MINUTES

MONTANA HOUSE OF REPRESENTATIVES
51st LEGISLATURE - REGULAR SESSION

SUBCOMMITTEE ON LONG RANGE PLANNING

Call to Order: By Chairperson Connelly, on January 12, 1989, at 8:00 a.m.

ROLL CALL

Members Present: All

Members Excused: None

Members Absent: None

Staff Present: Claudia Montagne, Secretary; Carroll South, Legislative Fiscal Analyst's Office

Announcements/Discussion: None

LONG RANGE BUILDING PROGRAM

No Tape

UNIVERSITY SYSTEMS AND VO-TECHS: CARROLL KRAUSE, Commissioner of Higher Education, introduced the presenters for the University System proposals to the Long Range Building Program, and made the initial presentation. He stated that the University is recommending these projects because of accreditation problems as well as for life safety issues. He stated that the Regents have set priorities, but deferred maintenance has gone on for quite some time now. Mr. Krause suggested that the committee look at long term solutions by creating some ongoing flow of monies to prevent any further deteriorations. He said that the University System represents assets totalling over one-half billion in facilities, not including equipment. He suggested that revenue flow into the coal tax trust fund go into the Long Range Building Fund and Major Maintenance Fund. He stated that we have made salvaging our highways a priority, and that we must also consider salvaging our physical resources in the University System as well.

BILL LANNAN, Office of the Commissioner of Higher Education and Coordinator of Long Range Planning, then presented the process by which campuses and the Regents developed their portion of the Long Range Plan. (EXHIBIT 1) The Regents' Capital Construction Committee received projects totalling $115,000,000 from all of the units covering new

construction, maintenance, and health and human safety projects. These were prioritized by the Capital Construction Committee, and the recommendations were submitted to the Governor. Included in the exhibit are the listing of the Regents' priority projects along side the Executive Branch's priorities. The Regents' recommendation totaled $13,000,000 while the Executive Branch's recommendations totaled approximately $2,500,000.

Montana State University

PRESIDENT WILLIAM TIETZ, Montana State University (MSU), opened the meeting, stating that MSU and the associated Agricultural Experiment Station, has a most diverse set of facilities. These include the Red Bluff Ranch, built in 1865, several forts, campus buildings built as early as 1893 and buildings of more recent construction. They have five to six million dollars invested in facilities at this time.

Their first request pertains to the Engineering/Physical Science facility, which involves the renovation of Ryan Laboratory, necessary due to the advances in technology and the deterioration of the building. The renovation would add 105,000 square feet of laboratory/classroom/support space, and would modernize 115,000 square feet of existing space. DR. DAVID GIBSON, Dean of the School of Engineering, stated that with the growth of microelectronics, this facility would add to the technical competence of the state and also to Montana's economic development (EXHIBIT 3). Technology is the work of the future, he said. All of these projects are contained in the Montana State University 1991 Biennium Long Range Building Program Request (EXHIBIT 2).

BILL ROSE, Director of the Physical Plant, presented on the remainder of MSU's projects. Centennial Mall, a project to turn an unused street through campus into a mall to facilitate circulation between buildings, is seen as important to improve aesthetics on the campus as well, Mr. Rose said. He stated that for this project they need authorization only, using private funds raised through the MSU Foundation. He described a critical need in the Culbertson Hall renovation. The renovation of this former dormitory would allow the Computer Center to relocate there, as well as other small departments. This would free up space in the Library, space being a critical need for accreditation, and would enable MSU to demolish the old USDA building and the 11th Avenue quonset huts. The other major request brought up by Mr. Rose was for the Electrical Distribution System Phase II. This project, of which Phase I is completed, was originally conceived as a 2-phase project, and Mr. Rose stated that without Phase II, benefits from Phase I would not be realized. He described Phase II,

stating that it involves an installation of an internal transformer and connections from a perimeter loop to individual buildings to complete and energize the new campus electrical distribution. As it stands now, without Phase II, there are 2 electrical systems with 2 sets of voltage causing electrical concerns and limitations in capacity. It is also a safety hazard, and Mr. Rose added that the Montana Power Company would charge additional fees if the 2 systems were to be maintained.

MR. ROSE expressed some concern regarding the allocation of the funding. Allocation of the costs was considered by MSU and the State. Recently, the auxiliary portion of the funding for Phase II was increased from $73,000 to $949,500. REP. BARDENOUVE asked if there is a carryover from Phase I of $350,000, and Mr. Rose said yes, that $1,850,000 was allocated and $1,450,000 was spent. This balance would be applied to Phase II. REP. THOFT asked what MSU had in auxiliary funds, and what would be deleted if you were to spend it all here. He asked for this in writing. Glenn Lewis, MSU, answered that they have spent $624,000, and have committed $72,000 to Phase II. They have a 5 Year Plan of building improvements, and based on those commitments, cannot afford more than the $72,000. He stated that the alternatives would be to withdraw auxiliary portions of projects or to increase student fees, rents, etc. REP. BARDENOUVE asked what the rationale was for the increase in the auxiliary funds and a discussion ensued. Tom O'Connell, of the Architecture and Engineering Division (A&E), stated that they had looked at it differently and came up with the figure somewhat late that MSU's Auxiliary Services budget would have to come up with more of the cost. The basis on which this decision is made is the proportional uses of space within a building for auxiliary and academic purposes. A&E looked at power uses and initially came up with a 55% (auxiliary)/45% (academic) split. The amounts in the Capital Construction Program and in the bill reflect this percentage. However, since that time, MSU and A&E have compromised and the distribution of costs has shifted to 45%/55%. REP. BARDANOUVE asked Mr. O'Connell if he could support this distribution, and Mr. O'Connell said it was a clear cut and defensible way to distribute costs. Mr. Rose added that SSR Engineering, who did the original study for the entire project in 1986, came up with these original allocations, and that they were contradicted by A&E. REP. BARDANOUVE said yes, but they have reduced the demand already. Mr. Rose replied that no, in fact they had increased it from a few percent, which the $73,000 represents, to the present 55%/45% split. REP. BARDANOUVE stated, and REP. THOFT agreed, that the committee could not resolve conflicts of opinion over KW. A&E and MSU agreed to get together and reach a consensus on this issue. SENATOR

HIMSL asked what this meant in dollars. Mr. Rose answered that the administration proposed $671,700 come from the Capital Projects Fund, and $949,500 from auxiliary funds for a total of $1,621,200 plus the $355,000 in carry over funds. The original estimate called for $72,600 from the auxiliary funds.

The next item discussed was Major Maintenance projects on page 8, Exhibit 2, roof replacements in Taylor and Gaines Halls. SEN. MANNING asked if they were pitched or flat roofs, and Mr. Rose replied that Gaines had a flat roof, and Taylor a pitched wood shingle roof. REP. BARDANOUVE commented that roofs before lasted 100 years, and now only 10 or 20. Dr. Tietz stated that inspectors had neglected to establish criteria upon which the roof was constructed. Also he mentioned that elements of construction are monitored by the state and suggested that standards and monitoring were not adequate. SENATOR HIMSL asked about putting another wood shingle roof on Taylor, and Mr. Rose answered that they were not sure, and that they may put wood on again to insure the architectural integrity of the building, but that shingles were very expensive. A discussion followed between Dr. Tietz, Mr. O'Connell and the committee regarding roof replacements, and the connection to problems with improper installation, and major gaps in the contracting and specification and monitoring process. Mr. O'Connell stated that A&E was taking a harder stand on insisting that a specified product be used with upgraded standards.

Agricultural Experiment Station

RUSS MUNTIFERING, Associate Director of the Agricultural Experiment Station, presented its classroom renovation project (page 9, Exhibit 2). He stated that the average age of classrooms is 36 years, and that many have the original finish and furnishings. The request for $661,000, which is the A&E recommendation, includes accessibility modifications. REP. BARDANOUVE asked Dr. Tietz how this schedule would be impacted by MSU's conversion to semesters, and Dr. Tietz said that the conversion, to be completed in 1991, would not be impacted. He stated that they are doing an inventory now, and can combine spaces to make larger ones. He said that they are moving as quickly as possible considering the information that they need to get, and feel that it is better to do a thorough and systematic job of planning. REP. BARDANOUVE expressed concern that they might be in a crisis situation in 1991 when the conversion takes place and they need the space. Mr. Muntifering stated that the main goal is to keep the facilities operative and that the needs exceed the scope of the priorities set for them.

He had photographs of the facilities needing attention, mentioned on page 12, Exhibit 2.

University of Montana

PRESIDENT JAMES KOCH of the University of Montana presented projects from the University of Montana (UM) and Western Montana College (WMC). His proposal had four points: the proposed Life Science/Biotechnology Building at UM, the School of Business Administration Building at UM, maintenance and repair at WMC, and maintenance and repair at UM (EXHIBIT 4). Dr. Koch stated that for the Life Science/Biotechnology Building, the Regents had given them authority to explore this project further. He said that no state funds were involved, but that they needed the authority from the Legislature to plan so that the Regents could approve an external funding source. They are requesting that authority.

