use of each space with special consideration given to texture, color, acoustics, sustainability, and light reflectance. All materials will be maintenance friendly requiring only routine cleaning procedures.

CODES, REGULATIONS + SAFETY

OVERVIEW

For the Laramie County Community College Student Housing Project, the materials, design and construction will conform to the standards established by the LCCC. Furthermore, it will conform to all building, accessibility codes and requirements and the energy codes adopted by the State of Wyoming at the time of design and construction, regardless of specific reference in this document.

It is the Design Team and the Architect of Record's responsibility to verify and use all the latest revisions, editions and adopted version code documents. If there are conflicting standards, code provisions and/or regulations, the most stringent will govern unless such requirements are waived in writing by, Laramie County, the State of Wyoming – Department of Administration & Information Construction Management and LCCC Facilities Management. The following preliminary analysis is intended to assist the design firm and steering committee to establish general parameters for design. Specific, in depth, analysis shall be conducted during Level III by the design firm to insure conformance with applicable codes and standards relative to their specific design proposals.

A copy of the current Laramie County Commercial Building Permit application is included in the appendix.

DESIGN STANDARDS

Partial list of applicable codes and standards:

- National Electric Code (NEC) w/ Amendments 2017
- Life Safety Code NFPA 101 w/ Amendments
- International Building Code (IBC) 2015 w/ Amendments
- International Fire Code (IFC) 2015
- International Mechanical Code (IMC) 2015
- International Plumbing Code (IPC) 2015
- Laws, Rules, & Regulations of the Wyoming State Fire Marshal
- Americans w/ Disabilities Act Title III, 1991/1998 (ADA)
- Planning & Design Criteria to Prevent Architectural Barriers for Aged & Physically Handicapped (4th Revision, w/ lever hardware amendment)
- International Energy Conservation Code 2009
- International Fuel Gas Code (IFGC) 2015
- EIA/TIA, Electronics Industries Association / Telecommunications Industry Association
- IEEE 1100-1999, Recommended Practice for Power & Grounding Electronic Equipment
- IESNA, Illuminating Engineering Society of North America
- NFPA, National Fire Protection Association (applicable sections including but not limited to): NFPA 70, National Electrical Code & NFPA 72, National Fire Alarm Code
- ASHRAE Indoor Air Quality 62-2001 & Addendum 62 American Society of Heating, Refrigeration & Air Conditioning (ASHRAE)

- Occupational Safety & Health Administration (OSHA)
- Sheet Metal & Air Conditioning Contractor National Association (SMACNA)
- Underwriters Laboratory (UL)
- American Society of Testing Materials (ASTM)
- American Standards Association (ASA)

OCCUPANCY CLASSIFICATION

The occupancy presented in this package is for preliminary programming and planning purposes. The occupancy determination must be confirmed by the Architect of Record with the State Building Official and the State Fire Marshall (or designee) at the time of design.

ADA ACCESSIBILITY

The new LCCC Student Housing Project is required to be in compliance with the American with Disabilities Act, Title III, 1991/1998 (ADA). We recommend the following additional requirements:

- All public entries to the building will be ADA compliant with automatic door operators including required vestibule doors.
- One set of accessible Rest room doors shall be equipped with automatic door operators including vestibule doors if applicable.
- ADA compliant parking shall be provided if applicable.

2015 INTERNATIONAL BUILDING CODE REVIEW

GENERAL BUILDING CONCEPT

This project will be 4 floors of wood framed student housing partially (or wholly) above a basement mechanical, electrical and storage area.

TYPE OF CONSTRUCTION	
(Chapter 6)	Type VA
OCCUPANCIES	
Residential (dormitories)	R-2 (section 310)
Offices	B (section 304)
Multipurpose room	A-3 (section 303)
Occupancy Separation required	Yes (Table 508.4)
Occupancy Separation	It is anticipated that the primary occupancy type will be R-2 with separated uses for assembly and business areas of 1 hour if sprinkled throughout.
FIRE SPRINKLERS	Yes, NFPA 13
FIRE PROTECTION SYSTEMS	Sections 907.2.9 and applicable subsections are directly related to R-2 occupancy classifications.
FRONTAGE	
(Section 506.3)	Assume .75
STORIES ALLOWED	
(Table 504.4)	R-2: 4 stories, if fully sprinkled.
ALLOWABLE BUILDING AREA (TYPE IIIB)	
Occupancy	R-2
Program area sf	Approximately 25,000 sf footprint on average (each Floor)
Allowable area Per Table 506.2 w/ NFPA 13 sprinklers:	144,000 sf (for all four floors combined)
Table (506.2) per floor (w/ NFPA 13 Sprinklers):	36,000 sf
Frontage increase (506.2)	0.75
Story increase with Sprinklers	+1 Story (4 maximum)
Allowable area with frontage & Sprinkler increase (506.2.4)	45,000 sf/floor
Actual/Allowable per floor	Approximately 56%

FIRE-RESISTIVE REQUIREMENTS (TYPE IIIB)

Primary Structural Frame- including columns, girders, trusses	1 HR
Bearing Walls- Exterior walls	1 HR
Interior walls	1 HR
Non Bearing walls- interior/exterior	0 HR
Floor Construction-including supporting beams and joists	1 HR
Roof Construction- including supporting beams and joists	1 HR

BUILDING SYSTEMS DESIGN CRITERIA | STRUCTURAL

OVERVIEW

The structural design for this project provides a building system which will integrate with the program requirements for space layout, as well as with the architectural and building service needs, while meeting current code standards for vertical and horizontal load carrying capacity.

STRUCTURAL / SERVICE COORDINATION

During the design development phase, a completely integrated approach to building systems will be implemented. Distribution of HVAC, plumbing and electrical services will be carefully coordinated with the structural elements, particularly at framing intersections and major crossover points. Close coordination of disciplines must be achieved in order to avoid conflicts and minimize the height of the building.

CODES AND STANDARDS

Codes and standards that apply to the design of this building are:

- 2015 International Building Code
- 2015 NDS for Wood Construction
- American Institute of Steel Construction (AISC) 360-10 Specification for Structural Steel Buildings
- American Institute of Steel Construction (AISC) 341-10 Seismic Provisions for Structural Steel Buildings
- ACI 318-11 Building Code Requirements for Reinforced Concrete
- American Iron and Steel Institute (AISI) Specifications for the design of Cold-Formed Steel Structural Members
- American Welding Society (ANSI/AWS) D1.1 Structural Welding Code
- Steel Deck Institute (SDI) for Metal Floor and Roof Decks

GEOTECHNICAL CRITERIA

A geotechnical investigation by Inberg-Miller Engineers was provided for use on the project. The soils typically on site consist of sands, clays, and gravel/cobblestone. Shallow, spread and continuous-type footings are recommended with an allowable bearing capacity of 2000 psf. The site is classified as a Site Class D. Groundwater was encountered in the borings at a depth of 12 feet.

DESIGN CRITERIA

The structural systems in the facility shall be designed to meet the requirements of the 2015 International Building Code (IBC). The following minimum requirements should be anticipated:

• Risk Category	Category II
• Wind Loads	
Wind Velocity:	115 mph, (3 second Gust), ASCE 7-10 design criteria
Exposure Type:	C
• Seismic Loads	
Short Period Mapped Acceleration	S_s = 0.217 g
Long Period Mapped Acceleration	S_1 = 0.064 g
Short Period Acceleration	S_{DS} = 0.231 g
Long Period Acceleration	S_{D1} = 0.103 g
Site Class:	D
Seismic Design Category	B
Seismic Importance Factor, I_e	1.0
• Roof Loads	
Roof Live Load:	20 psf
Ground snow, p_g	43 psf
Snow Importance Factor, I_s	1.0
Roof Snow load:	30 psf plus drift loads

- Floor Live Loads

  Floor design live loads will be in accordance with the 2015 International Building Code and as follows:

  1. 40 psf, unreduced, except for column and footing designs with 15 psf movable partition load.
  2. 100 psf for exit corridors, common areas, and stairs.
  3. Mechanical Equipment Rooms: 125 psf minimum or as required by actual equipment.

STRUCTURAL SYSTEMS

The housing areas will be wood I-joist floor and roof framing with and wood floor sheathing, supported by wood bearing/shear walls. Shrinkage of sawn lumber over time is a key design aspect and will be coordinated with architectural and other design disciplines.

The exterior wood bearing/shear walls will be 2x6 or 2x8 wood stud walls sheathed with wood sheathing. The first level of wood bearing/shear walls will use 2x6 nominal LSL studs or Doug-Fir #2 2x8 studs at 16" o.c. and the levels thereafter of wood bearing and shear walls will use Doug-Fir #2 2x6 nominal studs @ 16" o.c. The exterior bearing/shear walls will be designed for force transfer around openings, reducing the quantity of holddowns at the ends of shear panel segments. Based on current building sections and preliminary shear demand calculations, some interior corridor walls and some demising walls between housing units will also be sheathed shear walls. Special concentric holddowns at the ends of shear walls will consist of floor-to-floor threaded rods and shrinkage take-up devices at each floor. Sheathing for walls is anticipated to be 7/16" OSB.

The floors and roof of the housing area will be supported by 14" deep I-joists at 16" on center, with the basis-of-design being a 14" BCI 6000 1.7. Headers and other beams will be required where there is no support from bearing walls. The floors at the corridors will consist of 9-1/2" deep I-joists or 2x8 joists, hung from rim boards supported on interior bearing walls. Floor sheathing is anticipated to be 23/32 tongue & groove OSB sheathing.

Walls surrounding stair and elevator shafts will be reinforced masonry. The masonry walls will require special detailing to tie into the surrounding wood. The masonry walls are anticipated to be shear and bearing walls. The basement area will consist of a reinforced concrete slab on composite steel deck, supported by wide-flange beams. The concrete slab on composite steel deck will consist of 3" type "W" composite floor deck with a minimum 3-1/2" above the flutes. The 3-1/2" of concrete allows for 1" recesses in the deck without stepping the steel structure.

FUTURE BUILDING EXPANSION

No future building expansion has been considered.

TESTING AND INSPECTIONS

The Architect/Engineer, and the selected testing lab, shall perform periodic construction observations, testing, and special inspections. Costs for special inspections and testing services will be paid for directly by the owner. Anticipated Special Inspections will include:

- Engineered fill placement & backfilling
- Wood shear wall nailing
- Wood diaphragm nailing
- Steel framing & bolting
- Welding
- Concrete placement
- Rebar placement
- Welding of composite deck & shear studs

BUILDING SYSTEMS DESIGN CRITERIA | MECHANICAL, PLUMBING + FIRE PROTECTION SYSTEMS

PROPOSED UTILITY CONNECTIONS

CHILLED WATER, AND HOT WATER

The chilled water, and hot water systems for the proposed facility are to be connected to the adjacent Residence Hall. Space has been allocated in that facility to house an additional chiller, closed circuit cooling tower and boiler. These two utilities are to be connected to the existing systems in that building and extended through a new utility tunnel into the new facility. The material to be used for the new facility is to match the latest design standards.

MECHANICAL

CODES AND STANDARDS

The HVAC system will comply with the following codes and design standards:

- International Building Code, 2015 edition
- Internal Mechanical Code, 2015 edition
- International Plumbing Code, 2015 edition
- International Fire Code, 2015 edition
- International Energy Code, 2015 edition, ASHRAE 90.1 2010
- International Residential Code, 2015 edition
- International Fuel Gas Code, 2015 edition
- LCCC Construction Quality Standards (Dated March 28, 2017)

DESIGN CRITERIA

	Summer	Winter
Design Temperatures, dry bulb:	92°F	-10°F
Design Temperatures, wet bulb:	58°F	-
Site Elevation:	6,150 feet	

	Summer	Winter
Typical Indoor Design Conditions:	75°F	72°F

Humidity: Humidification is not required for this facility

INTERNAL EQUIPMENT HEAT GAINS

In addition to people and lighting loads, Heat gains in all rooms should be based on anticipated equipment to be used in each room together with appropriate diversities.

People:		
	Office:	250 BTUH, Sensible
	Bedrooms:	200 BTUH, Latent
Lights:		
	Office:	0.70 watts/ft2
Office Areas:		1 desktop with LCD Monitor per office seat
		1 copy machine per office group

VENTILATION/INDOOR AIR QUALITY

The proposed system will comply with ASHRAE Standard 62.1-2012, Ventilation of Acceptable Indoor Air Quality, for minimum ventilation requirements. Reset the outdoor air intake flow and/or space or zone airflow as operating conditions change in all areas other than the residential units.

Develop and implement an Indoor Air Quality Construction Management Plan that includes high efficiency filters (Minimum Efficiency Reporting Value (MERV) 8, as determined by ASHRAE 52.2-1999) for systems used during construction. Provide MERV 13 filters at the air handlers when project is complete. In addition to toilet exhaust, provide exhaust for janitor closets and dedicated copy rooms at the rate of 0.5 cfm/ft2. These rooms must maintain a negative pressure between the adjoining spaces. The goal of the project is to provide the amount of ventilation air based on

actual occupancy in lieu of CFM/ft2.

BUILDING MECHANICAL HEATING/ COOLING SYSTEM BASIS OF DESIGN

HOT WATER SYSTEM

The building will be heated with a hot water heating system. The hot water will be generated in the existing Residence Hall Building. Space has been allocated with the existing mechanical room to add an additional boiler, and hot water pump. The new boiler shall be tied into the existing system and new hot water lines will be extended to the new building trough a new utility tunnel.

Provide one new condensing high efficient type hot water boiler to match the size and capacity of the existing boilers. Provide a new hot water pump to match existing hot water pumps. Tie the new boiler and pump into the existing piping system, and interconnect them through the control system to operate in conjunction with the existing system. There is currently a location provided adjacent to the existing boilers in that mechanical room. Verify capacity for the new boiler to meet the capacity of the new building.

The existing hot water pumps may need to be modified to compensate for the potential additional head pressure created by the new building. The existing pumps and the new pump shall all designed for the same head pressure.

Extend new hot water piping from the existing mechanical room to the new building through a new tunnel.

The individual residential rooms will be heated through the means of a four-pipe fan coil system. Individual fan coil units will be provided for each residential unit. Each fan coil unit shall consist of a vertical fan coil unit complete with a fan section, heating coil, cooling coil and filter section, located in a serviceable closet. The fan coil closets will be accessible from the corridor with two fan coil units per closet serving back to back residential units.

CHILLED WATER SYSTEM

The building will be cooled through the means of a four-pipe fan coil system. Individual fan coil units will be provided for each residential unit. Each fan coil unit shall consist of a vertical fan coil unit located in a serviceable closet. The fan coil closets will be accessible from the corridor with two fan coil units per closet serving back to back residential units.

Provide a new water-cooled chiller, associated closed circuit cooling tower and new chilled water and condenser water pumps, that will be located in the Residence Hall building. There is currently a location provided adjacent to the existing chiller and cooling tower in that mechanical room. Tie the chiller, and pumps into the existing piping and control system. Verify capacity for the new chiller and associated closed circuit cooling tower to meet the capacity of the new building.

The existing chilled water pumps may need to be modified to compensate for the potential additional head pressure created by the new building. The existing pumps and the new pump shall all be designed for the same head pressure.

The chilled water and condenser water systems shall be provided with 30% propylene glycol solution to match existing systems.

Extend new chilled water piping from the existing mechanical room to the new building through a new tunnel.

ZONING

One fan coil unit will be provided to each bedroom. All other areas will be zoned as appropriate based on load and orientation.

FAN COIL LOCATION

All fan coil units that serve the individual bedrooms and assorted areas that are located in the service areas of the building will be floor mounted units located in the mechanical rooms that are accessible from the corridor.

VAV AIR HANDLING SYSTEM

The common areas and office areas of the building will be serviced by a VAV air handling system with chilled water and hot water coils. The system shall be provided with a full economizer system to meet ventilation requirements and provide for free cooling capabilities.

Air handling units to be sectional type according to campus standards.

GENERAL EXHAUST

Each toilet will be exhausted to atmosphere via roof mounted exhaust fans. Exhaust for janitor closets and dedicated copy rooms will be exhausted at the rate of 0.5 cfm/ft2.

CONTROLS

Provide individual room temperature controls.

The control system will be a direct digital control (DDC) system with electric driven actuators. The DDC system will monitor, control and adjust the building controls from an in-building location. The following items of equipment will be monitored and/or controlled:

All central HVAC equipment including chillers, boilers, fan coil units, air handling units, pumps, variable speed drives and exhaust fans.

All decentralized HVAC equipment such as thermostats, meters, air and water temperature sensors, system pressure sensors.

Provide interface modules as necessary in order to provide communication and information from manufactured equipment such as chillers, boilers, and VFD's.

The control system will be connected to the campus network or the campus telecommunications Ethernet network. The system shall be by Reliable and shall be Backnet compatible.

SUSTAINABILITY

Mechanical and plumbing systems will be designed to exceed the mandatory and prescriptive requirements of ANSI/IESNA/ASHRAE Standard 90.1-2010 (Standard 90.1). Design shall incorporate efficiencies in electric, natural gas, and water use for all building energy systems.

BASIC REQUIREMENTS

- 2.9 – System Efficiency: Project equipment will meet the prescribed efficiencies listed in Table 2.9.1 of the AB:NCG for the type and capacity of equipment used.
- 2.10 – Economizer: Integrated air side economizers will be provided for individual systems exceeding 54,000 Btu/h in cooling capacity.
- HVAC Controls: The existing campus DDC system will be expanded to incorporate the project building. This system will be modified as required to meet the criteria described in this section.
- 2.14 – HVAC – Fault Detection and Diagnostics: The DDC system will be capable of monitoring for failed equipment and provide alarms to the end-user via the control interface, and keep a log of faults with a 6 month history.
- 2.15 – Water Heating: Building will utilize an instantaneous gas fired hot water heater for generating hot water.

PLUMBING

A complete plumbing system as outlined below and in accordance with the 2015 International Plumbing Code will be provided.

PLUMBING INSULATION

Insulate all domestic hot, cold, hot water return and roof drainage piping with fiberglass insulation with all service jacket. Provide PVC jacket on all exposed piping insulation. Provide insulation thickness as required by the 2015 International Energy Conservation Code.

Insulate domestic hot water equipment with fiberglass insulation. Provide

aluminum jacket on all exposed insulation in the tunnels. Provide insulation thickness as requirement by the 2015 International Energy Conservation Code.

DOMESTIC WATER SYSTEM

- Below Grade Piping: Provide type K copper with wrought copper fittings and brazed joints.
- Above Grade Piping: Provide type L copper with copper fittings and soldered joints.
- Valves 2" and smaller: Provide bronze ball valves for shut off and throttling. Provide bronze swing check valves, strainers and balancing valves.
- Valves 2½" and larger: Provide butterfly valves shut off and throttling. Provide cast iron swing check valves, strainers and balancing valves.
- Provide pilot operated pressure regulating valves on building cold water supply.
- Provide water hammer arrestors on cold water supply to flush valves, water boxes and washing machine boxes.
- Provide hose bibs in toilet rooms and equipment rooms.
- Provide non-freeze wall hydrants near entries to the building.
- Provide all bronze in-line centrifugal domestic hot water circulating pumps.

WASTE AND VENT SYSTEMS

- Below Grade Piping: Provide solid wall schedule 40 PVC piping with DWV fittings.
- Above Grade Piping: Provide no-hub cast iron pipe with DWV fittings and standard no-hub couplings.
- Floor Drains: Provide cast iron body drains with bronze tops and secured strainers.
- Floor Sinks: Provide cast iron floor sinks with enameled interior and bronze secured grates.
- Provide cleanouts as required by the 2015 International Plumbing Code.

ROOF DRAINAGE SYSTEM

- Below Grade Piping: Provide solid wall schedule 40 PVC piping with DWV fittings.
- Above Grade Piping: Provide no-hub cast iron pipe with DWV fittings and standard no-hub couplings.
- Roof Drains: Provide cast iron drains with extension, underdeck clamp, sump receiver and cast iron dome. Provide 2" exterior collar on overflow roof drains. Provide bronze downspout nozzles located near grade for overflow drain discharge.
- Provide cleanouts as required by the 2015 International Plumbing Code.

DOMESTIC HOT WATER HEATING

- Provide two instantaneous, gas fired, hot water heaters each sized at 60% of the design load for redundancy.
- Provide a duplex digital thermostatic mixing valve to control the water temperature to the building at 120°F.
- Provide domestic hot water return system.
- The new domestic hot water heaters shall be located in the basement mechanical room of the new building.

PLUMBING FIXTURES

- Group Toilet Room Fixtures:
- Toilets: vitreous china floor mounted, floor outlet flush tank type toilets, with 1.28 gallons per flush.
- Lavatories: vitreous china self rimming counter mounted with bronze, lead free battery- operated sensor faucets with 0.5 GPM aerator.
- Shower Valves: Concealed chrome plated pressure balance shower valve with chrome plated shower head.
- ADA Shower valves: Concealed chrome plated pressure balance valve with chrome plated flexible hose with in-line vacuum breaker and hand-held wand.

GENERAL FIXTURES

- Counter mounted sinks: stainless steel with bronze, lead free gooseneck faucet.

Provide 5.5” deep sinks where ADA is required.

- Service sinks: Stainless steel free standing single compartment sink with bronze service sink faucet including vacuum breaker and 5’-0” hose.
- Water coolers: dual height, vandal resistant, lead free.

FIRE PROTECTION

Automatic fire sprinklers are to be provided for the proposed facility for R occupancy. The type of system to be used is a wet type sprinkler system. Sprinkler discharge densities and areas of application will be in accordance with NFPA 13 requirements. The use of anti-freeze solutions for piping exposed to freezing conditions is to be avoided.

The fire sprinkler riser will be adjacent to the exterior wall. A minimum clear and unobstructed distance of 12 inches will be provided from the installed equipment to the elements of permanent construction.

A clear and unobstructed width of 36 inches will be provided in front of all installed equipment and appliances, to allow for inspection, service, repair or replacement without removing such elements of permanent construction or disabling the function of a required fire-resistance-rated assembly.

Automatic sprinkler system riser rooms will be provided with a clear and unobstructed passageway to the riser room of not less than 36 inches, and openings into the room will be clear and unobstructed, with doors swinging in the outward direction from the room and the opening providing a clear width of not less than 34 inches and a clear height of the door opening will not be less than 80 inches.

UTILITY TUNNELS

The new Hot Water, and Chilled Water piping that will be connected to the exiting systems in the existing residence Hall and shall be extended to the new facility in the new utility tunnels. Utility tunnels shall be constructed to allow all distribution piping to be racked on one side of the tunnel allowing adequate space along side of the utility rack with a minimum of 7’-00” height and 3’-00” in width access space for maintenance.

EQUIPMENT LOCATIONS

The fan coil units will be located in dedicated mechanical rooms with the fan coil units located on the floor, with access doors from the corridors for maintenance.

BUILDING SYSTEMS DESIGN CRITERIA | ELECTRICAL

CODES AND STANDARDS

Codes and Standards which are applicable to the design of the electrical systems are listed below. Comply with each of the latest adopted publications.

- ASHRAE 90.1, Standard for Energy Conservation in New Building Design
- BICSI, Building Industry Consulting Services International
- Laramie County Community College Design Standards
- EIA/TIA, Electronics Industries Association/Telecommunications Industry Association
- IBC 2015, International Building Code
- IECC 2015, International Energy Conservation Code
- IESNA, Illuminating Engineering Society of North America, The Lighting Handbook, 10th Edition
- NFPA, National Fire Protection Association (applicable sections including but not limited to):
  - NFPA 70, National Electrical Code (2017)
  - NFPA 72, National Fire Code
  - NFPA 101, Life Safety Code
- Standard Broadcast Wiring and Installation Practices", as excerpted from "Recommended Wiring Practices," Sound System Engineering, (2nd Edition), D. Davis
- UL, Underwriter's Laboratories
- Wyoming State Fire Marshal Laws, Rules and Regulations

SITE ELECTRICAL AND TELECOMMUNICATIONS

SITE ELECTRICAL UTILITIES

LCCC owns the medium voltage distribution system that runs throughout campus. This project shall be responsible for connecting into the medium voltage system, extending it to the new building location and provide a new distribution transformer to feed the building. A new medium voltage VFI switch shall be included upstream of the new distribution transformer to provide primary overcurrent protection for the transformers and to serve as the medium voltage disconnecting means. Medium voltage junctions, terminations, and splices shall be Elastimold and 3M.

A new concrete encased ductbank consisting of 2 to 5" conduits shall be routed from the existing manhole to the building transformer location. A minimum of 1 spare conduit will be required. The transformer will be pad-mount style installed outside in a location to be coordinated with the Owner and Architect. The transformer is estimated to be 750-1000 KVA with a 208Y/120 V secondary and minimum K-4 rating; the final size will be determined once all loads are known.

TELECOMMUNICATIONS UTILITIES

Four (4) 4" conduits from the new main telecommunication equipment room (ER) shall be tied into the existing campus telecom system. All telecom service cabling shall be designed and installed as part of the project.

BUILDING POWER SYSTEMS

LOW VOLTAGE SERVICE AND DISTRIBUTION

The main building switchboard is anticipated to be 3000A, 208Y/120V, 3-phase, 4-wire, exact size shall be determined during design once all loads are known. For power quality and sub-metering purposes, separate loads onto different feeders based on load type where feasible, such as motors, lighting and outlets. The switchboards shall have provisions to add breakers for future load growth. Provide a minimum of 25% spare bus capacity.

The main and branch distribution equipment shall be located indoors, in dedicated electrical rooms. Provide additional electrical rooms depending on floor plan configuration to keep branch circuit runs to a minimum (see voltage-drop requirements below). Electrical rooms shall be located on

System Responsibility Matrix				v.01 10/27/17
	Designed	Furnished	Installed	Notes
Power				
Medium Voltage Switch(es)	Design Team	Contractor	Contractor	Elastimold Products
Medium Voltage Transformer(s)	Design Team	Contractor	Contractor	Square D, GE
Medium Voltage Cabling	Design Team	Contractor	Contractor	
Emergency/Standby Generator	Design Team	Contractor	Contractor	Natural Gas, Cummins
UPS Systems	Design Team	Contractor	Contractor	Mitsubishi
Electric Vehicle Charging Stations	NIC	NIC	NIC	
Lightning Protection System	Design Team	Contractor	Contractor	Owner to confirm system is desired
Communications				
Raceways & Cabletrays	Design Team	Contractor	Contractor	
Structured Cabling System	Design Team	Contractor	Contractor	CAT6 Solution planned, Owner to confirm
Building ER/TR Racks	Design Team	Contractor	Contractor	
DAS Testing - Emergency Response	Design Team	Contractor	Contractor	
DAS System - Emergency Response	Design Team	Contractor	Contractor	
DAS System - Cell Phone Systems	NIC	NIC	NIC	
Security & Misc.				
Raceways	Design Team	Contractor	Contractor	
CCTV Security Camera System	Design Team	Contractor	Contractor	
Access Controls System	Design Team	Contractor	Contractor	
Intrusion Detection System	Design Team	Contractor	Contractor	
Fire Alarm System	Design Team	Contractor	Contractor	Notifier, addressable
Wireless Clock System	NIC	NIC	NIC	
A/V				
Raceways	Design Team	Contractor	Contractor	
Audio Systems	Design Team	Contractor	Contractor	
Video Systems	Design Team	Contractor	Contractor	
Digital Signage	Design Team	Contractor	Contractor	
Monitors/Projectors	Design Team	Contractor	Contractor	
Projector Mounts & Screens	Design Team	Contractor	Contractor	
TV Distribution System	Design Team	Contractor	Contractor	
Intercom/Paging System	NIC	NIC	NIC	

every floor of the building, and stacked vertically. Panelboards serving normal lighting and outlet circuits shall be located on the same floor as the equipment they serve. For residential units, panels shall be located within each unit. Final location shall be coordinated with building official and housing. All panels shall have locking covers with matching keys. Size panels and feeders per NEC, with 25% additional capacity and provide 25% spare breakers in all branch panelboards. Stub spare conduits out of panelboards into accessible ceiling space equal to 10% of the total number of conduits that enter the panel.

Outlet and lighting branch circuits shall be loaded to no more than 80% of what is allowed by NFPA 70. Dedicated circuits shall be provided where the load requires and where the NEC dictates. Typically a maximum of 8 outlets per circuit shall be used. In some cases, fewer outlets shall be on a circuit as required by the loads. Outlets with dedicated branch circuits (one outlet per circuit) are required for exercise equipment, vending machines, kitchen counters, refrigerators, dishwashers, microwaves, appliances, A/V cabinets, and other locations likely to have equipment requiring dedicated circuits. Each branch circuit homerun conduit shall have no more than 3 circuits. All 120V multi-wire branch circuits shall have a dedicated neutral conductor for each circuit.

Conductors shall be all copper and installed in raceways, minimum 0.75" diameter. Insulation shall be XHHW-2 for outdoor main feeder entrances and THWN-2 for feeders and branch circuits within the building. Aluminum conductors may be used for branch panel feeders between 100A and 400A. EMT or rigid metal conduit shall be used indoors. MC cabling may be used for branch circuiting. Romex may be used where approved by code within residential units. Branch circuits shall be sized to prevent voltage drop exceeding 3% at the farthest load. The total voltage drop on both feeders and branch circuits shall be designed to not exceed 5%.

A fault current and coordination study shall be performed by a licensed electrical engineer to indicate available fault current at all points in the distribution system. New equipment shall be adequately rated for the amount of available fault current. System coordination shall be studied, and fuses or breakers selected to ensure minimum system outage due to overloads or fault currents. The breakers shall be set with adjustable long time, short time, instantaneous and/or ground fault settings for optimum system coordination. Demonstrate compliance with the NEC regarding selective coordination of overcurrent protective devices serving emergency systems and elevators. Provide arc-flash reduction means for all circuits breakers rated at 1200 amps and higher.

Equipment and Furniture: Power shall be run to any equipment indicated in the program as requiring power and empty raceway. Obtain equipment cut sheets and shop drawings and incorporate requirements into the design to ensure that the proper power and conduit is run to the equipment.

POWER METERING

Provide digital metering on the main switchboard(s) and emergency generator system and route ¾" conduit to nearest IT room for remote monitoring by LCCC. Additional sub-metering of systems like HVAC, lighting, and plug loads is not currently anticipated. Additional discussion is needed to determine a final direction on sub-metering for the power systems.

POWER QUALITY AND RELIABILITY

Surge protective devices (SPD's) and "noise" protection shall be provided at service equipment and on 120/208V distribution panelboards. To the greatest extent possible, SPD units shall be integral to the panelboard or switchboard to ensure that lead lengths do not raise the clamping voltage and negate the use of the SPD unit. The SPD shall protect the sensitive electronics from disturbances that are generated inside or outside of the building.

VFD's shall be specified by the electrical engineer in compliance with LCCC design standard and shall include harmonic mitigation.

A lightning protection system is recommended by NFPA 780 and as a result the programming Engineer; however, LCCC shall make the final decision on whether this will be included or not since NFPA 780 is a standard and not a code.

GROUNDING

The grounding system shall be installed per NFPA 70 requirements. A complete equipment grounding system shall be provided such that metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, and all other conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, should be connected to earth so as to limit the voltage to ground on these materials. A separate green insulated equipment grounding conductor shall be provided in all feeder and branch circuit raceways.

OUTLETS

The program space data sheets shall be used as a guideline for placing outlets, however, adjustments shall be made to suit the end users' needs during the design and review process with the user groups. The term "outlet" in general refers to a 120V/20A duplex receptacle outlet. All outlets shall be 20A minimum rated and be specification grade and the back-wired type. Residential-grade or 15-amp receptacles are not allowed. All outlets shall be neatly labeled with the panel and circuit number. Where outlet requirements cannot be identified elsewhere in the program, the following shall be used as a general guideline: GFCI personal protection of outlets shall be provided through 5mA GFCI breakers rather than GFCI outlets.

- Apartments, Suites and Dormitory Units: As a minimum, comply with the NEC for placement of outlets for dwelling units. Locate outlets convenient to furniture and equipment identified on the architectural interiors plan. Ensure that there are outlets provided for appliances, televisions, student study desks and tables. Provide one dedicated duplex outlet for each basin sink in bathrooms and makeup counters. Also meet arc fault, ground fault and tamper-resistant requirements of the NEC for dwelling units.
- Offices/Workstations: For each workstation, provide one outlet dedicated to computer terminals and one normal outlet, and one additional normal outlet for every 10' of wall space.
- Conference Rooms and Meeting Rooms: One outlet for every 10' of wall space, plus one outlet dedicated to computer terminals on two walls. Include at least one floorbox underneath conference room table for power and data. Provide outlets as required for audio-visual equipment.
- Commons Areas, Lounges and Waiting Rooms: Provide power outlets for laptop computers for planned seats, but no less than one outlet per each 12' of wall space. Provide floor outlets where stations or equipment cannot be served directly from the wall without crossing aisle space.
- Break rooms, Kitchenettes (non-dwelling): GFI Outlets on dedicated circuits every 4' on counter top plus dedicated outlets for refrigerator, microwave, and disposal (switched at counter top), plus one outlet for every 10' of other wall space in room.
- Counter tops (in general –non-dwelling): One outlet every 4'; GFI where within 8' of a sink.
- Restrooms (non-dwelling): One GFI outlet near each sink.
- Locker/Shower Rooms (non-dwelling): One GFI outlet on a dedicated circuit near each grooming counter top.
- Telephone/Data Closets: At least 6 quad outlets on standby power with circuit density to allow for at least 50 VA per square foot.
- Electrical Rooms: At least one outlet on emergency power.
- Corridors, Lobbies: Provide at least one outlet every 25', on alternating sides of the corridor or lobby.
- Stairs: One outlet at the landing of each level.
- Storage Rooms (small), Janitors Closets: One outlet.
- Building Exterior: One WP/GFI outlet near each entrance.

EMERGENCY / STANDBY POWER SUPPLY SYSTEMS

EMERGENCY/STANDBY SERVICE AND DISTRIBUTION:

Provide an emergency/standby natural gas generator for the new building. Approved manufacturer is Cummins/Onan for generator and ATS's. Locate generator outdoors in a screened area with weather-protective, sound-attenuating housing and skid-mounted, with local storage tank. Local fuel storage shall be minimum 90 minutes at full load to meet life safety code requirements. Design at least two transfer switches: one for emergency and one for standby loads. Annunciate alarms adjacent to fire alarm panel. Design generator distribution panel with digital metering. The following shall be provided with emergency power:

- Emergency egress and exit lighting
- Fire Alarm
- Elevators (where required by IBC)
- Smoke Control Systems (if required)
- Communications rooms – outlets, lights and air conditioning
- Electrical rooms – lights and outlets
- Security systems
- Building management systems
- Heating systems shall be considered and Owner shall provide final direction

UPS SYSTEM

Individual rack mount UPS units are anticipated for backup power of IT equipment within the ER/TR rooms. UPS systems shall be Mitsubishi as required by LCCC. At this time it is anticipated that these UPS units will be included with the project, but this will be coordinated and finalized with LCCC during design.

LIGHTING

GENERAL:

The basis for design shall be the IESNA Handbook (10th Edition) and its Recommended Practices. For all lighting, a point-by-point plot of illuminance establishing conformance with the Recommended Practices shall be furnished. The design-build proposal shall include lighting fixture cut sheets with a description of where used on the project.

IECC requirements shall be met and exceeded to meet the overall project requirement to beat this energy code by at least 20%. Energy savings design techniques such as daylighting control, occupancy sensors, centralized and de-centralized control systems, and LED lamps shall be used to maximize energy efficiency.

PARKING, PEDESTRIAN, AND STREET LIGHTING:

Provide only campus-standard light poles that match existing campus standard Kim LED fixtures.

Exterior lighting levels along pedestrian walkways shall be at least 1 FC average with no point falling below 0.5 FC minimum.

INTERIOR LIGHTING:

Quantitative and qualitative factors must be considered for interior lighting of this facility. Refer to the cited references and to room data sheets for the desired illuminance levels for each space, and balance this with the requirements for energy conservation, durability for student use, and aesthetics. Important considerations include quality of light, uniformity ratio, glare reduction, color rendering and contrast. All interior lighting shall utilize LED source modules (screw-in type LED lamping for incandescent fixtures will not be acceptable), in fairly standard sizes and shapes. Lighting fixture manufacturers shall have a minimum 5-year proven track record in the manufacture of LED fixtures. Required minimum lighting levels shall be met with permanently installed fixtures without relying on plug-in task lights or table lamps, although, separately-switched task lighting is encouraged to reduce energy consumption.

For offices and meeting rooms, pendant indirect lighting should be strongly considered. Select luminaires for areas where monitors are planned which are designed to minimize veiling reflections, and provide multilevel lighting control and task lighting to reduce the illuminance on the monitor. In addition, in rooms with audio visual, design lighting with variable or switched levels as indicated with a separate controlled zone to reduce glare and illuminance on the audio-visual display.

For housing units, fixtures shall be durable while maintaining a look complimentary of residential living. Appropriate fixtures include recessed and surface-mounted types. Pendant fixtures shall not be used. Lenses shall be high-impact acrylic or polycarbonate, and be fasted in place (not relying on gravity only to hold the lens in place. Color temperature shall not exceed 3000K, with a color rendering index of 85 minimum. As part of the design-built submittal package, include lighting fixture cut sheets of the proposed selection for the housing units.

For other spaces where glare control is not required recessed fixtures may be used. This includes corridors, workrooms, public restrooms, common areas, equipment rooms and storage rooms. Recessed LED downlights shall be used in areas where aesthetics call for an upgraded appearance, such as in main lobbies.

All interior lighting, including housing units, shall be controlled by some automatic means. This shall include vacancy/occupancy sensors for smaller enclosed areas and relay control with clock and/or timer supervision for larger areas. Manual on/off switches shall be provided in addition to the automatic means of control. Uniformity must be maintained when in reduced lighting modes. Provide dual-level switching where practical to allow users to reduce light in a uniform manner. The corridors and common areas shall be controlled through the building management system with local wall switch override. Wherever natural daylight is provided, incorporate automatic daylighting controls in accordance with IECC by using artificial lighting only as needed. This shall be accomplished with LED fixtures and automatic dimming. Daylighting control is not required for inside housing units. Approved lighting control manufacturers are: NLight, Hubbell, and Wattstopper for room controls and NLight, Wattstopper, and GE for building relay based controls. Manufacturers to be confirmed with LCCC.

Exit and emergency lighting shall comply with the IBC. Emergency lighting for means of egress to 1 fc average, 0.3 fc minimum, shall be provided. The emergency lighting shall be shut off during non-business hours to avoid energy waste from 24-hour burn time. Minimal “night-lights” could be considered as way-finding. Emergency lighting shall be included in restrooms, electrical rooms, and communication rooms.

SUSTAINABILITY

Every effort shall be made where economically feasible to incorporate sustainable design into the electrical systems. LEED design and documentation is not anticipated at this time.

No photovoltaic generation is anticipated at this time. No electric vehicle charging stations are anticipated at this time.

FIRE ALARM

The fire alarm system shall report to the LCCC campus off-site monitoring and be a Notifier system. Comply with campus standards and Wyoming State Fire Marshal requirements. Provide a fire alarm and detection system in compliance with NFPA, IFC, federal, state and local codes. Design an addressable, Class A system capable of reporting back to a central station. The fire alarm system will include, but not be limited to, manual fire alarms, automatic smoke detection, audible/visible alarm notification appliances, single-station type detectors for residential units, and required control equipment. Single station-type detectors and notification devices shall also be monitored by the building central fire alarm panel. Provide duct detectors and fan shutdown where required by NFPA and the IMC. Coordinate

Lighting Summary

TYPICAL AREA	ILLUMINANCE (FC) AVERAGE	METHOD OF CONTROL*	COMMENTS
Other than Housing Units:			
Offices	40 – 50	Vacancy Sensor Manual on/off, auto off	Task/ambient lighting
Conference Rooms	40 – 50	Vacancy Sensor Multi-zone control Manual on/off, auto off	
Lobbies	20 – 30	Time schedule on/off with manual on/off override	
Student Gathering	30 – 40	Time schedule on/off with manual on/off override	
Corridors and stairs	15 – 20	Time schedule on with night set back (not all off), occupancy sensor override.	
Storage Rooms	10 – 15	Vacancy Sensor Manual on/off, auto off	
Housing Units:			
Bathrooms	20-25	Vacancy Sensor Manual on/off, auto off	
Showers/Tubs	20-25	Control with room	
Sink/Vanities	40-50	Control with room	Vertical and horizontal lighting levels
Bedroom	25-30	Vacancy Sensor Manual on/off, auto off	Plug-in task light at study desks
Kitchen	40 – 50	Toggle switch	Vertical and horizontal lighting levels
Dining	20-25	Vacancy Sensor Manual on/off, auto off	
Laundry	40 – 50	Vacancy Sensor Manual on/off, auto off	
Hallways	15 – 20	Vacancy Sensor Manual on/off, auto off	

*If daylighting is present, provide daylighting control except for within apartment units

location of the building annunciator with the fire marshal. All other detectors and functions shall comply with the referenced codes and standards. All fire alarm wiring shall be in metal conduit.

TELECOMMUNICATIONS PATHWAYS

GENERAL

Provide raceways for all telephone, data, television, security, audio/visual and communications cabling. Coordinate all design with the installers and manufacturers of the various systems, and the Owner.

RISER DISTRIBUTION

Telecommunications closets shall be provided in each area of the building and stacked on each floor. Coordinate size, equipment layout and wall space with all communications, security, audio/visual and other equipment that will be housed in these rooms. Closets shall be located such that when cabling is routed through the raceway system provided, the cable distance will not exceed 290 feet to the furthest outlet. Provide a minimum of four 4" conduits from the ER to the each TR location, and 4" sleeves between floors. Twenty-four hour HVAC is required in each closet and shall be supplied with emergency power. Conduits shall be stubbed to the roof from each telecommunications room for roof-mounted dish and antennas.

HORIZONTAL DISTRIBUTION

Provide a cable tray distribution network above accessible ceilings throughout the building and into the TR and communications closets. Extend the cable tray around inside of the ER closet to allow cables to be routed within the room. Consider ease of access to the tray system when the building is in full operation. Limit cable tray routing to be above corridors, common and similar areas. Where ceilings are exposed or inaccessible, then provide a bridge of equivalent conduit connecting the cable trays in the accessible ceiling areas. Do not load the cable tray and raceway system to more than 50% of what is allowed by cable fill requirements of NFPA 70.

VOICE/DATA DROPS

Each voice/data outlet location, or "drop" including AP's, shall consist of a 4-11/16" square box with single-gang mud ring and one 3/4" conduit for house spaces and 1" ENT (Smurf tube) for housing units run to the nearest cable tray. Exact locations will be coordinated with the users during design. As a minimum, provide one voice/data drop for each workstation, study desk, computer terminal, television, and AV monitor. Each dwelling unit shall have one data drop (with two cables) at each student study desk, and one for the TV location. For each voice/data outlet location or "drop" in floorbox, poke through or below grade provide 1" conduit stubbed to the nearest cable tray.

Wireless access points shall be designed and located by LCCC, raceway and cabling shall be provided by the Contractor.

All structured cabling shall be designed and installed as part of the project.

In addition, each TV location shall include one additional box and conduit stubbed to cable tray for cable TV distribution.

OTHER EMPTY CONDUIT SYSTEMS

Provide empty conduit and boxes for all other low-voltage signal and communications wiring systems that may be provided in this or other contracts, such as audio/visual systems.

SECURITY SYSTEMS

Security systems shall be comprised of two main elements – access control (card readers) with intrusion detection, and video surveillance. These systems shall report to central campus security. Comply with campus standards. New equipment shall be compatible and integrated with existing systems and equipment.

ACCESS CONTROL

The planned facility will be a mixture of 24/7 accessed spaces and regular business hours which will be monitored using zone partitions. Areas can be “secured” while other spaces remain “alarm-free”. Door contact indicators and motion detectors will be the main sensing devices.

Electronic access control of doors using access controls compatible with the LCCC standards. Access control system alarms (forced doors or propped open) shall be integrated into the alarm monitoring system and annunciation. Regular authorized usage of cards shall be executed in the “background” of the system, not burdening system with regular traffic.

Provide card access on all exterior door entrances, all apartment and suite doors, and all telecommunications rooms.

The system shall be an expansion of the existing campus housing card access system and be an integral and connected part thereof. Provide system upgrades, including additional licenses, hardware and software updates, as required for the additional card readers and functions required by this project. Verify and coordinate requirements with Campus IT/Security.

VIDEO SURVEILLANCE

System design and installation as part of the project. Contractor shall be responsible to provide a complete system compatible with LCCC standard CCTV systems. This shall include all equipment, programming, cabling and raceways, with typical camera requiring a ¾” conduit to the nearest cable tray.

DISTRIBUTED ANTENNA SYSTEM

A distributed antenna system (DAS) field testing shall be included as part of the project. If the testing determines that a DAS is needed for public safety first responder radio signal strength, then the DAS will be provided by LCCC. A budget should be carried for the DAS system until it is determined that is it not required.

A cellular phone booster system shall be provided by the Owner as desired or necessary.

CLOCK SYSTEM

No self-correcting clock system will be included with the project.

EMERGENCY CALL STATIONS

Emergency call phones, such as the “code blue” type, are not anticipated to be included within this project.

AUDIO/VISUAL SYSTEMS

Audio/visual systems shall be designed and installed as part of the project. Equipment and manufacturers shall match campus standards. Speakers shall be JBL, controls and switching shall be AMX, and monitors shall be Sharp interactive displays. Locations of monitors and audio/video systems shall be coordinated with the Owner as design progresses and budget allows.

SITE | LANDSCAPE DESIGN CRITERIA

LANDSCAPE AND SITE DESIGN OBJECTIVES

- Primary objectives for outdoor space will be to attract new students and enhance the experience of new and existing students and faculty and to support LCCC mission to attract “Next Gen” college students, improve the quality of life of the students and improve the opportunity for “High Speed” learning while living on campus.
- Screen the big openness and expanse of the parking lots with fencing and other appropriate landscape and site features.
- Create a strong connection from the LCCC New Residence Hall Building to the existing LCCC campus housing and learning buildings while maximizing parking and pedestrian circulation.
- Legitimize the student experience between architecture and land with its own unique design theme which will tie into the existing LCCC campus buildings but will also help it standout in its own unique way.
- All Landscape and Irrigation Design is to comply with High Performance Standards and shall be reviewed and approved by LCCC officials.

OUTDOOR SPACE DESIGN OF AMENITIES AND SITE FEATURES

- Lines and other important physical elements represented by the architectural material palette will be extruded out into the landscape to strengthen and enhance the lines and design of the LCCC architecture and to connect the surrounding campus landscape and adjacent neighborhoods with the LCCC New Residence Hall Building and other site elements.
- Appropriate vegetation that blends with the existing campus palette and new LCCC will play an important role as it fingers its way through the various outdoor spaces and creates interesting edges that juxtapose against the more refined elements of sculpture.
- Pedestrian links from campus and adjacent neighborhoods will be made and enhanced to clarify routes of travel and to strengthen the connection between the New LCCC building and connected existing buildings.
- The vehicular experience with respect to views and circulation patterns will be designed to promote efficiency of travel along designated pathways and also to focus attention on important views, connections, and features of the New LCCC Residence Hall Building. Safety of travel along these pathways will be addressed through sound design guidelines and queues from landscape and hardscape treatments in paving, walls, and plantings.

PLANT MATERIALS FOR HIGH PERFORMANCE STANDARDS

- Use of indigenous and/or water efficient plant materials is encouraged and will be a majority of the plant palette and should be able to withstand drought tolerant conditions during the high heat of the summer months and also integrate well with the surrounding planted materials and shade created from large deciduous and evergreen trees.
- Deciduous trees are encouraged along pedestrian corridors and walkways and also in plaza areas to provide shade and relief from the hot sun and to reduce the “heat island effect” in parking lot areas.
- Ornamental and Flowering Trees are encouraged at main entryways, plazas, and important spaces people will use and be traveling through to make a clear distinction between primary, secondary, and tertiary uses. Limit patio trees to those that make a direct impact on users comfort and that maximize functionality of patio(s).
- Shrub plant massing’s will avoid creating a security hazard by obstructing views through the site, especially along pedestrian corridors, walkways, entries, etc.
- Natural earth and turf berming with plant massing’s between roads and parking lots may be used to screen negative views of parking lot and focus attention onto the Architectural features of the LCCC New Residence Hall Building.
- Limit turf grass to those areas can be deemed to have a designated recreational or other use as agreed upon or requested by LCCC and

that coincides with High Performance Standards.

- Trees will be planted to provide shade and to enhance views of surrounding campus landscape features so as not to take away from the beautiful surrounding mountain vistas that one will enjoy from inside the building looking out.

IRRIGATION DESIGN FOR HIGH PERFORMANCE STANDARDS

- Irrigation System will be designed to deliver maximum watering efficiency while minimizing the use of water on the site.
- Native vegetation and more drought tolerant material will be designed and implemented on a majority of site. Colorful flora and textures of plant material will be intensified and massed at important pedestrian and vehicular pathways and at entryways and around signage to enhance, delight, and direct users and travelers of the various outdoor spaces.
- The irrigation system will not be the primary source of plant sustainability. Other methods may be incorporated to ensure that plants get the necessary water requirements.
- Drought tolerant turf areas in limited use will be incorporated to give usable recreational spaces and visual contrast from native planting areas to more functional outdoor spaces.
- Water wise and Xeriscape irrigation design will be incorporated and coordinated between installing contractors and landscape maintenance providers.
- All Irrigation is to comply with LCCC campus standards and shall be reviewed and approved by LCCC officials.

SITE ACCESSIBILITY

- Main entrance and plaza entrances to building shall meet ADA criteria for slope and landings. Wherever possible, all other site paths shall meet ADA criteria. If that is unfeasible in a particular location, provide elevator access within the LCCC Building that will allow wheelchair users to transition the non-compliant grade condition.

CONSTRUCTION LIMITS OF DISTURBANCE AREAS

- Areas that are disturbed by earthwork will need to be transitioned appropriately to connect new with existing landscape in a seamless transitions.

CIVIL + UTILITY DESIGN CRITERIA

WATER

The water distribution system on the LCCC campus is owned and maintained by LCCC. This system will provide domestic and fire sprinkler water to the proposed building. This system is connected to the South Cheyenne Water and Sewer District (SCWSD) at two connection points with master meters. Based on the footprint of the proposed building, site grading and other factors, two existing water mains will need to be relocated so they are not located under the proposed building.

Static pressures on the campus are approximately 165 pounds per square inch (psi), and fire flows are typically greater than 1000 gallons per minute (gpm). Coordination with the mechanical/plumbing engineer will be required for the locations of the water service lines. Appropriate backflow prevention devices will be required on the new water service (domestic and fire sprinkler) lines. Additional fire hydrants may be required to provide proper flows and coverage to the proposed building.

Any irrigation lines that conflict with the work in the project area will need to be moved/adjusted as designed by the Landscape Architect.

The LCCC campus is within the boundary of Laramie County Fire District No. 1 (LCFD1). LCFD1 will review the locations of fire hydrants for approval. Improvements to water distribution system will need to be permitted by the Wyoming Department of Environmental Quality (DEQ). Plans for improvements to the water system may be provided to SCWSD for their information, however they will not need to approve the modifications.

SANITARY SEWER

The sanitary sewer system on the LCCC campus is owned and maintained by LCCC. This system will convey wastewater generated within the proposed building to an offsite system for treatment. This system discharges into the SCWSD's system at two locations. It is anticipated the wastewater from this building will be discharged to the sanitary sewer system located north of the proposed building footprint. At this time, we anticipate this existing line has adequate capacity to properly convey wastewater from the anticipated residence hall. Coordination with the mechanical/plumbing engineer will be required for the location of the sanitary sewer service line(s).

Improvements to the sanitary sewer system will need to be permitted by the DEQ. Plans for improvements to the sanitary system may be provided to SCWSD for their information, however they will not need to approve the modifications prior to submittal to DEQ.

STORMWATER DRAINAGE AND SITE GRADING

The stormwater drainage network on the LCCC campus is owned and maintained by LCCC. The proposed project site currently drains from the southeast toward northwest. An existing 36-inch main is located north of the proposed footprint, this line discharges into the west pond that is located northwest of the on-campus soccer field. Roof drains from the proposed building will either be surface drained away from the building or connected to a storm sewer network. Coordination with the mechanical/plumbing engineer will be required for the location of the roof drain discharge points.

The site will be graded to maintain positive drainage from the building. Swales, retaining walls, and other features may be required to minimize impact on to other features and meet site grading requirements. Laramie County will require that stormwater is properly detained prior to discharge. A Grading, Erosion and Sediment Control (GESC) permit from Laramie County and a Storm Water Pollution Prevention Plan (SWPPP) will be required.

DRY UTILITIES

Gas, electrical, fiber optic and communication lines are located throughout the campus. LCCC owns and maintains the respective gas and electric lines on the campus. Black Hills Energy is the supplier for both the gas and electric power to the campus. Coordination may be required for new

service lines to the proposed building and any adjustments or relocations of these dry utilities. Any designs associated with these various lines will be completed by others, including site lighting and emergency call pedestals in the parking lots.

UTILITY TUNNEL

As needed, we will coordinate the civil design with the anticipated utility tunnel to this building, as designed by others.

GROUNDWATER

Per the geotechnical report completed in 2005 for the residence hall that is located west of the proposed residence hall, groundwater was encountered at depths between 8.5 and 12 feet from the previous existing grade. This could impact the proposed utility tunnel between these two building.

PARKING AND ACCESS

The proposed building will be partially located on an existing paved parking lot. This project includes the creation of a new, paved parking lot west of the existing residence halls. There will be a net gain of approximately 43 parking spaces. ADA accessible spaces will be provided as required. Existing parking spaces for diesel vehicles to plug-in during cold weather will be removed by this project. Coordination with LCCC will be needed to verify the need for similar parking spaces with electric power, the preferred location, and the quantity of spaces. No new access points are proposed from College Drive with this project, and no improvements are anticipated to be within the Wyoming Department of Transportation (WYDOT) right-of-way.

PAVEMENTS

New pavements and sidewalks will be either asphalt and/or concrete. As required, access lanes for fire trucks and other emergency services will be provided. As needed pads and screened areas will be provided for refuse containers and other building infrastructure components that may be located on the site. Final pavement sections will be based on a site-specific geotechnical investigation and report that will be completed by others.

ADDITIONAL SITE IMPACTS

A modular building that houses campus security services is currently located at the project site. Coordination will be required for the relocation of this building, associated work to removing and/or disconnecting any service lines for this building, removal of sidewalks and other features.

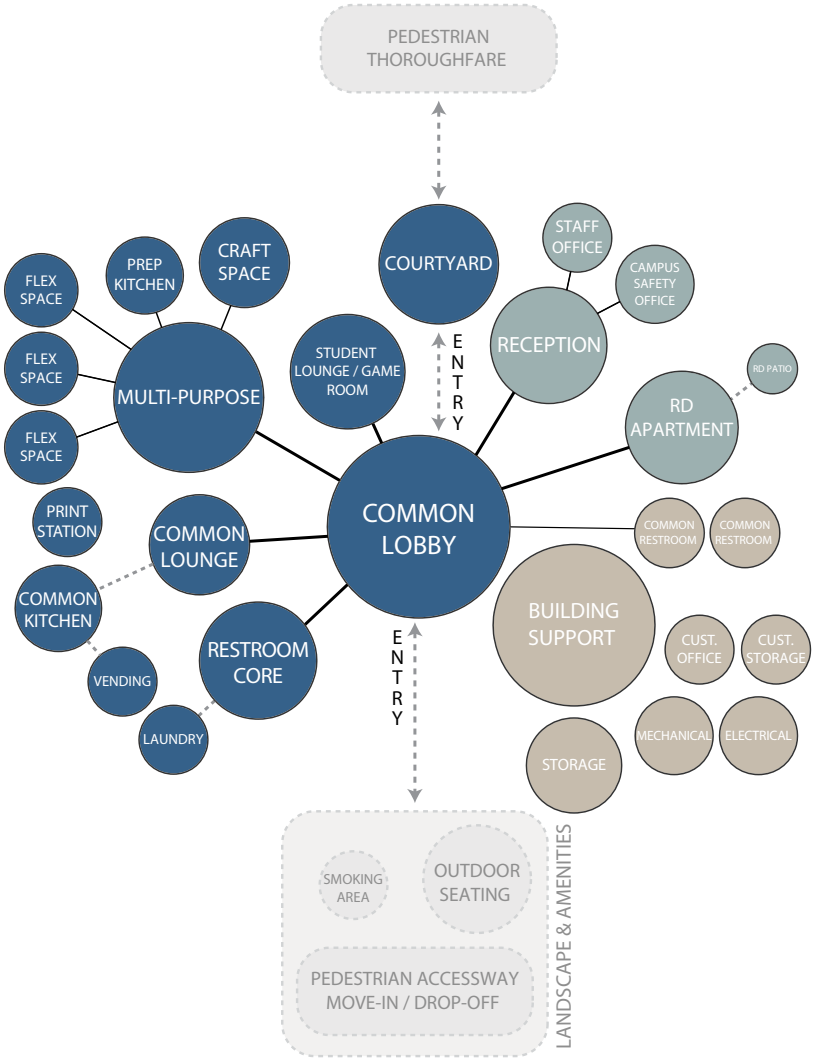
SPECIFICATIONS

The City of Cheyenne and Board of Public Utilities Construction Specifications and Standard Drawings, 2014 Edition will be called out as the standard specification for the civil-related improvements for this project. Special provisions and/or notes will be provided for modifications to these standards including ownership, measurement and payment, and other specifics as related to a project on the LCCC campus.

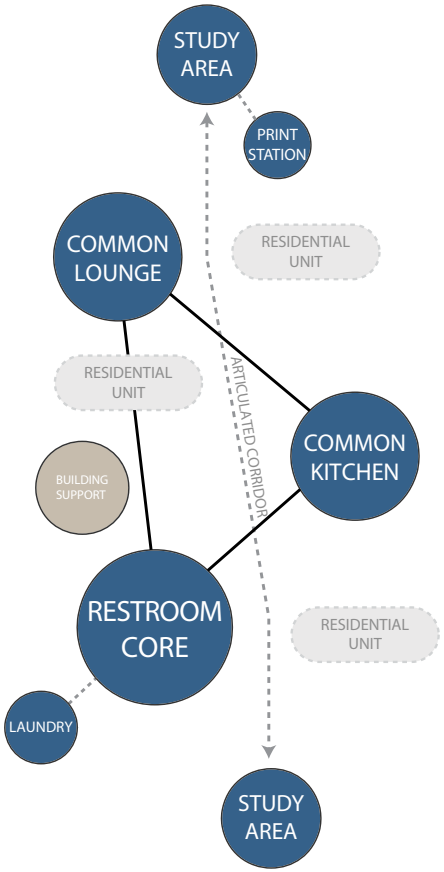
DESIGN CONCEPT & COST ESTIMATION

04

ADJACENCY DIAGRAMS

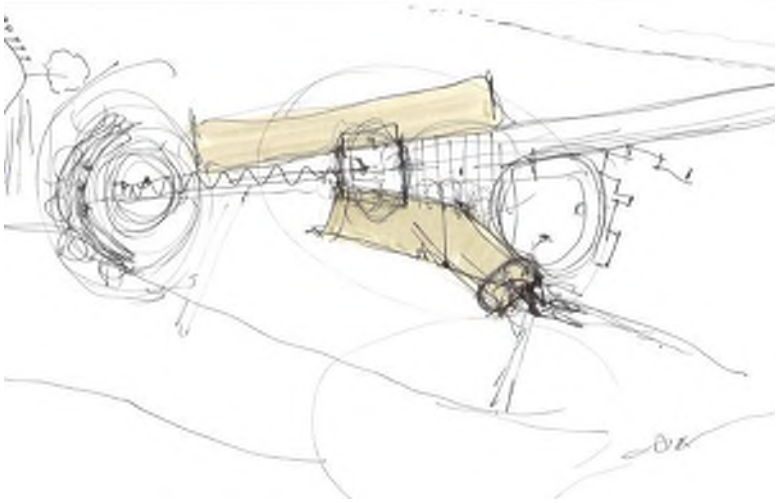


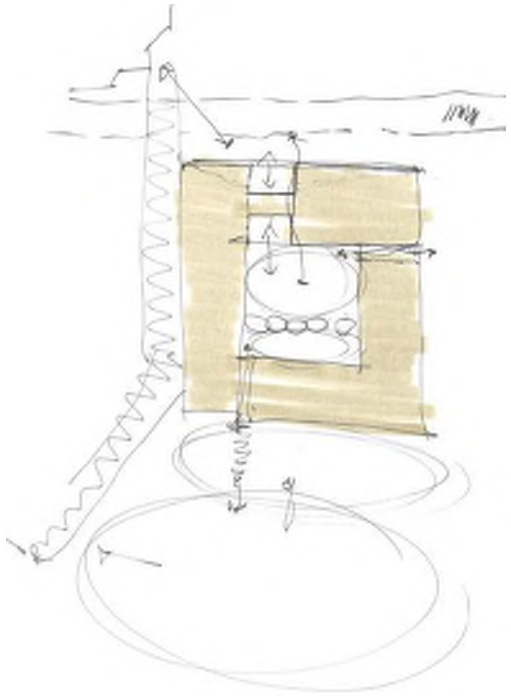
MAIN LEVEL ADJACENCY DIAGRAM

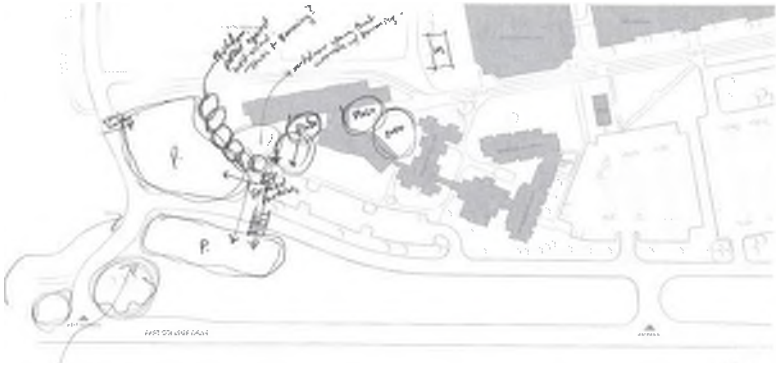


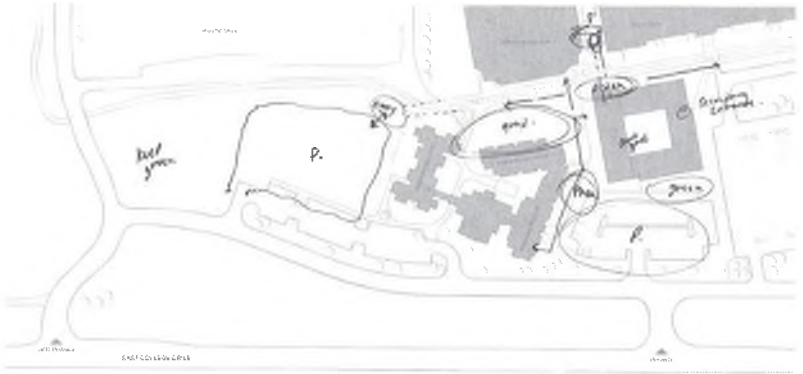
UPPER LEVEL ADJACENCY DIAGRAM

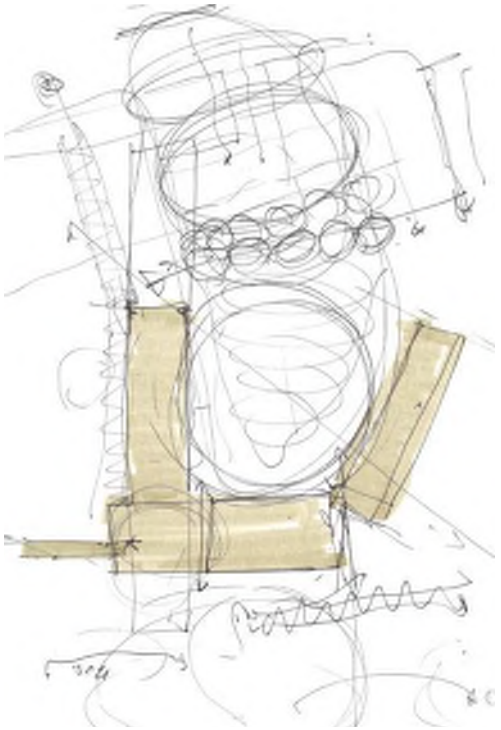
CONCEPT SKETCHES

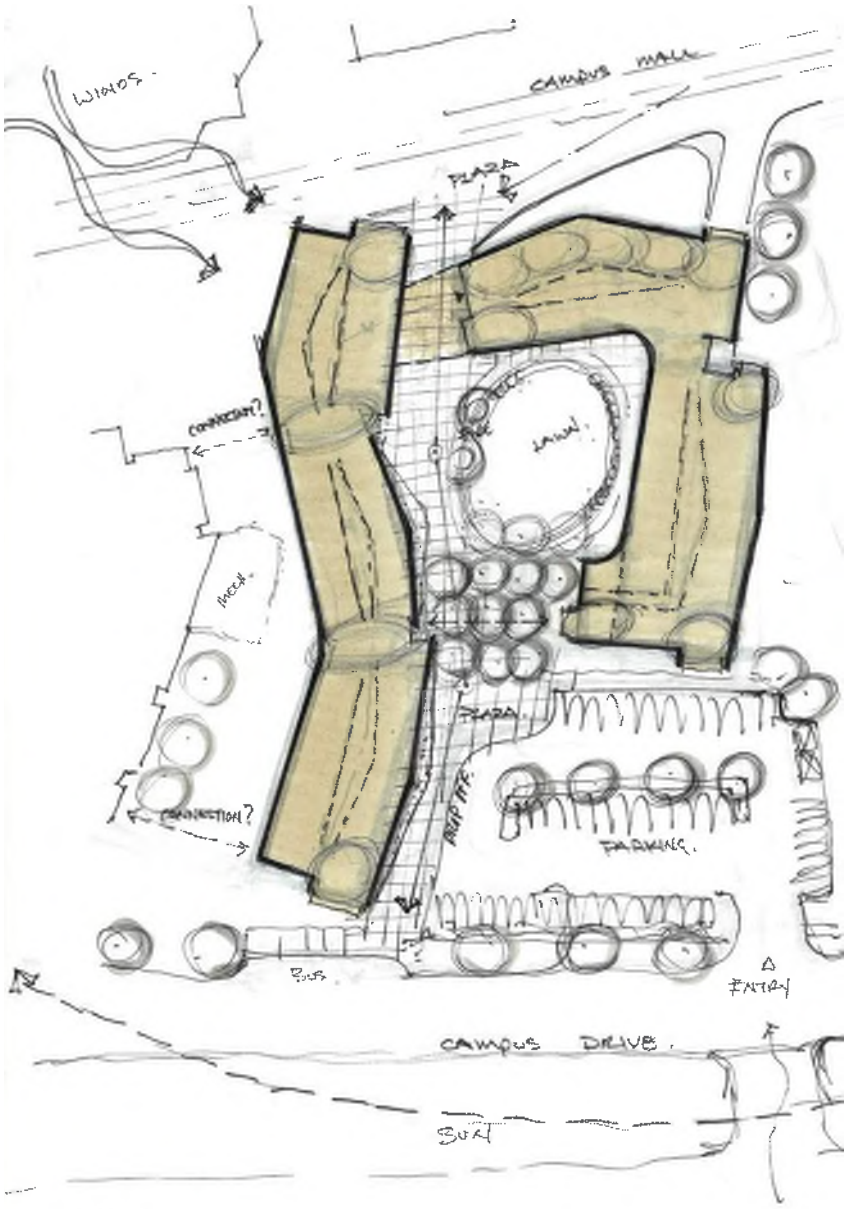




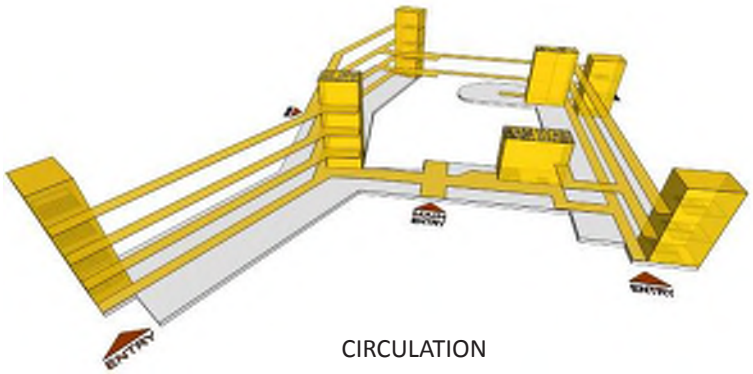




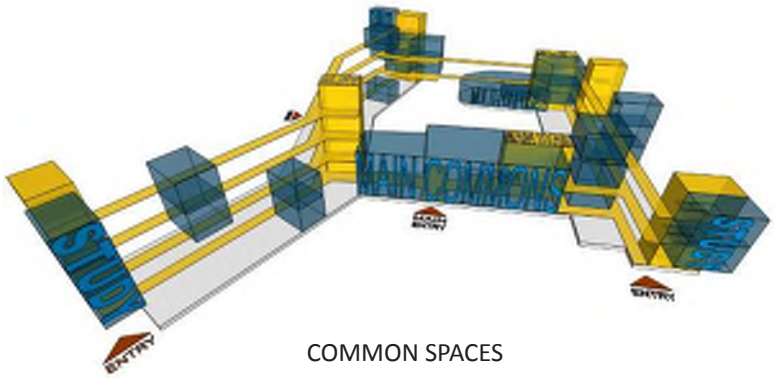



CAMPUS MALL
PLAZA
CONNECT?
PLAZA
CAMPUS DRIVE

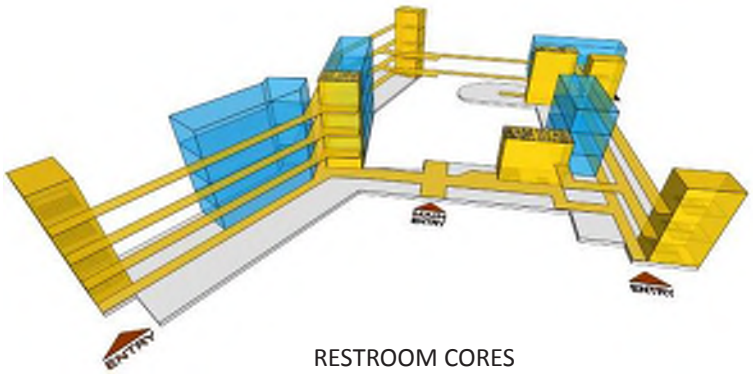
STACKING DIAGRAMS



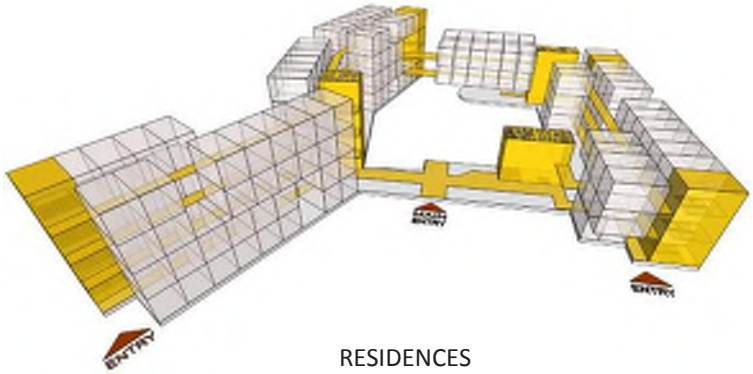
CIRCULATION



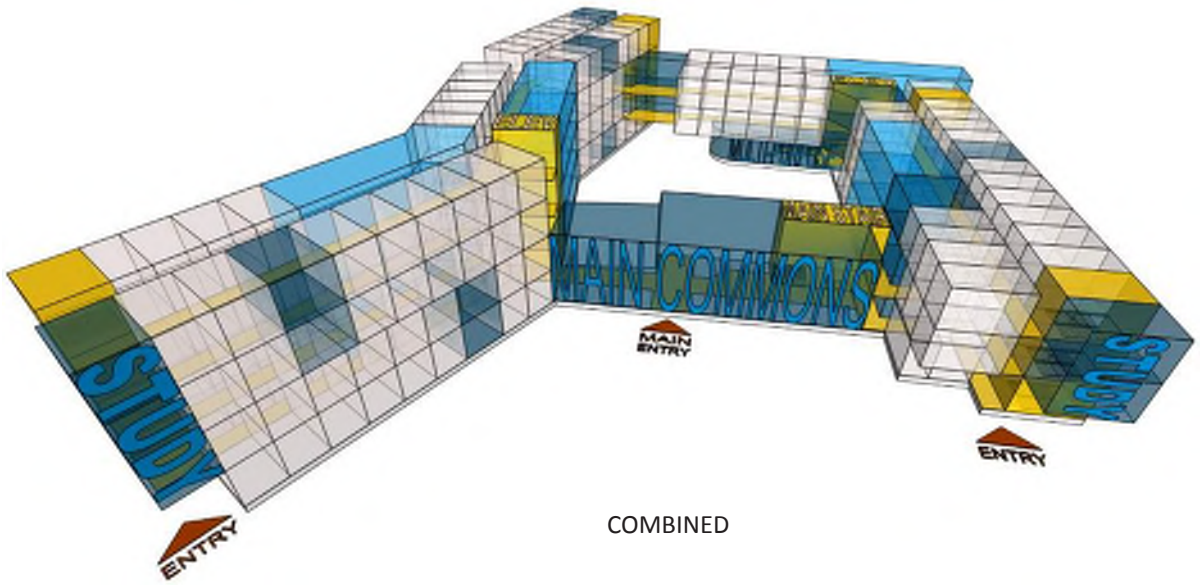
COMMON SPACES



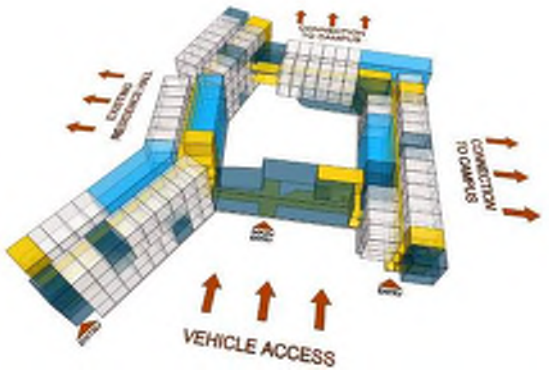
RESTROOM CORES



RESIDENCES

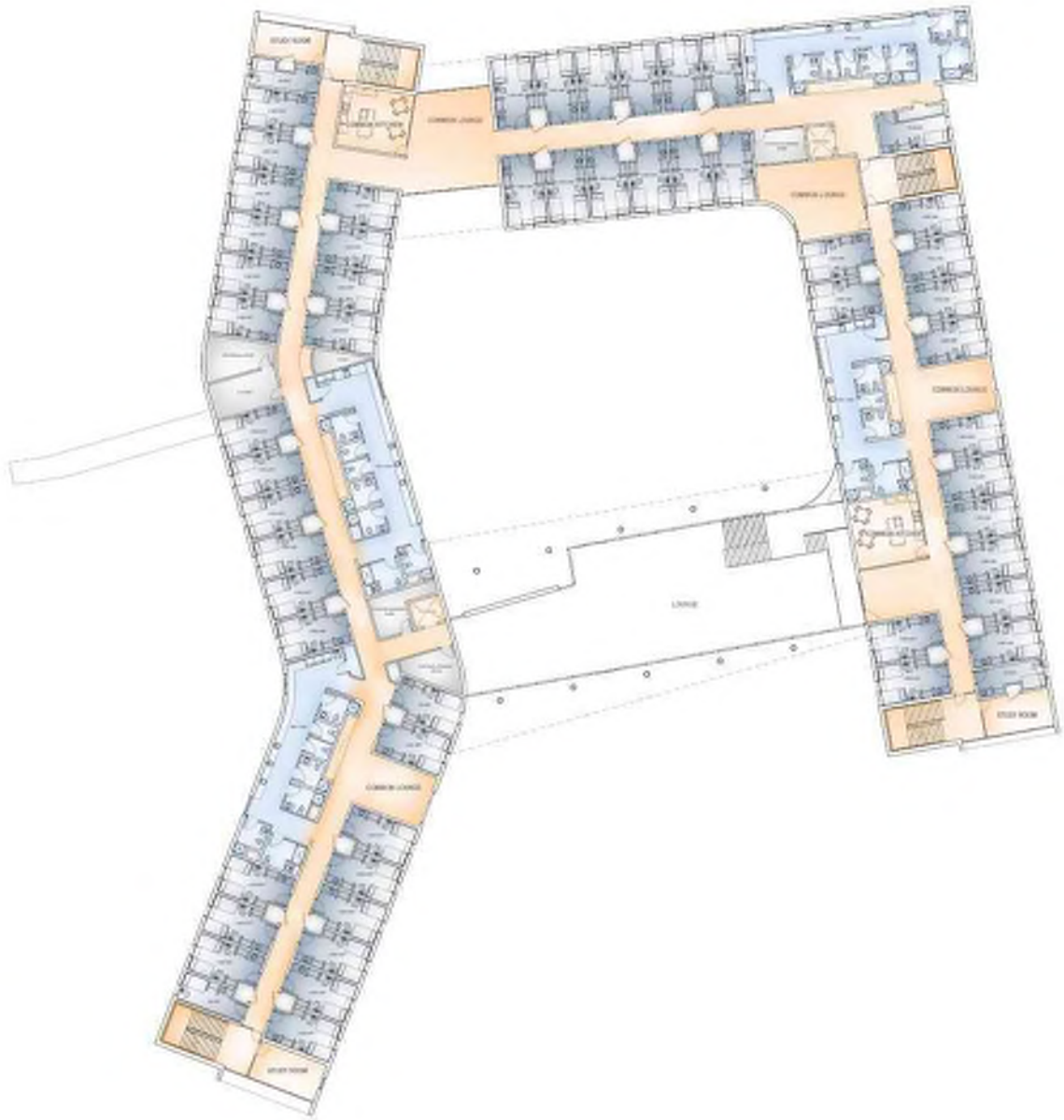

STUDY
ENTRY
MAIN COMMONS
MAIN ENTRY
STUDY
ENTRY

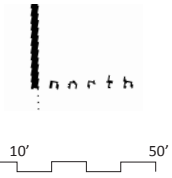
COMBINED


EXISTING RESIDENTIAL
CONNECTION TO CAMPUS
VEHICLE ACCESS

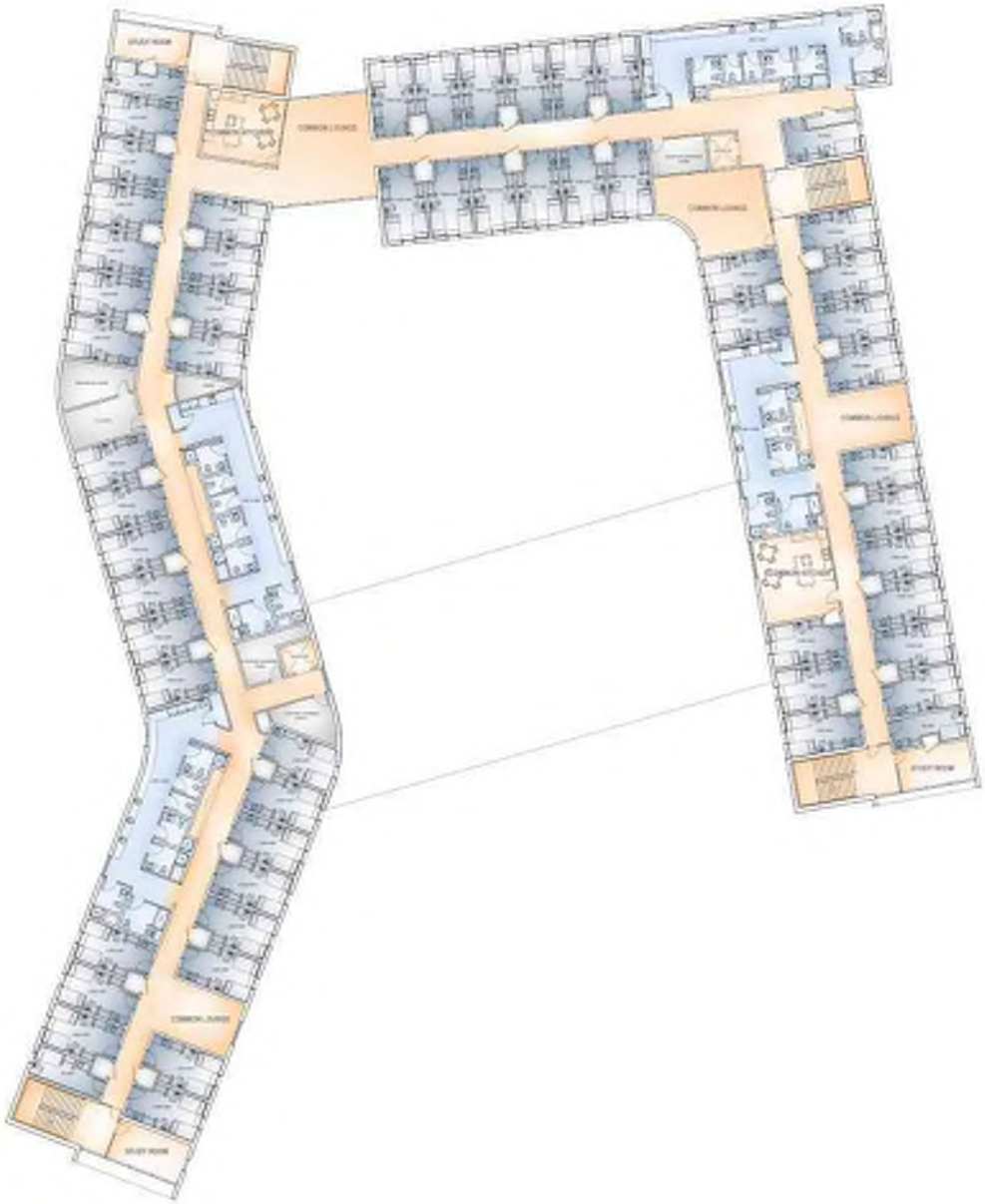
TEST FIT FLOOR PLAN | LEVEL 1

LEVEL 2





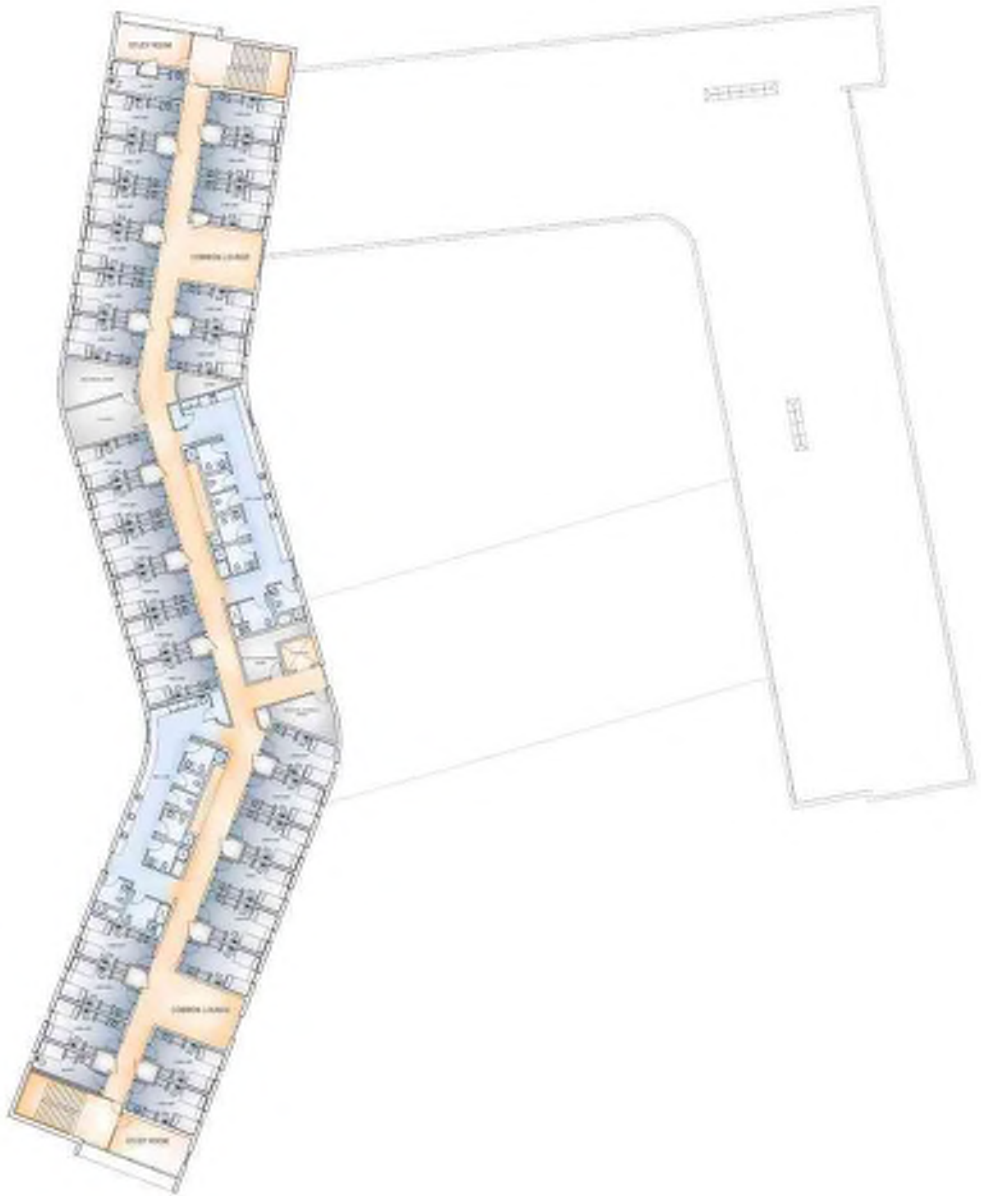
LEVEL 3



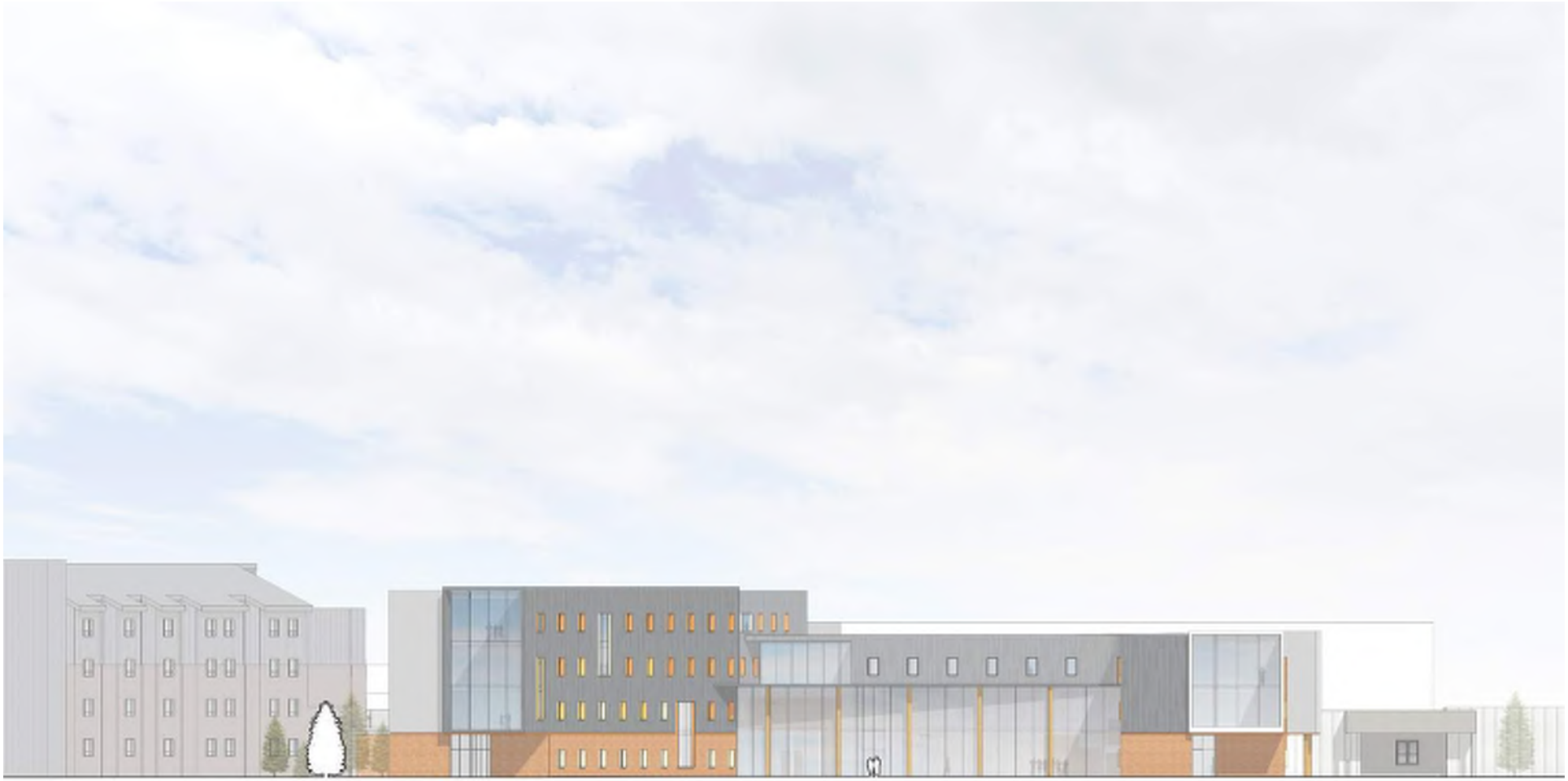
SERVICE
UNITS
WET CORE
COMMON SPACES

0′ 10′ 50′

LEVEL 4



SOUTH ELEVATION



EAST ELEVATION

NORTH ELEVATION

WEST ELEVATION

WEST COURTYARD ELEVATION

TRANSVERE SECTION

SECTION PERSPECTIVES

RENDERINGS

MAIN ENTRY EXTERIOR ELEVATION VIEW

VIEW IN COURTYARD LOOKING NORTH

NORTH EXTERIOR VIEW FROM PRIMARY CAMPUS CIRCULATION

STUDY AREA VIEW AT SOUTHWEST EXTERIOR CORNER

COMMON PUBLIC AREA OVERLOOKING COURTYARD

MAIN STUDENT COMMONS WITH VIEWS TO COURTYARD + OPEN PLAINS

COST ESTIMATION

One of the most significant pieces of this project is the budget. It is critical that the nature of requesting public funds is respected to the greatest extent possible. While there is a real benefit to the community, there is an essential need to create spaces and amenities that offer the greatest possible advantage to students attending the College.

