

**A PRESENTATION OF THE SCHEMATIC DESIGN FOR THE CARVER
CO-LABORATORY PROJECT WILL TAKE PLACE AT THE OCTOBER
MEETING**

ISU B-1

MEMORANDUM

To: Board of Regents

From: Board Office

Subject: Register of Iowa State University Capital Improvement Business Transactions for Period of September 15, 2000 through October 19, 2000

Date: October 9, 2000

Recommended Action:

Approve the Register of Capital Improvement Business Transactions for Iowa State University.

Executive Summary:

Iowa State University requests approval of the schematic design, revised project budget (\$9,500,000), and design agreement with Brooks Borg and Skiles (\$519,000) for the **Carver Co-Laboratory** project which will construct a facility in the northwest area of campus for conducting state-of-the-art plant research. Representatives of the University and the project architects, Brooks Borg and Skiles, will attend the Board meeting to present the design for the project. A booklet outlining the design is included with the Board's docket materials.

The University requests approval of the program statement and proposed location for the **College of Business Building** project which will construct a facility in the southeast corner of the central campus to consolidate the functions of the College of Business.

The University requests approval of a revised project budget for the **Beardshear Hall Remodeling** project (\$6,076,707) which reflects an expanded project scope. Additional access control, a telecommunications upgrade, the installation of stained glass panels, and limited furnishings will be included in the project.

The University requests approval of a project description and budget for the **Utilities—The Knoll Renovations 2000—Infrastructure Improvements** project (\$104,000) which will upgrade the high voltage electrical service for The Knoll. Approval is requested in accordance with Procedural Guide §9.06E which requires Board approval of projects exceeding \$10,000 for the residence of an institutional head.

The University requests approval of a revised project budget (\$443,685), construction contract award (\$291,262), and amendment to the architectural agreement with Stott and Associates (\$7,280) for the **College of Veterinary Medicine--Biomedical Sciences Laboratories Remodeling** project; the revised budget is required to allow award of the construction contract.

The University requests approval to enter into an architectural agreement with RDG Bussard Dikis (\$64,000) for the second phase of work for the **MacKay Hall—Food Science and Human Nutrition Laboratory Renovation** project, which will upgrade space in the laboratory to provide modern and safe teaching facilities.

Background and Analysis:

Carver Co-Laboratory

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		Dec. 1999	Approved
Project Description and Total Budget	\$ 7,000,000	Dec. 1999	Approved
Architectural/Engineering Agreement— Schematic Design & Site Planning (Brooks Borg and Skiles)	150,000	March 2000	Approved
Revised Project Budget	9,200,000	June 2000	Approved
Architectural Amendment #1 (Brooks Borg and Skiles)	48,000	June 2000	Approved
Program Statement		July 2000	Approved
Schematic Design		Oct. 2000	Requested
Revised Project Budget	9,500,000	Oct. 2000	Requested
Architectural/Engineering Agreement— Design Development through Construction (Brooks Borg and Skiles)	519,000	Oct. 2000	Requested

The co-laboratory will provide a facility where scientists from Iowa State University, private industry, and the world can meet in a collaborative and interactive environment to conduct state-of-the-art plant research and address critical issues in plant science. The co-laboratory will emphasize and promote interdisciplinary collaboration within the plant sciences and other core areas of the University, such as molecular biology, plant physiology, classical plant breeding, molecular genetics, physics, and mathematics. The building will consist of state-of-the-art laboratories, research space for visiting scientists, and small laboratories for industry incubators.

Building Site

The building will be constructed in the northwest area of campus to the north of the Communications Building and northwest of the Molecular Biology Building. A map showing the proposed location for the building is included as Attachment A. This northwest area of campus has been designated for future development of a north quadrangle space to house facilities which will accommodate new research initiatives of the University. Additional information on the proposed north quadrangle development is outlined in the University's Campus Master Plan progress report (ISU B-4). Consideration was given to this future development in determining the specific location for the Carver Co-Laboratory.

Building Exterior

The building has been designed with two distinct faces. One side will face the existing Molecular Biology Building to the southeast and will include a small courtyard area. The opposite side will bend around to the north following the site. This design will create two building wings. The Carver Co-Laboratory will be a relatively small building compared to others in this area of campus. Therefore, the building has been designed with two stories rather than one to balance its scale relative to the other buildings, including those envisioned for the new quadrangle.

