ARCHITECTURE &
ENGINEERING DIVISION

LONG RANGE BUILDING PROGRAM

Governor's Executive Budget
Fiscal Years 2022-2023

Volume 3

67TH LEGISLATIVE SESSION - 2021

LONG-RANGE PLANNING SCHEDULE

APPROPRIATIONS SUBCOMMITTEE

ROOM 317B TIME: 8:30 am to Noon (except as noted)

DATE	DAY	AGENCY	TOPIC
2/1/2021	MONDAY		Hearing HB 5 and HB 14 – Long-Range Building Program (LRBP)
			Open HB 5
		DEQ	New funding and program requirements
		DOA	Discussion of associated HB 2 appropriations (funding and future O&M)
		MHC	LRBP program introductions, updates – Russ Katherman DOA, LRBP
		DPHHS	Hearing – HB 5 and HB 14 projects:
			State Building Energy Conservation Program (SBECP) , DOA, MHS, DPHHS
2/2/2021	TUESDAY	FWP	Hearing HB 5 and HB 14 - LRBP Projects
		DMA	FWP program introduction and updates, projects
2/3/2021	WEDNESDAY	MUS	Hearing HB 5 and HB 14 - LRBP University System projects
			Room 472 – Joint meeting with Sec. E –Montana University System projects
			Future costs of major projects for University System appropriated in HB 2
2/4/2021	THURSDAY	OPI	
		MSDB	
		DOJ	
		DOR	Hearing HB 5 and HB 14 - LRBP Listed Agencies
		DNRC	Close HB 5
		LIVESTOCK	Close HB 14
		MDT	
		DOC	
2/5/2021	FRIDAY		Overflow if we run out of time…

TABLE F-3 SUMMARY:
Major Repair Projects

	FUNDING SOURCE				
	LRBP Cash	State Special	Federal Special	Authority Only	Total
MAJOR REPAIR PROJECTS W/LRBP CASH	26,752,713	536,000	2,101,529		29,390,242
DEPT. OF ADMINISTRATION		3,315,500			3,315,500
DEPT. OF ENVIRONMENTAL QUALITY		3,700,000			3,700,000
DEPT. OF FISH, WILDLIFE & PARKS		8,897,150	3,800,000	400,000	13,097,150
DEPT. OF MILITARY AFFAIRS			1,717,375		1,717,375
DEPT. OF TRANSPORTATION		2,300,000			2,300,000
TOTAL	**26,752,713**	**18,748,650**	**7,618,904**	**400,000**	**53,520,267**

TABLE F-4 SUMMARY:
Capital Development Projects

	FUNDING SOURCE					
	LRBP Cash	LRBP Bonds	State Special	Federal Special	Authority Only	Total
CAPITAL DEVELOPMENT PROJECTS WITH LRBP FUNDS	4,503,792	35,000,000		2,743,379	13,100,000	55,347,171
DEPT. OF ADMINISTRATION					7,779,230	7,779,230
DEPT. OF FISH, WILDLIFE & PARKS			36,884,000	15,175,000	1,730,000	53,789,000
DEPT. OF JUSTICE			3,851,475			3,851,475
DEPT. OF MILITARY AFFAIRS				14,952,960		14,952,960
MONTANA UNIVERSITY SYSTEM		36,000,000			68,300,000	104,300,000
DEPT. OF TRANSPORTATION			5,265,000	10,450,000		15,715,000
TOTAL	**4,503,792**	**71,000,000**	**46,000,475**	**43,321,339**	**90,909,230**	**255,734,836**

PRIORITY CD-01

HEATING SYSTEM UPGRADES - PHASE 2

MONTANA TECH
$3,520,000

This project will continue replacement of Montana Technological University's failed steam distribution system.

This project upgrades existing tunnels where needed for safety and maintenance and replaces failed direct buried piping with new tunnel sections. Steam tunnels run under older buildings on the Montana Tech campus. Some of these tunnels are still open for walking from one building to another. Little or no repair work has been done on the tunnels and at some point they will need to be repaired or at a minimum closed off from the public. The ceilings are lower than normal with steam lines and other utility pipes running below the ceiling. Adding tunnels to the remainder of the campus will protect infrastructure that is direct burial. This will allow better maintenance and inspection procedures to be used.

The steam distribution system is a combination of tunnels and direct buried lines. The system is 80-100 years old and is near the end of its useful life and in need of repair to allow for current usage. The direct buried piping is leaking and is inadequately insulated. Sections of the tunnel used for public access between building need to be repaired for safe passage.

FUNDING	
LRBP Cash	$3,520,000
TOTAL	**$3,520,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$3,168,000
Consultant Services	$352,000
TOTAL	**$3,520,000**

PRIORITY MUS-01

FORESTRY CONSERVATION & SCIENCE LAB

UNIVERSITY OF MONTANA
$45,000,000

The proposed project consolidates all the forestry programs into one facility and provides state of the art science lab teaching facilities for campus. The facility will house the entirety of the W.A. Franke College of Forestry and Conservation and will also provide laboratory science active-learning spaces hosting most core science courses offered to virtually all of University of Montana's students.

The building will include state-of-the-art research and science teaching laboratories (and support), teaching spaces, faculty offices, as well as meeting space. The facility will also include site work, including integration with campus movement systems, landscape, and parking. A key component of the facility is its showcase potential as a demonstration of cross laminated timber (CLT) construction, which supports key industries throughout the state. Additionally, the facility will be designed to a high environmental standard (LEED certification) with energy conservation and efficiency at its core.

The facility will solidify UM's preeminent position in Forestry and Conservation, increasing recruitment and retention of top students from across the state, the country, and the world – particularly those seeking to study fields related to health and STEM, including sustainability and natural resources. This investment is a key part of UM's desire to break down silos as shared laboratory and teaching spaces bring together faculty and students from across colleges and disciplines.

