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RECONSTRUCTION OF THE 'VÁROSLIGET' ICE RINK
THOUGHTS FROM A COMPETITION PAPER

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Abstract

The building of the 'Városliget' (City Park) Ice Rink, mellowed by age, stands in one of Budapest's most important tourist districts. The Capital has called a design competition for the renewal of it, to gain idea not only for the renewal of the building and the winter-time open air ice rink / summer-time boating lake area, but at the same time to create so far missing tourist infrastructure of the City Park and Heroes' Square. We outlined an up-to-date solution as befitted this function, breaking away from former conservative development ideas. Our plan includes the construction of a new ice rink with bus- and car park underneath, and underground new building section in front of the main entrance (changing room in winter, multifunctional space in summer), and an underpass road section to give the Kós Károly Promenade back to pedestrians.

Keywords: renovation of historic buildings, ice rink, underground parking, renovation design.

1. A Little History

Városliget (City Park) is one of the most visited tourist places in Hungary. The architectural face of Budapest's largest park started to form with the national exhibition in 1885 and the millennium exhibition in 1896, and resulted in a built environment harmonising with nature by the 1930's.

The park itself and the cultural, entertainment and tourist institutions there attract public in all seasons. Large numbers of people come to visit Heroes' Square (the heart of Városliget), the Millennium Monument, the Monument of Hungarian Heroes, the Museum of Fine Arts, the Art Gallery, but the neighbouring Zoo, the Széchenyi Bath, Vajdahunyad Castle and the Ice Rink/Boating Lake with its building are also frequented.

The Városliget Ice Rink is one of the oldest Hungarian sports establishments. The first Skating Club of Pest was established in 1869. The erection of the first valuable building at the ice rink is associated with Ödön Lechner, who won the job through a design competition in 1875. This light building made of stone and richly decorated with wood has been pulled down when becoming unsuitable for the extremely developing skating sport. The recent building is the work of Imre Francsek, architect of the Capital's Public Work Council (1891).

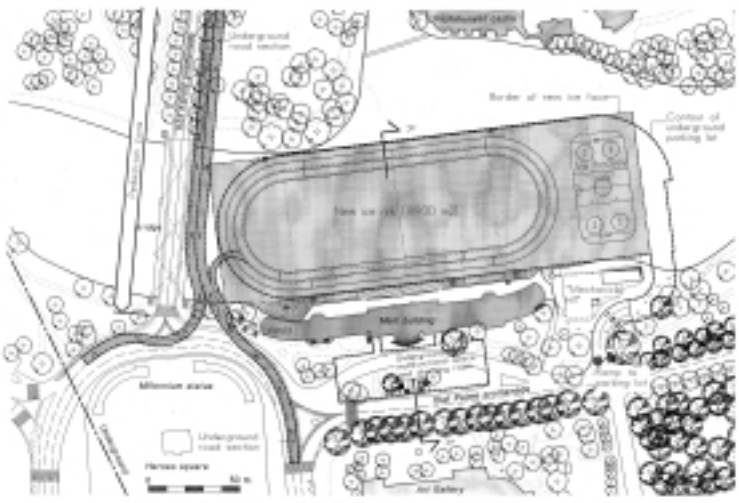

Fig. 1. Layout of the Ice Rink and surroundings – renewal plan

The boating lake and the ice rink have aged, the architecturally valuable building became out-dated morally as well. The idea of the renovation is not new, we made a design for conceptual permit and obtained this permit in 1990 for NSI.

2. The Governing Aspects of the Competition

Budapest City Council's Mayor Office called a national open design competition for the reconstruction design of the Városliget Ice Rink and its building in 2002.

The papers were expected to find architectural answer for two, seasonally different demands:

- to serve both free-time skating and occasional championships on high level in Autumn and Winter and
- to create so far missing tourist infrastructure for the City Park and Heroes' Square and to provide a boating lake over the ice rink area in Spring and Summer.

3. Our Principles

A team from the Department of Building Construction (Faculty of Civil Engineering at BUTE), MŰÉP Consulting Engineers Ltd. and UVATERV Engineering Co. submitted joint papers for the design competition.

The governing principle of our 'brain storming' raised from the fact that the lake is hardly acceptable for boating due to the former additive reconstruction of bottom of the boating lake, and the slope of the base is unsuitable for making quality ice, for housing a championship; therefore *new base slab is required*. The requirement of providing a precisely flat surface on top of several meters of peat and mud (the former bottom of lake), has matched the idea to create part of the missing infrastructure below this ecologically unworthy area in form of *underground parking* (drawing away 34 parking buses and 530 cars from the surface load!). The top of this structure lends itself particularly well both to ice making and forming lake bottom. All surrounding paved areas are ecologically more valuable, so the park-like area can be extended till Dózsa György Street – it would be a sin to keep parking there.