The exterior materials will consist of red masonry consistent with the exterior of the nearby Molecular Biology and Communications Buildings. Gray masonry will be used to identify the courtyard area and complement the red masonry. Windows will be located along the full length of the west and north sides of the building at both levels. The windows will provide views of the neighboring timber and will allow daylight to enter into the plant science laboratories. The windows will be screened with tinted glass to reduce solar heat and direct lighting. A glass curtain wall will also be used to identify the main building entrance and the

glass curtain wall will also be used to identify the main building entrance and the secondary entrances at the northeast and southwest. Additional windows will provide daylight for the office and laboratory areas along the south and east wings, and windows of a smaller scale will be located on the walls adjacent to the courtyard.

Building Interior

The main entrance will be located in the southern wing of the building adjacent to the courtyard. On the first floor, the space along the south wall of the building will house the public areas, including a reception area, administrative and office space, and restrooms. A large conference/seminar room will be located just to the north of the reception area near the building entrance. The main circulation corridor, which will provide limited access to the laboratory areas, will lead north from the reception area and will provide access to the large biochemistry laboratory area on the west side of the corridor and the laboratory support areas on the east side of the corridor. The biochemistry laboratories will also be served by a secondary circulation corridor which will be created between the north and south doorways along the west wall of the laboratory area. This corridor, which will provide access solely for lab users, will connect the laboratory suites within the area and will provide secondary access to adjacent areas of the building.

The northwest corner of the building will house a computer laboratory, research offices and interaction space. From this point, the main corridor will continue to the east and will provide access to three individual laser laboratories along the north wall, and incubator laboratories and additional laboratory support areas along the south wall. The laser laboratories will also be served by a secondary corridor along the north wall of the building. This corridor will provide additional entrances to each of the three laboratory areas. Stairways and secondary entrances will be located at the northeast and southwest points of the building.

The second floor of the facility will replicate the design of the first floor with some modifications to the functions of the space. General research laboratories will be located in the building's west laboratory area and a portion of the north laboratory area. The remainder of the north laboratory area will be used as a genomics center laboratory. The north laboratory areas will also be served by a secondary circulation corridor similar to that provided in the first floor biochemistry laboratories. The second floor will also house a large incubator laboratory above the first floor conference/seminar room, and laboratory support areas above the first floor incubator laboratories.

Restrooms

The building will include a total of eight, fully-accessible restroom areas (four male and four female) located on both floors. The restrooms will provide a total of five male toilet fixtures, seven female toilet fixtures, two urinals, and six male and six female lavatories. The University has indicated that the number of restroom fixtures is consistent with the State Building Code based on total occupancy of the building.

Parking

The University has acknowledged that construction of the Carver Co-Laboratory at the selected site will displace some parking areas. The University is currently reviewing different strategies for accommodating the short-term need for additional parking that will result with construction of the Carver Co-Laboratory, as well as the long-term parking need to accommodate the proposed north quadrangle development.

The schematic design includes a total building area of 29,975 gross square feet and 18,469 net square feet, for a net-to-gross ratio of 62 percent. The amount of net square feet, is consistent with the building program approved by the Board in July 2000. The following is the space summary for the Carver Co-Laboratory:

Plant Research Laboratories	6,746	
Laser/Biochemistry Laboratory	4,093	
Center Laboratories	3,136	
Research Offices	1,612	
Administration	1,457	
Shared Laboratory Support	1,090	
Building Support	<u>335</u>	
Total Net Assignable Space	18,469	nsf
Total Non-Assignable Space (Maintenance, Mechanical/Electrical, Restrooms, Circulation)	<u>11,506</u>	
Total Gross Square Feet	<u>29,975</u>	gsf
Net-to-Gross Ratio	62 percent	

The University also requests approval of a revised project budget of \$9,500,000, an increase of \$300,000. The additional funds will provide utility infrastructure work to support the building since no utility services currently exist in the project area. The utilities will be sized only to serve the Carver Co-Lab facility. An overall utility plan to accommodate future development of the proposed quadrangle area has yet to be developed; the University is in the early stages of this process.

The increase will be funded by Income from Treasurer's Temporary Investments which is being added as a new source of funds for the project.

