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ARMENIAN CULTURAL HERITAGE SITES
CONDITIONAL REPORT

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CONDITIONAL REPORT

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with the support of



Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 1. Georeferenced ortho-image of Varazgom extracted from the textured 3D scan (Iconem 2021)

VARAZGOM

| | |
|------------------------|----------------------|
| Coordinates: | 39.697048, 46.359047 |
| Locality : | Merik |
| Region: | Lachin |
| Site type: | Church |
| Dating: | 9th-11th centuries |
| Photogrammetry survey: | Iconem - 21/11/2020 |
| Diagnostic: | 07/2021 |

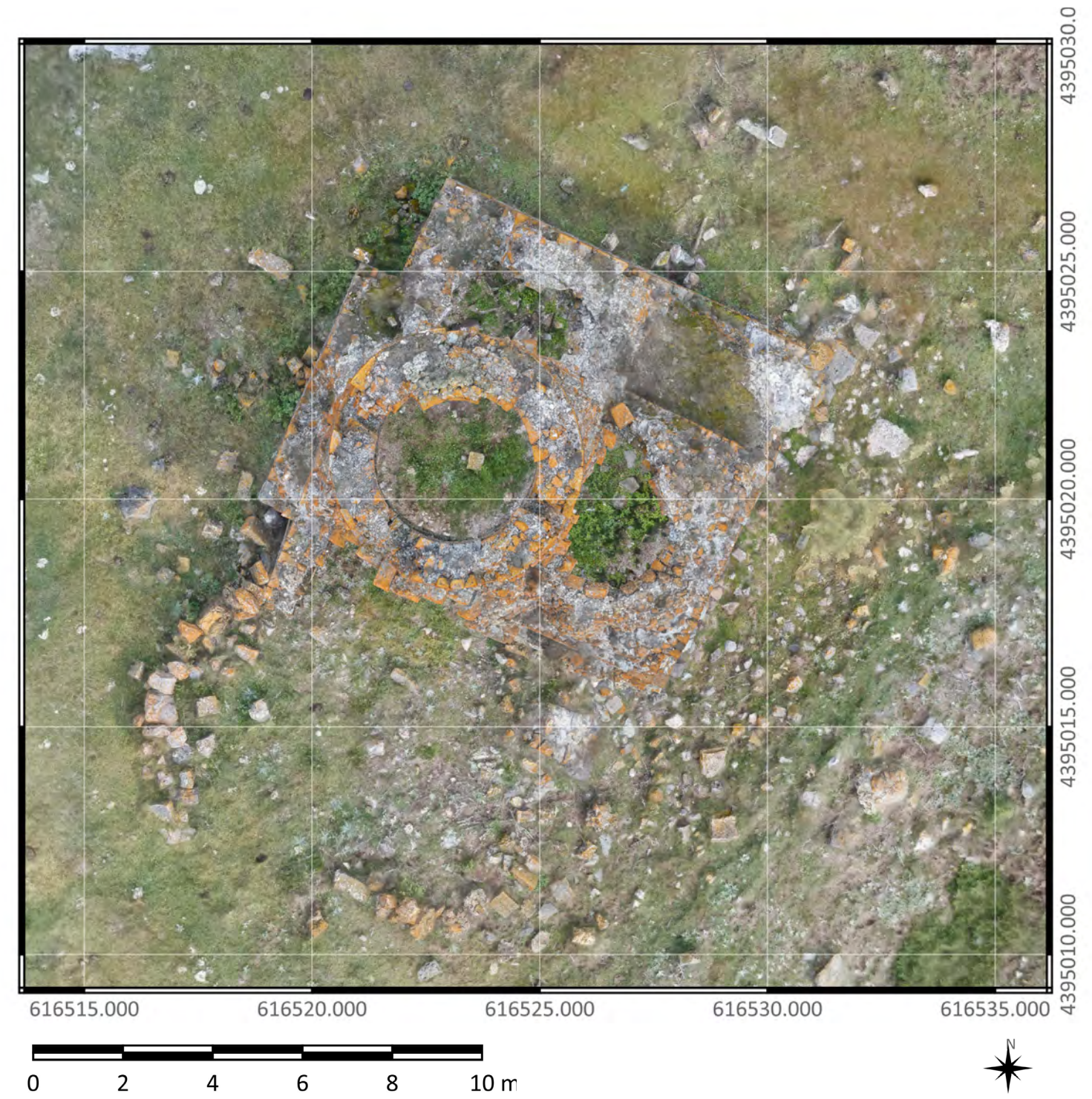


Fig. 2. Georeferenced ortho-image of Varazgom church extracted from the textured 3D scan (Iconem 2021)

1. General History

There is no historical source neither about the foundation of the church nor its occupation in the medieval period. The earliest mention of the site dates back to a map dated 1904 where it was recorded under the name of "Varazgun"¹. Based on architectural criteria, the church has been dated from the 9th-11th centuries, with a more specific hypothesis dating it to the beginning of the 10th century². It has been suggested that renovations have been made in the 16th-17th centuries, especially on the western façade. Furthermore, a treasure of 16th century Persian coins was discovered in the site³.



Fig. 3. The church seen from the northeastern cemetery (Iconem 2020)

1. Karapetyan 2001, p. 133. In the first studies, the name Varazgom was unknown and the village was called Hagari (Hegepu in azeri), also known as Aghavnoy (Thierry 1991, p. 218).
2. Thierry 1991, p. 219 ; Donabedian and Mutfian 1991, p. 40; Karapetyan 2001, p. 133. It has also been suggested that it dates back to the early middle Ages, that is the 5th-7th centuries (Abgaryan 1986, p. 48).
3. The treasure was found by local shepherds in 1924 and published a year later (Pakhomov 1925).

2. Site description

The church of Varazgom stands on top of a hill at 1430 meters altitude (fig. 3). Constructed with both coarse and basalt stone blocks assembled with limestone mortar, it has a cruciform central plan with a cupola. However, the general plan of the church is difficult to identify because the southern part of the church has collapsed (fig. 2). On the eastern side, the church's sanctuary consists of a large apse flanked with two small vaulted apses (the southern one has fallen apart). Because the northern arm of the church forms an apse, it would be expected to have an apse on the southern arm, since central planned churches with three apses (also called triconch churches) were widespread in Armenian medieval architecture. However, because the southern arm's western wall is straight, some scholars have deduced that it might be a biconch church (fig. 4), which is very unusual and would make it a unique example in Christian architecture⁴. Other specialists suggest that the church actually offered a variation of the triconch plan (fig. 5)⁵: the southern arm, which seems rectangular in plan, could have been vaulted with the technique of cul-de-four⁶. The main entrance is on the western arm, which is abnormally short⁷, with probably a secondary entrance on the southern arm (fig. 5). The cupola crowns a cylindrical drum supported, through pendentives and squinches, by four pillars topped with semi-circular arches (fig. 6).

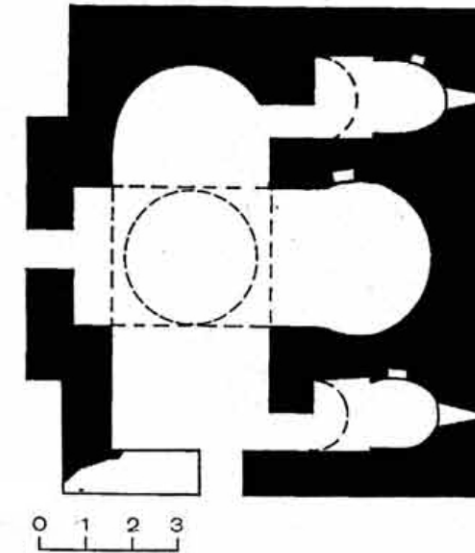


Fig. 4. The church's plan according to S. Karapetyan (Karapetyan 2001, p. 133)

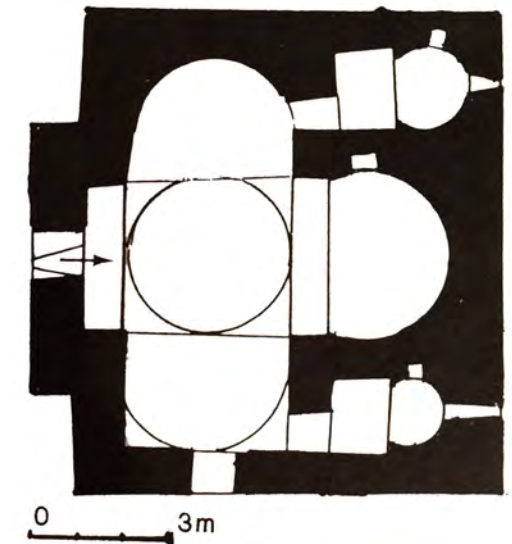


Fig. 5. The church's plan according to M. Thierry (Thierry 1991, p. 218)



Fig. 6. Restitution hypothesis of the church's plan (Iconem 2021)

4. Abgaryan 1986, p. 48 ; Karapetyan 2001, p. 133.
5. Thierry 1991, p. 218.
6. As suggested by the specialist Patrick Donabédian, the use of the cul-de-four to create apses inside the church can be observed in Armenian churches such as in the church of Lmbat'avank' in Armenia. We are grateful to him for this observation.
7. P. Donabédian noted that a similar example can be seen in the church of Vasli (Donabédian 2008, p. 74).



Fig. 7. The church's elevation from inside facing the eastern apse (Iconem 2020)



Fig. 8. An ox or a lion, north-western pendentive (Iconem 2020)

The church does not seem to have been decorated with frescoes or carved relief, except on the inside: the dome's pendentives are carved with the symbols of the four evangelists, each one represented by the head of the Animal (fig. 8)⁸. The interior of the church was covered with lime. An inscription was found by J.-M. Thierry on the western wall, which read: " In the name of God, I, Hekaz, gave my belongings [...]"⁹.

A medieval cemetery is located 55 meters from the church, on its north-eastern side, and seems to develop on another 40 meters (fig. 1). A few *khachkars* (cross-carved stele) and tombstones were found, most of them fragmentary (fig. 12). The tombstones are carved with stylised representations of the deceased on their upper surface and the *khachkars* are ornamented with the symbol of the cross along other motifs such as grape vines.

150 meters north-east from the church, at the bottom of a cliff with column-like rock formations, two rock-cut chambers can be seen. They have been identified as dwellings (fig. 10)¹⁰.

The rubble of modern buildings can be seen near the church.



Fig. 9. The entrance of one of the rock-cut chambers (Iconem 2020)

8. The representation of the Evangelists on the dome's pendentives is a convention in the monumental art of medieval churches, in Armenia as well as in the Byzantine Empire. A similar representation can be seen inside the church of St-John-the-Baptist of Gandzasar.

9. *Idem*.

10. Karapetyan 2001, p. 133.

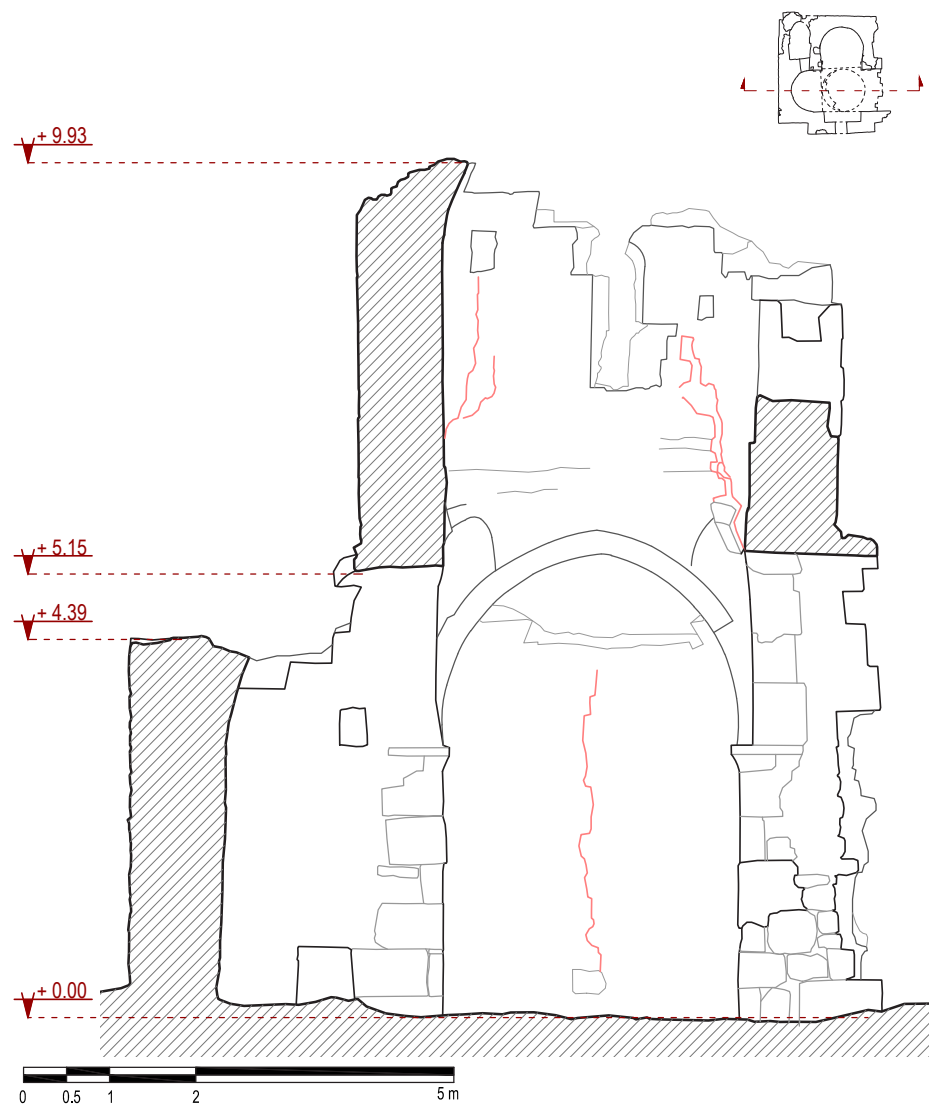


Fig. 10. North/south section (Iconem 2021)



Fig. 11. Eastern façade (Iconem 2020)

3. Diagnostic

The church is extremely damaged (fig. 10). The dome and the top of the two apses have collapsed. The dome's drum is cracked on several places, particularly on its southern side. The southern arm of the church and the southern sacristy are entirely destroyed. The exterior of the eastern wall is also damaged, especially on its lower rows where the cut stones have been extracted, probably for being reemployed (fig. 11)¹¹. The same deteriorations can be observed in the previous publications, although the southern small apse flanking the large eastern apse was better preserved.

The *khachkars* and tombstones documented around the church and in the funerary areas are quite damaged due to the stone erosion, some of them even fragmented. It seems like the cemetery has been severely disturbed (fig. 12): as a rule, the tombstones are horizontally inserted in the ground, showing only their upper surface, and the *khachkars* stand vertically, inserted in a base on the eastern end of the tombstone. However, in Varazgom they are scattered and laid above ground, which has probably aggravated the phenomenon of erosion.



Fig. 12 View overlooking a part of the cemetery (Iconem 2020)

11. According to S. Karapetyan, the stone blocks have been dismantled and reused by local Kurds (ibid, p. 133).

3.1 Structure

The structure is entirely built in massive stone masonry. The facings are in freestones and the width of the walls is made of rubble stones laid in lime. The latter has considerably hardened over time which explains how the tambour of the lantern tower remained in place despite the looting of the facing stones.

3.2 Humidity

The removal of the facing stones has exposed the internal masonry to rainwater infiltration. However, the risks of capillary infiltration from the ground is limited.

Emergency recommendations: there is a need to repoint the mortar to the upper levels of the masonry that are exposed to rainwater so that it may run off without penetrating the structure.

3.3 STABILITY

The central tambour of the lantern tower is in a state of precarious equilibrium and threatening to collapse due to the destruction of the half-cupolas that were shouldering it and the weakening of the arches that carried it. The northern arch is the weakest one due to the destruction of masonries that were taking its thrust from the south.

Emergency recommendations: There is a need to prop the four arches carrying the base of the cylinder with a wooden framing. The installation of a crackmeter will allow to monitor the evolution of the structure's deformation.

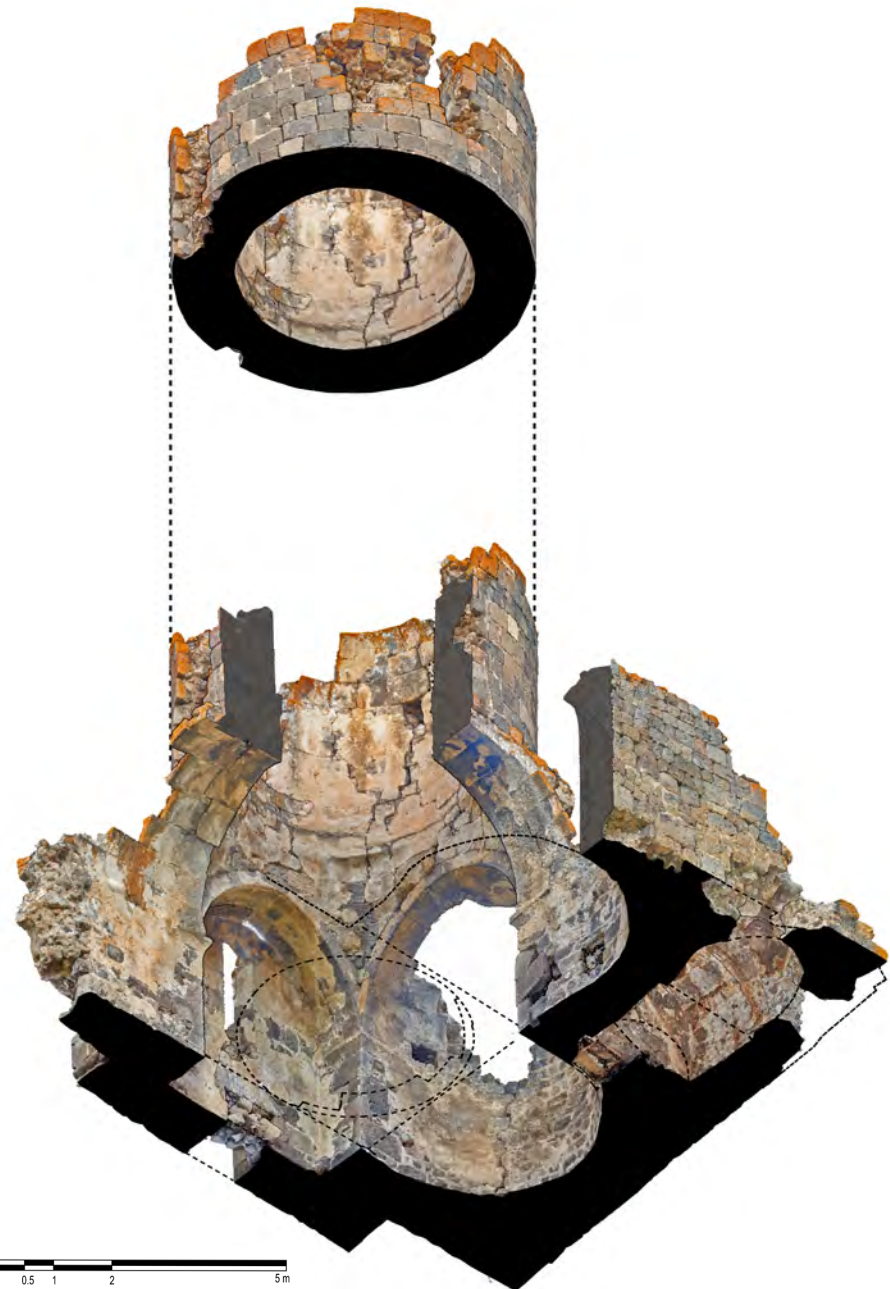


Fig. 13. Axonometry « Choisy » type extracted from the textured 3D scan (Iconem 2021)

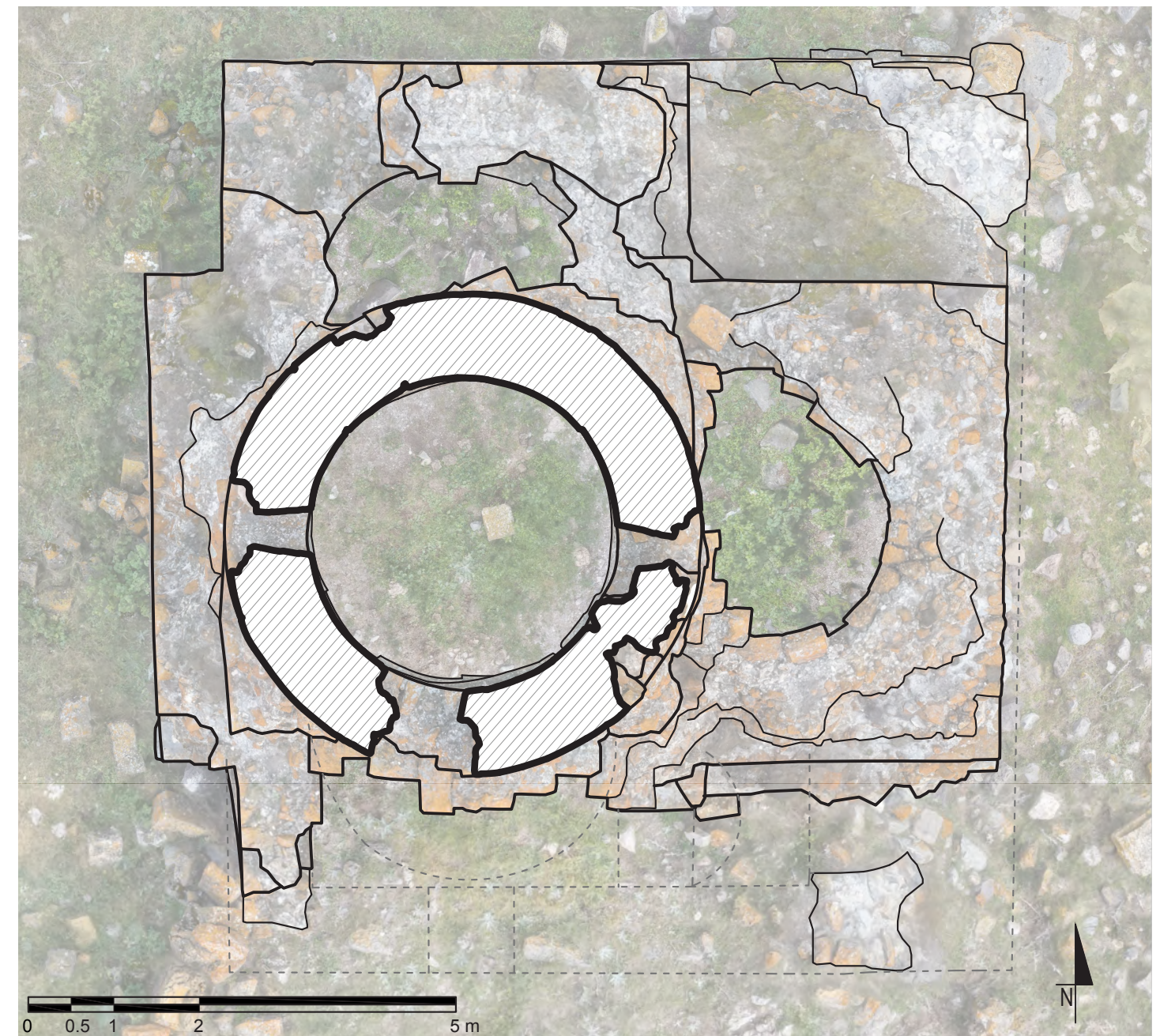
4. MEASURES OF SAFEGUARDING AND VALORIZATION

The emergency recommendations presented here ought to be implemented immediately and will allow to prepare the restoration and valorization campaign of this small yet remarkable monument.

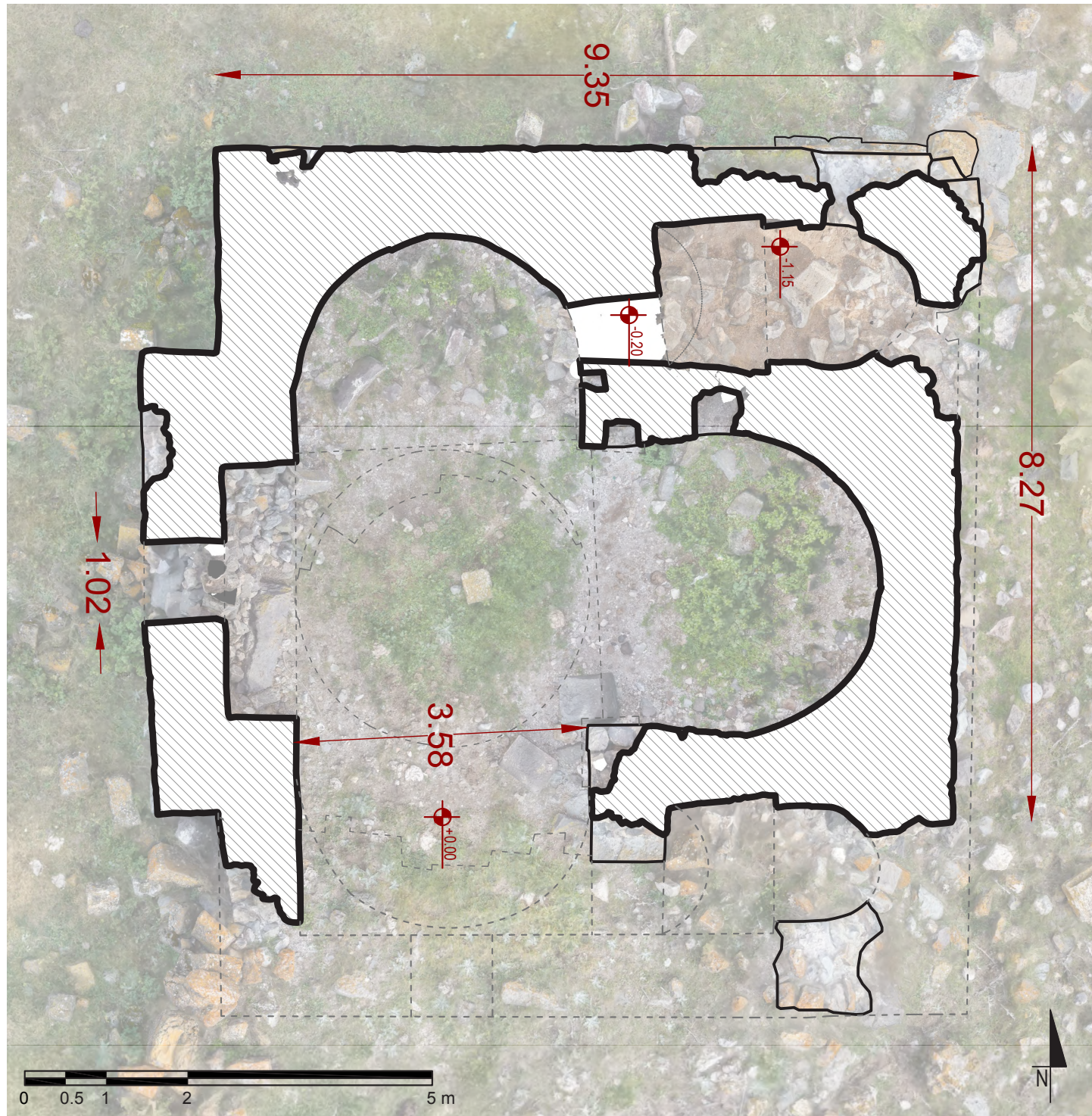
The destructions are so important that it is currently impossible to know precisely what the architecture of the southern portion of the church looked like. An archaeological campaign is necessary to identify it. For instance, were there two or three apses?

A reflection needs to be carried out to select the philosophy of the restoration and valorization processes. In its current state, the church in ruin located in this remarkable landscape is a work of art in itself, a testimony of the history of this place. How far does the reconstruction ought to go? The architect will have to navigate between the necessity to secure the stability of the structure and the respect for the authenticity of the medieval construction. In this complex process, the 3D model will provide a precious help.

