Mausoleum of Khoja Ahmed Yasawi (Kazakhstan) (C 1103)

The report on the state of conservation of mausoleum of Khoja Ahmed Yasawi according to the decision 38 COM 7B.16

Almaty 2016

CONTENTS

1. History

(I) Name of World Heritage: **Mausoleum of Khoja Ahmed Yasawi**

(II) Identification number: **C 1103**

(III) State party: **Kazakhstan**

(IV) Criteria **(i) (iii) (iv)**

(V) The decision of the World Heritage Committee: **38COM7B.16**

2. Answers to the World Heritage Committee's decision

I. Architectural perspective, which illustrate the visual correlation between the new mosque and the Mausoleum of Mausoleum of Khoja Ahmed Yasawi

Further works were realized to have a better view on the visual correlation between new mosque and the Mausoleum of Mausoleum of Khoja Ahmed Yasawi:

1. The photofixation of both constructions was made around the perimeter of their buffer zones. The coordinates of the photofixation points were made with the use of the GPS. All the results were put on the aerial image – picture 1. The photo-images show the visual correlation between both constructions.

2. The height of the minarets and the upper part of the southern portal of the Mausoleum of Mausoleum of Khoja Ahmed Yasawi and the height of the minarets and the dome of the new mosque from the level of the ancient surface were made with the use of the laser total station.

It is important to mention that the pilgrims and visitors approach the mausoleum from the southern side (view-point P1). The new mosque is not visible from the view-point P1. View-points P2-P15 show the general view of the new mosque and the mausoleum. The new mosque is not visible from the northern and eastern side because of the dense construction along the Bayburt street (on the north-east) and the Almanskaya street (on the east). The new mosque is also visible to pilgrims and visitors from the view -points P14-P15 (from the hotel of "Yassy") and from the western side of the Mausoleum of Khoja Ahmed Yasawi. Pilgrims comes to Turkestan from the village of Shaulder after having visited the Mausoleum of Arystanbab. The view-points P16 – pic.I.17 represent the view on the new mosque from this road. Dense constructions cover the lower part of both constructions, while the Mausoleum of Mausoleum of Khoja Ahmed Yasawi is clearly visible in contrast of the sky.

The pic.I.20 represents the front-faces of both constructions with the height of the minarets and the upper part of the southern portal of the Mausoleum of Mausoleum of Khoja Ahmed Yasawi and the height of the minarets and the dome of the new mosque.

This analysis allows to say that:

1. The new mosque is situated beyong the buffer zone of the mausoleum.

2. The negative visual correlation provoked by the new mosque cannot be identified from the view-point:

a) From the hotel of "Yassy" (view-point P.14);

b) From the Bayburt street (pedestrian zone);

c) From the Almanskaya street – main access road to the Mausoleum of Mausoleum of Khoja Ahmed Yasawi including the parking zone for tourist transport, main and side-enterance to the mausoleum;

d) From the remains of the medieval settlement;

e) From the axis of the main portal and mausoleum;

f) From the highway Shaulder-Turkestan;

g) From the highway Shymkent-Turkestan.

3. Multiple-elevation survey of the surface of the Mausoleum of Khoja Ahmed Yasawi and the new mosque, portal arch of the mausoleum, minarets and dome of the new mosque show the domination of the Mausoleum of Khoja Ahmed Yasawi.

Fig.I.1. Satellite image. Location viewpoints.

Fig.I.2. Viewpoint P1. Mausoleum of Khoja Ahmed Yasawi. View of the north-west.

Fig.I.3. Viewpoint P2. View of the north-west.

Fig.I.4. Viewpoint P3. View of the north-west.

Fig.I.5. Viewpoint P4. View of the north.

Fig.I.6. Viewpoint P5. View of the north.

Fig.I.7. Viewpoint P6. View of the north-east.

Fig.I.8. Viewpoint P7. View of the north-east.

Fig.I.9. Viewpoint P8. View of the north-east.

Fig.I.10. Viewpoint P9. View of the north-east.

Fig.I.11. Viewpoint P10. View of the north-east.

Fig.I.12. Viewpoint P11. View of the east.