Project Budget

	Revised Budget <u>June 2000</u>	Revised Budget <u>Oct. 2000</u>
Construction Costs	\$ 7,204,000	\$ 8,054,500
Professional Fees	1,262,000	1,280,600
Movable Equipment	230,000	60,000
Relocation	26,500	4,900
Contingency	<u>477,500</u>	<u>100,000</u>
 TOTAL	 <u>\$ 9,200,000</u>	 <u>\$ 9,500,000</u>
 Source of Funds:		
ISU Foundation	\$ 5,625,000	\$ 5,625,000
General University Funds	2,575,000	1,965,000
Income from Treasurer's Temporary Investments	0	910,000
Restricted Funds	750,000	750,000
Agriculture Experiment Station	<u>250,000</u>	<u>250,000</u>
	 <u>\$ 9,200,000</u>	 <u>\$ 9,500,000</u>

Subject to approval of the schematic design, the University requests approval to enter into an agreement with Brooks Borg and Skiles to provide design development and construction administration services for the project. The agreement provides for a fee of \$519,000, including reimbursables.

College of Business Building

Proposed Source of Funds: Capital Appropriations and Private Funds

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed Architectural Agreement		July 1999	Approved
Pre-Design Through Construction (Zimmer Gunsul Frasca Partnership)	\$ 1,887,000	May 2000	Approved
Program Statement		Oct. 2000	Requested

This project will construct a facility of approximately 100,000 gross square feet (60,760 net square feet) to house the College of Business, whose programs are currently located in inadequate and dysfunctional space in several existing University buildings and off-campus space. The project will accommodate the University's newest and fastest-growing college by providing office, laboratory, and classroom spaces to meet the unique needs of modern business programs.

The proposed location for the building is an area in the southeast corner of the central campus. A map showing the proposed area is included at Attachment B. The specific siting of the building within this area has yet to be determined; the University is reviewing the area with consideration for the mature landscaping of the central campus area and the need to integrate the building with the natural contours of this site.

Instructional Spaces

Classroom and laboratory areas, the largest component of the building space, are estimated to total approximately 26,000 net square feet. The classroom areas will be designed to provide flexibility in both capacity and configuration to accommodate diverse teaching styles and curriculum needs, including the use of case study techniques and in-class team interaction. Since teaming is emphasized in most classes, the classrooms will be designed to facilitate discussion among teams of six to eight students.

Specialty instructional areas will include classrooms to support distance education and Harvard case management-style classrooms. These instructional areas will accommodate collaborative settings and all-day learning programs such as the MBA Saturday program. The laboratory areas will consist of open computer laboratory space for general use, and specialized laboratory areas,

such as a dedicated MIS laboratory and a trading simulation room, to accommodate both in-class teaching and unscheduled student use. The classrooms and teaching laboratories will be designed to accommodate numerous technologies including video conferencing for distance education, computer projection, infrared data connections, laptop computer power and data connections, high speed fiber optic access, and web-based stock reporting services.

Offices

The office areas in the building will total approximately 20,000 net square feet. Of this amount, the faculty office spaces will total approximately 11,000 net square feet, which is an increase of approximately 24 percent (2,100 net square feet) from the total amount of faculty office space currently available. Expansion of the current amount of faculty office space is critical to resolve the existing deficiencies with crowded office areas and to attract and retain quality faculty. The University has indicated that the new building will also offer improved space utilization for the faculty office areas. Graduate student offices will total approximately 2,040 net square feet, which is an increase of approximately 60 percent over the amount of space currently available for these areas.

The office areas will be designed to promote the interdisciplinary mix between the departmental units and encourage informal interaction. Since much of the College's research activities are based in the faculty offices, these areas will be designed to accommodate the growing research programs of the College.

Student Services

The building will provide approximately 6,700 net square feet of space for the College's student service functions. Approximately 4,000 net square feet will be used to provide services related to the admission, retention and graduation of undergraduate and graduate students. These functions require space that will accommodate meetings with individuals as well as large numbers of students. The College's Career Services functions, which serve the career development needs of students and facilitate their job searches, will be housed in approximately 2,500 net square feet of space. This area will be used to provide student advising, schedule interviews, and display resource information.

The College's outreach services, which include the headquarters of the Small Business Development Center, will be housed in approximately 2,300 net square feet of space. This space will be designed to provide community access to the College's programs.

The College's outreach services, which include the headquarters of the Small Business Development Center, will be housed in approximately 2,300 net square feet of space. This space will be designed to provide community access to the College's programs.