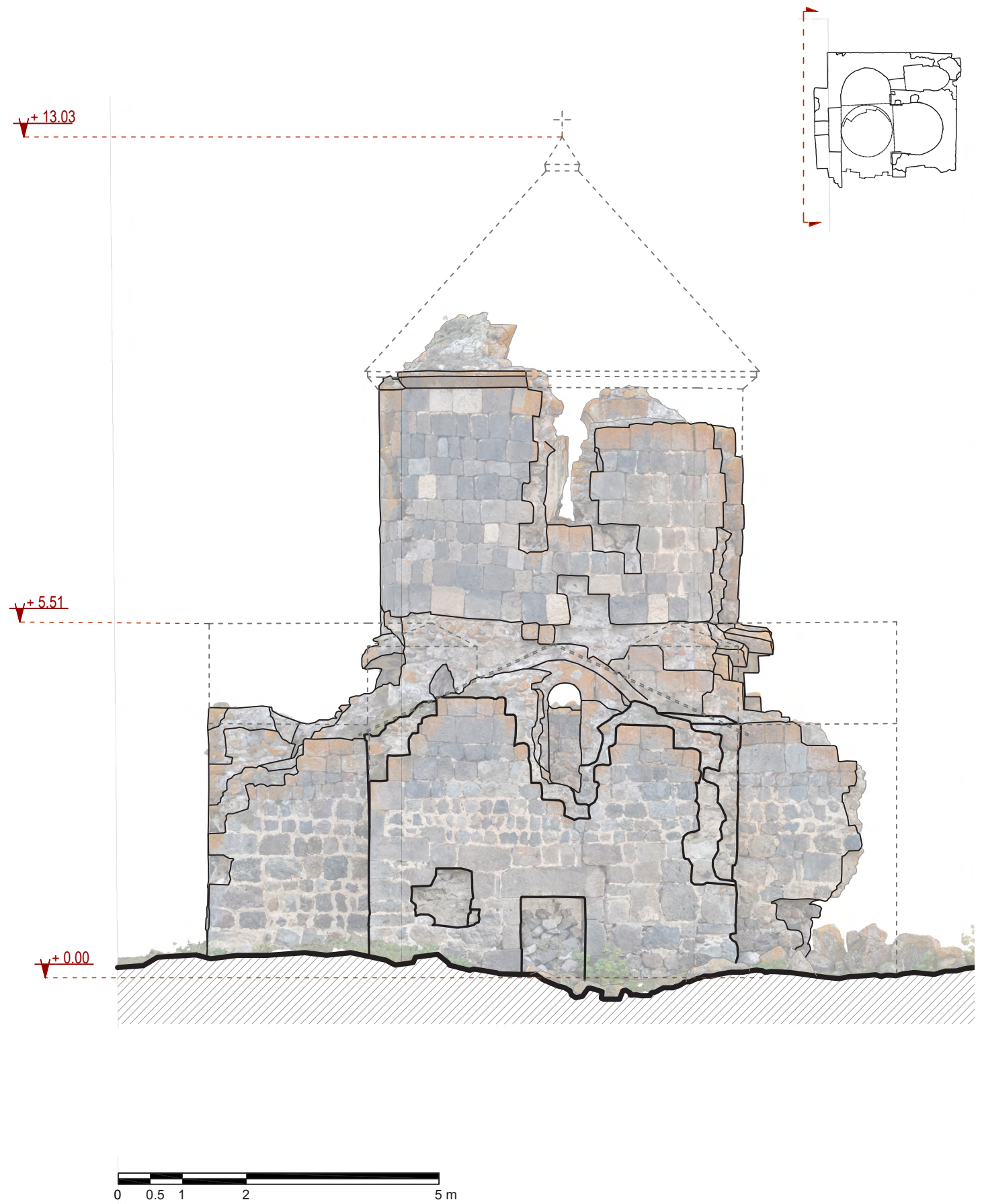
5. Boards



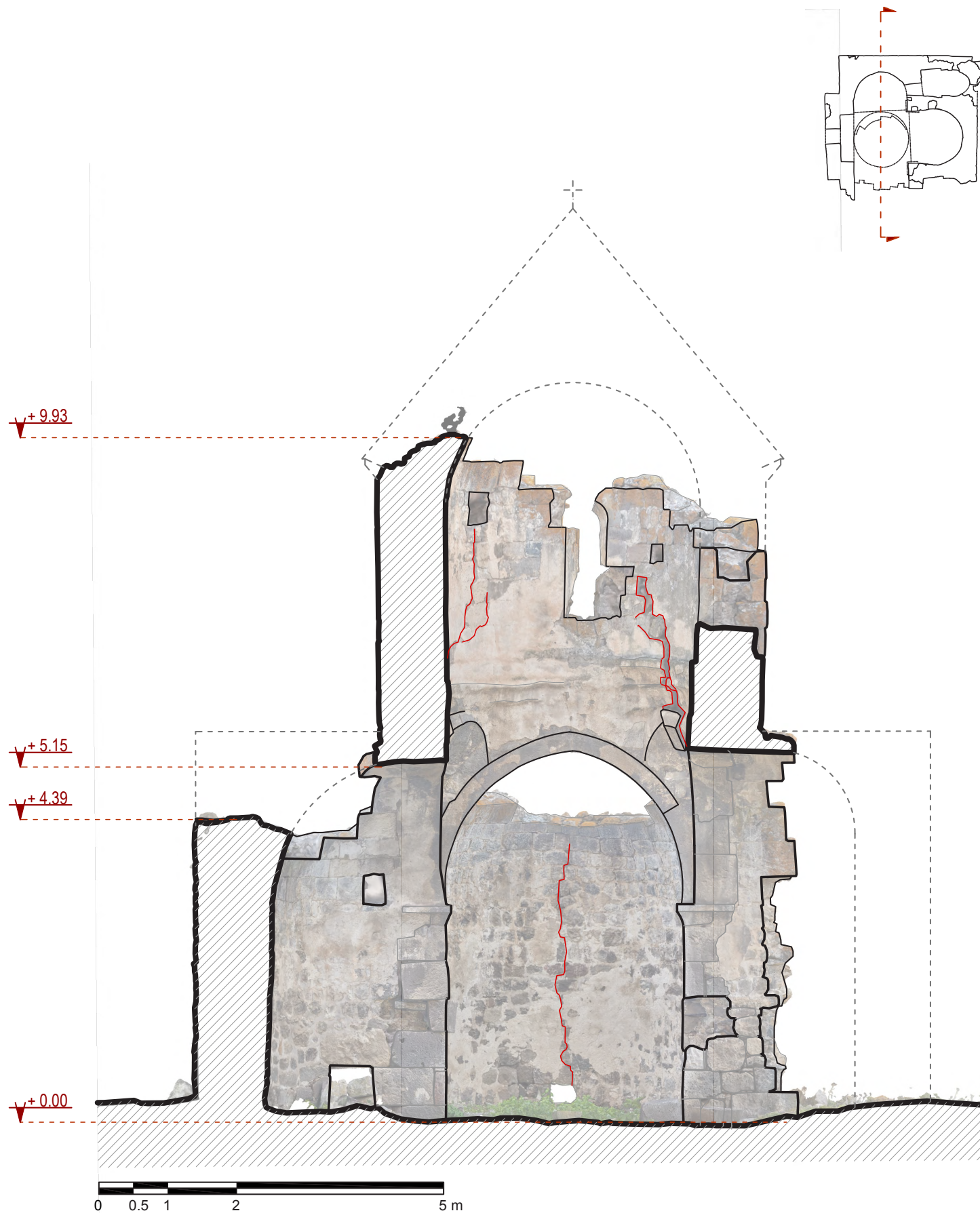
Site plan
Iconem 2021



Ground plan +1.00 m
Iconem 2021



West Facade
Iconem 2021



North/South section
Iconem 2021

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- J.-M. Thierry, *Églises et couvents du Karabagh*, Antélias 1991.

Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 1. Georeferenced ortho-image of Gandzasar extracted from the textured 3D scan (Iconem 2021)

GANDZASAR MONASTRY

| | |
|------------------------|---------------------|
| Coordinates: | 40.05748, 46.53051 |
| Locality : | Vank |
| Region: | Martakert |
| Site type: | Monastery |
| Dating: | 13th century |
| Photogrammetry survey: | Iconem - 21/11/2020 |
| Diagnostic: | 07/2021 |

1. General History

Located near the village of Vank, in the province of Martakert, the Gandzasar monastery exists at least since the 10th century when it was first mentioned by the Armenian catholicos Anania I Mokatsi. It seems to have acquired a significant importance in the 12th century when it was described as an episcopal see and the burial place of the local dynasty¹. Indeed, the monastery was located in the territory of the princely house of Khachen (or Artsakh), one of the several principalities of medieval Armenia².

Sponsored by Hasan-Jalal Dawla, a prince of Khachen who will leave his name to a local dynasty, the actual church was constructed from 1216 to 1238, consecrated in 1240, and its *jamatun* (large narthex), a later addition, was completed in 1261 under the impulsion of his wife Mamkan and their son At'abak³. The details of this princely order are known through epigraphic and historical sources, mainly the *History of Armenia* of Kirakos Gandzaketsi (13th c.).

From the 14th to the 19th century, the monastery was used as the house of the *catholicoi* of the Albanian Church. The enclosure was constructed in the 17th century with some monastic buildings along the northern wall, that is the monk's cells and the refectory. In the 19th century, the Bishop's residence and the seminary were constructed along the eastern wall⁴.



Fig. 2. Plan of the church and its *jamatun* (Iconem 2021)

1. Donabédian and Thierry 1987, p. 526.
2. Dédéyan 2007, p. 328.
3. Donabédian and Thierry 1987, p. 526.
4. For a detailed chronology of Gandzasar's monastery, see Hasratian 1987, p. 18-19.

2. Site description

The monastic complex consists of several buildings, that is the church, its *jamatun* (narthex) and the monastic buildings, all within an enclosure (fig. 1).

The main church of the monastery, dedicated to Saint-John-the-Baptist, has a rectangular-cruciform plan elevated on a five-degree stylobate and four two-storey corner chambers (fig. 2). This architectural type was widely used in the Armenian monastic architecture from the 10th to the 14th century⁵. It is topped with a dome on a polygonal drum. Attached to the western entrance of the church, the *jamatun* has a large and rectangular plan with intercrossed rib arches resting on free-standing piers at the west (fig. 2 and 3)⁶, which is comparable to contemporary *jamatuns*⁷. Its central dome has a skylight carved with stalactites, also referred to as *muqarnas* (fig. 4)⁸.



Fig. 3. View on the western side of the *jamatun* (Iconem 2020)

Fig. 4. The *jamatun*'s dome (Iconem 2020)

5. The same rectangular-cruciform ground plan with four corner chambers can be observed in the monastery of Dadivank in Khachen (Artsakh) but also in the monasteries of Geghard, Amaghu Noravank, Hovhannavank, Saghmosavank, Harichavank or Khorakert in Armenia (Hasratian 1987, p.9).

6. Maranci 2019, p. 139; Cuneo 1988, p. 240.

7. This architectural type is also used in the *jamatun*'s of Haghpatt and Mshkavank (Donabédian and Thierry 1987, p. 526).

8. The same stalactites can be observed in the monasteries of Geghard and Harritch, dated from the beginning of the 13th century (Donabédian and Mutafian 1991, p.41).

Gandzasar is particularly known for its rich reliefs carved on the façades of the church and of the *jamatun* (especially near the portals and the windows), on its dome's drum and inside the church. The themes are ornamental (such as on the front of the bema or on the church's western *tympa-num*, inside the *jamatun* [fig. 5]), bestiary (lions and birds are carved on top of the portals [fig. 6]) and figurative. Disposed essentially on the drum, the iconographic program displays biblical episodes (the Original Sin, the Crucifixion, and maybe the Entombment of Christ), isolated divine figures (the Blessing Christ, the Mother of God with the Child) and secular figures amongst which can be identified Hasan-Jalal himself, holding the model of the church (fig. 7). In this self-representation, the ruler is depicted sitting cross-legged, an Islamic convention borrowed to the Seldjuq court⁹.

Several inscriptions can be found on the buildings. The inscription describing the foundation of the church by Hasan-Jalal is displayed inside the church, on the northern wall (fig. 9)¹⁰. A few inscriptions are also placed on the northern façade of the *jamatun*, around the portal and on its *tympa-num*.

A cemetery is spread on the West and North of the monastic complex, outside the enclosure, with *khachkars* (cross-stones) dating mainly from the 9th-13th centuries (some dated precisely with inscriptions) and modern gravestones (fig. 10). A few *khachkars* are placed inside the *jamatun* and in front of the church, along the southern wall.



Fig. 5. The church's western *tympa-num* extracted from the ortho-image of the textured 3D scan (Iconem 2021)

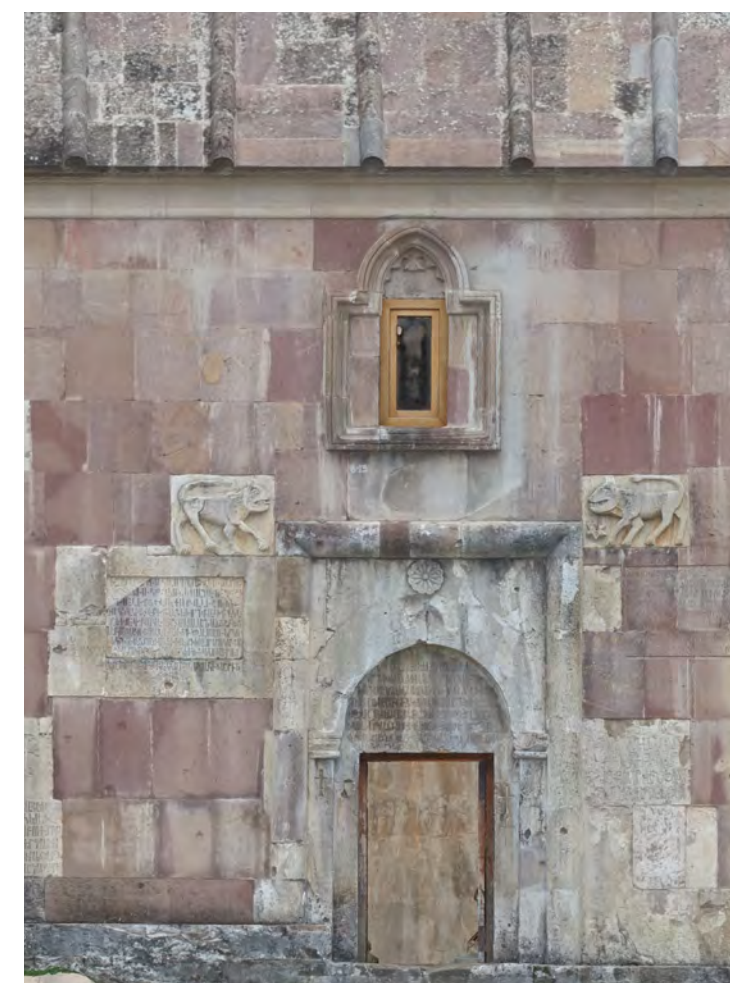


Fig. 6. The northern entrance of the *jamatun*, extracted from the ortho-image of the textured 3D scan (Iconem 2021)

9. Eastmond 2004, p. 144.

10. "In the name of the Holy Trinity, Father, Son and the Holy Spirit, I, Jalla-Dola Hasan, son of Vakhtang and grandson of Hasan the Great, legitimate sovereign of the great and large land of Artsakh, a province with vast territories... my father had prescribed through his will, before leaving this world, to me and to my mother Khorishah, daughter of the great prince of princes Sargis, that I build this church and sepulcher of my fathers at Gandzasar, which was begun in the yea ... 1216 with the help of the good Lord, but when the east window was completed, my mother became a nun and went three times to Jerusalem. There, from the gate of the Holy Resurrection, she took herself to the dwelling of the nuns wearing a hair shirt and, after many years spent in ... penitence, she passed into Christ, adorned with the seal of light, and her remains are preserved there." (Eastmond 2017, p. 216-217).



Fig. 7. The drum seen from the west. The Original Sin and the Blessing Christ flanked by two figures of donors holding the model of the church. Ortho-image extracted from the textured 3D scan (Iconem 2021)



Fig. 8. The dedicatory inscription on the northern wall of the church. Ortho-image extracted from the textured 3D scan (Iconem 2021)

3. Diagnostic

The monastery has been restored on several occasions from the 16th to the 20th centuries¹¹. Partially destroyed during the first war in Nagorno-Karabakh (1991-1993), it was restored in the end of the 20th century until 2002¹². If the buildings are in good condition, the *khachkars* and tombstones in the medieval cemetery are quite damaged.



Fig. 9. Aerial view of the monastery and the cemetery from the south-west (Iconem 2020)



Fig. 10. The cemetery on the south of the monastery (Iconem 2020)

11. Donabédian and Thierry 1987, p. 526.

12. The bombing of Gandzasar and of some other churches is mentioned in a record from the UK parliament, resulting from a visit to Nagorno Karabakh and Armenia in April 1998: <https://publications.parliament.uk/pa/cm199899/cmselect/cmcaff/349/349ap18.htm>

3.1 Structure

The building is built entirely of massive stone masonry. The cladding is made of dimension stones and the width of the walls is composed of blocks made of rubble stones assembled with lime mortar. The mortar has considerably hardened over time.

3.2 Humidity

The roofing, made of layered stone slabs, does not present any weak points and appears to be in good general condition. However, the north ramp covering the western arm of the nave shows damage, particularly on the side.

Traces of moisture infiltration appear on the right of the sunken gutter, located at the junction of the western gable of the church and of the *jamatun*.

The risks concerning the capillary rise through the ground are minimal.

Emergency requirements: The joints of the roof slabs must be pointed again with hybrid mortar: it is a standard routine maintenance. However, it is necessary to restore a certain number of broken slabs on the north pitch of the church's western arm. The gutter between the west gable of the nave and the *jamatun* should be maintained well.

3.3 STABILITY

Recently restored, the building does not show any apparent issue.

Emergency prescription: The installation of a fissurometer will allow following the possible evolution of deformations in the building.

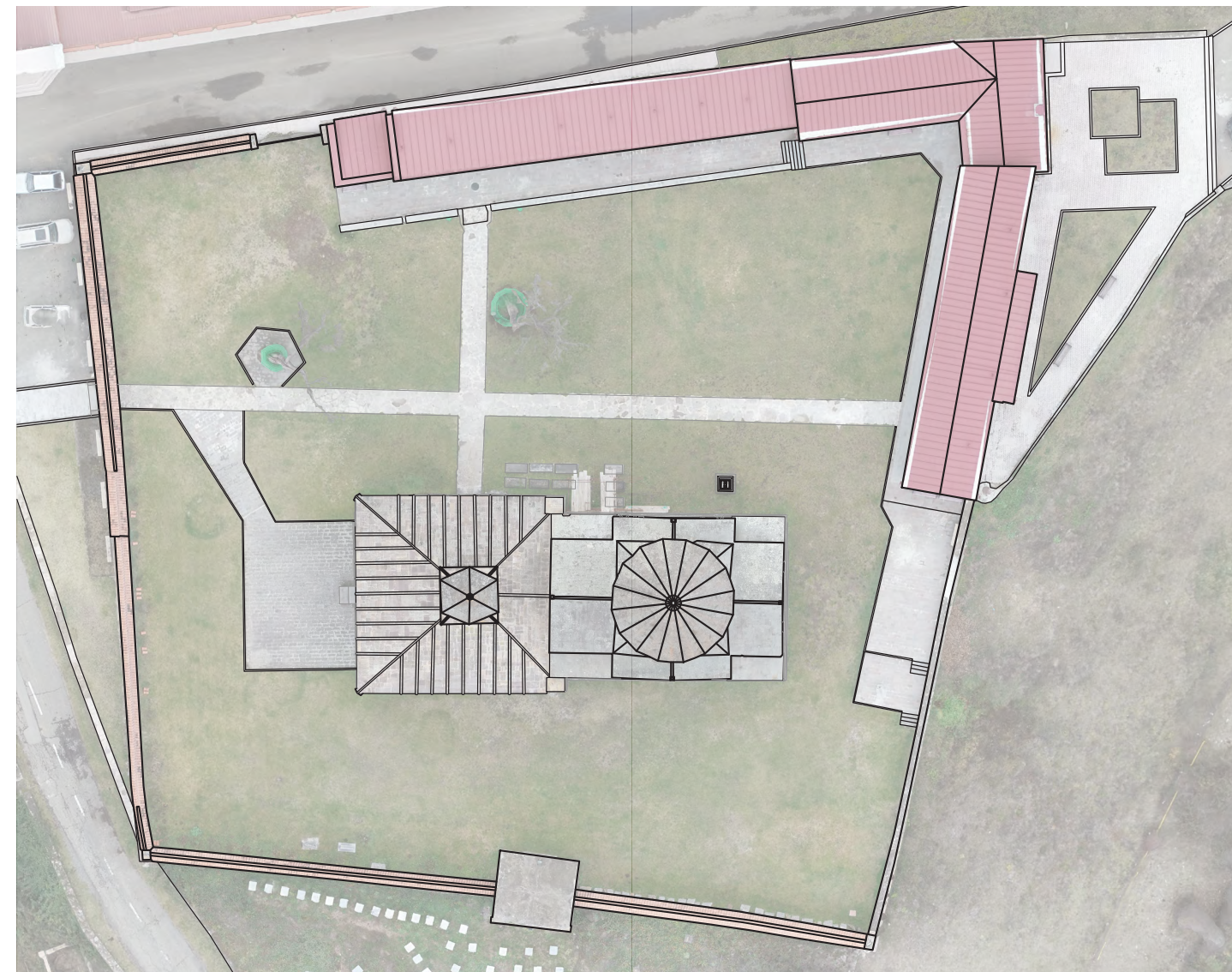


Fig. 11. Deteriorations on the northern roof's pitch on the church's western arm (Iconem 2020)

5. MEASURES OF SAFEGUARDING AND VALORIZATION

The building has been restored over the ages, sometimes apparently in a hurry. Today, a number of measures can be taken in order to improve the architectural quality of the built complex. Among these, we can suggest the renewal of the joints of the facades and the harmonization of the cladding's block stones. The 3D digital survey can be a valuable support for this process.

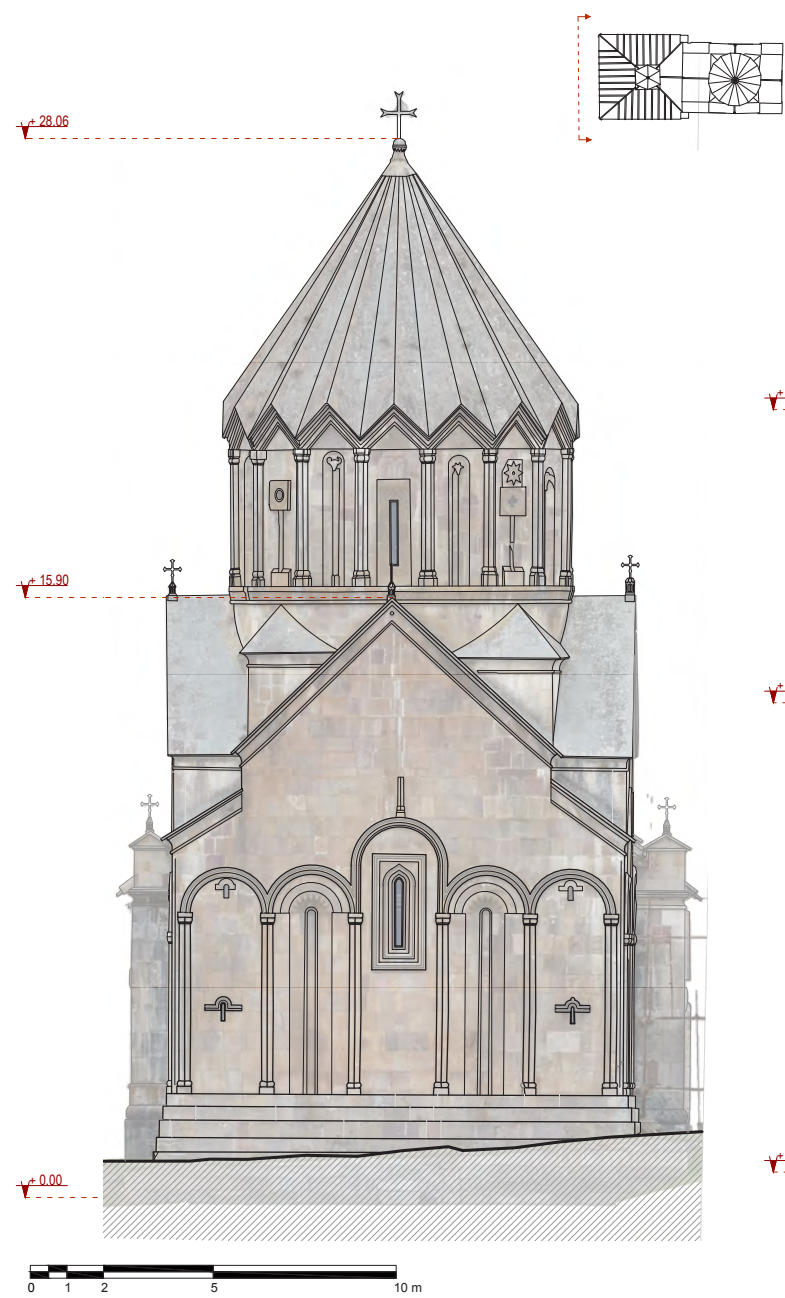
4. Boards



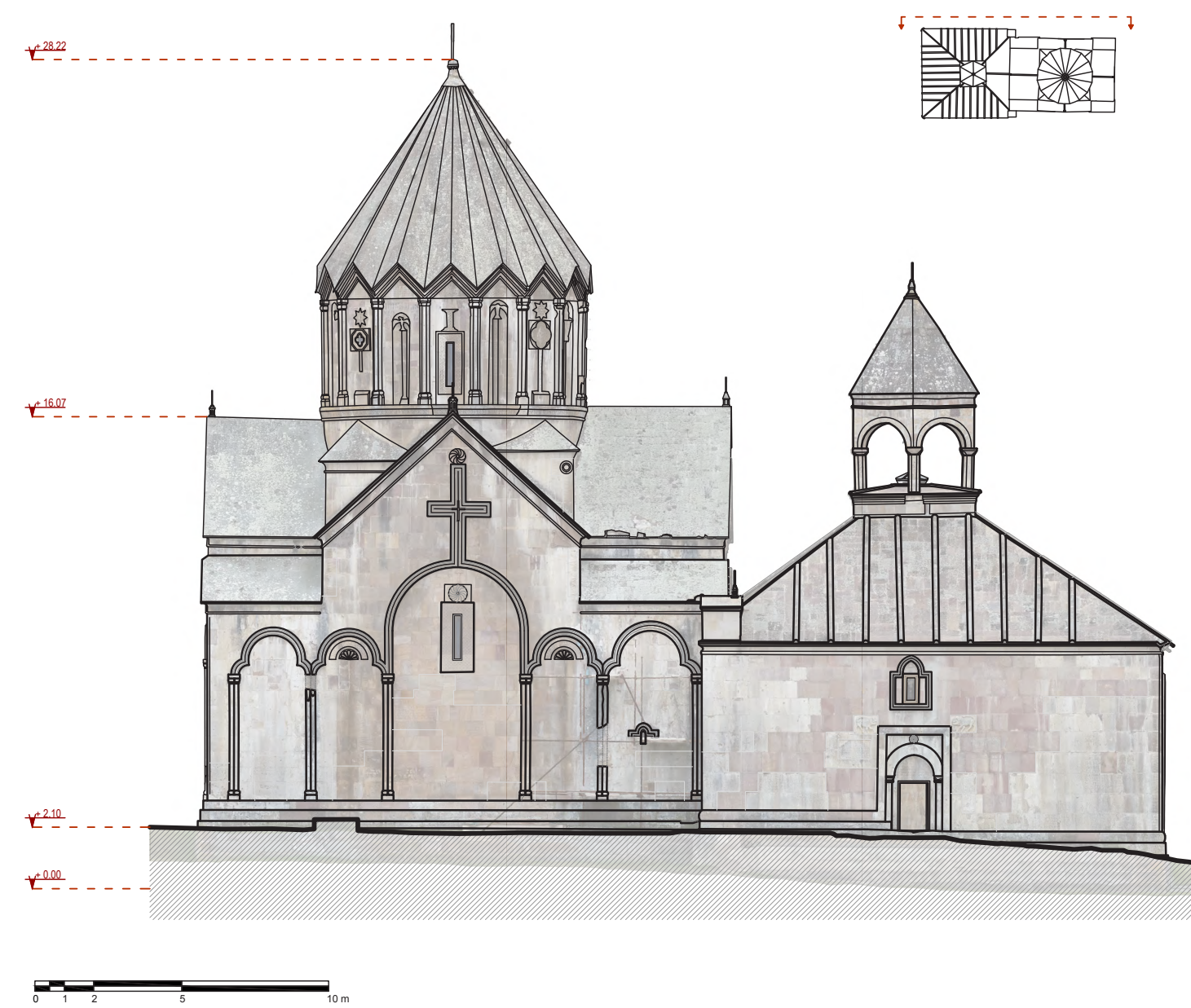
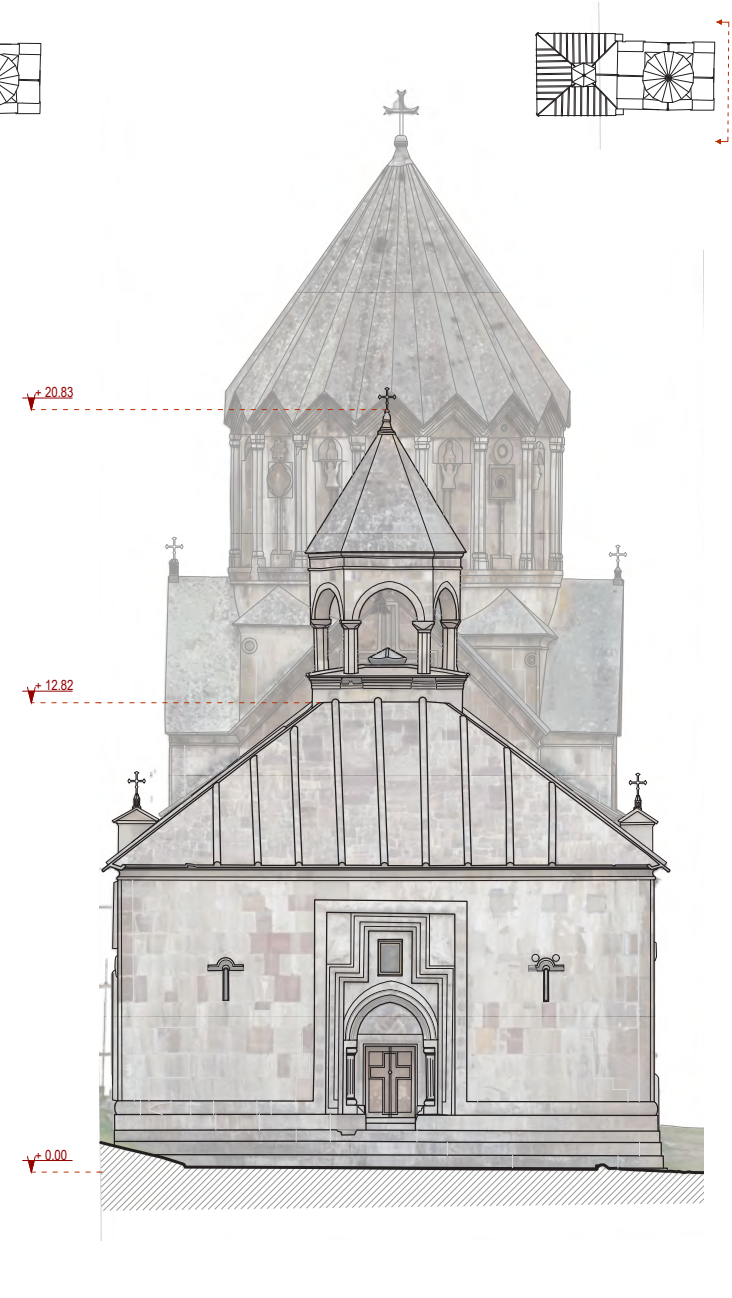
Site plan
Iconem 2021



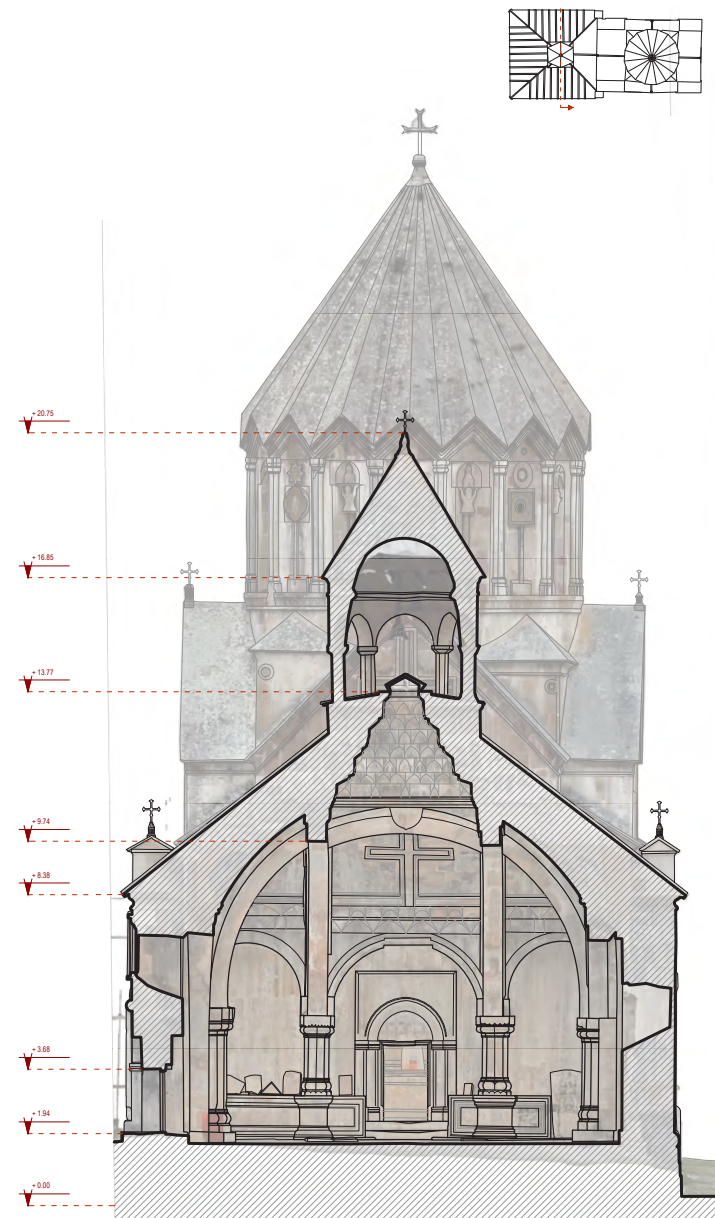
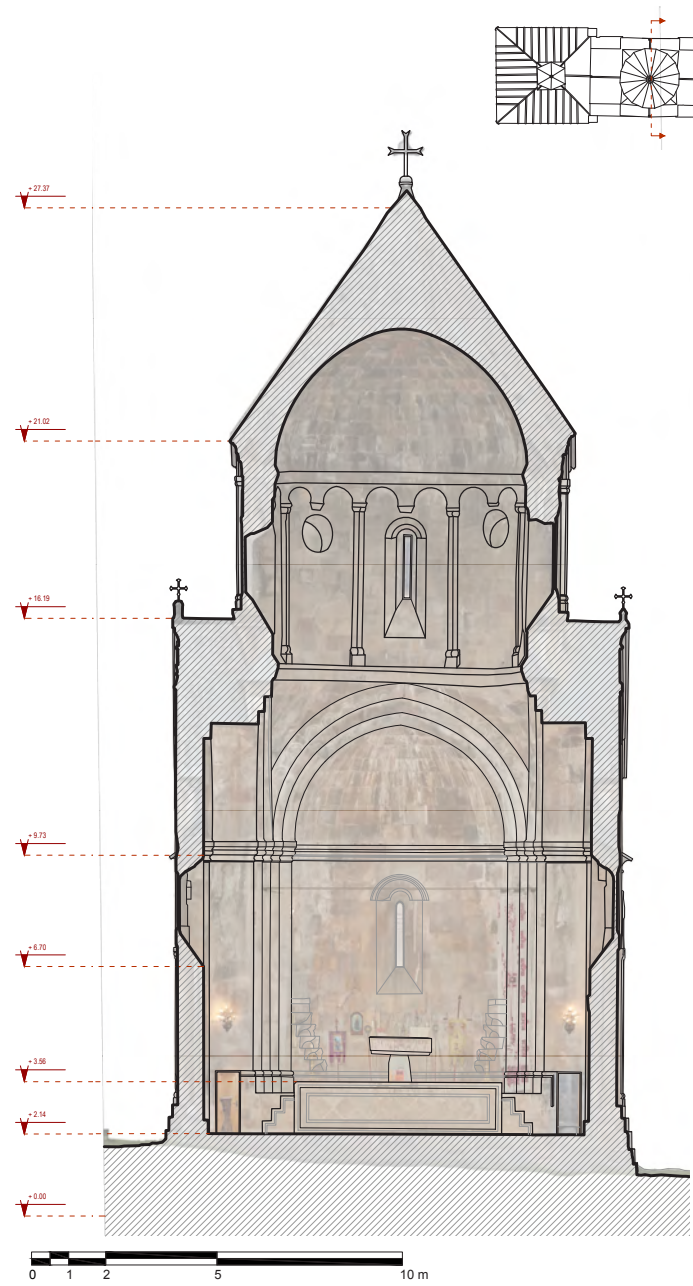
Floor plan at +1.50 m
Iconem 2021



East and West Facade
Iconem 2021



North Facade
Iconem 2021



Section 1 and 2
Iconem 2021



Section 3
Iconem 2021

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ADDITIONAL SOURCES

- State Inventory List of Immovable Monuments of History and Culture of the Martakert region of the Republic of Nagorno Karabakh.

