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WESTERN WYOMING

COMMUNITY COLLEGE

2017 CAMPUS MASTER PLAN

APPENDIX

01

EXISTING CAMPUS ANALYSIS

EXISTING CONDITIONS ASSESSMENT

OUTLINE

On the pages that follow are the complete versions of our consultants' observations and recommendations made after touring the Western Wyoming Community College existing campuses in both Rock Springs and Green River, Wyoming. The consultants narratives are located in the following order, outlined below:

- Civil Engineering

- Landscape & Grounds

- Structural Engineering

- Mechanical, Electrical, and Plumbing

- Audiovisual, Acoustical and Technology

EXISTING CONDITIONS ASSESSMENT

CIVIL ENGINEERING

Our report will focus on civil and geotechnical engineering aspects that currently exist at the college campuses. These will primarily consist of utilities, drainage, and geotechnical conditions.

Utilities

The original portions of the current campus were constructed in the early to mid-1980s. The utility systems such as potable water, sewer, storm sewer, electrical, and natural gas were brought to the campus at the time. Over the years, as the campus has grown, these original systems have been built-out and expanded. This has resulted in some of the main utility lines being built over, so that certain utility mainlines are now beneath existing buildings.

Design drawings and/or as-built drawings for much of the original utilities does not exist for the Rock Springs Campus. We generally rely on institutional knowledge from the maintenance and building staff to determine how utilities work when conducting projects at the Rock Springs Campus. More information exists for the Green River Campus, and it is not nearly as complex as Rock Springs.

Utility systems are generally in good repair at both campuses. It is our opinion that staff does a good job at maintaining these systems and making needed repairs correctly and in a timely manner.

Drainage

Drainage at both campuses is generally good overall, with some localized areas that could use improvement. Because both campuses are built in areas where steep terrain exists, certain areas are prone to extensive erosion and head cutting.

Some areas that could use drainage improvement are the areas behind the Diesel & Compression Labs, around the older dormitories, and in the enclosed court yard areas. Some of these improvements may be as simple as extending roof drains or adding splash blocks, to more extensive solutions such as adding drainage systems or regrading.

Currently, we are not aware of any areas that erosion or head cutting are creating dangerous situations for existing structures or parking areas other than behind the T&I Hallway, which is currently being corrected as part of the T&I Hallway Mitigation Project. Some concern was expressed during the walk through about erosion that is occurring on the hill above the Green River Campus. This can be corrected, however it may become a fairly involved project and would need to include the City of Green river and possibly other landowners to properly mitigate.

Geotechnical Conditions

Both campuses are located in areas that have geological features that can be somewhat complicated to build on. This usually requires

that projects have thorough geotechnical investigation conducted (especially for new buildings and other structures), and often times require more extensive foundations be constructed for these projects. Many of the buildings at the Rock Springs Campus are supported by deep foundations, either driven piles or drilled piers, and slab movement is an ongoing issue at the Rock Springs Campus.

The Rock Springs Campus sits on a boundary zone between two geologic formations. Because of this, geotechnical conditions can vary significantly from area to area. Poor soils such as expansive clays and thin coal beds are common towards the northern end of the campus. Hard cemented sandstones are common at the south end, which can cause excavation to be difficult. Sand dune features are also commonly found towards the southeast area, which can be poor subgrade soils for parking lots and buildings.

The Green River Campus sits on the side of South Hill, which is in the Wilkins Peak Member. Subsurface conditions generally consist of marlstones and oil shale. However expansive clays are found throughout this area, and the marlstone can be susceptible to fast disintegration in the presence of water. We are not aware of ongoing problems related to geotechnical properties of the subgrade materials at the green River Campus.

The parking lots and sidewalks at both campuses are in good condition. The College does a very good job of maintaining both, with regular replacement of broken or disjointed sections of concrete walks and regular crack sealing and seal coating of asphalt parking lots. We are not aware of any areas of either that are currently in poor disrepair or experiencing problems other than the fire access lane on the west side of the Rock Springs Campus near the Alternative High School. This lane has been rebuilt once since its initial construction. The problems may be related to drainage and poor compaction efforts during initial construction.

Current Projects

Currently WWCC is conducting three larger scale projects. These include the Thermal Expansion Storage tank Removal Project, the T&I Hallway Rehabilitation Project, and The Kiln enclosure Project. Western is involved with the T&I Hallway and the Thermal Tank projects. The Kiln Enclosure is being conducted by Plan One Architects/JFC Engineers. The T&I hallway project will see drainage improvements installed this fall and next spring. Currently there is not a timetable for remediation of the T&I Hallway slabs.

The Thermal Storage Tank project will be complete this fall. All subgrade soils placed in the tank excavation have been thoroughly compacted in case the area is ever used as a building site. After completion of this project, it is planned that the area will be left without topsoil or landscaping for approximately one year and then planted with lawn.

The Kiln Enclosure project is supposed to be completed this fall. Western has not reviewed plans for this project, and we do not know the extents of what the project includes.

EXISTING CONDITIONS ASSESSMENT

LANDSCAPE & GROUNDS

September 9, 2016

From our past experiences on campus to now it is evident that WWCC are making strides to improve the overall exterior appearance of the campus. Yet it is clear that efforts still need to be made to provide human comfort on campus in the harsh environment of southwestern Wyoming. Following are our observation of the existing exterior conditions, assessments and opportunities for resolution.

ROCK SPRINGS CAMPUS:

1. **Existing Conditions and Assessments:**
    - Irrigation system is outdated and broken up into to many segments to where it has become inefficient and difficult to manage. Becomes a major learning curve for someone new to learn the system.
    - Sidewalks appear to have trouble with the expansive soils causing them to heave in various places throughout campus.
    - Better circulation at main entry of campus, not very pedestrian friendly. Noticed no walkway from College Drive to the main entrance.
    - There appears to be a fair amount of unnecessary lawn areas that contribute to high demands of irrigation.
    - Campus connectivity and proximity of buildings seem to work. However more wayfinding signage could be used.
    - Security comfort is a concern in certain areas of campus due to dense plantings and low lighting – specific to the tennis court area.
    - Drainage being addressed in most areas however still areas around the T & I building needs work
    - Trees and shrubs seems to be healthy, may be an overuse of Junipers which WWCC is removing as needed.
    - There are several gathering areas around campus, however some are hard to find and not used much. Lawn areas at the front of the Annex and main entrance are used a lot by students – due to the fact they provide protection from the wind and offer areas of shade.

2. **Opportunities for resolution:**
    - Consider updated and consolidated irrigation system into a more central system. Develop a consistence with the irrigation, for example using one product line for irrigation heads so parts are easily interchangeable. Develop irrigation standards for future projects.
    - Dress up the front main entrance with landscaping and adding sidewalks from College Drive. Connecting to Rock Springs sidewalks and pathways helps with tying the campus into the community fabric. Makes the campus more accessible.

- Consider more or reinforce wayfinding for both the vehicle and pedestrian circulation.
- Identifying areas of lawn that are not necessary and change to more water efficient landscapes, i.e. native grasses, drought tolerant plantings etc..
- Update outdoor lighting to fill in dark spots and consider to go to more efficient LEDs. Standardize outdoor lighting fixtures.
- Define a consistency with the landscape design, use trees that are hardy to the environment, and not prone to damage. For the most part this is happening throughout campus. Consider developing an approved tree and shrub planting list for future building. Remove any existing plant material that could cause a safety concern.
- Gathering areas need to offer comfort, there are opportunities to enhance or improve these areas by considering wind, sun, shade and materials. Couple areas would be the old Presidents house site and the lawn areas west of the main building.

RESIDENCE HALLS:

1. **Existing Conditions and Assessments:**
   - Existing Russian Olives are a concern due to breaking branches over pedestrian traffic causing a safety issue.
   - Areas between residence halls are dated and the railroad tie retaining walls are starting to lean to a point where they could soon fail.
   - North side of the buildings is exposed to the cold and wind, not being used by the students but the area does offer room for activities and gathering areas.
   - Lack of connectivity to the old Presidents house park. A fire lane separates the two.
   - Students want to use the lawn area between the cafeteria and residence halls as gathering area to include a fire pit. The site is very exposed to the wind which needs to be considered or suggest other sites for the fire pit area. Also, there is a main utility route that runs through the area that needs to be considered.

2. **Opportunities for resolution:**
   - Consider replacing the Russian Olives with more desirable trees, while doing this there is an opportunity to enhance the landscaping here as well.
   - Areas between the Halls offer protection from wind, improve to offer small gathering areas and seating areas. Consider simplifying landscape.
   - Area on the north side of the halls can be developed into usable gathering areas if consideration is given to the harshness of the wind and appropriate materials are selected to provide protection. The area should be designed to offer flexibility from larger gatherings to small groups and different activities.
   - Enhance connectivity between the park and halls by replacing the gravel in the fire lane to a softer material, such as grasspave.
   - Consider wind protection in the form of walls to create a useable area for a fire pit gathering area at the area between the cafeteria and residence halls.

COURTYARDS AND OUTDOOR SPACES:

1. **Existing Conditions and Assessments:**

LANDSCAPE & GROUNDS (CONTINUED)

- Interior courtyards are hard to find, could be a reason not being used a lot by students.
- Courtyard #2 has been renovated, it has a cozy comfortable feel. Seems that it should be used more than the other two courtyards.
- Courtyards #1 and #3 are seeing some breakdown, mainly in the paving, it is heaving or cracking. Existing material is all concrete. Trees and shrubs are healthy and offer nice canopies to sit under.
- Tank Farm area is being revamped by removing existing tanks, great area for a bigger courtyard.
- Kiln area outside of art room is starting to see some concrete damage, and planter walls and enclosure are starting to see some deterioration. Keep the existing kiln in place has some sentimental value.

2. **Opportunities for resolution:**
   - Consider ways to attract students to use the courtyards, feel like they are being under-utilized. Ways to improve would be to offer better wayfinding, enhance the courtyard #1 and #2 by updating materials and making the spaces more flexible, in other words design the space to allow for different activities and develop into the design ways to encourage more social interaction.
   - Tank Farm area offers an opportunity for a larger courtyard. Enhance access into the space from buildings as an extension of the indoor spaces.
   - Kiln area, needs to respond to functionality first then as a gathering area.

SOCCER FIELD:

1. **Existing Conditions and Assessments:**
   - Grass struggles to stay healthy, appears to get worn down with use.
   - Field size is undersized for a regulation field.
   - Space is limited to expand the field.

2. **Opportunities for resolution:**
   - Relocate the field to a new area where there is room to develop a regulation size field. Opportunity for WWCC to connect with the community by having them be part of the development and use of the new field.
   - Consider replacing existing grass with synthetic turf.

GREEN RIVER CAMPUS:

1. **Existing Conditions and Assessments:**
   - Signage for the main entry is poorly visible.
   - Overall landscape is in good condition.
   - Erosion is a problem on the slope below the water tank
   - Campus lacks a defined gathering area

2. **Opportunities for resolution:**

- Enhance the south side of the campus with more landscaping that defines areas that can be used as gathering areas, large or small. Design of the space should allow for flexibility for various activities.
- Standardize the irrigation to match the Rock Springs campus.

EXISTING CONDITIONS ASSESSMENT

STRUCTURAL ENGINEERING

Introduction and General Description

The purpose of this narrative is to address the general structural condition of the WWCC campuses in Rock Springs and Green River, Wyoming. The structural condition is based on information provided by the WWCC staff and visual observations during a tour of the facilities on August 10, 2016. A complete structural assessment of the facilities was not conducted.

General Facility Description

The Rock Springs Campus is comprised of a multi-level Main Building with five (5) multi-story residence halls. The Main Building includes cast-in-place concrete, precast concrete, masonry, and steel structural systems. The Residence Halls buildings structural systems vary with use of cast-in-place concrete, masonry and steel structural systems.
The Green River Campus is comprised of a single two level building. The structural systems include cast-in-place concrete, masonry, glulam timber and steel.

Existing Facility Condition

The structural systems that were visually observed as part of the tour with the facilities staff included the main building and two of the residence halls in Rock Springs, as well as the building on the Green River campus. Each building observed appears to be performing adequately from a structural perspective.
Water infiltration through the west basement wall of the main building in Rock Springs, between the Atrium and Technology & Industry wing was observed. Proper water management is critical in preventing building degradation.
Slab movement in the Technology & Industry corridor of the main building in Rock Springs was discussed and observed with the facility staff. Removal and replacement of the slab is scheduled to be done in 2016.

Structural Implications of Additions and Alterations

As part of the Master Planning process, the review of structural implications of proposed additions or alterations to existing buildings should be considered. The industry standard code governing existing buildings is written by the International Code Council (ICC) in the form of the International Existing Buildings Code (IEBC); which is a stand-alone document that is referenced in section of 101.4.7 of the 2015 International Building Code (IBC). With respect to structural aspects of existing construction, the basic philosophy of the ICC is that existing construction is acceptable if:
1. it was constructed in accordance with the codes at the time of original construction, and

2. it is not dangerous or damaged, and
3. it is not being altered, repaired, added to, or having its occupancy changed.

For Item 1), the code official relies on the building owner to maintain a safe and sanitary building with all new installations and alterations of structure and equipment to be in accordance with the codes at the time of installation. There is no compulsion to upgrade existing infrastructure to current standards if not deemed "dangerous".

For Item 2), the code defines a "dangerous" building as one where "the building or structure has collapsed, partially collapsed, moved off its foundation or lacks support of ground necessary to support it", OR where "there exists a significant risk of collapse, detachment or dislodgement of any portion, member, appurtenance or ornamentation of the building or structure under service loads." Regardless of the extent of damage, the building official has the authority to require the elimination of dangerous conditions.

For Item 3), the following actions describe when the involvement of the governing building authorities and their adopted codes are triggered, and subsequently when structural codes are triggered.

Additions:

Definition: An extension or increase in floor area, number of stories, or height of building or structure.

Code Triggers: Additions shall be constructed in conformance to the current code for new construction AND the existing building and new addition together shall not cause the existing building to be less conforming than it was before the addition.

Structural Triggers: Where the addition is structurally independent of the existing structure, the addition is to be designed per the current code for new construction and no upgrade is required for the existing structure. Additions that cause an increase to the design gravity load on existing structural elements by more than 5% trigger that the structural element must meet current code requirements. Additions that rely on the existing structure to resist lateral loads and increase the lateral demand-capacity ratio by more than 10% trigger that the lateral element must meet current IBC requirements.

Alterations:

Definition: Any construction or renovation to an existing structure other

than a repair or addition.

Code Triggers: Alterations shall be constructed in conformance to the current code for new construction. Alterations shall not cause an existing structural element or system to be less conforming to current code provisions than the element or system was prior to the alteration.

Structural Triggers: Alterations that cause an increase to the design gravity load on existing structural elements by more than 5% trigger that the structural element must meet current code requirements. Alterations that rely on the existing structure to resist lateral loads and increase the lateral demand-capacity ratio by more than 10% trigger that the lateral element must meet current code requirements.

Repairs:

Definition: The reconstruction or renewal of any part of an existing building for the purpose of its maintenance or to correct damage.

Code Triggers: Routine maintenance and ordinary repairs exempt from permit are not subject to the code requirements. A building that has had substantial structural damage, as defined by the IEBC, shall be evaluated and repaired per the adopted code.

Structural Triggers: Repairs of substantial structural damage are required to be brought up to the provisions of current code for new construction. For example, if the damage is caused by excessive snow, the damaged structure must be upgraded to carry the snow loads prescribed in the currently adopted code for new construction.

Change of Occupancy:

Definition: A change in the use of the building or a portion of a building.

Code Triggers: No change of occupancy is allowed unless the building is made to comply with the requirements of the new occupancy except that, subject to the approval of the building official, the new occupancy may be allowed provided the new use is less hazardous than the existing use.

Structural Triggers: When an occupancy change triggers a reclassification to a higher risk category the structure shall conform to the requirements of the current code.

Limitations
No warranty is expressed or implied regarding the ability of the structure to meet building code standards of any kind. This report is based on a single site visit by Greg Shavlik, P.E., S.E. on August, 10 2016 as existing structural plans were not provided to KL&A. During the site visit, Mr. Shavlik was able to observe only directly visible or easily accessible structural elements. Hidden or below-grade conditions were not observed, and minimal finishes were removed to allow observation of structure. Specifically, the structure was not visible in the following areas:
- Sub-grade conditions
- Framing within finishes of current spaces

EXISTING CONDITIONS ASSESSMENT

MECHANICAL, ELECTRICAL & PLUMBING

Western Wyoming Community College Master Plan
Existing Conditions Assessment
CRA#2016-271
September 9, 2016

DIVISION 22 & 23 – PLUMBING AND HVAC

This narrative identifies existing conditions of electrical, mechanical and plumbing systems serving the campus buildings to be used in the development of the Western Wyoming Community College Master Plan . It is not intended to cover all systems in their entirety, but to be used as a guide and basis for which the mechanical systems' current condition, capacity & service life expectancy. This report encompasses the electrical, mechanical and plumbing systems of the main campus in Rock Springs, the residence halls adjacent to the main campus, and the satellite campus in Green River. It is our understanding that a third party consultant has also surveyed the building and is releasing a separate report. We are collaborating with the third party consultant (Engineering Economics, Inc. (EEI)) on deficiencies of the facility to avoid addressing deficiencies that are already being addressed under their contract. We have identified the items known to be addressed by EEI, however their report is scheduled to be complete in October. Therefore, there may be some over-lap in our reports.

Main Campus:

HVAC Equipment:

Existing Conditions:

Central Cooling Plant: The main campus cooling system consists of two ceramic cooling towers and water cooled heat pump chillers and a chilled water piping loop. The cooling towers are in good condition and life expectancy of 35 years. The heat pump chillers are in fair condition and have an expected life of 25 years

Central Heating Plant: The main campus heating system consists of five heating water boilers and two heating water loops. A high temperature loop (180°F) and a low temperature loop (115°F) are currently installed for the heating water loops. The facility is mixing the high temperature loop into the low temperature loop to boost the temperature of the low temperature loop. The facility is run with pneumatic controls; pneumatic controls life span is 20 years. The heating water boilers are in good condition and expected life is 25 years.

Area M: The airside system utilized in this area is a dual duct system. A louver for this air handler is boarded off on the exterior of building. This may be boarded off to bring less outside sir into the air handler in the winter and help with heating rooms in winter. The air side fans are in fair condition and have a life expectancy of 25 years. The piping and pumps in the fan room of this area are in fair to bad condition with the pumps life expectance of 10 years.

Area S: Supply diffusers stop before end of entry way. This area is served by a dual duct system and is in similar condition to area M. Fans are in fair condition and piping and pumps are in fair to bad condition. The life expectancies are similar to Area M.

Area E: The Atrium is used as plenum for three floors. A high percentage of glass leads to area being hot and cold in summer/winter. It is served by a dual duct system located in basement. The air handling units are in fair condition and have a life expectancy of 25 years. The piping and pumps are in fair condition and the pumps have a life expectancy of 10 years,

Area F: The air compressor for building pneumatic controls is located in basement. It appears that compressor is in good condition. Facility has problems with oil and contaminants in the control

air piping. The air handlers serving this area are dual duct located in the basement. They have similar conditions to Area E and similar life expectancies.

    <u>Areas K, J,&Q:</u> These areas are served by unit ventilators. The life expectancy of these units is 20 years.

    <u>Area C:</u> This area is served by Innovent units in the mezzanine; they are fairly new and in good condition. Ceiling tiles in office areas are being lifted out of grid from over pressurization in room. The air compressor for the Compression Lab has to be reset multiple times a week.

    <u>Area A:</u> Air Handlers serving this area have heat recovery but are older units and in fair condition. The life expectance for the air handlers is 25 years.

    <u>Mechanical Room:</u> Piping in tunnels is in fair condition with corroded fittings. Building heating and chilled water pumps appear to be from the original building design and are in fair to poor condition. Frequent leaks are causing maintenance burden to maintenance staff.

<u>Capacity Assessment:</u>

    The capacity of the heating water boilers is sufficient for the building. Facility Management has stated that the building can be heated sufficiently with only two boilers running.

    A study has been done by EEI on several different items throughout the facility. One item being the cooling capacity of the facility. As of now, the facility is not running at full operating capacity. If the College proceeds with recommendations from EEI to increase cooling capacity of the cooling plant, the plant will be at full capacity and will have extra capacity for future expansion/renovation per EEI.

Plumbing Fixtures and Piping:

<u>Existing Conditions:</u>

    Domestic water lines are older and in fair to poor condition and getting pin holes in piping, creating water leaks. Vent piping are in fair to poor condition and cracking causing sewer gas leaks into building.

    <u>Area M:</u> Grease waste for kitchen utilizes a simplex lift station to pump grease waste into grease interceptor. The pump is located in a crawl space with limited space for access when it needs servicing. Plumbing fixtures in this area are flush valves and in good condition. Room B152 houses domestic water holding tanks (not in use) and a domestic booster pump (in use) and piping tunnels for domestic, heating, and chilled water. The booster pump is in fair condition and has a life expectancy of 20 years.

    <u>Area S:</u> Plumbing fixtures are in good condition. Water closets expected life span can be 50-100 years; lavatories have an expectancy of 10-15 years; lavatory faucets life span from 15-20 years; showers can last up to 50 years with the shower heads/valves lasting 20-25 years.

    <u>Mechanical Room:</u> Building is served by one domestic water heater. No redundancy.

<u>Capacity Assessment:</u>

    Domestic water heater capacity is sufficient but facility management has concerns about not having redundancy.

Residence Halls:

HVAC Equipment:

<u>Existing Conditions:</u>

    The three older residence halls have common laundry venting installed on dryers. Dryers could be operating poorly due to this installation and may not meet current codes. Ventilation in

MECHANICAL, ELECTRICAL & PLUMBING (CONTINUED)

restrooms is not adequate. The rest rooms become very humid after showers because the restroom exhaust fans are very old and in poor condition.

The ventilation in the Rocky Mountain residence hall restrooms are on a central system and in fair condition. The life expectancy of ventilation fans is approx. 20 years.

The heating of the rooms done by hot water fin tube installed around the perimeter of the rooms. The fin tube is in fair to good to condition and has a life expectancy of approximately 25 years. The heating water boilers are in fair condition and have a life expectancy of approximately 25 years. An air separator has been recently installed on heating water piping due to excess air in system and is in good condition.

Capacity Assessment:

The residence halls that have air conditioning installed are sufficient. The older residence halls do not have AC and only have natural ventilation. The goal is to have AC in all residence halls.

The heating capacity is sufficient for each residence hall.

Plumbing Fixtures and Piping:

Existing Conditions:

The plumbing fixtures include tank type water closets, counter top lay-in lavatories, showers, and stainless steel sinks. Some had minor cosmetic damage but most are in fair to good condition. The hot water heaters look to be recently replaced and in good condition. The life expectancy of the hot water heaters is approximately 22 years. Water closets expected life span can be 50-100 years; lavatories have an expectancy of 10-15 years; lavatory faucets life span from 15-20 years; showers can last up to 50 years with the shower heads/valves lasting 20-25 years.

Capacity Assessment:

Hot water heaters are sufficient for residence halls.

Green River Campus:

HVAC Equipment:

Existing Conditions:

The HVAC systems are controlled by a pneumatic system; pneumatic controls life expectancy is 20 years. The air compressor is located in the mechanical room on the lower level next to the wall to the corridor and is very loud. Two heating water pumps (redundant) are located in this room and only one is functioning. These pumps are in fair to poor condition and have a life expectancy of 10 years. The boiler room has three new 900 MBH condensing boilers in good condition, life expectancy is 25 years.

In room 101A, the air handler is in a confined space with very little service clearance. This air handler serves the tiered classroom which has drastic temperature swings. This unit is a split DX unit with condensing unit located outside. The condensing unit was damaged by hail and had been scheduled to be replaced. The pneumatic thermostat in the space sounded as if it was leaking air. The leaking thermostat and damaged condensing unit both could be adding to the lack of controllability of the space.

A new condensing unit (approx. 2 years old) is installed serving the office area and in good condition. Condensing units have a typical life of 20 years.

The heating water piping does not have isolation valve to shut-off portions of piping for maintenance.

The air handler on the lower floor that serves the classrooms has a plenum for fresh outside air. Some of the louvers have been boarded off on the inside of the plenum. This is most likely done to prevent excess outside air into the building during the winter and help keep rooms from getting cold.

<u>Capacity Assessment:</u>
The cooling capacity of each air handler seems sufficient with the expectation of the air handler serving the tier classroom. As stated in the existing conditions section, the condensing unit was damaged and the thermostat appeared to be leaking. Replacement of these two items could have remedied the situation after the facility walkthrough.
The heating capacity is sufficient as the new boiler system was installed recently.

Plumbing Fixtures and Piping:

<u>Existing Conditions:</u>
Plumbing fixtures are in good condition. The facility utilizes thermostatic mixing valves for the plumbing fixtures. These are severely corroded and in bad condition. Facility management has stated that getting hot water to fixtures takes a long time. Possible causes of this are oversized thermostatic mixing valves or hot water recirculation pump not able to circulate enough hot water for building. The recirculation pump is a 1/25 hp, which seems small for the building. The life expectancy for pumps is approximately 10 years. The domestic water piping does not have isolation valve to shut-off portions of piping for maintenance. Some pipes in water heater room are freezing and have heat trace installed to prevent freezing. The water is in good condition and has a life expectancy of 22 years. Water closets expected life span can be 50-100 years; lavatories have an expectancy of 10-15 years; lavatory faucets life span from 15-20 years.

<u>Capacity Assessment:</u>
The capacity of the water heater seems sufficient to serve the building. The hot water circulation seems low with a small pump installed.

DIVISION 26 - ELECTRICAL

MAIN CAMPUS:

SITE UTILITIES

<u>Existing Conditions:</u>

Rocky Mountain Power (RMP) is the serving utility for electrical power at both the main campus and Residence Halls.

The main campus is metered on the high voltage side. The 13.2kV lines are routed around the main facility in a ring with branches extending to the student housing units. There are manholes at select locations around the ring allowing each section to be isolated.

Distribution transformers are located outside the buildings at the dormitories as well as a few locations around the campus. The two main electrical rooms in the basement also contain distribution transformers. One of which had failed just prior to the facility walkthrough.

MECHANICAL, ELECTRICAL & PLUMBING (CONTINUED)

Capacity Assessment:

The system does not appear to be overloaded at any of the transformers. Completing efficiency upgrades such as LED lighting and VFD on pumps will lower usage and create more available capacity.

POWER DISTRIBUTION

Existing Conditions:

Most of the electrical distribution gear looked to be Westinghouse Power Switchgear. Distribution and lighting/appliance panel boards have been added to accommodate additions and technology upgrades but there have been no major replacements of the main distribution gear. The gear is 70-80 vintage and is reaching a service life of 35 years.

The power is distributed throughout the campus at 480V/277V for large machines and HVAC equipment and some lighting and stepped down with low voltage transformers to 208V/120V for receptacles and the balance of lighting. The power is routed through transfer switches to achieve redundancy on the main campus allowing sections to be removed for maintenance.

Main area distributions are as follows (Refer to campus map for area locations):
- MDC-1   Units N, P, T, & U   1200A
- MDC-2   Unit H   2500A
- MDC-3   Units A, B, & C   2500A
- MDC-4   Units D & E   1600A
- MDC-5   Units E & F   1600A
- MDC-6A/6B   Units G & L   3000A
- MDC-7   Unit M   1200A
- MDC-10   Unit S   2000A
- MDC-11   Unit Q   1200A
- SDP-JBM   Unit H   600A

During the walkthrough, a few problems were discussed that seem to have arisen from the utility losing a phase and the campus distribution being dropped to single phase power for a short time. Installing a power monitor and control system at the 13.2kV service entrance could provide additional protection for campus equipment and electronics.

Capacity Assessment:

Equipment appears to have sufficient capacity for minor renovations and upgrades, but as it reaches the end of its service life will need more attention to preventive maintenance to maintain operability.

During a study conducted in 2008, a number of electrical items were identified as needing testing and repair due to deteriorating conditions of enclosures. Testing included; infrared analysis, transformer oil-testing, switchgear inspection/repair, and medium voltage cable testing.

MDC-3 and MDC-7 were specifically identified as being top candidates for switchgear replacement. Quotes were received by Square D and GE for testing and maintenance. We were not able to locate any confirmation that services were rendered.

Western Electrical Contractors recently completed testing of all distribution switchgear assemblies and replacement of malfunctioning switches. Test results and subsequent recommendations associate with the Infrared Analysis and Medium Voltage Cable Testing were not available for review.

GENERATOR BACKED POWER SYSTEMS

Existing Conditions:

A 500kW generator serves select areas on the main campus, mainly for egress lighting and electronics/technology. Generator panels are located throughout the facility and are fed from an 800A distribution switchgear EMDC-1.

Cooling for server rooms in the annex are not on generator power.

Capacity Assessment:

The backup power system is being fed from a single generator. This system is only for standby power in emergencies but would be operating at its limit in an extended power outage. Adding cooling for technology closets will only exacerbate the condition.

LIGHTING SYSTEMS

Existing Conditions:

The lighting is a mix of fluorescent T5 and T8 but has been upgraded to LED in a few areas. The lighting upgrades are being phased as funding becomes available and will include parking lot lighting to help address security concerns.

Capacity Assessment:

Lighting systems are functional and serviceable. Upgrading to LED fixtures will result in additional capacity on circuits and in panels.

RESIDENCE HALLS:

SITE UTILITIES

Existing Conditions:

Refer to section on Main Campus

POWER DISTRIBUTION

Existing Conditions:

MECHANICAL, ELECTRICAL & PLUMBING (CONTINUED)

Power is distributed throughout the halls by a 400A main distribution panel to a small 100A MLO load center in each suite.

Aspen Hall was originally a Wingate Hotel and has its own utility entrance and distribution panels. Aspen has been having problems with the elevator at times of heavy use. Kone has a service contract with the college and is reporting that the elevator is not rated for this use. We believe the rating of the elevator to be sufficient and also suspect the problem might be occurring in the controller rather than at the actual equipment.

Capacity Assessment:

As student technology use increases, it will put more strain on the already aging load centers. Dorm load centers did not have any provisions for ground fault circuit interrupters or arc fault circuit interrupter and may not be compliant with local electrical codes.

GENERATOR BACKED POWER SYSTEMS

Existing Conditions:

Backup power for lighting and fire alarm at the residence halls is through point-of-use, battery back-up.

Capacity Assessment:

Point-of-use battery backup does not contain any additional capacity.

LIGHTING SYSTEMS

Existing Conditions:

The lighting is a mix of linear fluorescent and screw in compact fluorescent. Lighting appears to be dim in certain rooms, but quantitative measurements were not taken at time of visit.

Capacity Assessment:

Lighting systems are functional and serviceable. Upgrading to LED fixture will result in additional capacity on circuits and in panels; alleviating some of the extra load coming from the student's personal media devices.

GREEN RIVER CENTER:

SITE UTILITIES

Existing Conditions:

The GRC is fed by a single utility transformer and metered on the secondary side (480V).

Capacity Assessment:

Campus appears to have sufficient capacity for operations as well as spare capacity for building expansion.

POWER DISTRIBUTION

Existing Conditions:

There is a 1200 Amp, Westinghouse Distribution Switchgear upstairs feeding another 1200 Amp gear downstairs and then distributed to lighting/appliance panel boards.

Capacity Assessment:

Campus appears to have sufficient capacity for operations as well as spare capacity for building expansion.

GENERATOR BACKED POWER SYSTEMS

Existing Conditions:

The Green River Center does not have any backup power for the facility. Egress lighting is through battery backed ballasts.

LIGHTING SYSTEMS

Existing Conditions:

The lighting is a mix of fluorescent T5 and T8. The fixtures appear to be serviceable with only minor discoloration of lenses at a few fixtures.

Capacity Assessment:

Lighting systems are functional and serviceable. Upgrading to LED fixture will result in additional capacity on circuits and in panels.

DIVISION 28 – ELECTRONIC SECURITY

MAIN CAMPUS:

FIRE DETECTION AND ALARM SYSTEM

Existing Conditions:

The facility has a manual fire alarm system controlled by a SimplexGrinnell fire alarm control panel. Manual pull stations are present at exterior doors. Notifications devices are installed throughout. Sound Pressure Level and audibility was not verified at time of visit. Smoke and heat detectors are located in corridors and other required locations for system control. Voice evacuation module was not verified at time of visit.

MECHANICAL, ELECTRICAL & PLUMBING (CONTINUED)

Capacity Assessment:

Fire control panel is assumed to have sufficient capacity to accommodate small additions and revisions.

RESIDENCE HALLS:

Existing Conditions:

The residence halls have manual fire alarm system controlled by a SimplexGrinnell fire alarm control panel. Manual pull stations are present at exterior doors. Panel is presumed to be networked back to main control panel in the maintenance director's office.

Capacity Assessment:

Panels are sized adequately to serve buildings. It is not anticipated that spare capacity is needed in in Residence hall panels as the buildings do not lend themselves to expansion.

