

ENVIRONMENTAL SAFETY IN COMPLEX CONSTRUCTION ON THE TERRITORY WITH DISTURBED EXOGENOUS PROCESSES

Vakha Khadisov¹, Ayna Vagapova²

¹Grozny State Oil Technical University named after Academician M.D. Millionshchikova,
364061, Kh. Isaeva Ave., 100, Grozny, Russian Federation,
v.hadisov77@mail.ru

²Chechen State University named after A.A. Kadyrova, Sheripova,
32, Grozny, Russian Federation,
aina.vagapova@yandex.ru

Abstract

Environmental support of construction projects considers and solves environmental problems from the development of a concept for construction, preparation of a pre-design documentation in the pre-investment period, preparation of data for design, development of project documentation, etc. and until the destruction of the existing building after the expired period of its operation. Thus, environmental support is carried out throughout the entire life cycle of the functioning of buildings or structures. Environmental support for construction projects implies a set of works on instrumental measurements of parameters, performing calculations, developing environmental protection measures in order to ensure and create environmentally friendly solutions.

Keywords: erosion processes, complex construction, erosion resistance, construction of facilities, acceleration of convergence, geocomposition systems.

I. Introduction

At present, there is an acute issue of creating a safe and comfortable living environment in the conditions of the city; high density of development due to the lack of territory, negative changes in the environment due to the impact of transport and vital facilities of the city infrastructure - all this does not contribute to the formation of favorable conditions for living and working for 1, 2 days. One of the reasons for this situation is believed to be the development of hazardous exogenous processes, including erosion in the developed territories [3]. The development of negative exogenous processes in its turn has an impact on ensuring the ecological safety of the built-up areas. The problem of soil erosion is not new, however, the use of various types of protection against soil erosion is based, as a rule, on experience and does not presuppose additional preliminary study and calculation of the solutions adopted. This article discusses a mathematical description of the erosion process and the relationship of the decisions made with the use of additional measures to protect the slopes from erosion.

For a mathematical description, the pro-ecological safety of construction and urban economy, the erosion (erosion) must be presented as the action of forces that promote and hinder it. The forces that hinder the process of development are: first, the force of gravity; secondly, the power of cohesion, which plays an important role in the processes of development. The forces contributing to the wash-out process include the pulsation action of bottom velocities, or even a bending moment tending to tear off the structural part [4]. The problem of soil erosion is not new,

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The tasks of engineering and environmental surveys are determined by the peculiarities of the natural environment, the nature of existing and planned anthropogenic impacts. The need for the development of environmental engineering surveys is determined by Article 47 (part 5) of the Urban Planning Code of the Russian Federation: The need to carry out certain types of engineering surveys, the composition, scope and method of their implementation is established taking into account the requirements of technical regulations by an engineering survey program developed on the basis of an assignment from a developer or a technical the customer, depending on the type and purpose of capital construction projects, their design features, technical complexity and potential danger, the stage of architectural and construction design, as well as the complexity of the topographic, geotechnical, environmental, hydrological, meteorological and climatic conditions of the territory where the to carry out construction, reconstruction of capital construction objects, the degree of knowledge of these conditions. The results of engineering and environmental surveys are a document on the completed engineering surveys, containing materials in text form and in the form of maps (diagrams) and reflecting information about the tasks of engineering surveys, about the location of the territory on which it is planned to carry out construction, reconstruction of a capital construction object, about the types , on the volume, on the methods and on the timing of work on the implementation of engineering surveys in accordance with the engineering survey program, on the results of a comprehensive study of the natural and man-made conditions of the specified territory, including the results of the study, assessment and forecast of possible changes in the natural and man-made conditions of the specified territories in relation to a capital construction object during the construction, reconstruction of such an object and after their completion.

Expertise of engineering and environmental surveys is determined by the Urban Planning Code of the Russian Federation. Environmental support of construction projects involves the implementation of a set of regulated procedures aimed at ensuring environmental safety in the area of creation (construction) of an enterprise that has an impact on the environment, and related to the development and implementation of measures aimed at protecting nature and public health from the harmful effects of this facility at all stages of its life cycle. The preparation of project documentation begins with an analysis of the initial permitting documentation and the results of engineering and environmental surveys. In all design sections and adopted architectural, structural and technical solutions, environmental safety issues are reflected to one degree or another. The section "List of measures for environmental protection" (PM EP) as part of the project documentation is developed in accordance with the Urban Planning Code of the Russian Federation and the Decree of the Government of the Russian Federation dated February 16, 2008 No. 87 "On the composition of sections of project documentation and requirements for their content." The PM EP section deals with environmental safety issues in connection with the planned economic activities. It will hold back design developments for environmental protection with elements of environmental regulation (MPE projects, VAT, PNOOLR, SPZ), which must be taken into account in the design, implementation and control of planned economic activities.

Environmental support of project documentation is an integrated approach at the design stage of an object, where the foundations of rational environmental management are laid.

II. Conclusions

Environmental support for construction and installation work consists in following the organization of construction in terms of the section of the project documentation "List of measures for environmental protection". All construction organizations are required to carry out a whole range of measures, including laboratory research and instrumental measurements, to ensure environmental control at the work site and adjacent territories. This complex can be carried out with the involvement of third-party specialized organizations and is of a regular nature. The most important point in the process of environmental support for construction, in addition to administering payments, is environmental monitoring and industrial environmental control. The main tasks of environmental support of operation are mainly in the development and coordination of environmental standards with the environmental protection authorities and in the subsequent enforcement of these standards. The duty to control the state of the environment is imposed on all entities carrying out activities that can cause harmful effects on the environment (OS) and is enshrined in the laws on environmental protection, on production and consumption waste, in land, water and forestry legislation and other regulations. ... Monitoring is carried out for the implementation in the process of economic and other activities of measures for environmental protection, rational use and restoration of natural resources, as well as in order to comply with the requirements in the field of environmental protection established by legislation in the field of environmental protection. An important part of the process of environmental support of the economic activities of natural resource users is the calculation of the fee for negative impact (NVOS) and its correct payment not only on time, but also in the corresponding subdivision of the budget system. The stage of liquidation of the facility should also begin with pre-design and design study and environmental justification of the proposed solutions, followed by ensuring their implementation in cases where the facility is classified as hazardous and the process of its liquidation may be accompanied by a significant negative impact on the environment. The overall goal of environmental management is to prevent deterioration of the quality of the environment. Guaranteed by Article 42 of the Constitution of the Russian Federation, everyone's right to a favorable environment, reliable information about its condition and to compensation for damage caused to his health or property by an environmental offense, as well as the implementation of the provisions provided for in Part 1 of Article 9, Part 2 of Article 36, Article 58 of the Constitution Of the Russian Federation, is ensured, among other things, through the correct application of the legislation on liability for violations in the field of environmental protection and nature management.

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