

DIFFERENT OMISSIONS AND MISTAKES IN BUILDING TRADE- IDENTIFICATION AND WAYS OF OVERCOMING THEM

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Summary: During the complex construction procedures from planning, design, execution of objects, acceptance of the mentioned, to the process of exploitation, there are various failures and mistakes. These errors significantly reduce the value of these objects and then the entire city quarters, settlements or ambient units, and often pose a threat to users and passers-by. Also, these omissions significantly reduce user comfort and, of course, visually create a poorer picture of settlements and infrastructures as the products of the society. Such failures are universal, and are present to a lesser or greater extent from country to country. Therefore, with this work, I would like to point out to domestic, such as foreign professional and widespread publicity some important factors and moments with which these negative phenomena can prevent and diminish.

Keywords: failure in construction, failure in planning process, failure in construction, failure in exploitation

1. INTRODUCTION

Not only those who devoted our entire life to the construction industry, while walking along the city pavements, visiting different buildings, driving along various roads, are bothered by various unacceptable damage to buildings, improperly built different constructions, illogical and uncomfortable objects or their parts.

Lower errors and performance failures are not more visible than in construction. Also hidden defects and failures in the constructions of buildings are very picturesque and clearly revealing, the landing of the terrain, digging in the base of the foundations, and especially, revealed by some natural disaster, and certainly the most picturesque and the most logical - the earthquake.

The frequency of the occurrence of such omissions and defects is much more present in less developed countries such as in settlements of poor development in those countries.

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This fact leads to a clear conclusion that these are in fact failures that are determined by the limited level of perfection of the construction industry and the limited level of culture of the creators of our space, ranging from: planners, designers, performers, to citizens who use and maintain the buildings themselves.

By revealing and identifying the causes and reasons for the occurrence of these omissions, we contribute to the research of them, we positively influence the improvement of the overall environment, both within the profession involved in shaping our space, and in creating a positive awareness among the citizens, to preserve and affirm the space in the most positive achievements of the developed countries and peoples.

In this way we also come to the conclusion that certain negative phenomena that are very characteristic and legitimate are eliminated or at least minimized to the least extent possible.

Errors are characteristic of all subjects of the construction process: planners, especially urban planners, designers, contractors and ultimately users of buildings, often devastated by their improper exploitation and poor maintenance. According to causes of creation of errors and the subjects that cause those errors, we divide them into two groups:

1. Errors arising from the influence of "force majeure" ⁴ or by chance - due to the insufficient attention of the author or executors who carried out the specific task: planning, design, construction, supervision or exploitation; and

2. Intentional errors arising with the intention of helping a particular individual or a particular group, created from different motives, at the expense of the general and public interest.

These others as conducted and intentional are usually carefully: monitored, planned, controlled and defended by their creators by all who identify them and try to correct and eliminate.

2. CONSTRUCTION PROCEDURES IN WHICH MISTAKES AND OMISSIONS ARE OCCURED

The occurrence of errors and omissions is present in the realization of all four construction procedures, such as:

- Space planning,
- Designing of buildings,
- Construction of buildings,
- Exploitation and usage of buildings

It is relevant to know that it is the most important that identified errors are eliminated in earlier phases and construction procedures. As a rule, unremoved errors from the

⁴ In this context, the "Force Majeure" implies a legal document that implied the adoption and adoption of a solution that is not entirely or in general to the standards of construction, but for some reason it was imposed as only possible

previous phase and procedure are transmitting to all subsequent phases and procedures, and subsequently, as a rule, their negative effect is increased. Often their negative component implies different multiplications, so in the coming phases they increase and imply new negativities in the stages of realization and exploitation of construction projects. For this reason it is very important to edit the initial architectural procedures in which the planning process is primary. If errors are initiated at this initial stage, all subsequent phases realized without a new error will not be able to eliminate and correct those previous mistakes. Likewise, if there are any failures and errors during the construction, no consideration can be removed or mitigated during the exploitation period.