GREEN RIVER CENTER:

FIRE DETECTION AND ALARM SYSTEM

Existing Conditions:

Green River Campus has a standalone fire panel by Simplex as well. Notifications devices are installed throughout. Sound Pressure Level and audibility was not verified at time of visit. Smoke and heat detectors are located in corridors and other required locations for system control. Voice evacuation module was not verified at time of visit.

Capacity Assessment:

Fire control panel is assumed to have sufficient capacity to accommodate small additions and revisions. It is the desire of the facilities staff to keep the panels operating independently of each other at this time

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EXISTING CONDITIONS ASSESSMENT

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY

PROGRAM STRATEGY

METHODOLOGY

On August 10th, 2016 the planning team conducted interviews with select members of the IT Department and toured existing facilities at multiple defined WWCC locations to observe existing conditions and document via photographs and detailed notes. This information is used to assess technology systems and spaces including existing infrastructure. Tours included a sampling of typical formal and informal teaching and learning spaces, student housing, IT support areas, and backend facilities, including Telecommunication Rooms and the Data Center. Locations included both the main campus at Rock Springs and the satellite campus at Green River. The IT Department integrates and updates the audiovisual systems on campus with assistance from facilities staff. The Department also works with outside contractors and vendors on large projects.

From the interviews, we sought to better understand the current spaces and systems, including infrastructure for AV, IT and Acoustics. Questions sought to understand related technology requirements and needs and wishes of the IT support staff and their customers. We also sought to uncover areas that can be improved and what issues are most compelling to both the IT department and users to better serve the College. As part of the assessment and to inform recommendations to be developed later in Phase 2, we will continue to review existing documentation as provided and where available. The plan will strive to identify technology systems that meet the full functionality and wishes of users. If a full audiovisual system installation is not feasible, it is recommended that the infrastructure to support the full program be included during future construction.

PLANNING PRINCIPLES

To provide a foundation for decision-making over the course of the project, and to remind the planning team of the program's intent, the following principles are put forth.

Aligned with Campus Plans	Technology solutions should be informed by relevant plans for the campus, such as the existing Strategic Plan and Master Plan.
Enterprise Architecture	Technology solutions should be designed from the perspective of an enterprise-wide architecture to reduce cost, simplify maintenance, and improve efficiencies.
Appropriate Technology Quotient	All institutions have a unique level of technology that is optimal for their campus at a particular time. Planning should consider a distinct level of technology, as directed by the stakeholders.
Supportable	The technology systems must be sustainable and supportable with a minimal investment in support personnel and services. "Help Desk" functionality is critical to both short- and long-term success.
Adaptability	The facility should enable the systems and spaces to adapt over time in response to changes in technology and pedagogy. We refer to short-term changes as "flexibility" and long-term changes as "adaptability."
Scalability	Since technology integration is integral to the teaching and learning process, the long-term needs of both faculty and students will be increasingly reliant on scalable solutions.

THE TRANSFORMATION OF TECHNOLOGY IN EDUCATION—CONTEXTS

In the last decade, technology has dramatically transformed education and educational spaces, and that transformation continues to have a significant impact on community colleges and universities across the Nation and around the world. Effective instructional tools are only one part of an evolving learning landscape. A strong technology infrastructure enables innovation and gives institutions a competitive advantage while positioning them to meet growing needs and changing demands.

Technology can augment traditional didactic teaching methodologies and improve information / knowledge delivery by providing new and exciting alternatives to reinforce course content and enhance learning outcomes.

Because of their interactive and collaborative nature, new technologies have become valuable tools in addressing different learning styles in the classroom. The growth of active learning pedagogies featuring experiential and student-focused activities is changing the traditional lecture-oriented classroom into a flexible space with technology supporting faculty and student activities. With the addition of lecture capture, more time on task can be spent in practical application while in the classroom, through a flipped classroom learning model.

The need to supplement limited in-class time but also provide opportunities for lifelong learning regardless of time, place, or circumstance for both students and the community-at-large is in part made possible through online learning. By integrating online components into on-ground courses, hybrid or blended learning extends the physical classroom, while providing a platform for social interaction, access to content, and self-discovery. Online learning programs put greater emphasis on providing technology that captures educational assets and enriches the library of knowledge on which faculty and students can draw. These same technologies also can be used for distance learning connectivity, extending the reach of the classroom to a satellite campus and other locations such as high schools and remote learners at work or in the home. WWCC's location and broad reach to all of Western Wyoming makes online components even more valuable to its distant constituents.

Industry's need for workforce development has prompted learning institutions to maintain technology at or near state-of-the-industry levels so that students are exposed to the very tools they will encounter upon entering the workforce. Learning modes and spaces that support collaboration with others and connections through technology are essential to building skills that are required in a knowledge-based economy. WWCC's workforce programs in areas of Medical Services, Energy Services, Computing, and Industrial Applications are good examples.

In looking at global trends, research identifies skills needed for the future workforce that fall into four broad categories:

- **Ways of Thinking.** Creativity, critical thinking, problem-solving, decision-making, and learning
- **Ways of Working.** Interdisciplinary communication including writing, speaking and collaboration
- **Tools for Working.** Information and communications technology and information literacy
- **Skills for Living.** Citizenship, life and career, and personal and social responsibility

EXISTING CONDITIONS ASSESSMENT

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

Moving from conceptual to practical, two technology-related skills span all four above-listed workforce and life needs:

- **Collaborative Problem-Solving.** Working together to solve a common challenge, which involves the contribution and exchange of ideas, knowledge or resources to achieve the goal.
- **Technology Literacy.** This includes learning in digital networks and learning through digital means, such as social networking, technological awareness, and simulation. Each of these elements enables individuals to function in social networks and to contribute to the development of social and intellectual capital.

Educational technology can be well-positioned to support development of these skills and make them part of student outcomes. When properly aligned with the educational plan and overall mission of the institution, instructional IT facilitated by educational technologists is an enabler for driving positive student outcomes, enhancing instructional delivery, and supporting innovation across campus.

GLOBAL TRENDS IN EDUCATIONAL TECHNOLOGY

Following are summary discussions of general issues and trends in educational technology with some comments specific for WWCC.

PEDAGOGY

Indisputably, technology is changing the way we teach and the way students learn. What is emerging is a new pedagogy that is challenging long-standing educational approaches. Key elements contributing to this change are new technologies such as Web 2.0 tools, social media, online video and digital resources, massive open online courses (MOOCs) and open educational resources, the convergence of AV and IT, and faster, smarter, and cheaper devices including smartphones, tablets, and laptops.

These elements, combined with greater access to information and the ability to share and create knowledge through faster networks and portable tools, set new user expectations. Users are empowered by technology. However, we must also understand that a tool without a context has no meaning. It must support the mission.

In the past, educators had the luxury of determining the space, the schedule, and the style of formal educational activities. Today's students increasingly are unwilling to accept this structured approach. For them, personalized learning takes place 24/7/365. Technology impacts how teaching is structured and where and when learning happens. In order to address this context, both the teaching and learning activities must adapt. A pedagogical transformation moves us from fact-based lecture delivery to inquiry-based learning – from passive learning to active and exploratory learning – from teacher-centered instruction to student-centered instruction.

There are demands on community colleges to provide hands-on real-world experiences—ideally with the hardware, software, multimedia, and equipment used in industry. Accreditation bodies are looking closely at how institutions are responding and using technology to transform programs and student outcomes. New teaching pedagogies embrace interdisciplinary approaches, collaborative work groups, project-based application, exploratory learning, and authentic real world contexts. Faculty need to embrace new technologies and delivery methods which may require additional professional development, more support and training, and may involve moving outside of comfort zones. Often faculty teach the way they were taught. The challenge will be to

help move faculty toward adoption of new methodologies and to move from didactic to active learning.

As in other institutions, a challenge for WWCC will be to have *all* faculty, including adjuncts, experts in their fields, adopt new teaching styles and approaches to instructional delivery while also enhancing their coursework with online components for a more engaging and immersive learning experience. Across campuses, the traditional lecture format with "the sage on the stage" is being replaced with new pedagogies and collaborative formats that allow instructors to function more as facilitators in helping guide students to explore, research, and create their own new learning.

REDEFINING LEARNING SPACES

The "Smart Rooms" that blanket many campuses, at an annual cost of $5B+ in North America, began the transformation with classrooms that provide simultaneous projected images and perhaps whiteboard interaction. However, these rooms remain largely instructor-centric, with fixed rows of desks and chairs facing the presenter.

At WWCC, Smart Rooms can lack the fully intended utilization levels anticipated when they were originally designed. Whether a training issue, equipment selection problem, lack of purposeful integration into the curricula or limited technology proliferation, we understood from our conversations on campus that the majority of electronic smart boards sit unused.
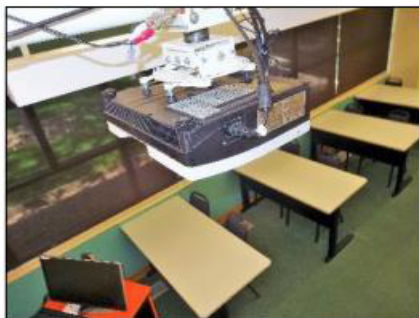
The majority of observed classrooms were set up in traditional front-facing rows for didactic lecture-based instruction. A standard classroom has an instructor podium at the front teaching wall with a marker board for writing notes. An installed video projector is available with a pull down projection screen. Students are seated at fixed tables with moveable chairs.

Traditional classrooms, like the ones we've all grown up with, may not reach every learner today. This disconnect is not because of the instructor's knowledge or ability so much as the actual physical structure and layout of the room. The context and expectations of learners is also different. Today's students are always on and connected. They are visual, socially-oriented, and multi-taskers, and they expect immediate access to information. Adding technology doesn't necessarily improve the dynamic. Often, when instructional technology is added, it fits the typical "smart room" model with a video projector and projection screen or smart board to display computer-based content which may still be static and repetitive.

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

Case Western Reserve University

University of West Georgia

University of West Georgia

Loraine County Community College

The challenge going forward will be to redefine learning spaces that support more flexible modalities better suited to engaging students and meeting diverse learning styles.

Active communities of practice on many campuses are prototyping new models for learning and research which then foster new relationships among learners and between students and instructors. These new directions are re-shaping how programs and facilities are designed and the resource allocations necessary to support them.

There clearly is a trend within higher education from traditional lecture-based models to project-based interactions and hands-on applied learning. The focus in education delivery is moving toward flexibility, mobility, interaction and collaboration. These themes were expressed during our interviews with IT. There is interest in transforming spaces from passive to active spaces.

Active learning spaces are more student-centric, more engaging and organic. Using flexible furniture arrangements, students assemble into groups to work collaboratively, share content from portable devices or from the instructor, and use flat-panel displays and white boards as communal digital workspaces

Infrastructure requirements are necessary considerations—for power, data, and audiovisual connectivity at student tables, to support mobile devices or distributed flat panel displays, the instructor station, and one or more classroom projection systems. The instructor station is simply a home base where the instructor, as facilitator and moderator, can use a document camera or specialized tools. Otherwise, the instructor is free to roam among student groups with full room control and presentation capabilities via a wireless tablet.

EXPERIENTIAL LEARNING & GROUP STUDY SPACES

Proficiency, competency, and confidence all are gained through practice, including building communication skills, collaboration skills, and management skills (of self, team, and system). Students can be introduced to scholarship, to value research, and build confidence through self-discovery by using the designed spaces and thoughtfully integrated tools and technologies that support building these skills.

Penn State University

Santa Clara University

Presentation Studio Spaces, as seen here in Penn State's "One Button Studio," are equipped with special lighting and cameras to capture presentation delivery. Students can then build electronic portfolios to demonstrate achievement of outcomes. Ease-of-use is key to the space.

Group Study Rooms with tools for research, digital screen sharing, and web conferencing mimic the team huddle spaces and debriefing rooms typically found in businesses and health care settings. These rooms can be used to host web-based forums with other students to collaborate on projects, conference with others while building cultural awareness, or sharpen job interviewing skills with review and critique.

These spaces can be located in libraries, corridors of academic buildings, and residence halls and extend the walls of the classroom. We noted several custom group work areas during our tour where a central flat panel display is connected to a desktop computer. We would encourage WWCC to also provide a wireless presentation gateway for each of these setups. A gateway allows multiple users to share screens simultaneously to the central display from multiple walk-in mobile devices without the need for cables. The gateway adds additional collaboration possibilities. Some models support touch screen interactivity, provide electronic white boarding, and support multiple OS platforms across devices. During our interview, it was noted that several models were being tested.

BANDWIDTH

Bandwidth is considered to be a primary enabler for technology and can be considered "the 4th utility." Available bandwidth is an expected and required infrastructure for technology. Like turning on a faucet and expecting the water to just work, the same is true for bandwidth. Not only is sufficient bandwidth needed to and from a campus or building, but there also needs to be appropriate bandwidth in classrooms, labs, libraries, residence halls, and wherever else users require support of teaching and learning, research, entertainment, and social interaction.

Bandwidth is growing at a rate of ten times every 5 years in North America. Initiatives such as Google Fiber are introducing unlimited bandwidth at essentially no cost. This *all you can eat* bandwidth is changing behaviors and expectations of users. 10Gb copper, high speed optical fiber, and newer fast and reliable wireless access points are becoming necessary to support high demands, high performance applications, and digital media including audio, video, rich graphics, and images that students expect and that industry requires. Streaming video, live conferencing, digital collaboration, and users with multiple devices all have growing bandwidth requirements. Meanwhile, virtual reality, big data, and high end visualizations at 4K and higher resolutions are emerging.

## *AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)*

During our interview, IT expressed that bandwidth is currently not a problem. The challenge for WWCC will be in keeping pace with user demands including use of lecture capture and video, flipped models of instruction, student expectations to bring their own devices, and growth of online programs and distance learning with their own unique requirements. WWCC's vision is to be recognized as a leader throughout Wyoming and the Rocky Mountain region for providing quality, affordable distance learning opportunities. WWCC is a partner in the Wyoming Distance Education Consortium

The Blackboard Learning Management System (LMS) as used at WWCC is a platform that supports both online and blended hybrid learning. Bringing and supporting online components in the classroom facilitates and enhances peer-to-peer and case-based teaching methods while meeting diverse learning styles.

The proliferation of robust networks combined with more powerful content creation tools and audio/video capture allows course and content customization. Once course materials are digital, the incremental cost of course delivery drops significantly, leading to a future where each course can provide a more personalized and unique educational experience. This is leading to wholesale change where the LMS is integral to, and not as a layer upon, the course delivery.

WWCC IT manages the Blackboard LMS in-house which requires dedicated resources. There are a number of technology requirements needed to support these efforts—from a strong network available 24x7, servers with storage and reliable power, regular data back-ups and redundancy for disaster recovery in addition to support. An extended outage can be disastrous to course completion but also to the College's public relations.
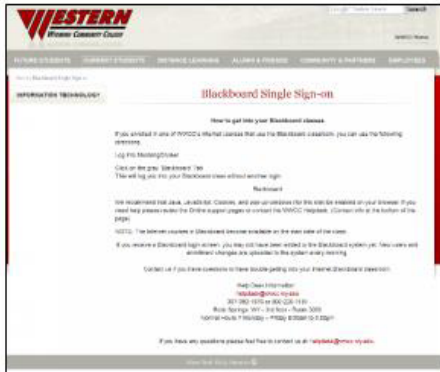
As more users adopt the LMS, it becomes more mission critical. TSG recommends that as the user base grows WWCC should review the Return on Investment (ROI) and Total Cost of Ownership (TCO) of managing the system internally versus co-locating in the cloud or having the system hosted by Blackboard. Hosting in the cloud can enable growth of the user base while existing IT resources can be reallocated to assisting in this or other core activities on-site.

ON-DEMAND NETWORK-BASED VIDEO

Building on a feature-rich LMS infrastructure often leads to more desire for multimedia in course design. Millennial students are comfortable with using video in learning often having used on-demand network-based video from sites such as YouTube for reference. Lecture capture with video and audio of the instructor and supporting presentation graphics can be used for on-demand viewing—either prior to attending class or for later review. Robust systems for rich media capture provide meta-data for chapter marking and logging critical points in the lecture.

In the flipped classroom model, the web is used to deliver content that was previously the lecture, freeing valuable class time for more active and collaborative learning and problem solving with the instructor. Time-shifting gives students more ownership of the material for review and reflection and can lead to improved student outcomes especially in Science, Technology, Engineering, and Math (STEM) classes. Rich media capture offers an engaging personalized viewing experience. Students can view lessons anywhere, anytime, on any device. Systems allow users to create, manage, deliver, and measure their video communications. Combined with a cloud-based and branded media portal, a rich media capture system can be used without storage or bandwidth implications. Infrastructure and component requirements to support rich media systems include cameras in the classroom, quality audio pickup, encoders for capture, and intuitive audiovisual control in the classroom. Kaltura is one cloud-based delivery platform that is compatible with many LMSs and removes the need for purchasing physical storage or managing files internally by the College.

CLOUD COMPUTING

Life before cloud computing required complicated and expensive hardware, together with a support team to update and maintain the hardware. As institutions virtualize servers, including hosting applications and data off-site in the cloud, more efficiencies are being realized and resources are freed up to focus on more mission critical work in-house. With cloud computing, IT resources can begin to focus on what is core versus just context.

At the same time, costs have moved from capital investments to operating expenditures. Cloud computing permits enterprise-class technology to be available to smaller institutions, departments, and even single users.

The emergence of cloud computing has been on a parallel track with improvements in bandwidth, while further supporting mobility and collaboration. Virtual Desktop Initiatives (VDI) use thin or zero client desktops in place of more expensive traditional computer workstations. Zero clients use a built in operating system to manage local resources and a connected server in the data center to manage software. Virtual Desktop infrastructure (VDI) is hosting a desktop operating system within a virtual machine (VM) running on a centralized server. VDI can be a cost effective and efficient system for providing computer resources to students and for managing updates and security. VDI allows IT to remotely image, update, and maintain distributed systems while removing many malware and virus concerns, and enabling changes to software quickly and uniformly.

It is understood that a high percentage of servers are already virtualized at WWCC. The College has a large investment in purchasing, refreshing, and maintaining machines with eight open labs, two resident hall labs, seven scheduled classrooms labs, and three special purpose labs. VDI is an area of opportunity where rolled down machines can become thin clients to serve routine applications or less expensive all-in-one zero clients can be purchased. Software licenses can be key served so only those seats in use are required. This internal or private cloud presents an opportunity for WWCC to reallocate resources spent on the traditional computer hardware refresh cycle, save on software licenses, and reduce road trips to the satellite campus.

EXISTING CONDITIONS ASSESSMENT

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

BYOD & COMMON SPACES

Bring Your Own Devices (BYODs) are entering the mainstream in classrooms across higher education and reflect the lifestyle and way of working of mainstream professionals. Overall, students are more socially-focused and likely to be tethered to their devices.

Most students enter classrooms with their own smart devices expecting to connect, access, share, and interact with each other, with the instructor, course materials, and the student information systems to access grades etc. where, when, and how they want.

Related to this trend, IT resources, security concerns, device diversity, proprietary solutions, and platform neutrality are issues that have been raised by many IT administrators. Many institutions have addressed these concerns with formal IT policies, increased security, wireless coverage, and laptop and device loaner and/or purchase programs to keep devices consistent.

Some institutions have addressed the digital divide issue (lack of access within some segments of a student population or geographic area) by providing tablets for use either as a cart resource in the classroom, a loaner during enrollment, or as a discounted purchase that can be financed as part of tuition. The unseen infrastructure of wireless access points or USB power charging is equally important in supporting these initiatives. With BYOD support, fewer computer labs are required. Embracing BYODs in the classroom can also transform smart rooms into engaged active classrooms. The BYOD trend will continue to grow at WWCC as more students continue to acquire portable smart devices and want to use them to extend their learning and access to materials.
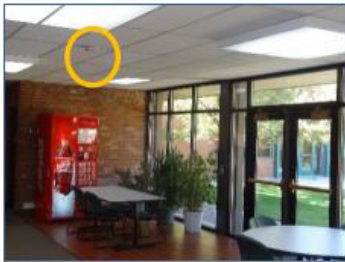
WWCC IT estimates that there are 4.3 devices per student on average based on connectivity metrics. Infrastructure should be widely available with accessible power for mobile devices including charging stations, and a well-planned deployment of up-to-date wireless access points. Once executed, students would have connectivity access both indoors and out, in both formal and informal learning spaces, and in common student gathering areas.

Planning for infrastructure to support BYODs also requires careful consideration of furniture. We noted that the College provides desktop kiosks in open lounge, lobby and student gathering areas. Utilization of these computer stations should be reviewed. As classroom activities evolve to become more collaborative and small-group centered, these "third spaces" are necessary but sometimes overlooked areas where students collaborate outside of the classroom, use technology, charge BYOD devices, establish community and extend learning beyond the walls of classrooms.

CONFERENCING

There is a broad performance spectrum between high definition room-based video-conferencing systems and consumer based web conferencing. Proprietary room-based video-conferencing systems require specific hardware codecs, an array of microphones, one or more dedicated cameras, and a good audio playback system with digital signal processing for echo cancellation. Historically, these systems are limited in who can connect and join a call. They are expensive and found in executive conference rooms, specialty spaces, and telemedicine where security and the highest quality visual and auditory experience is required. Internet-based web conferencing systems are much more affordable given they use open software codecs installed on a computer. The quality of service is based largely on available internet bandwidth, and while their quality may not be as robust, the video and audio are acceptable and improving. These systems are quickly replacing the hardware-based room systems in both corporate and educational settings including classrooms, seminar rooms, and huddle spaces.

Live, synchronous, distance learning allows an instructor at the main campus to conduct live face-to-face classes with students at the WWCC satellite campus or outreach locations with remote student participants. This has significant potential to facilitate efficiency for a geographically dispersed multi-location institution. Using a common host provider such as BlueJeans allows both legacy hardware-based room systems (Polycom, Cisco, etc) and software-based connected participants (Skype, WebEx, etc) to connect without the college's continual investment in maintaining and upgrading transcoding hardware and software. Guest speakers and presenters can be brought in to speak and interact with a class no matter what system they are using on their end.

SIMULATION

Simulation technology provides hands-on proficiency development in diagnostic, clinical, and professional skills and have been used in training for decades. These systems have found success in a number of trades from automotive to health professions.

Simulator models and manikins, task trainers, and computer-based simulations are a few of the available technologies. For instance, Medical Simulation Centers typically provide exam rooms, patient rooms, rooms for live video-feed observation and debriefing, a centralized control room, equipment room, and storage. Hands-on practice with suturing, putting in catheters, hooking up monitoring equipment, and mock patient and client communications all can be evaluated. The systems are compatible with a number of devices from various manufacturers and extend to assessment, grading, research, remote access for faculty and student scheduling and other administrative tasks associated with managing a medical simulation environment.

The team toured several teaching spaces, shop floors, and labs that use hands-on tools and real-world equipment. Maintaining and growing enrollment in programs that require specialized tools and costly machinery, such as trucks and engines for practice, can be a challenge. Computer-based simulation may be a way to supplement these limited resources, with repeatable hands-on skills practice in an isolated, safe, and virtual environment that can be captured and reviewed over and over again.

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

LEARNING ANALYTICS

More and more, campus leaders are looking to analyze real-time data in order to make important and informed decisions to meet goals, improve efficiency, and impact outcomes. Converting data into meaningful information and reports is the job of good analytics tools and can provide business intelligence including queries and ad hoc reporting.

Learning Management Systems often provide analytic tools that can help instructors and students stay informed by providing course dashboards of performance. Engaging students in assessment gives them ownership in the process and they can track the status of their own performance.

"Big data" is a popular term used to describe the exponential growth and availability of data, both structured and unstructured. And big data may be as important to business—and society—as the Internet has become. More data may lead to more accurate analyses and better decision making. Tied to outcomes, big data can help improve courses, inform plans, and guide the allocation of resources. Similarly dashboards can be developed for campus leaders summarizing the data in a near real-time manner.

Improving student success requires assessment and the resulting metrics and feedback to reveal where outcomes can be impacted. These metrics can also inform space design, learning goals, institutional capacity and sustainability, and areas identified by accreditation agencies. WWCC IT can assist in this effort.

WWCC'S TECHNOLOGY SPACES

IT WORKING SPACES

It is clear that the highest priority for the IT Department at WWCC is to plan for office and work space needs of the Department. During our interview, Derek Robinson, IT Director, revealed that his goal for the Master Planning effort of 2012 was to address these on-going needs. The IT Department stakeholders we spoke to strongly requested that we revisit these ongoing concerns and this unmet needs.

The first challenge is a lack of physical storage and work space for IT equipment and machines. As new assets are received, they are inventoried and shelved which requires space. In-take requires preparation which requires counter space. Refresh of older equipment requires similar work and storage space reversing the process - readying older machines for recycling or public sale and storing until removed from inventory.

During our visit we noted a staff member imaging computers in the Department conference room due to a lack of work space.
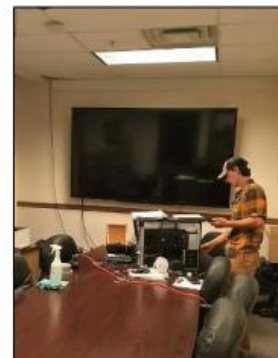
The incoming and outgoing of assets is an ongoing process which takes considerable staff resources and secure physical space to both store and prep equipment. The department supports approximately 1800 machines across both administrative and academic areas with refresh occurring every five years.

Help Desk   IT Staff
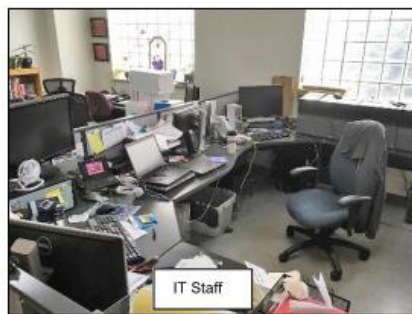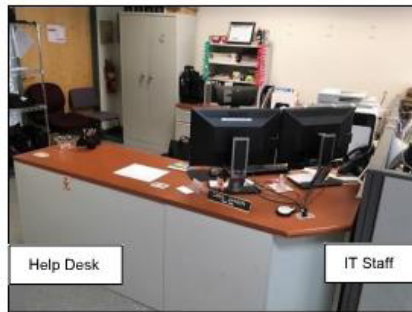
IT Staff

The second challenge expressed during our interview is limited office and day-to-day work space for IT staff. Currently, IT staff are spread out with offices on both sides of the hallway. In addition, the Helpdesk shares an open office with multiple support technicians who sit in open cubicles. The arrangement is not secure or private as students and faculty engage with the helpdesk regularly. The acoustics are also not ideal for speech privacy or even minimizing disruption given the low open cubicles. During our walk through, we noted that IT staff have multiple machines and equipment in use or stored in their cubicles. Staff may be conversing about sensitive or confidential topics within earshot of visitors at the Helpdesk. Further, being spread out across a hallway makes communication a problem for the Department especially at critical times. Outages and emergencies can be problematic when someone needs to be tracked down.

Mr. Robinson envisions an open bench or common area for staging and testing equipment by multiple staff. A square of offices would surround the open bench or common area around the perimeter for easy access and team communication. He liked the Mustang Central renovation and referred to it as a possible model approach. A second option he identified is to take the Print Shop out of the Annex to open up space.

Alternately, the Helpdesk would be relocated. An open walk-up service window and counter is needed and would help with queuing while presenting a more accessible customer-oriented image. Digital signage at the window would display important IT messages, announcements, and support hours.

The planning team noted that the work of recycling could be entirely outsourced thereby freeing up both resources, staff time, and limited space. Safe Harbor was mentioned as a possible outsource provider for recycling. Hard drives would be removed and destroyed for privacy compliance. Staff time and space would then be freed up to focus on institutional support of students and the staff – something more central to the mission of the College. Monies earned from the public sale of computers go to the general fund.

TEACHING & CONFERENCE/MEETING SPACE TYPES

The planning team toured a representative sampling of teaching, conference, and meeting spaces. We did not visit all spaces in each building. However, we believe a sizable sampling of spaces were viewed to assess the general conditions, infrastructure, and nature of installed systems. We have defined four overall space types for WWCC systems. We then categorized the observed spaces into one of these four space types. In defining spaces and systems, it was essential that the categories be scalable. For instance, a

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

basic space should be able to adapt into an advanced space over the long term. An inventory of equipped spaces was not available. The planning team used direct observation and notes to identify and categorize observed spaces and systems.

THE BASIC LEVEL 1 SPACE

In general, the instructional technology in a basic classroom is appropriate to general studies programs. The rooms are comparable to similar basic classrooms found at other colleges of similar size and type. We would define these spaces as a Level 1 classroom.

A basic or Level 1 classroom includes an instructor station as either a mobile instructor lectern or fixed desk located at the front teaching wall where a dry erase marker board is located. Inside the lectern or at the desk is a provided desktop computer. Cable connections are available for a walk-in laptop. The instructor station is tethered to the wall for power, network, and AV connectivity which extends to a mounted video projector. Due to ceiling heights and pitch in some rooms, projectors are short throw models (Hitachi) and wall-mounted above a manual pull-down projection screen or interactive white board centered on the teaching wall. In rooms with flat acoustical tile ceilings, projectors are standard models with a zoom lens (Hitachi primarily) and ceiling-mounted. Audio for program sound is played out from a front loudspeaker or wall-mounted loudspeaker pair. Some rooms are equipped with a document camera to replace a traditional overhead transparency projector, although we did observe overhead transparency projectors in some rooms.

Control of the equipment for a basic Level 1 room at WWCC is by handheld wireless remote including projector power, input source selection, and volume. A separate VGA computer switch is used at the instructor station to select between the podium computer and a walk-in laptop for display. AV switching of connected sources such as computer, document camera, or DVD player is done at the video projector. We noted projectors were not connected to the network which would offer support of remote monitoring although it was expressed that some rooms have network cabling extended to projector locations for this future use.

The table on the next page summarizes the current Basic Level 1 space type at WWCC.

Current Level 1 Audiovisual Components

Display	• Ceiling-mounted, motorized projection screen or Wall-mounted manual, retractable projection screen • Fixed, ceiling-mounted video projector or wall-mounted Ultra short-throw projector. • Wall-mounted electronic whiteboard as an option to replace the projection screen • Standard whiteboard
Input Sources	• Dedicated computer with keyboard and mouse • VGA laptop connection with manual VGA switch • Document camera • Auxiliary composite input for portable devices
Capture/Collaborate	• Consumer-grade web camera • Software-based codec
Sound	• Wall-mounted loudspeakers for stereo program audio
Control	• Wireless handheld controller with simplified functionality
Furnishings	• Lectern to house all source devices

Simplicity and consistency across teaching spaces is critical to faculty technology adoption and a positive user experience. While a wireless hand held remote keeps control to a common interface, an untethered remote can get lost, batteries can die, and being presented with many buttons can confuse infrequent users such as adjuncts.

When a document camera is available, a second remote is used. While cost is a

consideration, we recommend connecting even basic rooms to the network and using a wall or lectern-mounted IP-based control system as either a simple button or touch panel control interface. Remote helpdesk visibility would then be possible. The user interface should be intuitive and unified for access to all connected devices. This type of network-aware and centralized system would allow the helpdesk to remotely investigate and support room issues, take asset inventories, and proactively monitor projector lamp life and security. Room metrics and reports can also be generated. There are many manufacturers with reliable room control systems including Crestron, AMX, and Extron, among others.
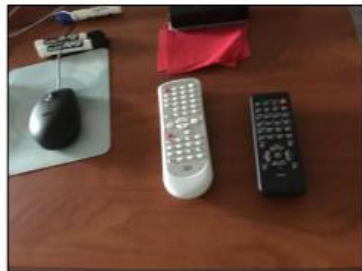
It should be noted that connectivity at the podium for the computer and a walk-in device to

the projector is analog VGA across classrooms. This legacy format is no longer supported by newer desktops, laptops and portable devices. In such cases, a dongle would be required although none were observed.

The "analog sunset" officially occurred industry wide on December 31, 2013. Since then, no licensed player

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

that passes decrypted AACS content to analog video outputs may be manufactured or sold. Computer devices manufactured after this date will phase out analog VGA connectivity in favor of digital HDMI or Display Port. We strongly recommend that the College update their audiovisual systems to support native digital connectivity for walk-in devices and eventually in-room computers as units are replaced.

Analog projectors at XGA resolution are meant to display onto a 4x3 screen or smart board as found in basic rooms. When updating spaces, motorized projection screens should be favored which was observed in newly renovated spaces as seen in RM1306. Screens can then be controlled by the networked control system. Widescreen or HD formats should be used to support higher resolutions and to remove letter boxing. Screen sizes and locations should be reviewed to maximize room sight lines and provide writing space where possible. We found renovated rooms were well thought out.

We noted that many of the installed projectors on campus accept HDMI digital inputs and network connectivity. Several older projectors that were observed are under-powered at 2000 ANSI lumens of brightness. In a room with lights on or with ambient window light, the projector image was washed out.

We understand that the College has recently made an investment in replacing many outdated projectors and would anticipate higher ANSI lumens at twice or greater brightness with these new units. WWCC should also consider use of wall-mounted large Flat Panel Displays (FPDs) to replace projectors where class sizes are small and sight lines will permit. FPDs have a lower total cost of ownership and remove the time and expense of lamp replacements and filter cleanings. We did not observe fixed FPDs as the central display or as supplemental displays in equipped classrooms.

