POLAND

BALTIC REGION HERITAGE COMMITTEE

Good practices on built heritage conservation/restoration

Wodozbiór (Muzeum Łazienki Królewskie w Warszawie) / The Water Tower (Royal Łazienki Museum in Warsaw).

Main idea / goal of the intervention.

The aim of the project was to renovate the building, (which had not been available to the public due to its conservation status and lack of suitable facilities). The plan was to adapt it to exhibition purposes, including making the facility accessible to people with different types of specific needs and creating a new permanent exhibition devoted to the history of the Royal Łazienki and the importance of water for their history, both in practical and symbolic terms.

Location.

In the 18th century Royal Łazienki was the suburban, summer residence of the last king of Poland Stanislaw August reigning from 1764 to 1795. Nowadays, due to the development of Warsaw, this palace-park complex is located in the centre of the capital of Poland.

Functions.

During the reign of Stanisław August, the building fulfilled the role of a water reservoir and as a dwelling. On the ground floor were three chambers for the royal service, as evidenced by historical documents and relics displayed at the exhibition: wall polychromes, heating devices and a wooden gutter used to drain water from the courtyard.

Currently, the permanent exhibition Water-Power-Spectacle is located on the ground floor accounting for only 68.5 square meters. The first room is devoted to the symbolism and significance of water in Łazienki. Tourists can view a mock-up of the hydrological layout of this residence, placed on a cabinet with drawers, in which, the history and relation with water of the buildings in Łazienki are presented. The second room tells the history of the Water Tower using a mock-up of the building. The exhibition is complemented by a multimedia presentation, where among other things the first known image of the Water Tower (1794) is shown. The last room is devoted to the theme of power and court performances in which water was used as the main element of the scenery. There is a narrow, winding staircase leading upstairs, where you can find open space dedicated to educational purposes targeted at different age groups. The first floor also serves as a cosy theatrical space for intimate performances (there is also a mobile shadow theatre, which may also serve as a location for a puppet show).

Accessibility: modern facilities include an audio guide with audio description and virtual tour, educational tactile aids, text materials in Polish sign language or simple texts.

In the Water Tower you can get a specially designed water map which shows the Royal Łazienki water network, including ponds, canals and springs, as well as water-related objects and sculptures, e.g. a Water Tower, the Egyptian Temple or a bust of Neptune. The map is available in two language versions (Polish and English). You can also download the map from the website of the Museum:
https://www.lazienki-krolewskie.pl/public/upload/download/MAPA%20WODNA2.pdf.

Owner / manager.

Royal Łazienki Museum (Ministry of Culture, National Heritage and Sport) – a public institution.

Heritage category.

Listed building / national monument (Historical Monument).

Short historical background.

The Water Tower situated on the premises of the Royal Łazienki Museum is a unique building, which has the nature of a technical monument. The main function of the building was to collect water in order to supply it, among other things, to the fountains adorning the buildings and gardens of the Royal Łazienki, which is the former summer residence of the last king of Poland Stanisław August (1764–1795). The brick building, built on a circular plan with an internal courtyard, hides an active water reservoir underneath its floorboards – the preserved original form of the building and the historical water system were finally shaped at the turn of the 18th and 19th centuries. This historic monument is unique on both the European and global levels as it is regarded as one of the few examples of preserved, original, historical park-style water devices. The exact date of erection of the Water Tower is unknown. Its origins can be linked to the first building works in the Royal Łazienki (the 2nd half of the 17th century), or to the era of the last king of Poland Stanislaw August. The aforementioned king acquired the Royal Łazienki in the year of his election, i.e. 1764, while the earliest mentions of the Water Tower building itself date back to 1777; these are reports of repair works carried out in its interiors.

Image No. 1, Zygmunt Vogel, View of the Ujazdowski Castle and its Surroundings,1794–1795, watercolor, National Museum in Cracow, MNK III-r.a.-16361.

