

JUSTIFICATION FOR A NEW AGRICULTURAL ENGINEERING BUILDING  
College of Agriculture  
January 27, 1971

The facility we are requesting will serve the engineering needs of the College of Agriculture. It will provide for the Department of Agricultural Engineering as well as for related programs in Forestry and Food Science.

Agricultural Engineering has dual responsibilities. The Department of Agricultural Engineering has responsibilities for graduate and undergraduate education in both the Colleges of Agriculture and Engineering.

Through organized research and extension and public service programs, it supports the technical needs of industry, including such all-important areas as agriculture, food processing, and wood utilization. The Department thus contributes to all the missions of the University - teaching, research, and public service.

Agricultural Engineering conducts interdisciplinary and cooperative programs. Agricultural Engineering is by its nature an interdisciplinary program that utilizes the basic sciences to solve the problems of agriculture. Within the College of Agriculture, the Department has cooperative research projects with Animal Science, Dairy Science, Agronomy, Plant Pathology, Agricultural Economics, and Home Economics.

Similarly, the Department reaches outside the College to conduct research cooperatively with Civil Engineering, Theoretical and Applied Mechanics, Mechanical Engineering, the Speech and Hearing Clinic, and the State Natural History Survey.

Only the U-C campus offers degree program. Certain elements of uniqueness should be noted. Within the State of Illinois, only the Urbana-Champaign campus offers a degree program in Agricultural Engineering. The Department has progressed from a B.S. program in 1932 to initiation of a Master's program in 1948, and to authorization of the Ph.D. program in 1964.

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Illinois biggest employer of agricultural engineers. Twice as many agricultural engineers are employed in Illinois as in any other state, and the demand far exceeds the number trained in Illinois. This continuing demand for agricultural engineering graduates challenges us to provide quality research and teaching facilities to meet the manpower needs of industry, government, and education.

Diversity of demand. There is great diversity in career opportunities for agricultural engineers, but the greatest demand comes from agriculture and agriculture-related industries.

(1) Production of beef, hogs, and other meat animals in Illinois is valued at \$1.3 billion a year. Agricultural engineers have contributed significantly to solving the problems of housing and handling this ever-increasing production.

They are now very much involved in seeking answers to waste disposal and associated environmental problems.

(2) The food processing industry has many challenging engineering problems. Among the more difficult ones is environmental pollution that grows out of the disposal of wastes generated during processing.

(3) Illinois is a leading wood-using state. In addition to product utilization, waste disposal problems in this industry also pose another challenge to the agricultural engineer.

(4) Land and water management and the harvesting, marketing, and processing of food and feed grains, vegetable and fruit products and fiber crops have long been major program thrusts for agricultural engineering departments.

(5) Illinois has the greatest concentration of agricultural and industrial equipment manufacturers in the world---and a corresponding need for a sizable number of agricultural engineers.

The diverse needs of agriculture and its related industries, particularly viewed in relation to environmental quality, make it imperative that a new facility be provided.

Sharing facilities in cooperative research. This brings us to elaboration on the cooperative and interdepartmental aspects of the activities that would be carried on in a new facility.

The facility would provide for the needs of the Department of Agricultural Engineering and it would also permit improvement in the food engineering phases of the Food Science Department programs, as well as the wood science program of the Forestry Department.

A well designed and equipped building would provide for such common needs as environmentally controlled rooms, drying facilities, teaching laboratories, and equipment, as well as facilities for the study of waste disposal and waste utilization and materials handling and packaging.

Joint use by more than one department will ensure greater utilization of specialized facilities while strengthening unique cooperative research and teaching programs.

Facility now in use. From the time of its inception, Agricultural Engineering and its related programs have been located in a facility constructed in 1906 to house the division of farm mechanics of the Agronomy Department. The only addition, a new research laboratory, came in 1952 - almost 20 years ago. The original facility, now 65 years old, has undergone much remodeling, but it has not and cannot satisfactorily meet the needs of the programs it now houses.

Need to replace inadequate space. There is a substantial projected space shortage in Agricultural Engineering, and also in the other programs recommended for inclusion in the request for a new facility. But the major justification for the new facility is the need to replace the present inadequate space occupied by all three of the programs.

Slide presentation. The slide presentation that follows will give you a general impression of existing facilities and help you judge the quality of space presently occupied.

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