Lighting in rooms was typically limited to task lighting for students with banks controlled by manual wall switches. Separate whiteboard lighting or instructor lighting was not observed. Windows had manually controlled light reducing shades. Acoustically, taller angled ceilings were observed to result in some noise reflectance although ceilings are treated and carpeting in classrooms helped reduce room noise. Where ACT ceilings were present, there was little unwanted reflectance. We noted that no instructor in the basic classroom is equipped with voice amplification. For larger spaces, this should be a consideration to assure presenters are clearly heard. Walls in teaching spaces are gypsum and doors are solid wood with little noise transfer from nearby corridors although spaces were observed during a break period.

In-room wireless access was available within many but not all classrooms. We would anticipate that the IT Department would make their deployment strategy of wireless access into all classrooms a priority. WWCC has standardized on Aruba WAPs which were also found in common areas and student gathering spaces. We would anticipate that the IT Department would continue to respond to wireless network needs and requests where they are identified.

The College is moving to HD-BaseT (HDBT) for signal distribution and we noted several Crestron HDBT devices in use within newer installed spaces. HDBT uses specialized transmitter-receiver pairs to extend, scale, and receive signals digitally over long distances using less expensive standard CAT6 shielded cable. HDBT solves the distance limitations for digital HDMI cable. HDBT is a mature and reliable technology adopted industry-wide.

Standardization of equipment, including projectors, control, and signal distribution, offers a number of benefits such as reduced training needs, improved ease of use, simplified support, and reduced inventory for spare parts and consumables such as projector lamps. Planned correctly, standardization often brings a lower overall total cost of ownership. Given that systems are installed in phases over years, it is nearly impossible to have identical equipment in all rooms. Model numbers of certain items change frequently and cannot always be consistent from year to year. However, it appears WWCC has made progress in standardizing teaching spaces, conference, and meeting rooms in a planned and logical way. We would define Group Study Rooms as Level 1.

THE ADVANCED LEVEL 2 SPACE

We consider more advanced systems to be those that expand upon the Basic Level 1 classroom.

While on tour, we observed a range of classrooms with multiple projectors including a dual-projector science lab, dual projector conference room, and multi-projector divisible space. The latter offered the greatest flexibility with movable chairs and tables. We would classify these systems as Advanced Level 2 and comparable to other spaces found on college campuses.

Level 2 classrooms typically uses an instructor lectern at the front teaching wall. No lectern was available in the dual projector science lab. The two projection screens are ceiling-recessed and motorized in these updated spaces. A wall switch is used to operate the screens. Projectors are equipped with a standard zoom lens and ceiling-mounted. Program audio is provided by distributed in-ceiling loudspeakers in the acoustic ceiling tile. We noted one space where wireless microphones were provided with control via an in-wall rack-mounted amplifier and mixer. Projector control remains via handheld wireless remote which could be problematic for reading multiple IR devices. Here too, we recommend an IP-based control system.

The table on the next page summarizes the current Advanced Level 2 space type as currently found at WWCC.

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

Current Level 2 Audiovisual Components	
Display	• Two ceiling-mounted, motorized projection screens • Two fixed, ceiling-mounted video projectors • Standard whiteboard
Input Sources	• Dedicated computer with keyboard and mouse • VGA Laptop connection with two manual VGA switches • DVD player (where provided) • Document camera • Auxiliary input for portable devices
Capture/Collaborate	• Consumer-grade web camera • Software-based codec
Sound	• Wireless microphone system (observed in one space) • Distributed ceiling loudspeakers for program sound or speech reinforcement
Control	• Wireless handheld controller with simplified functionality
Furnishings	• Lectern to house all source devices

We observed that in all classrooms we visited, both the Basic and Advanced rooms, the projector is used as part of the audiovisual switching system. For the Advanced Level 2 classroom, two manual VGA switchers located on top of the podium are used to select which projector to display the laptop signal. Here too, handheld remotes are provided for control.

In an Advanced conference room with multiple projectors we noted that there was a wall-mounted Crestron touch panel to replace the handheld remotes. We applaud this change.

In an Advanced classroom, a separate and dedicated audiovisual presentation switcher should be used in place of in-projector switching. The IP-based control panel then allows intuitive selection of projectors and multiple sources through simple presets. Users can select to show the same image across two projectors or different content on each projector to compare and contrast information.

A matrix switcher can provide signal routing, distribution and processing, power management, audio DSP and amplification, raise and lower projection screens and provide complete projector control.

Youngstown State University

The same system can remotely connect with non-AV building systems such as dividing wall sensors. When the dividing wall is moved into place, the room automatically senses and is setup as a single projector room. When the dividing wall is opened, automatically both projectors combine into a combined and connected space.

Many colleges and universities are connecting the room control system to other building systems. With the push of one button on the controller, the motorized shades are lowered and the dimmable lights are set to presentation mode to maximize screen viewing but also provide lights for note taking. AV Control connections can grow into a complete Intelligent Building System over time. The control platform becomes the building block to a fully integrated system connecting to the occupancy sensor, thermostat, building security system, and scheduling system, and so on.

For an Advanced Level 2 classroom, program audio is delivered via distributed in-ceiling loudspeakers. Currently, speech amplification for the instructor using a microphone is not provided in most rooms at WWCC. We encourage the College to provide this functionality especially for all large and all divisible spaces.

Provisions should also be made for an Assistive Listening System to accommodate the hearing impaired per ADA requirements. An in-room transmitter (either IR or RF) should be integrated as a part of the room AV system. Alternately, a connection for a portable system can be made available with check out of the portable transmitter and receivers from the Media Center.

It should also be noted that an overly strict adherence to a standard can also be too limiting and suffocate attempts to be innovative. Approaching each new initiative or opportunity to improve with an attitude of "this is how we do it" is a destructive force, sadly seen on many campuses, that stifles open dialogue about the role of technology in supporting teaching, learning and research. For a campus technology strategy to be effective over the long-term, a balance of Standardization vs. Differentiation must be understood, supported by the proper decision makers within the campus administration, and funded appropriately. One method to achieve this balance of allowing standardized implementations in classrooms while supporting innovation with new tools is to create a specific space dedicated to experimentation and chartered to investigate new pedagogies and teaching tools. The "sandbox space" becomes a campus-wide asset for experimentation and training.

Other important components of such an effort include a budget for new tools (recognizing that some items may be donated or loaned by various vendors), a tolerance for failure and adequate staff time and incentive to experiment.

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)
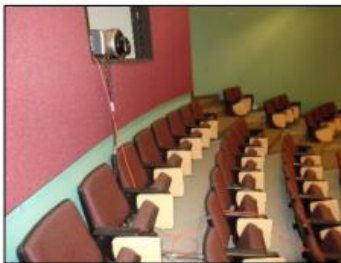
THE TIERED LEVEL 4 SPACE

A large tiered space on the Green River campus provides a stage and double doors to support performances. The space would also serve well as a classroom. We would consider this to be a Level 3 space type common in auditoriums and lecture halls found at other teaching institutions. The Theater at Rock Springs could also serve as a Tiered Level 3 presentation space.

At Green River, a dedicated projection booth is equipped with an older video projector which connects to multiple rack-mounted source devices. Most of the source equipment is outdated and includes a VHS deck, DVD player, and cassette deck. This equipment could easily be upgraded to provide an enriching viewer experience. A new high lumen laser projector and simplified IP-based touch panel control would improve the presentation and viewing experience.

An audio board connects to an amplifier and multiple wireless microphones for use on stage. Cabinet-style loudspeakers are hung above the wood stage from overhead and driven by the rack mounted amplifier. Auxiliary inputs could support connection of a walk-in laptop for remote presenter support. Control is provided manually at the equipment rack and mixing console.

A mobile instructor lectern is available for use at the stage. It could be equipped with a computer for display of computer-based presentations. Wall and stage boxes provide power, network, and AV connections, including wired microphone inputs. A storage room behind the stage holds a cart-mounted TV. A wireless access point is wall-mounted within the room.

We found no Assistive Listening Transmitter per ADA requirements for this size space and given its intended use. The space has some acoustical treatments including carpeted walls and an acoustically absorptive ceiling. The tiered floor is concrete with carpeted runners on stair risers. Fluorescent lighting provides an overall even illumination. Track lighting provides directional illumination on the stage.

The table on the next page summarizes the current Tiered Level 3 space type as currently installed at the Green River campus.

Current Level 3 Audiovisual Components

Display	• Manual, retractable projection screen • Portable video projector with long throw lens • Standard whiteboard (budgeted elsewhere) • Cart-mounted flat panel display
Input Sources	• Dedicated computer with keyboard and mouse • Laptop connection via manual VGA switch • DVD player • VHS player • Audio Cassette deck • Auxiliary input for portable devices
Capture/Collaborate	• N/A
Sound	• Wireless microphone system • Inputs for additional microphones to support panel discussions • Ceiling-mounted loudspeakers for stereo program audio and speech reinforcement
Control	• Wireless handheld controller with simplified functionality
Furnishings	• Lectern to house source devices • Equipment rack cabinet located within the projection booth

University of Missouri, KC

Youngstown State University
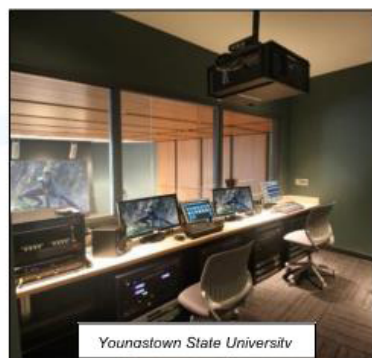
This tiered space would serve well for case studies, science demonstrations, political debates, TED talks, award presentations, guest lectures, and panel discussions. Adding multiple fixed video projectors onto a wide blended fixed screen wall could show simultaneous sources and find use in live conferencing. With enhancements to loudspeakers to surround sound and an updated widescreen in HD format, the room could serve as a movie theater. Acoustic isolation of the projector would be required.

Additional components that could make the Tiered space more engaging and collaborative include an audience response system (clickers) for voting, polling, and live quizzes; a wireless presentation gateway to support collaboration from the audience to the central screen; remote controlled Pan-Tilt-Zoom (PTZ) cameras for image magnification of on-stage performers, live culinary demonstrations, distance learning and conferencing with the main campus, capture of speakers, and archiving of special events. This space has great potential to connect the surrounding local community with the Green River campus and to engage both campuses.

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

COMPUTER LABS

Gainesville State College

There are a number of open, general, and specialty computer labs across campus. We found computers and printers to be up-to-date and well maintained. Lab configurations differed with rows of computer stations in scheduled classrooms with good cable management under table whether back to back in rows, along the wall, or front facing.
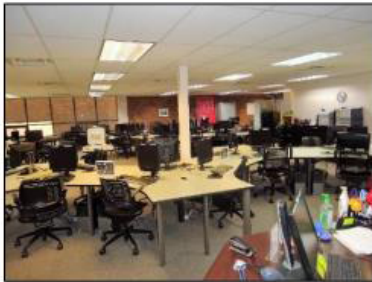
Open labs at Rock Springs were in a unique configuration as islands surrounding a power pole or strategically placed floor boxes on a raised floor for ready access to power and the network. The raised floor support future reconfigurations or additions.

Lighting was overhead fluorescent with some natural daylight and control with shades. Printer stations were located throughout the room as were scanning stations. We noted that printing is currently not managed and presents an opportunity for charge back to either departments or individual students to recoup operating costs.

Scheduled computer labs are equipped with a ceiling-mounted video projector. Use of classroom management software is encouraged where sightlines to student screens is not possible. With this software, the instructor can see all desktops at once from his/her desktop with the ability to blank all screens, redirect those who surf elsewhere, answer private questions, and share any student screen with all others in the class for collaboration and class-wide viewing.

A simple, yet effective layout for consideration in an instructional computer lab includes placing open tables in the center of the room with the perimeter of the room used for equipped workstations. With this layout, sight lines to student screens are available to the instructor. When in lecture mode, students move to the center table to view lecture content on the large Flat Panel Display or collaborate wirelessly.

Computer labs at WWCC currently fit the Basic Level 1 space type.

OVERVIEW OF CLASSROOM DESIGN

SPACES THAT TRANSFORM TEACHING AND LEARNING

A critical portion of our conversation for WWCC is the possible increased role of active learning and the resulting impact on the curriculum, faculty, students, architecture and technology environment. The implications of this discussion are far ranging and can be long-lasting; thus, the topic requires very deliberate consideration.

We encourage additional internal discussion on campus and consideration of a test pilot or proto-type installation of an Active Learning Classroom to allow testing and experimentation. This will inform select but critical decisions for a renovation or new building project moving forward.

The discussion below is presented as a brief synopsis of this complex and multi-faceted topic, as an aid for that discussion.

THE POST-POWERPOINT ERA

The traditional lecture-style instruction approach is increasingly viewed as an outdated pedagogical model. The Post-PowerPoint era has arrived on many campuses.

Many universities are investing in the latest technologies, design concepts and flexible classroom configurations to reinvent the teaching and learning spaces.

In the past, educators have had the luxury of determining the Space, the Schedule, and the Style of formal educational activities. Today's students are increasingly unwilling to accept this approach; for them personalized learning takes place 24/7/365. Given the increasing evidence that Internet information and communication technologies are transforming much of society there is little reason to believe that it will not be the defining transformative innovation for higher education in meeting the needs of students. There are demands on community colleges to provide for a larger and more diverse cross-section of the population, to cater to emerging patterns on educational involvement which facilitates lifelong learning and to include technology-based best practices in the curriculum.

ACTIVE LEARNING RESULTS

The research on active learning is out and the message is clear. Teaching and learning improve when learning spaces are student-centered with collaborative-based instructional methods used in a technology rich environment embedded in the pedagogical approach.

The SCALE- UP (Student Centered Active Learning Environments for Undergraduates) project at North Carolina State University has adopted this pedagogical strategy and has been highly successful with over 100 other Universities across the US following their lead. They redesigned classrooms of 100 students or more into active, engaged learning environments, radically changing the way classes are taught. NCSU has conducted extensive research in partnership with U.S. Department of Education on over 16,000 traditional and SCALE-UP students and summarize their findings as follows:

- Ability to solve problems is improved
- Conceptual understanding is increased
- Attitudes are improved
- Failure rates are drastically reduced
- "At Risk" students demonstrate improved outcomes

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

Research findings of The University of Minnesota's pilot evaluation of its high-tech, state of the art Active Learning Classroom suggest the following implications and recommendations:

- Students exceeded final grade expectations relative to their ACT scores.

- Students rated the new learning spaces significantly higher in terms of engagement, enrichment, effectiveness, and flexibility than traditional classrooms.

- Instructors adapted teaching strategies to new environment and found themselves in the role of learning coach or facilitator.

University of Missouri, KC

Case Western Reserve University

Rollins College

As with all new concepts, there may be some resistance to these design principles and a desire to do it the way it has always been done. This desire must be weighed against the realization that the digital natives of tomorrow will have a very different set of expectations for their learning experiences. They will require a blended approach that may include some traditional lecture, collaborative activities that engage them, and customized content delivered online that they can review in a space, schedule and style of their choosing.

We strongly recommend that all project stakeholders examine new pedagogical concepts, flexible furniture, emerging technologies, changing employer requirements, and preferences of both students and faculty prior to finalizing direction to the planning team. When not scheduled for classes, active learning spaces can become open and equipped group study rooms for off-hours collaboration thereby providing additional access to the technology and extending the return on investment. Faculty development, peer mentoring, and training should also be planned to increase faculty comfort with the new spaces with time to adapt courses and to practice. Users and support staff should not be expected to transport, set-up, or tear-down portable technology systems on a regular basis. If a capability is needed on a frequent basis, the proper devices and infrastructure should be permanently installed.

The Active Learning Classroom (ALC) model defines a new advanced standard as a Level 4 classroom with system components defined in the table below.

Proposed Level 4 ALC Audiovisual Components	
Display	• Two ceiling-mounted, motorized projection screens • Two fixed, ceiling-mounted video projectors • Standard whiteboard • Wall-mounted flat panel display for each student group
Input Sources	• Dedicated computer with dual output display card and wireless keyboard and mouse for the instructor and each student group • Laptop connection (digital HDMI and VGA) • Annotation tablet • Blu-ray™ / DVD player • Document camera • Wireless Presentation Gateway for mirroring of iPad/tablet or similar wireless device at each student group display • Wireless connection to central projection system • Auxiliary input for portable devices
Capture/Collaborate	• Consumer-grade USB camera to support software-based web conferencing codec (such as Skype) at each student group display and at instructor station • Software-based videoconferencing codec (such as Skype) • Basic collaboration system to allow simple screen sharing of student devices (wireless only) • Small form factor "Host" PC/appliance for each flat panel display
Sound	• Wired lectern microphone • Wireless microphone system • Loudspeakers integrated into the flat panel display for stereo program audio • Distributed ceiling loudspeakers for speech reinforcement • ADA hearing assist system
Control	• Color, wired touch panel at the lectern for simplified control of audio, display and lighting systems • iPad / tablet control to supplement above
Furnishings	• Lectern to house all source devices and user interfaces • Equipment rack cabinet located within the room

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

BUILDING-WIDE AUDIOVISUAL SYSTEMS

Lecture Capture Software / License

In addition to the hardware needed for lecture capture, software licenses are generally required. Lecture capture would ideally be suited to the Tiered Level 3 classroom and select Advanced Level 2 spaces.

Rich Media Streaming Storage and Management

To enable the storage, scheduling, archiving, and serving of web-based curriculum, an allowance should be considered for a lecture capture server and electronic storage via operating budget. A dedicated central media server can be used to store all of the school's recorded lectures, and provide access to those recordings both locally and remotely. Alternately, the College may wish to consider cloud-based services. The components are highly dependent on the platform and preferences for a capital vs. operating-based expense.

Public Information Display and Digital Signage System

Lorain County Community College
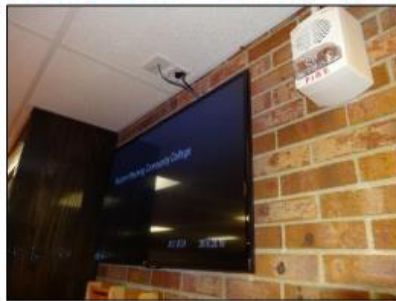
The current digital signage system on campus should be reviewed to confirm that it can support enterprise-wide multi-campus delivery over the network. Flat Panel Displays and media players should be located at both campuses. We noted there was no working digital signage at Green River. Locations should be reviewed to maximize attention. At a minimum, it is anticipated that one digital sign would be located on each floor; at reception areas to welcome visitors, at the IT Helpdesk, in all residence halls, and in dining areas and lounges.

Digital signage can eliminate the cost and waste of printed paper and comes in all sizes from a single screen to an entire video wall. Digital Signage can build a sense of community and connect the two campuses. It can inform, notify, alert, educate, and showcase student work or achievements. Digital signage can provide wayfinding and interaction with mobile devices through QR codes. Digital Signage is also an effective tool for fund-raising and thanking alumni and contributors.

Audiovisual components such as networked digital signage displays, paging loudspeakers, and projectors can be interfaced with the building's emergency communications systems for fire or lock down emergencies. If desired, this should only be considered to be a supplement to the required emergency communications systems designed by others, and cannot be relied upon for life safety.

Building energy dashboards can also be displayed on digital signage to inform the campus, visitors and the public about energy and water use information. Comparative graphs and other graphic visualization make it easy to understand the performance of the building. The key to any of the display types is having the resources to create, maintain, update, and deploy content. Therefore, faculty and staff will need to be deeply involved in the selection of display types, hardware, and software for content deployment.

Room Scheduling and Display System

A room scheduling system places networked displays outside of various gathering spaces including Group Study Rooms and Meeting Spaces. In addition to displaying information related to when the room is scheduled and for what purpose, many systems allow users to reserve the space based on availability, either at the panel or remotely via a web interface.

University of Iowa

These systems are most valuable serving rooms with an irregular schedule, rather than a classroom with an established schedule.

Television Distribution System

There are no plans for changes to existing CATV distribution per WWCC Residence Life. We noted that CATV is also available in academic buildings.

Portable Equipment Pool

A budgetary allowance should be planned for a pool of portable equipment including portable ADA assistive listening transmitters/receivers.

Audiovisual Metacontrol System

Each room-specific audiovisual system described above would contain a control system with a standard user interface to facilitate ease of use. While this equipment is assigned to each room-specific system, all control system processors could be connected to the building LAN and thus have Internet Protocol (IP) capabilities. The information carried by the LAN is low-bandwidth control command only, and does not include high-bandwidth audio or video signals.

Facility-wide IP capabilities provide for software monitoring, control, and scheduling of systems on a room-by-room basis. This capability would allow remote management by authorized support staff of connected hardware assets.

INFORMATION TECHNOLOGY

COMMUNICATIONS INFRASTRUCTURE

Today's college campuses must support a technology landscape that is constantly evolving and expanding in terms of the demand for higher data system bandwidth, voice, and video communications technology. For Western Wyoming Community College, it also must support the anticipated growth in student population, diverse programs, and their demands and expectations for access. In order to dynamically provision such communications, the infrastructure must be planned to be as flexible, expandable, and resilient as possible. It must also begin with a solid foundation that is well documented, organized, and

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

meets industry standards in order to quickly respond to Moves, Adds, and Changes (MACs).

A high priority for the IT Department is to reestablish and/or build the document library capturing the existing systems. Visible inspection with documentation of assets, pathways, and cabling into Man Holes, Building Demarks, the Main Distribution Frame, Telecommunication Rooms, Building Risers, and the Data Center should be conducted at both the main and satellite campuses and assembled into an acceptable standard electronic format. Written specifications (Division 27 and others) and guidelines should be uncovered or developed that identify for third-parties what standards are in place and to be followed. This information is essential to a building project, renovation, or business continuity effort. Design recommendations in TIA/ EIA-569-B are to be followed for cables, connecting hardware, and protection devices. Reflective of best practices for change management, this documentation would be updated following a MAC.
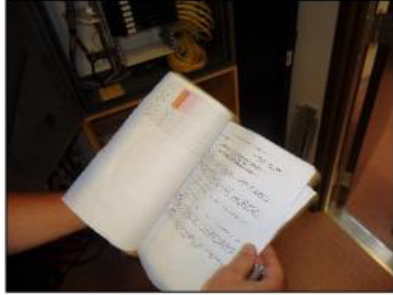
A prime objective or the communications infrastructure is to facilitate communication and collaboration, and the ubiquitous access and transfer of information.

The communication infrastructure for WWCC includes items such as:

- Outside Plant
- Pathways and Spaces
- Telecommunication Rooms
- Structured Cabling throughout the building
- Wireless Access (internal and external)
- The connection points to the Campus Wide Network.

In regards to residence halls, we have the following assumptions:

1. CATV services are outsourced to local providers. WWCC has no plans to install or support a headend system at the campus.
2. There are no plans to install or support IPTV at the campus.

OUTSIDE PLANT (OSP)

The Outside Plant consists of the telecommunications infrastructure designed and installed externally to buildings and routed into an Entrance Facility (EF) and can include optical fiber cabling, coaxial cabling, balanced twisted-pair cabling, and supporting structures to link serving facilities to outlying locations.

Outside Plant (OSP) cable at the WWCC campus will include Campus Distributors (CDs), the backbone cables that feed from the primary building to subsequent out buildings, and Entrance Facility cables (service provider cables). The existing service provider is the Wyoming Unified Network Department of Enterprise Technology Services with a free 100GB backbone. Jackson connects to Rock Springs which then connects to Laramie.

Secondarily, Contact Communications and Mammoth Networks provides fail over Internet services. Contact Communications is a Competitive Local Exchange Carrier (CLEC) that grew out of Wyoming's largest privately held Internet Service Provider (ISP). Mammoth

Networks wholesales network access to ILECs, CLECs, DLECs, VoIP Providers, ISPs, Wireless ISPs and multi-site Enterprise customers. The services are not used for load balancing by WWCC and come at a price. At a minimum, the OSP must adhere to building codes and standards including local code requirements by the local authority
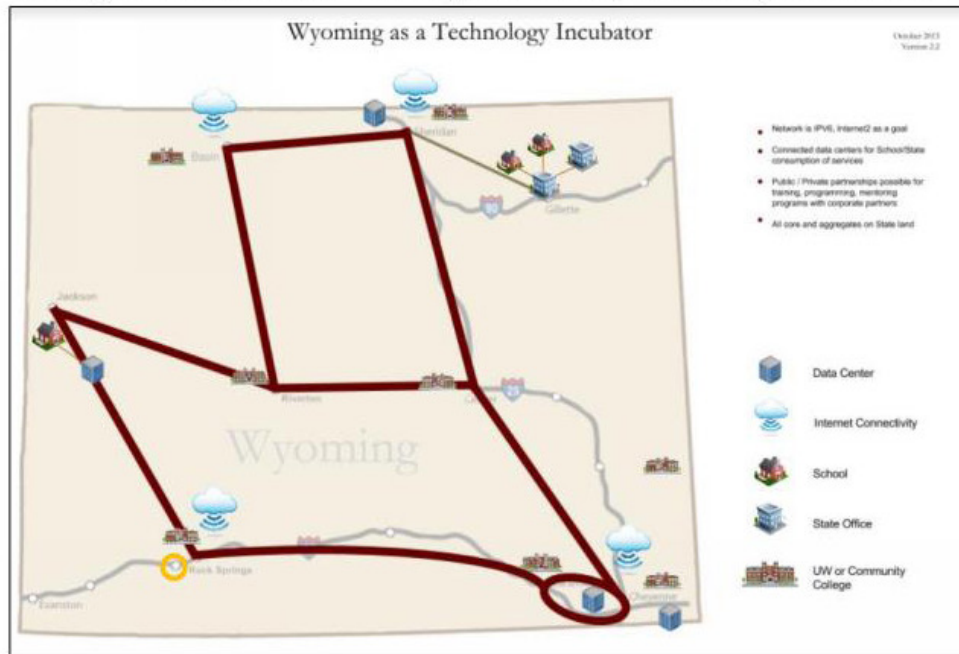
having jurisdiction (AHJ).

10G fiber enters the Annex building as the demark entrance facility and is certified for 40G. However, the current broadband usage does not come close to 10G presently

according to the IT Department.
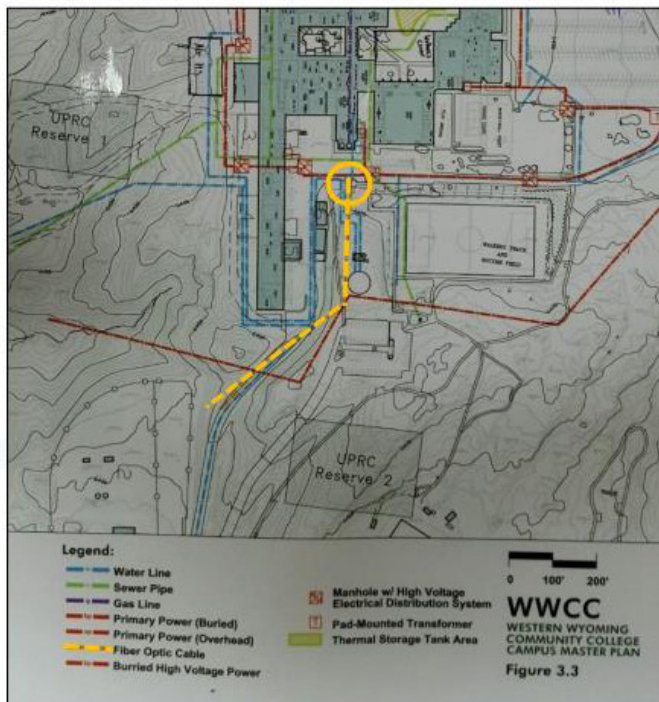
The OSP is driven by a number of variables including capacity of the exiting network and anticipated network needs, transmission requirements, physical topology and route, desired cable type, and what is supported by local APs and Utility companies.

The Entrance Facility is the point at which the OSP cable connects with the building's backbone cabling. This is the demarcation point between the third-party service provider, public network interface equipment and the College's proprietary

systems. Optical cross-connects at the entrance building would be located in the Main Distribution Frame (MDF). The MDF location should be dry and near the vertical backbone pathways. The entrance facility should be provisioned with consideration of environment, HVAC, lighting, doors, and electrical power.

A main single mode fiber with 6 pairs connects to each Telecommunications Room as a home run. The multimode fiber is dark and could be made available for future use with changes to the core switch. Copper cable also enters the building at the entrance facility. Analog lines remain for Fire, Elevator, Fax, and Modem use.

PATHWAYS AND SPACES

Information technologies require dedicated rooms on each floor to house equipment racks, network switches, optical fiber terminations, copper cabling patch panels, and so on. These spaces are known as Equipment Rooms (ER) and Telecommunications Rooms (TR). ERs & TRs provide for the organized and logical distribution of low voltage communications signals within a building and are specifically designed to be flexible and scalable. Telecommunications Rooms (TRs) or Intermediate Distribution Frames (IDFs) are generally considered to be floor serving facilities for horizontal cable distribution. They may also be used for intermediate and main cross-connects. TRs provide value over an extended period of time as a distinct asset to the building and have an anticipated life cycle of up to 25 years. All TRs are to be designed following ANSI/TIA/EIA and BICSI standards.

A Confidential University

Primary Components

- Fiber and copper connections between Telecom Rooms

- Connection to current campus network

- Floor mounted equipment racks (wall mounted equipment racks are acceptable) equipped with both vertical and horizontal wire management.

- Overhead racking system for management of flexible connection cabling and providing additional structural support for the racks, cabinets, and systems.

- Patch panels for all horizontal cabling

- Adequate floor space and growth potential

- Independent telecommunications grounding system

- Dedicated power circuits supported by building generator and UPS

- Dedicated HVAC systems – 24/7/365

TRs should not be located in shared public spaces with other equipment, or where there is food, storage or supplies. Only authorized personnel such as IT staff, Facilities, and Security should have access to the TRs. Environmental conditions should be maintained within a clean, enclosed, and secure room.

STRUCTURED CABLING

The wired building network systems or structured cabling systems originate in the

Telecommunication Rooms and extend throughout the building from ER/MDF to TR/IDF and from TR/IDF to the end users (horizontal). The backbone cabling system between Telecom Rooms consists of fiber and copper cables and connects each IDF via home-run cables to the MDF. For WWCC, the horizontal cabling system consists of twisted pair CAT 6 and fiber backbone cable. All horizontal cabling routed to the TR should be via cable baskets located in corridors and other approved support systems as required by campus.

Common cables support all communications needs for various independent systems such as computer networks, voice system, surveillance, video, and building automation system. These diverse systems run on the same infrastructure, which offers ultimate flexibility; the same cabling supports all network requirements indifferent of the system.

Backbone Cable

Fiber cabling is terminated in rack mounted housings in order to provide complete flexibility for cross-connecting of various networks and equipment and to provide redundancy. All copper cabling terminates at the rack on patch panels. This methodology permits cross-connection for devices requiring analog phone lines (like fax machines) by using simple patch cords instead of specialized tools. Copper tie-lines from rack patch panels to wall-mounted 110 blocks are at times incorporated into the backbone.

Horizontal Cable

All horizontal cabling is a minimum of CAT 6 or per campus standards. All areas of the building would follow similar design standards regarding the number of cables per workspace as established by campus standards along with industry codes, standards, and best practices. This aspect of the horizontal cabling design should be reviewed later in the building design phase.

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

Horizontal cabling:

- Based on CAT 6 cabling at a minimum including all cabling, patch panels, patch cables, termination modules, and wiring blocks with TIA 568B with 568B pinout.

- CAT6 cabling for all wireless access points or following campus standards.

- Horizontal cable run-length shall be no greater than 270ft from the outlet to the horizontal cross connect, inclusive of ten feet of slack.

- Terminated on rack-mounted patch panels regardless of the application using the cable – email, phone call, fax, video, etc.

- Be the same cable regardless of the device using the cable – computer, telephone, surveillance camera, etc.

- Analog is used for emergency backup and elevator connections.

WIRELESS NETWORK

Across campuses, wireless technologies are used every day from radios and cellular smart phones to tablet PCs and laptop computers. In fact, the WWCC student uses 4.3 different devices on average, many are wireless, and all are connecting to the College network. Today's campus buildings must accommodate a wide range of wireless user needs and demands in order to foster free flowing access to various formats of information. Many campuses struggle with a desire to support the ever-evolving BYOD (Bring Your Own Device) environment that is now expected by students, staff and visitors.
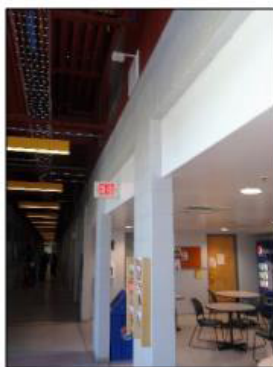
At WWCC, wireless coverage is provided in common areas of buildings, corridors, some classrooms, and in all residence halls. The campus has standardized on Aruba wireless access points and has rolled out 802.11b/g as it supports the largest majority of devices and provides the widest frequency. The wireless network is open and uses a passive network controller. No client is needed to install so all wireless devices are supported. A Palo Alto Layer 7 Firewall is used for security. Users are essentially put into a container. If a policy is broken or a threat is discovered, their permissions are removed. A phased plan will be needed to upgrade existing access points to support newer and evolving standards, to continue to broaden area coverage especially in classrooms, and to begin to implement outdoor WiFi coverage.