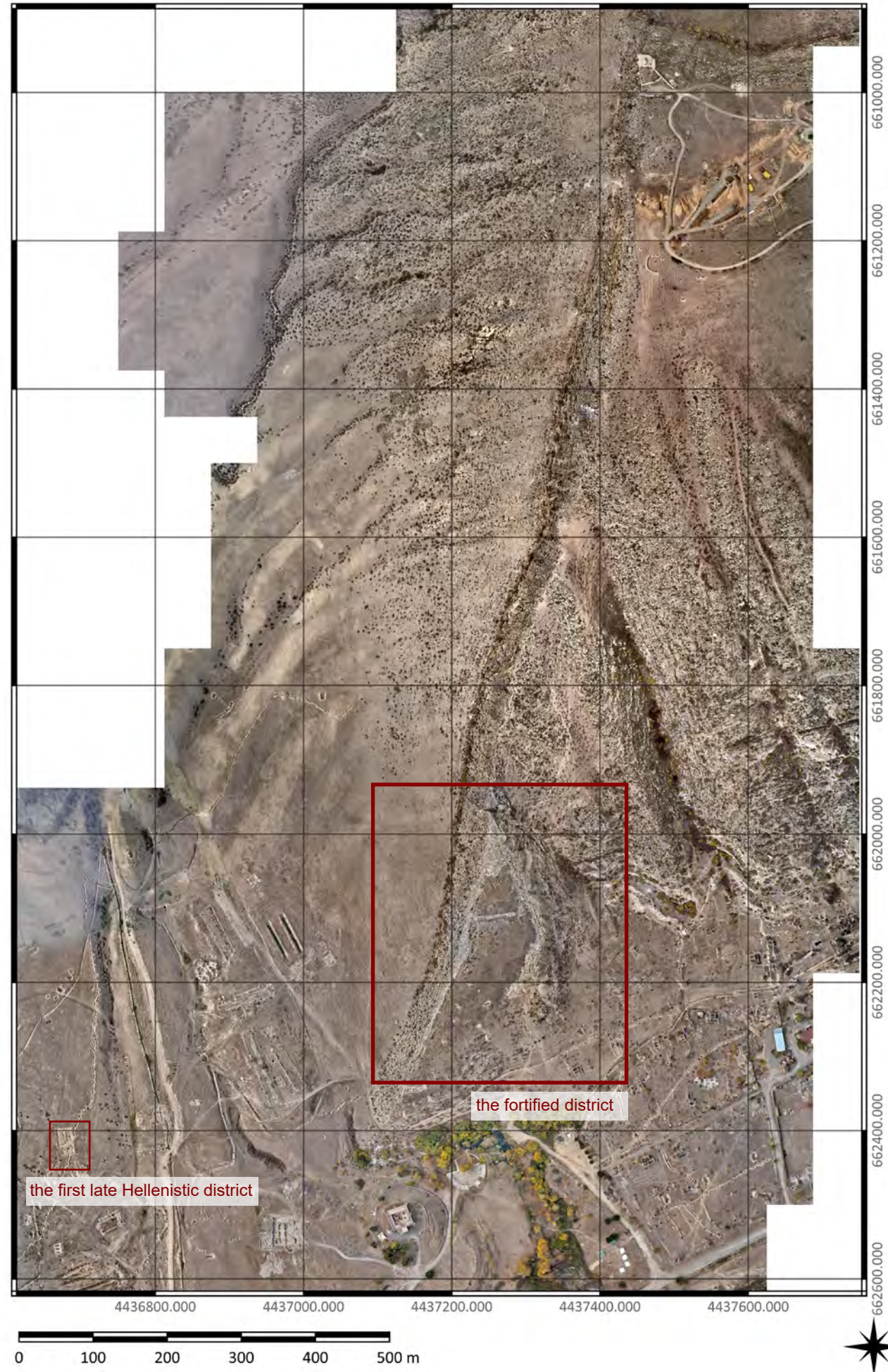


Fig. 1. Georeferenced ortho-image of Tigranakert extracted from the textured 3D scan (Iconem 2021)

TIGRANAKERT, ANCIENT PERIOD

| | |
|------------------------|----------------------|
| Coordinates: | 40.067402, 46.905914 |
| Locality : | Surenavan |
| Region: | Askeran |
| Site type: | Fortified city |
| Dating: | 1st century BC |
| Photogrammetry survey: | Iconem - 21/11/2020 |
| Diagnostic: | 07/2021 |



Fig. 2. General view of the fortified district from the east (Iconem 2020)

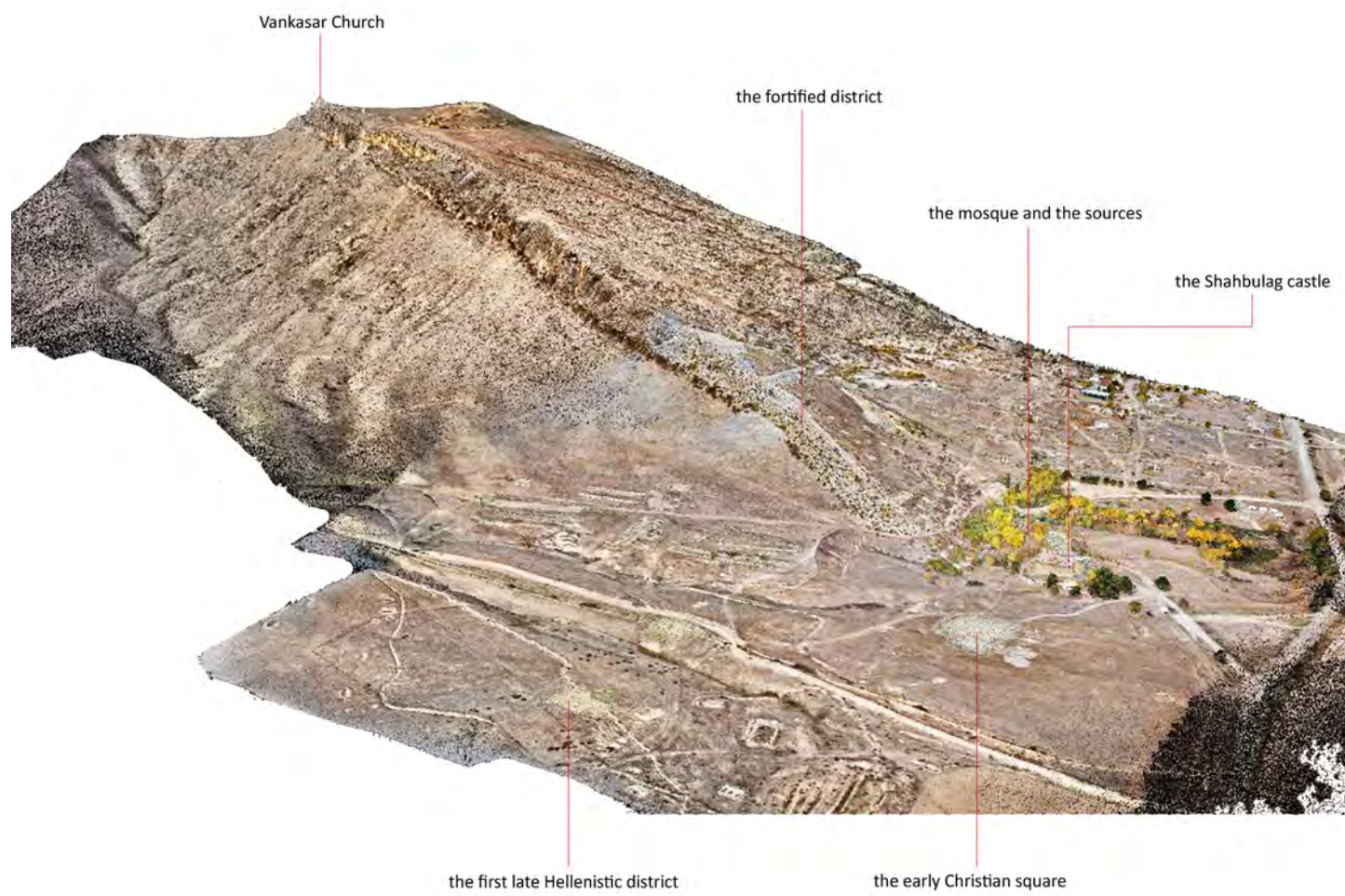


Fig. 3. The point cloud of Tigranakert extracted from the textured 3D scan (Iconem 2021)

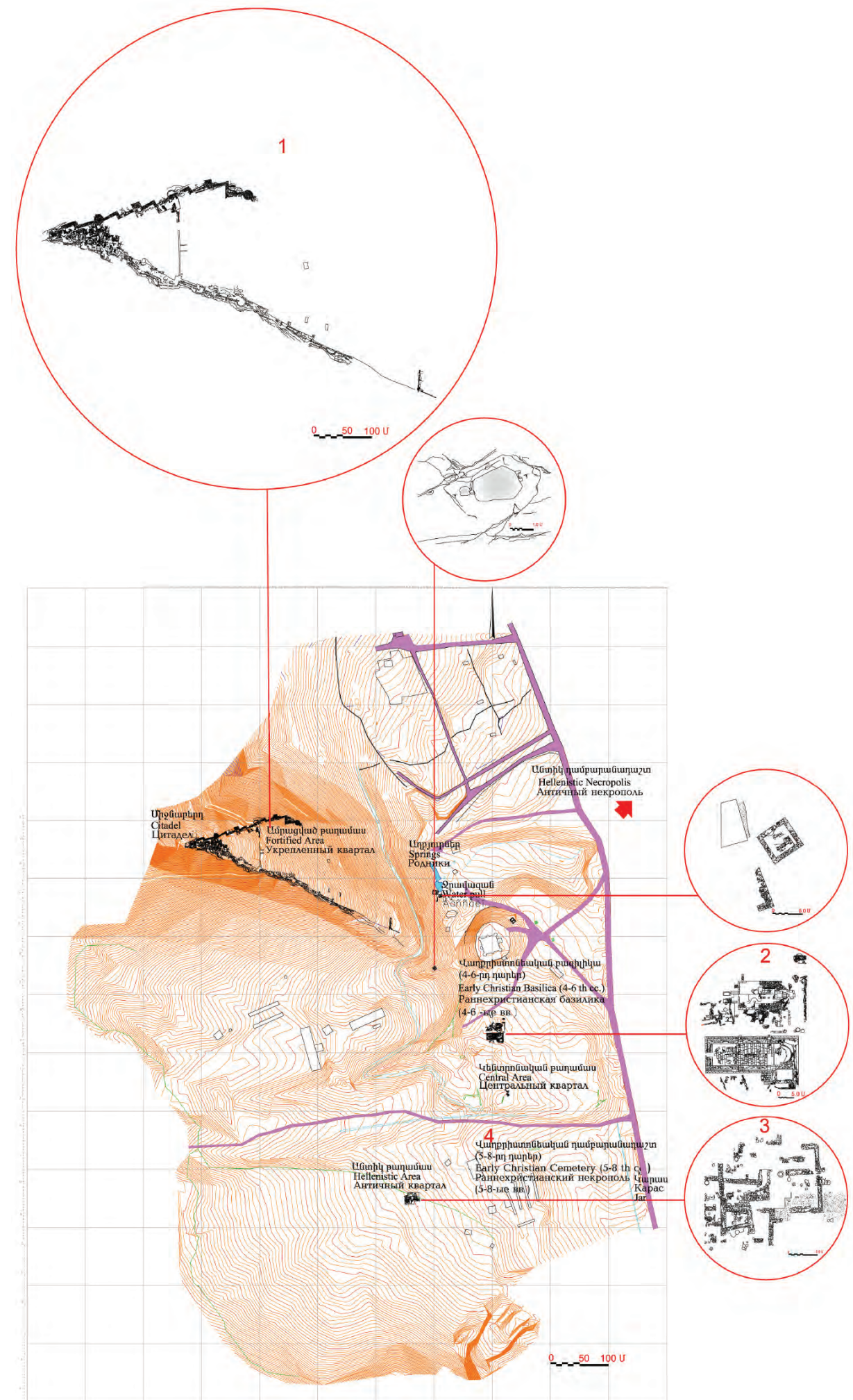


Fig. 4. The layout of Tigranakert realized by H. Petrosyan's archaeological team (Petrosyan 2020)



Fig. 5. Georeferenced ortho-image of the citadel of Tigranakert's fortified district extracted from the textured 3D scan (Iconem 2020)

1. General History

Tigranakert of Artsakh is one of the several cities founded by the Armenian king Tigran the Great in the 1st century BC, and the only one whose location is known. It has been excavated since its discovery in 2005 until the summer of 2020, giving a better understanding of the different phases of occupation of the site (antic, medieval and modern)¹. This technical sheet focuses on the Antic monuments of Tigranakert.

Although most Antic sources mentioning a city called Tigranakert were probably referring to the main capital located in the province of Arzanene², some scholars believe that Strabo was actually describing Tigranakert of Artsakh³. Several writers from the 7th c. mention the city of Tigranakert of Artsakh, as we will see in the technical sheet of early Christian Tigranakert.

2. Site description

The Antic city of Tigranakert extends over more than 70 ha, according to the latest data, and was organized on two levels: the fortified city, built on the eastern slope of Mount Vankasar, and the urban district that lays on its south, in the plain (fig. 1). There was also a cemetery which is located 1,5 km northeast from the city and does not appear in the model⁴. The city was planned around the water springs, which would be later called Shahbulag (see the technical sheet of modern Tigranakert).

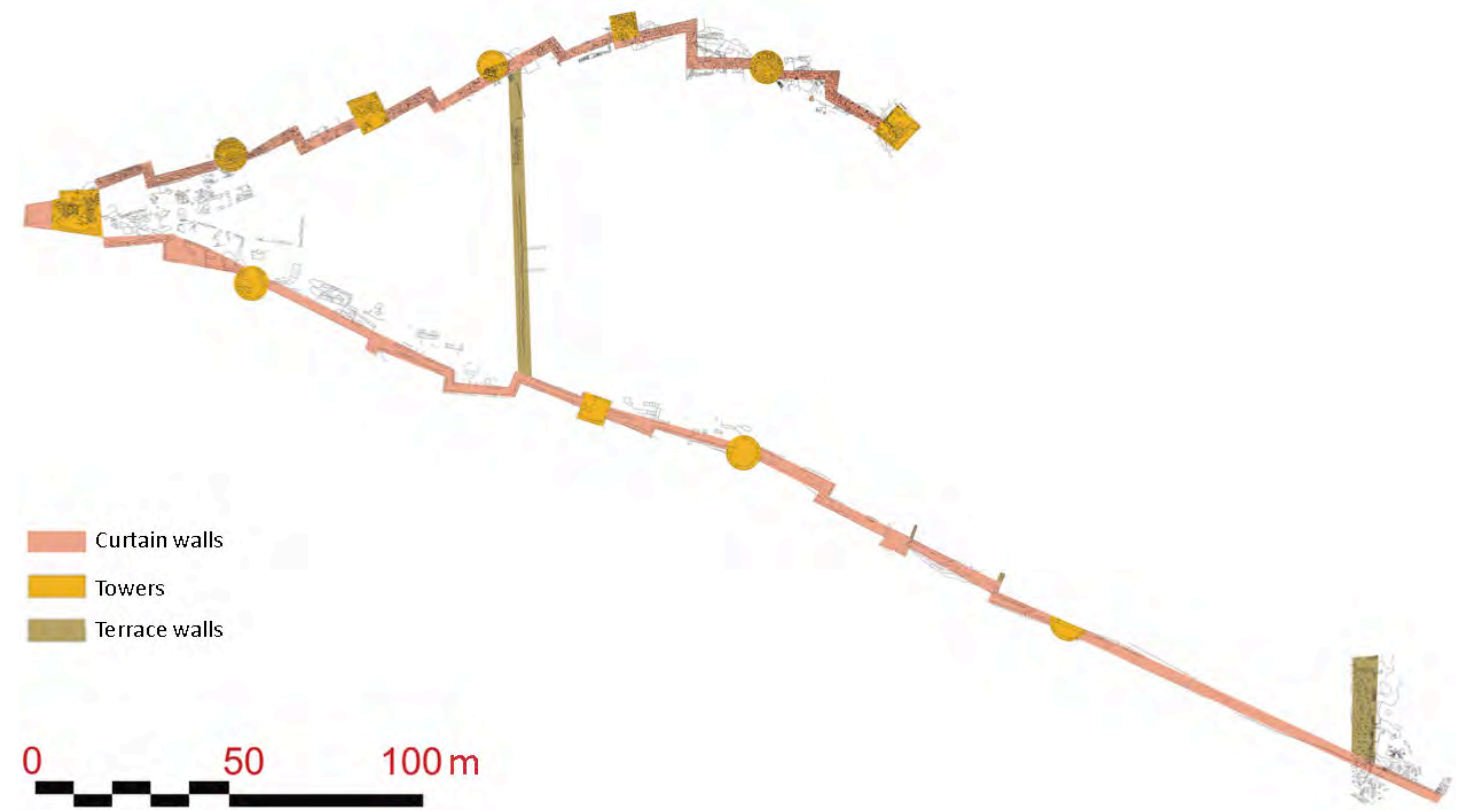


Fig. 6. The plan of the fortified district according to H. Petrosyan's archaeological team (Petrosyan 2020, fig 5, translated by Iconem)

1. The expeditions and excavations were led by Professor Hamlet Petrosyan and the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia. For a detailed presentation of the city and the archaeological campaigns, see H. Petrosyan, "Tigranakert of Artsakh", in A. Kosyan, P. Avetisyan, A. Bobokhyan and Y. Grekyan (eds.), *Armenian archaeology: past experiences and new achievements*, Yerevan-Oxford 2020, p. 327-371.
2. The province of Arzanene, or Aghdznik in Armenian, was one of the historical provinces of the ancient kingdom of Armenia, which lays today on the south-west of lake Van in Turkey. Ancient Greek authors such as Strabo, Appian of Alexandria and Plutarch mentioned Tigranakert of Arzanene (Petrosyan 2020, p. 238).
3. The historian Strabo mentions the founding of a Tigranakert by the king Tigran, which could be identified as Tigranakert of Artsakh (Traina 2015, p. 44).
4. Detailed description can be found in the aforementioned publication (Petrosyan 2020).

The fortification of Tigran the Great consists in a succession of round and rectangular towers connected by zigzag-shaped walls on a surface of 6 ha (fig. 2). It has a triangular plan, which aligns with the natural triangle-shaped limestone outcropping of the mountain's slope, not far from the water springs. The walls' stone blocks were assembled with the technique of dovetail junctions - also called swallowtails, a building technique widely used in Antic east-Mediterranean cities (fig. 3). The lowest row's blocks were directly inserted into carved out mortises into the ground, which were interpreted by the 20th century scholars as scales leading to the top of the mount where stands the Vankasar church⁵. A mortar made of lime and limestone was also used to strengthen the junction of the blocks and to avoid the infiltration of rainwater into the rock-cut bases.

To this day, four late Hellenistic districts have been identified in the plain, on the southern side of the fortress. One of them has been extensively excavated, referred to as "first late Hellenistic district" by the archaeological team and identified as such on our 3D model (fig. 3). The data showed that the district was contemporary to the fortification and was used until the 7th century. The district consists in quadrangular buildings with square rooms with a domestic use⁶, and was used as a Christian cemetery after the 7th century. A late Hellenistic cemetery was also found and excavated 1,5 km to the northeast of the city⁷.



Fig. 7. Details of one of the towers of the fortification's northern wall (Iconem 2020)



Fig. 8. Georeferenced ortho-image of the first late Hellenistic district (Iconem 2021)

5. Petrosyan 2020, p. 333.

6. The archaeological team uncovered *tonirs* (underground ovens) and hearths, as well as artefacts related to the processing and storage of cereal (pestle, mill, pithoi) and tools associated to the weaving craft (Petrosyan 2020, p. 336).

7. About this cemetery and its burials, see Petrosyan 2020, p. 337-338.



Altitude is given relative to the WGS84 ellipsoid

Fig. 9. Ortho-image of the northern facade extracted from the textured 3D scan of the fortified district (Iconem 2021)

3. Diagnostic

The fortification and the late Hellenistic district are in a very fragile state, like any excavated archaeological site. The consolidation and conservation of all of Tigranakert's excavated areas and its landscape has been one of the priorities of the archaeological team since the beginning of the project and subject to a couple of publications⁸. The fragility of the excavated structures, together with the geopolitical stakes of this archaeological site and the inability of the archaeological team to monitor the site since fall 2020, makes the question of the preservation of Tigranakert particularly alarming.

3.1 Structure

Two areas can be distinguished: the remains of the fortified district on the slope of the mountain and the late Hellenistic districts in the plain.

The remains of the fortified district consist of the foundations and certain elements in elevation of the towers and curtain walls. These elements have a more monumental aspect, because the cladding is still visible over a certain height. They are built of medium-sized limestone blocks connected by joints, which have now disappeared, but whose dovetail-shaped mortises are still visible. Other building techniques have been identified by the archaeologists, such as the use of dry masonry, of limestone mortar and mudbricks, as well as the insertion of the first row of the construction blocks in stone-cut mortises.

The late Hellenistic urban districts, such as the first district presented in this technical sheet, are those left in place after the excavation campaigns. Since they are in the open air, they are exposed to the elements and to vandalism. They consist of the foundations of the walls with a masonry made of stones and mortar.

3.2 Humidity

As the climate is relatively dry and the soil draining, humidity problems are not necessarily an issue.

3.3 STABILITY

The excavated vestiges present stability problems. They need to be consolidated and protected.

4. MEASURES OF SAFEGUARDING AND VALORIZATION

Regarding the first late Hellenistic quarter and the other excavated districts, the discovered remains having been studied by the archaeological team and digitized with a high precision, it would be advisable to cover the site, in order to provide a long-term protection.

As far as the fortifications are concerned, they could be preserved in the open air for visibility reasons, provided that the structures are reinforced by masonry. Lime mortar grout and a new jointing would allow help consolidating the old masonry in the state, without seeking to rebuild or restore the fortifications, for the sake of authenticity.

Thanks the 3D digital survey, augmented reality restitutions could show visitors the original appearance of the fortified city.

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8. Kirakosyan 2017 ; Kirakosyan 2019.

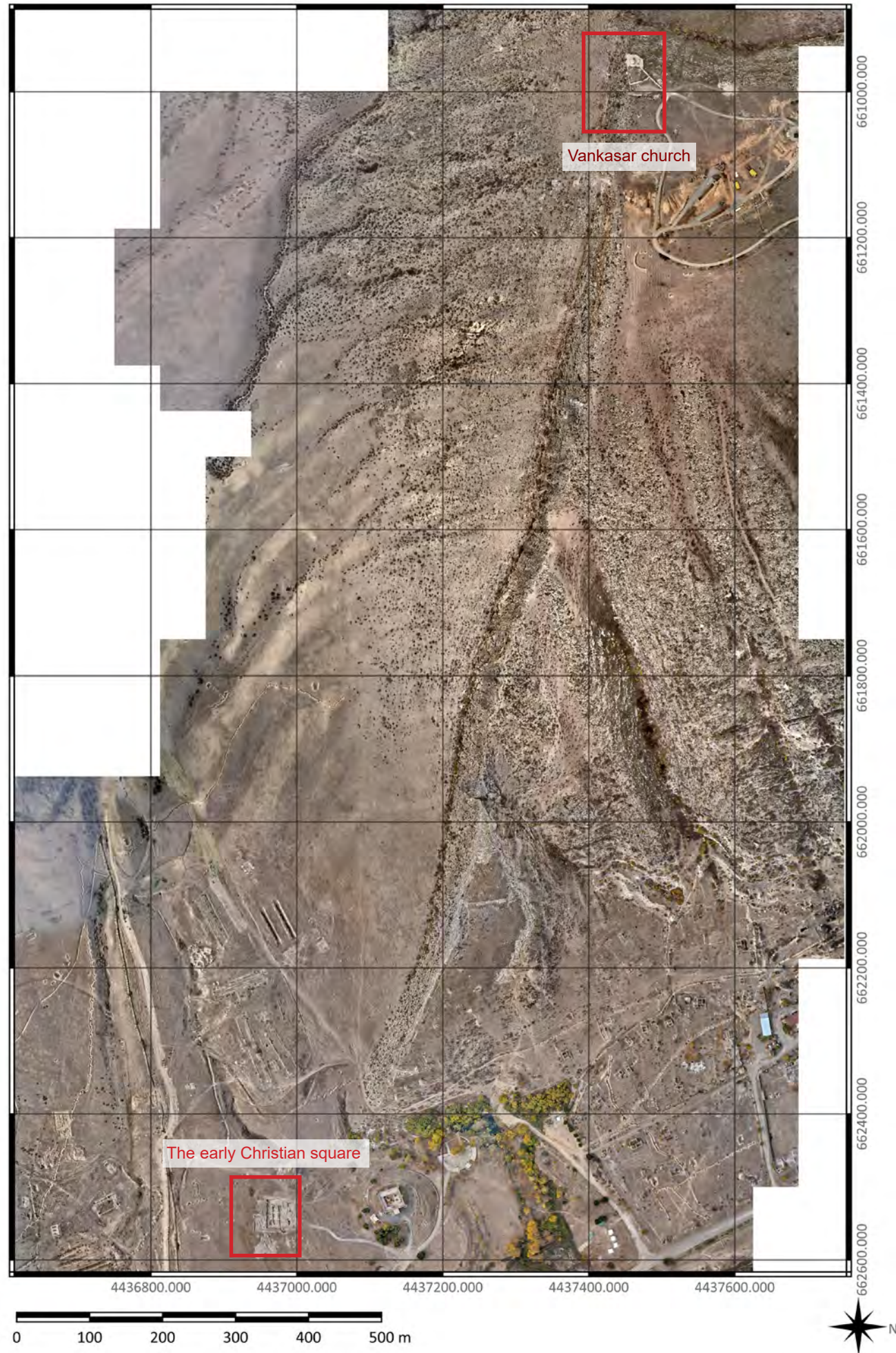


Fig. 1. Georeferenced ortho-image of Tigranakert extracted from the textured 3D scan (Iconem 2021)

TIGRANAKERT, EARLY CHRISTIAN PERIOD

Coordinates: 40.067402, 46.905914
Locality : Surenavan
Region: Askeran
Site type: Church
Dating: 6-7th centuries
Photogrammetry survey: Iconem - 21/11/2020
Diagnostic: 07/2021



Fig. 2. Georeferenced ortho-image of Vankasar church extracted from the textured 3D scan (Iconem 2021)



Fig. 3. Georeferenced ortho-image of the early Christian square extracted from the textured 3D scan (Iconem 2021)

1. General History

As explained in the technical sheet of the Antic Tigranakert, the city was founded in the late Hellenistic period and discovered in the 2000's by an Armenian archaeological team¹. However, the site was already known for its 7th century church located on top of the mount Vankasar.