As part of the effort to maintain and monitor costs associated with the project, the design team has developed a program summary budget that was reviewed at regular meetings. In addition, a construction cost estimator was engaged to work closely with the design team to establish criteria for their initial estimate. Concurrent with their efforts, other general contractors familiar with the College, area and project type were asked to participate in an early cost evaluation. Their participation and help has been amazing, and has informed the spectrum of possible budget scenarios as they help to identify gaps in budgets as well as possible overruns in this early phase.

In comparing the estimates alongside the each other, we are able to see where the differences stand out and note areas for future clarifications. While the process is early, this has allowed us to get a fairly good view of what we can begin to expect as the project prepares to move into the Level III phase. Ultimately, the range of costs demonstrates that the project team and steering committee has its finger on the pulse of the market – placing the project within reach of its budgetary goals.

METHODSTUDIO INC.

LARAMIE COUNTY COMMUNITY COLLEGE

LCCC STUDENT HOUSING

SPACE AREA SUMMARY

10.16.2017 — **2 BED UNITS**

SPACE TYPE	DESCRIPTION	QTY	NET SF	TOTAL NET SF
UNITS				
1 Bed Unit		4	140	560
2 Bed Unit		168	196	32928
RA Unit		12	140	1680
Number of Beds		352		
	Subtotal			**35168**
RD APARTMENT				
Apartment s.f.				826
Number of Apartments		1		
Number of Beds		2		
	Subtotal			**826**
AMENITIES				
Lobby		1	548	548
Common Laundry	varies	varies	varies	2496
Restroom Cores	6:1 ratio 87 beds per floor = 29 fixtures or (6) 5 fixture cores per floor	varies	varies	9084
Fitness Room		1	596	596
Classroom/Theater Room		1	461	461
Student Lounge/Game Room	On Level 01	1	4818	4818
Vending	1 per floor	4	20	80
Print Station	1 per floor, 2 computer stations & 1 printer	1	45	45
Prep Kitchen		1	163	163
Common Kitchen	amount varies per floor	varies	varies	1792
Common Lounge/living rooms	amount varies per floor	varies	varies	3768
Multi-Purpose Room		1	811	811
Music Room	all on first floor	0	0	0
Craft Space		1	244	244
Classroom		1	353	353
Study Room	varies	1	1728	1728
Storage		1	384	384
Restroom		2	58	116
	Subtotal			**27487**
ADMINISTRATIVE				
Reception		1	114	114
Staff Office		1	122	122
Campus Safety Office		1	145	145
Storage		1	100	100
Mailroom		1	100	100
	Subtotal			**581**
STORAGE & MAINTENANCE				
Support-Electrical/Comm		4 vary		1174
Support-Mechanical		5 vary		974
Custodial Storage		1	141	141
Custodial Office		1	115	115
Main - Electrical		1	2458	2458
Main - Mechanical		1	2458	2458
Elevator Equipment Room		1	137	137
Elevator		2	87	174
	Subtotal			**7631**
Total Number of beds		**354** (348 student + Live in Director)		

	Net SF	Gross SF	Cost
Student Housing Building	**71693**	**99,294**	**$ 22,986,561.00**
		28% grossing factor	$231.50/sf
		20% soft costs	$ 4,942,110.62
Total			**$ 27,928,671.62**

LCCC ESTIMATOR & CONTRACTOR COMPARISON

Division	Work Description	CCC	Contractor 1	Contractor 2	Contractor 3**
Division 1	General Requirements	-	1,154,285	463,215	816,829
Division 2	Existing Conditions	125,325	100,000	-	-
Division 3	Concrete	579,985	893,120	645,358	1,162,722
Division 4	Masonry	625,791	455,000	696,925	656,011
Division 5	Metals	429,052	237,675	369,860	1,593,632
Division 6	Woods & Plastics	2,050,843	2,566,445	2,503,895	698,854
Division 7	Thermal & Moisture Protection	2,395,422	1,392,576	1,827,520	1,260,217
Division 8	Doors & Windows	1,512,274	1,445,129	1,736,045	1,819,016
Division 9	Finishes	2,365,749	1,737,075	2,273,895	3,123,157
Division 10	Specialties	258,389	135,411	76,630	110,150
Division 11	Equipment	39,420	45,118	74,400	437,792
Division 12	Furnishings	59,260	1,111,500	11,400	50,917
Division 14	Conveying Systems	291,600	227,500	234,000	208,000
Division 21	Fire Suppression	327,074	350,000	323,884	308,949
Division 22	Plumbing	784,720	2,200,000	896,346	4,171,670
Division 23	HVAC	2,680,938	2,100,000	1,493,910	
Division 26	Electrical	2,038,275	2,500,000	2,166,170	2,203,536
Division 27	Telecommunication	536,188	425,000	-	272,459
Division 28	Electronic Safety & Security	348,522	250,000	-	-
Division 31	Earthwork	408,056	485,000	395,800	436,816
Division 32	Exterior Improvements	1,167,707	1,150,000	1,545,974	1,425,953
Division 33	Utilities	201,157	110,000	69,150	167,927
	Sub-total	$ 19,225,747	$ 21,070,834	$ 17,804,377	$ 20,924,607
	General Conditions	1,109,280	101,140	548,500	1,200,000
	Overhead & Profit	739,520	1,174,026	826,757	-
	Bonds & Insurance	369,760	622,658	204,137	1,373,973
	Contingency	1,848,799	1,685,667	1,791,039	2,410,366
	Total	$ 23,293,106	$ 24,654,325	$ 21,174,810	$ 25,908,946
	Cost per sf @ 99,294 sf	$ 234.59	$ 248.30	$ 213.25	$ 260.93

**estimate adjusted from steel construction to wood

Cost Per Square Foot Range: $213-261/sf

DATA SHEETS + ROOM DIAGRAMS

05

TYPICAL 2 BED UNIT | 196 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Resident bedroom
TOTAL NUMBER:	171
OCCUPANTS:	(2) per bedroom
PRIMARY FUNCTION:	Provide a comfortable environment to sleep and study

- **RELATIONSHIPS**

LOCATION:	None required
ADJACENCIES:	Rest room Wet Core
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes, comfortable feel, natural light

- **PRIVACY/SECURITY:** Provide key/card lock on bedroom door.

  Provide (1) location per student per bedroom for private/valuable items, securable with student's own lock.

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9' - 0"

- **FINISHES**

FLOOR:	LVT (Plank)
WALLS:	Painted gypsum board
CEILING:	Painted gypsum board
SPECIALTY FINISHES:	Quartz counter top at vanity, laminate cabinets
ACOUSTICAL / SOUND:	STC 50 walls between rooms.

- **DOORS**

TYPE:	Solid core wood with clear finish. No closet doors.
FRAME:	Painted hollow metal
SPECIAL:	Sound isolation at door. Key/card access

- **WINDOWS**

TYPE:	Exterior, 1 operable per bedroom, 20 sf min
GLAZING:	Insulated w/Low-E coating
NATURAL LIGHT:	Required
FRAME:	Aluminum Storefront
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis, built-in or portable fans
CONTROLS:	TBD
SPECIAL SYSTEMS:	TBD
PLUMBING:	(1) vanity and sink fixture in each bedroom

- **ELECTRICAL**

POWER:	Min. (1) duplex outlet on each wall, one of these located adjacent to each desk area
PHONE/DATA:	Wifi coverage, data jack, conduit to hallway
AUDIO/VIDEO:	TBD
FIRE ALARM:	TBD

- **LIGHTING**

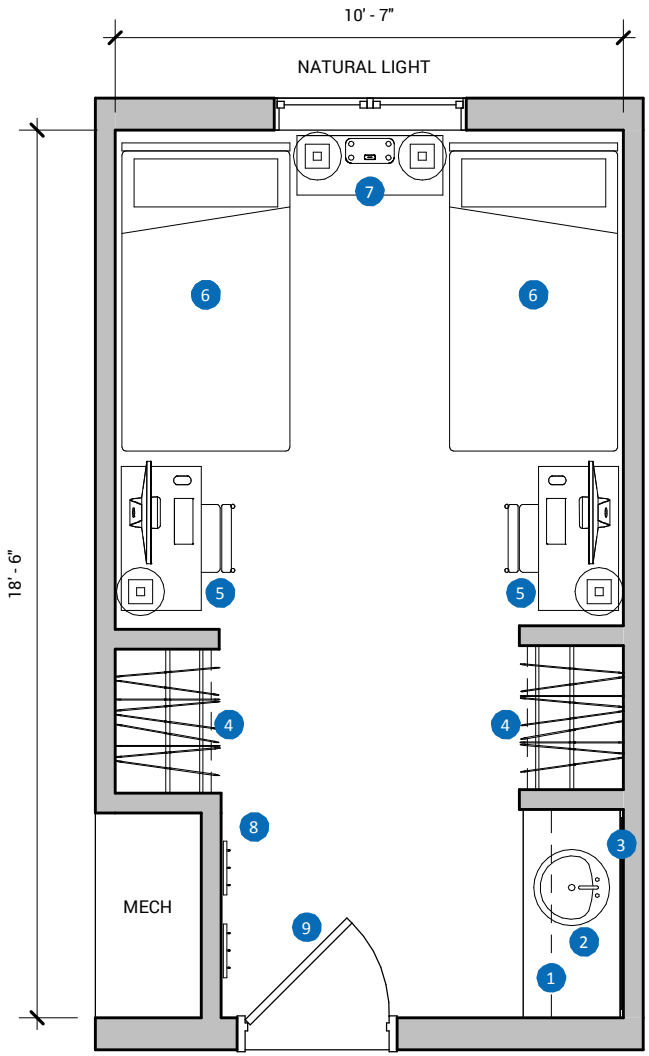
FOOT CANDLES:	20 ambient, 40 task
FIXTURE TYPE:	LED
TASK LIGHTING:	At each desk
CONTROLS:	LED surface mounted with vacancy sensor

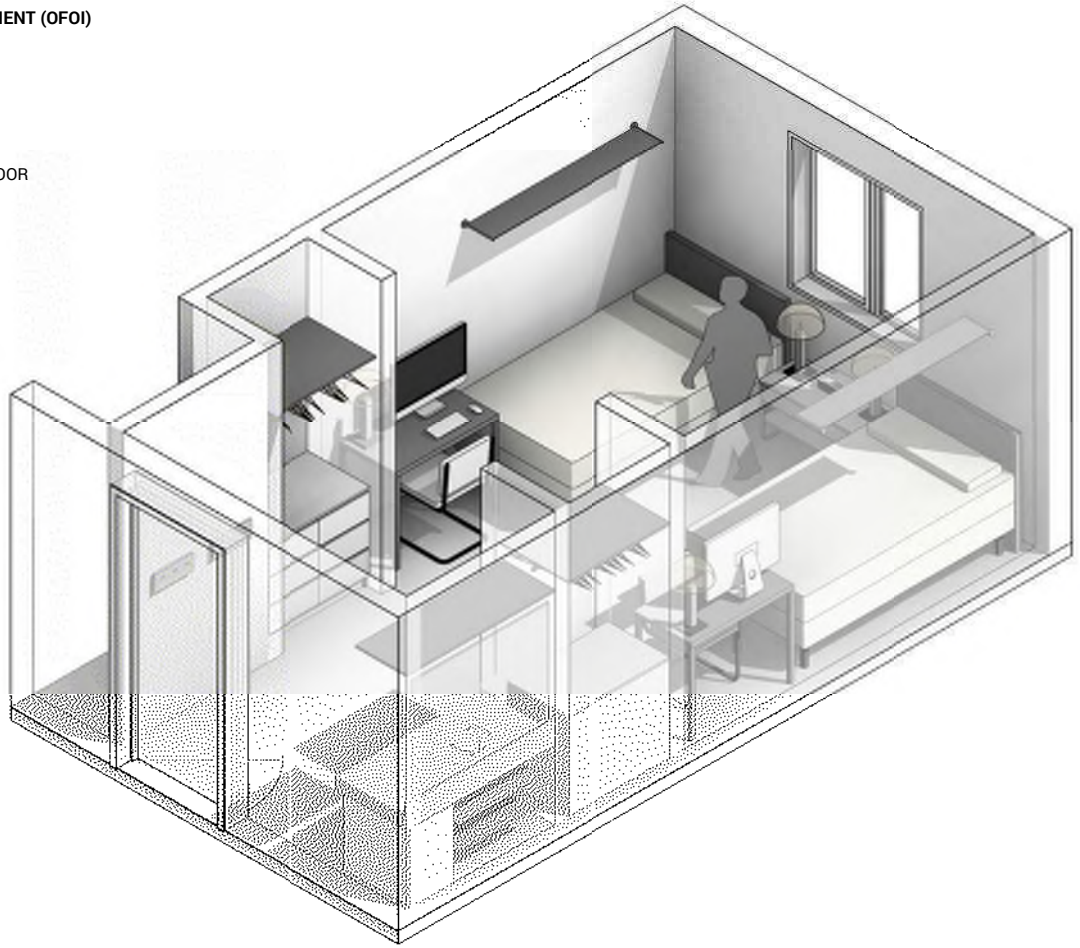
CASEWORK/FIXED EQUIPMENT (CFCI)

1 OVERHEAD SHELF
2 VANITY WITH SINK, (3) UNDER COUNTER DRAWERS
3 VANITY MIRROR
4 CLOSET W/ (1) ROD & (1) OVERHEAD SHELF; DRESSER

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

5 COMPUTER DESK
6 BED
7 END TABLE
8 HOOKS (3) W/ BACKING
9 18X36" MIRROR ON BACK OF DOOR





TYPICAL RA UNIT | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Resident bedroom
  TOTAL NUMBER: 13
  OCCUPANTS: (1) per bedroom
  PRIMARY FUNCTION: Provide a comfortable environment to sleep and study
- **RELATIONSHIPS**
  LOCATION: None required
  ADJACENCIES: Rest room Wetcore
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes, comfortable feel, natural light
- **PRIVACY/SECURITY:** Provide key/card lock on bedroom door.
  Provide (1) location per student per bedroom for private/valuable items, securable with student's own lock.

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9' - 0"
- **FINISHES**
  FLOOR: LVT (Plank)
  WALLS: Painted gypsum board
  CEILING: Painted gypsum board
  SPECIALTY FINISHES: Quartz counter top at vanity, laminate cabinets
  ACOUSTICAL / SOUND: STC 50 walls between rooms.
- **DOORS**
  TYPE: Solid core wood with clear finish. No closet doors.
  FRAME: Painted hollow metal
  SPECIAL: Sound isolation at door. Key/card access
- **WINDOWS**
  TYPE: Exterior, 1 operable per bedroom, 20 sf min
  GLAZING: Insulated w/Low-E coating
  NATURAL LIGHT: Required
  FRAME: Aluminum Storefront
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

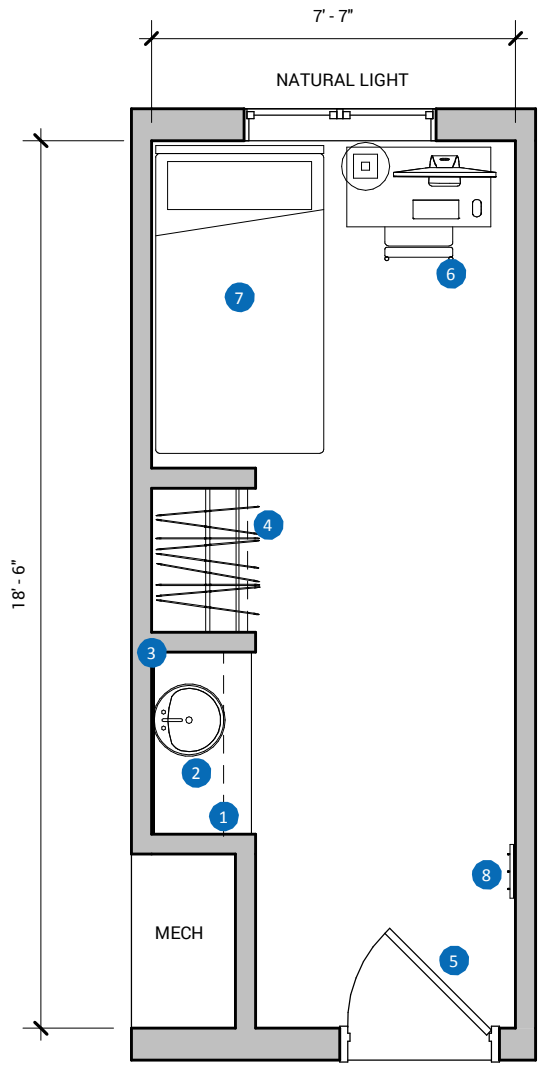
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis, built-in or portable fans
  CONTROLS: TBD
  SPECIAL SYSTEMS: TBD
  PLUMBING: (1) vanity and sink fixture in each bedroom
- **ELECTRICAL**
  POWER: Min. (1) duplex outlet on each wall, one of these located adjacent to each desk area
  PHONE/DATA: Wifi coverage, data jack, conduit to hallway
  AUDIO/VIDEO: TBD
  FIRE ALARM: TBD
- **LIGHTING**
  FOOT CANDLES: 20 ambient, 40 task
  FIXTURE TYPE: LED
  TASK LIGHTING: At each desk
  CONTROLS: LED surface mounted with vacancy sensor

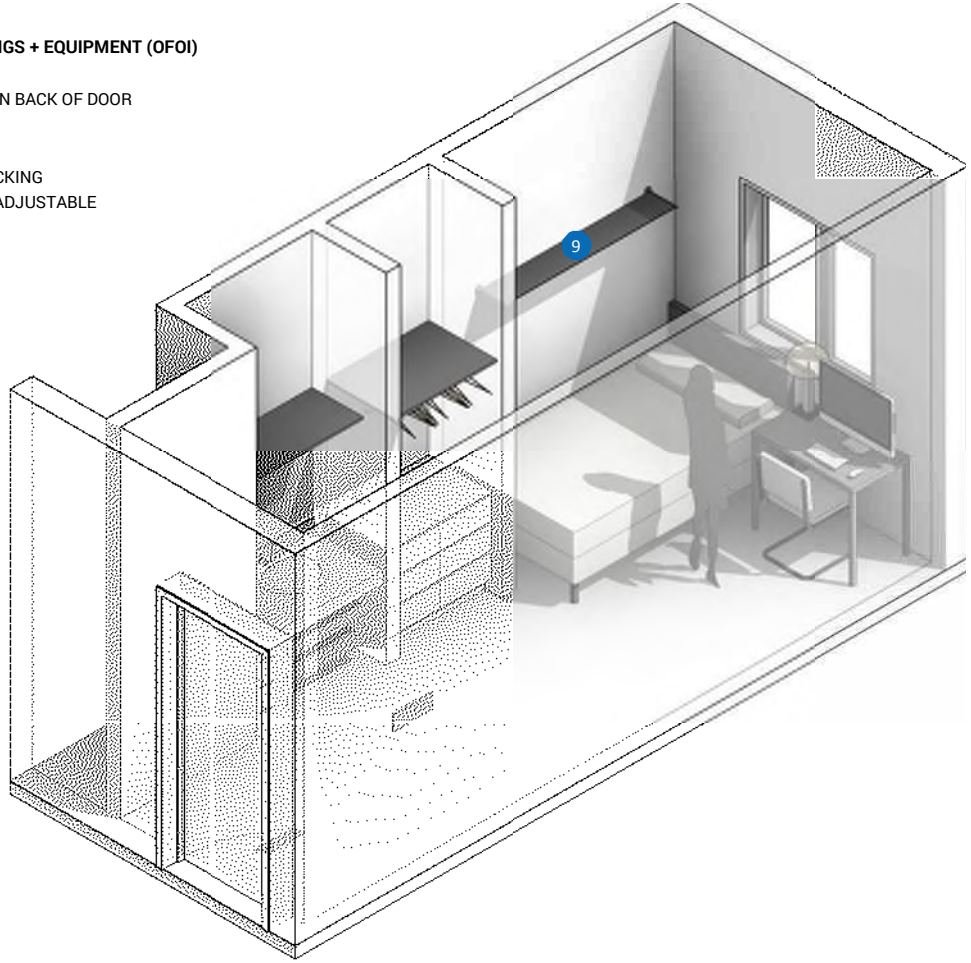
CASEWORK/FIXED EQUIPMENT (CFCI)

1 OVERHEAD SHELF
2 VANITY WITH SINK, (3) UNDER COUNTER DRAWERS
3 VANITY MIRROR
4 CLOSET W/ (1) ROD & (1) OVERHEAD SHELF; DRESSER

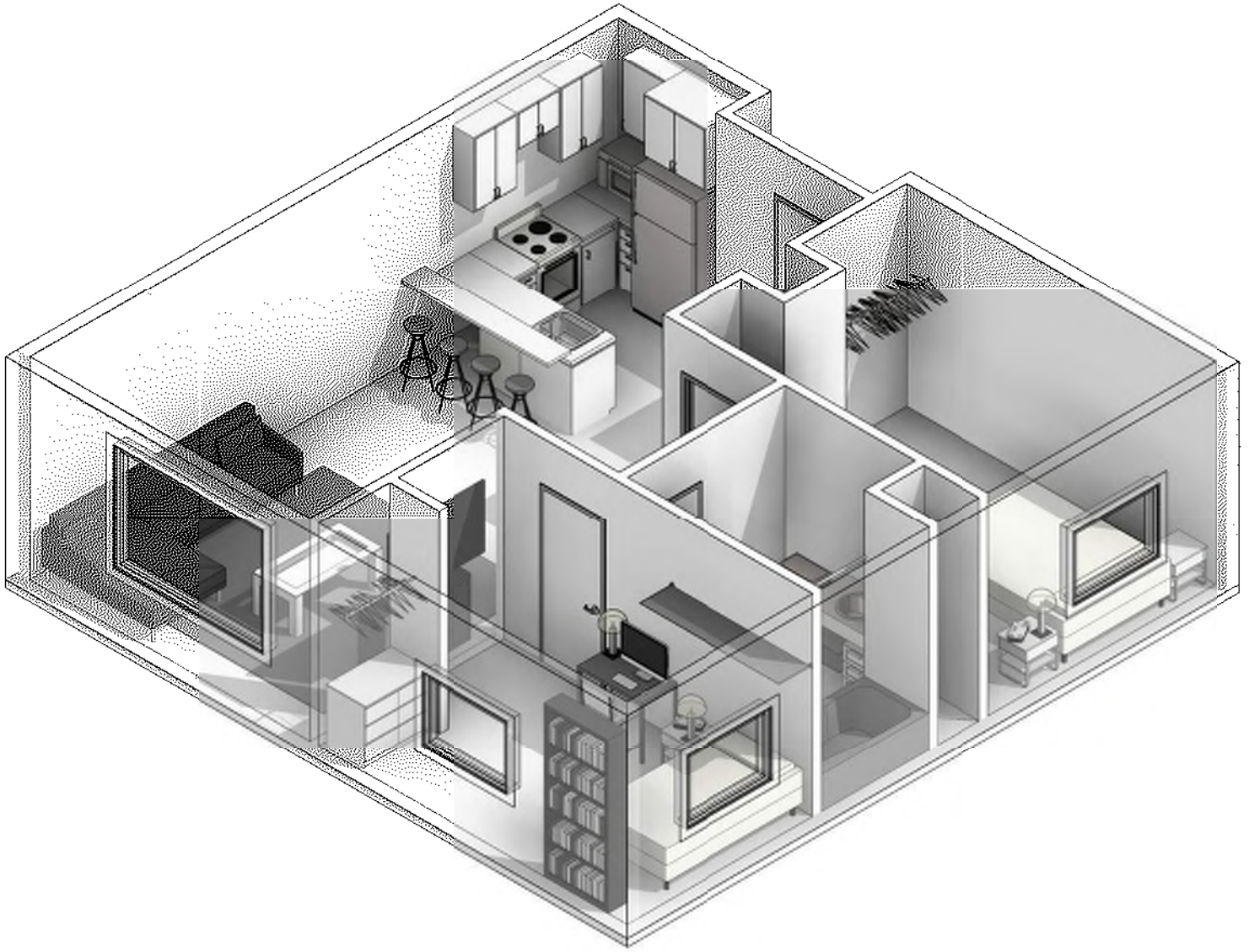
MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

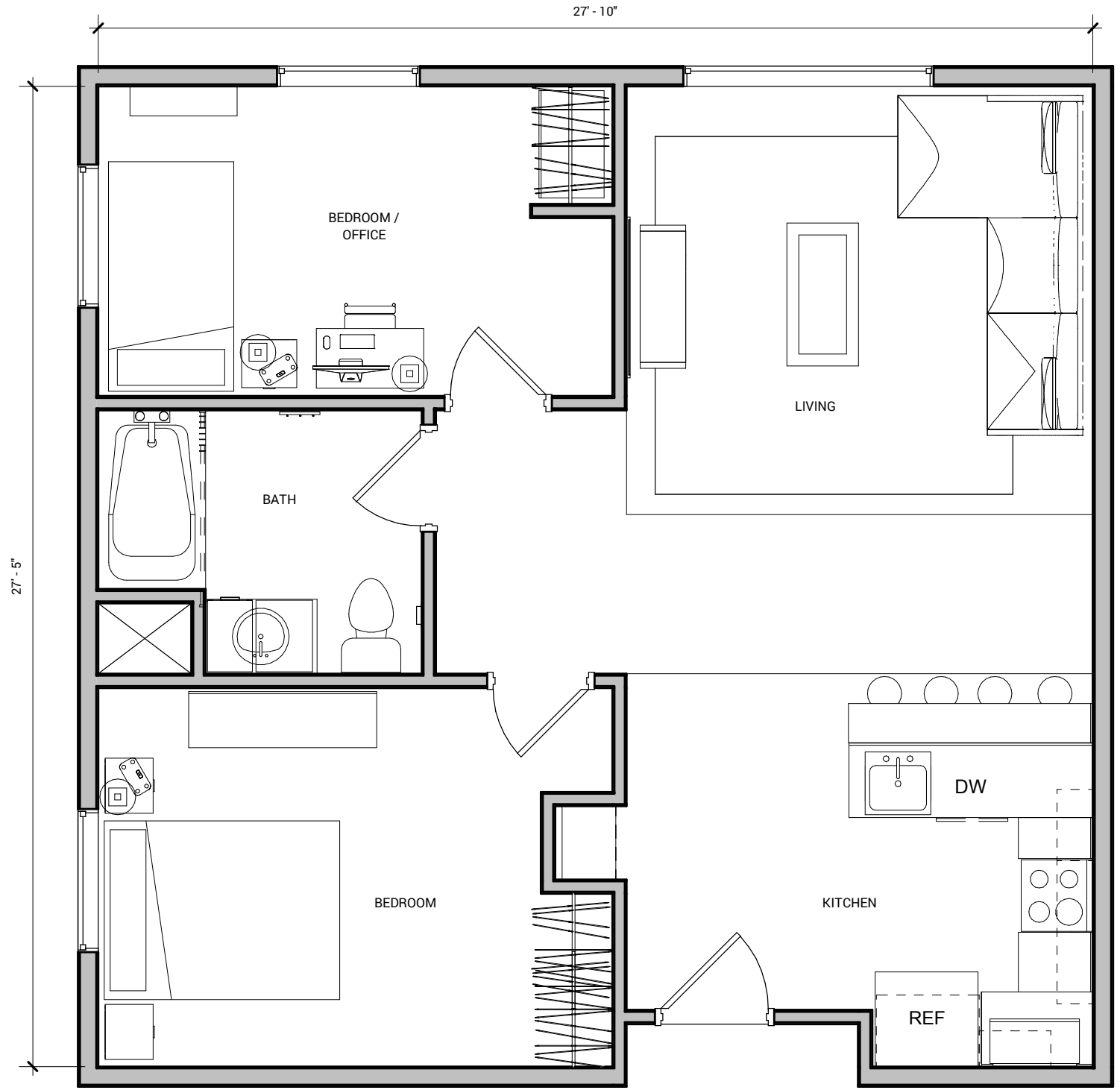
5 18X36" MIRROR ON BACK OF DOOR
6 COMPUTER DESK
7 BED
8 HOOKS (3) W/ BACKING
9 WALL MOUNTED ADJUSTABLE SHELVING





RD APARTMENT | 750 SQ FT




27' - 10"
27' - 5"
BEDROOM /
OFFICE
LIVING
BATH
BEDROOM
KITCHEN
DW
REF

RD APARTMENT - BATHROOM | 60 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident suite
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1
  - **PRIMARY FUNCTION:** To provide bath/shower and toilet facilities within the RD apartment.
- **RELATIONSHIPS**
  - **LOCATION:** Within RD apartment
  - **ADJACENCIES:** Near bedrooms
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units
- **PRIVACY/SECURITY:** Provide privacy lock on bathroom door

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** Tile
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** Quartz counter top at vanity, laminate cabinets
  - **ACOUSTICAL / SOUND:** Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

TECHNICAL REQUIREMENTS

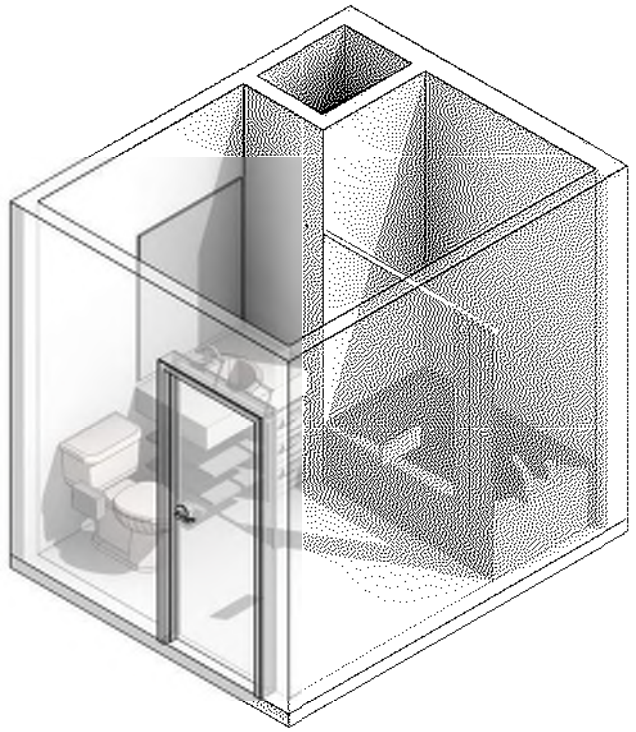
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Zoned within suite
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** (1) flush valve toilet, (1) shower, (1) one-piece vanity w/ built in sink
- **ELECTRICAL**
  - **POWER:** (2) duplex outlets per sink location, must be able to accommodate curling irons and blow dryers
  - **PHONE/DATA:** None required
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 40 ambient
  - **FIXTURE TYPE:** (1) LED wall mount, (1) ceiling mount
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

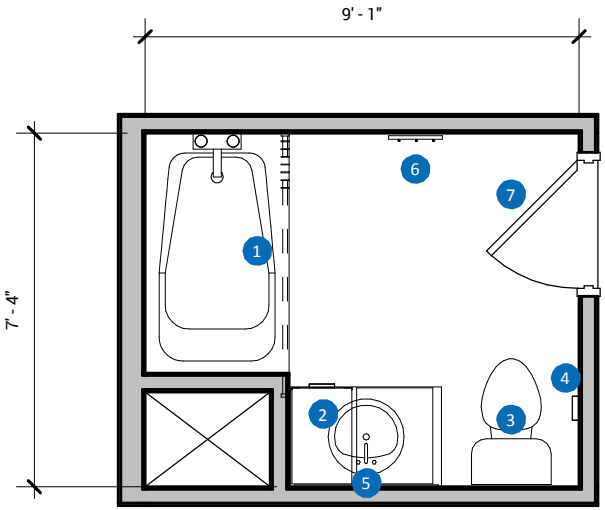
CASEWORK/FIXED EQUIPMENT (CFCI)

1 SHOWER ROD & SOLID SURFACE SHOWER: FLOOR, WALLS & CEILING
2 VANITY WITH SINK, (3) UNDER COUNTER DRAWERS
3 FLOOR MOUNTED TOILET W/ FLUSH VALVE
4 TOILET PAPER HOLDER
5 VANITY MIRROR

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

6 HOOKS (3) W/ BACKING
7 18X36" MIRROR ON BACK OF DOOR





RD APARTMENT - LIVING ROOM | 156 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident suite
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 4
  - **PRIMARY FUNCTION:** To provide an environment where RD and guests may relax, socialize, entertain and interact.
- **RELATIONSHIPS**
  - **LOCATION:** Within RD apartment
  - **ADJACENCIES:** Near kitchen
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

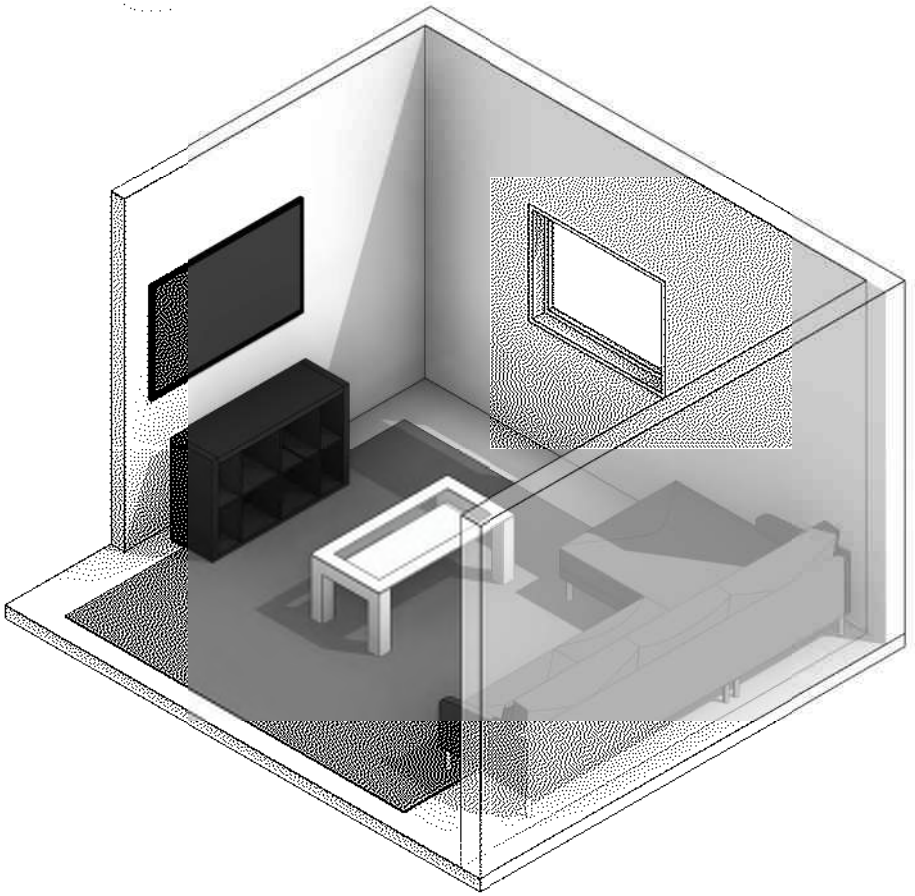
- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** LVT (Plank)
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Include min. (1) operable window
  - **GLAZING:** Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

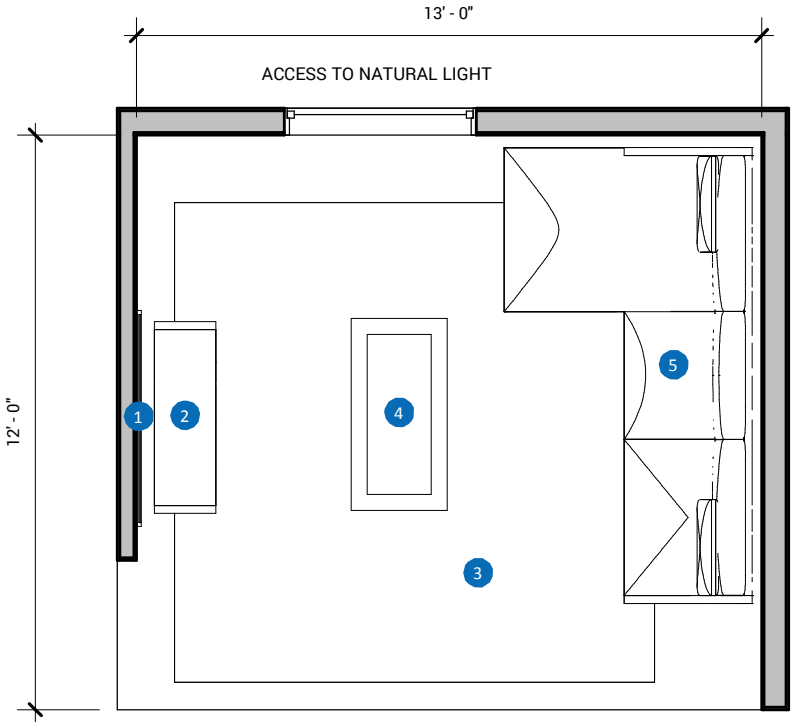
TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Zoned within suite, include adjustable state in common area
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Duplex wall outlets at max. of 12'-0" o.c., and one for TV
  - **PHONE/DATA:** (1) network outlet, (1) wireless access, (1) network outlet at TV, (1) coax TV/ cable outlet
  - **AUDIO/VIDEO:** (1) coax TV/ cable outlet
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 WALL MOUNTED LCD TV W/ BACKING
2 MEDIA CENTER
3 AREA RUG
4 COFFEE TABLE
5 COUCH





RD APARTMENT - MASTER BEDROOM | 146 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident suite
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1-2
  - **PRIMARY FUNCTION:** Provide a comfortable environment to sleep
- **RELATIONSHIPS**
  - **LOCATION:** Within RD apartment
  - **ADJACENCIES:** Near bathroom
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** LVT (Plank)
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Exterior, 1 operable per bedroom, 20 sf min
  - **GLAZING:** Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

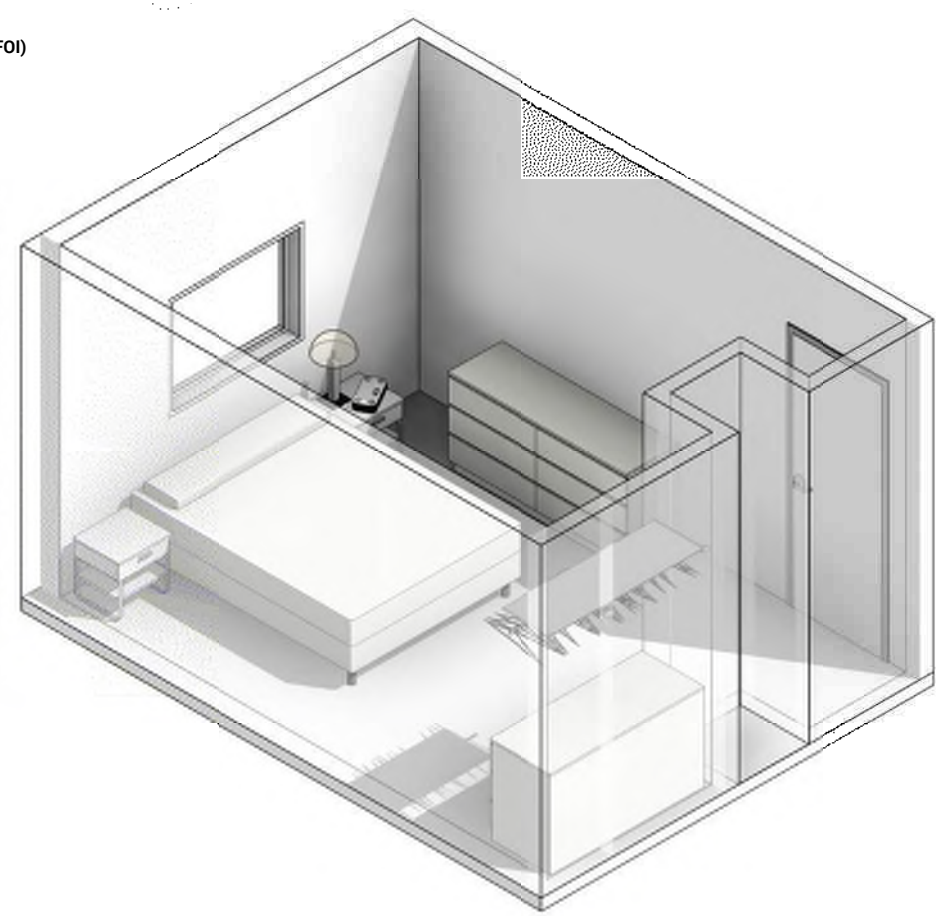
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Zoned within suite, include adjustable state in common area
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Min. (1) duplex outlet on each wall
  - **PHONE/DATA:** wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** (1) LED wall mount, (1) ceiling mount
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

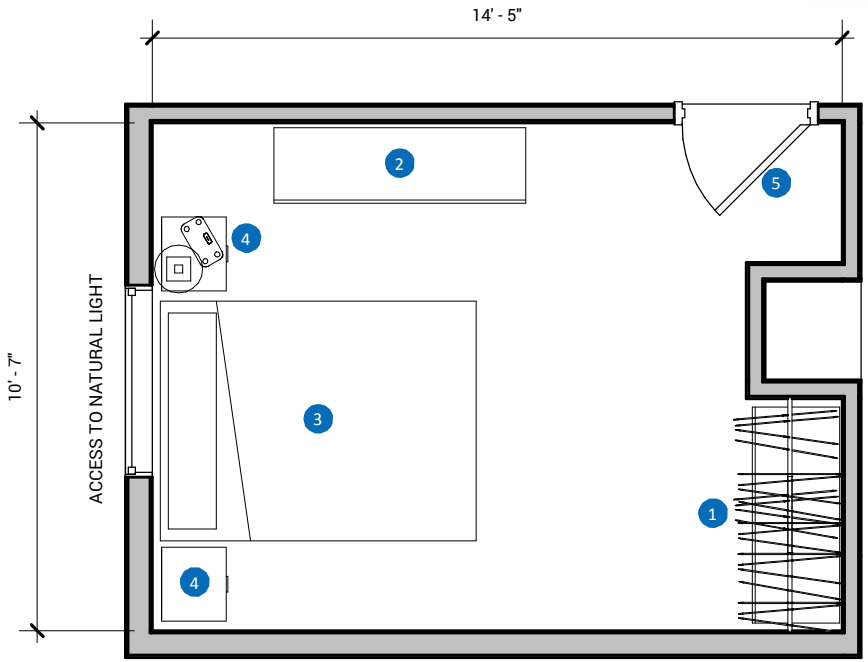
CASEWORK/FIXED EQUIPMENT (CFCI)

1 CLOSET W/ (1) ROD & (1) OVERHEAD SHELF; DRESSER

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 DRESSER
3 BED
4 END TABLE
5 18X36" MIRROR ON BACK OF DOOR





RD APARTMENT - BEDROOM/OFFICE | 124 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident suite
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1-2
  - **PRIMARY FUNCTION:** Provide a comfortable environment to sleep and/or study
- **RELATIONSHIPS**
  - **LOCATION:** Within RD apartment
  - **ADJACENCIES:** Near bathroom
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** LVT (Plank)
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Exterior, 1 operable per bedroom, 20 sf min
  - **GLAZING:** Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

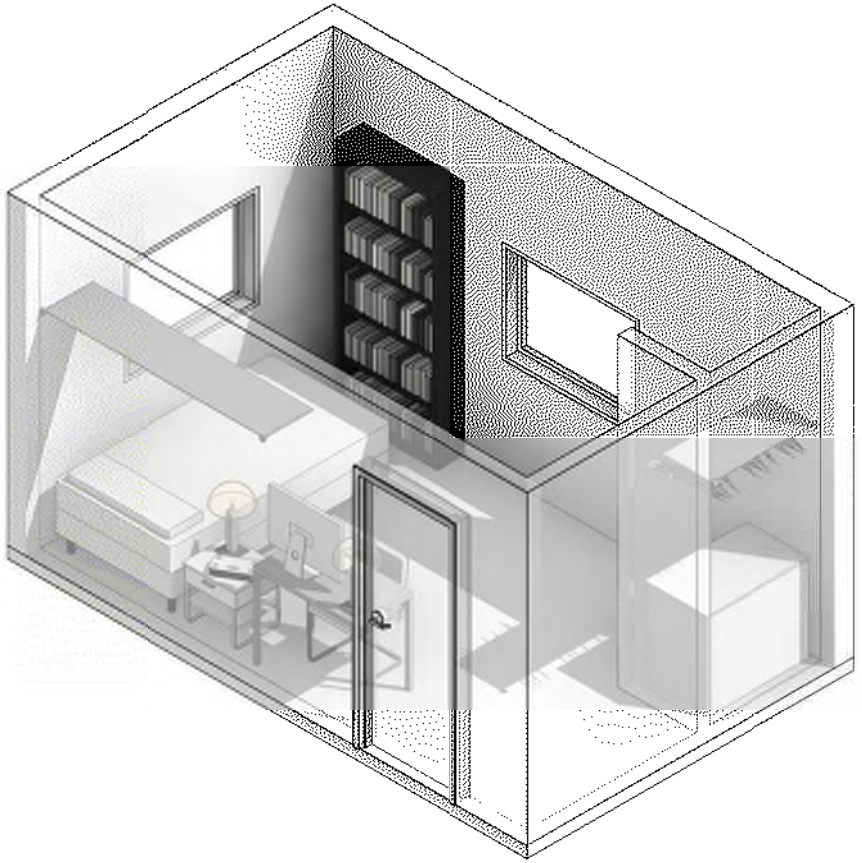
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Zoned within suite, include adjustable state in common area
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Min. (1) duplex outlet on each wall
  - **PHONE/DATA:** wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** (1) LED wall mount, (1) ceiling mount
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

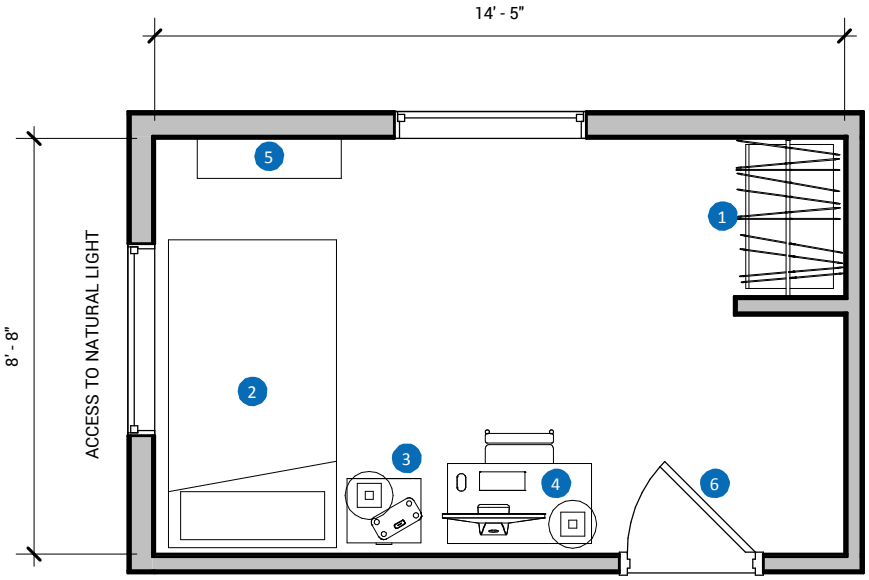
CASEWORK/FIXED EQUIPMENT (CFCI)

1 CLOSET W/ (1) ROD & (1) OVERHEAD SHELF; DRESSER

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 SINGLE OR POSSIBLE BUNK BED
3 END TABLE
4 COMPUTER DESK
5 BOOKSHELF
6 18X36" MIRROR ON BACK OF DOOR





RD APARTMENT - KITCHEN | 136 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Resident suite
TOTAL NUMBER:	1
OCCUPANTS:	4
PRIMARY FUNCTION:	Comfortable location to prepare and eat food

- **RELATIONSHIPS**

LOCATION:	Within RD apartment
ADJACENCIES:	Near living area
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Nicer finishes, more upscale than student units

- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"

- **FINISHES**

FLOOR:	LVT (Plank)
WALLS:	Painted gypsum board
CEILING:	TBD
SPECIALTY FINISHES:	Quartz counter top, laminate cabinets
ACOUSTICAL / SOUND:	Sound insulation const. at perimeter walls of apartment and around bathrooms. STC 45 walls between rooms.

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	TBD

- **WINDOWS**

TYPE:	None required
GLAZING:	None required
NATURAL LIGHT:	None required
FRAME:	None required
SPECIAL:	None required

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Zoned within suite, include adjustable state in common area
SPECIAL SYSTEMS:	TBD
PLUMBING:	Two compartment, stainless steel sink, swing type gooseneck kitchen faucet, 36" supply lines

- **ELECTRICAL**

POWER:	Duplex outlets above counter at 24" centers (GFI required, reset button at outlet), 2 minimum, (1) duplex outlet each for microwave and fridge, all on dedicated circuits, 220V outlets at oven range on dedicated circuit
PHONE/DATA:	wireless access
AUDIO/VIDEO:	TBD
FIRE ALARM:	TBD

- **LIGHTING**

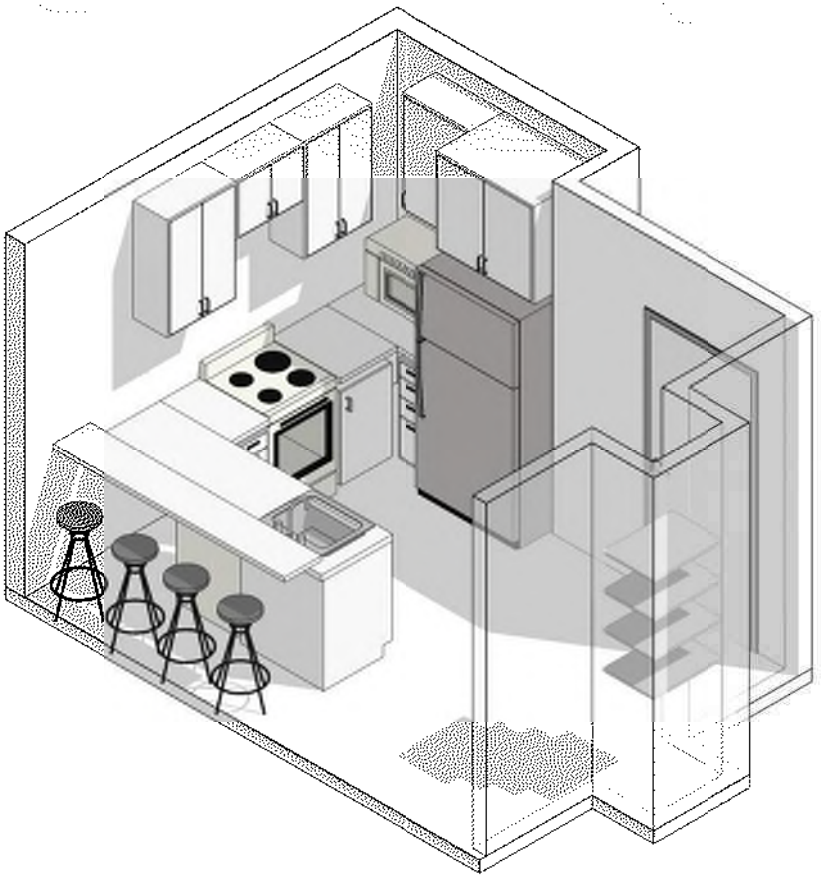
FOOT CANDLES:	30
FIXTURE TYPE:	LED
TASK LIGHTING:	None required
CONTROLS:	Vacancy sensor with wall station override

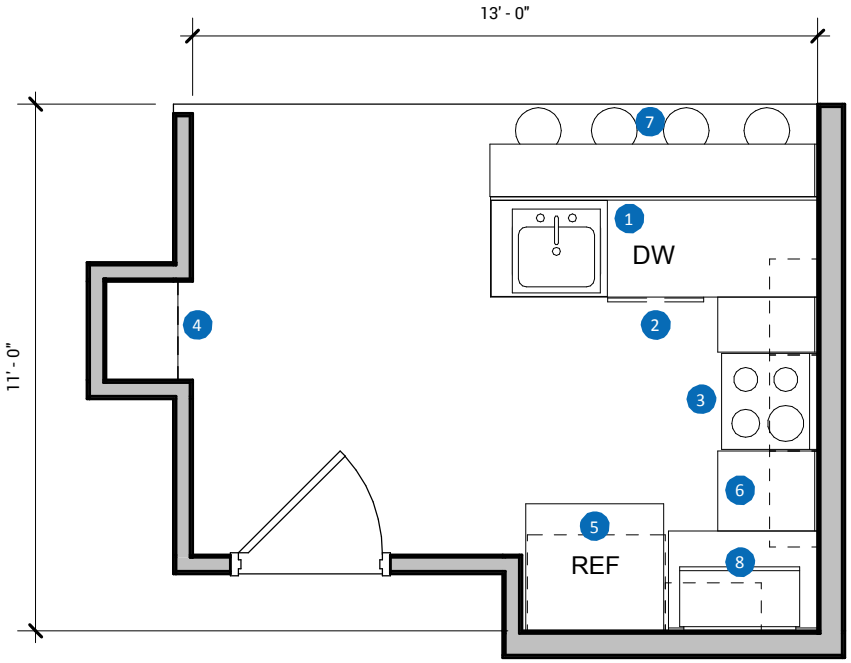
CASEWORK/FIXED EQUIPMENT (CFCI)

1 SINK & COUNTER
2 DISHWASHER
3 RESIDENTIAL GRADE OVEN
4 OVERHEAD SHELF
5 FULL SIZE FRIDGE & FREEZER
6 COUNTERTOP & STORAGE CABINETS

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

7 STOOLS
8 MICROWAVE





05

LOBBY | 1000 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Entrance lobby
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 10-15
  - **PRIMARY FUNCTION:** Serve as a waiting space for individuals/groups. Serves to showcase the building to prospective students/ parents.
- **RELATIONSHIPS**
  - **LOCATION:** Near main bldg entrance
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, natural light, showcase the building
- **PRIVACY/SECURITY:** Security camera. Secure access to housing portion of building / upper floors.

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 10'-0" +
- **FINISHES**
  - **FLOOR:** Polished Concrete
  - **WALLS:** Painted, impact-resistant gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** Wood accent wall
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Aluminum storefront entry doors/vestibule
  - **FRAME:** Aluminum storefront
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Exterior, floor to ceiling storefront
  - **GLAZING:** Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

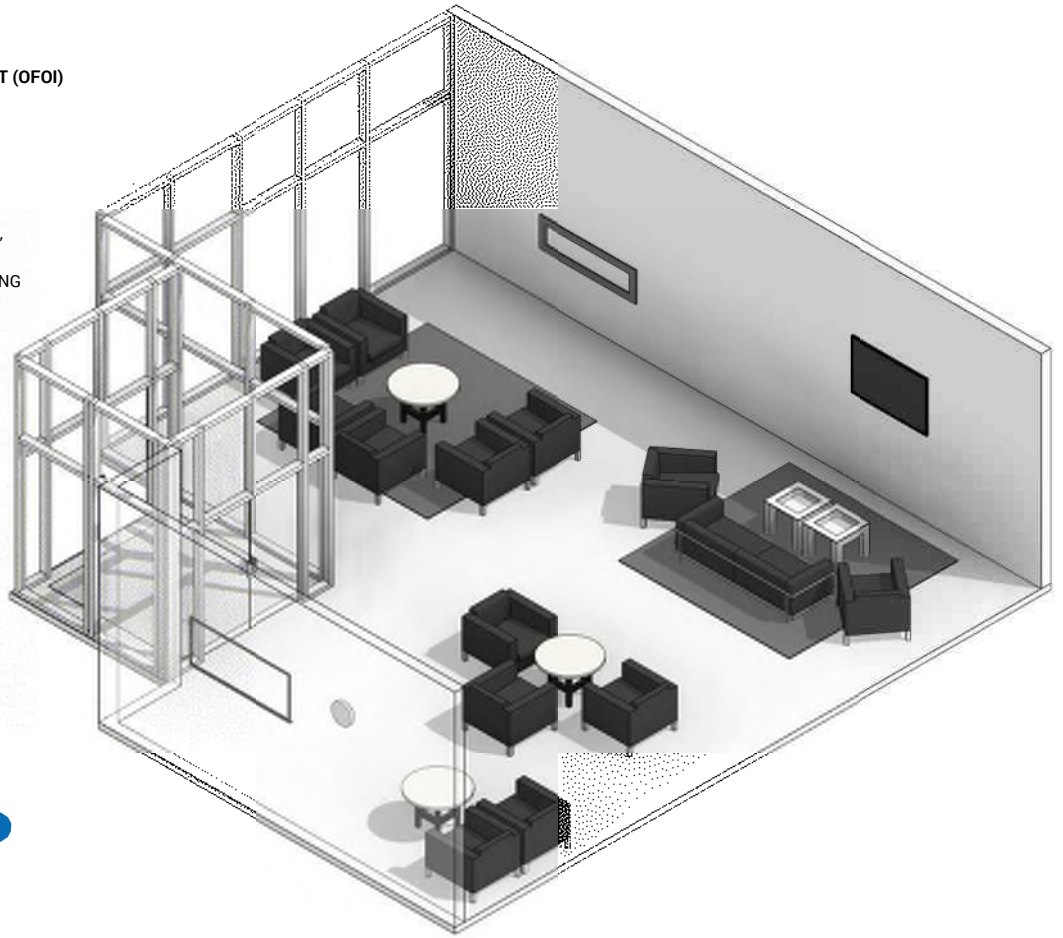
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** TBD
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** TBD
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet per wall, (1) network outlet at TV. Rechargeable jacks in outlets.
  - **PHONE/DATA:** Wifi coverage
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 20 ambient, 40 task
  - **FIXTURE TYPE:** LED indirect and ceiling surface mounted. Accent fixtures as req'd for showcasing the lobby and/or artwork
  - **TASK LIGHTING:** TBD
  - **CONTROLS:** Relay control with wall station override

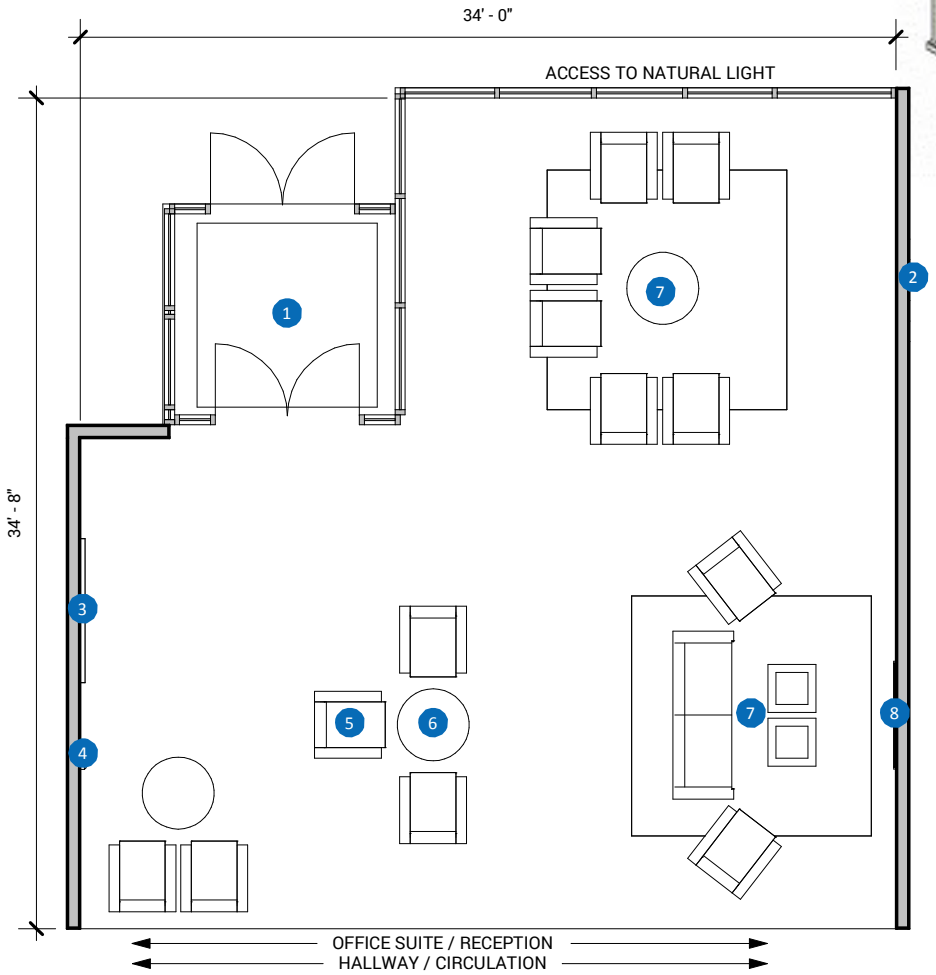
CASEWORK/FIXED EQUIPMENT (CFCI)

1 VESTIBULE WITH 2" REMOVEABLE MATTING
2 FIREPLACE

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

3 BULLETIN BOARD
4 CLOCK
5 ARM CHAIR
6 COFFEE TABLE
7 LOUNGE CHAIRS, AREA RUG, SOFA, COFFEE TABLES
8 WALL MOUNTED LCD TV W/ BACKING





COMMON LAUNDRY | 275 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	(8), 2 per floor
OCCUPANTS:	3-6
PRIMARY FUNCTION:	To provide a space for students to do laundry

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	Game room, TBD
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes, visual connection to community spaces
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**

FLOOR:	TBD
WALLS:	TBD
CEILING:	TBD
SPECIALTY FINISHES:	Quartz counter top
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	TBD

- **WINDOWS**

TYPE:	Interior, to provide visual access to community spaces
GLAZING:	Clear, tempered
NATURAL LIGHT:	TBD
FRAME:	TBD
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	Dryer venting as required, wall mounted louver and damper for combustion air
PLUMBING:	Hot/cold water supply lines, drains for washers, floor drain, laundry sink (small, deep sink with goose neck faucet), gas piping, washer and dryer wall mounted fitting housing the waste, electric, and hot and cold water valves

- **ELECTRICAL**

POWER:	(1) duplex outlet per wall, (1) 220v outlet per dryer, (1) duplex outlet per washer
PHONE/DATA:	Wifi coverage
AUDIO/VIDEO:	TBD
FIRE ALARM:	TBD

- **LIGHTING**

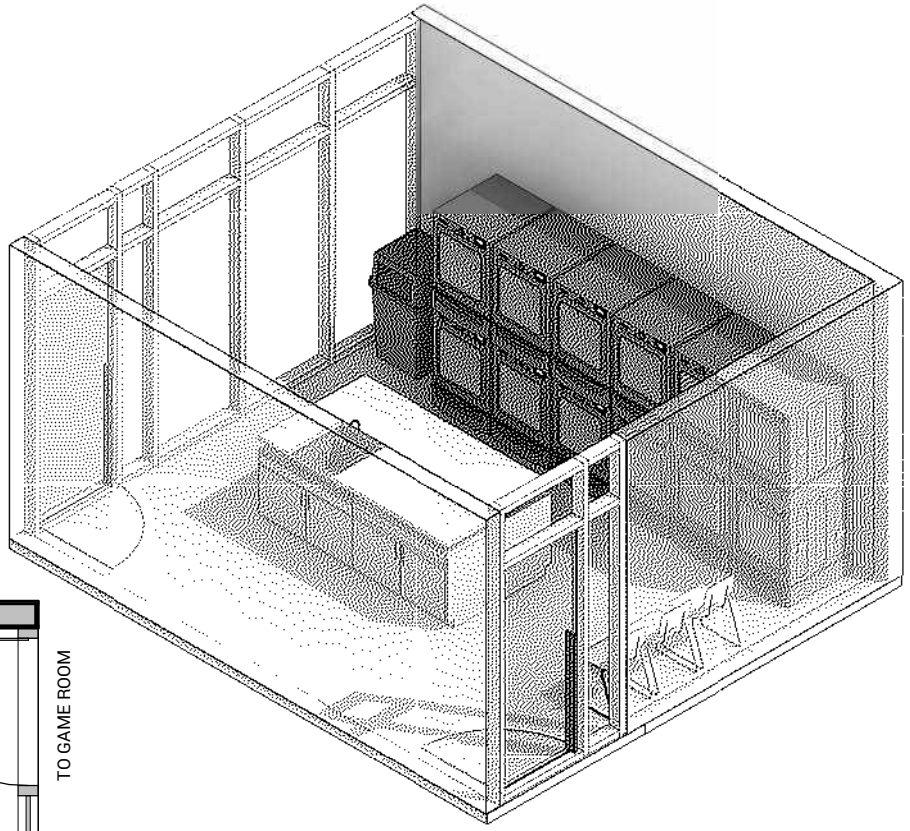
FOOT CANDLES:	40
FIXTURE TYPE:	LED surface mounted, vacancy off switch
TASK LIGHTING:	None required
CONTROLS:	Vacancy sensor with wall station override

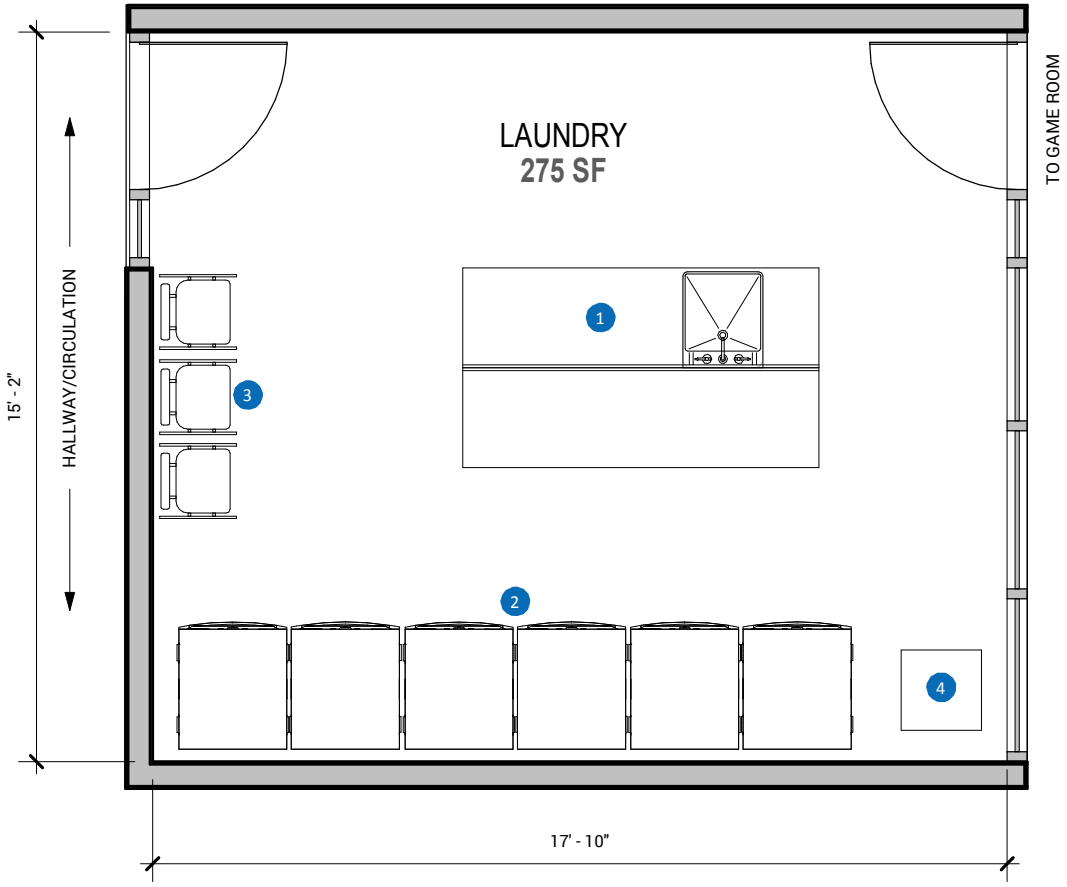
CASEWORK/FIXED EQUIPMENT (CFCI)

1 SINK & COUNTER
2 (6) STACKABLE FRONTLOAD WASHERS & DRYERS

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

3 CHAIRS
4 TRASH CAN





REST ROOM WET CORE | 1097 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Bathroom space
  - **TOTAL NUMBER:** (12), 3 per floor
  - **OCCUPANTS:** 5-10
  - **PRIMARY FUNCTION:** To provide shower and toilet facilities to student residents
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** Near bedrooms
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, comfortable communal feel
- **PRIVACY/SECURITY:** Provide privacy lock on individual bathrooms

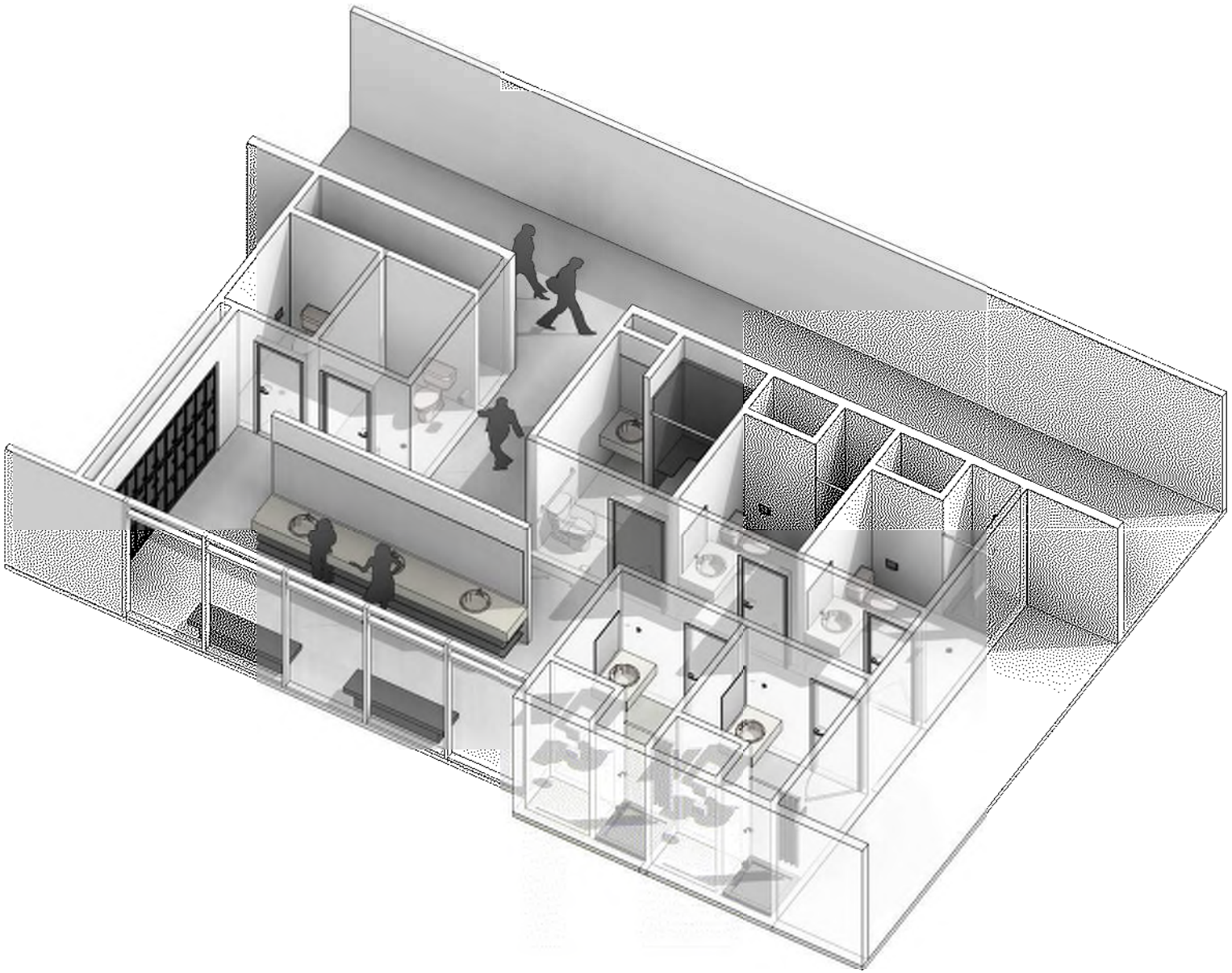
  Provide (1) personal locker per student

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** Tile (plank)
  - **WALLS:** Epoxy paint
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** Quartz counter top at vanity and in each rest room
  - **ACOUSTICAL / SOUND:** Sound isolation const. at perimeter walls and around bathrooms
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Exterior storefront
  - **GLAZING:** Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** (7) toilets, (5) showers, (5) sinks, (3) under counter lavatories per sink location outside toilet/shower room, (9) floor drains
- **ELECTRICAL**
  - **POWER:** (2) duplex outlet per sink location, each on dedicated circuits
  - **PHONE/DATA:** Wifi coverage
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 40
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override



05

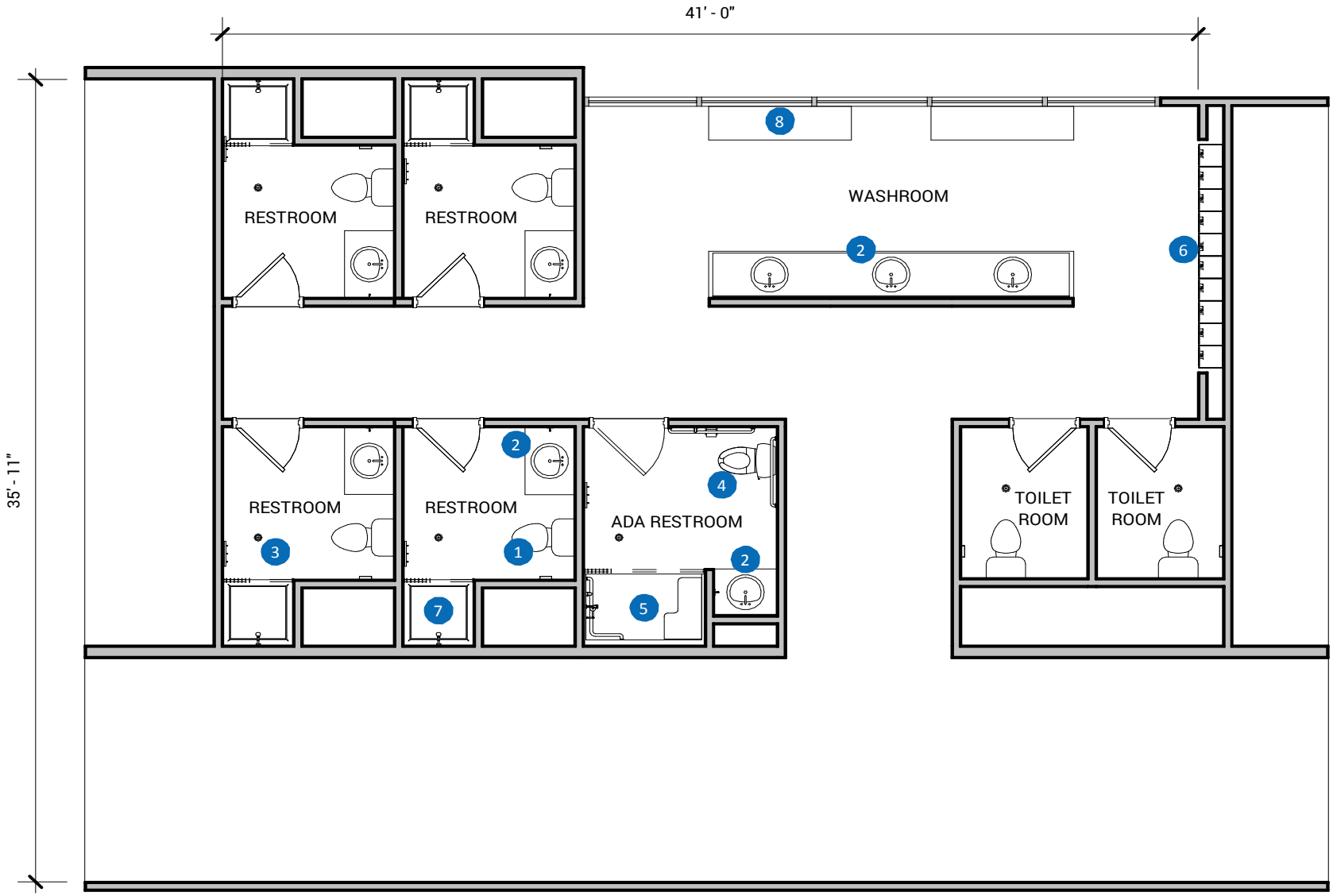
REST ROOM WET CORE | 1097 SQ FT

CASEWORK/FIXED EQUIPMENT (CFCI)

1 FLOOR MOUNTED TOILET W/ FLUSH VALVE
2 SINK & COUNTER
3 FLOOR DRAIN
4 ADA COMPLIANT FLOOR MOUNTED TOILET & GRAB BARS
5 ADA COMPLIANT SHOWER & GRAB BARS
6 LOCKER BAY
7 SHOWER ROD & SOLID SURFACE SHOWER: FLOOR, WALLS & CEILING

CASEWORK/FIXED EQUIPMENT (CFCI)

8 CONCRETE BENCH


41' - 0"
35' - 11"
RESTROOM
RESTROOM
WASHROOM
RESTROOM
RESTROOM
ADA RESTROOM
TOILET ROOM
TOILET ROOM
8
2
6
2
4
3
1
2
7
5

CLASSROOM + THEATER ROOM | 500 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Public Amenities
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 40
  - **PRIMARY FUNCTION:** Tiered seating for theater and classroom
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, large glass wall/ window to interior hallway, and stepped seating.
- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** TBD
- **FINISHES**
  - **FLOOR:** Carpet tiles
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** Acoustic wall panels
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Interior, to provide visual access to community spaces
  - **GLAZING:** Clear, tempered
  - **NATURAL LIGHT:** TBD
  - **FRAME:** TBD
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