Regarding the Business Administration Building, LARRY GIANCHETTA, Dean of the School of Business, introduced BOB MCNELLIS, Vice President of the Federal Reserve Bank of Minneapolis and Managing Officer of the Helena Federal Reserve Bank, and member of the Business School Advisory Committee. Mr. McNellis spoke of the needs for the Business Administration Building. He stated that in its present quarters, the Bureau of Business and Economic Research is housed inadequately, that offices for staff are outside the building, and that Personal Computer instruction space is not provided for. He said that there is the possibility of loss of accreditation for both graduate and undergraduate programs for both facilities and teacher salaries, and that the school is at present on probationary status.

ALAN CAIN, President of Blue Cross/Blue Shield, and a member of the Business School Advisory Committee, addressed the need for the building as well. (EXHIBITS 5,6,7) He spoke of enrollment growth and trends, and that tiered classrooms, as designed in the building plan, would allow for teaching large numbers of students effectively without an increase in faculty.

MR. GIANCHETTA indicated that business was the career preference of the 80's, and that the School of Business was the largest academic unit on the UM campus and within the entire University System. It also has the largest student/instructor ratio, he added. He mentioned that with this building, not only could they accommodate large numbers of students without jeopardizing their accreditation, but that they would be able to offer an MBA program in Billings. He said that they are including a classroom studio complex for televising interactive classes.

REP. THOFT asked that with telecommunications ability, wouldn't they be able to offer the MBA on any campus? Mr. Gianchetti replied that they have talked about that possibility. Mr. Krause added that the program could be provided to any city with a down link to the telecommunication network. Mr. Gianchetti added that this would address the duplication issues and would make the program available to place-bound students. President Koch stated that space in the existing building, which would be freed up, would be used by the occupants of up to 20 houses owned or leased by the University. These houses would then be torn down for parking or in some cases rented.

Western Montana College

PRESIDENT MICHAEL PROVOST, Western Montana College (WMC), spoke for WMC's projects, noting that there was a 70% increase in Freshmen over the past year with one additional FTE. He testified that in 1985, the LRBP authorized a swimming pool at WMC, that bonds were sold, but that the Board of Regents abandoned the project. WMC now wishes to come in at a reduced amount and put an addition to the Student Union Building, a 2 level, 6,000 square feet expansion. REP. BARDANOUVE asked how they were paying off these bonds, and Mr. Provost answered that they were paying out of other auxiliary funds and the interest that comes in goes out to retire the bond. He added that there has been no increase of student fees. Second of WMC's priorities was a roof replacement for the PE Building. Built in 1969, with a low slope, low pitch roof, it has leaks and is not insulated. They do not have adequate reserves to fund this project themselves, but could use part of the bond proceeds. Mr. Provost stated that their third priority was the renovation of the Library/Administration Building, which needs exterior doors and window replacement. He added that also on WMC's list, but not on A&E's, despite the fact that these were numbers 1 and 2 on the Regents' list, were the alarm system project and the PCB elimination project. He said that they have 28 old transformers which must be dealt with by October 1989. These Health and Safety projects total $63,000. REP. BARDANOUVE asked if they spent these bond proceeds, would they be able to pay them off without the interest, and Mr. Provost answered yes. SENATOR HIMSL asked if the responsibility for the transformers rested with WMC or Montana Power. Mr. Krause answered that as part of the electrical distribution system owned by the campus, it was the school's responsibility.

SYLVIA WEISENBERGER, Vice President of Business and Finance, University of Montana, concluded the University System's presentation with the roof replacement needs of the

University of Montana. She stated that with the value of university buildings, the dollar amount to adequately maintain them would be $3,400,000.

SENATOR HIMSL asked if all of the administration's priority projects fall within UM's list, and Mr. Whaley of A&E said all were except the $130,000 project for water main maintenance at UM, priority 15. This did not appear on the University's priority list.

Eastern Montana College

BRUCE CARPENTER, President of Eastern Montana College (EMC), presented their program. (EXHIBIT 8) He stated that $100,000 had been raised privately for a library. He said their first priority was the addition of classroom space. He noted that all of their space is well utilized. The second priority was asbestos removal, and the third was to meet the fire code. The asbestos removal was targeted for the PE building, he said, and he spoke of their concern regarding how the allocation of costs would occur concerning auxiliary and academic uses. He mentioned the problem they have in delineating the percentage of instructional time when the building has a 90 hour week, and is shared with the public. He asked for clarification as to how to determine the percentage of instructional use.

Montana Tech

LINDSAY NORMAN, President of Montana Tech, presented four items to the committee that have been reviewed by the committee in the past. (EXHIBIT 9) These are replacement of windows in the Engineering Hall, Main Hall renovation, parallel feeding of electricity, and major renovations to the Metallurgy Building. Regarding the Metallurgy Building, he stated that last session they had gotten rid of PCB's in the basement, that the building has an excellent shell, that the windows were replaced 15 years ago, and that it has a new roof, but that the inside had not been touched since 1928. REP. CONNELLY asked about the cost of the replacement of the windows, and Dr. Norman answered that there was significant damage to the structure around the windows as well, in addition to the fact that the windows are very large. Mr. Whaley, A&E, also said that the Historic Preservation Office has requested that the windows be replaced with like kind, necessitating special built units. With architect fees, the price tag is significant, he added.

Northern Montana College

WILLIAM BYARS, Director of Fiscal Affairs at Northern Montana College (NMC), thanked the committee for past

appropriations, and referred the committee to page 268 of the Capital Construction Program for its list submitted to the Regents. NMC's own list of projects totalled $19,000,000, with $3,000,000 submitted by the Regents. These were Cowan Hall window replacement, with a payback in energy savings within 19 years, replacement of roof of the main gymnasium, built in 1954, a $75,000 project, and the remodel of Donaldson Hall, costing $800,000. This includes installation of an elevator to provide handicap access to the third and fourth floor, and is to provide classroom and office space.

Helena Vocational Technical Center

ALEX CAPDEVILLE, Director of the Helena Vocational Technical Center, presented a copy of his request (EXHIBIT 10), and mentioned that their request was for a roof replacement for Donaldson Hall, part of the complex sold to the state by the Helena School District for $10. Its roof has reached its life expectancy and needs replacement, at which time it could be insulated.

Missoula Vocational Technical Center

DENNIS LERUM, Directory of Missoula Vocational Technical Center, presented two projects, both of which appear on the administration's list. One is priority #4, a carpet replacement in the Administration Building, and the second is the renovation of the instructional kitchen. Mr. stated that the carpet is the original and is worn to the sub-floor, and that the culinary program depends on updated kitchen facilities. He added that it is one of two programs accredited by the American Culinary Association.

MR. KRAUSE, Commissioner of Higher Education, closed. He noted that the University had purchased two of the Vocational Technical Centers as mentioned during the testimony, those at Helena and Missoula. Centers at Billings, Butte and Great Falls are bonded. For these, he said that the University system pays the lease equal to the bond payments. He mentioned that they may refinance these three bonds and consolidate them at a better rate of interest.

CARROLL SOUTH, from the LFA's office, requested guidance on the Phase II Electrical Project at MSU, and Bill Rose indicated that he will work with A&E on this.

ADJOURNMENT

Adjournment At: 10:10 a.m.

M. E. Connelly
REP. CONNELLY, Chairperson

MEC/cm

1025.MIN

DAILY ROLL CALL

Long Range Planning SUBCOMMITTEE

DATE 1-12-89

Ursi Spotz

NAME	PRESENT	ABSENT	EXCUSED
Rep. Mary Ellen Connelly, Chair	✓		
Sen. Matt Himsl, Vice Chair	✓		
Rep. Francis Bardenouve	✓		
Sen. Harry McLane	✓		
Sen. Richard Manning	✓		
Rep. Bob Thoft	✓		

Form CS-30A
Rev. 1985

EXHIBIT 1
DATE 1-12-89
HB Long Range Building Program

Long Range Building Program Tesimony

Presented by

Bill Lannan

Office of Commissioner of Higher Education

January 12, 1989

Madam Chair, and members of the committee, my name is Bill Lannan, Commissioner's Office. One of my responsibilities is coordinating the capital construction program for the Board of Regents. I want to briefly describe the process the campuses and regents went through to reach this final stage of the Long Range Building Program.

About a year ago, the campuses received the forms and instructions to complete the long range building program requests. The administrator of the Department of Administration requested a preliminary list of projects over $200,000 that was submitted by February 15, 1988. The campuses completed their long range building program requests and major maintenance plans in early April.

Copies of each campus's long range building program requests were sent to regents, Architecture/Engineering Division, Budget and Program Planning and Legislative Fiscal Analyst.

Campus visits were scheduled from mid to late May. A number of offices and the regents were invited to participate in the visits. The Commissioner's Office and Architecture/Engineering visited each campus to discuss and in some instances inspect each project. As an aside, the members of the Board of Regents have visited each campus over the past two years in conjunction with their meetings. During this time, they, too, had an opportunity to tour campus facilities and inspect many of the maintenance and renovation projects that were submitted.

On May 23, 1988, the regents' Capital Construction Committee scheduled hearings for each unit of the system and vocational technical centers. Each campus was given 1/2 hour to 1 hour depending on their size, to present and discuss the construction priorities.

In total, the university system and vocational technical requests amounted to about 115 million dollars including new construction and authorization only projects. The Commissioner of Higher Education made preliminary recommendations to the Capital Construction Committee.