A couple of medieval Armenian authors mention Tigranakert of Artsakh, such as Sebeos (7th c.)² and Movses Kaghankatvatsi (7th c.)³. These sources, along with the architectural and archaeological studies establish that the city of Tigranakert was one of the most important early Christian centers of Artsakh, and more generally of the South-Caucasus: indeed, along with the famous 7th century church of Vankasar on the top of the eponymous mount⁴, the archaeological team uncovered an ecclesiastical complex composed of a basilica, a *martyrium*, a funerary space and a memorial cross-bearing monument, dated from the second half of the 5th century to the 6th century, and destroyed at the end of the 9th century. In addition, an early-christian rock-cut ecclesiastical complex was also found on the other side of mount Vankasar, which was documented in a separate 3D model.

From the 10th to 12th century, the site continued to be occupied, as show of it the medieval artefacts discovered during the excavations. A 13th century inscription documented in the church of Vankasar also confirms the medieval occupation⁵.

1. From 2005 to 2020, the archaeologist Hamlet Petrosyan and the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia lead expeditions and excavations in Tigranakert. About this project, see Petrosyan 2020, p.327.
2. In his *History of Heraclius*, Sebeos mentions the site of Tigranakert as the battleground of the Byzantine-Persian war in 622-624, opposing the emperor Heraclius and the Sasanian forces (Petrosyan 2020, p. 328-329).
3. A letter preserved in the *History of the land of Albania* of Movses Kaghankatvatsi makes mention of a priest from Tigranakert who was present at the Council of Partav in 703 (Petrosyan 2020, p. 329).
4. According to tradition, Vache the 2nd, king of Albania, constructed the church in 470 (Thierry 1991, p. 150). This tradition was documented by the Bishop Makar Barkhutariants and published in 1895 (Karapetyan 2001, p. 210). However, based on architectural and epigraphic studies, the church can be dated from the second half of the 7th century (Grigoryan 1982, p. 26-27). Because of its original architectural features, the church was the object of interest of many scholars and learned clerics since the 19th century, as show of it the publications of the Archbishop Sargis Jalaliants, the Senior Priest Yeghishe Gueghamiants, Khachik Dadian, etc (Karapetyan 2001, p. 210).
5. The catholicos of the Albanian church, Yesayi Hasan-Jalalian (18th c.), published an inscription dated from 1263 in an epigraphic study (Petrosyan 2020, p. 330).

2. Site description

In the plain, on the south-east of king Tigran's fortification, lies the early Christian ecclesiastical centre of Tigranakert (fig. 1). Excavated by the archaeological team, the area has been named "early Christian square" in the archaeological report and appears as such in the model. The square contains the ruins of a single nave basilica with a southern sacristy, which was added later, as well as the remains of a second smaller church (fig. 3). The basilica, raised on a three-storied stylobate, was built with stone blocks assembled by local lime mortar. The basilica features several portals: two on the northern side, two on the southern and one on the western (fig. 4). Various architectural fragments have been documented during the excavations⁶. Only the stylobate and the lower part of the wall have been preserved, however the dimension stones have disappeared.



Fig. 4. Aerial view of the basilica (Iconem 2020)

To the north, a second church has been excavated (fig. 5). It was probably a *martyrium*, as shown by the sepulchre-reliquary excavated under the eastern apse of the church. This function, together with its unique eastern entrance, makes it comparable to the funerary monuments of St-Grigoris of Amaras and St-Stepanos of Vachar⁷.



Fig. 5. Aerial view of the second church (Iconem 2020)

On the peak of the mountain, in the prolonging of the antic fortification of Tigran the Great, stands the 7th century church of Vankasar (fig. 7). It is a small triconch church with central plan and free arms inscribed in rectangles, built with limestone (fig. 6). The western arm is slightly longer than the other arms. There was originally a single entrance on the western arm of the cross (fig. 8), but after having been deeply renovated in the 1980's, entrances were added on the northern and southern arms⁸. Each entrance is topped with a window, as well as the altar of the eastern apse. The dome has a conical crown and rests on an octagonal drum, which also has four windows. The roofing of the church is made of stone tiles since the renovation, but the original elevation might have been different.

There is no carved relief, although the western entrance's *tympanum* used to have a carved cross. Several inscriptions have been documented on the church, mainly *graffiti*⁹ and marks of the masons (fig. 9), which are similar to those documented in the church of St-John of Sisian, in Armenia¹⁰. There was also an inscription on a *khachkar* from 1263 that was inserted into the northern wall¹¹. However, these inscriptions are not present today.

Finally, as mentioned in the technical sheet of Antic Tigranakert, the excavated late Hellenistic district was used as a Christian cemetery starting from the 7th century¹².

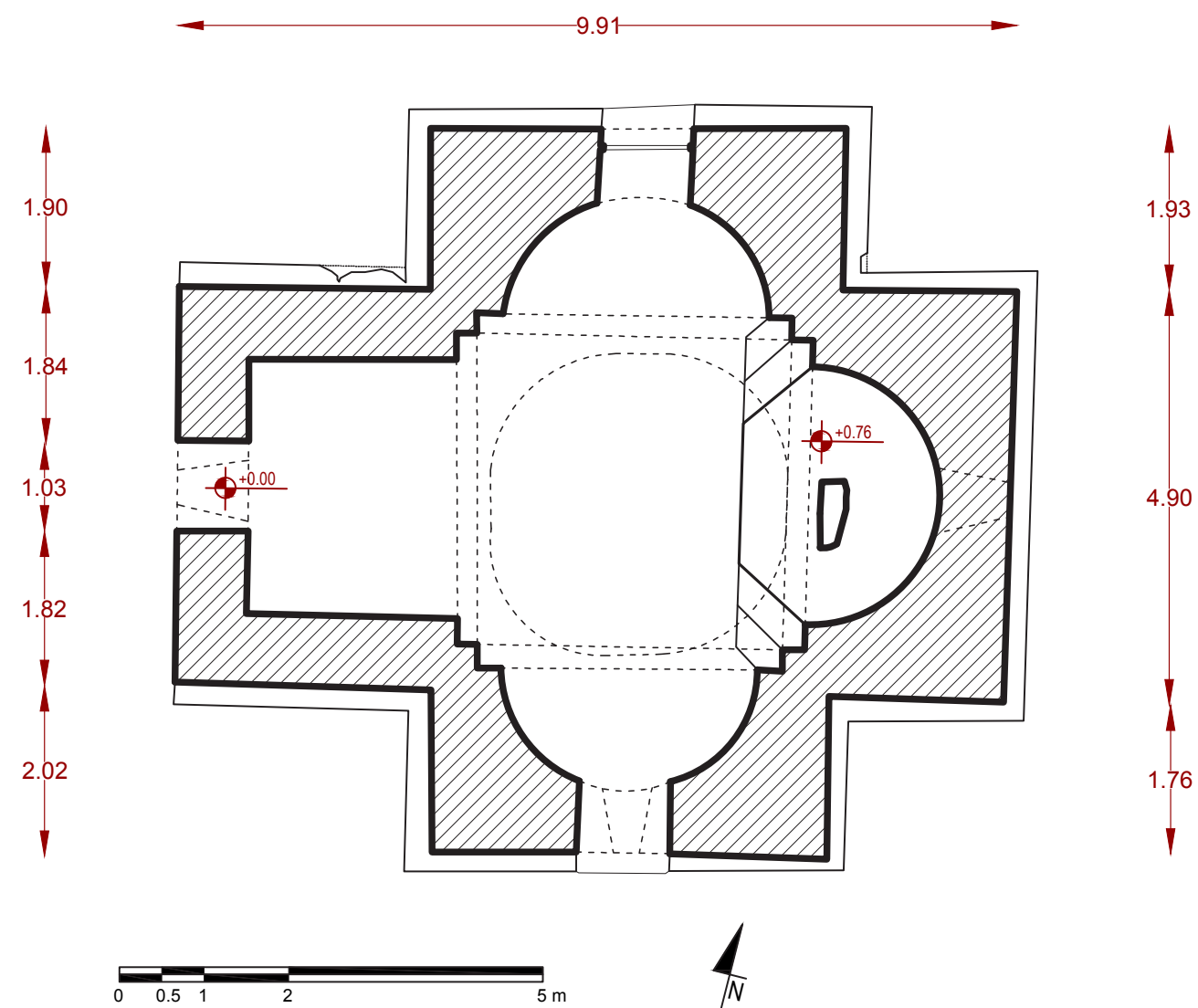


Fig. 6. Plan of Vankasar church (Iconem 2020)

8. Cuneo 1988, p. 459 ; Thierry 1991, p. 150.

9. Two lacunar inscriptions were found : one read «Remember my prayers in our lord Jesus Christ » and the second « [...] and the holy Church. Remember my prayers. » (Karapetyan 2001, p. 211-212).

10. Cuneo 1988, p. 459 ; Karapetyan 2001, p. 210-213.

11. The inscription read « I, Shahanshah, son of Ashot, I erected this cross for my soul. » (Thierry 1991, p. 151).

12. Petrosyan 2020, p. 336.



Fig. 7. South-eastern view of the church of Vankasar (Iconem 2020)

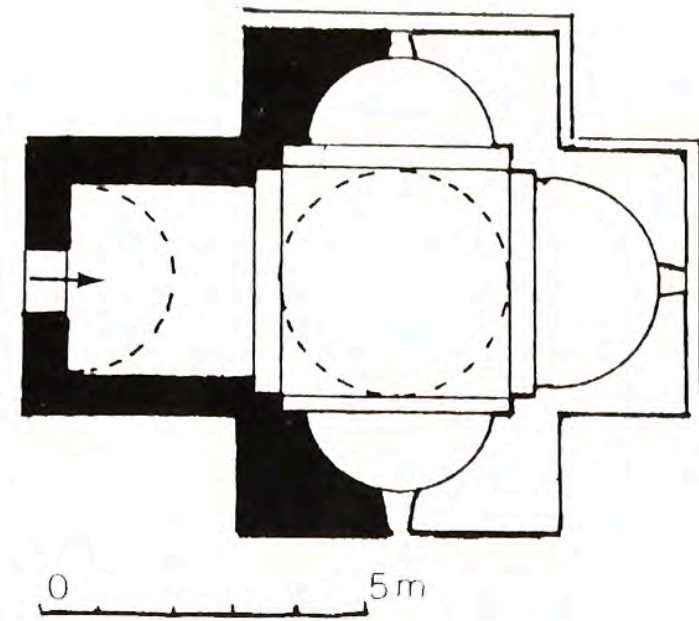


Fig. 8. The plan of the church prior to renovations (Thierry 1991, fig. 151)



Fig. 9. The signs of the masons (Karapetyan 2001, p. 213)



Fig. 10. The renovation of Vankasar's church in 1986 (Karapetyan 2001, p. 212)

3. Diagnostic

The church of Vankasar was very deteriorated until the 1980's: according to M. Thierry, the eastern part was totally destroyed¹³. In the beginning of the 1980's, the Azerbaijan Soviet Republic took the initiative to renovate the church (fig. 10), therefore the church is architecturally very stable. However, specialists assert that the renovation altered the original aspect of the monument: white stone blocks replaced the original stone blocks with the inscriptions, two entrances were added on the northern and southern arm and several architectural elements have disappeared, such as the cornices, the original floor, the windows with arched endings (which are now rectangular), and the dome's original crown¹⁴.

3.1 Structure

The church of Vankasar is built entirely of massive stone masonry. The claddings of the walls are made of dimension stones and the width of the walls is filled with rubble stones assembled with lime mortar. Considering the recent restoration it has undergone, the church's structure and stability are good.

Regarding the early Christian square with the basilica and the smaller church, the remains are those left in place after the excavation campaigns. Since they are in the open air, they are exposed to the elements and to vandalism. They consist of the foundations of the buildings' walls, such as the stylobate of the basilica, which have been excavated by the archaeologists. Their masonry is made of disjointed stones and degraded mortar. The dimension stones of the claddings are not preserved.

3.2 Humidity

Concerning Vankasar's church, the roofing, which is made of fitted and adjoined stone slabs, does not present any point of weakness and appears to be in good overall condition. No trace of humidity infiltration appears. The risks concerning the capillary rise through the ground are minimal. With regards to the early Christian square, the vestiges are exposed to the elements.

Emergency prescriptions: No emergency prescriptions are to be taken for the church of Vankasar, apart from the regular maintenance of the roof's pitches, their weeding and the maintenance of the joints.

3.3 STABILITY

The recently restored church of Vankasar does not present any apparent disorder. However, because the vestiges of the early Christian square are exposed, they are in the process of disaggregation.

4. MEASURES OF SAFEGUARDING AND VALORIZATION

The reconstruction of Vankasar's church was apparently made in a hurry. Today, a number of measures can be taken in order to improve the architectural quality of the building. Among these measures, we can suggest the renewal of the joints of the facades and the harmonization of the claddings' dimension stones.

The vestiges of the early Christian square having been studied by archaeologists and digitized with high precision, it would be advisable to cover the site, in order to provide a long-term protection. For this, the installation of a geotextile followed by a backfilling of the site would allow the conservation of the remains in the longer term.

The basilica's remains may not be covered, provided that the masonry in place is consolidated and the stylobate and the paving are restored, in order to allow its accessibility to visitors.

13. Thierry 1991, p. 150. It should be noted that his observations were probably leaning on a fieldwork that was made at least a decade before the publication.

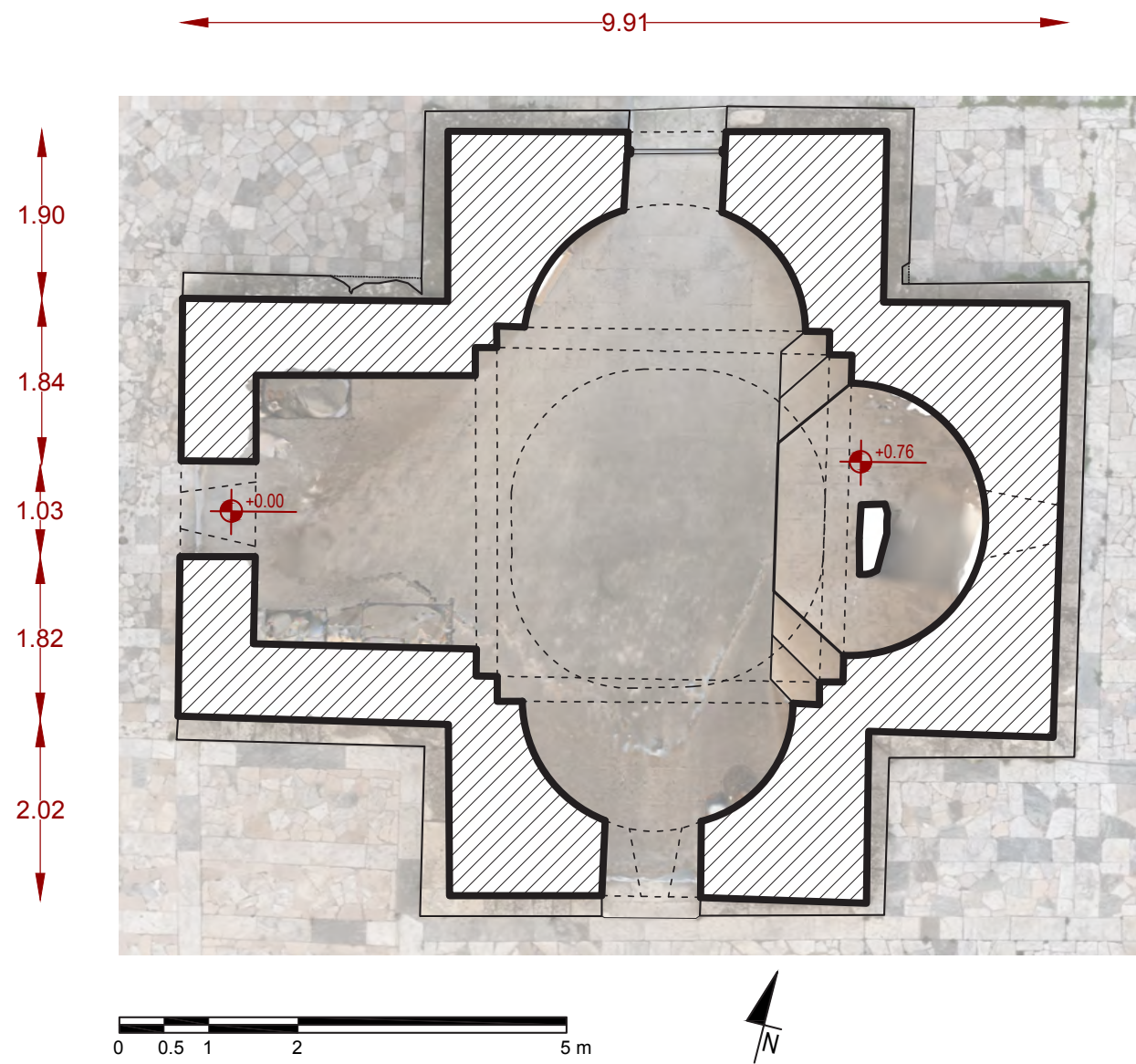
14. Donabédian 2008, p. 149.

4. Boards

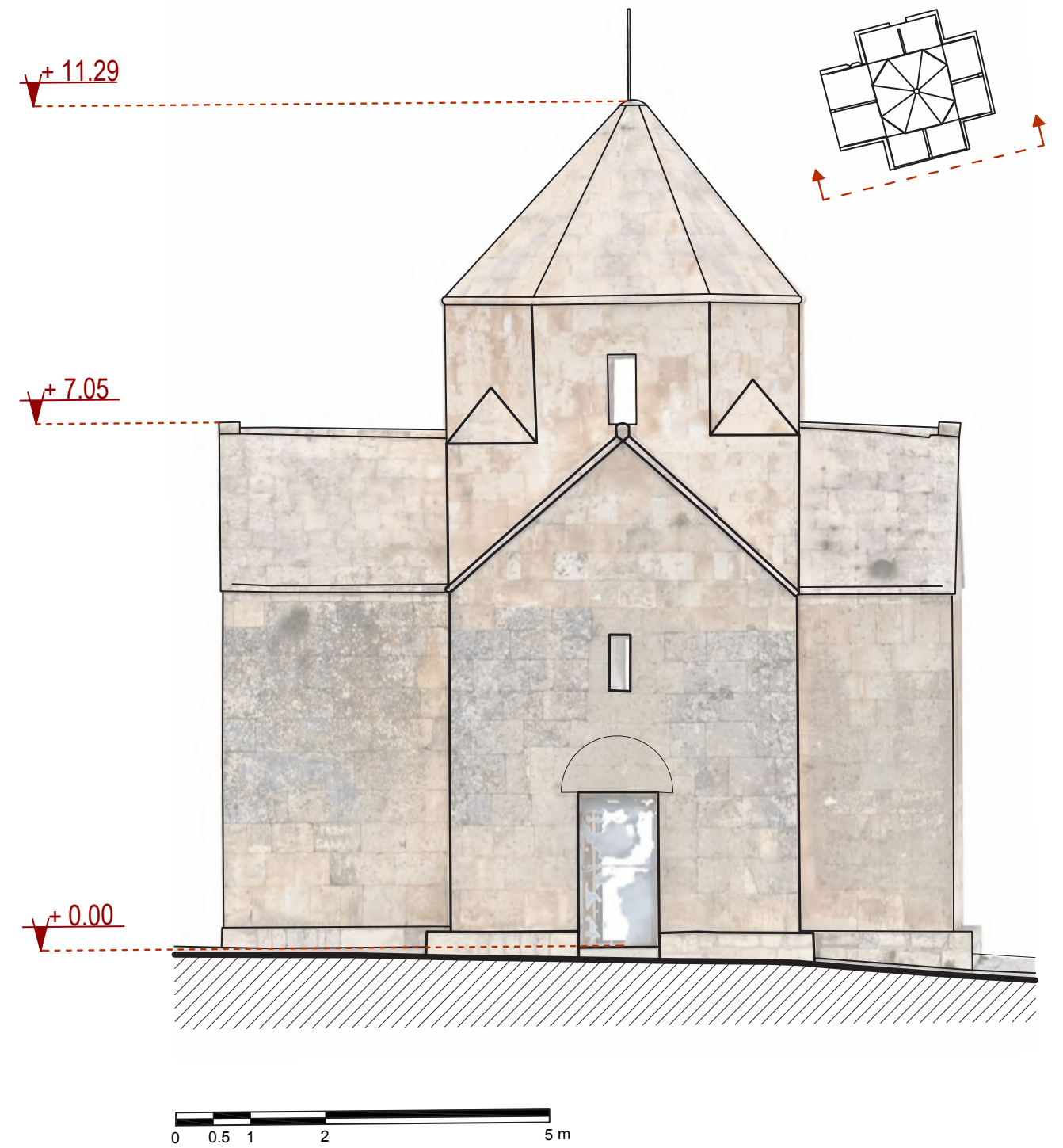
4.1 Vankasar church



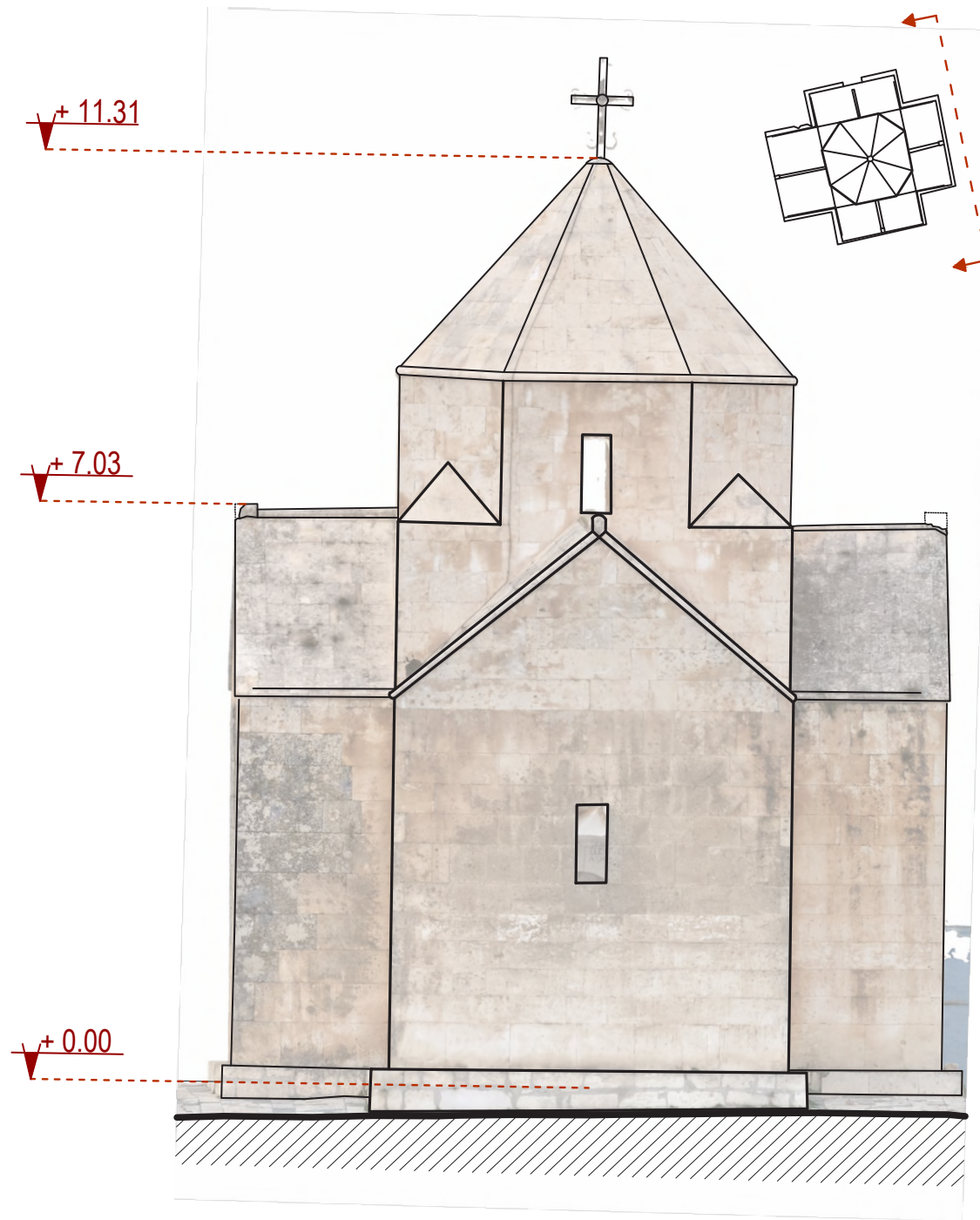
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Iconem 2021



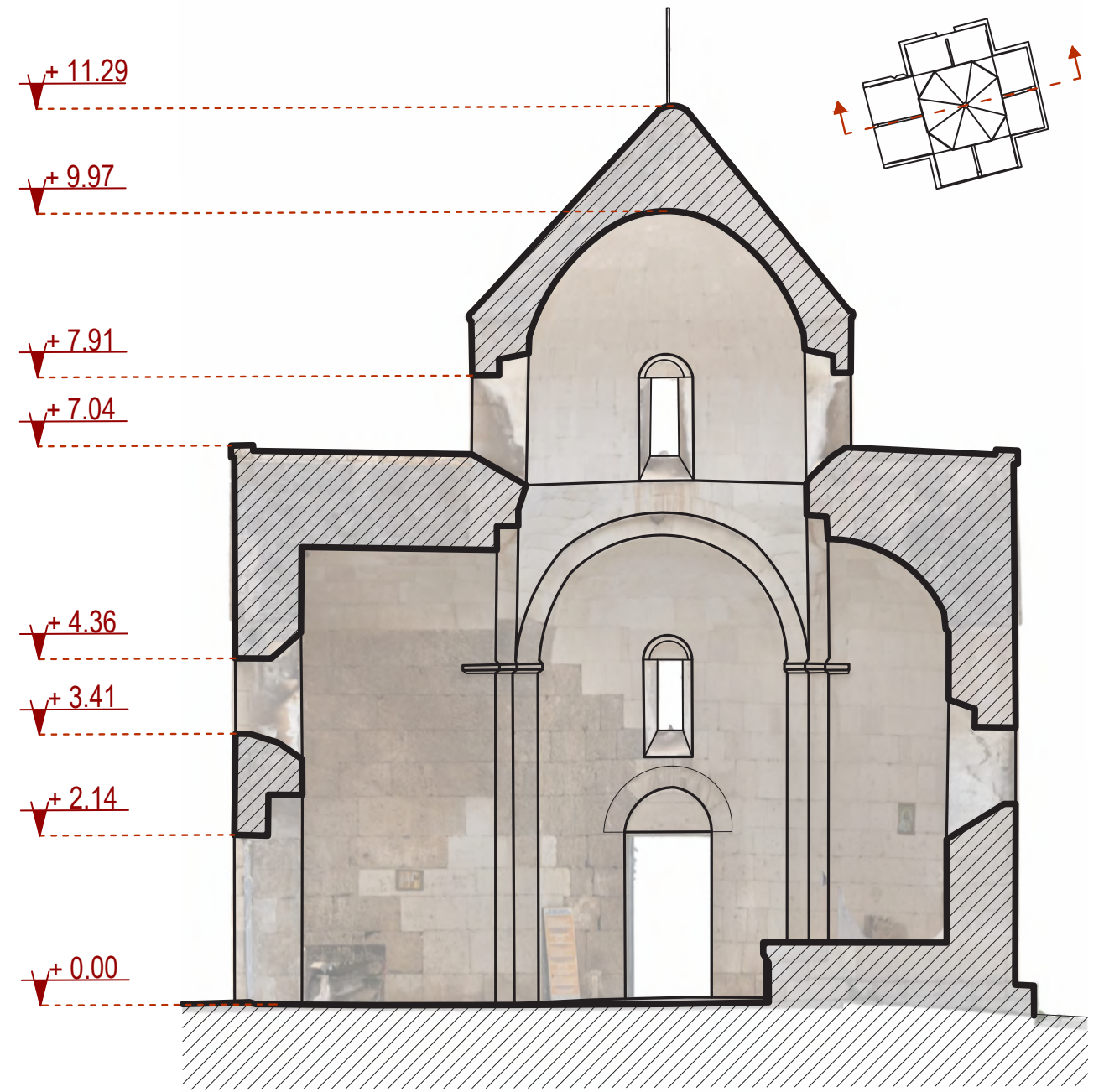
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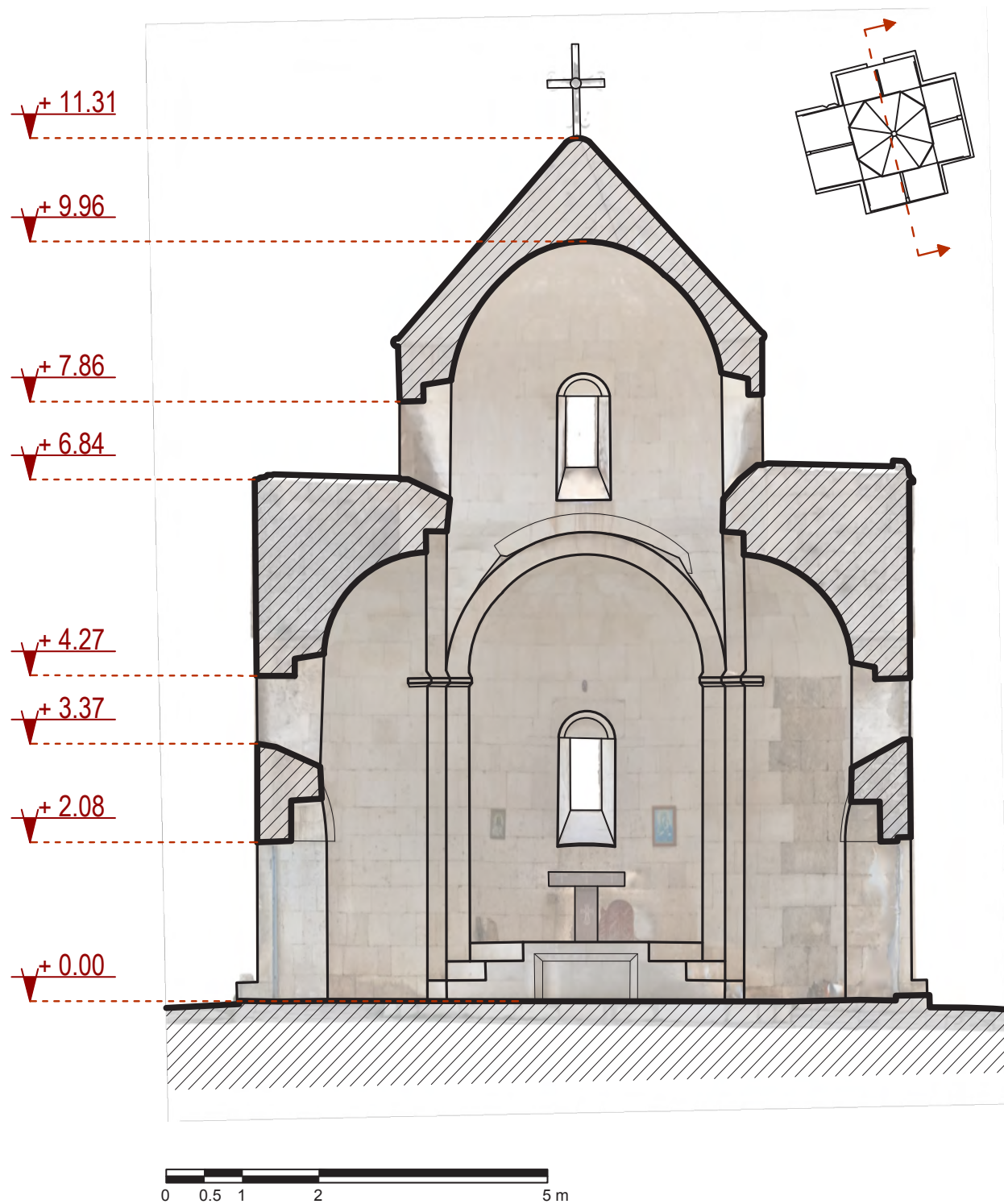
South facade
Iconem 2021
55



