



Capital Facilities Plan

2011 - 2016

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 UNIVERSITY of WYOMING

University of Wyoming Capital Facilities Plan III

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University of Wyoming Mission Statement

The University of Wyoming aspires to be one of the nation's finest public land-grant research universities, dedicated to serving as a statewide resource for accessible and affordable higher education of the highest quality, rigorous scholarship, technology transfer, economic and community development, and responsible stewardship of our cultural, historical, and natural resources.

In the exercise of our primary mission to teach and educate students, we seek to provide academic and co-curricular opportunities that will:

- Expose students to the frontiers of scholarship and creative activity, and the complexities of an interdependent world;
- Ensure individual interactions among students, faculty, and staff;
- Nurture an environment that values and manifests diversity, free expression, academic freedom, personal integrity, and mutual respect; and
- Promote opportunities for personal growth, physical health, athletic competition, and leadership development for all members of the University community.

As Wyoming's only university, we are committed to outreach and service that extend our human talent and technological capacity to serve the people in our communities, our state, the nation, and the world.

The primary vehicles for identifying the specific actions and resource allocations needed to achieve this complex mission are the university's *Academic Plan*, *Support Services Plan*, and *Capital Facilities Plan*, each revised periodically.

I. INTRODUCTION

The purpose of the Capital Facilities Plan (CFP) is to provide a plan for the physical development of the University's campus and outreach centers in support of the University's statewide mission.

The CFP integrates and implements recommendations from University Plan 3, the Utilities Master Plan, the Athletic Master Plan, and the Long Range Development Plan. The objective of the CFP planning process is to match physical infrastructure needs with available resources to successfully meet University goals. The CFP is a rolling six year plan that must be adaptable and responsive to the dynamic environment which influences capital construction. An individual capital project planning process will consume four to seven years from the initial vision or need articulated by a program to the completion of construction if the project follows the State of Wyoming Building Commission regulations and legislative appropriation process. The timing for completion of any project is also contingent upon the availability of capital funds appropriated by the legislature. The process is very similar with bond funding because the approval process must follow the same State Building Commission regulations to obtain legislative approval. Other funding mechanisms such as fund raising and grants can consume similar amounts of time due to the fact that sufficient project planning is required to develop conceptual facility plans and reliable costs estimates. Therefore, CFP III will have some degree of overlap with the prior capital facilities plan, and the planning and construction of facilities listed in the plan will likely extend beyond the six year horizon of this plan.

The first capital facility planning process was initiated in 2000. The intent of that plan was to incorporate the Academic Plan and Support Services Plan as the directives and guidelines for the development of the CFP. At the time of CFP I, the Athletic Strategic Plan had just begun, so the Athletic facilities incorporated into the plan were not confirmed but incorporated into the Capital Facilities rolling plan at the appropriate time. Academic Plan I and the Support Service Plan I had not incorporated physical facilities directly into their planning process. Therefore, the CFP I process included a round of departmental and division planning related directly to facilities filtered through the Executive Council and considered in the process. CFP II rolled the facilities not completed from CFP I into the plan and also incorporated facilities identified in Academic Plan II.

CFP III outlines the next generation of University facility improvements identified by University Plan 3, the Athletic Strategic Plan (ASP), the Utilities Master Plan, and the Long Range Development Plan (LRDP). Through these planning processes, campus, community, and state constituencies have provided input and shaped the contents of this report. A draft of the plan was developed and provided to constituents of the University community for comment. This version of the plan has been provided to the President and the University Board of Trustees for review and discussion.

Unlike CFP I and CFP II which were organized around five areas of need that were not prioritized, CFP III is organized by biennium to facilitate translation to capital construction requests submitted to the State of Wyoming. Projects are listed in priority order for each biennium with planned activities defined by Level I through III project work within each biennium. Each project description includes a preliminary fund source or sources and a preliminary timeline. The proposed projects contained in each biennium of the plan will provide a starting point for development of the capital construction budget request submitted to the State of Wyoming each biennium. (Note: Actual construction schedules will be directly impacted by the availability of funding for projects and may shift projects forward or backward from their

placement in the timeframes outlined in this document. Board of Trustees' actions on the capital construction requests for each biennium together with legislative appropriations and subsequent Board actions regarding specific projects will ultimately determine the construction and completion dates for all capital projects.)

Embedded in the Plan is the assumption that future development must also improve the use and value of the institution's existing facilities through adaptation and renewal of these facilities. Other assumptions include recognition of the fact that some obsolete facilities should be demolished and that the institution should follow the LRDP for appropriate land use decisions when deciding on the location of future facilities. Finally, there is an implicit recognition that the aesthetic features of the campus should be preserved and strengthened as future development occurs.

The CFP III Biennial Plans include the following projects:

FY 2011- 2012

- FY2011 Robert & Carol Berry Biodiversity Conservation Center Level III
Biological Safety Laboratory (BSL-3) Level III
Energy Resource Center Level III
Indoor Tennis Facility
Summit View Deconstruction
Visual Arts Level III
Downey Hall Renovation Level III
War Memorial Stadium Parking East
Golf Practice Facility
Transit Facility

- FY2012 Performing Arts Level II
White Hall Level II
UW/Casper College Joint Facility Level II & III
Michael B. Enzi Science Technology Engineering & Mathematics (STEM) Level II & III
Engineering Level I
Student Apartments
Ivinson Parking / Ivinson Deconstruction
Literacy Center
Infrastructure Improvements, Phase I, Level II
Long Range Development Plan, Phase I, Level II
UW Facility at Sheridan (NWCC) Level II
New Foundation & Welcome Center Level I & II
South Shuttle Lot
Agriculture A, B, D Deconstruction

FY 2013- 2014

- FY2013 Performing Arts Level III
White Hall Level III
Half Acre Recreation Center Level III
Infrastructure Improvements, Phase I, Level III
Engineering Research Facility Level II

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Engineering Building Addition Level II
UW Facility at Sheridan (NWCC) Level III
Joint UW/CC Facilities – LCCC – Cheyenne Level II
Transit Facility Level III
Classroom/Facility Adaptation
Long Range Development Plan, Phase I, Level III
Humanities Building Level I
Natatorium Level I & II

FY2014 Merica Hall Deconstruction
Pharmacy Addition Level II & III
Engineering Research Facility Level III
Engineering Building Additions Level III
Arena Auditorium Renovation
Joint UW/CC Facilities – LCCC – Cheyenne Level III
Willett/Wainright Deconstruction
Research Lab Renovations Level I

FY 2015- 2016

FY2015 Classroom/Facility Adaptation
Long Range Development Plan, Phase II
King Street Parking Structure
Infrastructure Improvements Phase II
Research Lab Renovations Level II

FY2016 Classroom/Facility Adaptation, Phase III, Level III
Willett/Wyoming Union Parking Structure
Research Lab Renovations Level III

Other Projects: These projects are listed as potential projects that could be funded out of the planned sequence identified above. When the opportunity exists to move a capital project from this list to a position within the planned projects of one of the biennia, the University will do so provided the project is well defined and fully funded. This listing is not in priority order.

Life Sciences Building
Centennial Complex Expansion/Center for Art Museum Based Learning
Geology Museum
Cheney International Center
Center for Quaternary Studies
Animal Science/Molecular Biology Lab Addition
American Indian Heritage Center
Outreach School Facility
Wind Energy
College of Law, Energy, Natural Resources and Clinic Expansion

II. PLANNING CONTEXT

Since all CFP planning is driven by a funding request process such as the State Building Commission and other University cyclical planning processes, this section of the Plan identifies those processes and explains each of the requirements.

State Building Commission

The State Building Commission by statute and policy requires three levels of studies or reports. At each level, the Commission can decide whether to fund and move the project on to the next. The first level is a basic feasibility study; the second level is a schematic design, cost estimate and preliminary site investigations; and the third and final level is the completion of the design, bidding and construction of the facility. The University has tailored its capital planning process around the three levels of reports required by the Commission.

Level I Report includes:

- *Describe the project and identify the need.* A facility program which involves a facility planning team identifying program needs and trends through a space needs analysis; relationships of the programs to one another and to other programs/agencies; how the program plan fits within the University plans, existing resources, and improvements recommended to meet current and foreseeable future needs.
- *Assess property ownership and legal encumbrances.* The University will customarily utilize existing surface property or in the case of a renovation an existing structure. Legal encumbrances may include surface property easements, mineral rights, or lease restrictions if the surface is owned by others.
- *Describe permits required.* Permits are usually related to a regulatory agency such as building code authorities, Department of Environmental Quality, or federal environmental regulations.
- *Assess environment conditions.* An environmental assessment may include surveys for historical artifacts, animal or bird migratory patterns, wetlands, eligible historical properties, etc.
- *Identify legal constraints.* Legal constraints may include zoning ordinances, airplane flight zones, protected rights-of-way, solar rights, etc.
- *Identify alternative sources of space for lease or purchase.* For most University facility needs, local community buildings do not meet the desired requirements. However, opportunities for public/private partnerships may arise from time to time.

The University will typically develop a Level I Report in-house engaging a planning team for the project which will include the stakeholders or building users, a representative of the dean and/or department head of the affected college and department, students, and representatives from the Physical Plant and Information Technology. Typically, the team is lead or chaired by the Facilities Planning Office. The Level I study will develop a consensus among stakeholders with all pertinent information to engage a design team in the development of a Level II Report. The Level I report will be tailored and approved by the University Executive Council before proceeding to Level II. A Level I report may engage a facility planner with special expertise in the particular facility to assist with the development of the report.

Level II Report includes:

- *Detailed analysis of factors relevant to development, construction, operation and maintenance.* This portion of the report will take the form of design criteria and analysis, preliminary material and equipment specifications, and a preliminary code review relevant to the structure and property improvements.
- *Identify major problems or opportunities related to development, environmental, social and economic considerations.* The response to required permits, the environmental assessment, legal constraints, alternate sources of space, and funding opportunities identified in the Level I report usually details this section of the report.
- *Identify sequence of events - permits, acquisition of land, etc.* A preliminary timeline of activities is the typical product.
- *Include soils and other test data.* Upon notification of moving to Level II, the University will acquire a detailed survey of the proposed property and have a geotechnical analysis performed. This information will be incorporated into the other portions of the report. If the project is federally funded in any way, a formal environmental assessment will be performed.
- *Final Concept design and cost estimate.* In terms of a normal design process, this would be identified as the first level of architectural services known as a schematic or preliminary design. This step translates the facility program into floor plates, building elevations, and typical wall sections necessary to perform a reasonable cost estimate and provide the graphic documentation describing the project.
- *Project financing plan.* Identification of the methods of funding that may include several different sources.
- *Identify interest in land - type of title, minerals, etc.* An identification of the property deeds is usually sufficient.

At this level, the University may engage an architectural design team and possibly a construction team to assist in the development of a major portion of the report. The design team may be an independent firm or an in-house group depending on the nature, size and complexity of the project. The design team will work with the facility planning team with management responsibility in the Facilities Planning Office. The University up to the time of this Plan has chosen to either complete a Level II study with its resources or request legislative funding from the State Building Commission and the Legislature to complete Level II. Depending on the size and complexity of the project, the planning through Level II could be a few months to a year.

Level III Report includes:

- *Design, construct, acquire or purchase facilities for use of project.*
- *Contract with experts and professional persons.* Depending on the size and complexity of the project, the professionals acquired beyond the normal architect and engineers could include but not be limited to civil engineering, acoustics, technology experts, cost estimators, elevator consultants, kitchen consultants, and systems commissioning.
- *Acquire property*
- *Contract with, contribute to or receive contributions from any subdivision of the state, private corporation, or person for the construction, operation, management and maintenance of any project or facility or function of any portion of the project.*

A full capital request will include the furniture, furnishings and equipment (including technology equipment exclusive of computers and software) necessary to complete and put the capital facility into operation. This process is a part of the capital planning process and usually involves procurement lead by the Facilities Planning Office.

University Plan 3 (UP3) 2009 – 2014

The third cycle of academic planning used a process designed to elicit comments and discussion among the campus, off-campus constituents, advisory board members and members of the legislature. By outlining institutional areas of distinction and identifying institutional scale issues for the colleges and departments to address, plans, timelines, protocols and content requirements were developed, reviewed and redeveloped into University Plan 3 (UP3) which included academic, support services and athletic plans. UP3 is available at the following website: http://www.uwyo.edu/acadaffairs/_files/docs/up3.pdf.

UP3 identified five institutional issues in addition to a vision:

A vision for the University of Wyoming.

1. Building *depth*.
2. Reinforcing and refining *areas of distinction*.
3. Access to higher education.
4. Fostering *excellence*.
5. Cultivating *leadership*.

Because academics constitute the core of UW's mission, academic planning lies at the core of UW's plans. Complementing the academic dimensions of planning, however, are those associated with support and infrastructure — facets of the university without which the academic enterprise cannot function. In contrast to Academic Plan 1 (AP1, 1999-2004) and Academic Plan 2 (AP2, 2004-2009), the plan for 2009-2014 integrates the institution's academic plan with plans for support services and capital facilities, to ensure that all of these facets of the university mesh effectively with its major academic directions. This integration builds on the cross-departmental and cross-college intellectual ties nurtured throughout the institution during the implementation of AP1 and AP2.

The Office of Academic Affairs incorporated a vast amount of thoughtful and insightful feedback, from sources both internal to and external to the university, in developing UP3. This feedback included comments about issues that did not appear in the *Creation of the Future* documents, suggestions for reframing issues that did, and critiques that led to abandonment of proposals that appeared earlier.

A VISION FOR THE UNIVERSITY OF WYOMING

Alone among society's institutions, universities both imagine the future and create it. And alone among states in the U.S., Wyoming entrusts this duty to a single public, land-grant, research university.

The University of Wyoming is a community of scholars, learners, and leaders committed to two institutional hallmarks. The first is our mission to explore, create, and share knowledge, in areas that are meaningful to our constituencies and at a level of accomplishment that garners international recognition. The second is a culture that advances the intellectual and ethical capacities of our students and employees, with a degree of effectiveness that is exemplary among public universities.

The University of Wyoming is also an institution with a distinctive character. Counting among its assets a remarkable geographic setting, unparalleled statewide presence, and a heritage of

strong public support, the university embraces both its historic sense of place and its mandate to create the future. We prize the institution's stature as a national model for access to higher education, *excellence* in areas of inquiry that are relevant and important to the state and region, and the cultivation of *leadership* for a civil society. We take pride in possessing the will to focus energy and resources on endeavors that build what Wallace Stegner envisioned as "a society to match its scenery."

The directly applicable Action Items of UP3 can be found in the following sections of the Plan:

PLANNING MOTIF 3: PROMOTING ACCESS TO HIGHER EDUCATION

Cost of attendance

Many of UW's residence halls and apartments need remodeling and upgrading. The costs, traditionally borne by students who use the buildings, can add significantly to the cost of attendance. A university housing plan, including clear fiscal plans for sustainably operating and periodically upgrading these facilities, must be a factor in our deliberations on student fees as well as an element in UW's capital facilities plan.

Action Item 8 University housing plan. *The Division of Student Affairs, in cooperation with the Division of Administration, will develop a long-range plan for university housing. The plan will include (1) a fiscal analysis of mechanisms for sustainable operations and periodic upgrading and (2) a policy delineating the appropriate mix of state and institutional subsidies and the costs borne by students who use the facilities. Elements of the plan will constitute essential components of the long-range development plan for the campus east of 15th Street.*

Education throughout Wyoming

Along with institutions nationwide, UW delivers an increasing portion of its curriculum to nontraditional students in nontraditional modes and in locations distant from its main campus. UW administrators have already begun discussions about enhanced partnerships with Wyoming community colleges in the delivery of UW baccalaureate and masters'-level coursework and degree programs. In some cases, such as with Laramie County Community College and our long-standing partnership with Casper College, the conversations focus on new buildings. In other cases, there is less emphasis on bricks and mortar and more on specific academic programs. Partnerships between UW, the state's community colleges, and the Wind River Tribal College represent a sound model for expanding access to higher education.

However, avoiding a tangled skein of inefficient one-on-one arrangements between colleges and the university will require a statewide curricular outreach plan. This plan must include mechanisms for funding the new programs without eroding resources that support existing programs, as well as measures that promote the success of UW faculty members in settings outside the Laramie campus.

Action Item 9 Community college curricular outreach plan. *To guide ongoing partnerships with Wyoming community colleges, the Outreach School will oversee the development of a statewide curricular outreach plan identifying the degree and certificate programs that the university will offer statewide. This plan will (1) take into account statewide needs for baccalaureate and masters' degree programs, (2) identify opportunities for shared programs and facilities to enable their delivery, and (3) identify*

mechanisms to ensure that the UW academic units contributing to these arrangements receive adequate, sustainable funding for them.

PLANNING MOTIF 4: FOSTERING EXCELLENCE

Building excellence in capital facilities and infrastructure

UW is committed to the capital facilities planning process begun in 2000. We will continue to update that plan and to push for the high-priority projects that it identifies, to the extent that realistic funding strategies permit.

Action Item 74 Facilities planning. *UW will continue to pursue and refine its capital facilities plan. For the five-year period 2009-2014, capital facilities projects fall into three tiers:*

1. *Tier 1: Projects under way. Included in this category are projects that appear in the capital facilities plan and for which at least partial funding and planning are in place. Among them are:*
 - *The **Fine Arts facilities**, including a new art building near the Art Museum and renovation of the existing Fine Arts building for use by the performing arts departments.*
 - *The **Berry Biodiversity Conservation Center**, including space for instruction and public education related to conservation biology as well as space for graduate education through the Program in Ecology and the Stable Isotope Laboratory.*
 - *The **School of Energy Resources facility**, including space for some faculty members and graduate students with energy-related expertise, interdisciplinary teaching and research, high-level computational resources, and appropriate centers funded through the Institute for Energy Research.*
 - *A **biosafety level-3 (BSL-3) laboratory**, including space for research on high-risk wildlife and livestock diseases.*
 - *The **Riverton outreach facility**, which will provide an improved learning environment for UW students in Fremont County.*
 - *The completion of the **Kendall House**.*
 - *Continued **renovation and improvement of existing classrooms**.*
2. *Tier 2: High-priority projects not yet under way. Included in this category are projects that will have high impact on the university's mission but for which funding is not currently in place. Among them are:*
 - *A **science teaching laboratory facility**, which would provide modern laboratory space dedicated to instruction in entry-level laboratory courses and relieve some of the pressure on research laboratory space.*
 - ***Half-Acre Gymnasium expansion**, which will advance health promotion among UW students and employees.*
3. *Tier 3: Other projects. Included in this category are projects that can have a positive impact on the university's mission but for which funding and timing hinge on the development of private philanthropy and possibly on the completion of projects in tiers 1 and 2. Projects currently in tier 3 include but are not necessarily limited to the following:*
 - *An **expansion of the Animal Science – Molecular Biology complex**.*

- *An **American Indian Center**, to advance interdisciplinary scholarship and promote the recruitment and retention of American Indian students and faculty members.*
- *An **upgrade of the engineering complex**, to improve the functionality and use of space surrounded by the existing multistory buildings.*
- ***Expansion of the Art Museum** to include space for public lectures and programming.*
- *Possible **expansion of the Early Care and Education Center**.*
- *A home for the **Center for Literacy** proposed in the College of Education.*
- ***Outreach facilities in Casper and Cheyenne**, shared with the local community colleges and providing improved learning environments for UW students in these counties, as well as some consolidation of UW operations in Natrona and Laramie Counties.*
- *Facilities identified in the **Division of Athletics multi-year staging and funding plan***

To be realistic, it is important to recognize that the projects currently under construction at UW — including the College of Business building, the Information Library and Learning Center, the Student Health-Cheney International Center project, and the College of Law expansion — together with the tier 1 projects identified above — represent more construction than is likely to be completed during 2009-2014.

Action Item 75 Long-range development plan for UW properties east of 15th Street. *The Vice President for Administration, working with other vice presidents and seeking input from the university and Laramie communities, will continue to formulate a long-range development plan for UW properties east of 15th Street. Among the goals of the plan will be (1) siting of future facilities to promote coherent districts for academics, residence facilities, athletics, community and statewide outreach, and other major areas of university activity and (2) a vision for enhancing the physical connectedness of UW's Laramie academic facilities.*

Action Item 76 Comprehensive UW-Laramie transportation plan. *The Vice President for Administration will refine and identify possible funding mechanisms for a comprehensive UW-Laramie transportation plan. The plan will (1) enhance the connectedness of UW's Laramie campus, (2) facilitate non-motorized travel on campus and for people for whom it is a feasible way to travel to and from campus, (3) provide more efficient transportation for employees who must commute to campus, and (4) promote better transportation for the Laramie community.*

Action Item 78 Sustainable and energy-efficient operations. *The UW Sustainability Committee will develop a set of initiatives to advance UW's 2007 agreement to participate in the American College and University Presidents' Climate Commitment. These initiatives should include (1) a set of measures to upgrade existing buildings, relying in part on UW's major maintenance budget; (2) a set of principles to guide the design and siting of new buildings, coordinated where appropriate with the long-range development plan; and (3) a set of recommended operating practices that UW can realistically implement by 2012.*

UW's infrastructure extends far beyond the Laramie campus. Given the growth in off-campus enrollments as well as the need to serve Wyoming citizens through the Cooperative Extension

Service, Student Educational Opportunity, and Wyoming Small Business Centers, UW's infrastructure planning needs to be statewide in scope.

Action Item 85 Comprehensive statewide plan for learning facilities. *The Dean of Outreach will coordinate the development of a comprehensive statewide plan for UW-centered learning facilities. The plan should involve the Cooperative Extension Service, Student Educational Opportunity, and the Small Business Centers run by the Office of Research and Economic Development.*

Also important in UW's capital facilities plan are the facilities identified in the strategic plan for Intercollegiate Athletics, including women's tennis facilities, completion of the War Memorial Stadium upgrades, improvements to Corbett pool and the arena auditorium, and storage space for athletic equipment. Because of the large costs involved in some projects, it is critical to establish a multi-year prospectus for their completion.

Action Item 86 Multi-year plan for staging and funding upgrades to UW's athletic facilities. *UW's Director of Intercollegiate Athletics will develop a multi-year plan for upgrading UW's athletic facilities, including women's tennis facilities, completion of the War Memorial Stadium upgrades, improvements to the Corbett pool and Arena-Auditorium, and storage space for athletic equipment. The plan should include estimates of the funding streams required as well as proposals for sources of funding.*

PLANNING MOTIF 5: CULTIVATING LEADERSHIP

Area of distinction: professions critical to the region's future

Arguably more critical in Wyoming than in other states is the need to align a significant portion of the university's teaching, research, and service with the economic needs of the state and region. Covered in this category are action items related to:

- Health care
- Education
- Business and economic and community development
- Law.

Other professions — such as engineering and energy-related professions — are equally critical to the region, but for the sake of coherency the associated action items appear in earlier sections.

Education

Wyoming is fertile ground for improvements in science, technology, engineering, and mathematics (STEM) education — a topic that looms large in national conversations about elementary and secondary education. Existing doctoral programs in the College of Education, ongoing collaborations with science and mathematics faculty, and leadership in the Science-Mathematics Teaching Center provide fertile ground for enhancements in mathematics and science education. UW's new partnership with NCAR suggests an opportunity for truly innovative initiatives to import computational science into the K-12 curriculum.

Action Item 93 Improvements in STEM education. *The Dean of Education will build on recent additions of faculty positions in science and mathematics education to strengthen doctoral training in STEM-related education. As part of this initiative, and as a*

complement to UW's partnership with the National Center for Atmospheric Research, we urge faculty members in STEM-related fields in the Colleges of Education and Arts and Sciences to explore initiatives to import computational science into pre-college curricula.

The College of Education has also become a center for scholarship in literacy, an area in which it appears to be poised for national prominence. Members of the Education faculty have proposed the establishment of a Center for Literacy, to help solidify the college's scholarship and service in this field. A Center for Literacy would provide diagnostic and tutoring services to children and families in the state and region, develop graduate literacy education programs to provide a new generation of leaders in schools and universities, provide professional development for reading and writing teachers, and support important research in literacy teaching and learning.

Action Item 94 Establishment of a Center for Literacy. *Building on the College of Education's recent additions to faculty strength in literacy, the Dean of Education will identify steps necessary to establish a Center for Literacy. Central issues to be addressed include the center's mission and its staffing, space, and support-budget needs, as well as reasonable estimates of how the college can meet these needs through (1) redirection of existing resources, (2) identification of possible sources of new space and state funding, and (3) anticipated sources of external funding.*

Long Range Development Plan (LRDP)

Building on the aspirations put forth in UW's mission and vision statements, the Board of Trustees in January 2010 adopted a Long Range Development Plan (LRDP) with an eye toward future growth and a desire to improve functionality for all users and all modes. The Plan established a framework for development of open space, circulation, buildings and utilities.

Growth of the Campus

Open Space, Walkability and Circulation

Open space has been an integral component of UW's campus design since the first master plan was created in 1924. That plan established the configuration of major buildings around a quadrangle of open space—a classic design employed by university campuses across America. The first open space and original heart of UW, Prexy's Pasture, still serves as an organizing feature and place of respite amidst the hustle and bustle of campus life. In the years that followed, subsequent plans adhered to the basic configuration of the 1924 master plan as new buildings were erected around the central open space, creating a walkable, accessible campus. Other significant developments, such as the closure of Prexy's Pasture to parking, have preserved the walkability on campus.

The University has continued to grow since the 1991 Master Plan, making a comprehensive circulation system necessary to address the increasing complexities of traveling across campus. While West Campus has been preserved as a walking campus, the areas developed to the east are less accessible and relatively isolated in comparison.

Future Needs

The LRDP responds to the changing conditions of the campus since the last planning effort in 1991. While projected student enrollment growth is relatively modest for the foreseeable future, the University anticipates a need for new development and improvements to existing facilities.

Academic space will be limited, but there is a strong need for research facilities, living-learning environments and academic partnerships (e.g., a future facility for LCCC on the east campus).

New development must create a sense of place east of 15th Street and provide connections to well-established areas of campus. A commonly-held desire for a cohesive, sustainable and walkable campus is one of the main drivers of the LRDP. The LRDP carefully interweaves those ideals into the following elements:

- Land and Building Uses,
- Open Space System,
- Circulation and Parking,
- Utility Infrastructure,
- Student Housing,
- Signage and Wayfinding, and
- Sustainability.

The LRDP planning process was conducted based on a coordinated, multidisciplinary approach. The planning team conducted detailed site analyses, bolstered by document reviews, public intercepts, stakeholder interviews, focus groups, community events and a series of meetings with a Policy Committee, Advisory Committee, and community members on and off campus.

Future Growth and Opportunity Areas

Based on projected growth rates of between 1% and 3%, the UW campus will need an additional 750,000 to 2.5 million gross square feet of built space to serve students in the next 20 years. The LRDP identifies locations, design and organization of new development and suggests ways to increase efficient use of existing space—critical factors in accommodating anticipated growth, strengthening the overall character of campus, and attracting the best and brightest students, faculty and staff.

The LRDP identifies nearly 232 acres of land as opportunity areas for future development, classified into three categories:

- University property that is undeveloped;
- University property that is underutilized or requiring improvements; and
- Non-University property.

Planning and Design Principles

In essence, the planning and design principles convey the overall intent of the Long Range Development Plan. There are nine direction-setting planning and design principles that describe how to achieve the vision for the UW campus:

1. Emulate UW's sense of place on the Central and East Campus

New development on Central and East Campus should reflect the timeless design of West Campus through consistency and efficient use of space.

2. Connect East and Central Campus with the West Campus

Connectivity can be strengthened by enhancing significant routes, creating new and easily accessible access ways and eliminating real and perceived barriers that prevent convenient and safe connections through campus, see Appendix: *LRDP & Proposed Build Out Map*.

3. Organize campus development around a hierarchy of natural and landscaped open spaces

Natural and landscaped open space should be integrated with new development as an organizing feature to promote social interaction, outdoor learning, recreation, sustainability and overall campus ambiance, see Appendix: *Open Space and Paths Map*.