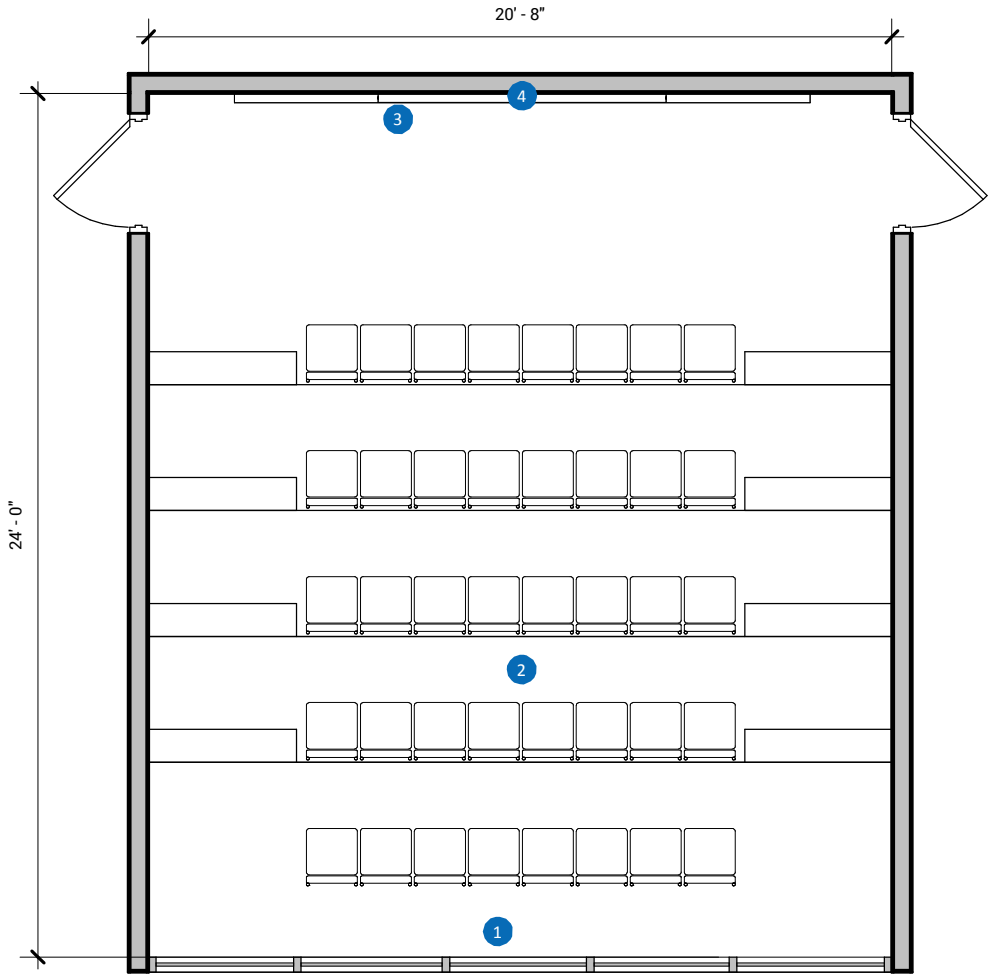
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Special outlets for equipment
  - **PHONE/DATA:** Wifi coverage
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED surface mounted, vacancy off switch
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

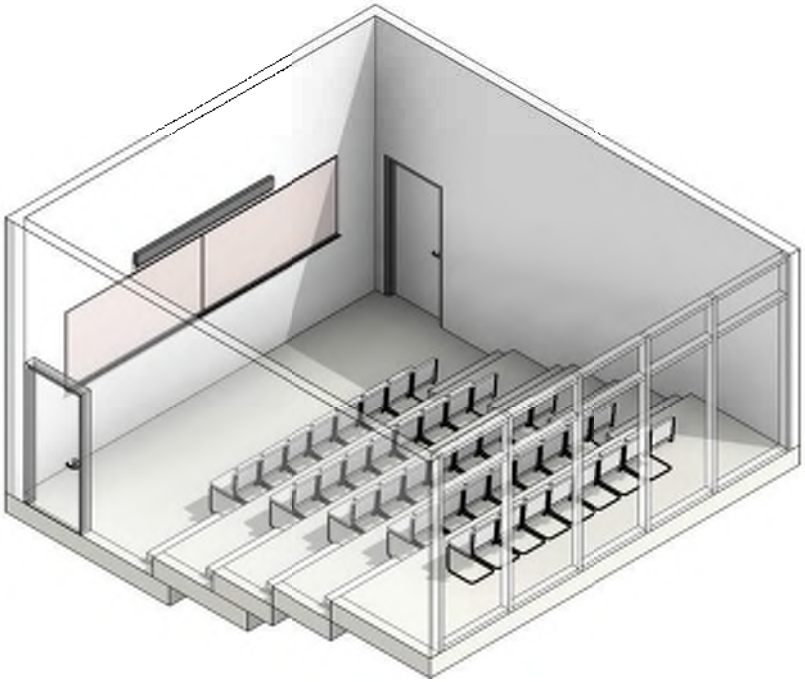
CASEWORK/FIXED EQUIPMENT (CFCI)

1 BLACK-OUT SHADES
2 TIERED SEATING
3 WHITE BOARD

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

4 PROJECTOR SCREEN





05

STUDENT LOUNGE + GAME ROOM | 700 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	(8), 2 per floor
OCCUPANTS:	10-15
PRIMARY FUNCTION:	To provide space where students can hang out, play games and watch TV

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	TBD
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Point of interest with walls and carpet, durable finishes, inviting feel, large glass wall/window to interior hallway and natural light.
- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**

FLOOR:	Hard surface (polished concrete on main level)
WALLS:	Painted gypsum board
CEILING:	TBD
SPECIALTY FINISHES:	Wood accent wall
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	TBD
FRAME:	TBD
SPECIAL:	TBD

- **WINDOWS**

TYPE:	Exterior: floor to ceiling storefront; Interior: to provide visual access to community
GLAZING:	Exterior: Insulated w/Low-E coating; Interior: clear, tempered
NATURAL LIGHT:	Required
FRAME:	Aluminum Storefront
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	TBD
PLUMBING:	None required

- **ELECTRICAL**

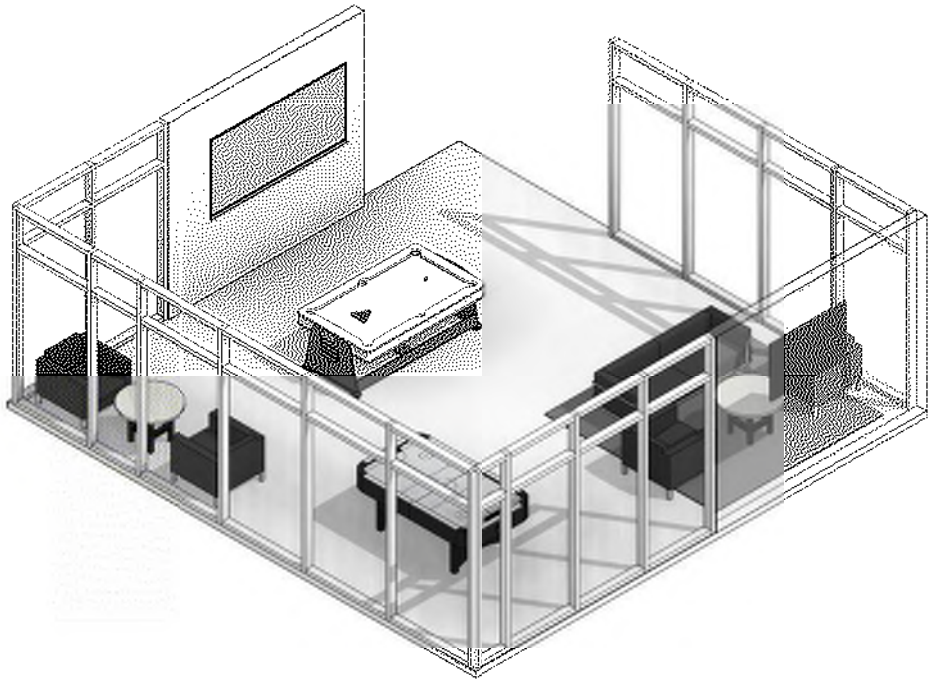
POWER:	Special outlets for equipment. Recharge-able jacks in outlets.
PHONE/DATA:	Wifi coverage, jacks to TV
AUDIO/VIDEO:	TV wiring and power, including campus cable TV
FIRE ALARM:	TBD

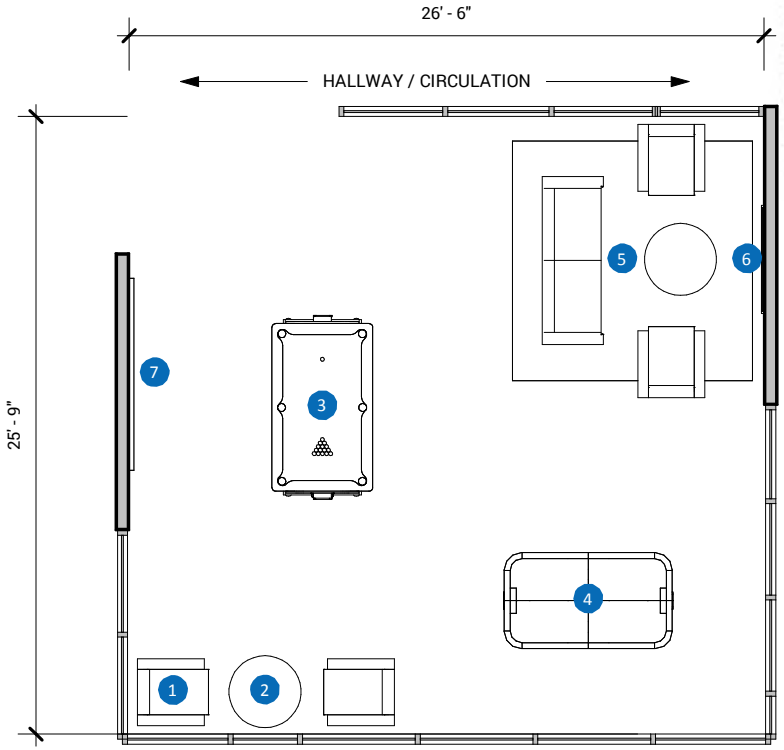
- **LIGHTING**

FOOT CANDLES:	30
FIXTURE TYPE:	LED indirect and ceiling surface mounted, vacancy off sensor
TASK LIGHTING:	None required
CONTROLS:	Relay control with wall station override, daylighting control

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 ARM CHAIR
2 COFFEE TABLE
3 POOL TABLE
4 AIR HOCKEY TABLE
5 LOUNGE CHAIRS, AREA RUG, SOFA, COFFEE TABLES
6 WALL MOUNTED LCD TV W/ BACKING
7 BULLETIN BOARD





ACCESS TO NATURAL LIGHT

05

VENDING | 20 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Public Amenities
  - **TOTAL NUMBER:** (4), 1 per floor
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Snacks and drinks
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, visual connection to community spaces, place of interest with walls and carpet
- **PRIVACY/SECURITY:** N/A

ARCHITECTURAL REQUIREMENTS

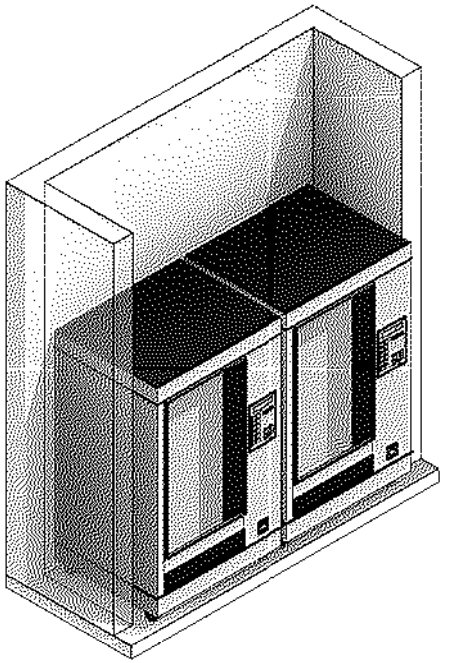
- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

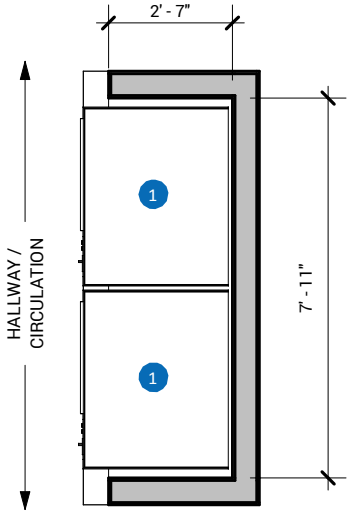
TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** None required
  - **SPECIAL SYSTEMS:** None required
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Special outlets for equipment
  - **PHONE/DATA:** None required
  - **AUDIO/VIDEO:** None required
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Relay control with wall station override, daylighting control

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 VENDING MACHINE





PRINT STATION | 45 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Public Amenities
  - **TOTAL NUMBER:** (4), 1 per floor
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Printing
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** Quartz counter top
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

TECHNICAL REQUIREMENTS

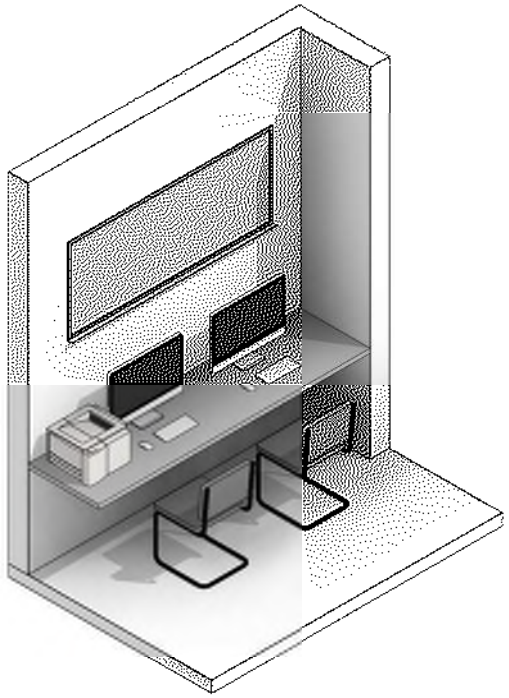
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** None required
  - **SPECIAL SYSTEMS:** None required
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Special outlets for equipment
  - **PHONE/DATA:** Wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Relay control with wall station override, daylighting control

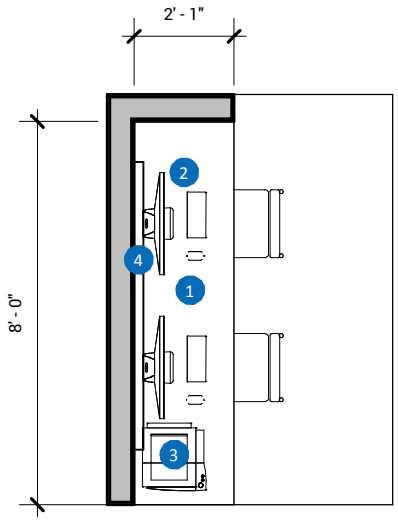
CASEWORK/FIXED EQUIPMENT (CFCI)

1 COUNTER TOP

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 COMPUTER
3 PRINT STATION
4 BULLETIN BOARD





PREP KITCHEN | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Public Amenities
  TOTAL NUMBER: 1
  OCCUPANTS: N/A
  PRIMARY FUNCTION: To provide a kitchen space for catering events or student social use adjacent to the multi-purpose room
- **RELATIONSHIPS**
  LOCATION: TBD
  ADJACENCIES: Multi-purpose room
  SEPARATION: TBD
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Keyed (digital card or key) access

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: Polished concrete
  WALLS: TBD
  CEILING: TBD
  SPECIALTY FINISHES: Quartz counter top, laminate cabinets
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Bi-fold ?
  FRAME: TBD
  SPECIAL: TBD
- **WINDOWS**
  TYPE: TBD
  GLAZING: TBD
  NATURAL LIGHT: TBD
  FRAME: TBD
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

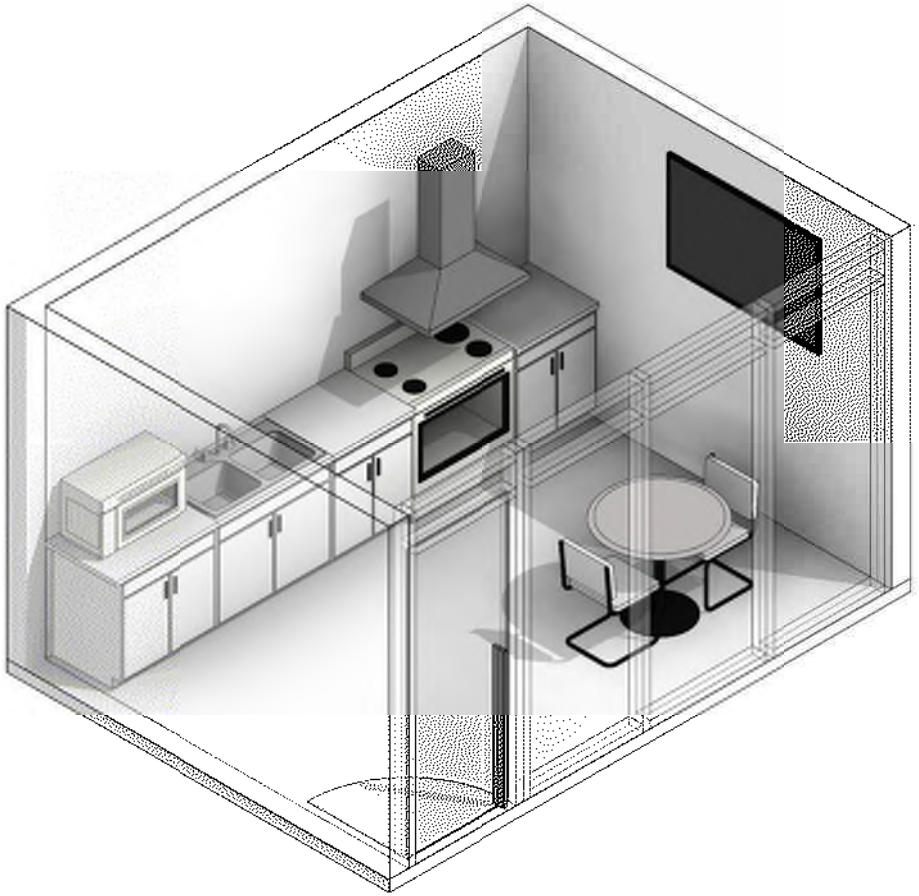
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: TBD
  SPECIAL SYSTEMS: TBD
  PLUMBING: Two compartment, stainless steel sink with disposal
- **ELECTRICAL**
  POWER: Special outlets for equipment
  PHONE/DATA: TBD
  AUDIO/VIDEO: TBD
  FIRE ALARM: Required
- **LIGHTING**
  FOOT CANDLES: 30
  FIXTURE TYPE: LED
  TASK LIGHTING: None required
  CONTROLS: Vacancy sensor with wall station override

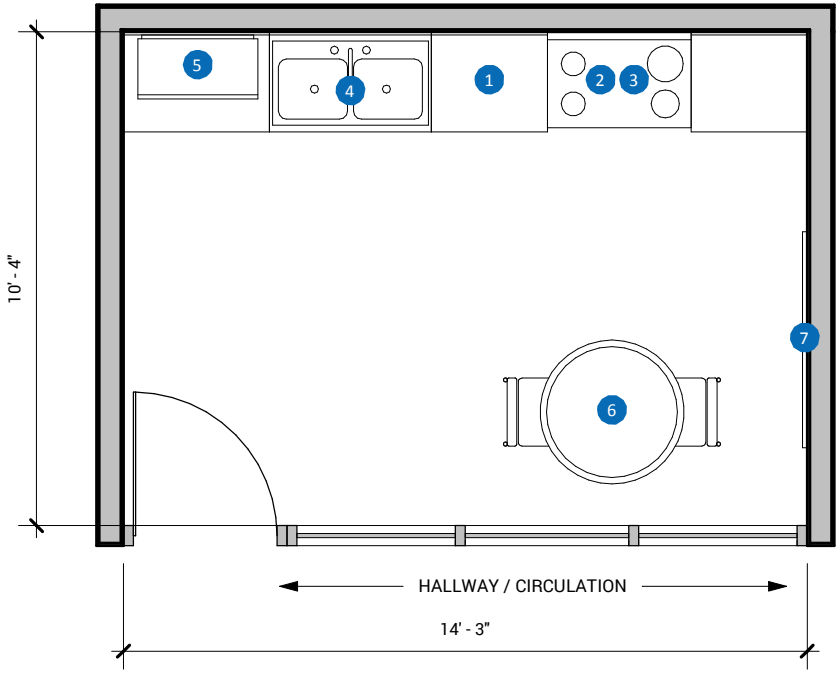
CASEWORK/FIXED EQUIPMENT (CFCI)

1 COUNTERTOP & STORAGE CABINETS
2 RESIDENTIAL GRADE CERAMIC TOP ELECTRIC RANGE & HOOD
3 RESIDENTIAL GRADE OVEN
4 DOUBLE SINK

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

5 MICROWAVE
6 TABLE & CHAIRS
7 WALL MOUNTED LCD TV W/ BACKING





COMMON KITCHEN | 350 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Resident kitchen
  - **TOTAL NUMBER:** (8), 2 per floor
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** To provide a kitchen/ cooking space for resident students
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** Multi-purpose room
  - **SEPARATION:** TBD
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel
- **PRIVACY/SECURITY:** Keyed (digital card or key) access

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** Hard surface
  - **WALLS:** Painted, impact-resistant gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** Quartz counter top, wood accent wall, laminate cabinets
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** TBD
  - **GLAZING:** TBD
  - **NATURAL LIGHT:** TBD
  - **FRAME:** TBD
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

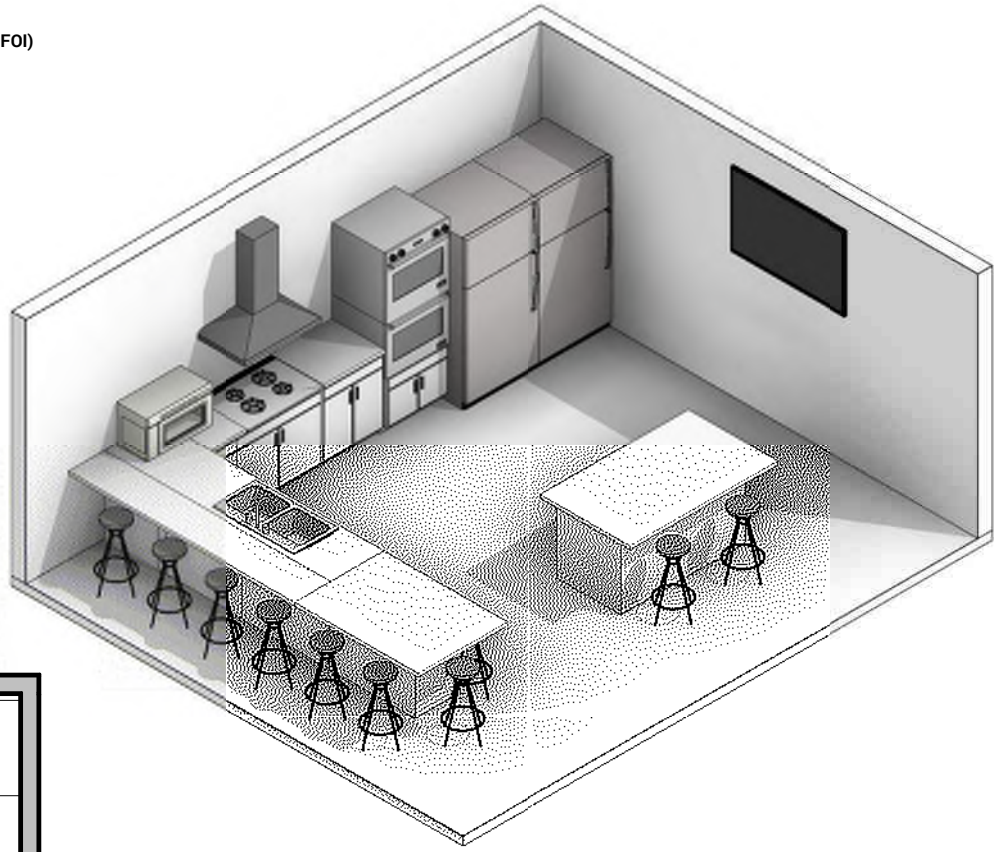
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** TBD
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** (1) two compartment, stainless steel sink with disposal, swing type goose neck kitchen faucet, water line to each fridge for ice maker, dishwasher supply/drain
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet per open wall and at fridge; duplex outlets above counters at 4'-0" o.c. on dedicated circuits; 220v outlet at oven; (1) duplex outlet per two stools at island/ peninsula, horizontally mounted on a vertical face (counter top design to include vertical extrusion)
  - **PHONE/DATA:** Wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** Required
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** Over island/peninsula
  - **CONTROLS:** Vacancy sensor with wall station override

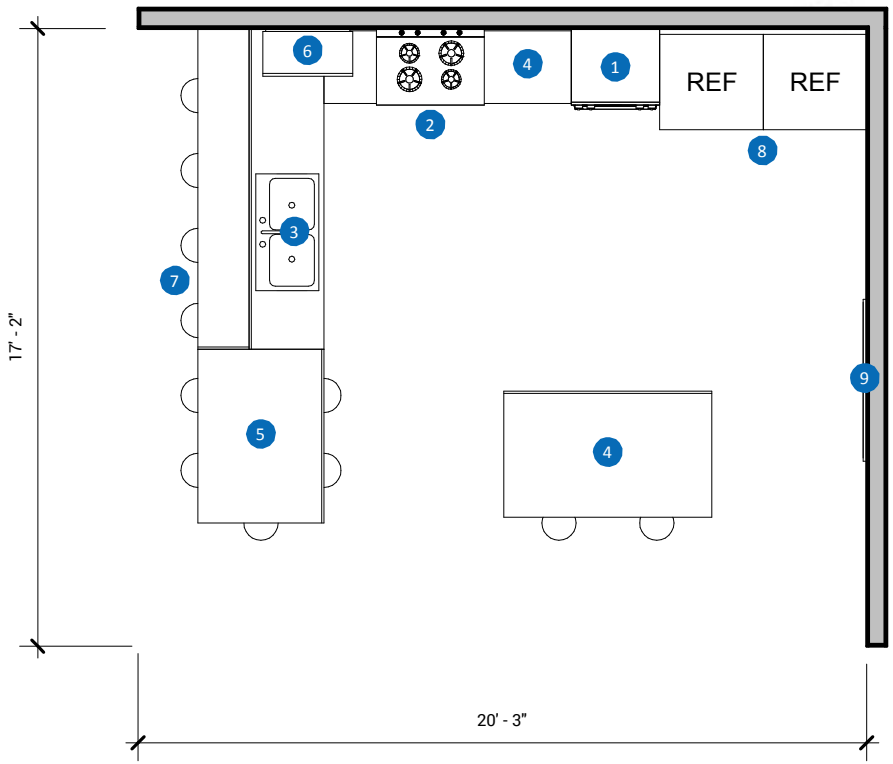
CASEWORK/FIXED EQUIPMENT (CFCI)

1 RESIDENTIAL GRADE DOUBLE OVEN
2 RESIDENTIAL GRADE CERAMIC TOP ELECTRIC RANGE & HOOD
3 DOUBLE SINK
4 COUNTERTOP & STORAGE CABINETS
5 COUNTER TOP

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

6 MICROWAVE
7 STOOLS
8 FULL SIZE FRIDGE & FREEZER
9 WALL MOUNTED LCD TV W/ BACKING





COMMON LOUNGE + LIVING ROOM | 300 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Public Amenities
  - **TOTAL NUMBER:** (12), 3 per floor
  - **OCCUPANTS:** Varies
  - **PRIMARY FUNCTION:** To provide lounge and community space
- **RELATIONSHIPS**
  - **LOCATION:** Dispersed throughout
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** TBD
- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

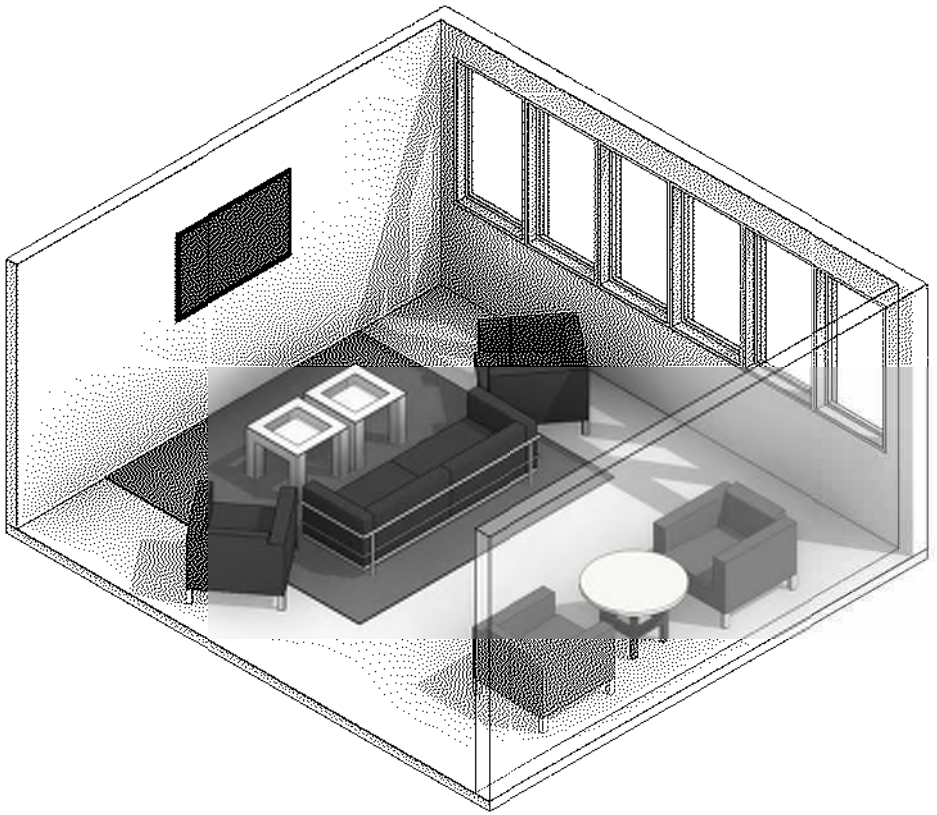
- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** Hard surface (polished concrete on main level)
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** TBD
  - **FRAME:** TBD
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Exterior: floor to ceiling storefront
  - **GLAZING:** Exterior: Insulated w/Low-E coating
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

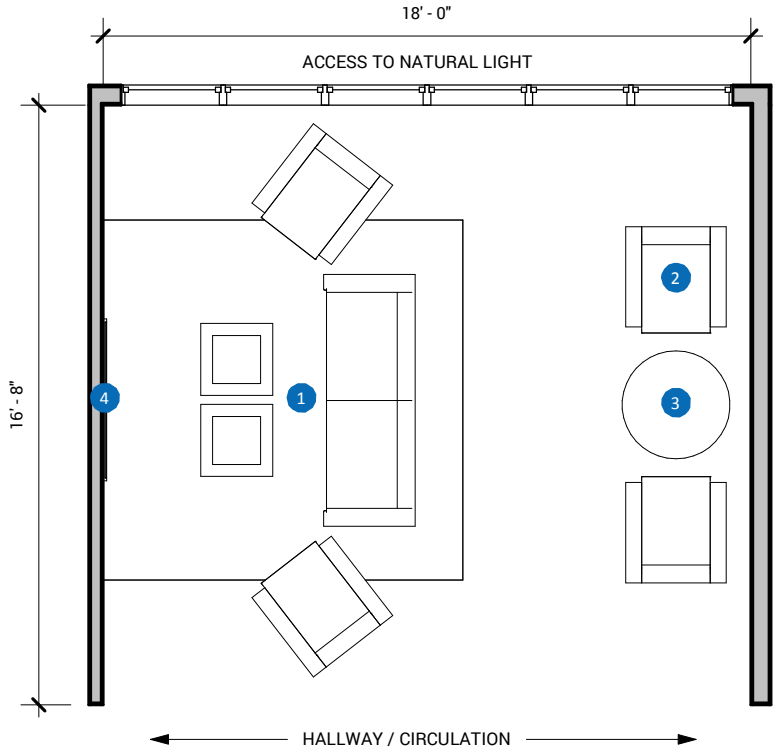
TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** Special outlets for equipment. Rechargeable jacks in outlets.
  - **PHONE/DATA:** Wifi coverage, jacks to TV
  - **AUDIO/VIDEO:** TV wiring and power, including campus cable TV
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 10-40, variable
  - **FIXTURE TYPE:** LED indirect and ceiling surface mounted, vacancy off sensor
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 LOUNGE CHAIRS, AREA RUG, SOFA, COFFEE TABLES
2 ARM CHAIR
3 COFFEE TABLE
4 WALL MOUNTED LCD TV W/ BACKING





MULTI-PURPOSE ROOM | 800 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	1
OCCUPANTS:	Varies, up to 50
PRIMARY FUNCTION:	To provide a large meeting room for education, professional, and social gatherings

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	Near prep kitchen
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes, point of interest with walls

- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 10'-0"

- **FINISHES**

FLOOR:	TBD
WALLS:	Painted gypsum board
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	TBD

- **WINDOWS**

TYPE:	Exterior: floor to ceiling storefront
GLAZING:	Exterior: Insulated w/Low-E coating
NATURAL LIGHT:	Required
FRAME:	Aluminum Storefront
SPECIAL:	TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	TBD
PLUMBING:	None required

- **ELECTRICAL**

POWER:	Duplex outlets at 12'-0" o.c. outlets for AV equipment. Rechargeable jack in outlets.
PHONE/DATA:	(1) network outlet each wall, (1) network outlet at ceiling, wireless
AUDIO/VIDEO:	Ceiling mounted projector, speakers, network for projector
FIRE ALARM:	Required

- **LIGHTING**

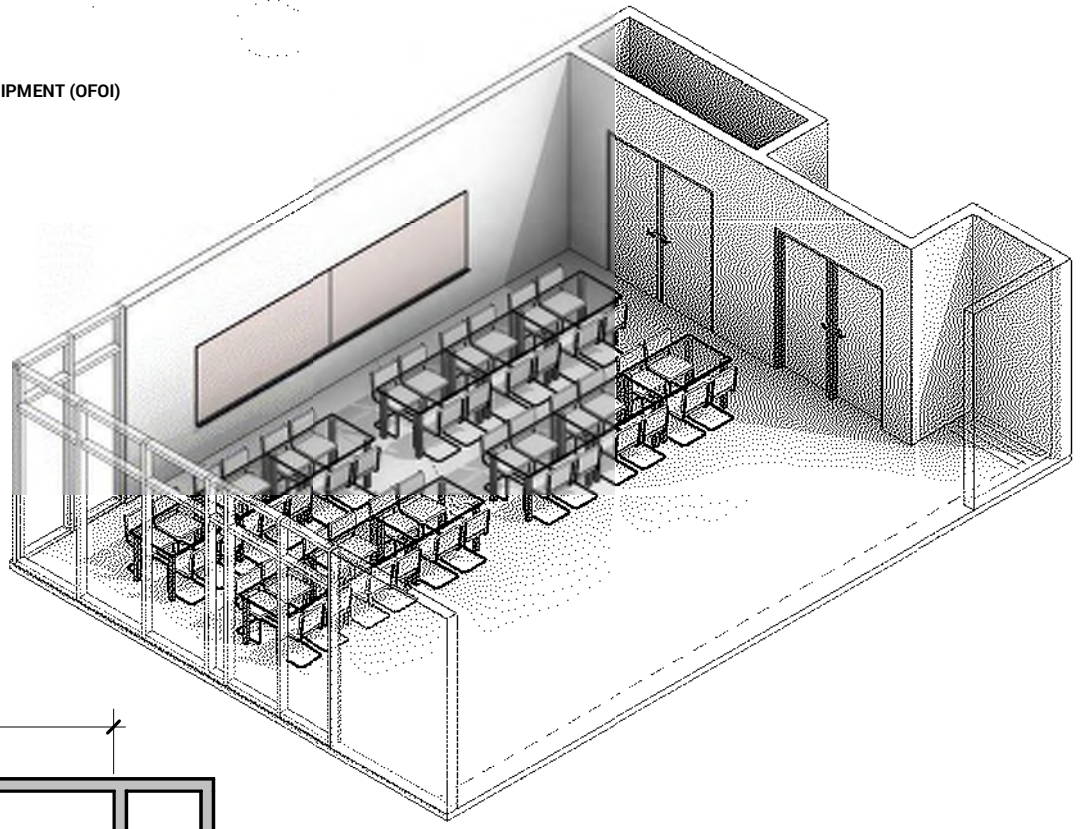
FOOT CANDLES:	10-40, variable
FIXTURE TYPE:	LED indirect and ceiling surface mounted, vacancy off switching
TASK LIGHTING:	None required
CONTROLS:	Vacancy sensor with wall station override, emergency exit lighting

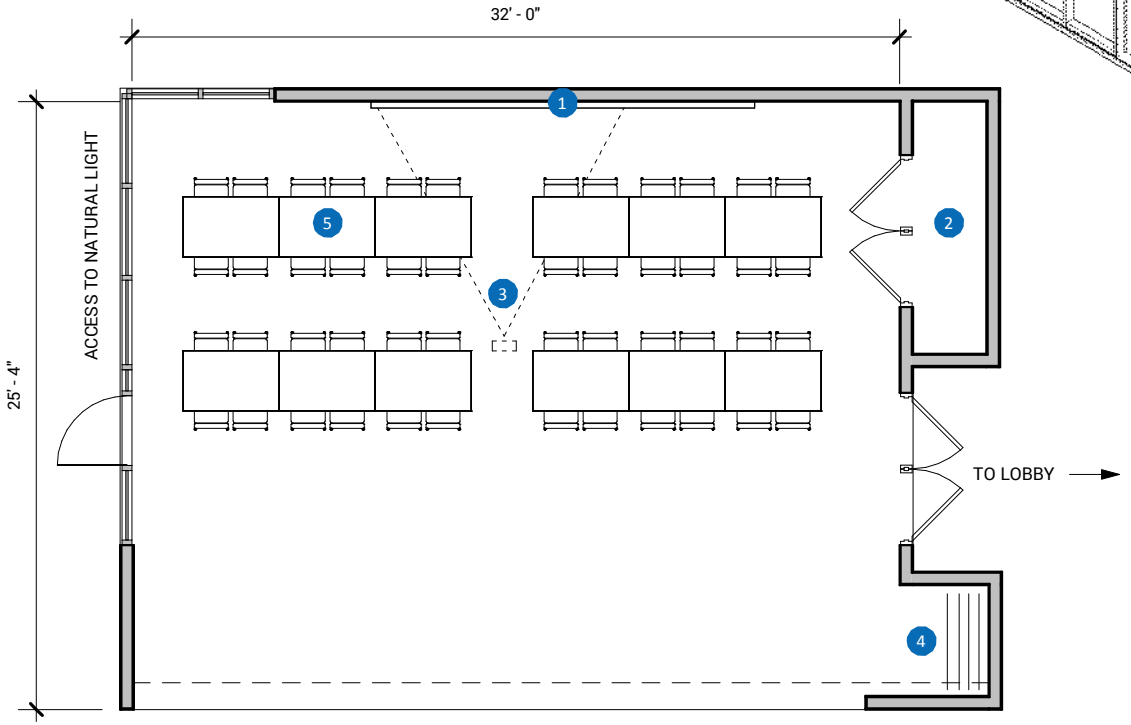
CASEWORK/FIXED EQUIPMENT (CFCI)

1 WHITE BOARD
2 TABLE & CHAIR STORAGE
3 CEILING MOUNTED PROJECTOR & SPEAKERS
4 OPTIONAL BI-FOLDING OPERABLE WALL

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

5 TABLE & CHAIRS





CRAFT SPACE | 250 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Public Amenities
  TOTAL NUMBER: 1
  OCCUPANTS: Varies
  PRIMARY FUNCTION: To provide a space for students to craft
- **RELATIONSHIPS**
  LOCATION: TBD
  ADJACENCIES: TBD.
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, natural light, large window to exterior views, glass wall/window to interior hallway
- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: TBD
  WALLS: Painted gypsum board
  CEILING: TBD
  SPECIALTY FINISHES: TBD
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Solid core wood with clear finish
  FRAME: Painted hollow metal
  SPECIAL: TBD
- **WINDOWS**
  TYPE: Exterior: floor to ceiling storefront; Interior: to provide visual access to community
  GLAZING: Exterior: Insulated w/Low-E coating; Interior: clear, tempered
  NATURAL LIGHT: Required
  FRAME: Aluminum Storefront
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

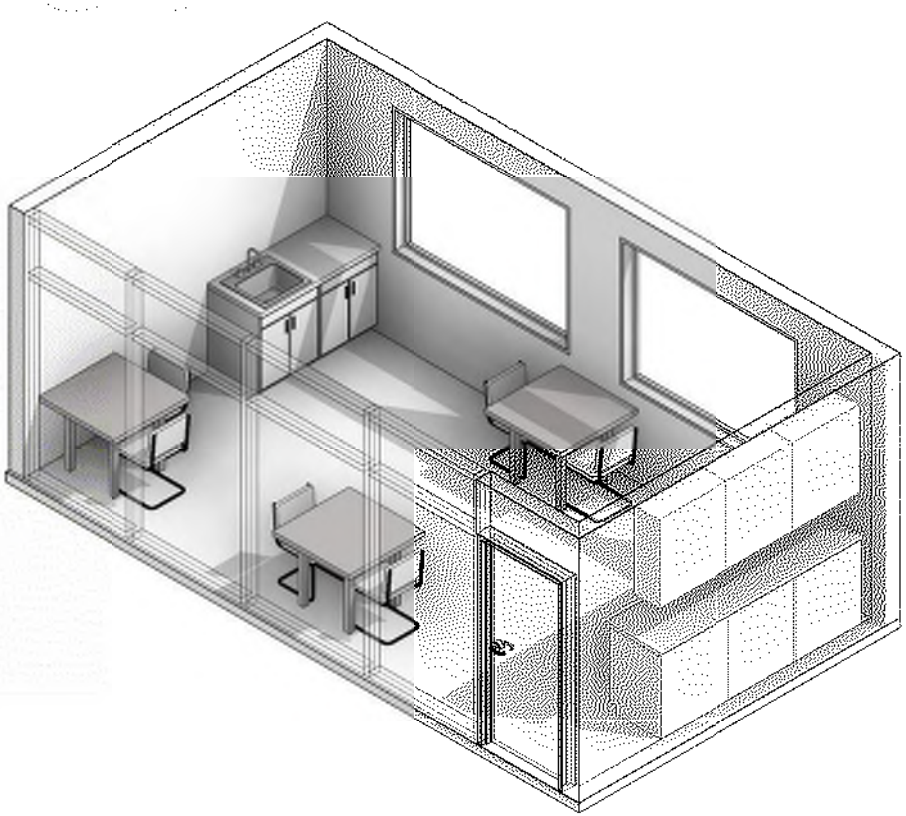
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: Temperature sensor
  SPECIAL SYSTEMS: TBD
  PLUMBING: Sink
- **ELECTRICAL**
  POWER: Every 4' at perimeter
  PHONE/DATA: Wireless access
  AUDIO/VIDEO: TBD
  FIRE ALARM: Required
- **LIGHTING**
  FOOT CANDLES: 40
  FIXTURE TYPE: LED surface mounted, vacancy off switch
  TASK LIGHTING: None required
  CONTROLS: Vacancy sensor with wall station override

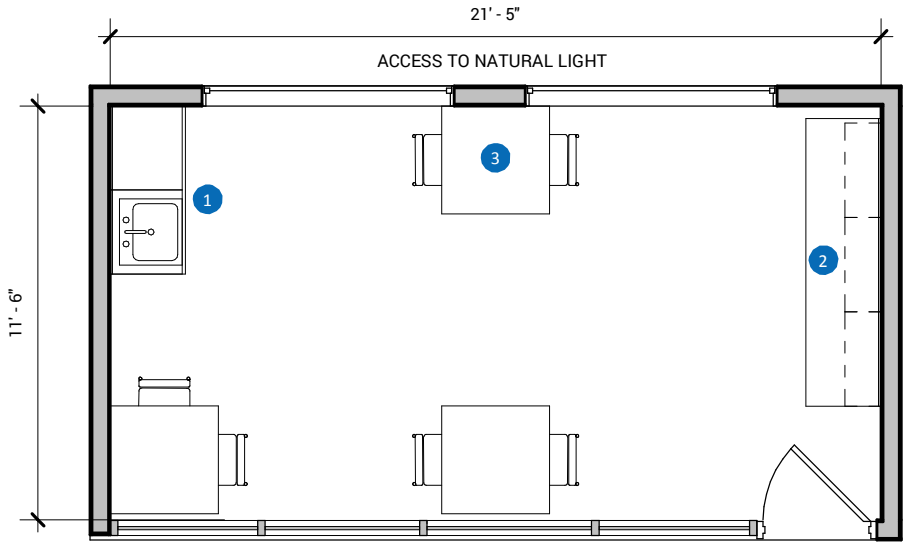
CASEWORK/FIXED EQUIPMENT (CFCI)

1 SINK & COUNTER
2 COUNTERTOP & STORAGE CABINETS

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

3 TABLE & CHAIRS





CLASSROOM | 300 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Public Amenities
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** Varies
  - **PRIMARY FUNCTION:** To provide a space for small classes and study sessions to be held
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD.
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, glass wall/window to interior hallway
- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Interior: to provide visual access to community
  - **GLAZING:** Interior: clear, tempered
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

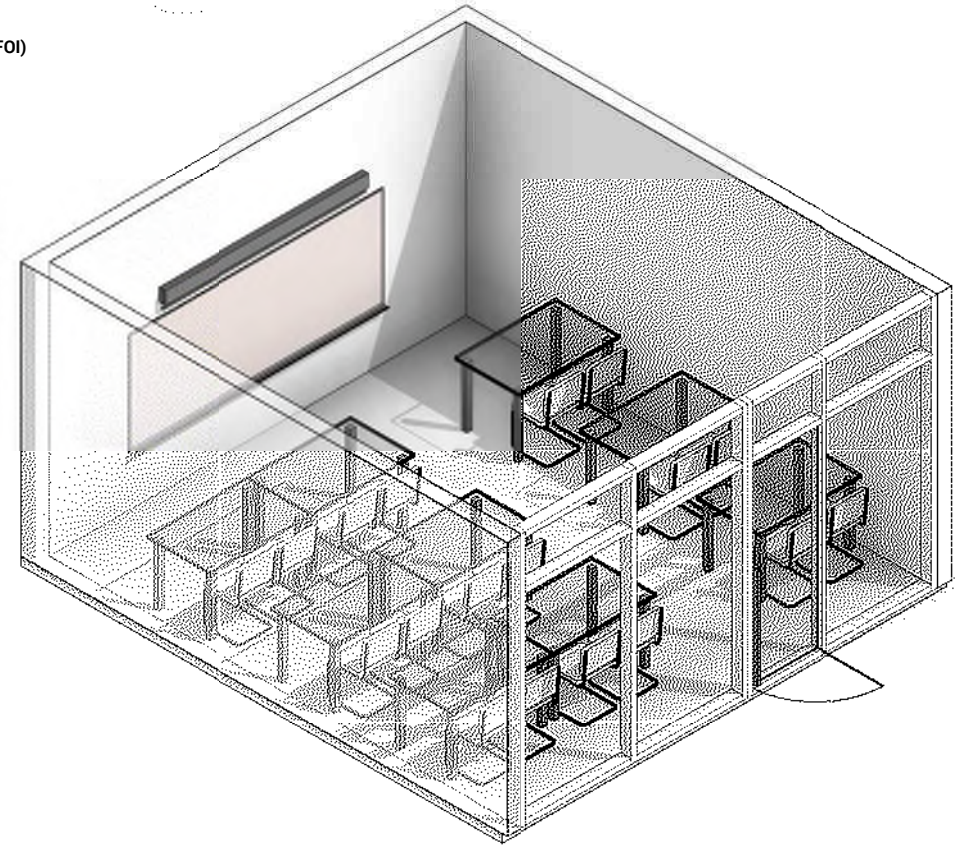
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet @ 12'-0" o.c. around perimeter outlets
  - **PHONE/DATA:** Wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** Required
- **LIGHTING**
  - **FOOT CANDLES:** 40
  - **FIXTURE TYPE:** LED surface mounted, vacancy off switch
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

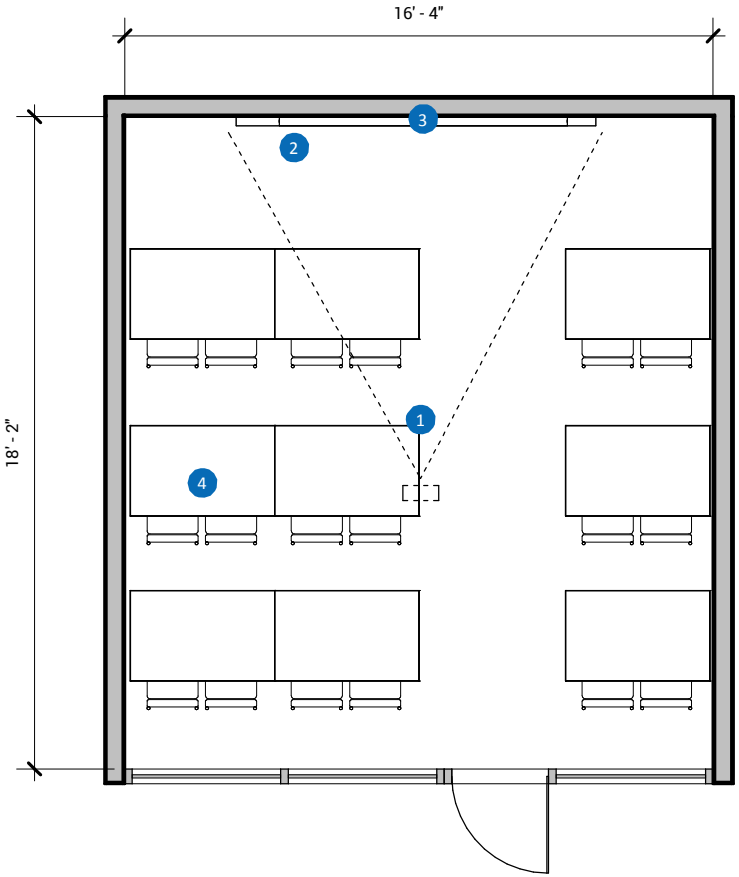
CASEWORK/FIXED EQUIPMENT (CFCI)

1 CEILING MOUNTED PROJECTOR & SPEAKERS
2 WHITE BOARD
3 PROJECTOR SCREEN

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

4 TABLE & CHAIRS





STUDY ROOM | 120 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Public Amenities
  - **TOTAL NUMBER:** (8), min 2 per floor
  - **OCCUPANTS:** Varies, 2-6
  - **PRIMARY FUNCTION:** To provide a private and quiet room for studying
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD.
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, glass wall/window to interior hallway
- **PRIVACY/SECURITY:** Security camera, lockable space, TBD

ARCHITECTURAL REQUIREMENTS

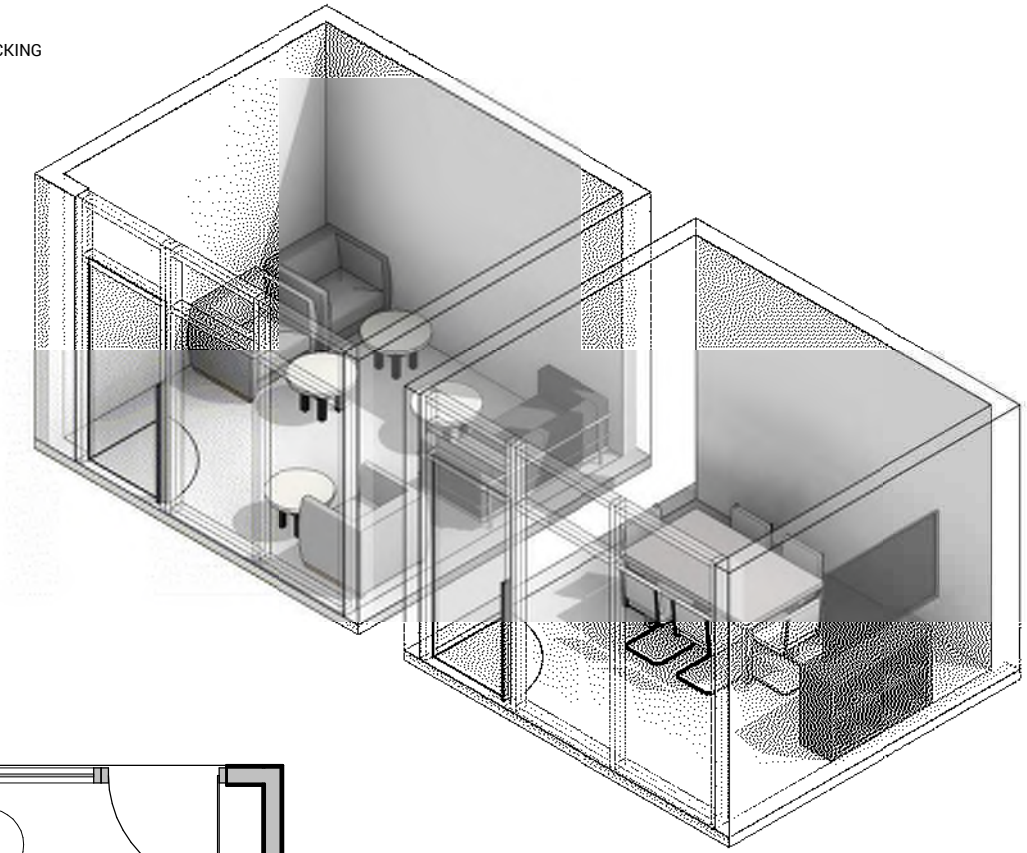
- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** Interior: to provide visual access to community
  - **GLAZING:** Interior: clear, tempered
  - **NATURAL LIGHT:** Required
  - **FRAME:** Aluminum Storefront
  - **SPECIAL:** TBD

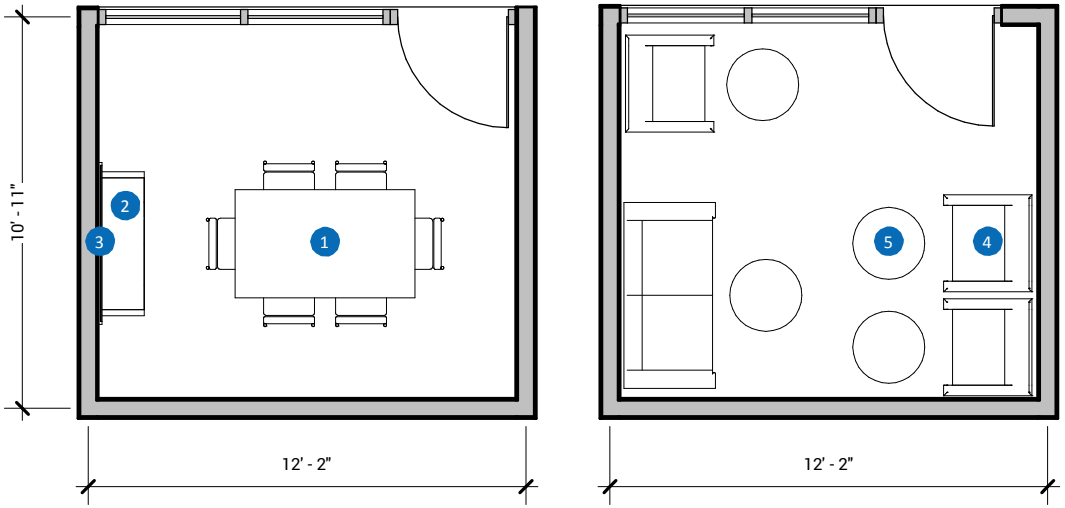
TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet @ 12'-0" o.c. around perimeter outlets
  - **PHONE/DATA:** Wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 40
  - **FIXTURE TYPE:** LED surface mounted, vacancy off switch
  - **TASK LIGHTING:** TBD
  - **CONTROLS:** Vacancy sensor with wall station override

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 TABLE & CHAIRS
2 MEDIA CENTER
3 WALL MOUNTED LCD TV W/ BACKING
4 ARM CHAIR
5 END TABLE





STORAGE | 400 SQ FT

SPACE REQUIREMENTS

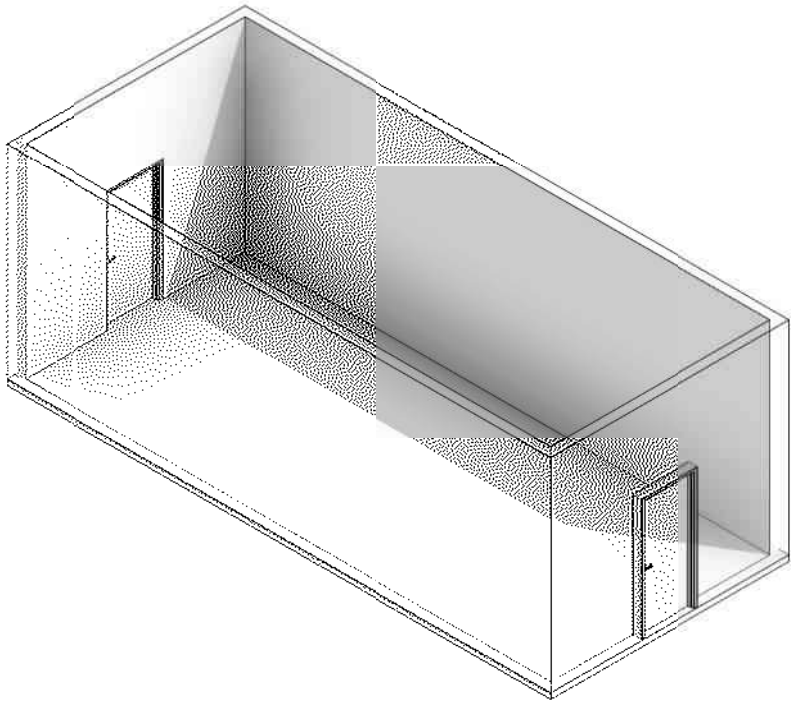
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Storage
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** TBD

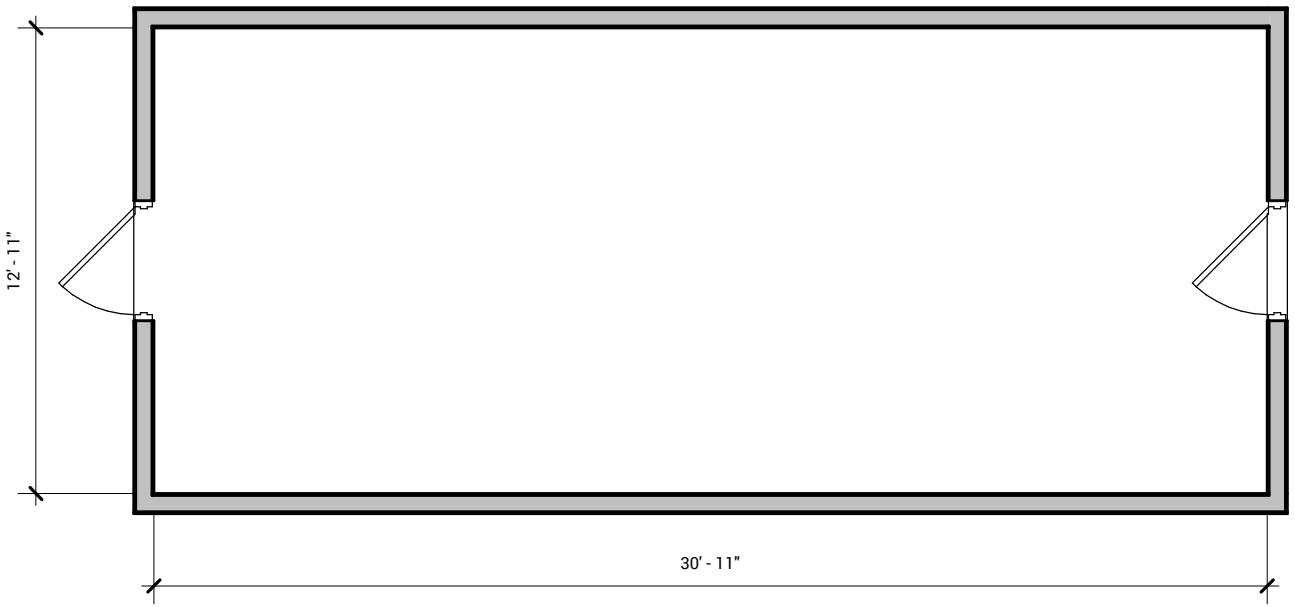
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** TBD
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet @ 12'-0" o.c. around perimeter
  - **PHONE/DATA:** Wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Relay control with wall station override




12' - 11"
30' - 11"

REST ROOM | 60 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Public Amenities
TOTAL NUMBER:	2
OCCUPANTS:	1
PRIMARY FUNCTION:	To provide toilet facilities

- **RELATIONSHIPS**

LOCATION:	TBD
ADJACENCIES:	TBD
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes

- **PRIVACY/SECURITY:** Provide privacy lock on bathroom door

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"

- **FINISHES**

FLOOR:	TBD
WALLS:	TBD
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	TBD

- **WINDOWS**

TYPE:	None required
GLAZING:	None required
NATURAL LIGHT:	None required
FRAME:	None required
SPECIAL:	None required

TECHNICAL REQUIREMENTS

- **MECHANICAL**

SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Zoned within suite
SPECIAL SYSTEMS:	TBD
PLUMBING:	(1) ADA toilet and (1) ADA sink

- **ELECTRICAL**

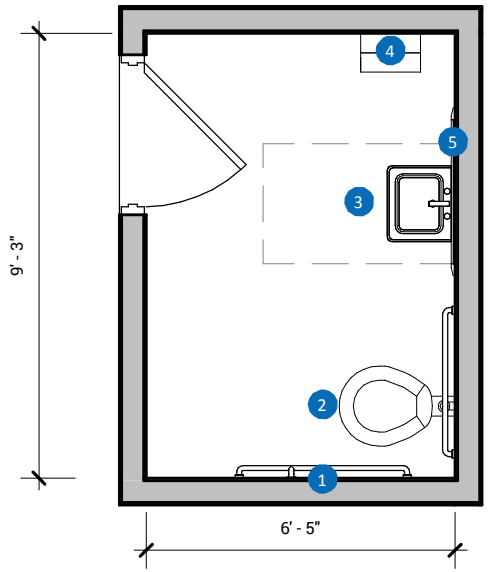
POWER:	(1) duplex outlet
PHONE/DATA:	None required
AUDIO/VIDEO:	TBD
FIRE ALARM:	TBD

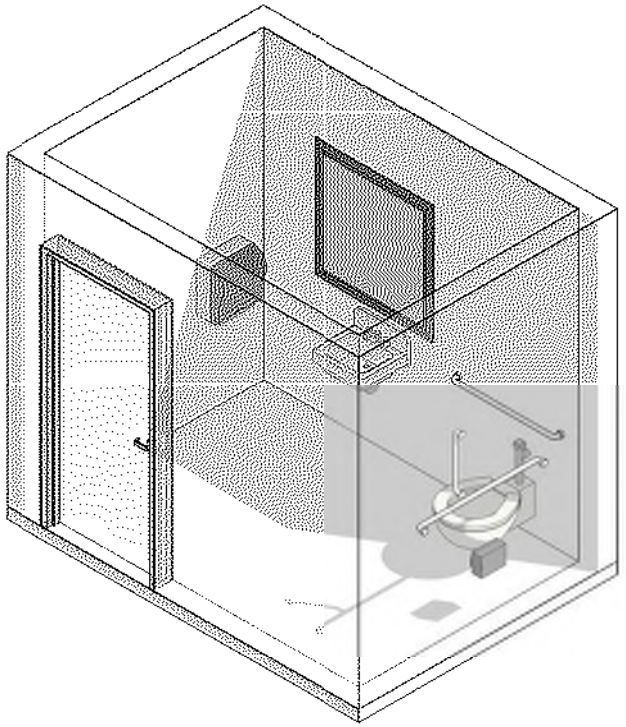
- **LIGHTING**

FOOT CANDLES:	40 ambient
FIXTURE TYPE:	(1) LED wall mount, (1) ceiling mount
TASK LIGHTING:	None required
CONTROLS:	Vacancy sensor with wall station override

CASEWORK/FIXED EQUIPMENT (CFCI)

1 TOILET PAPER HOLDER
2 PUBLIC ADA TOILET W/ GRAB BARS
3 ADA HAND SINK
4 PAPER TOWEL DISPENSER
5 MIRROR





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RECEPTION | 100 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Administration
  TOTAL NUMBER: 1
  OCCUPANTS: 2
  PRIMARY FUNCTION: To be the first point of contact to assist residents and building visitors as well as to perform office tasks
- **RELATIONSHIPS**
  LOCATION: First floor
  ADJACENCIES: Near entry, workroom, mailroom?
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, showcase LCCC
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: TBD
  WALLS: Painted gypsum board
  CEILING: TBD
  SPECIALTY FINISHES: TBD
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Solid core wood with clear finish
  FRAME: Painted hollow metal
  SPECIAL: TBD
- **WINDOWS**
  TYPE: Not required
  GLAZING: Not required
  NATURAL LIGHT: Not required
  FRAME: Not required
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

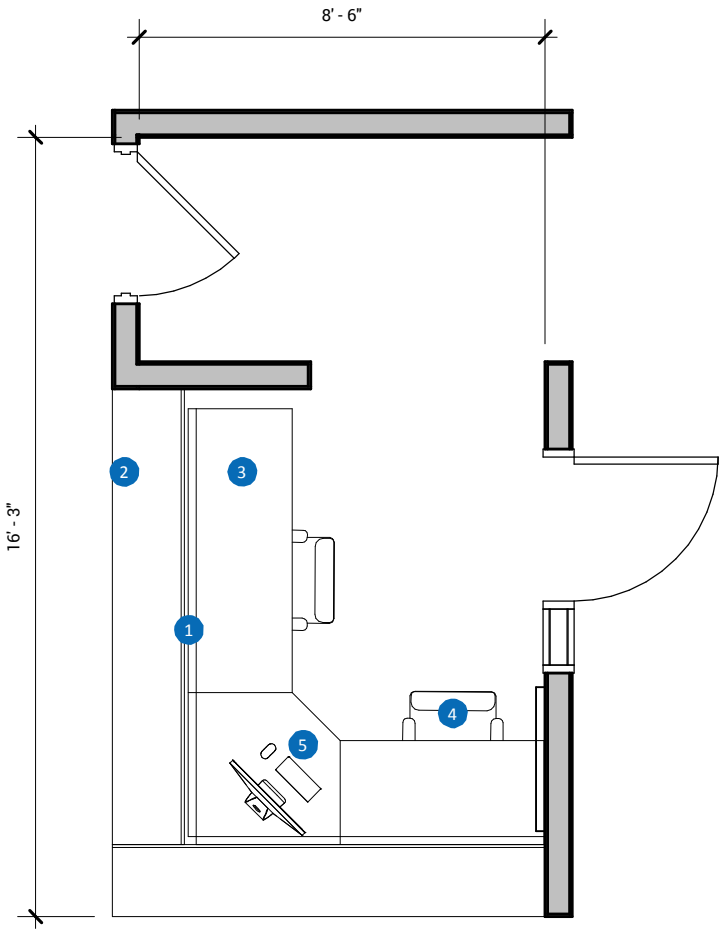
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: Temperature sensor
  SPECIAL SYSTEMS: TBD
  PLUMBING: None Required
- **ELECTRICAL**
  POWER: Duplex outlets at 12'-0" o.c., above counter duplex outlets near equip. locations (2) for each workstation
  PHONE/DATA: Wireless access
  AUDIO/VIDEO: TBD
  FIRE ALARM: TBD
- **LIGHTING**
  FOOT CANDLES: 40
  FIXTURE TYPE: LED surface mounted, vacancy off switch
  TASK LIGHTING: At desks
  CONTROLS: Vacancy sensor with wall station override

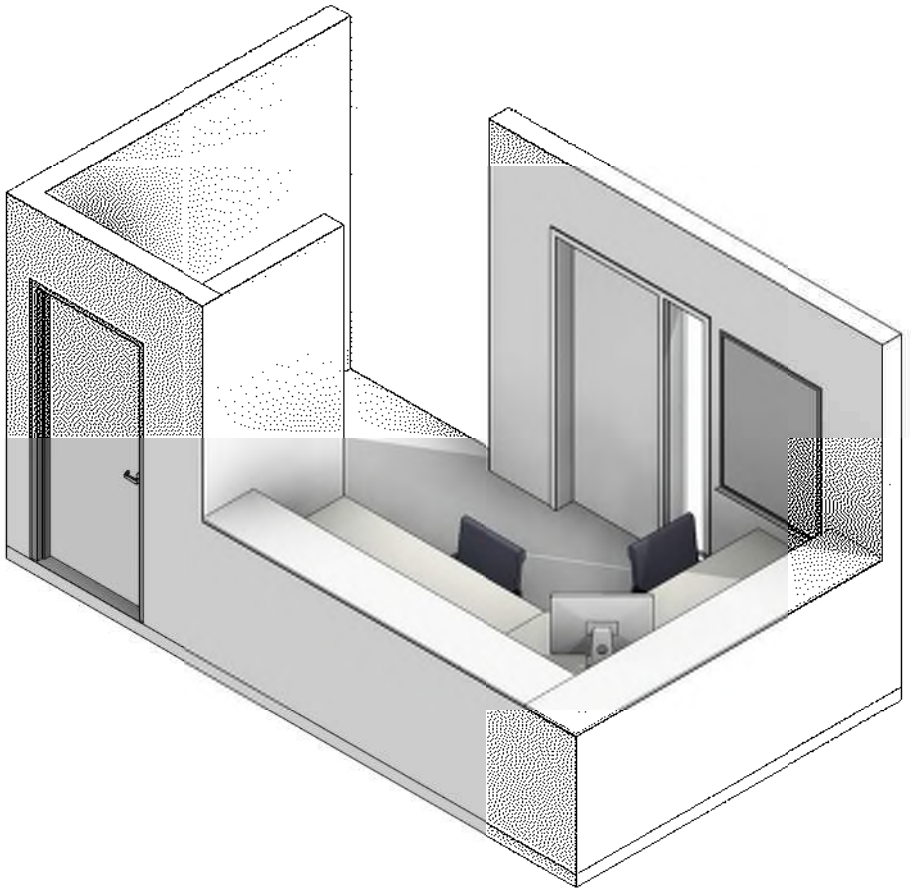
CASEWORK/FIXED EQUIPMENT (CFCI)

1 HIGH & LOW COUNTER
2 OVERHEAD SOLID SECURITY GATE

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

3 UNDER-COUNTER PRINTER
4 CHAIRS
5 COMPUTER





STAFF OFFICE | 100 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Administration
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1-3
  - **PRIMARY FUNCTION:** To provide office space for the staff to perform admin responsibilities
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** Receptionist
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, showcase LCCC
- **PRIVACY/SECURITY:** Card / key access

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** w/ sidelight window
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

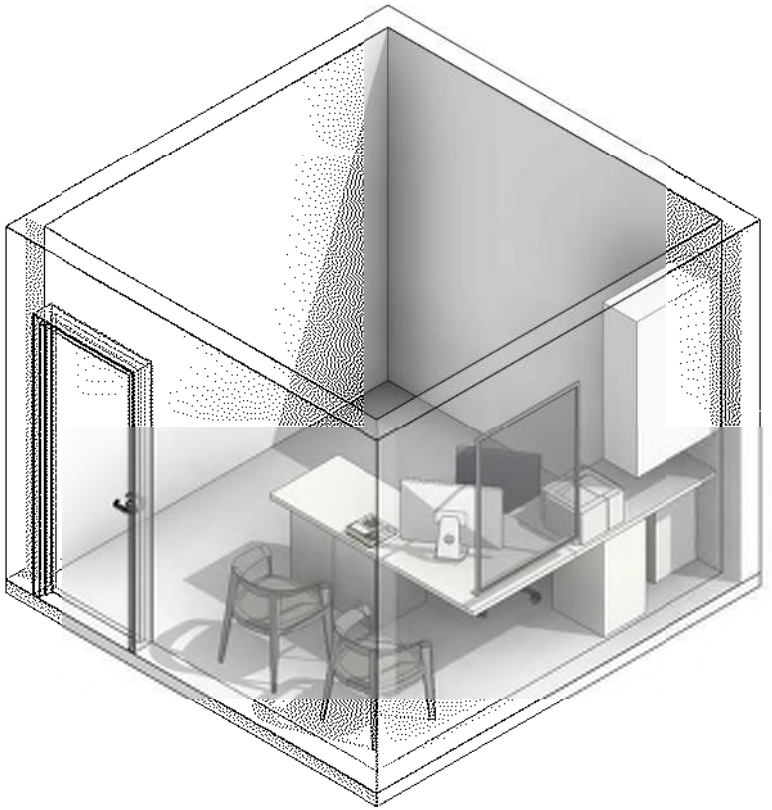
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** Duplex outlets at 12'-0" o.c., rechargeable jacks in one outlet
  - **PHONE/DATA:** (1) telephone jack, (1) network outlet, wireless access
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED surface mounted, vacancy off switch
  - **TASK LIGHTING:** At desks
  - **CONTROLS:** Vacancy sensor with wall station override

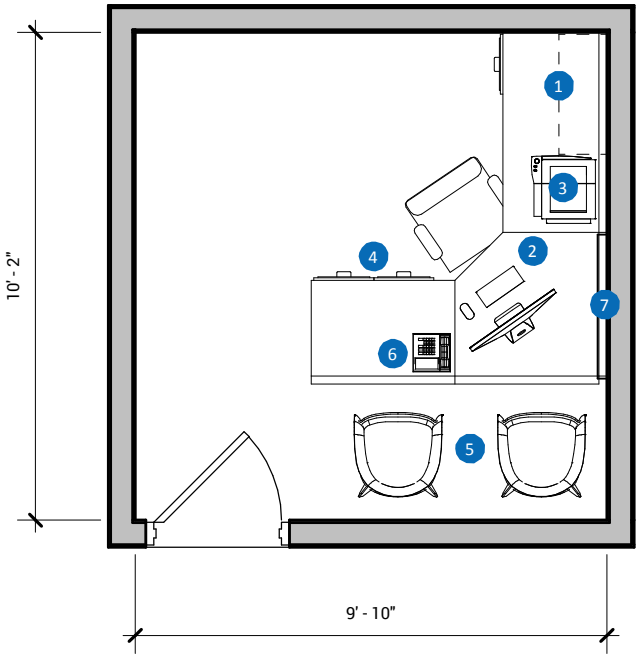
CASEWORK/FIXED EQUIPMENT (CFCI)

1 CABINET/SHELVING

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 COMPUTER DESK
3 PRINT STATION
4 FILE CABINET
5 CHAIRS
6 PHONE
7 BULLETIN BOARD





CAMPUS SAFETY OFFICE | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Administration
  TOTAL NUMBER: 1
  OCCUPANTS: 1-3
  PRIMARY FUNCTION: To provide office space for the staff to perform admin responsibilities
- **RELATIONSHIPS**
  LOCATION: TBD
  ADJACENCIES: Receptionist
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes, inviting feel, showcase LCCC
- **PRIVACY/SECURITY:** Card / key access

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: TBD
  WALLS: Painted gypsum board
  CEILING: TBD
  SPECIALTY FINISHES: TBD
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Solid core wood with clear finish
  FRAME: Painted hollow metal
  SPECIAL: w/ sidelight window
- **WINDOWS**
  TYPE: Not required
  GLAZING: Not required
  NATURAL LIGHT: Not required
  FRAME: Not required
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

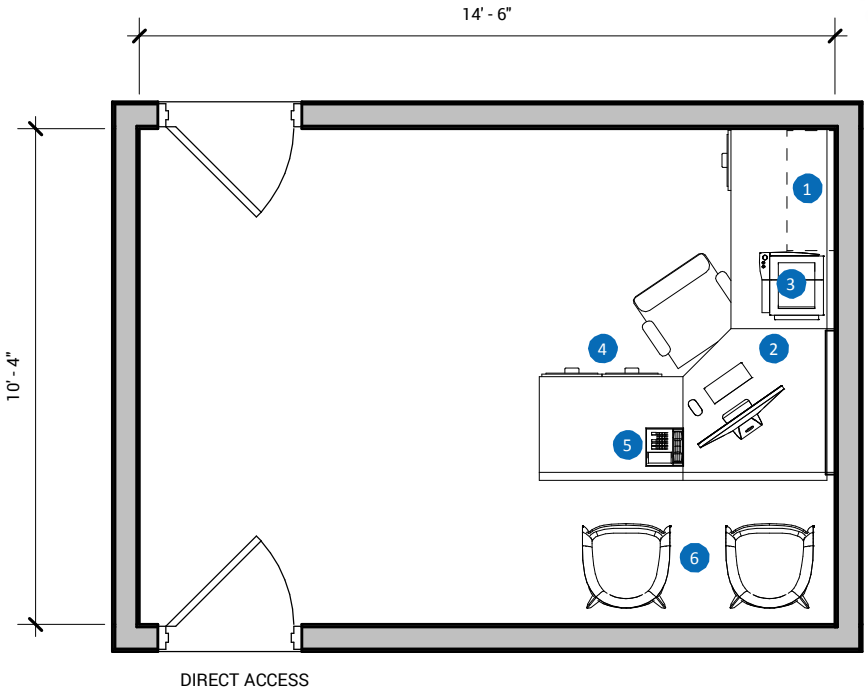
- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: Temperature sensor
  SPECIAL SYSTEMS: TBD
  PLUMBING: None Required
- **ELECTRICAL**
  POWER: Duplex outlets at 12'-0" o.c., rechargeable jacks in one outlet
  PHONE/DATA: (1) telephone jack, (1) network outlet, wireless access
  AUDIO/VIDEO: TBD
  FIRE ALARM: TBD
- **LIGHTING**
  FOOT CANDLES: 30
  FIXTURE TYPE: LED surface mounted, vacancy off switch
  TASK LIGHTING: At desks
  CONTROLS: Vacancy sensor with wall station override

CASEWORK/FIXED EQUIPMENT (CFCI)

1 CABINET/SHELVING

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 COMPUTER DESK
3 PRINT STATION
4 FILE CABINET
5 PHONE
6 CHAIRS



ADMIN STORAGE | 200 SQ FT

SPACE REQUIREMENTS

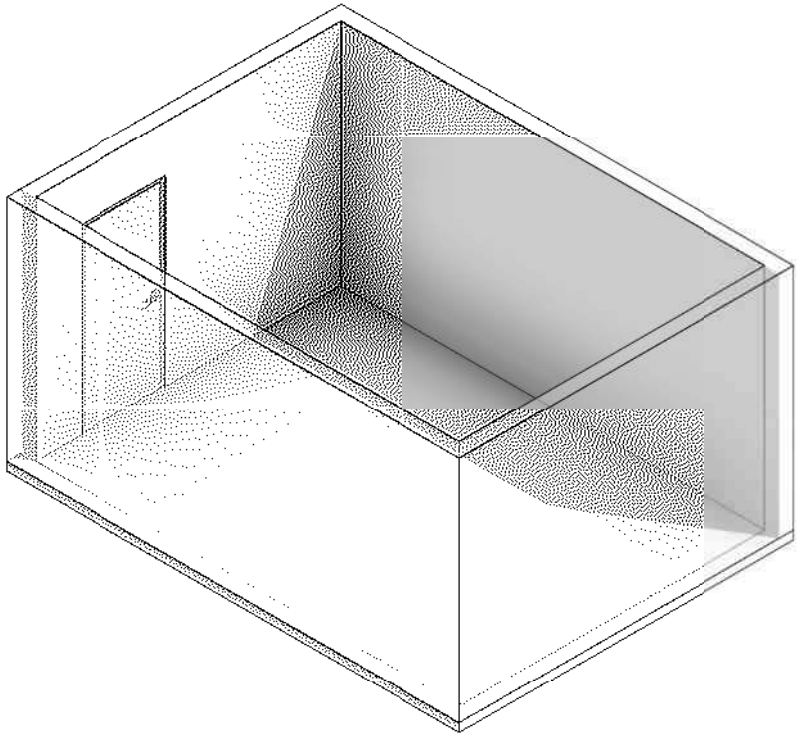
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Administrative storage
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Storage
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** TBD

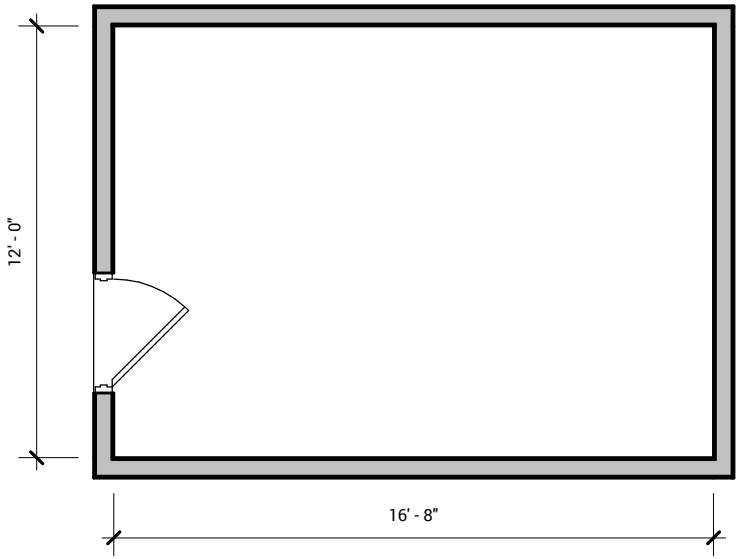
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** TBD
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet @ 12'-0" o.c. around perimeter
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override




12' - 0"
16' - 8"

05

MAILROOM | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  TYPE OF SPACE: Administration
  TOTAL NUMBER: 1
  OCCUPANTS: 1-3
  PRIMARY FUNCTION: To sort and process mail. Provide an area to work on bulk paperwork. Allow some area for storage.
- **RELATIONSHIPS**
  LOCATION: First floor
  ADJACENCIES: Near entry, reception counter
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

ARCHITECTURAL REQUIREMENTS

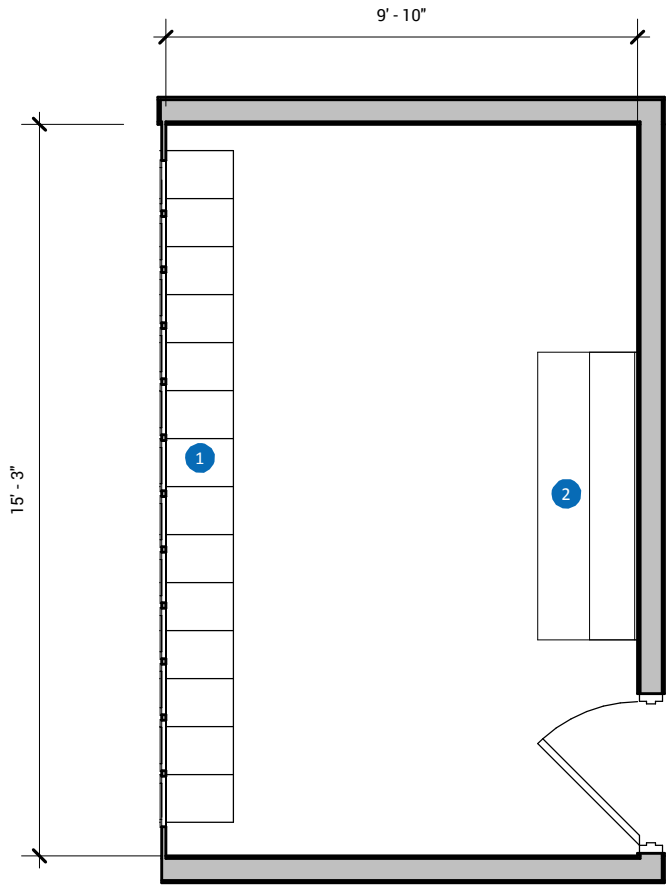
- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: TBD
  WALLS: Painted gypsum board
  CEILING: TBD
  SPECIALTY FINISHES: TBD
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Solid core wood with clear finish
  FRAME: Painted hollow metal
  SPECIAL: TBD
- **WINDOWS**
  TYPE: Not required
  GLAZING: Not required
  NATURAL LIGHT: Not required
  FRAME: Not required
  SPECIAL: TBD

