Effective Strategy and Practice of Construction Site Management in Construction Engineering

Wang Wei  Chen Gang
Chongqing Real Estate College
400000

Abstract: The construction site of a construction project is similar to a large-scale production workshop of a manufacturing-type enterprise in comparison with the entire project, and it is of great importance to create value and wealth for the entire project. The construction project involves many industries and it is related to the rapid development of the country’s economic construction. Therefore, attention must be paid to it. There are many issues that need to be dealt with in the management of the construction site, such as the environment and management personnel, affecting the safe operation of the entire project. The author mainly analyzes the construction site management problems and solutions to the construction project in order to provide effective assistance for the sustainable development of construction projects.

1. Introduction
Due to the continuous improvement on the economic level, people's daily life levels have gradually increased. With the rapid development of the modern construction industry, the community's demand for construction products continues to increase. This is both an opportunity and a challenge to the construction industry [1]. Nowadays, the projects of construction projects are gradually expanding on scale, and the design principles and constructions are becoming more complicated. The height of buildings is slowly increasing. It is necessary for the relevant person in charge of construction projects to increase the investment in the whole process of design and management and enhance management efforts to meet the development needs of modern industries. The management order for the on-site construction environment and other aspects of the construction project are directly related to the quality and value of the entire project, affecting the later use of the project, and it needs attention and greater efforts to improve.

2. Site Management Overview
The on-site management specifically refers to the use of scientific methods and evaluation criteria to carry out comprehensive and reasonable planning and organization work on various production factors (manpower, machinery, materials, etc.) involved in the production site environment, and to improve coordination and detection work to ensure the overall operation of the site to maintain stable development, so as to achieve high-quality, high-efficiency production purposes, and promote the orderly development of production projects [2].

On-site management plays an important role in the operation of the entire production project. First, the site can play a role in providing important information. For project operations, if only relying on some indirect data onto consideration, the conclusions may be lacking in accuracy and insufficient operability. On-site management can provide first-hand information and provide data support for the effective operation of the entire project. Second, the scene can truly reflect the working conditions and
ideological trends of the people. The management of human resources is crucial to the development of any industry [3]. Therefore, the process of observing and managing the site can truly discover the employee's performance in his or her position and reflect his or her attitude to the content of the job. If it is found that employees have any problems of the construction of the site, they can be corrected in time to avoid unnecessary trouble and avoid causing greater losses. Whether the objectives of on-site management are set and completed on schedule is an important aspect related to the operation of the company. This situation is even more important to the development of the construction industry. The construction project of the construction industry shall supervise and manage the various conditions of on-site construction, continuously optimize the management measures and effects, and carry out various tasks in a planned manner so as to ensure that the project is completed on a regular basis by quality [4].

3. Problems in Construction Site Management

3.1 Personnel Issues
At present, the demand for technical talents for the construction industry has been relatively high, mainly due to the fact that the management-oriented talents for the technology industry are indeed insufficient and the brain drain is frequent. Many technicians on construction sites tend to be young and have very little experience in technology management. Therefore, for the construction project, the site management of the project construction needs to solve the personnel problems. Management personnel needs to deal with a great deal of engineering project management content, such as on-site installation technology, the preparation of various programs, and technical information, etc. The number is large and it takes a long time to work in the office. It is also necessary to supervise on-site construction quality and solve technical problems. Therefore, technical management personnel is very important to construction site management. However, many constructions projects lack such talents, and some are biased towards technology and some are biased in management, which leads to poor results of on-site management work and it is difficult to achieve full-court control.

3.2 Equipment Issues
There are many types and quantities of equipment for construction projects, which in turn determines that one of the focuses on project site construction management is equipment management. First of all, there are many problems with the lack of standardization in equipment management related to the project department. Managers only need to compare the parameters of the equipment to find out the management status of the project. However, often many managers only focus on the duration, neglect the management of the equipment, and lack detailed data records. In addition, a number of idled things are placed in some sealed devices, resulting in many devices that lack personnel management and are unused. In addition, there are some problems of the equipment management work in the construction site environment. For the equipment at the on-site construction stage, many projects have not attracted attention and it is difficult to fundamentally enhance the effectiveness of site management. The management of various equipment has not established a standardized system and has not been effective against cost control.

