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Research on the Strategy of Resource Saving Campus Construction under the Green Idea

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Abstract: *According to the basic requirements of building a conservation-minded society, based on the analysis of the status quo of conservation-minded campus construction, this paper points out that the focus should be put on organizational and institutional construction to promote the construction of conservation-minded campus. An effective organization system must be set up to provide the necessary guarantee and support for the establishment of a conservation-minded campus. We should establish construction project examination system, campus facilities operation supervision system, campus energy consumption statistics and audit system, energy consumption publicity system, to promote the building of a conservation-oriented campus. Through the construction of resource-saving campus, a lot of energy has been saved, and good economic and social benefits have been achieved.*

Keywords: *Green idea; Resource saving; Conservation-oriented campus construction; Construction strategy*

1. Introduction

With the development of science and education and the strategy of sustainable development, colleges and universities have moved from the edge of society to the center of society [1-2]. From the end of the 20th century to the beginning of this century, "co-construction, adjustment, cooperation and amalgamation" has been carried out in colleges and universities. Colleges and universities also set off a basic construction upsurge of colleges and universities campus, a number of large, high standards of the university campus has been built. As a result, some colleges and universities with a heavy debt, and even a high debt situation, hindering the healthy development of colleges and universities. Therefore, based on the principle of "passive priority, active optimization", it is imperative to use "green" design to create a good physical environment and carry out conservation-oriented campus capital construction.

2. Significance of the construction of resource-saving campus

2.1. Overview of Green Campus

Green Campus (Green University), also known as "Sustainable University" or "Ecological Campus", refers to a university campus that is environmentally sustainable based on the basic principles and methods of ecology. It is different from the traditional university campus, is a sustainable development, set ecological gardens, environmental friendliness and environmental humanities as one of the harmonious green campus. According to the emphasis of each school, green campus can be divided into three types: landscape landscape design, environment-friendly technology, ecological education and management.

Green campus construction and environmental education promote each other and are inseparable. The construction of green campus can not only provide the teachers and students with beautiful, tidy, comfortable and pleasant study and work environment, but also play an imperceptible role in educating students and teachers about environmental awareness.

2.2. Necessity of building a resource-saving campus

Building a conservation-minded campus is an important measure for the education system to fulfill the requirements of the state for accelerating the construction of a resource-conserving and environment-friendly society. Campus is a major energy consumer, with great potential for energy

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conservation. Carrying out the construction of conservation-minded campus will not only promote the energy conservation of the school itself, reduce the cost of running the school, and play a leading and exemplary role in the society, but also train a large number of talents with the awareness of energy conservation and environmental protection and the mastery of the skills of energy conservation and environmental protection for the society, which will greatly promote the construction of a resource-conserving and environment-friendly society and will have a profound impact on the economic and social development of the country. In this context, the building of conservation-oriented campus is particularly significant.

3. Problems in the construction of resource-saving campus

3.1. Capital Construction Management

Campus capital construction is a complex system engineering. From project initiation, land acquisition, planning and design, bidding, construction to completion acceptance, with a long period, large production scale, the amount of investment and so on. Infrastructure management involves a wide range of specific, difficult. For a long time, colleges and universities have generally put teaching and scientific research at the core position, basic construction management is not taken seriously, and managers are generally weak in professional ability and management level.

3.2. Relevant systems

In our country, the concept of conservation-oriented campus construction has been put forward in recent years, and not enough manpower and material resources have been put into it.

4. Construction Strategy of Resource-Saving Campus under Green Concept

The construction of green campus needs the common pursuit of the school leaders and all the teachers and students. Teachers, students and staff should strengthen the awareness of greening, fulfill the obligation of greening according to law and consciously maintain. Campus environment, campus greening and facilities should be protected. In the way of education, school education, family education and social education should cooperate with each other and work together to ensure the all-round development of students. In the process of establishing a green campus, a green campus management system shall be established in a scientific and systematic way by formulating plans, taking measures, inspecting and rectifying deviations, summing up improvements and other management modes, appropriately strengthening the establishment of institutions, organizing training, perfecting teaching resources, establishing green files, sharing relevant information and other links, and making contributions to the sustainable development of schools and society through continuous improvement. Green campus building design covers a wide range of content, but the article selects green management, improve the system of two aspects of energy-saving strategy in detail.

