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# Discussion on Environmental Protection in Municipal Construction

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**Abstract:** With the development of the urbanization process, the scale of municipal construction is gradually expanding. Municipal engineering projects are different from water conservancy projects, and their importance lies in the correlation between the construction of municipal engineering and the life and work of urban residents. Therefore, the impact of municipal construction is also very prominent, the relevant construction enterprises need to pay close attention to environmental protection in the construction of local municipal projects. The implementation of environmental protection measures is conducive to the formation of benign market competitiveness between engineering enterprises, meets the principle of sustainable development of the construction industry, reflects the social responsibility of construction enterprises, and guarantees the excellent and benign construction of modern construction enterprises. This paper briefly analyzes the environmental protection in municipal construction for reference.

**Keywords:** Municipal engineering; Environmental protection; Measures

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## 1. Municipal construction environmental protection analysis

With the development of urbanization, the scale of municipal construction is gradually expanding. Different from water conservancy projects, the importance of municipal engineering is that the construction of municipal engineering is related to the life and work of urban residents. Therefore, the impact of municipal construction is also very prominent, the relevant construction enterprises need to pay close attention to environmental protection in the construction of local municipal projects. The implementation of environmental protection measures is conducive to the formation of benign market competitiveness between engineering enterprises, meets the principle of sustainable development of the construction industry, reflects the social responsibility of construction enterprises, and guarantees the excellent and benign construction of modern construction enterprises.

## 2. The impact of municipal engineering construction on the environment

### 2.1 Impact on the ecological environment

Municipal engineering projects include urban roads, urban drainage systems supporting comprehensive pipelines, etc. The duration of municipal engineering is generally relatively long, there are uncertain factors, and the project is the characteristics of stage planning, resulting in serious damage to the original ecological trees and green space. What is more serious is that the large-scale construction of urban parks and green squares in municipal engineering, its soil filling, and excavation affect the daily living environment of urban residents. At the same time, underground buildings and surface hardening phenomena will also affect groundwater resources and the soil environment. Long time no treatment, there are potential dangers in the protection of the ecological environment.

### 2.2 Impact on the atmosphere

From the planning and design of municipal engineering to the completion of the project, it takes a lot of time. The large-scale machinery and equipment used in the construction and the concentrated residence of personnel will cause serious pollution to the atmosphere around the city. For example, the power source of the machinery and equipment used in the construction process is diesel, and the waste generated by the inadequate combustion of diesel will be directly discharged into the atmosphere, causing serious pollution of the atmosphere; In addition, the dust in the construction will also spread into the air, seriously damaging the environment.

### 2.3 Noise pollution in the surrounding environment

The project line of municipal engineering is long, the scope of the construction site is small, and belongs to the phenomenon of external

construction, in the construction of the project site is difficult to close, in the construction will use technical means to reduce noise, but the effect is not obvious, especially the noise pollution generated by mechanical equipment in the construction process. This affects the life and work of urban residents around the construction, and the scope is very large.

## **2.4 Impact on resources**

The construction conditions of municipal projects are difficult, and the problem of wastewater treatment and discharge generated in the construction process is difficult to solve. It is easy to discharge the wastewater in the construction into the municipal rainwater pipes or water resources, and the waste oil generated by various mechanical equipment will also pollute the water resources around the project. Not only that, the construction technicians live collectively on the construction site, and the domestic sewage is difficult to treat, which will also cause pollution and damage to the surrounding water resources.

## **3. Innovation of municipal engineering environmental protection measures**

### **3.1 Solid waste pollution prevention and control measures**

of municipal engineering construction waste should be started from the following aspects: First, carefully check and identify the waste generated in the construction of the project, and carefully analyze the source of these wastes, to solve the waste pollution problem from the source. The second is to survey these wastes, for the waste that can be reused, should be specially selected and reasonably arranged on the other side, to provide convenience for the reuse of these wastes in the follow-up construction, if the arrangement is unreasonable, piled up at will, then it will cause obstacles to the follow-up construction, for the waste that cannot be reused must be timely and properly dealt with. Should be for the category of waste, and targeted treatment methods. Third, the waste that has no reuse value is usually transported out of the construction site. To ensure that there will be no accidents in the process of waste transportation causing pollution to the surrounding environment, a reasonable waste disposal site should be selected according to the actual situation of the project, and a suitable transport route should be arranged. The transport route should not be too far away.