On June 16, 1988, the Capital Construction Committee developed a priority list and reported to the Board of Regents. The Board adopted the committee recommendations and authorized the Commissioner of Higher Education to submit their recommendations to the Governor.

For your reference, I have distributed to you the regents' priorities. Included in this information is a comparison of the executive branch's recommendations with the regents' priorities.

In 1985, the legislature passed a bill requiring the state agencies, including the University System to develop major maintenance plans for all existing buidlings. The University System, including the vocational technical centers have complied with that request. Members of the committee, we are approaching a critical time in the history of the state. For the past several years, major maintenance items have had to be deferred. This biennium alone the campuses have requested about $27,000,000 in major maintenance alone. This includes health/safety, maintenance, utility renovations, and building renovation projects. The Board of Regents did not recommend every project but they did include projects amounting to approximately $13,000,000. Deferred maintenance is not a fixed cost that we can pick up one, two, or three bienniums in the future. The cost of deferred maintenance escalates because of inflation and further deterioration. This is a crisis that will not go away and should not be ignored.

The individual campuses will discuss with you some of their immediate needs that were contained in regents' priorities. The order of presentations is included on the handout.

Montana University System/Vocational Technical Centers
Long Range Building Program Presentation
January 12, 1989

State Capitol
Room 317

1.	*Introduction - Carrol Krause/Dennis Lind*	*10 minutes*
2.	*Background - Bill Lannan*	*10 minutes*
3.	*Campus presentations*	
	University of Montana and ✓ *Western Montana College of the University of Montana* ✓	*50 minutes*
	Montana State University and *Agricultural Experiment Station* ✓	*45 minutes*
	Eastern Montana College ✓	*25 minutes*
	Montana Tech	*20 minutes*
	Northern Montana College	*20 minutes*
	Helena Vocational Technical Center	*20 minutes*
	Missoula Vocational Technical Center	*20 minutes*

Committee Members: *Mary Ellen Connelly*
Francis Bardanouve
Robert Thoft
Richard Manning
Harry McLane

Legislative Fiscal Analyst Staff: *Madalyn Quinlan*

Long Range Building Program
1989-91 Biennium

Project	Regents			Executive Branch		
	Capital Project Funds	Other Funds	Total Estimated Cost	Capital Project Funds	Other Funds	Total Estimated Cost
Health and Safety						
Alarm System, WMC	23,000		23,000			
Eliminate PCB, WMC	40,000		40,000			
Fire Code Compliance, EMC	325,000		325,000			
Fume Hood (Science Bldg.), EMC	10,000		10,000			
Sprinkler System Rankin Hall, UM	194,000		194,000			
Subtotal	592,000		592,000			
Access for Physically Impaired, System	1,000,000		1,000,000			
a) Accessibility Modifications, MSU	661,000		661,000	93,200		93,200
b) Handicapped Accessibility Business Adm Bldg, UM	366,700		366,700			
c) Bldg Modifications for Physically Impaired, EMC	60,000		60,000			
Subtotal	2,087,700		2,087,700	93,200		93,200
Roofs						
Roofs						
Donaldson Bldg., HVTC	221,490		221,490			
Maintenance, WMC	10,000		10,000			
Gym Roof, NMC	75,000		75,000			
P.E. Building, EMC	625,000		625,000			
Roofs, UM	532,600		532,600			
Gaines & Taylor Halls, MSU	131,000		131,000	131,000		131,000
Library Classroom Building & Cisel Hall, EMC	120,000		120,000	243,900		243,900
Subtotal	1,715,090		1,715,090	374,900		374,900

Long Range Building Program
1989-91 Biennium

Project	Regents			Executive Branch		
	Capital Project Funds	Other Funds	Total Estimated Cost	Capital Project Funds	Other Funds	Total Estimated Cost
Major Maintenance						
Replace Carpet Admin. Bldg., MVTC	80,000		80,000	80,000		80,000
Heating Controls - Old Main, WMC	20,000		20,000			
Replace Windows Cowan Hall, NMC	160,000		160,000			
Insulate Engineering & Main Halls & Physical Plant Building, Tech	15,000		15,000			
Window Retrofit Engineering Hall & Library Museum Bldg., Tech	190,000		190,000	132,750		132,750
Major Maintenance, UM	286,000		286,000			
Major Maintenance, AES	475,600		475,600	20,000		20,000
Heating Plant, MSU	408,000		408,000			
Window Renovation, UM	127,000		127,000			
Exterior Doors & Windows, WMC	14,000		14,000	14,000		14,000
Subtotal	1,775,600		1,775,600	246,750		246,750
Renovations						
Utilities						
Electrical Distribution, MSU	1,914,000	72,600	1,986,600	671,700	949,500	1,621,200
Replacement of Natural Gas Main - Phase I, MSU	60,000		60,000			
Replace Water Main, UM	130,000		130,000	130,000		130,000
Primary Electrical Loop, EMC	335,000	140,000	475,000			
Replace Steam Service Lines to Rankin Hall, UM	98,000		98,000			
Primary Electrical Loop, Tech	370,000		370,000			
Heating & Cooling System Education Bldg., EMC	500,000		500,000			
Subtotal	3,407,000	212,600	3,619,600	801,700	949,500	1,751,200

Long Range Building Program
1989-91 Biennium

Project	Regents			Executive Branch		
	Capital Project Funds	Other Funds	Total Estimated Cost	Capital Project Funds	Other Funds	Total Estimated Cost
Renovations						
Buildings						
Repair Restrooms - Main Hall, Tech	53,000		53,000			
Floor Covering Mining Geology Lab, Tech	45,000		45,000			
Renovate Instructional Kitchen, MVTC	60,000		60,000			
Temperature Controls, UM	307,400		307,400			
Culbertson Hall Renovation, MSU	360,000		360,000			
Stair Enclosure & Second Exits, UM	264,000		264,000			
Classroom Renovation & Repair - Linfield, Gaines, AJM, MSU	400,000		400,000			
Art Area Modifications, EMC	55,000		55,000			
Chemistry/Pharmacy Renovation, UM	677,500		677,500			
Linfield Hall Remodeling, MSU	225,000		225,000			
Science Complex Renovation, UM	468,000		468,000			
Herrick Hall Remodeling, MSU	370,000		370,000			
Raze Mill Building, Tech	190,000		190,000			
Subtotal	3,474,900		3,474,900			
Total	13,052,290	212,600	13,264,890	1,516,550	949,500	2,466,050

Long Range Building Program
1989-91 Biennium

New Construction and Building Renovations

Project	Regents Capital Project Funds	Regents Other Funds	Regents Total Estimated Cost	Executive Branch Capital Project Funds	Executive Branch Other Funds	Executive Branch Total Estimated Cost
Engineering/Physical Science Bldg., MSU	$18,000,000		$18,000,000			
Business Administration, U/M	13,786,000		13,786,000			
Expansion of Classroom Office Bldg., EMC	14,500,000		14,500,000			
Metallurgy Bldg. Remodel, Tech	2,300,000		2,300,000			
Donaldson Hall Renovation, NMC	800,000		800,000			
Subtotal	**$ 49,386,000**		**$ 49,386,000**			