To maintain the network at high capacity, bandwidth is throttled for applications such as Netflix or when bandwidth reaches 60% utilization. The IT Department will be developing formal guidelines with other campus stakeholders for supporting student wireless connectivity. WWCC should anticipate that with the introduction of lecture capture, users will want to access video streams from their personal devices. WWCC must not simply support the typical needs of the BYOD environment but also the high bandwidth requirements resulting from faculty and students viewing live and captured video streams, web conferencing, collaborating with screen sharing applications, and wireless presentation gateways.
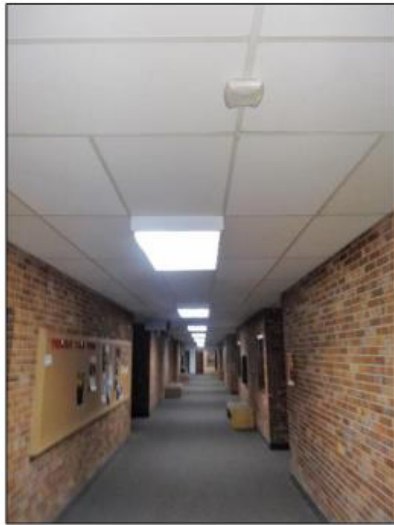
A good wireless infrastructure design will be based on the latest IEEE-802.11 standard (802.11ac) that is capable of adapting to and supporting future standards such as 802.11s wireless mesh networks, 802.11v with improved wireless network management, and 802.11aa video transport stream. A heat map should be generated with a site analysis to determine optimal placement and anticipated areas of high demand. Ceiling-mounted access points should be located approximately every 75-feet with two network ports to accommodate multiple APs. Twenty five foot patch cables would allow movement of the APs to where needed from the connection point.

Power over Ethernet (PoE) technology is best used to simplify installation and increase system flexibility by centrally locating all power requirements for the APs. This design methodology greatly increases the availability of network bandwidth by adding the capability of connecting to the network via multiple frequencies and channels.

The ultimate goal of a future wireless system design is to allow for wireless coverage for the entire facility, including adjacent exterior areas, utilizing high density and dynamic load balancing wireless network standards. It is anticipated that high density spaces such as a flat floor classroom, divisible classrooms, the tiered classroom, computer labs, and meeting rooms will have at least one if not multiple, dedicated access points.

Outdoor installation of wireless access points would similarly be focused to student
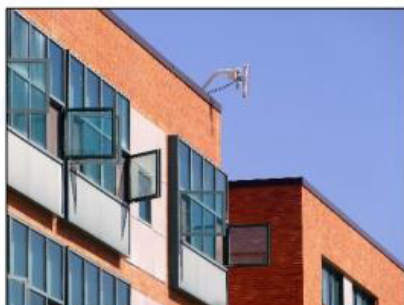
gathering areas, parking lots, and other outdoor spaces where students, alumni, and visitors will likely frequent such as the outdoor soccer field. Long range outdoor wireless antennas hardened for demanding environments would be connected to the network. Caution should be used in the selection of construction materials including window glazing as they may interfere, reflect, or block wireless RF signals indoors or out. Some campuses are also connecting emergency blue phone via outdoor WiFi.

EXISTING CONDITIONS ASSESSMENT

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

NETWORK ELECTRONICS

Data network systems provide transport and communications for a multitude of applications. There should be a single, common data network system for all applications as opposed to individual data network systems that are specific to single applications. A common data network allows for cost savings of equipment and supporting infrastructure (space, power, cooling, etc.) while also providing better utilization of network equipment. WWCC has standardized on Brocade network switches which are used across telecommunication rooms.
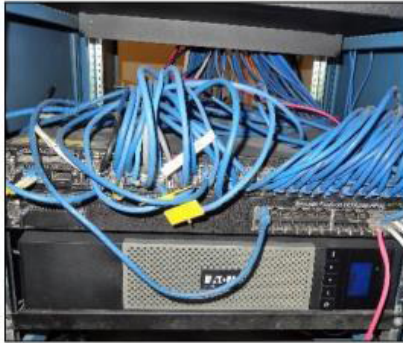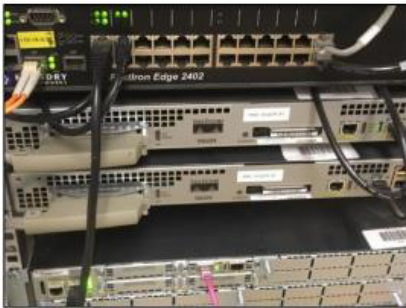
The structured cabling systems described in the previous section make up the passive components of the data network systems. Active electronics are often dictated by how the network is administered, secured and used. Most logical architectures for routing and switching are based around a system to support three sets of functions, access for connecting devices to the network, distribution to manage and apply policies for access, security and routing, and core functions to move data packets quickly and efficiently.

For telecommunications requirements, Voice over IP (VoIP) is used by campus staff for business operations. The College has standardized on Cisco phones.

SERVER ROOM

We found Server Room 213A, to be appropriately sized with adequate lighting and power. We recommend a three foot radius for service access in front and behind each cabinet with equal clearance on either side.

Security into the room is the first concern. There are two entrances. While both doors use keys, we recommend proximity card readers on both doors to keep an audit trail of who enters and when. No unauthorized staff should be in a Telecommunications Room. We also recommend a security camera be located in each Telecommunications Room for surveillance monitoring.

The temperature of the room was high and measured 70-degrees according to the in-room thermometer. The dedicated HVAC unit should be inspected. If cooling cannot be achieved, the addition of internal cabinet cooling is recommended.

The cabinet has doors and sides. Alternately, we would recommend floor mounted open frame post racks for maximum ventilation. A UPS system is rack-mounted in the cabinet.

We noted there is an immediate need for cable management including strain relief of cable bundles, organizing and bundling cables, and proper labeling on all patch and cable ends. Cable colors should be consistent and correspond to area or use. For instance, red network and patch cables should only ever be used for fire safety.

Fire stop is required in all open conduit risers between floors and horizontally.

DATA CENTER

In the Data Center, there are 30 physical servers running approximately 100 virtualized servers. The size of the space is adequate especially given that the IT Department relies on server virtualization which saves space and reduces cooling and infrastructure requirements. There is interim cooling but it's problematic according to the IT Department. (At the time of our tour, the room temperature was high.) Cooling is neither redundant nor on a backup generator. Because of a low ceiling height, the ductwork size is reduced and undersized. WWCC IT is currently addressing cooling and ventilation with upgrades from standing side cabinet units and looking to better define hot and cold aisles. Several other issues were also identified. While the core room has Uninterruptible Power Supplies (UPS), they are individual units. There are no three-phase UPSs which are preferred and more efficient. Redundant power is critical.

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

There is no raised floor to assist in cable management. Ceiling heights would not permit adding a raised floor. We did find fire suppression in place and clearly labeled with an emergency shut off. A proximity card reader is installed at the entrance door. We recommend adding a surveillance camera to monitor this room 24x7.

Of special note, the backup generator appears to be aging and with what appears to be a visible leak. The generator should be routinely tested together with the IT Department as part of Disaster Recovery planning and preparation. Fuel should be checked regularly and the system inspected.

It is our understanding that the current Data Center (Server Core) location may change in the future and that the Western Education Center may reside in this location. Long term, monies spent to permanently correct infrastructure deficiencies for IT may be better spent on a new facility. Should the College relocate the Data Center to a newly constructed or renovated facility, then adequate and redundant power, cooling, and cable management through a raised floor would be required in addition to the needed physical security. Construction of a Data Center can be costly although a new Data Center for WWCC could be built with a smaller foot print.

More information is needed to understand any proposed moves. It may be an opportunity to review what portion of the Data Center equipment, servers, and hardware can be physically moved off-site and managed remotely via the cloud at a co-location facility (if available) at an overall reduced cost over the long term. A co-location facility would provide important redundancy, clean and redundant technical power, adequate cooling, cable management, fire suppression, lighting, physical security, and back up in an off-site location specially built for this purpose. WWCC IT staff would continue to manage server operations but remotely via the cloud. Some of the capital costs of building and maintaining new infrastructure would be moved to an operating expense to support the co-location. At the same time, IT resources would be freed up from maintaining hardware to managing operations. Co-location can also provide important Disaster Recovery services for mission critical servers in the event of a failure or disaster at campus. Reestablishing services to users could then take minutes or hours versus days or even weeks. This change would require a review of existing network connectivity with the possible addition of pathways for redundancy. Consideration of the impact to existing third-party equipment in the current Data Center would also be needed.

ACOUSTICS

Particular care must be taken to acoustically isolate adjacent spaces, and to establish appropriate listening environments. Proper acoustic design may be required which could impact room geometry, finishes, and furnishings.

To that end, the following aspects of acoustic design should be addressed:

SOUND ISOLATION

This discipline focuses on excluding unwanted sound or noise (both exterior and interior) from sound-sensitive spaces. All spaces should be free from intrusive noise which can distract from the intended function. The acoustical design issues include definition of sound and vibration isolation construction requirements for slabs, partitions, joints, and critical doors & windows throughout the building. The construction necessary to provide the degree of noise and vibration isolation from adjacent areas depends on the sound sensitivity of the space and the particular adjacencies.

Sound Isolation Summary

Sound-isolating partitions and floor/ceiling construction are recommended where acoustical isolation is required. Specific partitions for acoustic separation are based on actual adjacencies and noise sensitivity. Based on typical space types, minimum horizontal acoustical separation requirements of partitions are generally established as follows:

Acoustical Separation		
Space	Design Goal Sound Transmission Class (STC)	Design Goal Impact Isolation Class (IIC)
Classroms; Residential	55	50
Conference Rooms; Teaching Labs	50	50
Labs; Enclosed Offices; Small Group Study	45	50
Occupied spaces were acoustical separation is a secondary consideration	40	45

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

Residence Halls

Teton, White Mountain, and Snowy Range Halls are the oldest residence halls on campus and were built in 1976. All three buildings have the same floor plan and are popular with students having 80% occupancy. These three story buildings with basement contain six one-bedroom apartments, 12 two-bedroom apartments, and six basement suite units and each has a capacity of 72 beds. Each one bedroom apartment can accommodate up to two residents, each two-bedroom apartment can accommodate up to four residents, and each basement suite unit can accommodate up to two residents. Each apartment contains a dining room, storage area, full kitchen, living room, and full bathroom. In the basement can be found a laundry room, storage room, and custodial/maintenance rooms.

A primary concern for these buildings is sound isolation. Staff and students complain of sound issues with noise transmission between vertically and horizontally adjacent units. Air conditioning and elevators are not incorporated in these residential halls so mechanical background noise from these elements is not a factor. Although there is mechanical equipment providing heat to the residential units, the primary sources of complaints is walking, talking, and other general apartment life living activities. Given that these spaces are living and learning communities, there are higher requirements for horizontal acoustical separation for wall partitions. There are several sound transmission paths that should be evaluated including the demising partitions between units, corridor partitions, the mechanical ductwork layout and residential unit entry doors.

The current residential entry doors are solid wood but do not provide perimeter gasketing to create an acoustical seal. Therefore, noise generated from students walking up and down corridors is likely transmitting into the residential units. The hard surface corridors create a reverberant chamber for the sound to build and will add to the overall noise level. In addition to the entry door, the corridor partition should be a full height partition with all intersections and penetrations sealed airtight. The addition of gasketing at the doorways, the incorporation of absorptive material in the corridor and verifying that all intersections and penetrations of the corridor walls are sealed airtight would reduce the transmitted noise levels significantly.
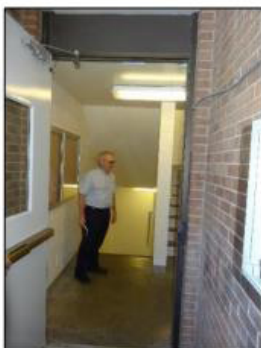
Another area to evaluate further would be the demising partition at the stairwell to enter/exit the building. Building entries and stairwells have hard surfaces with concrete floors, block walls, and low hard ceilings that are reverberant. If the demising partitions are these locations are not full height and sealed airtight, the noise generated in these stairwells and building entries can easily transmit into the

residential units. The same construction recommendation goes for the partitions between residential units. The demising partitions should be full height and sealed airtight and mechanical ductwork should not cross the demising partition to serve each unit.
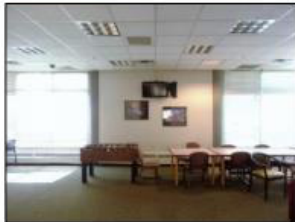
A building constructed of concrete masonry may have fewer sound isolation issues due to the added mass of concrete, if th partitions are properly sealed. Because of the construction of Rocky Mountain I, built in 1985, the sound isolation issues appear to less than the other residential halls. Rocky Mountai is a four story building with 17 suite cluster units, and two sem private units and has a capacity of 72 beds. The building also contains a student commons area with a community-use kitchenette, study area, lounge and game room on the first flo Carpeting and acoustical tile ceiling help reduce the overall no level generated in the corridors and these common student gathering spaces.

Other Spaces
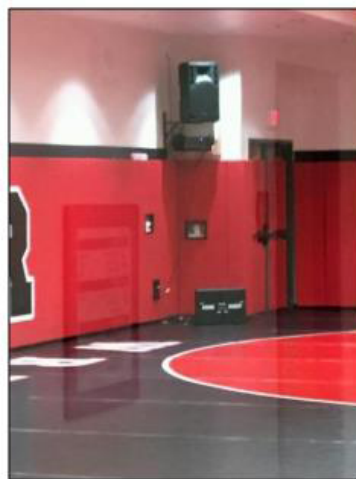
The Athletic Weight Room RM1657 is an area identified as having sound isolation issues. During free weight training, the weights are often dropped onto the floor or back onto the stack creating a loud noise and vibration audibl and perceptible in adjacen spaces. Music is often loud and the volume raise during intense training sessions. The music can be heard in the adjacent corridor. Nearby, a padded wrestling room has similar issues. Large loudspeaker cabinets play music during workouts and point out toward the entry door. The competin music can be heard throughout the floor especially when raised at a high volume. The doors into both rooms are solid wood but each door has a sidelight window and minimal door gasketing. Sound can leak from around and under the door if not fully sealed.

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

ROOM ACOUSTICS

This discipline regards the development of the aural environment that meets the need and function of a space. The issues include achieving suitable reverberation time (RT60), utilizing desirable while controlling undesirable discrete reflections and maintaining proper and equally distributed sound energy levels throughout the spaces. The design aspects include room volume, geometric shaping and the selection and placement of finish materials for walls, floors and ceilings, including implementation of reflectors and/or diffusive elements.

A Confidential College

Residence Halls

Inside residential hall apartments and living spaces are carpeted rooms and gypsum walls. In the older buildings, ceilings are solid. In newer buildings, ceilings are ACT. Acoustical treatments to ceilings and wall can be applied within older apartments to help reduce reverberation and reflections. Similar treatments can be applied to the narrow corridors.

Classrooms

On our tour, we found typical classroom construction consisting of gypsum walls, a ceiling with acoustic ceiling tiles and carpeted flat floor. While program sound support was provided for the playout of multimedia content, speech reinforcement was not provided except in a few select spaces. The importance of the aural component to a learning environment cannot be underestimated. The benefits of speech reinforcement include:

- Increased student attentiveness in the classroom
- Reduced stress levels for instructors including voice strain
- Better lesson comprehension by students
- Better language and literacy test scores for students
- Increased student interaction and participation in lessons
- Increased student confidence and motivation
- Better performance by students learning English as a second language
- Modifications to curriculum or teaching styles are not required with the addition of speech reinforcement

At a minimum, we recommend that in larger classrooms the instructor be provided with a wired or wireless lectern or lapel microphone for speech reinforcement. Small portable systems should be available from the Media Center for quick setup and use regardless of space size. Amplified speech reinforcement would ideally come from an integrated system with microphones, amplifier, and distributed in-ceiling loudspeakers overhead so that an even level of sound dispersion can be achieved for every listener throughout the room.

During our tour, we discovered a few classroom spaces with unique acoustical challenges. Room 104 is a divisible computer lab at the Green River satellite campus. A dividing wall separates the two classrooms. The dividing wall is a folding vinyl door which offers little sound control between the connected spaces. Further, the ceilings in both spaces are high and pitched. The tall ceiling would mean more sound energy would be required to reach the furthest listener. There are front mounted loudspeakers for playing out program sound. The required increase in volume from these loudspeakers will also spill sound through the dividing wall into the next room.
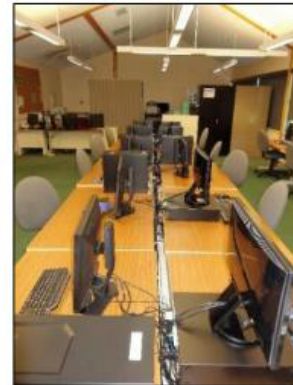
The Atrium

The Atrium is a multi-story open gathering space surrounded by glass. The space is a popular dining and gathering spot for the campus. Through its design it allows students, faculty and staff to connect with nature outside, even during cold Wyoming winters.

A large full scale replica model of a T-Rex skeleton stands as a center piece within the space next to the T-Rex Grill. Special events are offered within the Atrium and an audiovisual system is provided for public address support. There are many hard reflective surfaces within the space. The flooring is a mix of both hard ceramic floor tile and carpet over concrete. The ceiling is very high with glass walls rising to glass sky lights and the metal skeletal structure above. The surrounding outer walls are constructed of large glass panels connected from floor to ceiling. Two inner walls are of hard brick construction which was the original exterior of the building before the Atrium addition. Here, the windows look out into the Atrium below.
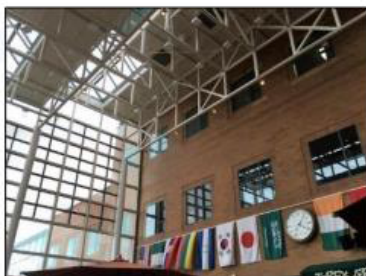
When we toured the Atrium space, the College was on break. The space was fairly quiet. There was clearly some sound reverberation within the space and the blowing HVAC system around the room perimeter could clearly be heard and provided the majority of ambient noise. There are some acoustical treatments within the space both architecturally at the ceiling and owner provided with plants, flags etc. This area requires further study when it is occupied during the hustle and bustle of

AUDIOVISUAL, ACOUSTICAL AND TECHNOLOGY (CONTINUED)

classes, regular dining and socializing to understand room characteristics and how best to address them acoustically with treatment. A review of the HVAC system feeding the Atrium is recommended to understand how it contributes to the overall background noise and how the noise can be reduced.

BACKGROUND NOISE CONTROL

Building systems are often the major contributor to the amount of background noise in a space, and can have a dramatic effect on the ability to perceive aural information, or comfortably study. Acceptable background noise levels are defined based on the intended use of a space, and then the system is designed such that this noise does not exceed the appropriate limits. Background noise from mechanical systems is defined in terms of Noise Criteria, or NC. Recommended NC levels for each space are shown in the Table below.

Background HVAC Noise Criteria

The background sound level within a space is described in terms of Noise Criteria (NC) level as defined in the 2007 American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Guidelines, Chapter 47. NC describes the maximum background sound level due to the normal operation of building equipment serving the room(s), typically the air distribution system. The background sound design goals for various spaces are recommended as follows:

Background Sound Level in Noise Criteria (NC)	
Space	Design Goal
Active Learning Classrooms	NC-25 to 30
Conference Rooms	NC 30 to 35
Teaching Labs; Small Group Study	NC 35 to 40
Labs; Restrooms; Corridors; Lobby Areas	NC 40 to 45

NEXT STEPS

It was clear to the planning team from tours, meetings and interviews that the campus staff are committed to both student and overall College success. Past planning efforts and the project they have identified have led to successful renovations, new facilities, and consolidations to better meet the continued growth and needs of programs and students. Staff are clearly excited about the opportunity to continue this progress and participate in shaping the next master plan update. This assessment report will serve to inform the planning team, key stakeholders, and the Executive Committee on the challenges and opportunities that lie ahead in the areas of Educational Technology, Information Technology, and Acoustics. A thorough review with comments will help guide our efforts for Phase 2 and will focus the team on planning the most important priorities. We look forward to working with you on next steps.

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02

FOCUS GROUPS & INTERVIEWS

FOCUS GROUPS & INTERVIEWS: 5-YEAR PLAN

SCHEDULE

SEPTEMBER 15

8:15 - 9:00 AM   STEERING COMMITTEE

10:30 - 11:15 AM   STUDENT SUCCESS
SERVICES & ADMIN. SERVICES DIRECTORS

10:30 - 1:00 PM   MUSTANG MARKET BOOTH

11:30 - 12:15 PM   EXECUTIVE COMMITTEE

12:15 - 1:00 PM   STUDENT LEARNING
DIRECTORS & DIVISION CHAIRS

4:00 - 5:00 PM   OPEN SESSION 1

SEPTEMBER 16

9:00 - 11:00 AM   STUDENT INTERCEPT
INTERVIEWS - PENDULUM

10:15 - 11:15 AM   OPEN SESSION 2

11:45 - 12:30 PM   SUMMARY DISCUSSION
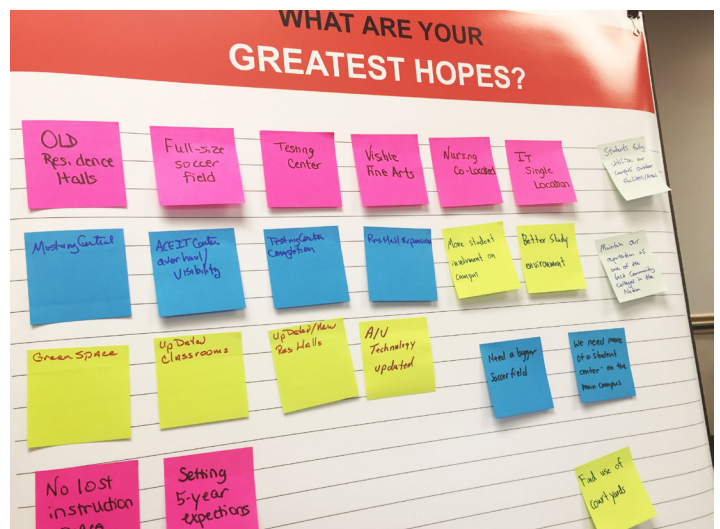
The following summary documents the focus groups and interviews conducted on September 15th and September 16th.

SEPTEMBER 15

8:15 - 9:00 AM   STEERING COMMITTEE

Attendees: Dr. Karla Leach, Sheldon Flom, Philip Parnell, Tammy Register, Dustin Conover, Erik Hamm, Ryan Herd, Levi Larsen (WWCC); Matt Porta, Mecayla Cobb (HCM)

Below is a summary of questions posed to the group, responses, and additional comments:

Visioning - Greatest Hopes

- Newer residence halls
- Full-size soccer field
- IT Department located in a single location
- Co-locating Nursing
- Visibility of Fine Arts Program
- Testing Center
- Walking path for community and students
- ACE IT Center visibility
- Better study environments
- Creating a welcoming environment in the residence halls where students want to study
- Maintain a reputation of being one of the best community colleges
- Better utilization and activation of green spaces, and changing the tank farm to a green space
- Update the classrooms
    1. Technology is good
    2. More inviting spaces
    3. Better furniture and more flexibility
- Continue to update AV technology
    1. Replaced (30) old projectors recently
    2. The wiring is old
    3. Not HD
    4. Lectern equipment needs to be upgraded
- Need more of a student center on campus
    1. Atrium area is a gathering area, but is not a place to have fun and connect
    2. Can keep students on campus

    3. Atrium is open to the public, and students need a place of their own
    4. Athletes have a team room that is used
- Instructional spaces are at a premium.

Setting Five-Year Expectations

- Accessibility of Green River Campus
    1. Currently under-utilized
    2. Heavily used for industry
    3. Draw more of the community into the center
- Activate and utilize the court yards

Biggest Concerns

- Financially, the greatest hopes are likely not feasible
- Disability Student Services is not an ADA compliant space
- Older Res Halls don't have AC
    1. Students can't study in room
    2. Lack of gathering spaces
- Lack of space & opportunities for outdoor activities
- Funding is based on utilization
    1. Need to increase use in critical spaces to allow for future growth and funding
    2. Classroom utilization is low
- Older HVAC and electrical services
- Missed opportunities connecting with students
- IT is too spread out
- Dedicated department storage

FOCUS GROUPS & INTERVIEWS: 5-YEAR PLAN

The following summary documents the focus groups and interviews conducted on September 15th and September 16th.

SEPTEMBER 15

10:30 - 11:15 AM   STUDENT SUCCESS SERVICES & ADMIN. SERVICES DIRECTORS

Attendees: David Tate, Natalie Lane, Amy Galley, Tammy Register, Kyle Rossetti, Christina Mares, Dianna Renz (forwarded comments via e-mail), Debbie Baker, Philip Parnell, Cindy Hafner, Mark Padilla, Sheldon Flom (WWCC); Matt Porta, Mecayla Cobb (HCM)

Below is a summary of questions posed to the group, responses, and additional comments:

Campus Weaknesses

- Technology - some departments are using tick sheets
- Confidentiality
    1. Business Office is too open.
    2. They need space for all groups including students, faculty, and staff.
- SDC Office should be the most accessible, but is currently not.
    1. Office walls are too thin.
    2. Confidential conversations can be heard from the waiting area.
- Safety/Fire
    1. It is difficult to lock-down certain parts of the building in the case of an Active Shooter.
    2. There is confusion on what drill is being conducted. Alarm System should be clear.
    3. To access the tornado shelter, one must walk through a glass hall.
- HVAC/Security/Access Control
    1. It is not efficient.
    2. Temperature extremes
    3. Students and Staff are not comfortable.
- Update older Residence Halls
- Bookstore needs to have Student Accounts closer, so they can charge students for their books each semester.
- Family Locker Room is needed.
    1. Parents of the opposite gender of their kids struggle

to help them change at the pool, in the gender specific locker rooms.
    2. Older patrons who may struggle physically are accompanied by their spouse and need a room where they can change in private.
- Gender-neutral toilet rooms
    1. Need to add facilities to accommodate that population
    2. Will likely be directed by the State soon
- Lactation Rooms are being added near the Theater.
- Residence Halls are at 96%. There is demand for more.
- Wayfinding/Signage
    1. Courtyards - Can they be accessed, or will people get locked out?
    2. Room Number System is confusing
    3. The organization of the building is hard to navigate.
    4. Faculty Row - Not all faculty have their offices here.
- Parking - Cannot enforce any parking rules
- New Trades - Classes that are cutting edge for what the job market requires.
    1. How to reformat your computer?
    2. Need for HVAC Technicians in the region
- Utilize free spaces
    1. Unoccupied spaces include the old Media Center (Annex Building).
    2. Financial Aid Office was vacated.
    3. Greenhouse
- Aspen Mountain Hall
    1. Pool equipment that will never be used.
    2. Space could be used for college storage.
    3. What if the school resells it as a hotel?
- Toilet Rooms Update
    1. They smell near the Print Shop.
    2. Antiquated all over campus
- Security Cameras at all entrances are needed.
- More Athletics
    1. Rodeo (no livestock was requested) - Northwest, Sheridan, Casper, etc.
    2. Tennis Team
    3. Could attract more students and fill more housing

4. Track
5. WWCC is looking at two additional sports on campus as well as an off-site 'club.'
6. Soccer field is too small for regulation.
- Over utilization of buildings
- Need a large group Auditorium
- Shipping and Receiving is not very centralized on campus.
    1. Bookstore has a long distance to haul deliveries.
    2. Another delivery spot near the Atrium or IT Departments?
- Movie Cammie & Beth (Planning & Improv.) to the third floor They are currently in room 2604.
    3. There is space on the 3rd floor in an old Business Office files room.
- Heating and Air Conditioning
- Install filtered water bottle fill-up fountain on the third floor
- No full length mirror in restrooms to check yourself before you wreck yourself

Strengths to be Maintained

- All under one roof
- The building is a maze, but it is all connected which is beneficial in extreme weather.
- Openness of the building
    1. Welcoming to the community
    2. Families arrive with scavenger hunt maps.
    3. Dinosaurs are visited by outsiders.
    4. Community frequents the building
- Pockets of communities
- Open and welcoming
- On Campus Housing
- Food service and Dining are good
- Class size is small - 25 students.
- Largest, nicest Print Shop
- Bookstore is self-operated and good.
- "Western sells itself."
- Athletics and Fitness Center
- Community supports the college
- Good at facilitating what students need as a college
- Technology and Industry (T&I) is one of the top in its class.
- Well-site, workforce building is good.
- Nice facility in Green River Center.
    1. Need to find ways for the community to utilize it more
- "Harvard on the Hill"
- Appealing architecture from the exterior
    1. View from the highway

2. Dinosaur Museum billboards
- Natural Wildlife Museum
    1. School groups tour
    2. Not as promoted because of possible PETA protesters
- Lots of land = 280 acres of potential
    1. 62 Acres were donated.
        - Proceeds on the Business Park go back into the Capital Construction for WWCC's Main Campus.
        - New Building - IT & Digital Education (Computer Science) Building. It would also house IT offices, and the Core Server could move there.
- Walking trail
    1. Educational for the Biology Classes
    2. Community draw
- Mustang Central
    1. Inviting and accessible
    2. Welcoming upon first entry
    3. Students have no complaints
- Planning & Improvement Office
    1. Proximity of team helps the work environment
    2. Ability to work well with diverse campus groups
    3. Myriad of skill sets and strengths

FREQUENT TOPICS:

1. HVAC Issues
2. Safety/Fire
    - Difficult to lock-down parts of the building
    - Confusing with Alarm Systems
    - Need Security Cameras at entrances
3. Use-specific rooms
    - Family Locker Room
    - Gender-neutral toilet rooms
    - Lactation Rooms
4. Wayfinding/ Signage
5. More Athletics
    - Tennis, Track, Rodeo
    - Could attract more students

FOCUS GROUPS & INTERVIEWS: 5-YEAR PLAN

The following summary documents the focus groups and interviews conducted on September 15th and September 16th.

SEPTEMBER 15

11:30 - 12:15 PM   EXECUTIVE COMMITTEE

Attendees: Dr. Karla Leach, Sheldon Flom, Philip Parnell (WWCC); Matt Porta, Mecayla Cobb (HCM)

Below is a summary of questions posed to the group, responses, and additional comments:

Campus Weaknesses

- HVAC Issues
- Philip's office should be more approachable, not on the third floor. Ex: Gear-Up Office behind Mustang Central could be Philip's Office
- Distributing President/VP's offices throughout the building.
    1. Dean of Student's should be more accessible.
    2. Sheldon should be on the 3rd floor, near the Business Office, etc.
    3. VP's are not able to interact with the departments they oversee because they are too dispersed.
- Faculty Row is an informal space.
- Faculty should be close to students.
- Mustang Central
    1. Chaotic for staff since there are no clear pathways through the stations and tables.
    2. Unable to move the 'stations' around due to the power that supplies them.
    3. Confidential conversations are impossible in the main space.
    4. Security of student records in the space.
- Instructional Spaces
    1. (16) general classrooms have been added since Dr. Leach's start on campus
    2. Anti-rooms near Mustang Central were captured.
    3. Three Biology Labs were moved and upgraded.
- Offices near Courtyard #2
    1. There are closets along the exterior wall that need to be recaptured into the offices (near Classroom 1439).
    2. Area needs AC

Biggest Issues

- HVAC
- Residence Halls are workable in tight times.
    1. Need a 5-year plan to get more space.
- Nursing Co-located
- Safety/Security (doors)
- ADA Compliance
- Print Shop is way too big
- Testing Center is needed
    1. Should it be located where IT vacates, near other classrooms they commonly test in (near UW Outreach).
    2. Do not want a Testing Center like Prometric/Pearson Vue. Green River Campus already serves this need.
    3. Placement testing and proctor testing for faculty at WWCC Main Campus.
- IT Dept. could move to the Annex to consolidate.
- Where IT vacates, could be where Philip's office space moves from the 3rd floor.
- Annex Site
    1. The new building (in the same location) should be reflective of the original architecture.
- Fine Arts should be visible (move upstairs).
    1. The program can grow.
    2. Out-of-state Honors Scholarship: Program Specific funding is there to grow this program.
    3. Program is attracting Utah Students.
    4. The Rock Springs Community supports the Theater.
    5. Tied to the local K-12 School District.
- Distance Learning
    1. It's a modality that works within all learning.
    2. Online learning, asynchronous learning.
    3. One Instructional Designer per (2) Students
        - WWCC is #6 in the nation on this, and would not want to lose it.
        - Should it be more integrated? Part of Student Learning? Not Separate?
- 100% Hybrid Classes on Campus

- Programs Growing
    1. T&I currently has a wait list for students to enroll in classes.
    2. Visual Arts
    3. Fine Arts
    4. Computer Science
    5. Nursing Program
        - There are external limitations on growing this program until they have more clinical space. Currently, the college is talking to area hospitals and healthcare facilities to remedy the situation.
        - Simulation Labs need to grow to accommodate enrollment growth.
- Lack of efficiency in the Wellness Center building
    1. HCM should evaluate the use of it.
    2. Might be inefficient.
    3. Building is underutilized.
    4. Mainly review the 1st floor.
    5. Could more sports be added?
    6. The large conference room (3560A) is underutilized.
        - The acoustics are okay with the operable wall.
    7. Has acoustics issues
        - The Dance Room's music is too loud next to the conference room.
        - The dividing walls might not go up to the structure.
        - Sound travels through the ceilings.
- Annex previously was the Library. Floor plates are full of structure and hard to rework/penetrate.

