

## 0.8. SAŽETI TEHNIČKI OPIS

**INVESTITOR:** Skupština Opštine Gadžin Han, Miloša Obilića bb, Gadžin Han

**OBJEKAT:** Bazen za kupanje

**LOKACIJA:** KP br. 1274 KO Donji Dušnik

**MESTO:** Donji Dušnik

### LOKACIJA:

Prema zahtevu Investitora – Skupštine Opštine Gadžin Han i uvidom u stanje na licu mesta, sačinjen je ovaj projekat neophodnih mera i radova, sa predmerom i predračunom istih, na pripremi vode za kupanje.

### ARHITEKTONSKO REŠENJE :

Postojeći bazen je izgrađen pedesetih godina na predmetnoj lokaciji, na aluvijalnoj podlozi. Konstruktivni sistem je armirano betonska školjka koja je sa spoljnih strana ozidana kamenom i uklopljena u postojeći teren odnosno ambijent.

Oblik bazena je približno pravougaoni (prema geodetskom snimku), približnih dimenzija 15,0 x 30,0 m, sa različitom dubinom ukopavanja: od 0,50 m do 2,15 m i bruto razvijenom površinom od 537,0 m<sup>2</sup>.

Bazen je sa sve četiri strane oivičen betonskim platoima različitih širina - od 1,0m do 6,20m, što se takođe vidi u geodetskom snimku objekta. Vertikalni zidovi bazena su omalterisani cementnim malterom a dno je urađeno od nearmiranog betona. Na najdubljem delu bazena nalazi se zatvaračnica odnosno ispušni za praznjenje bazena u ciklusu nekorišćenja i čišćenja. Takođe na najdubljijoj strani bazena nalaze se tri prelivnice za odvod viška vode i regulaciju nivoa iste u bazenu.

Usled dugotrajne eksploatacije objektabez ulaganja u tekuće održavanje istog objekat bazena se trenutno nalazi u vrlo dotrajalom stanju i kao takav je trenutno nepogodan za korišćenje, moglo bi se čak reći i opasan zbog stanja betona na istom.

Zbog stalnog uticaja mraza na higroskopne i i spucale slojeve kompletna obloga od maltera na zidovima se potkorusila i vidno opada a isto važi i za dno bazena od betona. Takođe, kompletna površina platoa je vidno ispucala i propala, i kao takva je čak i opasna za prolaz ljudi. Ipak, može se reći da su u najgorem stanju kameni zidovi oko bazena koji su u suštini glavni zaštitni elementi celokupne konstrukcije - kamenje vidno ispada iz zidnih površina, ne postoji nikakva veza među istima i zidovi su izgubili svoju funkciju, te je krajnje opasno puniti bazen u ovom stanju, te je neophodno izvršiti kompletnu sanaciju kako samog bazena tako i njegove okoline kako bi bio pogodan za ponovno korišćenje.

U svetlu svega gore navedenog neophodno je izvršiti sledeće radove na sanaciji bazena i okoline ( što je sve navedeno u pratećem predmeru i predračunu radova ), a da se pri tome ne menjaju postojeći gabariti kako bazena tako ineposrednih sadržaja - platoa i obodnih zidova:

1. Radovi na rušenjima - kompletno obijanje svih dotrajalih betonskih i elemenata od maltera do zdrave podloge sa odvozom šuta na deponiju,
2. Radovi na sanaciji same školjke bazena kojima bi se postigla vodonepropusnost bazena i mogućnost ponovnog punjenja i korišćenja - izrada kvalitetne hidroizolacije na pripremljenoj podlozi, izrada zaštitnih armirano betonskih zidova i dna bazena, čime je dobijen novi koristan prostor čije je neto površina 510,0m<sup>2</sup>
3. Radovi na sanaciji platoa oko bazena koji bi omogućili nesmetan prilaz i korišćenje neposredne okoline bazena - betoniranje istih lakoarmirani betonom sa prethodnom izradom prelivnih kanala u svemu prema detajlima, kao i izradom baterije spoljnih tuševa zbog

lakšeg napajanja vodom dok je odvod vode rešen padom platoa prema prelivnoj rešetki bazena,

4. Radovi na sanaciji kamenih zidova oko bazena koji podrazumevaju izradu armirano betonskih potpomihih zidova dimenzija prema statičkom proračunu, koji bi dali trajnu sigurnost u smislu eksploatacije bazena i konsolidovali okolno zemljište,

5. Radovi na enterijem samog bazena kojima se dobijaju dve različite celine u okvirima samog bazena - deo za decu i neplivače i deo za plivače. Celine su međusobno odvojene novim zidom koji, uz dva ograđena propusta kako ne bi došlo do mešanja jednih i drugih, dopušta formiranje jedinstvenog vodenog ogledala i funkcionisanje prelivnih kanala po obimu bazena. Takođe je u ovoj fazi predviđeno oblaganje unutrašnjih površina bazena odgovarajućim keramičkim pločicama u azurnim tonovima radi postizanja estetskog utiska kod budućih korisnika sa jedne strane i kao zaštita slojeva betona školjke sa druge strane, kao i sanacija mehanizma zatvaračnice bazena i nabavka novog metalnog stepeništa za silazak u bazen.