FUNDING	
LRBP Bonds	$25,000,000
Authority Only	$20,000,000
TOTAL	**$45,000,000**

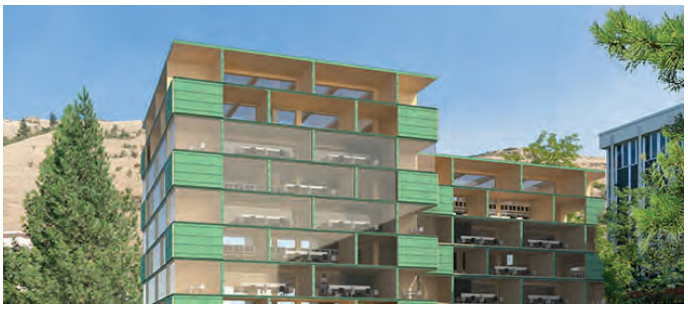
ESTIMATED PROJECT COSTS	
Construction Costs	$42,590,000
Consultant Services	$2,410,000
TOTAL	**$45,000,000**

O&M COSTS			
	2023	2025	2027
FTE	0	6.46	6.46
Personal Services	$447,811	$447,811	$936,329
Operating Costs	$505,644	$505,644	$1,057,251
Maintenance Expense	$703,988	$703,998	$1,471,990
TOTAL O&M COSTS	**$1,657,453**	**$1,657,453**	**$3,465,570**

Providing state-of-the-art hands-on experiences in the sciences requires laboratory activities in modern spaces designed for active, accessible, and collaborative laboratory learning. The quality of science teaching laboratory spaces factors heavily into recruitment and retention of undergraduate students across STEM and health disciplines. At present, UM's science teaching laboratories are outdated and do not meet minimums for effective learning and are potentially unsafe. A recent program review of chemistry noted: "The instructional facilities, both lecture halls and laboratories, are inadequate for safe, efficient, modern instruction". The new facility will address the following critical needs:

1. Existing teaching labs are often in buildings that are not accessible or at best difficult to access for those with physical disabilities.
2. Some existing teaching labs serving thousands of students per year are in buildings never designed for modern science instruction and thus lack even the most basic utilities: hot water, vacuum lines, natural gas and compressed air supplies, and adequate (or any) ductwork for chemical ventilation.
3. Several of the buildings that house science teaching labs lack central air conditioning and are thus not suitable for summer teaching.
4. Growth in demand for natural science courses and degrees has required the addition of many new lab courses, creating increasing stress on existing lab teaching spaces and support personnel, or requiring that labs be taught in the research spaces of tenure-track faculty.

The facility will turn what is presently a weakness for a key area into one of UM's greatest strengths: a modern facility that brings together students from across the sciences, engaging them in interactive, hands-on activities with the latest equipment, spaces and technologies. Having the chemicals, glassware, microscopes, molecular and microbiology equipment, autoclaves, and staff all centralized in a single building will make everything from ordering to maintenance more efficient. This will be a learning



hub for current students, and a go-to place to bring both prospective students and donors.

Outstanding strength in forestry, conservation, and the sciences has long been a hallmark of a UM education, and maintaining this strength requires continual investment. This interdisciplinary facility will break down the silos experienced by UM students today, bringing into one area the classrooms, technologies, and activities that are central to modern science learning. An investment in the facility demonstrates our commitment to student success and driving excellence and innovation in teaching, learning, and research.
The Franke College has grown rapidly from 426 students in 2011 to 786 students in 2019. Its 42 faculty are currently distributed across eight different buildings on the UM campus. The new facility will co-locate its academic and research activities under one roof and create central gathering facilities that will be available for use by the Franke College and the entire UM community. By co-locating all members of the Franke College in the facility, UM will be able to re-purpose or eliminate less efficient spaces across the campus. In addition, this would allow for Clapp Building to repurposed after rehabilitation.

PRIORITY MUS-02

RESEARCH & WOOL LABORATORIES

MONTANA STATE UNIVERSITY - AG EXPERIMENT STATION
$12,300,000

Construct five Chemistry and Instrumentation Research Laboratories at CARC, NARC, NWARC, SARC and WTARC, one Horticulture Research and Teaching Building at WARC, and one multidisciplinary Wool Laboratory to support the Montana Agricultural Experiment Stations' (MAES) Lab-To-Field Development Plan.
The requested facilities would address three highest-priority objectives for MAES capital development. The facilities will:
(1) replace outdated facilities that limit the speed and degree of innovation with which research can be conducted
(2) ensure that modern safety standards are fully met and that state-of-the-art research can be conducted to cost-effectively address unique, Montana-specific issues, especially those falling within the grand challenge areas, and
(3) leverage state-of-the-art facilities to recruit the best faculty and graduate students and enable new and existing scientists to be significantly more competitive for regional and federal-level grants and partnerships, further increasing the return on Montana's investment in MAES. The research infrastructure development requests reflect the integrated investment strategy of the Montana Agricultural Experiment Station.

PART I: WOOL LABORATORY

Construction of a new comprehensive wool research laboratory to continue outreach education for Montana's wool growers and launch new collaborative research to become a global leader. This facility is unique due to the various services and research it currently conducts. It currently has two labs, the analytical and wet labs which analyze the quality of wool fibers for growers around the country. Over the last 75 years this research has been the reason for increased profits and yields for growers. Future research opportunities will elevate this facility to be a center of excellence as a global leader of the wool industry. From ecology cover crops, genetics, government contracts for uniforms, textile cold weather research, lanolin medicinal uses and advanced textile

FUNDING	
LRBP Bonds	$11,000,000
Authority Only	$1,300,000
TOTAL	**$12,300,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$11,070,000
Consultant Services	$1,230,000
TOTAL	**$12,300,000**

O&M COSTS			
	2023	2025	2027
FTE	0	1.45	1.45
Personal Services	$100,369	$100,369	$209,861
Operating Costs	$120,735	$120,735	$252,445
Maintenance Expenses	$194,603	$194,603	$406,895
TOTAL O&M COSTS	**$415,707**	**$415,707**	**$869,201**

manufacturing capabilities.
The continued outreach and growers' support is essential for the industry's future generations to continue. The facility will have outreach classroom space within and large amounts of storage for field equipment. To support smaller Montana grower operations a scouring room and processing has been included, which can also be used as an instructional space.