4. Develop a walkable, bikeable and transit-oriented campus

Safe and efficient routes for walking and biking and convenient shuttle transit create a more connected and lively environment, and enhance the ability of campus users to efficiently reach their destinations, see Appendix: *Transit/Transportation Map*

5. Locate campus uses to maximize collaboration, synergies and efficiencies

Collaboration and cooperation among uses stimulates a healthy campus environment, and efficient use of existing campus property reduces the need to acquire new sites surrounding campus.

6. Optimize utilization of existing campus facilities

Adaptive reuse of existing structures where feasible can lead to greater resource efficiency and a stronger visual tie between old and new while preserving the historical character.

7. Optimize the ecological health and sustainability of campus

For the future success and health of the campus, the University should encourage sustainable design, low impact building techniques, energy efficiency and recycling.

8. Establish well-defined and attractive campus edges and gateways

The University should develop formal and informal gateways and edges that create a desirable first impression and provide users with cues signaling when they have entered or exited a unique campus place.

9. Create flexible learning environments throughout campus

Building on the University's historic living-learning pattern of development, new projects and redeveloped spaces should be designed to accommodate a range of academic programs, curricula, teaching approaches and new multidisciplinary alliances and changes in use over time.

Overall Development Framework

The LRDP for the UW campus provides a physical framework for site improvements and further campus development, as well as directives to achieve a campus that will be functional, flexible and timeless. The development framework builds upon existing assets, respects adjacent land uses and existing plans, responds to the natural environment, and positions UW for future opportunities and success.

The Development Framework for the campus organizes planning and design recommendations that will meet the University's future academic, social, cultural and physical needs. This overarching structure integrates social and physical components; culture, technology, academics, and professional life are combined with the natural and built environments.

2011-2016 Capital Facilities Plan

The development framework is broken down into key elements: Campus Uses, the Open Space Network, Circulation, and Utilities.

An underlying principle within each element is sustainability—Future campus development will build upon past successes and ensure a long and prosperous future through a range of sustainable approaches. Continuing the development of a “green” UW campus will be critical to long-term viability, competitiveness and success.

Organization of Campus Uses (See Appendix: *Zones/Campus Uses Map*)

The proposed concentrations of campus uses described below build upon existing land use concentrations on the UW campus, and are consistent with the planning and design principles.

- Academic and Support
- Research/Business
- Living Learning
- Athletics and Recreation
- Service and Maintenance
- Greenhouse
- Visitor-Oriented Mixed Use
- Campus Reserve
- Open Space

The Open Space Network

Well-designed open space breathes life into the spaces between buildings. As an organizing feature, open space creates linkages throughout the overall circulation framework, enhancing the physical setting of campus and creating inspiring and functional environments. Open space is a vital component of the blueprint of a college campus, knitting together the various and distinct areas of campus into a cohesive whole and establishing the campus as a shared institution. As an organizing element, open space is essential to the long-term development of the UW campus.

The proposed open space and path system provides a hierarchy of open spaces of various sizes—ranging from small intimate landscaped areas between buildings to academic quads and larger signature areas of campus, such as Prexy’s Pasture. New open spaces will optimize space between existing facilities, provide a focal point for new clusters of buildings and enhance and connect existing campus open spaces. The open space system will be connected by a well-defined network of paths and bikeways.

New buildings will be integrated into this framework and will help to activate new open spaces, while new pathways will link campus facilities and the network of open space.

Circulation

A shortage of connections through campus has decreased walkability across UW. The ability to access all points of campus on foot, by bicycle or by transit cuts down on vehicle traffic and promotes physical activity, social interaction and an increased sense of pride in the surrounding environment. The LRDP pays careful attention to issues of circulation on campus. Concepts such as “park once,” consolidated parking, increased public transit and the addition of several new open space connectors establishes an integrated network of transportation routes that will make UW a more sustainable, inclusive and accessible campus.

Components of the circulation system include the following:

- Public Interface Streets – Promote a distinctive visual cue for the public entrance of campus.
- Transit Malls – Form a looped system through campus.
- Promenades – Connect the ends of campus and provide connections to buildings, open spaces and other land uses. Design for pedestrians, cyclists, limited service and maintenance traffic and emergency vehicles.
- Walks and Pathways – Provide connections to buildings and open spaces exclusively for pedestrians and those walking bicycles.
- Parking/Access Routes – Serve both pedestrians and privately owned vehicles, while still allowing bicyclists, public transit, and service and emergency vehicles.
- Service Routes – Allow bicycle access, while also permitting limited pedestrian, transit and in some cases, privately-owned vehicle access. Routes can also accommodate emergency vehicle access when necessary.

Utilities

Adequate access to utilities is a necessary component for new development and an opportunity to further infuse sustainability into the campus fabric. Existing utilities can significantly limit the development potential of opportunity sites. By installing new utility corridors that traverse the campus east–west and north–south, adequate utility services will be available near new development regardless of where the new development occurs. Periodic maintenance can be performed and new connections can be established without significant disturbances to existing buildings and landscaping.

Development Concepts

Establishing the plan framework on campus will require strategic investment and targeted improvements. The LRDP articulates major recommendations for new campus development that build and support the plan framework. Development recommendations target specific areas of campus as well as system-wide improvements. As such, the recommendations are organized around a series of development concepts that will strengthen key sites and systems throughout a unified and well-connected campus. (See *LRDP & Proposed Build Out Map, Open Space & Paths Map, Transit/Transportation Map* - Appendix)

- *Creating a Hierarchy of Open Spaces and Green Linkages*
The expansion of campus should include multiple quads at the center of building clusters, connected to campus by the promenade system. Expanded campus edges should then include a continuous front lawn to signify the entrance of campus. Additionally, a new signature open space should be developed to strengthen the prominence of Central Campus. Fraternity Mall should be enhanced and redesigned to function as a true signature open space, with improvements that include safe pedestrian access with new sidewalks and paths, the redevelopment of Fraternity Row into a transit mall, redevelopment of Sorority Row into a promenade and relocation of existing parking.
- *Connecting East, Central and West Campus*
An east-west pedestrian-oriented promenade, as well as a promenade network extension should be created. Additionally, Fifteenth Street (proposed design concept is indicated on the *LRDP & Proposed Building Out Map* in Appendix) should be redesigned and reconfigured to increase visual interest, discourage cut-through traffic, and improve the safety of pedestrian crossings. Transit malls should also be created in order to

improve shuttle service, as well as to provide safe and convenient pedestrian and bicycle access to and along these critical corridors.

- *Creating a Critical Mass of Academic Uses on Central Campus*
In an effort to link new facilities and further development to the existing campus, open space connections should be created between existing buildings, and development clusters should be linked with a network of promenades, pathways and open spaces. New buildings should be sited adjacent to existing buildings and/or around open spaces with an eye toward long-term build out.
- *Expanding the West Campus Academic Core*
Accommodations should be made for new academic facilities, administration space, living learning opportunities and various institutes and centers. Also, a pleasing campus edge that transitions well and improves connectivity with adjacent neighborhoods along all edges of campus should be created. Additionally, to reduce potential conflict between pedestrians, bicycles and vehicles, a vehicle-restricted transit mall should be created on Iverson Street and Lewis Street between 10th and 14th Streets, while maintaining parking and vehicular access between 9th and 10th Streets and between 14th and 15th Streets.
- *Allowing for Future Expansion of the Research and Business Park*
The Wyoming Technology Business Center (WTBC) serves as a successful model for future research facilities. To build on this economic development potential, an expanded research and business park adjacent to the WTBC should be developed. Space should be provided for entrepreneurs and researchers, as well as for companies that want to locate in Laramie and benefit from the UW talent pool.
- *Enhancing Fraternity Mall*
Fraternity Mall is an iconic open space on campus and is home to one of the busiest pedestrian corridors. However, the current parking layout prevents users from fully accessing and enjoying the open space. This site can be reclaimed as functional open space by removing cars completely from Sorority Mall and Fraternity Mall. New and expanded parking facilities will be provided along Willet Drive, King Row and near Half Acre Gym. To accommodate the high level of pedestrian traffic along the newly reclaimed open space, Sorority Row will be transformed into the campus's major east/west promenade. Additionally, Fraternity Row will be repurposed into a pedestrian and bicycle-friendly transit mall.
- *Redeveloping Summit View Apartments*
A major impetus for initiation of the LRDP was the need to redevelop the Summit View Apartments area. In order to attract residents, quality design and site amenities should be expanded, and medium and high density apartments with active ground floor design and visitor-oriented mixed use development should be included. Additionally, due to a lack of connectivity to Central and West Campus open spaces, streets with transit access, promenades and walks should be provided.
- *Enhancing Areas Adjacent to Prexy's Pasture*
The areas between existing facilities should be improved and new or enhanced open spaces should be designed as focal points for buildings and circulation. A network of paths and bikeways should also be incorporated to enhance and connect to other nearby open spaces. Lastly, steps should be taken to ensure that redevelopment of any

existing buildings adjacent to Prexy's Pasture is oriented to the signature open space and is designed with an appropriate entry court.

- *Creating a Simplified, Clear Pedestrian and Vehicular System*
Improved gateways should be provided at Flint and 9th Streets; Harney and 15th Streets; and at the intersections of Grand Avenue and 9th Street, 13th Street and 22nd Street. Portions of existing streets will be redesigned or converted, with restrictions on motor vehicle access to accommodate the transit mall and promenade network. New signage should provide clear directions to campus facilities and destinations.
- *Enhancing the Visitor Experience*
To promote campus visibility, gateways, entry markers and monuments should be located at key intersections and around the periphery of campus, and off-campus gateways should be located at the major entrances of the Laramie. Additionally, a parking structure should be developed east of War Memorial Stadium with a transit stop for access to the main campus.
- *Creating Well-Defined Campus Edges and Entries*
Grand Avenue should be redeveloped with generous setbacks from the roadway, ample trees and other landscaping. Additionally, 15th Street between Grand Avenue and Iverson Street should be improved to eliminate the difficult and confusing intersections at Grand Avenue and Iverson Street while reducing traffic volume and slowing traffic speeds. Lastly, UW should work with WYDOT to ensure that any future improvements to Grand Avenue enhance the aesthetic appeal and safety along the southern edge of campus.
- *Establishing Comprehensive Signage and Wayfinding*
Signage and gateways should be created that reflect the University's unique character and sense of place. A cohesive wayfinding system using materials and a color palette that reflect the UW vernacular should be developed for on and off-campus gateways and the promenade system in order to orient drivers, bicyclists and pedestrians to major campus destinations.

Implementation Strategies

The effectiveness of the LRDP is dependent upon realistic implementation strategies. These strategies help bridge the gap between recommendations and action steps.

Strategy 1: Dedicate approximate rights-of-way and footprints for promenades, malls, open spaces and transportation, and utility corridors prior to any additional campus development. The conceptual location of key promenades and open spaces and circulation routes ensures that these elements remain on equal footing with the design and layout of new buildings.

Strategy 2: Develop circulation, utilities and incremental expansion of central services within the Capital Facilities Plan (CFP). The updated CFP will provide University leaders with a detailed, realistic list of proposed capital improvements that will be critical to improving accessibility, connectivity and safety on the UW campus.

Strategy 3: Complete site and incremental central service improvements as an integral part of individual building projects. Development projects should extend beyond the building footprint to include development of adjacent open space, utilities and services

facilities, circulation and parking. The size of a development site should be approximately four times the footprint of new construction. With some variations, half of the development site should be devoted to landscaping and open space, one-quarter developed as circulation and parking, and the remaining one-quarter occupied by the new facility.

Strategy 4: Create detailed plans for particular subareas of campus. It will be necessary to create more detailed plans for the more complex subareas of campus. Such plans will be particularly useful for subareas targeted for development partnerships. The provision of adjacent site improvements and development-ready sites will be enticing to potential investors.

Strategy 5: Create a major gift catalog with an expanded listing of small items and large-scale projects. Continuing with the success of the UW Foundation's gift catalog for trees and benches, the University should develop a comprehensive gift catalog providing greater options and ideas for prospective donors. Similar to a gift registry, the catalog can be routinely updated to reflect current needs and funding shortfalls.

Strategy 6: Pursue opportunities for land acquisition and development. The University should continue to purchase parcels north and south of the existing campus (between Grand Avenue and Harney Street) as they become available. Expansion of the campus core south of Iverson Street will allow UW to control much of the public edge along the north side of Grand Avenue. The additional area can also provide new administrative space and opportunities for living learning, various institutes and centers.

Strategy 7: Ensure operational and maintenance efficiency. Adequate main line and major feeder utilities and services should be appropriately sized for expected future projects, available and installed prior to completion of new development projects. Such projects should be energy and resource efficient and take into account long-term maintenance and operational needs.

Strategy 8: Implement and periodically review the LRDP. Reviewing new project proposals in relation to the LRDP will be critical to ensure that new projects fit the campus and community vision for future development.

Strategy 9: Continue collaborative project teams for design and construction. Project architects, engineers and planners should continue to collaborate with University faculty, staff and students where appropriate. In the long run, successful projects incorporate a wide range of perspectives to create vibrant and well-used places.

Strategy 10: Update the University of Wyoming's Instructions to Architects and Engineers (November 2007) to reflect the University's Long Range Development Plan. The Instructions should place a special focus on sustainable building principles and design, as both concepts are central to the University's LRDP.

Strategy 11: Adopt and implement the LRDP Design Guidelines. These guidelines ensure the integrity of the campus and the vision articulated by the LRDP, while maintaining adequate flexibility to allow for contemporary design, technologies, sustainability and creativity.

III. FACILITIES PLAN

The CFP is divided into three biennia with proposed projects listed for each biennium to facilitate planning and funding purposes. The plan must be dynamic and will be modified as the conditions related to funding and project timing change.

Fiscal Year 2011

Robert & Carol Berry Biodiversity Conservation Center Level III

Through a generous grant from Robert and Carol Berry and a match from the State, the University of Wyoming was awarded \$20 million to design, construct, and equip a biodiversity conservation center on the main campus. The new facility will have the capacity to significantly advance conservation-related and ecological research, education and outreach for Wyoming. Currently, research and education facilities for the life sciences are scattered throughout the University of Wyoming campus. The Berry Biodiversity Conservation Center will house a zoological collection consolidated with fragments of the University's botanical collections-- increasing the visibility and access to the respective programs. Along with these collections and the affiliated research and teaching labs, the facility includes the Program in Ecology, the Wyoming Natural Diversity Database (WYNDD), the Stable Isotope Facility, the Macromolecular Core Facility and the Nucleic Acid Exploration Facility (NAEF), large lecture and seminar spaces, a demonstration area and exhibit space. The design of the building expands on the ecological and conservation theme for the Center through the application of environmentally sustainable features and performance criteria. Programmed at 40,847 square-feet, the project is built on a site that used to be occupied by the old Cowboy Dorm between Ninth, Tenth Streets and Lewis Streets in Laramie, Wyoming.

The Guiding Principles for the development of the facility were:

1. Provide educational opportunities
 - A. Provide a specimen rich environment for education
 - B. Support hands-on instruction
 - C. Present demonstrations using the research facilities and scientific specimens for courses at the University, K-12 instruction, and public education
 - D. Provide open-access displays on the research conducted in the Center and via the web
 - E. Provide internships for training undergraduate and graduate students to conduct research and to provide outreach at the Center
 - F. Encourage the training of interested residents of Wyoming to be citizen scientists
2. Expand knowledge
 - A. Provide appropriate space and technological infrastructure for researchers to use the collections
 - B. Encourage access to the facilities in the Center by members of the University with research interests in ecology, natural history and conservation
 - C. Encourage innovative and collaborative research that addresses topics in ecology, natural history and conservation
3. Develop and preserve natural history collections
 - A. Stimulate continued collection

2011-2016 Capital Facilities Plan

- B. Provide a safe and secure environment for the preservation and examination of botanical and zoological specimens
 - C. Provide a repository for specimens and data collected from Wyoming and region
 - D. Document collections and associated research
 - E. Provide online access of the collection databases
 - F. Provide space, when deemed feasible and appropriate by the Center Director and curators, for specimens representative of the diversity of life beyond the region
4. Promote the vitality and stewardship of natural and managed ecosystems
- A. Organize, analyze and provide access to databases of specimens documented in the Center's collections and natural history databases
 - B. Develop partnerships with agencies and information consumers that act to further the mission of the Center
5. Collaboration
- A. Bring under one roof life science collections, researchers, WYNDD, and NAEF
 - B. Facilitate interaction across departments, colleges, and agencies on campus
 - C. Develop partnerships with other museums and collections, especially within Wyoming
 - D. Build relationships with science and conservation organizations throughout the state
 - E. Work with educators to enrich K-12 curriculum in Wyoming
6. Interdisciplinary research and teaching
- 1. Emphasize the multi-disciplinary aspects of research in biodiversity and conservation
 - 2. Encourage new methods and approaches
 - 3. Organize demonstrations so that they highlight interrelatedness of organisms and environments and the different ways we study them
7. Professionalism
- A. Faculty from the Department of Botany and the Department of Zoology and Physiology will select curators for botanical and zoological collections
 - B. Policies for the acquisition, deacquisition, and loaning of specimens will be set by the Center Director, curators and appropriate departments
 - C. The Center will cooperate with the University Libraries to provide satellite branch collections of scientific literature to support the Center's activities

Project Scope: 40,847 gross square feet

Funding: 50/50 Donation/Appropriation Match

Schedule: Project was completed and dedicated in early 2011

Biological Safety Laboratory (BSL-3) Level III

The Wyoming State Veterinary laboratory (WSVL) is operated by the University of Wyoming and is statutorily committed to perform animal-related disease testing for the state of Wyoming. As such, it routinely encounters or tests for naturally-occurring diseases (brucellosis, tularemia, plague, Q fever, vesicular stomatitis, highly pathogenic avian influenza, foot and mouth disease, and classical swine fever, among others) which are heavily regulated by the Centers for Disease Control (CDC) and the U.S. Department of Agriculture (USDA).

This regulation, 42 CFR 72-73 "Possession, Use and Transfer of Select Agents and Toxins" names the specific agents and toxins and describes the laboratory facilities in which work with

select agents can occur. Specifically, it requires the use of a Biological Safety Laboratory Level 3 (BSL-3) work space.

BSL-3 is applicable to clinical, diagnostic, teaching, research or production facilities in which work is done with indigenous or exotic agents which may cause serious and potentially lethal disease as a result of exposure by inhalation. Laboratory personnel must have specific training in handling pathogenic and potentially lethal agents, and are supervised by competent scientists who are experienced in working with these agents. The criteria for this laboratory is based on the last iteration of CDC's definition of a BSL-3 laboratory and those features of *Biosafety in Microbiological and Biomedical Laboratories* of the Department of Health and Human Services.

All procedures involving the manipulation of infectious materials are conducted with biological safety cabinets or other physical containment devices, or by personnel wearing appropriate personnel protective clothing and equipment. The laboratory must have special engineering and design features such as:

1. It must be separated and secured from areas that are open to unrestricted traffic flow within the building. Access to the laboratory itself is restricted and controlled. Passage through a series of two self-closing doors sealed against air flow is a basic requirement for entry into the laboratory. Doors must be lockable. A clothes change and, ideally, a shower should be included within or adjacent to the passageway and separated from the laboratory. *We anticipate that shower-out and PIN-locks may be part of the new regulations. The laboratory space should be under video or web-cam surveillance.*
2. Each laboratory must contain a sink for hand washing that is hands-free or automatically operated located near the exit door.
3. Interior surfaces of walls, floors, and ceiling of areas where BSL-3 agents are handled are to be constructed for easy cleaning and decontamination. Seams, if present in any surface, must be sealed. Walls, ceilings and floors must be smooth, impermeable to liquids and resistant to chemical and disinfectants normally used in the laboratory. Floors should be monolithic and slip-resistant. Floor and wall intersections should be coved. Penetrations in floors, walls, and ceiling must be sealed. Openings around ducts and between doors and door frames must be sealed to facilitate decontamination.
4. Laboratory bench tops are impervious to water and resistant to moderate heat and the organic solvents, acids, alkalis and those chemicals used to decontaminate the work surfaces and laboratory equipment.
5. Laboratory furniture and cabinets or benches must be capable of supporting anticipated loading and uses. Spaces between benches, cabinets and equipment must be accessible for cleaning. Chairs and other furniture used in the laboratory should be covered with a non-fabric material that is easily cleaned and disinfected. *Modular laboratory benches-cabinets that are not attached to the walls or floor will allow easier disinfection.*
6. All windows, if any, must be permanently closed and sealed.

7. A method of containing and decontaminating all laboratory wastes including all piped services must be available and utilized, preferably within the laboratory, i.e. autoclave, chemical disinfection, incineration, or other approved decontamination method. All piped services must provide for backflow prevention. Waste taken out of the laboratory must be properly sealed and not transported through public corridors or enclosures.
8. Biological safety cabinets must be utilized for operations in the laboratory placed away from doors, room air supply louvers, and heavily trafficked areas or paths.
9. Ducted exhaust and supply ventilation systems are to be provided and sealed. The ventilation system must create a positive airflow from “clean” areas toward “contaminated” areas. Exhaust air must not be recirculated to any other parts of the building. HEPA filtration of the outside exhaust air is not required but, where it is not present, vented air must be directed away from other air intakes and public areas. Laboratory personnel must verify that the direction of air flow is appropriate. A visual monitoring device indicating proper flow is placed at the laboratory entry. Ideally a HVAC control system should be in place to prevent positive pressurization of the laboratory. Audible alarms are required to notify personnel 24 hour/365 days of a HVAC failure. *We anticipate the facility should have a backup power generator, and vented air will be HEPA filtered.*
10. HEPA filtered exhaust air from a Class II biological safety cabinet can be recirculated into the laboratory if the cabinet is tested and certified annually. When exhaust air from Class II safety cabinets is to be discharged through the building exhaust air system, the cabinets must be connected in a manner that avoids any interference with the air balance of the cabinets or the building exhaust system, e.g. an air gap between the cabinet and the exhaust duct.
11. When Class III biological safety cabinets are connected to the air supply system, it must be done in a manner that prevents positive pressurization of the cabinets.
12. Continuous flow centrifuges or other equipment that may produce aerosols must be contained in devices that exhaust air through HEPA filters before discharge into or outside of the laboratory.
13. Vacuum lines must be protected with liquid disinfectant traps and HEPA filters, or the equivalent. Filter must be replaced or replaceable as needed.
14. Electrical boxes and conduits entering and exiting the laboratory must be sealed against air flow to “clean” areas.
15. An eyewash station must be available inside the laboratory.
16. Lighting must be adequate for all activities and capable of decontamination.
17. The facility design and operational procedures must be documented. The facility must be tested for verification that the design and operational parameters have been met prior to operation. The facility must be certified by the Center for Disease Control or U.S. Department of Agriculture or both prior to operation. Facilities should be re-verified at least annually against the documented and certification procedures.

18. The site must be fenced or controlled with all entrances controlled against unwanted or unexpected guests or intruders if it is a standalone facility.

The BSL-3 laboratory was funded together with a State of Wyoming Biosafety Laboratory. The funds of approximately \$19 million was part of a larger appropriation to the State Division of Administration and Information. The project planning, design, and construction was then managed by the State Construction Management Office in association with the University. The BSL-3 laboratory is an addition to the State Veterinary Laboratory facility located near West Laramie.

Project Scope: 21,830 gross square feet

Funding: \$19 million appropriation to Wyoming Division of Administration and Information

Schedule: Project was dedicated November 19, 2010.

Energy Resource Center Level III

The 2006 Wyoming Legislature approved funding for the establishment of a School of Energy Resources at the University of Wyoming. The School of Energy Resources will strengthen and link the University of Wyoming's curriculum, faculty expertise, and outreach in an array of disciplines critical to Wyoming's energy portfolio. Among these disciplines are Geology and Geophysics, Chemical and Petroleum Engineering, Economics and Finance, Mathematics, Renewable Resources, Chemistry, Electrical and Computer Engineering, Mechanical Engineering, and related others. These departments, residing in several of the University's seven colleges, are home to expertise in geophysical exploration, geologic resource characterization, oil and gas production engineering, carbon-based technologies, mathematical modeling, natural resource economics, mine-land reclamation, carbon sequestration, power-grid engineering, wind-turbine design, and other areas critical to Wyoming's energy portfolio.

The School of Energy Resources adds world-class faculty expertise in focused areas, to foster greater interdisciplinary interaction between undergraduate and graduate students and coursework, to engage in more robust outreach in industries and state agencies, and to help build links with Wyoming's high school and community colleges.

The Energy Resource Center will serve two main purposes. The first purpose is to house offices, meeting space, and laboratories for operations that are central to the School of Energy Resources. Included are research laboratories focused on rock and fluid physics, underground resource characterization, chemical and thermodynamic properties of fossil fuels, computational modeling, and carbon technologies. Also included will be an administrative suite for the director of the School of Energy Resources, suites for several of the research centers operated under the Institute for Energy Research (including the Enhanced Oil Recovery Institute), and offices, publication facilities, and space for public presentations for the Energy Outreach Center.

The second purpose of the center will be to provide a common working energy resource. The central concept will be to recreate, in an academic setting, the interdisciplinary research environment common in industrial organizations and the nation's top-tier national laboratories. Such an environment will encourage day-to-day interaction between chemical engineers, geophysicists, mathematicians, economists, petroleum engineers, and others, providing an unusually rich and practically oriented educational experience for undergraduate students, graduate students, and postdoctoral fellows.

The School of Energy Resources facilitates interdisciplinary academic and research programs in Engineering and Science, Economics and Environment and Natural Resources policy to address critical energy-related issues faced by our society.

The mission of the Energy Resource Center and the School of Energy Resources is to: "Leverage and add to the already significant energy-related talent and resources in the University of Wyoming colleges to develop human resources, know-how, and technical solutions to ensure secure and sustainable energy future for the state, region, and nation."

- Academics: Develop interdisciplinary energy-related undergraduate and graduate programs to prepare the energy workforce for a more complex future.
- Research: Promote state-of-the-art research to maximize the value of our energy resources and minimize the impact on our environment.
- Outreach: Transfer technology and knowledge to energy stakeholders and citizens across the university, the state, and beyond.

The project design is completed at this time. The Construction Manager-at-Risk has provided a guaranteed maximum price that has been accepted by the University Board of Trustees. Construction of the project will begin in May 2011.

Project Scope: 56,941 gross square feet

Funding: 50/50 Donation/Appropriation Match

Schedule: Anticipated construction substantial completion June 2012

Indoor Tennis Facility

The Department of Intercollegiate Athletics (DIA) and the University of Wyoming (UW) have planned for improvements to athletic facilities to position the DIA to compete in all sports with both men and women student-athletes. The first Athletic Strategic Plan identified many facilities related to football such as enhancements and structural repairs to the stadium; the Indoor Practice Facility for football and women's soccer; enhancements to women's soccer locker room; and outdoor track for both men and women's competition; and covered tennis courts. The 2002-2007 Capital Facilities Plan which was updated in 2006 also identified the covered tennis facility as a capital priority. The latest planning document, University Plan 3, identified a priority for the covered tennis facilities as well.

The 2000 NCAA recertification indicated that to provide equity for Women's Tennis program the DIA should provide a dedicated locker room. The DIA has attempted to find the funds through many sources to achieve the expansion of the Indoor Tennis Facility that would include the recommended locker facilities and a competitive venue for the Women's tennis team.

The present indoor tennis facility has two courts and a small ante room that provides for less than minimal quarters to support changing from street attire to competition attire, minimal restroom facilities with no showers, and space for bracketing a collegiate tennis match. The existing indoor facility covered a pair of outdoor courts to provide a minimal facility for intercollegiate competitions. The two courts require an extended day (up to 11 hours) to complete both singles and doubles matches for collegiate teams.

The present indoor tennis facility provides the only indoor tennis facility for the Laramie community and is heavily utilized outside of the UW tennis team practice use. The facility primarily provides protection from the long winters in Laramie.