### **3.2 Measures to prevent air pollution**

The importance of air to human society is self-evident, given municipal engineering construction in the air pollution problem, the prevention and control measures have the following points: First, for the dust generated by the construction machinery and equipment operation, such as the dust generated by the excavation of the earth by the excavator, the excavation of the earth or the surrounding ground should be sprayed with an appropriate amount of water in advance, to effectively reduce the amount of dust generated. Second, if the municipal project needs to set up ventilation pipes, it must be combined with the actual situation of the project to do scientific and reasonable Settings, the exhaust gas generated from the ventilation pipes. Third, the construction of municipal engineering needs a large number of transport vehicles, these transport vehicles in the transport process will produce a lot of dust, the situation is serious, and can even see the entire construction site is filled with dust, not only seriously polluting the surrounding environment, reduce the air quality, but also to the construction site all staff life and health has a great harm. Therefore, should be combined with the construction site situation, set up a special transport road, reasonable arrangement of transport time, and the transport road for sprinkling dust work. If conditions permit, some professional and advanced dust and dust removal equipment should also be used as far as possible.

### **3.3 The prevention and control measures of noise**

Pollution should mainly start from the following aspects: First, construction machinery and equipment is the main source of noise pollution, and targeted prevention and control measures should be taken for the characteristics of machinery and equipment. For example, the noise generated by the concrete mixer, the use of commercial concrete can effectively avoid the appearance of noise; The harsh sound generated by the cutting machine should be carefully counted for the materials that need to be cut, and then specially arranged for a unified cutting during a certain period of time, and the cutting site will be set up mechanical shed, sound insulation layer and other anti-noise facilities. Second, strengthen the inspection, repair and maintenance of construction machinery and equipment to avoid the noise caused by the failure of construction machinery in operation. Third, a large number of transport vehicles need to be used in the construction of municipal engineering. The honking and launching sound of these vehicles is one of the main sources of noise. Therefore, effective measures should be formulated according to the actual situation of the project.

### **3.4 Measures to prevent water pollution**

The construction site should avoid being close to the water source as far as possible, and take certain isolation and protection measures for the water source that is relatively close to avoid the problem of polluting the water source. In the process of municipal construction, the mud waste water generated in the bridge pile foundation must first be deposited in the discharge to the designated place. If the waste water can be recycled, it is necessary to recycle and reuse, and spray the construction site to effectively reduce the dust content in the atmosphere and

improve the use efficiency of water resources. In addition, during the construction period, the sewage generated by the life of the staff should also be discharged through a special sewage pipe. If there is a problem of harmful substances in the sewage, it must be harmlessly treated and then discharged.

### **3.5 Proper layout of the construction field**

In the construction process, the mixing station, the living area of the construction personnel, the material prefabrication field, the sand and stone field and other production sites should be scientifically and reasonably arranged to ensure the construction progress, improve the utilization rate of the construction site, and reduce the pollution phenomenon generated during the construction. The layout of the construction site should follow the following principles: reduce the use of engineering construction facilities that do not necessarily need to be arranged; Sound insulation treatment around the construction site, and dust-proof green construction; Make full use of the original water supply and drainage pipelines in the construction site to reduce the workload when the construction is completed; During the construction, the surrounding open space and wasteland should be used as much as possible to ensure the construction progress and reduce the cost reasonably.

## **4. Conclusion**

At present, China is in the rapid development of urbanization, including the municipal engineering construction process for the environmental impact contains many aspects, how to reasonably reduce and effectively control the impact of the project on the surrounding environment, in order to maintain the social environment and ecological environment, construction enterprises should strengthen the degree of destruction of resources and environment, with the lowest energy and environmental waste in exchange for reasonable project construction, Not only can obtain economic benefits, social and economic benefits and use benefits, the completion of the unified principle of the rationality of the benefit of environmental protection, the realization of China's municipal engineering construction environment coordination and sustainable development strategy between the requirements.

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## **References**

- [1] WANG Ruifang. On Environmental Protection Measures in Municipal Engineering Construction [J]. Jinzhong Daily.2008 (03-13).
- [2] Wu Xiaofang. On Environmental Protection in Municipal Engineering Construction [J]. Modern Decoration (Theory).2012 (09-15).
- [3] Lu Sheying. On Environmental Protection in Municipal Engineering Construction [J]. Jiangxi Building Materials.2013 (02-28).