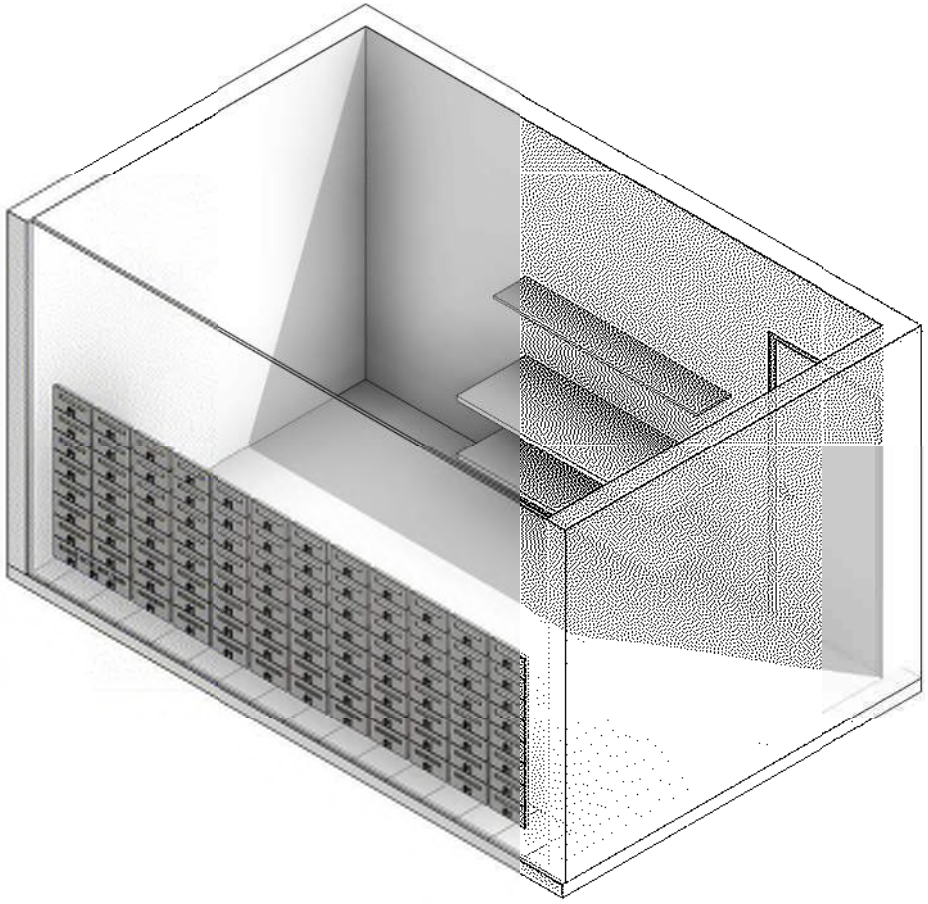
TECHNICAL REQUIREMENTS

- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: Temperature sensor
  SPECIAL SYSTEMS: TBD
  PLUMBING: None Required
- **ELECTRICAL**
  POWER: Duplex outlets at 12'-0" o.c., rechargeable jacks in one outlet
  PHONE/DATA: (1) telephone jack, (1) network outlet, wireless access
  AUDIO/VIDEO: TBD
  FIRE ALARM: TBD
- **LIGHTING**
  FOOT CANDLES: 40
  FIXTURE TYPE: LED surface mounted, vacancy off switch
  TASK LIGHTING: TBD
  CONTROLS: Vacancy sensor with wall station override

CASEWORK/FIXED EQUIPMENT (CFCI)

1 BUILT-IN MAILBOXES
2 COUNTER & SHELVES





ELECTRICAL COMMUNICATION SUPPORT ROOM | 150 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 8
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Electrical equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

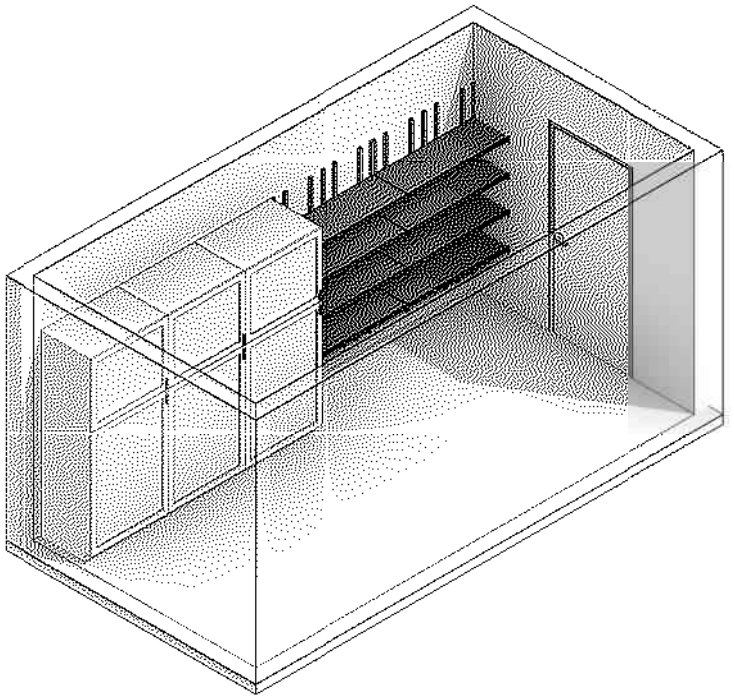
- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override

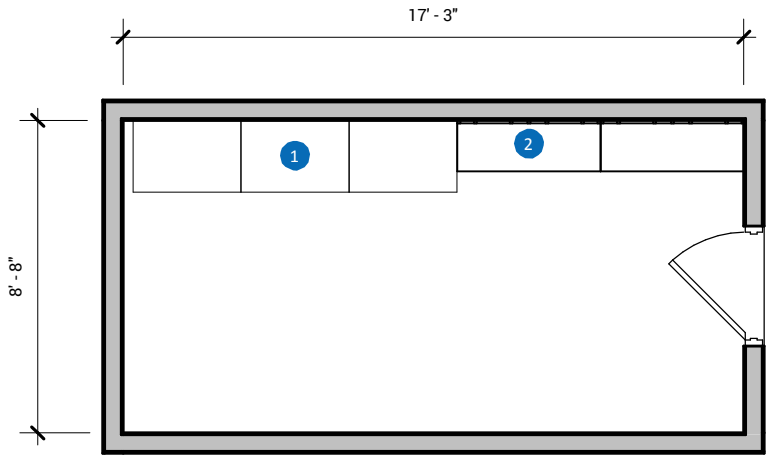
CASEWORK/FIXED EQUIPMENT (CFCI)

1 I.T. CABINETS

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

2 WALL MOUNTED ADJUSTABLE SHELVING





MECHANICAL SUPPORT ROOM | 350 SQ FT

SPACE REQUIREMENTS

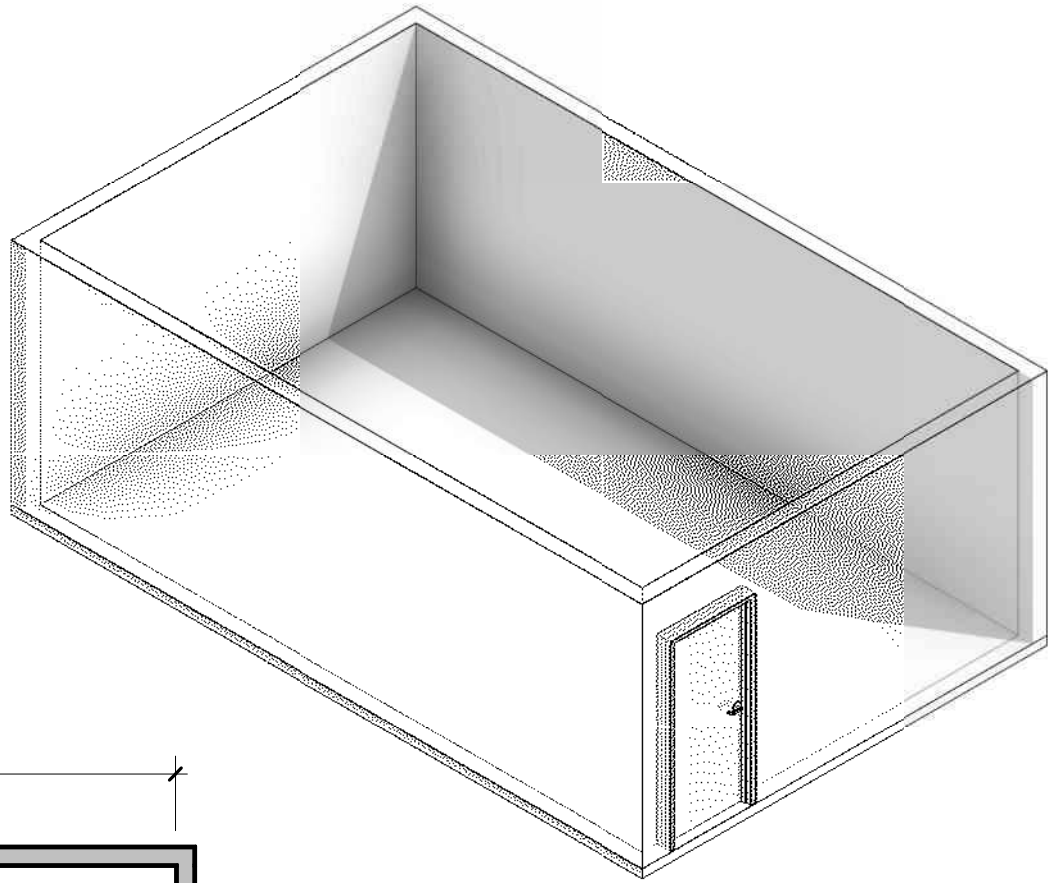
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 4
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Mechanical equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

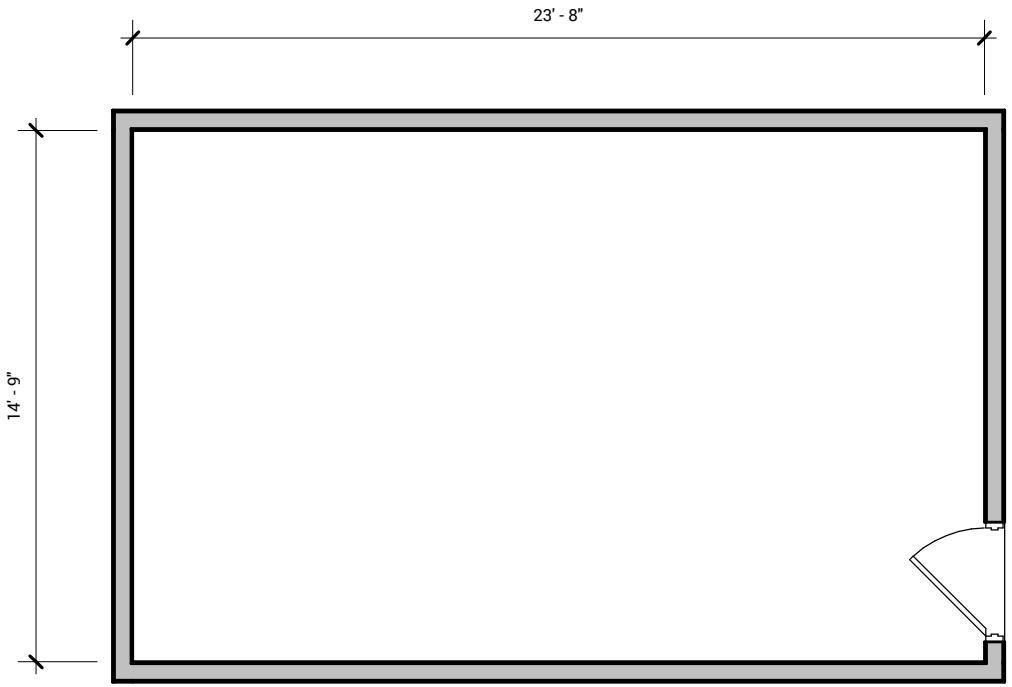
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override




23' - 8"
14' - 9"

CUSTODIAL STORAGE | 100 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 4
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Storage
- **RELATIONSHIPS**
  - **LOCATION:** TBD
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

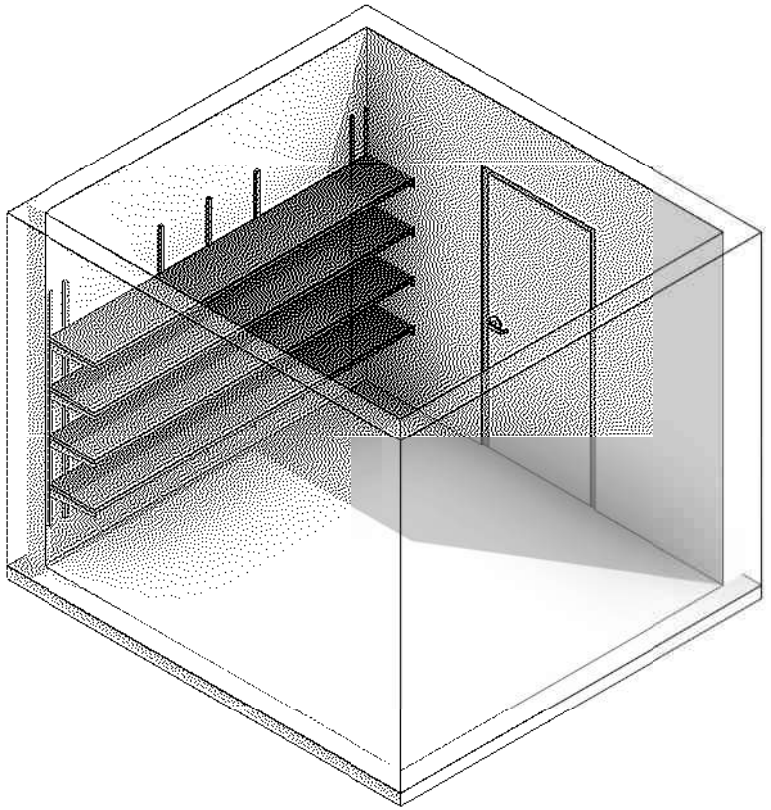
- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** TBD
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** TBD
- **WINDOWS**
  - **TYPE:** None required
  - **GLAZING:** None required
  - **NATURAL LIGHT:** None required
  - **FRAME:** None required
  - **SPECIAL:** None required

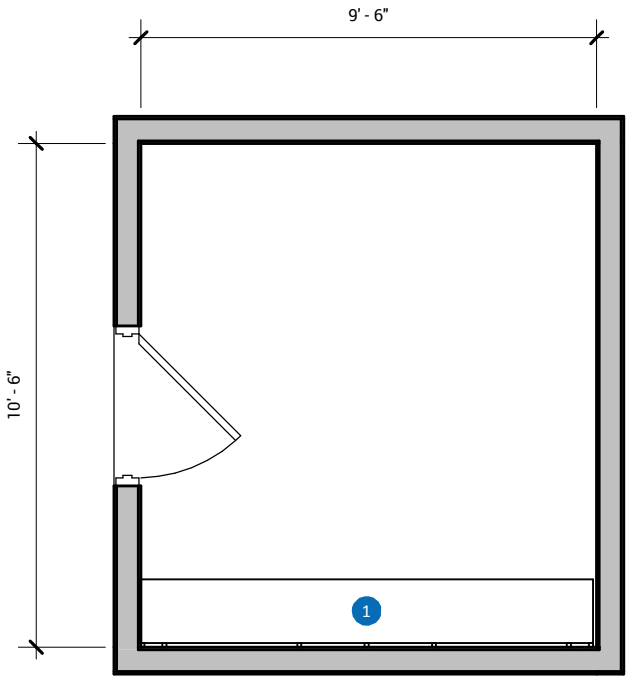
TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** TBD
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None required
- **ELECTRICAL**
  - **POWER:** (1) duplex outlet @ 12'-0" o.c. around perimeter
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED
  - **TASK LIGHTING:** None required
  - **CONTROLS:** Vacancy sensor with wall station override

MOVEABLE FURNISHINGS + EQUIPMENT (OFOI)

1 WALL MOUNTED ADJUSTABLE SHELVING





CUSTODIAL OFFICE | 80 SQ FT

SPACE REQUIREMENTS

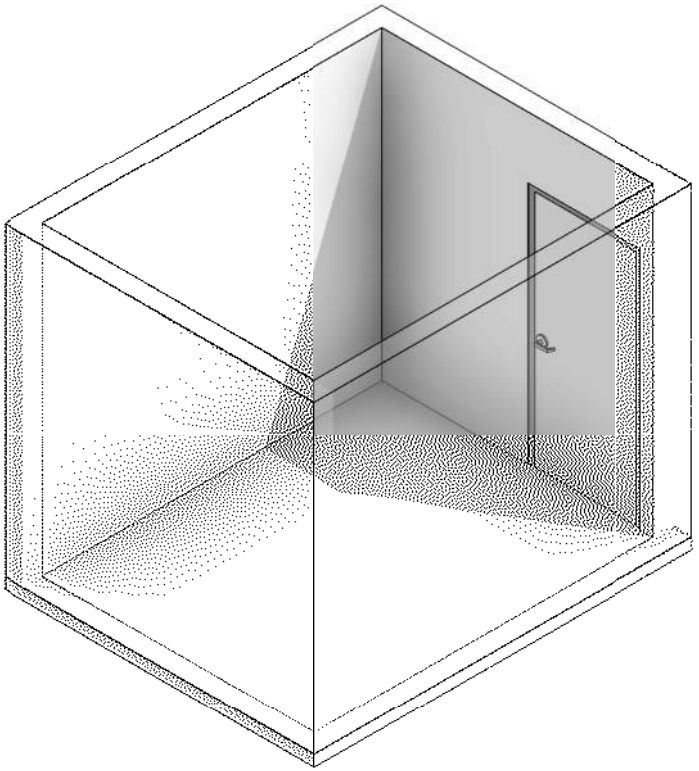
- **SPACE SUMMARY**
  TYPE OF SPACE: Storage + Maintenance
  TOTAL NUMBER: 1
  OCCUPANTS: 1-2
  PRIMARY FUNCTION: To provide office space for the custodial department to perform custodial responsibilities
- **RELATIONSHIPS**
  LOCATION: TBD
  ADJACENCIES: TBD
  SEPARATION: None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

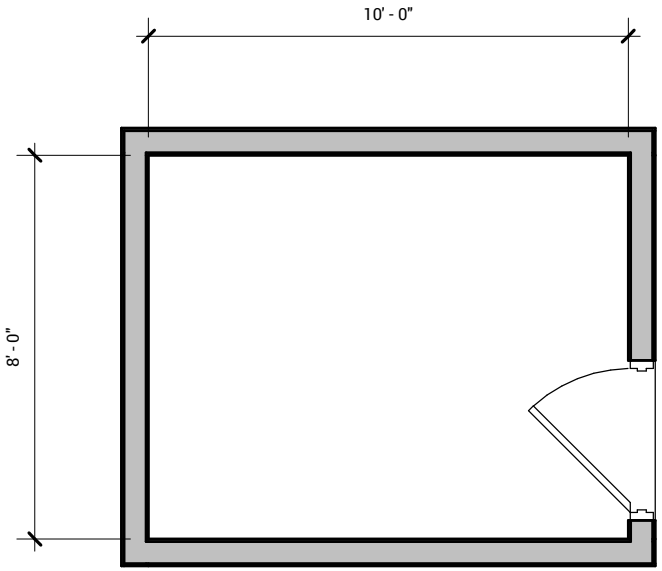
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** 9'-0"
- **FINISHES**
  FLOOR: TBD
  WALLS: TBD
  CEILING: TBD
  SPECIALTY FINISHES: TBD
  ACOUSTICAL / SOUND: TBD
- **DOORS**
  TYPE: Solid core wood with clear finish
  FRAME: Painted hollow metal
  SPECIAL: w/ sidelight window
- **WINDOWS**
  TYPE: Not required
  GLAZING: Not required
  NATURAL LIGHT: Not required
  FRAME: Not required
  SPECIAL: TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  SUMMER TEMP: 74 ° F
  WINTER TEMP: 72 ° F
  VENTILATION: Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  CONTROLS: Temperature sensor
  SPECIAL SYSTEMS: TBD
  PLUMBING: None Required
- **ELECTRICAL**
  POWER: Duplex outlets at 12'-0" o.c., rechargeable jacks in one outlet
  PHONE/DATA: (1) telephone jack, (1) network outlet, wireless access
  AUDIO/VIDEO: TBD
  FIRE ALARM: Required
- **LIGHTING**
  FOOT CANDLES: 30
  FIXTURE TYPE: LED surface mounted, vacancy off switch
  TASK LIGHTING: TBD
  CONTROLS: Vacancy sensor with wall station override




10' - 0"
8' - 0"

MAIN ELECTRICAL ROOM | 3000 SQ FT

SPACE REQUIREMENTS

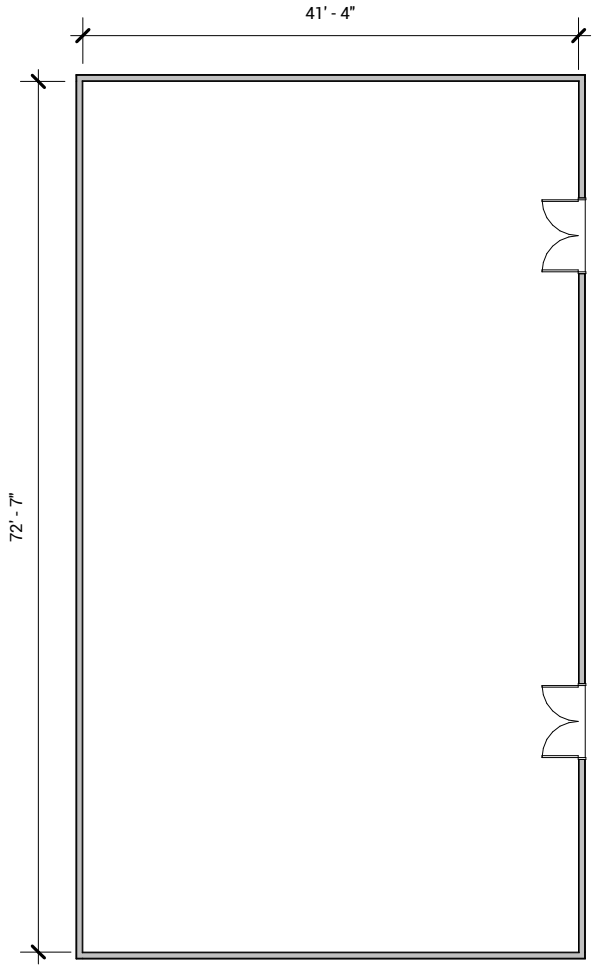
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Electrical equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

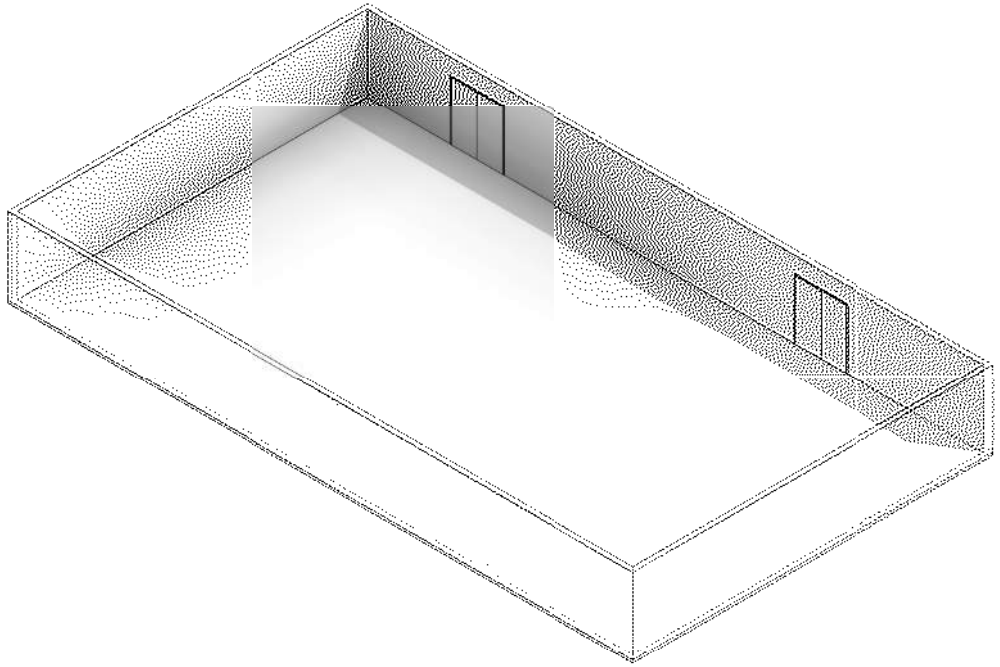
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override


41' - 4"
72' - 7"



MAIN MECHANICAL ROOM | 4000 SQ FT

SPACE REQUIREMENTS

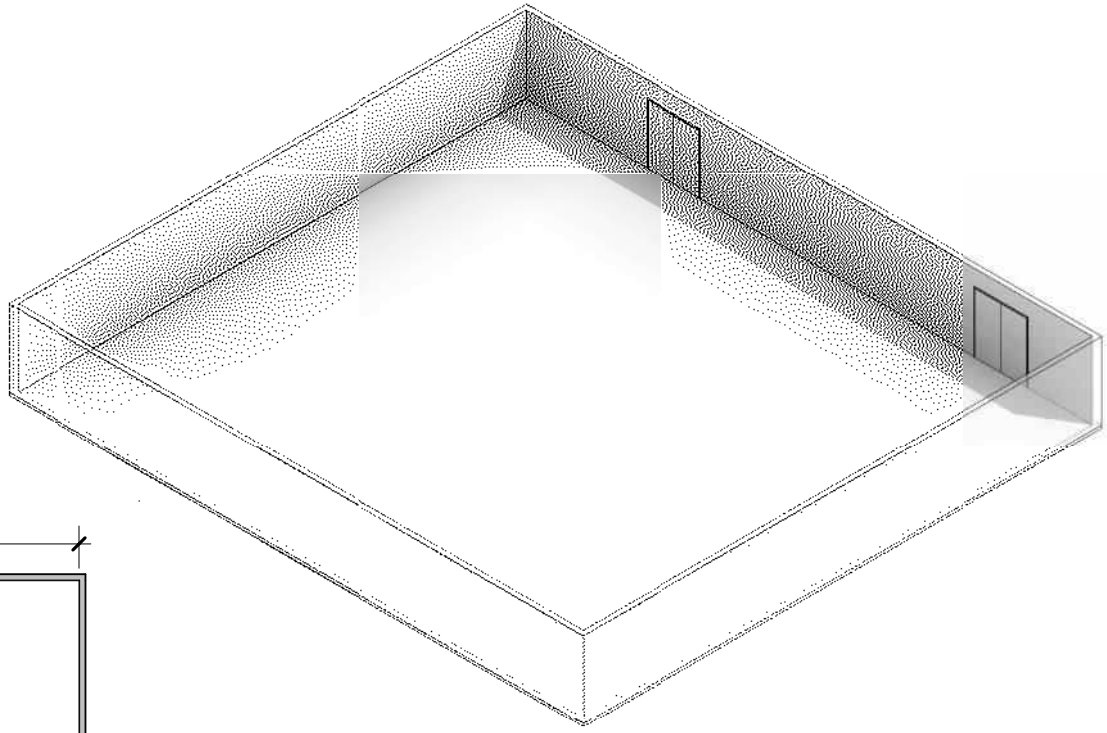
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** N/A
  - **PRIMARY FUNCTION:** Mechanical equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

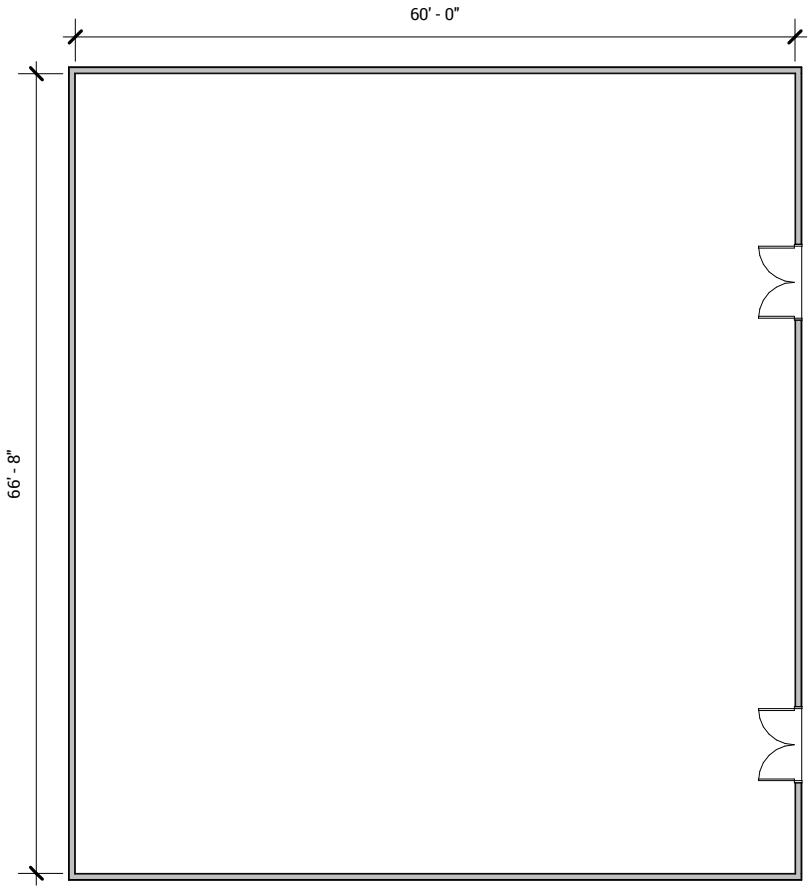
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** TBD

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override




60' - 0"
66' - 8"

ELEVATOR EQUIPMENT ROOM | 250 SQ FT

SPACE REQUIREMENTS

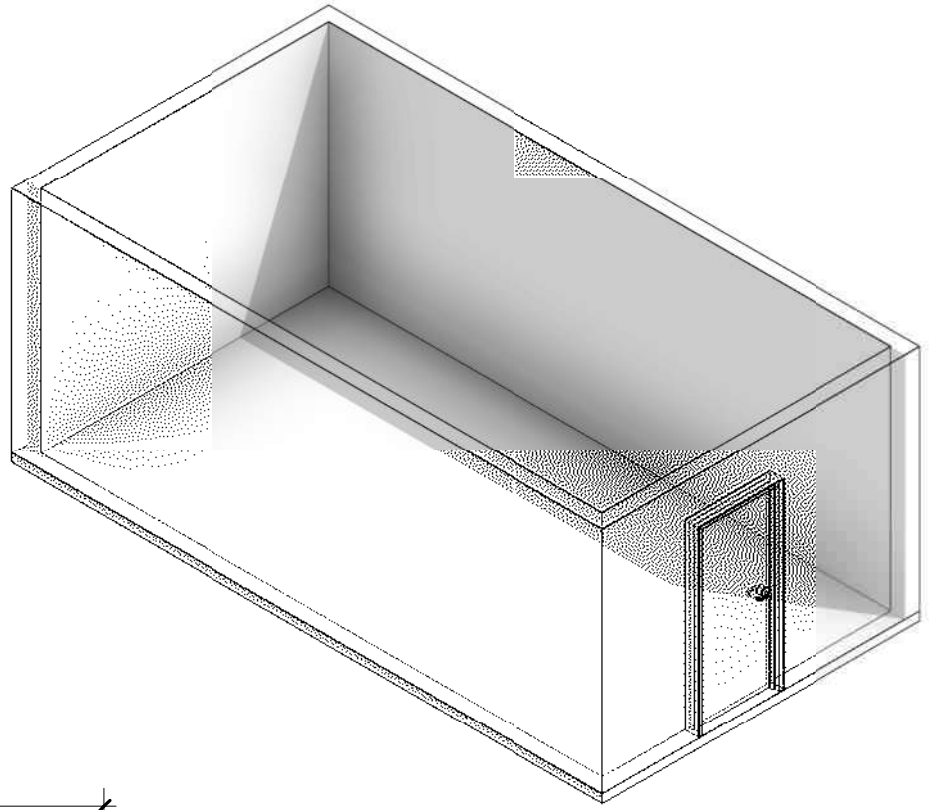
- **SPACE SUMMARY**
  - **TYPE OF SPACE:** Storage + Maintenance
  - **TOTAL NUMBER:** 1
  - **OCCUPANTS:** 1
  - **PRIMARY FUNCTION:** Elevator + Equipment
- **RELATIONSHIPS**
  - **LOCATION:** First floor
  - **ADJACENCIES:** TBD
  - **SEPARATION:** None required
- **DESIGN/AESTHETIC:** Durable finishes
- **PRIVACY/SECURITY:** Card / key access, lockable

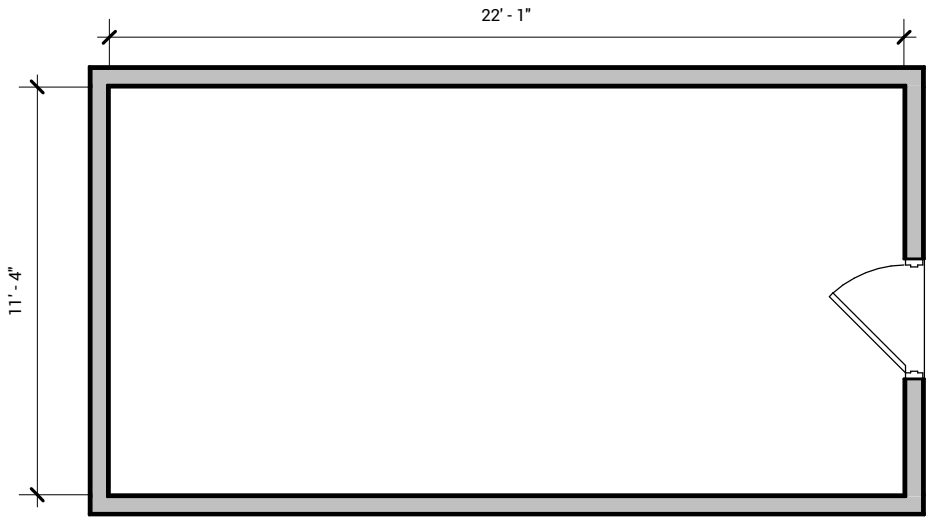
ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A
- **FINISHES**
  - **FLOOR:** TBD
  - **WALLS:** Painted gypsum board
  - **CEILING:** TBD
  - **SPECIALTY FINISHES:** TBD
  - **ACOUSTICAL / SOUND:** TBD
- **DOORS**
  - **TYPE:** Solid core wood with clear finish
  - **FRAME:** Painted hollow metal
  - **SPECIAL:** Not required
- **WINDOWS**
  - **TYPE:** Not required
  - **GLAZING:** Not required
  - **NATURAL LIGHT:** Not required
  - **FRAME:** Not required
  - **SPECIAL:** Not required

TECHNICAL REQUIREMENTS

- **MECHANICAL**
  - **SUMMER TEMP:** 74 ° F
  - **WINTER TEMP:** 72 ° F
  - **VENTILATION:** Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
  - **CONTROLS:** Temperature sensor
  - **SPECIAL SYSTEMS:** TBD
  - **PLUMBING:** None Required
- **ELECTRICAL**
  - **POWER:** TBD
  - **PHONE/DATA:** TBD
  - **AUDIO/VIDEO:** TBD
  - **FIRE ALARM:** TBD
- **LIGHTING**
  - **FOOT CANDLES:** 30
  - **FIXTURE TYPE:** LED w/ vacancy off switch
  - **TASK LIGHTING:** Not required
  - **CONTROLS:** Vacancy sensor with wall station override




22' - 1"
11' - 4"

ELEVATOR | 160 SQ FT

SPACE REQUIREMENTS

- **SPACE SUMMARY**

TYPE OF SPACE:	Storage + Maintenance
TOTAL NUMBER:	2
OCCUPANTS:	1
PRIMARY FUNCTION:	Elevator + Equipment

- **RELATIONSHIPS**

LOCATION:	First floor
ADJACENCIES:	Lobby, Entry
SEPARATION:	None required

- **DESIGN/AESTHETIC:** Durable finishes

- **PRIVACY/SECURITY:** TBD

ARCHITECTURAL REQUIREMENTS

- **CEILING HEIGHT:** N/A

- **FINISHES**

FLOOR:	TBD
WALLS:	Painted gypsum board
CEILING:	TBD
SPECIALTY FINISHES:	TBD
ACOUSTICAL / SOUND:	TBD

- **DOORS**

TYPE:	Solid core wood with clear finish
FRAME:	Painted hollow metal
SPECIAL:	Not required

- **WINDOWS**

TYPE:	Not required
GLAZING:	Not required
NATURAL LIGHT:	Not required
FRAME:	Not required
SPECIAL:	Not required

TECHNICAL REQUIREMENTS

- **MECHANICAL**

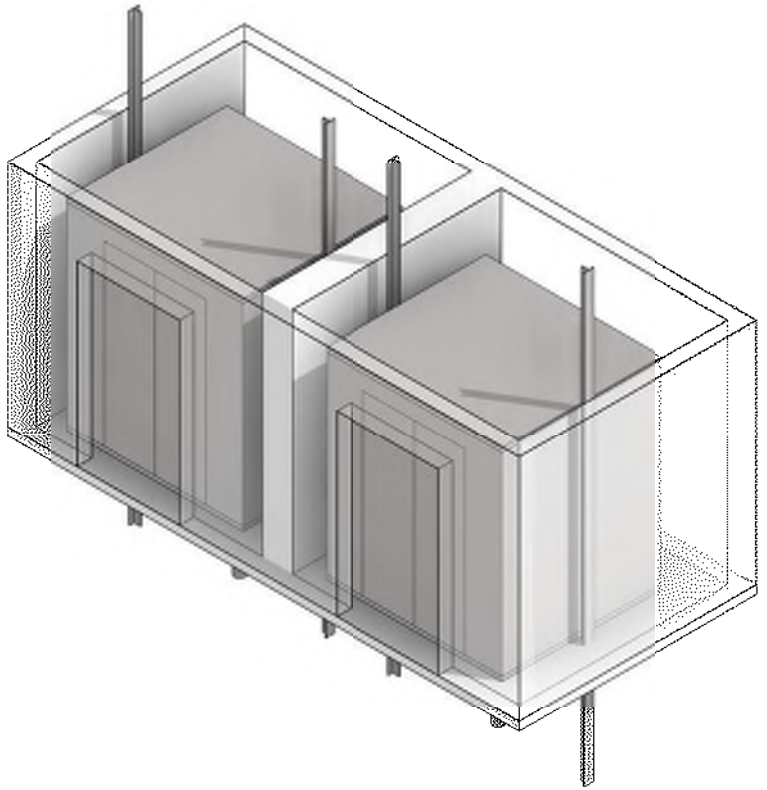
SUMMER TEMP:	74 ° F
WINTER TEMP:	72 ° F
VENTILATION:	Outdoor ar - as required by ASHRAE 62.1; Air circulation - as required by load analysis
CONTROLS:	Temperature sensor
SPECIAL SYSTEMS:	TBD
PLUMBING:	None Required

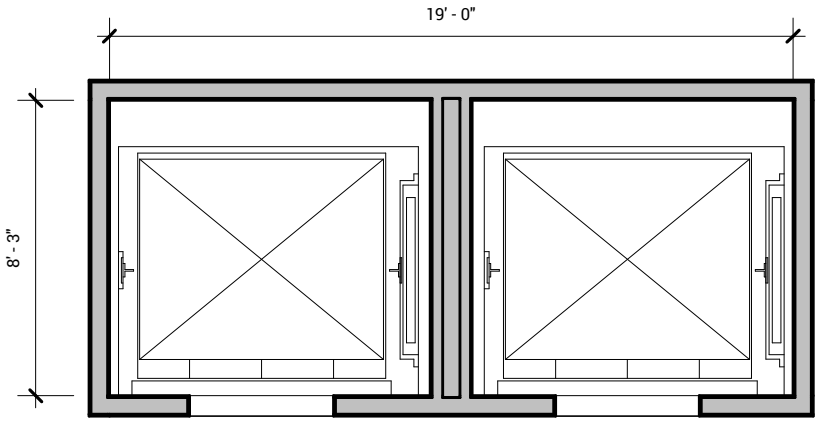
- **ELECTRICAL**

POWER:	TBD
PHONE/DATA:	TBD
AUDIO/VIDEO:	TBD
FIRE ALARM:	TBD

- **LIGHTING**

FOOT CANDLES:	30
FIXTURE TYPE:	LED w/ vacancy off switch
TASK LIGHTING:	Not required
CONTROLS:	None required




19' - 0"
8' - 3"

APPENDICES

06

A - Geotec, East Res Hall (2005)
B - Compiled LCCC Housing Specs TOC
C - Architect Meeting Minutes
D - Context and Concepts
E - Laramie Interiors Presentation
F - LCCC New Housing Presentation - Kickoff Meeting
G - LCCC Progress Meeting Presentation
H - LCCC Landscape Design Concept
I - Material Presentation
J - Wet Core Rest room Concepts
K - Cheyenne Greenway Map
L - Commercial Building Permit Submittal Checklist 2017

GEOTEC, EAST RES HALL (2005)

APPENDIX A

RIVERTON . CASPER . CHEYENNE
POWELL . GREEN RIVER

INBERG-MILLER ENGINEERS

June 2, 2005 11941-HX

Mr. T. C. Macnamara, P.E.
Laramie County Community College
1400 East College Drive
Cheyenne, WY 82007

RE: SUBSURFACE EXPLORATION AND
GEOTECHNICAL ENGINEERING REPORT
LCCC RESIDENCE HALL
CHEYENNE, WYOMING

Dear Mr. Macnamara:

Enclosed are one original and two copies of our Subsurface Exploration and Geotechnical Engineering report for the above-referenced project. The work described in this report has been completed per our Service Agreement and Appendix A dated May 12, 2005.

It has been a pleasure participating in this project. We are available to provide additional services, at your request, such as civil or environmental engineering services, review final plans and specifications, perform construction surveying, field and laboratory construction materials testing, and observe excavations as may be required. If you have any questions or comments, please contact us.

Sincerely,

INBERG-MILLER ENGINEERS

Lawrence N. Wright, P.E.
Geotechnical Engineer
Cheyenne Office

LNW:mav:msm\11941HX\Subs Expl Rpt

Enclosures as stated

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307-856-3851 (fax)
riverton@inberg-miller.com

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307-472-4402 (fax)
casper@inberg-miller.com

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cheyenne@inberg-miller.com

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307-754-7170
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307-875-4994
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greenriver@inberg-miller.com

Table of Contents

Summary

Based on the subsurface conditions encountered at the site and the results of our laboratory analysis, it is our opinion that the site is suitable for the proposed residence hall, subject to certain considerations with regard to site preparation and foundations. The subsoil encountered in the 11 test borings advanced at the building site generally consists of loose to dense, alluvial deposits of silty sand with varying amounts of clay. Groundwater was encountered in the test borings between depths of 8.2 and 16.3 feet. The proposed structure can be supported on a conventional spread footing foundation system; however, results of our laboratory analysis indicate footings placed on existing unimproved subgrade may be at risk for significant settlement. Therefore, we recommend that the proposed residence hall be supported on a spread footing foundation system that bears on a minimum of two feet of properly-compacted site soils. Furthermore, we recommend that slab-on-grade floors bear on a minimum of two feet of properly-compacted site soils. Settlement potential can also be reduced by careful design and construction to provide good site drainage and limit or avoid impact of moisture on the soils beneath footings and slabs. Detailed recommendations for site preparation, foundations, and construction considerations are provided herein.

Scope of Services

The purpose of this study was to explore subsurface conditions at the proposed LCCC residence hall, and to provide information on soil bearing capacity, groundwater conditions, consolidation-swell potential of foundation soils, and other pertinent foundation design recommendations.

Project Information

Project information was provided by Mr. Tim Macnamara of Laramie County Community College. It is our understanding the project will consist of construction of a 192-bed residence hall, a residential support building containing commons areas and offices, and related vehicle parking, driveways, and walkways. The new residential facility will be located at the western side of the Laramie County Community College Campus just east of the existing dormitory. The proposed residence hall will consist of a four-story building constructed with wood or steel, stud-wall construction.

Field Exploration

The field work was performed using a CME 55 truck-mounted drilling rig at the site on May 18 and 19, 2005. Eleven (11) test borings were advanced to depths ranging from 11.5 to 26.5 feet. Drilling was performed using 8½-inch outside diameter, hollow-stem augers. The augers act as continuously advancing steel casing. The method prevents test holes from caving in above the levels to be tested. Sampling tools are lowered inside the hollow-stem for testing into undisturbed soils.

Field Exploration, Continued

Drilling and field sampling were performed according to the following standard specifications:

1. "Standard Practice for Using Hollow-Stem Augers for Geotechnical Exploration and Soil Sampling," ASTM D6151.

2. Sampling with a 2-inch O.D. split-barrel (split-spoon) per ASTM D1586, "Penetration Test and Split-Barrel Sampling of Soils." Seventy-five such tests were performed.

3. Sampling with a 2.5-inch I.D., thick-wall, ring-lined, split-barrel, drive sampler per ASTM D3550. Two such samples were obtained.

The soil samples were field classified by a staff engineer, sealed in containers to prevent loss of moisture, and returned to our laboratory. They were then inspected by a geotechnical engineer prior to the preparation of this report, and reclassified visually in accordance with ASTM D2488.

A field log was prepared for each boring during drilling. After the retrieved samples were checked in the laboratory, a Final Log for each boring was prepared containing the work method, samples recovered, and the indication of the presence of various soil types. The Final Logs are bound into Appendix B.

The Final Logs contain both factual and interpretive information. On the Final Logs, horizontal lines are approximate, and designate the interface between differing soil strata encountered. The transition between soil layers may be gradual. We emphasize that our recommendations are based only on the Final Logs.

Laboratory Testing Program

In order to classify the recovered samples and determine their engineering properties, the following laboratory soil tests were performed:

		TESTS
1.	Moisture Content (ASTM D2216)	78
2.	Atterberg Limits (ASTM D4318)	5
3.	Sieve Analysis (#4 to #200) (ASTM D422 and D1140)	5
4.	Water Soluble Sulfate (AASHTO T290)	1
5.	Consolidation - Swell Test (ASTM D2435)	2
6.	Standard Proctor (ASTM D698)	1
7.	California Bearing Ratio (CBR) (ASTM D1883)	1

Laboratory Testing Program, Continued

The Sieve Analysis, Moisture-Density, California Bearing Ratio, and Consolidation-Swell test results are presented graphically in Appendix C. All other test results are arrayed on the Final Logs.

Site Conditions

The site is located on the west side of the existing Laramie County Community College in Cheyenne, Wyoming. The site is located immediately east of the existing dormitories and immediately south of the science building. Utilities identified on site include water lines and buried fiber optic cable.

The topography at the site slopes down from the south to the north at an approximate grade of three percent. A section of the proposed residence hall is located on an existing volleyball pit, with surrounding vegetation comprised primarily of non-irrigated grass.

A Site Location Map, Site Observation Sheet, and Test Boring Location Plan in Appendix A describe the site in more detail.

Subsoil Conditions

The subsoil classified in the 11 test borings performed at the site consists of alluvial deposits of silty sand. The amount of clay in the sand increases with depth.

Loose to medium dense, silty, fine to medium-grained sand was encountered at the ground surface in each test boring and extended to depths ranging between 10.0 and 20.0 feet below the ground surface. Standard penetration numbers (N-values) recorded in this stratum ranged from 4 to 24 blows per foot of penetration. Two Consolidation-Swell tests performed on samples collected in this stratum indicate moderate settlement potential with increasing load and due to inundation with water. Standard penetration test blow counts (N-values) indicate this stratum is characterized by low to moderate strength and moderate compressibility. This stratum is comprised largely of cohesionless soils subject to instability if they become unconfined.

Medium dense to dense, clayey sand with varying amounts of silt was encountered between depths of 10.0 and 20.0 feet and generally extended to the test boring completion depth of 26.5 feet (Test Borings B4 thru B11). At the time of our subsurface exploration, soils in this stratum were below the static water level and were generally saturated. N-values recorded in this stratum ranged from 16 to 36 blows per foot, indicating moderate strength, moderate compressibility, and low potential for consolidation.

Groundwater Conditions

Groundwater observations were made in each test boring at the completion of drilling and periodically until drilling operations were complete. All test borings were backfilled at the completion of drilling. This information, along with cave-in depths of the drill holes, are recorded on the Final Logs in Appendix B.

At the completion of drilling most holes were dry. We observed that groundwater slowly seeped into the test borings and that the water levels in the borings appeared to be reaching equilibrium after approximately 16 to 24 hours. Approximate equilibrium groundwater levels are presented in the following table for the test borings that were drilled on May 18 and allowed to sit open overnight.

TEST BORING	DEPTH TO WATER	GROUNDWATER ELEVATION
B4	12.0	5995.2
B5	8.2	5994.5
B6	11.2	5990.9
B7	11.5	5990.3
B9	8.5	5990.3
B11	11.5	5991.0

Water levels for test borings which did not sit open overnight, are not considered indicative of the actual groundwater table and are not listed in the above table. The groundwater table was observed at depths of 8.5 to 12 feet below existing ground surface. We anticipate that the groundwater table is influenced by existing subsurface drains which are located near the existing buildings. Furthermore, the groundwater table will fluctuate and will likely be dependent upon seasonal precipitation, runoff, irrigation activities, etc. Depending on how much the above factors contribute to the groundwater elevation, the water level may fluctuate several feet.

Conclusions

Based on the subsurface conditions encountered at the site and the results of our laboratory analysis, it is our opinion that the site is suitable for the proposed residence hall, subject to certain considerations with regard to site preparation and foundations. The subsoil encountered in the 11 test borings advanced at the building site generally consists of loose to dense, alluvial deposits of silty sand with varying amounts of clay. Groundwater was encountered in the test borings at approximate depths of eight to 12 feet. The proposed structure can be supported on a conventional spread footing foundation system; however, results of our laboratory analysis indicate footings placed on existing unimproved subgrade may be at risk for significant

Conclusions, Continued

vertical movement. Therefore, we recommend that the proposed residence hall be supported on a spread footing foundation system that bears on a minimum of two feet of properly-compacted, on-site soils. Furthermore, we recommend the slab-on-grade floors bear on a minimum of two feet of properly-compacted on-site soils. Site soils should be adjusted to proper moisture contents prior to compaction. Settlement potential can also be reduced by careful design and construction to provide good site drainage and limit or avoid impact of moisture on soils below footings and slabs. Detailed recommendations for site preparation, foundations, and construction considerations are provided herein.

Recommendations

Earthwork

1. Prior to construction, vegetation and roots should be removed from the proposed building area. We estimate this will require stripping depths of between zero and six inches below existing grade. Actual stripping depths should be documented in the field by a qualified Geotechnical Engineer. The limit of clearing should extend at least 10 feet beyond the limits of construction.

2. After stripping and excavation to required grades (including any overexcavation), the natural subgrade should be proof-rolled with a loaded triaxle dump truck or equivalent heavy construction equipment to compact soils that may have been loosened during excavation operations, and to allow identification of possible soft or loose zones. Proof rolling should be performed under the observation of a qualified Geotechnical Engineer to allow correct identification of soft or loose zones that may require improvement. Any soft or loose zones identified by the Geotechnical Engineer during the proof-rolling process should be overexcavated a minimum of 24 inches and replaced with properly-compacted, approved fill, as described in Item 3, below.

3. Approved backfill material includes the on-site, silty, fine to medium sand soil present in all of the test borings to depths of 10 feet or greater. All imported material used for site fill should meet Envelope A specifications and should be tested for water soluble sulfate content by a qualified laboratory prior to being placed as fill or backfill material. All imported fill material should have less than 0.1% sulfate content. All fill or backfill should be placed in maximum eight-inch-thick loose lifts and compacted to a minimum of 95 percent of ASTM D698 (Standard Proctor Test) maximum dry density at moisture contents from three percent below to two percent above ASTM D698 optimum moisture content.

Recommendations, Continued

Earthwork, Continued

4. If construction takes place in the winter months, care should be exercised to prevent construction on frozen soils. In addition, fill material should not contain snow or ice, or be placed in a frozen condition.

5. All on-site or imported fill used in building areas should comply with Envelope A (Appendix D) gradation requirements and be placed and compacted according to Item 3, above.

6. Extreme care is recommended for excavations within the building footprint or near foundations that extend to the groundwater elevation. Deep utility excavations, for example, may require dewatering to permit proper construction without disturbance to foundation soils.

Foundation Recommendations

A conventional spread footing foundation system may be utilized to support the proposed residence hall with some potential risk for vertical movement. Such risks can be reduced by improving footing subgrade soils. Specific recommendations for foundation design and subgrade improvement are as follows:

1. Because of the potential for excessive settlement for footings bearing in the alluvial, silty, sand deposits, we recommend footing subgrade be improved by overexcavating a minimum of two feet below bottom-of-footing bearing elevation and backfilling to design bottom-of-footing bearing elevation in accordance with Earthwork Recommendations, Item 3. Footings bearing on a minimum of two feet of compacted backfill may be designed using an allowable bearing pressure of 2,000 psf. The overexcavation should extend horizontally from the footing a distance equal to the overexcavation depth (two feet minimum) on all sides. We anticipate total settlement on the order of 0.75 inches, and differential settlement of 0.5 inches over the building width for foundations designed and constructed as recommended above.

2. A qualified Geotechnical Engineer should observe all footing subgrades to confirm subsoil conditions. Footings should be founded a minimum of 3.0 feet below final exterior grade for frost protection.

3. All loose disturbed soil in the footing excavation should be removed from the foundation excavation prior to concrete placement. Footings should not be placed on either uncompacted, disturbed natural soils, or uncompacted imported fill.

Recommendations, Continued

Foundation Recommendations, Continued

4. Groundwater is not anticipated within the proposed excavation depths for the shallow foundation system. If groundwater or excess surface water is present, foundation excavations should be dewatered prior to backfilling or concrete placement. Dewatering should be sufficient to lower the groundwater at least two feet below the bottom of the proposed excavation. The dewatering system should be in place and operating continuously prior to and throughout the excavation and backfilling process until backfill is placed at least two feet above the static groundwater level.

Concrete Slab-on-Grade Floor

1. Floor slab subbase should consist of properly-compacted, approved fill as described in Earthwork Recommendations, Item 3. The floor slab should be underlain with a minimum of two feet of properly-compacted, approved fill to provide improved and more uniform support than native subgrade soils.

2. Once excavated to the proper elevation (including any overexcavation), and prior to filling, the exposed natural subgrade should be proof-rolled with a loaded triaxle dump truck or equivalent heavy construction equipment to compact soils that may have been loosened during excavation operations, and to allow identification of possible soft or loose zones. Proof-rolling should be performed under the observation of a qualified Geotechnical Engineer to allow correct identification of soft or loose zones that may require improvement. Any soft or loose zones identified by the Geotechnical Engineer during the proof-rolling process should be overexcavated a minimum of 24 inches and replaced with properly-compacted, approved fill, as described in Item 3, below.

3. The floor slab should be immediately underlain by a minimum of six inches of free-draining, well-graded sand and gravel base course devoid of fines to provide uniform slab support and to act as a capillary moisture break. The six inches of base course may be included as part of the minimum two feet of compacted fill.

Lateral Loads

The magnitude of the lateral earth pressure against a structure depends on the backfill soil, native soil (depending on excavation and native slope geometry), and the rigidity of the structure. Soil movement results in the development of internal soil shear stresses thereby lowering the lateral earth pressure on the structure. Soil strain and

Recommendations, Continued

Lateral Loads, Continued

allowable structure rotation must be greater to mobilize full strength and reduce lateral earth pressures for fine-grained soils than for cohesionless granular soils. Fine-grained soils also tend to exhibit lower ultimate strengths. In most cases, a triangular lateral pressure distribution is satisfactory for lateral load design and the influence of the soils are usually represented as an equivalent fluid unit weight or pressure. Shallow foundations resist lateral loads by friction along the foundation base and by passive pressure against the structure face, which is perpendicular to the line of applied force.

1. Retaining walls or basement walls which are laterally supported and can be expected to undergo only a slight amount of deflection should be designed for a lateral earth pressure computed on the basis of an equivalent fluid unit weight of 60 pounds per cubic foot (pcf) for backfill consisting of the on-site soils and 45 pcf for backfill consisting of imported, clean, granular materials.

   Retaining structures which can deflect sufficiently to mobilize the full active earth pressure condition should be designed for a lateral earth pressure computed on the basis of an equivalent fluid unit weight of 42 pcf for backfill consisting of the on-site soils and 30 pcf for backfill consisting of imported, clean, granular materials.

   All of the above forces assume that the structure is above the groundwater table and that adequate drainage is provided to prevent the development of hydraulic pressures against the structure. If water is allowed to accumulate behind the structure, actual pressures will be significantly greater.

2. Structure movement is resisted by friction between the foundation and the subgrade and by passive soil forces. We recommend a coefficient of friction of 0.35 between the base of the footing and a dense soil subgrade. Passive soil resistance along the backfilled side of the foundation should be considered as an equivalent fluid pressure of 350 pcf. A moist soil unit weight of 120 pounds per cubic foot can be used in the lateral earth pressure design. A factor of safety of two should be used for horizontal capacities.

3. Surcharge loads, on the uphill side of the wall, due to ground slope, soil stockpiles, equipment, and structures may significantly increase lateral forces on the wall and need to be fully evaluated. If water is allowed to build up behind the structure, hydrostatic pressures must be included in the design. Additional recommendations may be necessary if submerged conditions are to be included in the design.

Recommendations, Continued

Parking and Drive Areas

Pavement section designs were performed in accordance with procedures given in AASHTO Guide for Design of Pavement Structures, American Association of State Highway Transportation Officials, 1993. Design traffic volumes were not provided so we utilized traffic volumes from published sources and our experience with similar projects. A design CBR value of 5 percent was utilized for the pavement design. This value is based on a CBR test performed on a shallow sample from Test Boring B3, which was drilled in the proposed parking lot. The CBR test specimen was compacted to 95 percent Standard Proctor dry density and submerged in water for three days prior to testing.

1. Traffic requirements were not provided at the time of this report so we have estimated road and parking lot traffic based on our experience with other projects. We have divided the pavements into two traffic zones, one zone for main drives and truck traffic, and one zone for passenger vehicle parking. If two pavement zones are utilized, the site configuration should be designed to minimize truck traffic in passenger vehicle parking areas. Consideration should be given for using Portland cement concrete pavement at intersections and other areas where frequent turns are anticipated, and for all truck parking and loading areas. Pavement section designs and material specifications follow:

TABLE I

PAVEMENT SECTION DESIGN
RECOMMENDED PAVEMENT THICKNESS
(inches)

	Truck and Drive Areas	Passenger Car Parking
ESAL PER DAY	15	5
ASPHALT PAVEMENT		
Plant Mix Asphalt	4	3.5
WYDOT Grading "W" Aggregate Base	7	5
Reconditioned Subgrade	8	8
RIGID PAVEMENT		
Portland Cement Concrete	7.0	5.5
Reconditioned Subgrade	8.0	8.0

Recommendations, Continued

Parking and Drive Areas, Continued

2. Asphalt pavement materials should meet the requirements of the Wyoming Department of Transportation Specifications for Road and Bridge Construction, 2003 edition. Asphalt mix design should be performed using 50 blow Marshall compaction (ASTM D-1559) effort to achieve a minimum stability of 1,500 pounds, flow between 8 and 18 hundredths of an inch, and air voids between 3 and 5 percent. In-place density of compacted asphalt pavement should be at least 92 percent of the maximum theoretical density.

3. Crushed base course material should conform to Grading "W" of the Wyoming Highway Department Specifications for Road and Bridge Construction, 2003 edition, included in Appendix D. The crushed base course should be placed in loose lifts not exceeding 8 inches in thickness. Crushed base course should be compacted to a minimum of 95 percent of the maximum Standard Proctor dry density (ASTM D-698), at moisture contents ranging from 2 percent above or below ASTM D-698 optimum moisture content.

4. Granular sub-base should conform to Gradation Envelope A shown in Appendix D of this report. This layer should be placed and compacted as described in the *Earthwork* section of the Recommendations.

5. Pavement subgrades should consist of site soils or imported fill as described in the *Earthwork* section of the Recommendations. **Reconditioned native pavement subgrades** should be scarified to a minimum depth of 8 inches, moisture conditioned, and compacted to a minimum of 95 percent of Standard Proctor (ASTM D698) maximum dry density at a moisture content of plus 2 to minus 4 percent of the laboratory-determined optimum. Prior to placing any aggregate base or concrete, the subgrade should be proof-rolled and any soft spots improved.

6. Portland Cement concrete materials should meet the requirements of the Wyoming Highway Department Specifications for Road and Bridge Construction, 2003 edition. Four to six percent air entrainment is recommended for concrete exposed to weather and for concrete workability. Steel reinforcement is not required within the pavement. However, reinforcement should be provided across construction joints to transfer loads and resist pavement displacement.

Recommendations, Continued

Parking and Drive Areas, Continued

7. Provisions should be made to periodically observe the conditions of the pavements and perform maintenance on cracks and joints, as required. Observed drainage problems should be promptly remedied. A primary focus of the pavement maintenance plan is to prevent the clayey subgrade soils from becoming wet.

General

1. It is anticipated that groundwater will be encountered in utility excavations extending to a depth of approximately 7.5 feet. Excavations extending below the static water level will require dewatering to drain and maintain a groundwater level a minimum of two feet below the excavation bottom prior to utility installation and backfilling. Any surface water which may accumulate within the foundation area should be immediately removed.

2. Based on the natural soil water soluble sulfate content test result of 0 to 50 ppm on a sample from Test Boring B6 at 2.5 feet, we recommend Type I or II Portland cement be used for concrete in contact with the natural soils.

3. Site grades around the building should be carefully graded to direct surface water away from the building. Surface water should not be allowed to stand and percolate into the ground within at least 30 feet of the structure.

4. In accordance with the *International Building Code* (IBC), 2003 Edition, Table 1615.1.1, we recommend Site Class D for determination of design spectral response acceleration parameters per IBC. This class recommendation is based on Standard Penetration Resistance numbers (N-values) per ASTM D1586 and the assumption that the subsurface soil conditions encountered in the test borings can be projected deeper into the earth to describe average soil properties of the top 100 feet as dense soil and soft rock.

5. Inberg-Miller Engineers should review final plans and specifications in order to determine whether the intent of our recommendations has been properly implemented. In addition, a qualified Geotechnical Engineer and Testing Laboratory should be retained during construction to provide the following services:

Recommendations, Continued

General, Continued

A. Observe all excavations to determine:

   1. Subsurface conditions revealed are consistent with those discovered in the exploration.

   2. Proper bearing stratum is exposed at proposed foundation excavation depths.

   3. Foundation excavations are properly prepared, cleaned, and dewatered prior to concrete placement.

B. Test materials for:

   1. Field density testing of compacted fills.

   2. Field and laboratory asphalt or concrete testing.

Construction Considerations

No major difficulties are anticipated for conventional equipment during earthwork construction at the proposed site. We do not anticipate that groundwater will be encountered at the proposed foundation depths during construction. However, excavations should be protected from surface water run-off whenever possible. Water accumulation within excavations should be promptly removed. If excavation bottoms become wet, excavation of soils beyond the minimum required depth may be necessary to provide a firm base for fill placement.

If groundwater is encountered at or near proposed footing depths, the contractor should be prepared to dewater the area using sumps or well points. The groundwater table should be maintained a minimum of two feet below the bottom of any foundation subgrades to facilitate soil compaction. The contractor should be prepared to dewater utility excavations. Dewatering systems capable of lowering the groundwater surface elevation a minimum of two feet below the proposed bottom of foundations and utility trenches should be installed.

Excavations should be sloped, benched, or shored or otherwise made safe for entry by use of trench boxes as required by the standards of 29 CFR Part 1926. As a safety measure, it is recommended that all vehicles and soil piles be kept to a minimum lateral distance from the crest of the slope equal to no less than the slope height. The contractor is solely responsible for designing and constructing stable excavations. Furthermore the contractor's "responsible person" should continuously evaluate the soil exposed in the excavations, the geometry of the

Construction Considerations, Continued

excavation slopes, and the protective equipment and procedures employed by his forces. For the sole purpose of project planning, we recommend that site soils be considered an OSHA Type "C" soil.

Closure

This report has been prepared for the exclusive use of our client, Laramie County Community College, for evaluation of the site, design, and construction planning purposes of the described project. All information referenced in the Table of Contents, as well as any future written documents that address comments or questions regarding this report, constitute the "entire report". Inberg-Miller Engineers' conclusions, opinions, and recommendations are based on the entire report. This report may contain insufficient information for applications other than those herein described. Our scope of services was specifically designed for and limited to the specific purpose of providing geotechnical recommendations for the design of foundations and pavements for the proposed residence hall project. Consequently, this report may contain insufficient information for applications other than those herein described.

We appreciate participating in your project. We can offer services under a separate contract to provide civil or environmental engineering services, review final plans and specifications, perform construction surveying, field and laboratory construction materials testing, and observe excavations, as may be required. Please call if you have any questions regarding this report.

Sincerely,

INBERG-MILLER ENGINEERS

Travis E. Guthrie, E.I.T.
Geotechnical Engineer
Riverton Office

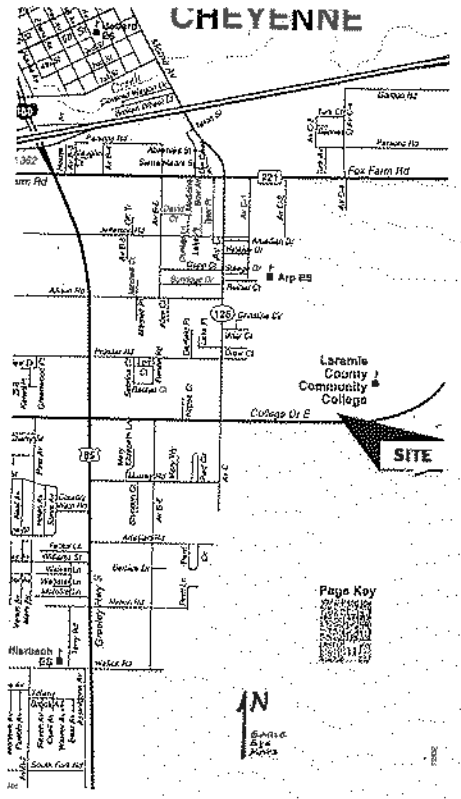
REVIEWED BY:

Lawrence N. Wright, P.E.
Geotechnical Engineer
Cheyenne Office

TEG:LNW:mav:msm/11941/11941-HX Subs Expl Rpt

Site Location Map

Project: Residence Hall
Location: Cheyenne, Wyoming
Job No.: 11941-HX
Client: LCCC



Site Observations

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: LCCC

1.	Location of Site:	*West College Drive*
2.	City/Town:	*Cheyenne, Wyoming*
3.	Slope of Ground Surface:	*3 percent*
4.	Downhill Direction:	*North*
5.	Est. Change of Surface Elevation:	*10 feet across site*
6.	Bodies of Water Nearby:	*Storm-water retention pond 1000 feet west of site*
7.	Topsoil Type:	*Silty, fine-to-medium sand*
8.	Vegetation:	*Sparse grass*
9.	Site Subject to Flooding:	*Yes*
10.	When:	*Severe precipitation event*
11.	Rock Outcrops:	*None*
12.	Est. Depth to Bedrock:	*Greater than 25 feet*
13.	Artificial Fills:	*Yes*
14.	Type and Depth:	*Silty, fine-to-medium sand*
15.	Nearby Land Features:	*None*
16.	Present Site Improvements:	*College campus*
17.	Buried Utilities On Site:	*Water, fiber optics*
18.	Nearby Buildings:	*Dormitory west of site; Science building north of site*
19.	Cond. of Nearby Foundations:	*Unknown*
20.	Cond. of Nearby Streets/Walks:	*Fair*
21.	Buried Obstructions Encountered:	*None*
22.	History of Land Use:	*Undeveloped rangeland, college campus*
23.	Existing Drainage Features:	*Subsurface trench drain, south of project site*
24.	Overhead Utilities Crossing Site:	*None*
25.	Geologic Description of Site:	*Alluvial overburden soils overlying sandstone and claystone associated with the Ogallala Formation*

LOG OF TEST BORING NO. B1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College

Surface El. (Ft): 6010.9 Benchmark/Datum (Ft) City Control Point

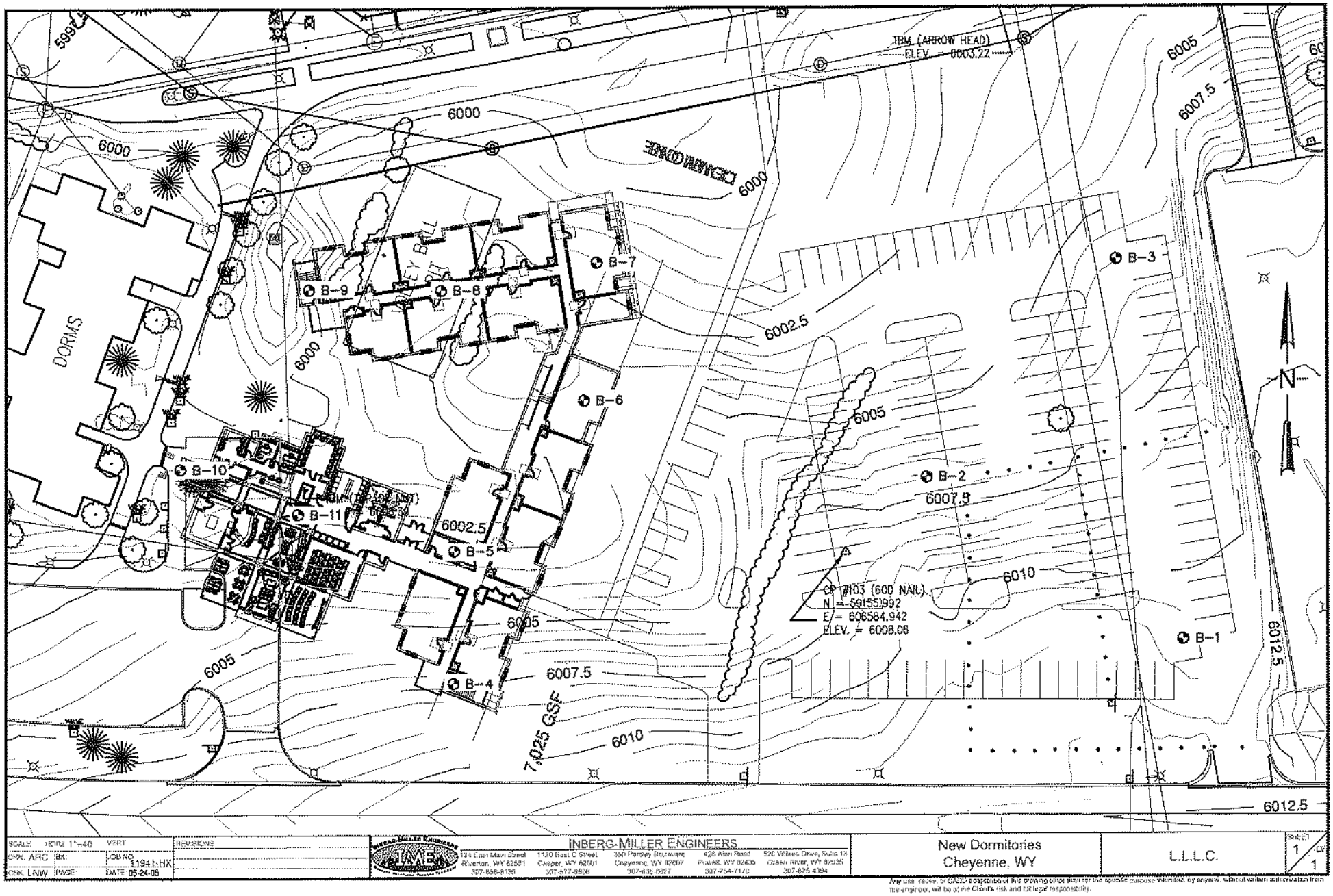
Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	N PER Ft	q_p (TSF)	γ_m γ_d (PCF)	OTHER TESTS
0	SS-1 0.0-1.5 14	Medium dense, moist, dark brown, silty, fine to medium SAND (topsoil)	15	11.1		
	SS-2 2.5-4.0 15	Loose, moist, light brown, silty, fine SAND	4	11.1		
5	SS-3 5.0-6.5 12		8	12.4		
	SS-4 7.5-9.0 14		10	25.4		
10	SS-5 10.0-11.5 16		10	15.0		
		11				
15						
20						
25						

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry
Time After Drilling	0.1 hr
Depth to Water (ft)	dry
Depth to Cave-In (ft)	9.1

DRILLING AND SAMPLING NOTES

Date Begun 5/19/05 Comp 5/19/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 11.5



SCALE: HORIZ 1"=40' VERT	REVISIONS	INBERG-MILLER ENGINEERS				
DRN: ARC CK: LNW	BK: PAGE:	JOB NO: 11941.HX DATE: 05-24-05	124 East Main Street Riverton, WY 82501 307-856-8156	1120 East C Street Casper, WY 82601 307-577-9806	350 Parsley Boulevard Cheyenne, WY 82007 307-635-5927	426 Alan Road Powell, WY 82435 307-754-7110
			526 Wilkes Drive, Suite 15 Green River, WY 82935 307-875-4384			

New Dormitories
Cheyenne, WY

L.L.L.C.

SHEET 1 OF 1

FILE: 11941.HX BORINGS.DWG

LOG OF TEST BORING NO. B2 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 6006.9 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m γ_d (PCF)	LL PL PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 14	Loose, moist, light brown, silty, fine to medium SAND	SM	9		5.4		NP	Sieve Analysis - #200 = 17.6%
	SS-2 2.5-4.0 15		SM	9		4.3		NP	Sieve Analysis - #200 = 14.8%
5	SS-3 5.0-6.5 15			4		8.9			
	SS-4 7.5-9.0 16	Grades medium dense @ 7.5'		15		10.7			
10	SS-5 10.0-11.5 16	11.5		13		16.1			
15									
20									
25									

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.1 hr		
Depth to Water (ft)	dry		
Depth to Cave-in (ft)	9.2		

DRILLING AND SAMPLING NOTES

Date Begun 5/19/05 Comp. 5/19/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 11.5

LOG OF TEST BORINGS\PJT 11941 HX.GPJ INB_MLLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

LOG OF TEST BORING NO. B3 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 6005.7 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m γ_d (PCF)	LL PL PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 14	Medium dense, moist, dark brown, silty, fine SAND		11		6.3			
		2.0							
	SS-2 2.5-4.0 12	Medium dense, moist, light brown, silty, fine to medium SAND (Auger Sample 0'- 5')		13		11.2			
5	SS-3 5.0-6.5 15	Grades loose @ 5'		7		9.6			Standard Proct CBR = 5%
	SS-4 7.5-9.0 18			15		9.8			
10	SS-5 10.0-11.5 14	11.5		10		22.8			
15									
20									
25									

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.1 hr		
Depth to Water (ft)	dry		
Depth to Cave-in (ft)	8.5		

DRILLING AND SAMPLING NOTES

Date Begun 5/19/05 Comp. 5/19/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 11.5

LOG OF TEST BORINGS\PJT 11941 HX.GPJ INB_MLLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

LOG OF TEST BORING NO. B4 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 6007.2 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m γ_d (PCF)	LL PL PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 13	Medium dense, moist, dark brown, silty, fine to medium SAND (topsoil)		12		7.2			
		2.0							
	SS-2 2.5-4.0 16	Loose to medium dense, moist, light brown, silty, fine to medium SAND		9		4.9			
5	SS-3 5.0-6.5 11			15		6.3			
	SS-4 7.5-9.0 16			10		15.5			
10	SS-5 10.0-11.5 16		▼	10		21.9			
15	SS-6 15.0-16.5 19			16		17.8			
		20.0							
20	SS-7 20.0-21.5 20	Medium dense, moist, brown, clayey, fine SAND		19		19.7			
25	SS-8 25.0-26.5 19			22		19.3			
		26.5							

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.1 hr	15 hrs	21 hrs
Depth to Water (ft)	dry	13.0	12.0
Depth to Cave-in (ft)	22.0		

DRILLING AND SAMPLING NOTES

Date Begun 5/19/05 Comp. 5/19/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 21.5

LOG OF TEST BORINGS.PIT 11941 HX.GPJ INB_MLLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

LOG OF TEST BORING NO. B5 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 6002.7 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m γ_d (PCF)	LL PL PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 15	Medium dense, moist, dark brown, silty, fine to medium SAND		20		6.2			
		2.0							
	SS-2 2.5-4.0 18	Medium dense, moist, light brown, silty, fine to medium SAND		20		13.1			
5	SS-3 5.0-6.5 15	Grades loose @ 5'		6		16.5			
	SS-4 7.5-9.0 18		▼	11		18.4			
10	SS-5 10.0-11.5 18			19		17.0			
15	SS-6 15.0-16.5			20		17.5			
		18.0							
20	SS-7 20.0-21.5	Medium dense, moist, brown, clayey, fine SAND		19		31.9			
25	SS-8 25.0-26.5 16			28		19.3			
		26.5							

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.1 hr	20 hrs	26 hrs
Depth to Water (ft)	dry	11.0	8.2
Depth to Cave-in (ft)	20.0		

DRILLING AND SAMPLING NOTES

Date Begun 5/18/05 Comp. 5/18/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 11.2

LOG OF TEST BORINGS.PIT 11941 HX.GPJ INB_MLLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

LOG OF TEST BORING NO. B6 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 6002.1 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m / γ_d (PCF)	LL / PL / PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 14	Loose, moist, dark brown, silty, fine to medium SAND (topsoil)		4		8.6			
		3.0							
	SS-2 2.5-4.0 14	Medium dense to loose, moist, light brown, silty, fine to medium SAND		24		3.1			
5	SS-3 5.0-6.5 15			8		7.3			
	SS-4 7.5-9.0 10			7		20.3			
10	SS-5 10.0-11.5 4	Grades medium dense, below 10'.		13		24.8			
		15.0							
15	SS-6 15.0-16.5 16	Medium dense, moist, brown, clayey, fine SAND		19		16.9			
20	SS-7 20.0-21.5 16			22		36.4			
25	SS-8 25.0-26.5 14			23		21.8			
		26.5							

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.1 hr	15 hrs	21 hrs
Depth to Water (ft)	dry	11.4	11.2
Depth to Cave-In (ft)	20.5		

DRILLING AND SAMPLING NOTES

Date Begun 5/18/05 Comp. 5/18/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 26.5

LOG OF TEST BORING/PIT 11941-HX.GPJ INB_MILLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

LOG OF TEST BORING NO. B7 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 6001.8 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m / γ_d (PCF)	LL / PL / PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 12	Medium dense, moist, brown, silty, fine to medium SAND (topsoil)		20		6.6			
		2.0							
	SS-2 2.5-4.0 14	Loose to medium dense, moist, light brown, silty, fine to medium SAND	SM	12		4.3		NP	Sieve Analysis - #200 = 15.4%
5	SS-3 5.0-6.5 12			8		10.2			
	SS-4 7.5-9.0 12			12		25.7			
10	SS-5 10.0-11.5	Medium dense, moist, brown, clayey, fine SAND	SC	12		19.7		31 22 9	Sieve Analysis - #200 = 47.6%
15	SS-6 15.0-16.5			18		17.7			
20	SS-7 20.0-21.5		SM	20		23.6		41 26 15	Sieve Analysis - #200 = 44.3%
25	SS-8 25.0-26.5 20			22		21.9			
		26.5							

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.1 hr	16 hrs	22 hrs
Depth to Water (ft)	dry	11.5	11.5
Depth to Cave-In (ft)	19.8		

DRILLING AND SAMPLING NOTES

Date Begun 5/18/05 Comp. 5/18/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 26.5

LOG OF TEST BORING/PIT 11941-HX.GPJ INB_MILLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

LOG OF TEST BORING NO. B8 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 6002.1 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m γ_d (PCF)	LL PL PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 15	Dark brown, silty, fine to medium SAND		14	6.3				
		2.0							
	DC-2 2.5-3.5 16	Medium dense, moist, light brown, silty, fine to medium SAND			5.8	101 96			Consol-swell
5	SS-3 5.0-6.5 15			22	3.8				
	SS-4 7.5-9.0 16			15	16.1				
10	SS-5 10.0-11.5 15			16	18.2				
		Medium dense, moist, brown, clayey, fine SAND							
15	DC-6 15.0-16.0								
20	SS-7 20.0-21.5 21			17	20.7				
25	SS-8 25.0-26.5 21			21	20.4				
		26.5							

▼ Water level

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.1 hr	3.5 hrs	
Depth to Water (ft)	dry	16.3	
Depth to Cave-in (ft)	20.4		

DRILLING AND SAMPLING NOTES

Date Begun 5/18/05 Comp. 5/18/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 21.5

LOG OF TEST BORING.GPJ 11941-HX.GPJ INB_MILLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

LOG OF TEST BORING NO. B9 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 5998.8 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m γ_d (PCF)	LL PL PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 15	Medium dense, moist, dark brown, silty, fine to medium SAND (topsoil)		14	9.8				
		2.0							
	SS-2 2.5-4.0 18	Loose to medium dense, moist, light brown, silty, fine to medium SAND		6	9.7				
5	SS-3 5.0-6.5 15			11	20.7				
	SS-4 7.5-9.0 5			8	19.7				
10	SS-5 10.0-11.5 18			13	20.9				
		15.0							
15	SS-6 15.0-16.5 4	Medium dense, moist, light brown, clayey, fine SAND		21	13.0				
		20.0							
20	SS-7 20.0-21.5 18	Medium dense, moist, light brown, silty, fine to medium SAND		26	19.5				
25	SS-8 25.0-26.5 18			30	19.1				
		26.5							

▼ Water level

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.1 hr	22 hrs	28 hrs
Depth to Water (ft)	dry	8.8	8.5
Depth to Cave-in (ft)	20.0		

DRILLING AND SAMPLING NOTES

Date Begun 5/18/05 Comp. 5/18/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 21.5

LOG OF TEST BORING.GPJ 11941-HX.GPJ INB_MILLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

LOG OF TEST BORING NO. B10 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 6000.7 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m γ_d (PCF)	LL PL PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 10	Loose, moist, dark brown, silty, fine to medium SAND (topsoil)		4		24.1			
	SS-2 2.5-4.0 15	3.0		20		12.2			
5	SS-3 5.0-6.5 13	Loose to medium dense, moist, light brown, silty, fine to medium SAND		10		9.1			
	SS-4 7.5-9.0 16			7		14.1			
10	SS-5 10.0-11.5 15			9		20.8			
15	SS-6 15.0-16.5 9	15.0 Dense, moist, tan, clayey, fine to medium SAND		32		14.8			
20	SS-7 20.0-21.5 20			23		18.9			
25	SS-8 25.0-26.5 18	26.5		29		17.5			

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.1 hr		
Depth to Water (ft)	dry		
Depth to Cave-In (ft)	12.5		

DRILLING AND SAMPLING NOTES

Date Begun 5/18/05 Comp. 5/18/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 19.0

INBERG-MILLER ENGINEERS

LOG OF TEST BORING.GPJ 11941 HX.GPJ INB_MLLR.GDT 6/2/05

LOG OF TEST BORING NO. B11 Page 1 of 1

Project: Residence Hall Job No.: 11941-HX
Location: Cheyenne, Wyoming Client: Laramie County Community College
Surface El. (Ft): 6002.5 Benchmark/Datum (Ft): City Control Point

Depth (ft)	SAMPLING TYPE - NO. DEPTH (ft) RECOVERY(in)	SOIL DESCRIPTION	USCS	N BLOWS PER Ft	q_p (TSF)	W (%)	γ_m γ_d (PCF)	LL PL PI (%)	OTHER TESTS
0	SS-1 0.0-1.5 15	Medium dense, moist, dark brown, silty, fine to medium SAND (topsoil)		13		6.0			
	SS-2 2.5-4.0 18	4.0		17		6.6			
5	DC-3 5.0-6.0 12	Loose to medium dense, moist, light brown, silty, fine to medium SAND				7.9	107 99		Consol-swell
	SS-4 7.5-9.0 18	9.0		8		16.8			
10	SS-5 10.0-11.5 3	Loose, moist, brown, clayey, fine to medium SAND		9		25.0			
		13.0							
15	SS-6 15.0-16.5 18	Medium dense, moist, light brown, silty, fine to medium SAND		18		20.0			
		19.0							
20	SS-7 20.0-21.5	Medium dense, moist, brown, clayey, fine SAND		20		41.2			
25	SS-8 25.0-26.5 18	26.5		36		20.9			

WATER LEVEL OBSERVATIONS

Initial Occurrence While Drilling (ft)	dry		
Time After Drilling	0.5 hr	21 hrs	25 hrs
Depth to Water (ft)	19.5	11.4	11.5
Depth to Cave-In (ft)	20.5		

DRILLING AND SAMPLING NOTES

Date Begun 5/18/05 Comp. 5/18/05
Crew ELL/JLB Rig CME-55
Method: Hollow-Stem Auger
Termination Depth (ft) 26.5

INBERG-MILLER ENGINEERS

LOG OF TEST BORING.GPJ 11941 HX.GPJ INB_MLLR.GDT 5/2/06

General Notes - Log of Test Boring/Test Pit

DESCRIPTIVE SOIL CLASSIFICATION

Grain Size Terminology

Soil Fraction		Particle Size	U.S. Standard Sieve Size
Boulders		Larger than 12"	Larger than 12"
Cobbles		3" to 12"	3" to 12"
Gravel:	Coarse	3/4" to 3"	3/4" to 3"
	Fine	4.76mm to ¾"	#4 to ¾"
Sand:	Coarse	2.00mm to 4.76mm	#10 to #4
	Medium	0.42mm to 2.00mm	#40 to #10
	Fine	0.074mm to 0.42mm	#200 to #40
Silt		0.005mm to 0.074mm	Smaller than #200
Clay		Smaller than 0.005mm	Smaller than #200

Plasticity characteristics differentiate between silt and clay

Relative Density		Consistency	
Term	"N" Value*	Term	q_u tons/sq. ft.
Very Loose	0-4	Very Soft	0.0 to 0.25
Loose	4-10	Soft	0.25 to 0.5
Medium Dense	10-30	Firm	0.5 to 1.0
Dense	30-50	Stiff	1.0 to 2.0
Very Dense	Over 50	Very Stiff	2.0 to 4.0
		Hard	Over 4.0

*Note: The penetration number, N, is the summation of blows required to effect two successive 6" penetrations of the 2" split-barrel sampler. The sampler is driven with a 140-pound weight falling 30", and is seated to a depth of 6" before commencing the standard penetration test.