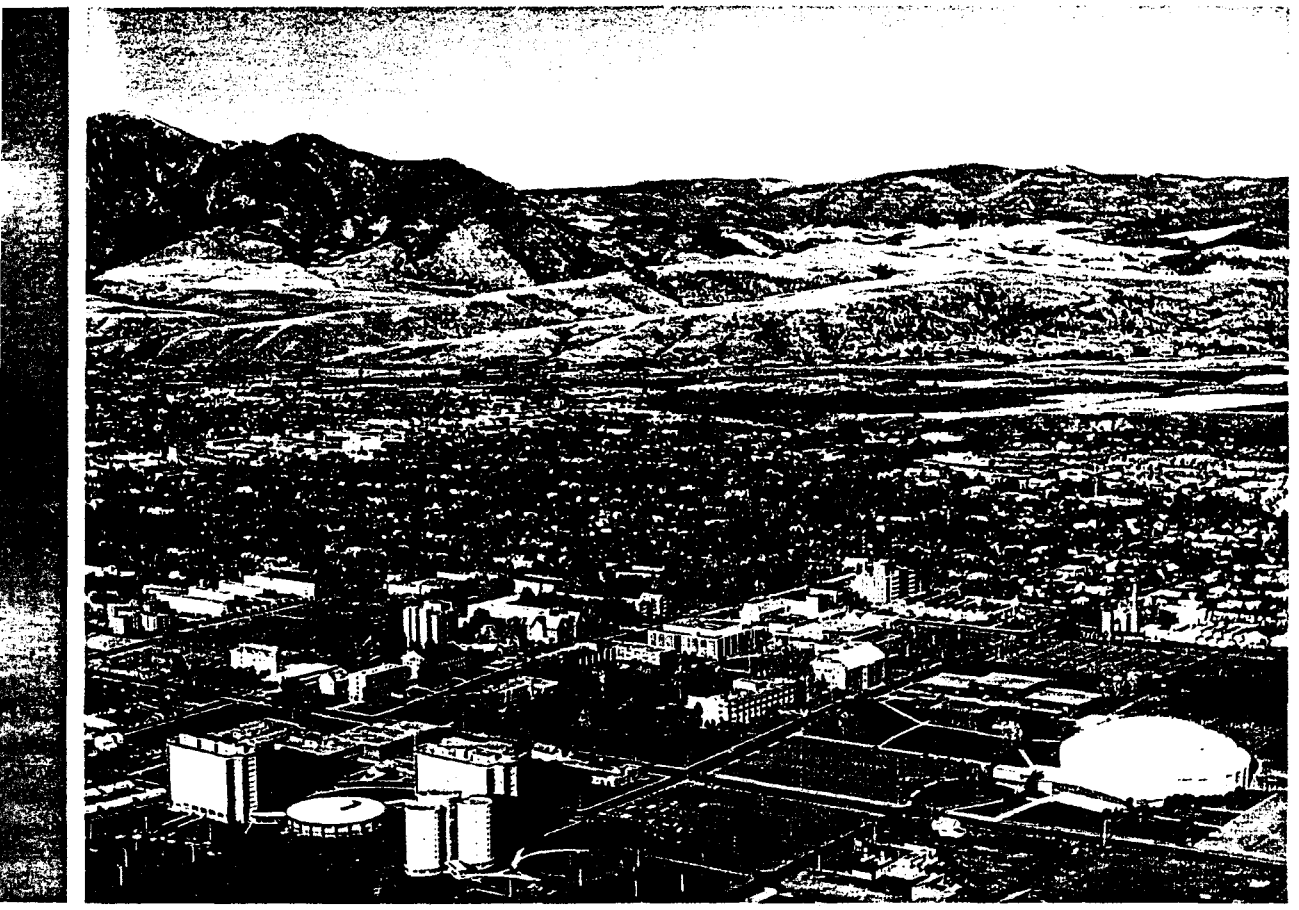
Authorization Only Projects

Project	Regents Other Funds	Executive Branch Other Funds
P.E. Building Roof Replacement, WMC	$ 230,000	$ 230,000
SUB Remodeling, WMC	502,000	502,000
Miscellaneous Projects, U/M	172,000	172,000
Life Science Building, U/M	10,000,000	
Centennial Mall, MSU	650,000	650,000
Subtotal	11,554,900	$ 1,554,000

EXHIBIT 2
DATE 1-12-89
HB Long Range Building Program

MONTANA STATE UNIVERSITY
1991 BIENNIUM LRBP REQUEST

EXECUTIVE SUMMARY FOR
LONG-RANGE PLANNING SUBCOMMITTEE



MONTANA STATE UNIVERSITY

MSU

BOZEMAN, MONTANA 59717

EXHIBIT 3
DATE 1-12-89
HB Long Range Build Program

EXHIBIT 3
DATE 1-12-89
Creating tomorrow's opportunities today HB Long Range Build Program

Montana's Center for High Technology

Engineering/Physical Sciences Complex

Montana State University
Bozeman, Montana

EXHIBIT 4
DATE 1-12-89
HB Long Range Building Program

UNIVERSITY OF MONTANA

BOARD OF REGENTS RECOMMENDED MAINTENANCE AND RENOVATION PROJECTS SUMMARY

LONG RANGE BUILDING PROGRAM
1989 - 1991

UNIVERSITY OF MONTANA

BOARD OF REGENTS RECOMMENDED MAINTENANCE AND RENOVATION PROJECTS

Health and Safety

Sprinkler System Rankin Hall	$ 194,000	
Handicapped Accessibility Business Administration Building	$ 366,700	
SUBTOTAL:		**$ 560,700**

Roofs

Schreiber Gym	$ 226,000	
Heating Plant Shop/626 Eddy	$ 20,000	
Yellow Bay Cabins	$ 10,000	
Aluminization - Various Bldgs.	$ 28,800	
Mansfield Library	$ 247,800	
SUBTOTAL:		**$ 532,600**

Major Maintenance

Repairs and Painting	$ 286,000	
Window Renovation (Rankin Hall)	$ 127,000	
SUBTOTAL:		**$ 413,000**

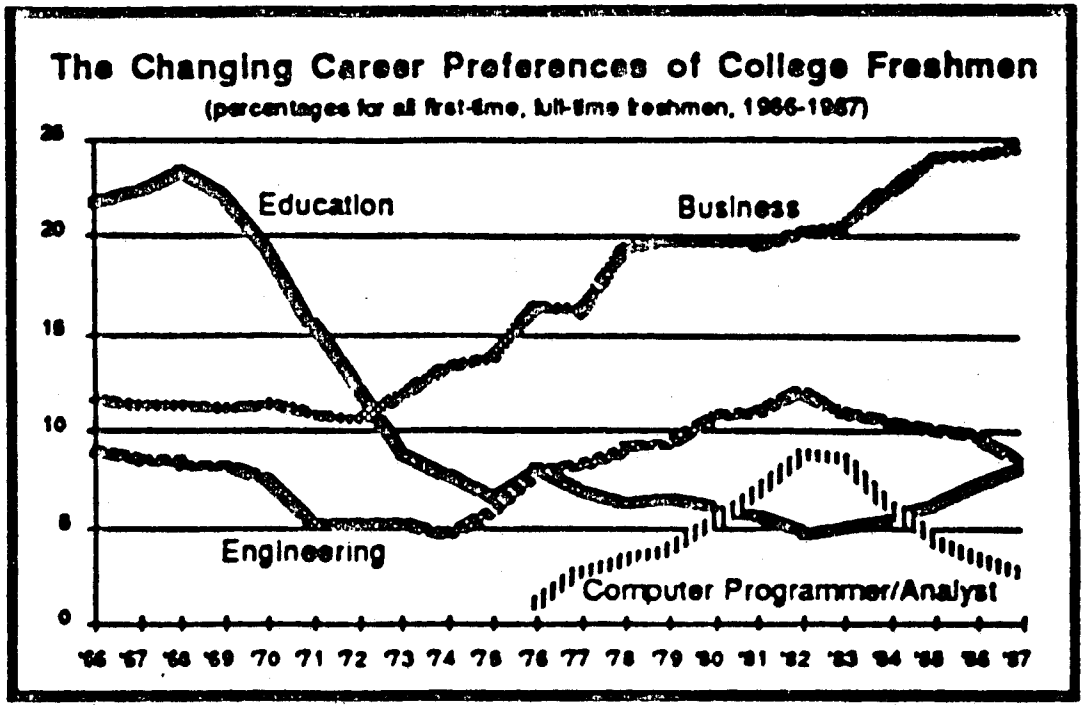
Renovations - Utilities

Connell Avenue Water Main	$ 130,000 ✓	
Replace Steam Service Lines Rankin Hall	$ 98,000	
SUBTOTAL:		**$ 228,000**

Renovations - Buildings

Temperature Controls	$ 307,400	
Stair Enclosures and Second Exits	$ 264,000	
Chemistry/Pharmacy Renovation	$ 677,500	
Science Complex Renovation	$ 468,000	
SUBTOTAL:		**$1,716,900**

TOTAL RECOMMENDED: **$3,451,200**



Source: Cooperative Institutional Research Program
American Council on Education, University of California, Los Angeles
1987 Freshman Survey Report

EXHIBIT 5
DATE 1-12-89
HB Long Range Building Planning

EXHIBIT 6
DATE 1-12-89
HB Long Range Building Planning

BUILDING PRESENTATION

1) 1983 Legislature authorized University of Montana (UM) to plan building

   -UM Foundation $50,000
   -Page Werner & Partners

2) School of Business Administration

   -25% of degrees awarded at UM
   -22% of undergraduate enrollment
   -11% of graduate enrollment
   -25% of high school students go into business

3) Role in economic development - space

   -Bureau of Business and Economic Research
   -Center of Entrepreneurship
   -SBI/Internship
   -Meeting rooms
   -General economic boost to economy

4) Accreditation: All under one roof (40% faculty; 1/3 classrooms)

   -Advising
   -Classroom
   -Research & scholarly activity

5) Quality Education

   -Tiered classrooms
   -Small classrooms
   -Computer lab space
   -Student study space

6) Televised MBA

   -Statewide Mission
   -Billings

7) Handicap access

8) Educational Technology

   -Visual aids
   -Overhead projectors
   -Computers

9) Possible changes in structure

   -Fewer tiered classrooms
   -Vary size of seminar rooms
   -More computer lab space

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   -Overhead projectors
   -Computers

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EXHIBIT 9
DATE 1-12-89
H.B. Long Range Building Planning