Support Areas

The support areas will total approximately 5,300 net square feet. Included is a café area to provide food service, particularly for Saturday MBA students who spend extended time on campus. Other common spaces, as well as the café, will promote informal interaction. This will include interaction spaces totaling approximately 1,500 net square feet for faculty and staff, undergraduate, and graduate students. The student interaction areas will further promote the teaming approach emphasized in the College's coursework.

A summary of the College of Business Building spaces and required areas is as follows:

Classrooms and Laboratories		26,365	
Office Areas			
Faculty/Graduate Students	13,040		
College Administration	3,395		
Departmental Administration	<u>3,580</u>		
Total Office Space		20,015	
Student Services			
Undergraduate Programs	2,760		
Graduate Programs	1,420		
Career Services	<u>2,535</u>		
Total Student Service Space		6,715	
Outreach Center		2,310	
College Support Spaces		<u>5,355</u>	
Total Net Assignable Space		60,760	nsf
Total Non-Assignable Space		<u>39,240</u>	
(Maintenance, Mechanical/Electrical, Restrooms, Circulation)			
Total Gross Square Feet		<u>100,000</u>	gsf
Net-to-Gross Ratio		61 percent	

The estimated cost for the facility is \$22.7 million. The 2000 General Assembly appropriated for FY 2001 and the Governor approved funding of \$300,000 for planning the facility. The Board request for FY 2002 state capital funding is \$10.9 million. The remainder of needed funding would be provided from private sources.

Beardshear Hall Remodeling

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		July 1998	Approved
Project Description and Total Budget	\$ 5,750,507	July 1998	Approved
Architectural Agreement through Schematic Design (Brooks Borg and Skiles)	80,390	Oct. 1998	Approved
Program Statement		June 1999	Approved
Schematic Design		July 1999	Approved
Architectural Agreement through Construction Services (Brooks Borg and Skiles)	621,720	July 1999	Approved
Revised Project Budget	6,076,707	Oct. 2000	Requested

This project will remodel space in Beardshear Hall to consolidate various student-related functions in one central campus location. The focus of the project is development of the Student Answer Center which will consolidate various student service units on the ground level of the facility. The project will also relocate and consolidate other administrative offices within the building, and address building code, accessibility, and life safety deficiencies.

The University requests approval of a revised project budget in the amount of \$6,076,707, an increase of \$326,200, due to an expanded project scope which would include additional access control for the building, an upgrade of the telecommunications system, the installation of stained glass panels, and some new furnishings.

Access control for the building in the original project scope was limited to the installation of card readers (which limit access to the building) at the north and east exterior doors, and the installation of door monitors (which relay information on unsecured doors to the Department of Public Safety) at the west and south entrances. The expanded scope now includes the installation of card readers at each of the four locations, and the installation of door monitors for the two remaining exterior doors on the ground level. In addition, card readers will be installed at the entrance to each interior office suite throughout the building, and door monitors will also be installed at selected locations within the suites.

The telecommunications work in the original project scope was limited to the installation of telecommunications components within the new walls to be constructed. The scope has now been expanded to include an upgrade of the telecommunications system throughout the building, including construction of a new environmentally-controlled telecommunications node room on the ground level to replace the two existing node rooms located in non-code compliant space in the building basement.

The University has decided to include as the Art in State Buildings component of the project the replication of the original stained glass panels which hung over the north and south skylights in the main atrium. The panels were removed during a renovation in the 1960s and replaced with frosted white glass. The University believes that installation of the replica panels will greatly enhance the space and capture a portion of the building's history. The required budget allocation under the Art in State Buildings program was only sufficient to cover the cost of one skylight.

The addition of limited furnishings to the project will respond to the needs of the individual departments located in the building.