FREQUENT TOPICS:

1. HVAC Issues
2. Distribute President/VP's offices
3. Mustang Central
    - Chaotic for staff
    - Unable to move stations around
    - Confidentiality of conversations is hard
    - Security of student records
4. Testing Center is needed
5. Distance Learning
6. Programs Growing
    - T&I
    - Visual Arts & Fine Arts
    - Computer Science
    - Nursing Program
7. Wellness Center Building
    - Lack of efficiency
    - Has acoustic issues

FOCUS GROUPS & INTERVIEWS: 5-YEAR PLAN

The following summary documents the focus groups and interviews conducted on September 15th and September 16th.

SEPTEMBER 15

12:15 - 1:00 PM   STUDENT LEARNING DIRECTORS & DIVISION CHAIRS

Attendees: Rocky Barney, Kathy Luzmoor, Cliff Wittstruck, Janice Grover-Roosa, Christine Garbett, Stacie Lynch-Newberg, Bruce Anderson, Nancy Johnson (WWCC); Matt Porta, Mecayla Cobb (HCM)

Below is a summary of questions posed to the group, responses, and additional comments:

Campus Weaknesses

- Library
    1. WWCC is supporting a 21st Century student body with a 20th Century Library.
    2. $100,000 per year from Wyoming to buy e-resources (rival most 4-year institutions).
        - WWCC does not have the facility to share the resources appropriately. They have the resources but not the facilities to make the best use of the resources
        - 20,000 SF total
        - Need a space where students can be taught and can practice on a computer.
        - Only community college in the State that has not remodeled their library.
        - Largest collection of all WY community college libraries.
        - Computer access space is crammed into the open library.
        - Skylights are great, but they make it hard to project.
        - One of the top schools for circulation.
        - Library is a resource for the entire student population.
    3. Power is not accessible for students in most areas.
    4. Computer Lab adjacent to the Library could be expanded into the Library Workroom
        - 27 students can be accommodated in an instruction room
    5. Importance of information literacy

- Nursing
    1. Dispersed between three different spaces
        - Lab/clinical spaces west end, first floor
        - Six offices and conference areas
        - Growing Faculty is near cliff's office and student learning office
        - Nursing students do not have a place to call their own.
        - Lab and simulation lab need to increase in size
        - Currently have two beds but will need six total in the future
        - Simulation must grow to increase enrollment
    2. Instructors are encouraged to offer more classes, but more faculty is needed.
        - Part-time faculty is not always sufficient to teach extra courses. They are not as seasoned or do not know the resources students have.

- Labs
    1. Chemistry Lab (Room 1204) is designed for 18 people, but 24 students use it.
    2. Lectures have capacity for 24 students.
    3. It is preferred for lectures and labs to be in the same space. Lectures are currently held in Room 1204.
    4. 50% of courses offered in the lab exceed the limit of 18 students.
        - Scheduling requirements hinder this.
        - Nine 4'-0" fume hoods in the Chemistry Labs with two students per fume hood. They work well.
    5. Could expand the current Chemistry Lab into the Debate Team Lounge
        - The Debate Team is nationally ranked.
        - Sometimes the fume hoods are used for AC purposes.

- Full-time to Adjunct Faculty
    1. 70-80 Full-time Faculty
    2. 250 Adjunct / Outreach / Concurrent Faculty

- Annex
    1. Outdated classrooms
    2. Furniture is old arm chairs.
    3. Classrooms are small and hard to teach in.

4. Sloped walls are confining.

5. Acoustics are distributed between rooms.

6. Group work is almost impossible in these spaces.

7. Nursing would prefer the entire Annex.

   ▪ Three-hour class periods in small groups.

- Students need access to specific software and printing.

  1. Math lab, Photoshop, etc.

  2. Mobile Computer Labs including iPads and laptops which are not optimized by classes currently.

- Testing Center is necessary

  1. Open Computer Lab (next to Library) is not always open for Students' use.

     ▪ There is no signage to invite students in when it is not occupied by classes or tests.

  2. Nursing delivers tests every Friday. Workforce tests are implemented every Friday Afternoon, so Nursing can not utilize this room for their weekly tests.

  3. What tests should be given at Green River or Main Campus?

  4. Students take tests in Peer Tutoring Center and/or ACE IT space which is confusing.

  5. Need to seat 24-30 students at once

- HVAC

  1. No heating or cooling in the Peer Tutoring Center (2nd floor)

- SDC

  1. Meeting with Karen, ADA specialist, is impossible for someone in a wheelchair

- Collaborative Learning Spaces

  1. Library does not have proper furniture.

  2. There is no collaborative learning technology in the Library rooms.

  3. OIS has group study spaces, but they are disconnected from the library where other resources are located.

FREQUENT TOPICS:

1. Library
   ▪ Outdated technology & facility
   ▪ No collaborative learning space
2. Nursing
   ▪ Dispersed
   ▪ More full-time faculty is needed.
   ▪ Labs need to increase in size
3. Labs
   ▪ Chemistry room is undersized
4. Annex is outdated
   ▪ Classrooms are outdated and small
   ▪ Furniture is old
5. Testing Center
   ▪ Not enough space for all tests offered
   ▪ Confusion as to where tests are taken
   ▪ Not always open for Students' use

FOCUS GROUPS & INTERVIEWS: 5-YEAR PLAN

The following summary documents the focus groups and interviews conducted on September 15th and September 16th.

SEPTEMBER 15

4:00 - 5:00 PM   OPEN SESSION 1

Attendees: Carol Johnson, Carrie Piazza, Kit Kofoed, Traci Ciepiela, Karen Flaim, John Freeman, Lu Sweet (WWCC); Matt Porta, Mecayla Cobb, (HCM)

Below is a summary of questions posed to the group, responses, and additional comments:

Priority 1

- IT not located together
    1. Storage in basement
    2. Difficult to support students
- Storage, in general
    1. Capacity and Access
    2. There is room in the basement, but it is not easily accessible.
- Accessible ADA offices
    1. Specifically disability support services
    2. Was identified in last master plan report
- Classrooms are not comfortable
    1. Classroom 1438 specifically
    2. Some parts of the building do not have AC.

Priority 2

- Reliable backup power to protect equipment
- Accessible ADA conference room for Disability Services
- HVAC consistency and control
- Criminal justice class needs to have teaching space without carpet
- Overall finish upgrades

Priority 3

- Dual exits for the SDC
- Lack of faculty lounge
    1. Speculating that half of the offices have small fridge or microwave
- Green River classrooms are too small

1. Speculating that many cannot hold more than 10 comfortably
    2. More and more classes for high school students that are requiring larger class sizes
    3. Likely more classes as relationship with GRHS increases
- Existing soccer field can only serve for practice
    1. Need a regulation soccer field on campus
    2. Would like to keep the existing grass field to provide flexibility

Strengths

- Mustang Central
    1. All in one place
    2. Staff is struggling with being open and accessible.
- Sodexo Remodel
- Triathlon in August
- Approachable Staff
- New Intranet Portal
- WWCC values community and community values WWCC
    1. Plays, musicals, museum
    2. Athletic events are free to attend
- All under one roof
    1. Community can walk Western
- Technology and Industry events/classes
- New sign system/televisions
- Removing tank farm
- Wellness Center
- Physical Plant Staff
- Maxiant Software
    1. Brought on board 4 years ago
    2. Connects and stores student records
- Walking Museum
- Walking track improvements
- Accessibility to the Science Lab
- The courtyards
    1. Underutilized
- Behavioral Intervention Team

- The Pool
- Campus-wide Wifi

Weaknesses

- Technology in classrooms
    1. Inconsistent classroom teaching apparatus
    2. Chalkboard vs. white board vs. Starboard vs. Projector connected to computer
- Communications and keeping everyone informed
- Buses break down
- Understaffed and stretched thin
- At least 1/4 mile from ADA parking spaces to an elevator
- No testing center
    1. Only college in Wyoming without a centralized testing center
- Most classroom furniture is old.
    2. Detached tables and chairs provide flexibility

Future Amenities

- There would be more community use if alcohol was allowed on campus.

FREQUENT TOPICS:

1. Storage
    - IT storage is in basement
    - General Capacity and Access
    - Basement is not easily accessible
2. ADA
    - Accessible offices
    - Accessible Conference room for Disability Services
    - Distance from parking spaces to elevator
3. HVAC
    - Consistency and control
4. Classroom upgrades
    - Technology, finishes, furniture
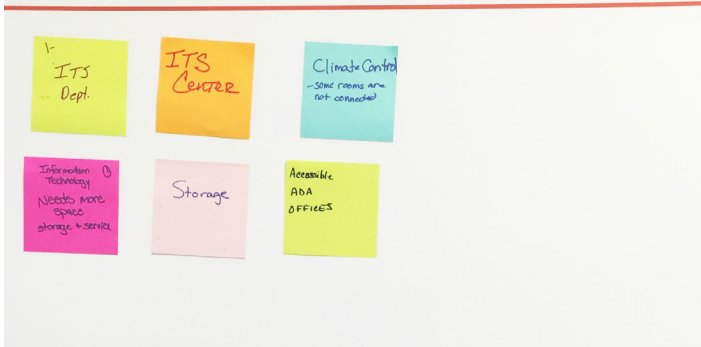
FOCUS GROUPS & INTERVIEWS: 5-YEAR PLAN

The following summary documents the focus groups and interviews conducted on September 15th and September 16th.

SEPTEMBER 16

10:15 - 11:15 AM   OPEN SESSION 2

Attendees: Library Staff (Student), Katrina Marcos, Kay Leum, Bret Zerger, Dr. Florence McEwin, Sheldon Flom (WWCC); Matt Porta, (HCM)

Below is a summary of questions posed to the group, responses, and additional comments:

Biggest Issues

- Expansion of lab/conference spaces in T&I
   1. Courses/sections are close to closed. There is a wait list.
   2. T&I program can grow.
- Update Residence Halls
   1. Maintenance, etc.
- Storage, Gallery, and Classrooms
   1. Gallery - Storage is placed under the stairways in the Theater for stands and displays.
      - Would prefer lockable storage / cage to protect from abuse
   2. Storage is very inaccessible at the moment since it is on different floors.
- Chemistry Lab
   1. Services 24 students, but is designed for 18
- Library Science Program to be added
- Large Conference Room
   1. Need another like the Wellness Center conference room
   2. Ground floor would be best
   3. To host a conference, more breakout space would be needed.
- Testing Center
   1. Testing accommodations are needed for some students at the last minute.
      - The Peer Tutor Center is often unable to give up their space.

   2. It is confusing as to what is currently being tested and where.
   3. Need large enough space to have the entire online course come on campus to test together, simultaneously
- Updated Classroom Space
   1. Update furniture to adequately support group learning and the technology students
- ADA Compliance campus-wide
   1. Handicap Parking may meet code, but it is not sufficient for the actual HC population on campus.
   2. Toilet rooms are not compliant.
- Food-friendly rooms
   1. 48-50 people max. in certain rooms
   2. 75-100 people would be good to accommodate for catering events.
   3. Hard, cleanable floors are best.
- Shades are needed in classrooms. There is too much sun glare and solar heat gain in the evenings.
- Additional Computer Labs for Instruction are needed - 20 people total
- Computer desks in the library need upgrading.
- Need a trail from Aspen Hall to Main Campus
   1. Walkway, Light, Etc.
- Indoor playground area for the Children's Center
   1. Would free up the Auxiliary Gym for other exercise classes

Strengths

- Mustang Central - great front door presence
- Library location
- OIS Departments
- Everything is enclosed in one space.
- Rules governing the scheduling of classes
   1. Still a Friday issue
- Premiere Facility with Museums and Offerings for outsiders
   1. Welcoming

Weaknesses

- Art Space
   1. Water leaks under the doors into space

- Outward appearance of campus (besides the front of main campus)
    1. The back area of T&I is unsightly, and seen from I-80.
    2. What is the impression?
- Wayfinding on Campus, both interior and exterior
    1. Map was function oriented, but not room number oriented.
- Sand Volleyball Court does not get utilized.
- Update the Presidential Park with something more multi-use.
    1. Needs power
- More water bottle fillers in place of drinking fountains

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FREQUENT TOPICS:

- T&I
    1. Expansion of Lab/Conference Spaces
    2. Program need space to be able to grow.
- Storage
    1. Gallery storage is currently under stairways.
    2. Need Lockable Storage
    3. Inaccessible, located on different floors
- Testing Center
    1. Not enough space
    2. Confusion as to what is being tested
- Large Conference room / Food-friendly rooms
    1. Need another like the Wellness Center conference room
    2. 75-100 people would be good to accommodate for catering events
- ADA Compliance
    1. Handicap parking is not sufficient.
    2. Toilet rooms are not compliant.

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SEPTEMBER 16

11:45 AM   SUMMARY DISCUSSION

Attendees: Sheldon Flom (WWCC); Matt Porta, Mecayla Cobb (HCM)

Below is a summary of the follow-up discussion and comments made during a quick debrief:

Upgrading Classroom Furniture
- HCM suggested a 'chair fair" to test FF&E for future classrooms.

Fine Arts
- Fine Arts Program needs to increase space. Move offices from basement up to where Financial Aid vacated. Vacated basement offices will then become practice rooms.
- Classroom 1005 currently has tiered seating, and will be removed. Must address mechanical louvers between classroom and corridor due to sound traveling between spaces.

HVAC Issues:
- EEI is testing cooling towers next week. Perception that $1.5 million budget will cure all HVAC issues is misleading.
-

Third Floor
- Contains storage space with windows.
- Business, near Institutional Planning, could bring Union Pacific Paper Collection out of the basement into this space.

Library
- Group Study Rooms currently have a safety issue - there is no visibility into the room due to glass block walls. WWCC has had issues with students sleeping in the rooms.

Nursing
- Currently, their faculty are dispersed, and need to be consolidated in one location.
- To increase enrollment, the simulation lab must increase its capacity to 4 beds.

Greenhouse (2nd Floor)
- This space could be better utilized and repurposed.

FOCUS GROUPS & INTERVIEWS: HOUSING

SCHEDULE

SEPTEMBER 28

12:15 - 1:00 PM   SINGLE STUDENTS:
APARTMENT-STYLE HOUSING

9:00 - 10:00 PM   STUDENTS LIVING IN ASPEN
HALL: MODEL-STYLE UNITS / OFF-CAMPUS

ALL DAY   MITCHELL'S DINING: TABLE

SEPTEMBER 29

8:00 - 9:30 AM   STEERING COMMITTEE

10:30 - 11:30 AM   DUSTIN CONOVER

12:15 - 1:00 PM   SINGLE STUDENTS: ON-
CAMPUS SUITE-STYLE

1:00 - 3:00 PM   PENDULUM: TABLE

5:00 - 6:00 PM   MITCHELL'S DINING:
SPEAKING WITH STUDENTS

ALL DAY   MITCHELL'S DINING: TABLE

FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews
conducted on September 28th and September 29th

SEPTEMBER 28

12:15 - 1:00 PM   SINGLE STUDENTS: APARTMENT-STYLE HOUSING

Attendees: (3) Snowy Residents, (1) Rocky Resident (WWCC); Mecayla Cobb, Julie Lickenbrock (HCM); Linda Anderson (Anderson Strickler)

Below is a summary of questions posed to the group, responses, and additional comments:

What students like about living on campus:

- "My overall experience has been pleasant."
- Two-bedroom apartments are roomy.
- Rocky 2 is nicer because the shelves are higher.
- The RA is very satisfied with her one-bedroom apartment, especially the view.
- Wind River offers private bedrooms, so it is popular. Other students prefer Rocky for the lower price.
- The most popular common area is in Rocky. Other halls/ buildings are equidistant from Rocky and also close to the parking lot.
- Wind River has the nicest common area space. No one uses it because of its distance from other halls, and its location in the hall.
- The computer lab in Rocky is well-used, especially the printers.
- Work orders for small issues are repaired promptly.

What students do not like about living on campus:

- Basement rooms
    1. No kitchen and small size, but pay the same price as Rocky
    2. There is a weird separating wall in the middle of the unit.
- Quiet rules in Teton
- Noise is an issue.
- Door card system took a year to fix in one section of Snowy.
- Not allowed to move out unwanted furniture

- Have to walk to Rocky to use the common area
- Many Snowy desk drawers are broken
- In Rocky, there is little flexibility, you cannot move the desk or shelves.
- Rocky 2 shower stalls are very small.
    1. One participant stated, "I couldn't even wash my feet."
    2. Rooms are smaller as well.
- Would like a Kitchen

Green Spaces:

- The little park behind Rocky is the "best thing ever and the only place in Rock Springs with trees."
- There are courtyards within the school.
- An outdoor fireplace would be a welcome addition.

Value:

- Depends on who your roommate is

Floor Plan Review:

- Floor Plan A: Two-Single-Bedroom Semi-Suite
    1. "I would love this."
    2. Layout has privacy.
    3. Concern about expense
    4. A fair price was thought to be a little higher than Rocky 2; $1,200 is an attractive price, $2,000 would be too

much.

- Floor Plan B: Two-Single-Bedroom Semi-Suite with Kitchenette
    1. Mixed opinions regarding having the sink outside of the bathroom
    2. A fair price was thought to be $1,500 to $1,800, similar to Snowy.
- Based on the above pricing, one participant would choose existing housing over Floor Plan B although he would choose Floor Plan A over existing housing because A looks cozier.
    1. Another participant stated "it's all about price." If the new housing was cheaper than Snowy, he would live there. Otherwise, he would live in Snowy.
    2. Floor Plans A and B are between Rocky 2 and Snowy, and are similar to what already exists.
    3. Plan C is different and therefore of more interest. The bathroom looks big.

Additional Comments:

- Fun indoor spaces would be swings and a playground with slides like at McDonald.
- Students that do not live on campus, live with their parents unless they are married.
- "No one pays for parking in Wyoming at all."
- Two bathrooms for four students would be attractive as would in-unit washers and dryers.

QUESTION BOARD SUMMARY

What future amenities in On-Campus Housing would entice you to live/ continue to live on campus?

- Dining Space
- Commons
- Washer/Dryer in room
- Fireplace
- Free gym
- Convenient Store
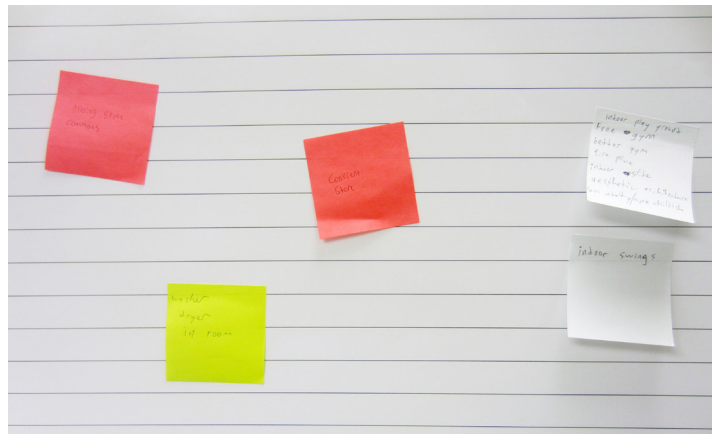
FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews conducted on September 28th and September 29th

SEPTEMBER 28

12:15 - 1:00 PM   SINGLE STUDENTS: APARTMENT-STYLE HOUSING

Continued....

FREQUENT TOPICS:

- Students like privacy for their bedrooms.
- Students like communal spaces.
- Students like kitchens whether in unit or communal.
- Noise is an issue.
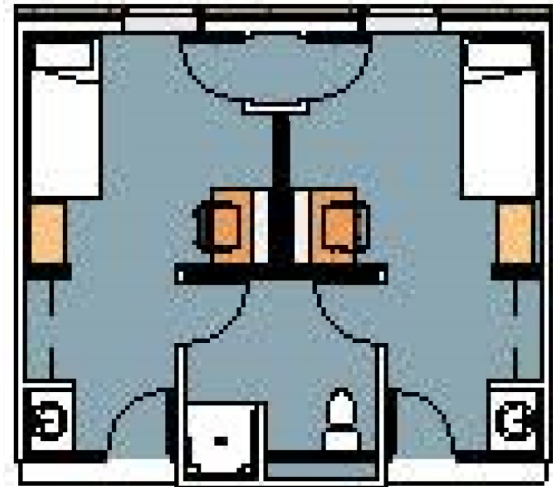
A TWO-SINGLE-BEDROOM SEMI-SUITE

SAMPLE FLOOR PLANS FROM SESSION:
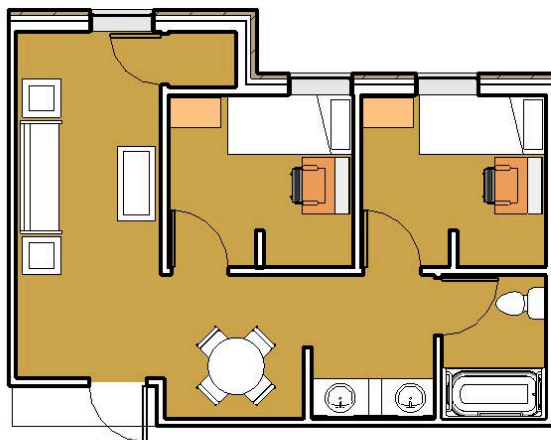
C TWO-SINGLE-BEDROOM SUITE

B TWO-SINGLE-BEDROOM SEMI-SUITE
WITH KITCHENETTE

FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews conducted on September 28th and September 29th

SEPTEMBER 28

9:00 - 10:00 PM   STUDENTS LIVING IN ASPEN HALL: MODEL-STYLE UNITS / OFF-CAMPUS

Attendees: (12) Students (WWCC); Mecayla Cobb, Julie Lickenbrock (HCM); Linda Anderson (Anderson Strickler)

Below is a summary of questions posed to the group, responses, and additional comments:

What students like about living on campus:

- Community feeling
- Community room on first floor of Aspen
- Feeling of independence
- Learning what college is about
- Large rooms
- Air-conditioning, worth the extra money
- Nice appearance of Aspen
- Fireplace
- Attractive stairwells
- In-hall gym
- Away from campus, causes students who live in the hall to stay together
- Some do not mind the walk, wouldn't call it a commute
- In-hall computer lab, though the rooms get hot

What students do not like about living on campus:

- Poor Wi-Fi service, need to supply own router
- Away from campus, requires a commute (five minutes)
- Bus only runs once an hour and stops at 6:00pm
- Thin walls and floors result in noise problems
- No in-unit kitchen
- Bathroom sink is the only sink in the unit
- Fitness room is small
    1. More cardio would be appreciated
    2. Carpet on the floor is bad

Other halls:

- Some participants thought the three older halls should be demolished.
    1. Others believed the buildings were sound and adding air-conditioning would make them more attractive.
- The apartments are not hardwired.
- The apartments fill quickly as no meal plan is required.
- Aspen is not popular with many students give its distance from the rest of campus.

Housing seen at other campuses:

- Housing at UNO and UNL is more modern and the rooms are larger.
- Housing at other campuses often have community bathrooms, a negative
- UW has small units and no air-conditioning.
- Gillette Community College has townhouse-style units with eight double rooms.

Common area spaces:

- A c-store in the building would be a welcome addition, especially if students could use their dining dollars in the store.
- Community lounges need to be "fun, playful, and comfortable."
- Group study spaces could be successful depending on the layout. There are many smaller quiet spaces, so a group study space would be nice.
- An outdoor fire pit would be "cool."
- Video gaming should have its own separate area as the players get rowdy and loud.
    1. They currently use the Atrium.
- A Redbox would be nice.

If students could change one thing:

- Better Wi-Fi
- Live closer to campus
- Thicker walls
- More than one sink
- Add covered parking to protect cars from snow

Additional Comments:

- There is an issue with HVAC in the computer room/area behind the reception desk.
- Second year and up want apartments.
- Students would like free-weights in the workout room.

FREQUENT TOPICS:

- Community
    1. Like this aspect of Aspen Hall
    2. Would like community lounges to be "fun, comfortable"
- HVAC
    1. Believe the AC is worth the extra money
    2. Computer room gets too hot
    3. Believed that adding AC to other dorms would make them more attractive
- Commute to campus
    1. Creates community
    2. Buses have a limited schedule
    3. Students would like to be closet to campus
- WiFi is poor
- Thin walls and floors
- Fitness room
    1. Students like having one in the dorm.
    2. Believe it is small
    3. Carpet on the floor is bad
    4. Would like free-weights
    5. More cardio is appreciated
- One sink
    1. Only have a sink in the bathroom
    2. Would like more than one

FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews conducted on September 28th and September 29th

SEPTEMBER 28

9:00 - 10:00 PM   STUDENTS LIVING IN ASPEN: MODEL-STYLE UNITS / OFF-CAMPUS

Continued....

HVAC issues in Computer Room.

Storage in old pool room.

Students would like free weights in the fitness room.

FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews conducted on September 28th and September 29th

SEPTEMBER 28

ALL DAY   MITCHELL'S DINING: TABLE

Attendees: Students (WWCC); Julie Lickenbrock (HCM)

Below is a summary of questions posed to the group, responses, and additional comments:

Top 6 Preferred Amenities (ranked by number of comments):

1. C-Store
   - Would help students without transportation
   - Better than going to a gas station
   - Very needed
   - Food can be bought for a reasonable price
   - Can we get a Redbox
   - Good idea for when it gets cold
2. Fitness Space - *1st image on board*
   - Weight room
   - Free weights (3 comments)
   - Rock wall & Possible pool
   - Should be free to all students
   - Workout room in all the dorms
3. Fitness Space - *2nd*
   - Yes (3 comments)
   - Better lifting facilities
4. Outdoor Space - *1st*
   - Able to get sun in the winter
   - Feel more freedom, this is a must
   - Yes
   - This area would be amazing
5. Activity Space - *2nd*
   - Game room should include consoles and games
   - Nicer ping-pong tables
   - Pool Table
6. Outdoor Space - *3rd*
   - Yes
   - This one fits better
   - Firepit

FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews
conducted on September 28th and September 29th

SEPTEMBER 29

8:00 - 9:30 AM   STEERING COMMITTEE

Attendees: Dustin Conover, Tammy Register, Erik Hamm,
Sheldon Flom, Angela Bethea (WWCC); Mecayla Cobb, Julie
Lickenbrock (HCM); Linda Anderson (Anderson Strickler)

*Below is a summary of questions posed to the group,
responses, and additional comments:*

Initial Master Plan Session Takeaways

- HVAC was mentioned repeatedly.
- Students are conscious of pricing at WWCC.

Unit Layouts

- How many students prefer bathtubs over showers?
    1. Cleanliness issue?
    2. Women prefer to have the tub to shave their legs.
    3. Shelf or ledge to compromise for not having a tub.
- Wind River is the most popular
    1. Students like their own bedroom, but like roommates.
    2. A lot of incoming freshmen end up in apartments.
    3. Wind River and one-bedrooms fill up first.
- Two bedroom apartments fill up next.
- Students like the commons space in Rocky II.

Off-Campus Cost Comparison

- Biggest competitor is The Preserve at Rock Springs
- The RS Apartments are more economical.
    1. Comparable to on-campus
- The Village Silver Ridge Apartments are mid-range.
- Aspen Hall was originally a long-term living hotel.

Teton

- For married and students over 30 years old.
- Available to other students as well.
- Mandatory 24/7 quiet hours.
- Do not accept children in res halls since it is a liability.

Housing

- Rocky fitness room is too small for 6 buildings.
- Wind River fills up first.
- Bathtub vs. shower.
- Aspen has a better sense of community. For example, Cafe
  de Aspen or LANTrosity Club (gaming).
- Aspen has thin walls.
- Snowy has sound issues between rooms.
- Students like the common space in Rocky II.

Survey

- Should it be sent to alumni? Class of 2015.
- Unique perspective
- Work with Angela B.

SEPTEMBER 29

10:30 - 11:30 AM   DUSTIN CONOVER

Attendees: Dustin Conover (WWCC); Mecayla Cobb, Julie Lickenbrock (HCM); Linda Anderson (Anderson Strickler)

Below is a summary of questions posed to the group, responses, and additional comments:

Housing

- Rocky Mountain I & Aspen are least preferred.
    1. Make them more appealing.
    2. Need more amenities.
    3. Add bathtubs to shared bathrooms.
    4. More private feel.
- Try a temporary intervention in Rocky Mountain II
    1. 55" LED screen with relocated dry erase board.

Budget

- Hard times for the State
- Not as much revenue

Housing Auxiliary Service

- Maintain a reserve, "rainy day" fund
- New building
- Creative ways of financing a new building to keep the burden off the students.
- The economy is going back up

Survey

- Add alumni questions and quantity of questions.

Other

- Benchmarking and outside trends in housing are important.
- Green River vs. Rock Springs. Why do they chose to not live at home in Green River.

FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews conducted on September 28th and September 29th

SEPTEMBER 29

12:15 - 1:00 PM SINGLE STUDENTS: ON-CAMPUS SUITE-STYLE

Attendees: (3) Rocky II Residents, (1) Off-Campus Resident (WWCC); Julie Lickenbrock (HCM); Linda Anderson (Anderson Strickler)

Below is a summary of questions posed to the group, responses, and additional comments:

What students like about living on campus:

- Close to school
- Can run late and still make it to class
- Activities, easy to stay involved
- Socialization/community building
- Wind River costs more than other halls, but it is the first building to fill as it has private bedrooms, living room, and a kitchen.
- Some students in Rocky room with only one other person.
- The common area space in Rocky is popular. It has a "living room aspect" and residents of other halls can also use the space.
- Students like the 24/7 computer lab.

What students do not like about living on campus:

- Bomb threats - nowhere to go
- Lack of privacy - living in such tight spaces results in roommate conflicts
- Not enough singles - "Everybody wants them," but they are expensive.
- Aspen never fills up, but those that live there like it.
- Some halls do not have common area spaces, like Snowy.
- The Atrium is not inviting, participants want a "chill," comfortable spot.
- Mice in White Mountain makes some of the residents want to move off campus.
- Noise is an issue. It travels through the walls and the floors.

Green spaces:

- Some students do not know green space exists on campus
- Others who know about it find it beautiful
- An outdoor commons would be nice and would bring students together

Value:

- Some participants were not aware of costs, in part, because they are on scholarship.
- The others found prices to be generally acceptable.

Floor Plan Review:

- Floor Plan A: Two-Single-Bedroom Semi-Suite
    1. Students get their own space but not much space is wasted compared to the existing two-double-bedroom semi-suites the college already has
    2. It would be nice to have privacy without paying twice as much as a double room.
    3. A fair price was thought to be $200 more than Rocky or $2,300-$2,400 per year.
- Floor Plan B: Two-Single-Bedroom Semi-Suite with Kitchenette
    1. There is only a tiny space to eat.
    2. There is no open area, but it "looks good" to some.
    3. A fair price was thought to be $2,600 per year.

- Floor Plan C: Two-Single-Bedroom Suite
  1. There is privacy as well as living space.
  2. There is enough room to have friends over.
  3. One participant suggested a smaller living area and adding a kitchenette.
  4. A fair price was thought to be $2,800 as long as there was access to a common kitchen.
- Based on the above pricing, two participants preferred unit type A and two preferred C.

Additional Comments:

- The athletic team room has many nice amenities that "lowly nerds" do not have access to.
- Once students live on campus, they tend to stay until graduation, especially athletes.
- None of the participants knew where off-campus students live.
- In terms of renovation of the three older halls vs. new construction, one participant stated that though the halls are not glamorous, they are still in good shape.
  1. The first impression is not great, but students get used to it.
  2. Another student suggested tearing the halls down, particularly in light of the lack of air-conditioning.
- Simple work orders get fixed easily, but others have an extended response time.
  1. There was an issue with doors opening, and students getting locked out.

FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews conducted on September 28th and September 29th

SEPTEMBER 29

12:15 - 1:00 PM   SINGLE STUDENTS: ON-CAMPUS SUITE-STYLE

CONTINUED....