UNIVERSITY OF MONTANA

PROPOSED BUSINESS ADMINISTRATION BUILDING

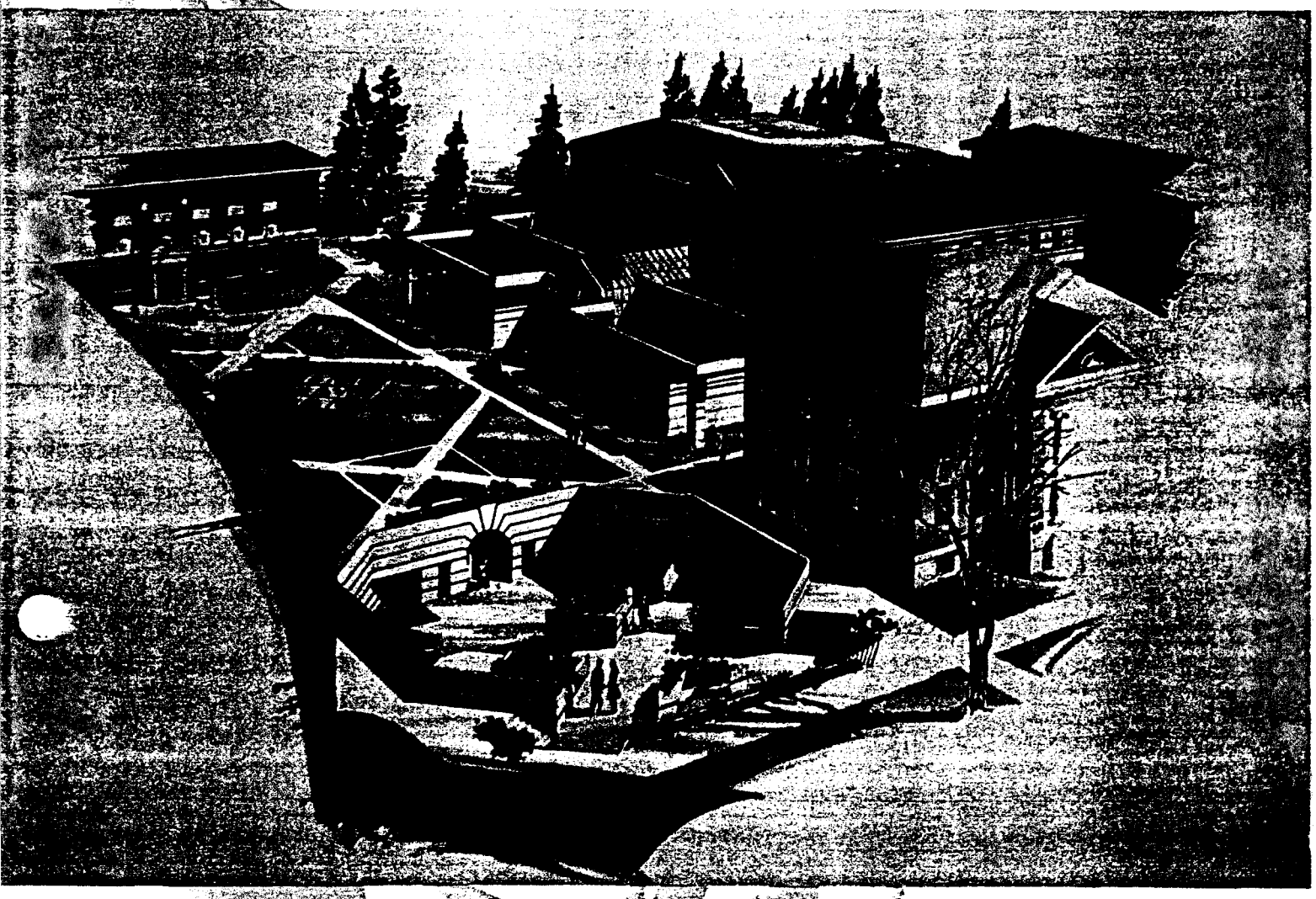


EXHIBIT 7A
DATE 1-12-89
HB Long Range Build
Fleming

BUILDING PRESENTATION

1) 1983 Legislature authorized University of Montana (UM) to plan building

   -UM Foundation $50,000
   -Page Werner & Partners

2) School of Business Administration

   -25% of degrees awarded at UM
   -22% of undergraduate enrollment
   -11% of graduate enrollment
   -25% of high school students go into business

3) Role in economic development - space

   -Bureau of Business and Economic Research
   -Center of Entrepreneurship
   -SBI/Internship
   -Meeting rooms
   -General economic boost to economy

4) Accreditation: All under one roof (40% faculty; 1/3 classrooms)

   -Advising
   -Classroom
   -Research & scholarly activity

5) Quality Education

   -Tiered classrooms
   -Small classrooms
   -Computer lab space
   -Student study space

6) Televised MBA

   -Statewide Mission
   -Billings

7) Handicap access

8) Educational Technology

   -Visual aids
   -Overhead projectors
   -Computers

9) Possible changes in structure

   -Fewer tiered classrooms
   -Vary size of seminar rooms
   -More computer lab space

EXHIBIT 7A
DATE 1-12-89
HB Long Range Building Program

TABLE OF CONTENTS
BOARD OF REGENTS RECOMMENDATIONS
1989 - 1991

HEALTH AND SAFETY

1. Sprinkler System Rankin Hall:
   $194,000.00

   This project is intended to assure that campus buildings are safe and that students, faculty and visitors are not exposed to hazardous conditions. It involves installation of smoke detectors and a fire sprinkling system.

2. Handicapped Accessibility - Business Administration Building
   $366,700.00

   The University is mandated by Federal law to provide handicapped students with an equal opportunity to participate in University programs. This project will allow mobility-impaired students to access the upper floors of the Business Administration building in order to attend classes or consult with faculty members. The project includes construction of a new elevator tower and modification of restrooms for access to mobility impaired individuals.

TOTAL: $560,700.00

ROOFS

Roof areas listed below have been maintained over the years but have deteriorated to a point where they can no longer be effectively repaired. The life expectancy of a low sloped built-up roof is normally 20 to 30 years. A maintenance coating was applied to this roof in 1981. Continued patching and repairing may temporarily delay further deterioration and damage, but will require higher replacement costs at a later date.

1. Schreiber Gym
   $226,000.00

   This roof is 41 years old. Complete reconstruction of the roof and portions of the deck is required. A new class A single ply roof with insulation is recommended.

2. Heating Plant Shop/626 Eddy
   $20,000.00

   The roof replacement of the Heating Plant was accomplished recently with surplus funding from previous roofing projects. However, there are two roofs that we propose substituting for the Heating Plant roof.

   1. Heating Plant Shop Roof: This roof has exceeded its useful value and is a continual maintenance problem. We propose replacing the existing roof with a new metal roof to match the Field House and Swimming Pool.

   2. 626 Eddy: This was a residence that was converted into a University facility. The existing wood roof is 20 years old and is continuously leaking. We propose to replace the roof with new wood shingles and restore the deck.

   The approximate cost of replacing these roofs is approximately $20,000.00.

3. Yellow Bay Cabins
   $10,000.00

   These roofs are 30 years old. We recommend new class A wood or fiberglass shingle roofs with insulation.

4. Aluminization of Nine Roofs
   $28,800.00

   1. Alumni Center
   2. Building #32 (portion)
   3. Business Administration
   4. Chemistry/Pharmacy
   5. Clinical Psychology
   6. Fine Arts (portion)
   7. Law (portion)
   8. Schreiber Gym
   9. Music

5. Mansfield Library
$247,800.00

This roof is 18 years old. A new class A single ply roof with insulation is recommended.

TOTAL: $532,600.00

MAJOR MAINTENANCE

1. Repairs and Painting
$286,000.00

The object of this request is to implement maintenance work that is beyond what can be handled by the University's own forces or operating budget. The work is necessary to assure that the University' facilities are maintained in proper working order and appearance.

Exterior Painting at the Art Annex and Biological Station (Yellow Bay) Cabins.

Interior Painting at University Hall.

Prevent further settlement at Liberal Arts west wing.

Repair snowmelt equipment at Library entrance.

Replace locksets and hardware at various buildings.

Re-key buildings: Liberal Arts, McGill Hall and the Law School.

Tuck point and exterior masonry renovation.

Miscellaneous painting in various buildings on campus.

2. Window Renovation
$127,000.00

Leaky and inoperative windows result in loss of heat to the outdoors. This project is intended to renovate or replace inoperative windows on various buildings.

The project includes renovating the windows in Rankin Hall.

TOTAL: $413,000.00

RENOVATION - UTILITIES

1. Connell Avenue Water Main
$130,000.00

This project consists of replacing the Connell Avenue water main. Replacement of this water line is targeted at replacing World War II "Invasion" pipe installed in the 1940's.

Loss of water due to leaking water in this main is estimate to amount to over 26 million gallons per year. The project is projected to save more than $14,600 per year based upon 1983 costs and thus pay for itself in less than three years.

We found two leaks, rusted line and a hub leaking. There is still approximately $10,000 per year in miscellaneous leaks.

2. Replace Steam Service Lines - Rankin Hall
$98,000.00

In approximately 1964, the original 2 1/2" steam line was sleeved with a 2" line. Sleeving was done due to deterioration of the original line. In 1974, the 2" line was sleeved with a 1 1/4" iron line. In recent times during the cold weather season, it has been noticed that the building is not receiving enough steam with the P.R.V. valve wide open. THis is a sign that the piping is undersized for the steam demand for the Rankin Hall building.

TOTAL: $228,000.00

RENOVATIONS - BUILDINGS

1. Temperature Controls
$307,400.00

This project is intended to update obsolete and deteriorated temperature control systems. The project would include:

The updating of temperature control systems in Schreiber Gym as well as providing a new ventilation unit.

Provision of a outside anticipator and remote control of the main steam valve to Music.

Rebuilding of temperature control system in the academic spaces of the Field House and the east wing of Liberal Arts.

Isolation of steam service to laboratory equipment to the Health Science building.

Rebuilding the pressure reduction station at Health Science.

Provision of an outside anticipator and remote control of main steam service both at the Health Science and Law School buildings.

