Analysis of Construction Key Points and Maintenance Measures for Urban Landscaping Projects

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Abstract: With the sustained growth of China's economy and the acceleration of urban modernization process, the development of urban landscape has also entered a new stage. This paper analyzes the construction key points and scientific maintenance methods in urban landscaping projects, aiming to improve quality of construction level and fully play the role. The maintenance measures will be formulated in accordance with the key points of the construction of urban landscaping projects, so as to provide effective reference opinions for construction personnel.

1. Introduction

In the background of the rapid urbanization, urban landscaping projects have become essential for improving residents' living quality and environment. High quality urban landscaping can regulate climate and provide a natural environment in the wider range of the city, meeting relevant people needs for optimizing living conditions. Some others, such as how scientific the construction of the project is and how rigorous the maintenance management is, will reduce its effectiveness. But the landscape effect is not very ideal for some projects, mainly due to the lack of maintenance management level and some non-standard construction. It is therefore important to study the key points of construction and maintenance measures of urban landscaping projects from it.

2. Construction Key Points of Urban Landscaping Projects

2.1 Construction Preparation Key Points

Construction aspect preparation is important for simplifying urban landscaping work in an orderly manner and concern about how well to do next construction efficiency [1]. In the construction preparation phase, complete preparations should be made around the site and implementation of the construction plan, with three specific notes in particular:Site Survey and Cleaning: Arrange a professional team to conduct on-site observations of the area of design rank (power plant) ensuring a broad understanding of underground pipeline dissemination files and soil fertility conditions within the field by precisely marking surrounding buildings by geography points, effectively preventing damage to infrastructure during construction. At the same time clear all construction rubbish and other detritus off site as well as dealing with standing water in low-lying areas to allow for future planting. Construction Plan and Technical Disclosure Optimization: Based on the design drawings and site conditions, continue to iteratively improve the construction plan for specific elements such as plant planting sequences, terrain shaping parameters [2]. After determining the construction plan, organize technical personnel and supervisors to carry out technical disclosure, clarify design intent and key construction procedures so that all parties have basically the same construction requirements. Acquisition and inspection of materials: to procure organic fertilizers, irrigation equipment, etc. according to the constructor list, as far as possible to select varieties with strong adaptability & ensuring that seedlings meet the planning requirement to avoid procurement of deformed seedlings. Staff Coordination and Equipment: Professionalize the construction team with technicians who have experience in greening. Define the duties of each job title, tell construction personnel what safety skills should be applied, and understand in detail the basis for gardens to be constructed and how seedlings will be planted [3]. On the one hand, tireless view and

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debug construction equipment, like excavators and transplanters which can guarantee good performance. Choose small tools like rulers and hoes as needed in construction so that there are enough equipment and tools to carry out the construction work..

2.2 On-site Construction Handling Key Points

On-site construction, connecting preparation and implementation for urban landscape projects, directly affects the survival rate of plants as well as the quality of landscaping [4]. Below are the elements which may require on site construction:Predicable Site Preparation and Topography Shaping: Modify ground elevation according to design specifications, utilize machinery to maintain ground flatness; ensure slope conforms to drainage necessitates without water pooling. Where you are requiring undulating terrain, position backfill the planting soil in layers compacting the soil to make certain there will be no lasting negotiation later on. To scientifically set the functional area, using lime lines to boundary, do good cleaning of gravel and debris on site as much as possible so that it can clean up the sanitation of the site and create conditions for plant growth during construction. Standardization of Planting Trees; Excavate pits for planting, and according to the seedling ball size, the bottom of the pit fills in the relevant rotten-matured organic fertilizer and planting soil. 003 planting seedlings will be upward from the verticals, to logistical processes in back-fill soil layer by layer compacted watering root-fixing water, and completed forest dam establishment. If the design calls for it; remove sod or grass, combine trenches as designed spacing patterns hot gaps, spread roots while planting and plant at similar depth of original growing soil mark. Construct Supportive Facilities: Encourage the construction of irrigation systems and all planting content parallel. Arrangements of sprinklers and drip irrigation droning pipes must be engrossed at einen advantageous profundity because of their relative origin pipelines. During withstanding water leakage, carrying out pressure test post installation. It's a good idea to wrap landscape features you may build in the planting sections with colorful strips of cloth, so that mortar and various other materials do not pollute your soil. If newly constructed sites are not cleaned up quickly, restored green spaces will be damaged and would soon be dirty; equipment litter an ever greening landscape. Collect, excavate and set up dynamic management on website: put protection notification postings prohibiting outsiders from getting access to the creation place. Ensure that people are always on standby for patrolling and immediate response to such issues as pipeline damage. Effectively preventing dust at construction time and protecting planted seedlings from extreme weather events ensures the operation of the construction process as well as normal conditions for maintenance work.

