

The role of garden plants in the construction of sponge cities

Wang Lina

Anyang Huan with , Anyang, Henan 455000

Abstract: Sponge City as a scientific method of urban construction , It can collect rainwater effectively , at the same time You can release it when the city needs , Efficient water resources , Maximizing the use of water resources . This mainly lies in the garden plants can receive and net rain , to assist in addressing stormwater non-point source pollution and water storage cycles . based on this , analyzing the role of garden plants in the construction of Sponge City .

Keywords: SpongeBob City ; Water Ecological Infrastructure ; Garden Plants

1. The role of garden plants in the construction of sponge cities

1.1 Reduce the flow rate of rainwater , Reduce soil erosion

The same forest plants can effectively reduce the flow rate of rainwater , to reduce the rain on land flushing , avoiding land loss . if Heavy rainfall , Rain will form runoff on the surface m^2 -, when it passes plant canopy , leaf when , Gets its resistance , Reduce the flow rate degree . Thus the impact of rainwater runoff on the soil will be relatively small , no will cause excessive damage to the soil structure , keep water and soil stable .

1.2 absorbs part of rainwater

plants are reservoirs in nature , for keeping water and soil and storing Water has a very important effect . trial proof , if 1 HM^2 Forest root all reach 1 m , to store 2 m^3 Water , gan ' and in rain come temporary , its 1 H can also absorb 20~40 T Rainwater . year of love conditions , the water absorption capacity of the land without trees is only its 1/20.

1.3 Clean Rainwater

Research shows that , plants can purify the air , can also purify the rain Waters . The composition of rainwater is more complex , except moisture , and nitrogen, phosphorus , and potassium , growth elements that are necessary for plants , plants can absorb rainwater with the same absorbing these elements , promoting tree growth . rinse with, Many plants in Some by-products are generated during growth , can effectively kill rainwater bacteria , start to purify rainwater .

1.4 increases the infiltration of rainwater

To build a sponge city , It can be planted again for the city the corresponding same forest plant . in the rain to the temporary , to let The Rain pass the plant effectivebuffer , make it permeate to the soil as much as possible , increases the infiltration capacity of rainwater .

2. application of garden plants in the construction of Sponge City

2.1 Wetlands common with

Copyright ©

This is an open-access article distributed under the terms of the Creative Commons Attribution Unported License

(<http://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Survey Discovery , If the habitat type is used as the basis for partitioning , Current Urban Commons are mixed forests , sparse Forest Lawn , Scrub Habitat list \$, No water habitat or forest habitat . Water habitat is available with on city storage , The ponds for purifying or stagnant floods , River Wetlands, etc. habitat . in the present a considerable portion of the river is used in later construction multi-channel , does not fully utilize and develop water habitats . to Resolve the above problem can be combined with Sponge City construction , wetlands Common is a good pattern .

2.2 Green roof

At this stage , Roof greening design is already more mature . whether for plant configuration , or selection of roofing material , and related storage construction of water facilities etc. , all have very good choice and design side case . The plants used for roof greening are usually small trees , low shrubs and plants etc with good wind resistance, anti-ten drought and viability of plant things , In the specific design can be based on the specific circumstances of the comprehensive selection and the with . roof Greening drainage system is very critical , need to ensure its Smooth drainage at the onset of rainstorm , gan • and to avoid clutter blocking rows Suijie Road , also need to install a filtering device at the drain port . roof green from building roof codes have 5 layer , from bottom to top to waterproof layer , row (saving) water layer , Quarantine filter Layer , matrix layer and plantation layer survey found , in the city's Old Town K No roof greening applied , Rinse Some of the new buildings have a roof green , But because of the wood problem , -no roof Greening fully implemented T process construction , only Jane field construction . is less eco-efficient .

2.3 Street Small green space

so-called street small green space , refers to a small, lower-concave green To subdivide to street K in , Use the link green path to change the traditional planning mode for centralized green space . This type of decentralized lower-form green space footprint small , Flexible layout forms are beneficial to this type of Greenbelt On Site Status requirements . through runoff simulation analysis of site conditions and runoff coefficient calculation , Sinks Moisture K design Rain flowers with , Gravel ditch , 10 pools ,Grass Ditch , to reach the rain and flood storage , to mitigate waterlogging and other purposes . Plant configurations often use plants with good surface growth , such as Wolf , Iris , Fine Miscanthus , yellow calamus and T inflection etc , highlighting small green spaces The function and landscape effect of rain-water flowers , in seasons and rainy seasons Unique Landscape .

3. Epilogue

Sponge City as a scientific method of urban construction , can be real Current water resource utilization maximum . This is mainly in the same forest plants can receive and purify rainwater , provides help for resolving stormwater non-point source pollution and water storage follow ring .

References

1. Zhou Di . Sponge City application in modern city construction [J]. Anhui Agricultural Science , 2015:174-175.
2. Yu kongjian , Li Dihua , Hong Hong , Sponge City theory and practice [J]. City Planning , 2015 (6) : 26-36.