DESCRIPTIVE ROCK CLASSIFICATION

Engineering Hardness Description of Rock
(not to be confused with MOH's scale for minerals)

Very Soft	Can be carved with a knife. Can be excavated readily with point of pick. Pieces one inch or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.
Soft	Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.
Medium Soft	Can be grooved or gouged 1/16-inch deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1-inch maximum size by hard blows of the point of a geologist's pick.
Medium Hard	Can be scratched with knife or pick. Gouges or grooves to ¼-inch deep. Can be excavated by hard blow of a geologist's pick. Hand specimens can be detached by moderate blow.
Hard	Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.
Very Hard	Cannot be scratched with knife or sharp pick. Breaking of hand specimens requires several hard blows of geologist's pick.

NOMENCLATURE

Drilling and Sampling

SS	Split Barrel (spoon) Sampler
N	Standard Penetration Test Number, blows/foot*
ST	Thin-walled Tube (Shelby Tube) Sampler
DC	Thick-wall, ring lined, drive sampler
C	Coring
DP	Direct Push Sampler
CS	Continuous Sampler (used in conjunction with hollow stem auger drilling)
D	Disturbed Sample (auger cuttings, air/wash rotary cuttings, backhoe, shovel, etc.)

Laboratory Tests

USCS	Unified Soil Classification System (soil type)
W	Water Content (%)
LL	Liquid Limit (%)
PL	Plastic Limit (%)
PI	Plasticity Index (LL-PL) (%)
q_u	Unconfined Strength, TSF
q_p	Penetrometer Reading (estimate of unconfined strength), TSF
γm	Moist Unit Weight, PCF
γd	Dry Unit Weight, PCF
WSS	Water Soluble Sulfate (%)
Φ	Angle of Internal Friction (degrees)
c	Soil Cohesion, TSF
SG	Specific gravity of soil solids
S	Degree of Saturation (%)
e	Void Ratio
n	Porosity
k	Permeability (cm/sec)

Water Level Measurement

▼	Water Level at Time Shown

Note: Water level measurements shown on the boring logs represent conditions at the time indicated, and may not reflect static levels, especially in cohesive soils. The available water level information is given at the bottom of each log.

Classification of Soils for Engineering Purposes

ASTM Designation: D2487-69 and D2488-69
(Unified Soil Classification System)

Major Divisions			Group Symbols	Typical Names	Laboratory Classification Criteria
Coarse-Grained Soils (More than half of material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean Gravels (Little or no fines)	GW	Well graded gravels, gravel-sand mixtures, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3
			GP	Poorly Graded gravels, gravel-sand mixtures, little or no fines	Not meeting all gradation requirements for GW
		Gravels w/ Fines (Appreciable amount of fines)	GM[2] d / u	Silty gravels, gravel-sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4 / Atterberg limits below "A" line or P.I. greater than 7 — Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-clay mixtures	
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean Sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3
			SP	Poorly graded sands, gravelly sands, little or no fines	Not meeting all gradation requirements for SW
		Sands w/ Fines (Appreciable amount of fines)	SM[2] d / u	Silty sands, sand-silt mixtures	Atterberg limits above "A" line or P.I. less than 4 / Atterberg limits above "A" line or P.I. greater than 7 — Limits plotting in hatched zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures	
Fine-Grained Soils (More than half material is smaller than No. 200 sieve size)	Silts and Clays (Liquid limit less than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5%: GW, GP, SW, SP; More than 12%: GM, GC, SM, SC; 5 to 12%: Borderline cases requiring dual symbols[3]
			CL	Inorganic clays of low to medium plasticity, gravelly, clays, sandy clays, silty clays, lean clays	
			OL	Organic silts and organic silty clays of low plasticity	
	Silts and Clays (Liquid limit greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	Plasticity Chart
			CH	Inorganic clays of high plasticity, fat clays	
			OH	Organic clays of medium to high plasticity, organic silts	
	Highly Organic Soils		Pt	Peat and other highly organic soils	

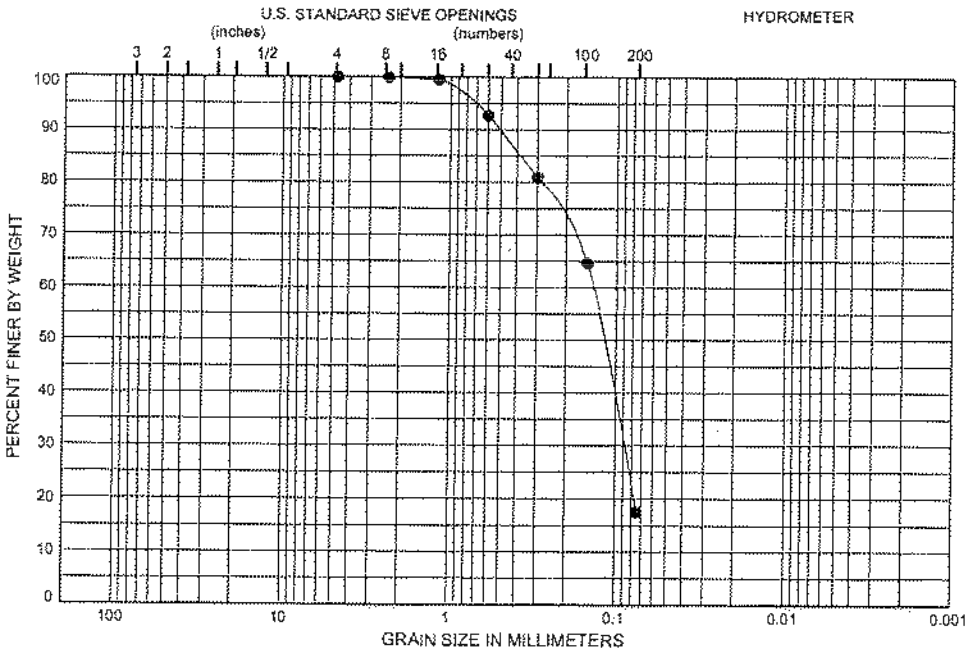
[2] Division of GM and SM groups into subdivision of d and u are for roads and airfields only. Subdivision is based on Atterberg limits; suffix d used when L.L. is 28 or less and the P.I. is 6 or less; the suffix u used when L.L. is greater than 28.

[3] Borderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group symbols. For example: GW-GC, well-graded gravel-sand mixture with clay binder.

INBERG-MILLER ENGINEERS

PARTICLE SIZE ANALYSIS

PROJECT: Residence Hall
JOB NO.: 11941-HX
CLIENT: Laramie County Community College
TEST DATE: 5/20/2005
TESTED BY: JBL
TEST METHOD: ASTM D422



COBBLES	COARSE GRAVEL	FINE GRAVEL	COARSE SAND	MEDIUM SAND	FINE SAND	SILT	CLAY

SOIL DESCRIPTION: Brown, silty, fine to medium SAND
SOURCE: Test Boring B2
SAMPLE NO.: B2-1
SAMPLED BY: IME
DEPTH: 0

LIQUID LIMIT:	NP	PERCENT GRAVEL:	0.0
PLASTIC LIMIT:	NP	PERCENT SAND:	82.4
PLASTICITY INDEX:	NP	PERCENT SILT & CLAY:	17.6

SIZE ANALYSIS-1 11941-HX.GPJ INB_MILLER.GDT 6/2/05

INBERG-MILLER ENGINEERS

PARTICLE SIZE ANALYSIS

PROJECT: Residence Hall
JOB NO.: 11941-HX
CLIENT: Laramie County Community College
TEST DATE: 5/20/2005
TESTED BY: JBL
TEST METHOD: ASTM D422

COBBLES | COARSE GRAVEL | FINE GRAVEL | C | E | MEDIUM SAND | FINE SAND | SILT | CLAY

SOIL DESCRIPTION Brown, silty, fine to medium SAND
SOURCE Test Boring B2
SAMPLE NO.: B2-2
SAMPLED BY IME
DEPTH: 2.6

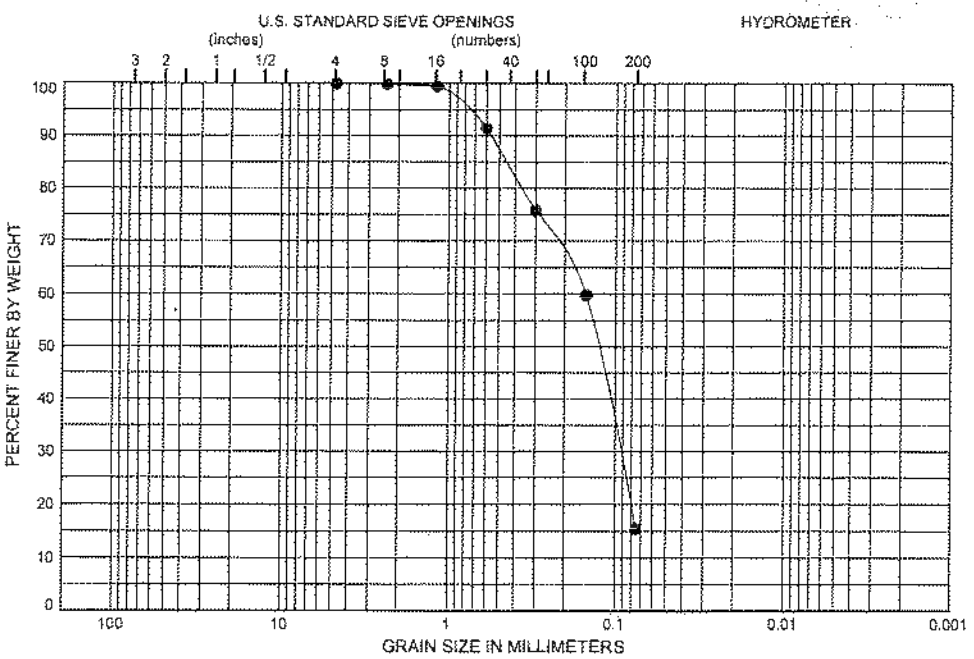
LIQUID LIMIT:		PERCENT GRAVEL:	0.0
PLASTIC LIMIT:		PERCENT SAND:	85.2
PLASTICITY INDEX		PERCENT SILT & CLAY	14.8

6/2/05 HX.GPJ SIZE ANALYSIS-1

INBERG-MILLER ENGINEERS

PARTICLE SIZE ANALYSIS

PROJECT: Residence Hall
JOB NO.: 11941-HX
CLIENT: Laramie County Community College
TEST DATE: 5/20/2005
TESTED BY: JBL
TEST METHOD: ASTM D422



COBBLES	COARSE GRAVEL	FINE GRAVEL	COARSE SAND	MEDIUM SAND	FINE SAND	SILT	CLAY

SOIL DESCRIPTION: Brown, silty, fine to medium SAND
SOURCE: Test Boring B7
SAMPLE NO.: B7-2
SAMPLED BY: IME
DEPTH: 2.5

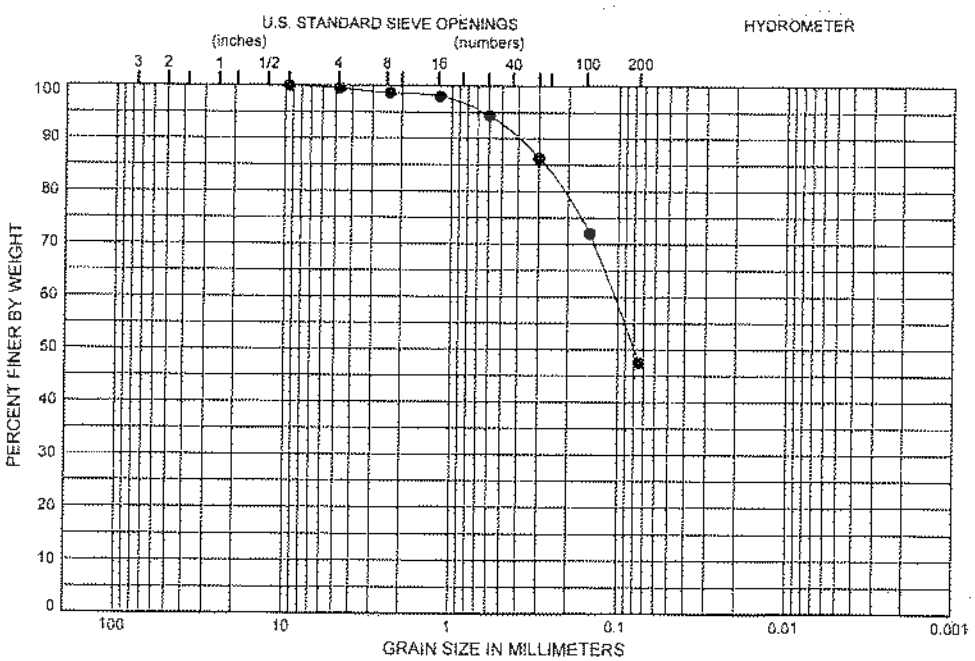
LIQUID LIMIT: NP
PLASTIC LIMIT: NP
PLASTICITY INDEX: NP
PERCENT GRAVEL: 0.0
PERCENT SAND: 84.6
PERCENT SILT & CLAY: 15.4

SIZE ANALYSIS-1 11941-HX.GPJ INB_MLLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

PARTICLE SIZE ANALYSIS

PROJECT: Residence Hall
JOB NO.: 11941-HX
CLIENT: Laramie County Community College
TEST DATE: 5/20/2005
TESTED BY: JBL
TEST METHOD: ASTM D422



COBBLES	COARSE GRAVEL	FINE GRAVEL	COARSE SAND	MEDIUM SAND	FINE SAND	SILT	CLAY

SOIL DESCRIPTION: Brown, clayey, fine SAND
SOURCE: Test Boring B7
SAMPLE NO.: B7-5
SAMPLED BY: IME
DEPTH: 10

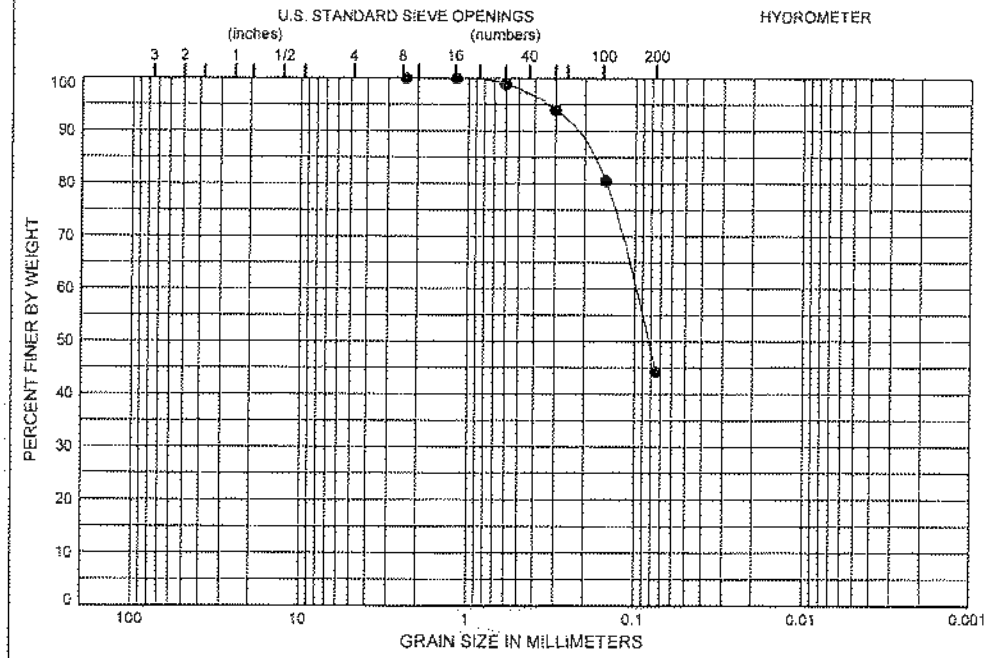
LIQUID LIMIT: 31
PLASTIC LIMIT: 22
PLASTICITY INDEX: 9
PERCENT GRAVEL: 0.6
PERCENT SAND: 51.8
PERCENT SILT & CLAY: 47.6

SIZE ANALYSIS-1 11941-HX.GPJ INB_MLLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

PARTICLE SIZE ANALYSIS

PROJECT: Residence Hall
JOB NO.: 11941-HX
CLIENT: Laramie County Community College
TEST DATE: 5/20/2005
TESTED BY: JBL
TEST METHOD: ASTM D422



COBBLES	COARSE GRAVEL	FINE GRAVEL	COARSE SAND	MEDIUM SAND	FINE SAND	SILT	CLAY

SOIL DESCRIPTION: Brown, clayey, fine SAND
SOURCE: Test Boring B7
SAMPLE NO.: B7-7
SAMPLED BY: IME
DEPTH: 20

LIQUID LIMIT:	41	PERCENT GRAVEL:	0.0
PLASTIC LIMIT:	26	PERCENT SAND:	56.7
PLASTICITY INDEX:	15	PERCENT SILT & CLAY:	44.3

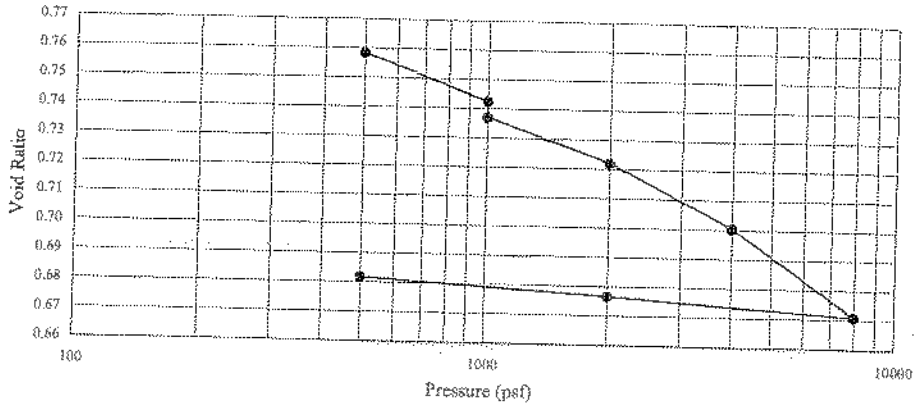
SIZE ANALYSIS-1 11941-HX.GPJ INB_MILR.GDT 6/2/05

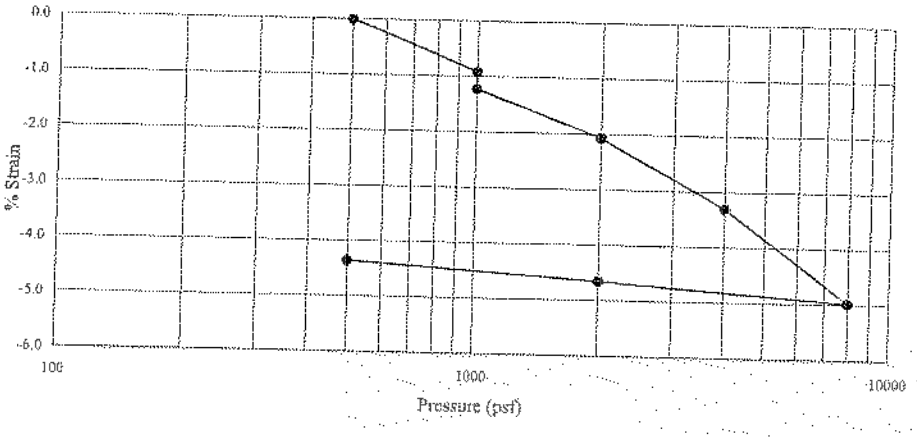
INBERG-MILLER ENGINEERS

CONSOLIDATION-SWELL TEST

ASTM D2435

Project: LCCC Residence Hall
Job No: 11941-HX
Client: Laramie County Community College
Test Date: May 20, 2005
Tested By: JBL
Sample No: B8-2
Depth(ft): 2.5





Soil Description: Light brown, clayey, fine SAND

Swell Pressure:	N/A	psf	Specimen Diameter:	2.41	in.
Percent Swell:	-0.3%		Specimen Height:	1.00	in.
Comp. Index (Cc):	0.098		Overburden Pressure (Po):	300	psf
Consol. Index (Cr):	0.009		Preconsol. Pressure (Pp):	2000	psf
Liquid Limit (%):					
Plastic Limit (%):					
Plasticity Index (%):					

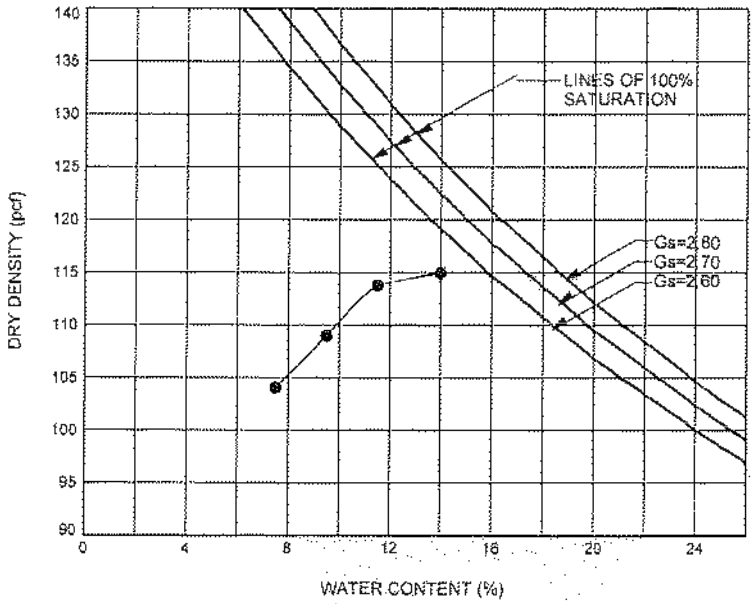
	Initial	Final
Moisture Content:	5.7%	21.6%
Void Ratio:	0.758	0.682
Saturation:	20%	83%
Dry Density (pcf):	95.8	98.7

INBERG-MILLER ENGINEERS

MOISTURE-DENSITY ANALYSIS

PROJECT: Residence Hall
JOB NO.: 11941-HX
CLIENT: Laramie County Community College

TEST DATE: 5/25/2005
TESTED BY: JBL
TEST METHOD: ASTM-D698



SAMPLE NO.:
SAMPLED BY: IME
DEPTH: 0

SOIL DESCRIPTION: Brown, clayey, fine SAND
SOURCE: Test Boring B3

PASSING #200 SIEVE: %
LIQUID LIMIT:
PLASTICITY INDEX:

OPTIMUM WATER CONTENT: 14.0 %
MAXIMUM DRY DENSITY: 115.0 pcf

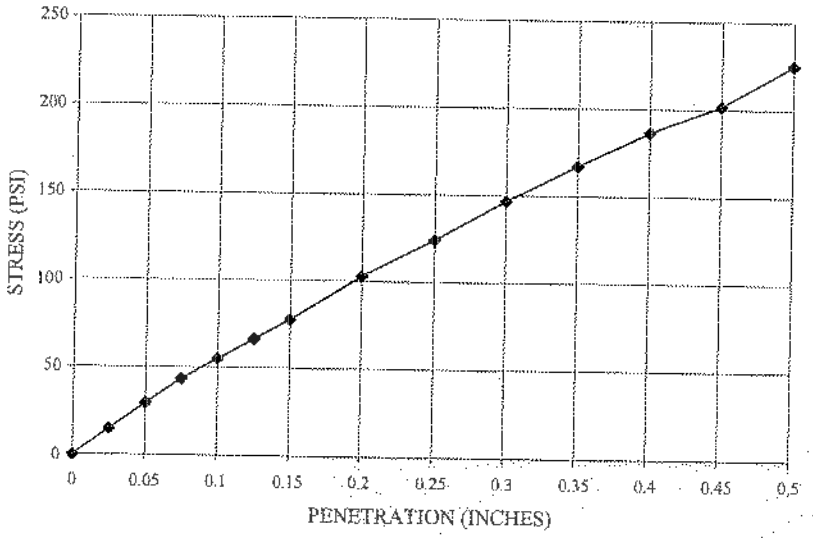
PROCTOR 11941 HX GPJ, INB_MLR.GDT 6/2/05

CALIFORNIA BEARING RATIO

INBERG-MILLER ENGINEERS
ASTM D1883

CLIENT: LCCC
PROJECT: Residence Hall
JOB NO.: 11941-HM
TEST DATE: 5/26/05
DESCRIPTION: Brown silty fine SAND

SAMPLE NO.: B-3 Auger
TESTED BY: BAJ
PROCTOR METHOD: ASTM D698
SWELL (%): 0.4
SURCHARGE (LBS): 10
DEPTH (FT): Unknown



BEFORE SOAKING	
Moist. Content (%):	13.4
Dry Density (PCF):	109.9

ASTM D698	
Opt. Moist. Content (%):	14
Max. Dry Density (PCF):	115

AFTER SOAKING	
Moist. Content (%):	16.5
Dry Density (PCF):	110.0

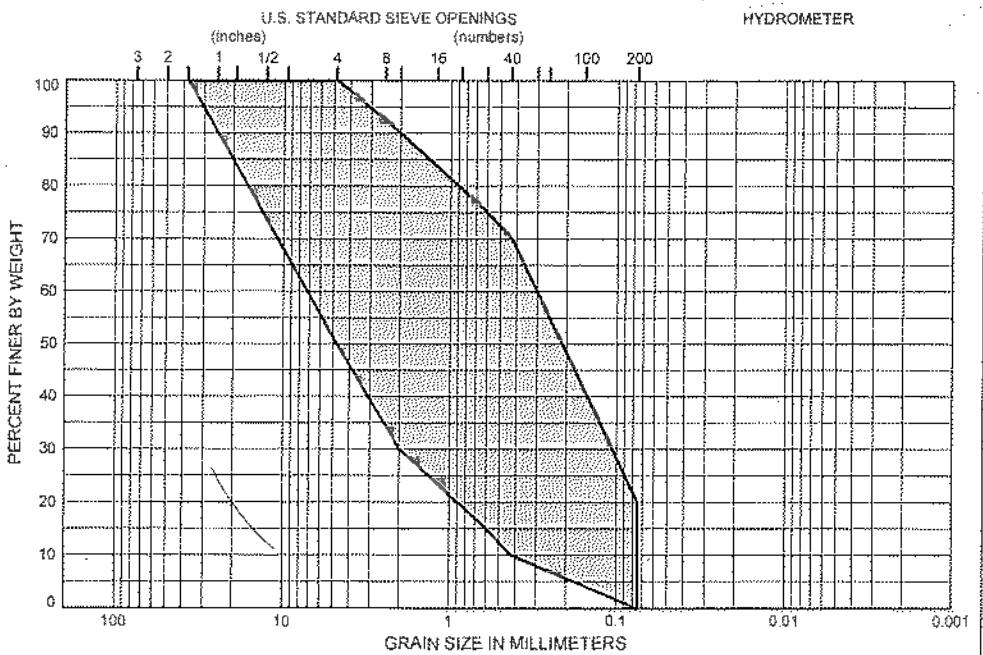
TEST RESULTS	
Compaction of Sample (%):	95.5
California Bearing Ratio:	5.5

GRADATION ENVELOPE A

PROJECT: Residence Hall

JOB NO.: 11941-HX

CLIENT: Laramie County Community College



Material Description (Envelope A): GRANULAR FILL

Recommended Gradation:

Sieve Designation	Specified Percent Finer
1 1/2"	100
# 4	50 - 100
# 10	30 - 90
# 30	15 - 75
# 40	10 - 70
# 200	0 - 20

GRADATION ENVELOPE-A 11941-HX.GPJ INB_MLLR.GDT 6/2/05

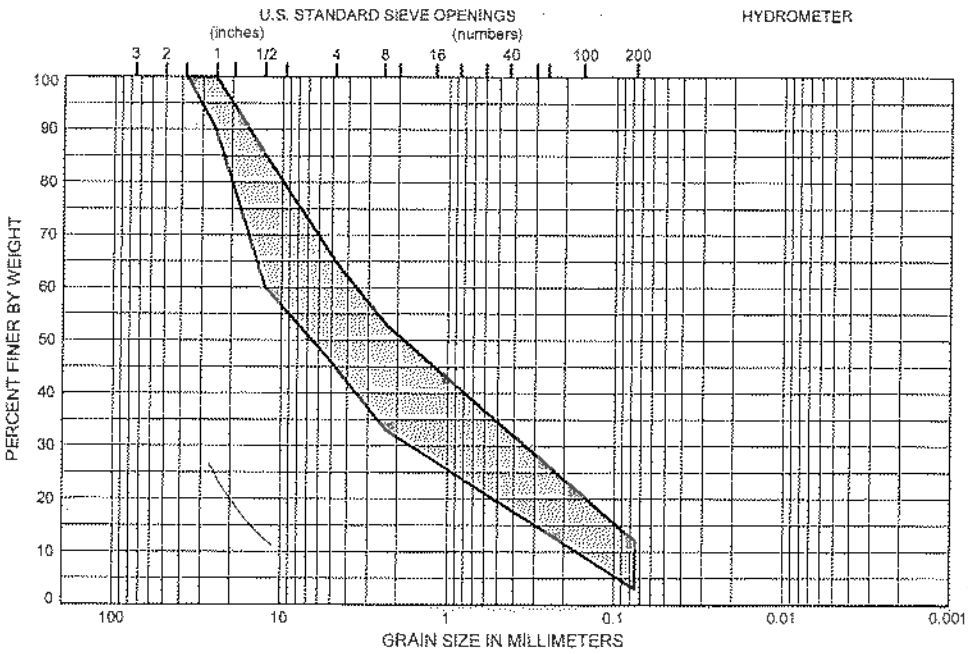
INBERG-MILLER ENGINEERS

GRADATION ENVELOPE W

PROJECT: Residence Hall

JOB NO.: 11941-HX

CLIENT: Laramie County Community College



Material Description (Envelope W): WHD CRUSHED BASE COURSE

Recommended Gradation:

Sieve Designation	Specified Percent Finer
1 1/2"	100
1"	90 - 100
1/2"	60 - 85
# 4	45 - 65
# 8	33 - 53
# 200	3 - 12

GRADATION ENVELOPE-W 11941-HX.GPJ INB_MLLR.GDT 6/2/05

INBERG-MILLER ENGINEERS

Limitations and Use of This Report

This report has been prepared by Inberg-Miller Engineers, hereinafter referred to as "IME", to evaluate this property for the intended use described herein. If any changes of the facility are planned with respect to the design vertical position or horizontal location as outlined herein, we recommend that the changes be reviewed, and the conclusions and recommendations of this report be modified in writing by IME.

The analyses and recommendations submitted in this report are our opinions based on the data obtained, and subsurface conditions noted from the field exploration. The locations of the exploration are illustrated on the accompanying map and diagram. Any variations that may occur between, beyond, or below the depths of test borings or test pits, are not presented in this report because these areas were not specifically explored. Excavations during the construction phases may reveal variations from subsurface conditions identified in our exploration. The nature and extent of such variations may not become evident until excavation and construction begins. If variations appear evident during construction, we advise a re-evaluation of the recommendations in this report. After performing additional on-site observations, we can provide an addendum to our recommendations noting the characteristics of any variations.

IME is responsible for the conclusions and opinions contained in this report based on the supplied data relative only to the specific project and location outlined in this report. If conclusions or recommendations are made by others, IME should be given an opportunity to review and comment on such conclusions or recommendations in writing, prior to the completion of the project design phase.

It is recommended that IME be provided the opportunity to review final designs, plans, and specifications using the conclusions of this report, in order to determine whether any change in concept may have any effect on the validity of the recommendations contained in this document. If IME is accorded the privilege of this review, IME can assist in avoiding misinterpretation or misapplication of these recommendations if changes have been made as compared with IME's understanding of either the project or design content. Review of the final design, plans, and specifications will be noted in writing by IME upon client's request, and will become a part of this report.

Standards are referenced by designated letters/numbers in several locations within this report. These standards were identified for the sole purpose of informing the reader what test methods were followed by IME during the execution of IME's scope of services. Anyone who reads, references, or relies on this report for any purpose whatsoever is hereby advised that IME has applied professional judgment in determining the extent to which IME complied with any given standard identified in this report or any other instrument of IME's professional service. Unless otherwise indicated, such compliance referred to as "general compliance," *specifically excluded consideration of any standard listed as a reference* in the text of those standards IME has cited. Questions about general compliance – i.e., which elements of a cited standard were followed and to what extent, should be directed to IME.

Limitations and Use of This Report, Continued

IME has performed exploration, laboratory, and engineering services sufficient to provide geotechnical information that is adequate for either the preliminary planning or the design phase of the project, as stated herein. IME's scope of services was developed and agreed to specifically for this purpose. Consequently, this report may be insufficient for other purposes. For example, this report may be insufficient for the contractor or his subcontractors to prepare an accurate bid for the construction phase of the project. The client, owner, potential contractors, and subcontractors are advised that it is specifically the contractor's and subcontractor's obligation and responsibility during the bidding process to collect whatever additional information they deem necessary to prepare an accurate bid. The contractor's and subcontractor's bid should include selection of personnel, equipment, bits, etc. that are necessary to complete the project according to the project specifications, on schedule, within budget, and without change orders resulting from unforeseen geologic conditions.

Variations in soil conditions may be encountered during construction. To permit correlation between soil data in this report and the actual soil conditions encountered during construction, we recommend that IME be retained to perform construction observations of the earthwork and foundation phases of the work. It is recommended that IME be retained to observe all areas where fills are to be placed, and test and approve each class of fill material to be used according to the recommendations for compacted fill presented in this report. IME can provide specific assistance in evaluating construction compliance with the design concepts, specifications, or recommendations if IME has been retained to perform continuous on-site observations and materials testing during construction.

The presence of IME's field representative, if such services are requested by the client, will be for the sole purpose of providing record observations and field materials testing. We recommend the contractor be solely responsible for supervision, management, or direction of the actual work of the contractor, his employees, or agents. The contractor for this project should be so advised. The contractor should also be informed that neither the presence of our field representative or the observation and testing by our firm shall excuse him in any way for defects discovered in his work. It is understood that IME will not be responsible for job or site safety on this project.

This report has been prepared in accordance with generally accepted geotechnical engineering practices, and makes no warranties, either expressed or implied. The services performed by IME in preparing this report have been conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, express or implied, and no warranty or guarantee is included or intended in this report. The report has not been prepared for other uses or parties other than those specifically named, or for uses or applications other than those enumerated herein. The report may contain insufficient or inaccurate information for other purposes, applications, building sites, or other uses.

Sample and Data Collection Information

Field-sampling techniques were employed in this exploration to obtain the data presented in the Final Logs and Report generally in accordance with ASTM D420, D1452, D1586 (where applicable), and D1587 (where applicable).

The drilling method utilized in most test borings is a dry-process, machine rotary auger type that advances hollow steel pipe surrounded by attached steel auger flights in 5-foot lengths. This method creates a continuously cased test hole that prevents the boring from caving in above each level of substrata to be tested. Sampling tools were lowered inside the hollow shaft for testing in the undisturbed soils below the lead auger. In some test borings, as appropriate to advance to the desired depth, air or wash rotary drilling methods were utilized. Air or wash rotary drilling methods allow for the extraction of rock core samples.

Samples were brought to the surface, examined by an IME field representative, and sealed in containers (or sealed in the tubes) to prevent a significant loss of moisture. They were returned to our laboratory for final classification per ASTM D2487 methods. Some samples were subjected to field or laboratory tests as described in the text of this report.

Groundwater observations were made with cloth-tape measurements in the open drill holes by IME field personnel at the times and dates stated on the Final Logs. Recorded groundwater levels may not reflect equilibrium groundwater conditions due to relatively low permeability of some soils. It must also be noted that fluctuations may occur in the groundwater level due to variations in precipitation, temperature, nearby site improvements, nearby drainage features, underdrainage, wells, severity of winter frosts, overburden weights, and the permeability of the subsoil. Because variations may be expected, final designs and construction planning should allow for the need to temporarily or permanently dewater excavations or subsoil.

A Final Log of each test pit or boring was prepared by IME. Each Final Log contains IME's interpretation of field conditions or changes in substrata between recovered samples based on the field data received, along with the laboratory test data obtained following the field work or on subsequent site observations. The final logs were prepared by assembling and analyzing field and laboratory data. Therefore, the Final Logs contain both factual and interpretive information. IME's opinions are based on the Final Logs.

The Final Logs list boring methods, sampling methods, approximate depths sampled, amounts of recovery in sampling tools (where applicable), indications of the presence of subsoil types, and groundwater observations and measurements. Results of some laboratory tests are arrayed on the Final Logs at the appropriate depths below grade. The horizontal lines on the Final Logs designate the interface between successive layers (strata) and represent approximate boundaries. The transition between strata may be gradual.

Sample and Data Collection Information, Continued

We caution that the Final Logs alone do not constitute the report, and as such they should not be excerpted from the other appendix exhibits or from any of the written text. Without the written report, it is possible to misinterpret the meaning of the information reported on the Final Logs. If the report is reproduced for reference purposes, the entire numbered report and appendix exhibits should be bound together as a separate document, or as a section of a specification booklet, including all drawings, maps, etc.

Pocket penetration tests taken in the field, or on samples examined in the laboratory are listed on the Final Logs in a column marked "q_p". These tests were performed only to approximate unconfined strength and consistency when making comparisons between successive layers of cohesive soil. It is not recommended that the listed values be used to determine allowable bearing capacities. Bearing capacities of soil is determined by IME using test methods as described in the text of the report.

Important Information About Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

COMPILED LCCC HOUSING SPECS TOC

APPENDIX B

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BY REFERENCE BELOW

ADDITIONAL LARAMIE COUNTY SPECIFICATIONS BY REFERENCE AVAILABLE ONLINE:

https://www.cheyennecity.org/1911/Construction-Specifications

Final specifications 2014 COMPLETE_20140311021094318.pdf

2014 specs_20140312153541810 6 from Laramie County.pdf

2014 Drawings_20140312153614185 6.pdf

ARCHITECT MEETING MINUTES

APPENDIX C

MEETING MINUTES

METHOD STUDIO INC.

MEETING MINUTES

PROJECT: LCCC New Residence Hall
PROJECT #: 17.0455

MEETING LOCATION: LCCC, Admin. Building, Conference Room

MEETING DATE/TIME: Thursday, June 1, 2017 – 1:00-4:00pm

MEETING PURPOSE: **Project Kick-Off**

ATTENDEES:

LCCC

Bill Zink	Director, Physical Plant	307-778-1121	bzink@lccc.wy.edu
Scott Noble	Athletics/Rec.	307-778-4372	snoble@lccc.wy.edu
Carol Merrell	Trustee	307-630-8248	mamamerrell@gmail.com
Brynn Elliott	Res. Hall/Disability Serv.	307-778-1359	belliott@lccc.wy.edu
Judy Hay	V.P. Student Serv.	307-778-1217	jhay@lccc.wy.edu
Jill Koslosky	Dean of Students	307-637-2490	jkoslosk@lccc.wy.edu
Rick Johnson	V.P. Admin. + Finance	307-778-1135	rjohnson@lccc.wy.edu
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Method Studio

Joe Smith	Principal	801-532-4422	joe@method-studio.com
Shawn Benjamin	Project Manager	801-532-4422	shawn@method-studio.com
Jake Gines	Sr. Programmer/Design	801-532-4422	jake@method-studio.com

MINUTES

1. **PROJECT SCHEDULE DISCUSSION**

All meeting to be at LCCC and will begin at 1pm, unless otherwise arranged.
Additional meetings can be arranged, including remote video conferencing, if needed.

June 1	Thursday	Project Kick-off Meeting
June 15	Thursday	Progress Meeting
July 6	Thursday	Progress Meeting
July 20	Thursday	Progress Meeting
August 10	Thursday	Progress Meeting
August 28	Monday	LCCC Classes Begin
September 7	Thursday	Progress Meeting
September 30	Saturday	Perform Level II
October 18	Wednesday	Present to Board of Trustees + Other Stakeholders
October 31	Tuesday	Final Deliverables Due

2. **GENERAL DISCUSSION**

- All communication with LCCC to go through Rick Johnson.
- Joe Smith reviewed the Level I and Level II requirements and expectations
- Scope of services by Method Studio to also include Schematic Design and a full program – as per examples provided by Method; including unit comparisons, program matrix, an cost estimates from multiple contractors.
    - LCCC expressed excitement over the multiple contractor approach to estimating.
    - Contractors have a pulse on the current bid climate.

3. **VISION DISCUSSION FOR THE PROJECT**

- There is a philosophical shift occurring on campus, where traditionally LCCC has been a commuter campus and now is moving toward a resident campus. This will open doors for recruiting out-of-state students and other populations where the College can't promise much currently.
- COMMUNITY BUILDING. Involved with other students in and around the resident halls.
- It is difficult to live on campus because there is no night life. Halls would benefit by providing spaces that engage – game rooms, interactive spaces, etc.
- Wet core idea might go against community building(?) Other see the wet core as another place in the residence halls to meet.
- Need places to study, quiet areas. Difficult to study in rooms.
- Need places to connect – outlets, wifi, etc.
- Need other food options within the residence halls – other than vending. Possibly tie into campus cafeteria services.
- Students currently use the 1 kitchen provided. Like the idea of kitchen areas in the new hall – one per floor?
- Need adequate parking. Including diesel parking stalls with places to plug-in during winter months.
- Like the idea of having an open field area adjacent the new hall.
- There may be additions to the RAC that will provide options for outdoor recreation coming in the future.

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- Desire to provide physical connections to existing residence hall, so students don't have to go outside.
- Place the new residence hall in the existing parking lot to the east of the existing residence hall.
    - Might work better from a utility point of view.
- Team to examine the two different sites.
    - 'bonfire' site vs. parking lot site.
- Climate is an issue – distance from car to building.
- Living Learning Environments.
- Put a classroom in the new residence hall – other learning spaces?
- Living Learning Communities. Themed or programmed – academic or topic based.
    - Rodeo club, Science, Technical Trades
    - Other interests?
- All the halls are moving to open housing. No longer separated by gender – coming this fall.
- Key cards for access to building and rooms.
    - Current buildings only have card access to the outside doors.
    - Can be an expensive option.
    - Look at putting in the infrastructure now for future retrofit.
- Indoor-Outdoor spaces, BBQ areas
- More integration of the accessible rooms so that they are not separated/isolated. More flexibility for those students. More universal design. Make the differences invisible.
- New residence hall has the potential of becoming the new face of the campus depending on the siting of the project.
    - Could be an opportunity to do something very impactful.
    - UW dorms are boring, Boulder campus dorms really great – student.
- Should we take tours of other residence halls?
    - CSU? LCCC could possibly arrange a bus for the tour.
- No desire to do apartment style for this residence hall.
- The wind BLOWS a lot! Hardy construction.
    - Team to walk the campus to discover the current issues on campus
- Laundry on each floor. Currently only in one location.
- Each floor should be self-sufficient.
- Ice machines?
- No long hallways! Break them up – jogs, colors, branding, spaces with nooks and crannies.
- Efficiency is a priority. Current halls have a lot of wasted space.
- Consistency and uniformity in the lighting in new hall. The current halls have several different lighting fixtures.
- Safety considerations.
- Existing clerestory windows in units are an issue. Students climbing up to block off the light and privacy issues when maintenance staff are working on the roof.
- There have been issues with settling of the current halls. It is believed that the wood construction is a contributing factor.
    - Current wood detailing and construction techniques have resolved many of these issues.
- Current code restricts the building to 4-story.
- Consider wood vs. steel vs. hybrid construction techniques.
- Original residence halls are CMU construction. Students like them because they are quieter.

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- Newer halls have poor acoustics between units, floors and even across the hall.
- Newer residence hall
    - Wood consruction
    - Gypcrete is on the floors – thickness is unknown.
    - Code would now require 50 STC rating between units and floors, this will help with the acoustic design of the new hall.
- Wifi is currently constantly disconnecting. Can lose connection while on the same floor.
- Current projects are providing at least one Ethernet connection per unit and at each bed.
    - Ethernet connection is more reliable.
    - A lot of demand on wireless network.
- Do the students move the furniture in the unit/bedroom? Flexibility vs. efficiency. Currently the students do move their furniture in the units.
- Current bedrooms in the residence hall are huge. Students like the size but they agree that they are too big.
    - Trend is showing compact, micro layouts. Very thoughtful design. Plug and play.
    - Students agree that this is the current trend.
- Closet/storage spaces are important.
- More hang out spaces, gaming spaces, etc.
    - Diversity in furniture – mix it up.
    - Hanging hammocks?
- Restricted now in the one common area in the existing hall – 20± students.
- Outdoor auditorium/amphitheater. Teared seating, grassy area.
    - Would be nice amenity to the campus.
    - A similar space will be going in this summer adjacent the dining hall.
- Funding mechanism.
    - Option 1 – bond then pay off with revenue from the residence halls.
    - Option 2 – Mill Levy campaign. LCCC president to poll the community. This would go a long way in paying for the project.
- 348 bed facility, $21M – according to Rick Johnson.
- Currently the campus has 270 beds.
- Wet core advantage – maintained by the College.
- Students prefer to at least have a sink in the unit.
- Wet core and suite style are very successful for freshmen/sophomore students.
- Potentially decrease or eliminate living space in the unit and force/encourage the students out of the unit.
    - Currently, students gather in the bedrooms – primarily because they are large.
- Improve the lifestyle around the campus.
- Visually branding the building environments – look at this more at next meeting.
    - What makes Cheyenne and LCCC unique?
    - What is the story that we want to tell?

4. HEADLINES EXERCISE

- “Be Inspired, Residence Life”
- “New Res Hall Hopes to Achieve More Student Interaction”
- “Students are Able to Have Fun in Res Hall”
- “LCCC Triples Student Grad Rate Through Residential Experiences”
- “LCCC Moves to Recruit New Students with Expanding Housing”
- “LCCC Moving Away from Commuter Campus”

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- “LCCC Meats Today’s New Student Housing Need”
- “LCCC Attracting Next Gen College Student”
- “New Res Hall Provides Opportunity for High Speed Learning”
- “Student Housing Emphasizes Community: Learning Communities/Diverse Communities”
- “Need More Restaurants in South Cheyenne When LCCC Build New Res Hall”
- “Traffic Lights Needed on Collge Dr. When LCCC Building New Res Hall”
- “LCCC Targets H.S. Seniors”
- “LCCC Adds Wrestling Program”
- “Full-Time Enrollment Doubles”
- “LCCC Transforms Campus”
- “Students ‘Soar’ Into a New Residence Hall”
- “College Ends New Student Isolation Through Residential Experience”
- “Students Connect Through Innovative Living Experience”
- “LCCC Opens Unique Housing Opportunity for Students!”
- “LCCC Breaks the Mold with New Residence Hall”

5. RESEARCH TOPICS DISCUSSION

- Why students should live on campus?
    - This could assist in the Mill Levy campaign.
- **Creating Community affecting student success and transfer/graduation rates**.
    - Very interested in this topic!
    - Currently part of a 3-year agenda for pathway to finishing/future.
    - “Redesigning America’s Community Colleges” – this book has set forth the model that the College is following to transform itself.
    - Lowest cost higher education in the region, possibly country.
    - Mechanism to reshape Wyoming’s future leadership.
    - Pull students in and retain them in WY.
    - Incredible shortage of rentable housing.
    - Unique from an experience and help the state.
    - Entrepreneurship programs?
- 7-Habits could be applicable.
- Sustainability as an important social issue for students?
    - Realtime sustainable data.
    - Carbon footprint competitions among students.
    - Current campus is on geothermal.
    - Wyoming is a coal state. Not a cultural push.
- Time as a benefit vs. a restriction. How to maximize students time on campus.

6. UNIT DESIGN

- Apartment style is off the table – not interested in pursuing this unit type.
- More need for single-student housing – freshmen and sophomore.
- Trend is that family housing is being shifted to the private sector.
- Sweetgrass Development across the street will fill more of the family housing need and other housing options.
- Current LCCC residential offering
    - Single suite – 4 units only
    - 2 bed private corner suite
    - 2 bedroom shared 4 bed suite

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1. students store stuff in the living area – don't use as living room.
2. Bedrooms are very large.
3. TV's and technology kept in rooms.

- 4 bed private suite
  1. nice to have own room. Smaller rooms with a common space.
- Everyone is on a meal plan.
- Students like small kitchenette, but prefer to get out of the unit.
- Less space = less cleaning.
- Common kitchen – issue is students leaving food and not cleaning up.

- Mix of preference among students – single beds vs. double beds.
- Students not concerned with cleaning bathrooms, but female students are very concerned with sharing a wet core because of hauling their 'stuff' back and forth. Lockers might be a solution.
- Students like the Clemson wet core idea.
- Look at the new Penn State housing wet core – more spa-like.
- If the building doesn't have common areas then the community space needs to happen in the unit.
- With common areas then we need to get the students out of their rooms. We have to move forward with common spaces.
- Six bed unit is the max. – (2) doubles, (2) singles – most efficient.
- Increased operational costs for wet core. Increased longevity.

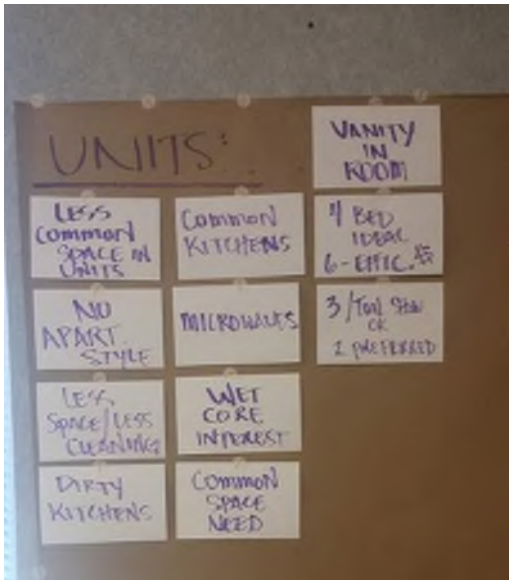
7. NEXT MEETING ITEMS TO DISCUSS

- Wet Cores
- Unit efficiency of types
- Square foot per person per unit breakdown
- Overall plan strategies
- Branding and Identity
- Other

NEXT MEETING – June 15, 2017 - 1pm at LCCC

Vision and Goals Discussion

Headlines Activity and Discussion
Research Topic Discussion



Units Discussion

Project Site Discussion – 2 options.

MEETING MINUTES
PROJECT: LCCC New Residence Hall
PROJECT #: 17.0455

MEETING LOCATION: LCCC, Admin. Building, Conference Room

MEETING DATE/TIME: Thursday, June 16, 2017 – 1:00-4:00pm

MEETING PURPOSE: **Project Meeting #2**

ATTENDEES:

LCCC

Bill Zink	Director, Physical Plant	307-778-1121	bzink@lccc.wy.edu
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Rick Johnson	V.P. Admin. + Finance	307-778-1135	rjohnson@lccc.wy.edu
Ted Wickham	IT Network	307-778-1353	twickham@lccc.wy.edu
Ken Bunya	IT	307-778-1270	kbunya@lccc.wy.edu
Sarah Hannes	Admissions	307-778-1178	shannes@lccc.wy.edu
Ken Coder		307-778-1237	kenneth.coder@sodexo.com

LCCC Students

Jake Thomas	Res. Hall	308-765-8554	jacobthomas703@yahoo.com
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Alex Loeffelholz	Res. Hall	970-685-1611	jhon7296@gmail.com
Sebastian Houston	Student Gov.	719-534-3959	sebastianhouston97@gmail.com

Method Studio

Joe Smith	Principal	801-532-4422	joe@method-studio.com
Becky Hawkins	Principal	801-532-4422	shawn@method-studio.com
Jake Gines	Sr. Programmer/Design	801-532-4422	becky@method-studio.com

MINUTES

1) Wet Core

a) LCCC generally like the options
b) It would be beneficial to have some single toilet rooms as well
c) LCCC likes the idea of a locker/bed
d) Do not prefer option 3A, but rather an option with abundant natural light and a partition wall that blocks views into the space.
e) Options 1 and 9 are preferred. Options 4 and 5 also were viewed favorably.
f) Restroom Ratio to be 4 people per toilet and 6 people per shower
g) Gender
    (i) Are students comfortable sharing wet core? Yes, Students will have their own lockable space
    (ii) Does having the wet core truly contribute to a community building? Many feel it does not
    (iii) Should the wet core be segregated by gender? LCCC wants to provide both separated and individual restroom spaces. This will help with the increasing number of transgender students
    (iv) Some universities are pushing the ratio of student per toilet/shower. Penn state and others have a 1:6 ratio. Student prefer less. Similar to the idea of offering spaces that have a combination of toilets/showers and just toilets.
    (v) The wet core would have added main cost for cleaning but LCCC prefer that to filthy toilets at the end of the semester.
    (vi) Can charge for different options or better ratios

2) Food Options

a) Potential food options and considerations:
    (i) Hotels bring in light dinners a few nights a week as on option (part of the student meal plan).
    (ii) Flex dollar cards would allow students access to the space for food options (Sedesco on Campus). This can be revenue generating
    (iii) The current need is not during the dinner hour that is provided (aligns with night classes)
    (iv) This space could be 150 – 200 sqft

3) Site Considerations

a) Courtyard area in current residential hall is not used much. With the right amenities and special consideration this could be different
b) Outdoor space should be programmed into the project
c) Prevailing winds need to be understood and obstructed for the courtyard and outdoor spaces
d) The new building will connect to the west hall which will eventually be torn down unless the building goes in the parking lot site.
e) Do not need to provide bike storage
f) The mixed use development across the street may change the dynamics and needs of the area

4) Programming Issues

a) The classroom space could be used for a variety of functions. LCCC finds this multipurpose idea interesting. This would be a classroom on 20-22 students.
b) One print station will be needed in the main lobby
c) LCCC likes the idea of a music practice room in the facility
d) Method to get a better understanding of students' storage needs
e) Safety office to be added to the administration area
f) LCCC want to look at a 2 bed option that is less than 196 SF
g) LCCC would like a mix of 2-bed and 4 bed offerings, with some singles. Primarily would be 2-bed with 4 beds mixed in, along with singles (need to provide more single than current count). Doubles can be sold as singles if necessary. 4 beds 4 singles would be a good balance.
h) Currently the women prefer the north hall and men are currently in the west hall which has no a/c
i) Method to explore two options: #1 Scenario with 8 four beds and #2 with 12 4 beds

5) General Notes:

a) Lounge spaces in current student housing are rarely used because their functions exist with in their rooms. Method to investigate this
b) Method will reach out to CSU for tours of housing facilities.
c) Also Method to arrange a tour of the existing residence hall for next meeting.
d) What if the long term plan? 25 year plan? Simply, to plan for these spaces in an economical way
e) Bed count: 348 and 400. Method to study these options

NEXT MEETING – July 6, 2017 - 1pm at LCCC

MEETING MINUTES
PROJECT: LCCC New Residence Hall
PROJECT #: 17.0455

MEETING LOCATION: LCCC, EEC 117

MEETING DATE/TIME: Thursday, July 6, 2017 – 1:00-4:00pm

MEETING PURPOSE: **Project Meeting #3**

ATTENDEES:

LCCC			
Ken Coder		307-778-1237	kenneth.coder@sodexo.com
Bill Zink	Director, Physical Plant	307-778-1121	bzink@lccc.wy.edu
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Sarah Hannes	Admissions	307-778-1178	shannes@lccc.wy.edu
Jill Koslosky	Dean of Students	307-637-2490	jkoslosk@lccc.wy.edu
Brynn Elliott	Res. Hall/Disability Serv.	307-778-1359	belliott@lccc.wy.edu
Rick Johnson	V.P. Admin. + Finance	307-778-1135	rjohnson@lccc.wy.edu
Chad Marley	CTO / IT	307-778-1346	cmarley@lccc.wy.edu
James Crosby	Dir. Campus Safety	307-778-1340	jcrosby@lccc.wy.edu
James Miller	Dean of Students	307-637-2490	jamiller@lccc.wy.edu
LCCC Students			
Faith Balkenbush	Res. Hall	970-699-1859	fbalkenbush@gmail.com
Alex Loeffelholz	Res. Hall	970-685-1611	jhon7296@gmail.com
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Method Studio			
Joe Smith	Principal	801-532-4422	joe@method-studio.com
Shawn Benjamin	Project Manager	801-532-4422	shawn@method-studio.com
Jake Gines	Sr. Programmer/Design	801-532-4422	becky@method-studio.com

MINUTES

1) Schedule
- a) Ok to proceed with July 20th meeting.

2) Wet Core Recap
- a) Ratio of 1:6 working well for Clemson and Penn State. After one year there have been no complaints from either school.
- b) Penn State already converting and planning to continue to build out with Wet Cores at a ratio of 1:6.

- c) Sorority house issues during major events anticipated, but did not materialize.
- d) Suites and Apartments not working well for sense of community.
- e) Less issues with privacy and security.
- f) Ahead of the curve with gender neutral and transgender issues.
- g) Students kept bathrooms cleaner (self-policing)
- h) Need increased ventilation in some cases.
- i) No regrets.1/2 baths would be good to increase turnover.
- j) No lockers offered at Clemson, but offered at Penn State.

2) Wet Core Overall Plans – precedent overview and wet core modifications
- a) Cores at inner and outer corners.
- b) Central cores at Penn State.
- c) No amenity space on floors beyond the core lounge space.
- d) Most common space concentrated on main level.
- e) More important at the community college experience to have amenity spaces distributed.
- f) Some pass through at core @ Earle Hall (Penn St.), similar at Robinson Hall – both are forthcoming.
- g) Thinner buildings offer some advantage, but also have their disadvantages.
- h) UC Davis is as low as 1:4 and the impact to the usable floor area is apparent.
- i) Trash shoots haven't been discussed. Currently, student take care of their own garbage. Money better spent in other areas.
- j) Main difference from the last meeting is the addition of the ½ baths.
- k) Using frosted glass to let light into area has worked well at other locations.
- l) May be preferred to have sinks in the ½ bath, make the desire to stay in the space undesirable – no mirrors, sinks with limited space to place grooming items.
- m) Limited hand dryers, students expected to bring their own towels.
- n) 3 options being reviewed: exterior wall, double corridor, and inside corner.
- o) Looking at the sight lines will be important.
- p) Vanity space will also need plenty of power.
- q) Ratios are good to move forward with 1:6 with additional toilet rooms.

3) Unit Plans
- a) 1-bed unit about 140 sf for RA and a single stack of 1-bed units (12 RA's likely)
- b) 1-bed unit about 120 sf feels less "prison-like".
- c) Ok to use longer units, but shorter units may be preferred.
- d) Students using mostly laptops, gaming is with consoles.
- e) 2-bed units (head-to-head) about 196 sf, wondering about the bed length for taller students as well as the desks being right next to each other.
- f) 2-bed units (side-by-side) about 196 sf feels better than the other.
- g) Bunk beds could also be an option.
- h) 4-bed unit about 360 sf, reorganizing the desk and closets next to the associated bed may be preferred. Roommate issues may increase with more students in the unit. Less fixtures could also be an issue. 12 units would be too much, more willing to try 4 units. Athletes may be more willing to room with teammates. Benefits: cost savings is there, but minimal. Friends rooming together.
- i) No 4- bed units will be used.
- j) Students are required to participate in meal plans.

4) Overall Plan Approaches - precedents

a) Amenity Distribution
b) Elbow as amenity (DSU)
c) Dispersed amenities (USU)
d) Multiple cores (Snow College)
e) Sprea out, but corner locations not used as well due to lack of privacy for study.
f) Removable walls to connect the prep kitchen and MP room.
g) Larger kitchens good if only 2 are provided.
h) Outdoor space will need to be discussed.
i) Grilles and fire pits would be used a lot (year round)
j) Distributed amenities are preferred.
k) Building as a wind break could be good (SW & W most of the time, from the North during the winter).
l) East side of TC wind coming from the west very windy still.

5) Site Layouts

a) Consider the master plan in the site layout, new roads and parking are high priorities, but the existing conditions need be the only considerations.
b) Drop-off areas for moving dates are not a current issue, but it should be looked at for bus drop-off/pick-up. There is a stop at the west side of the campus.
c) West Site Option A: campus axis (the mall) and residential axis, central indoor gathering space.
d) West Site Option B: Possible bridge, plaza as terminus, wind is a big con in this area, the "atrium" idea on other levels could be nice. Some capus vehicles use the mall to get from point to point – the mall is a fire lane. The bike path should remain to the greatest degree since there is a city connection.
e) East Site Option A: 'L' scheme – quad between the two new buildings, parking is a problem if the east site is selected. Current ratio is 0.77 stalls per bed. Buildings would be connected best at the south location, but rotated to the north some. Connections between buildings are as important to connect to old amenities as the new amenities.
f) Building feels better on the west site because of the prominent visual entering the campus.
g) Plugs for diesel trucks are needed.
h) Options A & B then feel more like gateways – west site.
i) The current CMU building would come down in 2024.
j) East Site Option B: more compact. Look at the area to the north of the east site. Some like the protected interior courtyard.

6) Program/Budget

a) Some revisions are needed after our meeting today.
b) LCCC is anticipating Pathfinder and Flextech came in at the high $200's per sf.

7) Mechanical/Electrical

a) The Campus Mall is a utility tunnel (south sidewalk), but stops at the science building.
b) The Central Plant is sized for one more building with some required additional equipment needed.
c) LCCC will send the drawings (CAD) of the newest res hall building.

8) Next Steps

a) Board meeting July 18th that would require some conceptual work to present. Ok to have multiple options for the site "blocked" out. Important for campaign. Need material the 14th.

NEXT MEETING – July 20, 2017 - 1pm at LCCC

METHOD STUDIO INC.

MEETING MINUTES
PROJECT: LCCC New Residence Hall
PROJECT #: 17.0455

MEETING LOCATION: LCCC, CCI 129

MEETING DATE/TIME: Thursday, July 20, 2017 – 1:00-4:00pm

MEETING PURPOSE: **Project Meeting #4**

ATTENDEES:

LCCC			
Rick Johnson	V.P. Admin. + Finance	307-778-1135	rjohnson@lccc.wy.edu
Bill Zink	Director, Physical Plant	307-778-1121	bzink@lccc.wy.edu
Judy Hay	V.P. Student Serv.	307-778-1217	jhay@lccc.wy.edu
Sarah Hannes	Admissions	307-778-1178	shannes@lccc.wy.edu
Jill Koslosky	Dean of Students	307-637-2490	jkoslosk@lccc.wy.edu
Brynn Elliott	Res. Hall/Disability Serv.	307-778-1359	belliott@lccc.wy.edu
Chad Marley	CTO / IT	307-778-1346	cmarley@lccc.wy.edu
LCCC Students			
Sebastian Houston	Student Gov.	719-534-3959	sebastianhouston97@gmail.com
Method Studio			
Shawn Benjamin	Project Manager	801-532-4422	shawn@method-studio.com
Jake Gines	Sr. Programmer/Design	801-532-4422	jake@method-studio.com
Jared Barnett	Jr. Designer	801-532-4422	jaredbarnett@method-studio.com

MINUTES

1) Delivery Method
- a) Design build, traditional bid, and CMAR (CMGC) are the delivery options
- b) Method prefers CMAR
- c) This allows Method to work with contractors from the beginning of the project.
- d) CMAR is more conducive to a team environment.
- e) LCCC would prefer the architect to be contracted through them with the contractors under the architect.
- f) CMAR is the recommended contractual structure as this will ensure that each party is liable for their own work.

2) Current Construction Climate
- a) A large public school bond in Colorado has tied up many of the major GCs in Colorado
- b) This may add approximately 5 percent to the construction cost
- c) There will also be a premium for workers to be transported to the site

- d) This will cause a 10 percent increase in the construction cost relative to local markets (Method's Local markets)
- e) LCCC thinks that CMAR may allow for the use of local contractors
- f) It is important that a list of qualified contractors per the scope of the project is created before the contractor is chosen

2) Bond Election
- a) The bond election will be on November 8th
- b) Design Development will not be started until the results of the election bond are known

3) Board Meeting Update
- a) The schemes were approved with one opposed vote
- b) The board member that voted down did so because they did not want to ask the legislature for more money
- c) The board members are anxious for us to narrow down the decision to one site
- d) The board will have a meeting August 16th to potentially call for the bond election

4) Site Schemes

a) Canyon Scheme
- (a) Located on the west site
- (b) Would serve as the book end and campus entrance to the mall
- (c) Is based on two connections: the mall and the west hall
- (d) Property lines run through the southernmost parking location
- (e) LCCC to share parking scheme with Method
- (f) Parking preferred in this scheme as LCCC likes parking on the periphery of campus
- (g) Concerned with the long hallways
- (h) Method will develop a strategy to break the hallways up
- (i) There are many positives to the canyon scheme, however the adjacent hall will be torn down in the next few years and this would create a "hole" in the campus fabric
- (j) This is the primary reason to move away from the canyon scheme

b) Courtyard Scheme
- (a) Located on the east site
- (b) This concept engages the adjacent mall
- (c) The building allows for a pass through from the mall into the court
- (d) This scheme could be physically connected to the fine arts building with a bridge spanning over the mall
- (e) This is potentially a collaborative opportunity with the architects working on the fine arts building
- (f) This scheme could also create a connection to the resident's hall directly west
- (g) Initially the courtyard scheme was reacted to negatively
- (h) Concerns with privacy and an overall poor connotation of courtyards is other buildings
- (i) Both east schemes need to make sure to not allow access to the CCC parking lot
- (j) Has maintenance and staging issues for the courtyard
- (k) Wind is a major concern for all schemes

c) Terrace Scheme
- (a) This scheme would create a terraced landscape opened to the mall, framed by the building

(b) The building would also terrace as it would step down at each break
(c) This scheme is similar to the court, but has an open end oriented towards the mall
(d) Concerned with the long hallways
(e) Method will develop a strategy to break to hallways up
(f) LCCC likes the layouts of the space facing into each other, as they are the public program elements rather than the dorms (privacy concerns)
(g) Wind is a major concern for all scheme
(h) The east site has the inherent problem of wanting to opened up to the mall to the north, but the winds prevail from the North East.
(i) Cost concerns, as this scheme requires more footprint

5) General Consensus

a) The courtyard scheme was voted on as the preferred scheme.

6) Next Steps

a) Method will revise the courtyard scheme and address comments and concerns about privacy, wind, staging, and the overall courtyard experience.
b) Method to see if they can integrate some of the positive aspects of the Terrace Scheme to the revised Courtyard Scheme.

Site Concepts

OPTION EAST A-01 _ **THE COURTYARD CONCEPT**
LARAMIE COUNTY COMMUNITY COLLEGE
CHEYENNE, WYOMING

METHODSTUDIO INC.

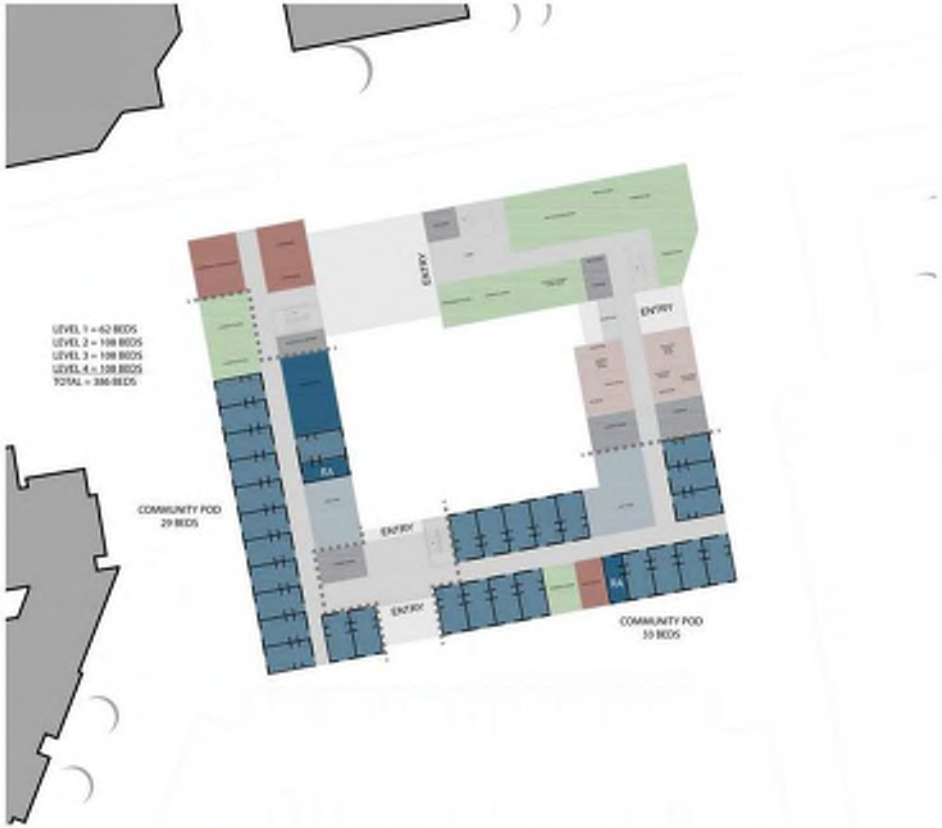
OPTION EAST B-01 _ **THE TERRACE CONCEPT**
LARAMIE COUNTY COMMUNITY COLLEGE
CHEYENNE, WYOMING

METHODSTUDIO INC.

OPTION WEST A-01 _ **THE CANYON CONCEPT**
LARAMIE COUNTY COMMUNITY COLLEGE
CHEYENNE, WYOMING

METHODSTUDIO INC.

Floor Plan Options



MAIN LEVEL FLOOR PLAN _ **THE COURTYARD CONCEPT**

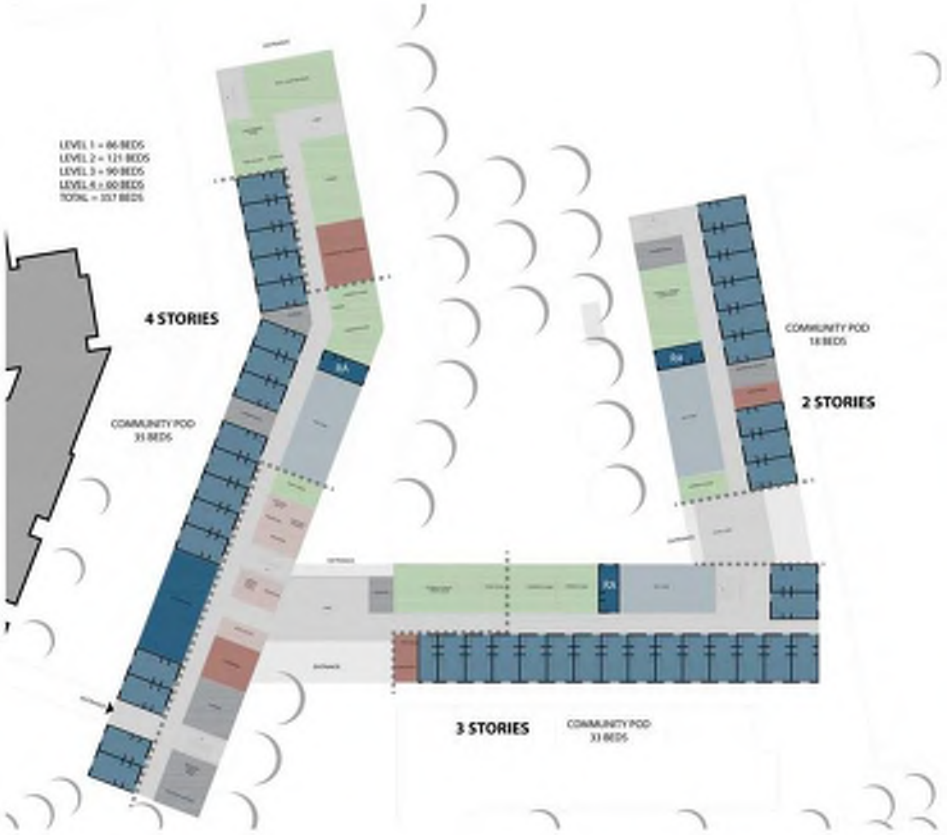
LARAMIE COUNTY COMMUNITY COLLEGE
CHEYENNE, WYOMING

METHODSTUDIO INC.

TYPICAL UPPER LEVEL FLOOR PLAN _ **THE COURTYARD CONCEPT**

LARAMIE COUNTY COMMUNITY COLLEGE
CHEYENNE, WYOMING

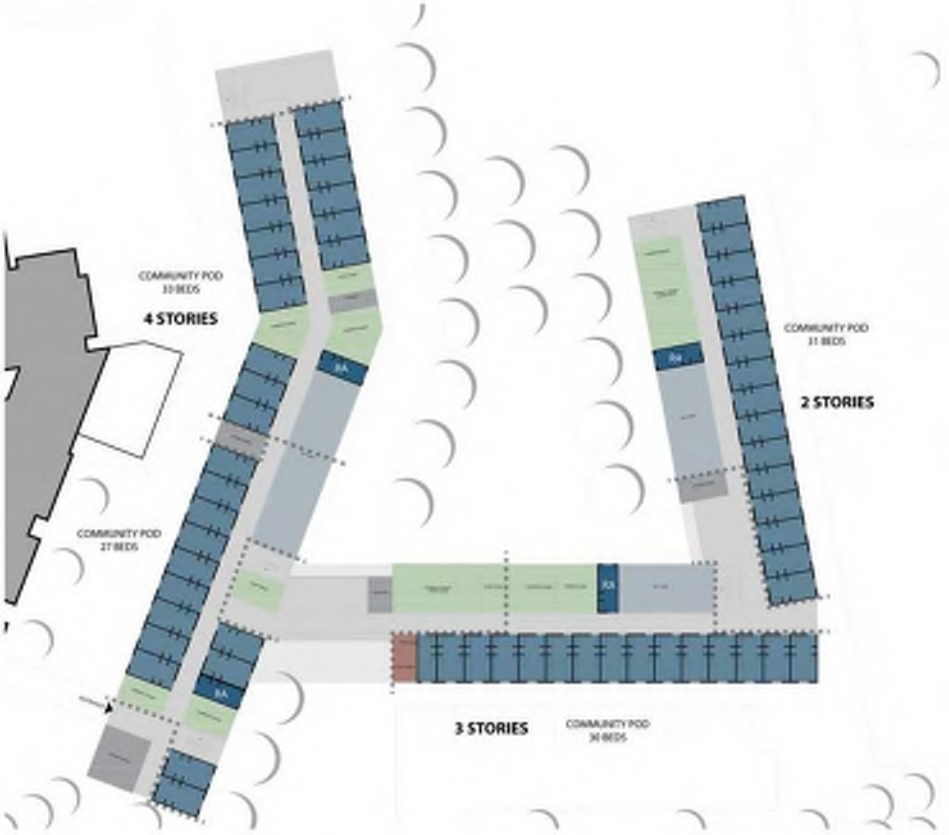
METHODSTUDIO INC.



MAIN LEVEL FLOOR PLAN _ **THE TERRACE CONCEPT**

LARAMIE COUNTY COMMUNITY COLLEGE
CHEYENNE, WYOMING

METHODSTUDIO INC.



TYPICAL UPPER LEVEL FLOOR PLAN _ **THE TERRACE CONCEPT**

LARAMIE COUNTY COMMUNITY COLLEGE
CHEYENNE, WYOMING

METHODSTUDIO INC.

MAIN LEVEL FLOOR PLAN _ THE CANYON CONCEPT

LARAMIE COUNTY COMMUNITY COLLEGE
CHEYENNE, WYOMING

METHODSTUDIO

TYPICAL UPPER LEVEL FLOOR PLAN _ THE CANYON CONCEPT

LARAMIE COUNTY COMMUNITY COLLEGE
CHEYENNE, WYOMING

METHODSTUDIO

MEETING MINUTES
PROJECT: LCCC New Residence Hall
PROJECT #: 17.0455

MEETING LOCATION: LCCC, CCI 129

MEETING DATE/TIME: Thursday, August 14, 2017 – 1:00-4:00pm

MEETING PURPOSE: **Project Meeting #5**

ATTENDEES:

LCCC

Rick Johnson	V.P. Admin. + Finance	307-778-1135	rjohnson@lccc.wy.edu
Bill Zink	Director, Physical Plant	307-778-1121	bzink@lccc.wy.edu
Judy Hay	V.P. Student Serv.	307-778-1217	jhay@lccc.wy.edu
Sarah Hannes	Admissions	307-778-1178	shannes@lccc.wy.edu
Jill Koslosky	Dean of Students	307-637-2490	jkoslosk@lccc.wy.edu
Brynn Elliott	Res. Hall/Disability Serv.	307-778-1359	belliott@lccc.wy.edu
Chad Marley	CTO / IT	307-778-1346	cmarley@lccc.wy.edu

Method Studio

Joe Smith	Principal in Charge	801-532-4422	joe@method-studio.com
Becky Hawkins	Interior Design PIC	801-532-4422	becky@method-studio.com
Shawn Benjamin	Project Manager	801-532-4422	shawn@method-studio.com
Jake Gines	Sr. Programmer/Design	801-532-4422	jake@method-studio.com
Jared Barnett	Jr. Designer	801-532-4422	jaredbarnett@method-studio.com

MINUTES

1) Overview

a) Programming and Plan Development is on schedule
b) Shawn Benjamin will be attending next week's board meeting on Wednesday to help present the building. These materials will include: the Sketchup Model and the Site Plan
c) Method will deliver the necessary drawings to LCCC for the board meeting by Tuesday end of day.
d) Programming sheets have been received by Method and will be implemented and discussed at the next meeting
e) Based on the discussion with Becky and the interiors discussion, we will update our programming sheets to align with finish preferences that were discussed

2) Budget

a) Method has been in contact with multiple contractors about an estimated cost per square foot.
b) Method has only received an estimate from one of those contractors at 225 per square foot
c) LCCC is starting to see a push from local contractors, asking what projects are next in line for construction at the college

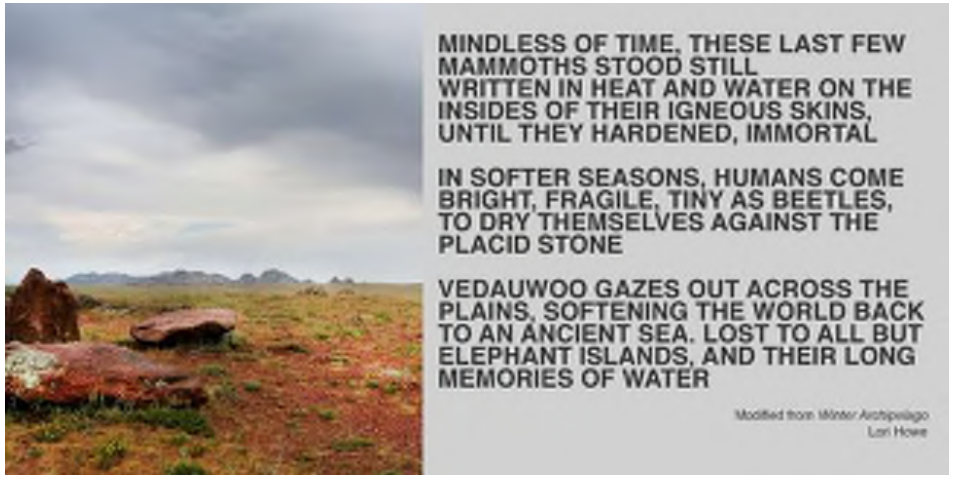
d) Based on their conversation with contractors, LCCC believes that bidding after mid-winter could allow for a favorable bid market.
e) Contractors have told LCCC they are having to draw many of their subs from Colorado because the locals are over worked.
f) LCCC has also been told by contractors that the wood framing portion of the building is a concern as they are worried about sourcing.
g) Method has been told by a few Colorado contractors that they will be more expensive because of their work load in Colorado
h) The same building built in Utah would come in around 190 per square foot
i) LCCC has been working on a wants based decision procession and they understand that they may need to switch to making decision on a more needs based approach
j) LCCC to tell Method what soft cost to hold in the budget
k) 20 percent is a typical soft cost for LCCC

3) Space Area

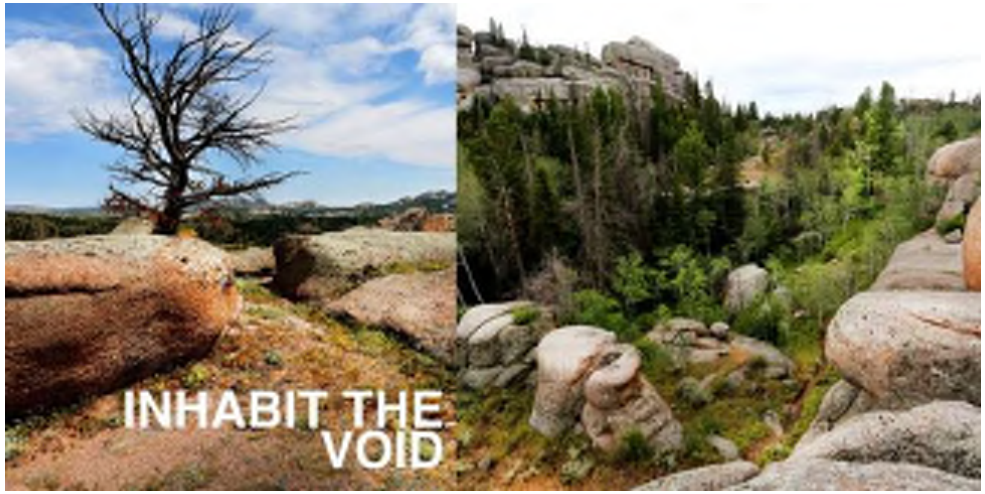
a) The plan is currently tracking over the square footage specified in the programming document and will continue to develop.
b) Method is currently working on reconciling these two, as this is a typical part of the process
c) The current Bed Count is 352
d) Method needs to provide 352 beds without exceeding $28,000,000 to meet LCCCs proforma

4) Contexts and Concepts

a) Concepts were derived from visiting with the students and the surrounding context, both historic and current
b) Vedauwoo and Lori Howe Poetry are the local context that many of the concepts are based from
c) Concepts: Capturing the Closeness of the Sky, Inhabiting the Void, Immerse Emerge Envelop, Erosive Softness, Expanding the Space Between
d) The concept statement: The Closeness of the Towering Mountains of Sky, Framed By Seasoned Mammoths, Born of the Earth
e) The building has also been designed to fit within the context of the campus and the master plan. The building follows many of the surrounding campus geometries.