4.1. Establish a reasonably structured, streamlined and efficient infrastructure management team with strong professional competence

The basic construction administration department of a college or university shall be responsible for the basic construction tasks of the college or university. The basic construction administration department shall be directly responsible for the organization and implementation of the basic construction project, be responsible for coordinating the relations between the college or university and the functional departments of the government, construction enterprises, etc., go through various formalities for project establishment and construction report, and be responsible for solving technical problems and coordinating contradictions in the process of construction. Faced with the protracted, extensive, complex and technical nature of management, colleges and universities must build a highly professional and efficient infrastructure management team. The managerial personnel of this contingent shall conscientiously abide by the objective laws of capital construction and the procedures of capital construction, master a relatively high level of knowledge in engineering technology and economic management, have a relatively strong ability to organize and direct on the spot, have the pioneering spirit of being active and enterprising and bold and innovative, and at the same time have the moral sentiment of being resourceful, grasping the overall situation, daring to make decisions, being conscientious and conscientious, being selfless and uncomplaining in work. With such a quality of the

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team, in order to achieve scientific management, improve economic efficiency and achieve frugal campus construction.

4.1.1. Strengthening design management and optimizing engineering design

1) Collection and preparation of materials and data in the early stage of design. The design management department shall do a good job in preparing for the design preliminary information and data collection. In campus planning to fully understand the situation around the site and within the site, such as urban roads, electricity, water supply and drainage related data. The design plan should be submitted to the school and relevant departments for discussion and solicitation of their opinions so as to prevent the waste caused by functional transformation after the completion of the project.

2) Implement quota design and optimize economic indicators. Excellent design is reflected not only in the quality of architectural and structural design itself, but also in its control over investment. First of all, the project to control the size of the area. On the basis of considering certain AC space, the use coefficient of the control unit building should not be too low. Appropriate control of the entrance hall, corridor and other common areas, adhere to the "applicable, economic, beautiful" principle. Secondly, control the cost with the project budgetary estimate book.

4.1.2. Strengthen cost management and implement high quality and favorable price

1) Select the construction team in the bidding mechanism. Engineering bidding is a competitive measure, which can improve the management level of enterprises, improve the quality of projects and reduce the cost of projects [3-4]. Therefore, we should earnestly implement the Tendering and Bidding Law and carefully select the construction team with reasonable price, guaranteed project quality and time limit, good economic benefits and high social reputation.

2) Attaching importance to the tendering and answering questions, and improving the contents of the tender invitations for construction. Drawing is the basis of making project cost. The quality of drawing is directly related to the quality of the project. The advanced and conservative design is directly related to the cost. Before the bidding, organizing the answering questions and checking the drawings can not only solve the problems of mistakes and omissions in the design, but also reduce the design changes in the construction stage.

3) Do a good job in the review of budget and settlement. Doing a good job in budget and final accounts can effectively control capital construction investment, rational use of funds and reduce project costs. The cost management personnel shall go to the construction site to keep informed of the progress, concealment, quality, alteration and other information of the project at any time, and shall earnestly collect the relevant settlement materials when making settlement and examination upon the completion of the project, and make settlement strictly in accordance with the pricing methods as prescribed in the Construction Project Contract signed by both parties. Avoid falsification, exaggerate the amount of work to ensure the reasonableness and accuracy of project settlement.

4.1.3. Tightening construction management and ensuring project quality

1) Preparation before the construction enters the site. Construction is a large number of manual, mechanical, time, will be thousands of kinds of materials together into a building product process. As a capital construction department, it shall earnestly perform the obligations as prescribed in the Contract of Construction Project, create good conditions for the smooth progress of project construction, do a good job in the preliminary work of construction, complete the three supplies and one leveling before entering the construction site, actively coordinate the relations between all parties concerned, complete all the necessary formalities before starting the construction, and complete the supply of some materials and the advance payment for the project according to the plan.

2) Organizing the joint examination of construction and design. The construction of the project includes the construction sequence, construction progress, construction methods, construction measures and general layout of the construction. Here a large number of the cost of the application, different construction methods and processes, the use of different machinery and equipment, the cost varies greatly. Therefore, we must carefully analyze and study its feasibility and economy, especially for temporary facilities should consider the layout of long-term, as far as possible to achieve a plan for multiple uses.