PART II: CHEMISTRY & INSTRUMENTATION RESEARCH LABORATORIES

Construction of new laboratory facilities at WTARC, SARC, NARC, NWARC and CARC. These heated/cooled laboratories should have modern chemistry type fume hoods, required worker safety equipment, chemical resistant counter tops for use as wet chemistry labs, and sufficient electrical and HVAC infrastructure to accommodate modern laboratory equipment, growth chambers, seed germinators, soil and plant grinders etc.
Current research lab facilities at CARC are in an old dairy barn that does not meet current life-safety codes and standards. Those at NWARC are in a converted garage where again the facilities would never pass inspection for current electrical and worker safety standards. Facilities at WTARC are extremely crowded and are not suitable for the modern research that is being conducted. The current WTARC facilities are a serious impediment to development of competitive research projects. At SARC, current facilities are extremely crowded and there is no room for growth chambers and clean facilities for molecular work. At NARC, there are inadequate facilities for wet chemistry and molecular work that is currently critical to both animal and crop scientist faculty. This facility should be attached to the main facility building.

PART III: HORTICULTURE RESEARCH & TEACHING LABORATORY

WARC is 108 years old and current facilities are outdated, unsafe and unsuited for the new horticulture research mission requested by the WARC advisory committee. The research center is staffed with two scientists, both associated with a new mission—horticulture research that can greatly increase the productivity and profitability of western Montana agricultural producers. We are requesting a facility will greatly enhance the ability to accomplish this new research mission and recruit and retain first rate scientists. In addition, it will provide for greatly improved transfer of research to the rapidly growing numbers of horticultural crop producers in the region.

PRIORITY MUS-03

AUTHORITY ONLY - MUSIC BUILDING RENOVATIONS

UNIVERSITY OF MONTANA
$6,000,000

This request for spending authority would help secure up to six million in private funds for the remodeling of the existing facility which would address the current accreditation issue.

The Music Building was built in 1953 and has not had any major improvements or modernization work done on it. This infrastructure upgrade request would provide life safety and deferred maintenance work for the Music Building.

Securing state funding for life safety & deferred maintenance work allows the Music Department to seek private funding to address other maintenance issues as well as classroom and rehearsal space modernization efforts.

FUNDING	
Authority Only	$6,000,000
TOTAL	**$6,000,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$5,380,000
Consultant Services	$620,000
TOTAL	**$6,000,000**

PRIORITY MUS-04

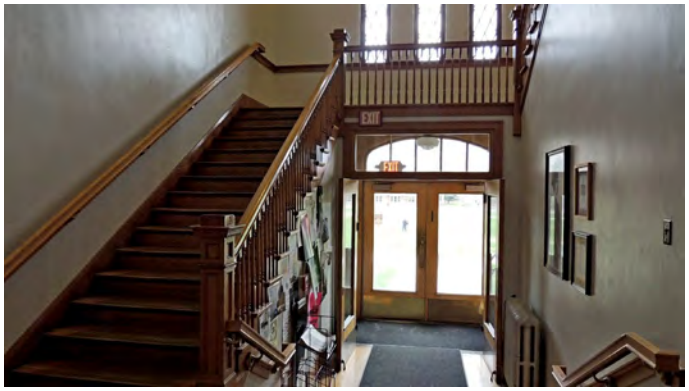
AUTHORITY ONLY - RANKIN HALL RENOVATIONS

UNIVERSITY OF MONTANA
$6,000,000

This general authority only request will cover up to six million in private funds for the remodeling of the existing facility which would address the current accreditation issue as well as life safety, deferred maintenance work and modernization to meet current building codes and ADA standards.

Rankin Hall was built in 1909 and has not had any major improvements or modernization work done on it. This request would provide the necessary spending authority to cover the private gifts that will fund the renovations.

Securing spending authority allows the University of Montana to seek private funding up to six million dollars to address the renovations.



FUNDING	
Authority Only	$6,000,000
TOTAL	**$6,000,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$5,380,000
Consultant Services	$620,000
TOTAL	**$6,000,000**

PRIORITY MUS-05

AUTHORITY ONLY - MANSFIELD LIBRARY RENOVATION

UNIVERSITY OF MONTANA
$6,000,000

This spending authority request will cover up to six million in private funds for the remodeling of the existing facility which would address the necessary renovations to repurpose the existing stack space for journals into beneficial instructional space. In addition, the project will address life safety, deferred maintenance work and modernization to meet current use, building codes and ADA standards.

The Mansfield Library was built in the early 1970's and has not had any major improvements or modernization work done. This request would provide the necessary spending authority to cover the private gifts that will fund the renovations.

FUNDING	
Authority Only	$6,000,000
TOTAL	**$6,000,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$5,380,000
Consultant Services	$620,000
TOTAL	**$6,000,000**

PRIORITY MUS-06

AUTHORITY ONLY - INSTRUCTIONAL SPACE UPGRADES

MONTANA STATE UNIVERSITY
$2,000,000

Requesting additional authority to upgrade and maintain instructional classrooms, labs, and computer labs across campus.

Montana State University is requesting $2,000,000 in authority to continue upgrading dated instructional spaces on campus and transform those spaces into modern teaching and learning environments.

The Montana State University campus is composed of a mosaic of architecture, new and old. Some older academic buildings and their instructional spaces remain untouched and in dire need of updates to support student learning. Spaces include computer labs, lecture halls, classrooms, and various instructional labs where modern technology and pedagogies have surpassed the capacity and capabilities of the existing instructional space. This authority only request would support the continued improvements to student learning environments.