FREQUENT TOPICS:

- Common areas
    1. Rocky's is popular/other halls don't have them
    2. Athletes have a team room. Other students would like a similar room.
- Maintenance
    1. Simple work orders get fixed easily, but others take much longer.
    2. Mice in White Mountain
    3. There was an issue with doors not opening.
- Noise is an issue
- HVAC
- Students are generally aware of costs.
- The 24/7 computer lab was regularly used.
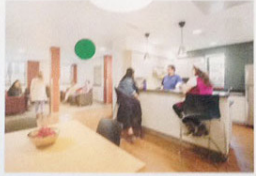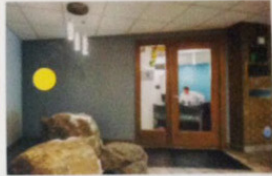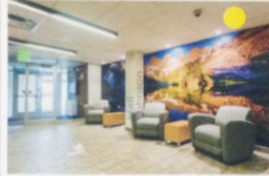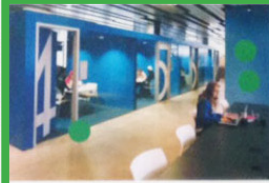
FOCUS GROUPS & INTERVIEWS: HOUSING

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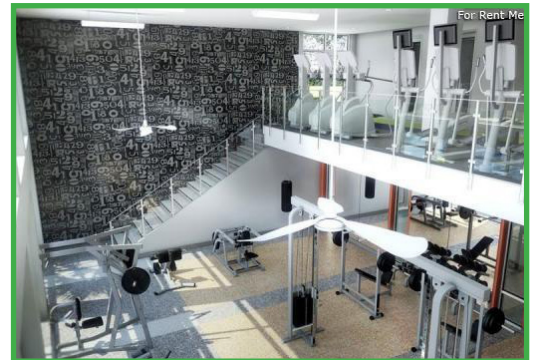
SEPTEMBER 29

1:00 - 3:00 PM   PENDULUM: TABLE

Attendees: Students (WWCC); Mecayla Cobb (HCM)

Below is a summary of questions posed to the group, responses, and additional comments:

Aspen Hall

- Positives
    1. Game/TV/Study Room
    2. Air Conditioning
- Negatives
    1. Quiet hours not enforced
    2. No kitchen in dorm room

Rocky Mountain 2

- Positives
    1. Comfortable (2 comments)
- Negatives
    1. Lack of AC
    2. Unable to use Elev. (2 comments)

Rocky Mountain 1

- Positives
    1. Elevator
- Negatives
    2. Lack of Kitchen

Snowy Range

- Positives
    1. Living room
    2. Love the space and kitchen
- Negatives
    1. Noise issues
    2. Smokers boxes needed
    3. Shower pressure is bad
    4. No lobby
    5. Heating in the rooms

White Mountain

- Positives
    1. Apartment
    2. More counter space
    3. Communal
    4. Nice rooms
    5. Kitchen
- Negatives
    1. No elevator
    2. Laundry in basement
    3. Cleaning supplies
    4. Plungers
    5. No AC
    6. No control over heat (not off)

Teton

- Positives
    1. Always quiet
    2. Love the space
    3. 24 quiet hours (3 comments)
    4. Love having a kitchen
    5. Proximity
- Negatives
    1. Few people the same age
    2. Furniture is hard (2 comments)
    3. Only a heater
    4. Noise travels through walls
    5. Don't have private rooms
    6. No AC
    7. The baths are outdated.

Off-Campus Reasons

- Live at home to be with family
- More affordable (5 comments)
- Silver Ridge - Can't have dog on campus
- House - more affordable
- Military Housing (2 comments)
- Would like a modern place

MOST COMMON TOPICS:

- HVAC
- Noise/Quiet
- Elevator
- Kitchen

*Whether positive or negative
depended on the dorm

FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews
conducted on September 28th and September 29th

SEPTEMBER 29

5:00 - 6:00 PM   MITCHELL'S DINING: SPEAKING WITH STUDENTS

Attendees: Students (WWCC); Mecayla Cobb, Julie Lickenbrock
(HCM); Linda Anderson (Anderson Strickler)

*Below is a summary of questions posed to the group,
responses, and additional comments:*

On-Campus

- Positives
    1. Easier access to resources
    2. Close
    3. Know about events
- Negatives
    1. Not safe since you can't carry guns
    2. Need better laundry campus-wide
    3. Need more common areas
    4. Need something similar to T-Rex closer to dorms
    5. Would like a 24/7 C-Store

Aspen

- Positives
    1. AC (3 comments)
    2. Internet (hardline)
    3. Quiet
    4. Homey, Warm
    5. Storage Unit
    6. Community
    7. Well-maintained, nice (2 comments)
- Negatives
    1. Better Wifi (2 comments)
    2. No entry door on building side
    3. Need a better community kitchen
    4. Too hot in computer lab
    5. Need more computers, one is missing a mouse
    6. Not roommate friendly
    7. Need more space, privacy
    8. Need more laundry facilities

Rocky

- Positives
    1. Easy to get to class (2 comments)
    2. Your own room
    3. Downstairs is like a living room
    4. Enjoys not having a roommate
    5. Like having a kitchen
    6. Close (4 comments)
    7. Can find people to talk with (2 comments)
    8. Can be loud
    9. RA's are nice
    10. Community
    11. Commons
    12. Non-Community Bathroom
    13. Computer lab (2 comments)
- Negatives
    1. AC (4 comments)
    2. Separate gaming room
    3. Weight room with free weights
    4. Elevator is turned off
    5. Noise
    6. No respect
    7. No noise enforcement
    8. Can't use open heat source coffee pot

9. Feels like a submarine
10. Wifi

Snowy

- Positives
- Negatives
    1. Noise

White Mountain

- Positives
    1. Kitchen and living area
    2. Lots of space in kitchen
- Negatives
    1. Bathrooms needed in lobby

Rocky 2

- Positives
    1. Semi-private
- Negatives
    1. Wifi
    2. AC

Teton

- Positives
    1. Close
    2. Quiet
    3. Comfortable
    4. Time to study
- Negatives

Reasons Students Live Off Campus

- Not enough money

FOCUS GROUPS & INTERVIEWS: HOUSING

The following summary documents the focus groups and interviews conducted on September 28th and September 29th

SEPTEMBER 29

ALL DAY   MITCHELL'S DINING: TABLE

Attendees: Students (WWCC); Julie Lickenbrock (HCM)

Below is a summary of questions posed to the group, responses, and additional comments:

Top 10 Preferred Amenities (ranked by number of comments):

1. C-Store
   - Yes (7 comments)
2. Fitness Space - *1st image on board*
   - Yes (4 comments)
   - Good idea, exercise helps with maintaining a healthy mind
   - Extra Fitness Space is always good
   - Be able to use free weights even if not an athlete
3. Group Study - *3rd*
   - Yes (2 comments)
   - This would be nice and quiet
   - There should be more quiet study areas.
4. Outdoors - *1st*
   - Yes (4 comments)
5. Outdoors - *2nd*
   - Great community space
   - Yes (2 comments)
   - Good way to meet people with like lives and schedules
6. Community Lounge -*1st*
7. Community Lounge - *3rd*
8. Communal Kitchen - *1st*
9. Fitness Space - *2nd*
10. Group Study - *2nd*
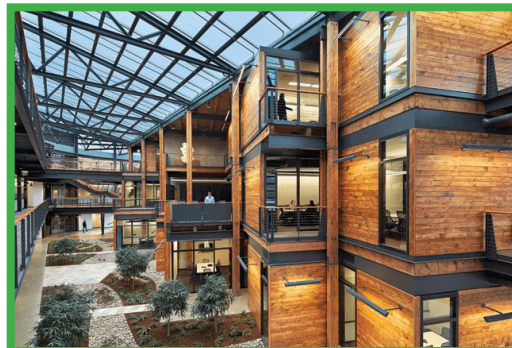
STUDENT HOUSING & RESIDENCE LIFE

STUDENT HOUSING & RESIDENCE LIFE

107
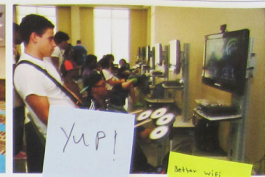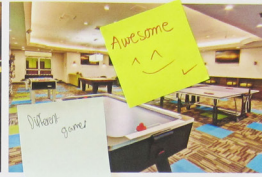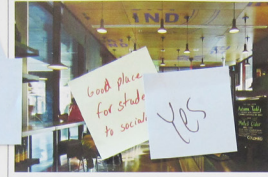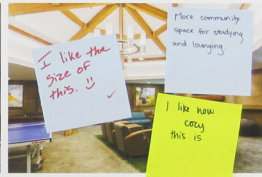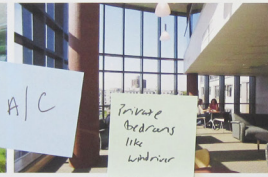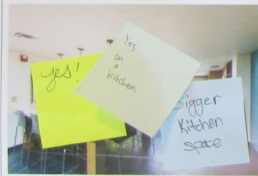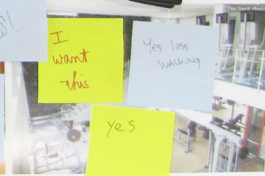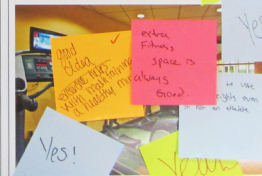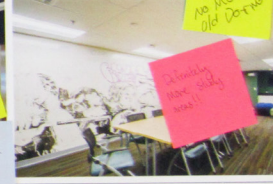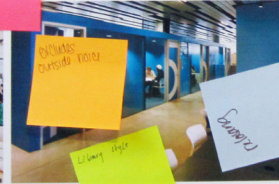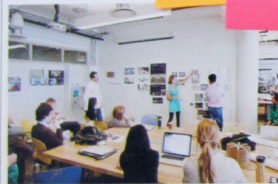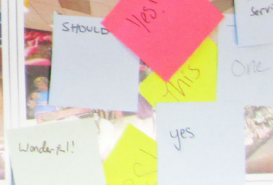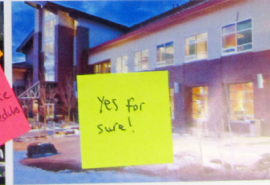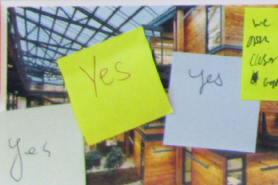
03

MEETING MINUTES

Facilities Conditions Assessments

OVERVIEW

The following notes highlight the observations, discussions and takeaways from the Facilities Conditions Assessment meetings held on August 10 and 11, 2016. The purpose of these discussions and tours were to evaluate the existing conditions and potential opportunities on the WWCC Main Campus, Student Housing and Green River Center sites. The overview below summarizes the schedule of meetings and tours, with more detail on the following pages broken out by discipline.

Below was the schedule over the two days:
Wednesday, Aug. 10th
8-9:30am   Meeting w/Facilities – MEP/ Structural
9:30-noon   Tour Campus, Housing & Green River

1-2:30pm   Meeting w/Campus IT/AV/Acoustical
2:30-5pm   Tour Campus, Housing & Green River

Thursday, Aug. 11th
8-9:30am   Meeting w/Grounds
9:30-11am   Tour Campus, Housing & Green River

This document represents our understanding of the items discussed and the conclusions reached. If no corrections are received within 5 business days, the project will proceed based on this understanding.
NEXT MEETING: September 15, 2016

NEXT STEPS:
- HCM to work with WWCC to determine next meeting with the Steering Committee and overall schedule.
- HCM to collect existing drawings, data, and documents form the College to begin our analysis process, prior to Focus Groups commencing.

Automotive Lab in the T&I Wing

Meeting with Facilities – Arch/ MEP/ Structural

ATTENDEES:

NAMES	ROLE	
Sheldon Flom	VP for Administrative Services	
Korey Heikes	Building Operating Systems Specialist	
Mel Horrocks	Maintenance Supervisor	
Dustin Conover	Director of Residence Halls & Student Life	
Daniel Perusich	Director of Workforce & Community Development (at Green River Center)	
Matt Porta	Principal	HCM
Mecayla Cobb	Project Manager	HCM
Mark McGuire	Mechanical Eng	Cator Ruma
Jason Slavik	Mechanical Eng	Cator Ruma
Chris Isaacson	Electrical Eng	Cator Ruma
Greg Shavlick	Structural Eng	KL&A
Todd Kreps	IT/AV Eng	The Sextant Group

Foundation wall leak in Basement

Current work on the Tank Farm Removal

NOTES FROM DISCUSSION:

Architectural Notes

- New roofing is membrane – Sarnafil brand.
- Rocky Mountain Phase II still has built-up roof.
- The Atrium had major leaks in the atrium roof and clerestories. Much of the issue has been related to the glazing, work is on-going and likely complete soon.
- Pavement is pretty bad at backside of Mitchell's - trip hazard and slopes toward the building. The grease trap for kitchen is in this location, has lift station to get it up and out of basement. Single pump.
- Reconfiguring an empty women's locker room near the WWCC info desk. The vacated space will be renovate into a family restroom, mothers' (lactation) room, and a storage area for the Wildlife Museum for the bird collection.
- Basement Level - The north side (near the atrium) foundation wall is leaking.
- Green River Center –
  - On June 12, 2016 a large hail storm cracked roof tiles. As a result, GRC has had some roofing issues - leaks and some tiles failing (tiles are held in place with nails). At main entrances, tiles have been falling.
  - Signage - Dan Perusich shared that the current street sign at GRC blends into the surroundings, and is often hard to find for visitors. He recommended enhancing the signage at the street.

Structural Notes:

- The WWCC facilities are structurally in good condition with limited locations with some minor vertical movement.
- The T&I area has had some slab on grade movement and the remediation efforts in this area are in motion by Western Engineers (scope to bid this summer). Includes floor leveling, site concrete, and new drainage piping.
- Quite a bit of bentonite in the soil.

Current signage at GRC blends into its surrounding context

MEETING MINUTES

- Green River Campus -
    - No known soils or structural issues

Mechanical Notes
- College noted that Peter Sabeff from EEI (Golden, CO) has been out recently to look at some issues involving the cooling tower and controls. Two cooling towers – only operating at 40% and 60%. In September, they will shut down the cooling system and see what is wrong with the piping. May need to replace the chillers this fall. Cator Ruma will be get in contact with EEI and learn work has been done by EEI.
- Tank Farm
    - Very complicated system, state-of-the-art in the 80's.
    - (12) 32,000 gallon tanks in the ground for heat exchange. Turned them off, tanks are being drained, and they are getting pulled out (starting today).
- Facility has two heating water loops. A high temp (180degF) and low temp (115degF). The FM team has been mixing water from high temp loop into low temp loop to boost temperature. When upgraded, they prefer to go with a single loop. Facility has (5) non-condensing boilers. FM stated they can typically run off (2) boilers only. The Wellness Center has its own boilers (2 years old).
- Facility controls utilize pneumatics. Facility management team has expressed concern with oil and containments in pneumatic lines. EEI has been investigating this issue. Facility would like to update controls to digital.
- A new cooling system is to be installed for the server room as part of EEI observations.
- FM mentioned that EEI found that the lab hoods were not exhausting properly.
- Residence Halls -
    - The older residence halls do not have air conditioning. Humidity concerns have been brought to the design teams attention in these older residence halls after students shower. The goal is to have air conditioning in all residence halls.
    - Wind River Hall and Aspen Mt. Hall have AC.
    - There is a cooling unit in the computer room at Rocky Mountain Phase II.
    - All residence halls have boilers. They have fin tube heating.
    - Domestic water piping is older and getting pin hole leaks in areas. Plumbing vent piping is cracking and allowing sewer gas to enter building. Thin copper piping is failing in res halls.
    - Each bathroom in each unit has its own exhaust fan.
    - The 2004 fire in a res hall at Northwest College in Powell, prompted all res halls in Wyoming to have fire suppression systems installed. All WWCC residence halls have been retro-fitted.
- Green River Center -
    - Boiler is 3 years old. Old one blew up after a failed repair.
    - Domestic hot water is an issue, according to Dan Perusich. He added that only a few faucets get 'warm' water.
    - The heating & cooling in the JWP Hall/Auditorium is hard to control. Dan complained it takes a long time to change the temperature in the space, when it swings in the undesirable direction of too hot or too cold.

Electrical Notes
MEP Projects/ Issues
- Blown Transformer in North Basement Distribution Room.
- Heat Pump Removal (In Progress)
- Cooling Tower (Being Looked at by EEI)
- Entrance Facility (EF) Cooling on Generator
- Power Monitor on Primary
- LED Lighting Retrofit
- Exterior Lighting Upgrades
- Access Control Upgrades
- Security Upgrades
- Public Address Upgrades
- Aspen Hall Elevator Overheating
- Digital Control Upgrades
- Cooling in Residence Halls
- Leaking Clay Tile Roofs (GRC)
- Condenser Replacement (GRC)
- Wildlife Museum HVAC Upgrades - needs a standalone system. The mounts are cracking due to varying temperature swings in display space.

Recently Completed Projects
- Phone System Upgrades (VoiP)
- Parking Lot Seal
- LED Lighting to Phase III (no master plan of phases)
- Mitchell's Kitchen - Serving Areas (Sodexo)
- T-Rex Dining Hall - Serving Areas (Sodexo)
- New Kiln Structure (out for bids this week)
- Breaker Study and Replacement by Wester Electrical
- Aspen Hall is the old Wingate Hotel and has PTAC units for cooling. Wind River Hall has A/C.
- Facility personnel believe the systems have adequate capacity but need to be tuned in order to gain the additional capacity.
- Dorms did not have ground fault breakers/devices.
    Post Meeting Verification [8/12]: Does not comply with NEC 210.8.
- Dorms did not have arc fault breakers/devices.
    Post Meeting Verification [8/12]: Does not comply with NEC 210.12
- Access Control system does not have a central lockdown station. Main campus will lock GRC doors after hours but occasionally does not lock doors. May need to extend the amount of electronic hardware to all exterior doors.
- Facility has a service contract with Kone out of SLC on all campus elevators. FM stated that Aspen Hall's elevator is failing (gets too hot during move in or has an electrical issue) because it is not rated for its current use. Cator Ruma is under the impression that an elevator listed for commercial hotel use should be of suitable rating for a residential dormitory. Problem may reside in electronics of elevator controller.   Wind River and Rocky Mountain Halls elevators work fine. Green River Center elevator is not fine, and currently down.
- The Annex main servers are on the generator system but the cooling (each server is cooled individually) for these servers are not.

The Annex may which may become something new, which will require a new server room. New cooling system to be added soon.
- Facility was rekeyed 10 years ago. Interior locks are hard key and a few exterior doors have electronic access. No significant door monitoring.
- Phase III lighting was basement retrofits. Next lighting phase will be to do exterior lights to help with security issues.
- Paralleling transfer switch for MDC-4 was burned out when transformer failed.
- Should address having a power monitor on the incoming line to protect distribution equipment from being single phased.
- Each residence hall has 400A services. Each suite has its own branch circuit load center.
- Cooling Tower fan is running continuously due to problems with tower fins. EEI to address issues in September.
- Fire Alarm systems for Main Campus and GRC are not linked. Maintenance prefers to keep it this way.
- Cator Ruma completed a 2008 Power Study, which was an analysis of the electrical equipment on campus. None of the recommendations from the study were implemented.
- Western Electrical has tested and replaced unserviceable switches in the main gear locations.

Areaway near roof drain

Main Server Room in Annex

113

MEETING MINUTES

Meeting with Campus IT/ AV/ Acoustical

ATTENDEES:

NAMES	ROLE	ASSOCIATION
Sheldon Flom	VP for Administrative Services	
Derek Robinson	Director of Information Technology	
Josh Powelson	Network Admin/ Information Technology	
Matt Porta	Principal	HCM
Mecayla Cobb	Project Manager	HCM
Todd Kreps	IT/AV Engineer	The Sextant Group (TSG)

Typical Flexible Classroom at GRC

Server Room at Annex

NOTES FROM DISCUSSION:

- Goals in the next five years…
    - 1) Better space
    - 2) Control of power to the Core Room
    - 3) Some UPS at core room - would prefer a large UPS with standalone generator.

Existing Needs
- Physical Storage – needed from IT standpoint. Intake area for new incoming equipment. Staging area for imaging new machines to go out and prepping HW and SW. Outtake storage for older replacement machines waiting to be offered to the public.
    - TSG Footnote: The Information Technology Dept supports 1800 total machines. Refresh occurs every 5 years. IT supports both admin and academic technology.
- Helpdesk - needs visibility and access to customers. Currently, the Helpdesk is in the middle of open cubicle offices of IT staff through a hallway and behind doors. Walk-in requests can disrupt other staff privacy. Location of Helpdesk needs to be where users are located. Meetings rooms on one side and classrooms on the other side.
    - TSG Footnote: No service window or strong customer facing presence. New this Fall, students will be on an in-house managed email server (Exchange with Office 365) with IT managing the domain (over Active Directory). i.e. helpdesk requests will be high. The Helpdesk is staffed by one full-time person who provides Tier 1 support and creates tickets for Tier 2 and 3 techs. Students are not employed by the Helpdesk. Password resets are via the ACES IT Center. A single sign-on is provided using Ellucian portals. Blackboard is hosted on site with support provided by the Distance Learning Dept. WWCC IT also supports residential network in student housing (wired and wireless).
- Physical separation - IT staff are spread out with offices/spaces at multiple locations. Derek indicated that there are communication issues as a result of this physical separation. "Outages and emergencies are difficult to respond to when you're spread across the hall. Not that far away but to get up from your desk to ask someone something is difficult." Derek had provided a proposed layout to improve communication and access to people/resources using a shared center staging area surrounded by a perimeter of staff offices. Derek likes the Mustang Central renovation approach. Staging area could be used for setup of desktops, servers, switches, emerging technologies, projectors, etc. A second option expressed by Derek is to take the print shop out of the Annex to open up space. Provide a commons area for working.
    - TSG Footnote: Some staff have doored offices and others have open cubicles. Is hoteling an option? It was noted in the tour that staff were using their offices to stage/prep and store equipment. TSG noted that the work of recycling could be outsourced since it is not core to the mission. Safe Harbor was mentioned as an outsource provider for recycling. Hard drives would be removed and destroyed for privacy compliance. Staff, time, and space would then be freed up to focus on support of students and the College.

- BYOD – WWCC students have 4.3 devices each on average. Derek expressed that bandwidth was not an issue. WWCC has a 1Gig connection coming in. IT has standardized on Aruba WAPs and currently using b/g. Users need, use of devices, and for wireless access is growing both in academic and living/learning areas. Wireless access is provided in common areas of buildings, corridors, some classrooms, and in residence halls. Wireless is open with a passive network controller. No client to install. A layer 7 firewall is used. "Users are put into a "box" and if something bad happens they are cut off." Bandwidth is throttled for applications (Netflix etc) and when bandwidth reaches 60% utilization.

Information Technology (IT):
- Physical storage is needed for IT. Intake-staging area for imaging to go out and outtake storage for replacement of machines. IT shop handles most of the machines.
- Layer 7 Firewall
- Most of the server work is done remotely. Distance learning takes technical calls from remote areas.
- Topography and docs are printed in binder and not electronic. Currently held by a sub consultant? Would like to see this info. Fiber and wireless. Have 3 phases. Main single mode fiber connected to each closet (24 total). 10G and certified for 40G. Not close to 10G. Homerun to each closet. Used to have daisy chains.
- Redundancy comes in two forms - 6 pairs fiber in ea. closet. Multimode is dark. Not enough space on core switch.
- Central Wyoming Unified Network WUN and second goes to contact communications and Mammoth and not free. Use as failover and not used for load balancing. No competition. Have analog lines for random control panel, elevator, fax.
- IT should have own generator. Have separate UPS systems in core room. Tried to used giant Emerson UPS system and assurances would work and batteries bad for years, transformers blew in it, no one knew until needed. Must communicate. Use individual UPS since response for these and would not be able to monitor.
- Interim cooling designed for dept stores not redundant and have to be on to cool core room. 78 degrees. Cooling is not on generator. 100 servers and most are virtualized. 30 physical servers. Room not adequate ceiling space and ducting. No proper wire mgt or raised floor. Fire protected sound. No 3 phase UPS or reliable generator. Edge closets and wire mgt done pretty good but cooling and ventilation. Some network closets in shared locations. People blocked access and use like a closet in their room. Not ideal for network.
- Governance issue - IT's voice at the table is through Facilities. Funding model and budgeting may be changing to centralized.

Classrooms:
- Current uses: Web conferences, online classes, synchronizes learning. WWCC would like more emphasis put on collaborative learning. Connection of two locations through digital signage.
- Development of guidelines for supporting student connecting to college, wirelessly.
- Computer lab important to support students with access only to smart phone or tablet without full MS Office Suite.

- Most open labs are used for specialized software.
- Think Tank (group work space) in the OIS Lab.

Security:
- WWCC has had security studies completed. Outdoor lighting and access control included as part of current security system. However, there are issues with the aging security system.
- A big concern is that the campus cannot lock down building from one location. The front door is a card reader but the adjacent doors are manual and requires an extension of the electronic system.
- Internal and external notification. Upgrading internal phones.
- Green River Center appears to be somewhat disconnected from Rock Springs. No visible cameras in or outside of building or in parking lot. Buildings need access control.
- Currently, there is no IT connection to AV, which would allow remote management, security and asset tracking of equipment.
- Joint effort between depts. mng servers for software. Granting access to cards for new employees. Building controls managed by maintenance. Logical control managed by maintenance. Policies behind access control.

Faculty
- Crestron wireless gateway and Blackbox. Testing to see what should roll out. Classrooms are VGA (no digital dongles). Need to move to digital if BYOD and faculty bring laptops. No unified

Think Tank Room in OIS Computer Lab

enterprise control - uses hand held remotes (multiple for each projector if (2) and for document camera, etc)

- (1) interactive TV. Smartboard and Starboards. Not used. WWCC thought it was a training issue. Went to each faculty member and 2 showed up and no one is using. Technology should be a teaching tool and not novelty.
- Tech Advisory Council. (TAC) CIO is meeting to get new ideas out to the rest of campus. Talk about new domain and decisions that impact entire campus.
- Academic Tech Team head up by Cassie in DL dept. Faculty will play around with software. Sandbox area in OIS lab for this purpose.
- 5 year journey getting standardized. Ordered new lecterns and projectors. Remotes are interchangeable. Wellness center (touch panel) and 1309.
- Board room will introduce - with a touch panel.

Crestron
- Try to get 2-3 more. Have scaler switchers at projectors in the two newest classrooms - looking to go HDBaseT.
- Campus Standard:
  - Cisco phones
  - Aruba wireless
  - Brocade network
- Local cisco representation is not good. Palo Alto firewall. ASA

from cisco still port based and still expensive.

Acoustics
- Background noise issues in the Annex.
- Bookstore, 1400s classroom hallway and next row up have sound issues. Transfer air issue between classroom and corridor.
- Network closets and ICX units to suppress noise from fans but since shared space and smaller cabinets racked in are more confined and so loud.
- Noise issue from free weights. Slam weights onto ground. Free weights problem not machines. Entire floor will shake. Suspended floor to help with load - 4" designed to be weight room but still transfer noise.
- No complaints from theater or rehearsal rooms and have sound deadening and special doors.

Typical Teaching Podium at GRC

Typical Control Panel for Projector

Meeting with Grounds

ATTENDEES:

NAMES	ROLE	ASSOCIATION
Sheldon Flom	VP for Administrative Services	
Mel Horrocks	Maintenance Supervisor	
Trevor Barnes*	Landscape and Irrigation Supervisor	
Matt Porta	Principal	HCM
Mecayla Cobb	Project Manager	HCM
Jim Verdone	Landscape Arch	VLA
Brannon Bleggi	Landscape Arch	VLA
Brandt Lyman	Civil Engineer	Western Engineers

*Trevor met with Sheldon & Mecayla on Wednesday due to scheduling conflicts on Thursday. They relayed his concerns and comments to the consultant team.

Terraced pathways between two residence halls

Recently renovated courtyard on the Main Cam-

NOTES FROM DISCUSSION:

Rock Springs Campus
- No concerns with snow removal
- Sidewalks are well maintained yearly.

Tank Farm
- (12) 32,000 gallon used for storage – pulling out tanks, convert to green space. Leave access for trucks at SW end.
- After tanks are removed the space will remain unfinished for one year to allow for any natural settlement of the soil.
- Wellness Center construction messed up irrigation – issue with water supply and size of the pipe is restricted. City water is the supply.
- Getting water to green space from Wellness Center is going to be an issue.
- Desire for the new space to be:
  - Gathering area, picnic tables
  - Outdoor Classroom
  - Small walking path (1/8 mile).
  - Frequently used in the summer (shade from the sun) because the buildings block the wind.

Walking Trail
- Walking track is very heavily used (just short of a mile).
- Walking path was recently upgraded and improved.
- WWCC would like to get community and business partners to use the campus more.

Soccer Field
- Field has been closed for the summer to reseed.
- Would like to create a NCAA regulation field by updating/ expanding existing field or find a new location for a competition field.

Irrigation
- Baseball Field irrigation system is being updated (heads are being replaced).
- Irrigation pit is old and rust is clogging the heads and getting debris into systems
- Front lawn heavily used by most K-12 students and walking track used by students/faculty.
- Across campus, there is a poor irrigation system, could be updated and better linked together into one system
- Roughly, 15 acres of campus are currently irrigated/ maintained.

Courtyards:
- Courtyard #2 has been renovated/improved for student use.
- Art Courtyard has not been renovated and needs work – lots of hardscape and grade differential issues.
  - Flower beds – less maintenance preferred
- Juniper trees might be outdated - school has been removing them over time.

Kiln/ Pottery Area
- Kiln/ Pottery Area could have some potential use by students. Currently it is:

MEETING MINUTES

- Not in good shape
- Redo grading – hardscape
- Planters have good spruce trees worth saving.
- Benches are deteriorated
- Grease trap has to be pumped in this area.
- Expansive soils – cause sidewalks to heave
- 1/3 of the students access their Art classes through this space.

Tennis Courts Area
- Remove shrubs, remove Juniper – grassy area in front
- Put a bench in front of the trees
- Security issues along walkways – Low wall to block undesirable views.
- Site Lighting not up to par – dark spots – especially around fleet area. Phase in future changes to LEDs – ongoing lighting work as a result of safety plan.

T&I Building
- T&I Building is having some expansion issues – think is due to drainage. Adding a concrete option around base of bldg. along with parking to divert away from the building. Culvert is having head drainage issues. Engineers are planning improvements this fall.

Future Expansions/ Ideas
- Desire to add sidewalks to front entry (along the main drive) connecting College Drive to the front entry – currently no sidewalks exist.
- Bus Barn would be desirable
- Western Education Center
- Dress up vehicular entrances into the College
- Look at drainage – overall stormwater? Irrigation on separate meter with city (do not pay for the sewer fee).
- Consider fields to by synthetic turf – option but will have high cost impact.
- Potential IT program expansion.

Residential Area
- Existing park is not very well connected to Residence Halls / split by fire lane
- Landscape between Teton, White and Snowy Range Halls needs update. Railroad ties are dated.
- Russian Olive trees not ideal in front of Residence Halls. Snow broke off limbs and created safety hazard.
- Fire Pit desired by students and have initiated fundraising campaign – would locate it in green space between the Residence Halls and Cafeteria.
- North side of Residence Halls – not using as amenity – can it change to something used more often?
- Sand volleyball areas by Res Halls is not being used. It is not being used due to substantial wine and security issues.
- Off-campus housing (Aspen Hall) could have improved landscaping.

Green River Center (GRC)
- Sign for Green River campus is not visible. Does not stand out against its surroundings.

- Back side of complex could use more landscaping-greenery, etc.
- GRC water tank has some erosion from draining tank.

Main Campus Sculpture

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MEETING MINUTES

This document represents our understanding of the items discussed and the conclusions reached. If no corrections are received within 5 business days, the project will proceed based on this understanding.

OCTOBER 13

BOARD OF TRUSTEES WORKSHOP

Attendees:

Names	Role	
George Eckman	President	
Lynne Chadey	Vice President	
Dick Boettcher, Jr	Trustee	
Shannon Honaker	Trustee	
Richard Baxter III	Secretary	
Dr. Tom Spicer	Treasurer	
James Roth	Trustee	
Dr. Karla Leach	President	
Sheldon Flom	VP for Administrative Services	
Philip Parnell	VP for Student Success Services	
Mecayla Cobb	Project Manager	HCM
Matthew Fitzsimmons	Designer	HCM

Agenda:

- HCM reviewed the Master Plan (MP) team of consultants and specific team members.
- HCM reviewed the process up until now, specifically the Visioning, Existing Facilities Tour, and User Workshops re: Main/Green River Campuses, Housing and Community Groups. The team discussed constituent groups the MP team met with over the past few months. And, reviewed the Housing Survey that is currently out to students for their feedback.
- The following responses were provided by the Board of Trustees members when posed the questions about their Measures of Success for the Master Plan.
- HCM reviewed the amenities preferred by students in Focus Groups, including convenience store, community spaces (group study, quiet study, etc.), coffee-shop environment, and communal kitchen.
- HCM reviewed the most frequent comments mentioned in the Focus Groups.