The main issues.

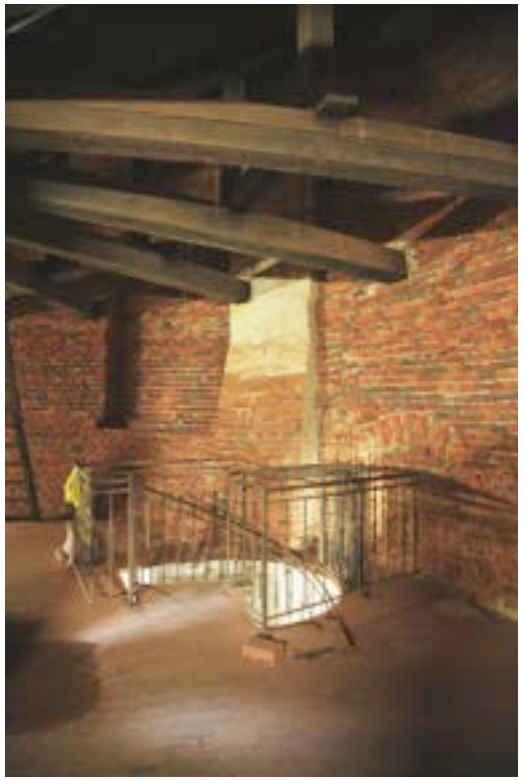
Prior to the project implementation, the facility had not been accessible to visitors due to poor conservation status, mainly caused by high levels of moisture in the walls, resulting in biological corrosion, as well as the lack of appropriate adaptations and protection systems. The architectural details, wall claddings and floors had gradually degraded. As a result of earlier interventions, the original interior layout was changed. Strong chemicals used during previous repair work led to air pollution. An obsolete electrical system, as well as the condition of the wooden structure of ceilings and the roof truss did not ensure safety for visitors.

Image No. 2, Elevation before the conservation, photo by Marta Boguta

Image No.3, Ground floor before the conservation, photo by Marta Boguta

Image No. 4, Courtyard before the conservation, photo by Marta Boguta

Image No. 5, Vestibule before the conservation, *photo by Marta Boguta*



Images No. 6, 7, First floor before the conservation,
photo by Marta Boguta

Research.

The conservation and adaptation of the building to museum needs was preceded by extensive research, which enabled us to assess the existing knowledge of the Water Tower. In order to fully identify the conditions pertaining to the building, the water supply system and the history of the building's creation, a series of tests were required.
The following tests were carried out:

- Architectural and conservation studies of the above-ground part of the building.
- Non-invasive archaeological studies of the surroundings.
- Measurements of air pollution and resistance tests of the water reservoir's vault, including underwater exploration of its interior by divers.
- A research survey of written and iconographic sources (Polish and foreign) was performed.

Image No. 8, Roof truss during the conservation, photo by Maciej Czynski

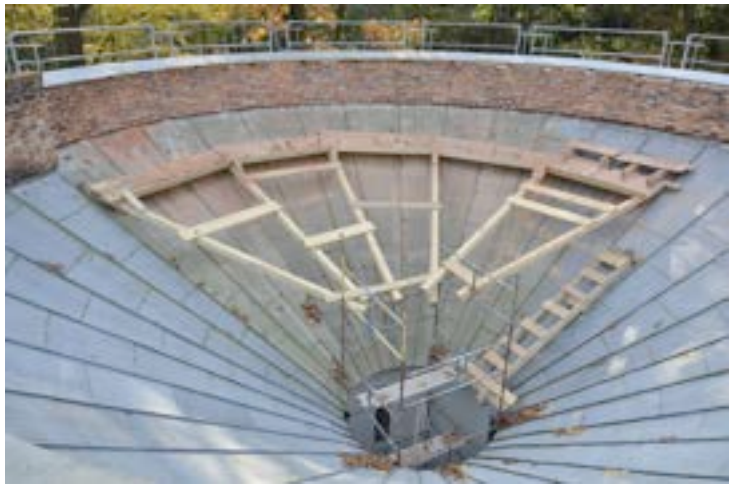


Image No. 9, Roof during the conservation, photo by Maciej Czynski

Image No. 10, Cornice with bucraniums and garlands during conservation, photo by Maciej Czynski