East facade
Iconem 2021



Section 1 : East/West
Iconem 2021



Section 2 : North/South
Iconem 2021

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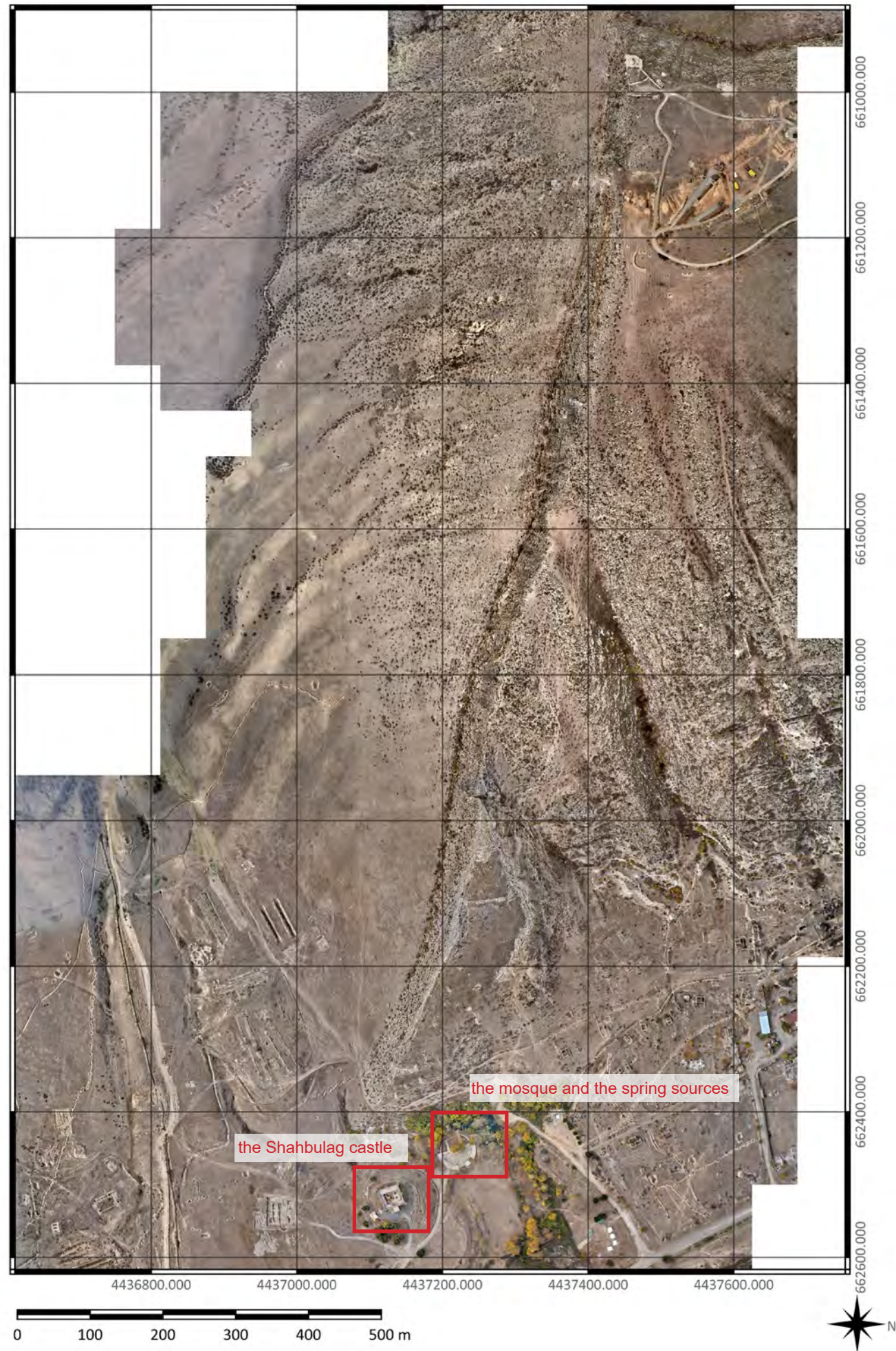


Fig. 1. Georeferenced ortho-image of Tigranakert extracted from the textured 3D scan (Iconem 2021)

TIGRANAKER, ANCIENT PERIOD

Coordinates: 40.067402, 46.905914
 Locality : Surenavan
 Region: Askeran
 Site type: Castle ; Mosque
 Dating: 18th century
 Photogrammetry survey: Iconem - 21/11/2020
 Diagnostic: 07/2021



Fig. 2. General view of the castle, the mosque, the spring sources and the antic fortified district in the background (Iconem 2020)

Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 3. Georeferenced ortho-image of Shahbulag castle extracted from the textured 3D scan (Iconem 2021)

1. General History

After having been an important city in the Antiquity and the early Middle Ages (see the respective technical sheets), the site of Tigranakert also acquired significant importance in modern times. Indeed, in 1752, the founder and ruler of the Karabagh khanate, Panah Ali Khan, moved his capital from Bayat to the formerly called Tigranakert¹. He built a fortress and a mosque near the natural spring sources, therefore naming his new capital Shahbulagh (King's source). However, because of security issues, the capital was moved a year later to Shushi (Shusha), as well as the entire population in 1756².

The fortress was reinvested in 1805-12 when the Russians, assisted by Armenian forces, confronted the Persian troops in the region³. In his epigraphic study of the Armenian inscriptions of Vankasar's church, the catholicos of the Albanian church Yesayi Hasan-Jalalian (18th c.), specifies the site was "currently called Shahbulagh"⁴. The site was also called "Tarnagut", probably a distortion of the name Tigranakert⁵.



Fig. 4. Georeferenced ortho-image of the mosque and the spring sources extracted from the textured 3D scan (Iconem 2021)

1. Ismailov 2014, p. 133.
2. *Idem.*
3. Karapetyan 2001, p. 213.
4. About this epigraphic study, see Petrosyan 2020, p. 330.
5. Karapetyan 2001, p. 213.

2. Site description

The Shahbulag castle is located on the plain, 150 meters east of the antic fortified district (fig. 2). It is a quadrangular fortified castle with semicircular towers in its corners and the middle of its curtain walls (fig. 5-6). Only the central tower of the northeastern curtain wall is square. The upper parts of the walls and the towers are pierced with arrowslits for defending purposes. Inside the fortress, facilities are attached to its eastern, southern and western walls. In the middle of the patio, a small circular basin is still visible.



Fig.5 . Aerial view of the Shahbulag castle, Iconem 2021

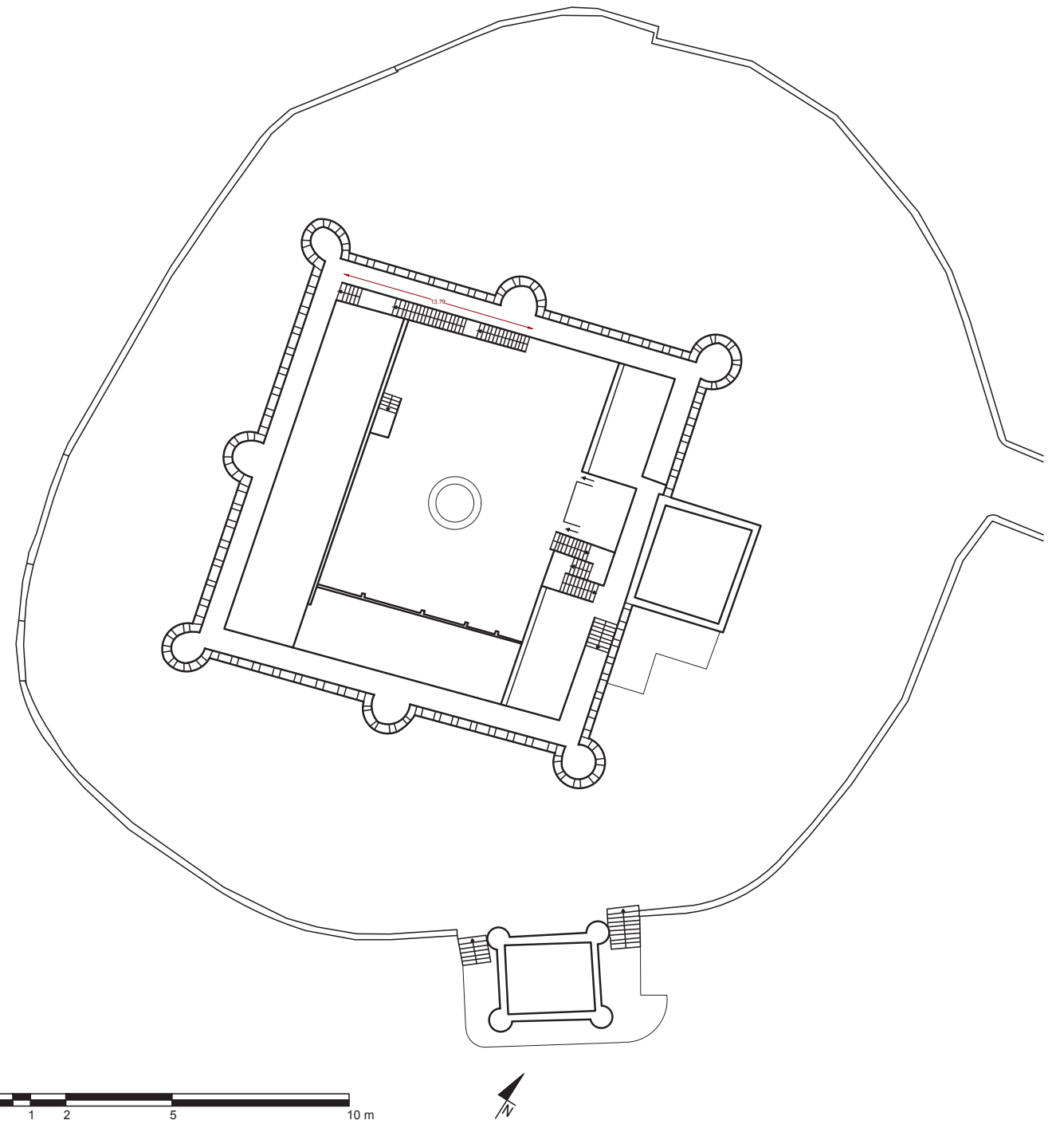


Fig. 6. The architectural plan of Shahbulag's castle (Iconem 2021)

A mosque was built at the same time near the spring sources and the basins, about 100 meters northwest of the fortress (fig. 2-4). It is a small building with a series of three arches on its front façade, leaning on two octagonal pillars (fig. 7). A single entrance leads to a small room, which is the praying hall (fig. 8). A large niche is carved into the southern wall, and a smaller one on the western wall. The dome is pierced by an oculus.



Fig. 7. The mosque's façade (Iconem 2020)

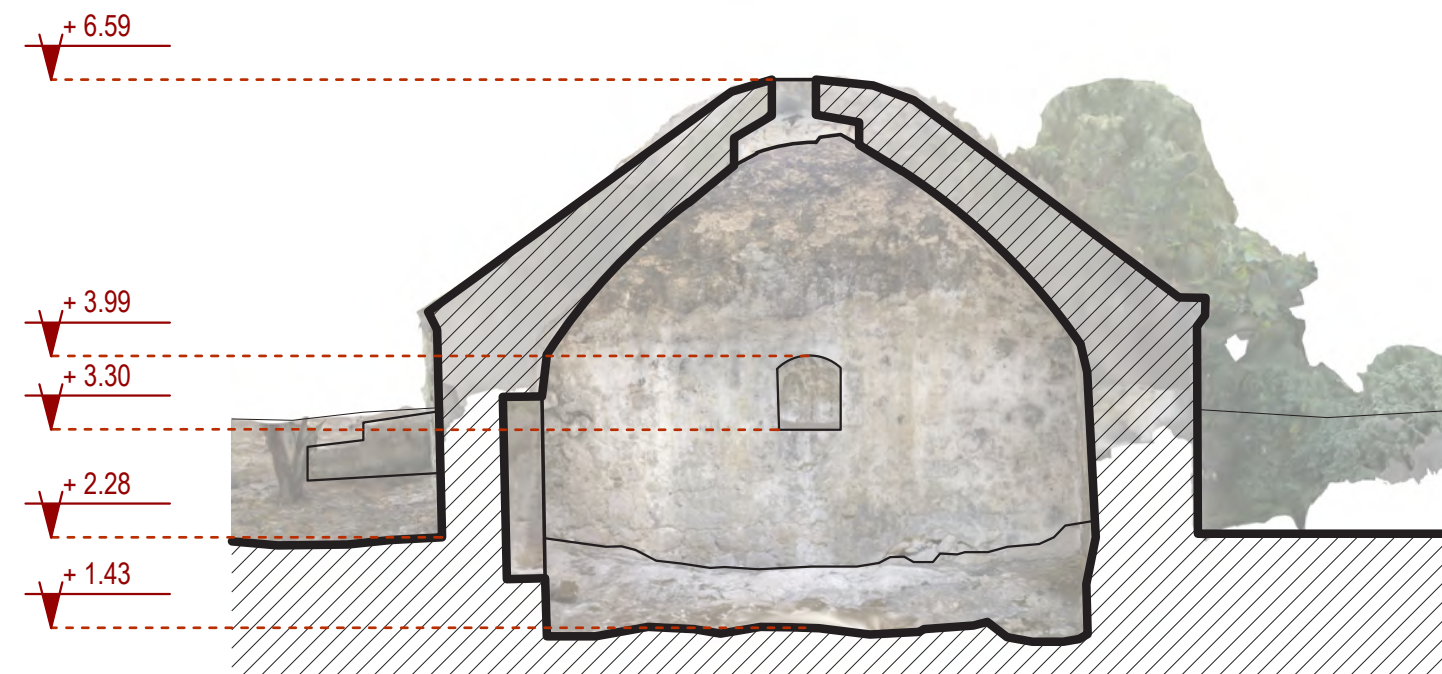


Fig. 8. Western section of the mosque (Iconem 2021)

3. Diagnostic

The fortress was renovated in the 1980's and is therefore stable⁶: however, based on representations dating from the beginning of the 19th century, it appears that the square tower was much higher (fig. 9). From 2010 to November 2020, it was used as the archaeological museum of the site.



Fig. 9. A representation of the fortress in the beginning of the 19th century (Karapetyan 2001, p. 213)

3.1 Structure

The castle was rebuilt in 1980. Many molding elements seem to have disappeared. The building is entirely built of massive stone masonry. The claddings of the walls are made of dimension stones and the width of the walls is filled with rubble stones assembled with lime mortar. Given the recent restoration it has undergone, the castle's stability is good. The small mosque, however, is in poor condition.

3.2 Humidity

The castle's terraces, made of fitted and adjoined stone slabs, do not present any weak points and appear to be in good overall condition. There are no traces of humidity infiltration. The castle being placed on a hillock, the risks of capillary rise through the ground are minimal. As for the small mosque, it is placed near a source, in a wet area.

Emergency prescriptions: No emergency prescriptions are to be taken for the castle, apart from the regular maintenance of the terraces, their weeding and the maintenance of the joints. As for the small mosque, heavy maintenance work is expected. The sanitation of the area could be analysed with the creation of a perimeter drain at the foot of the building's foundations. Furthermore, a renovation of the roof should be considered.

3.3 STABILITY

Neither the castle nor the mosque present any apparent disorder.

4. MEASURES OF SAFEGUARDING AND VALORIZATION

Since the castle was restored in 1980, it does not call for special measures. The lime repointing of the mosque's side walls should be considered as well as the repair of the roof.

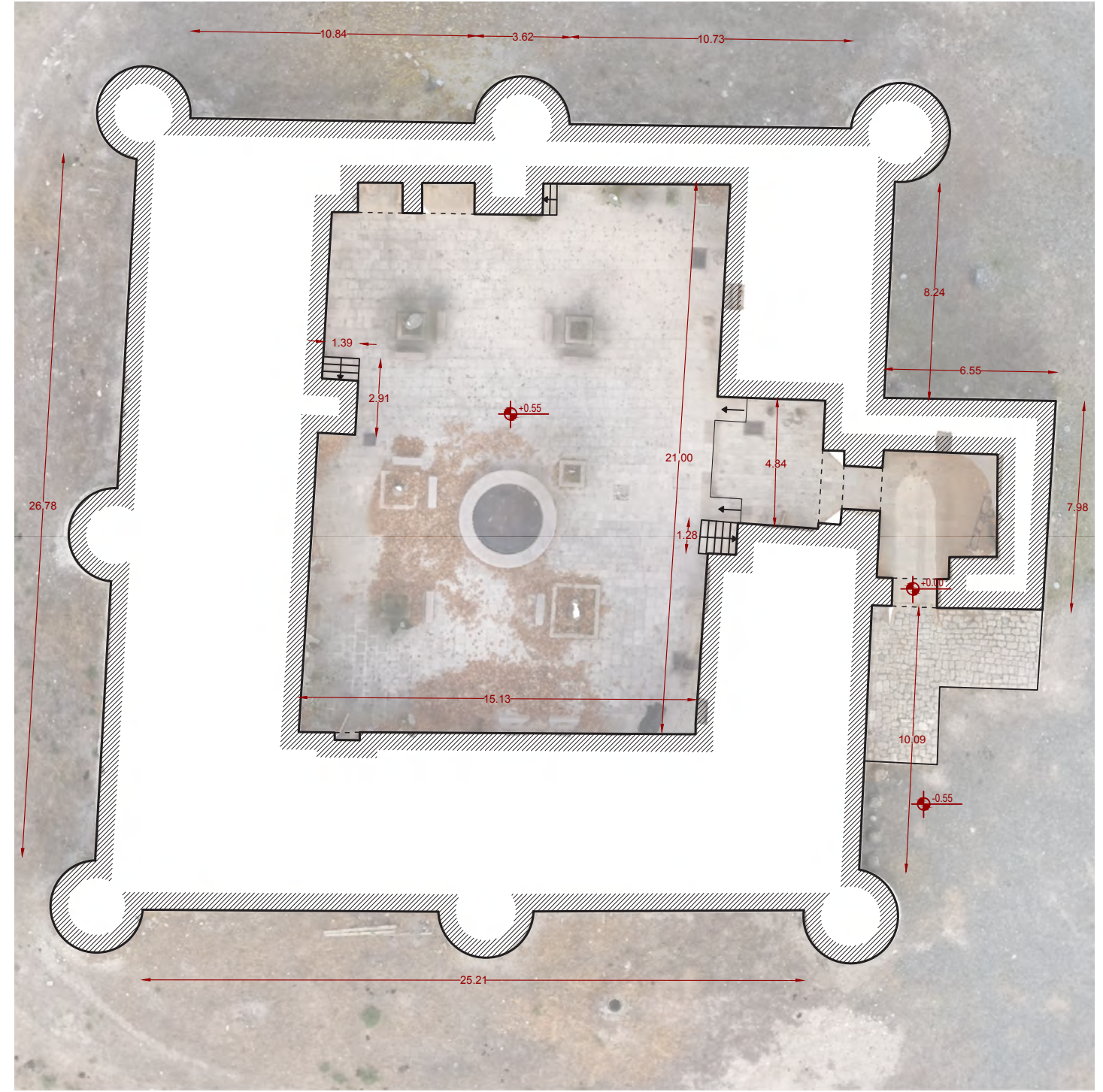
6. Karapetyan 2001, p. 213.

5. Boards

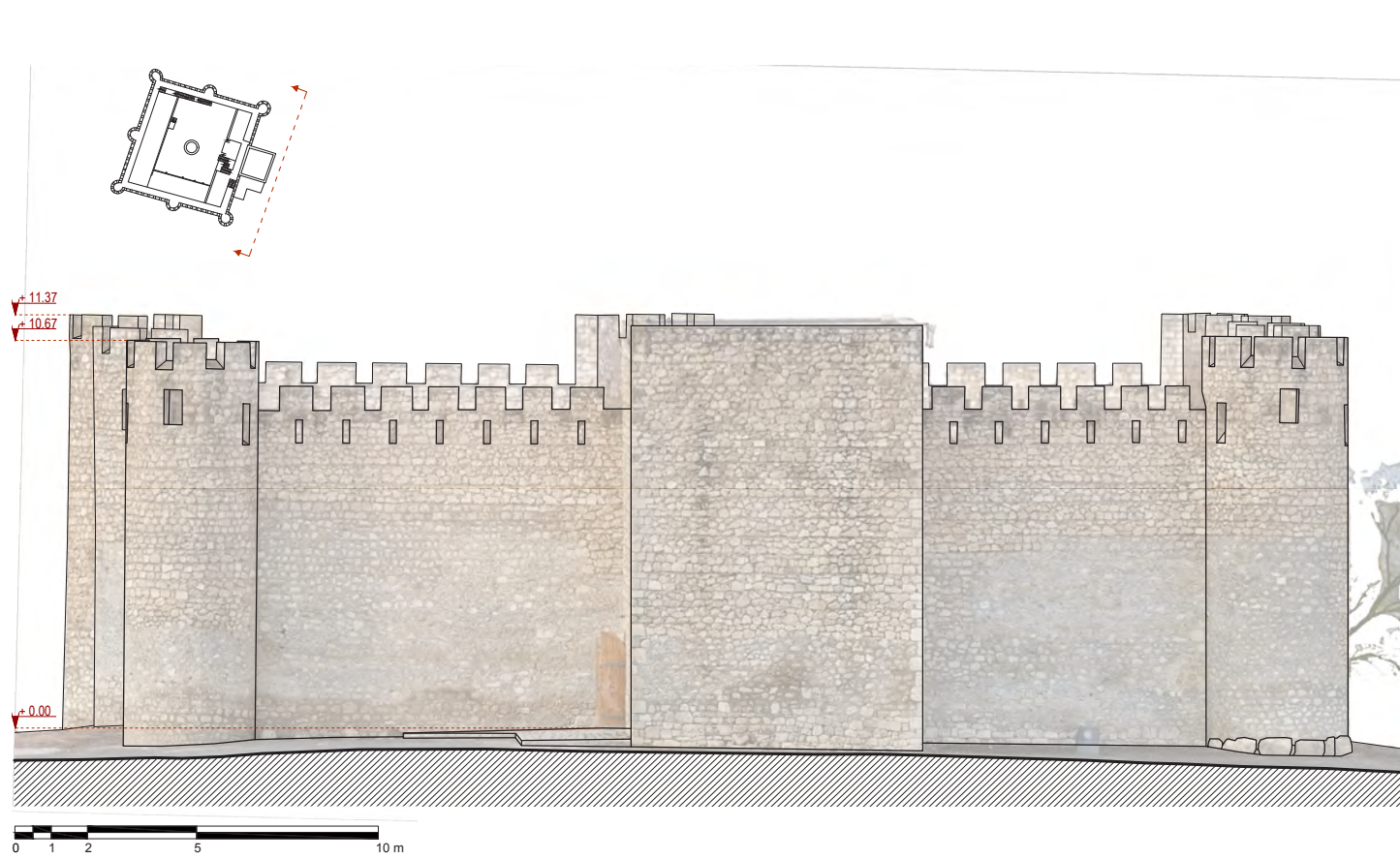
5.1 The Shahbulag castle



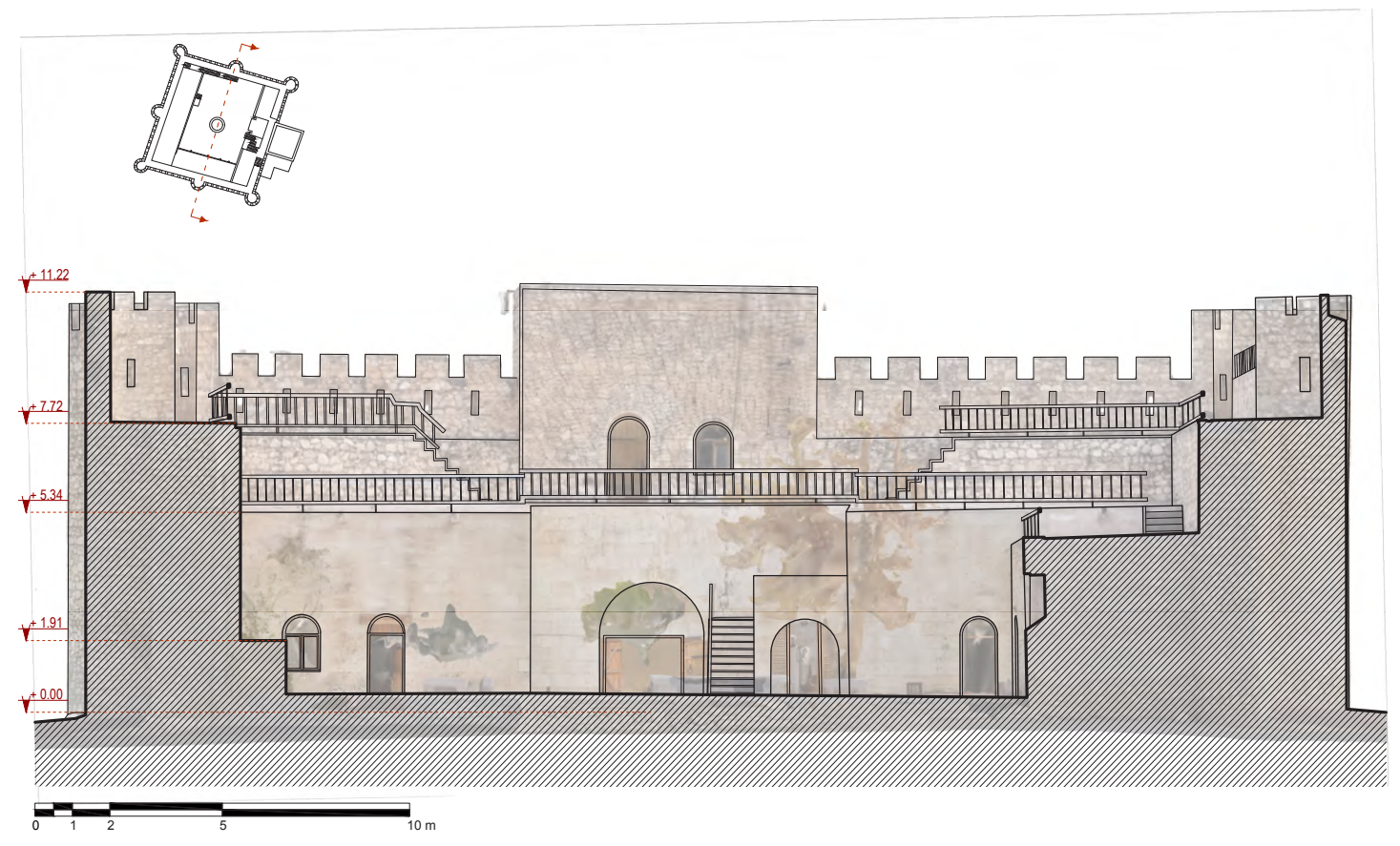
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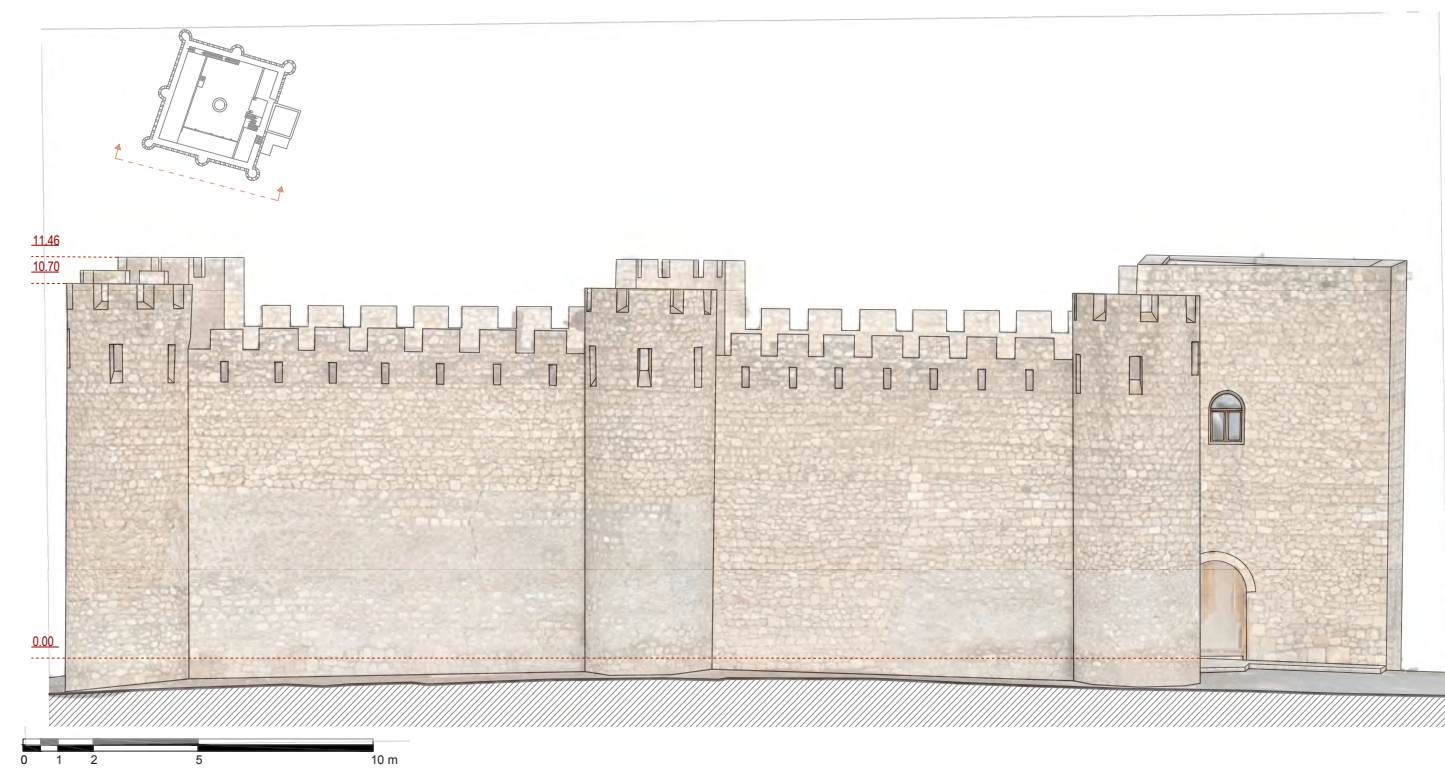
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Iconem 2021
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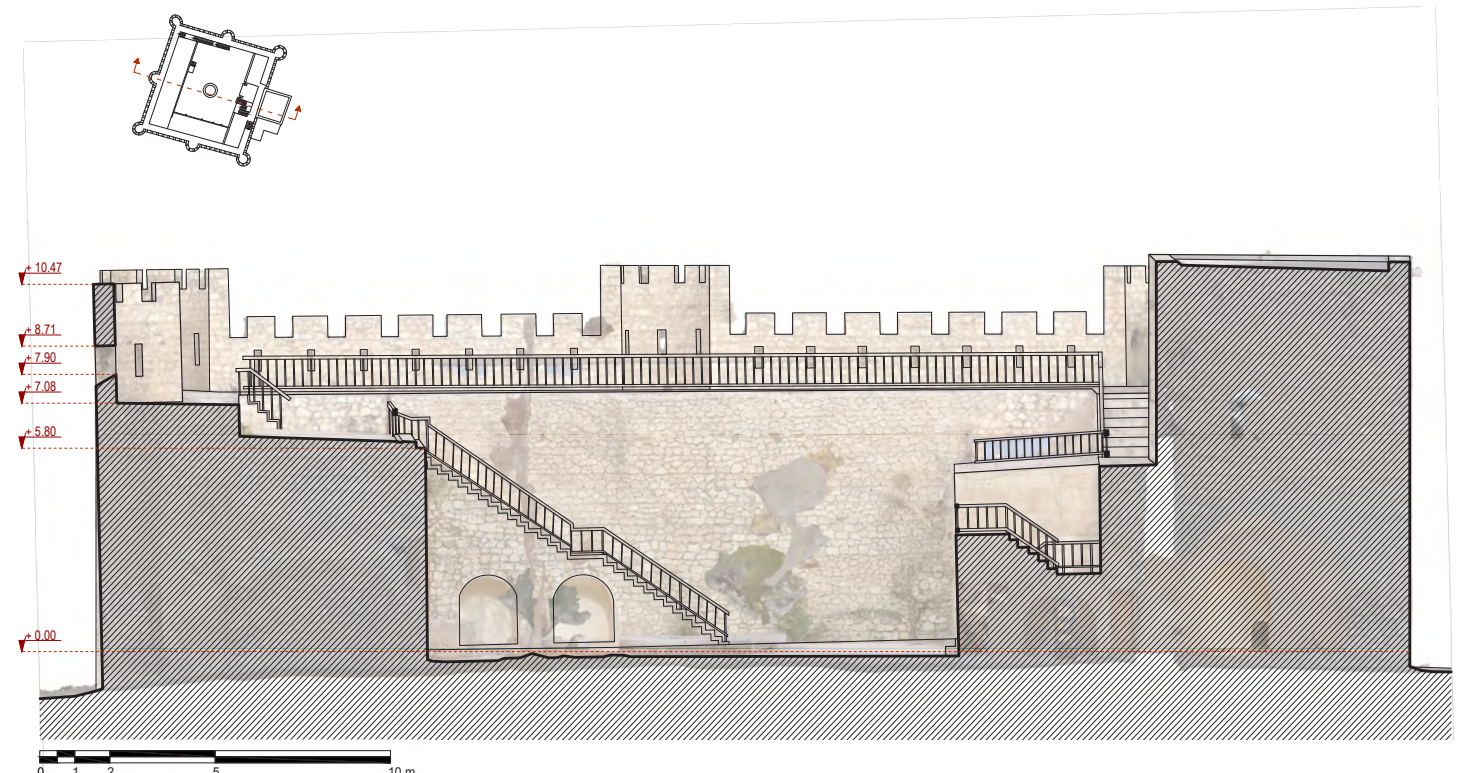
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Iconem 2021



