

The Discussion on Quality Control Measures for Municipal Engineering Construction

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Abstract: with the Rapid Development of Society and Economy, Many Cities Have Begun to Pay Attention to Municipal Engineering Construction. and the Quality Management of Municipal Engineering Construction is a Very Complicated Task, Which Requires All Staff of Municipal Engineering to Improve Their Own Quality, Establish a Sense of Risk Prevention, and Actively Learn Advanced Management Modes to Lay a Solid Foundation for Ensuring Construction Quality. At the Same Time, in Order to Ensure the Quality of Municipal Engineering Construction, Relevant Practitioners Should Also Fully Analyze the Factors That Affect the Quality of Municipal Engineering Construction and Relevant Quality Control Points, Continuously Improve the Work Content and Working Methods, and Fundamentally Improve the Quality of Our Municipal Engineering Construction.

1. Introduction

Under the Current Industrial Situation Where Intensive and Scientific Management of Municipal Engineering Construction Has Become the New Standard and Mainstream Trend of the Industry, It is Important to Strengthen a Series of Management Applications in Construction Practice, So as to Ensure the Safe, Rapid and Coordinated Operation of the Entire Municipal Engineering Operating System. This Link of Construction Management Has Gradually Highlighted Its Own Industrial Value and Economic Benefits in the Operation of Municipal Engineering. It is a Top Part of the Entire Industrial Chain That Industrial Operators Must Strengthen. the Formulation of Reasonable and Effective Management Measures with Suitability and Implementation is of Great Significance to Further Promote the Long-Term and Coordinated Development of the Municipal Engineering Construction Industry [1].

2. Municipal Construction Quality Control Requirements

In construction quality control, the principle of prevention first and quality first should always be adhered to. Project management personnel need to carry out scientific analysis and research on many factors that affect construction quality, formulate regulations for the quality management of municipal engineering construction, and then use micro-management methods to continuously improve the management work and increase the control of factors affecting construction quality of engineering projects [1].

2.1 The Project Body Controls the Project Progress

The project management department is the main body of the municipal engineering project control [2]. This also requires the project management department to give full play to its control role and function, and pay attention to the supervision and acceptance of project quality.

2.2 Establish Clear Quality Management Goals

The project management personnel should clarify the main content of the quality management objectives. The construction quality must meet the quality standards of the project design, and standardizing the local construction quality is the prerequisite and basis for ensuring the overall

construction quality of the project. In project construction, the project management regulations should be taken as the main basis, and the project quality management planning and construction should be strengthened to ensure that related construction and construction of municipal projects are carried out according to design requirements [2].

2.3 Actively Implement Quality Management

During the construction period of municipal engineering projects, the quality control system should be fully implemented and implemented, and the basic restrictive role of the management system should be actively exerted to enhance the standardization of management. And actively strengthen the management of the key links of the project, clearly establish the goals of project construction and construction, in response to unreasonable conditions in the project construction and construction, managers need to constantly adjust their own construction plans to effectively promote the smooth development of construction [3].

3. The Quality Affecting Factors of Municipal Engineering Construction

3.1 People Factors

Human factors will have an important impact on quality control in actual municipal construction. People are the main body of the project construction and will run through the entire project construction. In the specific construction, people need to operate in all links, whether it is from the leadership and management at the top or the specific construction below, it needs manpower to complete one by one [3]. Every work link from the top to the bottom requires manpower to operate with its own knowledge and skills, which is ultimately reflected in the specific construction quality. Therefore, the actual skill level of these related operators will have a great impact on the specific construction quality of the entire project.

3.2 Equipment Factors

In the construction of municipal engineering, a lot of machinery and equipment are used, and the degree of equipment mechanization is relatively high. The actual engineering construction quality has a great impact. Although the construction equipment does not directly affect the engineering entity, its indirect utility will still have a certain impact on the actual engineering construction quality [4]. Therefore, as far as the preparation of construction equipment is concerned, the construction equipment must be carefully selected in the early stage to ensure that it has certain advancedness and adaptability, so as to better meet the actual construction requirements. In addition, in the actual use of the equipment, the equipment must be regularly inspected and maintained to ensure that the equipment can operate normally and better meet the actual construction requirements.