3. OMISSIONS IN THE DEVELOPMENT OF A PLANNING DOCUMENTATION

The most severe consequences and shortcomings in the space and comfort of living in settlements or in the exploitation of infrastructure projects cause mistakes and omissions that are created in the process of planning documentation. These failures are often caused by large devastations of a large and very expensive urban space.

Why?

Because such spaces are the most interesting for investors and other business participants for the successful realization of their business plans. If these omissions are caused with the intention to help someone in the realization of some interest, such omissions are usually difficult or never resolved. Moreover, the results of these erroneous solutions are quickly realized through construction that satisfies one's interest, at the expense of the public interest. The most common mistakes in the field of planning documents are planning of buildings with increased coefficient of construction and occupancy of urban plots at the expense of uncomfortable and narrow roads, pavements, parking and other communications and public facilities and surfaces.

Such planned settlements do not differ much from the settlements that were created without a planning document and are usually similar because they are without adequate: roads, pavements, parking, parks, space for services, vacation and recreation. This is especially characteristic for latest Montenegrin suburban areas.

Land plots owners tend to try to "convince" planners to construct objects on their parcels, possibly with larger three-dimensional errors. The reason is very simple to predict: in this way they increase the value of their building plots and increase the degree of economic viability of future buildings. Plots on which a park, square or other public space or public property of a municipality or state are planned to be redeemed at an undoubtedly lower price than others foreseen for the construction of residential or business facilities. This is one of the main reasons why our resorts look like they look like today. In that sense, the state would have to change things radically and to compensate the landowners with good quality which, under existing legal solutions, does not pay their plots to build such facilities. Planners, often because of pressures, sometimes corruption, violate norms by planning the urban such as architectural spaces without any addition of necessary contents. Then building lobbyists enter the scene, which, with the support of political structures and bad plans, are being adopted by the competent institutions.

6. МЕЂУНАРОДНА КОНФЕРЕНЦИЈА

Савремена достигнућа у грађевинарству 20. април 2018. Суботица, СРБИЈА

According to the new Montenegrin Law on Planning and Construction⁵ the planning documentation is subject to mandatory revision (which was not the case with the provisions of the previous law), but the centralization of drafting of planning documents and the vagueness of the authors of their elaboration will lead to the situation of easier and faster adoption of the bad and guided plans [1].

Public hearings are not transparent and most of the public are unaware of the same, often planning occurs during a vacation season. On the other hand, the public accountability institution of Montenegro is also not sufficiently constructed and perfected because, public interest in the quality of plans, on parcels of municipalities or states is minimal. First because there is no direct interest, second, professional institutions and associations are either politically controlled or very weak and neutral.

As an illustration of the consequences of such processes, the images that follow and which are often directly watched arise.

Building objects around the street lighting line, attracts the attention of passers-by



New Podgorica district. Incorrectly receiving objects at the cost of communication and a comfortable approach



⁵ The Law on Planning the Space and Construction of Facilities has been adopted by the Assembly of Montenegro 26th, convened at the session of the Third Special Session in 2017, on September 30, 2017. No. : 01-932 and 03 Oct 2017, despite the sharp opposition of the expert public, was adopted by the approval of the President of Montenegro, F.Vujanovic.



4. OMISSIONS DURING THE DESIGN OF PROJECT DOCUMENTATIONS

This phase of project realization is a common because of various illogicality and construction contrary to the technical regulations and constructive attitudes. Also due to the omission in the design of the project documentation there occur and are more visible by character and significance of various damage to the objects.

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By significance, character and causes, these omissions can be classified on:

- Failure to exceed and / or deviate from planning documents and parameters;
- Lack of inconsistent compliance with the design phase of the project with the design concept;
- Failures in terms of a poorly selected static system;
- Failures in respect of non-compliance of all stages and parts of the project;
- Defects in the case of unresolved important project details;
- Failures in terms of various flaws in choosing and budgeting for poor project solutions
- Failures due to intentional and unauthorized and controlled savings in the use of improper materials and the choice of poor constructive solutions [2].