In November 2009, the University of Wyoming Board of Trustees (BOT) authorized a Level I planning document to fully define the facility requirement to meet a NCAA Division 1 competitive indoor tennis facility. Following the direction of the BOT, the Vice President for Administration charged a planning team to complete a Level I report including a definition of all spaces and space requirements for a Division 1 tennis facility, develop a proposed budget, assess any environmental or legal encumbrances that would affect the project and the regulatory requirements necessary to complete the project. Twelve planning team members were appointed with a majority representing DIA, student-athletes, students representing ASUW, faculty, general public, Physical Plant, Information Technology, and chaired by the Facilities Planning Office. The initial goal of the planning team was to complete the Level I for the March 2010 BOT meeting.

The University had identified funding sources with a \$3.5 million limit. The challenge of the planning team was to identify those facilities and spaces that would ideally meet the Division 1 competitive environment and prioritizing those facilities needs that would permit the initial design and construction while providing for the future by meeting the minimum requirements at present. The priorities and the associated assignable square feet to meet minimum recommendations was 36,965 assignable square feet. The 38,400 gross square feet on the main floor plus a 5,600 square foot mezzanine includes, four additional courts bringing the total to six, locker room and team room for the women's tennis team.

The first tennis competition was on March 26, 2011 even though the building was not completed due to unforeseen construction complications.

Project Scope: 44,000 gross square feet
Funding: \$4,150,000 multiple internal University sources.
Schedule: Substantial completion, May 2011

Summit View Deconstruction

The Summit View single story student apartment complex was known to many who had the opportunity to live there as "Married Student Housing". The apartments were constructed on campus south of Willett Drive and east of 22nd Street during the period from 1955 to 1959. The apartments were primarily one bedroom units, but several two bedroom units were available as well.

To mitigate the impact on the Laramie landfill, the 70 buildings were deconstructed in two phases: Phase I included 23 buildings between Crane and Soule Streets and south of Willett Drive to Coe Street; Phase II was the remainder of the buildings to 22nd Street and Arrowhead Lane.

Prior to deconstruction of each phase, the hazardous materials utilized in the construction of the buildings were abated. Approximately 85% of the building materials and contents of the buildings were reused or recycled, significantly reducing the impact to the Laramie land fill.

The approximate 8.5 acres of Phase I will be redeveloped with new student apartments. The Phase II area of approximately 12 acres will be utilized temporarily for game day parking until improved. The Long Range Development Plan suggests the redevelopment encompass "Visitor Oriented Mixed Use" that could include restaurants, entertainment, private offices, housing, education partners, meeting space, bookstores, visitor center, professional offices, and fitness/recreation centers.

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Project Scope: 230,935 gross square feet removed

Funding: \$2,392,000 multiple internal University sources including Federal Mineral Royalties and Resident Life and Dining Services.

Schedule: Project was completed in January 2011.

Visual Arts Level III

The facilities plan and recommendations began in 2005 for the Fine and Performing Arts. The facilities planning process considered the University Academic Plan (2004 – 2009); the College of Arts and Sciences Academic Plan; the Department of Art Academic Plans; which were developed and incorporated into the University Academic Plan. Each will have direct application for the future development of the affected departments and connects directly to the University Mission.

The departmental organization and the basis of their operations such as accreditations, degrees and types of degrees granted, non-degree students involved all have a direct relationship to the programs and program types integrated into the facility program (needs) or plan. In addition, activities beyond normal academic programs such as outreach, inter- and intra-departmental associations and student organizations require a place within the facilities to operate. One important example is the Art Department which provides art program education for prospective teachers of the arts in conjunction with the College of Education although the degrees are Education degrees.

The Art Department (Art) intends to seek accreditation by the National Association of Schools of Art and Design (NASAD) which establishes national standards for undergraduate and graduate degrees, faculty credentials, and basic facilities.

Students can seek undergraduate degrees: Bachelor of Fine Arts in studio arts and history, Bachelor of Arts, or ART/ART Education in conjunction with College of Education. Each student must declare emphases in one or more studio arts including: ceramics, drawing, foundations (drawing, two and three dimensional design, and color), graphic design, painting, printmaking, sculpture, fine metal and jewelry master's degrees at this time. The total art student populations have doubled in the last 15 years.

Art is committed to a visiting artist program that presents a range of contemporary and traditional approaches to a variety of media by hosting several artists each semester. An ongoing program is the Inky Paper Press that brings a studio artist to campus once a year for a week long residency. Art has obtained sustainable funding to provide visiting artists on a continuing basis. Art is also the recipient of an endowment to provide for an artist in residence to continually improve the quality of the department and the educational opportunities for students and to enrich the lives of those participants in the lectures and shows of the artist.

Art is also committed to internationalization on a number of fronts. Faculty exhibition and research is international, taking faculty and their work most recently to Japan, Ireland, Finland, Turkey, India, Italy and the UK to name only a few venues.

UW art students are juried into national exhibitions, are often pursued by more than one graduate school around the nation, and are offered fellowships and assistantships due to their art and academic scholarship. In addition, many have gone on to have very successful careers in the public school system as art instructors.

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A facilities planning team was organized in April 2005 with a charge to establish a solid, data-driven planning framework to address the facilities needs of the Art, Music, Theatre and Dance, and Cultural Programs. The charge included examination of existing space, expected programs of each department and provides the appropriate documents to take the planning to Level II that would involve an architectural team. The University Administration has established a proposed funding arrangement for all of the Fine Arts beginning with the Visual Arts and capital requests combining resources of the Wyoming Legislature with private and foundation gifts.

In 1977, the Art department had outgrown the Fine Arts Building as constructed and began to occupy the Willett and Wainright Bungalows located north of the FA Building. The Bungalows were previous student apartments converted temporarily at the time for Art and Music uses. The Art department still occupies the Bungalows today.

The recommended facility program identified all of the required spaces and space types for the foreseeable future. The recommendation places the department into a competitive position in the region and meets potential accreditation standards.

The planning team engages the building occupants in the planning, design, construction and operation of the building. The building is designed to use less energy, generate energy and be as sustainable as the budget allowed. The planning, design and construction team anticipates the outcome of the project will obtain at least a Gold LEED (Leadership in Energy and Environmental Design) certification with high possibility that Platinum (the highest certification) will be achieved. The certification process is achieved through the integrated delivery utilized by the University involving the planning, design and construction teams into a single process.

The planning team recommended future facilities critical to maintaining the requirements necessary for the student success, to maintain recruiting and retention of both students and faculty, and to obtain future accreditation of the department.

The site of the new Visual Arts facility at Willett and 22nd Streets, southeast of the Centennial Complex, was chosen because of its relationship to the U.W. Art Museum.

The 2009 Wyoming Legislature appropriated \$3,350,000 for the completion of the design and the construction documents for the Fine Arts facility first phase. The completion of the Fine Arts projects will be phased beginning with the Visual Arts facility. The University chose to fund the remainder of the project utilizing revenue bonds supported by Federal Mineral Royalties.

Project Scope: 77,484 gross square feet

Funding: \$3,350,000 appropriation, \$33,000,000 bond funds supported by Federal Mineral Royalties

Schedule: Anticipated substantial completion, October 30, 2011

Downey Hall Renovation Level III

Renovation and improvements to the residence halls have been a major objective of the University's Capital Facilities Plan and the planned recruitment and retention of students. The quality of the residence hall living environment on the campus was to follow the renovation and improvements to the Washakie Center (food service facility). The four surrounding dorms, McIntyre Hall, Orr Hall, Downey Hall and White Hall were part of a comprehensive housing

study (Fink Study) that provided guidance and planning for improvements in the residence halls to meet student expectations in addition to necessary life safety improvements.

The University of Wyoming Board of Trustees have a requirement that all new single students live in residence hall during their first academic year unless their parents reside within 60 miles of campus or the student is over 21 years of age or has completed the equivalent of two full time semesters. A "Greek Waiver" accessed through the Office of Student Life provides a student the opportunity to live their freshman year in a fraternity or sorority.

The primary purpose of the Fink study was to assess the demand for additional student housing and to identify needs, both new construction and renovation of existing facilities, and analyze the fiscal realities of the recommendations. The study also included a facility condition analysis to understand the true conditions of the current facilities. The renovations to Downey Hall consist primarily of life safety (fire suppression, fire-alarm, stairwell pressurization, corridor pressurization, and fire doors), ADA (lever-handled doors, upgrading of selected rooms, upgrading of restrooms and shower rooms, and areas of refuge), enhancements to the electrical distribution systems to provide adequate power for all electrical devices in rooms, interior lighting and data systems, and interior design improvements (carpeting rooms, inviting lounge spaces, computer labs, study rooms, and comfortable furnishings).

This project is a continuation of the project that started in 2003 with the renovation of McIntyre and Orr student housing. That project included construction documents for Downey, but in the earlier plans Downey Hall was to be preceded by a major renovation of White Hall. Due to the change in the timing of the projects, it was necessary to update the Downey Hall construction documents.

Project Scope: 85,361 gross square feet

Funding: \$6,000,000. Bond funds supported by Residence Life and Dining Services fees.

Schedule: Construction start, June 2010. Anticipated substantial completion, June 2011.

War Memorial Stadium Parking East

The improvements to the east sector of the War Memorial Stadium did not include improving the parking lot immediately to the east. The parking lot had been leveled and covered with gravel and asphalt tailings in the late 1980s and has been without an impervious surface since original construction of the War Memorial Stadium. The installation of an asphalt surface has to consider the magnitude of surface water drainage and the associated infrastructure costs. Surface water runoff differs between a gravel and asphalt surface. An impervious or asphalt surface would require greater surface water detention than is presently available. The runoff capacity is limited due the capacity of Spring Creek and the City of Laramie storm sewers.

The number of spaces in the parking lot was reduced with the construction of the Indoor Practice Facility which was placed on the northern sector of the original lot. Subsequent to the reduction in the number of spaces the Athletic Department has given priority to Cowboy Joe Donors for the remaining parking spaces. The lot at one time had a shuttle stop and was utilized during the week for remote parking.

The planned improvements for the parking lot will include not only the asphalt surface and surface drainage components but will include accessible parking spaces, spaces for oversized vehicles such as recreational vehicles, landscaping and landscaped islands. The landscaping

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will enhance the appearance of the large parking surface in conformity with the Laramie Development Code.

The resultant 660 spaces will be constructed in two parts. The first will be the surface water drainage infrastructure that will include the redevelopment of the Practice Field and Tailgate Park Area at 20th and Grand Avenue scheduled to occur during the Spring of 2011.

The second phase of the parking lot will be the asphalt surface and landscaping improvements scheduled to occur during the Summer of 2011 with the intent of completion prior to the 2011 football season.

Project Scope: 660 parking spaces

Funding: \$2,183,650. Internal University sources including Athletics.

Schedule: Construction start, April 2011. Anticipated substantial completion, August 2011.

Golf Practice Facility

The Men's and Women's Golf teams are at a disadvantage with the University's existing facilities. To compete at a high level during the season, the ability to practice and develop skills during the long winters in Laramie is a necessity. The present golf course provides the opportunity to utilize the driving range. If a heated facility were available, it would allow year-round practice at the range. Many Universities within the region that do not have facilities available year-round have an indoor practice facility to continue to develop skills.

The proposed facility would house three heated driving bays for driving practice, a practice green with sand traps, a training/class room, locker rooms and equipment storage. The placement of the facility is critical due to the lack of utilities on the golf course.

Project Scope: TBD

Funding: \$750,000 private funds.

Schedule: Anticipated construction start, Fall 2011.

Transit Facility

The current and previous long range plans for the University of Wyoming (UW) campus have included encouraging pedestrian and bike traffic on the core campus while reducing vehicular traffic on the main campus. As the University of Wyoming campus and student population has increased in size, accommodating the desire for Students and Staff parking spaces immediately adjacent to academic facilities has become problematic. The demand for parking space has increased while the open spaces that were or could be used for parking has been utilized for new facilities. Ample parking spaces are available on the east end of the campus near athletic facilities, but not near the core campus. In 1981, to provide a means to utilize the parking on the east end of campus, a shuttle bus service was established.

The initial shuttle bus routes were around the core of campus. The services also included ADA paratransit services for the mobility impaired. Since 1981, several versions of the shuttle bus services have been started and stopped. Ridership in the 1980's ranged from 11,000 to 22,000 annual riders. The various services were managed by the UW Vending Services. From the mid 1990's to 2002, the shuttle services and parking were managed by the UW police department. Transpark was formed in 2002 as part of UW Auxiliary Enterprises. Its goal was to enhance transit service to relieve congested parking on campus. Since 2002, the ridership of the shuttle

bus service has risen to over 600,000 annual riders. One of the major factors in the increase in ridership was the elimination of parking around Prexy's Pasture in the summer of 2004 which facilitated the change in attitudes of utilizing a shuttle service and remote parking instead of trying to park on the core campus.

To facilitate that plan, realizing that many students and staff use vehicles to commute to the campus, especially during the winter season, the University has sought to establish fringe parking and provide shuttle bus service from the fringe parking to core campus.

The bus fleet operated by Transpark has increased to meet the demands of its ridership. In 2002, five transit buses and one paratransit bus made up the fleet. Operations included 32 employees and operated the following shuttle routes:

Union Express: from the remote parking at the athletics fields to the Union Parking Lot.
Campus Shuttle: from the athletic field parking around the core campus, to married student housing, and back to the athletic field.

In 2008, the shuttle routes were increased to better accommodate the students. UW became aware that over 20% of off campus students live in multi-unit dwelling approximately .6 miles to the south of campus. The parking lot of a vacated shopping center became a pick-up point with direct service to the Union Parking lot. The shuttle routes were also reorganized to provide express route from the dormitories to the south end of campus. Also, a Night Owl Express service was created to provide a shuttle service from the dormitories to campus locations after normal shuttle hours. By 2008, the fleet had increased to 13 transit buses and 3 paratransit buses.

Currently, the transpark operation is located in several places. The administrative offices are located just to the north of campus at 10th and Lewis in a renovated house. The facility is also used to administer the parking portion of Transpark accommodating parking permit purchase, regulatory operations, and information center for Transpark's operations. Drivers and mechanics utilize the lower level of the Service Building at 14th and Lewis and share the space with UW fleet operations.

The University is considering up to two over-road-motor coaches to transport students and staff to off campus events associated with their department or organization. The coaches would be stored and maintained as part of the Transpark fleet.

The Transit Equipment Storage Facility would serve the needs associated with the storage and operation of equipment as well as the needs of the staff to operate the shuttle service. Equipment is currently stored outside near the operational staff (dispatchers and shift supervisors) and small vehicle repair area. An indoor storage facility would reduce the stress on the engine and drive train of cold morning starts. It would allow staff to do pre-checks and daily preparations in temperature controlled areas. Scraping windows and removing snow would be eliminated. The "warm-up" time required to generate a comfortable atmosphere for the riders and defrost windows would be reduced. A covered storage area would protect units with later start times and backup units from the elements.

The maintenance and repair of the vehicles is limited. The current repair area does not have enough head room to accommodate the larger units or lifts. Without lifts carriage maintenance and repairs are limited and difficult. Vehicles are washed off site at private truck stop facilities several miles from the storage area. Repair facilities strictly for buses are very limited in the

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area and may require an hour travel to reach a facilities specializing in buses. A service area large enough for all vehicles operated in the fleet with multi bays, one equipped with lift, would allow Transpark to do routine maintenance and increase their capacity for major repairs. A maintenance facility would also minimize down time of units by substantially reducing the number of trips/travel time to offsite repair facilities and the facilities work load. An onsite wash facility would also reduce expenses associated with travel time to a wash facility and cost for the service.

The facility would provide a centralized space for administrative, management, and operational staff. It would provide support areas such as a training room, locker area, and break space, for the drivers and other staff. Locating the staff in one area would give them a “home” resulting in better communication, morale, attitude, and cooperation amongst themselves. Questions and decisions concerning daily operations as well as crises management would be handled more smoothly since all of the key players are in the same vicinity. Roles between different departments, such as UW Fleet Services, would be better delineated with each department having their own space.

The transit equipment storage facility would include the following areas:

- Indoor vehicular storage
- Maintenance repair bays
- Outdoor covered vehicle storage
- Wash facilities
- Circulation and Maneuvering area
- Provide one facility that houses staff
- Indoor storage

The Level II study has been completed for the facility. The University administration will consider the recommended site and facility proposed by the study for funding opportunities and continuation of the project.

Project Scope: Proposed 40,519 gross square feet.

Proposed funding: \$13,500,000. Federal transportation grant and auxiliary funding through fees.

Schedule: Proposed construction start, spring 2013.

Fiscal Year 2012

Performing Arts Level II

The combined efforts of America's colleges and universities make them the single most important patron of the arts in the country. At the University of Wyoming, we work hard to fulfill our role as leader in the arts within our state. The next step in achieving this goal is to provide our students and faculty with facilities equal to their talents and comparable to their aspirations.

The citizens of Wyoming have a vested interest in our success because of the significant role that the performing arts play in their daily lives. The arts enrich life and make it more interesting; they provide beauty and pleasure; they express and stimulate creativity; they make people whole. The arts also build communities and strengthen economies.

The organization of fine and performing art departments, accreditations, degrees and types of degrees granted, non-degree students involved, all have a direct relationship to the programs and program types integrated into a facility program or plan. In addition, activities beyond normal academic programs such as outreach, inter- and intra-departmental associations and student organizations require space within the facilities to operate. For example, the Music Department provides music program education for prospective teachers in conjunction with the College of Education although the degrees are Education degrees.

While not immediately evident the departments' students must complete their assignments outside of the class laboratory or studio. The combination of heavily scheduled usage of laboratories/studio during the day and the standard two hours outside of class for each hour of class means the laboratories are utilized long hours each day and extensively on the weekends.

A facilities planning team was organized in April 2005 with a charge to establish a solid, data-driven planning framework to address the facilities needs of the Art, Music, Theatre & Dance, Cultural Programs and Fine Arts Outreach. The charge included examination of existing space, expected programs of each department and provides the appropriate documents to take the planning to Level II that would involve an architectural team.

The resultant summary program identified all of the required spaces and space types for the foreseeable future. The recommendation places the departments into a competitive position in the region and meets potential accreditation standards. The Facility Program Section of the Level I document includes a brief description of each of the spaces necessary to meet present as well as future programming needs. Detailed descriptions of the space and the required furniture, fixtures and equipment to be incorporated into the design of a facility were also developed to support the Level II planning and design process.

Music Department

Department of Music's (Music) Mission is multi-faceted. As artist/performer/teachers, Music offers the highest level of instruction in preparing music majors and non-majors for leadership positions as professional performers, excellent teachers, and as continuing creative individuals in the field of music. As an active performing community, Music continues to position the UW Department of Music as a state, regional, national, and international artistic and cultural leader in performance, teacher education, research and creative activities. As role models and leaders, Music serves the state and region as resources for music educators, for community performances, and as mentors and guides for young musicians seeking future musical careers.

Music is accredited by the National Association of Schools of Music (NASM). NASM has standards on facilities, curriculum, degree requirements, equipment, faculty numbers, etc. Music's last accreditation visit was in 2004, and Music's accreditation was "deferred," pending action by UW on several items. Music has addressed most of the NASM issues, but the facility issues raised are something Music can't currently fix. These issues include sound transmission between rooms, HVAC noise and efficiency, safety, and adequate equipment and spaces for the department. Music needs to show the possibility of new construction or remodeling to meet the NASM guidelines to be fully reaccredited in our next accreditation visit in 2014.

Music has eighteen tenure/tenure track faculty, four Academic professionals, and fifteen part time instructors for a total of thirty-seven faculty. This number is a realistic long term number of faculty. The distribution between tenure track, APL and part-time may fluctuate through time.

The total student population has increased from 140 majors when the building was occupied in 1972 to the highest level of 183 majors and 26 minors in fall of 2010. The facilities available have limited the total number of students that can be reasonably served.

In addition to classes for music majors and minors, the Music Department serves students from all majors. Non-majors are found in academic classes such as Introduction to Music, Music History, Music Theory, World Music, and America's Ethnic music. Non-majors are present in every ensemble, including Marching Band, Symphonic Band, Wind Ensemble, Jazz Bands (3), Jazz Combos, Studio Ensembles, Collegiate Chorale, Men's Chorus, Women's Chorus, Jazz Choir, Happy Jacks, Civic Choir, Opera Theatre, Chamber Orchestra, and UW Symphony Orchestra. At the beginning of fall 2005, there were 613 non majors registered for Music classes.

Theatre and Dance Department

Housing one of the most outstanding undergraduate performing arts programs in the country, the University of Wyoming Department of Theatre and Dance (Theatre & Dance) is dedicated to the advancement, practice, and understanding of the theatre and dance arts. Their mission is to prepare students effectively for professional careers in theatre and dance, and television and film, as well as for study in prominent graduate and professional schools.

Achieving this mission requires that students be provided with ample curricular and co-curricular opportunities to gain hands-on experience during their college careers. Students learn best by doing, from performing as actors, dancers, and singers to writing, choreographing, and directing to designing technical elements to serving on technical crews. The opportunity to interact with and learn from Theatre & Dance faculty one-on-one in these practical situations is unparalleled in the region and has built Theatre & Dance into a highly successful program.

Theatre & Dance is not presently accredited by either the National Association of Schools of Theatre (NAST), or the National Association of Schools of Dance (NASD), both of which establish national standards for undergraduate and graduate degrees and other credentials in theatre and dance. NAST has approximately 168 and NASD approximately 70 accredited institutional members, including schools, conservatories, colleges, and universities.

Theatre & Dance must address facilities requirements to be able to apply to NAST and NASD. To be more competitive among area schools, Theatre & Dance intends to apply for NAST and

NASD institutional membership, both of which are multi-year processes. The facilities planning described herein takes into account this process.

Theatre & Dance has seventeen full-time tenure/tenure-track/extended term faculty, with one adjunct faculty, and one full-time academic professional lecturer. During the last 20 years, the faculty has grown from seven members to eighteen to accommodate program growth.

The total student population has increased from 35 majors when the building was occupied in 1972 to the highest level of 145 majors in the fall of 2010. (An additional 25 education majors were also associated with the department in 1972.). In fact, after remaining static for several years, the total number of majors increased over 400% during the last 20 years. The total number of students currently served by the department in general education requirements is substantially greater (e.g., Intro to Theatre serves upwards of 450 students per semester).

Cultural Programs

University of Wyoming Cultural Programs is a division of the College of Arts & Sciences, assisting the College in its broad educational mission by presenting a rich, balanced program of music, theatre, and dance, featuring performances by artists of national and international distinction.

Cultural Programs is committed to bringing artists of national and international distinction to the campus. An effort is made to assemble a rich, balanced performance season that exhibits the highest-level performances by artists of the highest caliber. In addition, and in cooperation/conjunction with Fine Arts Outreach, the Program sponsors and arranges regional tours whereby smaller outlying communities have access to artists of a caliber they could not ordinarily afford. Additionally, cooperative work with Fine Arts Outreach has led to the development of visiting artist residencies that connect the artist with the applicable university department(s), elementary and secondary schools, community colleges, and state arts organizations.

Fine Arts Outreach

It is the mission of Fine Arts Outreach to present artistic and educational opportunities to Wyoming's public schools, UW students, and communities, preparing them as future patrons of the arts and expanding their appreciation and knowledge about artists like Mozart, Renoir, and Shakespeare.

Fine Arts Outreach is committed to bringing artists and clinicians of national repute to campus to accomplish intensive work with University of Wyoming students, visiting students, teachers, and community members. Fine Arts Outreach works closely with Cultural Programs and other Fine and Performing Arts departments to combine effort and resources in order to provide the maximum number of educational opportunities with visiting artists for students from the University of Wyoming, the greater Laramie community, the State of Wyoming, and the Rocky Mountain Region.

The assessment of the existing facilities and the site has to include not only the characteristics of the building as-constructed or in existence today but also the performing arts assessment of the facility. A brief summary of some of the more critical issues are:

- Spaces critical to the developing programs and student numbers must be available.
- Technology is basic to arts education.

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- Building systems such as ventilation and power must meet basic needs.
- Building environmental systems such as acoustical control, controllable lighting, and flexibility to accommodate change to the building are necessary.
- Safety of persons on and around equipment, proper safety equipment such as emergency eyewash and showers, and adequate storage space must be provided.
- A building environment that is competitive for recruitment and retention of faculty and students.
- A building site that is connected with the academic core of campus promoting class scheduling for the students and interdepartmental associations.

Plans of the existing building are included below.

The planning team recommended a future facility with an approximate gross square footage of 218,500; however, the budget for this project cannot support a facility which meets all program needs. The recommended facilities critical to maintaining the requirements necessary for student success, to maintain recruiting and retention of both students and faculty, and to obtain future accreditation of the department have been prioritized. The recommendation includes renovation and improvement of existing facilities as well as new additions or facilities.

One of the challenges for the planning team, design team and construction team is the existing facilities must remain occupied during the construction of the facilities. The Willett and Wainright Bungalows occupied by the Art and Music Departments will be removed after the construction but can be utilized during the construction.

The facilities recommended are needed for the developing Performing Arts programs. The total program and building square footage can be further analyzed in the Level II planning and design. The facility design will follow the President's Commitment for Climate Change in meeting or exceeding a LEED (Leadership in Energy and Environmental Design) silver level.

The University Administration has established a proposed funding arrangement for all of the Fine Arts beginning with the Visual Arts. The Performing Arts project is the second phase of the project. The Performing Arts portion of the project has a budget fixed by the administration. The planning team charge must maintain the established budget.

The next step is to develop a Level II document with a realistic cost of the work for a legislative request that must be available by August 2011.

Project Scope: 120,443 gross square feet existing renovation, approximately 51,900 gross square feet new addition

Funding: \$2,600,000 - 2011 appropriation, \$32,400,000 - 2012 appropriation request

Schedule: Level I completion - April 2011, Level II completion - August 2011, part Level III completion - March 2012, construction completion - anticipated November 2013.

White Hall Level II

Renovation and improvements to the residence halls have been a major objective of the University's Capital Facilities Plan in support of planned recruitment and retention of students. The quality of the residence hall living environment on the campus continues to follow the renovation and improvements to the Washakie Center (food service facility). The four surrounding dorms, McIntyre Hall, Orr Hall, Downey Hall and White Hall were part of a comprehensive housing study (Fink Study) that provided guidance and planning for the

improvements to the residence halls to keep them competitive and responsive to student expectations along with needed life safety improvements.

The Level II planning was completed in August, 2005, anticipating a request to bond the project by the University. The conclusions of the Level II study were for the conversion of the 12 story residence into a hotel and suites style facility. The total project cost estimated for the Level III completion of the design, project construction, furnishings, construction testing, and other construction related expenses was \$32,000,000.

The University's desire to increase enrollment, improve the quality of the learning environment, and improve the students' opinion of the University lead to the need for a comprehensive and fiscal analysis of the housing stock at the University. Most housing had been constructed more than 40 years prior to the study, reports of increasing levels of deferred maintenance and issues with safety and security in the housing environment were issues that directed opinions of the students living in the quarters.

The primary purpose of the Fink study was to assess the demand for additional student housing and to identify needs, both new construction and renovation of existing facilities and analyze the fiscal realities of the recommendations. The study also included a facility condition analysis to understand the true conditions of the current facilities.

The University currently has a limited variety of on-campus housing units, which include residence halls for freshmen and single students and university apartments for both single and student families. The on-campus residence hall provides single and double rooms with meal plans. The student apartments offer different sizes but do not offer meals plans.

The University of Wyoming Trustees have a requirement that all new single students live in residence halls during their first academic year unless their parents reside within 60 miles of campus or the student is over 21 years of age or has completed the equivalent of two full time semesters. A "Greek Waiver" accessed through the Office of Student Life provides a student the opportunity to live their freshman year in a fraternity or sorority.

The Fink study recommended that the University should:

1. *Continue to provide a range of living options in its campus funded housing program. (70 to 75 percent of the campus housing supply should be traditional double-loaded corridor residence halls or suite type housing and 25 to 30 percent should be single-shared apartments or family apartments.)*
2. *Build both resident suites and on-campus apartments.*
3. *Continue to incorporate in its new housing a link to the academic programs on campus, including features such as computer rooms, private study areas, Ethernet cabling, Internet connectivity and space for resident program activities.*
4. *Embark on a program of resident hall replacement and on an increased program of residence hall renewal and renovation.*
5. *Embark on a program of housing renovation to maintain its existing inventory of student housing.*
6. *Replace the Summit View Apartments (single story apartments) even though they offer low cost housing to many students, these units are approaching the end of their usefulness as cost-effective housing.*

With new apartments being proposed and scheduled to start construction in the summer of 2011, the White Hall renovation will maintain more traditional living quarters similar to Downy

Hall. The proposed renovation of White Hall will improve the existing 12-story dormitory, constructed in 1966, into a residence hall to serve the students for the foreseeable future.

