

The Day After Heritage Protection Initiative

Mitigation Project 2

Safeguarding the Ma'ara Museum Phase II: Stabilization and Emergency Building Repairs



Project: Mitigation Project 2, Safeguarding the Ma'ara Museum:
Stabilization and Emergency Repairs.

Phase: II

Location: city of Ma'arat Al-Nu'man , Idlib Governorate.

Executed by: The Day After Heritage Protection Initiative (TDA-HPI) in
partnership with the Syrian Heritage Protection Center in Idlib.

Start date: July 1st, 2016.

End date: September 17th, 2016.

Project duration: 11 weeks.

Historical overview:

The Maara museum in Khan Murad Pacha is one of the important and specialized museums of mosaics in the north of Syria housing archeological artifacts and mosaics from the Dead Cities region.

The Marra museum contains about 2000m² of mosaics, 1700m² are exhibited and the rest kept in the museum storerooms. The stored mosaics are placed inside wooden boxes, separated with a layer of stereo board. The storage of the mosaics was part of a previous project that was funded through TDA-HPI in the fall of 2014. It included protecting and restoring of more than 1100m² of mosaics.

The Museum is at risk of bombardment by regime forces and has already suffered extensive damage, most recently as result of an airstrike in June 2015 when a barrel bomb hit it. The museum is also vulnerable to break in and theft/vandalism.

The goals of the Phase II Annex are to:

1. Clear the rubble and repairing/stabilizing the parts of the building, which were damaged by the June 2015 airstrike (see figs 1 and 2).
2. Repairing the parts of the roof that are leaking to prevent collapse (see fig 3, 6 and 7).
3. Installing protective doors on the main museum galleries housing the mosaics to enhance security (see figs 4 and 5).

Work Stages Completed (Goals 1 and 2):

The following work has been completed after 5 weeks from commencement of project .

Clear the rubble and repairing/stabilizing the parts of the building, which were damaged by the June 2015 airstrike (see figs 1 and 2).

The work completed includes the following stages:

1. Topographic mapping of the walls that would be partly or completely dismantled, and identifying the parts that would be completely dismantled.
2. Numbering the stones, and accurately documenting each stage by topographic mapping, photographs, and videos.
3. Building the scaffoldings needed, iron scaffoldings are preferable, taking into account the safety and sturdiness.
4. Directly marking the parts that will be dismantled while they are still on the facades.
5. Gathering the marked/numbered stones in secure area specially designated for their storage.

NB. The mapping, numbering of the stones and their care in storage is to ensure that it will be possible to restore the damaged historic parts of the museum in the future.

Repairing the parts of the roof that are leaking to prevent collapse (see figs 3, 6 and 7).

The work completed includes the following stages:

1. Completely cleaning the roof
2. Inject the cracks with silicon or acrylic or any other wax like material.
3. Breaking up and removing the affected layers of the damaged areas on the roof.
4. Repairing the uncovered damage by reinforcing the area using an iron frame/grid 10mm, 15x15cm and concrete cement mix 350kg/m³ (10cm thick).
5. Ensure that the repaired area is properly smoothed and correctly sloping toward the gutters to prevent the pooling of water on the roof.
6. Seal the repaired parts of the roof completely with acrylic.

NB: Urgent roof repair is critical to prevent water seeping into the building structure which causing the collapse of the ceilings on to the rooms and their contents.

Reinforcing the damaged walls and removing plaster.

The work is partially completed and is currently ongoing. It includes the following stages:

1. Removing the damaged plaster layers appropriately according to the supervisor's directions
2. Erecting secure scaffolds to support the damaged walls and structures.
3. Use hydraulic lifting machinery to rebuild and return some walls to their original position according to the supervisor's directions.
4. Repairing damaged areas particularly where there is loose masonry or exposed wall fill with cement mortar. This is particularly important to prevent further deterioration due to weathering.

