How to realize sponge city in Urban garden greenbelt system

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Abstract: In recent years, sponge city becomes a hot word on urban planning and landscape design in the world, from low impact development rainwater System Build. Urban green space system as an important part of the City Construction of Sea Association, in the beautiful green landscape, and social features and the basis of ecological needs, also need to practice its seepage, Backwater, storage, Clean Water, the contribution of drainage and water for urban stormwater management, to address the problem of urban waterlogging and drought, restoring natural drainage City.

Keywords: sponge City; City Garden green space; Green Design

building SpongeBob City Heavy to speak, require priority in upgrading urban drainage systems rain stay, Give priority to using the power of nature more, construction naturally Accumulate, Natural Infiltration, Sponge City of Natural Washlet①. Natural accumulation, -peak Storage, controlling runoff; Natural Infiltration, that restores The ecology, Natural circulation; Natural Washlet, To reduce pollution, Improve water quality. 2006 year, Beijing Tong Lin Green Bureau release (Notice on the development of conservation-oriented greening work in the forest, strong Advance Rain-type green space Construction of. so far, China Several cities approved in line Sponge City pilot project construction, The implementation methods of these pilot construction projects have the different, But the purpose is the same, Once a certain method is in the pilot project Good effect, can be extended to other sponge city building areas.

1. Sponge City background

Traditional city development, is a solid, Pouring concrete roads and Building, or large area hard paving, etc., in this case, Most of the rain does not naturally penetrate the soil, When runoff is large, it will be from to accumulate on the ground when emissions are less than times, occurs in urban waterlogging. When the rain is low

Core, Rich Terrain, has a high, Low, Water, Land, Overcast, Yang, forward and back Artificial micro-terrain foundation for ecological conditions such as, This is not only green for the public the, provides a variety of ecological conditions, And for the creation of a rich Commons, the view types and levels provide extremely advantageous conditions for, now, with inner green more thick, Healthy Well, But plant layout, planting Way too Drab,, less-than- shrub variety, Floral variety not rich, lack low-levelGround by plant. so, People's common planting feature not only to echo the Four Seasons Clear Natural climate features, and plant diversity, landscape types are abundant rich, Creating colorful green plants individually, Patchwork plants Community, forms a different green space. cultivation is large, bold lines, large block. with contrasting, simple and crisp colors, embodies times special sign, gives a strong sense of the era. focus on greening plant levels vs colors, highlighting the landscaping

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advantages of scale planting, highlighting spring flowers, Summer flower, Summer shade, Autumn Qiushi, Seasonal plant landscape in winter.

Shangyang Park the same class as the, because the design of a Class View is not Same as general viewing design, It meets landscape requirements,, you must also fully display the ornamental features of a class of plants, embodies a special class of plants personality Characteristics, so, planting to be a special type of plant for the keynote, the is appropriate for with low flowering shrubs, deciduous and evergreen trees, combining rocks, plants view, create comfortable and rich scenery flower environment, cropping practices to break Traditional Nursery, Taiwan mode, with rich environment background, Multi-corner Show the color beauty of a class of plants, Group Beauty, do point, line, surface knot close, and combine the elaborate embellishment of the rock sketch, sketch out the unique and far-reaching mood, both highlights " Special " features, with " Specialized win, and the limited Create rich and colorful, clear hierarchy of plant landscapes.

Plain Common is a small fellow with the theme of JIANGNV story legends, planting to be in Chinese classical same forest dot planting, Cong main, gesture, heavy style, heavy mood, to create a poetic charm, Love-View, Love A view of the blend, uses high-density, multiple shrubs, evergreen tree More significant methods, Place a few places in the downtown, quiet elegant, exquisite appropriate, Change more interesting.

Xiaoh Pang can Next to the Lotus leaf Infinity, Ying-day Lotus other Red " variety Lotus Main view, crape myrtle, Iris to match scene, highlight Summer view; "The same with prominent Sophora japonica " features of Ginkgo, through solid image such as green carving Show Plant culture, Reflection Theme,, highlighting personality.

Wei The Weeping Willows to the main landscape tree, synaptic; out willowy willow with wind dance " features, multiple spades, crape myrtle, colorful flowers like Acacia wood, to add " map watermark Shade fun, and so on, making visitors walk in the same road on or boating on the water, to get a glimpse of the common plant landscape.

focus on designing with the theme and environment conditions of each park

According to the common theme and environment conditions, is passed with a strong Regional features, well-designed, beautifully styled, different common facilities, like sculpture, Floor Coverings, lighting, Skin Box, Guide Sign, seat sit, superscript tags and Rest frames, embodying common personality space, Show Rich and strong cultural connotations and details, highlighting unique common culture, Make each " As a place for recreation and culture, cultural connotations in leisure,, Leisure permeates cultural meanings, To become the Urban spiritual civilization matrix to, Intuitive window of civilized level, City Modernization, the epochal pacesetter, Enhance the understanding and edification of the public culture by visitors.

Summary, increasingly frequent information exchange in modern society, promotes different The culture of the region learns from each other and borrows from it, many are ships to product, is the designer's main landscaping tool, There are also successful Cases. But that doesn't mean simple copying, Mutual Assimilation and lose character, believe in the development of the future, after constant Explorations and Practices, will create more and more features of the age, have fresh Clear features, a city with a local style is the same as.