In addition, the renovation will incorporate new life-safety upgrades required for “high-rise” buildings, including building-wide fire suppression systems, pressurized smoke control system, and a fully integrated fire alarm system, enhancements to the electrical distribution systems to provide adequate power for all electrical devices in rooms, interior lighting, and data systems, and interior design improvements (carpeting rooms, inviting lounge spaces, computer labs, study rooms, and comfortable furnishings.). For the safety of those who are unable to use the stairs in the event of an emergency, an area of refuge will be provided on each floor adjacent to the north stairwell. Living units with ADA compliant bathrooms will be provided.

Project Scope: 132,054 gross square feet of renovation.

Proposed funding: \$450,000- Level II. \$14,000,000 Level III. ~\$10,000,000 in revenue bonds and ~\$4,000,000 in cash from Residence Life and Dining Services fees.

Schedule: Level II complete December 2011. Level III start January 2012, Construction complete August 2013. .

UW/Casper College Joint Facility Level II & III

The demand for baccalaureate and graduate degree education in Casper from site-bound, typically non-traditional students continues to be strong. For thirty-three years, UW has had a close and cooperative relationship with Casper College and a presence in Casper, including approximately 20 faculty and staff, in the form of a UW/CC Center. UW has long hoped to consolidate its presence on the Casper College campus including the outreach credit programs and has had discussions with Casper College for many years to that end.

Casper College’s campus master plan has included a proposed joint UW – Casper College building, with UW residing in the proposed facility. UW’s portion of this facility would replace the current UW Poplar Street facility housing the outreach credit programs and free up space on the Casper College campus that UW currently uses for Casper College needs. There will remain a focus on sharing classroom facilities to the greatest extent practicable. UW has no plans to create science laboratory facilities in its on-campus facilities.

The Joint Facility has been approved by the Community College Commission in accordance with law. Casper College secured legislative authorization for the Joint Facility in the 2011 legislative session. Note that such legislative authorization does not require approval of state funding. Casper College plans to proceed in summer 2011 with planning and design for the facility.

UW proposes secured approval for UW’s share of the Joint Facility during the 2011 legislative session. The funding mechanism will be revenue bonds supported by UW Federal Mineral Royalties together with cash from FMRs. The Casper College Board and the UW Board of Trustees approved execution of the project’s lease structure at their February 2011 and March 2011 meetings, respectively. UW will continue to work with Casper College to move this project forward.

The University Plan 3 is built on five planning motifs, one of which is promoting access to higher education. In articulating the vision behind this planning motif, the section entitled “Education throughout Wyoming” lays out a number of action items that supports the University of Wyoming/Casper College (UW/CC) Center. One Action Item calls for a community college

curricular outreach plan. The explanation of this item makes clear that the goal is to increase the number of degree programs delivered off the main campus. It is important to note that degree programs to be delivered through Outreach Credit Programs (OCP) rather than UW/CC still result in increased demand for UW/CC facilities, since UW/CC in effect serves as the OCP regional center in central Wyoming. Increased delivery of programs, especially those with video-conferencing, audio-conferencing, or intensive weekend courses (often held in Casper), will result in increased demand of UW/CC facilities. UW/CC already is one of the largest sites serving OCP students, in addition to being the home of UW/CC.

The report from the recent Higher Learning Commission site visit team struck a similar note. The report noted that the Outreach School has been the primary source of enrollment growth for the university over the past decade. The report also urged the university to consider developing new degree programs to be delivered through Outreach, including ones which may not be offered on the main campus.

Other University Plan 3 (UP3) Action Items call for a staffing plan for Criminal Justice that includes an explicit commitment to delivery of instruction off the main campus, and the development of off-campus delivery of engineering and technology related curricula. The University Plan further envisions a more robust platform for statewide technology infrastructure to support the delivery of educational opportunities. A goal of enhanced support for the Outreach School and the degree programs it delivers is also included. All of these action items will contribute to the development of additional degree program delivery, or to the long-term stability of programs already delivered.

The delivery of degree programs off the main campus often involves placing faculty outside of Laramie. There are currently sixteen UW faculty with offices on the Casper College campus or the Outreach Building, most of whom will be incorporated into the new facility. (The only exception is faculty who have labs and need to be in proximity to the labs.) An increased number of degree programs being delivered off the main campus, as envisioned in UP3, implies an increased number of faculty located off the main campus. Aside from Cooperative Extension and Family Practice sites, most off-campus academic faculty in the state are located at UW/CC. The role of off-campus faculty is itself addressed in UP3 that calls for professional support for academic employees off the main campus. The main theme is to involve the Dean of the Outreach School in administrative practices and policies in regards to the terms of hiring, evaluation, retention, and promotion of academic personnel off the main campus.

In addition to the academic and outreach programs, UP3 calls for the development of a statewide student referral and services network, to be developed in conjunction with the community college curricular outreach plan. There are currently three full-time equivalent (FTE) UW student services and student educational opportunity staff persons presently located either at the Casper College campus or at the Outreach Building. UW's off-campus students are to have the best possible access to student services reflecting UW's long-term commitment to UW/CC and OCP students served in central Wyoming.

The Outreach School—which includes UW/CC—is deeply involved in the realization of the University's goals. The achievement of those goals will involve a larger number of degree programs being delivered off the main campus, likely supported by a larger number of faculty outside of Laramie. Whether the new programs are UW/CC-specific, or will be available on a statewide basis, it will place increased demands on UW/CC facilities and staffing. The preceding action items lead to a facility action item which proposed a UW/CC facility in Casper that is to be shared with Casper College.

The remainder of the joint facility for Casper College includes a redevelopment of their student-related services including normal hours food service and after hours vending facility, student health services, career services, Student Life services, bookstore, games area, lounge, student meeting spaces, student government, student newspaper and campus security. The joint facility will enable student accessibility due to the significant grade changes on the campus.

The facility will support the UW outreach functions and UW academic programs that utilize electronic media coupled with intensive weekend sessions as well as a significant number of outreach courses scheduled in the evenings. The UW facilities will be technology rich, engaging the electronic methods of delivering education both within and outside the classroom. While Casper College has shared classrooms and class laboratories with UW on the campus in the past, the UW facility will enable UW to return the jointly utilized classrooms back to the Casper College classroom pool plus supplementing that pool with open UW classroom hours that can be scheduled for Casper College classes during the day. The new building will truly be a joint educational support facility.

The UW Outreach Center has provided classrooms in support of community organizational meetings and conferences by scheduling the non-class hours within the existing facility to maximize the economic development and business training utilization of the facility. It is anticipated that the opportunities will continue to exist for the community to utilize the unscheduled times within the new facilities on campus as well.

The anticipated cost of the entire facility is \$32 million, half funded by UW and half by Casper College. The location of the new facility will be in the hillside across from the present administration building on the lower northern section of the campus. The facility will be a great addition to the Casper College campus, allowing UW to consolidate its education and outreach programs into a single facility on the Casper campus while enhancing the educational mission and student success for both UW and Casper College.

The maximum value of \$16 million to support UW's share of the project has been approved via the legislative process with \$10 million from revenue bonds and \$6 million from historical FMR cash balances. Construction is expected to begin in the Spring of 2012 and be completed late in calendar year 2013.

Project Scope: Proposed 49,900 gross square feet

Funding: \$16,000,000 total; bond funds (~ \$10 million) and cash (~ \$6 million) from Federal Mineral Royalties.

Schedule: Anticipated construction start, spring 2012. Completion, November/December 2013.

Michael B. Enzi Science Technology Engineering and Mathematics (STEM) Level II & III

The University of Wyoming proposes to use AML funds to build a Science Technology Engineering and Mathematics (STEM) Facility on UW property north of Lewis Street in Laramie. The STEM facility will house teaching labs for introductory courses such as general chemistry, general biology, organic chemistry, elementary physics, and other large-enrollment laboratory courses — for example those involving more than 100 students/semester. The facility will not house research laboratories.

The proposal addresses modern and emerging technologies and teaching methods in the sciences, in light of which many of UW's existing teaching labs are outdated. Botany labs were

last remodeled in the 1950s, while labs in Zoology and Physiology, Chemistry, and Physics remain essentially as they were when constructed in 1969. Over the years, UW has spent maintenance funds to meet the basic health and safety requirements — fume hoods, electric power, HVAC, and hazardous materials management — associated with its existing facilities. But these expenditures fall well short of providing truly modern lab facilities.

The pipeline of college students entering STEM disciplines is a topic of national concern. UW has a role to play, not only by providing such high-end opportunities as a School of Energy Resources and a supercomputing partnership with the National Center for Atmospheric Research but also *by offering modern laboratory facilities for the foundational courses that are required for students to prepare for these opportunities*. Many of UW's transfer students have experienced the up-to-date, high-quality lab facilities at Wyoming's community colleges. UW's first- and second-year students deserve comparable facilities.

Which students will benefit?

UW requires all undergraduates to complete courses in the laboratory sciences. In addition, coursework in these subjects provides a critical foundation for UW students pursuing STEM majors, many of which are in UW's major areas of distinction:

- Earth and energy sciences: Students majoring in Energy Resources Science, Energy Systems Engineering, Geology and Geophysics, and Petroleum Engineering must complete several semesters' worth of elementary Physics and Chemistry.
- Professions critical to the state and region: First-year Chemistry and Life Science courses are required for students entering Medicine, Nursing, and Pharmacy. Students pursuing degrees in Science Education must complete science majors, all of which require preparation in the first-year laboratory courses. Engineering students must take courses in Chemistry, Physics, Circuits, and Materials Science. Computational science and visualization are rapidly becoming standard components of the differential equations and mathematical modeling courses required for Engineers and Math Education majors.
- Environment and natural resources: Basic courses in General Biology, Soil Science, Hydrology, and the Life Sciences are essential requirements for the Renewable Resources and Agroecology majors that train our reclamation scientists. Similarly, these courses are prerequisites to junior- and senior-level coursework in all majors related to natural resources, including energy reclamation efforts.

What types of laboratories will the new facility house?

A scoping study completed in 2007 identified the following major features of the STEM facility. The study estimates that the facility will require approximately 48,000 assignable square feet, with the following features:

- The facility will house approximately 28 labs, 10 preparatory rooms, and about 8 offices.
- A scoping study recommends labs in the following areas: general and organic chemistry; general physics and science education; electrical circuits; materials; soils; hydrology; general biology; microbiology; human anatomy and physiology; and, computational science and visualization.
- Some labs will be for flexible use, accommodating needs that may evolve over time.
- Capital Construction, Science and Engineering Laboratory (SEL) Facility

Basis for Request

Strategic investments in teaching are key to the University of Wyoming fulfilling its goals of achieving national distinction in energy, science and engineering while addressing industry and workforce needs for the future of Wyoming. The University is working to build its physical and intellectual infrastructure, including establishment of the School of Energy Resources, partnerships with GE Energy on coal gasification, investments in carbon storage, leveraged with Department of Energy funding, and a partnership with NCAR for the construction of the NCAR-Wyoming Supercomputing Center. For the momentum to continue, and for it to impart genuine distinction to UW's undergraduate teaching mission, the next step in this process is to address the need for state-of-the-art laboratory facilities and 21st century equipment in science, technology, engineering and mathematics (STEM) fields.

There are many beneficial outcomes which can be achieved through completion and use of a science and engineering laboratory facility. A contemporary teaching laboratory facility is critical to attracting and engaging students in these fields, which themselves are critical to the advancement of the state's initiatives in energy and natural resources, as well as attracting and maintaining top quality faculty. For example, the space would be used for lower division general education, high enrollment lab science courses or introductory majors courses with multiple lab sections serving 100 or more students per semester in the areas of biology, chemistry, physics, microbiology and circuits. As well, upper division courses requiring well instrumented wet lab space would benefit from this facility. Finally, this facility would contribute to the foundation for long-term economic success. In particular, highly trained and skilled scientists, technologists, engineers and mathematicians, all with cross-disciplinary scientific knowledge, are needed in Wyoming, throughout the region and the nation. Students, as well as the state, would enjoy the benefits of high paying careers with good benefits.

The extent of outdated facilities for science teaching at UW is notable. Botany teaching labs were last remodeled in the 1950's, while those for Zoology and Physiology, Chemistry, and Physics remain essentially as when they were constructed in 1969. Technology and teaching methods in the sciences have changed considerably over time, and the preferred layout and fixed equipment for student science laboratories, including instructional equipment, must be upgraded. Progress in re-equipping the laboratories has been made in recent years through private contributions and competitive grants, as well as through reallocation of state funds, but remodeling existing facilities is limited by both resources and the existing structures. Phase I new construction for a Science and Engineering Laboratory (SEL) Facility could be completed at a cost of about \$50 million.

As technology and interdependence among the sciences continues to increase, so does the need for new and enhanced teaching facilities. Efficiencies can be gained by merging the instructional laboratories of the physical and biological science communities into one facility for an integrated learning environment. In Phase II, current instructional laboratory space would be released and renovated to support UW's growing research enterprise. Renovated space would include the existing teaching laboratory spaces in Aven Nelson, Biological Sciences and Physical Sciences buildings that will be converted to research facilities.

Planning. University planning documents reflect significant work over the years to plan a Science and Engineering Laboratory (SEL) Facility. Academic Plan 2 discussed growth in the university's scientific research enterprise which escalated demands on space, particularly within the Physical and Biological Sciences buildings. The 2006 UW Capital

Facilities Plan discussed the need for a Science Teaching Laboratory Facility (STLF), and a STLF scoping study was completed in July 2006. The STLF Scoping Study envisioned 27 new instructional laboratories and 9 new prep rooms in approximately 54,120 assignable square feet and 8 offices for lab directors/instructors. The current University Plan 3 (UP 3) discusses the STLF as a high priority project, which would have high impact on the university's mission (Action Item 75).

Financing. Total cost of the two Science and Engineering Laboratory (SEL) Facilities is projected at \$65.8 million, with a total of 157,600 gross square footage. Gross square feet of the new construction portion of the facility (Phase I) would be 98,400, while 59,200 gross square feet of vacated space and renovation space (Phase II) could be added in the future. Phase I could be completed by December 2013, at a cost of approximately \$50 million. Phase II would be ready for occupancy in August 2015 and would come at a cost of an additional \$15.8 million. These estimates exclude equipment.

Programmatic Delivery. As the majority of University of Wyoming students are engaged in instruction in these facilities, renovations will improve both recruiting and instruction. It is envisioned that the facility would include teaching laboratories for Chemistry, Organic Chemistry, Biology, Physics, Engineering, Agriculture, Health Sciences and a model technology laboratory.

Project Scope: Approximately 98,400 gross square feet of new facility.

Funding: \$50,000,000 of appropriated AML (Abandoned Mine Land Funds) to the Wyoming State Administration and Information Division for the University's purpose of design, construction and equipping of the STEM. The appropriation is contingent upon Congressional reauthorization of the AML funds for Wyoming.

Schedule: Level I - August 2011, Level II- December, 2011. Level III - July 2014.

Engineering Level I

The mission of the College of Engineering and Applied Sciences (COES) is: To provide excellent teaching, research, and service in chosen fields of engineering and applied science. The College emphasizes connectivity with society, an attitude of life-long learning, and provides its graduates with the essential problem-solving and collaborative skills needed to address the frontier challenges facing Wyoming and the world.

Moreover, the College seeks to enable young people from Wyoming and surrounding regions to embark upon careers in engineering and applied science.

The vision of COES is to be recognized nationally/internationally for the excellence of its education and research programs, and for its central role in the economic and social development of Wyoming and the surrounding region. Wyoming and the College will thrive if they partner together to address three questions:

1. What are the frontier challenges for Wyoming over the next 20 years?
2. What roles does technology play in these challenges?
3. How can the College partner with Wyoming's constituencies to pursue these roles?

The college must renovate and extend its facilities to attain UW planning goals, accommodate growth, grasp opportunities, and meet competitive contemporary standards for university-based

education and research. These considerations will guide discussion of the facility developments the college should pursue.

During recent years, various facility developments have been suggested for the college, but the suggestions need stronger linkage to an overall long-range direction and coherency of vision for the college's development (facilities, demographics, foci). Moreover, the suggestions need to relate better to possible avenues for generating the funds enabling facility development. There is much to be gained from a comprehensive evaluation of the college's needs, even if implementation of evaluation recommendations lies some distance in the future.

The previous discussions focused particularly on renovation (replacement) of the Sawtooth area within the existing building, and extension of laboratory space, possibly in a separate laboratory building. The college is already renovating and significantly upgrading the existing Engineering Building, particularly classrooms, and several advanced teaching labs (e.g., Encana Integrated Simulation Data Center).

The pertinent strategic goals for the college include:

- Provide first-rate education at all degree levels
 - Enhanced BS education (8 Eng., 1 Comp. Sci., 1 Earth Systems Sci.)
 - Strengthened programs of MS and PhD education
 - Competitive with peer programs
- Function at the overall level of a Carnegie RU/H-VH university
 - A balance of high quality programs of education and research
 - Developed and utilized research lab capacity
 - Developed and utilized numerical simulation capacity
 - Managed enrolment and graduation growth of student cohorts to targets for quality and size
- Realize goals (and Action Items) expressed in UP-3
 - Have the laboratory capacity to pursue research and education revolving around energy technology and science of keen relevance to Wyoming and beyond. [Action Items 42, 43, 44]
 - Fostering research in areas of distinction. [Energy-related action items, also Action Items 41, 47]
 - Facilitate enrollment growth in strategic fields -- engineering and technology. [Action Items 24, 25, 26]
 - Enhance structure and delivery of engineering science curriculum. [Action Item 23]
 - Get underway with engineering upgrade. [Action Item 74, Tier 3]
- Encourage and mobilize industry, alumni, and friend support
 - A well-founded plan, showing a UW vision for the college, is needed in order to connect effectively with industry et al., and thereby elevate the level of gift and grant investment needed to facilitate high quality programs of education and research.

Project options include:

1. Renovate and expand the Engineering Building: The renovation and expansion could be conducted as a single project comprising one to two parts/phases, and relate closely to University Plan 3 (UP-3):

Part 1: Engineering Building – Sawtooth Renovation/Replacement

Part 2: Within, near, or distant re. Engineering Building – Lab Facility Expansion

2. A Second Smaller Project – Upgrade facility at Flight Research Center: This project, loosely coupled with the principal project, aims at increasing space at the college's Flight Research Center (FRC) near Laramie Airport.

Project features:

- Upgrade facilities at FRC
- Locate wind tunnel at expanded FRC
- Vacate space in EB, especially on 6th Floor
- The existing building could be extended, or another building built next to it. The building would be of simple construction.

SOME OBSERVATIONS OF PEER COLLEGE ACTIVITIES – A quick scan reveals the following:

- Peers actively pursue national visibility
- Much attention is given to image (of themselves and the profession), and a sense of being in step with leading edge developments in the profession
- Extensive marketing, especially of quality lab instruction
- Peers more actively pursuing (or having better luck at securing) space for labs and quality classrooms
- All of the above are becoming more important as university budgets rely increasingly on non-state funds (from tuition, grants and contracts, fund-raising)

The College presently occupies the Engineering Building, Petroleum Engineering Building, Wyoming Hall, Ag B/D, and UW Flight Facility.

The comprehensive analysis of the COES goals and objectives to position the college for future growth anticipated in students and research and a gap analysis to determine those facilities required to meet the goals and objects less those existing with the expectation of modernization will complete a Level I study (facility needs analysis). The Level I study will also examine the need for an Engineering Research Facility (ERF) that would enable the COEAS to substantially increase its capacity to conduct energy-related engineering research and education. The goal of the Level I study is to identify the priority facility needs for the COEAS to support its education and research efforts.

Project Scope: TBD

Funding: TBD

Schedule: Level I completion, August 2011.

Student Apartments

The department of Residence Life & Dining Services manages four apartment complexes with approximately 600 units in one, two, and three bedroom configurations. The apartment complexes are located approximately one mile from the heart of campus and are conveniently located near shuttle stops, see *Campus Map* in Appendix

Tenants report their top three reasons for living in University Apartments are:

1. Cost (63%),

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2. Availability of internet connection (58%), and
3. Tied for third, availability of apartment when they needed it, and apartment maintenance (44%).

These percentages are respondents who reported these reasons as “extremely important” in a survey conducted the first two weeks of September 2008.

Over the past decade, the University has conducted multiple surveys and a major market analysis that resulted in the December 2002, *Comprehensive Housing Facility & Fiscal Plan*, by Ira Fink and Associates, Inc. This 2002 Plan has guided the redevelopment of the dormitories and student apartments. To date McIntyre Hall and Orr Halls have been renovated, fire suppression systems have been placed in Crane and Hill Halls. Downey Hall reconstruction will be completed in June 2011. White Hall is planned for renovations in the future. Plans for the residence halls include the more traditional dorm rooms. Crane and Hill Hall redevelopment or replacement will have to follow the reconstruction of both Downey and White Halls because the Crane-Hill spaces are required to maintain undergraduate and primarily freshmen student occupancy during the reconstruction of Downey and White Halls.

The University requested proposals through an open public acquisition process to determine the feasibility of developing a new stock of apartment beds for students beyond the freshman level. Private student apartment developers were asked for proposals given the following considerations:

1. Work cooperatively with the University to plan and design an apartment project, and
2. Develop, own, and manage the project, and
3. The University prefers to manage the residence life/program functions within the project.

The site for the proposed new facility including the initial space for the construction activities such as the construction management offices and construction staging is within the three blocks bounded by the existing Willett Street on the north, Coe Street on the south, Soule Street on the east and Crane Street on the west.

The new apartment development would consist of:

- The redevelopment of a single site,
- 332 beds of new apartment style housing on the site,
- A commons area or program space, office space for rental operations and residence life staff, and facilities to support the maintenance requirements of the residence halls and all of the apartments. Mixed-use facilities to support services such as a laundry center, computer lab, or University approved retail operations are also desirable and may also be considered in the proposal.
- All new construction portraying an architectural style that is consistent with the features of adjacent construction and the character of the University meeting all applicable codes and standards such as the Fair Housing Standards Act, Americans with Disabilities Act and a LEED silver equivalent quality of construction.
- A developed site with open space, landscaping and hardscaping reinforcing the use of transit, pedestrian and bicycle modes of transportation and the creation of a social community. The University Long Range Development Plan shall be used as a guide for the site development requirements.
- A partnership with a private student apartment provider that has the ability to determine the market and financial feasibility, design, construct, finance and manage the apartments without impacting the University debt and credit ratings.

A Ground Lease for the property developed for the apartments will be for a term of

approximately 30 years with the Collegiate Housing Foundation. The Wyoming Community Development Authority Board has agreed to serve as the conduit issuer of the tax-exempt bonds supporting the project, and American Campus Communities will construct the new apartments. University Residence Life will manage the apartment complex.

The Ground Lease will require the developer to adhere to numerous requirements, both construction and operational in nature (e.g., only renting to University students, requiring tenants to adhere to the University student code of conduct, construction that meets University standards and approval, and other provisions).

Project Scope: 332 beds in new apartment configurations of 4 bedrooms per unit rented by the bed; site development of approximately 8 acres; commons area with administrative offices, computer lab, meeting space, maintenance offices and support facilities, mail room and laundromat.

Funding: ~\$18,600,000; ~\$4,000,000 of auxiliary revenue and ~\$14.6 million from tax-exempt revenue bonds.

Schedule: Construction start - July 2011. Construction completion - August 2012.

Ivinson Parking/ Ivinson Deconstruction

The Ivinson Building as it exists today was constructed in 1916, 1939 and 1950. The building was designed as a hospital. The 1939 and 1950 structure is primarily concrete and masonry with columns on either side of the corridors. The roof of the 1916 and 1939 sections is wood framed. The 1950 addition is the only portion of the building ventilated. The accessibility of the building is very limited. Many ADA updates would be required to meet statutory requirements. The second floor was designed for patient (hospital) rooms with restrooms and closets. Many still exist in that configuration today and are used as oversized (200+ asf) offices with adjacent restrooms utilized as storage. Some of the restrooms still have the fixtures. Because of the buildings structural configuration, larger spaces become too long and narrow or will have columns within the space reducing the effective use of the space for classrooms, class laboratories or research labs. The best use of the Ivinson building is offices and office related functions. The Ivinson Building is also eligible for inclusion on the Historic Register.

The building exhibits the following problems:

- Significant levels of hazardous materials are present in the building and must be abated prior to deconstruction.
- Past and present water infiltration below grade level has deteriorated sections of the foundation.
- Building mechanical, electrical, and elevator systems are beyond their useful life
- Due to the age of the building many building, safety and accessibility code concerns exist relative to the present code requirements.

Subsequent to the abatement of the hazardous materials, the building will be deconstructed with the goal of maximizing the reuse and recycling of the materials utilized to construct the building. The deconstruction will limit the amount of waste that will be taken to the Laramie landfill. Through the deconstruction, materials from the original building will be reclaimed for the future construction of a memorial to the building including a permanent plaque with the image of the building.

Following the deconstruction, the building area will be reconstructed for a surface parking lot meeting to the extent possible the criteria of the City of Laramie Development Code. The additional parking spaces will add at least another 75 parking spaces to the lot.

Project Scope: Deconstruct 46,902 gross square feet. Surface parking and landscaping approximately one acre.

Funding: \$755,000

Schedule: Abatement & Deconstruction - June 2011. Parking construction Fall 2011 or Spring 2012 depending on weather.

Literacy Center

The UW College of Education has the primary role and responsibility for educator and school leader preparation in Wyoming. Literacy education is both a central theme and a critical focus of public education in this nation and to the educational future of Wyoming. Building upon a solid foundation of literacy expertise in our faculty and strong support from the State of Wyoming, we propose the creation of the University of Wyoming Literacy Research Center and Clinic (UW LRCC). The mission of the UW LRCC will be three-fold: research, professional development, and clinical. Research efforts will target reading and writing development (e.g., reading comprehension, vocabulary learning, genre learning, content area reading and writing, reading and writing in a second language). The UW LRCC would serve as the organizational center for multiple literacy-related grant projects, action research projects, and provide access to student populations for data collection and tutorial interventions. The research outcomes of the center will support a network of scholars interested in literacy while extending our influence with educational and other government agencies. Professional development will include state-wide outreach to practicing classroom teachers (K-12), school-based literacy specialists, instructional facilitators, and family/community literacy efforts. Net positive impact on the Wyoming Teacher Education Program is inevitable given the integrated research and professional development foci of the center. The clinical mission of the Center will focus on the diagnostic and best practices interventions for struggling readers across the K-12 spectrum. These missions will be met with a combination of virtual, distance delivered, and site-based efforts with the UW LRCC as the hub. Two Wyoming Excellence Chairs in Literacy Education will provide the academic and professional leadership for the LRCC in collaboration with other full-time College of Education faculty, doctoral students in literacy education, and multiple existing literacy initiatives within the College.

