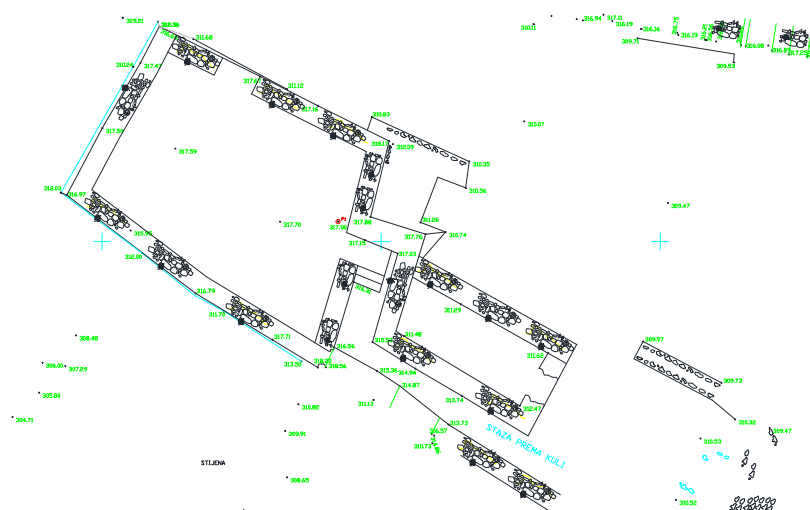


CITY OF HERZEG STJEPAN – SECOND PHASE

On 20.07.2011 the selection of the most reasonable tenderer for the **SECOND PHASE of conservationist works on the current maintenance of the fortification of Stjepan-grad in Blagaj – open procedure** was completed with minutes on the evaluation of tenders. Two companies responded to a notice published in Official Gazette of Bosnia and Herzegovina numbered 49 dated 20.6.2011 under number of 1-1-13-8563-11 and on 29.7.2012 the contract was signed amounting **168.132,98 KM** with a company GD „ARHITEKT“ d.o.o. Mostar, which was the better tenderer.

The works started on 19.8.2011 in conformity with the notice of Agencija "Stari grad", and the works ended in conformity with the contract on 23.12.2011. The implementation was carried out in conformity with the expert opinion numbered: 07-40-4-811-2/11 dated 14.06.2011 which was provided by the Federal Ministry of Culture and Sports – Institute for Protection of Monuments. The very institution appraised the state of national monument of cultural heritage of Bosnia and Herzegovina and on the basis of archaeological investigation masterplan prepared a plan and program of conservation of the walls of the ramparts of the old city of Blagaj.



Picture 1: Area of intervention of the SECOND PHASE of the conservationist works on the current maintenance of fortification of Stjepan grad in Blagaj

Description of intervention:

SECOND PHASE of conservationist works on the current maintenance of fortifications of Stjepan-grad in Blagaj included:

1. Preliminary work
2. Preparatory work
3. Stone-dressing works

Preliminary works included:

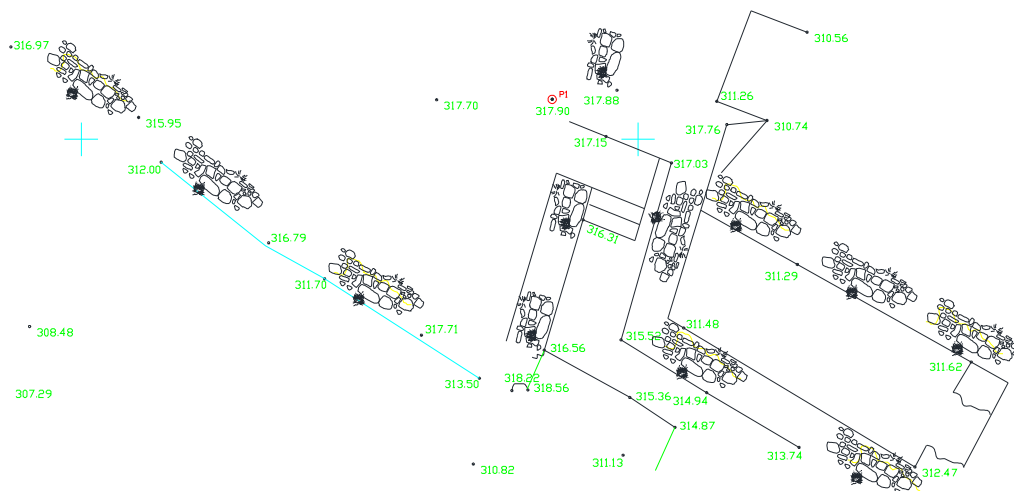
Design and building of a machine ramp (ropeway) with a handy vehicle and appropriate motor for transport of equipment and material.

Preparatory work included:

At the locality (within and outside the city) to collect, clean, sort and deposit ground stone in groups in the vicinity of the place of the dive with a purpose of its installation again.

Carry out the preparation of the terrain in order to mount the scaffolding for implementation of the works.

Manual soil excavation from bastion (down to the compacted background) and the access stairs. The excavated soil should be taken outside ramparts, lowered by means of the makeshift ropeway, loaded and it should be transported to the city dumping ground.



Picture 2: Design detail of the way out into gazebo



Picture 3: Gazebo - completed works

Stone dressing works and bricklayer's work included:

Disassembly of non-consolidated stone with demolished wall, preventing the remainder of the stone to crumble down.

Purchase, transport and building of the wall front with the existing and new chiselled stone in ratio 40:60.

Purchase, transport and building of the wall front in lime cement mortar in ratio 1:1:4. Existing and new stone was used for building in ratio 50:50, which was drowned at the end into the mortar so as to enable the drainage of the water of the wall top.

Dressing and building two-face reveal wall openings, manufacture of stone arch lintels, as well as connection with the existing wall front with present and new stone

Purchase, transport and injection of the mortar-based grouting mass into the visible wall cracks

Purchase, transport and building of the two-front walls with existing and new chiselled stone in ratio 20:80.



Picture 4: Area of intervention prior to SECOND PHASE of the conservationist works on the current maintenance of Fortification Stjepan-grad in Blagaj



Picture 5: Area of intervention after SECOND PHASE of the conservationist works on the current maintenance of Fortification Stjepan-grad in Blagaj

Purchase, transport and building of the wall front with existing and new chiselled stone in ratio 40:60. Prior to that, the present stone will be cleaned, sorted and prepared for installation.

Procurement, transport and installation of mortar to fill the joints of the walls of the bastion, ramparts and towers with lime mortar. For mortar one should use naturally stale slaked lime and water aggregate 0-4 mm.



Picture 6: Detail of the works on the SECOND PHASE of the conservationist works on the current maintenance of the Fortification of Stjepan-grad in Blagaj

Purchase, transport and installation of the mortar background $d = 10\text{ cm}$ 10 centimetres thick. Mortar prepared with bauxite („terra rossa“) in ratio bauxite: lime: sand = 1:1:1.

Purchase, transport of the crushed stone 32 ten centimetres high and its spread on the bastion plateau.



Picture 7: Area of intervention after SECOND PHASE of conservationist works at current maintenance of the fortifications of the Stjepan-grad in Blagaj

Purchase, manufacture, transport and assembly of the wire grid over cisterns. They have been made of U Np14 steel construction set on the concrete pillows on the outer side distance from the cistern masonry. Zinc honeycomb of iron profiles forming a grid $4 \times 4\text{ cm}$ was set on the primary steel construction.

Transport of the soil, rubble and unnecessary material from the construction site with the help of makeshift ropeway, as well as loading and transport to the city dumping ground.