3.3 Material Factors

In the actual construction process, the construction materials must be strictly controlled to better meet the actual construction requirements and complete the corresponding construction quality standards. For municipal engineering construction, the materials involved are mainly semi-finished products, finished products, raw materials, and some specific construction accessories. These materials are the basic material guarantees to meet the normal progress of construction. In actual engineering construction, if certain material problems occur, it will have a great impact on the quality of the entire project [4]. Therefore, in the actual construction process, the integrity of the construction materials must be strictly ensured. For the materials used in municipal construction, the types are relatively small, but the amount is relatively large, so if there are certain problems with the materials, the actual engineering quality will be seriously reduced.

3.4 Method Factors

Construction methods mainly refer to certain construction techniques, construction schemes, and related safety measures adopted by relevant construction units in order to be able to effectively

complete construction tasks and construction quality while performing construction in accordance with corresponding plans collectively. Among the construction methods mentioned above, the construction technology method for the project is the most important and will have a significant impact on the actual construction quality of the project. In a certain aspect, the construction progress and construction quality are mainly determined by the specific construction plan, so a scientific and reasonable construction technology plan is very important for the actual project construction [5].

4. Problems in the Quality Management of Municipal Engineering Construction

4.1 The Overall Quality of the Municipal Construction Team is Low, and the Site Supervision is Not in Place

At present, the municipal engineering is mainly in the form of contracting. During the construction process, the comprehensive quality of the construction staff needs to be improved. Many construction staff have not received systematic training and cannot meet the needs of the construction. In order to reduce the construction cost, without good instruction and training of construction personnel, it is not possible to ensure that all construction links are operated in accordance with standard specifications [5]. In addition, the density of the surrounding population for municipal engineering construction is relatively high, and there is also a phenomenon in which the role of supervisors is incomplete.

4.2 Lack of Scientific Nature of Construction Management System

In municipal engineering, the construction system lacks scientificity. Many units only pay attention to the construction progress, ignore construction quality, and cannot fully guarantee the construction quality. At present, the rules and regulations of many units are inconsistent with the actual conditions on the construction site, and there is a phenomenon of construction chaos, which affects the quality of construction [4]. Some construction units have not strictly implemented the regulations during operation, which has led to safety accidents.

4.3 Problems in Construction Process

The scope of municipal engineering construction is mainly concentrated in cities, and some urban land needs to be occupied during the construction process, which will affect the surrounding traffic to a certain extent. In the process of municipal engineering construction, due to objective external pressure, the construction cycle of the project needs to be accelerated, so new construction techniques and equipment need to be adopted [6]. However, in the process of project planning, traditional construction schemes and construction equipment are mainly adopted. In the process of site construction, no scientific and reasonable survey was carried out, and the relevant construction scheme was used directly, which not only brought a certain impact on the construction quality of municipal engineering, but also indirectly affected the entire construction cycle.

4.4 Problems with Materials and Equipment

In the process of municipal engineering construction, the quality of construction materials and the performance of construction equipment will affect the quality of municipal engineering construction [6]. The actual users of municipal engineering are the people in the city. Any construction omission and negligence in the construction of municipal engineering will cause huge hidden dangers to the later operation. In the process of municipal engineering construction, a large number of materials are used, including concrete, steel, cement, supports, vehicles, etc. In the process of procurement of construction materials, the production, inspection, transportation, and use of materials must be strictly controlled [7]. Only by ensuring the quality of construction materials can the overall construction reliability of municipal engineering be better improved. In the process of municipal engineering construction, the performance of construction equipment also needs to be inspected to prevent some construction companies from using substandard construction equipment for construction, which affects the safety of municipal engineering construction.

5. Municipal Engineering Construction Quality Control Strategy

5.1 Construction Preparation Quality Control

The construction preparation mainly includes reviewing the design drawings, analyzing the feasibility of the design content and the construction conditions, and the various types of work should be coordinated with each other for reasonable matching. In the preparation of the construction site, attention should be paid to the arrangement of measurement points in strict accordance with the requirements of the general plan, and the number of measurement and control points should be properly designed to form a strict and comprehensive measurement control network [6]. Connect the above-ground power lines on the main transportation trunk roads at the construction site, and arrange the production and domestic water supply pipe network and site drainage system.