U međuvremenu je urađen potpomihi zid na najkritičnijim delovima oko bazena (prema grafičkom prikazu izvedenog stanja) a ujedno je i izvršena priprema postojećeg dna bazena za izradu hidroizolacije.

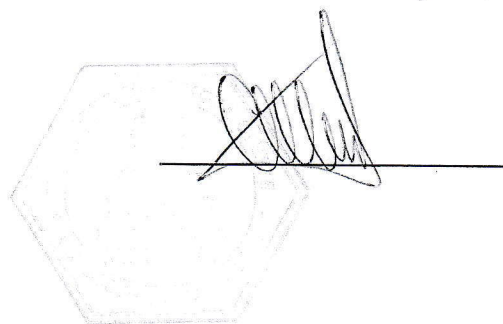
Ovim projektom je predviđen niz novih radova na dobijanju objekata za pripremu bazenske vode i smeštaj neophodne opreme kako bi se omogućila kvalitetna i nesmetana eksploatacija bazena od strane kupaca. Ovaj projekat je u svemu logičan nastavak prethodne faze - sanacije objekta bazena za kupanje, te su shodno tome njime obuhvaćeni samo novi radovi, odnosno radovi po prethodnoj fazi nisu kompletno izvedeni i kao takvi nisu uzimani u obzir novim predmerima i predračunima radova, te je u cilju dobijanja stvarne cene radova na dobijanju upotrebnog objekta potrebno sabrati obe faze projektovanja.

Tako je projektovan novi potporni zid na kraju postojećeg platoa na zapadnoj strani bazena čijom se izradom, zajedno sa postojećim potpornim zidom, formira prostor za novu mašinsku salu za smeštaj neophodne opreme za pripremu bazenske vode, zatim atrijum-manipulativni prostor čija je funkcija da prihvati filterski blok kako se ne bi rušili postojeći potpomihi zidovi, kompenzacioni bazen kao neophodna faza u pripremi vode i magacinski prostor za svu neophodnu prateću opremu za normalan rad i održavanje bazenskog postrojenja.

Projektom su, osim arhitektonsko-građevinskih sadržaja, obuhvaćeni i svi instalacioni radovi neophodni za nesmetano funkcionisanje objekta: vodovod i kanalizacija, priprema bazenske vode, filtersko postrojenje sa pratećim pumpama i higijenom vode, termotehničke instalacije-dogrevanje vode, elektroinstalacije koje napajaju sve date korisnike uz dodatni deo noćnog osvetljenja kompleksa.

Napajanje bazena potrebnom količinom vode vršiće se iz gradske mreže preko odgovarajućeg priključka.

Projektant

A handwritten signature in black ink is written over a faint, hexagonal stamp. The signature is stylized and appears to be a personal name. The stamp is a light grey or blue ink, with some illegible text inside it.

### 13. CONCISE TECHNICAL REPORT

**INVESTOR:** Municipal Assembly of Gadzin Han, Milosa Obilica street no.nn, Gadzin Han

**FACILITY:** Swimming pool

**LOCATION:** CP no. 1274 CM Donji Dusnik

**PLACE:** Donji Dusnik

#### LOCATION:

According to the requirements of the investor, the Municipal Assembly of Gadzin Han, and according to the on-the-spot inspection of the conditions, the following project of the necessary measures and actions, including their Bill of Quantities, has been produced regarding the preparation of the water for the pool.

#### ARCHITECTURAL SOLUTION:

The existing swimming pool was constructed in the fifties at the location, on the alluvial surface. The structural system is a reinforced concrete shell that is walled with stones from the outside and blended into the existing terrain and environment.

The shape of the pool is approximately rectangular (according to the geodetic survey), approximate dimensions 15,0 x 30,0 m, with different excavation depth: ranging from 0.50 m to 2.15 m and of gross covered area of 537,0 m<sup>2</sup>.

The pool is on all four sides bordered with concrete plateaus varying in width - ranging from 1,0 m 6,20 m, which is also presented in the geodetic survey of the object. The vertical walls of the pool are plastered with cement mortar and the bottom is made of unreinforced concrete. At the deepest point of the pool there is a lock chamber, i.e. a drain for emptying the pool in a cycle of inactivity and cleaning. There are also three skimmers to drain excess water at the deepest point of the pool and to level control the water in the pool.