Image No. 11, Ground floor – wall polychromes, photo by Marta Boguta

Image No. 12, Underwater exploration, photo by Maciej Czynski

Image No. 13, Reservoir tank underneath the ground floor, photo by Dorota Śliwińska

Image No. 14, Wooden gutter found during excavation photo by Marta Boguta

Image No. 15, Wooden gutter after the conservation, photo by Maciej Czynski

Conservation / renewal project (author(s), complexity, duration, institutions involved, other agents or circumstances, disagreements and compromises if there were any, decision making regarding conservation / restoration techniques and materials, budget.

The contractor, a private limited company from Poland - Monument Service - was chosen in a public, open tender. A tender procedure imposed high qualification requirements concerning both contractor and conservation professionals.
The conservation was carried out as part of a broader project “Sources of Transitions…” which also covered other buildings on the premises of the Royal Łazienki. The project was carried out under the Infrastructure and Environment Operational Program 2014–2020 in cooperation with the Ministry of Culture, National Heritage and Sport. The cost of the entire project amounted to PLN 17,489,733.91 – of which PLN 10,655,784.63 was a grant from the European Regional Development Fund, while the amount of PLN 2,663,946.17 came from the Ministry of Culture, National Heritage and Sport. The costs incurred directly for the Water Tower

amounted to PLN 2,984,070.94. The budget increased during the work due to historical findings of preserved, original elements, which were excavated and secured. In the course of the work, numerous discoveries were made in relation to the original interior design, which following consultations and adjustment of the work programme, allowed among other things to keep the historical layers uncovered and restore the original colours of the walls. The work enabled workers to resolve the issue of moisture in the interiors, without interfering with the historical system of the water reservoir, to eliminate air pollution and protect the building against fire. Eventually, an independent system was implemented to ensure the insulation of the upper part of the building from the reservoir tank; it was adapted to the existing historical membrane made of lead sheet which was preserved. The reservoir's vaults were subjected to conservation and protected without interference with the wall brickwork; conservation measures were also applied to the elevation and the stone and stucco detail in form of cornice with bucraniums and garlands, the plinth and the portico.

Moreover, underneath the floor in the vestibule, a wooden gutter was discovered. Despite its extremely poor conservation status, it was preserved to be displayed in its original location. This procedure required an adaptation of the design of the floor and the insulation layers. In the vestibule, we can also see the uncovered and preserved elements of two furnaces.

Another conservation challenge was to highlight the polychromes, both the original and reconstructed layers, using historical techniques and binding materials. In two rooms, the decoration of the walls was reproduced and the original relics of 18th-century polychromes were highlighted.

Following the model of the stairs in the Palace on the Isle, cast-iron stairs leading to the first floor of the building were reconstructed. The roof covering and the secondary structure were also replaced, while preserving the original system of water drainage in form of a "funnel".

Conservation work enabled conservationists to stop the progressing degradation of the Water Tower. The project has shown that, through multi-directional collaboration between specialists in various fields it was possible to include facilities such as this, on the touring map of the museum and to assign useful cultural and social functions to them, which in turn guarantees the preservation of the historical heritage for future generations. During the implementation phase, it was essential to keep an open approach to the adopted design objectives and to ensure the possibility of adapting them to the existing conditions and original layers, as well as historical elements being discovered during the implementation work.

Results / current situation.