Changing of the heating distribution at two west rooms in a residential house currently being used as an academic facility (724 Eddy - Religious Studies).

2. Stair Enclosures and Second Exits
$264,000.00

This project is intended to assure that campus buildings are safe and that students, faculty, staff and visitors are not exposed to hazardous conditions. Violation of fire and building codes jeopardize the safety of the campus community. These projects have been determined by a review from the State Fire Marshall's Office. The project includes:

Enclosing of stairwells in Business Administration, Corbin, North Corbin, Brantly, and McGill halls, and the Student Health Service.

Second exits to McGill Hall room 015 and Music building room 218.

3. Chemistry/Pharmacy Renovation
$677,500.00

The primary thrust of the project is to renovate the second floor of the Chemistry/Pharmacy building. Emphasis is placed on renovating the Dispensing Laboratory's service areas. This project would include modifications for improving lighting, converting two rooms to a library reference and preparation area, and upgrading the general condition of the labs.

Another large portion of the project involves modifying the freight elevator to make it more accessible to handicapped individuals. Also the project includes renovation of heating and ventilation systems and window replacement throughout the entire building.

4. Science Complex Renovation
$468,000.00

The present air handling system has never been suitable for laboratory and classroom use. It is noisy, it wastes energy and it doesn't provide enough fresh air to compensate for laboratory exhaust hoods. Previous work has abated potential health hazards to minimum legal levels. The additional work proposed here will provide a greater margin of safety to students. Other work addressed by this project includes overall renovation of the building's primary lecture hall, insulation of soffits to prevent freezing of water pipes, renovation of emergency exits and lighting, and renovation of a laboratory.

TOTAL: $1,716,900.00

EASTERN MONTANA COLLEGE

LONG RANGE BUILDING PROGRAM

CAPITAL PROJECT REQUESTS

1989-1991

EXHIBIT 8
DATE 1-12-89
BOARD Reg. of Regents

LONG RANGE BUILDING PROGRAM
CAPITAL PROJECT REQUEST

PROJECT PRIORITY TABLE

DEPARTMENT/AGENCY	MONTANA UNIVERSITY SYSTEM - EASTERN MONTANA COLLEGE		BIENNIUM 1989-91	
PRIORITY	PROJECT TITLE	RATIONALE FOR PRIORITY RANKING	COST	SOURCE OF FUNDS
1	Expansion of General Classroom and Office Building - Add nine floors - Complete Bldg.	This building was designed to have additional floors. There is a deficiency in assignable floor space for lecture halls, offices and computer terminals. Feasibility study attached.	$14,500,000	State Appropriation
	Option A	Build the shell of this building and finish the 3rd and 4th floors, giving an additional finished floor space of 32,000 sq. ft.	8,500,000	State Appropriation
	Option B	Construct additional floors to Option A to meet present and projected future needs for the completion time of the project. Each floor adds approximately 14,600 sq. ft.	850,000 per floor	State Appropriation
2	Physical Education Building Asbestos Abatement and Roof Material Replacement	The ceiling material contains asbestos. Because of the activities in the area there is a danger of some of this material being knocked loose. It needs to be removed. The roof is presently leaking and this needs correcting to keep from damaging the new ceiling material when it is applied. The P.E. Bldg. roof is about 30 years old and is at the point where patching it is no longer economically feasible.	625,000	State Appropriation
3	Bring buildings into compliance with current fire code.	Mandated by state and local jurisdictions (Letter from Fire Marshal attached).	325,000	State Appropriation

LONG RANGE BUILDING PROGRAM
CAPITAL PROJECT REQUEST

PROJECT PRIORITY TABLE

DEPARTMENT/AGENCY	MONTANA UNIVERSITY SYSTEM - EASTERN MONTANA COLLEGE		BIENNIUM 1989-91	
PRIORITY	PROJECT TITLE	RATIONALE FOR PRIORITY RANKING	COST	SOURCE OF FUNDS
4	Building Modifications for Physically Impaired - Library/Liberal Arts complex, Science, McMullen, Special Ed and Education Bldgs.	Modify toilet areas 2nd floor of Library Install automatic doors on building entrance. Lower control buttons on elevators for visually impaired people. Install handicapped drinking fountains.	$ 60,000	State Appropriation
5	Health & Safety Science Fume Hood	The Botany Lab does not have a fume hood. This is needed because of the fumes from some of the chemicals used being potentially dangerous.	10,000	State Appropriation
6	Library Addition	The Library Building was designed to be expanded to the east. There is a deficiency in library space. Student use and study space is severely restricted.	5,512,000	State Appropriation
7	Roof Projects	A new type of roofing material was put on the Education Building in 1976 and on Cisel in 1978. This material was supposed to have a 10 year life. Both buildings have been patched a number of times and are deteriorating at a rate where patching will no longer do the job. The roofing material was a liquid Neoprene by Gacoflex.	122,000	State Appropriation
8	Primary Electrical Distribution System	Replace the present underground wiring and building transformers with transformers and equipment in order to accommodate 13,000 volts rather than the present 4,000 volts. Our present distribution center is very unsafe. Because of the confined quarters a worker in the area is dangerously close to very high voltage.	475,000	State Appropriation

LONG RANGE BUILDING PROGRAM
CAPITAL PROJECT REQUEST

PROJECT PRIORITY TABLE

DEPARTMENT/AGENCY	MONTANA UNIVERSITY SYSTEM - EASTERN MONTANA COLLEGE		BIENNIUM	1989-91
PRIORITY	PROJECT TITLE	RATIONALE FOR PRIORITY RANKING	COST	SOURCE OF FUNDS
9	Heating & Cooling System Education Building	The system in this building is an old (1953) unit ventilator type system that was designed for an elementary school. The units are too noisy to run while instruction is in process. The temperature control works only partially and the ventilation does not work at all. The building has high use during the summer quarter; therefore, needs cooling.	$ 500,000	State Appropriation
10	Art Area Modification	Compliance with accreditation report	55,000	State Appropriation
11	Auto Bridge South of McMullen Hall	Replace narrow, unsafe auto bridge south of McMullen Hall.	150,000	State Appropriation
12	Window Replacement	Replacement of single glazed wood and steel windows in Cisel, Education and Science Buildings.	297,000	State Appropriation
13	Master Planning and Underground Sprinkling System	A neighborhood task force was formed as a result of a public hearing held on May 14, 1984, which recommended a long range master plan for the campus development. Part of the plan would include landscaping and further development of the underground sprinkler system.	195,000	State Appropriation

STAR OF THE BIG SKY COUNTRY
BILLINGS
ROBERT S. WILLIAMS
FIRE CHIEF

BILLINGS
FIRE DEPARTMENT

January 15, 1988

Mr. Dick Hedman
Eastern Montana College
1500 North 29th Street
Billings, Montana 59101

Dear Dick:

The following comments are offered concerning fire and life safety requirements on the College campus.

The L.A. Building is of primary concern. The Uniform Fire Code sets out specific requirements for existing high rise buildings. The code requires that all existing high rise buildings be fire sprinklered. The code states that all required exit corridors, stairwells, elevator lobbies, public assembly areas occupied by more than 100 persons and commercial kitchens be protected by an approved fire sprinkler, and a minimum of one head shall be provided on the room side of every corridor opening. The existing high rise section of the code contained other provisions also, but sprinklers are primary.

The other problems identified are one (1) hour corridor construction. The doors in the corridors will have to be solid core. The exposed glass in the corridors will have to be wire glass.

The provision of the Uniform Fire Code requires plans to be submitted within 18 months of notification, and the work to be completed within 18 more months. Realizing the extent of work required, and the process you must go through to accomplish this work, it is our intention to work with you.

If we can be of further assistance, please call.

Sincerely,

Larry E. McCann
Fire Marshal

LEM/jmf

EASTERN MONTANA COLLEGE
ELECTRICAL PRIMARY DISTRIBUTION STUDY

Report Summary

A. Due to existing safety hazzards and limited expansion capability of the existing 4160 volt distribution system and due to EPA rules and regulations in regards to PCB transformers, we recommend that the distribution system be changed to 12470 volt and that the buildings vault transformers be changed to outdoor dry-type padmount transformers.

In order to provide increased reliability of power distribution, provide lower cable installation cost and provide for faulted cable isolation and repair, we recommend a looped-primary distribution system using sectionalizing switchgear and direct burial cable.

B. The estimated cost of a college owned looped-primary distribution system is approximately $405,300. Based on a preliminary proposal from Montana Power Company for a looped-primary system owned by them, and service entrance changes including meter bases and CT enclosures provided by the college, the estimated cost including engineering design is approximately $148,300.

Based on "Energy Costs" for a college owned system (single metered) vs MPC owned system (each building metered separately), the annual savings in meter charges is estimated to be $37,038 for the college owned system over the utility owned system. This results in a payback period of 6.9 years. Thus we recommend that the college install their own system with single metering.

The entire system does not have to be installed at one time. It can be phased-in over a period of years by connecting one or more buildings to the new system as budgeting allows.

C. A proposed cable routing is shown in the back of the report (for 5,000 and 10,000 student campus) as well as a single line diagram showing the sectionalizing switchgear for the looped-primary distribution system.