3.3 Problems with Construction Materials and Tools
First of all, in the management of construction materials, there is a shortage of staff and it is not stable enough. Sometimes there are more than one person. This messy state of management has led to a lack of systematic management of materials at the site. In the actual construction project, some management and gatekeepers have not handled the material in terms of identification and maintenance. In addition, some materials may have varied degrees of damage when they are received and distributed. Or when some trucks enter the construction site, there will be related issues such as untimely loading and unloading. Different types of damage factors will increase the cost of materials in transportation and increase the operating costs of the entire project. In the process of taking over the materials, some
people ignored the relevant regulations and did not effectively control the exact number of materials, which led to an increase in the cost of material inventory and it was difficult to truly show its role in the construction process. Table 1 below shows problems with the storage of materials and articles in the construction site environment.

| Number | On-site problems                          | Frequency of occurrence | Reason                        |
|--------|------------------------------------------|-------------------------|-------------------------------|
| 1      | Random raw materials stacked             | often                   | Missing management rules      |
| 2      | Stacking construction waste              | often                   | Missing management rules      |
| 3      | security risks                           | often                   | Lack of safety awareness      |
| 4      | Project drawings and documents placed in confusion | usually                 | Lack of management regulations|
| 5      | On-site management confusion             | often                   | Unknown management system     |
| 6      | Equipment parked at random               | often                   | Management is not implemented properly |
| 7      | Daily litter is littered                 | usually                 | Management is not standardized |
| 8      | Staff don't wear safety helmets          | often                   | Lack of safety awareness      |

4. Improvement Strategy

4.1 Regulate On-site Item Finishing

The competition in the construction market is increasingly fierce. To stand out among many companies, it is necessary to demonstrate good standardization in all aspects to ensure that construction projects can be guaranteed in terms of schedule and quality. In the on-site management process, a good working atmosphere should be formed, and on-site technical and managerial personnel and workers should be strictly required to establish a perfect supervision mechanism and special staff should be arranged to examine and record the actual implementation of the various systems.

The necessary items and financial resources left by some construction sites should be promptly put in place, and unnecessary items should be cleared out in time to prevent the impact on the construction process or misuse in the later period. If the finishing work at the scene is not put into place, the accumulation of cluttered objects will cause very serious results and affect the work process.

For
example, for some needed items, they can be divided into emergency areas and emergency areas. In the emergency areas, tools that must be used during the construction phase, such as cutting machines, small carts, and steel rulers, are mainly stacked. In the no-hit area, there are occasional and less frequently used tools for steel, such as racks, total stations, and bolts. Some items that are not needed by the other party in an unnecessary area, materials that can be resold or discarded, such as packaging boxes, discarded documents, newspapers, etc.

Items targeted for emergencies should be placed in an orderly manner on the scene and identified with eye-catching signs that are easily discovered by employees and can be accessed at any time. The item arranging staff can divide and stack the items again according to the frequency of their use. Tools that are used daily are portable, and materials that are used several times a week can be placed in the closest position to the construction work area. For unnecessary items, they should be centrally arranged in the warehouse. Regular inspections shall be conducted by specialized staff and subdivided again according to the frequency of use. If the period of use of the material exceeds three months, it can be sealed. Items that are no longer to be used should be resold, and those that cannot be resolded should be discarded in time to avoid wasting space or causing misuse.

4.2 Perfect Planning

Make reasonable plans for the construction site environment of the construction project and improve the site layout. The overall planning of the actual project situation is divided into different regions and marked by means of isolation. For example, special placement areas should be set up for construction materials, construction equipment, and machinery, so as to avoid the problem of stacking disorder on the site and to create a clean and tidy atmosphere of the site, so as to ensure that the on-site roads can be sufficiently smooth, thereby improves the efficiency of on-site construction. And quality, shorten work hours. The specific planning content is shown in Figure 1 below. The office area, material area, mechanical equipment area, construction area, and living area can be set at the site, so that the stacking and disposal can be realized and the site space can be planned rationally. In the area where materials are stacked, they should be placed neatly, and different materials can be used to make use of eye-catching colors to isolate them. Use kanban to specify the name of the item. For different progress of construction, the division of material areas can be divided according to the different construction subjects. For example, the main body of civil engineering and steel structure materials should be stacked separately.