3) Take good care of engineering technology and quality. Establish and improve the quality assurance system, implement whole-process quality control for the project, strictly implement the project supervision system, and implement the self-inspection by the construction unit of partial

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projects and then report to the supervision engineer for acceptance, so as to achieve the goal of "failure to pass the previous procedure and failure to construct the next procedure". Strictly implement the procedures for design change, timely solve various technical and quality problems on site, and strictly control the inspection system of materials. Strengthen the management of construction technical data to ensure the accuracy and reliability of the data.

4) Do a good job in the acceptance of concealed projects and the entry of visas and materials. Concealed project refers to the foundation and foundation, reinforced concrete and other parts, is a key part of the building safety plays an important role, not lightly, to prevent hidden dangers. Therefore, in accordance with the requirements of the design and specifications to meet the requirements to allow concealment. In addition, covert projects and site visa or the basis for settlement, directly affect the cost of the project. Suggest that more than one department to participate in the signature, fraud. The materials entering the market shall be submitted for inspection, and the quality, brand and price stipulated in the contract shall be strictly checked for use after inspection.

5) Do a good job in project completion inspection and acceptance, and supervise and urge the filing of materials. Completion acceptance is the key link of project management, is a comprehensive assessment of the results of construction, but also to sum up the experience and lessons of construction. In general, pre-inspection shall be conducted before the formal delivery and acceptance, and the pre-inspection shall be conducted level by level according to the design and acceptance specifications, and the places where the practice is inconsistent with the design or the quality is unqualified shall be carefully recorded, and the repair shall be resolutely required to ensure the smooth passage of the formal acceptance.

4.2. Formulating various rules and regulations to promote the construction of conservation-minded campus from the perspective of organizational system

4.2.1. Formulate and implement an energy conservation and consumption reduction work plan

1) The circuit of the campus living area and the teaching area has been reformed.

2) For the installation and use of the water and electricity prepaid card meters in the school district, the water and electricity heating shall be bundled for payment, and the management mode of accurate measurement of water and electricity charges and the active control of payment before use shall be realized, and the scientific management of water and electricity shall be strengthened, so as to block "running, running, dripping and leaking".

3) Continue to deepen the heating reform: firstly, strengthen the technical transformation and maintenance of boilers, and improve the operation performance of boilers; secondly, further tighten the bidding procedures for coal, implement the whole-process supervision over the direct purchase, purchase and transportation of coal at mines, and strictly control the quality, so as to truly realize the objectives and requirements of high quality and low price.

4) Adjust and transform the street lamp lines of campus, adjust the time and brightness of street lamps according to seasonal changes, ensure night lighting and save public electricity.

5) Implement the "all-in-one card" on campus and build digital campus.

6) Reform the office mode and promote the network office work.

4.2.2. Actively promoting the management of campus energy consumption quota

Because the use of water and electricity in university office buildings can not be combined with the interests of users, resulting in great waste. Many staff usually do not pay attention to water and electricity, the computer is not off after work, air-conditioning on, and even lamps and lanterns, wasting a lot of energy. Colleges and universities shall, according to the energy consumption situation of each public building in recent years, rationally formulate the system of water, electricity and management, carry out the system of making up the quota of water and electricity consumption for teaching units and life service centers, and implement the "responsibility system" of water and electricity management, and specially formulate the Measures and Instructions for the Distribution of the Rated Electricity Consumption of the Units in Teaching Areas and the Table of the Statistics and Distribution of the Rated Electricity Consumption of the Teaching Areas according to the actual situation of schools, and the trial operation results are good.

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4.2.3. Energy consumption publicity

Energy consumption statistics shall be conducted and made public in full accordance with the Measures for the Publicity of Audit of Energy Consumption Statistics on Campus Buildings of Colleges and Universities. At present, due to the inadequacy of measurement facilities and the inadequacy of regulatory measures, only part of the construction facility data statistics and internal publicity can be achieved at this stage.

5. Conclusion

In today's world, green development has become an important trend. Many countries regard the development of green industry as an important measure to promote economic restructuring, highlighting the concept and connotation of green. In the process of the construction and development of the university, the resource-conserving campus focuses on the saving and reasonable utilization of resources, establishes a conservation-oriented management and operation mechanism, enhances the efficiency of management and service, and sets up a consumption concept of being proud of saving and ashamed of waste.

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