The other cornerstone of our plan is to raise the standard of the changing rooms for skaters. The main building of the Ice Rink would be freed from the changing room function by creating a *2000 m^2 underground, multifunctional building section* in front of the main entrance. Having the moveable partitions and furniture removed from the *wintertime changing rooms and cloak-room*, this multifunctional space could house exhibitions, music events, smaller sport events in Summer. *New infrastructure* can be developed here to provide the so far missing services for Heroes Square and surroundings. The main building and the ice rink could be reached from here (e.g. through moving platforms). We planned a glass entrance building for surface connection, next to the bowman statue (using non-glare tempered structural glazing with stainless steel fixtures, in an almost invisible appearance).

The spaces excellent for sale or for rent in the *main building of the Ice Rink* could *be* fully *freed* for cultural, catering, trade and sports competition infrastructure. The underground parking and the underground multifunctional area provide high standard services for free-time and sports skating in winter and provide the so far missing infrastructure for Heroes Square and surrounding.

Progressing from the above and extending the thought of re-organising the area, we drafted a third idea, *giving the Kós Károly Promenade back to pedestrians*. Road traffic can be driven underground in front of the Art Gallery, than returned to surface in a later point of the Promenade (not nearer than Vajdahunyad Castle). *This part of the City Park will not be divided by road traffic* any more. The area around the lake would get its park and promenade character back thanks to this *underpass*. The underground parking lot could also be reached from the underpass. The underpass road section could be built in a second phase also.

4. The Baseless Worries Related to Foundation Issues

The planned structures can be found realistic if the misconception, which is read in the tender, and which is based on former notes and surveys, could be cleared up. According to this, the load bearing soil layer is down at 10–14 m depth, under the peat and mud forming the bottom of the former natural lake, and consequently the main building lays on larchwood piles. If that were true, the underground structures would be unrealistic.

The close area of the main building is free of such dangers. A soil test report dated in 1999 (which is also part of the tender) shows that the load bearing soil layer is at 2–2.5 m depth, the deepest point is at −3.00 m. According to the uncoverings the foundation of the main building was made with soil replacement (crushed lime gravel and sandy gravel) using strip foundation. A closed planking was probably used to secure the trench, the remaining poles of it could mislead the former investigations and prompt that the building rested on pile foundation.

Carefully considering the real soil conditions *the underground structures can be expediently built*, without particular technical difficulties.