Due to the long-term exploitation of the object without any investments in its ongoing maintenance, the swimming pool is currently in a very bad condition and as such is unsuitable for use, one might even say dangerous because of the condition of concrete.

Due to constant effects of frost on the hygroscopic and cracked layers, the complete coating of plaster on the walls is damaged and visible sections of it are collapsing, the concrete bottom of the pool is in the same condition.

Also, the entire plateau is visibly cracked and damaged, and as such it is even dangerous for walking over. However, we can state that in the worst condition are the stone walls around the pool which

basically the main protection element of the entire structure - rocks are visibly falling out of wall areas, there is no connecting material between the stones and the walls have lost their function, and it is extremely dangerous to fill the pool which is in such condition, and it is necessary to execute a complete reconstruction both of the swimming pool and its surrounding area so as to make it again suitable for safe using.

Regarding all the above mentioned, the following works need to be executed on the reconstruction of the swimming pool and its surrounding area (which are all listed in the attached Bill of Quantities), these construction works would not make any changes to the existing dimensions of the pool nor to any of the elements of its structure i.e. to the plateau and perimeter walls:

1. Demolition works – complete removal of all dilapidated concrete and mortar elements to the do clear and solid surface, transport of the demolition debris off the site to the city dump,
2. Reconstruction works of the pool shell which would make it waterproof and ready for refilling and usage - construction of good quality hydro-insulation on the prepared surface, construction of protective reinforced concrete walls and bottom of the pool, resulting in a new usable space net area of 510,0 m<sup>2</sup>.
3. Reconstruction works on the surrounding area of the pool that would allow clear access and use of the immediate pool area – concrete works in this area with light weight reinforced concrete with previous construction of the overflow canals according to the details, as well as the construction of the outdoors showers for easier water supplying, whereas the draining is solved by the slope of the area directed towards the overflow canal of the pool.
4. Reconstruction works on the stone walls around the pool which include construction of the reinforced concrete supporting walls with the dimensions given by the structural calculation, which would provide permanent safety in terms of using the pool and which would consolidate the surrounding area,
5. Works on the pool interior that would provide two separate sections in the pool area – the children and non-swimmers section, and the swimmers section. The sections are separated by a new wall which, with two enclosed passages constructed in order to avoid mixing of these groups of users, allows the formation of a unique water mirror and functioning of the overflow canals around the pool. This phase of the project includes covering the internal surface of the pool with the fitting ceramic tiles in azure blue shades so as to achieve the aesthetic impression of future users, and, on the other hand, to create protective layers of the concrete shell. This phase also includes reconstruction of the pool main drains mechanism as well as the acquisition of a new metal staircase for the pool.

In the meantime there has been constructed the supporting wall at all the most critical areas around the pool (according to the graphic of the as-built status) and there have also been made preliminary works on the existing pool bottom for the hydro-insulation works.

This project has anticipates a number of new construction works in order to make facilities for the processing of the pool water and storing of the necessary equipment so as to enable high-quality and free exploitation of the pool by the swimmers. This project is in all aspects a logical continuation of the phase - reconstruction of the swimming pools, and it therefore includes only the new works, i.e. the works that have not been completely executed in the previous phase, and as such have not been taken into consideration in the new Bill of Quantities. In order to get the real cost of the works needed for obtaining a new object it is therefore necessary to add the costs of both phases of the project.

We have that way designed a new supporting wall at the end of the existing area on the west side of the pool, the construction of which, together with the existing supporting wall, creates a space for the new machine room for storing the necessary equipment for the processing of the pool water. Furthermore, the atrium manipulative facility which is to store the filter block so as to avoid any damaging of the existing supporting walls, compensational pool as a necessary stage in water treatment and storage area for all the necessary supporting equipment for normal operation and maintenance of the pool plant.

The project, apart from the architectural and construction elements, includes all the installation works necessary for the regular functioning of the facility: water supply and sewage, pool water treatment, filtering plant with pumps and water hygiene, thermo-technical installations, water heating, electrical installations that power all the previously mentioned including the night lighting of the complex.

Water supplying of the pool with the necessary quantity of water will be carried out from the town water supplying system via the appropriate connection.

Responsible planner:  
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**COURT TRANSLATOR'S CERTIFICATION**

I, Bojana Petrovic, Official Court Translator for English language, assigned by the Ministry of Justice of the Republic of Serbia no. 740-06-1780/08-03 date 30.10.2008, certify that this is a true and accurate translation of the original document written in Serbian language.

Date 15.1.2016

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