All these failures to a greater or lesser extent have direct consequences for the stability and functionality of the facilities, in the various possibilities of their availability in terms of later elimination, as well as adverse impacts and relations with neighboring facilities and infrastructure. Regularly and mostly, these failures affect the reduction of the durability of the elements of objects and objects as a whole. They also reduce the functional and aesthetic conditions of the building as a whole and a quarter as a wider concept for the life and work of all its users.



5. FAILURES DURING CONSTRUCTION WORKS

Both as citizens and as engineers, we are witnessing bad and unpleasant damage to construction facilities. We also witness that most of many and different damage occur shortly after the end of the construction. As a rule, this is much worse than it was visible during construction work, due to the fact that these damages and faults in exploitation are barely or never removed. The problem is multiplied when such conditions are underpinned by inadequate and improper exploitation or subsequent upgrading or upgrading. By its origin and character there are several types of defects that lead to damages of the buildings caused by the failure in the construction:

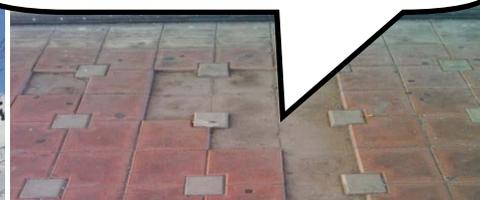
1. Damages caused by unforeseen leaning of the building;
2. Different damages caused by observed and unintentional flaws made at the design stage, which have not been removed during the construction phase;
3. Damage resulting from improper performance changes of individual design solutions;
4. Damage caused by various contractors' failures and supervision in the process of construction and execution of certain positions of the works;
5. Damage caused by various unforeseen natural or subjective circumstances and impacts.

Many buildings, roads, bridges, and especially underground and underwater objects or parts of buildings, due to these damages, especially due to their subsequent unreasonable and inadequate repair and / or maintenance, significantly reduce their life span. Most of these damages endanger the vital functions of a part of the object itself or the functioning of the object as a whole, sometimes even surrounding objects. Many damage also have a significant impact on the stability of the bearing elements of the object or that stability is significantly endangered. This significantly reduces the lifespan of the complex object.

Falling "demit" façade in Podgorica, due to the breakdown of technology and installation



Decomposition of pavements due to improper installation of concrete slabs. The previously unclean surface is the cause of the boiling of plates.

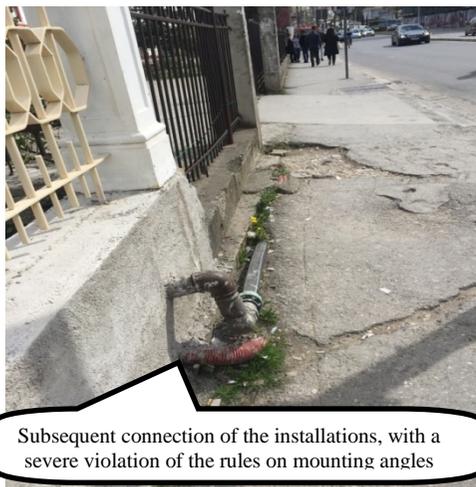


Heavy traffic over pedestrian zones leads to such damage

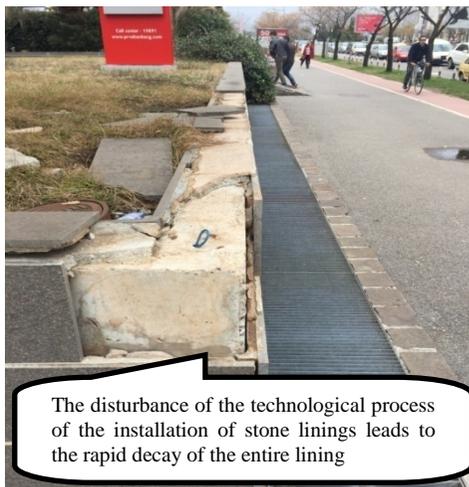


Irregular and shallow set of pipelines caused their common corruption





Subsequent connection of the installations, with a severe violation of the rules on mounting angles