CAPTURE THE
CLOSENESS


INHABIT THE
VOID


IMMERSE
EMERGE
ENVELOP

5) Plan Development

a) LCCC generally likes the merging of the courtyard scheme and the terrace scheme
b) LCCC confident that the angle of the northwest wing of the building will block wind from entering the court (to a comfortable degree)
c) The short volume to the south will allow the southern sun into the courtyard
d) This terracing of the building to the south also brings the scale of the building down closer to a more comfortable human scale.
e) The lobby/student lounge will have an indoor/outdoor relationship with the courtyard
f) In the four-story west volume one of the elevators may need to be northwest or northeast
g) LCCC responded favorably to the Laundry west core option
h) There may still be potential security issues
i) Multipurpose space should freely flow into the courtyard if possible
j) In the North Volume, the academic wing may need to be labeled more generally
k) Fitness to be labeled as a flex space and potentially have access to the courtyard.
l) The academic wing may need to have special access control to disallow nonresidents from entering the dormitory.
m) Generally, need to make sure that the amount of public space in the building is proportionate to the current condition on campus
n) Music rooms to be labeled as general study rooms
o) LCCC to make sure that the three buildings currently in programming do not overlap in terms of their programs
p) Study space may need to be enclosed for quite study conditions
q) Students say the current study rooms are too loud
r) LCCC likes the idea of one wall as a dedicated white board
s) Method to mitigate sounds transmittance from level 01 to level 02
t) Method to include a hammock hang area in the lounge, study areas, or courtyard

6) Massing

a) LCCC concerned about leaking of flat roofs. Method is confident it will not be an issue
b) The sky bridge will be in another phase, should not be shown in model
c) Method to enclose the connector space leading to the adjacent dormitory
d) Model needs to include the new auditorium building

7) Interiors

a) Common Spaces
(a) Spaces visually and physically connected to the outdoors
(b) Connections to natural light
(c) To feel like a home or family room
(d) Outdoor/indoor fireplace
(e) Polished concrete preferred for look and maintenance
(f) Flexible seating arrangements are preferred
(g) Seating variety and built in seating should also be included
(h) Avoid the “Jetson” furniture
(i) Material palette to match the surrounding context
(j) Preferred a balance between rich materials and neutrals
(k) Like the hidden lighting that grazes the wall
(l) LCCC wants to create interior space that relate more to the future of the student rather than past of Cheyenne
(m) Like the idea of bringing in pops of color to highlight a space

(n) The campus is mainly a neutral tone and LCCC would like to bring in more color
(o) LCCC likes neutral floors with a warm colored ceiling

b) Kitchens
(a) Like the kitchen as a gathering space for the students
(b) Various level of seating to break the space into different eating spaces
(c) Prefer the polished concrete floors
(d) Rich materials: wood and brick

c) Corridors
(a) Like the colored doors in the DSU Project
(b) LCCC like the depth at the door but it does cause a security concern
(c) Like the idea of the light plan corresponding with the door location
(d) Like the seating that could be integrated into the corridors adjacent to the wet wore
(e) Seating in the corridor to orient towards the courtyard

d) Study Rooms
(a) High seating with outlets preferred
(b) Seating variety may be necessary though
(c) White board or chalk board to be the adjacent wall (potentially hung white board or white board wall)

e) Summary
(a) Becky will revise the presentation based on our discussion based on your preferences mentioned in the meeting. This will be presented at our next meeting with further development.

8) Board Meeting

a) Shawn will be the representative attending for Method studio
b) LCCC will be showing the site plan and the SketchUp model at the board meeting
c) Method to send these files to LCCC by end of day Tuesday.

MEETING MINUTES
PROJECT: LCCC New Residence Hall
PROJECT #: 17.0455

MEETING LOCATION: LCCC, CCI 129

MEETING DATE/TIME: Thursday, September 7, 2017 – 1:00-4:00pm

MEETING PURPOSE: **Project Meeting #7**

ATTENDEES:

LCCC			
Rick Johnson	V.P. Admin. + Finance	307-778-1135	rjohnson@lccc.wy.edu
Bill Zink	Director, Physical Plant	307-778-1121	bzink@lccc.wy.edu
Judy Hay	V.P. Student Serv.	307-778-1217	jhay@lccc.wy.edu
Sarah Hannes	Admissions	307-778-1178	shannes@lccc.wy.edu
Jill Koslosky	Dean of Students	307-637-2490	jkoslosk@lccc.wy.edu
Brynn Elliott	Res. Hall/Disability Serv.	307-778-1359	belliott@lccc.wy.edu
Chad Marley	CTO / IT	307-778-1346	cmarley@lccc.wy.edu
LCCC Students			
Sebastian Houston	Student Gov.	719-534-3959	sebastianhouston97@gmail.com
Method Studio			
Becky Hawkins	Interior Design PIC	801-532-4422	becky@method-studio.com
Shawn Benjamin	Project Manager	801-532-4422	shawn@method-studio.com
Jared Barnett	Jr. Designer	801-532-4422	jaredbarnett@method-studio.com

MINUTES

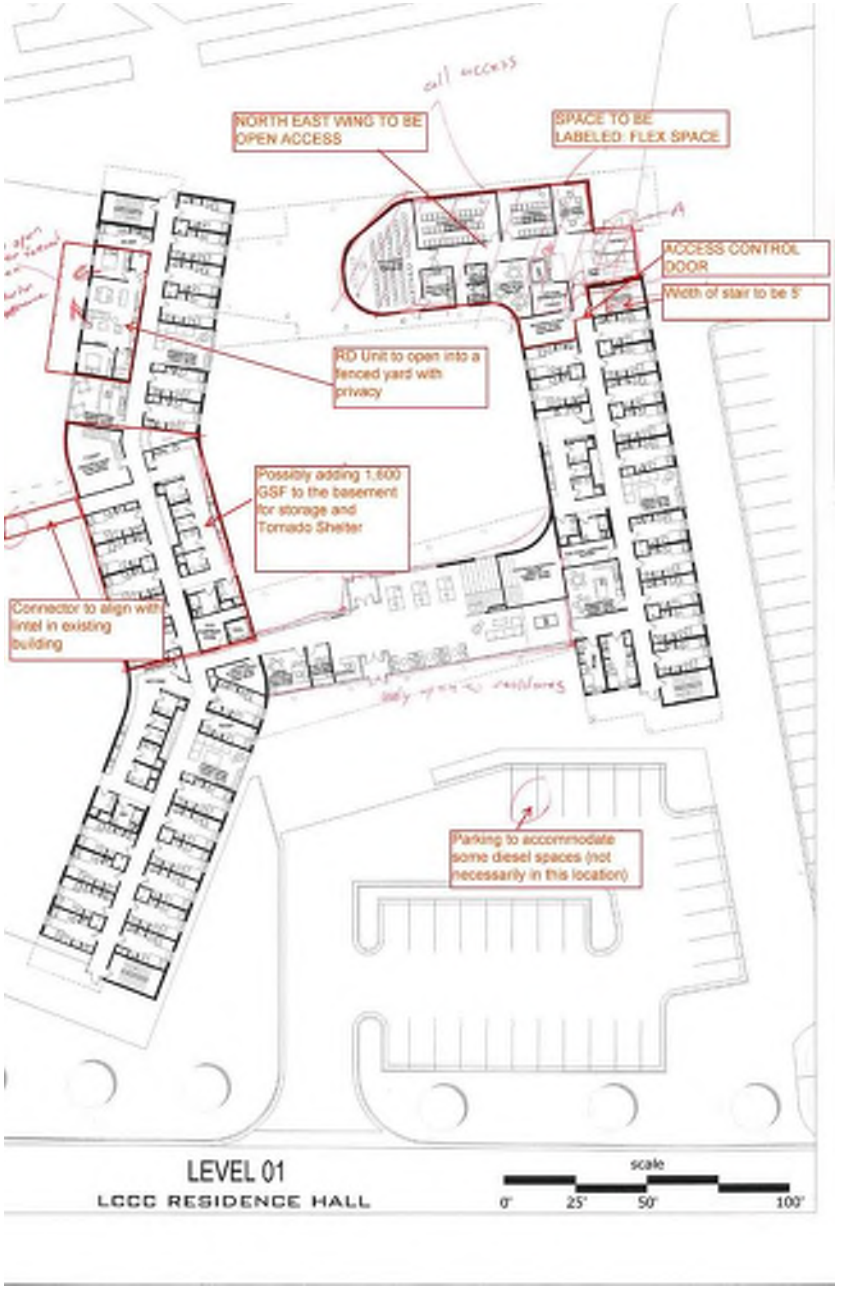
1) Budget Review

a) 99,000 GSF is the max square footage that the current per square foot budget allows for the project. Method has been working to ensure that the GSF does not exceed this amount.
b) This is Method's primary way of controlling cost at this stage in the project.
c) With our current GSF, Method can adjust the cost per square foot to $235, but this will still flex in and out as decisions are made.
d) This is to make sure that we are being conservative with our cost estimate.
e) There are currently some industry circumstances that may affect the cost of materials in the future: After hurricane Katrina, there was a nationwide increase in building material, a similar situation might occur during the rebuilding of Houston and Southern Florida.
f) There could also be an increase for timber, because of a trade agreement with Canada that expired at the beginning of 2017 and an increase in tariffs this summer.

g) These issues will be considered in the cost estimate, but these may not be areas of concern when the project is bid. Conversely, this may push the project into metal stud framing, but it is far too early to make any related decisions.

2) Floor Plan Review

a) The northeast corner on level one is now labeled as flex space
b) LCCC confirms that the previously programmed fitness space is to be programmed as flex space
c) LCCC will designate parking stalls, some of which need to be designed to fit diesel Vehicles
d) Method will layer this information into the site plan*
e) Method will relocate the connection point on the west side of the building*
f) LCCC likes the new elevator location and the reworking of the vestibule at the northeast corner
g) Method to ensure that the stair cases do not have drop down ceiling. This will help students with move in day.
h) Also, Method to look at increasing the width of the stair to 5', this is again to move in day.*
i) Possibly changing the width of the stairs only at stair wells next to primary entrances, for move in day.
j) Security Access: Public access to be allowed in the northeast corner of the building. All other areas of the building will have card swipe access control.
k) The Basement will not need an elevator, just an access stair unless the basement is also used for storage.
l) LCCC wants to added storage space back into the basement as the budget may allow
m) Method will show the basement with extra storage, but it could potentially draw this portion of the basement as an add alternate as well*
n) This storage would accommodate extra beds and furniture
o) Shelter space needs to be designated on the plan*
p) Method to meet with the emergency management agency to determine a location on the plan for the designated shelter*
q) Method to rework area on the north east portion of the plan because of privacy issues.*
r) Mechanical closets will be accessible to the hallway and combined as one mechanical closet
s) LCCC is comfortable if there are exactly 350 beds. LCCC oaky if a few beds need to be removed to help with any plan issues



3) **Building Siting**
   a) Method has moved the building to the south and to the east to allow for a comfortably proportioned space between the new residence hall and the existing residence hall, while maintaining a comfortable distance from the parking lot to the east.

4) **Wind Study**
   a) Without the new residence hall, the current campus condition shows the prevailing wind primarily running through the campus mall
   b) With the new residence hall modeled, the primary wind path still occurs down the center of the campus mall but with moderately higher velocities.
   c) The courtyard of the new residence hall is entirely protected from the wind, along with the space to the west of the building
   d) The negative pressure may stack snow on the east side of the building
   e) The wind model generally confirms design moves that were made before the info was available.

5) **Programming Document**
   a) Method is currently incorporating LCCC's comments as they relate to the programming document
   b) Method will make sure to have dialogue with the sitting RD director about the layout of the RD unit during the design development phase.

6) **Interiors Discussion**
   a) Lounges – General Student Feedback
      (a) Like the idea of bringing the warmth of wood into the space
      (b) Interested by the idea of the spaces connecting with the outdoors and courtyard
      (c) Hesitant about large swaths of bright color but intrigued by small pops of color with dominant neutrals
      (d) Like the idea of a space that feels Wyoming but could be palatable to some from elsewhere.
      (e) Method to include a large screen or short throw projector
      (f) Really inspired by the idea of movable furniture that can be reconfigured for different activities
      (g) Prefer more neutral colored furniture
      (h) Like pops of color as wall or ceiling element that is not overbearing
      (i) Really like the idea of using earth tones and neutrals
      (j) Prefer the simple furniture, want to stay away from the "crazy chairs"
      (k) Interested in the idea of a couch that wraps around the tv or projector
      (l) Like small touches of color, with mostly neutral colors throughout
      (m) Lockable shelf to be included in the entertainment system
      (n) Like the "club like" furniture arrangement (a more intimate seating condition, but for a large amount of people)
      (o) Still really like the polished concrete with a soft rug
      (p) Like the seating that allows you to put your feet up, or read a book while laying down
      (q) Interested in the idea of a glass garage door opening into the courtyard
      (r) Method to explore how to incorporate hammock seating or a hammock lounge in the courtyard or in the main lobby.

   b) Kitchens – General Student Feedback

(a) Plugins in the counter top are preferred for laptop and phone use
(b) Prefer the seating around the counter and open seating beyond
(c) Seating variety is also very important. High seating, low seating, and booth seating could be just a few options
(d) Light variety can define the different zones of the kitchen
(e) Like the idea of a chalk board adjacent to the kitchen to write menus or other food related information.
(f) Like the idea of the "date table," a long table with chairs directly across from each other, could encourage interaction amongst the students
(g) May want a mirror above the range for cooking demonstrations

c) Corridors – General Student Feedback
(a) Like the idea of texture on the wall or carpet
(b) Interested in large font room numbers for each unit.
(c) Also, like the idea of the light in the corridor relating to the door locations
(d) Students prefer the seating adjacent to windows to connect to the exterior and the courtyard
(e) Interested in the idea of a texture or color defining the wet core

d) Study – General Student Feedback
(a) Glass door to be added to the studies to allow visual access, but mitigate sound transmittance
(b) Studies should be design as collaborative study spaces or private study spaces
(c) White boards are needed in this space for studying and tutoring

e) Units – General Student Feedback
(a) Students unsure about the bed/storage built in with the sliding door
(b) Interested in the idea of storage under the beds to allow for more space elsewhere in the unit

7) Interiors Renderings

a) Lounge Rendering
(a) Would prefer outlets along the counter for student to connect their laptops and phones to
(b) Really like the wall graphic of Vedauwoo State Park
(c) Also, Like how the space is connected visually with the courtyard
b) Lobby Rendering
(a) Students expressed concern about the grand stair and how much the seating will be used
(b) Want to make sure that the seating is comfortable and LCCC is not sure we can achieve that with the current configuration
(c) Method to explore several options for the grand stair that address LCCC's concerns
(d) The space underneath the stair could be utilized as a more intimate lounge Space

8) Materials + Exterior Renderings

a) Method looking at many different building materials as they relate to the concept.
b) LCCC wants to make sure to stay away from hammered concrete because of it's prevalence on campus
c) LCCC wants the new building's materials to related to the adjacent building, but not necessarily to mimic them.

d) Exterior Branding to be explored further by Method. LCCC would prefer the signage to be more integrated into the architect ie: a logo as wall relief cut into the brick
e) LCCC likes the idea of using a local stone or brick.
f) LCCC also curious about potentially using faux stone.
g) Method concerned about long term maintenance, durability, color, and authenticity.
h) A precast concrete panel might be a way to achieve some of the qualities that LCCC sees in faux stone.
i) LCCC interested in the subtle color pop of the window that represent the splashes of lichen

9) Wrap Up

a) Method to provide LCCC with any render updates by 9.15.17.
b) LCCC signage to be replaced with "Eagle Village"

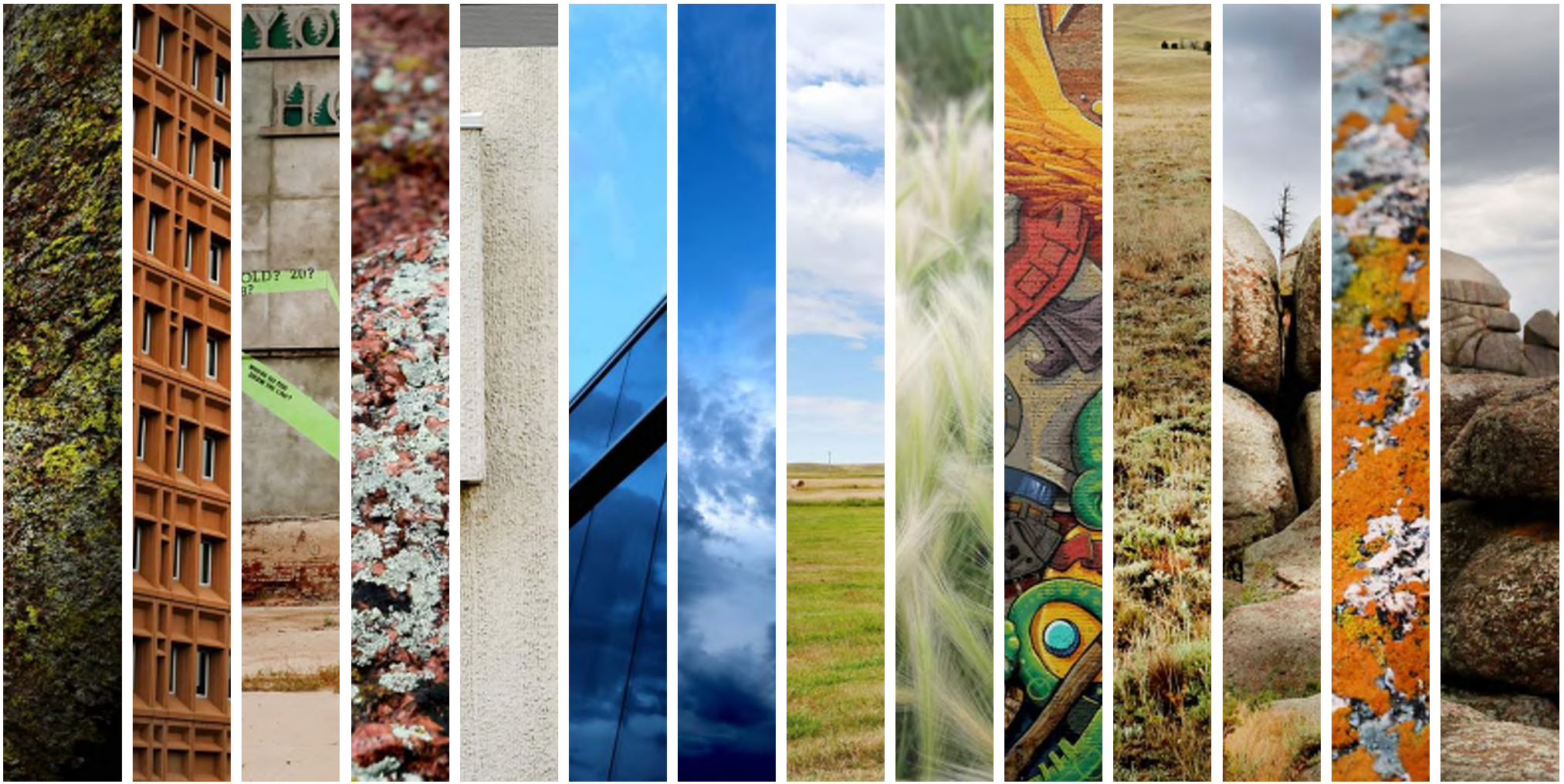
10) Next Meeting

a) Thursday September 28th @ 1pm

Meeting Minute Take By: Jared Barnett of Method Studio

CONTEXT AND CONCEPTS

APPENDIX D




CONTEXT +
CONCEPTS

MINDLESS OF TIME, THESE LAST FEW MAMMOTHS STOOD STILL
WRITTEN IN HEAT AND WATER ON THE INSIDES OF THEIR IGNEOUS SKINS, UNTIL THEY HARDENED, IMMORTAL

IN SOFTER SEASONS, HUMANS COME BRIGHT, FRAGILE, TINY AS BEETLES, TO DRY THEMSELVES AGAINST THE PLACID STONE

VEDAUWOO GAZES OUT ACROSS THE PLAINS, SOFTENING THE WORLD BACK TO AN ANCIENT SEA. LOST TO ALL BUT ELEPHANT ISLANDS, AND THEIR LONG MEMORIES OF WATER

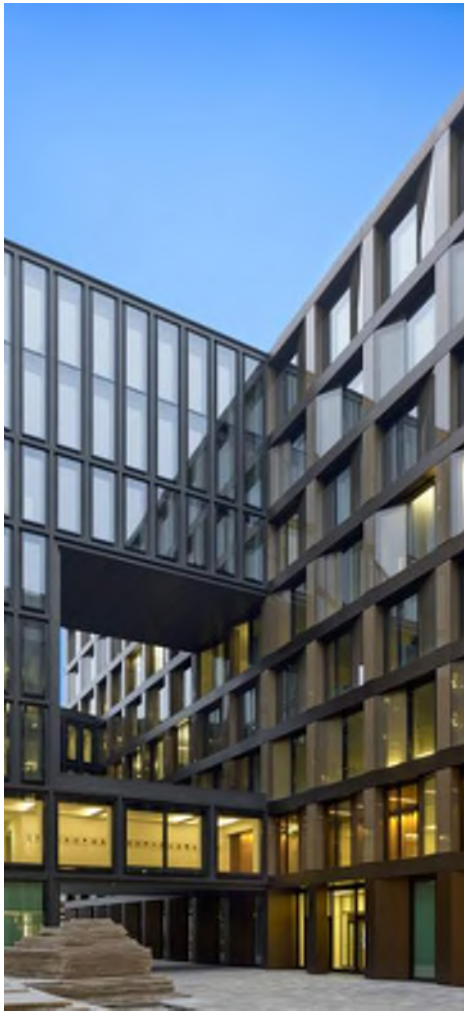
Modified from *Winter Archipelago*
Lori Howe

THE CLOSENESS OF TOWERING MOUNTAINS OF SKY

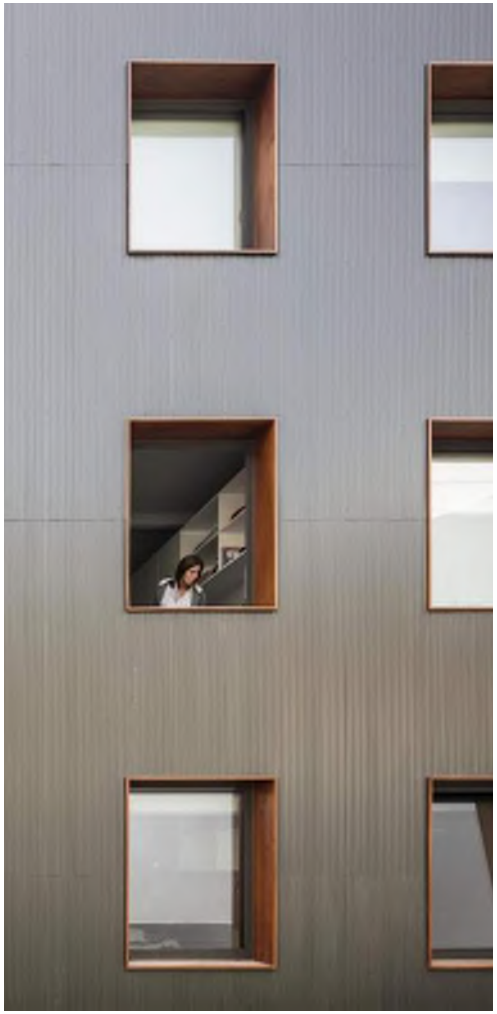
FRAMED BY SEASONED MAMMOTHS

BORN OF THE EARTH


CAPTURE THE
CLOSENESS

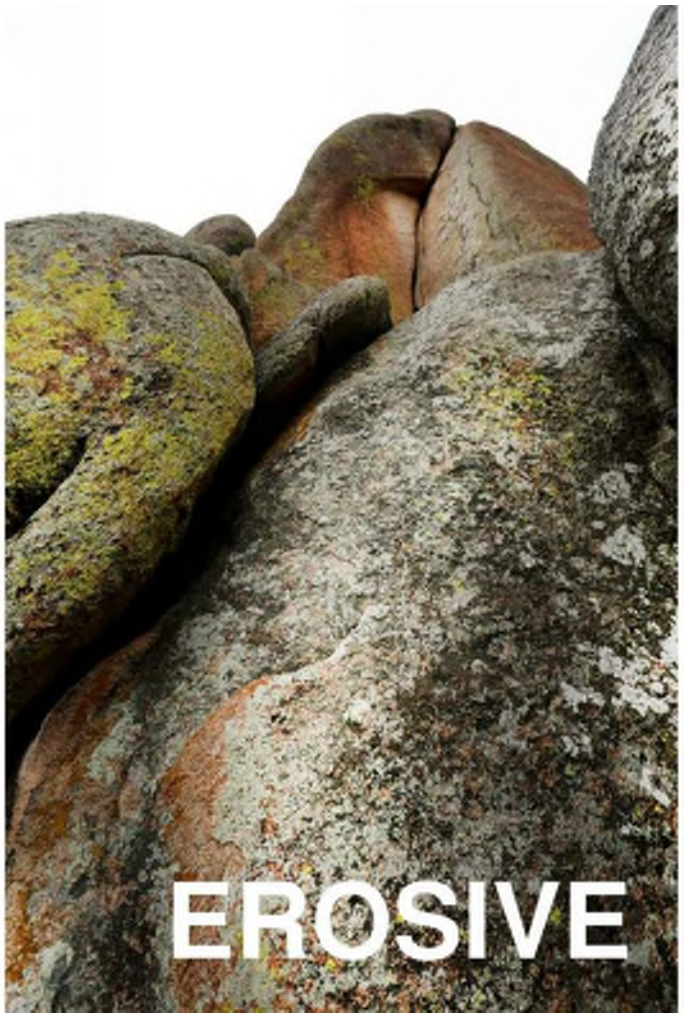


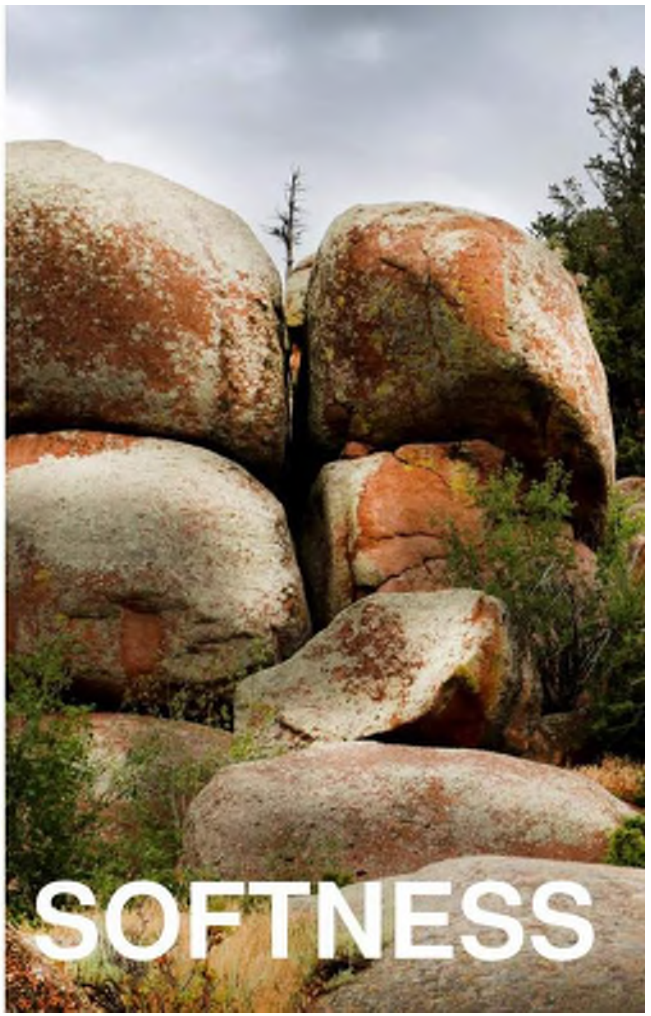

INHABIT THE
VOID




CONTEXTUALIZE
COLOR


IMMERSE
EMERGE
ENVELOP


EROSIVE


SOFTNESS





EXPANDING THE
SPACE BETWEEN


The silence has always been my friend.
Gerry Spence

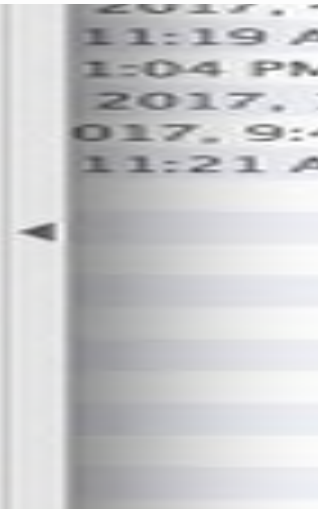

Elephant islands and their long memories of water.
Lori Howe

LARAMIE INTERIORS PRESENTATION

APPENDIX E

Laramie County Community College New Student Housing

INTERIORS INSPIRATION:
SUMMARY + DIRECTION



9.7.2017

METHODSTUDIO INC.

spaces that ENGAGE INTERACTIVE spaces STUDY SPACES QUIET SPACES
LIVING LEARNING encourage SOCIAL INTERACTION indoor outdoor spaces
storage spaces BREAK THE MOLD game spaces INNOVATIVE LIVING experie
break up HALLWAYS consistency and uniformity in LIGHTING natural light
ACOUSTICS between floors + across hall INTERACTION places to CONNECT
individual GROWTH student SPIRIT enhance STUDENT SUCCESS academic
EXCELLENCE out of state RECRUITING enhance COMMUNITY social GATHERII
LEARN EVERYWHERE spaces that ENGAGE INTERACTIVE spaces STUDY SPA
storage spaces BREAK THE MOLD game spaces INNOVATIVE LIVING
LIVING LEARNING encourage SOCIAL INTERACTION indoor outdoor spaces
break up HALLWAYS consistency and uniformity in LIGHTING natural light
ACOUSTICS between floors + across hall INTERACTION places to CONNECT
individual GROWTH student SPIRIT enhance STUDENT SUCCESS academic
EXCELLENCE out of state RECRUITING enhance COMMUNITY social GATHERII
LEARN EVERYWHERE spaces that ENGAGE INTERACTIVE spaces STUDY SPA

LOUNGES/COMMONS

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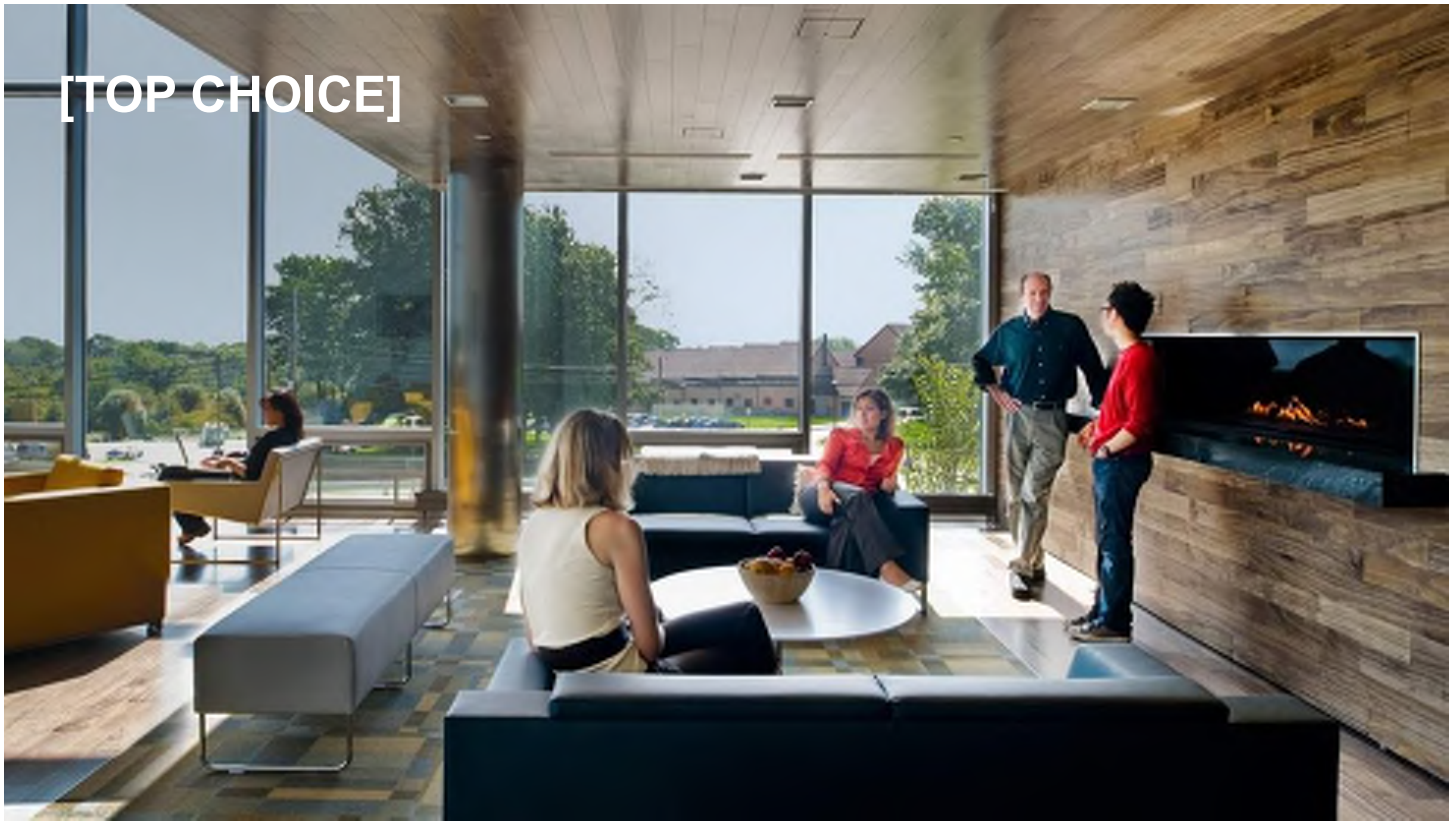

LOVE THIS!
Connection to outdoors, wood wall, fireplace and metal wrapped column. Would like brighter seating.

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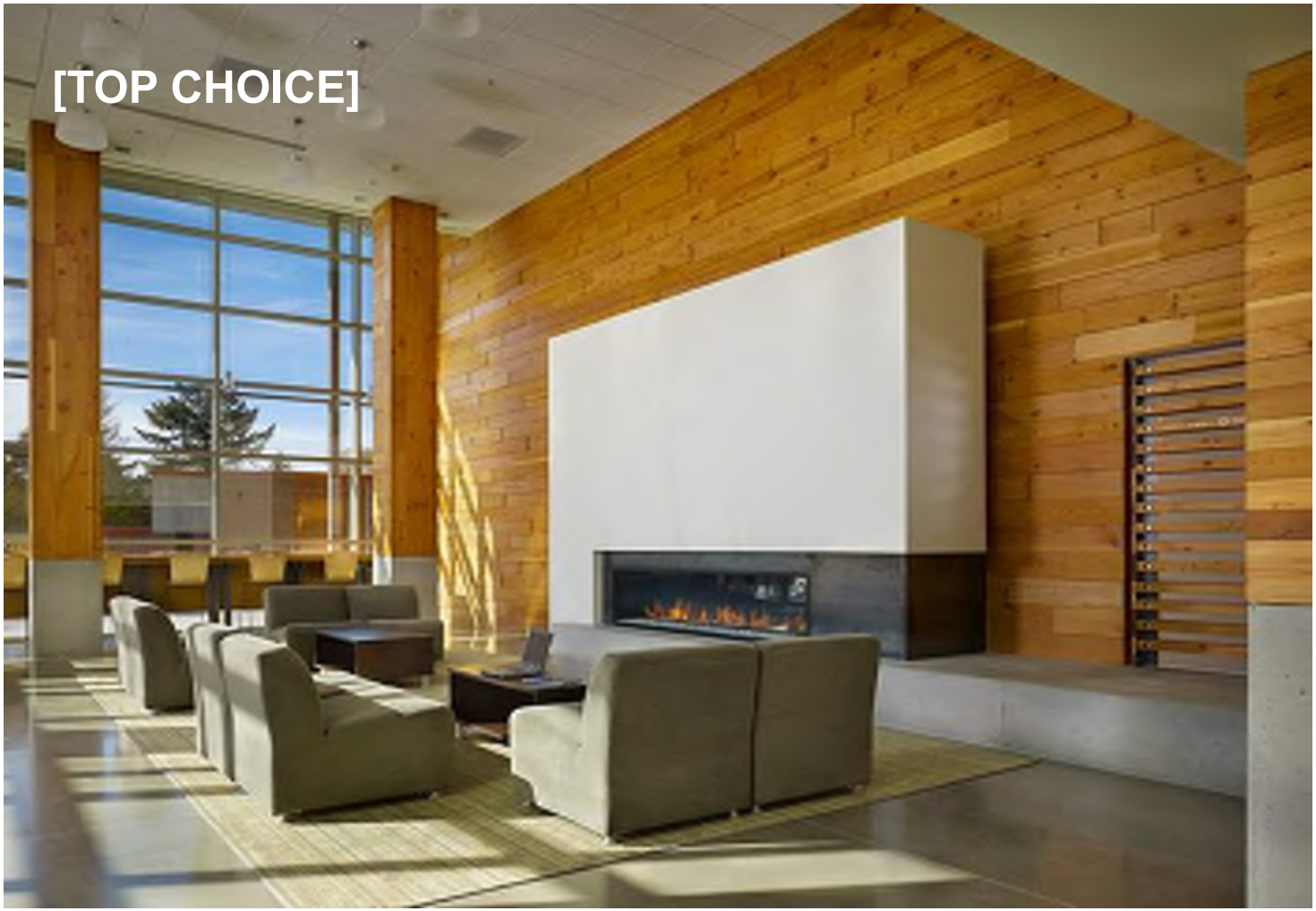
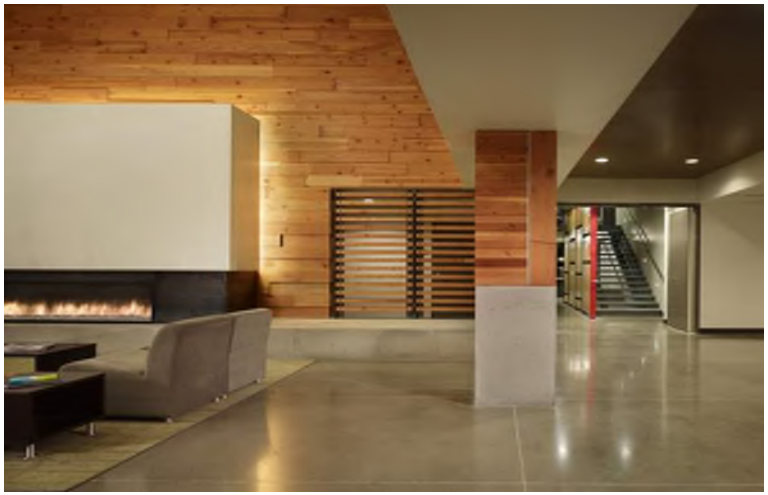
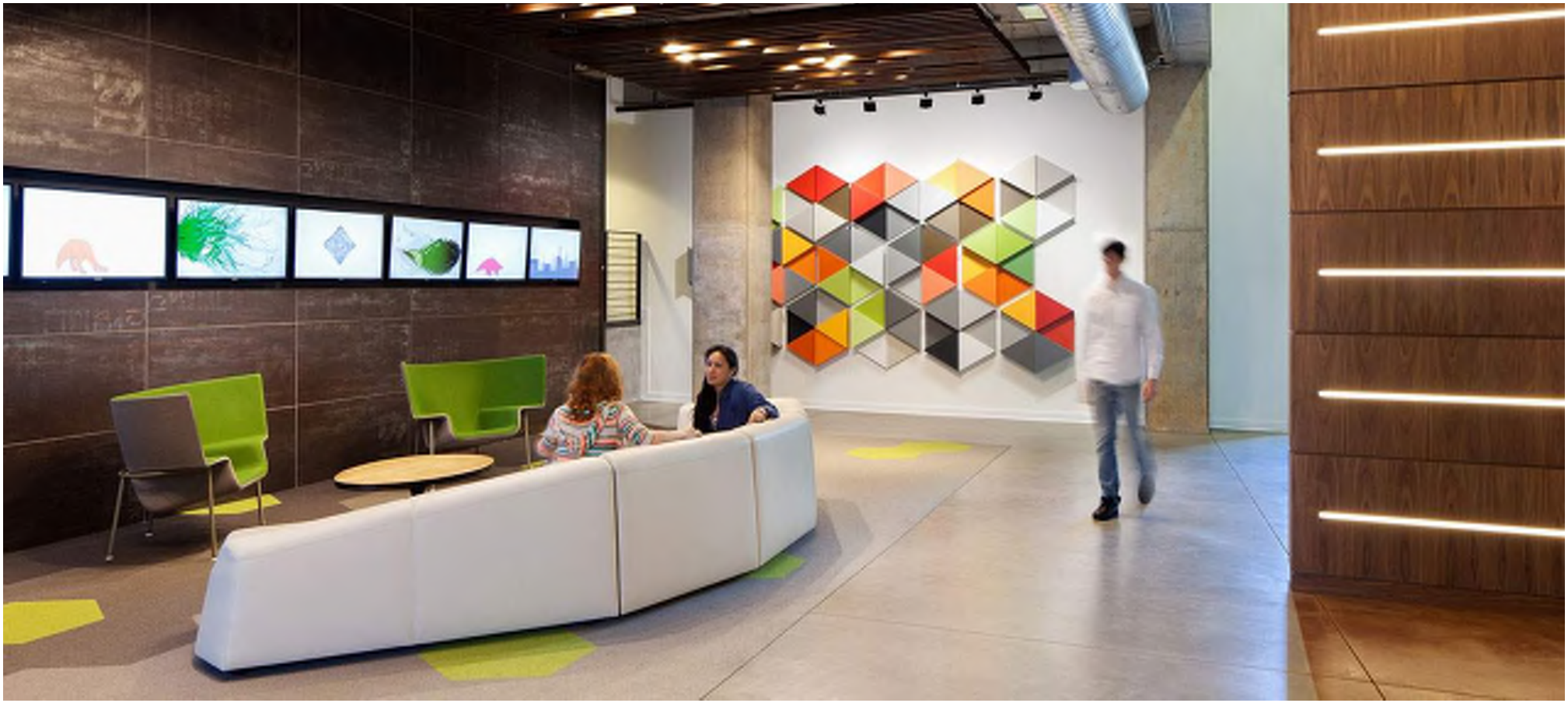


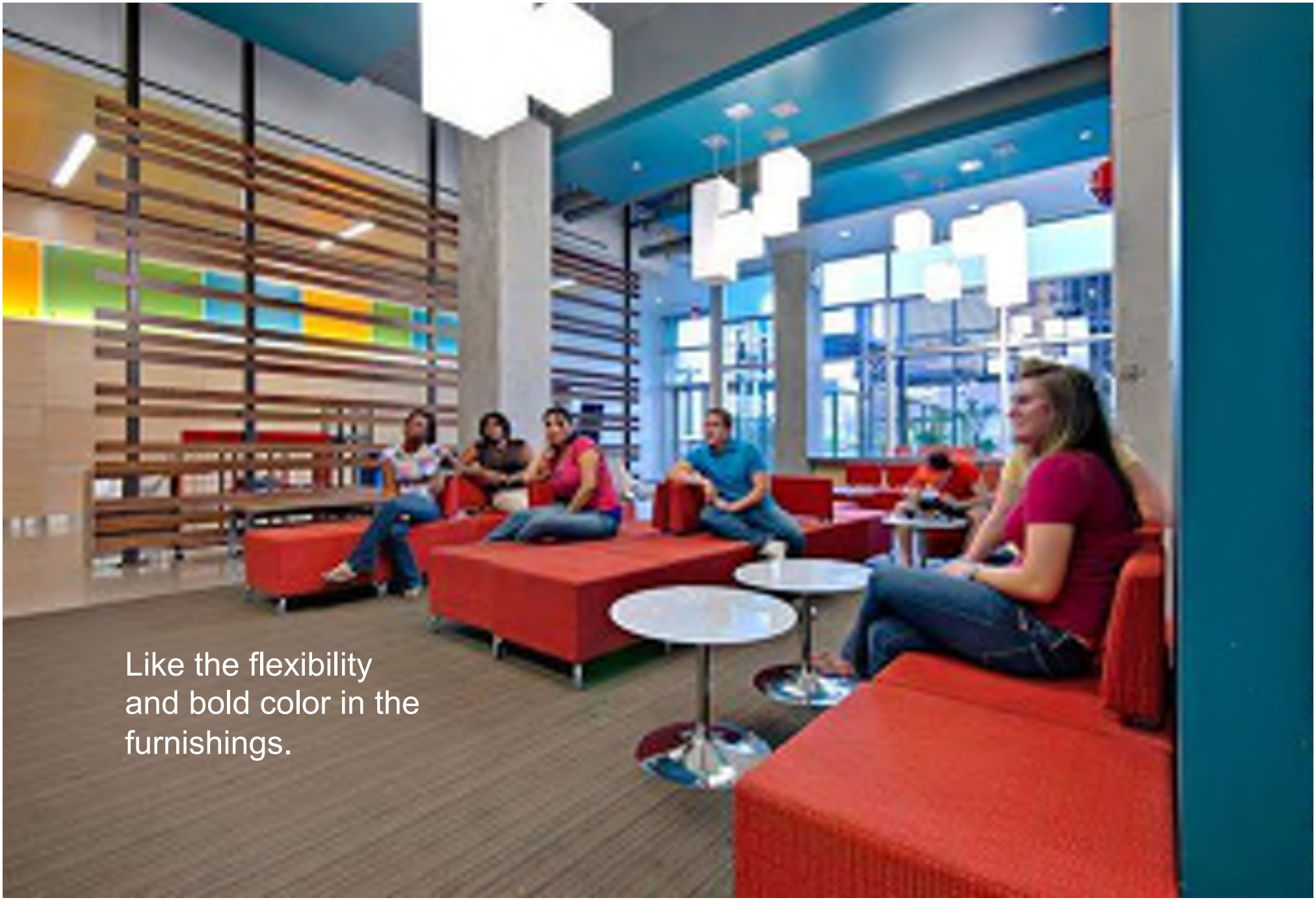
LOVE this space with the exception of changing out the furniture to be more age appropriate to students. A little more energy/color in the space. LOVE polished concrete floor.

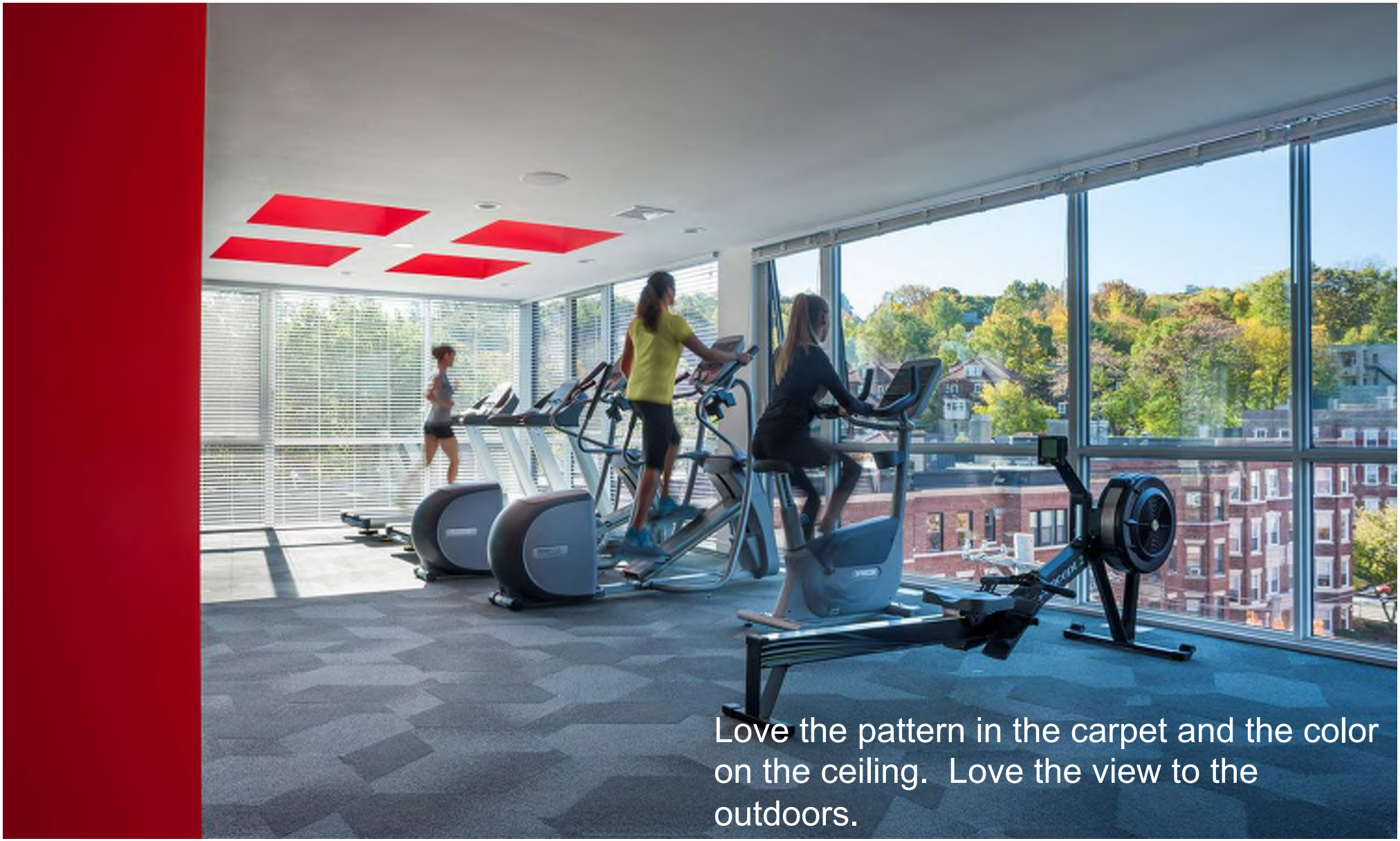




This image was highly debated. Generally, all like the polished concrete floor and pop of color. Many liked the more “hip” furniture and also the chalkboard wall. Discussed the importance of designing for the students and “breaking out of the box”.


Generally, like the use of bold color with a neutral pallette. Also like bringing in the stone and woods to add warmth and texture.


Like the flexibility
and bold color in the
furnishings.


Love the pattern in the carpet and the color on the ceiling. Love the view to the outdoors.

Like the multi-use aspects of this space and the fresh modern “family room” feel. Like the various seating modes. All walls white may be a concern, consider other options.

Like the idea of wallcovering to add texture. Maybe the rooms are themed and have different types of seating/gathering provided so each is different.

LOVE this with the seating at the window, hard floors, and WARMTH ON THE CEILING.

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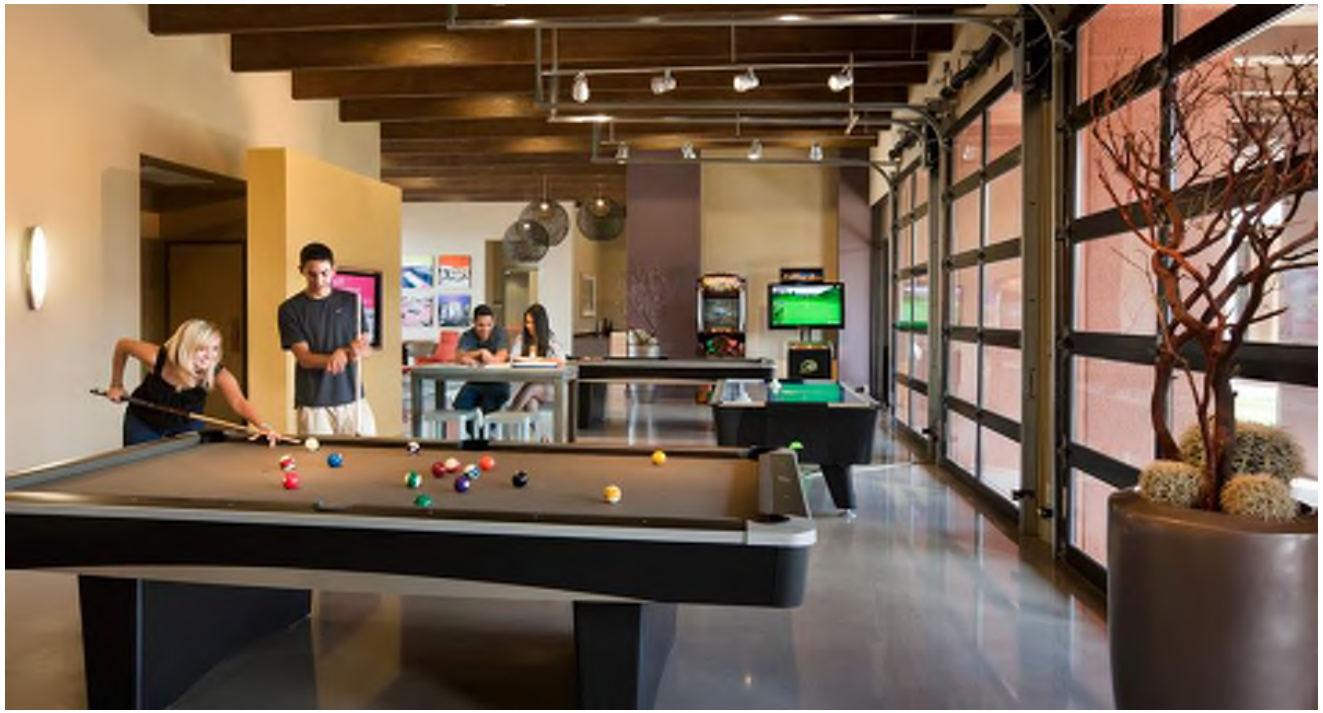
This image prompted discussion about some areas of exposed ceilings. Like the idea of this. Like the idea of seating at windows as well.

Like the idea of the windows that open to the outdoors.



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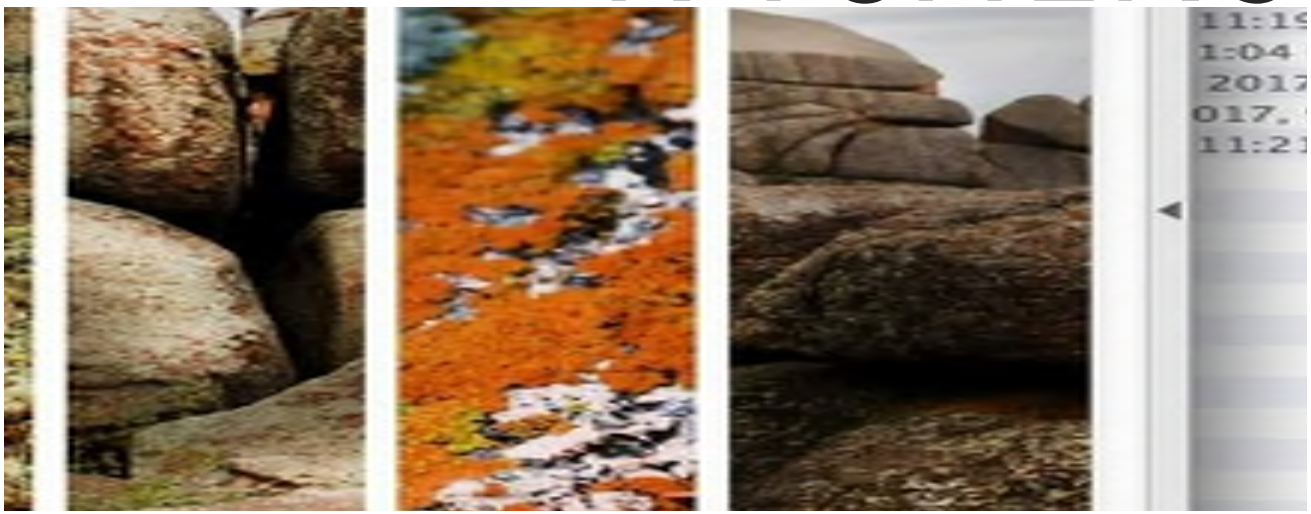
KITCHENS



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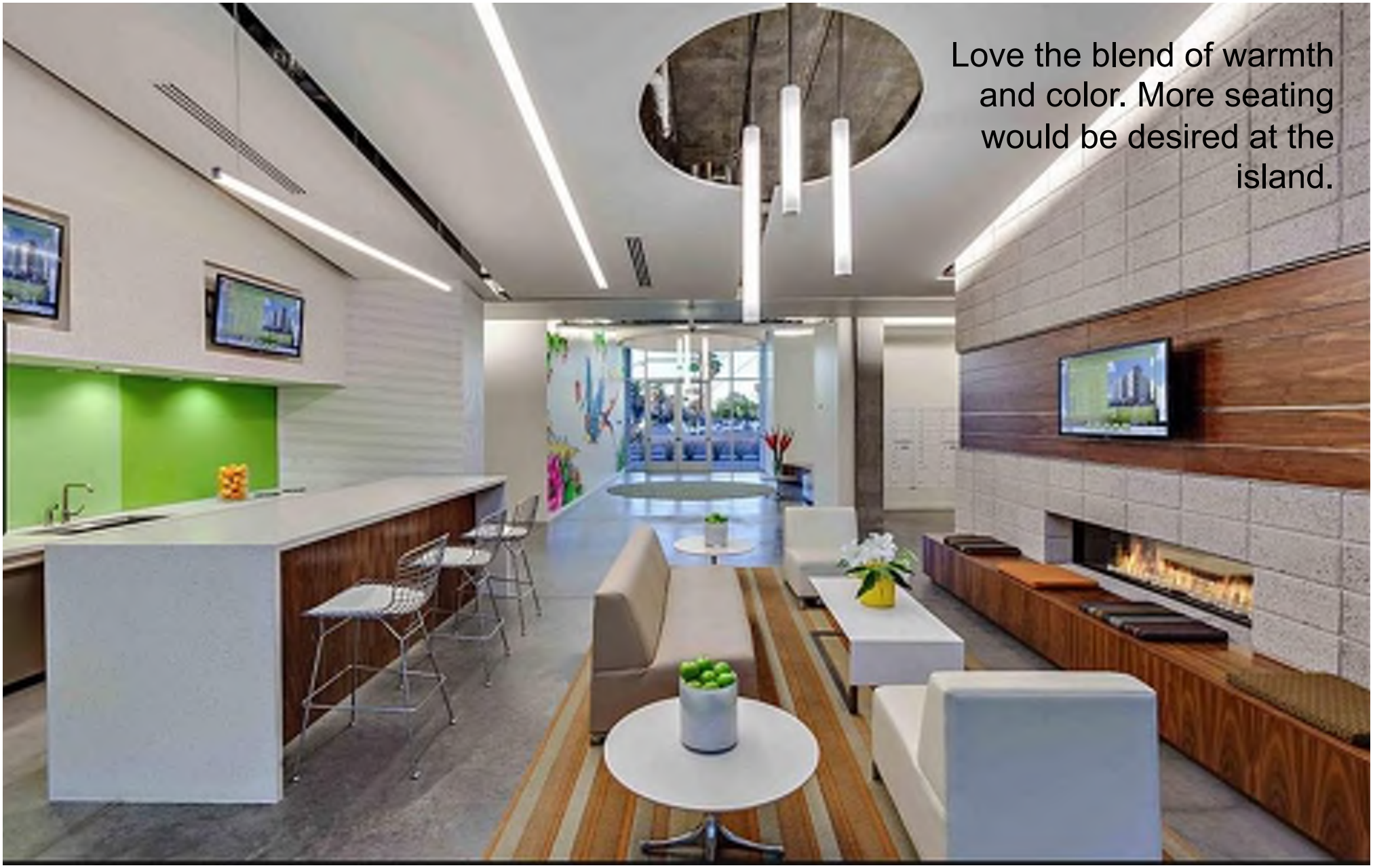
[TOP CHOICE]
LOVE this kitchen, in a different color. Love how this functions. Also like the mural on the wall divider – using some of the beautiful imagery of the area. Like the plug in space on island.


Love the blend of warmth and color. More seating would be desired at the island.

Like the variety of seating options here.

Like the big long table. Some liked the colorful lights and some liked the chalkboard accent above the cabinetry.

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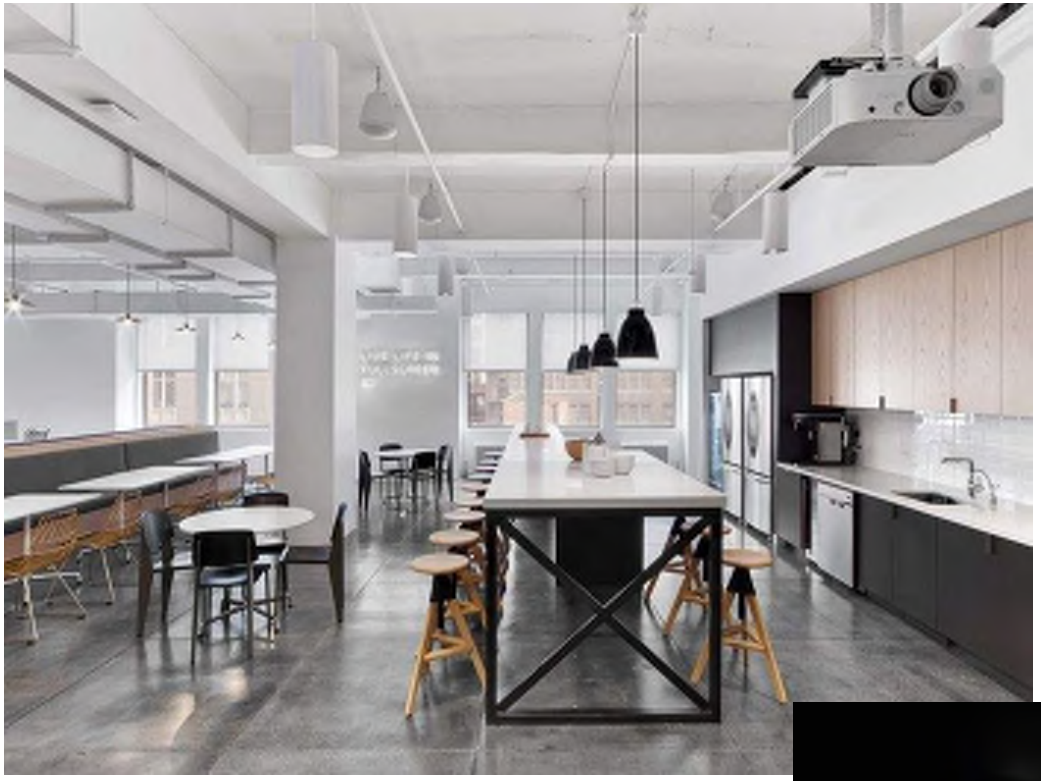
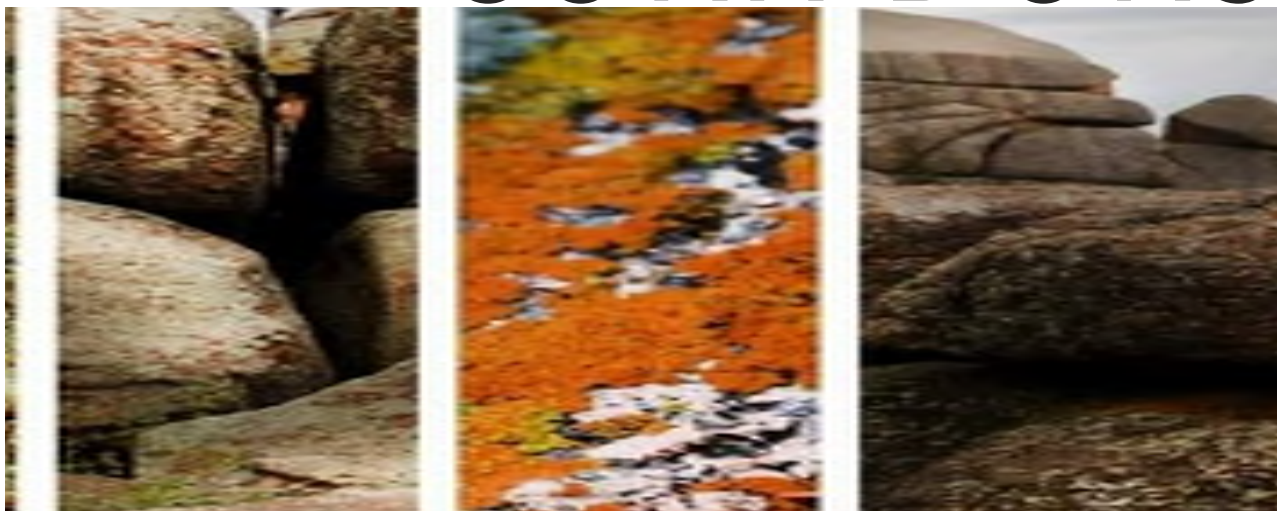


The more industrial feel of this image was appealing, open, high ceilings.

At first, some dislike for this image but discussion about offering a variety of themes in kitchens could also be of interest. More like a club – that could be fun for an option?

CORRIDORS



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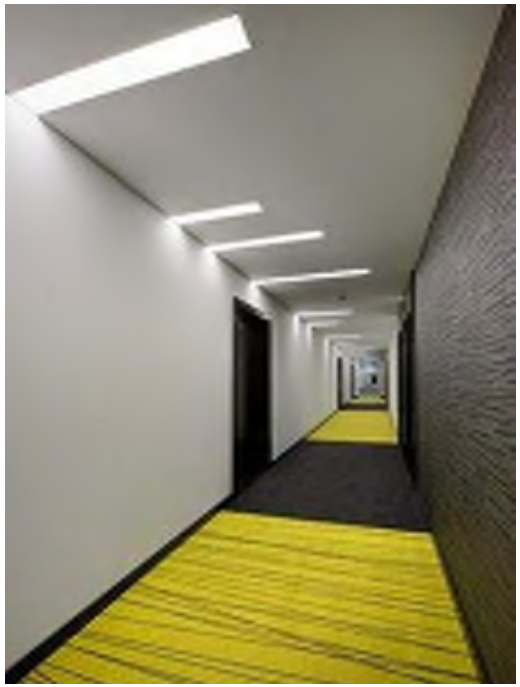

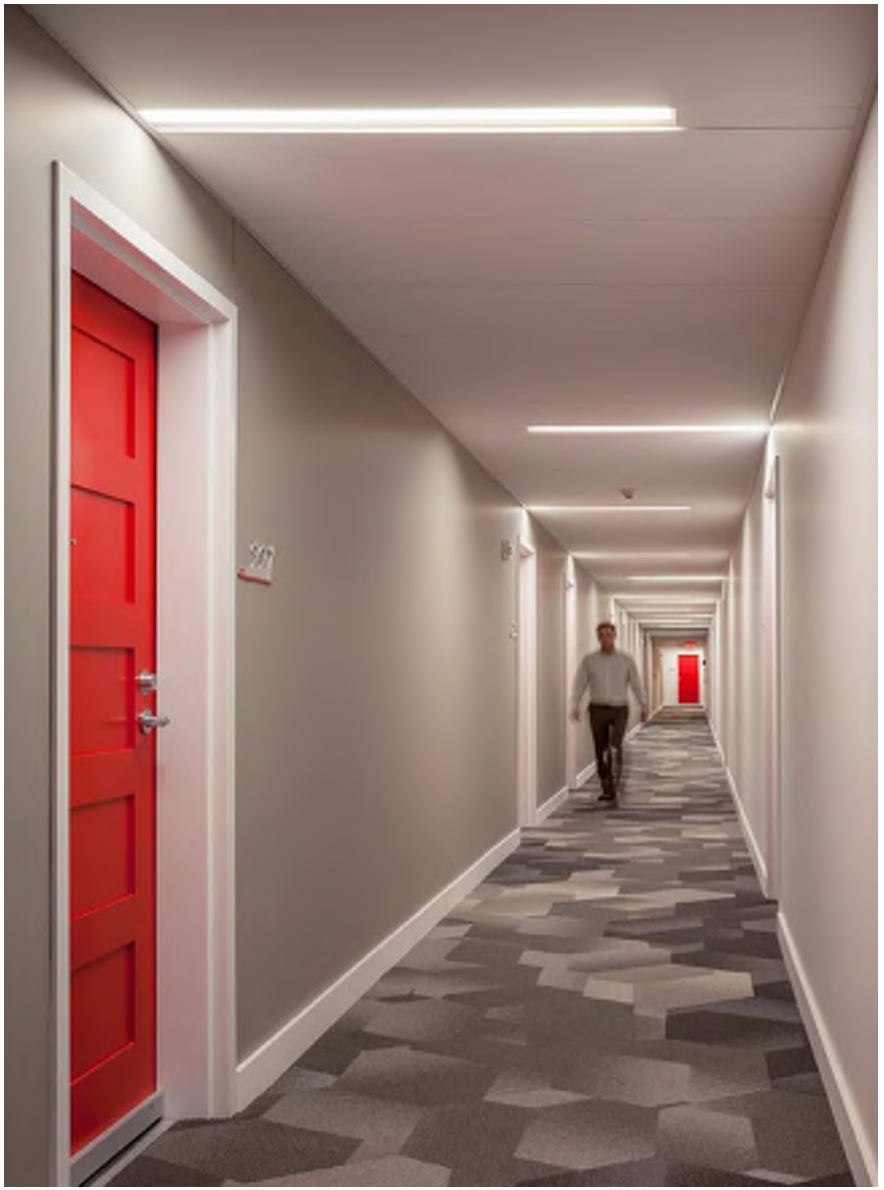

Love the idea of breaking up the corridors with color, lighting, texture on wall and potential to have different color on opposite corridor walls, and floor patterns.

Need to make sure the corridors are visually open so no issue with security or places for someone to hide.

Love seating at windows and offering informal seating “along the way”. Like bringing in light from the ceiling and treating ceilings with color/light.

Like the idea of potentially activating the wet core spaces with seating/counter space for informal gathering/study or hanging out.

Examples of ways to “wrap” our wet core areas with color, material, lighting, etc.

While these are overdone, they represent an example of using different colors on different floors to differentiate floors. Also, shows opportunity to incorporate branding through appropriately placed murals.

STUDY

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Love this informal study potential and again, variation in seating.

Like the windows, and the lower, interesting window. Like the variety of seating.

Like providing both styles of study rooms – or variation in study rooms.

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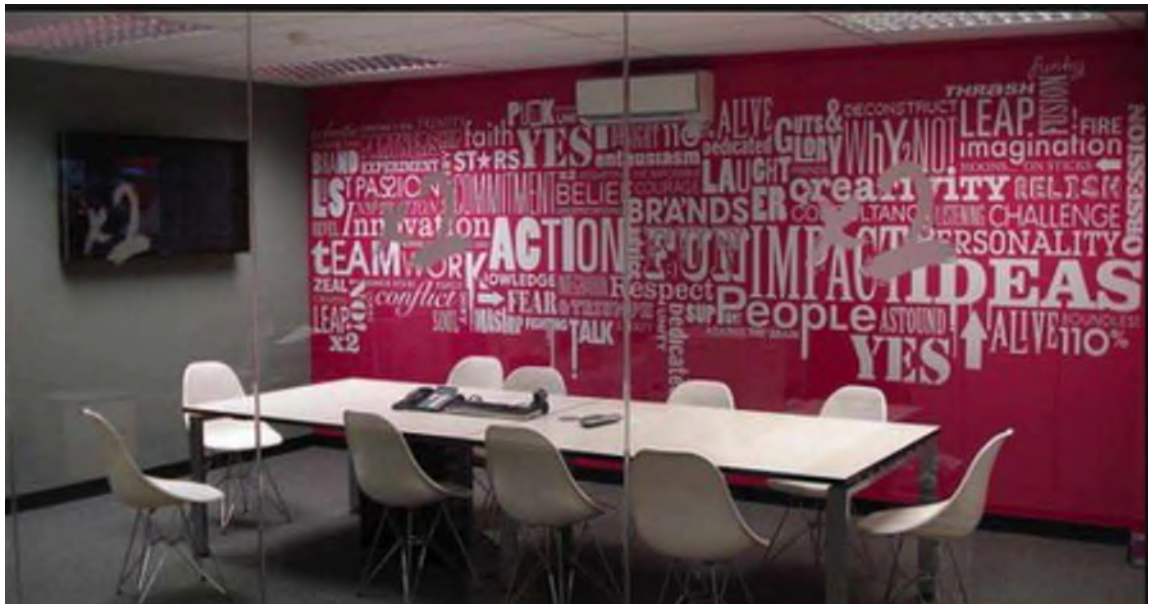
Love the wood on the wall and the chalkboard or “metal” wall. Also like the more traditional option below and the graphic on the wall, bold color.



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Love these spaces, the variation and multi-use, the color, and fun, energetic space.

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UNITS

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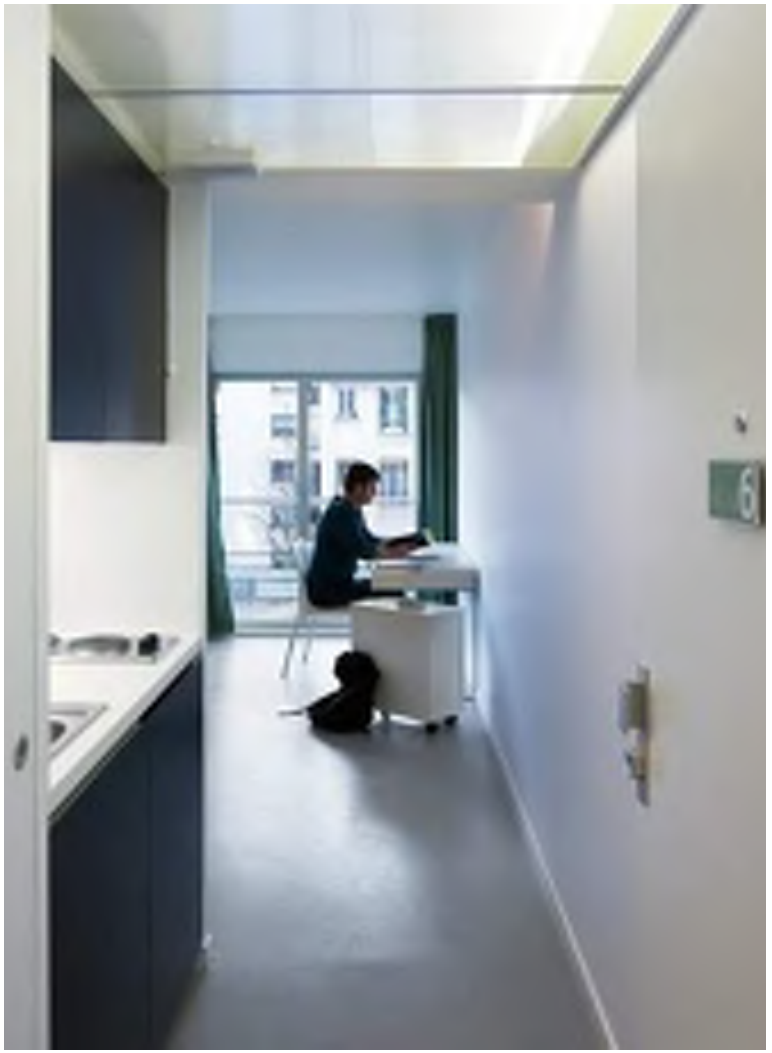

Rooms more vanilla to encourage kids to spend more time out of the room. But do we add some color? Shelving? Slider door? Liked this concept.

Storage on walls is good.

Definitely want hard surface flooring – like vinyl plank options. Love the under bed storage drawers (not open) as it limits the “mess” under the bed. Like the furniture options.

Like the idea of loftable beds and opportunity to have up or down. Like desk/shelves under.

Like the incorporate of the wood in the modern, fresh palette.

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HOMEWORK: SUMMARY REMARKS

IF YOU WERE TO DESCRIBE THE "FEELING" OF THE INTERIOR OF THE NEW BUILDING IN 1 SENTENCE, WHAT WOULD IT BE?

Warm, bright and inviting, capturing the beauty and heritage of this great state. Bright colors with accents of stone/rustic décor, to include murals and/or photographs of the local area. Highly functional, both from a maintenance perspective but also from the perspective of efficient functional use by the student for comfortable living. Openness.

WHAT IS LCCC'S BRAND TO YOU?

The brand of LCCC is the school's colors and the eagle logo and western heritage, founded in agricultural roots, delivering a sound 2-yr education.. Authenticity - reflecting that pursuit of excellence and success with a spirited work ethic for the good of all.

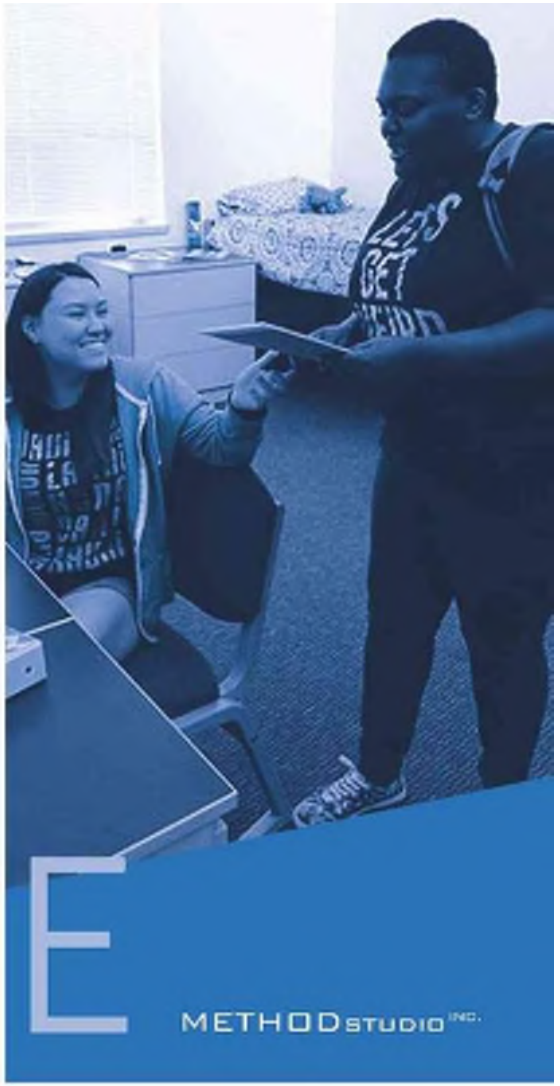
HOW WOULD YOU LIKE TO SEE THAT BRAND REFLECTED IN THIS BUILDING?

1. Incorporate the school's colors into the interior paint scheme. The eagle can be incorporated by use of murals, photography, and selective placement of statuary
2. Murals, paintings, photos, quotes, display cases .. wrapping the building campus/community and state pride.
3. Not overly contemporary, but enough contemporary furnishing/amenities to draw new students to wanting to live there – different than their parents home. They need to feel they have arrived at something different. In order to draw the regional student, this will need to feel 21st century and high tech.

LCCC NEW HOUSING PRESENTATION - KICKOFF MEETING

APPENDIX F

RESIDENCE LIFE



METHODstudio INC.

LARAMIE COUNTY
COMMUNITY COLLEGE

NEW RESIDENCE HALLS

KICK-OFF MEETING

6.1.2017

OUTLINE

1. INTRODUCTIONS, PROTOCOLS + COMMUNICATION LINES
2. SCHEDULE + MEETING DISCUSSION
3. GOALS, BENCHMARKS + DELIVERABLES
4. VISIONING WORKSHOP
    1. Review of Institutional and Housing vision.
    2. Research Integration and/or Agenda
    3. Discuss NEEDS, PRIORITIES + GOALS
        1. Units, Amenities, Siting
    4. Community Interaction
    5. Sustainability Goals
5. SYSTEMS DISCUSSION
    1. Site Utilities
    2. Mechanical Systems
    3. Electrical Requirements
6. PROGRAMMING QUESTIONAIRES

TEAM MEMBER COMMITMENT

JOSEPH SMITH, AIA, LEED A.P.

19 yrs. experience

PRINCIPAL-IN-CHARGE/LEAD DESIGN ARCHITECT

STUDENT HOUSING, HIGHER EDUCATION, MULTI-FAMILY HOUSING

BECKY HAWKINS, AAIA

27 yrs. experience

SR. PROGRAMMER + DESIGNER

STUDENT HOUSING, HIGHER EDUCATION, MULTI-FAMILY HOUSING

SHAWN BENJAMIN, AAIA, LEED A.P.

15 yrs. experience

PROJECT MANAGER

STUDENT HOUSING, HIGHER EDUCATION, MULTI-FAMILY

JAKE GINES, AAIA

15 yrs. experience

SENIOR PROGRAMMER + DESIGN SUPPORT

STUDENT HOUSING, HIGHER EDUCATION, MULTI-FAMILY

METHOD STUDIO

OVERVIEW

+ 65 professionals: real people. have fun!

+ Extensive related experience: programming for innovative residence halls

+ Focus on rural and community college work

+ Hands-on Principal leadership – always!

+ Listen and collaborate

+ Success: marketing + fundraising materials

+ Research based practice

Our work focuses on *STUDENT HOUSING AND HIGHER EDUCATION* and simply working with clients who share our *COLLABORATIVE VISION* that **good design matters.**

A commitment to creating buildings and spaces that inspire, uplift, respect our environment and provide lasting value.

RESEARCH AT THE MAD LAB
METHOD ARCHITECTURE + DESIGN LABORATORY

The MAD Lab is the R+D arm of Method Studio, engaged in asking the right questions and seeking innovative solutions.

WE QUESTION, ENGAGE AND DISCOVER

We believe that fundamental to any design or technical endeavor is the ability to critically question, fully engage, and insightfully discover. We view Architectural Research as primarily a project-based endeavor, aimed at constructing designed solutions utilizing innovative techniques and critical discourse. Employing our research practices, we believe that every project has the ability to advance industry knowledge, promote best practices, and generate inventive solutions. We seek to partner with those who share our passion to make the unknown known. We are excited to work with your team in identifying the right research topic(s) and questions relative to the project.

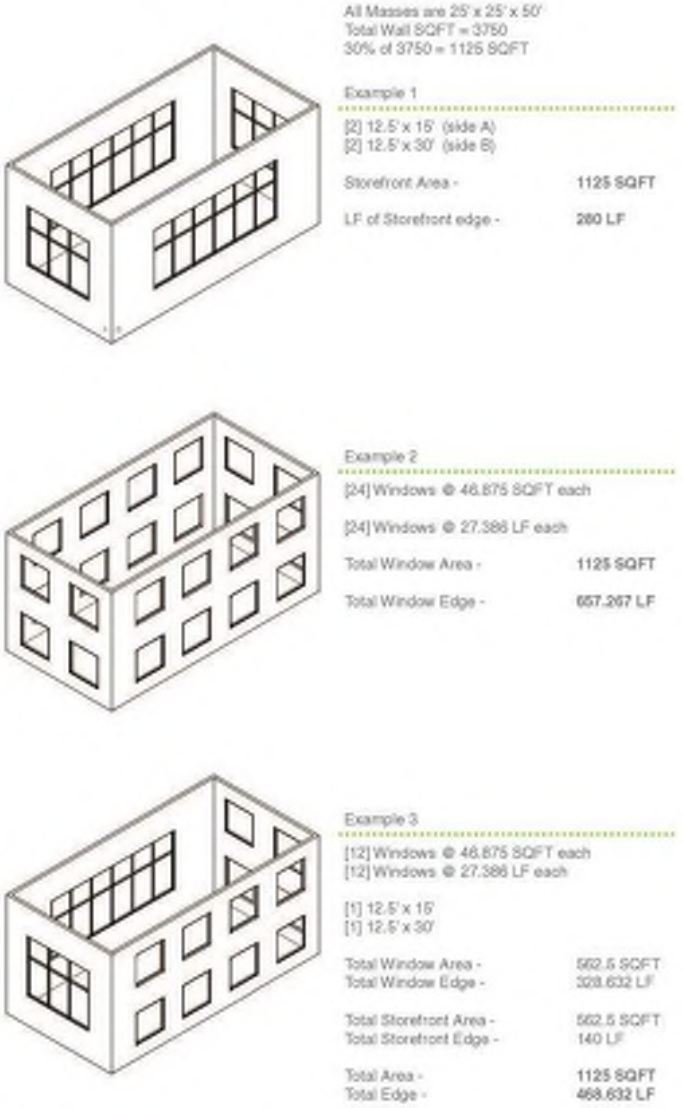
VEHICLES FOR RESEARCH

We work hand-in-hand with our design teams and clients to develop innovative approaches and solutions to building in the 21st century: including systems analysis for buildings and project delivery, building performance monitoring and modeling, material development and prototyping, and developing new approaches to building assemblages/tectonics.

We develop and provide market-centric research that responds to the unique objectives, goals, and values of our clients within existing and developing markets.

We collaborate with academic institutions, industry partners, and other research groups to advance architectural research and establish ourselves as professional leaders in research, design, and project delivery.

We invest in the future by funding an Undergraduate Research Fellowship within the academy that is aimed at engaging architectural researchers in their formative years of education. These fellows engage in research projects that are specific to Method Studio and our clients.



