MDT

M. Košičan, Ing., PhD.

Technical University of Kosice, Faculty of Civil Engineering, Kosice, Slovakia

FACILITY MANAGEMENT APPLICATION IN MAINTENANCE AND RENOVATION OF BUILDINGS

Annotation: The paper is aimed at the important role of facility management to ensure the maintenance mainly listed buildings. We know that the correct agenda include facility management, among other buildings and historic buildings, which require the servicing and repair approach that must be carried out in addition to the Building Act and in accordance in particular with the law on the protection of monuments and other applicable regulations. The planning and implementing reconstruction of historic buildings, the team leader must work with architects and contractors to ensure that it meets the criteria to retain a place in the National Register of Historic Places. Buildings have undeniable aesthetic value.

<u>Keywords:</u> historic buildings, maintenance, renovation.

Introduction

The biggest problem is maintaining the integrity of historic buildings using energy-saving measures and working fire protection of such property. Before recovering such equipment, the team must identify the characteristics renovation of buildings, which wants to preserve or restore. The building must end in a state in which was located before renovation in terms of historical value. It is necessary to find the same type of editing, paints, tiles that were used at the time of construction. Maintenance of buildings can be classified among the most significant impacts on life. Maintenance can affect the life of the building blocks not only for its intensity and intensity, but also the timeliness performance. Maintenance level is determined, for example by visual diagnosis, baseline survey and detailed survey. Maintenance of historic buildings requires a special access and procedure. In context of the restoration and maintenance of historic buildings should be treated with respect to structures, historic buildings that need. Building renovation is therefore always unique and rarely repeated. The paper discusses the processes necessary for the maintenance and restoration of historic materials or historic constructions. The result is user manual of historic buildings with a graphical diagram used universally for maintenance of historical buildings.

Historic buildings

The biggest problem is maintaining the integrity of historic buildings using energy - saving measures and working fire protection of such property. Before

recovering such equipment, the team must identify the characteristics renovation of buildings, which wants to preserve or restore. The building must end in a state in which was located before renovation in terms of historical value. In many cases, managers must ensure that the final project construction standards relating to accessibility for the disabled, especially in public buildings and fire safety while maintaining the aesthetics of the structure.

The planning process. In the planning process, organizations can identify targets for energy efficiency and environmental impact. In our conditions are historic buildings exempt from mandatory certification, which does not mean that FM can try to reduce the energy consumption in this house, which is often difficult. Meet the energy point of view, while respecting the monument criteria often conflict. Materials to reduce emissions can significantly increase the cost of renovation, so it is important for managers to identify all the materials in the early planning stage. Unlike most new buildings, renovation of historic buildings often surprise. Surface structures hidden surprises in terms of design, materials and functional. A common problem of historic buildings is a change of purpose rooms, installation of heating and air conditioning, while the original purpose of the rooms was not followed. In such cases appear moisture condensates on the walls and corrosion or spread of fungi. This may also undermine the basic structural elements of the building. Most often identify hazardous substances in the original building and lead paint, asbestos materials or asbestos spatula or cold water pipes of lead. The building needs a more detailed investigation and suggests remediation for aid designers in the right way. Despite a detailed survey is unavoidable surprises by building in restoration works and the workers must be prepared for it.

Operation and maintenance of historic buildings

For historic buildings, the most important level of operational level, where in addition to normal supplies of services will inevitably discover services related to communications of public authorities to authorize or prohibit the repair and maintenance of historic buildings, representing the whole range of services in addition over conventional buildings. Range of facility management services is structured into two sections, which are defined as those associated with space and infrastructure, where legal requirements for space should include requirements for historic buildings with their peculiarities and values. The requirements related to staff the impact of a historic building is not, except for worker training investment department, which requires knowledge of procedures for reconstruction or repair of historic buildings while preserving its quality.