While the University's Classroom Committee has made significant headway on guiding the renovation of antiquated instructional spaces, there remains many opportunities to upgrade dated classrooms and labs and transform them into modern spaces of learning that meet today's teaching needs. The renovations will provide opportunity to upgrade major building systems, including mechanical, electrical, and networking components, address life safety and fire suppression issues, energy efficiency, accessibility improvements, replace obsolete and worn out furniture and finishes, and upgrade technology.

FUNDING	
Authority Only	$2,000,000
TOTAL	**$2,000,000**

ESTIMATED PROJECT COSTS	
Other	$2,000,000
TOTAL	**$2,000,000**

PRIORITY MUS-07

AUTHORITY ONLY - RENNE LIBRARY RENOVATIONS

MONTANA STATE UNIVERSITY
$5,000,000

This project will substantially renovate, reprogram, and modernize parts of Renne Library to support student success and meet the vision of a 21st century academic learning center. The project supports students and faculty research by transforming areas of the library into modern spaces that focus on how students and faculty learn, create, and share knowledge in the age of digital technology and collaboration.

Parts of the current library are dated and need upgrading in order to meet modern programmatic standards. The modernization and reprogramming of the library will result in a library that is positioned for the next 20-40 years supporting today's needs of student learning and faculty research.

Located in a prominent location of campus, Renne Library was built in 1949, and was added to in 1961 providing a total of 158,000 gross square feet. The last major renovation was completed in 2001 with a series of smaller renovation projects that followed to improve seating, technologies and services for students, faculty, staff, and community. In addition to the library use, a portion of the department of the university information technology (ITC) is housed in the library, including the primary data center for campus.

In 2015, a library master plan was initiated to identify the needs of the library and to develop an overall plan to serve the changing role of the library for the campus. It was determined that MSU's student to library square footage ratio is significantly lower compared to peer institutions and proposed renovations to accomplish the following:

- Articulate current/future best practices in pedagogy and scholarship, information, and content management
- Identify new roles such as the organization and production of content
- Provide a road map for the organization, layout, and use of the physical and digital space
- Provide a road map for the deployment of technology that will best support the library and ITC for the next 10-20 years

FUNDING	
Authority Only	$5,000,000
TOTAL	**$5,000,000**

ESTIMATED PROJECT COSTS	
Construction Costs	4,500,000
Consultant Services	500,000
TOTAL	**$5,000,000**

PRIORITY MUS-08

AUTHORITY ONLY - MT MUSEUM FOR ART & CULTURE

UNIVERSITY OF MONTANA
$2,000,000

This request is for a $2,000,000 increase in general spending authority to supplement the $6,000,000 in authority only previously approved in the 59th legislative session.

The proposed Montana Museum of Art & Culture building will provide a permanent facility for one of the state's oldest and most prominent cultural reserves. The Museum exhibits and preserves works of art for the education of students, for study by research professionals and for the enjoyment of the public. The Permanent Collection of the Museum, begun in 1894, now includes more than 9,000 original works.

At present, gallery facilities allow the Museum to display only one-half of one percent of holdings at one time. As well, storage areas housing the Permanent Collection are crowded and insufficient to meet accreditation standards. The envisioned facility will incorporate display, space for preservation and conservation, exhibit preparation space as well as a lecture hall equipped to accommodate classes, symposia, and public lectures. The vision includes a series of galleries, classrooms, office spaces and significant storage areas.
The authority requested for this project reflects inflation costs and the costs associated with the necessary site adaptation
Increasing the project authority will be beneficial to the project because inflation costs have adversely impacted the budget to the point to where previously programmed space will have to be eliminated.

FUNDING	
Authority Only	$2,000,000
TOTAL	**$2,000,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$2,000,000
Consultant Services	$0
TOTAL	**$2,000,000**

O&M COSTS			
	2023	2025	2027
FTE	0.82	0.82	0.82
Personal Services	$28,525	$119,286	$119,286
Operating Costs	$32,060	$134,067	$134,067
Maintenance Expenses	$57,436	$240,187	$240,187
TOTAL O&M COSTS	**$118,021**	**$493,540**	**$493,540**

PRIORITY MUS-09

GENERAL SPENDING AUTHORITY

MONTANA UNIVERSITY SYSTEM
$20,000,000

Needed to address pressing issues between legislative sessions. May include federal, donations, grants, and other non-state funds. OCHE will distribute in accordance with BOR approval and priorities.

These are requests for spending authority to be granted to the Montana University System to construct and administer the projects which develop between Legislative sessions and require the University System to address in a timely fashion. Additionally, these projects do not require support of additional programs.

All of the projects in this request exceed the $150,000 limitation of construction in 18-2-102MCA and are needed by the University System to address programmatic needs, which in large part cannot be funded by the state. The University System is pursuing gifts, grants, in-kind donations, and identification of local funds to fund these projects and will require State authority to accept and / or spend.

General Spending Authority is requested from the State to be granted to the Montana University System to construct and administer projects on State facilities exceeding $150,000. This spending authority request is made to allow an option for the University System to address pressing issues not able to be funded by the state in a timely fashion. The funding could be from (Federal Special, revenue, donations, grants, or Higher Education funds). Operation and Maintenance will not be requested because of any projects utilizing this spending authority. The projects could be major maintenance, new construction, renovations, ADA, and code compliance upgrades or other project elements necessary to complete the projects.

FUNDING	
Authority Only	$20,000,000
TOTAL	**$20,000,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$20,000,000
Consultant Services	$0
TOTAL	**$20,000,000**

PRIORITY MR-02

HEATING SYSTEM UPGRADES - PHASE 1

MONTANA TECH
$2,480,000

This project will replace a portion of Montana Technological University's failed steam distribution system.

This project upgrades existing tunnels where needed for safety and maintenance and replaces failed direct buried piping with new tunnel sections. Steam tunnels run under older buildings on the Montana Tech campus. Some of these tunnels are still open for walking from one building to another. Little or no repair work has been done on the tunnels and need to be repaired or closed off from the public. The ceilings are lower than normal with steam lines and other utility pipes running below the ceiling. Adding tunnels to the remainder of the campus will protect infrastructure that is direct burial. This will allow better maintenance and inspection procedures to be used.