D. Assuming the college owned system is not installed until 1990, the cost with inflation (assumed 5% per year) added amounts to (1.05 x 1.05 x 1.05) x $405,300 = $469,200.

E. Estimated installation time for the college owned system (assuming complete system installed at one time) is 3 months.

CON'EER ENGINEERING, INC.
JAMES A. BECK, P.E.

II. Description of Existing System:

The existing high voltage (HV) electrical distribution on campus is 3 phase 4160Y2400 volts. The power originates from a 3000 KVA substation located outside at the SE corner of the PE Building. The substation is owned by Montana Power Company (MPC). The 3000 KVA substation has its primary feed (12470 volts) from the MPC Rimrock Substation.

The 4160Y2400 volt distribution consist of various sizes of conductors in conduit underground. See Campus Plan # 1.

At the switching vault on the campus, the conductors are split into fused and switched circuits with meters on some of the circuits. This system has had a failure in the branch to McMullen Hall. Many of the conductors and switches have been exposed to the heat of operation for many years. The dielectric resistance of insulating materials decreases with age and heat so the potential of failure increases considerably as loads are increased on aged equipment.

The switching vault has conductors and switches arranged in such a fashion that no room is available for expansion and also requires entry past hot switches to reach the main cutoff switch. In the event of a fault or single phasing condition due to fuse failure, etc., the campus service people should be expected to call MPC to switch power off before the vault is entered for safety reasons. When this does occur, there will be a campus wide power outage rather than a single branch outage.

From MPC records of peak demand, (June 1987, 2088KW) for the last 12 months and an assumed power factor of 0.9, the 3000 KVA substation is presently loaded to 77.3% capacity. Only an additional 680KW demand loading can be added to the 3000 KVA substation.

Based on EMC demand meter readings of individual buildings and the ratio of peak demand to connected load percentages, approximately 1200KW connected load can be added to the system. This would probably be enough power for both the student union addition and the PE building addition as described in the 1985 Land Utilization Study.

December 10, 1987
1M001.112/WPMISC2142

HKM Associates
Engineers/Planners

P.O. Box 31318
Airport Industrial Park
Billings, Montana 59107
Phone (406) 245-6354/259-1993

Branch Offices:
Bozeman, Montana
Sheridan, Wyoming

Ken Heikes
Administrative Vice President
Eastern Montana College
1500 North 30th Street
Billings, MT 59101

RE; Bridge Over BBWA Canal

Gentlemen:

According to our letter of agreement dated October 28, 1987, the engineering services listed in the letter were performed as follows:

The design drawings by McIver & Cohagen were reviewed and it was found that the structure was not built as shown on the plans. The span shown on the plans is 29'0" whereas the measured span is 35'6", and slab dimensions differ from the original drawings. Measurements were taken of the structure and some assumptions were made as to the actual construction. An R-Meter was used to find out what the slab reinforcing was. It appears that a mesh of steel was placed near the bottom of the slab so that the actual reinforcing could not be determined, with the meter. The original plans had marked on them 7/8" bars at 6" c/c. This reinforcing was used in the analysis. A Schmidt hammer was used to determine the probable strength of the concrete. As anticipated the concrete was weaker where it was exposed to weather or water. In general, it was assumed that the strength is 2500 psi.

The major loading carried by the bridge is its own weight and that of the pavement on the roadway.

Stresses induced in the structure from vehicle weight is estimated to be about one-fifth of the total stresses in the structure.

An inspection of the concrete does not show any distress caused by excessive loading. The main deficiency is in the effects of water and freeze-thaw cycles, which have caused concrete to spall to the point where some of the reinforcing is exposed. It was noted that at some previous time some small holes had been drilled through the slab. The purpose is unknown but this may have been to permit water to drain from under the pavement.

Based on the condition of the bridge and the structural analysis it is recommended that the maximum load on the bridge be limited to 5 tons.

If a greater load capacity is desired, the bridge should be replaced. A wider deck is also desireable. Presently, the width of the roadway on the bridge is 16 feet, whereas the approaches are 30 feet.

Replacing the bridge with one or more pipes is not a good option because the canal is wide and shallow and runs close to bank full at times. A series of pipes would seriously restrict the flow of water and would cause the water level to rise upstream from the site.

A more desireable option is to construct a new bridge of either precast or cast-in-place concrete. The precast, prestressed concrete has the advantage of reduced depth of structure causing the least obstruction to the flow of water. Other options that might be considered are steel or timber construction.

Since the bridge occupies a prominent location on the campus, appearance should be considered in plans for replacement. Glued laminated timber and steel offer the possibility of some sort of arch above the roadway which, if properly done, could be pleasing to the eye.

Sincerely,

HKM ASSOCIATES

Ben F. Hurlbut, P.E.

BFH/dwb

December 21, 1987
1M001.112/WPMISC2206

RECEIVED
DEC 23 1987
PHYSICAL PLANT

HKM

HKM Associates
Engineers/Planners

P.O. Box 31318
Airport Industrial Park
Billings, Montana 59107
Phone (406) 245-6354/259-1993

Branch Offices:
Bozeman, Montana
Sheridan, Wyoming

Richard Hedman
Director of Physical Plant
EMC
1500 North 30th Street
Billings, Montana 59101-0298

RE: Bridge over BBWA Canal

Dear Dick:

This is in response to your letter of December 16, 1987.

The significance of the span of 29'-0" shown on the plans as compared to the 35'-6" as built span is that the greater span will require a bridge of greater depth and an increased amount of reinforcing steel. The depth of the slab at mid span is about the same as shown on the plans which indicates a reduced strength and there is no available information to justify any increase in the amount of reinforcing steel.

The concrete strength for a new structure would be greater than the existing, particularly if it would be constructed of prestressed concrete. The main problem with the existing bridge is that the concrete has deteriorated to a degree and the amount of reinforcing and its location cannot be accurately determined.

The width of replacement bridge should be for at least a 24 ft wide roadway plus walks on both sides of 6 ft width to match the existing walks. Note that the existing approach roadway is 30 ft wide which is greater than the 24 ft suggested. With slow moving traffic this should not pose a serious problem.

The load limit I recommended of 5 tons in on the conservative side because of unknown conditions in the structure. I do not recommend the fully loaded sand truck at 21,075 pounds as noted in your letter.

Sincerely,

HKM ASSOCIATES

Ben F. Hurlbut, P.E.

BFH/kms

cc: A. T. Kersich

EXHIBIT 9
DATE 1-12-89
HB LRBP

LRBP PRIORITIES

MONTANA TECH

1991 BIENNIUM

This is a brief summary of the most important items in the present LRBP request before the committee. Some items have been combined to form logical units of work to better utilize the scarce resources of the State of Montana. All items discussed here are covered in more detail in the submittal booklets.

PRIORITY #1

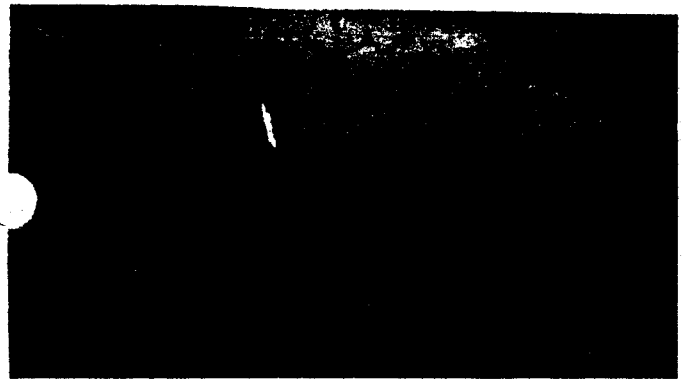
Project Title: Engineering Hall, Major Maintenance

Project Description: This priority combines two requests: (A) to replace the badly deteriorating 60 year old wooden windows(2a) and (B), to insulate three buildings(2d).

Cost: Windows-----$132,750 (est. by State A/E)
Insulation-----6,500 (est. by Tech)
Total= $139,250

Justification and Benefits:
Engineering Hall is very old and drafty(built in 1923). The replacement of the rotting wooden windows with ones of modern material and design will stop the snow from blowing in and save considerable energy. The insulation will have a three to five year pay back and also improve comfort. This building is heavily used for faculty offices, Student Services offices, and computer classrooms and laboratories and these improvements will benefit all who use the facility. Currently the College must restrict some instructional uses and computer related activities during the winter months because of the difficulty in maintaining uniform temperatures.