The museum reached the aim of the project, which was to ensure the conservation of a historic technical building, a unique site on the domestic and international scale and prepare in its interiors an exhibition, which would directly present the theme of water, which is inextricably connected with the Royal Łazienki. The exhibition is open from April to November and is gradually gaining popularity among the visitors of our Museum. We believe that it will become another fixed point for organized tours around Warsaw and a starting point for city guides to tell the story of Stanisław August's summer residence.

Image No. 16, The Water Tower after the conservation, photo by Paweł Czarnecki

Image No. 17, Aerial photo of the building, photo by Volatus Media

Image No. 18, Cornice with bucraniums and garlands, photo by Maciej Czynski

Image No. 19, Ground floor after the conservation / Exhibition: Water–Power–Spectacle, photo by Paweł Czarnecki

Image No. 20, Mock-up of the Water Tower presented on the exhibition, photo by Paweł Czarnecki

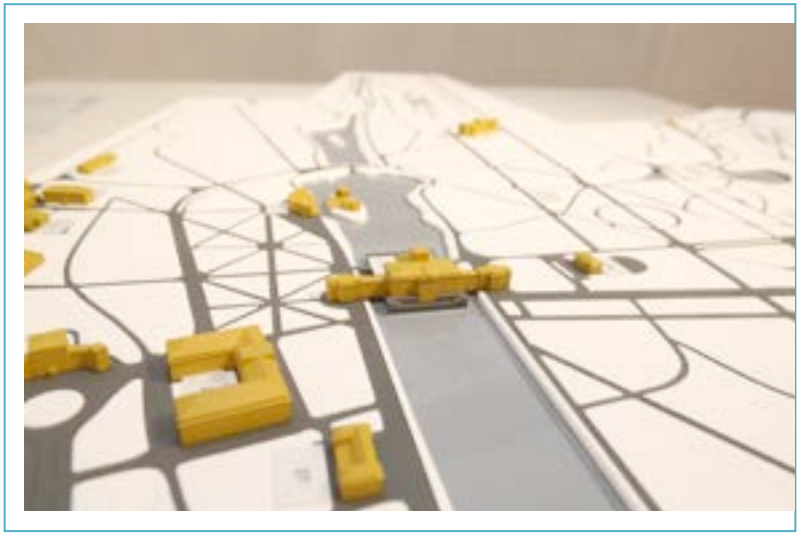


Image No. 21, Mock-up of the hydrological layout of Łazienki presented on the exhibition, photo by Paweł Czarnecki