2.3 Plant Cultivation Key Points

Planting is the basis of urban greening project construction, which has a great influence on the later stage landscaping effect and seedling survival. Work content: Design and construction of plant cultivation →As far as possible to choose strong stress resistance and adaptability, suitable for the following work:Seedlings strict screening Planting seedlings. Such as when planting seedlings, according to the requirements of design specifications for construction work, to check whether should meet basic conditions such as size (diameter at breast height) and so on, Appropriate error measurement does not exceed ±5% other Ground cover selection should choose root system development well seedling sheltering plantation age must not be used maintain cultivated plants quality [5]. Preplant Treatment: When seedlings arrive at the planting site, cut off thick roots and diseased or dead branches so that there is a clean cut. For seedlings of trees, root trimming should not exceed one-third. Bind loose soil ball seedlings with straw ropes, soak bare-rooted seedlings in rooting agent solution to improve rooting ability. In the high content of soil test and horizons will be modified with the degree of fertilizer, the average leaf green is worse than 1500 ~ 2000 kg rotten matured organic fertilizers per mu. Utilization of Sulfide Powder Add sulfide powder in saline-alkali soil to adjust the pH value and create a suitable environment for seedling growth.

Full Control Cultivation Fields: When planting trees, its diameter is about 40 cm larger than that of the soil ball. Its depth is about 13 cm higher than the above soil ball. But the shrubs and the plants to be grown for more than one location, but also requires gardens from designers to trench

digging, well and truly because of its depth.

2.4 Construction Progress Control Key Points

Controlling current construction schedule within reasonable scope can guarantee the high efficiency delivery of urban landscaping projects and help prevent delay. The points can be summarized as follows:Preparation of Top Level Execution PlansClearly determine the start time for site preparation and facility construction, and refine construction tasks for each link according to the total project duration requirements. An example could be to define time nodes for selecting seedlings and when to plant trees [6]. Designate certain workloads such as 70 shrubs planted per day and leave some buffer time to respond to events like extreme weather and for greater flexibility in plans. Dynamic Construction Progress Monitoring and Feedback: Perform exhaustive monitoring via on-site inspections coupled with IT tools. Employ special personnel on a regular basis to check the deviation between the construction progress and progress technologies, such as the completion degree of facility construction, at intervals and fill in the checks collected in the construction progress ledger. Utilize project management software to continuously update construction progress data and provide comparison charts visually demonstrating the backward links in the construction. Establish construction progress coordination meetings regularly, analyze the causes of construction deviations, and dynamically adjust subsequent construction plans in time so as to avoid the accumulation of construction deviations.

General optimization of layouts: Schedule advance storage of materials, in line with the construction plan progress, and sign supply contracts from machine lessor and seedling suppliers ahead of time to ensure delivery times. Optimized arrangement of human resources on scientific base, flexible adjustment and deployment of construction teams according to construction intensity. For example, in the period of concentrated seedling planting, moderately increase the number of planters to ensure that sufficient manpower is provided at each link. Arrange for shipping of equipment in a timely manner so that key links are built in an orderly manner. A scientific distribution of equipment used for pressure test irrigation systems will be prioritised to construct the system, which can improve the quality of use of these types of equipment.

3. Maintenance Measures for Urban Landscaping Projects

3.1 Fertilization and Irrigation

Irrigation and fertilization are relevant links in the maintenance of urban landscaping projects, which will directly affect the landscape effect of plants as well as their growth conditions. In this respect, maintenance personnel should scientifically take relevant measures according to the characteristics of the plant and seasonal changes. Scientific Fertilization to Reduce the Nutrient Requirements of Grows and Growing Plants:Maintenance personnel should adhere to the principles of appropriate time and right amount for fertilizing as well as use rotten-matured organic fertilizers like sheep manures at priority plan walking side, supplementary fuel or slow release water-soluble compound profit, preventing sole applying chemical synthetics promotes potting soil compaction. Move forward by using nitrogen, phosphorus and potassium to fertilize trees in order to ensure an equal amount of nutrients growth. Spring is the main fertilization period from the aspects of fertilization timing and method. Use "spring greening fertilizer" before shrub buds, dig out trenches (30 cm deep and 20 cm wide) along the periphery of the tree crown projection, bury fertilizer in soil. Use organic fertilizer in fall to improve cold resistance of plants Form of gardening extra fertilizers after flowers to shrubs that suck them dry [7]. Maintenance staff should evaluate the fertilization amount according to plants specification. If the tree DBH is 10 cm, for example, than only enter 7 kg of organic fertilizer, to avoid over-fertilization hunting burning roots. Water immediately after fertilizing to ensure nutrient uptake.

Moderate irrigation and reasonable supply of plant waterMaintenance personnel should follow the principle of moderately dry and wet in irrigation, adopt sprinkler Irrigation,Falling rain,Drip irrigation etc. For watering trees, water them with a drip, in the area of spread of roots. For watering

according to season time and volume of water. For instance, increase the frequency shallow irrigation as needed during early spring to encourage the soil surface remain adequately moist. In summer it waters in the evening time, can include to body soil wetness beyond 30 centimeter deep, do not pour mid-day origin injury. Frequency irrigation is less than fall and winter,And drenches be in advance to cultivate the cold resistance of seedling.