The structure of customer requirements and scope of services (STN EN 15221			
Facility management)			
1.	SPACE	SPACE AND INFRASTRUCTURE	
	1.1	Space requirement	
	1.2	The requirement for technical infrastructure	
	1.3	The requirement for cleaning	
	1.4	Requirement associated with the workplace	
	1.5	The requirement for technical infrastructure	
2.	PEOPI	EOPLE AND ORGANIZATIONS	
	2.1	Requirement for health and safety	
	2.2	Requirement for catering	
	2.3	Requirement for information and communication	
	2.4	The requirement for logistics	
	2.5	The requirement for the integrated management, consulting and	
		administrative support	

Table 1: The structure of customer requirements and scope of services

Development manual for historical buildings

There are currently no known clear procedures and management of recovery procedures, maintenance, repair and prevention for historic buildings. In the text that follows are suggestions for manual processing for O & M:

- Evaluation of the available documentation (e.g. historical significance of construction, materials and finishes analysis reports, integrated pest management, archaeological reports and other studies).
- Research to fill knowledge gaps (especially if there are significant benefits administrations, research documentation, historic research).
- Identify historic character defining features of design that contribute to its historic integrity and that are important for conservation (consult with the Regional Monuments Board; obtain the relevant documentation if available).
- Detection of current or proposed use of the required remediation instructions for building (reconstruction, restoration, rehabilitation, repair, preservation).
- Assess the status of all elements of design to identify the cause of damage or other problems and priorities for remediation, repair and preventive maintenance. It is recommended that an annual inspection plan established to review and update the conditions, best practices, recommended products, etc.
- The use of standards and norms, which develop O & M remediation approaches for different functions of natural materials used in the construction of repair and preventive maintenance.

- Before treatment, or before the finish in repairs and preventive maintenance is necessary to test the effect of the finest and most gentle treatment for each material or surface.
- Process the record and documentation of all repairs and preventive maintenance in order that the results subsequently be analyzed and used as information for future maintenance. Record contains photos, notes, test reports, observations and any other relevant information.

Basic processes of manual are illustrated in the following figure.

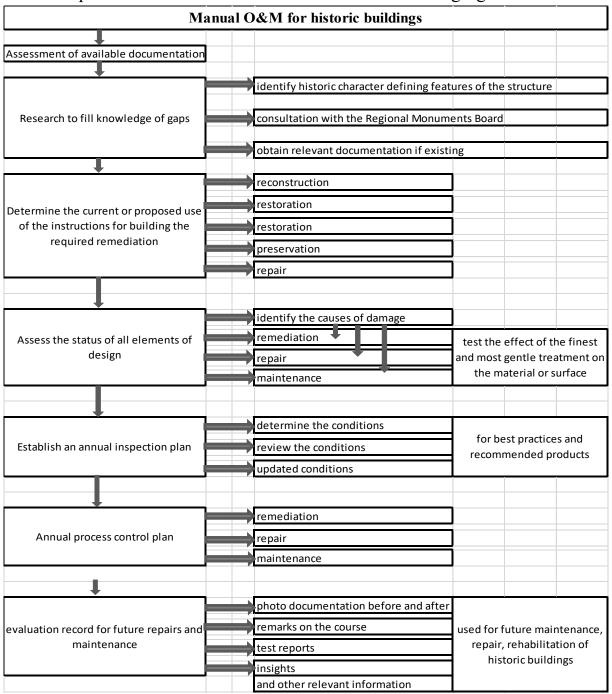


Fig. 1: manual M&O for historical buildings

Conclusion

Maintenance and repairs need to plan ahead. Well-written plan maintenance to extend the life of the individual technical equipment, reduce the risk of accidents which result may cause damage furnishings and other technical equipment. Distribution of costs for maintenance and repairs at the time of an object is not uniform, but depends on the obsolescence of individual structural elements. For each type of buildings they are different from the requirements for renovation of the building and the environment. Any intention to restore the building is specifically oriented, but so that we can talk about a successful recovery, it is essential to have the design re-think what we expect from the building, and apply these requirements effectively. Building on this knowledge, the quality of the environment to suit user requirements, with appropriate equipment of the building is chosen so as to achieve a long-term value of the building. Order to carry out renovation of buildings is their life extension; life extension of construction with making such modifications that will achieve the desired functional properties, removing the shortcomings and obsolescence. Such structural modifications include the change in the quality of the thermal protection ensuring the reduction of energy consumption during use buildings.