Fig.I.13. Viewpoint P12. View of the east.

Fig.I.14. Viewpoint P13. View of the south-east.

Fig.I.15. Viewpoint P14. View of the south-east.

Fig.I.16. Viewpoint P15. View of the south-east.

Fig.I.17. Satellite image. Location viewpoint №16.

Fig.I.18. Viewpoint P16. View of the north.

Fig. I.19. Viewpoint P16. Detail of Figure 16. View of the north.

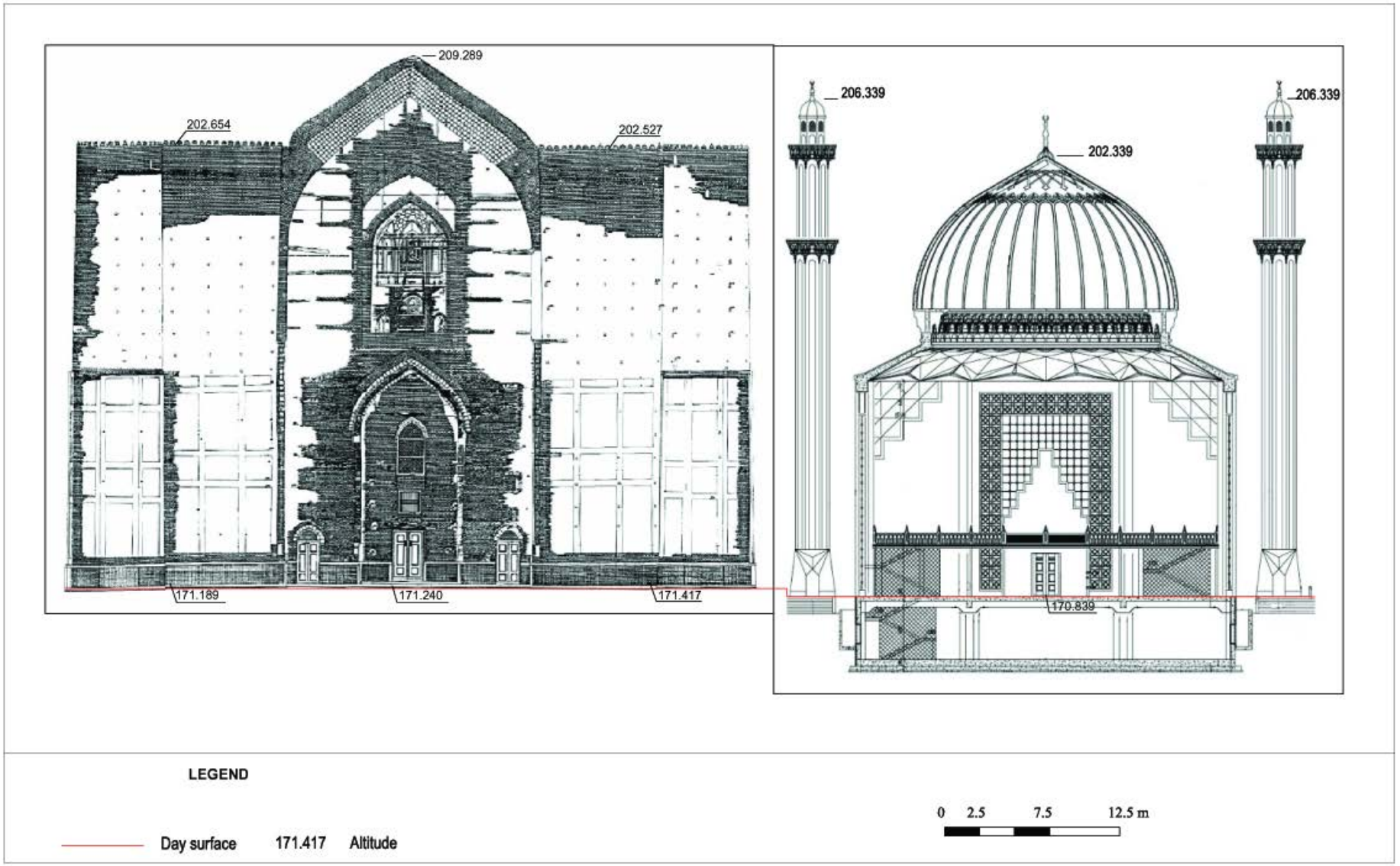

Fig.I.20.Mark the mausoleum of Khoja Ahmed Yasawi and a new mosque for 2000 places.