Action Item #94 of the current University Plan 3 calls for a FY11 start. ***Establishment of a Center for Literacy.*** *Building on the College of Education's recent additions to faculty strength in literacy, the Dean of Education will identify steps necessary to establish a Center for Literacy. Central issues to be addressed include the center's mission and its staffing, space, and support-budget needs, as well as reasonable estimates of how the college can meet these needs through (1) redirection of existing resources, (2) identification of possible sources of new space and state funding, and (3) anticipated sources of external funding.* To this end, the Dean of Education has been deeply involved with UW Foundation executives, the VP for Academic Affairs, and the VP for Administration to: (a) clarify the purposes and target audiences for the UW LRCC, (b) identify staffing and support needs (one-time and recurring), (c) define the facility and technological needs, and (d) develop the informational materials and initial contacts necessary to secure external funding. We anticipate additional staffing needs: support for doctoral graduate students and one full-time support staff person. Physical space needs for the UW LRCC include: a reception area, a family waiting/reading room, 2 endowed chair faculty offices, 8 graduate assistant offices, 4 counseling/tutoring spaces with interstitial observation

rooms, two conference room/resource library for 15 stations, 2 research/data analysis rooms, a storage room, 2 restrooms, and a classroom/seminar space with student capacity of at least 24 and a classroom with capacity of 30. Total space needs are estimated to be approximately 4,500 assignable square feet. In order to impact teachers and reach students across the state, the center will require these physical spaces for both direct interactions with clients (e.g., hosting professional development seminars, doctoral and grant projects, student diagnostic and tutorial services) and to house the technological equipment necessary to establish the center as a virtual research and professional development enterprise. College of Education personnel expect that much of their interaction with in-service teachers, school literacy specialists, and children/families with special literacy needs will need to occur via high quality video and audio distance technologies. The tutoring spaces will be supported by technology rich visual observation rooms to record the intervention(s) for students who come to the center and they offer the privacy necessary to conduct these sessions for students in remote sites. Similarly, the classroom/seminar space requires state-of-the-art distance technologies for professional development activities. The family waiting/reading room will be utilized for informal intake services and counseling. Through these digital technologies, we also leverage the research enterprise of the center beyond our state borders to develop the national and international reputation for our work in literacy education. Collaborations with the Outreach School and the Wyoming Center for Excellence and Innovation in Distance Learning and Technology will allow us to focus the technological needs of the UW LRCC on hardware and software rather than infrastructure.

The UW College of Education has become a focal point of scholarship and expertise in literacy, an area in which we are poised for national prominence. Literacy is the undeniable cornerstone for success in schools and for future contributions to our national and state economy and these issues are the basis for the contemporary public and political outcry to reform schools. School reform cannot occur without reaching out to the teachers and other school personnel to support them in improved instructional practice. It is through the continued research around literacy education that we identify new instructional strategies and best practices to share with pre-service and in-service teachers. Consequently, the College of Education has proposed the creation of the Literacy Research Center and Clinic focused on the needs of learners of all ages and the improvement of the instructional capacity of classroom teachers to meet these needs on a daily basis through a three-pronged approach that includes K-12 education, pre-service teacher education, and graduate education/research.

The location of choice would be within the Education Annex Building to collocate the education and literacy functions of the college.

In addition to the Literacy Center the total project envisions completion of the covered walkway between the Education Building and the Education Annex, improvement of the corridor or path from the Prexy's Pasture entry to the covered walkway, and completion of the "Education Corner" of Prexy's as envisioned by the Prexy's Pasture Master Plan dedicated to a prominent Wyoming family engaged in education.

Project Scope: 9,500 gross square feet of reconstruction into a technology rich facility, 3,650 square feet of covered walkway, 2000 square feet of corridor/entry improvements, and approximately one acre of memorial plaza landscaping and hardscaping.

Funding: ~\$5,000,000 of private and state match funding.

Schedule: Level I & II -December 2011. Level III - August 2012

Infrastructure Improvements, Phase I, Level II

In 2009, the Physical Plant contracted with Associated Engineering Inc. (AEI) to develop a Utility Master Plan (UMP). The scope included all UW utilities, whether generated or purchased, and focused on condition, capacity and growth. The summary findings and recommendations are included in the UMP Executive Summary. The discussion below includes selected capacity issues identified in the UMP to serve as justification for infrastructure improvements needed within the next two years.

CAPACITY ISSUES WITH THE UNIVERSITY INFRASTRUCTURE

A review of the UMP and the Long Range Development Plan (LRDP) reveals utility infrastructure capacity issues in the following areas:

Steam and condensate – The UMP steam modeling demonstrated that future steam loads on west campus cannot be adequately serviced from the existing system. Any development north of Lewis Street adjacent to core campus (LRDP development area A - see *Opportunities Areas Map Appendix*) will require an expansion of the steam distribution system. The STEM Facility will require this modification to operate effectively. The UMP recommended that a new steam line be run from the Central Energy Plant (CEP) north of the Cemetery to a tie-in point at 10-1/2 Lewis Street. A new line would allow UW to back feed loads from Wyo Hall to Engineering that are currently being served through aging steam tunnels that have degrading structural integrity.

Electricity – Developmental areas in the LRDP will necessitate modifications to this system. This includes Areas A (north of Lewis), C (west of the Central Energy Plant (CEP)) and G (north and east of Animal Sciences). Currently, the Rocky Mountain Power feed to west campus is overhead to the 9-1/2 block of Lewis Street, and this needs to be relocated underground to allow for development in Area A (*Opportunities Areas Map Appendix*). Another factor affecting development in Area A is the lack of expansion space in the West Campus electrical distribution gear. This issue can be handled by modifying the existing center or through a total relocation. Modifying the existing gear would have the least cost and least impact to the University; however, the better long term approach would be to plan a comprehensive utility upgrade to serve the future development area. This work needs to be done before additional development in these areas can occur.

In addition to the west campus issue, electrical revisions at the CEP to simplify its electrical system and increase its emergency power generation are needed. This will increase the plant's reliability and keep the chilled water system online through potential electrical disruptions.

Chilled Water – The current chilled water load is over 1200 tons. The CEP has one new 1200 ton chiller unit and one older 800 ton unit. Pressure losses in the piping distribution system due to the distance from the CEP to the west campus limit any future loads served by the CEP to 2000 tons so expansion of the current chilled water units at the CEP is not the best alternative. Any major west campus chilled water growth will require an ongoing dependence on building specific evaporative cooling, or require the construction of a west campus chiller plant because of these piping restrictions.

To manage this problem, evaporative cooling is being included in all new facility construction. This is not the preferred development option because evaporative cooling takes up more space, both in machinery foot print and in duct sizing, and it is more maintenance-intensive over the life of the equipment. For example, the new College of Business facility has evaporative cooling in

the addition, but the original building is chilled water cooled as there was no room for the duct work with the short floor to floor heights of the original construction. If cooling is added to any existing facilities, it will most likely be done with chilled water due to the inability to locate evaporative cooling equipment and properly sized ductwork.

Even with the use of evaporative cooling and/or the addition of a west campus chiller plant, replacement of the smaller and aging 800 ton chiller with a 1200 ton unit is recommended in the near future. This would allow for total backup if one machine were down at current chilled water loads. Currently, if the 1200 ton machine drops out during peak loads, loads must be reduced to 800 tons due to the size of the smaller chiller.

Chilled water distribution piping needs to be replaced or expanded in certain locations due to poor conditions and as there are opportunities to reduce the system pressure drop. Piping in the worst condition is from Physical Sciences to the Classroom building. Looping the piping at Bio Sciences would also help with the pressure issue.

Irrigation – The existing well system includes 2 wells. The main well (Fine Arts) provides almost 75% of the campus irrigation need and is over 50 years old. As is the case with most wells, this well has recently shown capacity reduction in the range of 25%. A second well (West Campus) was drilled at 15th and Willett in 2004 to supplement the Fine Arts well; however, this second well has not performed consistently and has experienced water quality issues. The inconsistent performance and cost to keep the well in production have caused the Physical Plant to consider abandoning this well.

Peak irrigation demand occurs between 8 PM and 2 AM, and may approach 650 GPM. At other times the demand is less, but fluctuates widely, depending on usage by the Athletic Department. The situation now is critical for the core campus. For ½ of the irrigation season last summer, UW had to connect the Cowboy Field pump station to the campus system and essentially irrigate Athletics with City water. There will be increased irrigation growth for UW, even factoring in xeriscaping for new facilities. Artificial turf grass has been explored as an option for large recreational areas, but it is highly expensive, and has questionable playability and lifespan issues at an altitude of 7200'.

During the spring of 2011, one of the City water tie points will be made permanent. When City water is used, UW pays the full water cost which could be up to \$110K/year if the core campus had to be totally irrigated with City water. To avoid this situation, a new well/irrigation development plan must be completed. This would include new wells into the Casper Aquifer which is more productive and has much better water quality than present. These wells would not only serve existing needs, but would have the capacity to expand coverage to areas not currently on the well system, such as the North 40 recreation fields. The Jacoby Golf Course is also a candidate for a well water system. If done at Jacoby, this would most likely be a separate system.

A possible work around on this issue would be to set up a long term agreement with the City similar to the one in place for the Jacoby Golf Course. The UW-City agreement for the golf course has the City supplying water at 25% of the normal rate up to 75 million gallons. A similar agreement could be negotiated for core campus, or the existing agreement could be expanded to include additional gallons at the same discounted rate. However, irrigating with treated City water is not preferable and should only be considered a short term or secondary solution. Development of new UW-owned wells is the best approach for the University's long term irrigation needs.

Water – The current water distribution system is mostly adequate. Some problems due to the pipe age (50-60 years old) should be evaluated and prioritized for replacement as opportunities occur. UMP water modeling showed fire flow issues for the southwest corner of campus. This needs to be investigated further, but a new tap for this area will most likely be required. The UMP recommends that existing 6” lines should be replaced with a minimum 8” size within the next 4-5 years. Also recommended, is a campus-owned loop for the north Lewis Street development; however, this can be handled on a building by building basis as properties are acquired. This would likely be in the 2015-2020 timeframe.

RECOMMENDATIONS FOR INFRASTRUCTURE IMPROVEMENTS

The following recommendations are presented as phase one priority projects to address the capacity and growth issues discussed in the preceding paragraphs.

Steam Line from Gibbon Street by the CEP to the Lewis Street Alcove (south side of street at 10-1/2 Lewis) – Steam modeling conducted for the UMP showed a severe restriction with the direct buried steam line that runs north of the Fraternities on the south side of Willett. Steam modeling showed that the lowest steam pressures would be at the northwest end of campus - this was verified this past January and February with the -40 °F temperatures. With the current addition of the Berry Center and future addition of the Energy Resources Center, a re-run of the steam modeling showed that there would not be any reserve capacity left with the present distribution system for any future buildings. Adding the STEM facility to the campus energy loop will require this steam line extension.

The preferred solution to this issue is to install new, 125 psi steam and condensate lines from the CEP to the Lewis Street Alcove located at 10-1/2 Lewis Street. The path roughly follows the north boundary of the cemetery to 15th, south along 15th and west to the Lewis Street Alcove. The UW Police Facility would also be added to this line. The line would also feed the LRDP Development areas A and C. As future funding is obtained, this new line would be tapped to re-feed buildings such as Education, Ed Annex, Ag and Engineering to address severe issues with the structural integrity of the existing tunnels. Long-term, this line would essentially replace the tunnel from McWhinnie Hall to the Engineering Addition.

This project is estimated to cost \$4 million with a time line of 2013-2014 for the completion of the line all the way to Lewis. The STEM facility should not be on line until early 2014. The tie in work for the McWhinnie to Engineering tunnels could be completed at a later date, depending on load and condition factors.

Irrigation controls and upgrades – The Fine Arts well first began operation in 1957 and is currently supplying approximately 70% of irrigation water for the campus; in 2004 it provided 100% of the need. Due to the loss of flow issue described in the capacity section of this report, areas of campus had to be irrigated with City water last summer to reduce the load on the Fine Arts well. The West Campus well was recently rehabilitated in an attempt to improve its production, which is also down 25% from its historic production levels.

This proposed project includes a well development program, which includes analysis and test bores, and, if successful, the development of one or two wells for the core campus. This spring, a permanent tie to the Cowboy Field pump station is being made to ensure adequate water for the 2011 summer. This action is being taken as a backup measure in case City water is

required for irrigation in the short term, as well as being a secondary source of irrigation water for the future if needed.

Any well development program is risky. Success is dependent on finding productive wells and is subject to State Engineer's Office approval. The \$2 million request is to develop additional capacity to replace lost capacity and add redundancy for core campus irrigation. Once the well sites have been determined, irrigation systems upgrades, including piping and smart controls, will be designed and constructed. This part of the project request is \$3.5 million, bringing the total request for irrigation upgrades to \$5.5 million.

Electrical System Upgrades and Expansion – The current UW owned electrical distribution system is operating well and is in fairly good condition; however, there are some areas that should be addressed to provide for needed redundancy and future expansion capabilities north of Lewis Street, the 22nd to 19th and Harney area, and west of the CEP. Improvements in this section include six recommendations:

1. New electrical duct bank and cabling from the Visual Arts Facility to the East Stadium,
2. New duct bank, cabling and switch north of Old Geology
3. An extension of a circuit (including duct bank, cabling and switches) from the Wyoming Technology Business Center to west of the Central Energy Plant for new development (Transit Facility),
4. A modification to the feed to Anthropology to provide a point to add to for future north Lewis development,
5. Modification of the West Campus Distribution system to expand the electrical room and gear located in the basement of Physical Sciences and add a duct bank from Physical Sciences to north of Lewis for future development and,
6. The existing Rocky Mountain Power's (RMP) overhead feed running from the 9-1/2 block of Lewis north would be replaced with underground duct bank and cabling, hopefully all the way to Gibbon Street. This would remove the overhead lines and poles remaining at the Berry Center. Some of RMP's east-west overhead lines would also be replaced.

It would be beneficial for most of this work to coincide with the Transit Facility and the STEM Facility. The work in the basement of Physical Sciences would be ready for the STEM Facility, but it could occur later. Replacing the overhead lines at 9-1/2 Lewis should be started as soon as possible so it will not interfere with any of the future north Lewis development. The amount of this request is \$3 million.

Central Energy Plant (CEP) Generator and 480 Volt Electric – This project doubles the emergency generator capacity at the plant which will allow the chiller system to be backed up with generator power and put the entire plant at 480 Volts (V). The existing generator produces 960 kilowatts at 2400V and the new system would be approximately 2 megawatts at 480V. The 2400V system is no longer needed as both chillers have been converted from 2400V to 480V. This modification entails removing all 13.2KV to 2400V transformers and associated distribution equipment, which allows the plant to be completely backed up from the west campus if the east campus feed is lost. Currently, when the plant is on the west campus feed, the main 1200 ton chiller cannot be energized. This is a high priority modification, as most of core campus and the Information Technology Center's data center could be without CEP chilled water if the east campus electrical feed to the plant was out, forcing the plant to be on the generator or requiring a re-feed from west campus switch. The amount of this request is \$1.5 million. This should be done within the next 2 years to avoid possible future campus development issues.

The four project areas are priority areas and should be considered immediate needs so that resources can be allocated and planning can begin in earnest.

Chiller Upgrade at the Central Energy Plant (CEP) – Chilled water is generated at the CEP using large chillers and then distributed to campus facilities through the steam tunnels and duct bank systems described above. The chilled water is used in buildings to cool the air, condition research space and to cool the campus data centers. Chilled water is returned to the CEP chillers as condensate through a closed loop system.

Per the UMP, the current CEP capacity is 2000 tons, the current campus peak load is 1,200 tons and the current firm capacity (capacity if the largest piece of equipment is out) is 800 tons. The UMP also projects chilled water growth to over 2,000 tons by 2015. To limit this impact, most of the new construction is being evaporative cooled. However, if existing core campus buildings need cooling, it will most likely have to be done with chilled water as the duct and equipment sizing is much smaller when compared to evaporative equipment (i.e. it just won't fit into the existing building layout and the floor to ceiling height is usually too short for the larger ductwork).

This project involves replacing the existing 800 ton chiller at the CEP with a 1,200 ton unit, and is planned to be completed in the 2013-2014 biennium. The upgrade will increase the firm capacity to 1,200 tons and the plant capacity to 2,400 tons which greatly improves the reliability and flexibility of the system. At 2,400 tons, plant capacity would be the maximum the CEP could ever produce due to pressure drop and horsepower limitations of the distribution system. If chilled water growth exceeded 2,400 tons, a west campus chiller plant would then be needed.

This project is estimated to cost \$1 million with a time line of 2013-2014.

Project Scope: As described above

Funding: \$2,500,000 - Level II & III design and construction documents. \$12,500,000 - Level III construction.

Schedule: Level II & III completed - June 2012. Level III completed- January 2014.

Long Range Development Plan, Phase I Level II

The implementation of the LRDP should begin to meet the goals of the University, regarding the further development of the eastern section of the campus and to connect the east and west campus areas. Additional goals for the University related to the campus development are discussed in the LRDP Section of this report.

The implementation must begin by dedicating the corridors and open spaces much like a community development will set aside the corridors for streets and parks. The corridors provide opportunities to define the multi-modes of transportation (automobiles, transit, bicycle and pedestrian) and place major utility lines. The open spaces provide access to natural environments and provide nodes for social and educational interaction such as Prexy's Pasture.

With the addition of several new facilities on the eastern sector of campus such as the Visual Arts, Student Apartments, and the Performing Arts it becomes more important that the University take the initial steps to reinforce the transit, bicycle and pedestrian connectors between the eastern and western sectors of campus. This work can be phased with the new

facilities and should be completed as soon as possible to provide for the safe passage of the students.

In keeping with the recommendations of the LRDP for phasing along with the defined multimodal corridors and open space development the first phase should consist of:

- Dedicating the corridors and open spaces for the multimodal corridors from Visual Arts and the new student housing. The corridors would involve Willett Drive, portions of the old Summit View site connecting to the south edge of the War Memorial Stadium parking lot and connect through Sorority Row across 15th Street. In addition the corridors would connect from Willett Drive and Fraternity Row across 15th Street to the west campus. Open space would be dedicated at the southern border of the new apartments, the area between the Fine Arts Building and Fieldhouse, north of the Fine Arts and all of the Fraternity/Sorority Mall.
- Relocating parking from Fraternity and Sorority Row to the area between the cemetery and the Fraternities, closing the Willett Drive sector to a public access street albeit vehicular access can continue through the parking area.
- Placing a chicane in 15th Street, reducing the through lanes to two with a center turn lane and parking along the corridor. The intersections would be treated with pedestrian friendly paving highlighted to promote high visibility and preference for pedestrians and bulb-outs reducing the travel distance across the street.
- The parking lot at the Union would be reconfigured to provide for the transit corridor on the north and the pedestrian/bicycle corridor on the south while maintaining in the short term as many parking spaces until a structure can be erected to the north. The separation of vehicles and pedestrians is necessary to improve the safety of students and to reduce the time necessary to move between sectors of the campus.

The planning and design (Levels I and II) of the corridors, parking areas, and open spaces should precede the completion of the student apartments. The construction should coincide with the construction of the Performing Arts project to permit at least two construction seasons for the completion of the improvements. The Wyoming Union parking lot requires a significant repair and or replacement at this time due to the bus operations and other heavy traffic from the building construction in the area. The parking lot was not designed for the type of traffic imposed by the bus operations.

Scope: Reconfiguring 15th Street, relocating parking from Fraternity/Sorority Rows, providing open spaces east and north of Fine Arts Building, creating an open landscaped mall on Fraternity/Sorority mall, and dedicating transit-bicycle-pedestrian corridors from 22nd Street to the west campus.

Funding: \$2,000,000 - Level I & II, Federal Mineral Royalties. \$15,000,000 - Level III, TBD.

Schedule: Level I & II - August 2012. Level III - August 2014.

UW Facility at Sheridan (NWCC) Level II

For many years, the University has worked to develop partnerships with the state's community colleges to enhance educational opportunities throughout Wyoming. The University plans to continue the momentum through collaborations on joint facilities as well as other partnerships. Funding for capital construction planning is needed.

Joint facilities or UW facilities co-located on Wyoming's community college campuses are not only consistent with the university's on-going academic and master planning efforts but integral to the advancement of scholarship, research and service of Wyoming's only public university.

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The UW mission statement emphasizes a commitment to outreach and service statewide; the Outreach School is an important element of the university's ability to reach the entire state. The current University Plan 3 (UP3) emphasizes the importance of access to higher education. In particular, the current plan envisions a more robust platform for statewide technology infrastructure to support educational opportunity, as well as enhanced support for the Outreach School and its degree programs. There is particular emphasis on the need for long-term stability of existing outreach programs as well as implementation of new degree programs. In this vein, the Outreach School will continue to oversee the development of a statewide curricular outreach plan identifying the degree and certificate programs that the university will offer statewide. More recently, the Higher Education Learning Commission accreditation site visit team draft report observed the Outreach School has been the primary source of enrollment growth for the university over the last decade. The report urged the university to consider development of degree programs to be delivered through Outreach, including ones which may not be offered on the main campus.

A University of Wyoming facility at Sheridan College would provide a unified presence for the University in Sheridan. The College of Agriculture and Natural Resources, Cooperative Extension, Outreach School, and student support services would be collocated in the facility. As part of on-going efforts to provide statewide outreach, University Outreach, the UW College of Agriculture and Natural Resources (CANR) and Sheridan College have been discussing programs for the Sheridan County area. The UW CANR presently operates The Sheridan Research and Extension Center (SREC) on 320 acres in WYarno, Wyoming. They also operate the Cooperative Extension Service programs for a five county region out of Sheridan. The UW Outreach School and Student Affairs student support services have operations currently located at Sheridan College to deliver UW baccalaureate and graduate academic programs and provide support for learners in the Sheridan College area.

The anticipated preliminary cost of the University of Wyoming Research, Extension, and Outreach Learning Center facility is approximately \$7 million with a learning center of approximately 15,000 gross square feet and several support facilities such as greenhouses, machine shed, shops, and storage. The Learning Center includes academic teaching spaces, academic support spaces, and laboratories, as well as general areas such as custodial, workspaces, administration offices, etc., and the technological infrastructure to support a variety of learning opportunities now and in the future.

This request will require professional planning and design services to perform a complete facilities and site plan analysis or Level II study. The study would include facility schematic design, a site survey, a geotechnical investigation, and a civil site design to substantiate a future request for the completion of the design, construction documents and construction in FY 2013.

Project Scope: 15,000 gross square feet

Funding: \$300,000 Level I & II appropriated March 2011. \$7 million - \$3.5 million from private funds and \$3.5 million from state matching funds.

Schedule: Level I & II -August 2011. Level III - November 2013

New Foundation & Welcome Center Level I & II

The University of Wyoming Foundation is an independent nonprofit corporation dedicated to securing, managing, and stewarding private gifts in support of the University of Wyoming's missions in teaching, research, and public service. As the state's only four-year institution of higher education, private support from alumni and friends has never been more important.

The UW Foundation aspires to be a premier strategic partner with the University of Wyoming in achieving its desire to become the nation's finest land-grant university.

The UW Foundation seeks to set the highest performance standards in the following areas, which we consider essential to the successful achievement of our mission and attainment of our vision:

- **Accountability:** Faithfully steward the resources entrusted to us while maintaining transparency in all aspects of our management of these resources.
- **Integrity:** Demand the highest standards of professional conduct, acting at all times with truthfulness and integrity and adherence to the Donor Bill of Rights.
- **Quality:** Exceed expectations with exceptional service based on timeliness, accuracy, and responsiveness.
- **Trust:** Nurture high-trust relationships by listening carefully and communicating clearly.

Our fundraising efforts are responsibly and effectively implemented by the following departments:

- **Major Giving:** The Major Giving team works closely with individual donors and with the university to focus on the priorities of each, helping to guide the significant and thoughtful commitments that have a major impact on the future of Wyoming's university.
- **Corporate and Foundation Giving:** With the help of the Corporate and Foundation Giving team, corporations and the business community have formed many strategic, mutually beneficial partnerships with the university, and the private foundations of many individuals, families, and organizations support UW's social, educational, and research activities.
- **Planned Giving:** The Planned Giving team helps people leave an educational legacy that will benefit generations of future students, and they are here to guide people through the sometimes-complex process of estate planning.
- **Annual Giving:** The Annual Giving team reaches all alumni, parents, faculty, staff, and friends on a yearly basis to offer giving opportunities for direct support of UW's colleges, departments, and programs, thus creating a vital and dependable source of non-legislative support for Wyoming's university.
- The UW Foundation President and Vice President serve as leadership members of the management team, as do the directors of Annual Giving, Corporate and Foundation Giving, and Planned Giving. The areas of advancement operations, donor relations, financial services, gift processing, IT, prospect research, and marketing support the management team.

In 2008, the Foundation initiated a planning process to determine the extent of a facility that would house their operations in a single location that is visible and accessible to the public. While the existing Foundation House has a very public location, it is no longer adequate and does not provide adequate access to the public. The study indicated a strong desire to site the proposed facility along 22nd Street near other public accommodations such as the Conference Center. The Long Range Development Plan would also suggest the site should be in the Visitor Oriented Mixed use zone that borders 22nd Street from Grand Avenue to Willett Drive. The 2008 study identified a facility of approximately 30,000 gross square feet would suffice. The Foundation presently occupies approximately 17,000 gross square feet in the Foundation House and the former Rocky Mountain Ranger Station with a staff of 37.

The concept of a welcoming center would involve other similar entities of the University or related to the University with common goals and visions. Therefore, the past facility planning

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must be revisited with the vision of a more robust welcoming center inclusive of partners in the facility.

Project Scope: TBD

Funding: Level I and II - \$750,000 private funds.

Schedule: Level I & II -December 2011. Level III - August 2013

South Shuttle Lot

The University completed a comprehensive Transportation and Parking Master Plan in 2008 that suggested an increased utilization of the University transit system if remote lots were placed in neighborhood feeders for University employees and students. One such neighborhood bordered 15th Street at a former retail center just south of Spring Creek.

The remote lots relieved the parking demand on or adjacent to the campus by providing parking and transit access within a feeder neighborhood. Utilization of the transit meets the carbon reduction goals of the campus relative to the College and University President's Climate Commitment. The number of riders from this remote lot has grown. The ridership upon opening the existing lot was approximately 850 per day in 2008 to the present 1,200 per day.

The University has acquired the retail center, formerly a grocery store and pharmacy, as well as its parking. The parking demand on opening day exceeded the 176 spaces available at the lot.

The existing buildings had to be purchased and deconstructed to make space for additional parking at the remote lot. The deconstruction was completed in the winter of 2010. The lot was temporarily improved with a gravel base to accept additional parking until it could be fully improved with lighting and landscaping within the Laramie development code. The improvements to the lot have been designed. The University is putting together the funds from several sources to improve the lot during the summer of 2011.

When completed the lot will accommodate the transit stop, a coffee hut, and 287 parking spaces. Student and University employees are able to park at the remote lot for the cost of an inexpensive transit pass.

Project Scope: 287 parking spaces, 4.56 acres of surfacing, walks and landscaping

Funding: \$1.3 million - Level II and III, multiple sources including appropriated funds for lot improvements.

Schedule: Level III Phase I (north half) -August 2011, Phase II - October 2011

Agriculture A, B, D Deconstruction

Constructed in 1950, the Agriculture A building was for many years an arena, sales, and abattoir supporting agricultural research and product sales of meats and dairy products. A new abattoir was included in the 1985/6 construction of the Animal Science Molecular Biology Building. The dairy operations in Laramie ceased soon thereafter, leaving the building for repurposing.

Also constructed in 1950 was the Ag B&D building housing the wool lab and shop areas supporting research. The equipment installed in the wool lab at the time still exists today. Other than the wool lab, the shop areas have been utilized for many purposes including limited access storage.

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The Long Range Development Plan (LRDP) suggests that the area should be utilized for service and accessible parking near the main Agriculture Building and converting the remaining area to an open space to reduce the impacts of the present concrete jungle and the harsh winter shadows created by the multistory Agriculture and Engineering buildings. The LRDP also suggests that Lewis Street be reconfigured to meander into the present area of this deconstruction for a transit and pedestrian-oriented corridor. The grade change from the existing Lewis Street to Prexy's Pasture in this area is significant and portions of the site should be utilized for accessibility to the Prexy's Pasture level of the campus.

The Facilities Planning Office and the University Space Allocation Committee have been systematically reducing the utilization of these facilities. The present occupants are Art, Theatre & Dance, Renewable Resources, Animal Science, Botany, Mechanical Engineering, WRI, and the Accounting Office. All departments are aware of the planned removal of the facilities.

The timing of the deconstruction is dependent upon the completion of the Fine Arts projects and the identification of space to which the existing programs can be relocated.

Prior to the deconstruction of the buildings a hazardous materials assessment will be conducted. The hazardous materials will be abated and disposed of in the proper manner. Subsequent to the abatement, the building will be deconstructed with the goal of maximizing the reuse and recycling of the materials utilized to construct the building. The deconstruction will limit the amount of waste that will be taken to the Laramie landfill.