The steam distribution system is a combination of tunnels and direct buried lines. The system is 80-100 years old and is near the end of its useful life and in need of repair to allow for current usage. The direct buried piping is leaking and is inadequately insulated. Sections of the tunnel used for public access between building need to be repaired for safe passage.

FUNDING	
LRBP Cash	$2,480,000
TOTAL	**$2,480,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$2,335,000
Consultant Services	$145,000
TOTAL	**$2,480,000**

PRIORITY MR-03

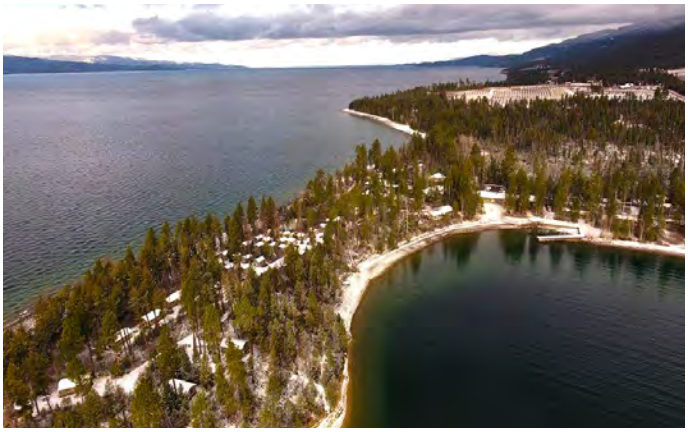
FLATHEAD LAKE BIOLOGICAL STATION SEWER TREATMENT PLANT

UNIVERSITY OF MONTANA
$1,750,000

This project will replace the existing sewer treatment facility at the Flathead Lake Biological Station.

The sewer treatment facility is critical to the operation of the biological station and also serves the rest rooms at the neighboring state park. The system is far beyond its life expectancy and has deteriorated to the point that the redundancy originally designed into the plant is no longer available, making system failure highly likely. If the plant fails, the station will have to rely on pumping the collection tank daily.

Maintaining campus buildings and utility systems in perpetuity requires periodic replacement of major systems prior to complete failure.



FUNDING	
LRBP Cash	$1,750,000
TOTAL	**$1,750,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$1,575,000
Consultant Services	$175,000
TOTAL	**$1,750,000**

PRIORITY MR-04

REID HALL FIRE SYSTEM UPGRADES

MONTANA STATE UNIVERSITY
$1,700,000

Reid Hall is the most heavily occupied academic teaching facility on Montana State University's campus. This project proposes the construction of a fire suppression and alarm system to improve the life safety and code compliance of Reid Hall, protect property from damage and/or loss, and most importantly, protect building occupants from harm.

Fire suppression and alarm systems increase the protection of the building occupants from harm and property damage and loss. This project brings the state building, heavily utilized for academic operations, into compliance with current building codes.
Reid Hall, constructed in 1959, is a 93,262 square-foot academic facility that is heavily occupied by students, faculty and staff. It is one of Montana State University's largest classroom facilities, housing over 1,600 instructional seats at any given hour. The building also provides space for the College of Education, Health & Human Development (EHHD), computer labs, and several other academic spaces.

From a fire code violation and life safety perspective, Reid Hall's fire code violations pose a significant threat to life and property loss in the event of a fire.

Montana State University already allocated $300,000 (2019) towards the consultant services to design a fire suppression and alarm system installation in Reid Hall. This $300,000 is not included in the total LRBP funding request.

FUNDING	
LRBP Cash	$1,700,000
TOTAL	**$1,700,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$1,530,000
Consultant Services	$170,000
TOTAL	**$1,700,000**

PRIORITY MR-05

UREY LECTURE HALL ROOF REPLACEMENT

UNIVERSITY OF MONTANA
$350,000

The existing Urey Lecture Hall roof membrane is original from 1981 and is leaking. As it protects an entire 400 seat underground lecture hall, its critical to have a 100% reliable roof membrane.

This project will replace the existing 1981 EPDM roof membrane that is below the brick pavers and rigid insulation boards. A new single-ply membrane is required. The existing roof membrane has exceeded its life expectancy by at least 20 years. Costly damage to structure and contents could result if any of the proposed work is deferred again.

The roof has been well maintained over the years but has deteriorated to a point where it can no longer be effectively repaired. We are at risk of a major failure that could damage the building contents.

Continued patching and repairing may temporarily delay further deterioration and damage but will require higher replacement costs later.

FUNDING	
LRBP Cash	$350,000
TOTAL	**$350,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$330,500
Consultant Services	$19,500
TOTAL	**$350,000**

PRIORITY MR-08

MANSFIELD LIBRARY ROOF REPLACEMENT

UNIVERSITY OF MONTANA
$1,200,000

This project will replace the ballasted EPDM roofing membrane that was installed in 1990.

The Mansfield Library roof is approximately one acre in size. The existing roof membrane has exceeded its life expectancy by at least 15 years. Costly damage to structure and contents could result if any of the proposed work is deferred again.

The roof is at risk of a major failure that could damage the library holdings. A new roof membrane could be ballasted with the new solar panels that are part of an energy conservation project. The cost of the solar panel project is not part of this request.

The roof has been well maintained over the years but has deteriorated to a point where it can no longer be effectively repaired. Continued patching and repairing may temporarily delay further deterioration and damage but will require higher replacement costs later.

FUNDING	
LRBP Cash	$1,200,000
TOTAL	**$1,200,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$1,150,000
Consultant Services	$50,000
TOTAL	**$1,200,000**

PRIORITY MR-09

HAYNES HALL LAB VENTILATION UPGRADES

MONTANA STATE UNIVERSITY
$1,600,000

This project will upgrade mechanical ventilation system in Haynes Hall for occupant safety and code compliance. This project specifically addresses needed HVAC upgrades in the painting, ceramic, welding, and sculpture areas.