3.2 Plant Pruning

Urban landscaping maintenance exercise reasonable pruning to shape beautiful tree forms and landscape hierarchy, regulate plant growth, and enhance plant stress resistance. Actual pruning is carried out according to landscape adaptation and growth as well as determined norms in order to ensure trees are shaped according to the needs of the landscape design. Hold an evergreen tree in a tall and straight shape, or trim shrubs with spherical forms. Keep healthy scaffold branches, and use efficient branch tips that won't be pruned to hold the vitality of trees in check. First remove all diseased, weak and overlapping branches, then shorten the too long ones so that there is enough light, reducing the risk of infestation of pests or diseases. At the same time, do a pruning which is specific for plant types. When trimming trees, the trunk should be vertical and cut branches drooping down low to an altitude of over 2.5m in order not to disrupt normal car traffic. Ornamental trees, such as magnolias and cherry blossoms: Prune at the end of their bloom to remove old flowers, leaving strong fruiting branches in order to reduce grass and other plants from consuming nutrients. Clipping evergreen trees should be restricted to light problems only, as heavy pruning brings havoc with the tree type and results in top (rearing) completing. For hedge shrubs like boxwood, for example, trimming should be done regularly to keep their height no taller than 1.2 meters tall the top should be slightly narrower and the bottom slightly wider; otherwise, the leaves, branches at the bottom are not getting enough light so it will wither. Wipe the yellowing leaves and only trim when pruning low-growing vegetation. Furthermore, during pruning of deciduous plant pruning should be carried out in the winter dormancy period, evergreen plants can be pruned according to the appropriate season (spring or autumn); Pruning cannot be conducted when it is high-temperature or low-temperature and severe-cold. Tools using a saw, scissors, etc to pruneMust be sterilized before use.

3.3 Plant Pest and Disease Control

Plant pest and disease control work in the maintenance of urban landscaping projects directly affects the healthy growth of plants. In pest and disease control, maintenance personnel should follow the principle of "prevention first, comprehensive control" and build a multi-angle protection system to achieve:

Establishing Protection Line Against Pests and Diseases: Containing the source of infection. Strictly implement plant quarantine system; Handle seedlings carefully when introducing them to prevent quarantine pests and diseases from the introduction of seedlings and to avoid the establishment of new pests and diseases. Plan your plant layout on a scientific basis, stay one bulk of pest-resistant varieties such as camphor trees in the species to avoid planting awkwardly a tree only and allow access beetles and signs of miniature animals. In terms of environment, reasonably adapt trees, shrubs, flowers and grasses to make the kinds of environment that are unfriendly to pests and diseases. In daily maintenance management, to strengthen the plant's resistance to stress through irrigation and scientific fertilization, timely maintain soil loosening in order to help plants grow roots healthily, improve fertilization accuracy based on the growth needs of plants [60], maintain a reasonable nitrogen phosphorus potassium ratio. Choose irrigation depending on soil wetness conditions to keep moisture without being waterlogged and avert root pests/diseases.

Using Comprehensive Control for Effective Pest and Disease Control: With physical control, Planted frequency-vibrating insecticidal lamps in green spaces according to the phototaxis of pests trap moths and other pests. Use "green" biological control measures, with more attention to protecting and utilizing natural enemies of insect pests (for example, releasing ladybugs to prey on aphids) and properly applying biological agents (such as Bacillus thuringiensis) for pest and disease control in an environmentally friendly manner. Chemical Control you will want to use as a last

resort. Use low-residue and efficient chemicals like imidacloprid for scale insects, but limit dosing strictly based on directions to avoid misuse.

4. Conclusion

In summary, urban landscaping quality and the future maintenance of a high level of construction directly affect the overall effect brought to us by urban landscape and peoples living atmosphere. The base of this project is construction on which maintenance is its support. It is only through the deep integration of the two that greening projects can evolve from short-term landscapes into long-term ecological resources, and a more efficient way to achieve "dual carbon" goals.

References

[1] Zhang Fang. Analysis of Construction Key Points and Maintenance Measures for Urban Landscaping Projects [J]. Ceramics, 2025(2): 187-188.

[2] Wang Jianghua. Analysis of Construction Key Points and Maintenance Measures for Urban Landscaping Projects [J]. Construction Science and Technology, 2024(5): 82-84.

[3] Wei Mengshi. Construction Key Points and Maintenance Measures for Urban Landscaping Projects [J]. Real Estate Guide, 2024(8): 197-198.

[4] Song Jianguo. Construction Key Points and Maintenance Measures for Urban Landscaping Projects [J]. Urban Weekly, 2024(19): 102-104.

[5] Zheng Hao. Greening Planting Construction and Maintenance Management Techniques [J]. Flowers, 2025(1): 115-117.

[6] Peng Dafu. Analysis of Construction Key Points and Maintenance of Landscaping Projects [J]. Flowers, 2024(20): 118-120.

[7] Wu Zhuojun. Construction Key Points and Maintenance Measures for Landscaping Projects [J]. Urban Construction, 2024(19): 331-333.