

Discussion on the Design and Construction of Urban Road Landscape Greening

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Abstract

With the rapid development of my country's social economy in recent years, the scale of urban road construction has become larger and larger. At the same time, it has also caused greater damage to the surrounding environment and urban greening. This will not only affect the comfort of residents' lives, but also affected the ecological balance of the surrounding area. Therefore, it is now necessary to integrate the concept of greening and environmental protection into the planning, design and construction of urban roads, actively preserving the surrounding natural environment, and at the same time adopting new environmentally friendly materials and green construction techniques to reduce pollution to the surrounding environment. On the basis of understanding the city's climate environment and native plants, strengthen road greening construction, so that in the process of urban road construction, the civilized image and cultural characteristics of the region are highlighted. This article discusses based on the above content, outlines the importance of road landscape greening, introduces some factors that need to be considered, and discusses the design measures and construction points of urban road landscape greening.

Keywords

City road, landscape design, road landscape, construction.

1. Introduction

Since the reform and opening up, China's economy has been developing rapidly, and in this development process, China's urban road construction standards have naturally been greatly improved, not only the road planning is more reasonable, while the actual construction level has also progressed. However, there are still some problems in the overall design and planning of the road, such as the current construction of many roads in the main consideration of whether the economy and whether to meet the amount of traffic demand, while ignoring the impact on the environment around the facility and damage. With the general improvement of people's quality of life, we began to pay more attention to green and environmental protection, the road planning and design should actively consider environmental protection, and in the construction of green materials to reduce the damage to the environment and new construction techniques, so that the surrounding environment and the construction of the road integration. In such a context, the requirements for road design is no longer just fast, safe and economic, but also needs to take into account the road landscape design to meet the aesthetic and comfort of people in the driving process. Road landscape design is a holistic design, not alone in the pursuit of beauty and ignore the overall comfort of the road, to the road itself linear structure and the road around the organic combination of natural scenery. In the process of road construction, it is necessary to design the surrounding landscape while paying attention to the protection of the natural environment and reduce the adverse impact on the environment.

2. Brief description and importance of urban road landscape greening

Literally, urban road landscape greening is the greening construction work of flowers and trees on both sides of the road and the central barrier, cultivating and maintaining them accordingly, so as to decorate the road, isolate the noise and purify the air [1]. As a key component of the overall planning, road landscaping plays an important role in the optimization of the ecosystem. Therefore, during the construction process, some basic principles need to be taken into account, ecological construction should be actively considered, and the main points of construction technology should be studied so as to improve the ecological environment as a whole and enhance the comfort of people's travel from the perspective of green environment, etc. [2]. In the past, we have been focusing on economic construction, thus neglecting the protection of the environment, and the damaged environment will in turn restrict the development of the economy. Road construction is an inherent need of our social and economic development, but while building, we need to make use of some new green materials, design concepts and construction techniques to make road construction while protecting the environment more, which is beneficial to the long-term and stable development of our society.

As our economy gets huge development, everyone pays more and more attention to environmental protection and also environmental protection. The Ministry of Communications has also promulgated many laws and regulations on environmental management to strengthen environmental supervision in road construction, this action greatly reduces the damage of road construction to the environment, but also makes the relevant units in the design process to take into account the protection of the environment. At the same time many new green materials and environmentally friendly energy-saving technologies continue to be applied in road construction, making the completed road can combine the environment with the road. For the environmental protection of road landscape design, must be based on the road and landscape construction reasonable combination of nature, not only to consider the basic traffic and other functions of the road, but also to consider the environment around the road, so that the road and the surrounding environment as one, to the driver and the surrounding public psychological comfort.