Discussion Notes:

Greatest Hopes

- Increase student population - not just in being more efficient, providing student housing, improve commutorization of students, transportation to satellite buildings on campus.
- Maximize the greatest amount of teaching space in their exiting footprint. How can they most economically (cost effective) expand instructional space in the future? State funding is dependent upon instructional space.
- Continue to meet the needs of the large southwestern WY region WWCC services and supports in the near and long-term - educational, career-oriented, and cultural needs.
- Work on developing electronic infrastructure and ability to use technology and adaptive technology. May require dedicated or new space for distance learning.
- Expand Housing to house students short- and long-term. For example, Nursing students are required to conduct clinicals in Rock Springs and would benefit from temporary/short-stay housing accommodations.
- Seek ways to expand the Nursing Program so they are able to service more students. A need exists in the community to garner more nursing specialties, and thus instructors will need to be hired for this purpose.
- Improve aging Residence Halls as needed to continue to be an attractive campus to travel to and a destination campus.
- Improve the campus 'front door' to the community, new students, student's families, etc. Improve safety/security and connecting Main Campus to Student Housing.
- Improve connectivity/ coordination in technology (blackboard) with satellite campuses and high schools for distance education & training via video-conferencing, skype, etc. Plan for expandable technology and space in the future.
- Serve the surrounding counties (reaching adults in their communities) by increasing WWCC's ability to teach the skills they need in their counties. Their reach is more than

150+ miles away from main campus. How can they continue to be served?

- Renovations, new buildings, and expansion.

Biggest Concerns

- Funding – state or otherwise
- Providing amenities for commuter students' needs, not just on-campus students.

Review of Most Frequent Comments Mentioned in the Focus Groups:

- Main Campus – HVAC controls & upgrades, consolidation of departments into one location (i.e. Nursing, IT), moving the server core if the Western Education Center is built, expansion/visibility of programs growing on campus (T&I, Nursing, Computer Science, and Fine Arts), soccer field expansion, and developing a nice green space over the tank farm removal grounds.
- Housing – Renovation/ new construction of student housing, AC in all res halls, private bedrooms are desired but extra space should go to community spaces, and centralized outdoor social spaces (ex. flexible yard).
- Existing Facilities Tours - safety and security (lockdown of campus from one point) and cameras at entrances.

Next Steps

- HCM will develop early options for potential priority projects, to review with the Steering Committee in October.
- Anderson Strickler will evaluate the Housing Survey results prior to the next October meeting. They will also complete the Off-campus Market Analysis.
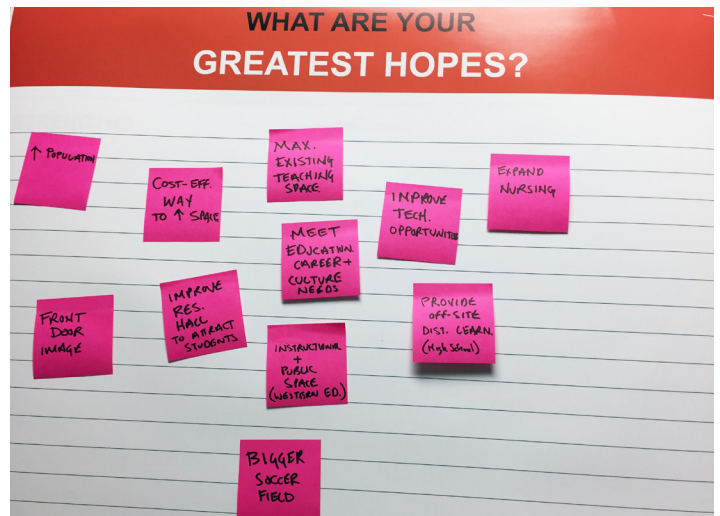
MEETING MINUTES

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OCTOBER 13

STEERING COMMITTEE

Attendees:

Names	Role	
Dr. Karla Leach	President	
Sheldon Flom	VP for Administrative Services	
Philip Parnell	VP for Student Success Services	
Kim Farley	VP for Student Learning	
Tammy Register	Administrative Services	
Erik Hamm	Media Center	
Levi Larsen	ASG	
Dustin Conover	Residence Life	
Angela Bethea	IT	
Mecayla Cobb	Project Manager	HCM
Matt Fitzsimmons	Designer	HCM

Next Meeting: October 27, 2016

Agenda:

- HCM summarized the findings, key takeaways, and most frequently mentioned topics from both the Main & Green River Campus as well as the Housing Focus Groups. They discussed all the different user groups included in gathering input, and described the ways in which student input was engaged in various ways. They also summarized the key areas of concern when the Planning Team toured all existing buildings – on the Rock Springs and Green River campuses and all WWCC student housing facilities.

Further Clarification:

Further clarification from the Steering Committee was requested of the HCM team on the following topics:

- Testing Center
  - Prometric/ Pearson Vue/ etc. are already tested at the Green River Center. No need to replicate on the Main Campus.
  - Rock Springs - Instructional purposes for students to make-up exams.
  - ADA compliance is necessary.
  - Placement testing.
- New Learning Center
  - In the previous Master Plan, the team tried to expand the Learning Center at the corner and consolidate its functions. Not a part of this Master Plan.
- Additional comments:
  - The long corridor in Rocky Mountain I/II is sound corridor.
  - Military housing or veterans typically receive monthly stipends through BAH (Basic Allowance for Housing). Sheldon & Philip stated that on other campuses, they were able to negotiate monthly payment plans with military students so they could live in on-campus housing.
  - Dustin confirmed that there are not enough Communal Kitchens in the existing Res Halls. Currently, two stoves are services nearly 160 students in Rocky I/II. Adding more makes sense.
  - WWCC's Visual Arts program could expand in Green River to accommodate a gaming program at Green River, which could include coding, AI, Java, and digital design. If additional programs were added to Green River Camp us, Dr. Leach stated that she could contract the Star Bus Company to provide transportation between campuses during evening/ late night hours, as necessary.
  - WWCC has highly regarded Fine Arts programs in technical theater & instrumental music. Theater is strong in the Rock Springs community, including the Community Actors Mission, The Broadway, and more.
  - The Committee discussed the idea of adding fitness

centers to each res hall. The Committee discussed possibly removing the $12-$15 semester fee to the college's fitness center. This might encourage more to utilize the main campus fitness spaces, versus equipping every res hall with duplicated functions.

- The Steering Committee would prefer that the Academic and Student Housing sections of the Master Plan are separated in one document.

HOW DO WE PRIORITIZE? – MAIN CAMPUS

Need	High	Mid-range	Low	Comments
Western Ed Center	X			High priority, but not likely in short-term
Server Core Relocation		X		Not likely in the short-term
Consolidation of Depts				IT & Nursing; Learning Center low priority
IT	X			
Nursing		X		
Fine Arts	X			Visibility
Growth of Programs	X			T&I- other funding can happen; Fine Arts
Signage/ Security	X			Likely. GRC
Collaboration Spaces				
HVAC	X			Likely
Classroom Upgrades	X			Furniture, Technology, Increase Size
Green Space	X			
Soccer Field	X			Likely
GRC - Gaming Program	X			At GRC Campus. Include transportation. Likely/ done
ADA – SDC Office	X			Likely, reconfigure existing space.
Toilet Room Facilities		X		On-going yearly renovation
Testing Center	X			
GRC – Toilet Rooms, Elevator, Green Space, Upgrades		X		

HOW DO WE PRIORITIZE? – STUDENT HOUSING

Need	High	Mid-range	Low	Comments
Renovation / Replacement of Halls	X			
Upgraded Unit Layout		X		Private bedrooms
AC in Res Halls	X			
Communal Kitchen	X			
Outdoor Spaces	X			
Community Lounges	X			
Amenity Spaces: others?				

MEETING MINUTES

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OCTOBER 13

COMMUNITY MEETING

Attendees:

Names	Role/ Association	
Dr. Karla Leach	President, WWCC	
Pete Rust	City of Green River	
Don Hartley	Enterprise Committee	
Jerry Klein	Memorial Hospital	
Kayla McDonald	Rock Springs Chamber/SEDC	
David Tate	City of Rock Springs	
Rose Mosbey	City of Rock Springs	
Cindy Bailey	Foundation Board	
Dave Hanks	Rock Springs Chamber	
Mecayla Cobb	Project Manager	HCM
Matt Fitzsimmons	Designer	HCM

Discussion:

Strengths

- Relationship to local services and businesses
    - Hospital with Nursing
    - T & I – providing the right skills base
- Housing is a great opportunity for growing adults
- Strong WWCC Foundation
- Green River Center
    - Utilization is good for community meetings
    - Adequate space for now
- Open to the Community - theater, dinosaur tours
    - Meeting Rooms, conferencing, & festivals
    - Gym
    - Atrium – craft fairs
- Wellness Center
    - Spread to other departments
- Economic Engine – providing jobs to the southwest Region of Wyoming
- Great Partnerships & Collaborations

- Recruitment and WWCC's #7 national ranking among community colleges is important
    - Good selling point, attractive to families
    - For regional workforce (train to work program)
- The campus site and architectural structure sends a signal to the community
- Strong Theater Department
- MSHA (Mind Safety and Health Administration) Training - GRC

Weaknesses/ Areas for Opportunity

- Lack of regulation-size Soccer Field
- Not a 4-year college
- Green River would like more:
    - Gym space (currently not enough at the Rec Center)
    - Wellness & nutrition facilities/education are important
- New Business Park in Green River - (3) new medical groups
- Conference Center –
    - Possibly physically separate the Western Education Center building to revise alcohol policy
- Expand the offering of daycare to the neighboring Memorial Hospital-Sweetwater staff
- Budget cuts are an issue
- Certain 'energy' on a college campus when you host an event.
    - Differ from a hotel or events complex
    - Cocktail party in the atrium, better than basement of restaurant
- First impressions upon entry

Priorities

Top

- Expand use for community functions (doctor recruitment, etc.)
- Enhanced Community Relations
- Staffing

OCTOBER 13

COMMUNITY MEETING

Continued...

- Development of Gateway Avenue
  - Selling property/lots to return money to WWCC
  - Active adult community
- Industrial Training
- Renovate the Residence Halls
- Regulation Soccer Field
- More Amenities at the Green River Center
- More for children, evening/nighttime activities offered for working parents
- Incubator for Medical/Tech Center (Green River)

Secondary

- Lab Technician Programs
- Expand training & curriculum for work programs
- Become a 4-year school (like U of Wyoming). WWCC could offer degrees in:
  - Nursing BA
  - Business
  - Education
  - Engineering
- Retention rate is greater with local population and good paying jobs located in the region.
- Campus security problems at both Rock Springs & Green River campuses
- Build Wellness Education Center

Low

- Location, location, location
- Convention and gathering spaces
- Industry and use of Green River Center
- On-the-job training program
- Workforce Services – competitive wages

Future Amenities/ Ideas

- Aviation Program
  - Green River airport board, local airport
  - Pilot Training program
- Create workforce that is competitive with higher wages
  - Partnering workforce housing Wagner Fi, WIOA limited because wages are too high.
- Industrial Complex discussion renewed
  - Could be larger than Casper's
  - Aligning the WWCC's programs to work with a renewed development of industries in the region, in turn boosting both college and industry size
- Data Center for Economic Development under the Soccer Field
- Entrepreneurship/ retail/ small business program that could create a branded destination to the WWCC campus (ex. Penn State's Ice Cream / Dairy Center)
- Large scale Entertainment Venue for concerts and shows
- Conference Center (ex. Conf Center near Cody Hospital (200-300 ppl) or Saratoga Conference Center)
- Improve the aesthetics of the Physical Campus (ex. Stanford University's farm)
- Outdoor classroom areas

MEETING MINUTES

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OCTOBER 27

STEERING COMMITTEE MEETING

Attendees:

Names	Role	
Dr. Karla Leach	President	
Sheldon Flom	VP for Administrative Services	
Philip Parnell	VP for Student Success Services	
Kim Farley	VP for Student Learning	
Tammy Register	Administrative Services	
Dustin Conover	Residence Life	
Angela Bethea	IT	
Ryan Herd	Student	
Mecayla Cobb	Project Manager	HCM
Matt Porta	Principal	HCM

(Via Conference Call)

Matt Fitzsimmons	Designer	HCM
Linda Anderson	Student Housing	ASL

Housing Discussion:

Executive Summary

- Vast majority of residents are satisfied
- Off-campus market is relatively soft
- High-speed internet and furnished units are top two unit amenities
- Small sample size

Methodology

- Focus Groups
- Off-Campus Market
- Survey
    - 199 total respondents

Respondent Profile

- *Refer to image*

Positives of Living in WWCC Housing

- Convenience
- Community
    - Socialization
    - Learning what college is about
- Other
    - Feeling of independence
    - Availability of private bedrooms

Drawbacks of Living in WWCC Housing

- Facilities
    - WiFi
    - Air Conditioning
    - Inequality in common areas
    - Door card system maintenance
- Other
    - Furniture
    - Privacy

Satisfaction with Housing

- *Refer to image*

Reasons for Moving off Campus

- *Refer to image*

Apartment Complexes

- The Village at Silver Ridge

Student Survey
Respondent Profile
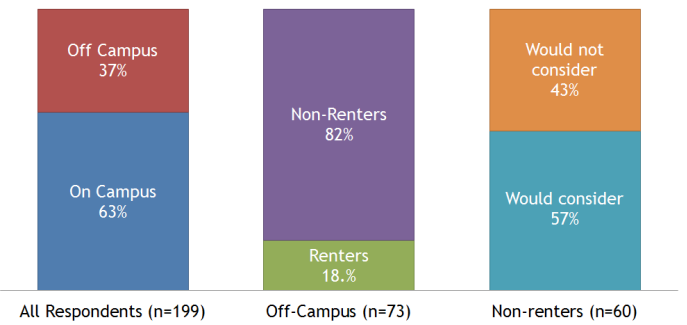
- Built 2009, 264 units
  - 91% occupancy
- Sweetwater heights
  - Built in 1978, 120 units
  - 89% occupancy
- RS Apartments
  - Built in 1975, 336 units
  - 85% occupancy

Market Observations

- Students are not drawn to any specific complex or area
- Rents declined since 2008
- Occupancy rates have declined to median of 85%
- Many complexes offer specials

Off-Campus Renters

- *Refer to images*

Student Survey
Reasons for Moving Off Campus

Reason	Number of Respondents
Desire for more privacy	3
Desire for more independence	3
Wanted to live with girlfriend/boyfriend	1
Small size of bedrooms	1
Roommate conflicts	1
Campus housing is too expensive	1
Some other reason (Please specify.)	0
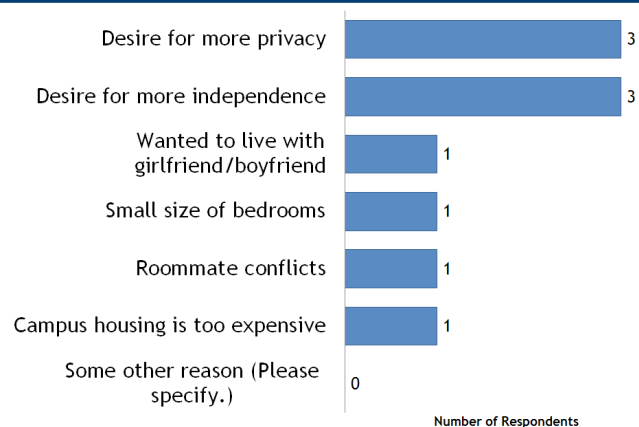
Student Survey
Off-Campus Renters

Unit Type
- **54% 2-Bedroom**
- **16% 1-Bedroom**
- **15% 3-Bedroom**
- **15% 4-Bedroom**

Bedroom only 8%
House, duplex 15%
One-of-a-kind Apt 23%
Apt in apt complex/bldg or condo 54%
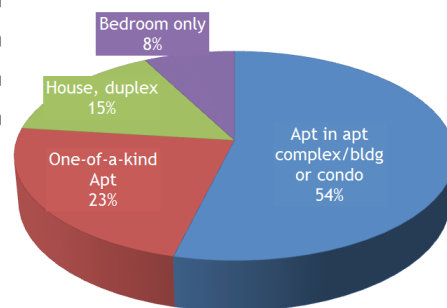
Student Survey
Satisfaction with Housing

Off Campus: Very satisfied 36%, Satisfied 53%, Dissatisfied 11%
On Campus: Very satisfied 23%, Satisfied 73%, Very dissatisfied 4%

Legend:
- Very dissatisfied
- Dissatisfied
- Satisfied
- Very satisfied
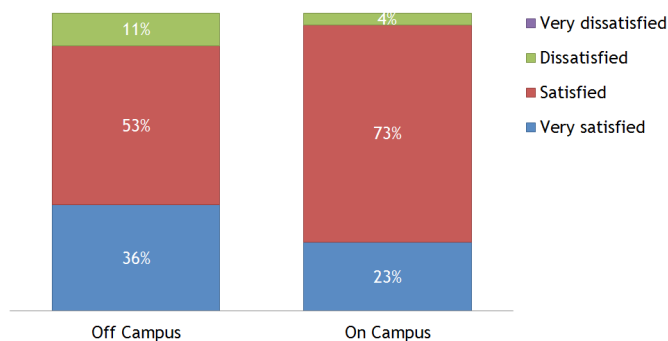
Student Survey
Off-Campus Renters

Sharing
- **Only 15% live alone; 85% live with others**
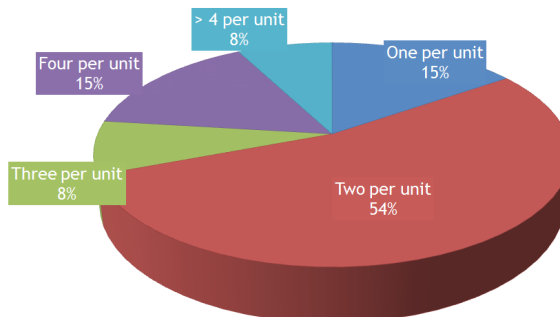
One per unit 15%
Two per unit 54%
Three per unit 8%
Four per unit 15%
> 4 per unit 8%

MEETING MINUTES

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OCTOBER 27

STEERING COMMITTEE MEETING

Continued...

Desired Unit Features and Amenities - Top 5

- High speed wireless internet
- Furnished unit
- Full kitchen in unit
- Air-Conditioning
- Temperature control in unit

Least Desired Features and Amenities

- Required meal plan

Desired Community Features - Top 5

- On-site laundry
- Computer lab (printing?)
- Quiet study areas
- Fitness center / weight room
- Group study / meeting space

Least Desired Community Features

- Live-in staff

Tested Units - New Construction

- *Refer to image*

Unit Preference

- *Refer to image*

Student Survey
Off-Campus Renters

Sharing

- Share with partner/sig other 23%
- Share with spouse/child 15%
- Have a bedroom to myself 62%

Student Survey
Off-Campus Renters

Policies and Amenities

- Furnished 8%
- Partially furnished 15%
- Unfurnished 77%
- Acad year (9 or 10 months) 7%
- Original M-M 8%
- M-M renewal 8%
- Other 8%
- 12-months 69%

Student Survey
Tested Units: New Construction

- 2-Single-Bedroom Semi-Suite

- 2-Single-Bedroom Semi-Suite w/Kitchenette

- 2-Single-Bedroom Semi-Suite

128
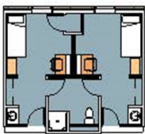
Incremental Demand - Fall 2016

- Potential Incremental Demand of Students who are off campus now and would live on campus = 298 =/- 100 (13% survey interval, in lieu of 5%)

Conclusions

- Students are relatively happy with what they have, and raising rent to have new or better facilities may be a hard sell. Focusing on renovations may make more sense today.
- Survey results are likely rent driven.
- Can we take a look at the last 15 years of housing in Rock Springs and WWCC

Student Survey
Unit Preference

Legend: ■ Preferred ■ Acceptable ■ Would Not Live There ■ WNLA

Off Campus	Preferred	Acceptable	Would Not Live There	WNLA
2-SGL BR Semi-Suite	6%	47%	17%	30%
2-SGL BR Semi-Suite w/K'ette	38%	51%		9%
2-SGL BR Suite	26%	60%	13%	
Renovated Existing Unit		72%	17%	11%

On Campus	Preferred	Acceptable	Would Not Live There	WNLA
2-SGL BR Semi-Suite	4%	49%	13%	33%
2-SGL BR Semi-Suite w/K'ette	25%	48%		23%
2-SGL BR Suite	24%	45%	8%	23%
Renovated Existing Unit	11%	63%	6%	19%

Diagrams of analysis of the site and building

- *Refer to images*

Vehicular Circulation

- Ample parking and vehicular access to the College
- Monument sign remote to campus
  - Could be moved

Gateway Opportunities

- Gateway Blvd. and College Dr.
- Enhance existing monument sign
- Intersection of Summit and College Drive
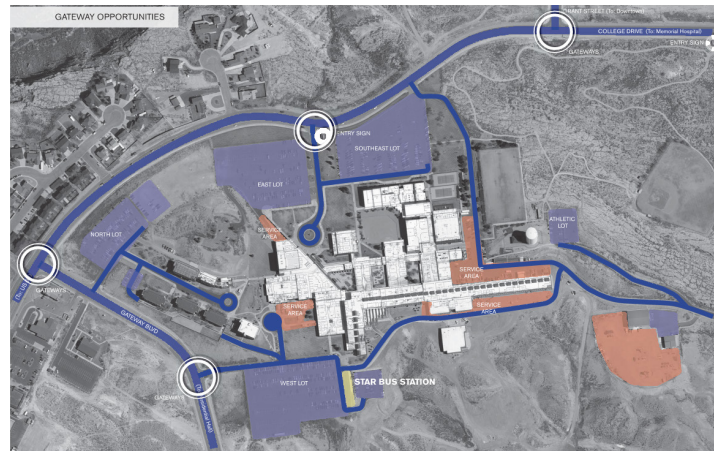
Site Pedestrian Circulation

- Where pedestrian circulation crosses service area, there are possible conflicts

Entry and Connections

- Lack of pedestrian access from College Drive to College
- Lack of pedestrian connection to the 'President's House Park'
- Lack of pedestrian clarity near the Gymnasium

Views and Objects

- Great views from the walking path
- Great views from the atrium
- Great views from Wind River Residence Hall

MEETING MINUTES

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OCTOBER 27

STEERING COMMITTEE MEETING

Continued...
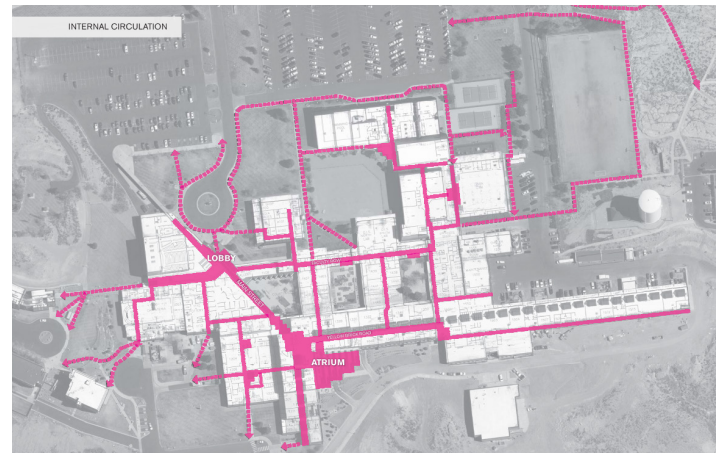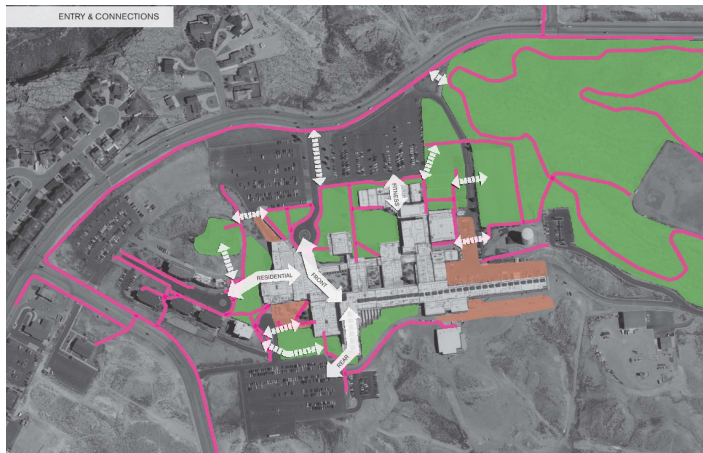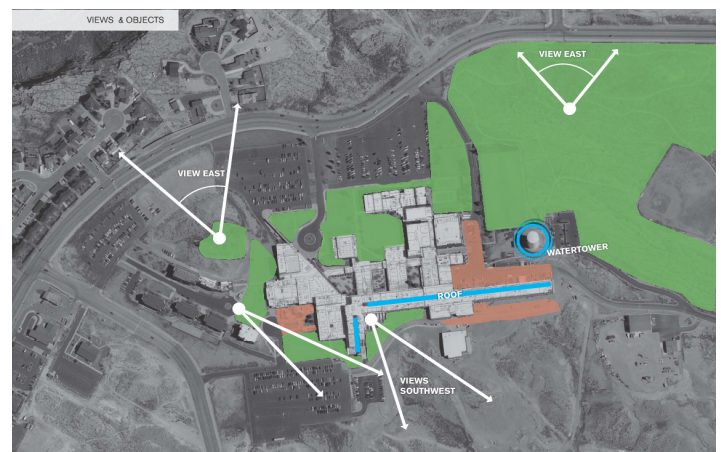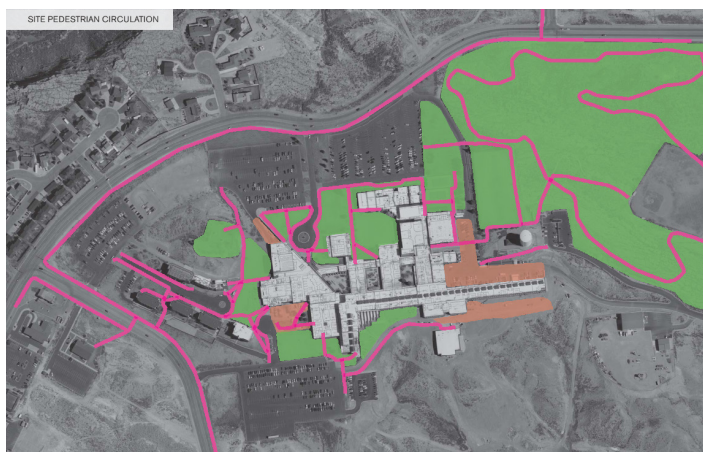
Dominant Features

- Roof line
- Water tower

Internal Circulation

- Interconnectivity of inside spaces to outside spaces

Major Public Spaces

- Courtyards are public spaces for use

Connection Between Places

- Culture and Education separate from Fitness
- Hard to way-find throughout the building

Building Program

- Daycare playground not immediately adjacent, but protected from weather.

MAJOR PUBLIC PLACES

CONNECTION BETWEEN PLACES

BUILDING PROGRAM
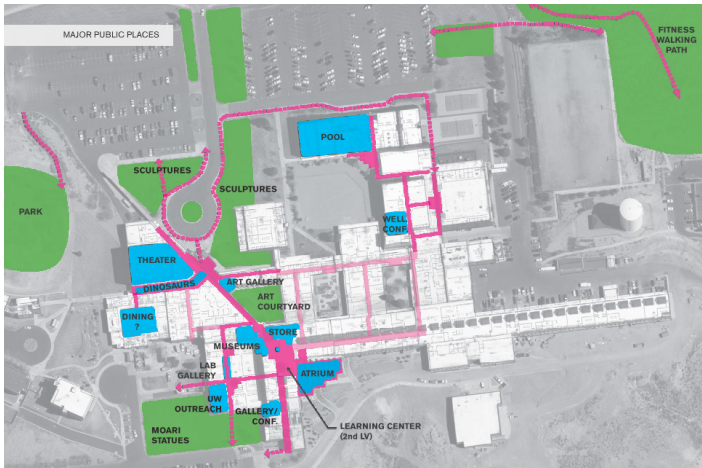
Statistics from Cab Con

- The statistics related to the library as a deficit of 57% does not change it as a priority.
- The library services team has done a great job with the available square feet.
- There is a need for student gathering space, but there is concern that any renovations to the atrium and pendulum would significantly change the image and character of the building, due to current code requirements.
  - Talk with Philip about the need for student space

Green River Center

- Community comments focused on the idea of adding a gymnasium to the Green River Campus to support both WWCC and the Community
- A disconnected building would be difficult to staff, but it is not different from other campuses in the State.
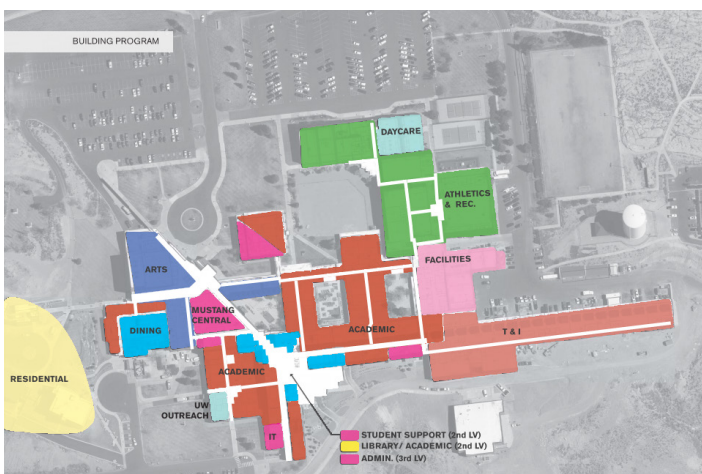
04

OFF-CAMPUS MARKET DATA

OFF-CAMPUS MARKET DATA

Apartment Complex	Address	Phone (307)	One Bedroom 2016 Rent	SF	Rent/ SF	Two Bedroom 2016 Rent	SF	Rent/ SF	# Baths	Three Bedroom 2016 Rent	SF	Rent/ SF	# Baths	YR	Other	Security Deposit
The Preserve at Rock Springs	2225 Reagan Avenue	362-5444	$712	650	$1.10	$1,100	950	$1.16	1	$1,175	1,300	$0.90	2	Y	3-5 $100	1BR $250
			$759	750	$1.01	$999	1,062	$0.94	2						6-8 $50	2BR $350
			$772	773	$1.00	$1,025	1,069	$0.96	2						9-11 $35	3BR $450
			$850	831	$1.02	$1,045	1,077	$0.97	2							
RS Apartments	1700 Imperial Dr	362-1546	$560	532	$1.05	$610	778	$0.78	1	$745	1,076	$0.69	2.0	Y	6M M-M	$300
Sage Apartments	1324 Sage St					$699	1,000	$0.70	1							
Shadow Ridge Apartments	125 Skyline Dr	382-9180				$575	750	$0.77	1	$750	1,000	$0.75	1.5	Y	6M	OMR
Sweetwater Heights	2160 Century Blvd	382-6281				$639	775	$0.82	$1.00					Y	3M=$50 6,9M=$0	$200-$400
Village at Silver Ridge	3290 Dewar Dr	922-7000	$800	720	$1.11	$925	940	$0.98	2	$1,050	1,130	$0.93	2.0	Y	<6=$100; 6-8=$50; 9-11=$25	$200-300
		Low	$560	532	$1.00	$575	750	$0.70		$745	1,000	$0.69				
		Median	$766	735	$1.04	$925	950	$0.94		$900	1,103	$0.83				
		High	$850	831	$1.11	$1,100	1,077	$1.16		$1,175	1,300	$0.93				

Elec	Gas	Heat	W/S	Inter-net	Basic Cable	Furn.	DW	AC	Patio/ Balc	WDC only	WD	Pool	Comm Room	Fitness Ctr	Business Center	Parking	BBQ Area	Laun-dry	Pets	Bus Stop	Miles from WWCC	Oct 2016 Occ	Year Built	# of Units
N	N	N	N	N	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	G $115-$125	y	N	$200 ref deposit $300 non-ref dep $40 rent	Y	1.4	90%	2010 & 2014	296
N	N	N	Y	optional		$	Y	Y	N	N	N	N	N	N	N	Surface	Y	Y	$300 fee; $30/m/pet	Y	2.4	85%	1975 Ren2006	336
							Y	Y	N		N					Surface		Y			3.8		1970	24
N	N	N	N	N	N	N	Y	N	Y	Y	N	N	N	N	N	Surface	N	N	$150 fee; $25/m	Y	1.3	85%	1978	64
N	Y	N	Y	N	N	$	Y	Y	S	N	N	N	Y	Y	N	Surface	N	Y	$300 fee; $150 dep; $25/m/pet	?	3.6	89%	1978	120
N	N	N	N	N	N	$Y	Y	Y	Y	Y	N	Y	Y	Y	N	Surface	N	Y	$300 fee; $200 dep; $40/m dog; $30/m cat	?	3.3	91%	2009	264

Additional Amenities	Specials	Notes
Spa/hot tub, conference room	None	
Storage rentals, playground	5% off for students Lower rent prices	Rent range based on remodeled/not remodeled
Walking trails	Half off one months rent	
Playground	Free rent until Nov; discounts on sec dep	
Playground	Look/lease w/in 24hr get $200 off move-in cost; some units=$200 off FMR and/or free cable/internet	Rent range for 2BR based on remodeled/not remodeled