Utah High Performance Building Standard Glazing Studies

FIRM EXPERIENCE

STUDENT HOUSING PROJECTS LAST FEW YEARS:

Dixie College New Student Housing Program, 2015

Dixie College New Campus View Suites, Design, St. George, Utah

Dixie College Student Housing Schematic Design,(Design/Build Competition, 2013)

Cedars Student Housing, $20-m, Programming + Design, Rexburg, Idaho

Utah State University Valley View Replacement Housing Programming + Design, Logan, UT

Utah State University Housing Master Plan, Logan, Utah

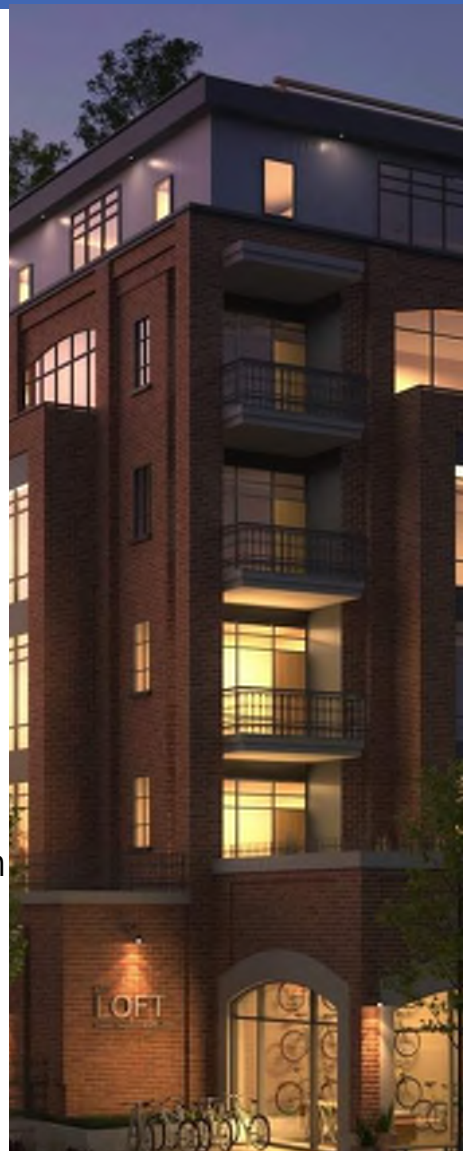
The Willows Student Apartments, serving BYU-Idaho, Programming + Design, $10.5m

The University of Utah Student Housing Replacement, Planning + Schematic Design, SLC, UT, $90-m

Snow College Student Housing Master Plan, Program + SD, $12.5, Ephraim, Utah

BYU – Heritage Student Housing Master Plan + Schematic Design, $30m, Provo, Utah

USU Blanding New Residence Hall, Blanding, Utah



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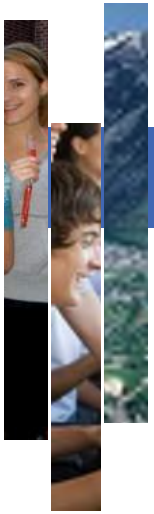

TEAM EXPERIENCE

JOE, BECKY, SHAWN, + JAKE HAVE WORKED TOGETHER ON NUMEROUS DIRECTLY RELATED PROJECTS INCLUDING:

Dixie College Campus View Suites, Design, St. George, Utah

Dixie College Campus View Suites, Programming, St. George, Utah

USU Blanding New Residence Hall, Design, Blanding, Utah

USU Blanding New Residence Hall, Programming, Blanding, Utah

Cedars Student Housing, $20-m, Programming + Design, Rexburg, Idaho

Utah State University Valley View Replacement Housing, Design, Logan, Utah

Utah State University Valley View Replacement Housing, Programming, Logan, Utah

Utah State University Housing Master Plan, Logan, Utah

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The Univ. of Utah Student Housing Replacement, Planning + SD, SLC, UT, $90-m

Snow College Student Housing Master Plan, Program + SD, $12.5, Ephraim, Utah

Snow College Student Housing Master Plan, Housing Master Plan, Ephraim, Utah

BYU – Heritage Student Housing Master Plan + Schematic Design, $30m, Provo, Utah

13 YEARS WORKING TOGETHER AS A TEAM

PROJECTED PROJECT SCHEDULE AND KEY DATES

JUNE 1	PROJECT KICK-OFF MEETING
JUNE 15	PROGRESS MEETING
JULY 6	PROGRESS MEETING
JULY 27	PROGRESS MEETING
AUGUST 17	PROGRESS MEETING
SEPTEMBER 7	PROGRESS MEETING
SEPTEMBER 30	PERFORM LEVEL II
OCTOBER 18	PRESENT TO BOARD OF TRUSTEES AND OTHER STAKEHOLDERS
OCTOBER 31	FINAL DELIVERABLES DUE

GOALS + BENCHMARKS + DELIVERABLES

LEVEL I RECONNAISSANCE STUDY

(A) Describe the project;

(B) Identify the need for the project;

(C) In cooperation with appropriate local, county and state agencies, assess the status of proposed site ownerships, including existing conflicts and recommendations for resolution of the conflicts and other potential obstacles;

(D) Assess and describe local, state and federal permits required for construction;

(E) Assess environmental considerations and constraints;

(F) Identify legal constraints to development;

(G) Identify alternate sources of space to purchase and lease;

(H) Summarize public testimony received at meetings held by the commission in the county of the proposed construction; and

(J) Contain the commission's recommendation to the legislature whether to terminate further consideration of the proposed project or to continue the project at its current level of study, or to proceed with further activity under paragraph (ii), (iii) or (iv) of this subsection.

LEVEL II FEASIBILITY STUDY

(A) Include a detailed analysis of factors relevant to development, construction, operation and maintenance;

(B) Identify major problems and opportunities concerning development and the environmental, social and economic effects of development;

(C) Identify the desired sequence of events, including commencement of local, state and federal permitting activities and acquisition of land;

(D) Summarize testimony received at public hearings held by the commission in the county of the proposed construction;

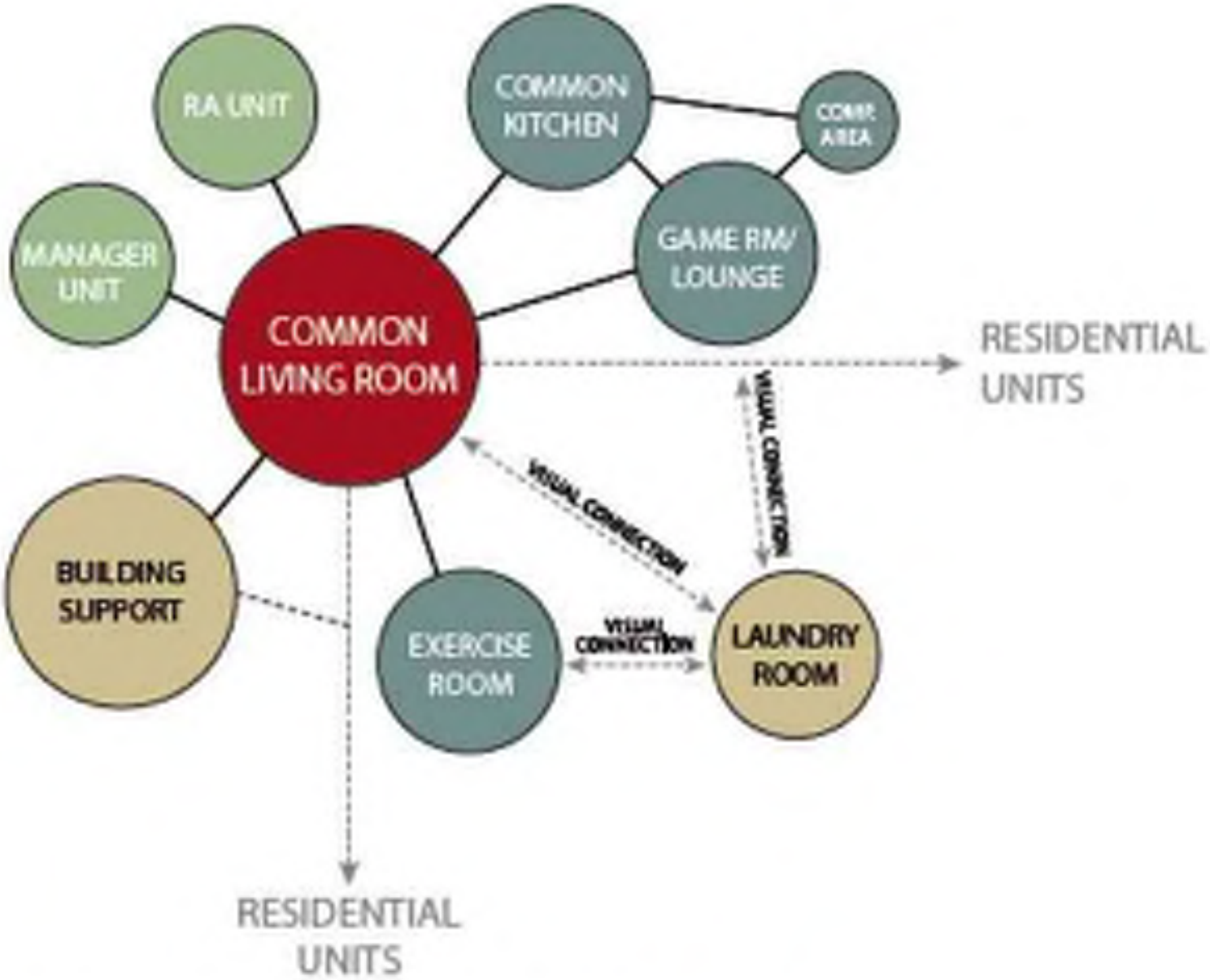
(E) Include soils and other site test drilling procedures;

(F) Contain final concept design and cost estimates;

(G) Include the project financing plan;

(H) Identify the interests in land to be acquired and the proposed means and costs of acquisition. An "interest in land" may include the fee simple title or any other interest in land less than a fee simple; and

(J) Include draft legislation describing in detail the construction, operation and financing of the proposed project.



UPPER LEVEL ADJACENCY DIAGRAM

Space Requirements

Space Summary:

Type of Space:	**Bedroom space for residents**
Number Required:	4 bedrooms per suite, (2) 1 bed rooms (2) 2 bed rooms
Total Number:	Varies, 350 beds min. w/ in building
Occupants:	**1-2 per bedroom**
Area:	**92 SF (single bed) or 144 SF (double bed)**
Primary Function:	**Provide a comfortable environment to sleep and study**

Relationships:

Location:	**Multiple within each suite**
Adjacencies:	**Near bathrooms and kitchenette**
Separation:	**None required**

Architectural Requirements

Design/Aesthetic:

Durable finishes, comfortable feel

Finishes:

Floor:	**Vinyl plank flooring w/ rubber base**
Walls:	**Painted gypsum board**
Ceiling:	**Painted gypsum board**
Specialty Finishes:	**None required**
Sound:	**Sound isolation const. at perimeter walls of suite, and around bathrooms**

Architectural Requirements

Ceiling Height:

Above Finish Floor (AFF):	**9'-0"**

Privacy/Security:

-Provide keyed lock on bedroom doors.
-Provide (1) location per student per bedroom for laptop and similar items, securable with student's own lock

Doors:

Type:	**Solid core wood with clear finish. No closet doors.**
Frame:	**Painted hollow metal**
Special:	**Sound isolation at door into suite**

Windows:

Type:	**Exterior, 1 per bedroom, 4'x5' or 20sf min. Non-operable**
Glazing:	**Insulated w/ Low-E coating**
Frame:	**Aluminum Storefront-Champagne**
Natural Light:	**Required**

Casework/Fixed Equipment:

-Fixed closet shelf (@ two heights per closet)
-Fixed closet rod (@ two heights per closet)
-Fixed wall shelf (one per student), 10"deep x 5' Long x 2" thick, provide all required blocking

Moveable Furnishings (NIC)

-Bed 80" long (loftable 33", one per student, to allow for storage underneath)
-Bookshelf (one per studen)
-3 drawer dresser (one per student)
-Desk and chair (one per student)

Technical Requirements

Mechanical:

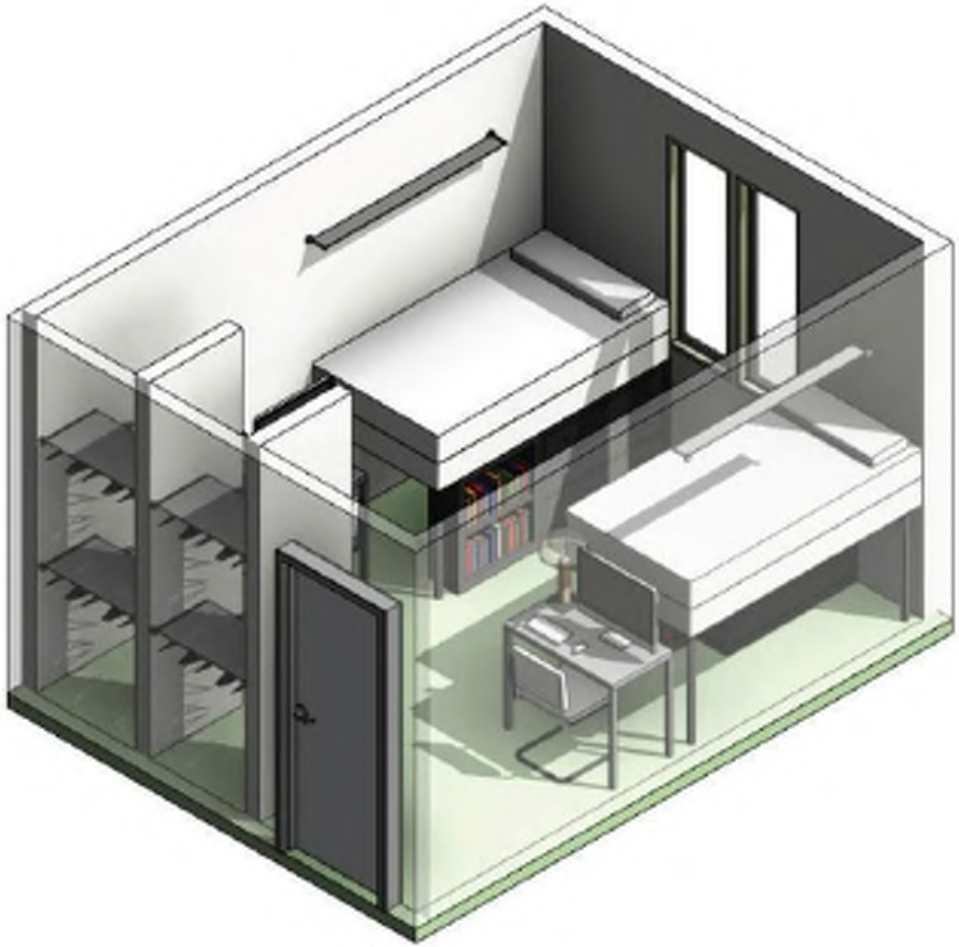
Ventilation:	**Outdoor air - as required by ASHRAE 62.1** **Air circulation - as required by load analysis**
Summer Design Temp:	**74 ° F**
Winter Design Temp:	**72 ° F**
Controls:	**Remote sensor in bedroom, suite on (1) zone w/ adj. stat in common area, Thermostat control in each suite for each suite.**
Sound Criteria:	**25 to 35 (NC/RC)**
Special Systems:	**None required**
Plumbing:	**None required**

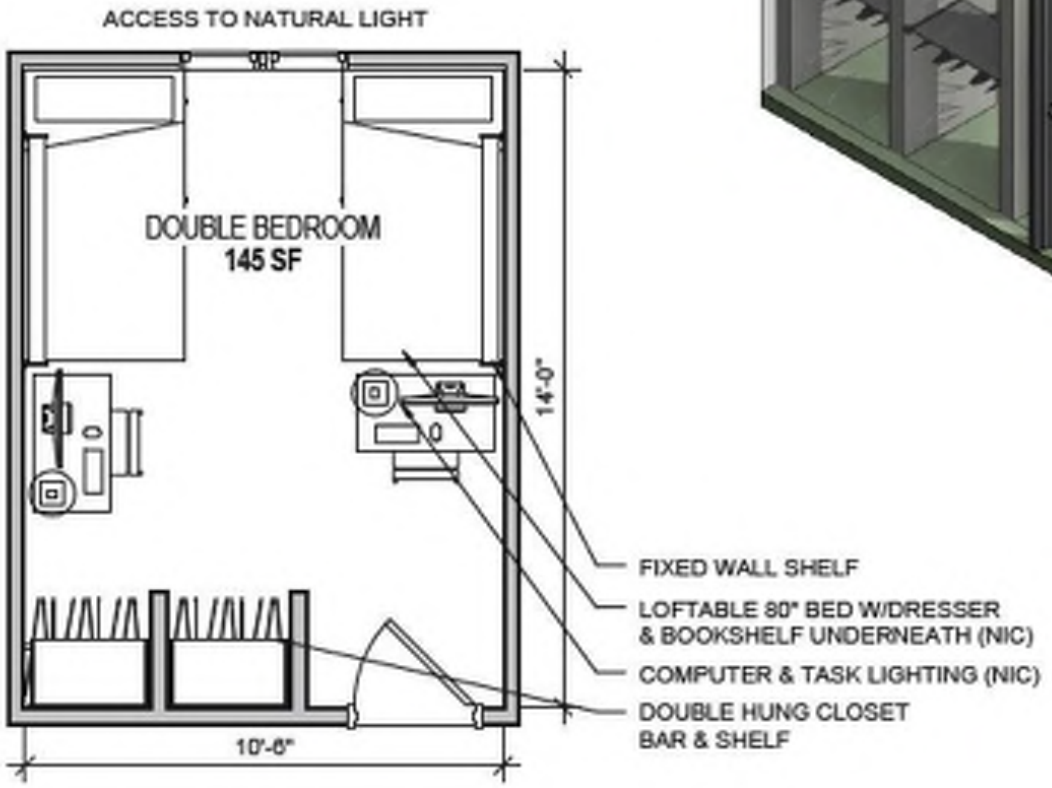
Electrical:

Power:	**Multiple duplex outlets per bedroom, one of these located adjacent to each desk area specifically, per NEC spacing**
Phone/Data:	**(1) network port near each desk; wireless access; no phone requirement**
Video:	None required

Lighting:

Fixture Type:	**LED**
Task Lighting:	**At each desk (NIC)**
Foot Candles:	**20 ambient, 40 task**
Controls:	**Vacancy Sensor with wall station override**




ACCESS TO NATURAL LIGHT
DOUBLE BEDROOM
145 SF
14'-0"
10'-6"
FIXED WALL SHELF
LOFTABLE 80" BED W/DRESSER
& BOOKSHELF UNDERNEATH (NIC)
COMPUTER & TASK LIGHTING (NIC)
DOUBLE HUNG CLOSET
BAR & SHELF

LCCC: INSTITUTIONAL AND HOUSING VISIONS

Harness the GOALS

- Helps to build a foundation for programming + design
- Critical to the process

Establish the VISION

- Becomes our guide for efficient decision-making
- Keeps us on Target within our expedited process

LCCC: INSTITUTIONAL VISION

LARAMIE COUNTY COMMUNITY COLLEGE

HOME ADMISSIONS ACADEMICS SERVICES CAMPUS LIFE ATHLETICS ABOUT

Mission, Vision & Values

Mission Statement

The mission of Laramie County Community College is to transform our students' lives through the power of inspired learning.

We are all bound by a basic understanding that our students, regardless of how they arrive at LCCC, yearn for a better life by engaging in the process of acquiring knowledge. Thus, we are compelled to aid this transformation by offering diverse educational experiences designed to be inspirational for all those involved in the learning process. While we recognize our work is diverse, the entirety of the work we do is grounded in the four foundational elements of the comprehensive community college mission:

1. To prepare people to succeed academically in college-level learning (academic preparation)
2. To engage our students in learning activities that will prepare and advance them through the pursuit of a baccalaureate degree (transfer preparation)
3. To develop individuals to enter or advance in productive, life-fulfilling occupations and professions (workforce development)
4. To enrich the communities we serve through activities that stimulate and sustain a healthy society and economy (community development)

Vision

The Big Goal

Our over-arching goal is that our accomplishments as a community college will distinguish LCCC from others in the nation, in turn benefiting our communities and bringing pride to the great State of Wyoming.

Vision Statement

In the future we are individuals united for a single purpose – to transform our students' lives. Our nationally recognized, entrepreneurial, and innovative programs and services help students become the most sought after individuals. We develop world-class instructors. We are relentless in the use of evidence to make decisions that responsibly and efficiently allocate resources, drive instruction, and create an environment of adaptability and productivity. Every individual has the freedom to innovate and take informed risks based on promising practices and creative ideas. We fail fast, and learn from that failure as much as from our success. Clear academic pathways, high-touch services, and engaged employees are the bedrock of our students' success. We drive collaboration throughout the community to ensure the success of all students who come to LCCC. We are changing the world of higher education facing seemingly impossible challenges head on.

Strategic Plan

Facilities Master Plan

Flex Tech Building

Clay Pathfinder Building

REALTY CHECK edited by DIANA OLICK

REAL ESTATE | HOUSING | MORTGAGES | CONSTRUCTION | COMMERCIAL REAL ESTATE | RE

Student housing ups the ante on amenities

Diana Olick | @DianaOlick
Thursday, 1 Sep 2016 | 10:54 AM ET

CNBC

Stephanie Stout | CNBC

Off-campus housing by CA Ventures is directly across the street from the University of Maryland.

At Landmark apartments, just steps away from the main campus of the University of Maryland, upperclassman Jordan James and her mother

COMMERCIAL REAL ESTATE | SQUARE FEET

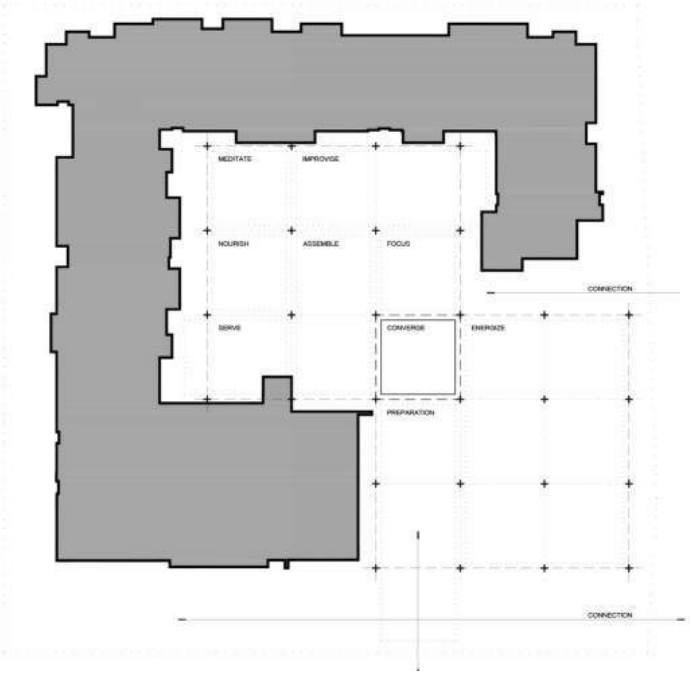
Public College, Private Dorm

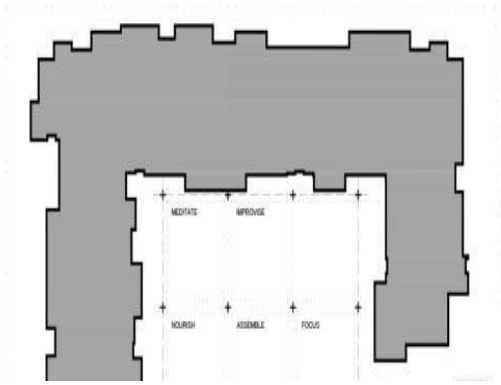
By RONDA KAYSEN JAN. 24, 2012

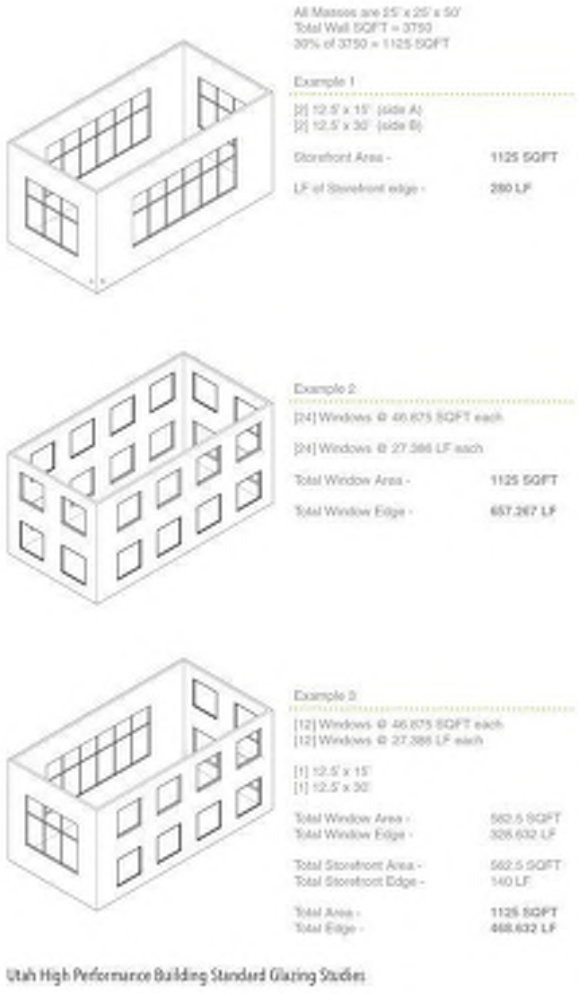
...lice dormitory complex at Montclair State University ...velopment company. ...e New York Times

...ern light and demand for a college education at a high ...public universities across the country are increasingly turning to ...the private sector to build and finance on-campus dormitories.

Even before the recession, states found that companies that specialize in student housing could build residence halls more rapidly and cheaply







RESEARCH INTEGRATION

METHOD STUDIO INC.

RESIDENCE LIFE DESIGN

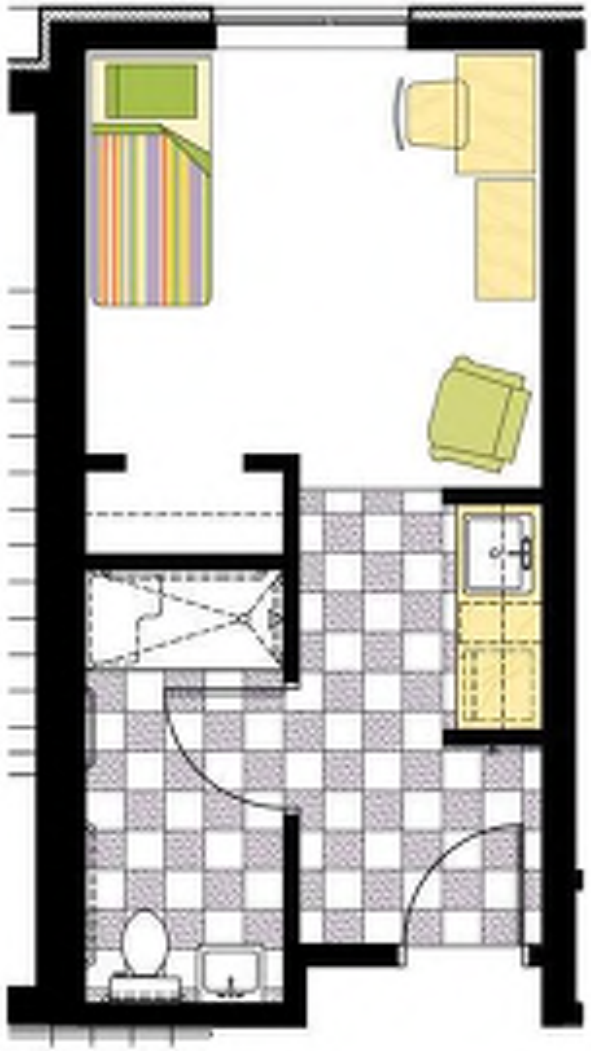
NEEDS, PRIORITIES, GOALS

STUDENT HOUSING TRENDS

Learning Communities
Suites vs. Apartments vs. Dorms
Private rooms vs. double rooms
Spaces for social interaction
Gathering Spaces – indoor and outdoor
Classroom Space + Informal Learning Space
Recruitment Tool
Lively, inspired environments
State-of-the-Art, High Tech Amenities
Privacy - wherever possible – nooks, crannies, dressing, even just sightlines
Fitness Space and ATM's
Variety of living arrangements
Durable, flexible furniture + wired furniture
Dining Options
Security Cards rather than Keys
Social spaces and alcoves in corridors for shared seating/ conversation - essential
Innovative, Flexible Common Spaces
Sustainability as a lifetime learning tool

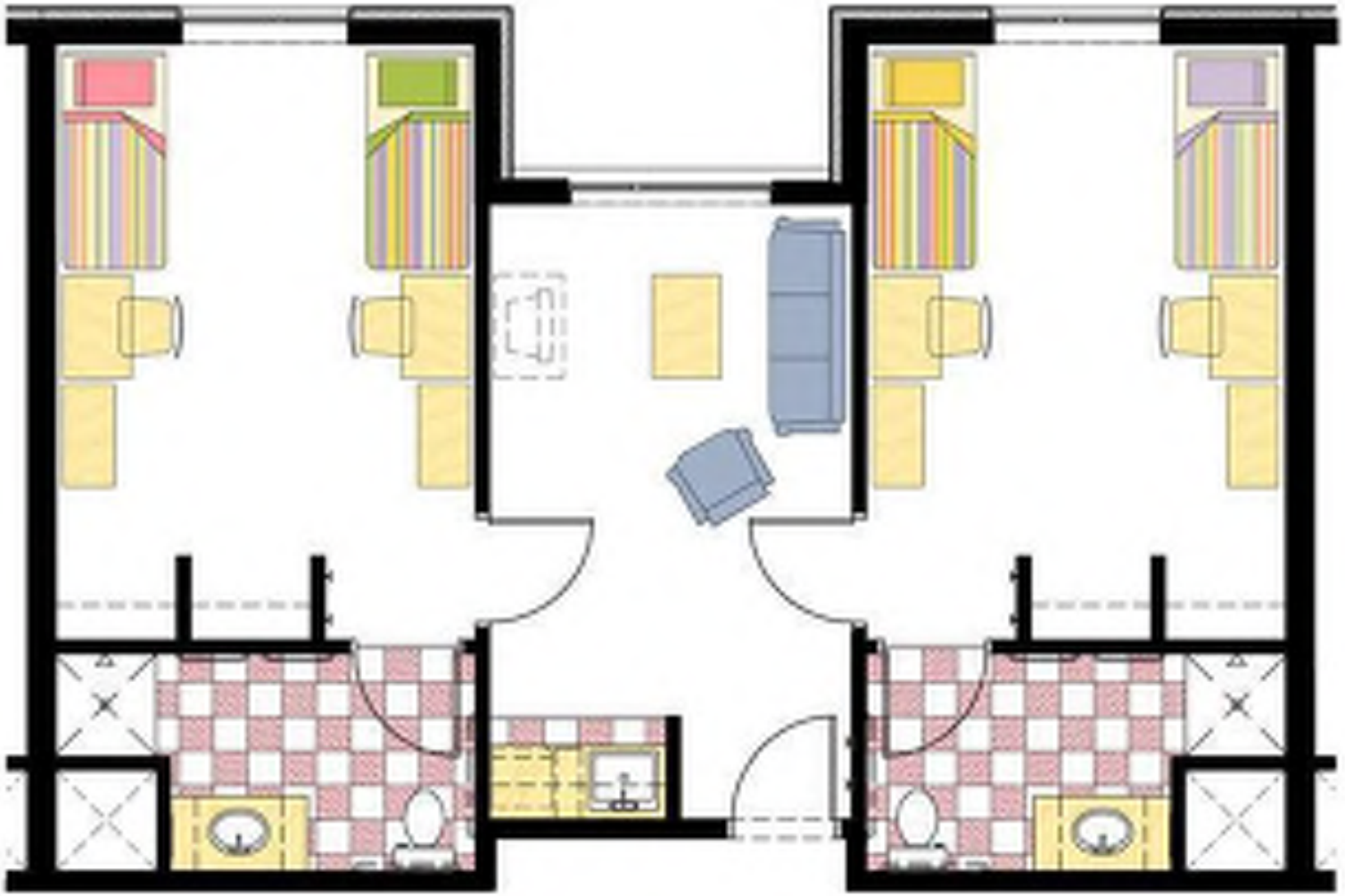

1st Floor
2nd Floor
C = Closet
D = Desk
W/D = Washer/Dryer Hookups
1317 SF
946 SF
8.1b
8.3b
Kitchen
C = Closet

UNIT DESIGN

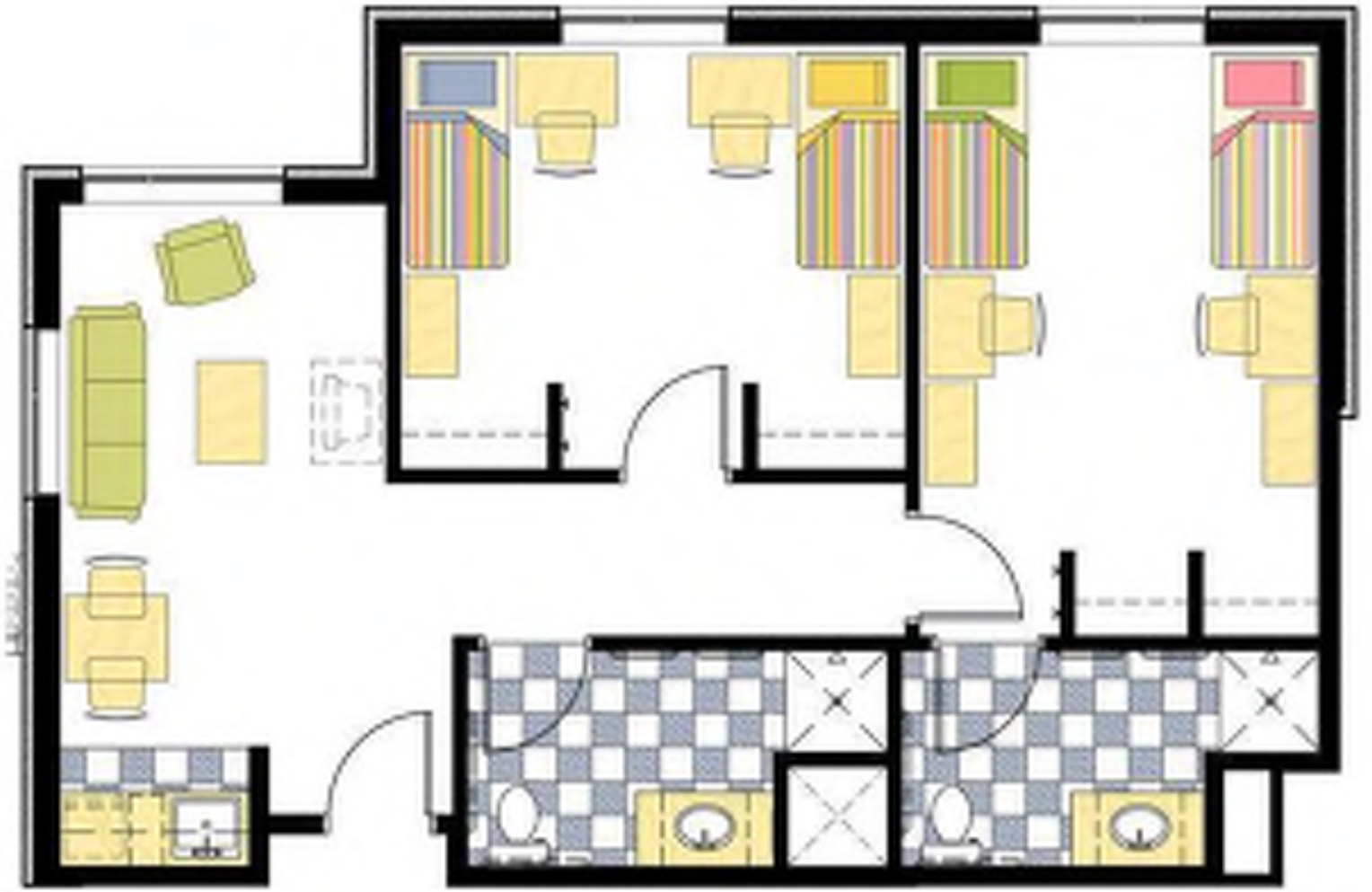


ONE BEDROOM PRIVATE SUITE

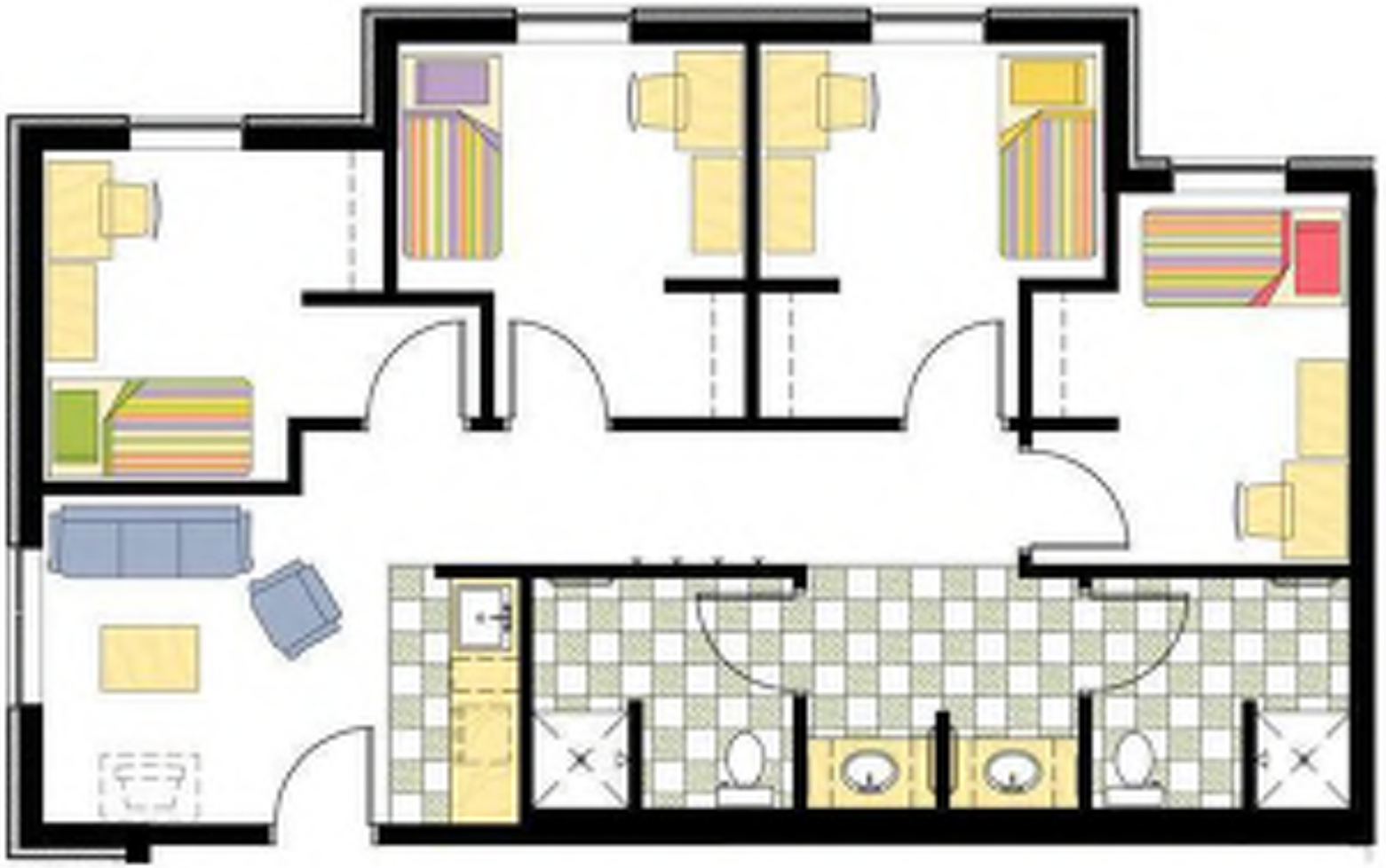
2 BEDROOM PRIVATE CORNER SUITE



2 BEDROOM SHARED 4 BED CENTER SUITE



2 BEDROOM SHARED 4 BED CORNER SUITE



4 BEDROOM PRIVATE SUITE

LARAMIE COUNTY COMMUNITY COLLEGE STUDENT HOUSING

EXPLORING

Typical 5 bed unit

Alternate 4 bed unit

Manager's unit

DIXIE STATE UNIVERSITY NEW STUDENT HOUSING

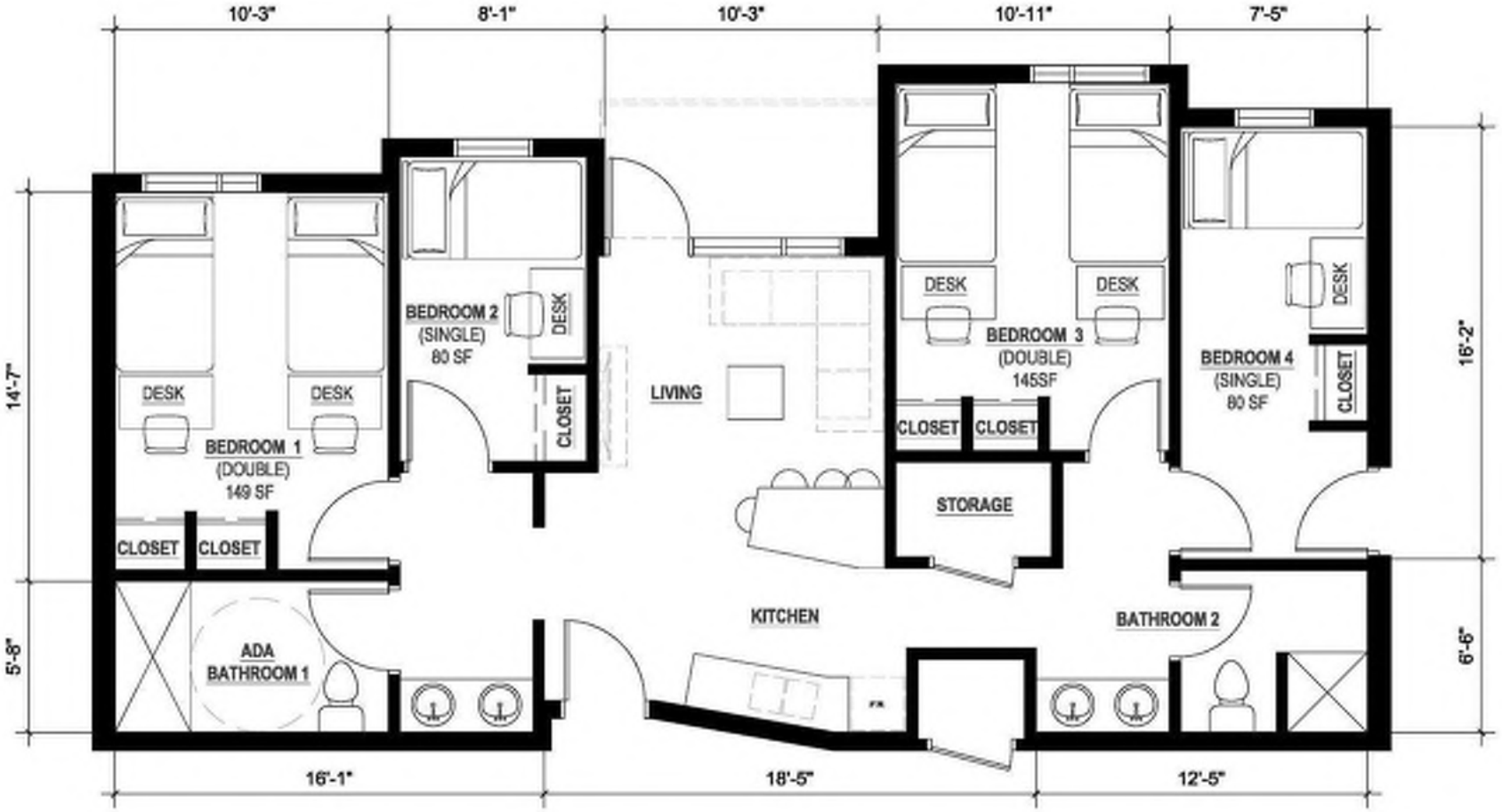
METHOD STUDIO INC.

Typical 6 bed unit

Typical RA unit

DIXIE STATE UNIVERSITY NEW STUDENT HOUSING

METHOD STUDIO INC.



DIXIE STATE UNIVERSITY NEW STUDENT HOUSING

METHOD STUDIO INC.

UTAH STATE UNIVERSITY VALLEY VIEW REPLACEMENT HOUSING

METHOD STUDIO INC.

TYPE 'B' UNIT

6 Bed Suite - 3 BR / 2 BA - 801 G.S.F.
Bedroom w/ closet - 151 / 145 / 156 N.S.F.
134 G.S.F. / Occupant

6.1b

TYPE 'A' UNIT

5 Bed Suite - 3 BR / 2 BA - 776 G.S.F.
Bedroom w/ closet - 148 / 88 / 163 N.S.F.
155 G.S.F. / Occupant

5.2a*

SNOW COLLEGE STUDENT HOUSING

METHOD STUDIO INC.

UNIVERSITY OF UTAH REPLACEMENT HOUSING

UNIVERSITY OF UTAH REPLACEMENT HOUSING

METHOD STUDIO INC.

UNIVERSITY OF UTAH REPLACEMENT HOUSING

USU SAN JUAN CAMPUS RESIDENCE HALL

THE WILLOWS STUDENT HOUSING

METHOD STUDIO INC.

CLEMSON UNIVERSITY HONORS COLLEGE RESIDENCE HALL

VMDO Architecture

METHOD STUDIO INC.

CLEMSON UNIVERSITY HONORS COLLEGE RESIDENCE HALL

VMDO Architecture

METHOD STUDIO INC.

CLEMSON UNIVERSITY SOUTH RESIDENCE HALL

Stevens & Wilkinson, VMDO, Sasaki Associates

METHOD STUDIO INC.

CLEMSON UNIVERSITY SOUTH RESIDENCE HALL

Stevens & Wilkinson, VMDO, Sasaki Associates

METHOD STUDIO INC.

BRIGHAM YOUNG UNIVERSITY HERITAGE HOUSING

METHOD STUDIO INC.

COLORADO STATE UNIVERSITY ACADEMIC HOUSING

by others

METHOD STUDIO INC.

COLORADO STATE UNIVERSITY ACADEMIC HOUSING

by others

METHOD STUDIO INC.

COLORADO STATE UNIVERSITY ACADEMIC HOUSING

by others

METHOD STUDIO INC.

COLORADO STATE UNIVERSITY ACADEMIC HOUSING

by others

METHOD STUDIO INC.

2nd Floor

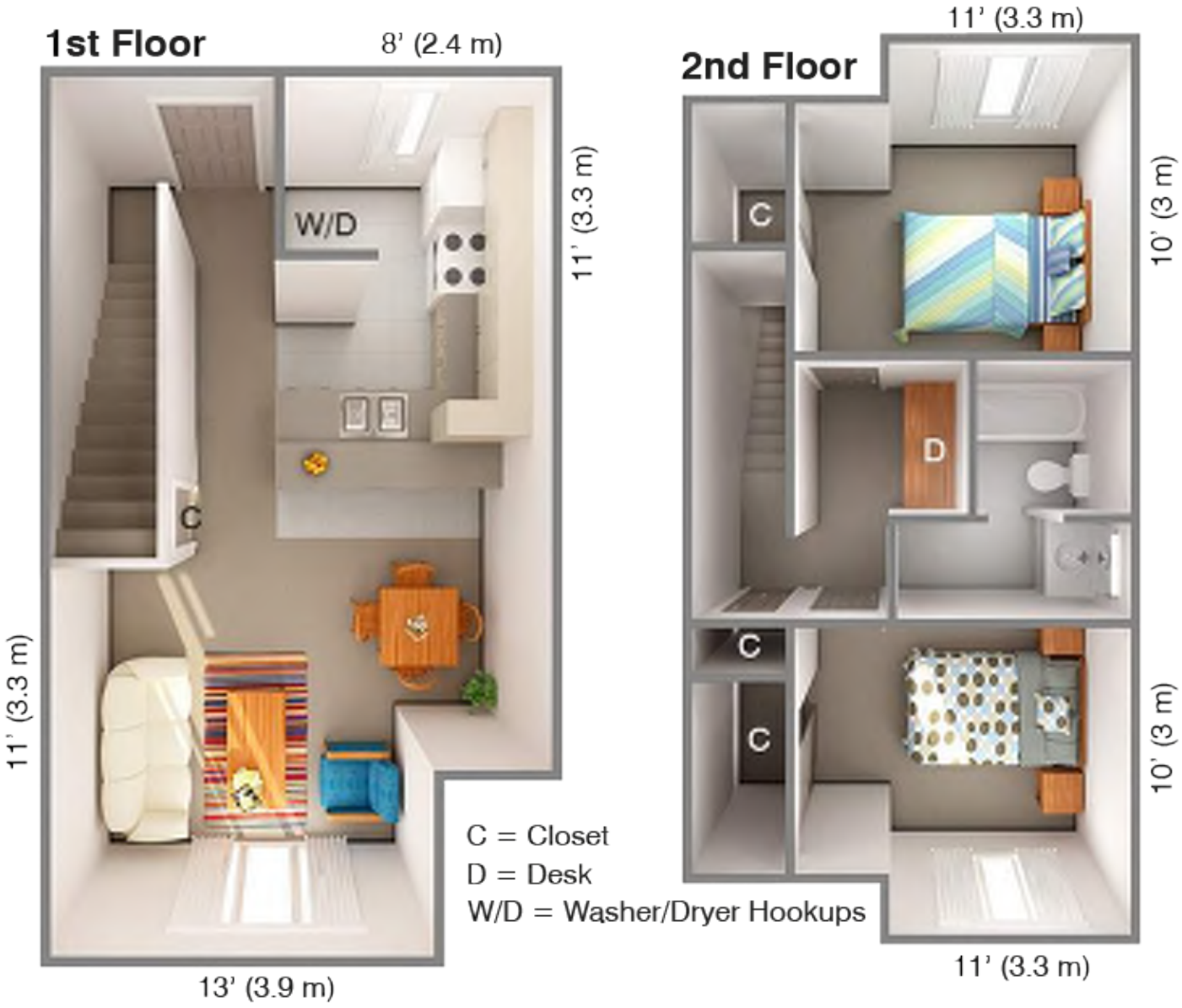
1st Floor

C = Closet

COLORADO STATE UNIVERSITY ACADEMIC HOUSING

by others

METHOD STUDIO INC.



COLORADO STATE UNIVERSITY ACADEMIC HOUSING

by others

AMENITIES

CENTRAL LOCATION
COMMUNITY
VISUAL DISPAYS
ART WORK
OPEN DESIGN
MENTORING
NATURAL LIGHT
ENGAGING
POSITIVE ENERGY

METHOD STUDIO INC.

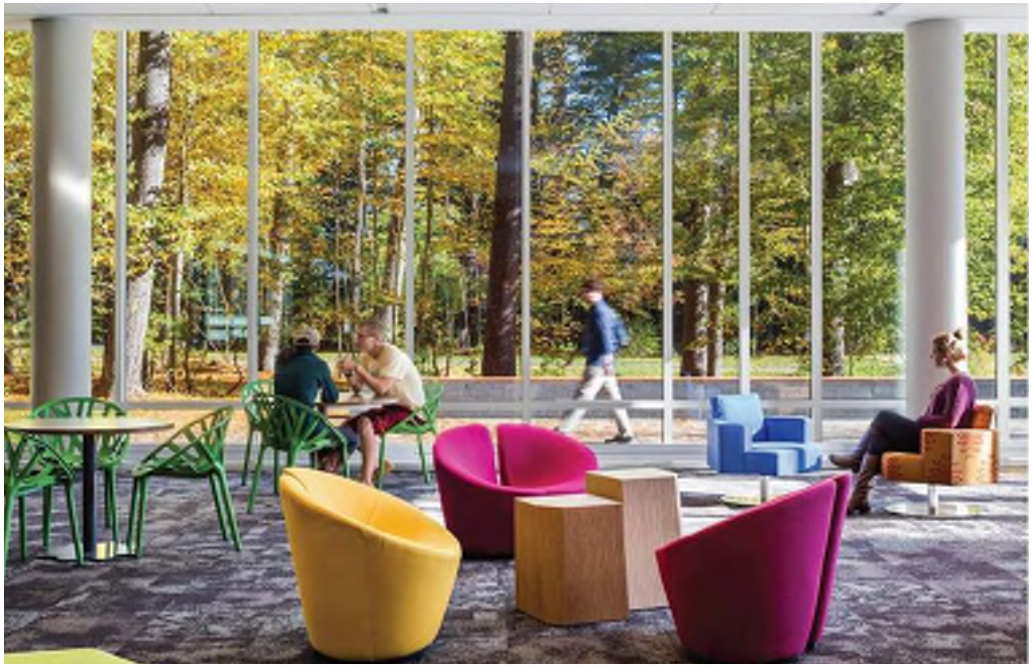

RESPONSIBILITY
CLEAR THINKING
FUTURE
VOLUNTEERING
FOCUS
PRODUCTIVE
ORGANIZE
VISION
COMMUNITY GOALS


MEETINGS
BALANCED
EFFICIENT
FUNCTIONAL
PRIORITIES
STUDYING
RESOURCES
TIME MANAGEMENT
ORDERED

COMMUNAL SPACES
INTERCONNECTIVITY
COLLABORATION
PROCESS
CONFIDENT
BRAINSTORMING
CHOICES
COMPETITIVE
DRIVEN
ENERGY

METHOD STUDIO INC.


RESOLUTION
SMALL SPACES
DIALOGUE
ACOUSTICS
DESIGN
LISTEN
INTERACTION
DIVERSITY
TRUST
ART
CALM




MULTIPURPOSE
ACTIVITY
ENERGIZE
DYNAMIC
CREATIVE COLLABORATION
VALUES
TECHNOLOGY
LEADERSHIP
SOLUTIONS


MUSIC
SPORTS
RENEWAL
EXERCISE
MIND + SPIRIT
LEARNING
MEDITATION
OUTDOORS
HOBBIES

FLOOR PLAN: main level

campus beacon: "welcoming", draws people in

efficient, yet spacious

takes advantage of climate and unique place

privacy/security of units on main level

creates community

activates campus

ease of access to core amenities

secure bike storage on display

14 UNITS
84 BEDS
23,099 SF

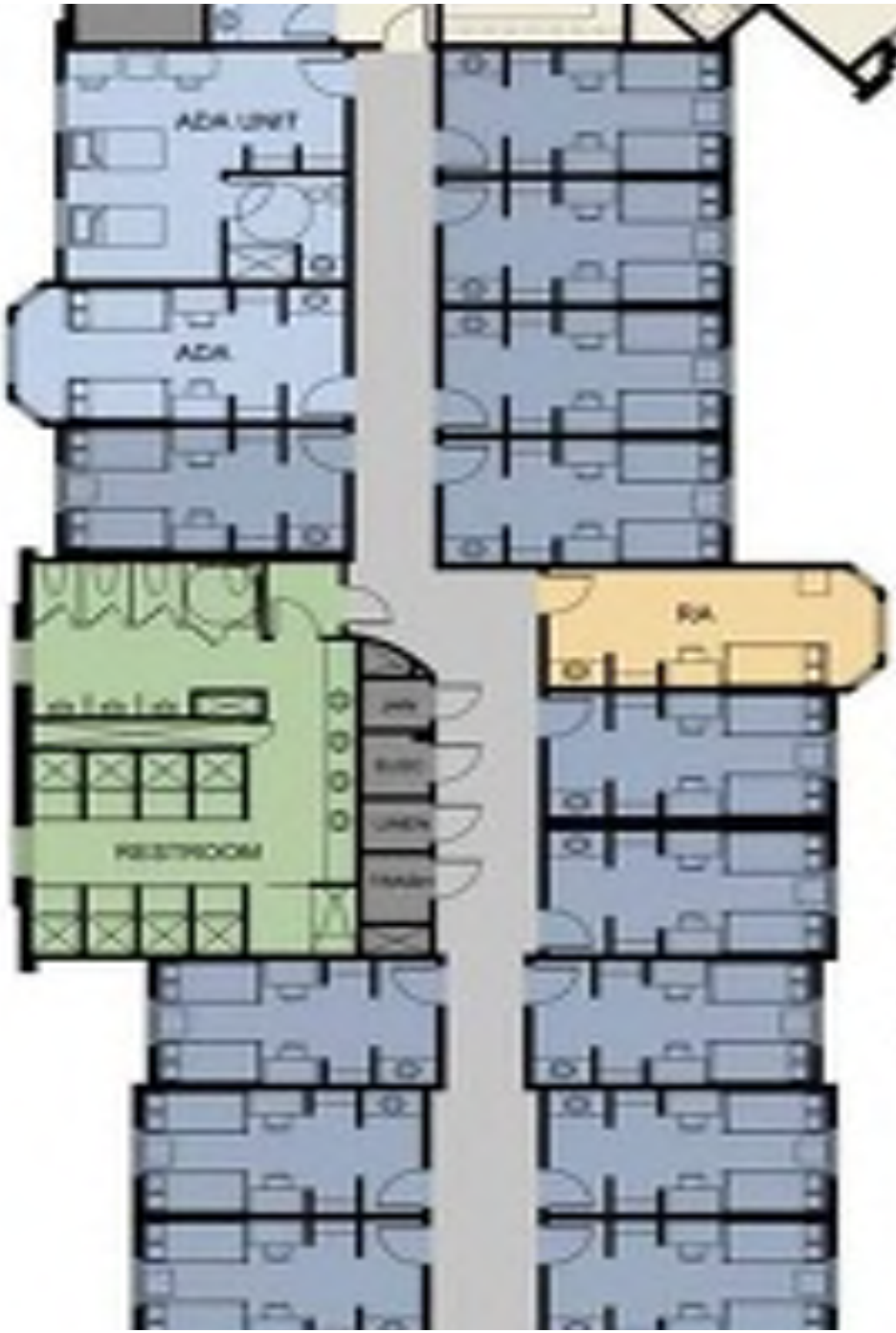
SNOW COLLEGE STUDENT HOUSING

USU

VALLEY VIEW HOUSING
SCHEMATIC DESIGN SUBMITTAL

UTAH STATE UNIVERSITY VALLEY VIEW REPLACEMENT HOUSING

METHOD STUDIO INC.



3 STORY WING

1ST FLOOR:	35 B
2ND FLOOR:	43 B
3RD FLOOR:	43 B
TOTAL BEDS:	121

SITING


N
Google Earth
1994
Imagery Date: 9/7/2016 41°05'14.85" N 104°46'44.68" W elev 6015 ft eye alt 9299 ft


Google Earth
1994
Imagery Date: 9/7/2016 41°06'11.53" N 104°46'57.19" W elev 6008 ft eye alt 7091 ft


Google Earth
1994
Imagery Date: 9/7/2016 41°06'11.57" N 104°46'58.22" W elev 6008 ft eye alt 6589 ft

SUSTAINABLE GOALS

COMMUNITY INTERACTION

LCCC PROGRESS MEETING PRESENTATION

APPENDIX G

LARAMIE COUNTY COMMUNITY COLLEGE
NEW RESIDENCE HALL

PROGRESS
MEETING

07.06.2017

PROJECT SCHEDULE AND KEY DATES

~~JUNE 1~~	~~PROJECT KICK-OFF MEETING~~
~~JUNE 15~~	~~PROGRESS MEETING~~
JULY 6	PROGRESS MEETING
JULY 20	PROGRESS MEETING
AUGUST 10	PROGRESS MEETING
SEPTEMBER 7	PROGRESS MEETING
SEPTEMBER 30	PERFORM LEVEL II
OCTOBER 18	PRESENT TO BOARD OF TRUSTEES AND OTHER STAKEHOLDERS
OCTOBER 31	FINAL DELIVERABLES DUE

WHAT WE'VE LEARNED ABOUT THE 1:6 RATIO FOR WET CORE

CLEMSON UNIVERSITY

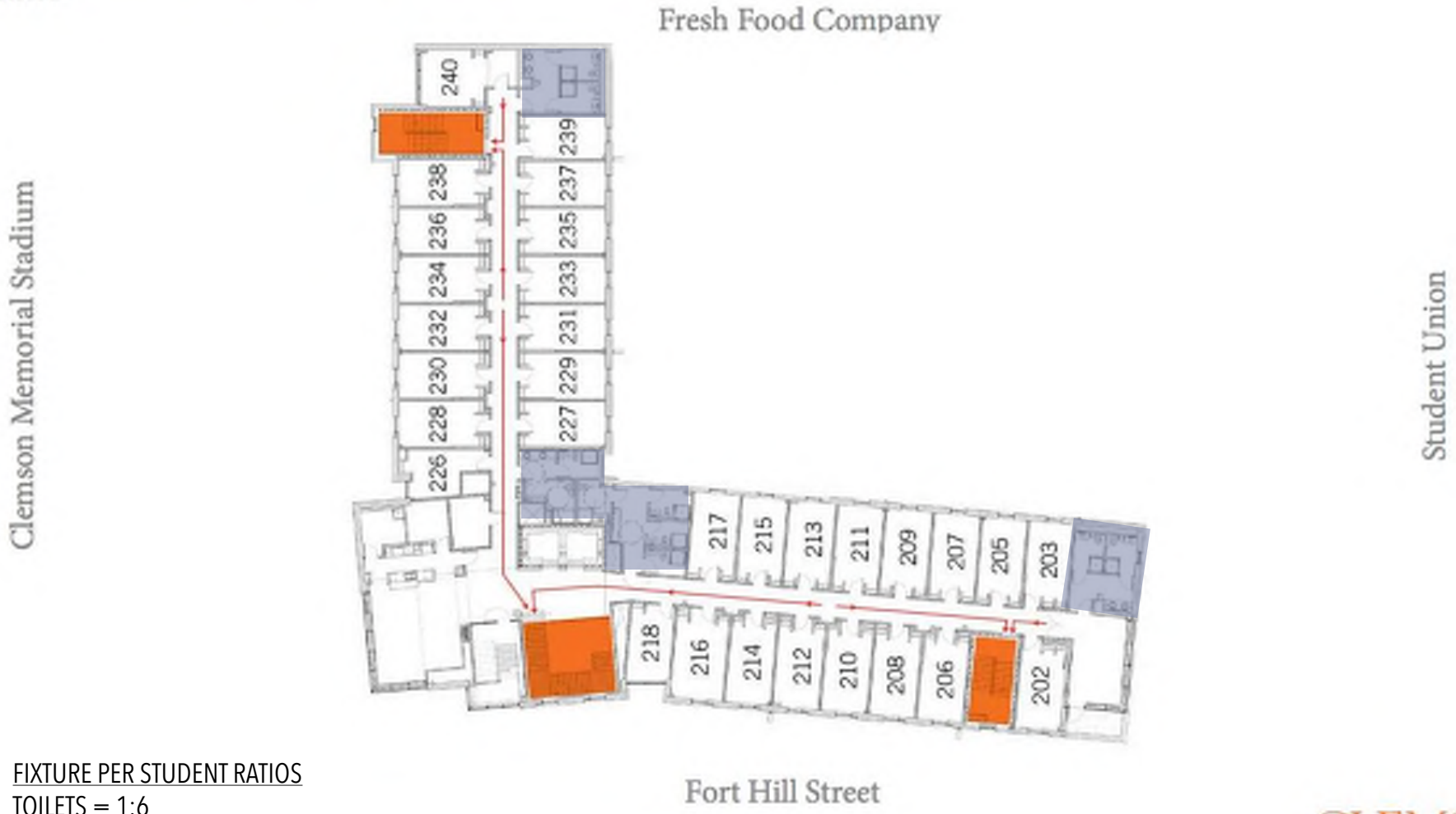
1. "ZERO COMPLAINTS"
2. NERVOUS ABOUT THE 1:6 RATIO USED AT CAMPUS CORE (opened fall 2016), BUT HAVE BEEN VERY PLEASED WITH THE DECISION.
3. USING THE SAME RATIO ON DOUTHIT HILLS – SET TO OPEN FALL 2018.

PENN STATE UNIVERSITY

1. "OVERWHELMINGLY APPRECIATED BY THE STUDENTS"
2. CHASE HALL AND OTHER HALLS HAVE BEEN CONVERTED TO WET CORE (1:6 RATIO, SOME WITH 1:7)
3. IN TOTAL, 1,200 BEDS CONVERTED, WITH 7,000 OVER THE NEXT DECADE.
4. BENEFITS: LOWER COST, INCREASED COMMUNITY.
5. HAS ELIMINATED A LOT OF THE CONCERNS REGARDING SAFETY, SECURITY, AND PRIVACY – FAR LESS ISSUES WITH PEOPLE BEING WHERE THEY ARE NOT SUPPOSED TO BE.
6. FEEL LIKE THEY ARE AHEAD OF THE CURVE REGARDING TRANSGENDER AND GENDER NEUTRAL ACCOMODATIONS.
7. STUDENTS TYPICALLY KEEP THE WET CORE CLEANER.
8. NEED INCREASED VENTILATION.
9. ONLY PROVIDE HAND DRYERS IN THE COMMON BATH AREAS.
10. ADDITIONAL TOILET ROOMS INCREASE TURNOVER.
11. CAN BE CHALLENGING DURING BIG EVENTS (CAMPS, ETC.) AND IN SORORITY HOUSES – HAVE OVERCOME THESE ISSUES AND IS WORKING GREAT.

Core Campus A

Floor 2



FIXTURE PER STUDENT RATIOS
TOILETS = 1:6
SHOWERS = 1:6
SINKS = 1:3

CLEMSON UNIVERSITY – CAMPUS CORE, BUILDING A

Stevens & Wilkinson, VMDO, Sasaki Associates

NOTE:
DOUTHIT HILLS (OPENING FALL 2018)
WILL INCORPORATE A 1:6 RATIO.

CLEMSON home

METHOD STUDIO INC.

FIXTURE PER STUDENT RATIOS

TOILETS = 1:6

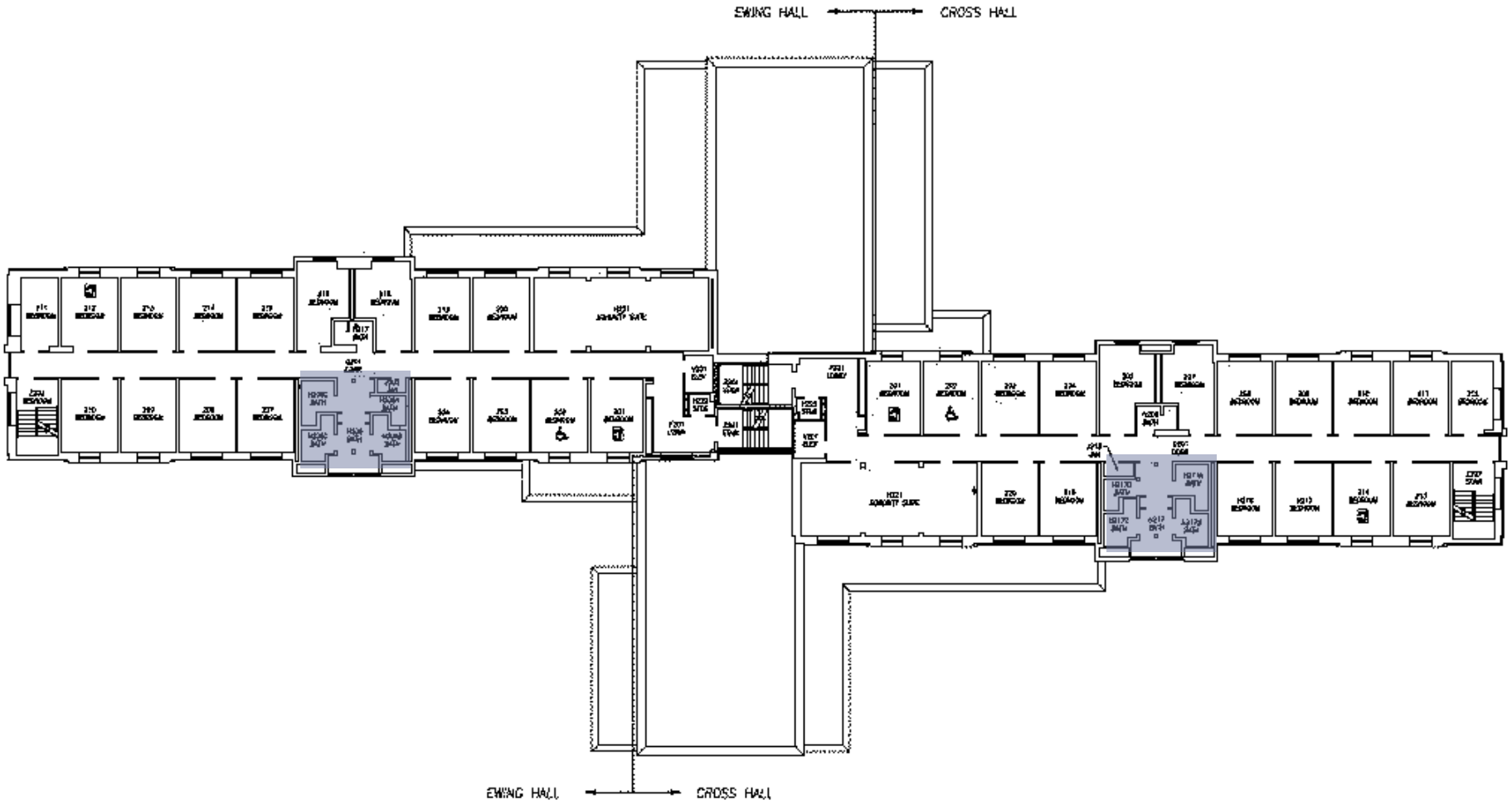
SHOWERS = 1:6

SINKS = 1:3

PENN STATE UNIVERSITY – CHACE HALL

Clark Nexsen

METHODSTUDIO INC.



FIXTURE PER STUDENT RATIOS

TOILETS = 1:6

SHOWERS = 1:6

SINKS = 1:3

PENN STATE UNIVERSITY – EWING HALL (REMODEL)

Barton Marlow

METHOD STUDIO INC.

FIXTURE PER STUDENT RATIOS

TOILETS = 1:6

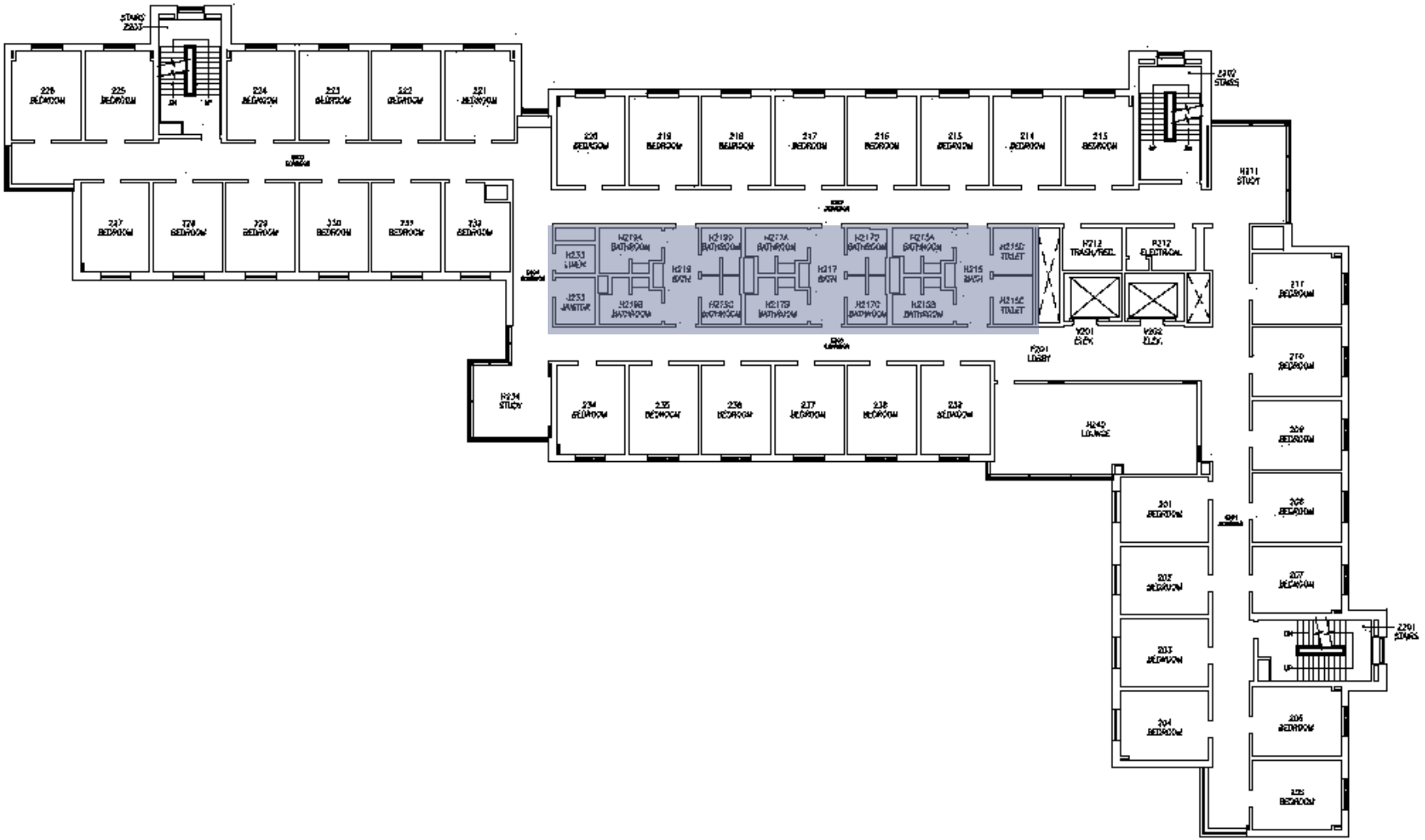
SHOWERS = 1:6

SINKS = 1:3

PENN STATE UNIVERSITY – EARLE HALL (forthcoming)

Mackay Mitchell

METHODSTUDIO INC.



FIXTURE PER STUDENT RATIOS

TOILETS = 1:6

SHOWERS = 1:6

SINKS = 1:3

PENN STATE UNIVERSITY – ROBINSON HALL (forthcoming)

EYP

FIXTURE PER STUDENT RATIOS

TOILETS = 1:5

SHOWERS = 1:5

SINKS = 1:3

UC DAVIS – CAMPBELL HALL

Mogavero Notestine Associates

METHOD STUDIO INC.

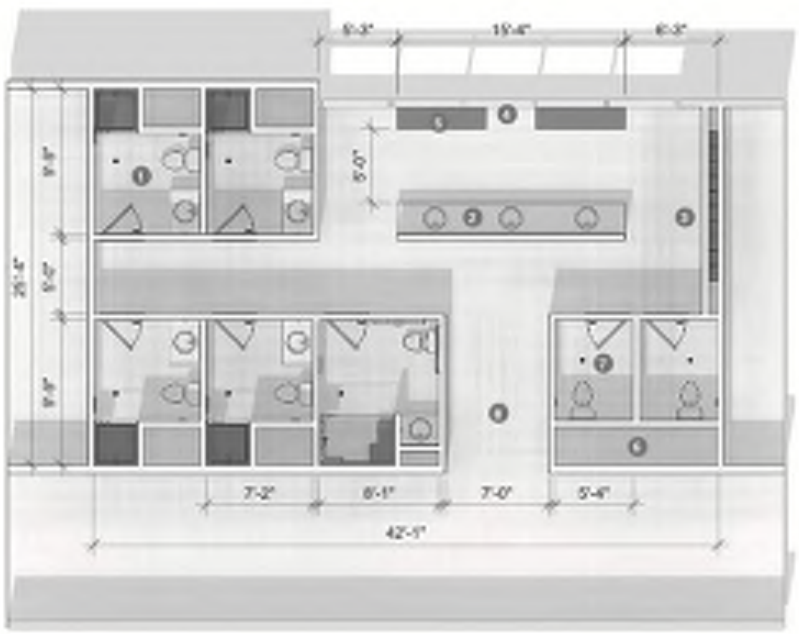
FIXTURE PER STUDENT RATIOS
TOILETS = 1:4
SHOWERS = 1:4
SINKS = 1:3

UC DAVIS – KEARNY HALL

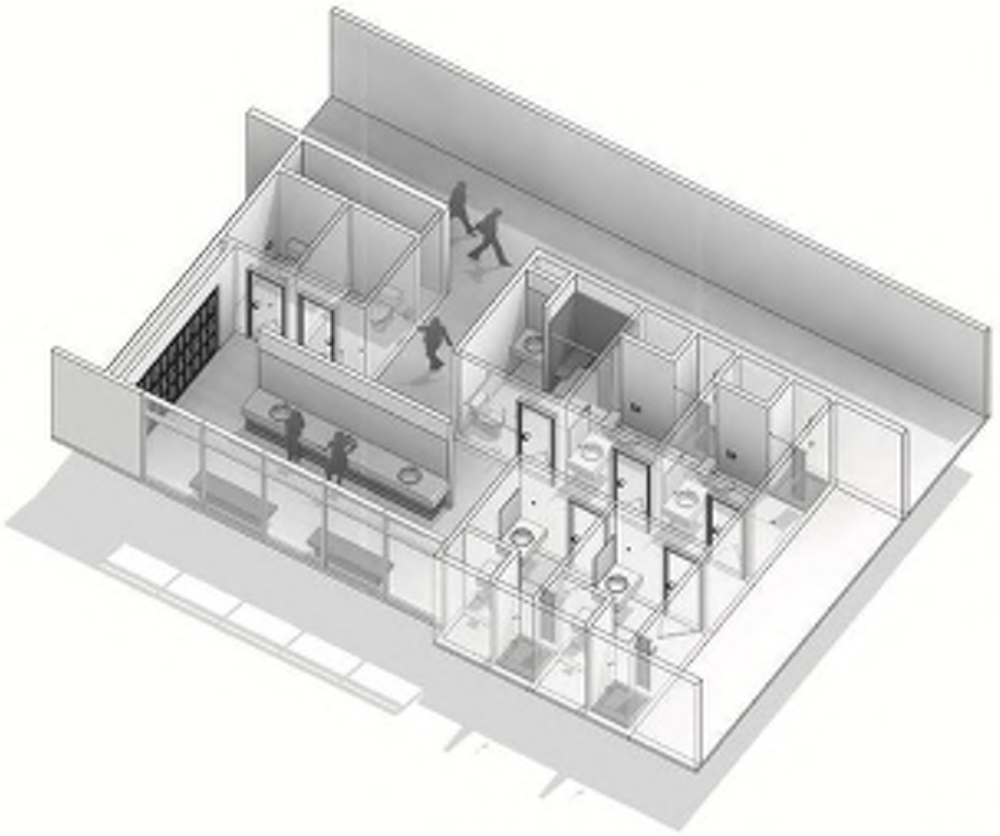
by Others

METHOD STUDIO INC.

BATHHOUSE / WET-CORE MODIFICATIONS



1. PRIVATE BATHROOM
2. SHARED SINKS / VANITY
3. PRIVATE LOCKERS
4. FROSTED GLASS WINDOW WALL
5. SEATING
6. UTILITY / JANITOR CLOSET
7. TOILET ROOM
8. HALLWAY

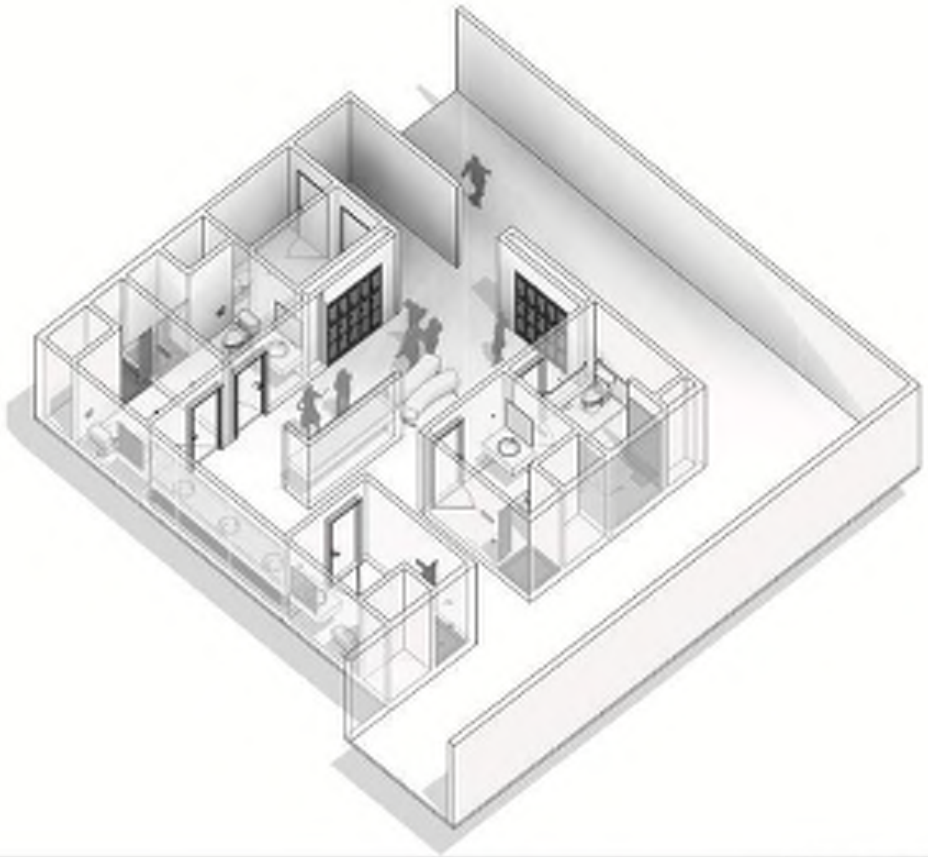


STUDENT BATHHOUSE - OPTION 1

1097 SQ FT | 30 STUDENT CAPACITY

METHODSTUDIO INC.

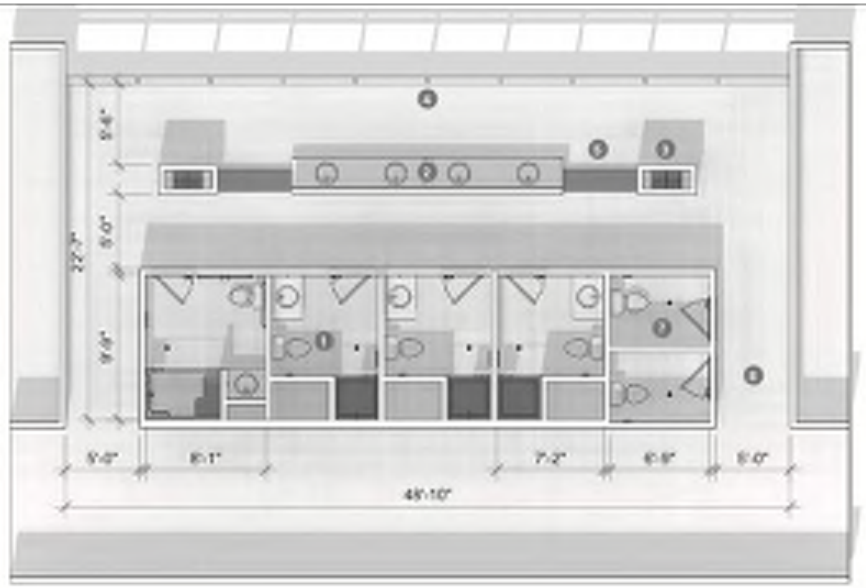
1. PRIVATE BATHROOM
2. SHARED SINKS / VANITY
3. PRIVATE LOCKERS
4. FROSTED GLASS WINDOW WALL
5. SEATING
6. UTILITY / JANITOR CLOSET
7. TOILET ROOM
8. HALLWAY

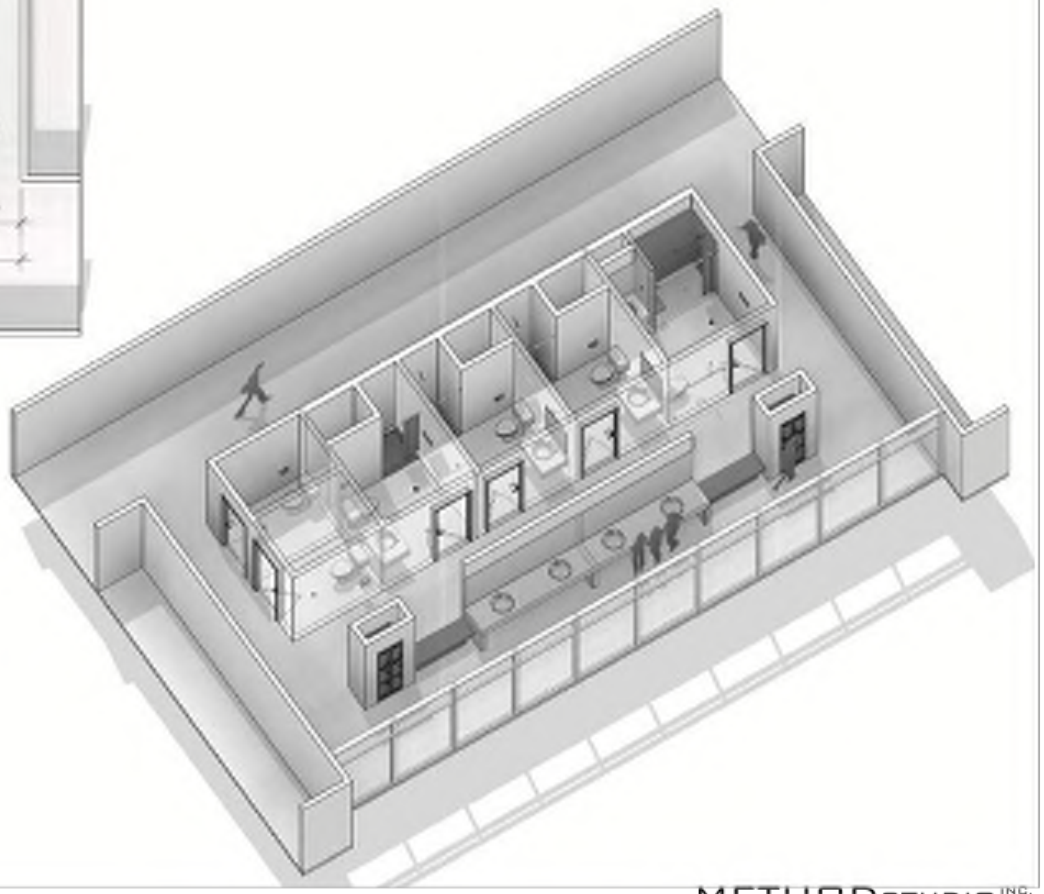


STUDENT BATHHOUSE - OPTION 2

1016 SQ FT | 30 STUDENT CAPACITY

METHODSTUDIO INC.





