The relationship between sponge and water environment management in sponge city construction.

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Abstract. Water resources are indispensable and substitute important ecological environmental resources in the process of sustainable development of human economy and society. At present, the shortage of water resources has gradually become an important bottleneck restricting the rapid and healthy development of our society and economy. Therefore, it remains of great practical significance to effectively protect and standardize the scientific management of China's water resources. However, in contemporary theories of ecological environmental resources protection, due to the serious waste of water resources at present, the content needed for the effective protection of ecological environment water resources is also relatively large. In this study, the strategic concept of ecological environment management in sponge city is introduced for the effectual protection of ecological environment water resources and ecological environment management. This concept is one of the most significant ecological protection theories since the concept of water resources protection and ecological environment conservation management was formally born, and it can also be said to be the theme and basis of this research paper. I just hope the discussion of this paper can bring some help to readers.

1. Construction of Sponge City in China

In 2011, China's urbanization rate exceeded 50% for the first time, which means that China has changed from a vast agricultural country to an urbanized industrial country[1]. Although the change of this model has brought many positive and positive social impacts to people, the previous model of China's traditional new urban construction completely ignored the natural ecological relationship that emphasizes the harmonious development and coexistence of human beings and nature, breaking the balance between the development of traditional urban collective economy and the natural ecology of the city. With the rapid advancement and development of new urbanization and the booming construction of large urban agglomerations in China in recent years, a series of serious urban water resources ecological environment problems such as rain and flood, urban waterlogging, water system environmental pollution and water resources shortage have gradually emerged in front of people.

With the selection of the first batch of 16 national sponge pilot cities from all over the country from the end of 2014 to the beginning of 2015, the construction and management of China's first batch of sponge pilot cities have begun to be fully and deeply carried out, and the concept of "sponge city" has also begun to enter the vision of modern people's daily life[2]. The so-called sponge pilot city, as its name implies, is to transform the environment of the whole sponge city into a giant sponge, which has a strong self-regulating ability to various natural environmental changes and natural disasters. It reasonably absorbs, saves, processes and purifies various natural water resources of the entire sponge city in time, and sends the processed water resources to the time and place needed by the whole city in time. The construction mode of the initial batch of sponge pilot cities is a green and sustainable sponge city.
construction mode.

In the construction of a green sponge city, the supporting facilities that can effectively realize the comprehensive utilization of various water resources in the city are "sponge" [3]. The so-called sponge refers to the supporting facilities that can be used as carriers of various natural water resources in the construction of green sponge cities, such as urban landscaping, roofs of buildings and various natural water systems in other cities. Therefore, the first key point of building a green sponge city is to enable urban residents to make better use of urban water resources, fully absorb the rainwater in the city into the sponge of the city for rainwater storage, and then carry out further rainwater purification and sewage treatment and other supporting measures for the city.

2. Application of "Cavernous Body" Construction in Water Environment Treatment

The fundamental problem of environmental management in the construction of sponge-like cities is actually the problem of environmental management and utilization of urban water resources. In order to effectively promote the environmental management and construction of sponge-like cities, the environmental management and comprehensive utilization of urban water resources are becoming more and more important. How to maintain the ecological virtuous circle of urban water bodies and the ecological safety of sponge-like cities and promote the development and construction of water resources and green ecology in sponge-like cities is the ultimate construction objectives. In the construction process of sponge city in urban construction, the city's own river and lake sponge water system has already played a very important role, which is the basic environmental governance conditions that the city needs to have and rely on first in the process of developing the construction and utilization of sponge system of water resources in sponge city. Therefore, during the construction of sponge city water resources sponge, it is more and more necessary to make full use of the sponge city water resources environmental management of water resources construction and utilization development.

Water environment management is a comprehensive strategic social project with large quantity of work and a wide range of implications. It must be planned in a unified way. However, water environment management has the following shortcomings:

- The scale of governance is relatively small and scattered.
- The regional differences in governance are large, the requirements for governance are not high, and the management level is low.
- No attention is paid to sewage treatment, less funds are invested, and there is no scientific treatment target.

Therefore, the above shortcomings can be solved by integrating the construction of "sponge" into the water environment management, and the goal of sponge city construction can be better realized by incorporating the concept of water environment management into the overall planning of sponge city construction. Moreover, the water environment management is to achieve the goal of water control and quality improvement through such actions as rain and sewage diversion, river water desilting, bank reinforcement, landscape greening and the construction of ancillary structures. At the same time, the management of water environment has also eased the protection and restoration of rivers and lakes in the city to a certain extent, and has created and provided supporting conditions for the business promotion of water resources safety guarantee in the city and the continuous improvement of scientific research level of water environment management.