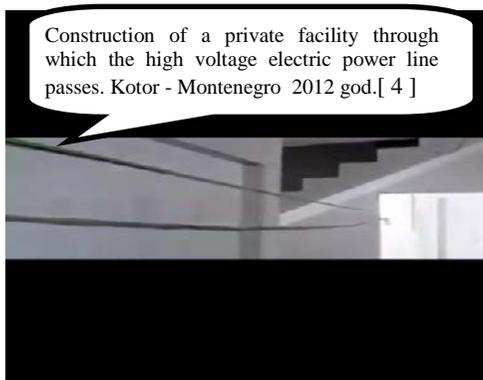
The disturbance of the technological process of the installation of stone linings leads to the rapid decay of the entire lining



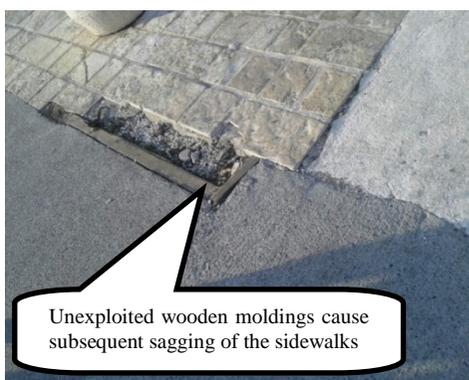
Improper replacement of gutters and lightning rods



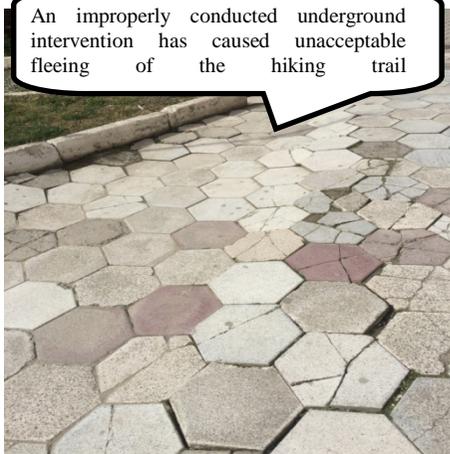
Illegal pavement swaying



Construction of a private facility through which the high voltage electric power line passes. Kotor - Montenegro 2012 god.[4]



Unexploited wooden moldings cause subsequent sagging of the sidewalks

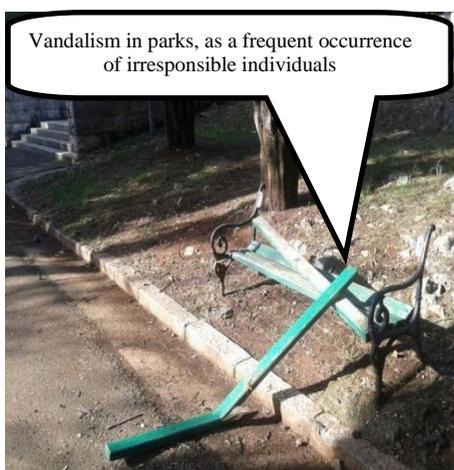
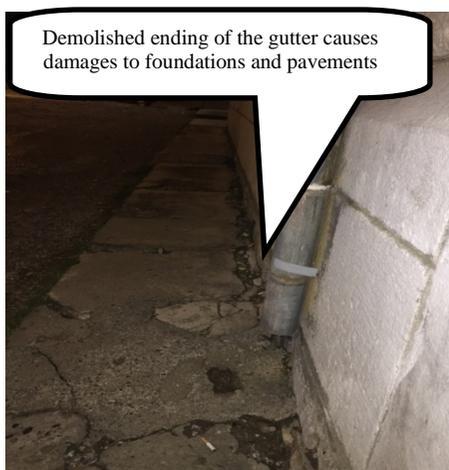


6. FAILURES DURING THE EXPLOITATION OF BUILDINGS

The last kind of failure is failure in the last stage of the lifecycle of objects - exploitation of objects. Collective housing and public buildings, which do not have a specific owner, are the fastest decaying.