Project Budget

	<u>Initial Budget July 1998</u>	<u>Revised Budget Oct. 2000</u>
Construction Costs	\$ 5,071,924	\$ 4,746,200
Professional Fees	667,533	1,079,100
Movable Equipment		42,500
Relocation	11,050	70,000
Contingency	<u>0</u>	<u>138,907</u>
TOTAL	<u>\$ 5,750,507</u>	<u>\$ 6,076,707</u>
Source of Funds:		
Income from Treasurer's Temporary Investments	\$ 4,733,781	\$ 4,733,781
General University/Building Repair Funds	1,016,726	1,016,726
Business and Finance Endowment Administrative Reserve	0	180,000
Telecommunications Improvement And Extension Funds	0	69,000
General University Funds	0	52,200
ISU Foundation	0	15,000
Unrestricted Gifts	<u>0</u>	<u>10,000</u>
	<u>\$ 5,750,507</u>	<u>\$ 6,076,707</u>

Utilities—The Knoll Renovations 2000—Infrastructure Improvements

Source of Funds: Utility Infrastructure Funds

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Project Description and Total Budget	\$104,000	Oct. 2000	Requested

This project will upgrade the high voltage electrical service for The Knoll, the residence of the University president. The project is necessary to accommodate the additional electrical loads that will result with completion of the renovation project (as approved by the Board in July 2000) for the facility. The project will replace the existing 2400 volt single phase service with a 4160 volt three phase system and install a new building transformer.

The project budget is presented for Board approval in accordance with Procedural Guide §9.06E which requires the institutions to obtain Board approval prior to initiating any renovation, modification, or improvement to the official state-owned residence of an institutional head if the cost is expected to exceed \$10,000.

Project Budget

Construction Costs	\$ 85,300
Professional Fees	14,200
Project Contingency	<u>4,500</u>
TOTAL	<u>\$ 104,000</u>

College of Veterinary Medicine—Biomedical Sciences Laboratories Remodeling
Source of Funds: General University Funds

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Project Description and Total Budget	\$ 263,500	May 2000	Approved
Architectural Agreement (Stott and Associates)	27,640	May 2000	Approved
Architectural Amendment #1	4,660	Sept. 2000	Ratified*
Revised Project Budget	443,685	Oct. 2000	Requested
Construction Contract Award (R. H. Grabau Construction)	291,262	Oct. 2000	Requested
Architectural Amendment #2	7,280	Oct. 2000	Requested

* Approved by University in accordance with Board procedures.

This project will provide upgraded laboratory space for use by the research programs of the Department of Biomedical Sciences in the College of Veterinary Medicine. The University requests approval of a revised project budget in the amount of \$443,685, an increase of \$180,185, to allow award of the construction contract.

The six bids received for the construction contract exceeded both the engineering estimate and the project budget; however, the bids had a range of less than 4 percent, indicating that they are a fair representation for the work. The University attributes the high bids to additional improvements that were designed for the space to accommodate the specific research needs of the users

assigned to the laboratory areas. The University requests award of the construction contract to R. H. Grabau Construction in the amount of \$291,262, which can be awarded within the revised project budget.

The University also requests approval of Amendment #2 in the amount of \$7,280 to the design agreement with Stott and Associates. The amendment will provide compensation for additional design services to incorporate the revisions to the laboratory casework and mechanical/electrical systems, as requested by the laboratory users. The revisions include the addition of extensive electrical, telecommunication, and mechanical piping systems beyond the original project scope.

Project Budget

	Initial Budget <u>May 2000</u>	Revised Budget <u>Oct. 2000</u>
Construction Costs	\$ 207,000	\$ 364,800
Professional Fees	42,820	72,920
Contingency	<u>13,680</u>	<u>5,965</u>
TOTAL	<u>\$ 263,500</u>	<u>\$ 443,685</u>

MacKay Hall—Food Science and Human Nutrition Laboratory Renovation

Project Summary

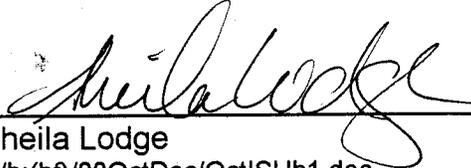
	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Project Description and Total Budget	\$ 150,000	May 1998	Exec. Dir. *
Revised Total Project Budget	455,000	May 1999	Approved
Architectural Agreement--Pre-Design Through Construction--Phase 1 (RDG Bussard Dikis)	51,000	June 1999	Approved
Revised Total Project Budget	755,000	June 2000	Approved
Architectural Agreement--Pre-Design Through Construction—Phase 2 (RDG Bussard Dikis)	64,000	Oct. 2000	Requested

* Approved by the Executive Director in accordance with Board procedures for projects under \$250,000.