Acknowledgement

Contribution is a partial output of the project VEGA 1/0677/14, Project title: Research to increase efficiency through the construction of MMC Technology.

References

- 1. Zákon č. 50/1976 Zb. o územnom plánovaní a stavebnom poriadku (stavebný zákon) v znení neskorších predpisov a zmien
- 2. Vyskočil, V.K, & Štrup, O. Podpurne procesy a snižování nákladu (Facility management), 1. vydanie, Praha 2003, ISBN 8086419452, 2003
- 3. Somorová, V.: Údržba budov. Facility management. STU v Bratislave, Nakladateľstvo STU, Bratislava., ISBN 978-80-227-3372-4, 2010
- 4. Čarnický, Š. & Mesároš, P. Business Intelligence and Knowledge Management: A Business Perspective, 1. vol. Brussels: EuroScientia vzw. 168 p. ISBN 978-90-818529-1-3, 2013
- 5. Košičan, M., & Hyben, I., & Košičanová, D. Energy management in historic buildings, 13th International Multidisciplinary Scientific Geoconference: Energy and clean technologies, Albena, Bulgaria. Sofia, pp 99-102., 2013
- 6. Zákon č. 25 /2006 o verejnom obstarávaní a o zmene a doplnení niektorých zákonov
- 7. Košičan, M.: Options methods of facility management, In: 4. Cassotherm : 4. ročník vedecko-odbornej konferencie s medzinárodnou účasťou : 16.-18. apríl 2012, Vysoké Tatry, Stará Lesná. Košice : TU Košice, 2012 S. 107-109.
- 8. Kozlovská, M. & Struková, Z. & Tažiková, A.: Deconstruction of buildings Sustainable ways of construction, 13th International Multidisciplinary Scientific Geoconference: Energy and clean technologies, Albena, Bulgaria. Sofia, pp 333-340. 2013

9. Kozlovská, M. & Struková, Z. & Tažiková, A.: Access to construction time objectiveness In: Organization, Technology and Management in Construction: An International Journal. Vol. 2, no. 2 (2010), p. 200-206. - ISSN 1847-5450

Анотація:

Стаття спрямована на важливу роль об'єкта управління, що забезпечує обслуговування в вищеперерахованих будівель. Правильний підхід управління об'єктами, особливо адміністративних і історично сформованих потребує обслуговування і ремонт згідно Закону «Про будівництво» і відповідно, до Закону «Про охорону пам'яток». Планування і здійснення реконструкції історичних будівель, повинні відбуватися з архітекторами і підрядниками, щоб гарантувати, дотримання всіх критеріїв, щоб зберегти місце в Національному реєсті історичних спадщин, адже будинки мають велику і незаперечну історико-архітектурну цінність.

Ключові слова: історичні будівлі, технічне обслуговування, ремонт.

Аннотация:

Статья направлена на важную роль объекта управления, обеспечивает обслуживание в вышеперечисленных зданий. Правильный подход управления объектами, особенно административных и исторически сложившихся требует обслуживания и ремонт согласно Закону «О строительстве» и соответственно, в Закон «Об охране памятников». Планирование и осуществление реконструкции исторических зданий, должны происходить с архитекторами и подрядчиками, чтобы гарантировать, соблюдение всех критериев, чтобы сохранить место в Национальном рег исторических наследий, ведь дома имеют большую и неоспоримую историко-архитектурную ценность.

Ключевые слова: исторические здания, техническое обслуживание, ремонт.