The original ventilation system is less than adequate to contain or arrest contaminants and to provide acceptable long-term indoor air quality for the current instructional activities. Without improvements to the existing system instructional activities may be limited due to inadequate teaching spaces. Improvements to the mechanical ventilation system increase occupant safety and provide code compliant spaces and systems.

Haynes Hall, constructed in 1974, is one of three buildings that forms the Creative Arts Complex (combined 135,000 square feet) and currently houses the School of Art. With few exceptions, all the existing major mechanical equipment is original and has been in service for approximately 40 years. The original ventilation system is less than ideal in its ability to contain or arrest

all contaminants and to provide acceptable long-term indoor air quality for the current instructional activities. This project upgrades the mechanical systems to provide code required minimum ventilation and recommended local exhaust ventilation for specialized space uses including ceramics, welding, printmaking, and metalsmithing. The current cost for this work, including design and construction, is based on a schematic design performed by GDP, PC in 2014.

FUNDING	
LRBP Cash	$1,600,000
TOTAL	**$1,600,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$1,360,000
Consultant Services	$240,000
TOTAL	**$1,600,000**

PRIORITY MR-10

FIRE ALARM UPGRADES

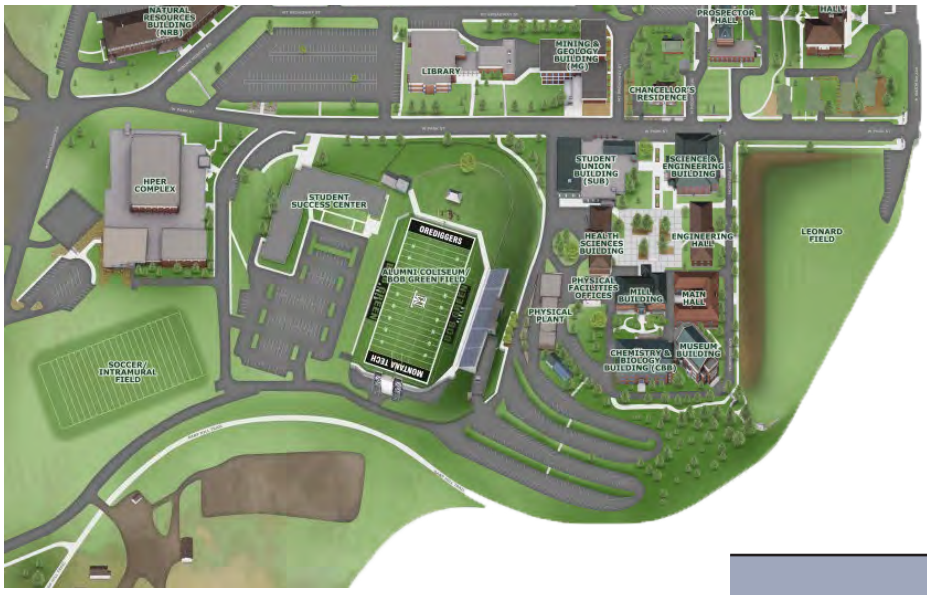
MONTANA TECH
$200,000

This request would provide funding to replace fire alarm systems that are, in some cases, decades past their planned life, and provide critical fire access. Replacement is necessary to provide adequate protection to occupants and assets. Fire alarm panels and alarm notification are not code compliant.

These projects are necessary to meet requirements of the International Building Code, Institutional Fire Code, and Life Safety Code.

Several buildings on the Montana Technological University campus have old or obsolete fire alarm systems. These are dangerously unreliable and spare parts are not available. For reasons of public life-safety and modern code requirements, these fire alarm devices and associated fire alarm panels must be replaced.

Buildings still in need of upgrades include:
- Chemistry/Biology
- Health Sciences
- Mining & Geology
- Natural Resource Building
- Mill Building



FUNDING	
LRBP Cash	$200,000
TOTAL	**$200,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$188,500
Consultant Services	$11,500
TOTAL	**$200,000**

PRIORITY MR-12

MONTANA HALL FIRE SYSTEM UPGRADES

MONTANA STATE UNIVERSITY
$455,000

This project will construct a fire suppression system in Montana Hall to improve the life safety code compliance and avoid loss of life and property during the event of a fire.

Fire suppression and alarm systems increase the protection of building occupants from harm and property damage and/or loss. This project brings the state building, heavily utilized for administrative operations, into compliance with modern building codes.

Montana Hall, constructed in 1896, is located at the heart of campus. The wood-framed building now acts as the central hub for Montana State University's administration and finance offices. Due to the historic nature of this iconic landmark, Montana Hall requires many improvements to bring the building up to modern-day code.

A comprehensive study was performed on Montana Hall in 2001 and demonstrated that the building needs significant repairs and upgrades including deferred maintenance, adaptive renovation, life safety corrections, structural repairs, building code and ADA renovation. In response to this study, Montana State University

made recent improvements including the construction of an elevator to improve ADA accessibility, space modernization, and the construction of a standpipe to support the first phase of life safety improvements.

The installation of the Montana Hall fire suppression system will bring the building up to modern day life safety code compliance. Most importantly, this project will improve the life safety environment for all building occupants and mitigate the risk of significant life or property loss.

FUNDING	
LRBP Cash	$455,000
TOTAL	**$455,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$414,000
Consultant Services	$41,000
TOTAL	**$455,000**

PRIORITY MR-13

ART ANNEX SAFETY & SYSTEM UPGRADES

MONTANA STATE UNIVERSITY - BILLINGS
$1,200,000

This project proposes the replacement of life-safety systems in the Art Annex Building. The existing facility provides support to academic programs. Life safety work will extend the operational life of the facility.

The Art Annex Building, constructed in 1980, supports art programs including ceramics and steel/foundry materials work. The facility, located near the south-east entrance to campus, has reached the end of its useful life. Life safety system upgrades including fire emergency exit lighting and alarm systems, and fire suppression systems are required to improve the safety of the facility.