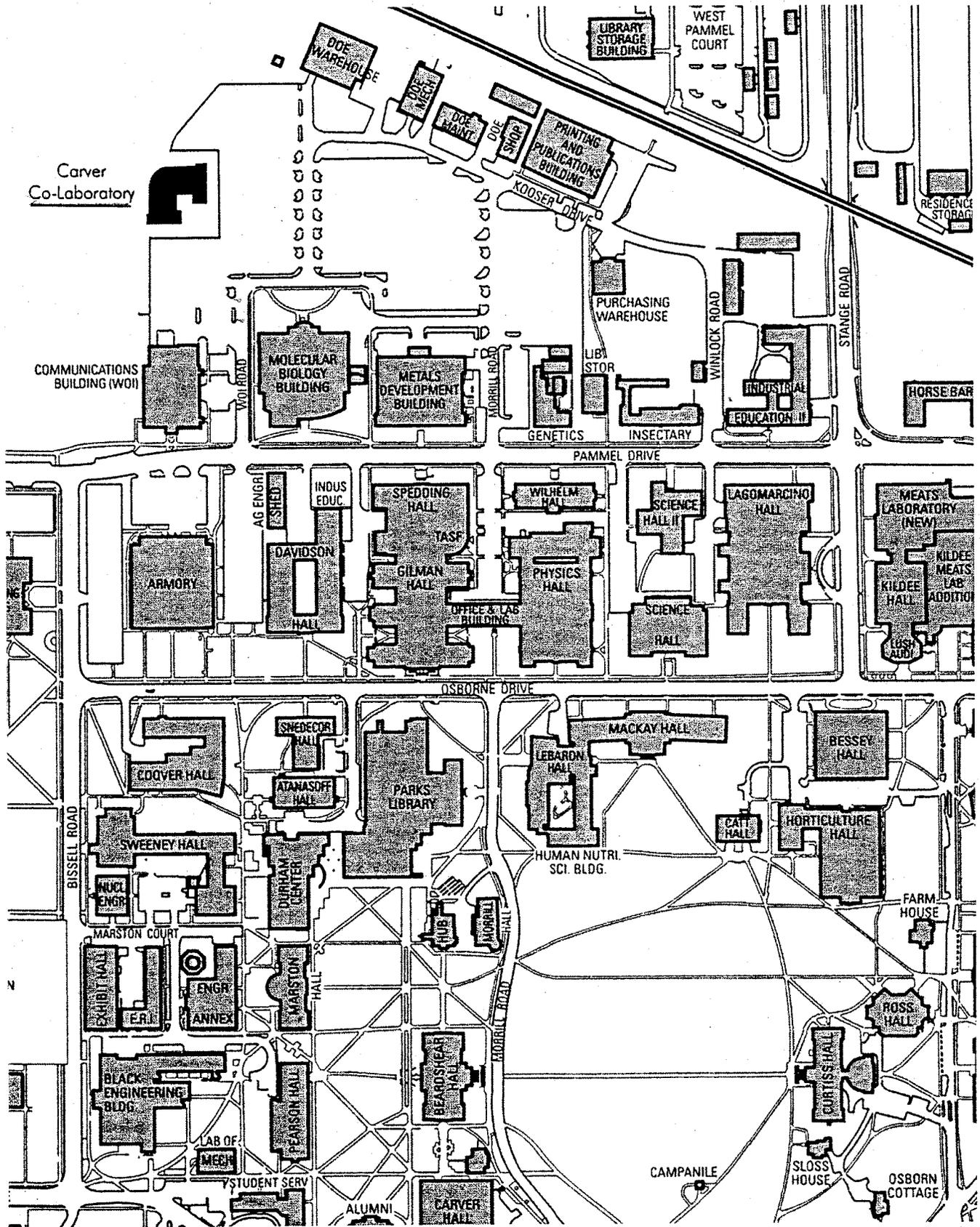
This project will remodel space in the Food Science and Human Nutrition Laboratory in MacKay Hall and will include the installation of new heating, ventilating and air conditioning systems, and kitchen and telecommunications equipment. The improvements are based on a feasibility study undertaken for the laboratory area which indicated the need to renovate the space to provide modern, safe teaching facilities, utilizing state-of-the-art equipment and teaching technologies. The University has been proceeding with the project as funding is available and is ready to proceed with design services for the second phase.