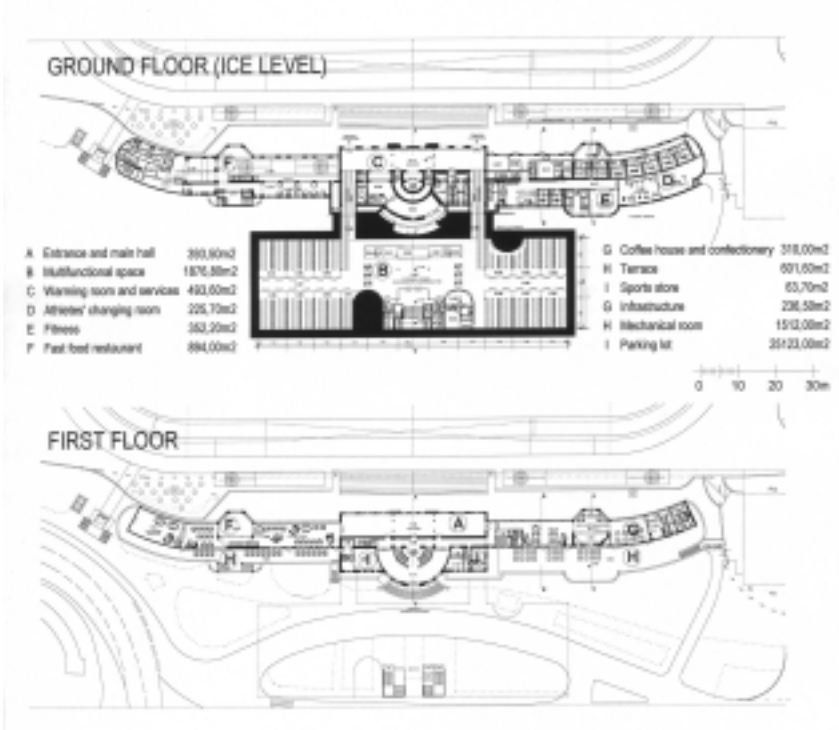

Fig. 2. Groundfloor (ice level) and 1st floor plan of the main building

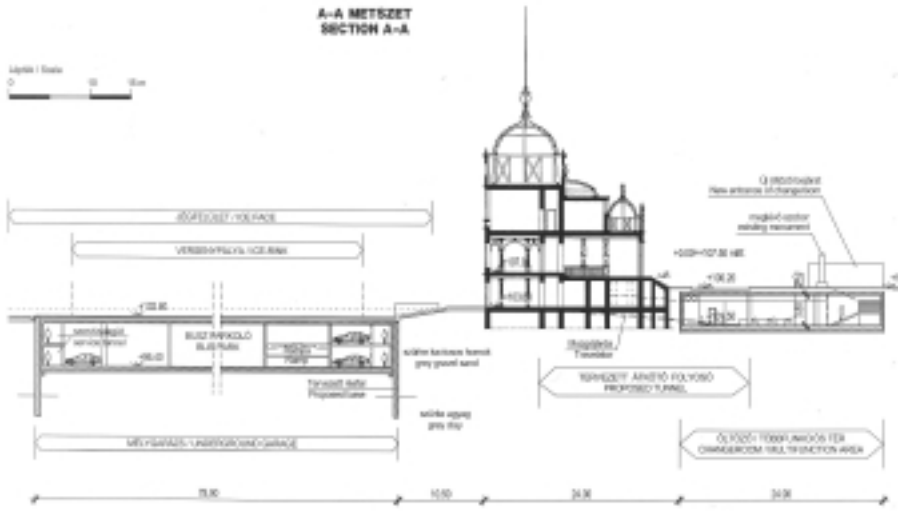

Fig. 3. Section of the main building with the underground changing room/multifunctional space and the underground parking

5. The Hill Hiding Mechanical Services

The building section housing the mechanical equipment is designed according to the urban arrangement regulation, modifying the basin of the lake. The mechanical building would be of 2 levels. A *technological corridor* goes all around the ice rink, along the perimeter of the underground parking lot, this can be reached directly from the *ice technology equipment room*, providing easy maintenance, checking and safe operation.

This building would receive an intensive *green roof*, which is only 1.50 m higher than the pavement level of the Olaf Palme Promenade. Two openings are required on the roof: one over the condensers and one providing ventilation for the boiler and the ventilation mechanical room.

We made a single-level variation of the mechanical building, also modifying the access ramp to the underground parking lot.

6. More Details about the Underground Parking Lot

The underground parking lot is open for public use and mainly serves the parking needs of the Ice Rink, the institutions, places of interest in the City Park. On the other hand the reinforced concrete structure guarantees perfect surface for ice making. Making the 2–3 cm needed ice of standard quality instead of 10 cm or more on sloped surface is a way of cutting energy costs.

The *ramp to the underground parking lot* is located at Olaf Palme Promenade, *with three traffic lanes* for providing two lanes to the actually heavier traffic direction. Bus parks require higher interior, so part of the parking lot is single-level, while the other part suitable only for cars is two-level. The parking could receive *34 tourist buses and 533 cars*.

The bus parking zone is closer to the Heroes Square so the tourist traffic towards the museums and the square can be solved by *2 escalators* and an elevator. We planned more *smoke-free stairs as emergency exit routes*.

The environment-friendly, effective and dynamic traffic organisation would be driven by an *active electronic traffic signal and information system* (marking full areas, guidance to empty parking places, etc.).

The construction of the underground parking lot is planned with concrete wall surrounding, surface drain and watertight (0.2 litres/sqm/day) reinforced concrete base slab and side walls. The upper deck is a multi-layer structure, a special roof as it is bottom of lake and ice rink base slab at the same time.

7. Ice Rink and Boating Lake

Increasing the recent ice surface a new speed skating rink suitable for international championships, a hockey rink, and two curling fields will be created. The total ice surface will be 14 540 sqm.

Due to the ice rink arrangement, the basin of the lake should be minimally modified. Side walls have to be heightened in certain sections to achieve 80 cm water depth. Building new locks and keeping existing ones is necessary in order to keep control over the winter – summer water surface

8. Conclusions

The ideas drafted in our competition papers create the so far missing infrastructure, preserving and developing natural and built values and serve the high level expected today from the new establishments. We are convinced that *creative thinking is required, putting aside old routines* when designing such an important renewal. Decisions and ideas bold at first sight should be undertaken.

9. Epilogue

None of the prized design competition papers answer the demand for infrastructure, their solutions somewhat preserve the existing situation. It seems (and not only in this competition) that it is tough giving up convention-driven development and design ideas.

Our design competition papers have been disqualified due to formal reasons (negligible by our opinion). Being dedicated to the development of the Városliget Ice Rink we *offered the content of our papers for use to the Capital*. . .