3. Restoration of "Cavernous Body" by Water Environment Treatment

At present, if the natural water body and land in the area near the sponge river are polluted and seriously damaged to a certain extent, it is usually possible to completely lose the ability to reasonably save and regulate the natural rainwater under such circumstances, and it may have adverse effects on the daily life and health of the urban residents in the vicinity of the river basin to a greater extent. For urban natural water bodies seriously polluted by water environment, they not only sometimes emit a foul smell in the air, but also do harm to their human health. From now on, it can be seen that the serious pollution of the water environment has seriously affected the comprehensive image and development of the
natural water body in sponge city and the living and health level of residents in the city. Therefore, under the current circumstances, the "sponge body" and the land in the city that have been seriously polluted and severely damaged must be repaired \[4\] to support and perfect the natural water resource circulation system in sponge city and build a good city "sponge body", providing important help for the planning, construction and development of sponge city. In the process of planning, construction and protection of sponge city, the most important protection measure is to strengthen the planning and protection of water system wetlands, especially the planning and protection of water system wetlands such as pits, ponds and ditches in the lower regions of the city. Random landfill should be strictly prohibited and a large amount of garbage should be put in, so as to effectively avoid waterlogging of sponge city caused by environmental pollution.

At present, there is a variety of comprehensive ecological restoration techniques for urban "sponge". The most common and effective restoration methods are mainly physical sewage discharge and screening, which include two main methods of urban sewage interception channel dredging and urban microbial comprehensive ecological restoration \[5\].

Among them, the two methods of physical sewage discharge and screening are aimed at controlling the discharge amount of various urban pollutants starting from the frequent occurrence of urban pollution incidents and one of their sources, improving and strengthening the integrated treatment system of urban sewage pipe network and the integrated treatment system of urban domestic garbage removal. Through the integrated treatment system of the national urban rainwater and sewage diversion pipe network, the industrial production and domestic sewage on both sides of the river basin can be effectively guaranteed not to enter the urban rivers fundamentally. At the same time, the two comprehensive treatment methods of hydraulic flushing by machinery and tools are organically combined, and sewage and sludge microorganisms in urban canals are cleaned respectively in drought and waterlogging periods to remove pollution in the canals, thus reaching the ultimate goal of ecological restoration of urban "sponge body" environment.

Environmental bioremediation technology the ecological water environmental remediation technology is a new type of environmental biotechnology developed with the rapid progress and development of modern science and technology in our country and the further in-depth understanding and research of natural laws. It makes full use of the normal life metabolic activities of water microorganisms, plants and aquatic animals to the maximum extent and realizes the effective cleaning of various pollutants in urban rivers and lakes. These pollutants are effectively transferred, transformed and effectively degraded through the metabolic process of microorganisms in the water body, so that the self-ecological purification of urban rivers and lakes and their ability and flexibility to resist environmental pollution are greatly enhanced and enhanced, thus effectively achieving the natural ecological balance of urban water bodies. This is the greatest advantage and characteristic of the modern environmental biotechnology, and at the same time, it is conducive to reducing and reducing the cost of urban construction and environmental maintenance management. Moreover, this technology can create and present a beautiful environment and picture of harmonious coexistence between human beings and nature. However, according to the actual situation of ecological environment management of urban rivers and lakes in various stages of our country at present, the safety and popularity of using new bio-ecological water environment restoration technologies and methods to restore the urban river's and lake's environment are not high. Relatively speaking, the research and development of aquatic organism restoration technologies with effective urban purification effects are still immature, and more human and material resources and a large amount of funds may need to be invested.

Therefore, in the actual construction and restoration process of the city "sponge", it is necessary to select the appropriate combination of technologies according to the local actual situation, water area, pollution degree and other related factors, combined with the characteristics of different water environment treatment technologies, so as to obtain the best restoration and treatment effect on the city "sponge".
4. **Conclusion**

Through the construction of water environment management, the seriously polluted water body will be repaired and renovated. We should adhere to the governance principle of "controlling point source pollution, reducing non-point source pollution, controlling endogenous pollution and intercepting exogenous pollution". Strengthen the management of water environment, restore the ecological environment of the river basin as soon as possible, build a modern sponge city, realize the design concept of sponge city, and create a new sustainable urban environment more suitable for human life.[6]

Combined with previous studies on sponge city and water environment management, we can see that water environment management have a profound and important restriction on the construction process of sponge in sponge city. Sponge city construction is mainly practical. Relying on reasonable water environment management, urban rivers and lakes water systems are now widely used to solve the problems of environmental pollution, deterioration or flood disasters in ponds and wetlands. The construction form meets the needs of modern city construction and development.

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