To resolve a short period of time rainfall frequency, waterlogging severity, 10 Drought, water shortage long Obsession, researcher proposes low impact development, emphasizes that town development should be reduced by Less impact on the Environment’ based on source control and buffer load concept, add Add infiltration area and water, Increasing drainage, reducing runoff, reduce silt Stack, make the development area as close to the water cycle status as before development, with a view to to alleviate urban waterlogging problems, at the same time, developing rainwater system, Save Rainwater and Take advantage of, can be used for green use on one hand, Landscape water, PR toilet water, on the other hand can reduce ground drainage, significantly
increased Rainwater Utilization.

2. Sponge City and Urban garden green space

SpongeBob City accompanied by urban flood control and waterlogging rise, requires city city planning, building, drainage, Road, to co-ordinate with departments such as forestry and transportation, coordinated construction. and city with Forest Greenland system, Main include Commons green, Community Satellite Green, Road green space, areas such as waterfront and City square, How to better understand and try to be a sponge city in these areas the rationale for the SpongeBob requirements, is the focus of the discussion in this article.

3. understanding of Sponge City by Green space design

The generally considers a sponge city to include infiltration, Lag, Storage, Washlet, use and row several technology, some methods can be used in the design of urban-green Greenbelt The body to implement these procedures.

3.1 infiltration

that is, natural infiltration, by building a green roof, High permeable surfacing, gravel floor and natural ground, water permeable floor coverings parking and people's line square, restore Ecology, returns to the state of the natural hydrological cycle, can intercept more more rain in urban green areas, and reduce surface when concentrated rainfall runoff. If you are laying in a gap in the same case, sanding, nested Grass, or using permeable asphalt mixture, pervious Cement concrete, Permeable Road tiles and other porous materials can be implemented. Practice Certificate, through high permeability the infiltration and impoundment of road surfaces, can reachdrizzle not wet shoes, heavy rain no water effect, as it is named Sponge Super Absorbent, Resolve City waterlogging problems.

3.2 Lag

that is, building a lower-concave green space, Square, Grass Ditch, eco-buffer with apply, reducing runoff rate, The also increases by extending the drain time downprecipitation, increases the likelihood of natural extinction, city in the same forest green space, in the same Place. Take measures to control storm runoff using landscape space, can be large greatly reduce urban non-point source pollution. If a permeable cloth is added to a drain ditch and the cobblestone, can effectively slow down the flow rate, can also filter the mud brought by rain slag, reduce pipe dredging frequency, only require a regular replacement of the permeable cloth.

3.3 Storage

that is, peak storage, protects the wetlands and waterfront areas that are not developed by, Restore and transform corrupted water systems, local design including storage pool, rain pot, wet-pond, Rainwater harvesting in the rain wetlands, etc. storage Facilities.

3.4 Net

that is, natural washlet, To work with nearby. design Natural hydrological cycles and process Systems, Restore or rationalize the construction of constructed wetlands, put impervious Waterfront hard paving to eco-gentle slopes, make full use of plant backwater and washlet the role of water bodies, to reduce pollution, Improve water quality, and the bin The Water area green space forms a distinctive ecological landscape with.

3.5 with

is an in-place Loop, in our country with the green water still mostly from the "Living Water for residents", resulting in a constant intensification of the conflict between the Green water for the same forest and the water for the residents escalation. near rainwater storage facilities, include same forest landscape water, Green water for irrigation, Public Health water, etc., All can The extracts the initial washlet to use the. especially in less rainy season, move can effectively reduce the amount of washlet water in the factory, for resources is a good Protect and Reuse, as its name is Sponge High Drainage of.
3.6 Row
To widen the channel, Dredging, Restore Natural system connectivity; combines Perimeter Municipal road network and pipelines, Implementing stormwater diversion Pipe network construction, high standards Rain pipe net, runoff transformation, etc., to achieve total rain and waterlogging Control requirements. Street Greenbelt, to intercept perimeter catchment area domain runoff, and cut rainwater runoff through sponge facilities such as vegetation buffer zone flow rate and pollution load.

4. Issues to note

Although the voice of SpongeBob City is very high, Many cities also make A lot of effort and practice research, But there are still a lot of questions that need to be Note, ① for the stability of permeable pavements, for different load required permeable pavement, developing special structure to load up; ② in rain dirt row Port Planning Wetland, Increase the proportion of plant Washlet, restore Natural ring Water system washlet in [ ]; ③ In the sunken green space, around cistern and Eco-buffer zone to select a flooded plant, avoid damp and stagnant areas The plants in the field are flooded; ④ Micro-terrain adjustment in low-lying areas, Rich Landscape form; ⑤ because of the small size of urban green space in China, surface water pollution Heavy Duty, green space How much water and water can be taken to the optimal control The function also needs deep research and discussion. ⑥ SpongeBob City system to build a certain level of culture, for effective fit SpongeBob City Department build this feature, in the construction of the same forest Greenland system, certain to ensure that the city's human and material resources are adequate, based on different Regions make different building plans.

the infiltration of urban and forest Greenland to rain water, Stores, filtering and emitting, then stream human constructed wetland natural washlet, or native ecological channel, Stream to city with Forest Greenland, Mountain, To do soil and water conservation and rainwater savings using, makes the City green space to maintain a rich natural landscape based on, implementation like Sea cotton the ability to absorb water and to drain in a timely manner, and has for natural disasters Good response, better assist the city in urban green space system City Complete the evolution of the sponge City, Achieving sustainable urban development.

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