Following the deconstruction, the area will be reconstructed with approximately 25 service and handicapped parking spaces and landscaped with low water consumptive materials with the character of the pedestrian entry and ramp at 14th Street and Lewis Street.

Project Scope: 38,271 gross square feet of deconstruction, approximately 1.5 acres of new parking and landscaping with accessibility routes.

Funding: \$600,000 of Federal Mineral Royalties.

Schedule: Abatement and deconstruction completion - September 2013. Construction completion, July 2014 if delayed by winter.

Fiscal Year 2013

Performing Arts Level III

(See description of the Performing Arts project under FY 2012.) A \$32,400,000 request for funding from state appropriations will be submitted in the 2013-14 biennial budget request to support completion of the construction documents as well as construction costs for the project. This phase will result in completion of the project.

Proposed construction start, spring 2012. Construction completion, November 2013.

White Hall Level III

(See description of White Hall under FY 2012.) A request to authorize issuance of ~\$10 million in revenue bonds will be included in the 2013-14 biennial budget request. Together with ~\$4 million in auxiliary cash reserves, the bond proceeds will support completion of the construction documents and the construction for the project. This phase will result in completion of the project.

Proposed construction start, June 2012. Construction completion, July 2013.

Half Acre Recreation Center Level III

The Half Acre Recreation and Wellness Center was developed based upon a holistic concept of wellness. This conception of wellness is the common thread that weaves the inhabitants of Half Acre together. By implementing not only a new and improved Campus Recreation experience, but also integrating Kinesiology and Wellness, students, faculty, and staff will have the opportunity to integrate the seven aspects of wellness (physical, emotional, social, intellectual, occupational, spiritual, and environmental) all under a single roof.

Multiple surveys of UW student preferences have returned the results that the majority of students would like to see more cardiovascular exercise machines, more free-weight stations, and more space for multi-activity sports within Half Acre. Therefore, it is a major goal of the University to expand the facilities' offerings in these three key areas that contribute to overall wellness.

Half Acre as it currently exists is also lacking when it comes to informal gathering and social spaces, and therefore it is another goal to create an environment that encourages users to pause, rest, socialize and therefore further enrich their experience at the University.

The design team was charged with performing an evaluation and assessment of the existing building, the conclusion of which is that Half Acre Gym is for the most part in excellent condition for a structure of its age and use.

Nevertheless, there are significant architectural issues with the current configuration, adjacencies, allocation of space, privacy and overall perception of the facility that need to be addressed.

- **Circulation and Control:** One major issue with the existing building is the current layout and control. Currently, all users of the facility must enter the building through the West Entry, and then circulate through the gender-specific locker rooms, past toilet and showering facilities, to access any of the other amenities in the building. This is not an issue for those meaning to change clothes and prepare for an athletic event or exercise routine, but many users arrive either previously dressed for exercise or intent on

attending a class, pick up something from the outdoor program, or some other non-exercise related affair. The current arrangement is sub-optimal. There are also numerous other doors and passageways that are not adequately controlled resulting in non-authorized users entering the facility.

- **Wayfinding:** Once beyond the locker rooms, with the exception of the main exercise equipment floor, it is very difficult for new users to orient themselves and find their way to the various amenities in the current facility. The pool, gymnasium, exercise studios, racquetball courts, outdoor program and ROTC are all isolated within rooms to themselves, accessed by stairwells and corridors with little to no visibility into other spaces around them. This arrangement makes for an isolated user experience.
- **Accessibility:** The existing building is a four level structure (pool, first, second and third levels) without an elevator or other means of an accessible route. In terms of complying with accessibility guidelines and providing efficient and convenient circulation for users to the upper floors, this is a major issue that needs to be resolved.
- **Visibility:** A certain synergy is formed when different users can see into adjacent spaces and witness the activity that is taking place therein. Providing visual connections throughout the facility will provoke curiosity and contribute to users trying more things, be it an exercise class or intramural sport, and often results in greater attendance and an overall enhanced user experience.
- **Comfort:** An important element to one's overall well-being is the 'socialization,' the ability to interact with others and develop strong, healthy relationships. The existing building has very little access to natural light, views to the exterior, attention to fixtures and furnishings, acoustic control, environmental control or designated areas to socialize. There is no soft seating anywhere in the facility, nothing provided that encourages users to linger, chat or even wait for a friend come out of the locker room in a warm and comfortable area.

Many of the existing finishes are in disrepair and are therefore difficult to maintain in an inviting and attractive condition. Many of the colors are dated in appearance, and are not conducive to the type of facility that serves such a diverse user base.

The ultimate goal of the Planning Team was to resolve each of these issues. Indeed, any addition and renovation project that does not address and solve each of them will fall significantly short of the mark of creating a national model for integrated wellness at a major University.

The Level I Planning document indicates that expansion is possible both to the north and the east of Half Acre Gym. However, upon further review with the Planning Team and over-arching Long Range Development Plan (LRDP), it was evident that expanding significantly beyond the current boundaries of the building was not going to be practical to the University. Expanding to the north disrupts the existing playground of the University's Lab School and could impose upon their solar access. Expansion to the east is limited by the future parking structure indicated by the LRDP which would be located in the parking lot to the immediate east of Half Acre. Therefore, it was determined that a vertical addition be considered rather than significantly expanding the existing footprint of Half Acre Gym.

The LRDP also indicates that the service/bus route to the immediate east of Half Acre is to be relocated to the east, to align with the access drive between McWhinnie and Wyoming Halls. As Half Acre could benefit from some expansion to the east, it makes sense that the relocation of the access drive (or "Mall") be included in this project.

Another major influence on access to Half Acre is the development of the area to the south-east of the site. The new Business School is now completed, and the LRDP indicates a major pedestrian/bicycle route should be provided between the expanded Coe Library/Business School to the south and Half Acre to the north. The western boundary of this new pedestrian and bicycle thoroughfare will be a landscaped plaza attached to the eastern edge of the Student Union. To the east of the Union is to be a small parking lot and a future building along 15th Street.

Elaborating on the existence of this major pedestrian and bicycle thoroughfare in the future, a new student plaza or "outdoor room" is proposed to serve as both a hub of conveyance to and from the entry to Half Acre and as a terminus/focal point of the major shuttle route proposed along Fraternity Row. This development of the surroundings around Half Acre Gym places a new significance on the south-east corner of the facility – this is becoming a much more dominant corner than it has been in the past. What has historically been the rear entry to Half Acre will soon become a very visible and important front, and therefore this corner requires significant attention in the design.

To the west is the main historic entry, which faces Prexy's Pasture and the core of the Campus. It is very important to all involved that this entry remains a primary access point to the amenities provided in Half Acre and that the historic character is preserved.

From the west entry there are several issues and needs that must be accommodated:

- There is the new development to the south-east, lending credence to the need for an entry on that side of the building.
- There is the control issue mentioned previously, and the need to allow access to certain program spaces without going beyond the control point.
- There is the accessibility issue, and how to comfortably and conveniently provide an accessible route to all areas of the building.
- There is the desire to make the pool more visible to the rest of the facility and bring in natural light to this isolated area.

The planning and design team selected a design concept that seemed to best solve all of these issues by expanding and enhancing the traditional entry on the west side, providing ample lounge and gathering space on this side of the building as well as allowing the addition of windows into the pool area. This traditional entry will then be connected to a new entry on the south-east side of Half Acre creating a user-friendly "free-zone." This provides a strong connection with all of the program spaces that do not need to be controlled by Campus Recreation. The new Control Point for the recreation components will be adjacent to the new southern entry to the facility.

In order to resolve the accessibility issues between the existing first floor and the existing pool, the current design proposes to demolish the existing construction to the east of the pool, and excavate this area down such that a new first floor will be level with the existing pool deck. A new elevator will be installed which will provide direct access to the existing basement, existing first floor, the expanded second and third floors, and the proposed mechanical penthouse on the roof. Ramps will be constructed such that accessible routes will be provided between the new and existing first floors.

The proposed facility in addition to the recreation pool will include:

- A Climbing Wall located in the south-east corner of the building with a ±35 foot tall pinnacle wall, serving as an eye-catching focal point both for the interior spaces and exterior campus.
- New Men's and Women's Locker Rooms adjacent to the pool, as well as new Assisted Changing Rooms and Express Lockers.
- A new-and-improved version of the Fitness Infield.
- On the second floor, all court sports will be consolidated into one central location. In addition to the traditional wood floor court of Half Acre, users will have access to a new Multi-Activity Court (M.A.C.) gymnasium, as well as four new racquetball courts with glass end walls, additional fitness space and new group exercise rooms around the perimeter.
- The third floor will accommodate more fitness, group exercise rooms and the dance studios, as well as a re-built and expanded Walk/Jog Track that surrounds both the historic gymnasium and the new MAC gym.

Designing the exterior of a new, modern addition to a significant historic building on campus proved to be quite a challenge as well. The new and the modern respectfully compliment the historic, using some similar materials, forms and proportions, but also implementing modern materials.

The University of Wyoming is set among the backdrop of spectacular mountain scenery and natural wonders. The idea of bringing aspects of Nature and the Environment into the interior design of the Half Acre Gym will promote a feeling of wellness, both physically and mentally, to those people using the facility.

The campus requires all new and renovated facilities to meet or exceed a LEED silver equivalent. Several opportunities exist within the project to reduce the energy demand and introduce natural light within the existing and new structure. Recycling and reclaiming materials during deconstruction and minimizing waste during construction is achievable as well. Water conservation within and outside the facility are opportunities that will not be overlooked. And access to alternative modes of transportation is available and supported by the new design. Opportunities to explore alternative energy sources and reclamation of energy will be fully investigated in the Level III design and construction.

Level II studies were completed in June 2010 providing two options for improvements. The two options are full programmed development for the future of the recreation and wellness and a project with a limited scope that would permit future expansion in the event that the full project budget is not available.

Project Scope: 146,793 gross square feet of new and repurposed space (99,308 gross square feet existing).

Funding: \$27 million for full program. \$15 million revenue bond supported by student fees and \$12 million TBD (potential state match and/or private donation).

Schedule: Level III - Completion construction documents - March 2013, construction completion August 2014.

Infrastructure Improvements, Phase I, Level III

(See description of Infrastructure Improvements under FY 2012.) The \$15 million funding requirement will have to be secured for the completion of the construction documents and the construction for the project. This phase will lead to completion of the project.

Proposed construction start, June 2012. Construction completion July 2013 to coincide with the STEM Facility completion.

Engineering Research Facility Level II

The Engineering Research Facility (ERF) will enable the College of Engineering and Applied Science to substantially increase its capacity to conduct energy-related engineering research and education, (reference the Engineering Building Additions and Research Building description above). The facility will house laboratories focused on energy-engineering aspects of natural gas, wind, coal, crude oil, energy efficiency of buildings, and selected other energy engineering topics. The building will facilitate energy-engineering research and education in areas of economic importance to Wyoming and beyond.

The facility could be either a more comprehensive space located on campus or a scaled-back facility sited off-campus. The on-campus location would provide for broadened research and student engagement, including teaching. The total estimated project cost for the ERF building with an on-campus location is approximately \$13.3M. Alternatively, a smaller, off-campus location is estimated to cost \$5.0 million. Under either scenario, the requested funds could serve as funds to be matched 1:1 with donations raised from industry and possibly individual donors. Additional industry support will be pursued for equipping individual laboratories within ERF.

ERF complements facilities planned for the Energy Research Center, presently in development for the School of Energy Resources. The ERF laboratories typically will be similar to engineering laboratories for sustained research investigation, commonly fitted with larger equipment items (e.g., a large wind-tunnel), and will extensively involve students. ERF would be used by all departments in the College of Engineering and Applied Science, often in cross-department projects, and in conjunction with faculty members and students from other colleges. ERF's laboratories will be configured to accommodate changes in energy-engineering issues over time.

Needed ERF space includes a natural gas laboratory (characterization of gas flow in circumstances associated with tight gas, shale gas, coal-bed methane); a wind energy laboratory (utilizing a large, closed-loop wind-tunnel acquired by the University); a control-systems laboratory (efficient production, distribution, and operation of diverse energy systems); a building laboratory (energy efficiency systems and materials in the built environment); an advanced drilling-simulation laboratory (instruction on contemporary techniques in various site circumstances); and a geomechanics laboratory (rock and soil properties subject to diverse conditions and processes, including rock fracking for enhanced gas extraction). In addition, ERF would have a small classroom, a workshop, and a modest amount of office space supporting laboratory use.

There is significant student interest in petroleum engineering, energy systems and energy resource science programs. For example, in Fall 2005, there were only 7 doctoral students in petroleum engineering. In contrast, in Fall 2010, there were 105 students pursuing a bachelor's degree, 5 seeking a master's degree and 23 studying for a doctoral degree in petroleum

engineering. Further, the new Energy Systems Engineering degree, which started in 2009, has generated substantial interest with 52 undergraduate students enrolled. The Energy Resource Science degree program, also new in 2009, has 23 student pursuing a bachelor's degree.

The University's constrained existing space severely limits its present capacity to pursue energy-engineering research and education. The building is needed for the University of Wyoming, College of Engineering and Applied Sciences, and the School of Energy Resources to strengthen energy science and technology as an area of national distinction (Planning Motif 4, *Fostering Excellence*, University Plan 3). This funding request could be used to match funds raised from industry and individual donors for the purpose of creating an engineering laboratory building (Engineering Research Facility) that substantially increases the capacity of the University of Wyoming's College of Engineering and Applied Science to perform energy-related engineering research and education on topics of broad economic interest to the state.

Project Scope: Approximately 20,000 gross square feet

Funding: ~\$13,000,000 supported by private donations and state appropriations.

Schedule: Level I partially completed as Wind Tunnel Facility, updated - December 2011.

Level II - July 2013. Level III- July 2014

Engineering Building Addition Level II

(See description of the Engineering Building Additions and Research Building under FY 2012.) The \$1,250,000 funding needed for the study will have to be secured for the Level II study for the Engineering Building Addition. This phase will provide the initial project design and a cost estimate to complete the construction documents, construct and furnish the building project. Proposed start, spring 2012. Completion, Summer 2013.

UW Facility at Sheridan (NWCC) Level III

(See description of the UW Facility at Sheridan (NWCC) project under FY 2012). Funding for this final stage in the project will have to be secured to support completion of construction documents and construction. This phase will result in completion of the project.

Joint UW/CC Facilities – LCCC - Cheyenne Level II

For many years, the University has worked to develop partnerships with the state's community colleges to enhance educational opportunities throughout Wyoming. The University plans to continue the momentum through collaborations on joint facilities as well as other partnerships. Funding for capital construction planning is needed.

Joint facilities or UW facilities co-located on Wyoming's community college campuses are not only consistent with the university's on-going academic and master planning efforts but integral to the advancement of the scholarship, research, and service of Wyoming's only public, baccalaureate and graduate degree granting university. The UW mission statement emphasizes a commitment to outreach and service statewide; the Outreach School is an important element of the university's ability to reach the entire state. The current University Plan 3 (UP3) emphasizes the importance of access to higher education. In particular, the current plan envisions a more robust platform for statewide technology infrastructure to support educational opportunity, as well as enhanced support for the Outreach School and its degree programs. There is particular emphasis on the need for long-term stability of existing outreach programs as well as implementation of some new degree programs. In this vein, the Outreach

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School will continue to oversee the development of a statewide curricular outreach plan identifying the degree and certificate programs that the university will offer statewide. The Higher Learning Commission accreditation site visit team report (2010) observed the Outreach School has been a primary source of enrollment growth for the university over the last decade.

The demand for baccalaureate and graduate degree education in Cheyenne from site-bound, typically non-traditional aged students continues to escalate. The University of Wyoming and Laramie County Community College have long envisioned a joint education facility on LCCC's Cheyenne campus, with an enhanced UW presence.

UW and LCCC internally funded the equivalent of a Level I study to identify the specific programs that will be provided in the facility that will drive the determination of the configuration of the facilities. Private donations could be a source of revenue for the joint facility. According to a 2008 Level I planning study, preliminary total square footage for the facility is estimated at 55,215 gross square feet. Estimated cost was \$26 million. The LCCC master plan provides for a collaborative center that will provide for a UW Outreach Learning Center.

Project Scope: 55,215 gross square feet

Funding: \$13 million, UW half of \$26 million total project.

Schedule: Level II Start, March 2013. Completion of Level II, Summer 2014.

Transit Facility Level III

(See description of the Transit Facility under FY 2011.) The \$13,500,000 in funding will have to be secured for the completion of the construction documents and the construction for the project. This phase will result in completion of the project. Proposed construction start, spring 2013.

Classroom/Facility Adaptation

The mission of the University of Wyoming, teaching and research, cannot be accomplished without classrooms and class laboratories. Improvements to teaching and learning spaces have been a major priority of the University Capital Facilities Plan since 2002. The University has classrooms and laboratories that were initially constructed from the early 1900's through the present time. Some were renovated in the 1960's but most have not been improved since their construction. Many were constructed without the knowledge that today's classrooms would be technology intensive with greater demands on power which in turn generates greater heat, the need for controllable lighting levels, internet connectivity, the shape of the space would be driven by the visibility of a projection screen, that the acoustics of the rooms would be as important as they are today when utilizing sound from many different sources, or that the indoor air quality standards would be much higher. The average age of the University classrooms and class laboratories is in excess of 40 years, the useful life of equipment is much shorter, many of the systems such as lighting have exceeded their expected life cycle, and the useful life of many furnishings has also been exceeded.

The 2005 Legislature approved the renovation and technology improvements to the University Classroom Building and also provided a \$4,000,000 appropriation to begin the renovation and technology improvements for other highly utilized classrooms prioritized by the Deans and Academic Affairs.

The University of Wyoming is proposing to continue the efforts of improving the stock of classrooms and class laboratories to bring all or at least the major portion to a level that meets today's student expectations and the pedagogical needs of the faculty. The infrastructure will be provided that will allow technology changes into the future.

Based upon the past experiences with the Classroom Building (circa 1968) with the standards expressed below, the University estimates that the same level of improvements to the remaining stock of classrooms and class laboratories to be from \$20,000,000 to \$25,000,000. A proposed request for an appropriation of \$8,000,000 for the next biennium is requested to continue those improvements based upon the standards established. The University does plan to continue the improvements over the next few years but cannot remove from use a large number of classrooms each semester.

The University of Wyoming regularly schedules 391 classrooms, class laboratories, seminar rooms and lecture halls each semester. Excluding the recent new classroom construction in the Classroom Building, Health Sciences (excepting the Pharmacy Building), Anthropological and Archeological Resource Facility, College of Law, Education Annex, Information Library and Learning Center, the College of Business, and those improved with the 2005 appropriation and 2010 stimulus funding, the remaining 182 classrooms and class laboratories will require some level of improvement. The 182 classrooms represent approximately 150,000 net square feet of space that requires improvement. The replacement of those classrooms would represent a capital project that would likely exceed fifty million dollars. The University buildings have been designed and constructed to last at least 50 years with a reasonable frequency of renewal during the life of the building to meet the changing pedagogy in the classrooms.

Many class laboratories at the University were constructed between 1960 and 1980 having fixed laboratory tables, exhaust hoods, blackboards, and demonstration tables. Each room has a unit ventilator to provide heat and ventilation into the room. The lights are either off or on with direct light onto the tables glaring into the eyes of the students. There are no communications systems at the tables for use of computers. The technology that is available is portable, limiting the accessibility for class use. The age and condition of the unit ventilator is such that the noise level is so great the units must be shut down for most classes in order for the lab instructor to be heard. Of course, the ventilation standards of the 1960s are much different than requirements today.

Another example is a general classroom in the History Building (circa 1958) constructed with the length of the rooms being twice the width, suspended lighting fixture running the length of the rooms, operable window for ventilation, blinds over the windows to control light and tablet arm chairs. A projector has been mounted to the ceiling but only the short end of the room can be used for a projection screen because of the suspended lights restricting the ceiling projector. The long room makes it difficult for the students to see the full image on the screen. The window shades are drawn to cut down the lighting for projection and limiting the ventilation. The lights are off making it difficult to take notes. The tablet arm chairs do not accommodate a lap top computer or other electronic devices. Students are now trained with electronic aids beginning at a very young age, and UW classrooms should be designed accordingly.

These descriptions may seem to be extreme but many of the classrooms used by University students are in similar condition. Substantive renewal of the classrooms based upon the standards described below is proposed.

1. Room Shape: Rectangular: Based upon the sight line cone ($\pm 45^{\circ}$ interior angle) from the center line of teaching or viewing station.
2. Acoustics and background noise must be controlled for the use of sound reinforcement with projected images, with transmission levels between rooms such that the sound levels are not distracting to the adjacent class, and noise levels from outside the room must not affect the presentations or exams.
3. Provide at least a 3 foot wide door opening, with lever handle or electrically operated door opener. Closers shall meet pull requirements of ADA. Main aisles in seating or paths to door shall be a minimum of 36 inches. Accessible student stations must be provided around each of the rooms equitably in the number required by ADA.
4. Furnishings: Provide minimum of 18 inches to 20 inches of depth and 30 inches of width per student at tables. Provide furnishings for both right and left handed persons
5. Projection Screens: Height of screen should equal 20% of the depth of the room with a minimum 4:3 aspect ratio (width to height). Nearest seat should be a minimum of screen width away from screen or 1.5 times width of screen whichever is greater. Viewing angles should be a maximum of 45 degrees horizontal angle from the perpendicular to the center of screen and a maximum 35 degree vertical angle from the perpendicular to the top of the screen.
6. Sound Amplification: Every room shall be prepared to receive a sound amplification system and every room exceeding 20 stations shall have a sound amplification system installed with assistive listening capabilities.
7. Lighting: Where possible provide natural lighting in all rooms except video conferencing rooms, window coverings to reduce natural light to 2 foot candles, a minimum of 50 footcandles of uniform artificial lighting on work surfaces dimmable to 5 to 10 footcandles. Use indirect or parabolic fluorescent lights in all learning rooms. Lighting controls shall automatically turn off lights in vacant rooms or dim lights to maintain levels with natural light.
8. Heating, Ventilating and Air Conditioning: Systems shall maintain 72 degrees Fahrenheit plus or minus 4 degrees, background noise levels should not exceed NC-30.
9. Technology will be integrated into the physical spaces to facilitate free exchange between local and remote participants in online activities, including classes, and group interactions.
10. Videoconferencing over IP networks will become the basis for the systems design at both the desktop and in the classroom.
11. Wireless networking will be available throughout the facility as appropriate to support computing mobility using laptop computers and personal digital assistants, but will be adjunct to cable based network connections at the fixed seating locations.
12. Standard, intuitive control interfaces, with real-time feedback will be placed in all classrooms to permit occupants to operate equipment in any room once learning the fundamental control operations.
13. Fixed seating locations will be provided with a standard technology outlet that will include a power and a network connection. The outlets should be shared between two persons wherever possible.
14. Classrooms with non-fixed seating shall be provided with a divided conduit around the room providing for both power and network connections with capacity for the space.
15. Fixed table locations will also be provided with a microphone interface.
16. Each classroom shall have the capability of utilizing a student response system.
17. Each classroom shall be provided with a local line telephone for classroom emergencies with a standard dialing card for frequently used numbers.

18. Equipment will include appropriate levels of technology: ceiling mounted projector; projection screen; audio system with wall mounted speakers to provide program playback in the room and a compliant assistive listening and sound reinforcement system; devices to support presentation including capabilities for a laptop computer, wireless mouse, wireless microphone, document camera, VCR, whiteboard with electronic capture and web casting capabilities; capabilities for two video cameras and a microphone system to support web casting and recording of courses or other events; capabilities for videoconferencing to support video streaming over the IP-based network and a wireless base station to support student networking needs.

The requested \$8,000,000 supports improving approximately 25 to 30 classrooms per year for the next biennium or another third of the remaining classrooms and class laboratories during the biennium.

Project Scope: 30,000 to 40,000 net assignable square feet of reconstruction into technology rich classrooms.

Funding: \$8,000,000 of appropriation.

Schedule: Level II & III - Phase I - construction start June 2013, completion August 2013.

Phase II construction start June 2014, completion August 2014

Long Range Development Plan, Phase I, Level III

(See description of the LRDP under FY 2012.) \$15 million in funding must be secured for the completion of the construction for the project. This phase will result in completion of the project. Proposed construction start, spring 2013. Construction completion August 2014. Fraternity/Sorority area constructed during summer of 2013 to coincide with completion of Performing Arts and the 15th Street corridor would be constructed the following year.

Humanities Building Level I

The modern Humanities take place in intimate tutorials, intense seminars and colloquia, lively formal and informal debates, energetic performances, sophisticated multi-media presentations, and constantly changing electronic communications. They form a place of exchange and interconnection where scholars and students learn from each other, both within and across disciplines. Humanities students and faculty at UW need a building that will facilitate these activities within the changing pedagogical world that is the modern and future university.

The main aims of the new Humanities building would be to provide teaching facilities tailored to the variety of pedagogical needs across the humanities; office spaces that encourage the intensity and the synergy of faculty and student research efforts; formal and informal meeting spaces that encourage the interdisciplinarity so key to innovative thinking. It will be a place to host large events, mingle in classes, and meet one-on-one. Such a building would be a center for the promotion and enhancement of the Humanities in general, from traditional disciplines like English, Languages and Philosophy to interdisciplinary programs such as Religious Studies and the Honors Program, and to state organizations like the Wyoming Humanities Council. It could even provide a twenty-first-century home for Wyoming Public Media.

The present Humanities departments are housed in several locations: Hoyt Hall, Ross Hall, and the Cooper Carriage House. The Wyoming Humanities Council is at 1315 Lewis Street and

Wyoming Public Media is in Knight Hall. The Humanities departments, Council and Wyoming Public Media includes at present 120 university employees.

Project Scope: TBD

Project funding: TBD

Natatorium Level I & II

The Department of Intercollegiate Athletics (DIA) must continue improvements to athletic facilities to position the DIA to compete in all sports especially both men and women swimming student-athletes. The Athletic Strategic Plan identified the Corbett Pool as a facility that must be expanded or replaced for a true NCAA level competitive venue for both swimming and diving. The existing Corbett building does not have the indoor height or clearance for platform diving as one example of the shortcomings of the existing facility.

The Natatorium would include the following:

- POOL:
 - 50 Meter (L) by 25 Meter (W) Pool
 - 9 lanes (8 lane minimum)
 - Moveable bulkheads
 - Full Diving Well (can be separate or “attached” to 50 meter pool – see USAF below)
 - Seating for 500-1,000
 - Office (for computer system/PA/scoreboard controls/Media & Public Relations/etc)

- DIVING WELL:
 - 2, 1-meter springboards (on a concrete stand)
 - 2, 3-meter springboards (on a concrete stand)
 - 1, 1-meter platform
 - 1, 3-meter platform
 - 1, 5-meter platform
 - 1, 7.5-meter platform
 - 1, 10-meter platform
 - Water agitation system
 - Hot tub or Hot Shower near diving well

- OTHER:
 - Coaches’ Offices (4)
 - Equipment/Apparel Storage
 - Men’s Locker Room (30 lockers minimum)
 - Women’s Locker Room (40 lockers minimum)
 - Swimming Team Room/Student-Athlete Lounge
 - Dry-Land Training Area – Team
 - Dry-Land Training Area – Diving

Campus Recreation, Kinesiology and ROTC programs would also use the pool for activities if the water temperature could be moderated for recreational swimming. Should the pool be available for these entities the pool would have to be accessible per ADA requirements.

The natatorium facility has several options available. One option could be a new stand-alone facility in the neighborhood of the present athletic facilities; another option could be a combined

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facility with the recreation at Half Acre; or the existing Corbett building could be expanded either for a new facility or an expansion of the present pool to accommodate the competitive needs of swimming and diving.

Project Scope: Additional square feet is to be determined upon completion of the 2011 Athletics Facility Master Plan

Funding: \$26 million based upon earlier studies, 50%/50% donor matched by appropriation is proposed.

Schedule: Anticipated substantial completion, Fall 2015.