The proposed Applied Science and Arts Building project ($8,900,000), would replace the Art Annex Building but the project remains unfunded. The Art Annex Safety & System Upgrades project will address the building system upgrades required to extend the current use of the building.

FUNDING	
LRBP Cash	$1,200,000
TOTAL	**$1,200,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$1,080,000
Consultant Services	$120,000
TOTAL	**$1,200,000**

PRIORITY MR-14

DONALDSON BUILDING HVAC UPGRADES

HELENA COLLEGE
$1,000,000

This project will repair and replace HVAC and building control systems in Donaldson Building at Helena College.

This project would provide a modern energy efficient HVAC system to the last areas of the Donaldson Building that still utilizes the original 1960 era systems.

Removing the aging fluid-based heating and cooling system from the few remaining areas of the Donaldson Building and replacing it with a roof mounted HVAC system.

The current system involves routing either heated or cooled water through wall mounted fan boxes. The system does not allow for both heating and cooling options to occur without manually switching from the boiler to the chiller and then waiting for the water temperature to change which takes at least a day. The fan boxes create challenging classroom settings as they are noisy and make classroom instruction, presentations, and discussions difficult.

A roof mounted forced air HVAC system would allow for more precise control of room temperature and keep background noise to a minimum.

Continued repairing may temporarily delay further deterioration and damage but will require higher replacement costs later. The new HVAC and control package will reduce operating costs.

FUNDING	
LRBP Cash	$1,000,000
TOTAL	**$1,000,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$910,000
Consultant Services	$90,000
TOTAL	**$1,000,000**

PRIORITY MR-15

HEATING SYSTEM REPLACEMENT & REPAIR

UNIVERSITY OF MONTANA - WESTERN
$2,495,000

This project adds a second low-pressure boiler and eliminates the high-pressure biomass boiler. This proposed upgrade also includes the replacement of original steam and condensate lines that are both buried and housed in steam tunnels. This piping has sections that date back to the 1940s and are continually being patched and repaired.

With the installation of the new low-pressure boiler, UM Western has taken the first steps in reducing the number of man hours required to operate the heating plant. This process would include the addition of a second low pressure boiler and the elimination of the high-pressure biomass boiler. The existing low-pressure boiler, installed spring 2018, allows the plant staff to perform necessary preventative maintenance throughout the campus mechanical systems during the spring, summer, and fall.

The next step in reducing dependence on the high-pressure boiler system during winter months is to install a second low pressure boiler to pick up the remaining winter load and create some redundancy. This would allow UM Western to eliminate the biomass boiler and further reduce the man hours required to operate the heating plant and focus on mechanical systems throughout campus. Continued patching and repairing may temporarily delay further deterioration and damage but will require higher replacement costs at a later date.
The new boiler package will reduce operating costs. The removal of the biomass boiler would also eliminate several expensive maintenance items that need to be addressed if continued operation of the biomass is necessary.

FUNDING	
LRBP Cash	$2,495,000
TOTAL	**$2,495,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$2,295,000
Consultant Services	$200,000
TOTAL	**$2,495,000**

PRIORITY MR-16

STONE HALL ROOF REPLACEMENT

UNIVERSITY OF MONTANA
$400,000

Replace existing sloped roofing and attic insulation of Stone Hall (formerly the Journalism Building). This building was built in 1936. This project will replace the worn-out roof, abate existing vermiculite insulation, and replace with new attic insulation.

The existing sloped roof shingles are beyond their life expectancy and wearing thin. The vermiculite attic insulation must be abated and replaced with new insulation. This project would replace the roof with new historic looking, long lasting shingles similar to Main Hall and Rankin Hall. The existing shingle roof has exceeded its life expectancy by at least 20 years. Costly damage to structure and contents could result if any of the proposed work is deferred again.

The roof has been well maintained over the years but has deteriorated to a point where it can no longer be effectively repaired. We are at risk of a major failure that could damage the building contents. Continued patching and repairing may temporarily delay further deterioration and damage but will require higher replacement costs later. Finally, the new roofing system will incorporate current energy standards.

FUNDING	
LRBP Cash	$400,000
TOTAL	**$400,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$360,000
Consultant Services	$40,000
TOTAL	**$400,000**

PRIORITY MR-17

VANDE BOGART LIBRARY ROOF REPLACEMENT

MONTANA STATE UNIVERSITY - NORTHERN
$325,000

This project replaces the failing roof membrane and insulation components of the Vande Bogart Library's built-up roof (BUR) system.

The Vande Bogart Library's roof membrane has many blisters and has begun pulling away from the parapet wall. This project replaces the roof membrane and insulation components which are beyond their useful life spans.

The Vande Bogart Library, constructed in 1982, is a 33,593 square-foot facility that provides not only an incredible educational resource for MSU-Northern's student body and surrounding community, but also houses a federal government depository, extensive collection of historic photographs, and the North Montana Plains Indian Museum collection.

Significant roof improvements are required to protect and guarantee the safety and integrity of these valuable stored archival materials for future generations. By replacing the aging roof membrane, the university would also be relieved of extensive deferred maintenance costs from an already strained plant maintenance budget.

FUNDING	
LRBP Cash	$325,000
TOTAL	**$325,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$293,000
Consultant Services	$32,000
TOTAL	**$325,000**

PRIORITY MR-23

LEWIS HALL ROOF REPLACEMENT

MONTANA STATE UNIVERSITY
$1,600,000

Lewis Hall has a clay tile roof that is original to the building. This project addresses the replacement and repairs of roof system components that are beyond their expected useful life. Replacing missing or broken clay tiles, proper fastening of the preserved and new tiles, replacement of the underlayment and insulation, and upgrades to the snow/ice fall protection and roof structure.