Section 1
Iconem 2021



South facade
Iconem 2021

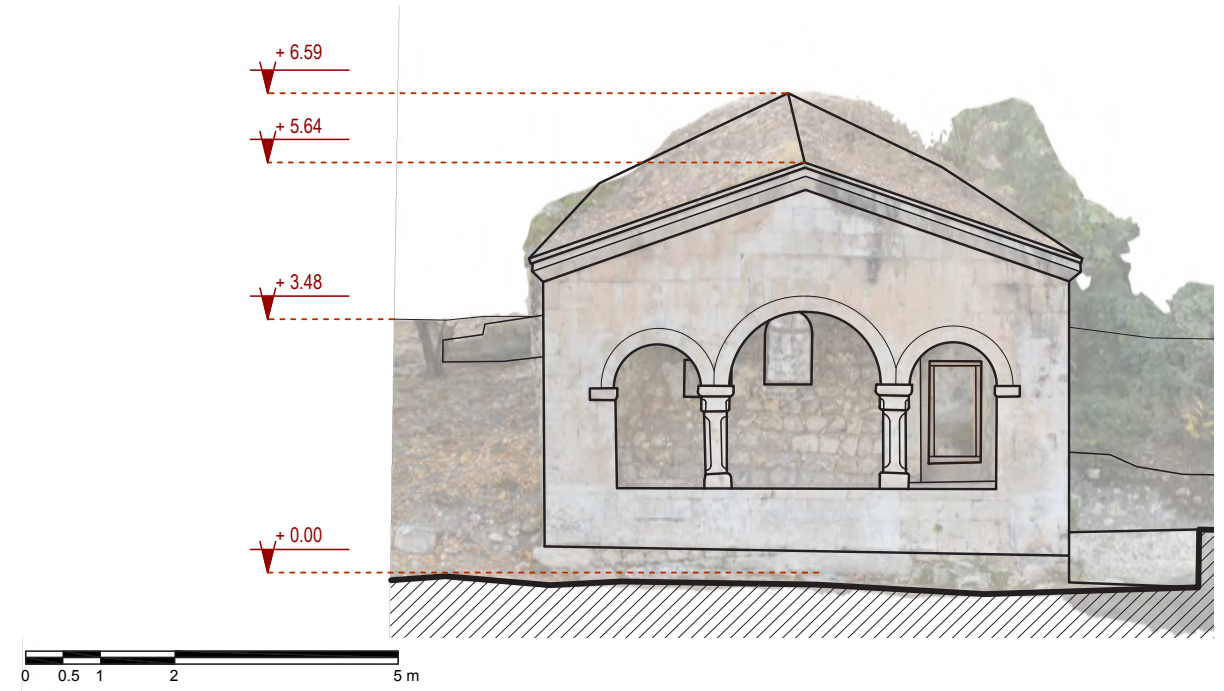


Section 2
Iconem 2021

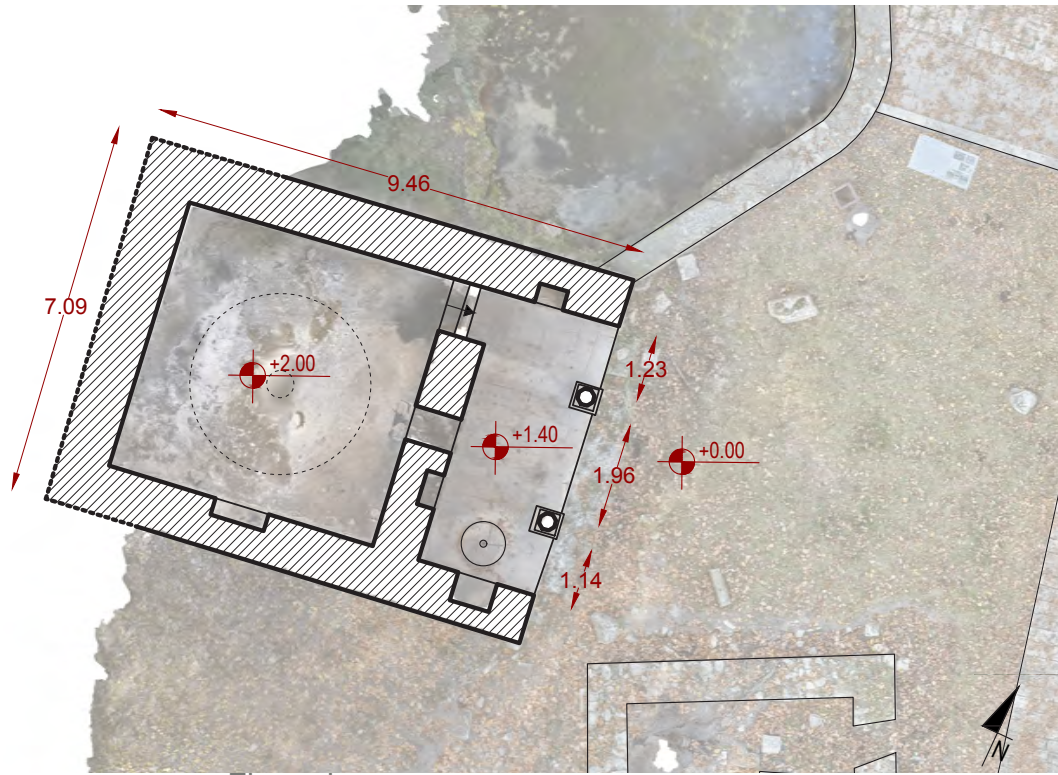
5.2 The springs



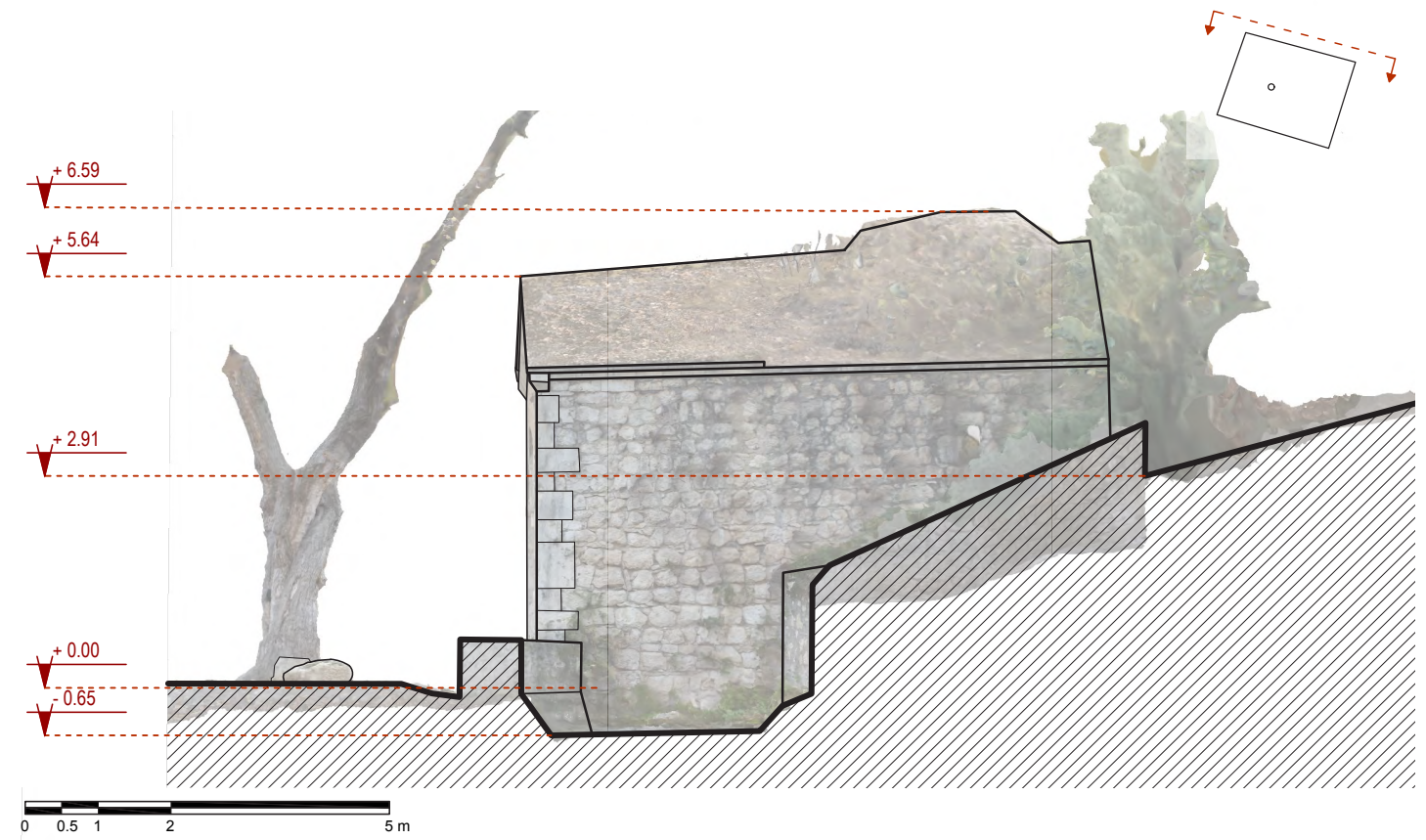
Site plan
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East facade
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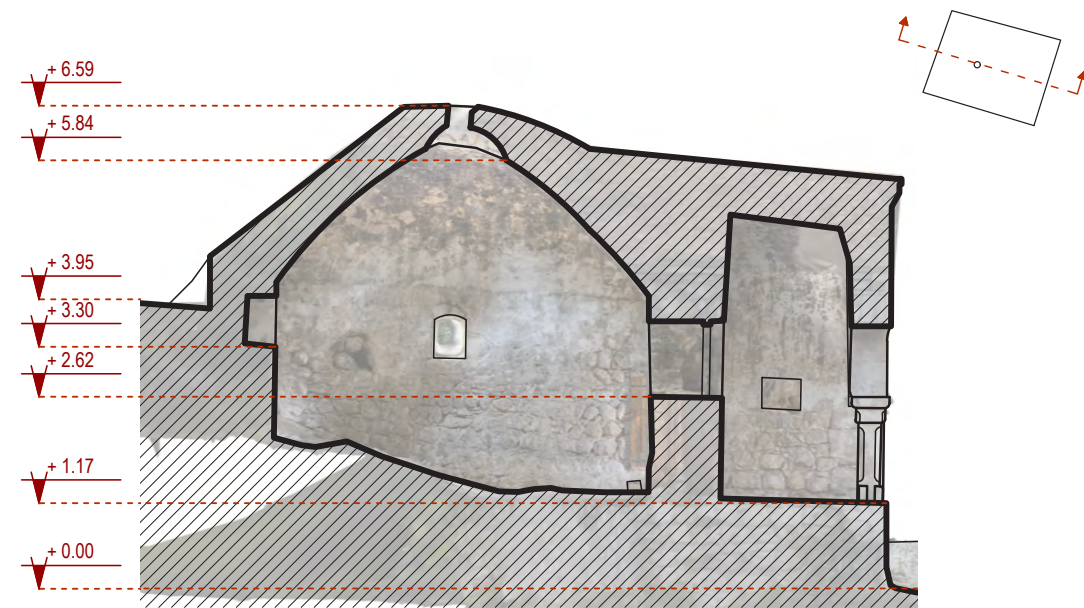


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North facade
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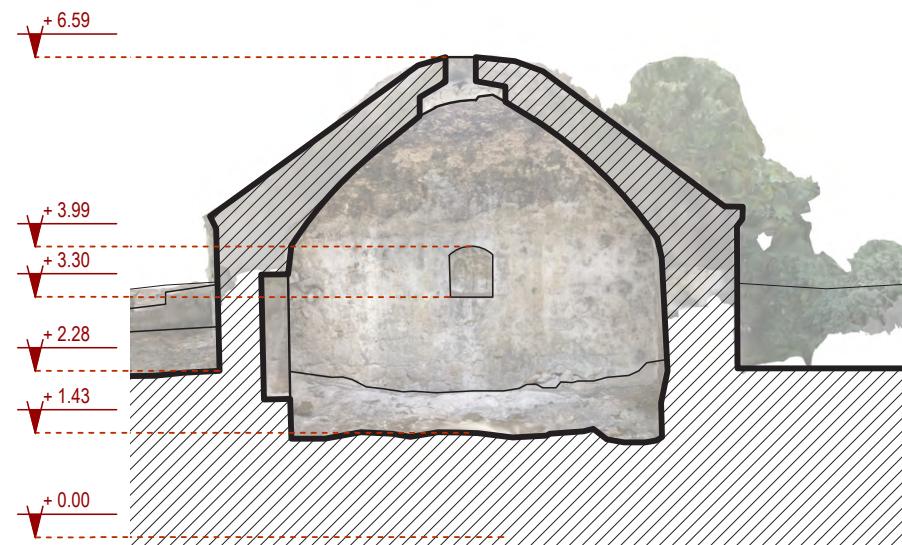


Section : East/West
Iconem 2021



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Section : North/South
Iconem 2021



Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 1. Georeferenced ortho-image of Arakhis Upper Church extracted from the textured 3D scan (Iconem 2021)

ARAKHIS UPPER CHURCH

| | |
|-------------------------------|--|
| Coordinates: | 39.861151, 46.389191 |
| Locality : | Near the village of Arakhish / Arekli |
| Region: | Lachin |
| Site type: | Church |
| Dating: | 1246 / 16th-17th c. |
| Photogrammetry survey: | Iconem - 24/11/2020 |
| Diagnostic: | 09/2021 |

1. General History

The village of Arakhish is divided in two parts conventionally named upper and lower Arakhish, or Arekli according to the Kurdish denomination. The history of the site is still uncertain since specialists are not sure if the village corresponds to the village of "Arkuget" mentioned in the *History of the Country of Albania* of Movses Dasxurantsi (10th c.)¹ or the village of "Arko", mentioned in the *History of Syunik* (13th c.) of Stepanos Orbelian.

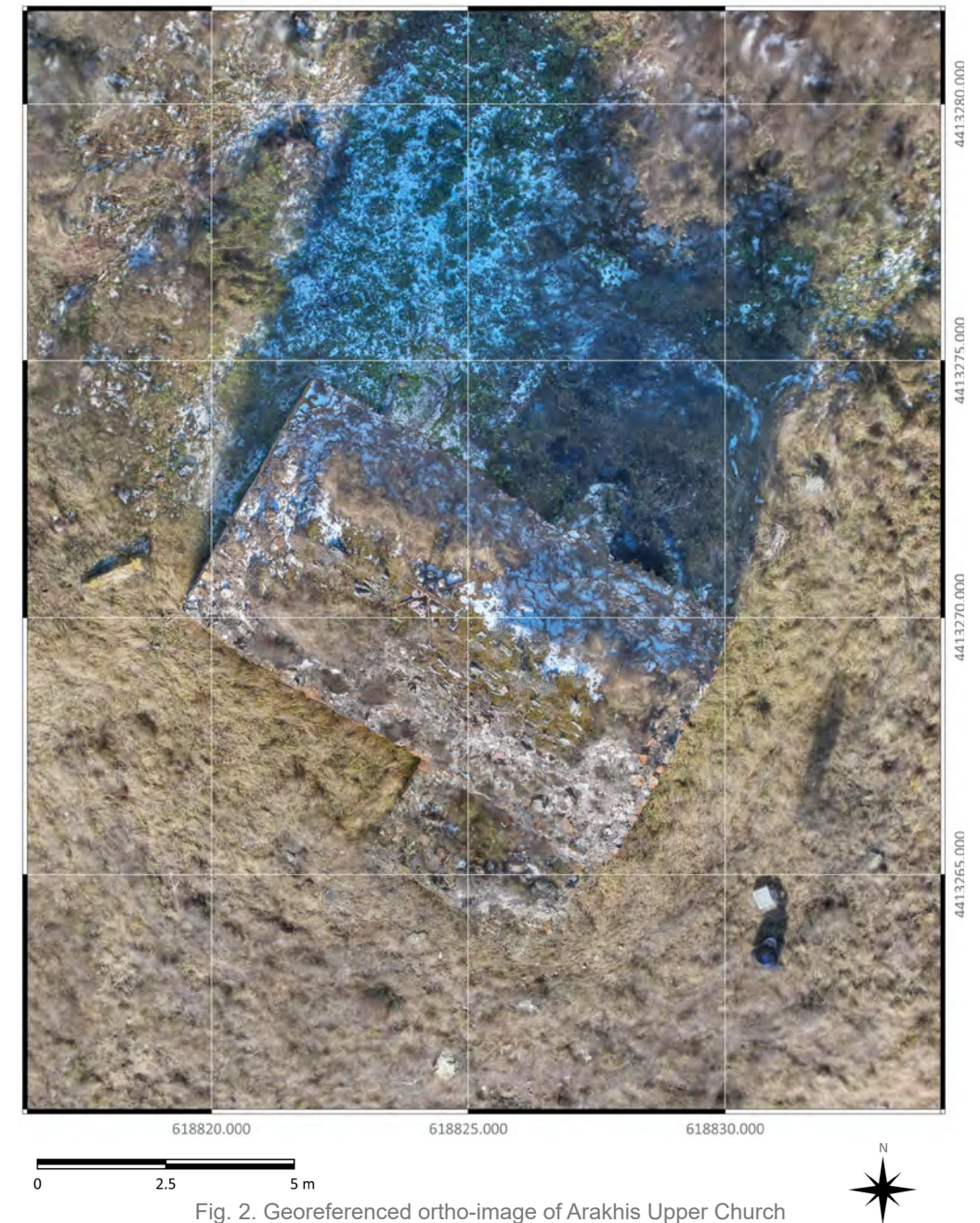


Fig. 2. Georeferenced ortho-image of Arakhis Upper Church extracted from the textured 3D scan (Iconem 2021)

1. «When the (Arab) commanders reached Syunik and took captives in the town of Baghatsn, they stopped in the province of Aghahej, in the village named Arkugetn and immediately ordered to burn the church, named after Saint Gregory.» (translation by Karapetyan 2001, p. 162).

2. Site description

The church called Zorakhach is located around 3 km north-west of the village of Arakhish (fig. 1-2). It is a single nave basilica with an inscribed apse, which means it is rectangular from the outside but semi-circular on the inside. Two salient sacristies flank the apse on its southern and northern sides, which were directly connected to it through doors that have been filled by rocks. For this reason, it was not possible to document these rooms, however their dimensions appear in S. Karapetyan's plan (fig. 3-4). The roof is quite damaged on its exterior, but well preserved from the inside with a semi-circular vault (fig. 5-6).

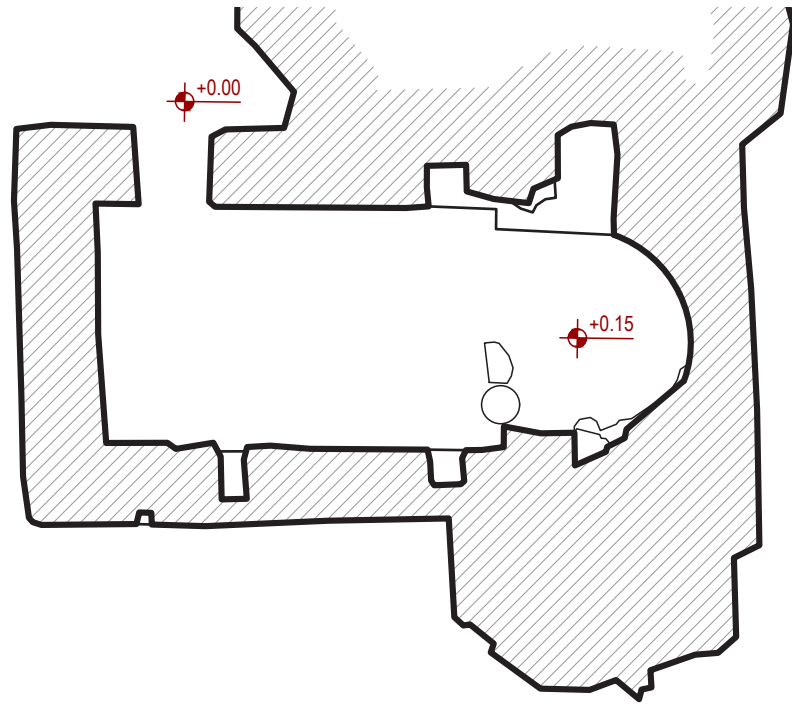


Fig. 3. Plan of the church (Iconem 2021)

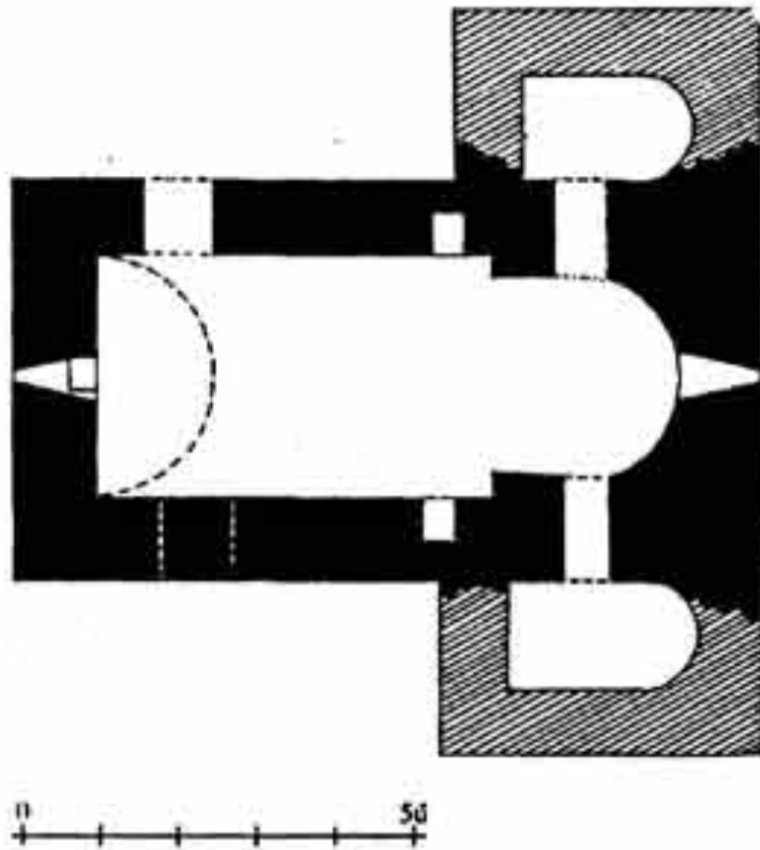


Fig. 4. Plan of the church according to S. Karapetyan (Karapetyan 2001, p. 161)



Fig. 5. The church's apse (Iconem 2020)

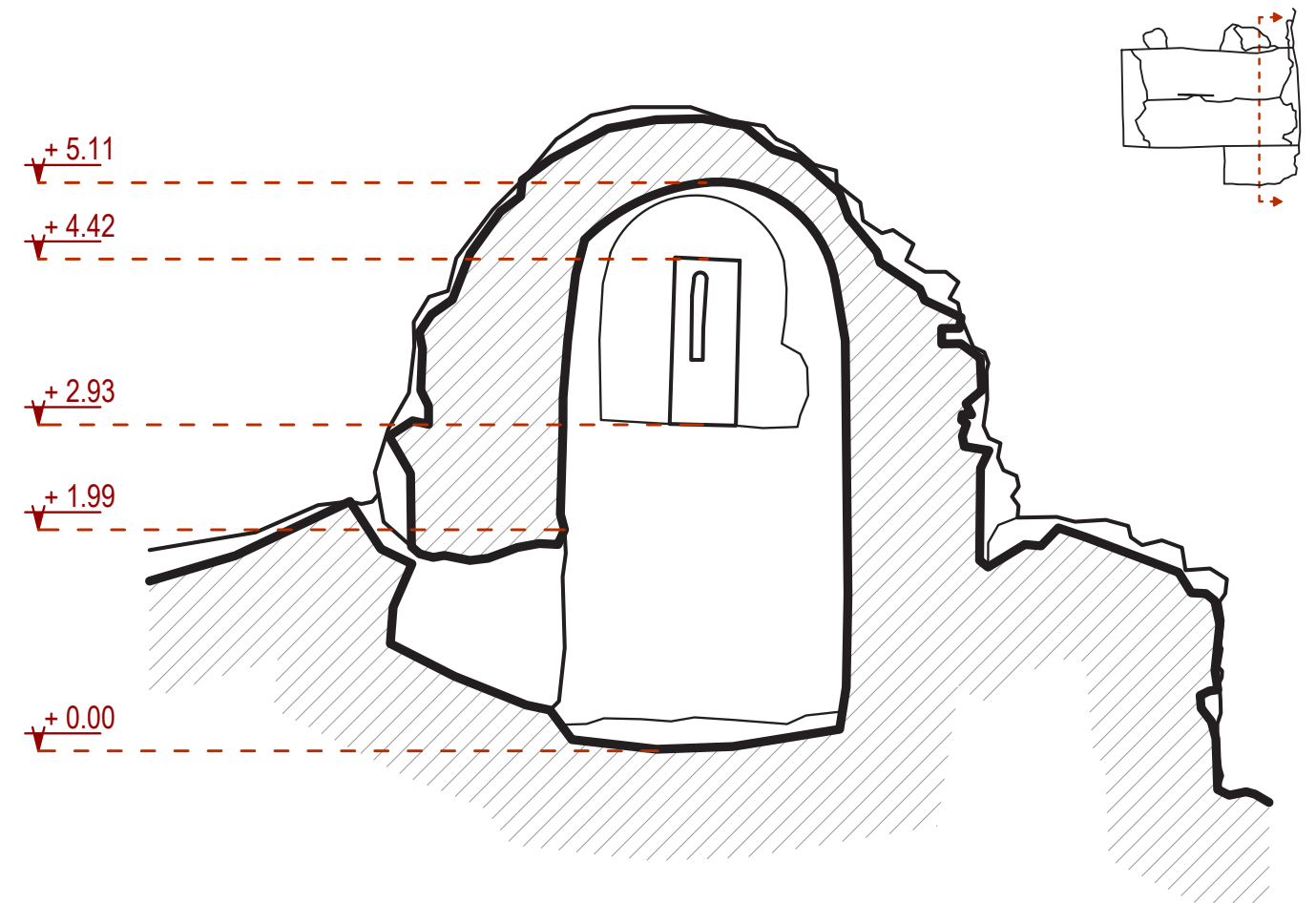


Fig. 6. Section of the church (Iconem 2021)

The church was built with coarse stones assembled with mortar. There is one entrance to the church on the northern façade, but another one would have been on the southern façade, which is now closed². A *khachkar* has been placed in front of the filled opening, on the interior (fig. 7). Inside the church, traces of plastering can be observed on the walls. The *bema* was elevated but the floor has not been well preserved.



Fig. 7. The southern entrance now closed (Iconem 2020)

A couple of carved stone blocks have been reused on the eastern and western façades. The one on the eastern façade is a 16th-17th century tombstone with a figurative scene (fig. 8). Inside the church, a stone block placed over the window of the apse is carved with a dedicatory inscription dated from 1246³, which was used to date the church (fig. 9). However, architectural criteria allow dating it around the 17th century. According to S. Karapetyan, it was built in order to replace the previous ruined church of Arakhish⁴.