3. Exploration of urban road landscape design based on environmental protection

Most of China's previous road construction is simply for the economic development needs, resulting in the construction process caused serious pollution and damage to the surrounding natural environment. Therefore, in order to reduce pollution, save resources and protect the environment in the construction, the following principles should be achieved in the design stage. First of all, for some routes longer sections, in accordance with the different environments along the design of several different sections of the landscape, each section of the landscape design needs to be based on the local characteristics of plants and significant structures to design, while not only consider each section, but also need to combine the landscape of each section, the total route of the landscape needs to be harmonious and unified, constitute a step a scene and very harmonious road landscape, which has a sense of beauty. Secondly, in the design of the road linear and each section need to fully consider the topographic features of the area through which the road. There is also, the field investigation of the surrounding natural scenery, in as far as possible to retain the original plants on the basis of artificial compensation for greening and decoration, to enhance the beauty of the road landscape. Finally, in the design of road landscape must not blindly pursue beauty and obstruct the driver's vision, to set a scientific and reasonable landscape and artificial structures, so that the driver's field of vision open at the same time roadside landscape can correctly guide the driver's line of sight, the front of the turn and other changes in road conditions can prompt, improve the safety of road traffic.

3.1. Landscape design of structures

For the landscape design of structures such as retaining walls, bridges and noise prevention facilities, it must be fully integrated with its surrounding environment to ensure that the shape of man-made structures can be harmonized with the surrounding landscape. For bridges, the design of bridges should not only consider their stability, strength and infrastructure and other functional requirements, but also on the basis of which the bridge lines should be designed more beautifully and with new ideas, while the local characteristics can be incorporated into the design process of bridges. The design of the bridge should also be unified with other structures and roads, not too abrupt, to have an overall sense of beauty.

3.2. Refer to the service facility modeling design

There will be some service facilities on the road at some distance, such as road signs, traffic control centers, gas stations and other buildings. In this kind of building shape design, not only to consider the shape of the building, structure size and practicality and other basic requirements, but also consider the building and the surrounding structures and the organic combination of landscape, but also consider the building and the road alignment of the unity, to give drivers a good visual sense. In particular, when setting road signs and traffic signs, on the basis of not blocking the sight of road users, the size and shape should be designed so that the designed signs are both eye-catching and not obtrusive.

4. The basic principles and points of urban road landscape construction

4.1. Basic principles of construction

4.1.1. Integrity

Integrity is the most basic principle in the construction of urban road landscape greening, in order to achieve wholeness, in the process of landscape greening construction needs to be combined with the city's planning and construction to form a unified, so in the selection of green plants should pay attention to the selection of accurate and reasonable collocation, so that the road landscape greening construction can be completed with the ecological system and other buildings around the echo, to create a natural and harmonious green landscape. By referring to the previous road landscape construction effect, the green plant selection of tall, straight and dense trees is better, not only can purify the surrounding air, there and better ornamental and practical value, while achieving the greening effect, can better promote the surrounding ecological environment [3].

4.1.2. Locality

Since different cities have different geographical conditions, climatic characteristics and soil conditions, the construction of urban landscape greening for different regions should follow the principle of locality. In the construction, as much as possible to retain native green plants, based on this transplanting other plants and later maintenance and repair [4]. Retaining local plants can reduce the difficulty and cost of maintenance and improve the survival rate of greenery. The characteristic greenery of a city can also give a prominent representation of a city's characteristics.

4.1.3. Practicality

Urban greening is not only a beautification role, but also has a certain practicality. For example, the planting of trees on both sides of the road, not only to achieve neat and tidy, but also to achieve the effect of environmental protection and comfort, such as to provide shade for pedestrians and purify the air and other roles. For greening can not only choose a certain kind, should take into account the diversity of greening, the choice of the green plant does not make

sense to match, in order to improve the ornamental at the same time, should play a practical role of different plants to improve the effectiveness of the greening of the region.