Coordinates of viewpoints

№	Name	Zone UTM	Coordinates
1	P.1	42 T	441122 4793960
2	P.2	42 T	441214 4793323
3	P.3	42 T	441238 4793408
4	P.4	42 T	440989 4793267
5	P.5	42 T	440947 4793216
6	P.6	42 T	440681 4793241
7	P.7	42 T	440462 4793562
8	P.8	42 T	440456 4793626
9	P.9	42 T	440422 4793806
10	P.10	42 T	440154 4794000
11	P.11	42 T	440137 4794081
12	P.12	42 T	440126 4794117
13	P.13	42 T	440525 4794201
14	P.14	42 T	440632 4794404
15	P.15	42 T	440684 4794441
16	P.16	42 T	440560 4788617

II. Management plan

The management plan with corrections made on the basis of ICOMOS recommendations were send to the World Heritage Center in 2015.

III. The revised map of the property’s buffer zone.

Actual buffer zone of the Mausoleum of Khoja Ahmed Yasawi includes 88, 7 ha. The territory of this zone was agreed during the preparation of the nomination. Additional buffer zones accepted by local authorities in 2013 are now passing all required official procedures on the national level according to the World Heritage Procedures.

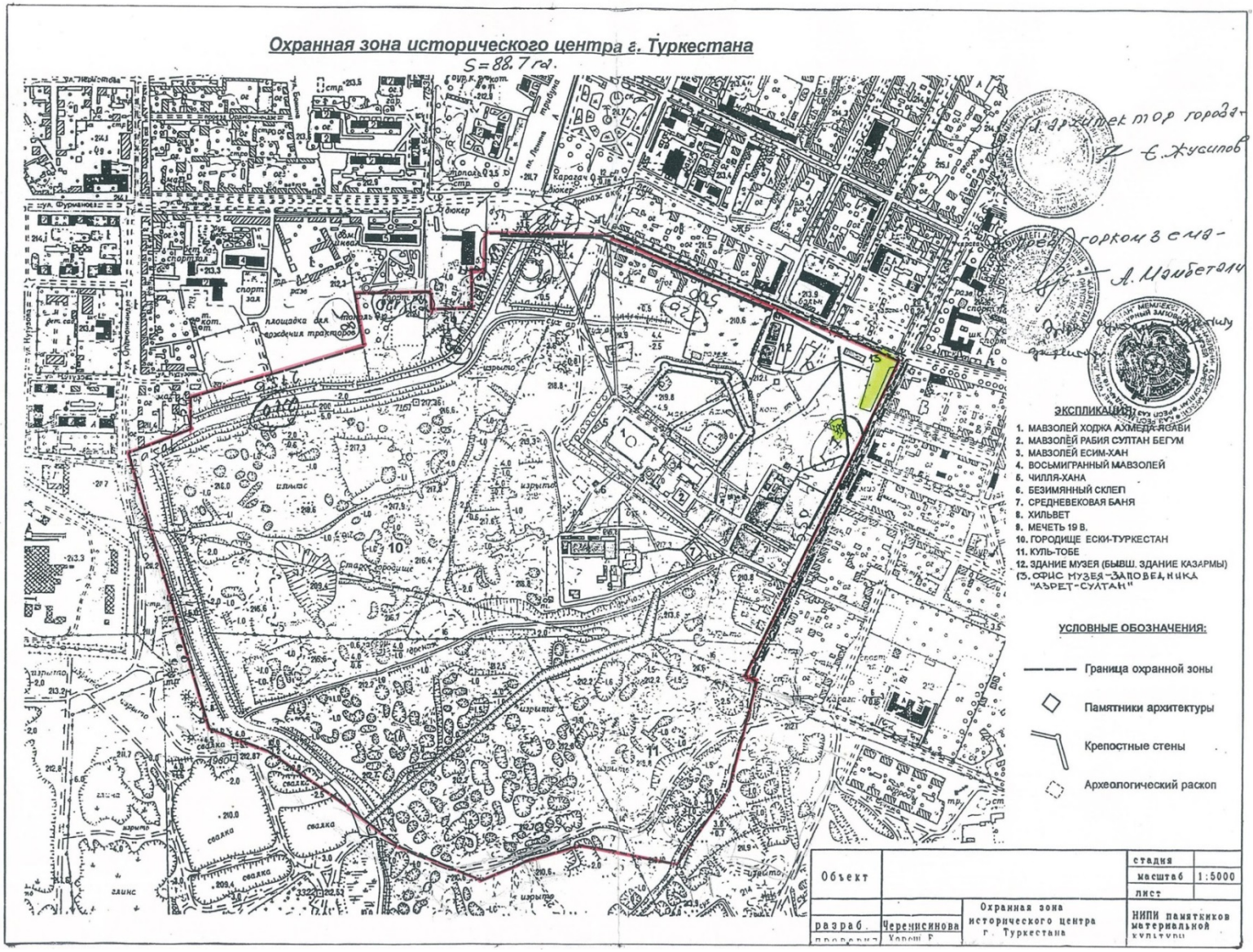

Fig.III.1. The buffer zone of the mausoleum, approved in writing the nomination.

IV. An updated report on the state of conservation.

Mausoleum of Khoja Ahmed Yasawi is situated on the territory of the city of Turkestan in Shymkent region. It is an architectural and urban planning site of national (republican) importance, which was included into the UNESCO World Heritage List (No 1103) in 2003.

The site was built in 1389-1399. However, the construction works were not finished entirely. It is a portal-dome construction, which has 46, 5 x 62, 5 meters in size. The portal has 38 meters in height. The site includes 34 rooms separated by the system of corridors on the level of the 2nd floor. The main hall of the mausoleum (Kazanlyk) is covered by the dome of 18 meters in diameter, which is the largest remained dome on the territory of the Central Asia. The thickness of outward walls is 1, 8 – 2 meters, the thickness of Kazanlyk's walls with pylons – 3 meters.

Apart the main portal the outward walls are covered with bricks decorated by the glazed colored majolica, geometric decorations and signatures on Arab language.

The site was built of square baked bricks, clay and gypsum mortar, and other aggregates. The main part of present instruction was built without any foundation and stands on the artificial clay platform. Only the massive portal has a brick-made foundation.