PHOTOS OF DETERIORATED WINDOWS



PRIORITY #2

Project Title: Main Hall, Major Maintenance

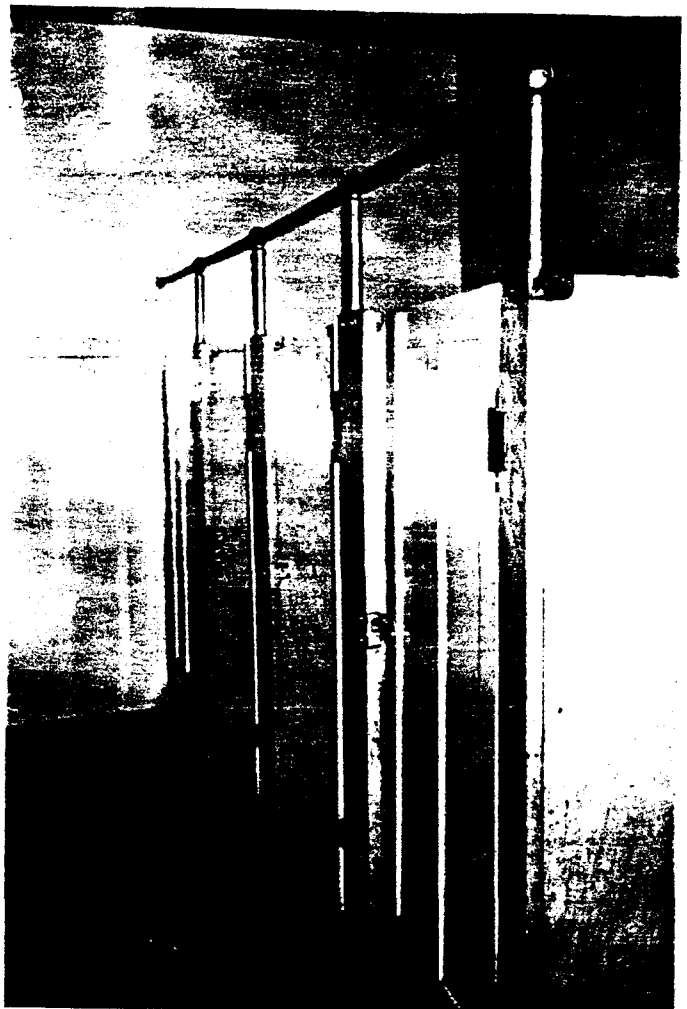
Project Description: Again Tech is combining two requests: (A)insulation of the attic of Main Hall(2d) and (B) the upgrade of the restrooms in Main Hall(2f).

Cost:

Insulation---	$6,500	(est.by Tech)
Restroom Renovation-	53,000	(est.by Tech)
Total	$59,500	

Justification and Benefits: Main Hall is the oldest campus building, completed in 1906. It houses the Montana Bureau of Mines as well as faculty offices and classrooms and has considerable traffic by visitors and campus personnel. It has no insulation over the upper floor and thus wastes considerable heat. Adding insulation will pay back in three to five years and increase comfort. The only public toilets are in the basement and are in deplorable condition. They are the original toilets, having been patched and repaired over the years. Repair of these will make the building more sanitary and more presentable to the public.

PHOTOS OF MAIN HALL RESTROOMS



PRIORITY #3

Project Title: Electrical Loop

Project Description: This project would add a parallel main power feed circuit and adequate switching to allow feeding power to buildings from two directions.

Cost:

Design, etc---	$40,000
Construction---	330,000
Total	$370,000 (est. by Tech)

Justification and Benefits: Presently all campus buildings are served by a single power cable. In effect they are like a light bulb on the end of a cord. To make matters worse, five of the old buildings are on the same cable, or cord. In the event of failure of that cable, the building(s) are out of service until repairs are made. The oldest cable is about fifty years old and subject to failure at any time. The newest is about ten years old and approaching the age when trouble starts occuring. In the past Tech has been able to make repairs with only a few days lost service. If the cable should fail in below zero weather and materials prove difficult to get, the resulting damage could be in the tens of thousands of dollars and the buildings might be out of service for months for repairs of plumbing and heating systems. In the past the College has lost valuable computer data bases and laboratory experiments during elctrical outages. An extended shutdown would be even more destructive.

This project would install added cable and the switching to allow Tech to backfeed a building in case of failure of the primary feed. It would reduce downtime and the risk to the building and contents from extended power outage. The College would, of course start with the oldest buildings to replace the cable most likely to fail.

Project Title: Renovation of Metallurgy Building

Project Description: This request is to renovate the existing Metallurgy Building. The work will modernize the utilities, repair the years of deterioration, and remodel the interior to house the Chemistry Department and other departments that use similiar facilities and materials.

Cost:

Design, Administrative Fees--	$300,000
Moveable and Fixed equipment--	585,000
Relocation, Temp. operation	90,000
Construction--	2,025,000
Total	$3,000,000 (est.by Tech)

Justification and Benefits: The Metallurgy Building was built in 1928 and little interior renovation has taken place since that time. It is structurally very sound, has a good roof, has had the windows replaced within the last 15 years, and has been made 90% accessible to the handicapped. The exterior remains attractive and in good condition.

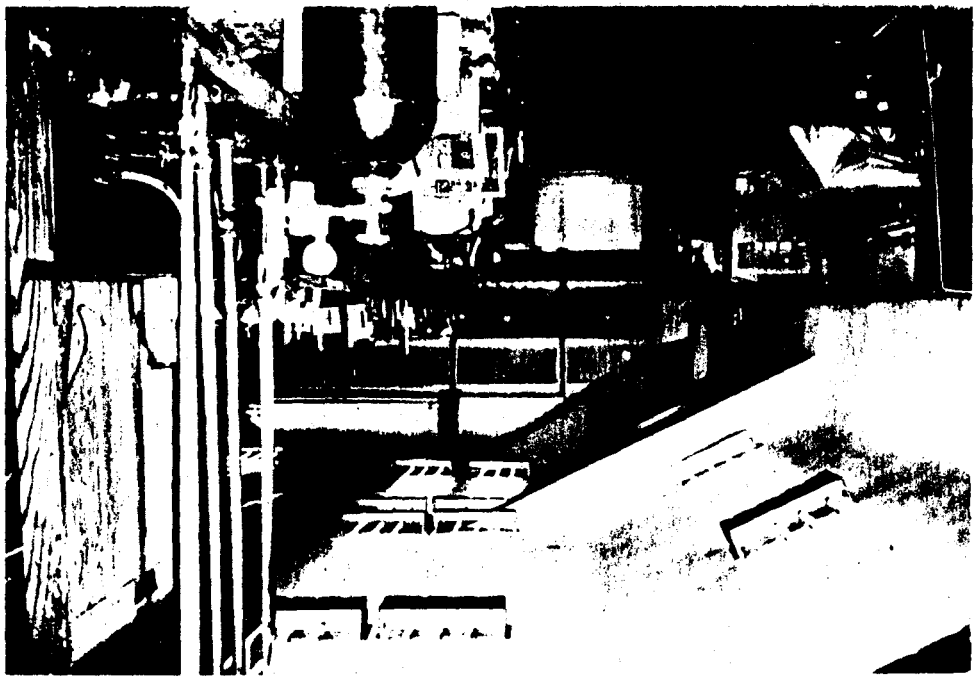
Unfortunately, the interior is terribly outdated and deteriorated. The electrical service and plumbing system are just short of being being unsafe. Utilities do not come even close to meeting the needs of the Chemistry Department presently housed in the building and cannot meet the demands that will be brought by moving in other functions. Floors have been patched, in some places very poorly. Rooms are ver large and often do not meet todays concept of laboratory size and arrangement.

The remodeling would allow Montana Tech to update the Chemistry Department facilities to meet today's demands and standards, and woild allow us to move departments such as Biology, Environmental Engineering, and the Analytical Laboratory into the building. This move would free up space now occupied in other buildings for other uses. It would also combine several activities that use similiar labs and would centralize much of the use of chemicals and potentially hazardous materials. Most important, the proposed renovation would rectify a potentially unsafe and hazardous situation in an instructional space used daily by Tech students.

The renovation would, for $3,000,000, provide approximately 35,000 square feet of modern classroom/laboratory/office space and make use of an existing State building that will serve the college for many more years. Moreover,renovation would offer a huge savings over the cost of similar new construction.

Photos (next page):

Clockwise from building exterior photo:3rd floor graduate lab, freshman chemistry lab, freshman chemistry lab



VISITOR'S REGISTER

Long Range Planning SUBCOMMITTEE

AGENCY(S) ____________ DATE 1-12-89

DEPARTMENT University System & Vo-Techs

NAME	REPRESENTING	SUP-PORT	OP-POSE
Bill Lannan	Mont Univ System	X	
Sheila Stearns	Univ. of Montana	x	
Russell B Muntifering	Mont. Agric Expt Sta	x	
Henry McClernan	Montana Tech	✓	
Carrol Krause	COMM OF H. ED	✓	
W. Michael Easton	Western Montana College	✓	
Tom Connell	A&E	✓	
Jim MacPherson	Western Mt Coll	✓	
Glen Leavitt	Western Mont Col		
Jim Whaley	A&E		
Robert F. McWellis	Federal Reserve BANK	—	
Bruce A Carpenter	EMC		
Burt L Hurwitz	Bd of Regents	✓	
Dennis E. Lind	Bd of Regents	✓	
ALAN F. CAIN	BC/BS of MT.	✓	
BRIAN HARLIN	ASMSU	X	
Stacy Farmer	ASMSU	X	
Craig Jordine	SSR Engineers	X	
Allen Beizans	Northern Mt College	x	
William Stoe	Montana State Univ.	X	
David J. Gibson	Montana State Univ	X	

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IF YOU HAVE WRITTEN COMMENTS, PLEASE GIVE A COPY TO THE SECRETARY.

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AGENCY(S) Long Range Planning SUBCOMMITTEE

DEPARTMENT University System & Voc Tech DATE 1-12-89

NAME	REPRESENTING	SUP-PORT	OP-POSE
Jim Taylor	Missoula Vo-Tech	✓	

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