Fig. 8. A 16th-17th century tombstone (Iconem 2020)



Fig. 9. A dedicatory inscription over the eastern window (Iconem 2020)

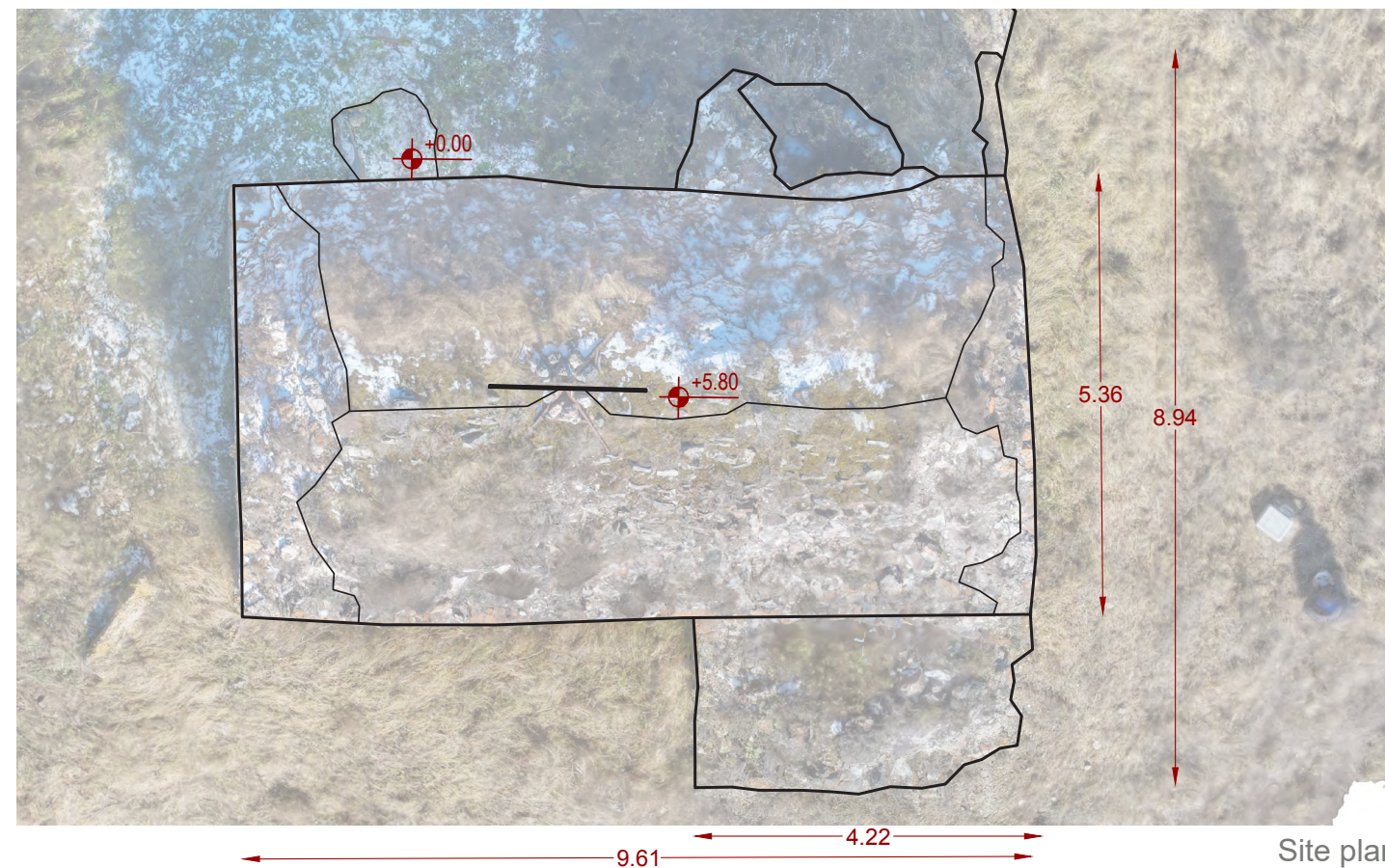
The church is standing but quite damaged. Both sacristies have collapsed. The roof is particularly deteriorated and covered by vegetation. Several parts of the façades are deteriorated because of the dismantling of the stones, such as on the north-western corner. The rubble of modern buildings can be seen around the church.

2. Karapetyan 2001, p. 162.

3. The inscription reads « the year 1246 [...] Armenia [...] in the principality of Ta[...] the son of master kon[...] our. » (Karapetyan 2001, p. 162). The inscription is partly covered by the masonry, disturbing the reading.

4. *Idem*.

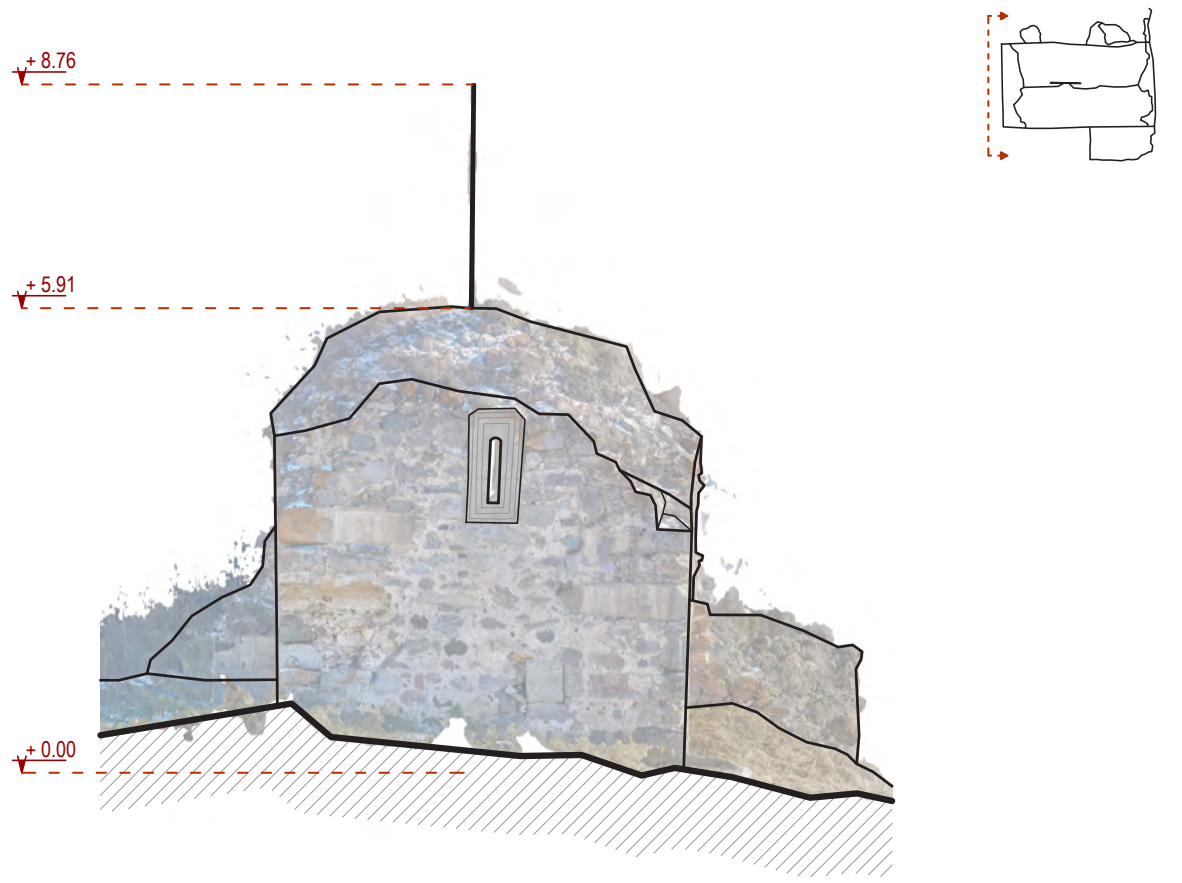
3. Boards



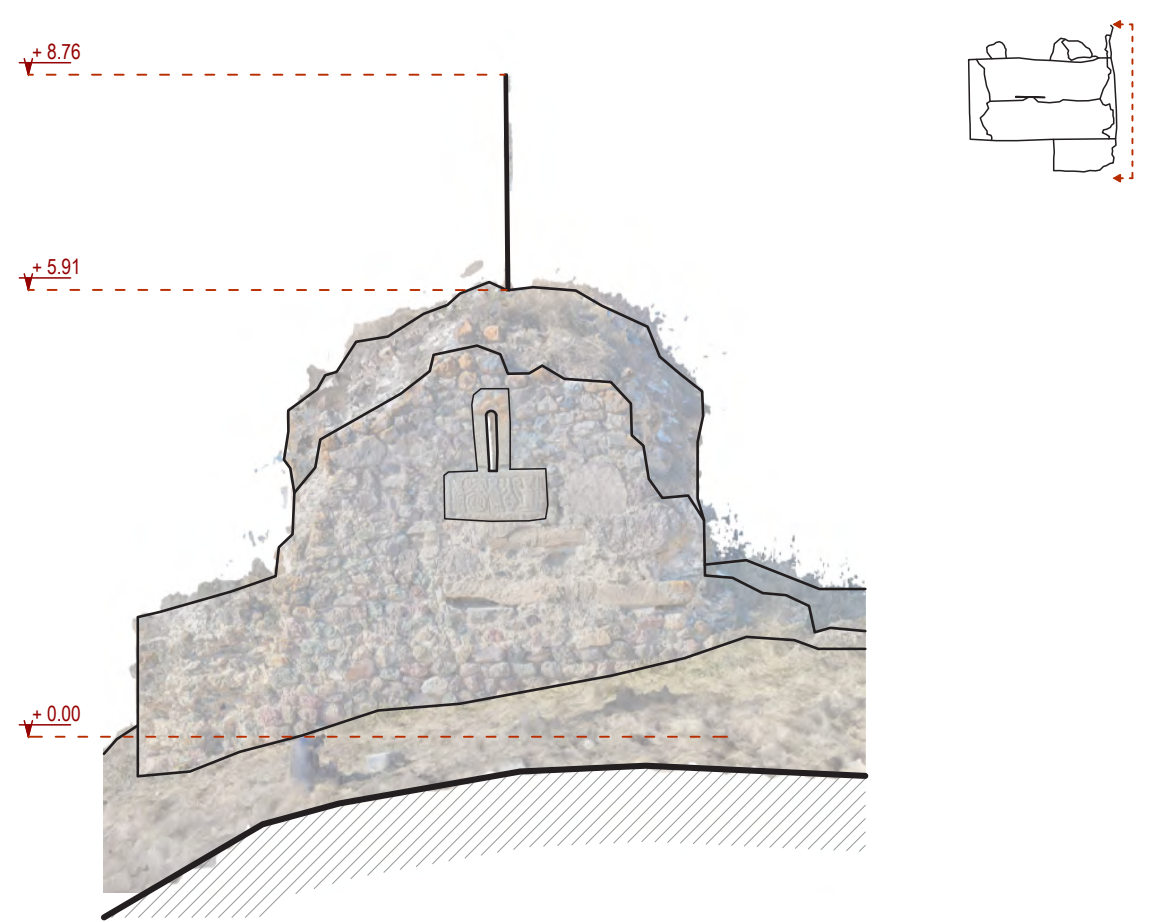
Site plan
Iconem 2021



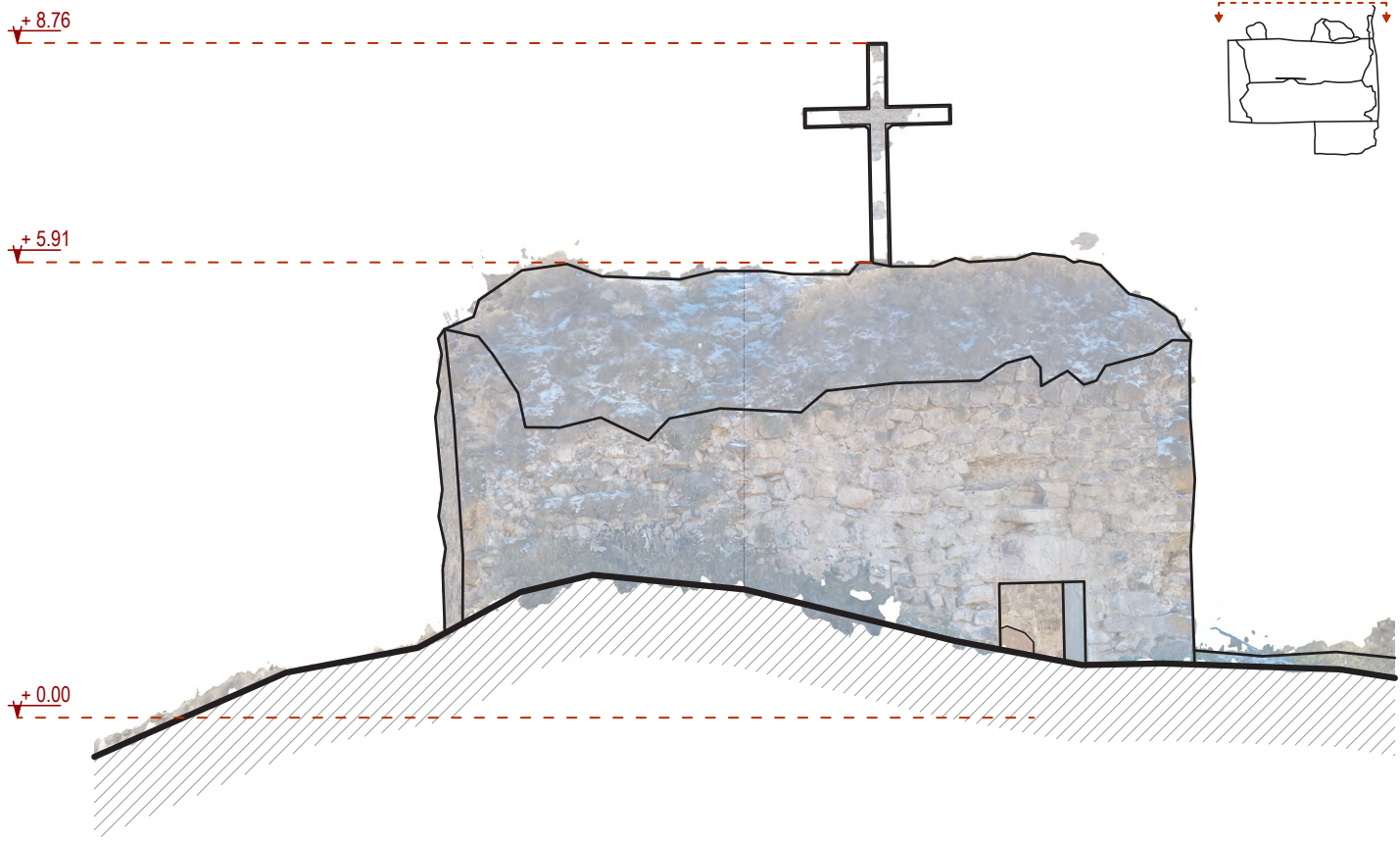
Floor plan at +1.50 m
Iconem 2021



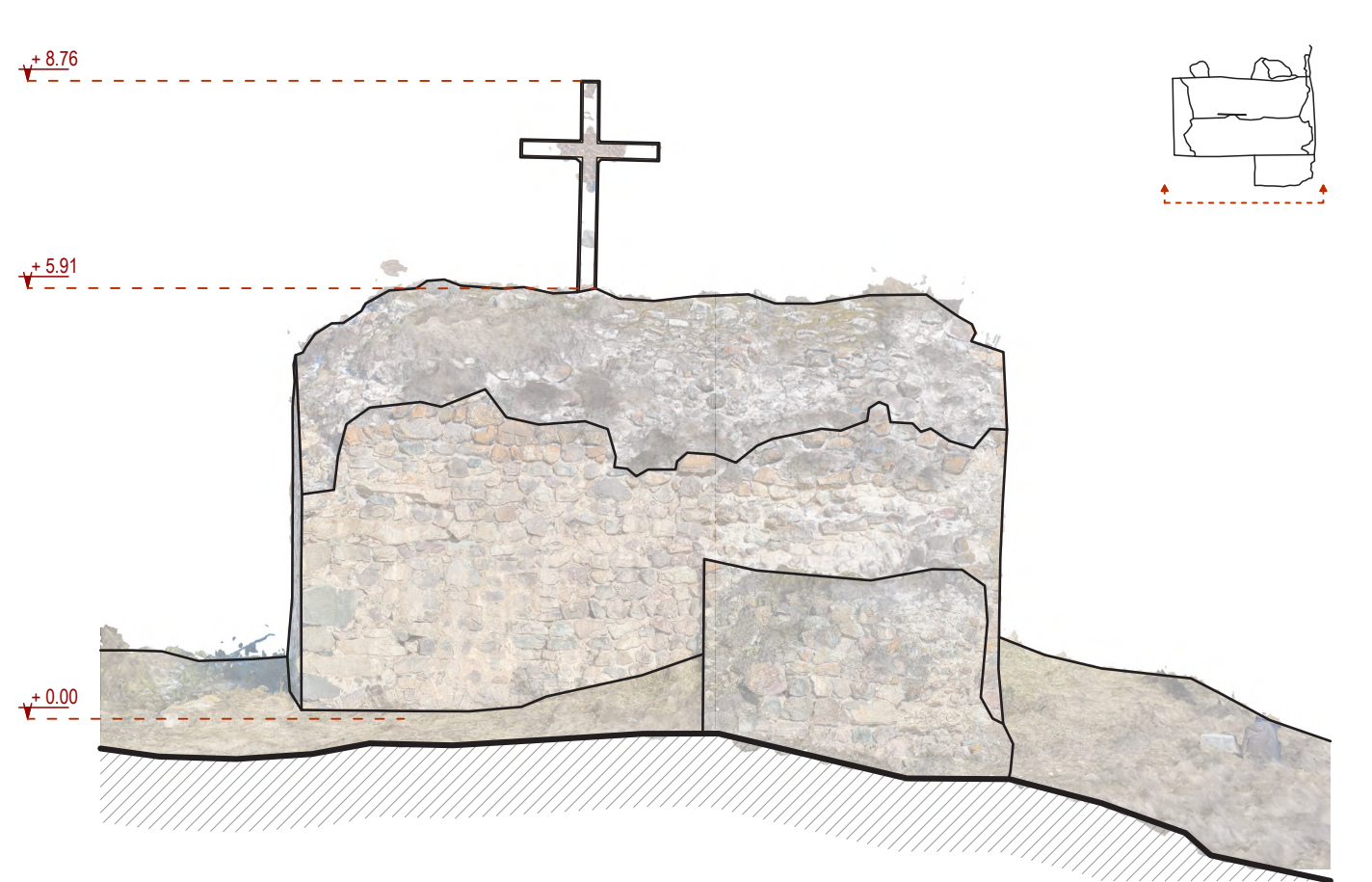
West Facade
Iconem 2021



East Facade
Iconem 2021

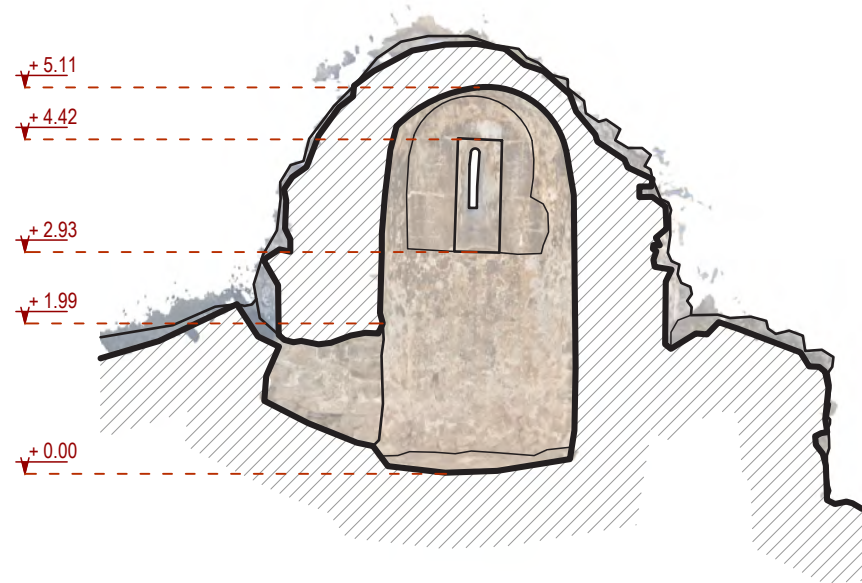
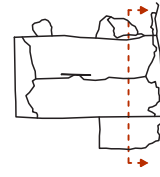


North Facade
Iconem 2021

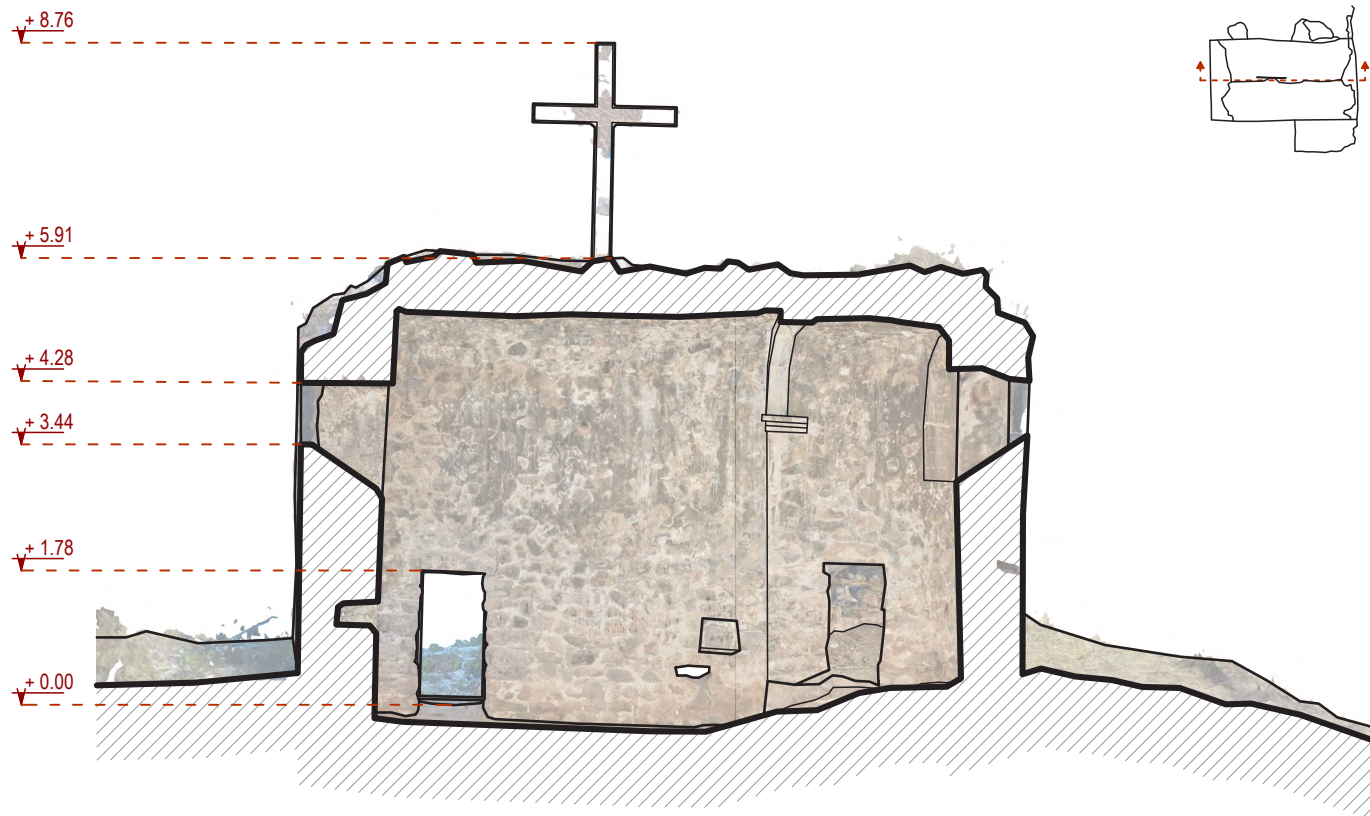
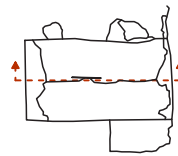


South Facade
Iconem 2021





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Fig. 1. Georeferenced ortho-image of Hochants cave-church extracted from the textured 3D scan (Iconem 2021)

HOCHANTS CAVE CHURCH

| | |
|-------------------------------|--|
| Coordinates: | 39.681103, 46.472014 |
| Locality : | Hochants |
| Region: | Kashatagh / Lachin |
| Site type: | Cave church |
| Dating: | 11th- 13th- 17th centuries |
| Photogrammetry survey: | Iconem - 30/11/2020 |
| Diagnostic: | 09/2021 |

1. General History

Discovered in the early 2000's¹, the cave church probably coincides with the church of Hochants mentioned by several ancient authors such as Hovhannes Draskhanakertsi (10th c.), Stepanos Orbelian (13th c.), Arakel Davrijetsi (17th c.) and Zakaria Kanakertsi (17th c.)². The historian Arakel Davrijetsi brings significant details: according to him, in the beginning of the 17th century, two bishops named Thovma and Kirakos decided to found a hermitage in the village of Hochants after graduating from the university of Tatev monastery. Thereafter, Kirakos retreated in a "desert near the Hochants village in seclusion", where he was buried in 1620³.

The cave complex has therefore been identified as this desert. A pagan origin used to be attributed to the caves, but recent studies tend to discard this hypothesis⁴.



Fig. 2. Aerial view of Hochants cave-church (Iconem 2020)

1. The site was discovered by a speleological team led by Samvel Shahinyan, which is the only scholar to our knowledge who has studied and published it (see bibliography).
2. Shahinyan *et al.* 2017.
3. « Father Kyrakos and bishop Thovma went to the Hochants village in the land of Kshtagh, and built a desert and lived there. [...] And father Kyrakos, who went to Hochants, stayed in the desert near the Hochants village in seclusion, with religious ardor, and died there in the year 1620, and passed to his beloved Christ, in whom he trusted deeply and worshipped constantly, and there is an honorable memory of him, his body buried in that place, to the glory of Christ the blessed God, forever. Amen. » (translation of Arakel of Tabriz in Karapetyan 2001, p. 157)
4. This interpretation appears in a publication leaning on field material collected from 1931 to 1961 (Yampolsky 1962, p. 200). About the new study, see Gunko *et al.* 2016.

2. Site description

The site is a troglodyte monastic complex extending on an escarpment near the village of Hochants, in the region of Lachin (fig. 1). Only the centre of the monastic complex has been digitalized (the main church, an annex space and a few cellars) (fig. 2), but the numerous cellars extending over 165 meters along the cliff probably belonged to the monastery.

The main structure of the monastic complex is a single-nave rock-cut church with an elevated apse facing northeast identified with the number 3 by S. Shahinyan (fig. 3). It has been suggested that the church was first two-storied and then transformed into one large building in the 12th century⁵.

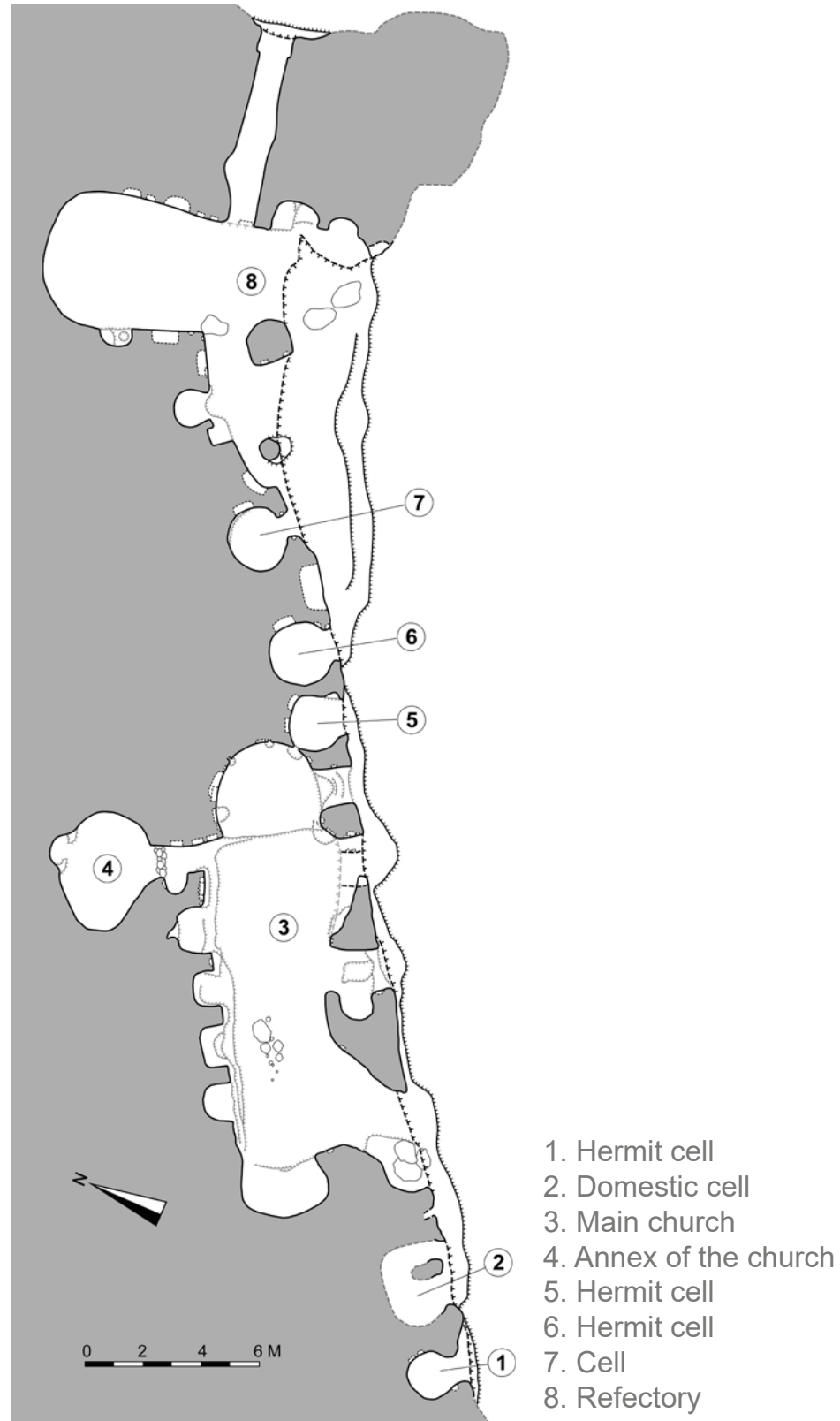


Fig. 3. The plan drawn by S. Shahinyan (Shahinyan 2017, fig. 2)

There are three entrances and two openings, one of them lightening the apse (fig. 4). Four arched niches are carved on the north-western wall, and one large niche is facing the apse, on the southwest (fig. 5). According to S. Shahinyan, the four arched niches were cut in the 17th century when the monastery turned into a priory⁶. A small room is cut on the northern side of the apse (fig. 6), identified with the number 4 (fig. 3). Also, a large number of smaller niches are carved inside the church (including blind arches) : these could have had a liturgical function as well as a decorative one.