Lewis Hall, constructed in 1923, is one of the many of the historic buildings on the Montana State University campus. The building supports many instructional labs and academic activities related to ecology, microbiology, and biology. Since the original date of construction, Lewis Hall has never had a roof replacement. Repairs have been made over the years to prolong the roof, which is well past its useful life. Both the roof covering (clay tiles) and insulation need replacement, as well as repairs to the structure and other roof system components.

FUNDING	
LRBP Cash	$1,600,000
TOTAL	**$1,600,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$1,440,000
Consultant Services	$160,000
TOTAL	**$1,600,000**

PRIORITY MR-25

AUTO TECH BUILDING SYSTEM IMPROVEMENTS

MONTANA STATE UNIVERSITY - NORTHERN
$535,000

The project improves building efficiency and provides healthier and safer instructional spaces by upgrading the failing roof systems and components, and obsolete exhaust and combustion system.

This project replaces the failing roof deck fasteners, causing the decking to buckle in three locations. In addition, this project upgrades the original and obsolete exhaust and combustion system which is currently inadequate for the current instructional activities occupying the space today.

The Automotive Technology Building (formally Farm Mechanics), constructed in 1984, is a 11,968 square foot facility built to provide a large open space that allowed students to work on large diesel engines, related heavy industrial machinery, and farm equipment in both the agricultural and diesel mechanics programs. Several annual public seminars and workshops for local Montana farm producers and businesses have been taken place in this building. The building now supports MSU Northern's nationally recognized Automotive Program.

The Automotive Technology Building has had very few major repairs or upgrades since it was originally constructed. The facility now requires significant repairs due to the flaws in the original design and age of existing systems. Some roof deck fasteners have failed, causing the decking to buckle in three locations. Furthermore, the original engine exhaust and combustion air systems are inadequate for the instructional activities that support the current instructional activities

FUNDING	
LRBP Cash	$535,000
TOTAL	**$535,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$481,000
Consultant Services	$54,000
TOTAL	**$535,000**

PRIORITY MR-28

CLAPP BUILDING ELEVATOR MODERNIZATION

UNIVERSITY OF MONTANA
$300,000

This project will upgrade and modernize the main elevator in the Clapp Building.

The existing elevator is original to the building and is currently out of compliance with the state elevator code. Parts for repair are hard to find. This elevator needs a total upgrade to meet current codes.

This elevator has been well maintained over the years, but it has deteriorated to a point where it can no longer be effectively repaired. We are at risk of a major failure that could render the upper floors and the basement inaccessible.

Continued repairing may temporarily delay further deterioration and damage but will require higher replacement costs later. The elevator is no longer reliable and is not currently certified by the state inspector.

FUNDING	
LRBP Cash	$300,000
TOTAL	**$300,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$280,000
Consultant Services	$20,000
TOTAL	**$300,000**

PRIORITY MR-36

ROOF REPLACEMENTS

UNIVERSITY OF MONTANA - WESTERN
$450,000

This project will replace the roofs on the following buildings:

- Business and Technology Building
- Engineers House
- Chancellor's Residence.

The roofing projects listed have exceeded their useful life. The replacement systems will be chosen to provide maximum protection with minimum maintenance. Additionally, where historical structures are involved, preference has been given to maintaining the historical nature of the roofing system. Finally, all roofing systems will incorporate current energy standards.

These roofs have been well maintained over the years but have deteriorated to a point where they can no longer be effectively repaired. We are at risk of a major failure that could damage the building interiors.

Continued patching and repairing may temporarily delay further deterioration and damage but will require higher replacement costs later. Finally, the new roofing stems will incorporate current energy standards.

New roofs will extend building life, protect assets, and improve working conditions in the facilities.

FUNDING	
LRBP Cash	$450,000
TOTAL	**$450,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$405,000
Consultant Services	$45,000
TOTAL	**$450,000**

PRIORITY MR-37

ROOF REPLACEMENTS

MONTANA TECH
$800,000

This project will replace the roofs on the following buildings:

- Chancellor's Residence
- Science and Engineering
- Math and Computer Science
- Chemistry/Biology
- Highlands College.

The roofing projects listed have exceeded their useful life. The replacement systems will be chosen to provide maximum protection with minimum maintenance. Additionally, where historical structures are involved, preference has been given to maintaining the historical nature of the roofing system. Finally, all roofing systems will incorporate current energy standards.

These roofs have been well maintained over the years but have deteriorated to a point where they can no longer be effectively repaired. We are at risk of a major failure that could damage the building interiors.

Continued patching and repairing may temporarily delay further deterioration and damage but will require higher replacement costs later. Finally, the new roofing stems will incorporate current energy standards.

New roofs will extend building life, protect assets and improve working conditions in the facilities.

FUNDING	
LRBP Cash	$800,000
TOTAL	**$800,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$720,000
Consultant Services	$80,000
TOTAL	**$800,000**

PRIORITY MR-39

BROCKMANN CENTER HVAC & ENERGY UPGRADES

MONTANA STATE UNIVERSITY - NORTHERN
$855,000

This project will upgrade the Brockmann Center's mechanical equipment and envelope to retire deferred maintenance and improve energy efficiency.

The Brockmann Center's exterior windows and doors, and HVAC system are deficient and require replacement and upgrades to improve energy efficiency and improve occupant comfort.

The 53,195 square foot Brockmann Center was constructed in 1970 as a multi-discipline academic building. Since the original construction, there has been limited renovation. This project replaces deteriorated original window and door systems with energy efficient models and addresses inadequate ADA egress issues.

This project also upgrades and recommissions the building's HVAC system components to achieve designed efficiency and current High-Performance Building Standards. The current mechanical system has trouble maintaining space temperatures with all the additional lab occupancy and equipment that now is in the classroom spaces. Brockmann Center is presently the most utilized academic building on MSU-Northern's campus.

FUNDING	
LRBP Cash	$855,000
TOTAL	**$855,000**

ESTIMATED PROJECT COSTS	
Construction Costs	$769,000
Consultant Services	$86,000
TOTAL	**$855,000**