5.2 Improve the Quality of Engineering Personnel

In the management of municipal engineering, its management staff need to be equipped with specialized staff. This shows that project managers can only formally take up their posts after they have professional knowledge and skills and have received relevant professional training [7]. Relevant management personnel must be able to scientifically control the progress and quality of the project and ensure that the project can be successfully completed. In view of the generally low quality of front-line operators, companies can set up a special training department to provide skills and safety training for grass-roots workers, while adopting a scientific and effective performance evaluation system and implementing a reward and punishment system to promote Improve the quality of municipal engineering personnel [5].

5.3 Improve the Quality Management System of Municipal Engineering Construction

Improve the quality management system of municipal engineering construction, refine the work content, and enable the quality management work to be carried out in strict accordance with the work requirements, which is conducive to the smooth development of project quality management work. Engineering quality supervision institutions should establish a more standardized management mode, put strict requirements on staff, refine and improve the management system to ensure that quality management work can play a role [8]. After the quality management work is carried out, it is necessary to reasonably allocate the responsibilities of the staff and ensure the implementation of the management model.

5.4 Minimize the Influence of Uncontrollable Factors on Construction Quality

Due to the hugeness and complexity of municipal engineering, during the construction process of specific municipal engineering, it is inevitable that various uncontrollable factors will affect it. What can be done is to minimize the occurrence of uncontrollable factors and minimize the uncontrollable factors [8]. The influence of controlling factors on the quality of the entire construction, so the supervision of the entire municipal engineering construction process should be strengthened.

5.5 Enhance the Quality Management Awareness of Related Personnel

In order to ensure the reliability of municipal engineering construction quality and comprehensively improve the level of construction quality management, it is necessary to strengthen the awareness of quality management [7]. On the one hand, for the relevant government construction and supervision departments, they should consider carefully before bidding, directly eliminate those construction units with illegal records, and carefully consider those construction units that do not have a complete construction system. On the other hand, for the construction unit, the most important thing is to ensure the quality of the construction. Construction technicians and managers should be regularly provided with relevant training in construction safety and quality [8].

6. Summary

Since the reform and opening up, China's economy has developed rapidly, people's living standards and quality have been greatly improved, and the requirements for urban construction have also increased. As one of the city's infrastructure construction projects, municipal engineering has also been developed to varying degrees with the development of the economy, which also places higher requirements on the quality of municipal engineering. But for the time being, the quality construction of Chinese municipal engineering is not ideal. Many engineering qualities flow on the surface, and there are many problems in the actual operation process. Therefore, the quality control of municipal engineering is very complicated and affected by many factors. This requires analysis from the source to find out the factors that affect quality in order to fundamentally control the quality.

References

- [1] P. Wang, Influencing factors and quality control of municipal engineering construction quality, Jiangxi Building Materials, vol.23, pp.73-76, 2017.
- [2] Zh.Y. Liu, How to Effectively Manage the Construction of Highway Subgrade and Pavement, Shanxi Architecture, vol.3, pp.253-254, 2018.
- [3] X.H. Zheng and H.Y. Ni, Analysis of Quality Management Problems and Solutions in Municipal Engineering Construction, Chinese High-tech Enterprises, vol.11, pp.335-336, 2017.
- [4] R.B. Li, Analysis of Problems and Countermeasures in the Quality Management of Municipal Engineering Construction, SME Management and Technology, vol.3, pp.112-113, 2017.
- [5] J.T. He, Highway Construction Technology and Construction Quality Control in Municipal Engineering, Theoretical Research on Urban Construction, vol.12, pp.225-226, 2018.
- [6] J.Sh. Yuan, Analysis of Measures and Methods to Improve the Quality of Municipal Engineering Construction, Construction Engineering Technology and Design, vol.7, pp.14-16, 2014.
- [7] A.M. Mu, Influencing Factors and Quality Control of Municipal Engineering Construction Quality, Jiangxi Building Materials, vol.5, pp.182-184, 2014.
- [8] Q.D. Liang, Influencing Factors and Quality Control of Municipal Engineering Construction Quality, Theoretical Research on Urban Construction, vol.23, pp.26-27, 2014.