Image No. 22, Courtyard after the conservation, photo by Maciej Czynski

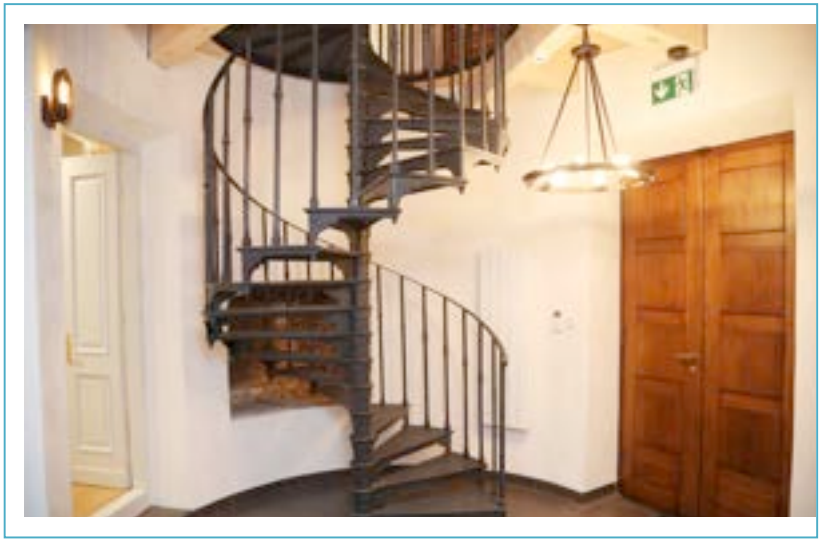
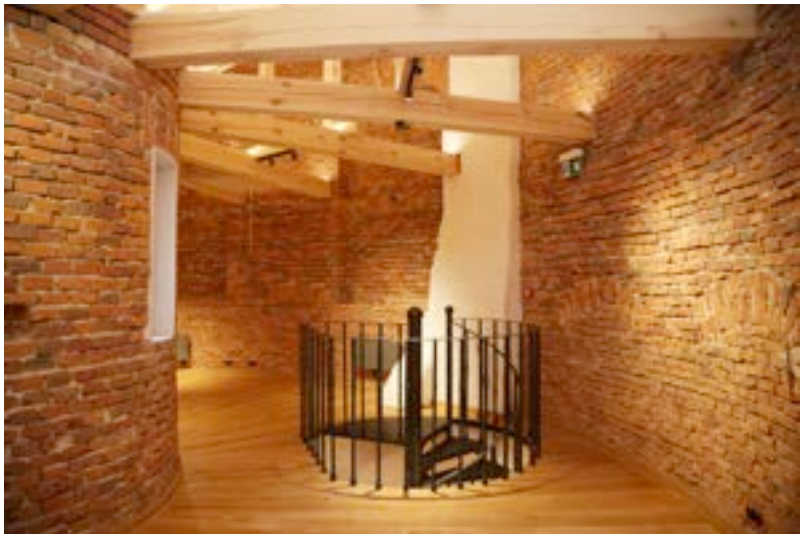


Image No. 23, Vestibule after the conservation, photo by Paweł Czarnecki



Images No. 24, 25, First floor after the conservation, photo by Maciej Czynski

Image No. 26, Roof truss after the conservation, photo by Paweł Czarnecki

Plans for the future.

The newly opened interiors allow for the extension of the Museum's offer to families, people with special requirements or specialists, while small theatre productions are presented on the first floor. The themes presented at the exhibition and the topics defined during the work on the Water Tower will be continued as part of museum's scientific programme, i.e. those related to development of the Royal Łazienki water system or historical and contemporary hydrological conditions of the Vistula river embankment near Łazienki's location.

Evaluation.

Conservation and adaptation of the historical, technical buildings and facilities for different purposes has already a wide and in many cases fine tradition in Poland. However, in this case we deal with the unique character of the Water Tower, which brought new challenges for conservators and art curators. This can be solved exclusively through a non-standard approach to problems and test methods or the search for new technologies based on historical solutions. The project has shown that a compromise is possible between strict conservation, security requirements and the possibility to adapt the building to visits by the public and give it a significant educational value. We believe that the solutions indicated below that were adopted during the renovation of the Water Tower can set an example for technical buildings owned by museums and other institutions throughout Poland and Europe.

Due to the complex nature of the site, the work required involvement of prime experts in various areas such as conservation, art history, archaeology, architecture, construction, etc. Those specialists were employed to devise optimal solutions for building insulation and conservation of the extremely bulky walls and the arched vaults of the reservoir, bearing in mind the presence of water and moisture in the building. The applied solutions enabled builders to obtain optimal indoor heat and humidity conditions without interference with the historic materials, without additional load to the structure or without disrupting the balance of the working water reservoir, which could have an impact (e.g. in case of sudden drying) on the condition and stability of the walls or vaults. An independent insulation system and vault protection system were developed, combining traditional methods, such as lead insulation and clay pugging with modern solutions for materials and injections (loose glass fibre grit as insulation spacers). Finding a method for displaying the uncovered historical elements (wall polychrome, furnaces, and the wooden gutter) was another

challenge. Eventually, it was decided to display these elements in their original locations, after applying conservation measures and adapting the insulation layers or wall coverings to the elements uncovered.

The completed work enabled conservationists to make this unique site belonging to the European historical heritage available to local communities and visitors from across the world.