Further problems were identified and resolved during the lifetime of the site:

1. Deformation. Due to the serious deformation of the foundation of the site a few cracks have separated the entire construction on a few blocks. 1884-1886 – deformation of the north-western corner of the building. 1928 and 1939-1941 – studies of the underground part of the building. It became clear that the artificial foundation under the walls was disturbed by numerous burials. On the basis of the schematic drawing of B.N. Zasypkin another brick-made foundation was built under the trouble north-western corner of the mosque. In 1942-1945 the estimations and the work on the deformations and restoration were made by the State Committee of the Uzbek SSR for construction works and architecture. In 1952-1954 the brick-made foundation under all walls of the site was straightened except the main portal, pylons of the Kazanlyk and Gurkhana and the western wall of the Askhana.

2. Saturation of the site. In 1969-1970 a few engineering and geological studies were realized on the territory of the site by the institute "Fundamentproekt" (Moscow). They identified two aquifers with a hydraulical connection on the territory of the site. Ground water recharge depends of the pebble bed, which pass by the city of Karatau and flooded mines situated nearby. The saturation of the site also depends on the water from Arys-Turkestan channel. Longstanding ground water recharge has provoked the ground water rise, soaking of the clay loam and saturation of the site. The groundwater control system around the site was developed in the beginning of the 1980th. It starts to work, when the groundwater level rises on 4 meters. Current groundwater level remains on the depth of 8 meters.

3. Disturbance of the temperature-humidity conditions of the site. In 1983-1986 the studies of the site were made by the "Republican Research and Design Institute of the Material Culture Sites", which were concentrated on the temperature-humidity conditions of the site, and humidity and salinity of construction materials. As the result the recommendations for normalization of the temperature-humidity conditions of the site and the conclusion on the need of replacement of the roof covering (see paragraph No 6) were made.