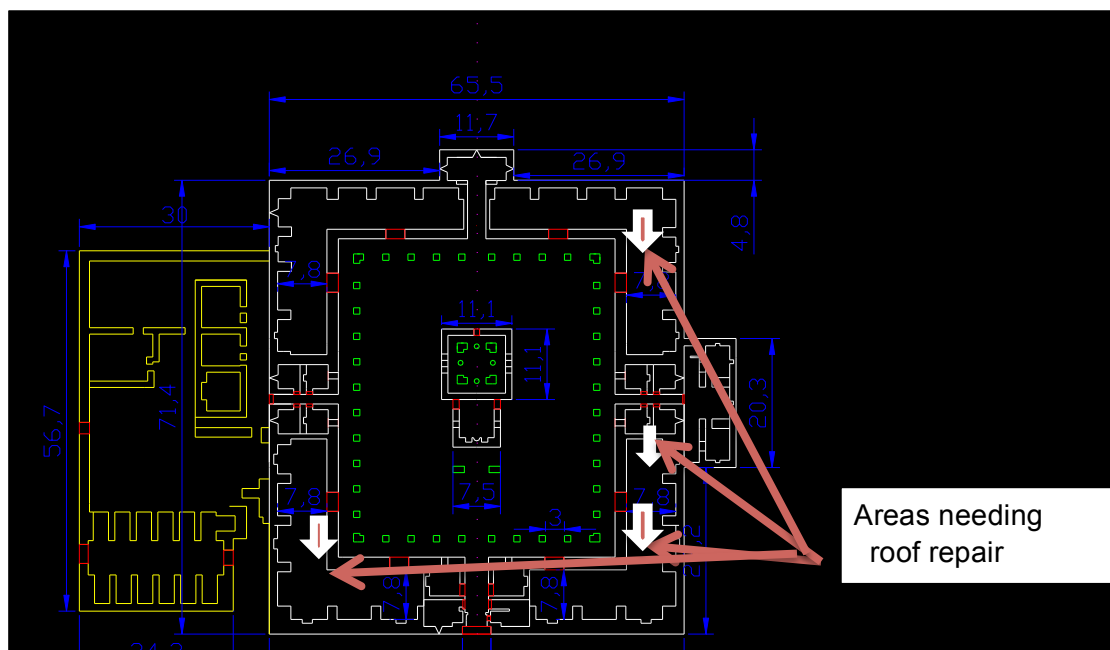


Figure 3: Plan of the museum showing the areas on the roof in need of urgent repair.

Photos showing Tekkiye and Mosque Prior to Removal of Dome:



East side of the mosque prior to removal of the remainder of the dome.



South side of the mosque (facing north) prior to removal of the dome.



South side of the mosque (facing north east) prior to removal of the dome.



View from inside the mosque looking up at where the dome used to be



North side of the mosque (facing south) prior to removal of the dome

Photos Showing Removal of Dome and Sorting Stone Masonry:



Sorting and removal of stone and rubble



Sorting and removal of stone and rubble



Sorting and removal of stone and rubble (continued)





Moving large stones





Clearing Rubble





View of the damaged dome of the Tekkiye





Gradual removal of the Tekkiye stone masonry





The Tekkiye after the removal of the damaged dome



Photos Showing Labelling Loose Stone Masonry Prior Removal:



Labeling stones in the Tekkiye prior to removal





Labelling weak and unstable stone masonry for removal





Labelling weak and unstable stone masonry for removal (continued)





Labelling weak and unstable stone for removal (continued)





Labelling stone masonry



Topographic Mapping and Planning of Damaged Areas:



East side façade and gallery showing damage from 2015 airstrike





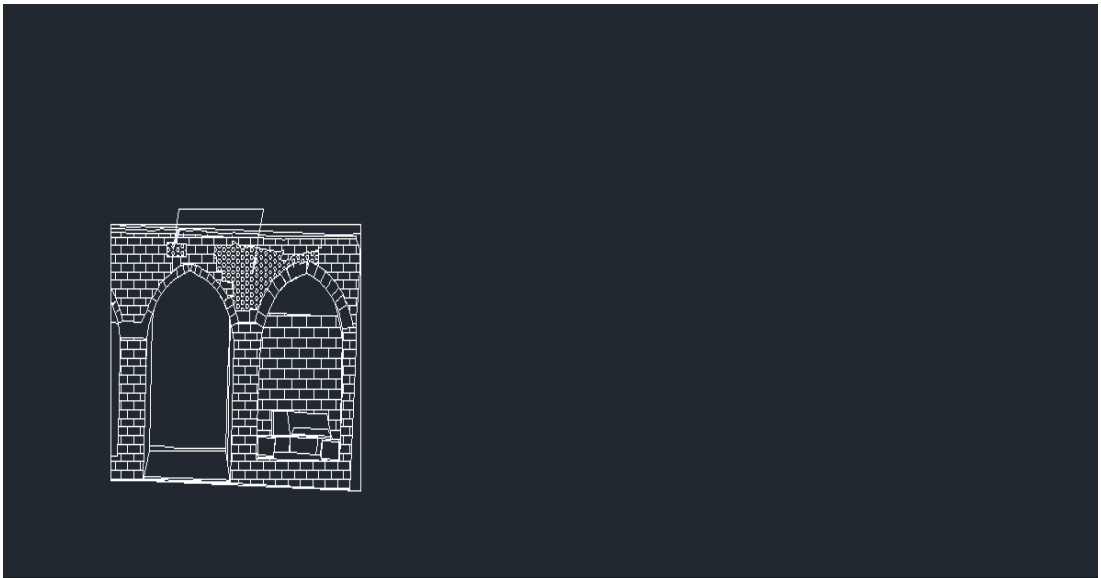
Damage to east side gallery





Taking measurements for topographic plans







Damage to the arches and the ceiling in the east gallery



Setting Up Scaffolding:



**Repairing Roof; Reinforcing/Stabilising loose Masonry/Walls;
Patching Damaged Areas With Cement Mortar:**



Loose masonry and exposed roof/wall fill





Loose masonry and exposed roof/wall fill (continued)





Cleaning roof and preparing it for resurfacing and repair





Repairing damaged area on the roof









Repairing holes in the roof





Repairing and stabilizing walls using a cement mortar





Damaged areas patched with a cement mortar





Patching the exposed damage area around the supporting arch with cement mortar





Cement mortar patch





Clearing vegetation



Cleaning Tekkiye and Moving Contents to Store Rooms:







Ma'arra Museum Main Entrance



Report prepared by: Eng. Abdul Rahman Alyehia (Syrian Heritage Centre)

Site Monitors Project Coordinator

Dr. Amr Al-Azm

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