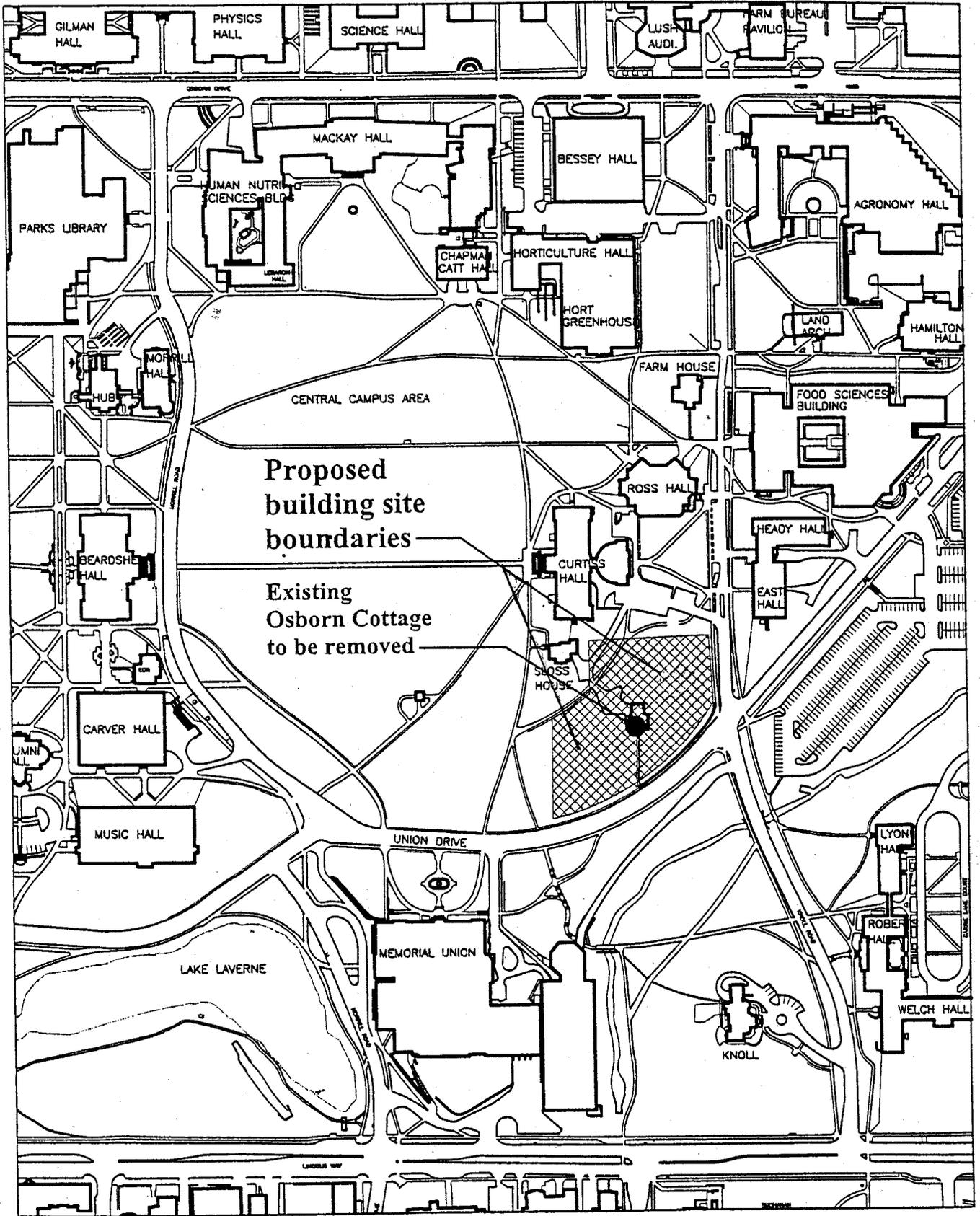
The University requests approval to enter into an agreement with RDG Bussard Dikis to provide design services for the second phase of the project. The agreement provides for a fee of \$64,000, including reimbursables.

Included in the University's capital register for Board ratification is one project budget under \$250,000, two amendments which were approved by the University in accordance with Board procedures, the acceptance of four completed construction contracts, and three final reports. These items are listed in the register prepared by the University and are included in the Regent Exhibit Book.


Sheila Lodge
sl/h:(bf)/00OctDoc/OctISUb1.doc

Approved: 
Frank J. Stork





IOWA STATE UNIVERSITY
College of Business Building
Site Location