4. Physical and mechanical characteristics of the brickwork. In 1986-1990 the studies of the durability and deformability of square bricks were realized to identify the possibility of strengthening of the brickwork by using the grouting method. As the result of this work the grouting mortar and grouting method of the brickwork were identified.

5. Stabilization of the sagging soil deformations. In 1993-2000 a large amount of restoration works was realized by the Turkish firm "Waqif Inshaad" as part of the intergovernmental agreement. In

1993-1994 the Turkish specialized firm has realized the installation of the piled foundation, which resolved the problem of the sagging soil deformations and the deformation of site constructions.

6. Replacement of the roof covering. This work was also made by the Turkish construction firm as part of the intergovernmental agreement. After the end of these works the spots of humidity have appeared on the stalactites of the Kazanlyk's dome. In 2004 the technical inspections of the Research and Design Institute of the Material Culture Sites have shown that those spots of humidity were the leaks, which have penetrated through the new dome covering. The moisturization of the stalactites of the Kazanlyk's dome and appearing of the cracks has happened for the first time in 600 years old history of the site. It was also identified that the covering of the Kazanlyk's dome was covered by the salt tinge. Before the restoration works of 1993-2000 there were no salt tinge. It was discovered that the salt appeared on the dome after the usage of anhydride mortar by the Turkish construction company. Anhydride mortar has never used before on the territory of Kazakhstan for restoration of historical sites, while all used mortars were made of the basis of gypsum. The salt on the dome was the overstock of the salt oxidation catalysts, which penetrated into the ancient brickwork of the dome with the rain water. It was recommended to replace once again the roof covering. In 2007 the "Kazrestavracia" RSE has made the replacement of upper part of the covering of the Kazanlyk's dome. After five years (2000-2006) the water penetrations into the brickwork of the Kazanlyk's dome have stopped.

In 2010 the studies of the Kazanlyk's dome realized by the "Scientific and Research Institute on Problems of the Cultural Heritage of Nomads" LLP on demand of the Reserve Museum "Azret-Sultan" have shown that the moisturization of the ancient brickwork of the dome has decreased – maximal moisturization indicator was at the level of 22, 5%. It is important to underline that in past year this high moisturization percentage has dropped from 48, 7% to 22, 5.

7. Normalization of the temperature-humidity conditions of the site. In 2014 the "Archaeological Expertise" LLC on demand of the "Kazrestavracia" RSE of the Committee on Culture of the Ministry of Culture of the Republic of Kazakhstan has realized the on-site investigations and geomagnetic scanning of the Mausoleum of Khoja Ahmed Yasawi. Development of the aeration method of the mausoleum was one of the main results of this work. The aeration method was developed on the basis of studies of the temperature-humidity conditions of the site in 1983-1986.

— To decrease the level of the moisturization of the site it is important to organize the aeration according to the method of 2014.

— Due to the fact that the site is an unheated construction, the number of visitors is needed to be limited for the winter period (the exact number of visitors needs to be confirmed).

— Due to the need of registration of the number of visitors, the enter-ticket system is needed to be restored.

8. Recommendation for preserving of ancient stalactites. It is important to continue the restoration (relaying) of the lower part (2/3 of the total height) of the Kazanlyk's dome to avoid the penetration of the rain water on the ancient stalactites through the cracks of the roof's covering and destroy them. In this situation the constant control of the temperature-humidity conditions of the Kazanlyk's dome is required.

9. Site management recommendations. These recommendations were fully explained at the Technical Report of 2015 (see: Mausoleum of Khoja Ahmed Yasawi World Heritage Property Turkestan, Kazakhstan. Condition and Management Assessment. Technical Report. Mission: October 31 – November 12, 2015. Ona Vileikis, Rand Eppich, Jonathan S. Bell).

V. Information on construction work in the buffer zone.

According to the General plan confirmed by the governmental order, in a buffer zone the civil work which are not concerning a question preservation of monuments are not planned.