4.2. Key points of construction

4.2.1. Pre-construction preparation

In the pre-construction of urban road landscaping, relevant investigation reports, contracts and various approval documents should be collected to understand the basic characteristics of the construction of the area, and to achieve strict control over some detailed parts to ensure the smooth implementation of the subsequent construction. In the early stage, someone should be sent to survey the site and collect information in many aspects, such as construction standards, climatic environment, soil characteristics, etc. The construction plan should be adjusted accordingly to these information to provide guarantee for the subsequent construction operations [5]. At the same time, timely communication with relevant departments should be made to confirm the use of both sides of the road, the arrangement of underground pipelines and the arrangement of drainage facilities for construction, etc. After the survey, a reasonable design of the construction plan is required to make adequate preparation for the subsequent construction. Before the official construction begins, it is also necessary to rationalize the construction process, such as the overall idea, specific requirements and construction steps, etc. Several talks can be held on various aspects, technical delivery, communication and exchange of construction drawings, and careful reading of the contract content to put it into practice. Select the construction operation machinery and check it, prioritize the construction ideas of the important and difficult points of the project, and ensure the completion within the construction period. For the specific process of construction, there are multiple processes such as site cleaning, measurement and alignment, mechanical excavation, guest soil, seedling starting, and pruning and maintenance required afterwards. In the process of developing the specific construction process, the topography and soil of the site need to be organized to meet the relocation of trees and the arrangement of municipal facilities in the subsequent construction [6].

4.2.2. Reasonable design of the construction plan

The above mentioned some requirements of road landscape design, and also in the construction process to reasonably design the construction program. In the construction process can not destroy the basic function of the road, in the specification requirements under the reasonable design of green planting, terrain transformation, site paving and greening maintenance and other construction plans and regulatory measures, refine the workflow to meet the local planting requirements and climate characteristics. The factors that may affect the construction should be strictly guarded against, taking into account the local climate and soil and other aspects, so that emergency plans can be developed and specific methods for carrying out the planting and pruning processes can be formulated [7]. The main branches are protected by the method of removing indeterminate shoots, and the new shoots with good growth are retained while the excess ones are removed to ensure the beauty of the tree shape. In the actual planting process, details are required, especially in the two aspects of seedling scattering and planting, and the location of the planting pit is determined according to the design plan using fixed stakes, and the whole planting process should be carried out gently so as not to harm the soil ball and trunk bark. The speed of scattering and planting should be controlled to avoid long exposure of tree roots, while the pit should be supported and filled with soil in layers, using the method of three burial and two stepping and mentioning, and the requirements and precautions of planting should be strictly implemented. Consideration should be given to the impact of airy paving on preparation at a later stage, and the corresponding paving method needs to be set according to the type of trees and the required nutrient area.

4.2.3. Control construction details

In the construction needs to control the details of many aspects, first of all, the most important is the intersection and the road landscape construction at the bend, need to control the height of the planted plants, to avoid the growth of plants to block the driver's line of sight, so that the driver has a good driving distance, can drive safely. Secondly, the trees at the bend need to be planted continuously as a whole while controlling the height, and the planting position needs to be chosen according to the change of the bend line, which can correctly guide the driver to drive safely through the bend. Finally, the road landscape and road vehicles need to be separated, do not allow vehicles into the road landscape, but at the same time choose the natural docking method will be a harmonious combination of landscape plants and vehicles. In the later maintenance operations, we need to develop specific construction methods to carry out irrigation and fertilization operations, according to the characteristics of different plants to choose different fertilizers and nutrients, and according to the characteristics of plants to improve the soil, to determine the frequency of irrigation. Consider the influence of different seasons on the growth of plants, and do a good job of post-conservation to improve the survival rate and growth rate of plants.

5. Conclusion

With the rapid development of China's highway construction, road construction should be environmental protection and landscape design continue to pay attention to the design and construction process should use new technologies and materials to improve construction methods. In the process of urban road landscape design and construction, it is necessary to design each different section of the landscape with different characteristics and different nature of the area design different landscape shape, but also the overall to achieve harmony, in the construction also need to follow the principles and combined with the investigation of the regional environmental information to improve the construction program. Every detail of the construction needs to be controlled, the transformation of the soil, the frequency of watering and the type of plant fertilizer should be taken into account. Through the design and construction of urban road landscaping, so as to better play the function of landscape greening, which can enhance the comfort of residents' lives and the comfort and safety of traffic, and enhance the effect of urban road construction.

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