Integrated Management System of Sponge Campus Construction Planning

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Abstract

Based on the regional characteristics, this paper had investigated the existing sponge campus management system and put forward the principle of building a comprehensive management system for sponge campus construction planning. By establishing a sound legal system for rainwater management and management system to achieve sponge campus planning and construction of integrated management system.

Keywords

Sponge Campus; Planning and Construction; Management System.

1. Introduction

The planning and construction of integrated management system of sponge campus is proposed to establish a sound rainwater management laws and regulations system and coordinate multi-sectoral, multi-disciplinary to joint rainwater management. Sponge campus should start from the regional characteristics. The planning and management system should meet the needs of urban development and develop their own sponge campus planning and management system. In the standard requirements, detailed indicators that meet the local characteristics and actual conditions should be formulated. For example, the indicators for new construction and renovation areas should be different. The indicators for severe drainage areas and serious water environment problems should also be different according to their own circumstances. The planning and management objectives should be divided into mandatory goals and guiding objectives: mandatory indicators are the average annual total runoff control rate, the volume of public building hardened area storage capacity. Leading indicators are water-permeable pavement rate, sunken green space rate, green roof rate and other indicators. Classification can not only ensure the implementation of planning objectives, but also give free space for designers and designers, while preventing over-design from causing excessive construction costs.

In general, the following requirements should be met:

(A) Systematic - the system should provide for planning and planning management requirements and form a system;

(B) Thoroughly - to achieve the whole process of management from the control indicators, land transfer, a book two cards issuance, construction permits, completion of the acceptance of the whole process;

(C) Institutionalization - management requirements to be institutionalized, as the basis for the administration of the administrative department;

(D) Datamation - planning and management system is the core of the standard requirements;

(E) Quantification - the proposed indicators should be easy to quantify and assess;

(D) Modeling - In the process of planning and management and local calculation models should be set up. Especially for the calculation of annual runoff total control rate to ensure that each plot can be accounted for.

(E) Visualization - It is best to establish a visual management platform.

2. The current planning and management system

The current planning and management system was mainly based on four planning and management links: Planning and management of the overall planning stage, planning and control of the detailed planning stage, planning and management of the land transfer section stage and management of the construction project review stage. Sponge campus planning management system innovation could be based on different aspects of planning. The concept of site planning and design were mostly used for planning and management of land control and land management. Construction management of low-impact development facilities could be managed through the construction project review stage.

3. Establish and improve laws and regulations of rainwater management system

The status quo of laws and regulations on sponge construction in our country contains part of the low-impact facilities and rain-flood comprehensive management concerned by sponge city construction. However, at the same time, sponge-based campus construction requirements had not yet been fully covered by the existing laws and regulations and need to be further passed through local planning documents and other forms of perfection.

Based on the Nanning sponge city construction planning laws and regulations, in order to improve sponge campus construction planning, we make a suggestion in five aspects in the following:

3.1 Reduce the standard documents that restrict the development concept and formulate the requirement for zero growth of runoff coefficient after development.

Runoff coefficient refers to the ratio between total runoff and precipitation in a given catchment area. As far as the current urban development, the process of urbanization was very fast and the accompanying damage to the surrounding environment was also growing[1]. As a result, the impervious area of the city was getting larger and larger and the corresponding runoff coefficient was also increasing. The increasing runoff had made it increasingly difficult for urban drainage systems to meet their drainage requirements, resulting in serious surface water rains and heavy pollution to the city. Therefore, the author suggests that some provisions should be added to the relevant clauses. For example, in the newly developed area, the storm flood peak flow should be lower than the pre-development peak flow. At the same time, it is required to build a storage capacity reservoir in the area to ensure Development Zone will not be affected by the accumulation of water. In addition, relevant policies should also be formulated to mandate the zero-growth of runoff coefficients.

3.2 The proposal in the use of rain-based recommendations in laws, regulations and normative documents should be gradually transformed into a mandatory requirement.

At present, most of the relevant legal documents on the utilization of rainwater resources developed and implemented domestically were mainly support, encouragement and suggestion. Since there is no mandatory implementation, the utilization of rainwater resources was not high[2]. Through the investigation and analysis of the relevant legal documents, the author suggests that the current relevant documents should be revised, the previous proposed regulations should be changed to mandatory regulations and the relevant units should be implemented.

3.3 Introduction of low-impact development guidelines based on the concept of rainwater management

Since there was no specific document on rainwater management in the current relevant documents, we proposed. It should be developed and implemented on the rainwater utilization and management of the

document as soon as possible, and take rainwater discharge, pollution control and other aspects of the content into this category[3-4]. For some large-scale supermarkets, public facilities, residential areas, schools and other areas of rainwater management should have mandatory characteristics of the guidelines for the discharge of rainwater to reduce or avoid the phenomenon of heavy waterlogging pavement.

3.4 Formulating local planning and design guidelines

It should make use of the planning management to regulate sponge campus requirements. In the aspect of planning, it is necessary to integrate the contents of sponge campus planning into a reasonable one by or planning and design guidelines under the existing planning system. In the process of planning, the planning and construction plan review mechanism should be established, which closely links the first plan, the expert administrative review and the review of the leading group[5-6]. The general planning level focuses on the strategic. The regulatory compliance regulations should pay attention to the implementation of the effect. The special planning level emphasis on integrit

4. Conclusion

Establishing and improving laws and regulations of rainwater management system and the whole cycle of management system from the planning to the construction is not only conducive to the construction of sponge campus, but also play a contributing role in sponge city construction. Therefore, to support sponge city construction from a management point of view has become a new way that attracted attention.

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