Rectification, regular maintenance, as well as rules for prescribed use are applied inadequately and irregularly. The level of investment in the exploitation of buildings by EU standards, compared to the height of Montenegro, differs to several hundred percent, so several times lower.

In addition to this fact, civil culture in the design, use of equipment, parts of buildings, its equipment and inventory is at very low level. Starting with the drawing of unnecessary and ugly graffiti, destroying greenery and lawns, scissors, garbage cans, park benches, intentional breaking of lamps, entrances, trees, anti-drilling or ventilation systems, etc.



7. CONCLUSION

Construction works represent a highly multidisciplinary activity, referring to buildings below and above the surface of the earth. There are many different professions involved in the construction process, different local and state instances, different levels of government, different business entities and individuals. In order to improve the current situation, all these different entities must coordinate, edit and harmonize their relations and competencies, and the result will then be visible and recognized. Parallel to this long-lasting, complex and extensive process, we must work permanently to raise the general culture of our citizens to keep and use them appropriately and properly exploit ours: parks, promenades, infrastructure and other facilities.

Great responsibility for the negative phenomena in the field of construction lies with us engineers, who greatly influence the design of our space as one of the greatest values of the Montenegrin state. I have to underline the fact that the legislative framework has been changing intensively in this area and that the professional public has never been involved in the process of change and then was not satisfied with these changes, as it is not satisfied with the existing recently radically changed legal framework. The biggest problem is that the profession is not asked too much or no questions at all not only in law-making procedures but in the application of these laws its role is reduced to an unacceptable level of minority. If the profession tries to be asked more and shows initiative itself, then seeing its problems and solving these problems comes to total collapse with decision-makers, who bring them completely ignoring all the relevant recommendations of the public. In this sense, the recently adopted Law on Planning and Construction is, according to the assessment of the relevant expert public, a few steps backwards with the adoption of the procedure seen earlier in the paper, which solves such issues in a completely different way in the concept.

If I mention that the Montenegrin Chamber of Engineers expressed explicit disagreement with the concept of the new law and that this did not help, then one can clearly assume the proportions of its bad terms.

We hope that long-lasting experimentation⁶ will replace the expert approach of the profession and experts on these important issues, which will appeal to the political structures in the adoption of the law and to put in place all the necessary legal and normative assumptions that these phenomena, in this work in the future will be less and less.

REFERENCES

- [1] Law on Space Planning and Construction of Facilities; Official Gazette no. 64-2017
- [2] www.sodra.me
- [3] www.podgorica.me
- [4] www.vijesti.me

⁶ The Law on Spatial Planning and Construction of Objects is the third law that has been re-adopted since 2000 and has endured seven amendments to this law. According these facts, this part of profession holds an record in Montenegro.

RAZLIČITI PROPUSTI I GREŠKE U GRADITELJSTVU – IDENTIFIKACIJA I NAČINI PREVAZILAŽENJA

Rezime: U toku kompleksnih graditeljskih postupaka od planiranja, projektovanja, izvođenja objekata, prijema istih, do procesa eksploatacije, događaju se različiti propusti i greške. Te greške značajno umanjuju vrijednost tih objekata i potom cijelih gradskih kvartova, naselja ili ambijentalnih cjelina, a često predstavljaju opasnost za korisnike i prolaznike. Takođe ti propusti značajno umanjuju komfor korisnika i naravno vizuelno stvaraju lošiju sliku o naseljima i infrastrukturi, kao proizvodima jednog društva. Ovakvi propusti su univerzalni, a prisutni su u manjoj ili većoj mjeri od države do države. Zato ovim radom želim da ukažem domaćoj i inostranoj stručnoj i širokoj javnosti na neke bitne faktore i momente, uz pomoć kojih se ove negativne pojave mogu sprječavati i umanjivati.

Ključne reči: propusti u graditeljstvu, propusti u postupku planiranja, propusti u gradnji, propusti u eksploataciji