05

STUDENT SURVEY TABULATIONS

STUDENT SURVEY TABULATIONS

SURVEY TABULATIONS	Off Campus #	%	On Campus #	%	Total #	%
	73		126		199	

Tell Us About Yourself

1. What is your academic class level for the 2016-2017 year?

	Off Campus #	%	On Campus #	%	Total #	%
1 First-time student at WWCC without college experience (Skip to Question 9)	21	29%	61	48%	82	41%
2 First-time student at WWCC with college experience (Skip to Question 9)	9	12%	17	13%	26	13%
3 Continuing student (Skip to Question 9)	43	59%	48	38%	91	46%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

9. What is your status?

	Off Campus #	%	On Campus #	%	Total #	%
1 Full-time (12 or more credits)	48	66%	125	99%	173	87%
2 Part-time (11 or fewer credits)	25	34%	1	1%	26	13%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

10. Where did you live prior to coming to WWCC?

	Off Campus #	%	On Campus #	%	Total #	%
1 Carbon County	3	4%	1	1%	4	2%
2 Lincoln County	6	8%	17	13%	23	12%
3 Sublette County	2	3%	2	2%	4	2%
4 Sweetwater County	43	59%	45	36%	88	44%
5 Uinta County	7	10%	16	13%	23	12%
6 Elsewhere in Wyoming	2	3%	4	3%	6	3%
7 Elsewhere in the United States	9	12%	30	24%	39	20%
8 Another country	1	1%	11	9%	12	6%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

11. What was your age as of July 1, 2016?

	Off Campus #	%	On Campus #	%	Total #	%
1 17 or under	11	15%	5	4%	16	8%
2 18-19	18	25%	91	72%	109	55%
3 20-21	14	19%	22	17%	36	18%
4 22-23	7	10%	3	2%	10	5%
5 24-25	4	5%		0%	4	2%
6 Over 25	19	26%	5	4%	24	12%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

12. What is your gender?

	Off Campus #	%	On Campus #	%	Total #	%
1 Female	50	68%	66	52%	116	58%
2 Male	23	32%	60	48%	83	42%
3 Transgender/Other		0%		0%		0%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

13. Are you employed during the academic year?

	Off Campus #	%	On Campus #	%	Total #	%
1 Yes, I am employed	44	60%	43	34%	87	44%
2 No, I am not employed (Skip to Question 15.)	29	40%	83	66%	112	56%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

14. How many hours per week do you work during the academic year?

	Off Campus #	%	On Campus #	%	Total #	%
Median hours =	24 hours		18 hours		20 hours	
8 hours or less	5	7%	10	8%	15	8%
9 to 16 hours	5	7%	10	8%	15	8%
17 to 24 hours	15	21%	12	10%	27	14%

SURVEY TABULATIONS	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
	73		126		199	
25 to 32 hours	6	8%	6	5%	12	6%
33 to 40 hours	10	14%	2	2%	12	6%
41 hours or more	3	4%		0%	3	2%
(blank)	29	40%	85	67%	114	57%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

15. How satisfied or dissatisfied are you with your current housing situation?

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Very satisfied	26	36%	29	23%	55	28%
2 Satisfied	39	53%	91	72%	130	65%
3 Dissatisfied	8	11%	5	4%	13	7%
4 Very dissatisfied		0%		0%		0%
(blank)		0%	1	1%	1	1%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

16. Where do you live?

On Campus

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Aspen Mountain Hall		0%	25	20%	25	13%
2 Rocky Mountain Hall I (restroom is between two rooms and shared with neighbors)		0%	17	13%	17	9%
3 Rocky Mountain Hall II (private restroom shared only with roommate)		0%	26	21%	26	13%
4 Snowy Range Hall Ground Level Suite		0%	1	1%	1	1%
5 Snowy Range Hall One Bedroom Apartment		0%	2	2%	2	1%
6 Snowy Range Hall Two Bedroom Apartment		0%	14	11%	14	7%
7 Teton Hall Ground Level Suite		0%		0%		0%
8 Teton Hall One Bedroom Apartment		0%	4	3%	4	2%
9 Teton Hall Two Bedroom Apartment		0%	10	8%	10	5%
10 White Mountain Hall Ground Level Suite		0%	2	2%	2	1%
11 White Mountain Hall One Bedroom Apartment		0%	2	2%	2	1%
12 White Mountain Hall Two Bedroom Apartment		0%	10	8%	10	5%
13 Wind River Hall		0%	13	10%	13	7%
Off Campus						
14 Rental housing off campus	13	18%		0%	13	7%
15 With parents/relatives, but would consider living on campus (Skip to Question 34.)	28	38%		0%	28	14%
16 With parents/relatives and would never consider living on campus (Skip to Question 40.)	11	15%		0%	11	6%
17 Own my home, but would consider living on campus (Skip to Question 34.)	6	8%		0%	6	3%
18 Own my home and would never consider living on campus (Skip to Question 40.)	15	21%		0%	15	8%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Tell Us about the Off-Campus Housing You Rent

17. What is your ZIP Code?

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
82070	1	1%		0%	1	1%
82901	9	12%		0%	9	5%
82930	1	1%		0%	1	1%
82935	1	1%		0%	1	1%
92901	1	1%		0%	1	1%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

STUDENT SURVEY TABULATIONS

SURVEY TABULATIONS	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
	73		126		199	
18. What type of housing unit do you live in?						
1 Apartment—in an apartment complex/building or a condominium	7	10%		0%	7	4%
2	3	4%		0%	3	2%
One-of-a-kind apartment—such as in a house or over a retail business						
3 House, duplex—where you (or a group) rent the whole living unit	2	3%		0%	2	1%
4 A bedroom only (not a separate unit)—in a private home	1	1%		0%	1	1%
5 Other		0%		0%		0%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
19. What is the name of your apartment complex or building, if applicable?						
Bicentennial village	1	1%		0%	1	1%
Century Square	1	1%		0%	1	1%
Not applicable	1	1%		0%	1	1%
Rock Springs Apartments	1	1%		0%	1	1%
Shadow Ridge	1	1%		0%	1	1%
Silver Ridge	1	1%		0%	1	1%
Sweetwater heights	2	3%		0%	2	1%
(blank)	65	89%	126	100%	191	96%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
20. Do you live alone or with others?						
1 I live by myself; I am the only one who lives in my housing unit (Skip to Question 23)	2	3%		0%	2	1%
2 Other people live with me and share my housing unit	11	15%		0%	11	6%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
21. Including yourself, how many people live in the housing unit where you live?						
1 Two (myself and one other)	7	10%		0%	7	4%
2 Three (myself and two others)	1	1%		0%	1	1%
3 Four (myself and three others)	2	3%		0%	2	1%
4 More than four (myself and four or more others)	1	1%		0%	1	1%
(blank)	62	85%	126	100%	188	94%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
22. With whom do you live?						
a. Roommates and/or apartment-mates	5	7%		0%	5	3%
b. My children	3	4%		0%	3	2%
c. Parents or guardians	1	1%		0%	1	1%
d. Spouse	2	3%		0%	2	1%
e. Other	1	1%		0%	1	1%
Boyfriend	1	1%		0%	1	1%
(blank)	72	99%	126	100%	198	99%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
23. How many bedrooms are in your apartment/unit?						
1 One	2	3%		0%	2	1%
2 Two	7	10%		0%	7	4%
3 Three	2	3%		0%	2	1%
4 Four	2	3%		0%	2	1%

SURVEY TABULATIONS	Off Campus		On Campus		Total	
	#	%	#	%	#	%
	73		126		199	
5 More than four		0%		0%		0%
6 None—an efficiency/studio		0%		0%		0%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

24. How many bathrooms are in your apartment/unit? (A half bath is a bathroom with no shower or tub.)

	#	%	#	%	#	%
1 One	7	10%		0%	7	4%
2 One and a half	3	4%		0%	3	2%
3 Two	3	4%		0%	3	2%
4 Two and a half		0%		0%		0%
5 Three		0%		0%		0%
6 More than three		0%		0%		0%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

25. Do you share a bedroom?

	#	%	#	%	#	%
1 No, I have a bedroom to myself (Skip to Question 27.)	8	11%		0%	8	4%
2 Yes, I share a bedroom with my spouse and/or children (Skip to Question 27.)	2	3%		0%	2	1%
3 Yes, I share a bedroom with my partner or significant other (Skip to Question 27.)	3	4%		0%	3	2%
4 Yes, I share a bedroom with a roommate		0%		0%		0%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

26. Why do you choose to share a bedroom?

	#	%	#	%	#	%
Lower rent		0%		0%		0%
Wanted to live with friends		0%		0%		0%
Could not find housing with a private bedroom		0%		0%		0%
Other (Please specify.)		0%		0%		0%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

27. What is your lease term?

	#	%	#	%	#	%
1 Twelve months	9	12%		0%	9	5%
2 Academic year (9 or 10 months)	1	1%		0%	1	1%
3 Six months		0%		0%		0%
4 Semester		0%		0%		0%
5 Month-to-month since the beginning of my lease	1	1%		0%	1	1%
6 Month-to-month starting at the end of my original lease term	1	1%		0%	1	1%
7 Other	1	1%		0%	1	1%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

28. How do you rent your unit?

	#	%	#	%	#	%
1 Furnished	1	1%		0%	1	1%
2 Partially furnished	2	3%		0%	2	1%
3 Unfurnished	10	14%		0%	10	5%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

29. What is your living situation during this academic year?

	#	%	#	%	#	%
1 I live on my own or with roommates in a rented unit.	8	11%		0%	8	4%

SURVEY TABULATIONS	Off Campus #	%	On Campus #	%	Total #	%
	73		126		199	
2 I live with my parent(s)/guardian in their home and I contribute toward my living expenses.	1	1%		0%	1	1%
3 I live with my spouse/partner and/or child(ren) in a rented unit.	4	5%		0%	4	2%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

30. What is your share of monthly housing costs? What is the monthly rental cost for the entire unit?

	Rent n=	Median	Total Other Expenses n=	Median
On own or with roommate(s)/apartment-mate(s)	8	$400	8	$110
With parent(s)/guardian(s) and contribute	1	$400	1	$50

	Rent n=	Median	Total Other Expenses n=	Median
With spouse/partner/child(ren)	4	$676	3	$50

31. Does your rent include any utilities?

	Off Campus #	%	On Campus #	%	Total #	%
1 No (Skip to Question 33)	4	5%		0%	4	2%
2 Yes	9	12%		0%	9	5%
(blank)	60	82%	126	100%	186	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

32. Which utilities are included in your rent?

	Off Campus #	%	On Campus #	%	Total #	%
a. Electricity	3	4%		0%	3	2%
b. Gas	4	5%		0%	4	2%
c. Heat	4	5%		0%	4	2%
d. Water/sewer	8	11%		0%	8	4%
e. Trash	7	10%		0%	7	4%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

33. What other features or services are included in your rent?

	Off Campus #	%	On Campus #	%	Total #	%
a. Internet	3	4%		0%	3	2%
b. Cable TV		0%		0%		0%
c. Local telephone		0%		0%		0%
d. Parking	9	12%		0%	9	5%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

34. Have you ever lived on campus at WWCC and then decided to move off campus?

	Off Campus #	%	On Campus #	%	Total #	%
1 No (Skip to Question 36.)	37	51%	119	94%	156	78%
2 Yes	6	8%	3	2%	9	5%
(blank)	30	41%	4	3%	34	17%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

35. What are the reason(s) you decided to move off campus?

	Off Campus #	%	On Campus #	%	Total #	%
a. Age and condition of housing facilities		0%		0%		0%
b. Campus housing is too expensive	4	5%	1	1%	5	3%
c. Desire for more independence	3	4%	3	2%	6	3%
d. Desire for more privacy	4	5%	3	2%	7	4%
e. Dislike of food service quality	2	3%		0%	2	1%
f. Dislike of meal plan terms and conditions	2	3%		0%	2	1%
g. Financial problems	6	8%		0%	6	3%
h. High noise level	2	3%		0%	2	1%

SURVEY TABULATIONS	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
	73		126		199	
i. Inadequate laundry facilities		0%		0%		0%
j. Inadequate number of common kitchens		0%		0%		0%
k. Lack of air-conditioning	2	3%		0%	2	1%
l. Lack of living space	1	1%		0%	1	1%
m. Lack of temperature control		0%		0%		0%
n. Not enough singles	1	1%		0%	1	1%
o. Poor quality of WiFi	2	3%		0%	2	1%
p. Presence of pests (e.g., mice)		0%		0%		0%
q. Roommate conflicts	2	3%	1	1%	3	2%
r. Rules, regulations, and policies		0%		0%		0%
s. Slow response to maintenance requests	1	1%		0%	1	1%
t. Small size of bedrooms	1	1%	1	1%	2	1%
u. Space was not available in my preferred on-campus housing	1	1%		0%	1	1%
v. Wanted to have a pet	1	1%		0%	1	1%
w. Wanted to live with girlfriend/boyfriend	3	4%	1	1%	4	2%
x. Wanted to live with my spouse and/or children		0%		0%		0%
y. Some other reason (Please specify.)		0%		0%		0%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Tell Us Your Thoughts on Housing

36. Please provide your feedback on the following unit types. Assume that the rents include furnishings, utilities,

TWO-SINGLE-BEDROOM SEMI-SUITE – NEW CONSTRUCTION

Rent per person: $3,305 per semester

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Preferred	3	4%	5	4%	8	4%
2 Acceptable	22	30%	62	49%	84	42%
3 Would not live there because I don't like the layout	9	12%	17	13%	26	13%
4 Would not live there because of the cost	13	18%	42	33%	55	28%
(blank)	26	36%		0%	26	13%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

TWO-SINGLE-BEDROOM SEMI-SUITE w/KITCHENETTE - NEW CONSTRUCTION

Rent per person: $3,305 per semester

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Preferred	18	25%	32	25%	50	25%
2 Acceptable	24	33%	61	48%	85	43%
3 Would not live there because I don't like the layout	2	3%	4	3%	6	3%
4 Would not live there because of the cost	3	4%	29	23%	32	16%
(blank)	26	36%		0%	26	13%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

TWO-SINGLE-BEDROOM SUITE - NEW CONSTRUCTION

Rent per person: $3,220

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Preferred	12	16%	30	24%	42	21%
2 Acceptable	28	38%	57	45%	85	43%
3 Would not live there because I don't like the layout	2	3%	10	8%	12	6%
4 Would not live there because of the cost	5	7%	29	23%	34	17%
(blank)	26	36%		0%	26	13%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

RENOVATED EXISTING UNIT

Rent per person: 25% rent increase over current rents (which range from $1,046 to $1,887)

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Preferred		0%	14	11%	14	7%

STUDENT SURVEY TABULATIONS

SURVEY TABULATIONS	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
	73		126		199	
2 Acceptable	34	47%	80	63%	114	57%
3 Would not live there because I don't like the layout	9	12%	8	6%	17	9%
4 Would not live there because of the cost	4	5%	24	19%	28	14%
(blank)	26	36%		0%	26	13%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

37. How influential would each of the following unit features and housing policies be on your interest in living in campus housing?

Air-conditioning

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	15	21%	29	23%	44	22%
2 Would have a positive influence on my decision	27	37%	79	63%	106	53%
3 Would have no influence on my decision	4	5%	15	12%	19	10%
4 Would have a negative influence on my decision		0%	3	2%	3	2%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Availability of a meal plan

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	1	1%	20	16%	21	11%
2 Would have a positive influence on my decision	29	40%	62	49%	91	46%
3 Would have no influence on my decision	13	18%	38	30%	51	26%
4 Would have a negative influence on my decision	2	3%	4	3%	6	3%
5 Would not live in housing if it was there	1	1%	2	2%	3	2%
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Basic cable TV

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	5	7%	6	5%	11	6%
2 Would have a positive influence on my decision	18	25%	48	38%	66	33%
3 Would have no influence on my decision	23	32%	68	54%	91	46%
4 Would have a negative influence on my decision		0%	1	1%	1	1%
5 Would not live in housing if it was there		0%	2	2%	2	1%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Full kitchen in unit

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	18	25%	30	24%	48	24%
2 Would have a positive influence on my decision	28	38%	76	60%	104	52%
3 Would have no influence on my decision		0%	17	13%	17	9%
4 Would have a negative influence on my decision		0%		0%		0%
5 Would not live in housing if it was there		0%	3	2%	3	2%
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Furnished unit

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	7	10%	43	34%	50	25%
2 Would have a positive influence on my decision	31	42%	66	52%	97	49%
3 Would have no influence on my decision	7	10%	14	11%	21	11%
4 Would have a negative influence on my decision		0%	1	1%	1	1%
5 Would not live in housing if it was there		0%	1	1%	1	1%
(blank)	28	38%	1	1%	29	15%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

STUDENT HOUSING 2021

SURVEY TABULATIONS	Off Campus		On Campus		Total	
	#	%	#	%	#	%
	73		126		199	
High-speed wireless Internet						
1 Would not live in the housing without it	29	40%	72	57%	101	51%
2 Would have a positive influence on my decision	17	23%	48	38%	65	33%
3 Would have no influence on my decision		0%	4	3%	4	2%
4 Would have a negative influence on my decision		0%	1	1%	1	1%
5 Would not live in housing if it was there		0%	1	1%	1	1%
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
Required meal plan						
1 Would not live in the housing without it		0%	4	3%	4	2%
2 Would have a positive influence on my decision	8	11%	23	18%	31	16%
3 Would have no influence on my decision	11	15%	42	33%	53	27%
4 Would have a negative influence on my decision	18	25%	47	37%	65	33%
5 Would not live in housing if it was there	8	11%	10	8%	18	9%
(blank)	28	38%		0%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
Soundproof walls						
1 Would not live in the housing without it	6	8%	13	10%	19	10%
2 Would have a positive influence on my decision	33	45%	91	72%	124	62%
3 Would have no influence on my decision	5	7%	21	17%	26	13%
4 Would have a negative influence on my decision	2	3%		0%	2	1%
5 Would not live in housing if it was there		0%	1	1%	1	1%
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
Storage space						
1 Would not live in the housing without it	7	10%	14	11%	21	11%
2 Would have a positive influence on my decision	33	45%	84	67%	117	59%
3 Would have no influence on my decision	6	8%	27	21%	33	17%
4 Would have a negative influence on my decision		0%		0%		0%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
Temperature control in each unit						
1 Would not live in the housing without it	7	10%	26	21%	33	17%
2 Would have a positive influence on my decision	33	45%	90	71%	123	62%
3 Would have no influence on my decision	5	7%	10	8%	15	8%
4 Would have a negative influence on my decision		0%		0%		0%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	28	38%		0%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
Utilities included in rent						
1 Would not live in the housing without it	8	11%	33	26%	41	21%
2 Would have a positive influence on my decision	37	51%	72	57%	109	55%
3 Would have no influence on my decision	1	1%	14	11%	15	8%
4 Would have a negative influence on my decision		0%	3	2%	3	2%
5 Would not live in housing if it was there		0%	4	3%	4	2%

STUDENT SURVEY TABULATIONS

SURVEY TABULATIONS	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
	73		126		199	
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**
Washer/dryer in unit						
1 Would not live in the housing without it	13	18%	32	25%	45	23%
2 Would have a positive influence on my decision	32	44%	68	54%	100	50%
3 Would have no influence on my decision	1	1%	23	18%	24	12%
4 Would have a negative influence on my decision		0%	1	1%	1	1%
5 Would not live in housing if it was there		0%	2	2%	2	1%
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

38. How influential would each of the following community features be on your interest in living in campus housing?

Community kitchen (if not an apartment)	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	9	12%	16	13%	25	13%
2 Would have a positive influence on my decision	20	27%	49	39%	69	35%
3 Would have no influence on my decision	9	12%	43	34%	52	26%
4 Would have a negative influence on my decision	7	10%	12	10%	19	10%
5 Would not live in housing if it was there	1	1%	4	3%	5	3%
(blank)	27	37%	2	2%	29	15%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Coffee shop or café in/near housing	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it		0%	8	6%	8	4%
2 Would have a positive influence on my decision	22	30%	65	52%	87	44%
3 Would have no influence on my decision	20	27%	47	37%	67	34%
4 Would have a negative influence on my decision		0%	1	1%	1	1%
5 Would not live in housing if it was there		0%	2	2%	2	1%
(blank)	31	42%	3	2%	34	17%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Convenience store in/near housing	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	1	1%	8	6%	9	5%
2 Would have a positive influence on my decision	30	41%	88	70%	118	59%
3 Would have no influence on my decision	15	21%	25	20%	40	20%
4 Would have a negative influence on my decision		0%	4	3%	4	2%
5 Would not live in housing if it was there		0%	1	1%	1	1%
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Community lounge	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	1	1%	10	8%	11	6%
2 Would have a positive influence on my decision	20	27%	65	52%	85	43%
3 Would have no influence on my decision	25	34%	49	39%	74	37%
4 Would have a negative influence on my decision		0%	1	1%	1	1%
5 Would not live in housing if it was there		0%	1	1%	1	1%
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Computer lab	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	7	10%	22	17%	29	15%
2 Would have a positive influence on my decision	33	45%	86	68%	119	60%

SURVEY TABULATIONS	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
	73		126		199	
3 Would have no influence on my decision	6	8%	17	13%	23	12%
4 Would have a negative influence on my decision		0%		0%		0%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Elevator

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	1	1%	16	13%	17	9%
2 Would have a positive influence on my decision	20	27%	66	52%	86	43%
3 Would have no influence on my decision	25	34%	41	33%	66	33%
4 Would have a negative influence on my decision		0%	1	1%	1	1%
5 Would not live in housing if it was there		0%	2	2%	2	1%
(blank)	27	37%		0%	27	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Fireplace

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it		0%	7	6%	7	4%
2 Would have a positive influence on my decision	20	27%	57	45%	77	39%
3 Would have no influence on my decision	25	34%	55	44%	80	40%
4 Would have a negative influence on my decision		0%	5	4%	5	3%
5 Would not live in housing if it was there		0%	1	1%	1	1%
(blank)	28	38%	1	1%	29	15%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Fitness center/weight room

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	4	5%	8	6%	12	6%
2 Would have a positive influence on my decision	33	45%	89	71%	122	61%
3 Would have no influence on my decision	9	12%	26	21%	35	18%
4 Would have a negative influence on my decision		0%	2	2%	2	1%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Group study/meeting space

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it		0%	10	8%	10	5%
2 Would have a positive influence on my decision	31	42%	84	67%	115	58%
3 Would have no influence on my decision	15	21%	31	25%	46	23%
4 Would have a negative influence on my decision		0%		0%		0%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Live-in staff

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it		0%	9	7%	9	5%
2 Would have a positive influence on my decision	11	15%	39	31%	50	25%
3 Would have no influence on my decision	30	41%	70	56%	100	50%
4 Would have a negative influence on my decision	4	5%	7	6%	11	6%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	28	38%	1	1%	29	15%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Longer hours of bus service

STUDENT SURVEY TABULATIONS

SURVEY TABULATIONS	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
	73		126		199	
1 Would not live in the housing without it		0%	10	8%	10	5%
2 Would have a positive influence on my decision	18	25%	36	29%	54	27%
3 Would have no influence on my decision	28	38%	79	63%	107	54%
4 Would have a negative influence on my decision		0%		0%		0%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

More frequent bus service

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it		0%	8	6%	8	4%
2 Would have a positive influence on my decision	19	26%	39	31%	58	29%
3 Would have no influence on my decision	27	37%	78	62%	105	53%
4 Would have a negative influence on my decision		0%		0%		0%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

On-site laundry facilities

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	13	18%	55	44%	68	34%
2 Would have a positive influence on my decision	31	42%	56	44%	87	44%
3 Would have no influence on my decision	2	3%	12	10%	14	7%
4 Would have a negative influence on my decision		0%		0%		0%
5 Would not live in housing if it was there		0%	1	1%	1	1%
(blank)	27	37%	2	2%	29	15%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Quiet study areas

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	7	10%	17	13%	24	12%
2 Would have a positive influence on my decision	33	45%	82	65%	115	58%
3 Would have no influence on my decision	6	8%	24	19%	30	15%
4 Would have a negative influence on my decision		0%	2	2%	2	1%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Outdoor green space

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	1	1%	10	8%	11	6%
2 Would have a positive influence on my decision	30	41%	81	64%	111	56%
3 Would have no influence on my decision	15	21%	34	27%	49	25%
4 Would have a negative influence on my decision		0%		0%		0%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

Redbox

	Off Campus #	Off Campus %	On Campus #	On Campus %	Total #	Total %
1 Would not live in the housing without it	1	1%	4	3%	5	3%
2 Would have a positive influence on my decision	24	33%	76	60%	100	50%
3 Would have no influence on my decision	21	29%	42	33%	63	32%
4 Would have a negative influence on my decision		0%	3	2%	3	2%
5 Would not live in housing if it was there		0%		0%		0%
(blank)	27	37%	1	1%	28	14%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

SURVEY TABULATIONS	Off Campus		On Campus		Total	
	#	%	#	%	#	%
	73		126		199	
Video gaming room						
1 Would not live in the housing without it	1	1%	4	3%	5	3%
2 Would have a positive influence on my decision	17	23%	48	38%	65	33%
3 Would have no influence on my decision	27	37%	67	53%	94	47%
4 Would have a negative influence on my decision	1	1%	3	2%	4	2%
5 Would not live in housing if it was there		0%	2	2%	2	1%
(blank)	27	37%	2	2%	29	15%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

39. Please think back to when you were selecting the housing you live in now. If your preferred unit had been available on campus for the current academic year (at the estimated rent and with your preferred features), would you have lived in the proposed housing?

	#	%	#	%	#	%
1 I definitely would have lived there. (Skip to Comments.)	9	12%	71	56%	80	40%
2 I might have lived there (50/50 chance).	24	33%	38	30%	62	31%
3 I probably would not have lived there (less than 50/50 chance).	8	11%	12	10%	20	10%
4 I would not have lived there.	6	8%	5	4%	11	6%
(blank)	26	36%		0%	26	13%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

40. Why are you not interested in living in the proposed housing?

	#	%	#	%	#	%
a. I already own a home	15	21%	1	1%	16	8%
b. I am concerned about the level of rules and regulations	5	7%	2	2%	7	4%
c. I do not want to move	9	12%	13	10%	22	11%
d. I live with my parents/guardians	23	32%	1	1%	24	12%
e. I live with my spouse and/or children	13	18%	2	2%	15	8%
f. The housing is too expensive	17	23%	34	27%	51	26%
g. I have a pet	20	27%	3	2%	23	12%
h. Some other reason (Please specify.)	10	14%	5	4%	15	8%
Coach assigned me here.		0%	1	1%	1	1%
I am taking concurrent classes right now	1	1%		0%	1	1%
I do not want to deal with roommates not of my choosing	1	1%		0%	1	1%
I don't like people. Roommates would be a problem.	1	1%		0%	1	1%
I like the current housing more.		0%	1	1%	1	1%
I'm graduating	1	1%		0%	1	1%
It does not have a kitchen.		0%	1	1%	1	1%
Lack of housing with privacy and kitchens	1	1%		0%	1	1%
live out of state	1	1%		0%	1	1%
Live with girlfriend	1	1%		0%	1	1%
Living with significant other and child	1	1%		0%	1	1%
non of them have a full kitchen unit in them		0%	1	1%	1	1%
Single parent	1	1%		0%	1	1%
This is my last semester and I'm only a part time student	1	1%		0%	1	1%
(blank)	63	86%	122	97%	185	93%
Grand Total	**73**	**100%**	**126**	**100%**	**199**	**100%**

06

STUDENT SURVEY DEMOGRAPHICS

STUDENT SURVEY DEMOGRAPHICS

CLASS:

Nearly half of survey respondents are continuing students while 41% are first-time students without any college experience. There were few first-time students with college experience, as shown in Table 6.

Class Level	Survey: Off-Campus Respondents	Survey: On-Campus Respondents	Survey: All Respondents
1st-time student at WWCC w/o college experience	29%	48%	41%
1st-time student at WWCC w/ college experience	12%	13%	13%
Continuing student	59%	38%	46%
	100%	100%	100%

Table 2: Class Level of Survey Respondents

STATUS:

Most respondents are full-time students. See Table 3.

Status	Survey: Off-Campus Respondents	Survey: On-Campus Respondents	Survey: All Respondents
Full-time (12+ credits)	66%	99%	87%
Part-time	34%	1%	13%
	100%	100%	100%

Table 3: Status of Survey Respondents

RESIDENCE:

Before attending WWCC, 44% of survey respondents came from Sweetwater County, more living off campus than on. Figure 13 shows where all respondents are from, sorted by on- and off-campus students.
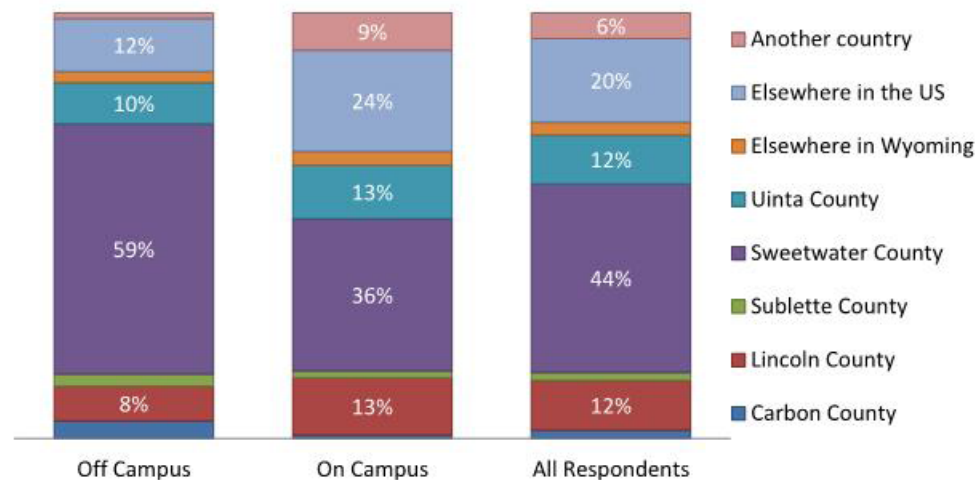

Figure 12: Prior Residence

AGE:

Over half of all survey respondents are between 18 and 19 years of age. Most traditional-age students live on campus. Figure 14 shows the breakdown.
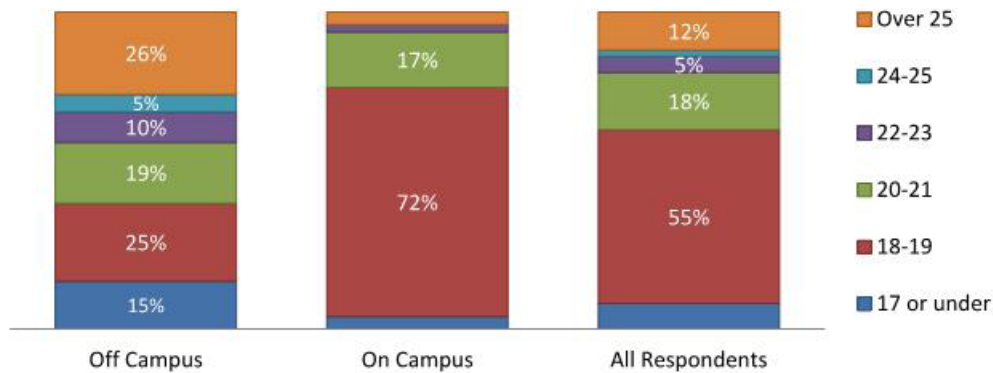

Figure 13: Age of Survey Respondents

GENDER:

Females make up over half of the survey response. Table 5 shows the breakdown by on- and off-campus survey respondents. Based on ASL experience, females tend to respond in higher numbers than males, but there is typically little to no bias in the results based on gender; this is the case at WWCC.

Gender	Survey: Off-Campus Respondents	Survey: On-Campus Respondents	Survey: All Respondents
Female	68%	52%	58%
Male	32%	48%	42%
Transgender/Other	0%	0%	0%
	100%	100%	100%

Table 4: Gender of Survey Respondents

EMPLOYMENT:

Over half of respondents are not employed during the school year (56%). Of the 44% that work during the school year, 32% work between 17 and 24 hours per week on average. Hours per week are illustrated in Figure 15.
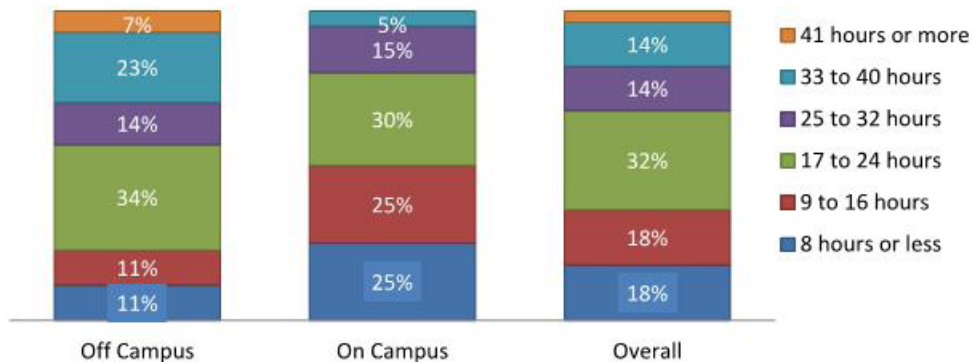

Figure 14: Hours Worked per Week