4.3 Raise Safety Awareness

Safety awareness is the top priority in the construction process of the construction project, and every staff member is required to keep in mind [5]. The main reasons for problems with material stacking and space planning are that the safety awareness is not strong enough and directly affects the project construction process. In some construction sites, some workers often do not wear safety helmets to carry out the construction, or the fire protection channels on the site are blocked, which seriously threatens the safety of the construction site. Relevant person in charge of the project shall promptly formulate a normative system, place construction materials neatly, park various machines and
equipment in accordance with the regulations, arrange personnel to conduct regular inspections, etc., and ensure that construction sites are sufficiently safe and reduce the potential for safety hazards through diversified management methods. For roads on the construction site, safety signs can be set to ensure smooth roads. Help workers to correctly understand dangerous targets and ensure that construction workers do not threaten personal safety during the operation. Partial operating conditions can be evaluated for risk. For example, use semi-quantitative evaluation method to evaluate. Multiply by using three factors: D=L×E×C. Among them, the greater the value of D, the risk of work is greater. L is expressed as a risk factor that affects the operating conditions; E is expressed as the number of times the worker is exposed to a hazardous environment; C is expressed as a series of consequences that may occur if the accident occurs.

We will formulate and improve sound safety management rules and regulations, and upgrade and refine them in accordance with changes in construction conditions. We will truly change the company’s requirements for safety in the entire construction site into visible targets for diversified management. For the hidden safety hazards that have occurred, analyze their causes, summarize the lessons, and establish preventive mechanisms. The use of a sound thinking management model and a scientific approach to the security system, the specific characteristics of the construction site, analysis of possible dangers and accidents. In response to the law of the occurrence of some safety accidents, we must fully grasp and mobilize all forces to achieve all-round safety prevention work and ensure the safe operation of the project.

For example, the identification of security risks is a kind of security prediction. The steps and contents that need to be made at the construction site should be accurately listed, and potential safety hazards should be analyzed step by step. For example, in the high-altitude operation, detailed analysis should use safety ropes or baskets during the inspection process, and may also choose to use some supplementary measures. A series of targeted preventive measures may be proposed to problems that may arise from the actual application of different tools or measures, thereby preventing the occurrence of problems. You can also set up logos, which mainly serve as warnings, instructions, and so on. When the staff performs security management, if they can play a role in the use of the logo, the logo can be used as much as possible. The logo has the advantages of simplicity, easy operation and low cost. If no signs such as pyrotechnics are set in a prominent place, the on-site staff is reminded to avoid some safety hazards.

4.4 Strengthen Quality Control
The quality problem is the top priority in the development of construction projects. Therefore, in order to strengthen the management of the construction site, the monitoring of quality issues is indispensable. First of all, in the preparation stage of the construction, the correction of the appearance data of the building entity should be timely. For the control of mandatory documents, the supervision unit is required to issue a written statement by a formal written manner, clearly indicating the problems existing on the construction unit, and determining the relevant responsibilities. In addition, the construction of the civil engineering part should strengthen the quality control of the process, amend the procedures, and ensure the construction quality. Perfect the supervision mechanism for construction materials to ensure that the materials will not be damaged during the process of procurement to enter the site, and check the level of each level to check the quality of construction materials so as not to affect the follow-up use. Improve management strategies, set up comprehensive quality management mechanisms, and improve quality supervision efficiency.

5. Conclusion
The project of the construction project involves a long time, a large range, and a large variety of professional technologies. It is necessary to strengthen all-round management and control in order to ensure the safety of the construction site, thereby ensuring the construction period and working quality, and finally occupy an important position in the fierce market competition. The author first carried out relevant theoretical discussion on site management, then analyzed some possible problems in site
management of building construction projects, and finally put forward targeted solution strategies, hoping to provide some help for the constant innovation of the construction industry in on-site supervision methods.

References
[1] Yang Min. Discussion on Construction Engineering Construction Technology and Site Construction Management[J]. Building Materials and Decoration, 2018(17):137-138.
[2] Lu Xuefeng. Strategic Analysis of Safety Supervision and Management of Construction Site[J]. Environmental Protection Building Materials, 2018(04):197.
[3] Feng Jianjun. Exploration on Strengthening the Site Construction Management of Civil Engineering Construction[J]. Low Carbon World, 2018 (04): 187-188.
[4] Wang Likun. Analysis of Construction Engineering Construction Technology and Site Construction Management Measures[J]. Science and Technology Wind, 2018(11):94.
[5] Su Hong. Research on Construction Engineering Construction Technology and Site Construction Management[J]. China Strategic Emerging Industry, 2018(16):213.