Fiscal Year 2014

Merica Hall Deconstruction

Merica Hall, originally known as Women's Hall, was constructed in 1907 with an appropriation of \$25,000. Except for a short time during WWII, the facility continued as a women's residence until 1948. The building then became the School of Pharmacy. Recently, the building has provided for several academic and administrative uses.

The building exhibits the following:

- Significant levels of deferred maintenance.
- Marginal safety in building exits. Building lacks the proper exiting systems to meet present building and safety codes.
- No accessibility. To make building accessible would require significant reductions in available space for administrative or educational uses.
- Building heating and electrical systems are beyond their useful life

Merica Hall is also eligible for inclusion on the Historic Register. Through the deconstruction materials from the original building will be reclaimed for the future construction of a memorial to the building including a permanent plaque with an image of the building.

The Long Range Development Plan (LRDP) suggests that the area should be utilized for academic uses related to the primary mission of the University. State statute has limited the existing site upon which a future building can be constructed. The green or park area to the south is restricted to recreational uses by statute. Therefore, the sidewalk to the south is the limiting edge of available building site on the south. The grade change from the existing loop drive to Prexy's Pasture in this area is significant and portions of the site should be utilized for accessibility to the Prexy's Pasture level of the campus.

The Facilities Planning Office and the University Space Allocation Committee have been systematically reducing the utilization of these facilities. The present occupants are Agriculture Publications, Environmental Health and Safety, Procurement Services and Facilities Planning. All are aware of the impending removal of the facility.

Prior to the deconstruction of the building, a hazardous materials assessment will be conducted. The hazardous materials will be abated and disposed of in the proper manner. Subsequent to the abatement, the building will be deconstructed with the goal of maximizing the reuse and recycling of the materials utilized to construct the building. The deconstruction will limit the amount of waste that will be taken to the Laramie landfill.

Project Scope: Deconstruct 17,651 gross square feet.

Funding: \$400,000 of internal non-federal funds.

Schedule: Deconstruction start June 2013, completion September 2013.

Pharmacy Addition Level II & III

The University of Wyoming School of Pharmacy is a leader in the preparation of a new generation of patient-centered pharmacists. The leadership of the university and the faculty and staff of the School have contributed significantly to this mission. As a result, students receive a strong background in the pharmaceutical sciences on which to build clinical expertise.

Research at the UW School of Pharmacy was nominal until 2002 when Robert O. Kelley began his tenure as dean of the College of Health Sciences. Dr. Kelley brought a new emphasis on research to the School and hired Dr. Jun Ren and Dr. Sreejayan Nair, who have since become the School's foremost researchers and faculty members.

Under the leadership and vision of current Health Sciences Dean Joseph Steiner and School of Pharmacy Dean John Vandell, the School has reached new levels of research excellence that improve the quality of health care in Wyoming by graduating students who can provide primary pharmaceutical care in rural, urban, and frontier environments.

When the UW School of Pharmacy opened its doors more than 60 years ago, it was led by Dean David W. O'Day and staffed by a handful of faculty located in UW's Merica Hall. Over the years, the increasing importance of health care to the state and university culminated in the 1967 construction of a new pharmacy building. Today, the School of Pharmacy facilities augment UW's science missions.

Phase I: In 2006, the university completed Phase I of a major facilities initiative supporting health sciences with the opening of a state-of-the-art \$20 million Health Sciences Center to unite most of the College of Health Sciences departments and offices under one roof. The college includes the School of Pharmacy; the Fay W. Whitney School of Nursing; the divisions of kinesiology and health, communication disorders, disabilities studies, and social work; and medical education and public health programs. It also includes family practice residency programs in Cheyenne and Casper, the Wyoming Institute for Disabilities, and the Center for Rural Health Research and Education.

The Health Sciences Center was funded by a dynamic public/private partnership of the Wyoming Legislature, the university, and generous leadership gifts totaling \$3.5 million from Roy and Fay Whitney, the Griffin Foundation, Mary Gullikson, and an anonymous donor. The UW School of Pharmacy building, while not a part of the original \$20 million remodel and construction, did receive space in the renovation for a research laboratory, two offices, one conference room, one classroom, and a student lounge. Additionally, the pharmacy practice laboratory was completely renovated and relocated and other parts of the building were modernized in 1998 due in part to a generous grant from American Stores.

Phase II: Since that time, the university has completed Phase II of the health sciences facilities initiative by funding the renovation of two new modular research laboratories, a Bio-Safety Level (BSL)-2 laboratory, a new animal facility to support the increased research projects, and the remodel of one large room into a six-office suite. The cost of funding these upgrades and renovations was over \$175,000.

Phase III: The next step of the health sciences facilities initiative is a transformational expansion of the UW School of Pharmacy facility.

In April 2010, the university committed \$2 million from the American Recovery and Reinvestment Act to further modernize the UW School of Pharmacy. This funding will be directed to the future of research and teaching within the facility by improving ventilation systems and system controls including the chemical hoods throughout the building. In order to make the building more energy efficient, lighting and lighting controls will be included in these scheduled upgrades. This exciting phase will also be driven by the new biomedical Ph.D. degree program and the need to expand and upgrade facilities to handle the anticipated growth in the School's research program. Additionally, the success of C-CRAM and other researchers

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outside of C-CRAM has resulted in the need for additional state-of-the-art modular research laboratories and office space.

The biomedical Ph.D. program was approved by the UW Board of Trustees in March 2010. This is the first graduate program for the School of Pharmacy, and it will push the research capabilities to the next level of excellence. The program's implementation has created more demand for laboratory and office space for graduate assistants and Ph.D. candidates. Moreover, it is expected to attract a more diverse population of students.

Additionally, INBRE has committed \$250,000 and would be willing to consider seeking approval for an additional \$250,000 to help supplement research space renovation.

To meet the increased research tempo in the college, this expansion project will significantly increase the research space in the pharmacy wing, which will be made available to both current and incoming researchers—especially postdoctoral, graduate, and undergraduate students. To accomplish this goal, the UW School of Pharmacy requires \$7.5 million to expand the Pharmacy wing of the College of Health Sciences by adding a new sixth floor and renovating the existing fifth floor to create a new state-of-the-art research and teaching center. This key enhancement will make available 6,850 square feet of modern research laboratory space and will add 2,310 square feet of office and mechanical support space that can be used for newly recruited and incoming research faculty members and their research staffs.

This commitment represents a substantial investment in the future of pharmacy education in Wyoming. This major enhancement to the UW School of Pharmacy will truly transform the School, the College of Health Sciences, and the University of Wyoming.

Project Scope: Repurpose approximately 9,500 gross square feet, new construction approximately 6,000 gross square feet.

Funding: \$10 million of 50%/50% donor matched by appropriation

Schedule: Level II start spring 2013, Level III start fall 2013. Construction start spring 2014, completion December 2014.

Engineering Research Facility Level III

(See description of the Engineering Building Additions and Research Building under FY 2013.) The Level III funding must be secured for the completion of the construction documents and the construction for the project. This phase will result in completion of the project. Proposed construction document start, spring 2013. Proposed construction start, spring 2014.

Engineering Building Additions Level III

(See description of the Engineering Building Additions and Research Building under FY 2013.) The Level III funding must be secured for the completion of the construction documents and the construction for the project. This phase will result in completion of the project. Proposed construction document start, spring 2013. Proposed construction start, spring 2014.

Arena Auditorium Renovation

The Department of Intercollegiate Athletics (DIA) continues the planning for improvements to athletic facilities to position the DIA to recruit and retain coaches and athletes and compete in all sports with both men and women student-athletes. Beyond recruiting and competing the DIA

must keep the facilities fresh to excite the fans so they continue to enjoy and attend sporting events. The Athletic Strategic Plan underway at the time of this writing is identifying a few very important improvements to a few facilities related to basketball, swimming and golf. Several enhancements to other athletic facilities have occurred to the stadium; the Indoor Practice Facility for football and women's soccer was constructed; enhancements to women's soccer locker room; and outdoor track for both men and women's competition; and covered tennis courts. The latest planning document University Plan 3 identified a priority for the continued improvements to the University's athletic venues.

To improve the fan experience and improve the appearance of the Arena Auditorium, the proposed improvements would be an equivalent facility to the Wildcatter's Club at the War Memorial Stadium. Other enhancements to the existing Arena Auditorium could include:

- Minimum of 10,000 seats
- Enhanced audio/visual
 - Center-hung scoreboard (ideally). At minimum, replace current scoreboards, video board.
- Enhanced lighting (ability to turn lights off for player introductions, marketing/promotional activities, etc.)
- Minimum of 10 offices (5 for men's basketball and 5 for women's basketball) and 2 large, multi-purpose rooms (1 for men's basketball and 1 for women's basketball)
 - Offices and multi-purpose rooms should overlook playing floor.
 - Multi-purpose room may be used for a team to watch film, conduct team meals, have small gatherings with recruits/parents and/or potential donors, etc. Room should be large enough to accommodate a minimum of 25 people.

The Arena Auditorium would still provide for the athletic camps and other outside events such as concerts and graduations.

Project Scope: Repurpose and add approximately 15,000 square feet

Funding: \$20,000,000 - 50%/50% donation matched by appropriation.

Schedule: Level II start, summer 2013. Level III construction document completed by end of basketball season 2014. Construction start, spring 2014 completion prior to basketball season fall 2014.

Joint UW/CC Facilities – LCCC – Cheyenne Level III

(See description of the Joint UW/CC Facilities – LCCC - Cheyenne project under FY 2013). Level III would include the completion of the design, construction documents and construction of the facility in as early as FY 2014.

Willett/Wainright Deconstruction

Originally constructed as single story student apartments along what was known at the time to be Willett Street on the north and Wainright Street to the south until 1972, when 19th Street was closed through the University to construct the Corbett Building, Fine Arts and the Law School. The apartments were primarily one bedroom units but a few two bedroom units were available as well. Shortly after the occupancy of the Fine Arts Building, the departments of Art and Music outgrew their space in Fine Arts and the student apartments were converted to art and music studios and faculty offices.

2011-2016 Capital Facilities Plan

To reduce the impact on the Laramie landfill, the 5 remaining buildings will be deconstructed. Materials will be reused or recycled. Prior to deconstruction, the substantial hazardous materials utilized in the construction of the buildings will be abated.

The deconstruction will follow the completion of the Performing Arts reconstruction and new construction. The site will be reconstructed into open space, transit mall and parking as indicated by the LRDP.

Project Scope: Approximately 11,000 gross square feet removed

Funding: \$400,000 Federal Mineral Royalties.

Schedule: Deconstruction start December 2013.

Research Lab Renovations - Level I

Strategic investments in research are key to the University of Wyoming fulfilling its goals of achieving national distinction in life sciences, energy, science and engineering. The University is working to build its physical and intellectual infrastructure, including establishment of the School of Energy Resources, partnerships with GE Energy on coal gasification, investments in carbon storage, leveraged with Department of Energy funding, and a partnership with NCAR for the construction of the NCAR-Wyoming Supercomputing Center. The level of funded research at the University has and will continue to grow. With the growth in funding comes the increased demand for laboratories, laboratory support and offices for the research assistants and graduated students who support the higher levels of research.

The STEM (Science Technology Engineering and Mathematics) facility will provide the undergraduate level instructional laboratories in the areas of biology, chemistry, physics, microbiology and circuits. Upon completion of the STEM facility many of the outdated instructional laboratories, containing approximately 59,200 gross square feet of space, will be closer to departments with expanding research facility needs. The instructional labs will be available for repurposed research laboratories in facilities such as Aven Nelson, Biological Sciences and Physical Sciences buildings. Academic Plan 2 discussed growth in the university's scientific research enterprise which escalated demands on space, particularly within the Physical and Biological Sciences buildings.

The research enterprise at the University can greatly benefit with the reallocation of teaching space to research space. Continued planning and opportunities for funding sources could bring this project within the timing of this Capital Facilities Plan III.

Project Scope: 59,200 gross square feet repurposed

Project Funding: \$20,000,000 proposed appropriation or appropriation matched by donor funds.

Level I Funding: Completed in-house no funding

Schedule: Level I completed August 2013

Fiscal Year 2015

Classroom/Facility Adaptation

(See description of the Classroom/Facility Adaptation Level II-III under FY 2013.) \$8,000,000 in appropriations must be secured for the completion of the construction documents and the construction for the project. This phase will result in completion of the project again in two phases, one each summer.

Project Scope: 30,000 to 40,000 net assignable square feet of reconstruction into technology rich classrooms.

Funding: \$8,000,000 of appropriation.

Schedule: Level II & III - Phase I -construction start June 2015, completion August 2015.

Phase II construction start June 2016, completion August 2016

Long Range Development Plan Phase II

The implementation of the LRDP should continue in support of the goals of the University. Continue the development of the eastern section of the campus and continue to connect the east and west campus areas. Additional goals for the University related to the campus development are discussed in the LRDP Section of this report.

The implementation must continue the dedicating of corridors and open spaces much like a community development will set aside the corridors for streets and parks. The corridors provide opportunities to define the multi-modes of transportation (automobiles, transit, bicycle and pedestrian) and place major utility lines. The open spaces provide access to natural environments and provide nodes for social and educational interaction such as Prexy's Pasture.

With the completion of the Performing Arts additions and modifications to the Fine Arts Building, the improvements to King Street or the extension of Ivinson Street to the east of 15th Street could proceed. The closure of Lewis Street could proceed with the completion of the STEM facility.

In keeping with the recommendations of the LRDP for phasing along with the defined multimodal corridors and open space development the second phase should consist of:

- Dedicating the corridors and open spaces for the multimodal corridors from the Corbett Building to 15th Street known as King Street and the previous Lewis Street right-of-way.
- Relocating parking portions of King Street yet maintaining access to those Fraternities and sororities that have developed parking areas.
- Redeveloping the access to the east and west ends of Lewis Street much the same as the termination of 13th Street at the Union while permitting transit, service and emergency vehicle access to the former Lewis Street corridor. Service access should be maintained at 9 ½ Lewis between the Bureau of Mines and the Berry Center, and on 11th Street and 13th Street to the west and east side of the Engineering Building. Maintain access to the parking lot north of Wyoming Hall for continued access to the Lab School.
- Both King Street and Lewis Street would be reconfigured into a two transit mall as defined by the LRDP. Pedestrians and bicycles would still have priority access to the malls.

2011-2016 Capital Facilities Plan

The planning and design (Levels I and II) of the corridors, parking areas, and open spaces must precede the construction of the King Street Parking Structure.

Scope: Reconfiguring King Street and Lewis Street

Funding: \$1,500,000 - Level III & III, Federal Mineral Royalties. \$8,500,000 - Level III construction, Federal Mineral Royalties.

Schedule: Level II&III - August 2013. Level III construction completion - August 2015.

King Street Parking Structure

Parking will always be a topic of discussion between the University of Wyoming and the City of Laramie. These discussions and issues are not unlike most, if not all, University campuses across the nation. There is an expectation that the University should provide parking for daily operations as well as visitors to the campus.

This expectation of having parking available to everyone, including visitors, led the 2005 Legislature to ask the University of Wyoming to study the parking needs of the campus. The City of Laramie has supported the Legislature in that position. A parking and transit study followed and was completed in 2008. The LRDP further examined the parking and circulation about the campus.

The many studies related to parking have recommended that a parking structure be constructed containing approximately 480 parking spaces in the vicinity of the Fine Arts Building and the student residences (dormitories).

Along with a new structure comes the expense of operating and maintaining the structure in good condition over at least a 40 year life span.

Scope: 480 parking garage spaces

Funding: \$15,000,000 - Design-Build contract, Federal Mineral Royalties.

Schedule: Construction Start Spring 2014

Infrastructure Improvements Phase II

As stated previously, the 2009 Utility Master Plan (UMP) scope included all UW utilities, whether generated or purchased, and focused on condition, capacity and growth. The summary findings and recommendations are included in the UMP Executive Summary.

West Campus Chiller Plant

The first phase of the chilled water system upgrade project is planned to be completed in the 2013-2014 biennium and involves replacing the existing 800 ton chiller at the CEP with a 1,200 ton unit thereby increasing the firm capacity to 1,200 tons and the plant capacity to 2,400 tons. At 2,400 tons, plant capacity would be the maximum the CEP could ever produce due to pressure drop and horsepower limitations of the distribution system.

When chilled water requirements exceed 2,400 tons, a west campus chiller plant would then be needed. This actually could be at a much lower tonnage if the 2,400 tons needed to be backed up (i.e., with firm capacity). For example, if the CEP was at 2,400 tons peak, and one machine was down, then the loop could only run at 1,200 tons. A west campus chiller plant at 1,200 tons would keep the firm capacity to 2,400 tons. It is envisioned that this plant would be located in

the northwest end of campus and tie into the loop at the Lewis Street alcove or at Pharmacy/Physical Sciences. The 915 Lewis parking lot or inside of WRI's east side have been discussed as potential sites. A typical chiller plant can integrate well with a multistory parking structure and also with a relocated west campus electrical distribution center as it typically is done with 2-3 levels. As expansion continues north of Lewis Street, the new buildings will include requirements for chilled water and humidity control. At that time, a west campus plant would seriously need to be evaluated. In addition, as East campus chilled water needs increase; it would be desirable and more efficient to run a portion of the existing core campus load from a new plant as opposed to the CEP.

The pending additional demands have presented a capacity limitation that is two-fold. First, the total tonnage generated is barely enough to provide cooling to campus facilities and the limitation is noticeable in the hottest summer months. Secondly, the location of the CEP is such that additional infrastructure, or possibly a second chiller plant may be needed to centrally serve the northwest section of campus.

This project is estimated to cost \$6 million with a time line of 2015-2016 for the completion of the new west campus plant.

Chilled Water System Upgrades

To properly connect and service new buildings, add existing buildings and shift loads from the CEP chilled water system to a West Campus chilled water system, distribution system upgrades and relocations will be required. This part of the project is to provide for those distribution system modifications and additional piping.

This project is estimated to cost \$2.25 million with a time line of 2015-2016.

Scope: West campus chiller system upgrades

Funding: \$8,250,000

Schedule: Construction Start Spring 2015

Research Lab Renovations Level II

See Project Description under FY 2014

Project Scope: 59,200 gross square feet repurposed

Project Funding: \$20,000,000 proposed appropriation or appropriation matched by donor funds.

Level II and construction document portion of Level III Funding: \$1,750,000

Schedule: Level II completed August 2014

Fiscal Year 2016

Classroom/Facility Adaptation, Phase III, Level III

(See description of the Classroom/Facility Adaptation, Level III Phase II under FY 2013.) The funding has been secured for the completion of the construction for the project. This phase will lead to completion of the project. Proposed construction start, June 2015, completion August 2015.

Willett/Wyoming Union Parking Structure

Parking adjacent to the west campus will continue to be a concern since the demand is not likely to decline. Following the reconstruction of the Half Acre Recreation Center and improvements to the open space to the east of the Union related to the Half Acre construction and the relocation of the transit stops to the north side of the Union lot with the completion of Half Acre, the parking reduction in the Union lot will be significant.

Many parking studies completed by the University as well as analysis supporting the LRDP recommend a parking structure be placed at or near the Union. The LRDP recommends a parking structure immediately east of Half Acre on what is presently known as the day lot. The structure should contain at least 400 parking spaces.

Scope: 400 parking garage spaces

Funding: \$15,000,000 - Design-Build contract, Federal Mineral Royalties is proposed.

Schedule: Construction Start Spring 2015

Research Lab Renovations Level III

See Project Description under FY 2014

Project Scope: 59,200 gross square feet repurposed

Funding: \$20,000,000 proposed appropriation or appropriation matched by donor funds.

Schedule: Level III construction documents completed March 2015; construction start May 2015; construction completion August 2016.

Other Projects

Life Sciences Building

A Life Sciences Complex is proposed to house the current botany department, plus a few other faculty in a somewhat reconfigured, possibly renamed department to reflect the strong focus on biodiversity, ecology & conservation. This concept will include: faculty offices & research labs (reconfigured toward more shared research space); a couple of reasonable sized conference rooms; office suite for the Life Program (formerly known as General Biology Program) which is now physically and administratively integrated into botany; Rocky Mt. Herbarium; Solheim Mycological Herbarium; UW Entomology Museum; and room for a small but growing live culture collection. The vision also includes greenhouse facilities on the roof. No teaching labs are considered in the building should the adjacent STEM teaching lab building be constructed, but if that is not going to be possible, a teaching lab, possibly two, would be necessary.

For the Life Sciences Complex, no more than 3 stories above grade is envisioned, staying in line with the Long Range Development Plan. How the levels work is somewhat questionable in the sense that ground water issues make a usable basement level potentially problematic. It is estimated that the above grade square footage for occupancy be on the order of 150 feetx150 feet (22,500 sq. ft.) for 3 floors (67,500 sq. ft.), plus greenhouse occupancy on the roof (another 20,000 sq. ft.) for a total estimate of 87,500 sq. ft. Scaling this up is no problem, and/or a usable basement is also possible. This sort of facility has to be very flexible for future program development.

Centennial Complex Expansion/Center for Art Museum Based Learning

Note: The roof of the complex must be replaced at a cost of about \$2 million. Roof replacement could be completed in advance of the larger project. If not, it would need to become part of this project.

The Art Museum's integration into the academic enterprise of the University has advanced significantly over the last decade, resulting in a number of facilities challenges in the delivery of our programs. These include Museum Tours for Pre-K – 12 Classes, After School Enrichment Program, Teen Apprenticeship Program, Graduate Assistantship opportunities, Museum Internship Program/Museum Studies Program, and Academic Use of Museum Collections.

Preliminary discussions with curators and educators suggest the following needs:

1. Lecture auditorium for 200 minimum
2. Two classroom/studio/labs for 40 students designed for pre-K through adult learners with supplies storage; cloakroom/cubbies for coats; clean-up room with washer/dryer; and gallery for rapidly rotating display of art by education program students
3. Teaching gallery/classroom for responding to faculty/student/curricular requests for collections-based, short-term, easily interchangeable exhibitions
4. Board/volunteer room for 50, fully equipped for audio/video presentations and with kitchen/serving area
5. Offices for educators (3), graduate students (2), and intern/work study (5)
6. Collections storage area for oversize artwork
7. Temporary storage/exhibition prep room to unpack/store incoming exhibitions and prepare/layout exhibitions from collections

8. Repurpose the Shelton Art Studio as a reference/resource center relative to the exhibitions.

Geology Museum

The University of Wyoming Geological Museum is in the most challenging position and period of its 123-year history. However, the Museum can use this challenge as an opportunity to become a great asset for the teaching and research programs of the University as well as a great educational and interpretive resource for the people of Wyoming. After briefly closing and reopening the Museum in 2009, the University of Wyoming (UW) Administration created the Task Force to Reinvent the UW Geological Museum and charged it with redesigning and restructuring the Museum. The Task Force members have taken their assignment seriously and worked hard to meet the challenges including participation in the Institutional Assessment of the Museum Assessment Program (MAP). The Task Force and the UW Administration view the results, discussions, and recommendations of the MAP process and report as vital keys to the Museum's future.

Two significant financial events have happened that indicate strong financial support for the Museum. Anne C. and Brainerd Mears, Jr. donated endowment funds totaling \$1.14 M to the Anne C. and Brainerd Mears, Jr. Excellence Fund for the Geological Museum. In addition, the UW Foundation established the "University of Wyoming Geological Museum Samuel H. Knight Memorial Endowment." As part of the latter endowment, \$750,000 of State matching monies are earmarked to support this development effort. Anyone may contribute, and it will be matched dollar-for-dollar. Potentially, the Knight Endowment could reach \$1.5 M; together, the Knight and Mears endowments could reach \$2.6 M. The expendable funds from this source would yield about \$100,000/year to serve as operating budget for the Museum.

The Museum is well-known in Wyoming and has a lot of public support. It appears that there is a significant opportunity to have a profound effect on science outreach to Wyoming's rural communities. The Museum has excellent specimens on exhibit and in the collections, some of which are exceptional and the best to be found in any natural history museum. There may be great potential to acquire additional specimens through excavations such as the Laramie Pipeline Dinosaurs Project. Partnerships with other "dinosaur" museums in Wyoming and university museums regionally, if not nationally, appear possible – some already exist.

There are areas that need improvement. The Museum needs a clear sense of identity and purpose, and a compelling vision.

A great deal of strategic planning is needed by a planning team to create a plan that explores opportunities and finds the museum's best position and configuration for sustainability, service, and leadership while working with the University Administration to identify mutually compatible and supportive goals, objectives, and values. This planning needs to begin immediately with the help of an experienced facilitator.

The Museum identified three (3) objectives in the Self-Study Workbook to be accomplished by the MAP process:

1. *Assess the University of Wyoming Geological Museum: its present mission statement, facilities, collections, programs, staffing, and funding.* Among the questions regarding this objective were: What is the mission of the Geological Museum and how is that mission aligned with the overall mission of the University? What programs should the Geological Museum offer,

and how can these programs be developed in order to effectively communicate the geologic history of Wyoming to the public of all ages and educational backgrounds? How can the Geological Museum reach a financially stable situation, and will the expendable funds from a permanent endowment be sufficient to cover the operating expenses?

2. *Create a plan for the future UW Geological Museum: its mission, collections, program, and facilities.* Among the questions raised with this objective were: Does the Museum need a vision statement to establish short- and long-term objectives? How does the Museum interface with the two “Grand Challenges” of the Earth and sciences of the 21st century: energy and environment?

3. *Identify support needs for the future UW Geological Museum: personnel, financial, and reporting structure.* Among the questions raised were: What administrative office will be directly in charge of the Museum? What financial support is available in the short term, and what type of program will those funds support? What kind of financial support might the Museum expect? What kind of organizational structure will be necessary to support the Museum? What will be the responsibilities of a new director/curator and other staff members?

Cheney International Center

Creation of the Cheney International Center is the showpiece for UW's commitment to internationalization. However, in practice, collocation with the Student Health Service marries two entities with very different purposes and has proven confusing to students, faculty, and campus visitors. Relocation of the Student Health Service will serve both the needs for internationalization and student wellness, and Health Services can be made more convenient near to where our students live. The following three points explain why this should be an important UW priority.

- Increasing international capacity to serve the large international student population, the rising numbers of students studying abroad, and our increasingly integrated academic global education goals has put pressure on the physical space in the current Cheney International Center. We need to make room for the occupants of the Cheney Center to grow to sustainably meet UW's international goals.
- Most dramatically, the current space needs of the A&S International Studies (IS) Program are not (and cannot be) met in the existing Cheney Center. IS tenure-line faculty and graduate students are housed in Ross Hall away from the program director, advising coordinator, and main departmental office. This kind of split is never ideal for any academic program/department or its students, and creates a challenge for the program's identity and coherence. The IS goal for its own collocation remains impossible unless additional space in the Cheney Center can be made available.
- Finally, thinking about the Cheney International Center from a more holistic perspective recognizes the goal to build global capacity in our students at home (i.e., the 80% who do not study abroad) through coordinated outreach efforts across campus and in the state of Wyoming itself. For International Program Office and IS, additional space for hosting imminent visiting scholars, housing graduate students and faculty who work in common areas, holding seminars and courses, and advising students is crucial. We recognize the need to build global competency in our students for them to be competitive in the increasing complex interdependent workplace. The Cheney Center is central to these global education goals now, and can do much more to foster international faculty development goals which directly benefit UW students.