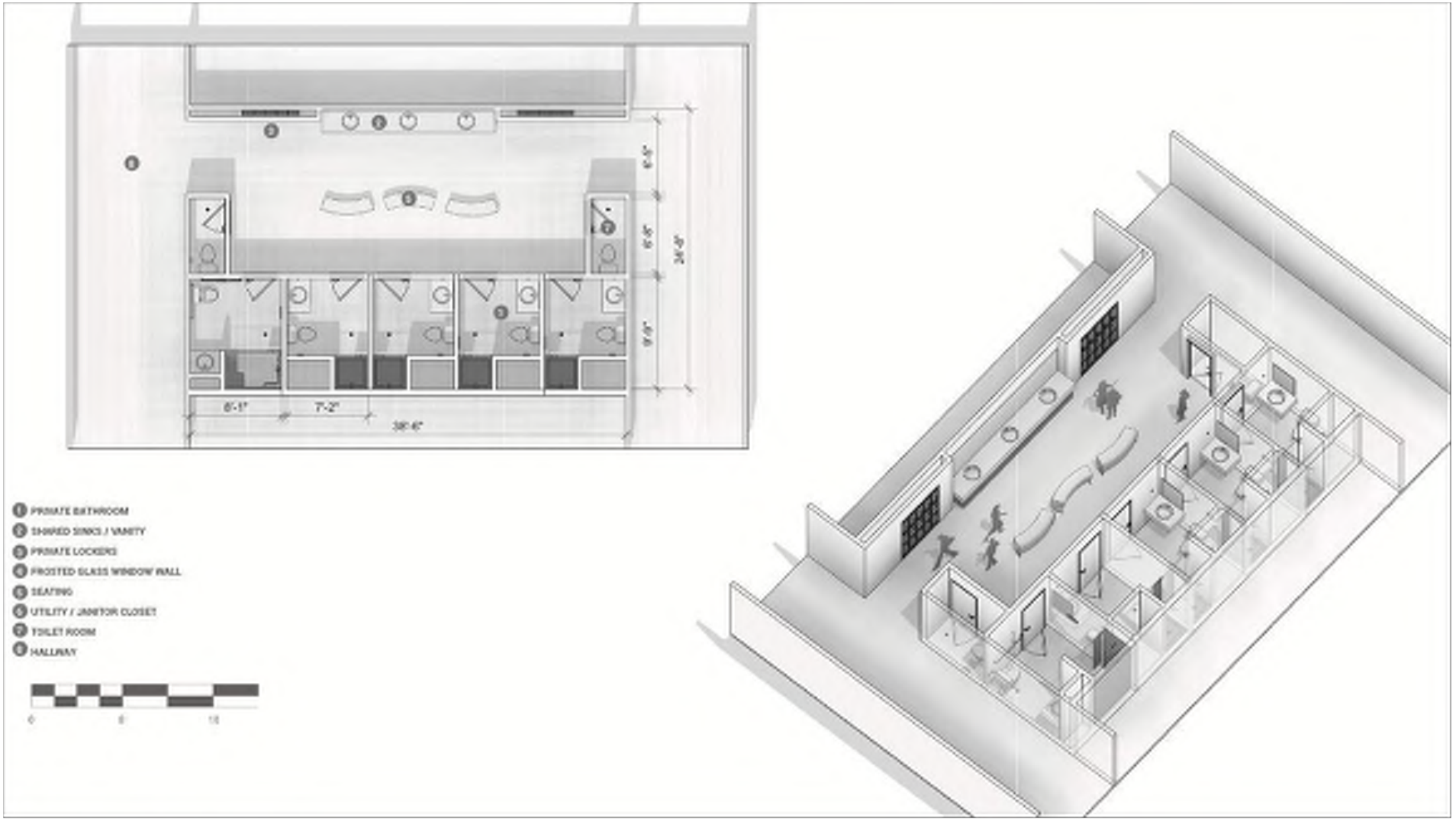
1. PRIVATE BATHROOM
2. SHARED SINKS / VANITY
3. PRIVATE LOCKERS
4. FROSTED GLASS WINDOW WALL
5. SEATING
6. UTILITY / JANITOR CLOSET
7. TOILET ROOM
8. HALLWAY

0 5 10

STUDENT BATHHOUSE - OPTION 3

1171 SQ FT | 24 STUDENT CAPACITY

METHODSTUDIO INC.

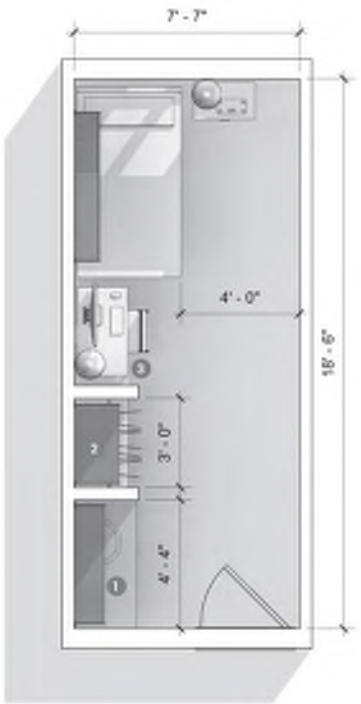


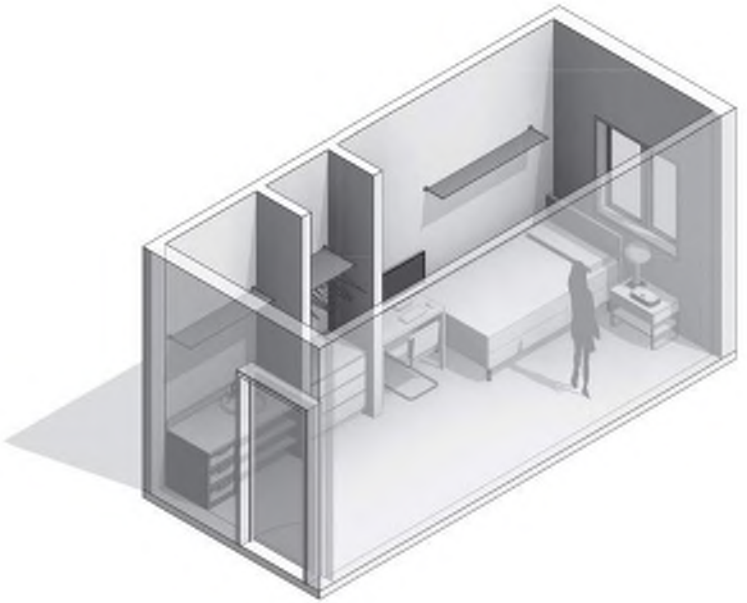
STUDENT BATHHOUSE - OPTION 4

991 SQ FT | 30 STUDENT CAPACITY

METHODSTUDIO INC.

UNIT PLAN MODIFICATIONS



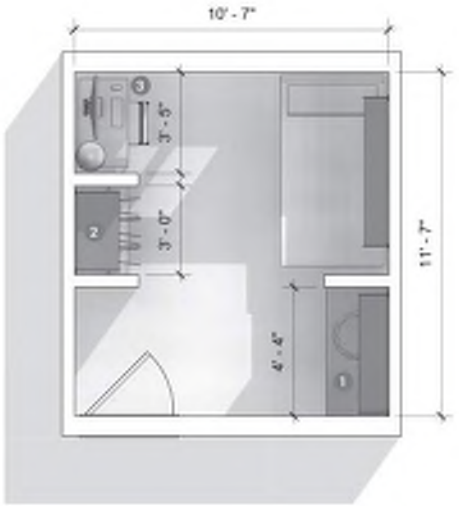


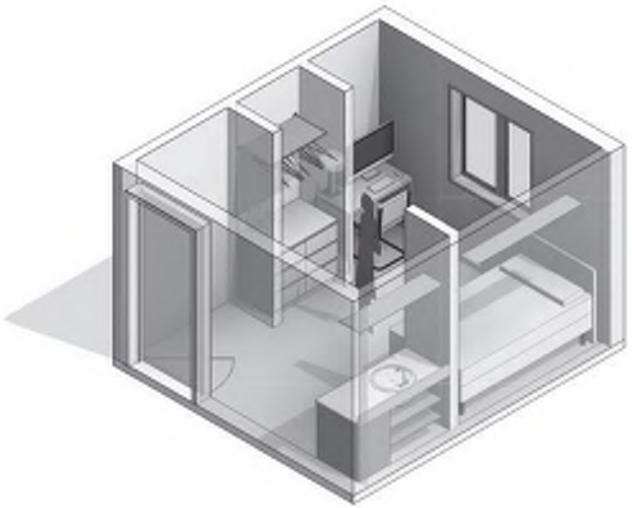
1. SINK/VANITY
2. CLOSET
3. DESK

ONE BED - OPTION A

140 SQ FT | 140 SQ FT/STUDENT

METHODSTUDIO INC.



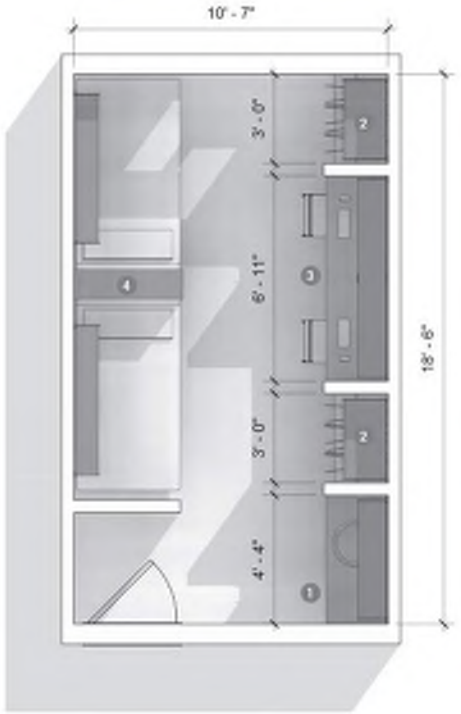


1. SINK/VANITY
2. CLOSET
3. DESK

ONE BED - OPTION B

122 SQ FT | 122 SQ FT/STUDENT

METHODSTUDIO INC.



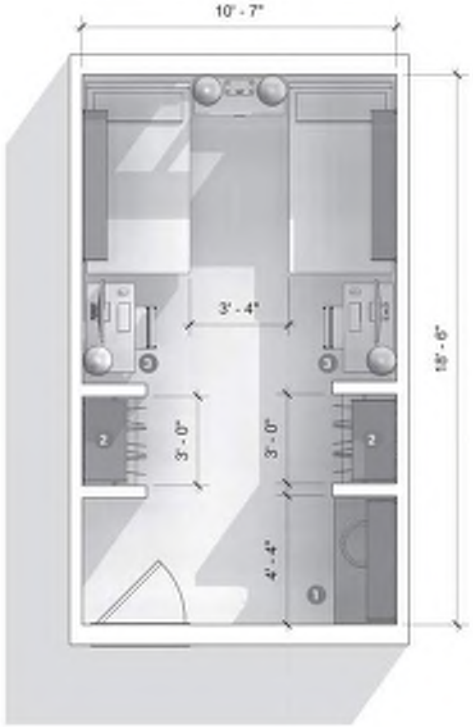
1. SHARED SINKS / VANITY
2. PRIVATE CLOSET
3. SHARED BUILT-IN DESK
4. BOOKCASE DIVIDER

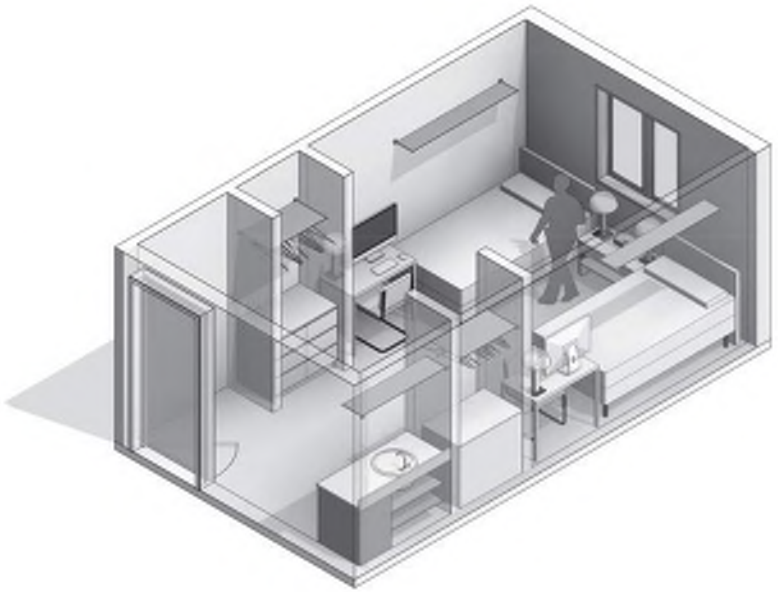
0 4 8

TWO BED - OPTION A

196 SQ FT | 98 SQ FT/STUDENT

METHODSTUDIO INC.



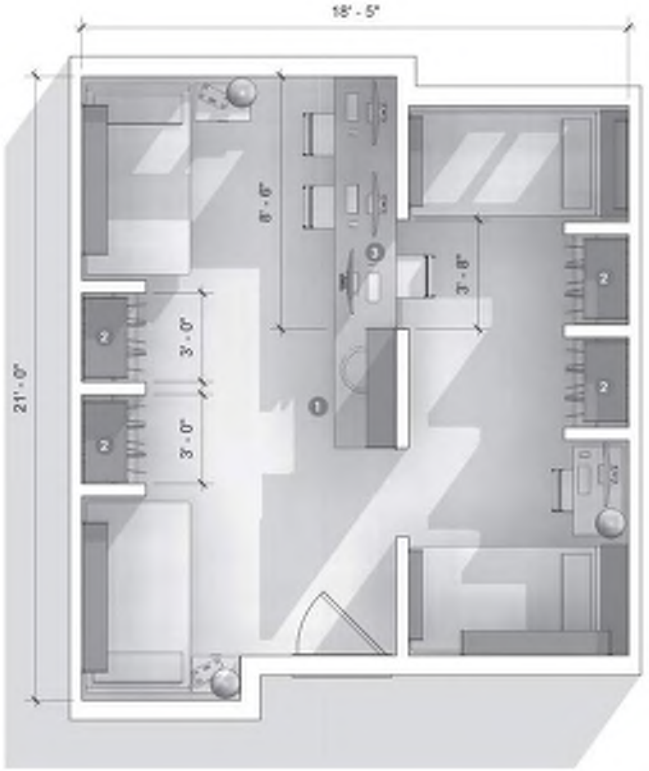


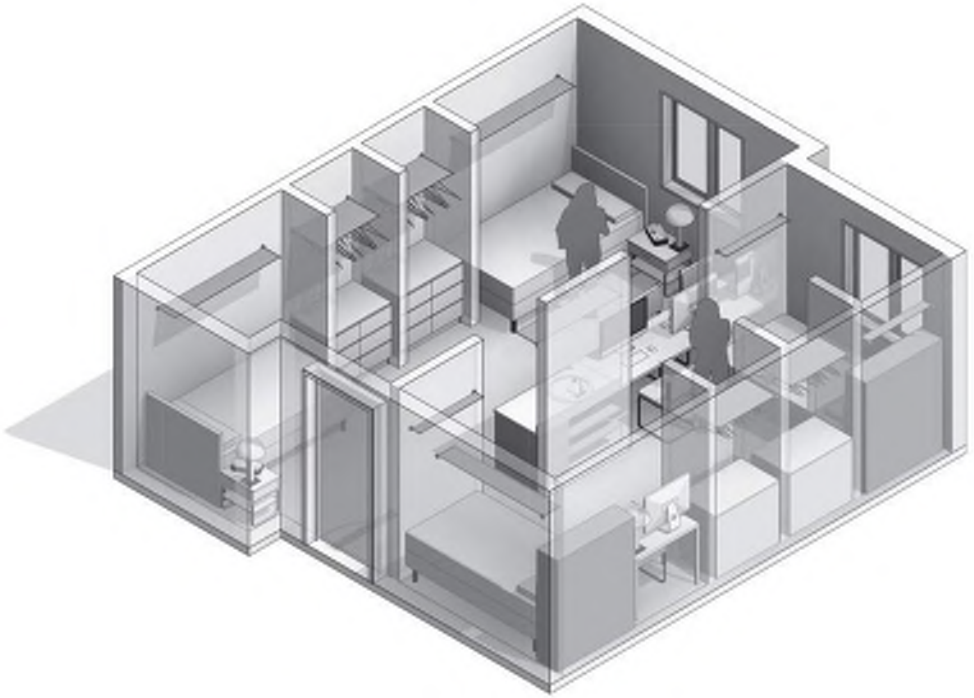
1. SHARED SINKS / VANITY
2. PRIVATE CLOSET
3. PRIVATE DESK

TWO BED - OPTION B

196 SQ FT | 98 SQ FT/STUDENT

METHODSTUDIO INC.





1. SHARED SINKS / VANITY
2. PRIVATE CLOSET
3. SHARED BUILT-IN DESK

0 4 8

FOUR BED - OPTION A

360 SQ FT | 90 SQ FT/STUDENT

METHODSTUDIO INC.

OVERALL FLOOR PLAN APPROACHES (DISTRIBUTION OF PROGRAM)

CONCENTRATE THE COMMUNAL SPACES AND CORE IN ONE LOCATION – STACKED.

DIXIE STATE UNIVERSITY NEW STUDENT HOUSING

DISTRIBUTE COMMON SPACES IN TWO PRIMARY LOCATIONS WITH A COUPLE SMALLER/PRIVATE STUDY SPACES ON EACH LEVEL

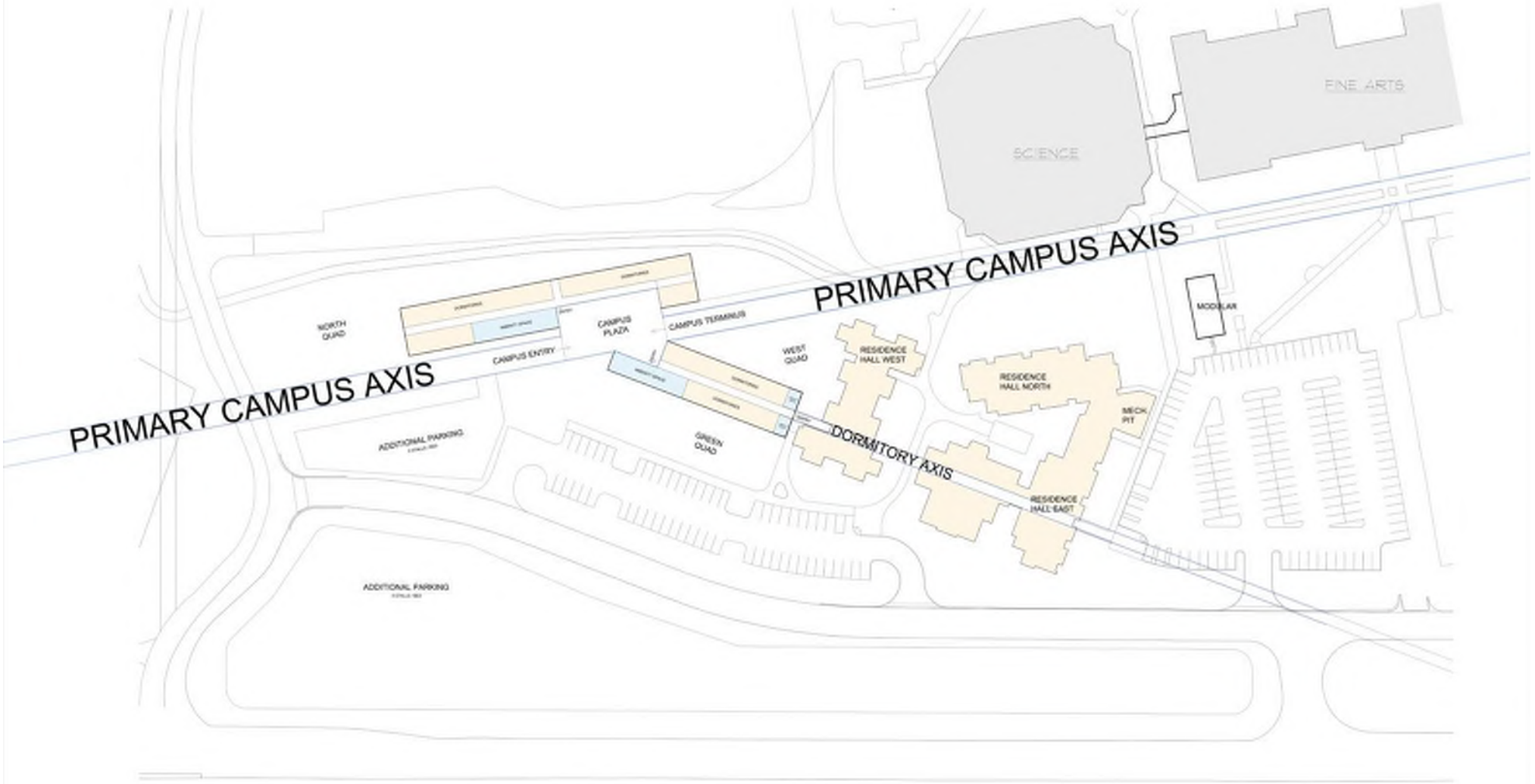
SNOW COLLEGE STUDENT HOUSING

COMMUNAL SPACES LOCATED TOGETHER WITH
MULTIPLE SMALLER "LIVING" SPACES SCATTERED
THROUGHOUT

UTAH STATE UNIVERSITY VALLEY VIEW REPLACEMENT HOUSING

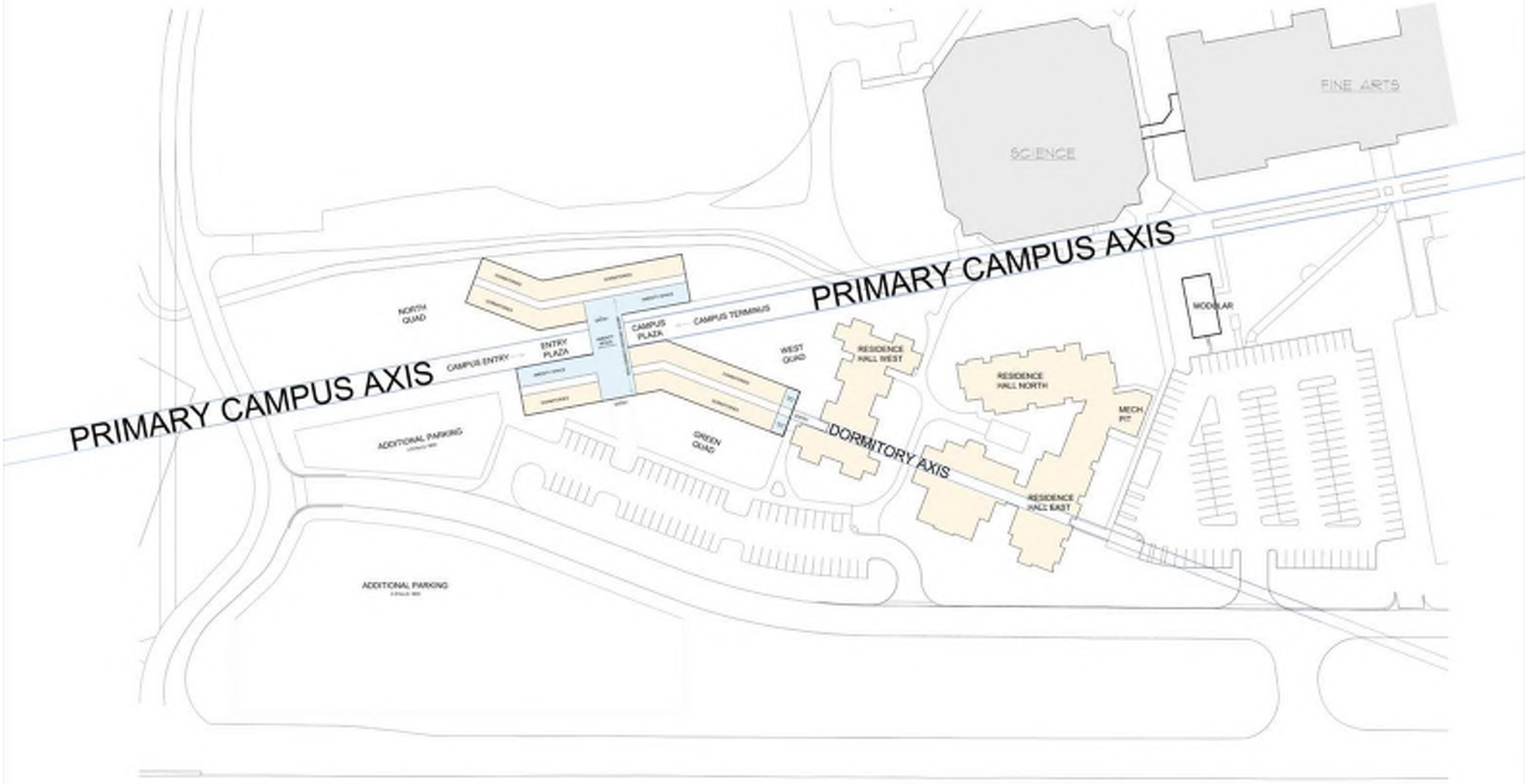
METHOD STUDIO INC.

CONCEPTUAL
SITE PLAN OPTIONS



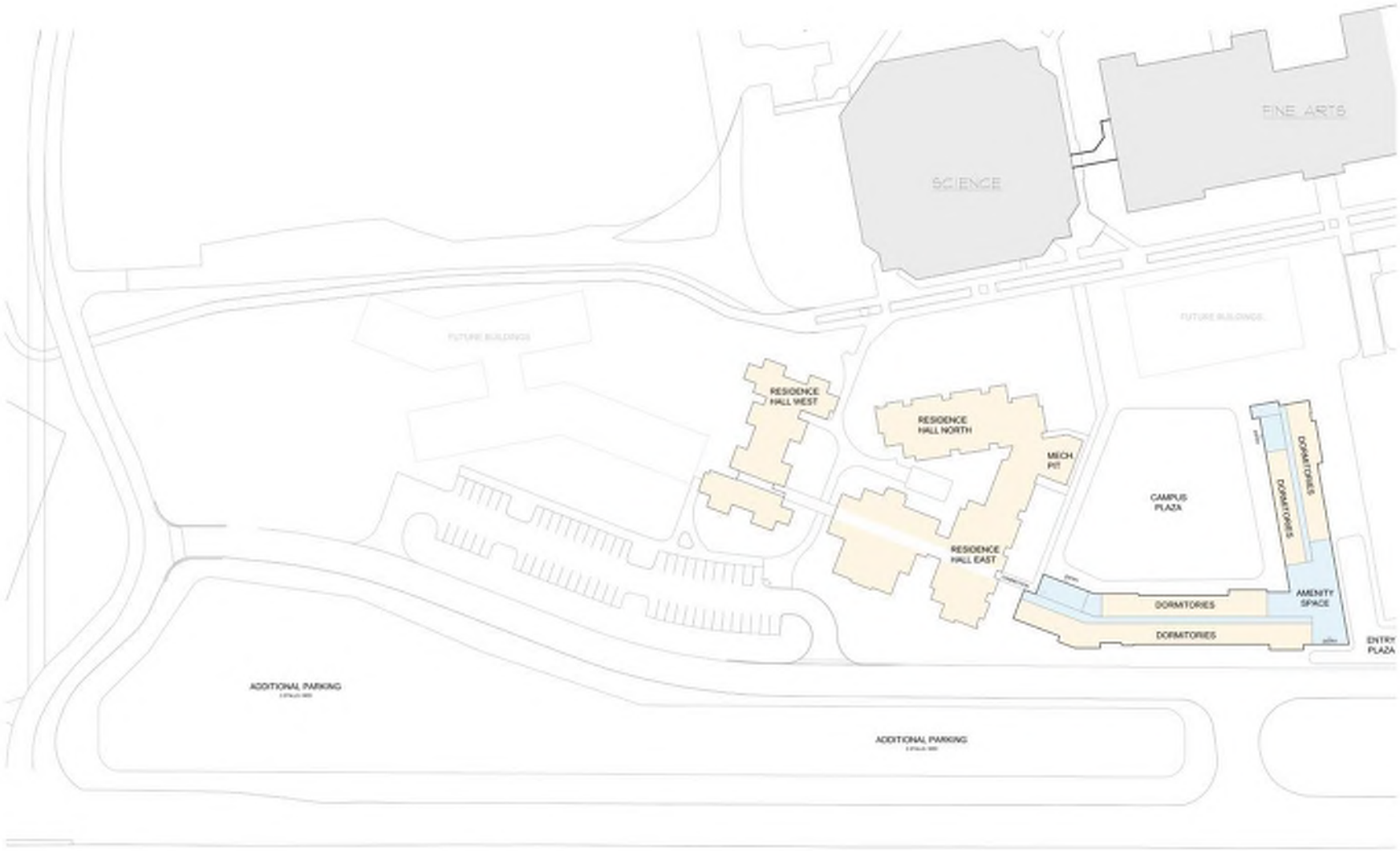
WEST SITE – OPTION A

METHOD STUDIO INC.

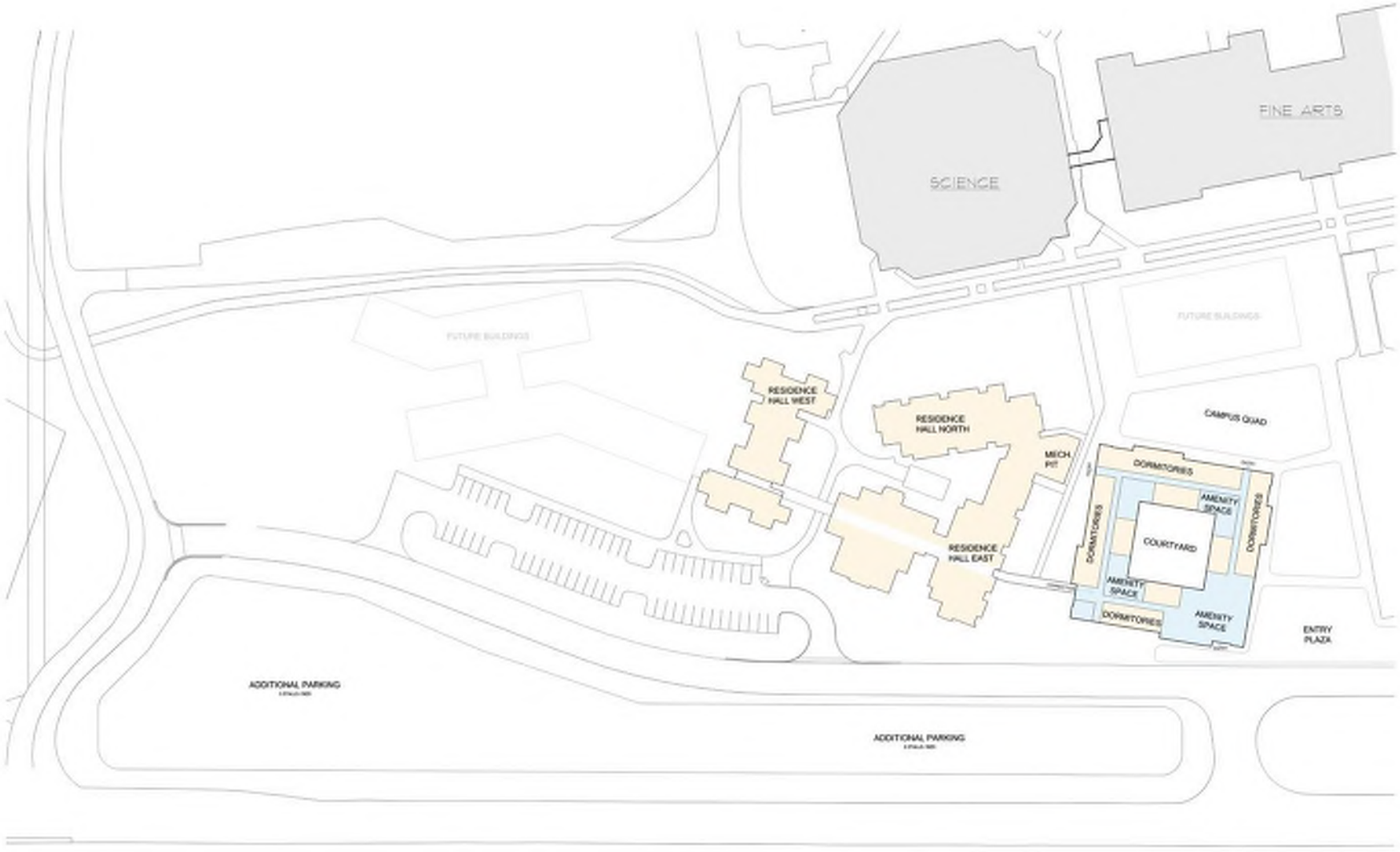


WEST SITE – OPTION B

METHOD STUDIO INC.



EAST SITE – OPTION A



EAST SITE – OPTION B

PROGRAM COMPARISONS (SPREADSHEETS)

MECHANICAL / ELECTRICAL DISCUSSION

SUMMARY &
HOUSING WALK-THROUGH

LCCC LANDSCAPE DESIGN CONCEPT

APPENDIX H

6/4

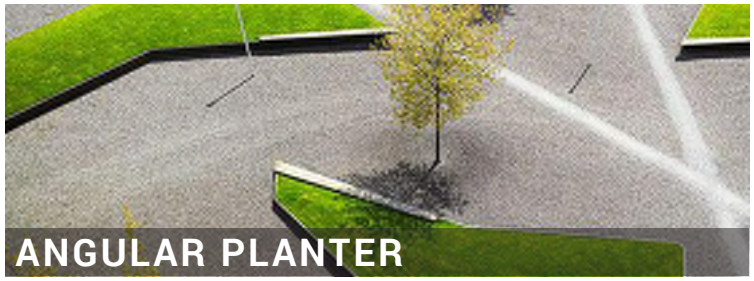
LOFTSIXFOUR

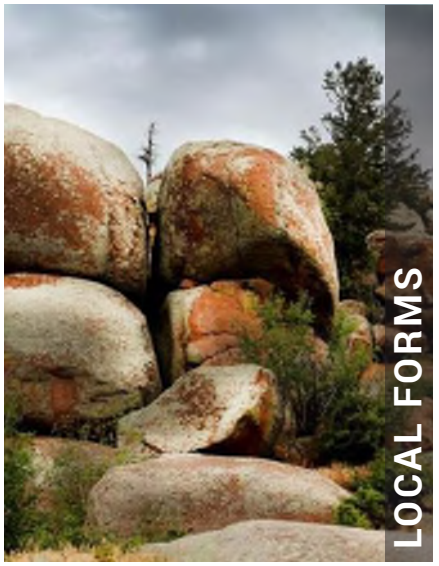
LCCC STUDENT LIVING // CHEYENNE, WY

FINAL SCHEMATIC DESIGN CONCEPT 01-A // SITE AND LANDSCAPE

0 40 80 120


COURTYARD


ANGULAR PLANTER


LOCAL FORMS


ANGULAR PLANTER


WOODEN CHAISE LOUNGER


ANGULAR PATHWAY


LOCAL FORMS

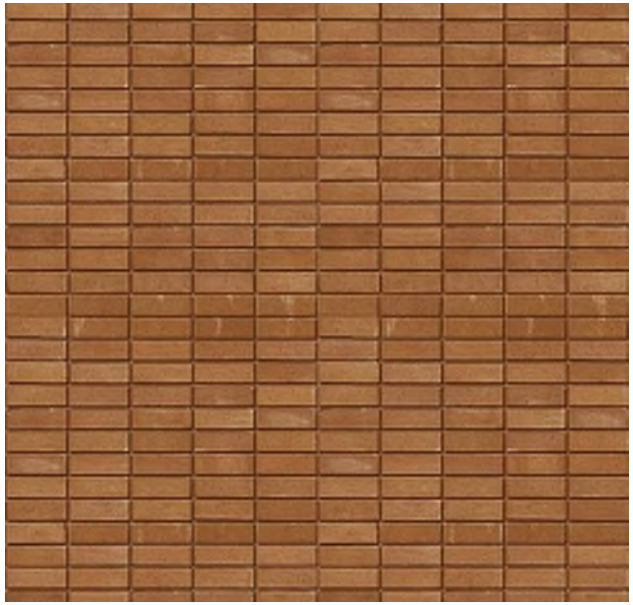

TREE BOSQUE


TREE BOSQUE

MATERIAL PRESENTATION

APPENDIX I

CONTEXT



MATERIAL

PRECEDENT

CONTEXT

MATERIAL

PRECEDENT

CONTEXT

MATERIAL

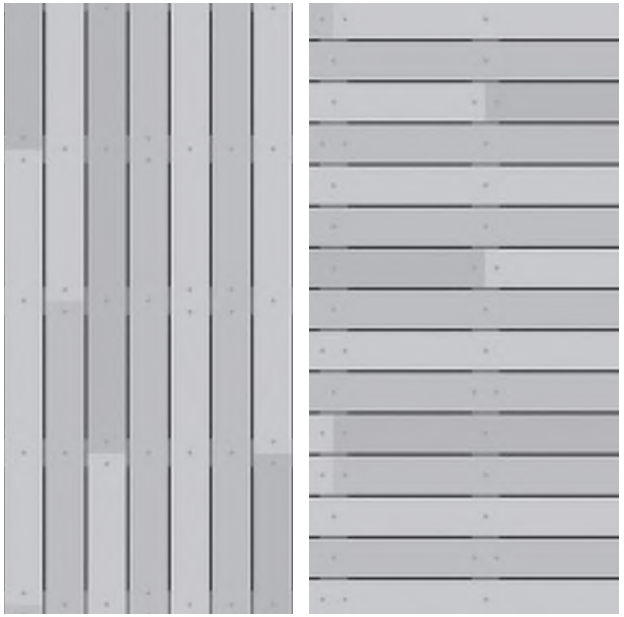
PRECEDENT

CONTEXT

MATERIAL

PRECEDENT

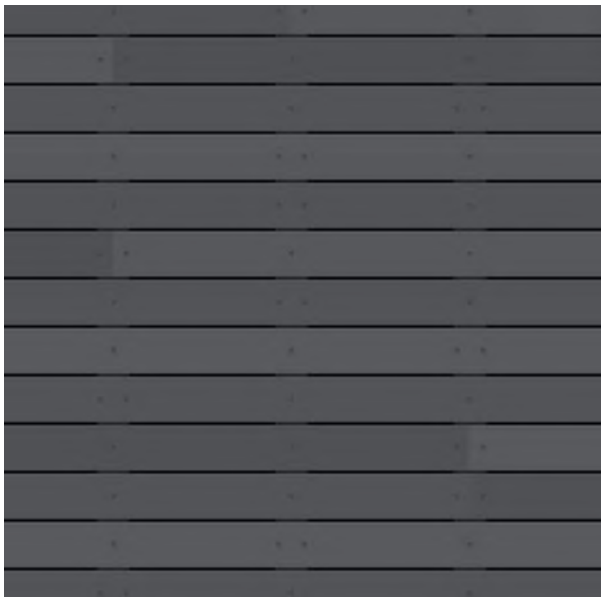
CONTEXT



MATERIAL

PRECEDENT

CONTEXT



MATERIAL

PRECEDENT

CONTEXT

MATERIAL

PRECEDENT

CONTEXT

MATERIAL

PRECEDENT

CONTEXT

MATERIAL

PRECEDENT

WET CORE REST ROOM CONCEPTS

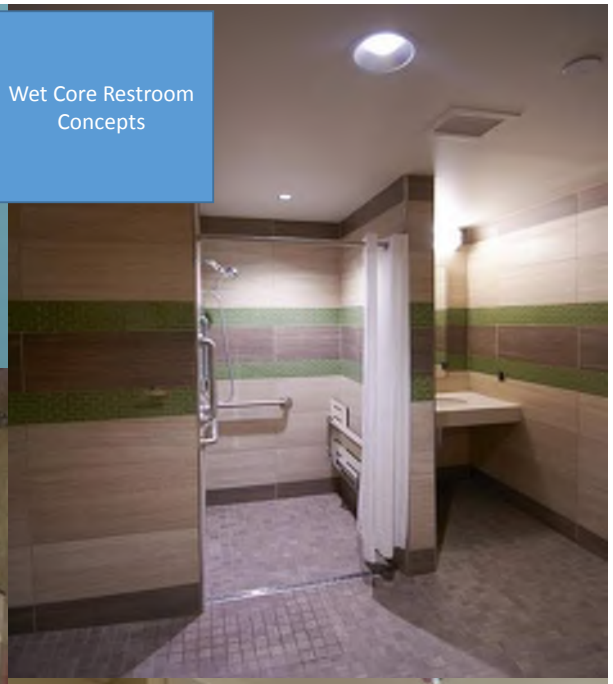
APPENDIX J

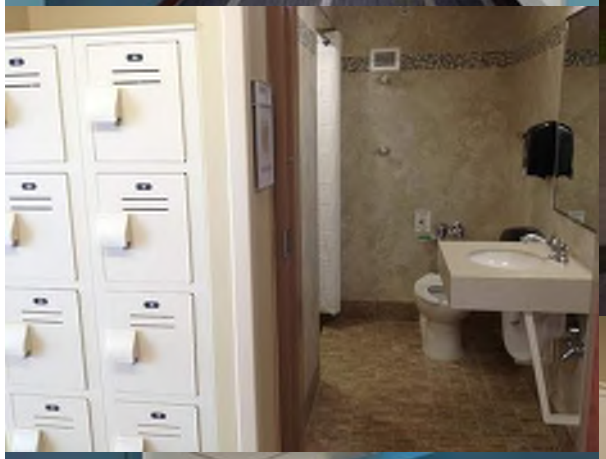
Back at PSU, Chace Hall, a student residence by architect Clark Nexsen and contractor Barton Malow, deploys a number of interesting features and spaces. Conal Carr, PSU's director of Housing Operations, says that the goal for the building, which opened in 2013, is to provide a place for students to be comfortable, gather and to socialize, but all in an academic setting. Carr says it's also about fostering community, with more shared spaces, including lounges, knowledge commons, and other elements that get residents out of their rooms and "up and about." That is balanced with private, gender-neutral bathrooms — each with a shower, sink and toilet — clustered in a wet core, he explains, with extra sinks and toiletry cubbyhole lockers outside the bathrooms.

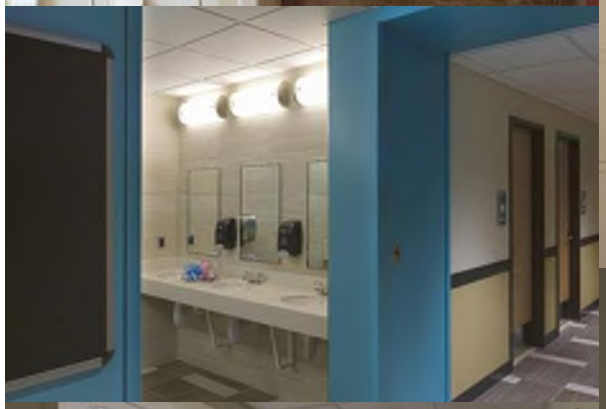
https://www.youtube.com/watch?v=ZLv8jmVWPhc

http://news.psu.edu/story/284299/2013/08/14/campus-life/south-halls-readying-arrival?utm_source=facebook&utm_medium=social&utm_term=student+campus+life&utm_content=chace+haller&utm_campaign=psu+official

Wet Core Restroom Concepts



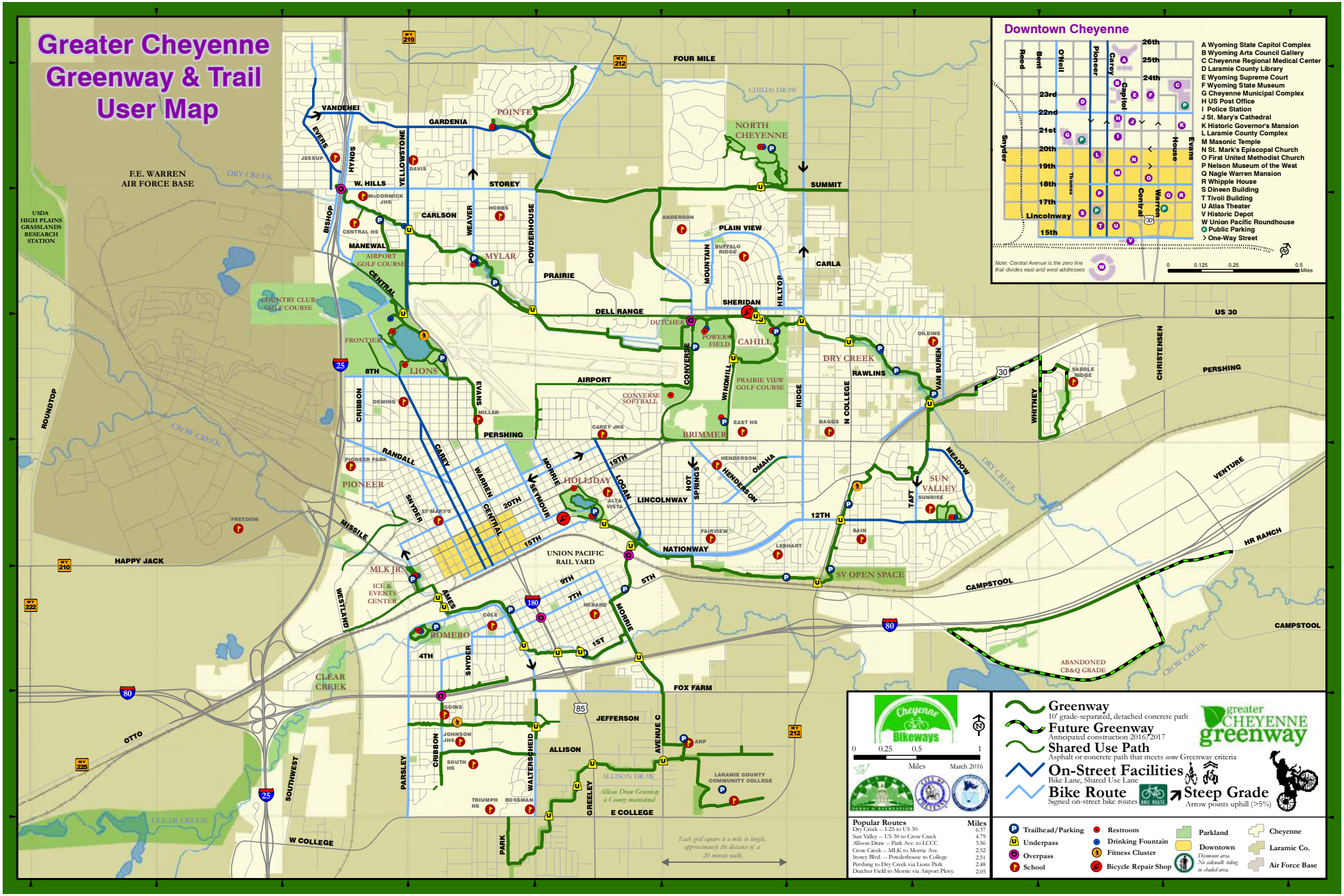




CHEYENNE GREENWAY MAP

APPENDIX K

Greater Cheyenne Greenway & Trail User Map



Downtown Cheyenne

A Wyoming State Capitol Complex
B Wyoming Arts Council Gallery
C Cheyenne Regional Medical Center
D Laramie County Library
E Wyoming Supreme Court
F Wyoming State Museum
G Cheyenne Municipal Complex
H US Post Office
I Police Station
J St. Mary's Cathedral
K Historic Governor's Mansion
L Laramie County Complex
M Masonic Temple
N St. Mark's Episcopal Church
O First United Methodist Church
P Nelson Museum of the West
Q Nagle Warren Mansion
R Whipple House
S Dineen Building
T Tivoli Building
U Atlas Theater
V Historic Depot
W Union Pacific Roundhouse
Public Parking
One-Way Street

Cheyenne Bikeways
0 0.25 0.5 1 Miles
March 2016

Popular Routes — **Miles**

Dry Creek -- I-25 to US 30	6.37
Sun Valley -- US 30 to Crow Creek	4.79
Allison Draw -- Park Ave. to LCCC	3.56
Crow Creek -- MLK to Morrie Ave.	2.52
Storey Blvd. -- Powderhouse to College	2.51
Pershing to Dry Creek via Lions Park	2.48
Duetcher Field to Morrie via Airport Pkwy.	2.05

Greenway
10' grade-separated, detached concrete path

Future Greenway
Anticipated construction 2016/2017

Shared Use Path
Asphalt or concrete path that meets *some* Greenway criteria

On-Street Facilities
Bike Lane, Shared Use Lane

Bike Route
Signed on-street bike routes

Steep Grade
Arrow points uphill (>5%)

greater CHEYENNE greenway

- Trailhead/Parking
- Underpass
- Overpass
- School
- Restroom
- Drinking Fountain
- Fitness Cluster
- Bicycle Repair Shop
- Parkland
- Downtown
  Diamond area. No sidewalk riding in shaded area.
- Cheyenne
- Laramie Co.
- Air Force Base

COMMERCIAL BUILDING PERMIT SUBMITTAL CHECKLIST

APPENDIX L

Laramie County Planning and Development Office
Building Division
3966 Archer Pkwy Cheyenne, WY 82009
Phone: 307-633-4303 Fax: 307-633-4519
commercial@laramiecounty.com
www.laramiecounty.com

COMMERCIAL SUBMITTAL REQUIREMENTS

INCOMPLETE APPLICATIONS CAN NOT BE ACCEPTED

Use the Laramie County Parcel Viewer for aerials and for information on the property such as zoning, floodplains, etc: http://arcims.laramiecounty.com/

Use Citizen Access to check the status of your permit, the inspection results and to print copies of your issued permit at: http://devpublicaccess.laramiecounty.com:8780/citizenaccess/

All Permit Applications must include the following:

1. Completed Application Form
2. Certificate of Review from the Planning Division
3. One Site Plan approved by the Planning Division
4. One set of Engineered and Stamped Building, Plumbing, Mechanical, Electrical plans
5. One set of Engineered and Stamped Foundation plans (stamped by a registered Wyoming Engineer)
6. One full set of electronic plans (stamped)
7. Payment for Fees (Credit Card and E-Check options are available on our website)

Please note that we require one full set of plans as well as an electronic set whenever possible. If electronic copies are not submitted, we will require 2 full sets of plans. Please contact us if you have questions.

Please refer to attached for complete instructions and information.

NOTICE:
The Applicant, his Agents and Employees shall comply with all the rules, restrictions and requirements of Laramie County Zoning Regulations and Laramie County Building Codes governing location, construction and erection of the above proposed work for which the permit is granted. The Building Official or his agents are authorized to order the immediate cessation of construction at any time a violation of the codes or regulations appears to have occurred. Violation of any of the codes or regulations applicable may result in the revocation of this permit.

Buildings must conform with plans as submitted to the Laramie County Planning & Development Office. Any change of plans or layout must be approved prior to the changes being made. Any change in the use or occupancy of a building or structure must be approved prior to proceeding with construction.

The Applicant is required to call for inspections at various stages of the construction, and in accordance with the aforesaid rule, the applicant shall give the Building Inspector not less than one day's notice to perform such activities.

Laramie County Planning and Development Office
Building Division
3966 Archer Pkwy Cheyenne, WY 82009
Phone: 307-633-4303 Fax: 307-633-4519
commercial@laramiecounty.com
www.laramiecounty.com

The Applicant must comply with current Planning & Development office expiration policy. Laramie County is not liable for workmanship.
The following items expand on the submittal requirements. Not all projects require all items listed below, please contact us if you have any questions.

1. **Application Form:** can be obtained at the Laramie County Planning & Development Office or on-line at the Laramie County website at www.laramiecountyplanning.com

2. **Certificate of Review (COR):** A copy of the approved COR from the Planning Division shall be submitted with all Commercial building permit applications.

3. **Site Plans:** An approved site plan, approved by the Planning Department shall be submitted
   1. North arrow
   2. Location of proposed building
   3. Distances between each property line to proposed building (the minimum is from 2 property lines)
   4. Distances between proposed building and any existing structures
   5. Identify the street or county/state road being accessed from
   6. Driveway location with driveway width and surface type (and distance to the closest property line)
   7. Location of well and septic system (if applicable)

4. **Building Plans:** One paper set (11"x17" or larger) and one full set of Electronic plans shall be submitted. Plans should include all of the items listed below which apply to your particular project. Plans and specifications must be drawn to scale on substantial paper, and must indicate locations, nature and extent of the work proposed, and should show in detail that it will conform to the adopted Laramie County Building Code, and shall state the design standards meet or exceed wind and snow loads for the area. The recommended scale for plans is 1/4" = 1'. Plan Review fees are calculated at 65% of the building permit fee based on provided valuation. Fee adjustments may be made if needed.

   If the project is an addition or remodel, be sure to clearly label all existing and all proposed construction.

   Foundation and Floor- Framing Plan: All foundations shall be designed and wet-stamped by an architect or engineer licensed by the State of Wyoming. Additionally, an open hole report shall be submitted to this office by an architect or engineer licensed by the State of Wyoming. Contact the Planning & Development Office for exceptions. Foundation and floor framing plans must include the following information:
   1. Location of continuous foundations and pier footings
   2. Size and depth of footings
   3. Thickness of concrete slabs
   4. Size and spacing of girders
   5. Size and spacing of floor joists
   6. Location of crawl holes and vents
   7. Size of stem walls
   8. Location and size of re-enforcing steel to be installed
   9. Elevation of foundation in relation to grade

Laramie County Planning and Development Office
Building Division
3966 Archer Pkwy Cheyenne, WY 82009
Phone: 307-633-4303 Fax: 307-633-4519
commercial@laramiecounty.com
www.laramiecounty.com

If access is from a state highway, please contact the WyDOT District Engineer in Laramie at (307) 745-2100.

Open Hole Report: An Open Hole Inspection Report shall be conducted by an architect or engineer licensed by the State of Wyoming. This is to be submitted prior to requesting a footer/foundation inspection. Please note that our inspectors must verify the footer/rebar/caissons prior to any concrete being poured.

For other related permit information, please contact:

Public Works Department (Access and Culvert Requirements).....(307) 633-4302
South Cheyenne Water & Sewer District .....(307) 635-5608
City/County Environmental Health Department (Septic permits) .....(307) 633-4090
State Engineer's Office (Well permits) .....(307) 777-6163

Commercial Building Permit Application

Laramie County Planning and Development Office
Building Division
3966 Archer Pkwy Cheyenne, WY 82009
Phone: 307-633-4303 | Fax: 307-633-4519
commercial@laramiecounty.com

INCOMPLETE APPLICATIONS CAN NOT BE ACCEPTED

Rcvd By	Rcvd Date	PR #	BP #

Address of Project		New Address?	yes		no		
Name of Business							
Land Owner Information							
If there are additional owners (such as a Business Owner), please list on separate sheet and attach							
Name		Phone					
Address		City					
Email		State		Zip			
Contractor Information							
Name		Phone					
Address		City					
Email		State		Zip			
Primary Contact Person		Phone					
Electrician		Phone					
Property Information							
Legal Description (Subdivision, Block and Lot or Tract)							
Zone District		Township		Range		Section		Map Page	
Project Information							
Structure Use		Prior Use					
Check all that apply and fill in square footage areas specific to this project							
Purpose of Permit	New		Addition		Renovation		
	Other		Demolish		Move		
	Fire Sprinklers?						
Foundation Type	slab on grade		crawl space		block / pier / caisson		basement	
Bldg area square footage	1st floor		2nd floor		other		
Design Occupancy Load			**Project Includes:** ☐ Building ☐ Plumbing ☐ Mechanical ☐ Electrical ☐ Gas				

Description of Work: Complete description of the work done including any plumbing, mechanical (Heating, ventilation or air conditioning), electrical, fire sprinkler or alarm. (Work is not included in the permit unless description in this scope of work.)

By my signature and under penalty of perjury, I hereby certify that I am the owner of the referenced property, or the owner's authorized agent. I have read and examined this application and know the same to be true and correct. All provisions or laws and ordinances governing this type of work will be complied with, whether specified herein or not. The issuance of a permit does not presume to give authority to violate or cancel the provisions of any state or local law regulating construction, or guarantee issuance of a well or septic permit, this permit becomes null and void if work or construction authorized is not commenced within 180 days, unless prior authorization has been issued by this office. This permit expires 1 year from the date of issuance providing the 1st inspection has occurred within the initial 180 day period. I understand that occupying this structure prior to obtaining a Certificate of Occupancy is against the law. Failure to comply may result in a $750 fine with each day of occupancy being a

Signature of Owner / Agent						Date	
Printed Name							
Valuation (cost of project)	$				Approved		
Fees	BP Fee		PR Fee				
Check #		Cash		Credit Card		Total Fees	

Updated 01/19/17

CONSTRUCTION CONTROL CORPORATION COST ESTIMATE

APPENDIX M

PROJECT ESTIMATE | **CONSTRUCTION CONTROL CORPORATION** | **10/16/2017**

PROJECT NAME……..LARAMIE COUNTY COMMUNITY COLLEGE HOUSING
LOCATION……..CHEYENNE, WY
ARCHITECT……..METHOD STUDIO — 99,294 SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION		BUILDING	SITE	WEST PARKING	TOTAL
	BUILDING COST ESTIMATE					
02	EXISTING CONDITIONS		$ -	$ 75,000	$ 50,325	$ 125,325
03	CONCRETE		$ 579,985	$ -	$ -	$ 579,985
04	MASONRY		$ 625,791	$ -	$ -	$ 625,791
05	METALS		$ 429,052	$ -	$ -	$ 429,052
06	WOODS & PLASTICS		$ 2,050,843	$ -	$ -	$ 2,050,843
07	THERMAL & MOISTURE PROTECTION		$ 2,395,422	$ -	$ -	$ 2,395,422
08	DOORS & WINDOWS		$ 1,512,274	$ -	$ -	$ 1,512,274
09	FINISHES		$ 2,365,749	$ -	$ -	$ 2,365,749
10	SPECIALTIES		$ 258,389	$ -	$ -	$ 258,389
11	EQUIPMENT		$ 39,420	$ -	$ -	$ 39,420
12	FURNISHINGS		$ 59,260	$ -	$ -	$ 59,260
13	SPECIAL CONSTRUCTION		$ -	$ -	$ -	$ -
14	CONVEYING SYSTEMS		$ 291,600	$ -	$ -	$ 291,600
21	FIRE SUPPRESSION		$ 327,074	$ -	$ -	$ 327,074
22	PLUMBING		$ 784,720	$ -	$ -	$ 784,720
23	HVAC		$ 2,680,938	$ -	$ -	$ 2,680,938
26	ELECTRICAL		$ 1,930,275	$ 75,600	$ 32,400	$ 2,038,275
27	COMMUNICATIONS		$ 536,188	$ -	$ -	$ 536,188
28	ELECTRONIC SAFETY & SECURITY		$ 348,522	$ -	$ -	$ 348,522
31	EARTHWORK		$ 164,473	$ 133,662	$ 109,921	$ 408,056
32	SITE IMPROVEMENTS		$ -	$ 664,175	$ 503,532	$ 1,167,707
33	UTILITIES		$ -	$ 159,582	$ 41,575	$ 201,157
	SUBTOTAL		$ 17,379,975	$ 1,108,018	$ 737,753	$ 19,225,747
	GENERAL CONDITIONS	6%	$ 1,042,799	$ 66,481	$ 44,265	$ 1,109,280
	OVERHEAD & PROFIT	4%	$ 695,199	$ 44,321	$ 29,510	$ 739,520
	BONDS & INSURANCE	2%	$ 347,600	$ 22,160	$ 14,755	$ 369,760
	DESIGN CONTINGENCY	10%	$ 1,737,998	$ 110,802	$ 73,775	$ 1,848,799
	TOTAL CONSTRUCTION COST		$ 21,203,570	$ 1,351,783	$ 900,059	$ 23,293,105

PROJECT ESTIMATE | **CONSTRUCTION CONTROL CORPORATION** | **10/16/2017**

PROJECT NAME……..LARAMIE COUNTY COMMUNITY COLLEGE HOUSING — **BUILDING**
LOCATION……..CHEYENNE, WY
ARCHITECT……..METHOD STUDIO — 99,294 SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	TOTAL
	BUILDING COST ESTIMATE			
02	EXISTING CONDITIONS		$ -	$ -
03	CONCRETE		$ 5.84	$ 579,985
04	MASONRY		$ 6.30	$ 625,791
05	METALS		$ 4.32	$ 429,052
06	WOODS & PLASTICS		$ 20.65	$ 2,050,843
07	THERMAL & MOISTURE PROTECTION		$ 24.12	$ 2,395,422
08	DOORS & WINDOWS		$ 15.23	$ 1,512,274
09	FINISHES		$ 23.83	$ 2,365,749
10	SPECIALTIES		$ 2.60	$ 258,389
11	EQUIPMENT		$ 0.40	$ 39,420
12	FURNISHINGS		$ 0.60	$ 59,260
13	SPECIAL CONSTRUCTION		$ -	$ -
14	CONVEYING SYSTEMS		$ 2.94	$ 291,600
21	FIRE SUPPRESSION		$ 3.29	$ 327,074
22	PLUMBING		$ 7.90	$ 784,720
23	HVAC		$ 27.00	$ 2,680,938
26	ELECTRICAL		$ 19.44	$ 1,930,275
27	COMMUNICATIONS		$ 5.40	$ 536,188
28	ELECTRONIC SAFETY & SECURITY		$ 3.51	$ 348,522
31	EARTHWORK		$ 1.66	$ 164,473
32	SITE IMPROVEMENTS		$ -	$ -
33	UTILITIES		$ -	$ -
	SUBTOTAL		$ 175.04	$ 17,379,975
	GENERAL CONDITIONS	6%	$ 10.50	$ 1,042,799
	OVERHEAD & PROFIT	4%	$ 7.00	$ 695,199
	BONDS & INSURANCE	2%	$ 3.50	$ 347,600
	DESIGN CONTINGENCY	10%	$ 17.50	$ 1,737,998
	TOTAL CONSTRUCTION COST		$ 213.54	$ 21,203,570

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	10/16/2017

PROJECT NAME……..…..LARAMIE COUNTY COMMUNITY COLLEGE HOUSING **BUILDING**
LOCATION……..……..CHEYENNE, WY
ARCHITECT…..……..…METHOD STUDIO 99,294 SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	TOTAL
02	**EXISTING CONDITIONS**			
	Included in Site			$ -
	TOTAL EXISTING CONDITIONS			**$ -**
03	**CONCRETE**			
	Continuous Footing	361 CY	$ 351.00	$ 126,594
	Spot Footing	150 CY	$ 361.80	$ 54,270
	Foundation Wall	6,492 SF	$ 29.89	$ 194,074
	Slab on Grade	27,393 SF	$ 3.94	$ 107,983
	Vapor Barrier	27,393 SF	$ 0.21	$ 5,621
	Topping Slab	5,950 SF	$ 4.00	$ 23,776
	Gyp-crete Topping	65,951 SF	$ 1.03	$ 67,666
	TOTAL CONCRETE			**$ 579,985**
04	**MASONRY**			
	CMU Stairwell/Shaft Wall	16,992 SF	$ 18.01	$ 306,101
	Exterior Masonry Veneer	16,445 SF	$ 19.44	$ 319,691
	TOTAL MASONRY			**$ 625,791**
05	**METALS**			
	Steel Floor Structure (11 LBS/SF)	65,450 LB	$ 2.11	$ 137,838
	Misc. Structural Steel	24,824 LB	$ 2.54	$ 63,002
	Metal Floor Deck	5,950 SF	$ 3.19	$ 18,957
	Decorative Lobby Stairs	168 SF	$ 135.00	$ 22,680
	Metal Pan Stairs	1,445 SF	$ 57.24	$ 82,712
	Freestanding Railing	182 LF	$ 199.80	$ 36,364
	Wall Railing	190 LF	$ 81.00	$ 15,390
	Decorative Lobby Railing	73 LF	$ 270.00	$ 19,710
	Metal Straps, Brackets, & Hold-downs	1 LS	$ 32,400.00	$ 32,400
	TOTAL METALS			**$ 429,052**
06	**WOOD & PLASTICS**			
	Carpentry			
	Exterior Wall Framing	64,684 SF	$ 2.86	$ 185,126
	Corridor Wall Framing	49,295 SF	$ 2.54	$ 125,111
	Unit Separation Wall Framing	30,078 SF	$ 5.08	$ 152,676
	Stairwell Wall Furring	12,374 SF	$ 2.00	$ 24,723
	Interior Partition Framing	76,694 SF	$ 2.00	$ 153,235
	Wood Floor Structure	65,951 SF	$ 4.27	$ 281,347
	Wood Roof Structure	33,692 SF	$ 4.05	$ 136,453
	Floor Sheathing	65,951 SF	$ 1.89	$ 124,647
	Wall Sheathing	64,684 SF	$ 1.89	$ 122,253
	Roof Sheathing	33,692 SF	$ 1.89	$ 63,678
	Wood Plates & Blocking	99,294 SF	$ 0.38	$ 37,533
	Subtotal Carpentry			**$ 1,406,781**
	Millwork			
	Vanity	1,603 LF	$ 286.20	$ 458,779
	Base Cabinet	116 LF	$ 318.60	$ 36,958
	Wall Cabinet	129 LF	$ 189.00	$ 24,381
	Kitchen Island	182 SF	$ 91.80	$ 16,708
	Unit Wardrobe			F F & E
	Unit Desk			F F & E
	Misc. Millwork	99,294 SF	$ 1.08	$ 107,238
	Subtotal Millwork			**$ 644,062**
	TOTAL WOOD & PLASTICS			**$ 2,050,843**
07	**THERMAL & MOISTURE PROTECTION**			

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	10/16/2017

PROJECT NAME……..…..LARAMIE COUNTY COMMUNITY COLLEGE HOUSING **BUILDING**
LOCATION……..……..CHEYENNE, WY
ARCHITECT…..……..…METHOD STUDIO 99,294 SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	TOTAL
	Roof Membrane	33,692 SF	$ 3.73	$ 125,536
	Rigid Roof Insulation	33,692 SF	$ 3.73	$ 125,536
	Rigid Wall Insulation	59,000 SF	$ 2.11	$ 124,254
	Exterior Wall Batt Insulation	59,000 SF	$ 0.81	$ 47,790
	Weather Barrier	59,000 SF	$ 3.51	$ 207,090
	Wall Sound Batt	186,145 SF	$ 0.70	$ 130,674
	Floor Sound Batt	65,951 SF	$ 1.03	$ 67,666
	Misc. Spray Foam Insulation	1 Allow	$ 10,800.00	$ 10,800
	Foundation Waterproofing	3,124 SF	$ 7.56	$ 23,617
	Foundation Insulation	6,492 SF	$ 1.89	$ 12,270
	Foundation Drain	1,418 LF	$ 27.00	$ 38,286
	Exterior Cementitious Siding/Metal Panel	42,555 SF	$ 27.00	$ 1,148,985
	Exterior Column Covers	2,488 SF	$ 32.40	$ 80,616
	Soffit	5,306 SF	$ 27.00	$ 143,262
	Metal Roof Cap	1,623 LF	$ 13.50	$ 21,911
	Flashing & Sheet Metal	3,246 SF	$ 7.02	$ 22,787
	Firestopping & Sealing	99,294 SF	$ 0.27	$ 26,809
	Caulking & Sealing	99,294 SF	$ 0.38	$ 37,533
	TOTAL THERMAL & MOISTURE PROTECTION			**$ 2,395,422**
08	**DOORS & WINDOWS**			
	Interior Single Door	418 EA	$ 950.40	$ 397,267
	Single Vestibule Door	7 EA	$ 1,998.00	$ 13,986
	Double Vestibule Door	6 EA	$ 3,942.00	$ 23,652
	Interior Double Door	1 EA	$ 1,582.20	$ 1,582
	Misc. Doors, Counter Doors, & Access Doors	99,294 SF	$ 0.54	$ 53,619
	Exterior Storefront (20% of Exterior Surface)	11,800 SF	$ 41.58	$ 490,644
	Exterior Curtainwall	5,684 SF	$ 64.80	$ 368,323
	Interior Glazing	2,000 SF	$ 37.80	$ 75,600
	Mirror	6,412 SF	$ 13.66	$ 87,601
	TOTAL DOORS & WINDOWS			**$ 1,512,274**
09	**FINISHES**			
	Gyp. Wallboard	389,192 SF	$ 1.61	$ 626,288
	Gyp. Wallboard - 2nd Layer			N/A
	Flooring	99,294 SF	$ 5.40	$ 536,188
	Ceilings	99,294 SF	$ 4.32	$ 428,950
	Base	32,433 LF	$ 3.78	$ 122,595
	Paint Gyp. Wallboard	389,192 SF	$ 0.58	$ 226,977
	Paint Doors & Frames	439 Leaf	$ 81.00	$ 35,559
	Wall Finishes	389,192 SF	$ 1.00	$ 389,192
	TOTAL FINISHES			**$ 2,365,749**
10	**BUILDING SPECIALTIES**			
	Bathroom Accessories	88 EA	$ 199.80	$ 17,582
	Grab Bars	151 Sets	$ 189.00	$ 28,539
	Shower Enclosure	63 EA	$ 1,620.00	$ 102,060
	Shower Seat	8 EA	$ 378.00	$ 3,024
	Shower Bar & Curtain	63 EA	$ 106.92	$ 6,736
	Lockers	80 EA	$ 361.80	$ 28,944
	Fire Extinguisher Cabinet	20 EA	$ 354.24	$ 7,085
	Identifying Devices	1 Allow	$ 10,800.00	$ 10,800
	Misc. Specialties	99,294 SF	$ 0.54	$ 53,619
	TOTAL SPECIALTIES			**$ 258,389**
11	**EQUIPMENT**			
	Prep Kitchen Equipment	144 SF	$ 216.00	$ 31,104

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	10/16/2017

PROJECT NAME…….LARAMIE COUNTY COMMUNITY COLLEGE HOUSING **BUILDING**
LOCATION……..CHEYENNE, WY
ARCHITECT…….METHOD STUDIO 99,294 SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	TOTAL
	Oven	7 EA	$ 702.00	$ 4,914
	Dishwasher	7 EA	$ 486.00	$ 3,402
	Kitchen Residential Appliances - Other			By Owner
	Laundry Equipment			By Owner
	TOTAL EQUIPMENT			**$ 39,420**
12	**FURNISHINGS**			
	Window Blinds	11,800 SF	$ 5.02	$ 59,260
	Beds			By Owner
	Lounge Furniture			By Owner
	TOTAL FURNISHINGS			**$ 59,260**
13	**SPECIAL CONSTRUCTION**			
	TOTAL SPECIAL CONSTRUCTION			**$ -**
14	**CONVEYING SYSTEMS**			
	Passenger Elevator - 3 Stop	1 EA	$ 129,600.00	$ 129,600
	Passenger Elevator - 4 Stop	1 EA	$ 162,000.00	$ 162,000
	TOTAL CONVEYING SYSTEMS			**$ 291,600**
21	**FIRE SUPPRESSION**			
	Building Fire Suppression	99,294 SF	$ 3.29	$ 327,074
	TOTAL FIRE SUPPRESSION			**$ 327,074**
22	**PLUMBING**			
	Counter-mount Sink	287 EA	$ 702.00	$ 201,474
	Double Basin Sink w/ Disposal	7 EA	$ 810.00	$ 5,670
	Water Outlet	7 EA	$ 178.20	$ 1,247
	Water Closet	88 EA	$ 918.00	$ 80,784
	Laundry Sink	13 EA	$ 594.00	$ 7,722
	Laundry Box	27 EA	$ 156.60	$ 4,228
	Shower	63 EA	$ 1,026.00	$ 64,638
	Mop Sink	4 EA	$ 486.00	$ 1,944
	Floor Drain	88 EA	$ 156.60	$ 13,781
	Connect Kitchen Equipment	1 LS	$ 1,620.00	$ 1,620
	Water Heating & Circulation	1 Allow	$ 32,400.00	$ 32,400
	Supply Piping - PEX	17,520 LF	$ 6.48	$ 113,530
	Drain, Vent Piping - PVC	11,738 LF	$ 8.26	$ 96,983
	Clean & Flush Lines	1 LS	$ 2,700.00	$ 2,700
	Roof Drain	30 EA	$ 199.80	$ 5,994
	Roof Drain Piping	2,400 LF	$ 17.82	$ 42,768
	Misc. Plumbing	99,294 SF	$ 1.08	$ 107,238
	TOTAL PLUMBING			**$ 784,720**
23	**HVAC**			
	HVAC - Connect to Campus Central Plant	99,294 SF	$ 27.00	$ 2,680,938
	TOTAL HVAC			**$ 2,680,938**
26	**ELECTRICAL**			
	Service & Distribution	99,294 SF	$ 4.86	**$ 482,569**
	Power	99,294 SF	$ 3.78	**$ 375,331**
	Lighting	99,294 SF	$ 10.80	**$ 1,072,375**
	TOTAL ELECTRICAL			**$ 1,930,275**
27	**COMMUNICATIONS**			

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	10/16/2017

PROJECT NAME…….LARAMIE COUNTY COMMUNITY COLLEGE HOUSING **BUILDING**
LOCATION……..CHEYENNE, WY
ARCHITECT…….METHOD STUDIO 99,294 SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	TOTAL
	Communications & Data	99,294 SF	$ 3.24	**$ 321,713**
	A/V	99,294 SF	$ 2.16	**$ 214,475**
	TOTAL COMMUNICATIONS			**$ 536,188**
28	**ELECTRONIC SAFETY & SECURITY**			
	Fire Alarm	99,294 SF	$ 2.43	**$ 241,284**
	Security & Surveillance	99,294 SF	$ 1.08	**$ 107,238**
	TOTAL ELECTRONIC SAFETY & SECURITY			**$ 348,522**
31	**EARTHWORK**			
	Excavation	6,649 CY	$ 7.56	$ 50,268
	Over-excavation	2,029 CY	$ 7.56	$ 15,340
	Backfill & Compact w/ Imported Fill	665 CY	$ 21.60	$ 14,362
	Haul Off Spoil	8,013 CY	$ 6.48	$ 51,927
	Grade Building	27,393 SF	$ 0.42	$ 11,538
	Gravel Under Slab	812 TON	$ 25.92	$ 21,038
	TOTAL EARTHWORK			**$ 164,473**
32	**EXTERIOR IMPROVEMENTS**			
	Included in Site			$ -
	TOTAL EXTERIOR IMPROVEMENTS			**$ -**
33	**UTILITIES**			
	Included in Site			$ -
	TOTAL UTILITIES			**$ -**

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	10/16/2017

PROJECT NAME…….....LARAMIE COUNTY COMMUNITY COLLEGE HOUSING **SITE (ADJACENT TO BUILDING)**
LOCATION……..……CHEYENNE, WY
ARCHITECT…..……..…METHOD STUDIO 99,294 BUILDING SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	TOTAL
	BUILDING COST ESTIMATE			
02	EXISTING CONDITIONS		$ 0.76	$ 75,000
03	CONCRETE		$ -	$ -
04	MASONRY		$ -	$ -
05	METALS		$ -	$ -
06	WOODS & PLASTICS		$ -	$ -
07	THERMAL & MOISTURE PROTECTION		$ -	$ -
08	DOORS & WINDOWS		$ -	$ -
09	FINISHES		$ -	$ -
10	SPECIALTIES		$ -	$ -
11	EQUIPMENT		$ -	$ -
12	FURNISHINGS		$ -	$ -
13	SPECIAL CONSTRUCTION		$ -	$ -
14	CONVEYING SYSTEMS		$ -	$ -
21	FIRE SUPPRESSION		$ -	$ -
22	PLUMBING		$ -	$ -
23	HVAC		$ -	$ -
26	ELECTRICAL		$ 0.76	$ 75,600
27	COMMUNICATIONS		$ -	$ -
28	ELECTRONIC SAFETY & SECURITY		$ -	$ -
31	EARTHWORK		$ 1.35	$ 133,662
32	SITE IMPROVEMENTS		$ 6.69	$ 664,175
33	UTILITIES		$ 1.61	$ 159,582
	SUBTOTAL		$ 11.16	$ 1,108,018
	GENERAL CONDITIONS	6%	$ 0.67	$ 66,481
	OVERHEAD & PROFIT	4%	$ 0.45	$ 44,321
	BONDS & INSURANCE	2%	$ 0.22	$ 22,160
	DESIGN CONTINGENCY	10%	$ 1.12	$ 110,802
	TOTAL CONSTRUCTION COST		$ 13.61	$ 1,351,783

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	10/16/2017

PROJECT NAME…….....LARAMIE COUNTY COMMUNITY COLLEGE HOUSING **SITE (ADJACENT TO BUILDING)**
LOCATION……..……CHEYENNE, WY
ARCHITECT…..……..…METHOD STUDIO 99,294 BUILDING SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	TOTAL
02	**EXISTING CONDITIONS**			
	Demolish Campus Safety Building	1920 SF	$ 3.78	$ 7,258
	Site Clearing	160,832 SF	$ 0.42	$ 67,742
	TOTAL EXISTING CONDITIONS			**$ 75,000**
26	**ELECTRICAL**			
	Site Lighting	1 Allow	$ 75,600.00	**$ 75,600**
	TOTAL ELECTRICAL			**$ 75,600**
31	**EARTHWORK**			
	Site Excavation	133,439 SF	$ 0.54	$ 72,057
	Grade Site	133,439 SF	$ 0.42	$ 56,205
	SWPPP	1 LS	$ 5,400.00	$ 5,400
	TOTAL EARTHWORK			**$ 133,662**
32	**EXTERIOR IMPROVEMENTS**			
	Asphalt	13,746 SF	$ 2.11	$ 28,949
	Striping	13,746 SF	$ 0.03	$ 445
	Sidewalk	14,914 SF	$ 3.83	$ 57,180
	Curb & Gutter	880 LF	$ 19.09	$ 16,803
	Decorative Paving Area	30,785 SF	$ 3.83	$ 118,030
	Landscape Area	73,994 SF	$ 5.40	$ 399,568
	Site Specialties	1 Allow	$ 43,200.00	$ 43,200
	TOTAL EXTERIOR IMPROVEMENTS			**$ 664,175**
33	**UTILITIES**			
	Water Utility	1 LS	$ 32,400.00	$ 32,400
	Fire Line	1 LS	$ 32,400.00	$ 32,400
	Sewer Utility	1 LS	$ 27,000.00	$ 27,000
	Storm Drainage	86,838 SF	$ 0.59	$ 51,582
	Communications Utility	1 LS	$ 16,200.00	$ 16,200
	TOTAL UTILITIES			**$ 159,582**

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	10/16/2017

PROJECT NAME……..…..LARAMIE COUNTY COMMUNITY COLLEGE HOUSING **WEST PARKING**
LOCATION……..……..CHEYENNE, WY
ARCHITECT…..……..…METHOD STUDIO 99,294 BUILDING SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	TOTAL
	BUILDING COST ESTIMATE			
02	EXISTING CONDITIONS		$ 0.51	$ 50,325
03	CONCRETE		$ -	$ -
04	MASONRY		$ -	$ -
05	METALS		$ -	$ -
06	WOODS & PLASTICS		$ -	$ -
07	THERMAL & MOISTURE PROTECTION		$ -	$ -
08	DOORS & WINDOWS		$ -	$ -
09	FINISHES		$ -	$ -
10	SPECIALTIES		$ -	$ -
11	EQUIPMENT		$ -	$ -
12	FURNISHINGS		$ -	$ -
13	SPECIAL CONSTRUCTION		$ -	$ -
14	CONVEYING SYSTEMS		$ -	$ -
21	FIRE SUPPRESSION		$ -	$ -
22	PLUMBING		$ -	$ -
23	HVAC		$ -	$ -
26	ELECTRICAL		$ 0.33	$ 32,400
27	COMMUNICATIONS		$ -	$ -
28	ELECTRONIC SAFETY & SECURITY		$ -	$ -
31	EARTHWORK		$ 1.11	$ 109,921
32	SITE IMPROVEMENTS		$ 5.07	$ 503,532
33	UTILITIES		$ 0.42	$ 41,575
	SUBTOTAL		$ 7.43	$ 737,753
	GENERAL CONDITIONS	6%	$ 0.45	$ 44,265
	OVERHEAD & PROFIT	4%	$ 0.30	$ 29,510
	BONDS & INSURANCE	2%	$ 0.15	$ 14,755
	DESIGN CONTINGENCY	10%	$ 0.74	$ 73,775
	TOTAL CONSTRUCTION COST		$ 9.06	$ 900,059

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	10/16/2017

PROJECT NAME……..…..LARAMIE COUNTY COMMUNITY COLLEGE HOUSING **WEST PARKING**
LOCATION……..……..CHEYENNE, WY
ARCHITECT…..……..…METHOD STUDIO 99,294 BUILDING SF
STAGE OF DESIGN……SCHEMATIC

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	TOTAL
02	**EXISTING CONDITIONS**			
	Site Clearing	119,480 SF	$ 0.42	$ 50,325
	TOTAL EXISTING CONDITIONS			**$ 50,325**
26	**ELECTRICAL**			
	Site Lighting	1 Allow	$ 32,400.00	**$ 32,400**
	TOTAL ELECTRICAL			**$ 32,400**
31	**EARTHWORK**			
	Site Excavation	119,480 SF	$ 0.54	$ 64,519
	Grade Site	119,480 SF	$ 0.33	$ 40,002
	SWPPP	1 LS	$ 5,400.00	$ 5,400
	TOTAL EARTHWORK			**$ 109,921**
32	**EXTERIOR IMPROVEMENTS**			
	Asphalt	56,793 SF	$ 2.11	$ 119,606
	Striping	56,793 SF	$ 0.03	$ 1,840
	Sidewalk	11,041 SF	$ 3.83	$ 42,331
	Curb & Gutter	2,799 LF	$ 19.09	$ 53,445
	Decorative Paving Area	2,158 SF	$ 3.83	$ 8,274
	Landscape Area	49,488 SF	$ 5.40	$ 267,235
	Site Specialties	1 Allow	$ 10,800.00	$ 10,800
	TOTAL EXTERIOR IMPROVEMENTS			**$ 503,532**
33	**UTILITIES**			
	Storm Drainage	69,992 SF	$ 0.59	$ 41,575
	TOTAL UTILITIES			**$ 41,575**

METHOD STUDIO INC.

ARCHITECTURE | INTERIORS | PLANNING