Center for Quaternary Studies

The Center for Quaternary Studies was established by a commitment made by Dr. Roy J. Shlemon to the University of Wyoming (UW) to endow a Center for Quaternary Studies. Dr. Shlemon has established an Estate Plan for the continuous, generous support of the Center for Quaternary Studies. The concept that he emphasized from the initiation of the Center was multidisciplinary research and teaching aimed at both undergraduate and graduate students. The Center for Quaternary Studies is included in University Plan 3 as Action Item 46. The essence of the Center is captured in our Mission Statement: *The Roy J. Shlemon Center for Quaternary Studies is an interdisciplinary scientific research institute at the University of Wyoming. The Center's mission is to focus research and education in Quaternary studies, the investigation of the last 2.6 million years of Earth's history. The Center serves as an organizational entity which brings together students, faculty, and other researchers from diverse disciplines in the physical, biological, and social sciences for the purpose of using the rich geological, fossil, and archeological records of the Quaternary Period to learn about environmental change and how such change effects natural and cultural resources, such as water and forests, and humans of the present and past societies.*

This proposal is directly related to the new initiative in graduate education recently announced by the Office of Academic Affairs. If the University of Wyoming intends to raise its reputation in graduate-level studies, it must include unique, innovative opportunities in graduate-level education within its academic portfolio in order to attract outstanding graduate students. The competition for outstanding students among research universities is fierce. One way for a smaller graduate program to grow in this highly competitive environment is the development of multidisciplinary research niches or opportunities, which are uncommon or simply unavailable at larger institutions. The University of Wyoming has already experienced success through this approach with the establishment of the interdisciplinary doctoral Program in Ecology and Creative Writing Master of Fine Arts, which provides opportunities for interdisciplinary study. The Roy J. Shlemon Center for Quaternary Studies is a fledgling institute that has the potential to evolve into a major multidisciplinary research unit focusing on graduate-level education. The Center is already cross-department as well as cross-College with regard to interest and participation by faculty members and students. Visit the website of the Center for Quaternary Studies to appreciate the broad interest in Quaternary studies among the present faculty at the University of Wyoming: <http://quaternary.uwyo.edu/>. This existing interest bodes well for the development of an outstanding research/teaching institute, focused on some of grant challenges of the 21st century, and in turn a unique opportunity to expand the multidisciplinary graduate program at the University of Wyoming.

Animal Science/Molecular Biology Lab Addition

The Animal Science/Molecular Biology facility, built in 1986, is located east of the Laramie Cemetery and north of the Arena Auditorium. The department of Molecular Biology has approximately 20,000 square feet of laboratory, classroom, and office space. The original construction of the Animal Science/Molecular Biology facility contemplated a future addition of specialized laboratories and research laboratories. The project was originally funded by a bond issue. Funds have not been available since the original project completion to address the growing needs of the Molecular Biology research programs which at this time has expanded beyond the capacity of the present facility.

Molecular Biology remains disconnected from the core campus and isolated from routine interaction with related disciplines in the life sciences. A relocation of the department might increase integration of the sciences and facilitate cooperative relationships in instruction and research. The STEM facility could provide an opportunity to bring the teaching laboratories to campus and the vacated space in the science buildings may provide an opportunity to open discussions relative to a location near the other life sciences.

A thorough analysis of the existing facilities and the growth of the department along with a location fostering interdisciplinary research is long overdue.

American Indian Heritage Center

American Indian Studies at the University of Wyoming is a three-dimensional program offering academic courses to all interested students, support services to American Indian students, and outreach to the larger Wyoming community. This multi-disciplinary program develops respect for, and understanding of, Native views; enables American Indian students to obtain a university education; and extends UW resources to residents of the State and region.

History indicates the American Indian facilities were connected with the earth and the natural environment, The living facilities also used materials available in the environment. Traditional facilities were curvilinear and oriented east, hence the fire pits and teepee rings still existent at several historical sites. One of the goals of the University facilities is sustainability and a return to the use of alternative energy and natural sources. Opportunities to develop modern concepts utilizing past technologies is a potential with an American Indian Center.

The present location of American Indian Studies program may not be ideally suited for the extensive number of community-based activities as well as the extensive level of course offerings. Much research in the native cultures and collections of related artifacts takes place in the Anthropology department. The development of a Center in the future could include a living learning community with integrated cultural artifacts that enhance the education and understanding of the American Indian culture.

Outreach School Facility

The University of Wyoming Outreach School helps UW serve learners both on the UW-Laramie campus and across the entire state through the UW academic degree programs and life-long learning opportunities offered through Outreach. In Spring 2010, more than 4,100 of all UW students or 30.5% (UW-Laramie and statewide) took at least one course offered through Outreach. The growth in UW enrollments in academic programs delivered through Outreach will very likely continue to increase as UW follows the national trend in attracting more older, non-traditional, site-bound students. In addition to academic learners, the Outreach School helps UW connect with a significant portion of Wyoming's population (between 55,000 and 60,000 individual listeners per week) through Wyoming Public Media. UW TV supports academic learning opportunities on the UW-Laramie campus and statewide through video production and the management of the Outreach Video Network (OVN), as well as public affairs programming broadcast over Wyoming PBS.

The Outreach School has dedicated its facilities efforts over the last 10 years to enhancing the statewide facilities that serve students across Wyoming. President Buchanan has been instrumental, with the support of other UW administrators and the UW Trustees, in ensuring that UW's facilities statewide have been remarkably improved. This emphasis on statewide facilities

has put essential Outreach School UW-Laramie facilities needs on the back burner, but the growing demand for UW academic and other programs delivered through Outreach will necessitate a dedicated Outreach School facility in the future to ensure the School's ability to continue to support UW's statewide mission effectively.

The Outreach School has diverse and unique facilities needs, since all parts of the Outreach School are heavily dependent on a variety of technologies to deliver UW programming statewide. All units of the School are dependent on uninterrupted access to high speed broadband Internet access and electricity, as well as satellite technology, Avid video editing facilities, and communication and instructional technologies like video conferencing, web conferencing, and streaming audio and video. Currently, the Outreach School units in Laramie are located in five different locations. Except for Wyoming Public Media (Knight Hall), Outreach School locations do not have back-up electrical generators which are vital to providing uninterrupted service. Many of the courses offered at a distance through synchronous means (e.g., video conferencing, web conferencing, teleconferencing, in which students and faculty meet at the same time but in different locations) originate from the UW-Laramie campus. Thus, the Outreach School also needs modern, technologically equipped classrooms on the UW-Laramie campus as well as facilities for the support operations essential to maintaining effective learning opportunities statewide.

Wind Energy

The University of Wyoming proposes to examine the feasibility of replacing some of the University's supply side energy with energy from renewable sources. The benefits of these approaches will be to reduce the institution's emissions in accordance with the goals established in the Climate Action Plan (CAP). The value of this alternative energy source might include long term cost stability, diversification of the institution's energy portfolio, increased use of renewable energy sources, and reduced greenhouse gas (GHG) emissions.

The Climate Action Plan (CAP) sets out a three-phase plan for the University to achieve carbon neutrality. The base year for each of the goals is 2005. The goals are as follows:

- Phase One – Reduce emissions 15% by 2015
- Phase Two – Reduce emissions 25% by 2020
- Phase Three – Reduce emissions 100% by 2050

There are several wind generation options that may help UW achieve substantial reductions in GHG emissions. Nearly all of the electricity UW consumes is generated from fossil fuel-powered plants. Purchased electricity alone accounts for more than half of the emissions, in CO₂ equivalent (CO₂e), of the core UW campus.

Wind power is the conversion of wind energy into a useful form of electrical energy by using wind turbines to make electricity. Large-scale wind farms are connected to the electrical power transmission network. Wind energy is plentiful, renewable, clean and produces no GHG emissions during operation. However, the construction of wind farms is costly, has large surface area requirements, and is not universally welcomed due to their visual impact and impact on bird populations. The life of the machines is typically 20 years, and they require continuous, ongoing maintenance.

Smaller wind energy systems are used to provide electricity to isolated locations or behind-the-meter applications. Utility companies increasingly buy back surplus electricity produced by small domestic turbines. Wind power is non-dispatchable, meaning all of the available output must be taken when it is available. Sources such as hydropower and natural gas-fired electrical generators can be continuously modulated to manage the electrical load to match supply with demand. The inconsistency of wind is not a problem when using wind power to supply a small proportion of total demand, but as this portion increases, problems occur due to grid bottlenecks and difficulties in managing changes in production. Conventional power production sources were not designed to quickly adjust to the varying load conditions presented by wind generation sources. Power management techniques such as exporting excess power to other sources connected to the grid or reducing demand when wind production is low, can help mitigate these problems.

Electrical production from a renewable source, such as wind power, may have a dramatic effect on GHG emissions. Nonetheless, there are many issues to resolve in assessing the feasibility of wind power scenarios. Factors to be considered may include, but are not limited to:

- Evaluating the impact of Rocky Mountain Power's (RMP) rate schedules for different development scenarios
- Addressing supplemental and back-up power needs when the wind is calm
- Site selection and wind/weather monitoring
- Assessing environmental and permitting issues
- Estimating capital and maintenance costs and cost effectiveness
- Assessing each development option for compatibility with UW's mission, resources, and faculty/staff expertise

Wind generation installed costs range from \$1.70-\$7/watt (W) depending on the size of the field and the equipment used, with the smaller equipment costing much more. In Wyoming, for wind power to be economical, it needs to be subsidized in some form.

On-site wind turbines would provide a variety of teaching and research opportunities for UW faculty and students. Hands-on learning possibilities may include mechanical and electrical engineering elements, aerodynamics of turbines and fields, wind/weather monitoring, biological impacts, along with the economics of wind energy development.

While the discussions of the development of wind energy in Wyoming continue, the opportunities for the University to reduce its demands on fossil fuels should be capitalized upon. To further reduce the University's carbon footprint the feasibility of alternative energy should be evaluated.

College of Law Energy, Natural Resources, and Clinic Expansion

The College of Law does not have enough office space, for faculty, let alone for clinics and other programs, such as our Rural Law Center and the expanding energy and natural resources programs. The College has three permanent faculty members and one visiting faculty member housed in the Annex building at Garfield and 21st Street. Three of the four clinics (the Legal Services, Domestic Violence, and Prosecution Assistance Clinics) and the new International Human Rights Practicum are also housed at the Annex.

The office space available in the existing building is not sufficient even to support existing programs. Both professors and students must work in remote locations, with the usual

problems that arise from such dislocation. The College of Law expansion advocated here would provide the office space needed for this integration.

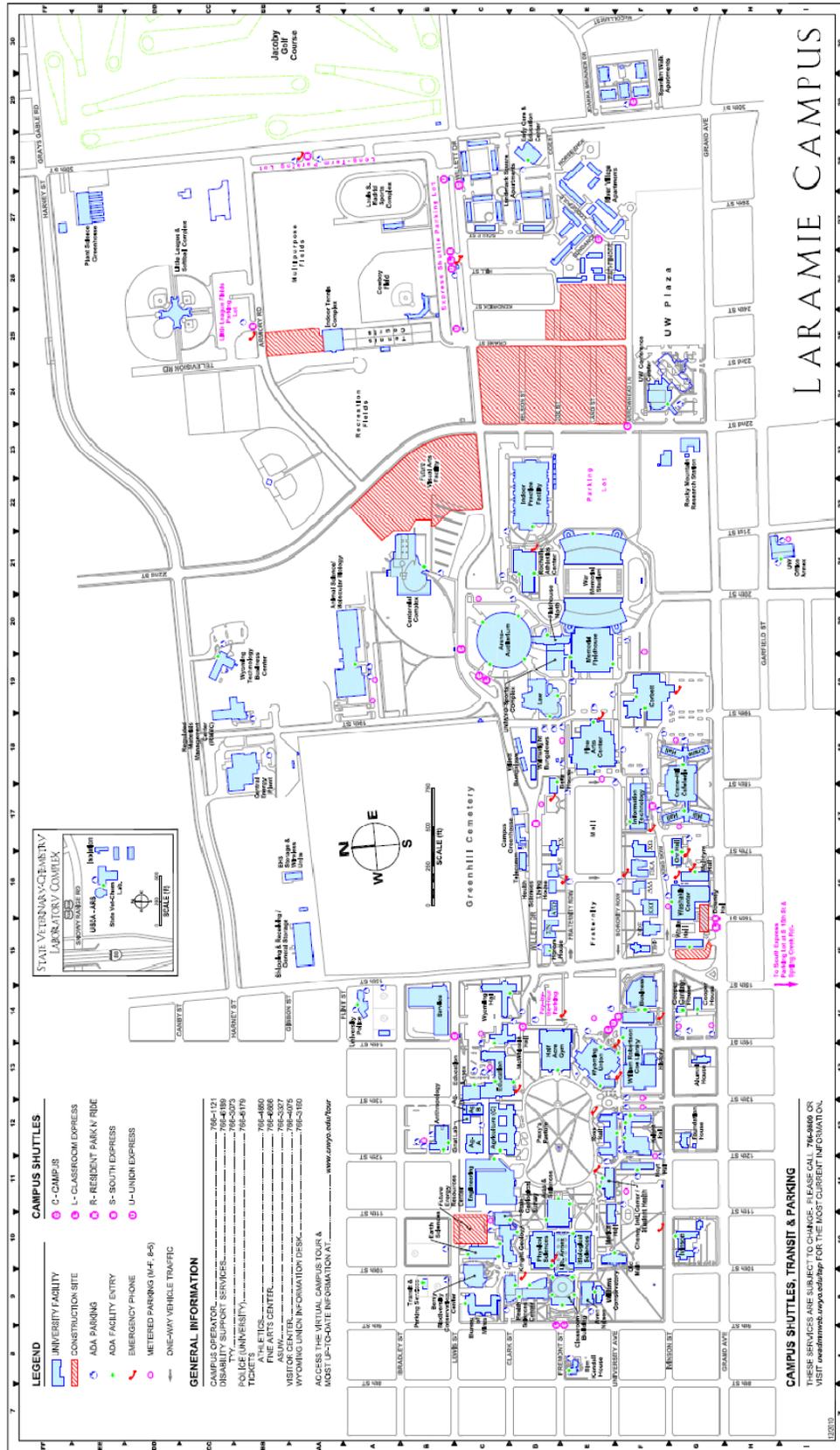
Expansion of Energy, Natural Resources, Rural Law, Clinic, and Other Experiential Learning Programs is behind some of the need that has arisen for more space. Additional office space is needed to expand our natural resources and other experiential learning programs. To the extent that these programs already exist, they exist in “the cloud” (i.e., non-existent) office space, because there is no space currently available for these programs, other than the standard offices of professors who work in them. Programs in need of additional space include the Energy and Natural Resources program, the Rural Law Center, also four New Clinics; the Defender Aid Clinic, the International Human Rights Clinic, the Estate Planning Clinic, and the Public Policy Clinic. Also, the Externship Program, the Legal Writing Program and Other Experiential Learning Programs would benefit from the new space provided by an expansion of the existing facility.

The current decade presents a tremendous opportunity for the College of Law. Because many of our competitor institutions are facing, and will likely continue to face, budget challenges that are substantially more severe than those we face in Wyoming, this can be a decade when we can boost an already solid standing and reputation among law schools into an even stronger position, which will mean even stronger students and faculty in the future.

The College of Law has a combination of (a) substantial current displacement of faculty, students, and clinics, (b) several programs currently operating in “the cloud,” (i.e., without dedicated office and teaching space), and (c) new programs on the horizon. Just as science programs need labs and art programs need studios to provide their students with a full education, we need office space to provide our students with a full education, especially in skills, via clinics, externships, legal writing classes, energy and natural resources programs, and simulations. The projected cost of the project would be about \$15 million with potential funding coming from private sources, University Administration and other sources.



Campus Map



CAMPUS SHUTTLES, TRANSIT & PARKING
 THESE SERVICES ARE SUBJECT TO CHANGE. PLEASE CALL 766-8600 OR VISIT admissions.uwy.edu/stop FOR THE MOST CURRENT INFORMATION.

101	Blackfoot Station	102	Central Energy Plant	103	Central Energy Plant	104	Central Energy Plant	105	Central Energy Plant	106	Central Energy Plant	107	Central Energy Plant	108	Central Energy Plant	109	Central Energy Plant	110	Central Energy Plant	111	Central Energy Plant	112	Central Energy Plant	113	Central Energy Plant	114	Central Energy Plant	115	Central Energy Plant	116	Central Energy Plant	117	Central Energy Plant	118	Central Energy Plant	119	Central Energy Plant	120	Central Energy Plant	121	Central Energy Plant	122	Central Energy Plant	123	Central Energy Plant	124	Central Energy Plant	125	Central Energy Plant	126	Central Energy Plant	127	Central Energy Plant	128	Central Energy Plant	129	Central Energy Plant	130	Central Energy Plant	131	Central Energy Plant	132	Central Energy Plant	133	Central Energy Plant	134	Central Energy Plant	135	Central Energy Plant	136	Central Energy Plant	137	Central Energy Plant	138	Central Energy Plant	139	Central Energy Plant	140	Central Energy Plant	141	Central Energy Plant	142	Central Energy Plant	143	Central Energy Plant	144	Central Energy Plant	145	Central Energy Plant	146	Central Energy Plant	147	Central Energy Plant	148	Central Energy Plant	149	Central Energy Plant	150	Central Energy Plant	151	Central Energy Plant	152	Central Energy Plant	153	Central Energy Plant	154	Central Energy Plant	155	Central Energy Plant	156	Central Energy Plant	157	Central Energy Plant	158	Central Energy Plant	159	Central Energy Plant	160	Central Energy Plant	161	Central Energy Plant	162	Central Energy Plant	163	Central Energy Plant	164	Central Energy Plant	165	Central Energy Plant	166	Central Energy Plant	167	Central Energy Plant	168	Central Energy Plant	169	Central Energy Plant	170	Central Energy Plant	171	Central Energy Plant	172	Central Energy Plant	173	Central Energy Plant	174	Central Energy Plant	175	Central Energy Plant	176	Central Energy Plant	177	Central Energy Plant	178	Central Energy Plant	179	Central Energy Plant	180	Central Energy Plant	181	Central Energy Plant	182	Central Energy Plant	183	Central Energy Plant	184	Central Energy Plant	185	Central Energy Plant	186	Central Energy Plant	187	Central Energy Plant	188	Central Energy Plant	189	Central Energy Plant	190	Central Energy Plant	191	Central Energy Plant	192	Central Energy Plant	193	Central Energy Plant	194	Central Energy Plant	195	Central Energy Plant	196	Central Energy Plant	197	Central Energy Plant	198	Central Energy Plant	199	Central Energy Plant	200	Central Energy Plant	201	Central Energy Plant	202	Central Energy Plant	203	Central Energy Plant	204	Central Energy Plant	205	Central Energy Plant	206	Central Energy Plant	207	Central Energy Plant	208	Central Energy Plant	209	Central Energy Plant	210	Central Energy Plant	211	Central Energy Plant	212	Central Energy Plant	213	Central Energy Plant	214	Central Energy Plant	215	Central Energy Plant	216	Central Energy Plant	217	Central Energy Plant	218	Central Energy Plant	219	Central Energy Plant	220	Central Energy Plant	221	Central Energy Plant	222	Central Energy Plant	223	Central Energy Plant	224	Central Energy Plant	225	Central Energy Plant	226	Central Energy Plant	227	Central Energy Plant	228	Central Energy Plant	229	Central Energy Plant	230	Central Energy Plant	231	Central Energy Plant	232	Central Energy Plant	233	Central Energy Plant	234	Central Energy Plant	235	Central Energy Plant	236	Central Energy Plant	237	Central Energy Plant	238	Central Energy Plant	239	Central Energy Plant	240	Central Energy Plant	241	Central Energy Plant	242	Central Energy Plant	243	Central Energy Plant	244	Central Energy Plant	245	Central Energy Plant	246	Central Energy Plant	247	Central Energy Plant	248	Central Energy Plant	249	Central Energy Plant	250	Central Energy Plant	251	Central Energy Plant	252	Central Energy Plant	253	Central Energy Plant	254	Central Energy Plant	255	Central Energy Plant	256	Central Energy Plant	257	Central Energy Plant	258	Central Energy Plant	259	Central Energy Plant	260	Central Energy Plant	261	Central Energy Plant	262	Central Energy Plant	263	Central Energy Plant	264	Central Energy Plant	265	Central Energy Plant	266	Central Energy Plant	267	Central Energy Plant	268	Central Energy Plant	269	Central Energy Plant	270	Central Energy Plant	271	Central Energy Plant	272	Central Energy Plant	273	Central Energy Plant	274	Central Energy Plant	275	Central Energy Plant	276	Central Energy Plant	277	Central Energy Plant	278	Central Energy Plant	279	Central Energy Plant	280	Central Energy Plant	281	Central Energy Plant	282	Central Energy Plant	283	Central Energy Plant	284	Central Energy Plant	285	Central Energy Plant	286	Central Energy Plant	287	Central Energy Plant	288	Central Energy Plant	289	Central Energy Plant	290	Central Energy Plant	291	Central Energy Plant	292	Central Energy Plant	293	Central Energy Plant	294	Central Energy Plant	295	Central Energy Plant	296	Central Energy Plant	297	Central Energy Plant	298	Central Energy Plant	299	Central Energy Plant	300	Central Energy Plant
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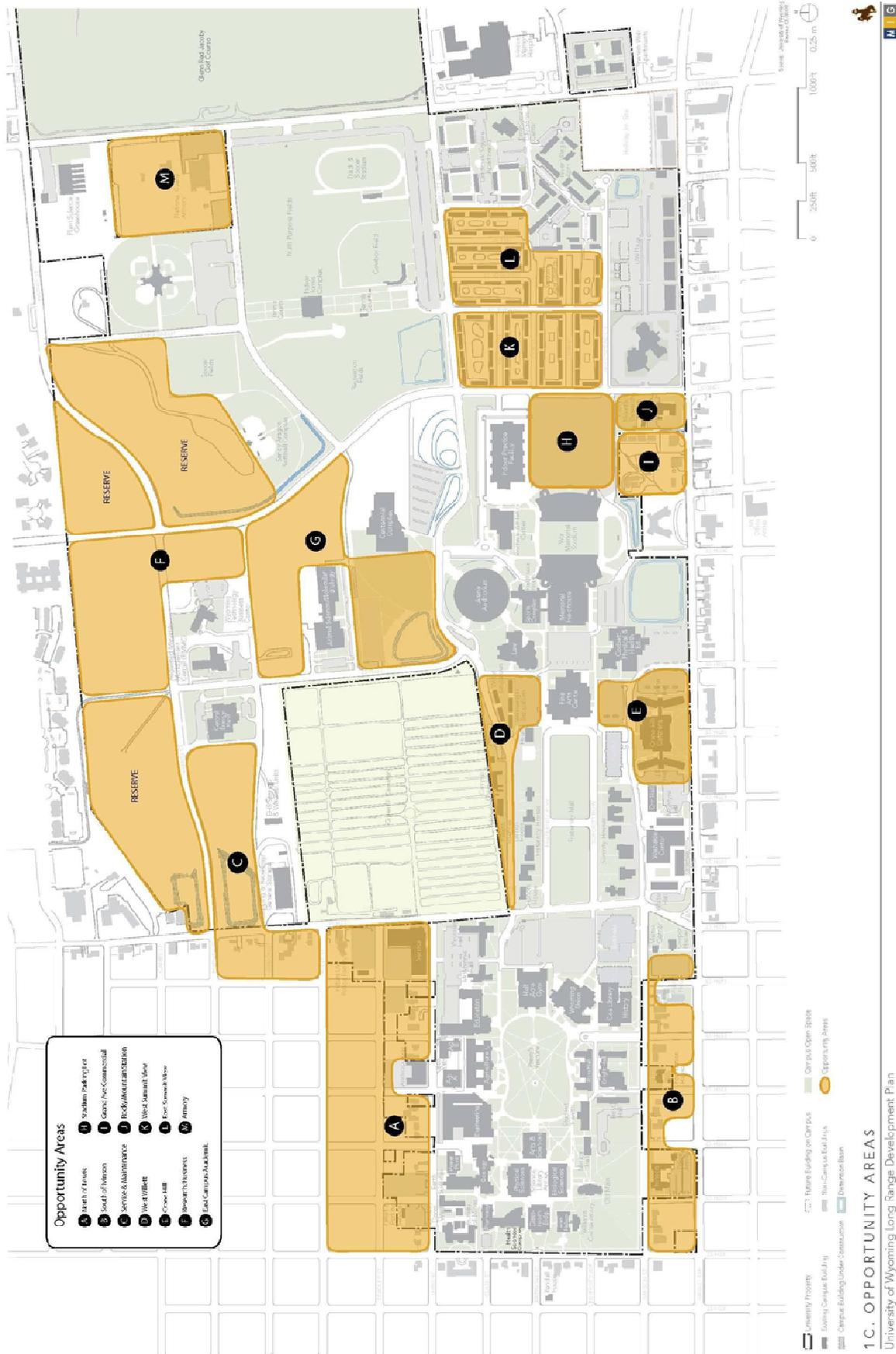
Zones/Campus Uses



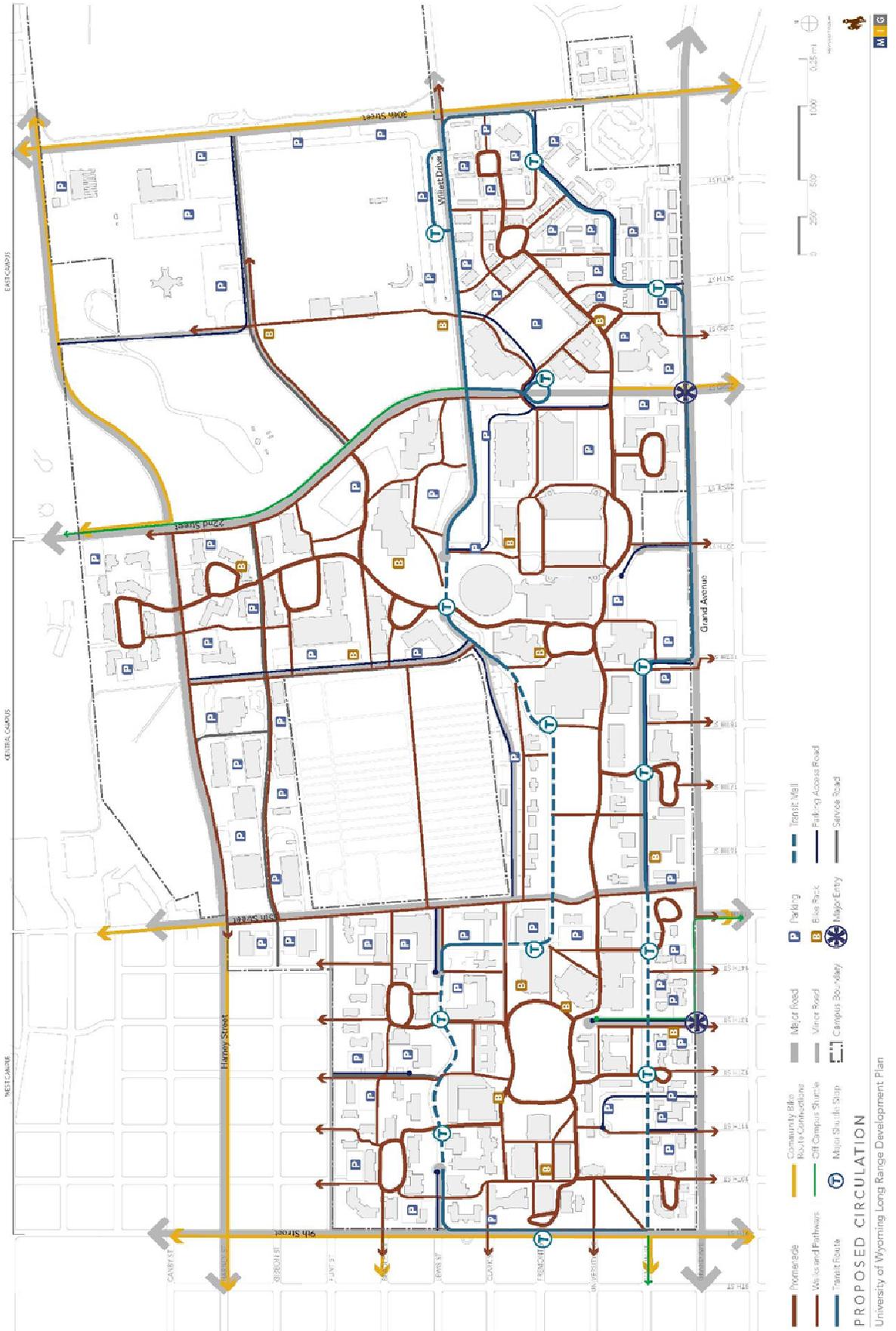
Open Space & Path System



Opportunity Areas



Transit/Transportation System



Long Range Development Plan & Proposed Build Out



MASTER PLAN DIAGRAM
University of Wyoming Long Range Development Plan