Besides the church, there is another large cave with rock-cut columns (fig. 7), identified with the number 8 (fig. 3). Several niches of different sizes are also carved on the interiors. Most likely, it served as the refectory of the monks, which was also mentioned by Arakel Davrijetsi⁷. A narrow rock-cut corridor opens on the north-eastern side of the room and goes into the precipice, which Shahinyan believes was the only entrance that originally lead to the monastery for safety purpose.



Fig. 4. The church's apse (Iconem 2020)

5. Shahinyan 2002.

6. Shahinyan *et al.* 2017.

7. Gunko *et al.* 2016.

There are many rock-cut dwellings on the escarpment near the church, probably the monks' cells (fig. 2). Beside the monastic complex, other rock-cut structures have been identified below in the ravine and in flanking the river (although the insides have not been digitized), which, according the S. Shahinyan, could have been structures with "civil and public significance or remnants of a former settlement"⁸. Therefore, he concluded that although the site is quite secluded and inaccessible, it would not have been a hermitage where the monks were isolated from the society but, on the contrary, a densely-populated site with a church that was quite popular⁹.

The church had two more halls, but the south-eastern wall has collapsed and only ruins have been preserved, probably because of an explosion¹⁰. S. Shahinyan believes that the monastery was abandoned in the end of the 17th century when the Persians populated the area with Kurdish population and that the looting and destructions continued in the Soviet times¹¹.



Fig. 5. The niches carved into the north-western wall (Iconem 2020)



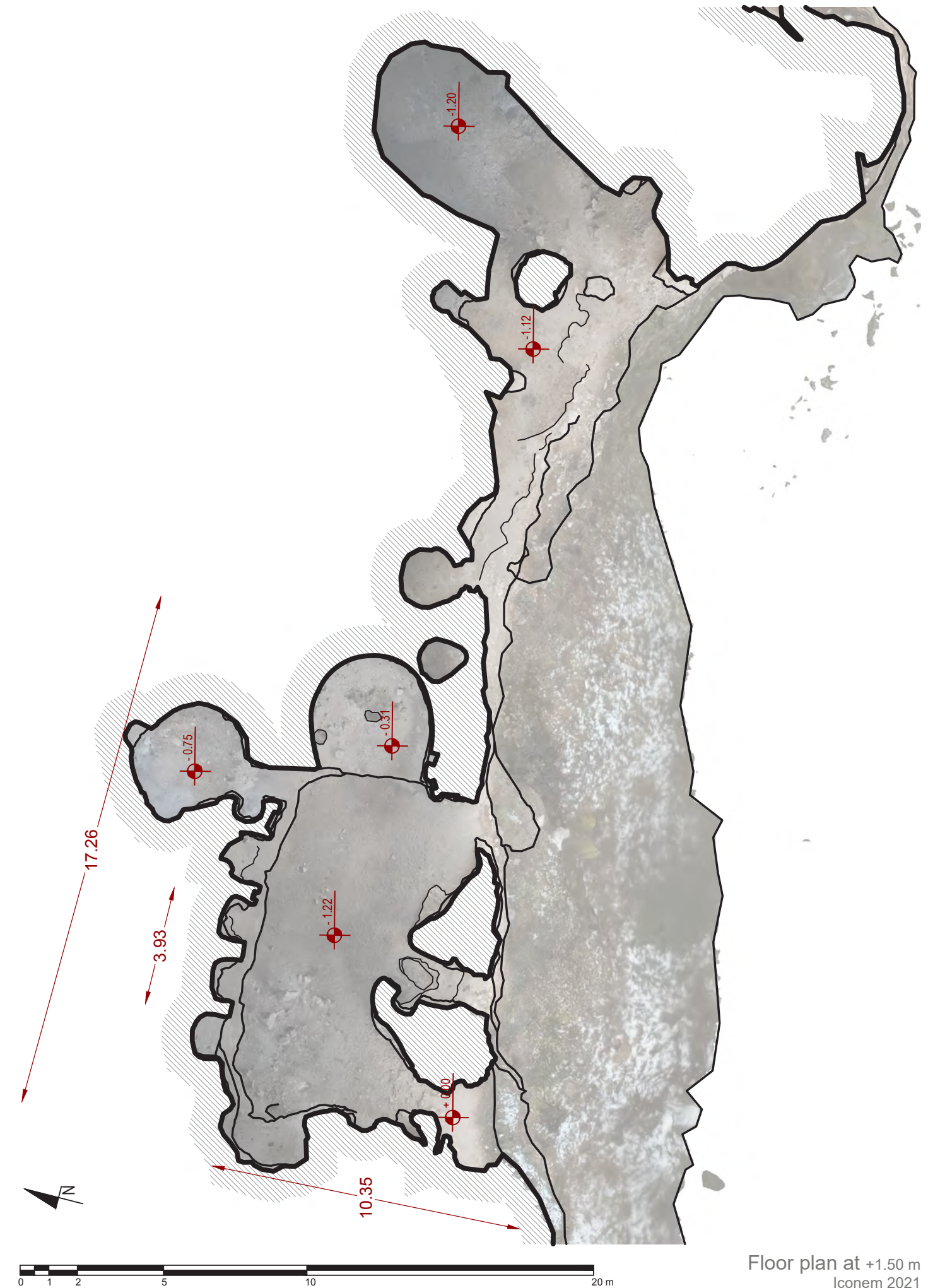
Fig. 6. The church's annex on the northern side of the apse (Iconem 2020)



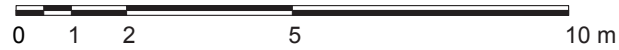
Fig. 7. Aerial view of the refectory (?) (Iconem 2020)

8. Shahinyan *et al.* 2017.
 9. Shahinyan 2002.
 10. Shahinyan *et al.* 2017.
 11. Gunko *et al.* 2016.

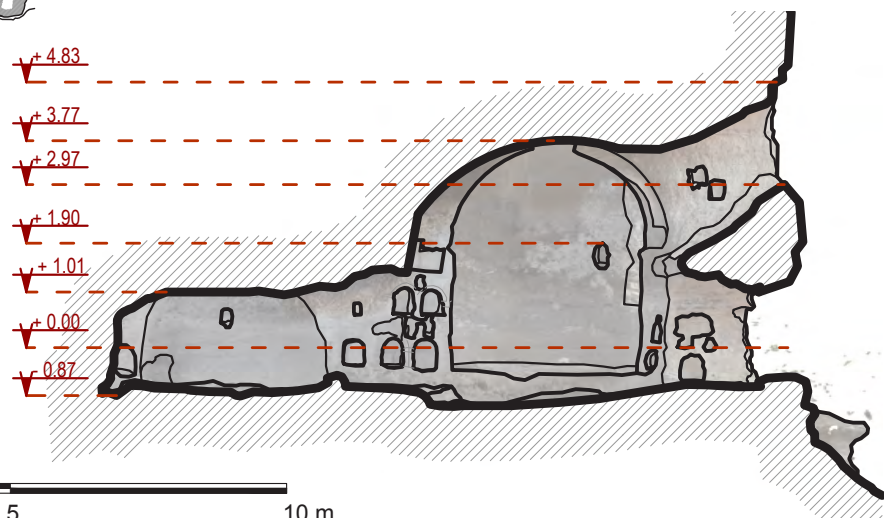
3. Boards



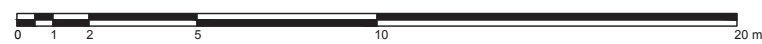
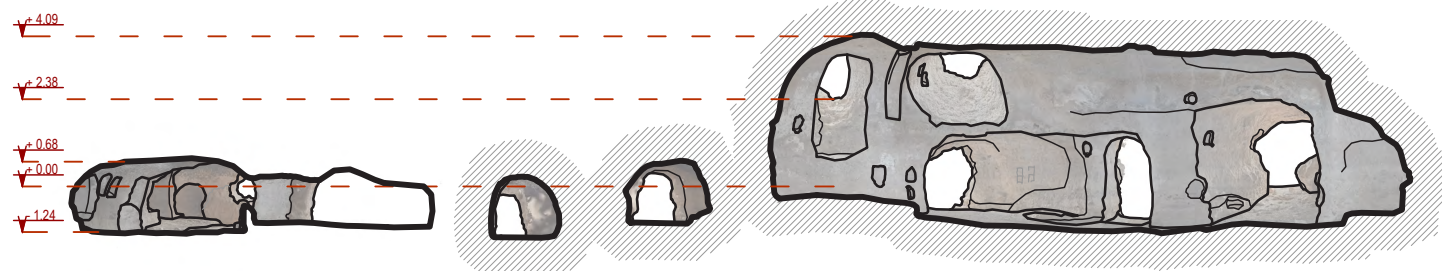
Floor plan at +1.50 m
 Iconem 2021



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KHACHENAGED CAVE CHURCH COMPLEX

Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638

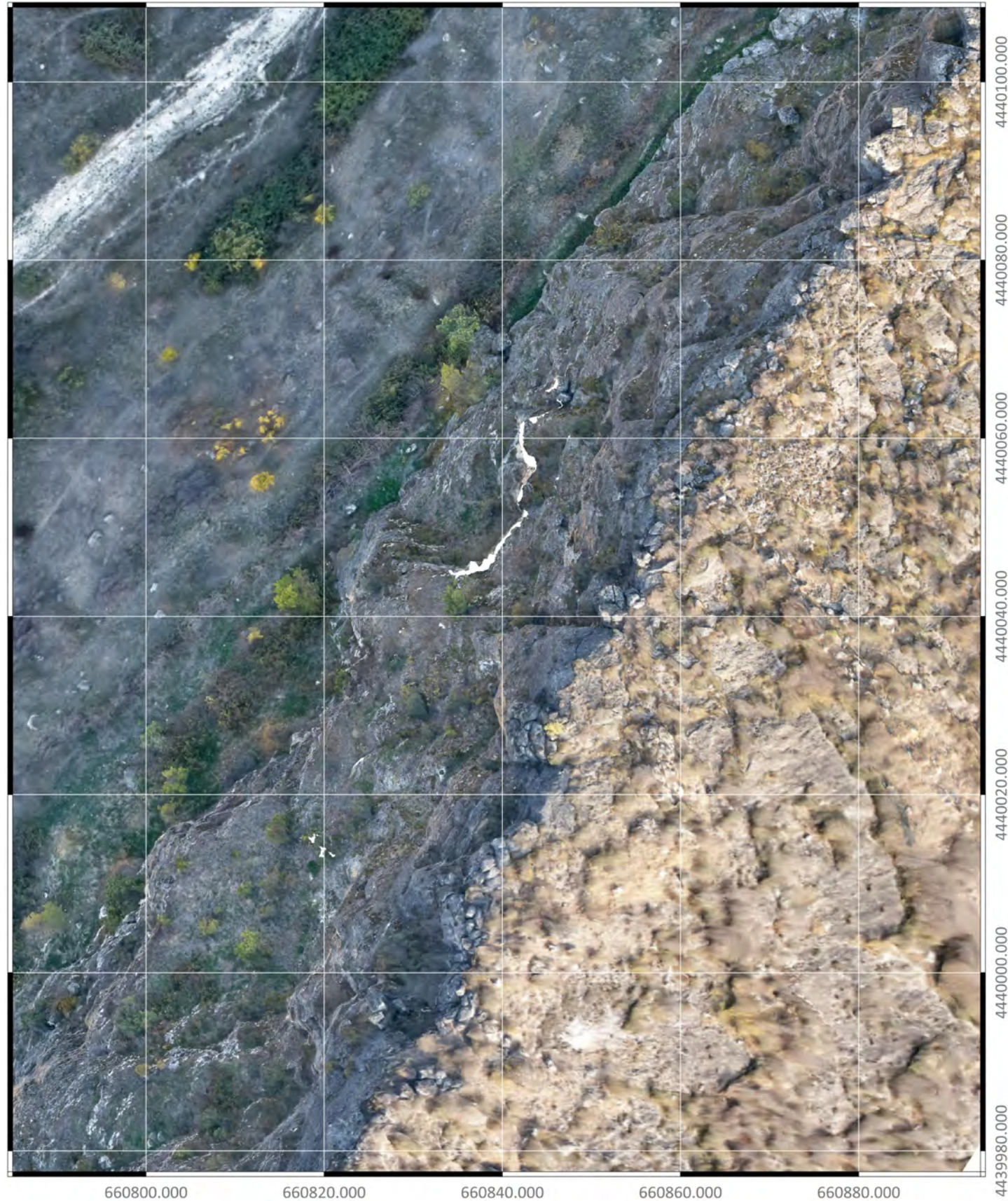


Fig. 1. Georeferenced ortho-image of Khachenaged cave church complex extracted from the textured 3D scan (Iconem 2021)

| | |
|------------------------|---|
| Coordinates: | 40.09508 ; 46.88675 |
| Locality : | Surenavan |
| Region: | Askeran |
| Site type: | Cave church complex |
| Dating: | 5 th - 6 th centuries (?) |
| Photogrammetry survey: | Iconem - 17/11/2020 |
| Diagnostic: | 30/09/2021 |

1. General History

There is no known mention of this rock-cut ecclesiastical complex in historical sources, neither about its founding, nor its occupation.

The first studies were lead in the 1970 by Azerbaijani researchers in the Soviet Union¹. New studies, and in particular the one lead in 2006 by the archaeological expedition of Tigranakert², have brought new information about this little-known site and its occupation. The results of this study suggests that this site was probably first occupied during the late Hellenistic period, giving a religious and funerary function to a naturally formed karstic cave. The site was then occupied in the 5th-6th centuries, and the cave was transformed into a church through the addition of an apse and a narthex, as well as the installation of a graveyard. Several crosses dated from this period were carved inside and outside the church, in the burial area and in the rock-cut path leading to the church³. The presence of 8th-9th century carved crosses and *graffiti* allow stating that in that period, this site remained a place of pilgrimage. After being probably used as a shelter in the 11th century, the site was abandoned. The latest traces are 20th century *graffiti*.

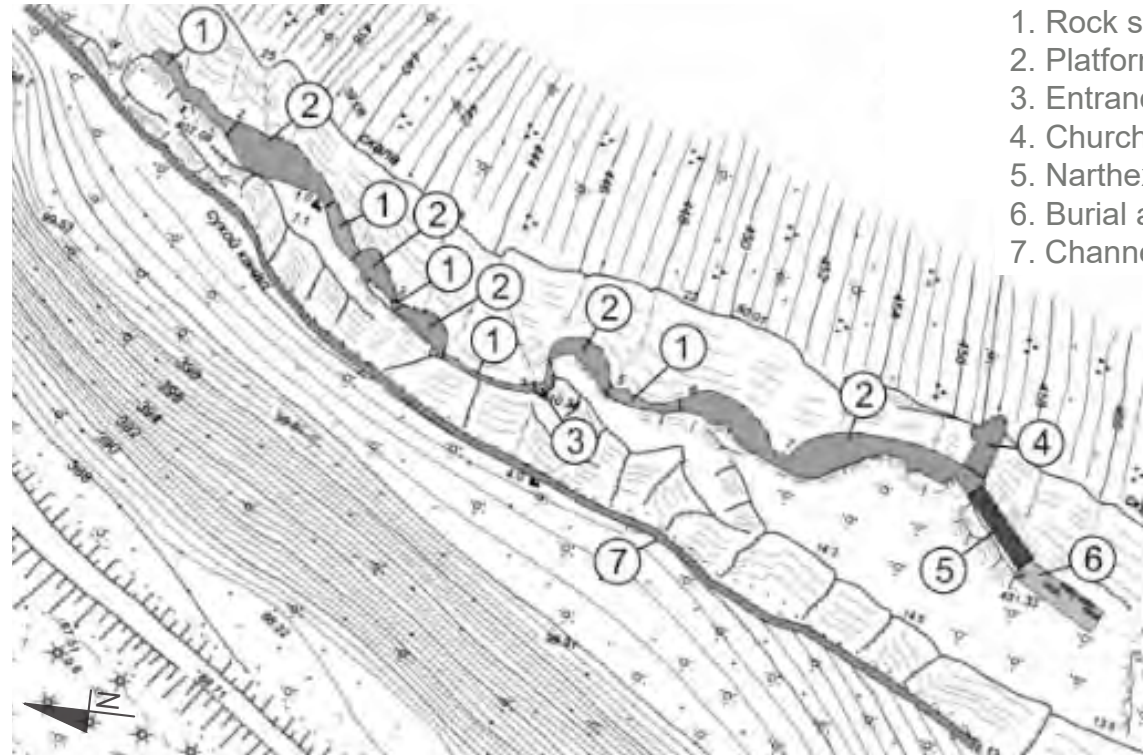


Fig. 2. Aerial view of the church (Iconem 2020)

1. Mainly lead by the archaeologist R. B. Geyushev, these studies argue that it was an Albanian church (Geyushev 1964 ; Geyushev 1972).
2. Some studies were published in the 2000s (Simonyan, Sanamanyan 2005 ; Karapetyan 2001, p. 212-213), but the most recent studies are summarized in H. Petrosyan paper dedicated to Tigranakert of Artsakh (Petrosyan 2020, p. 346-350).
3. Petrosyan 2020, p. 350.

2. Site description

The cave church complex is located on the northern side of mount Vankasar (fig. 1). It is composed of a rock-cut church preceded by a narthex accessible through a path with rock-cut stairs, and a series of intermediate platforms (fig. 2 and 3). A burial area is also associated to the church, with several sarcophagi carved into the rock.



1. Rock steps-paths
2. Platforms
3. Entrance
4. Church
5. Narthex
6. Burial area with sarcophagi
7. Channel carved into the rock

Fig. 3. Plan of the complex according to H. Petrosyan (Petrosyan, Kirakosyan 2016, fig. 1)

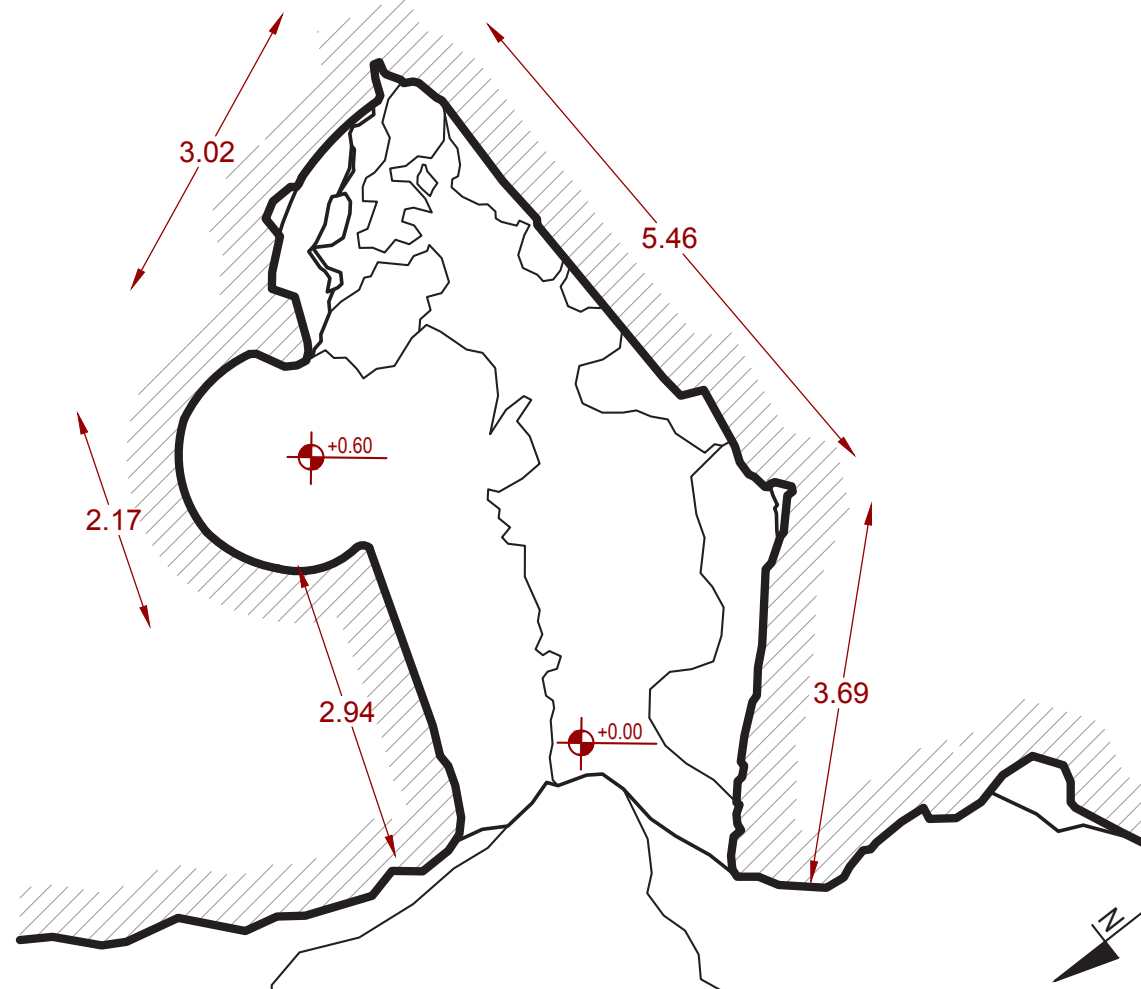


Fig. 4. Plan of the cave church (Iconem 2020)

According to the archeologist H. Petrosyan, the architectural plan of the church is quite unusual because the chancel has a north-south orientation, with an apse-like ending on the southern side (fig. 3-4). However, a traditional apse is carved into the eastern side (fig. 5). Based on this evidence, and taking into account the karstic nature of mount Vankasar, he suggested that the church was installed by reshaping a pagan cave, which was itself installed in a pre-existing natural cave⁴. A platform develops on the northwestern side of the church, outside the entrance, with an altar-like design on the western side, identified as a narthex (fig. 3 and 7)⁵. A great number of early-Christian crosses are carved inside the church (fig. 5 - 6), on the western wall of the narthex (fig. 7), as well as all along the path leading to the church (fig. 8)⁶. Some of them keep traces of polychromy, indicated that they were painted in red. Several inscriptions in Greek and in Armenian, mainly *graffiti* from pilgrims and the monogram of Christ in greek (IC XC), around the carved crosses, have also been found (fig. 6). The structure of the church is not particularly endangered. However, the walls, including the carved crosses, have suffered of degradation, both from recent *graffiti* and from the scratching of the crosses.

It should also be noted that a rock-cut canal linking this church complex to Tigranakert has been identified and partly excavated by the archaeological team (fig. 3)⁷.



Fig. 5. Orthoimage of the north-eastern wall (Iconem 2021)



Fig. 6. Detail of a cross with Greek inscriptions (Iconem 2020)

4. Petrosyan 2020, p. 347.

5. Petrosyan has identified this platform as a narthex. For its detailed description, see Petrosyan 2020, p. 347-348.

6. For a description of the crosses' typology, see Petrosyan 2020, p. 347-349.

7. Petrosyan 2020, p. 349.

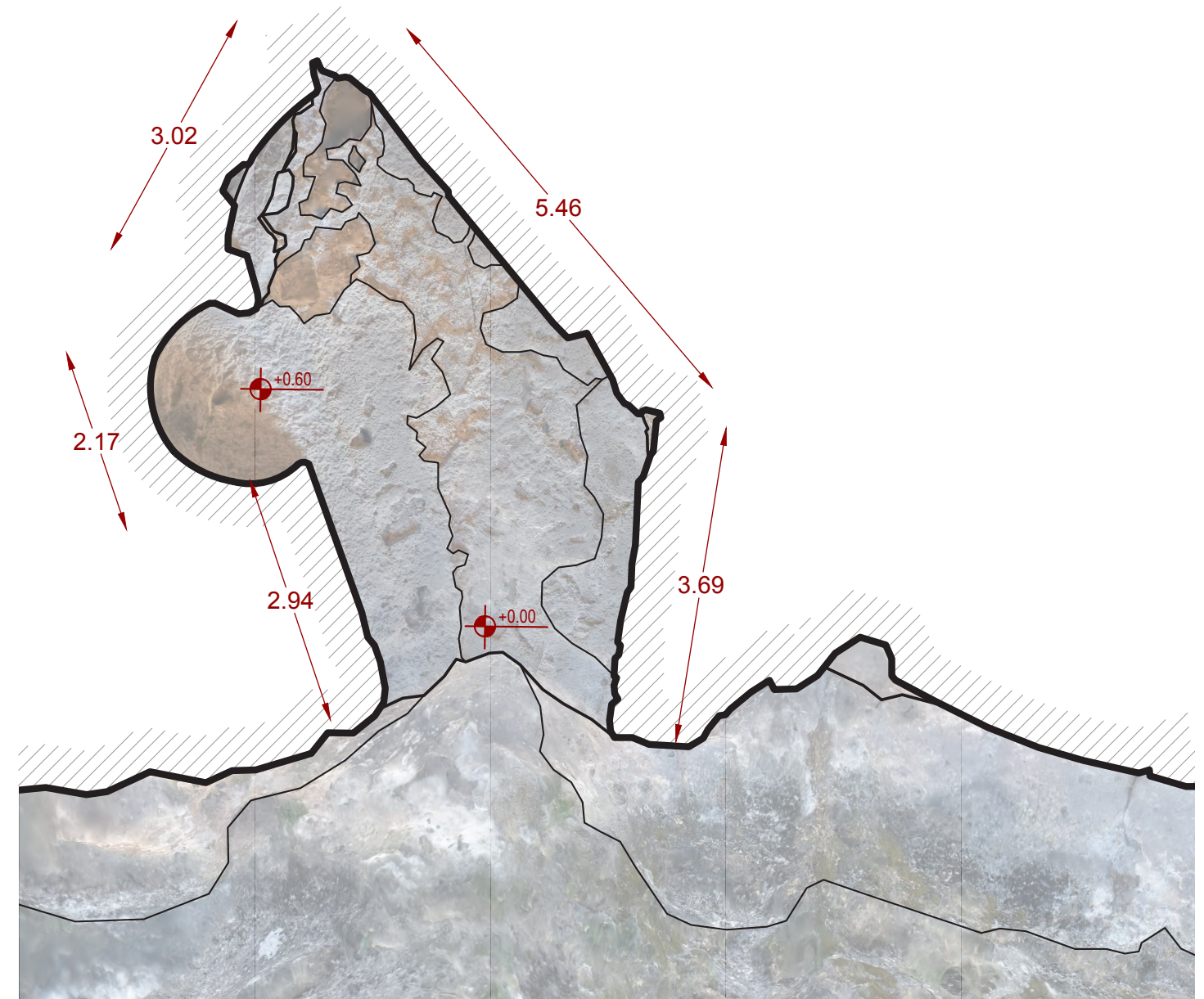


Fig. 7. View of the narthex's south-western wall (Iconem 2020)

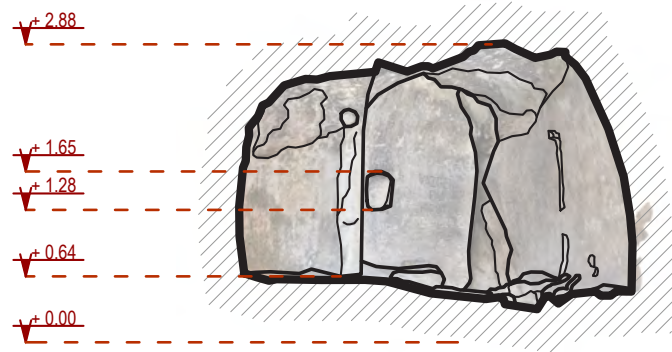


Fig. 8. One of the crosses carved along the path leading to the church (Iconem 2020)

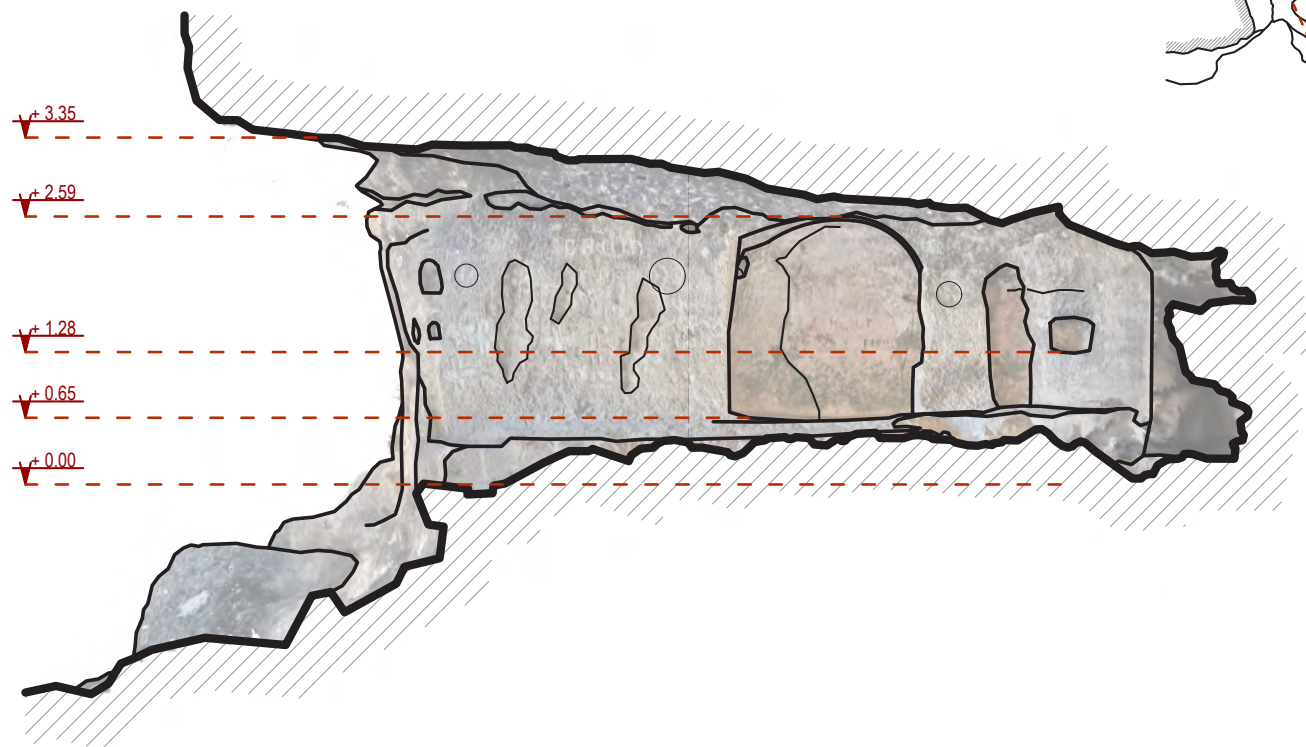
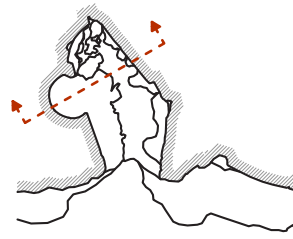
3. Boards



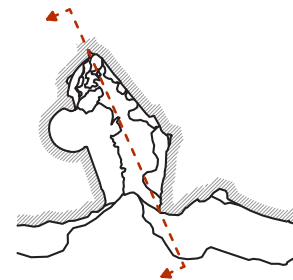
Floor plan at +1.50 m
Iconem 2021



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Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638

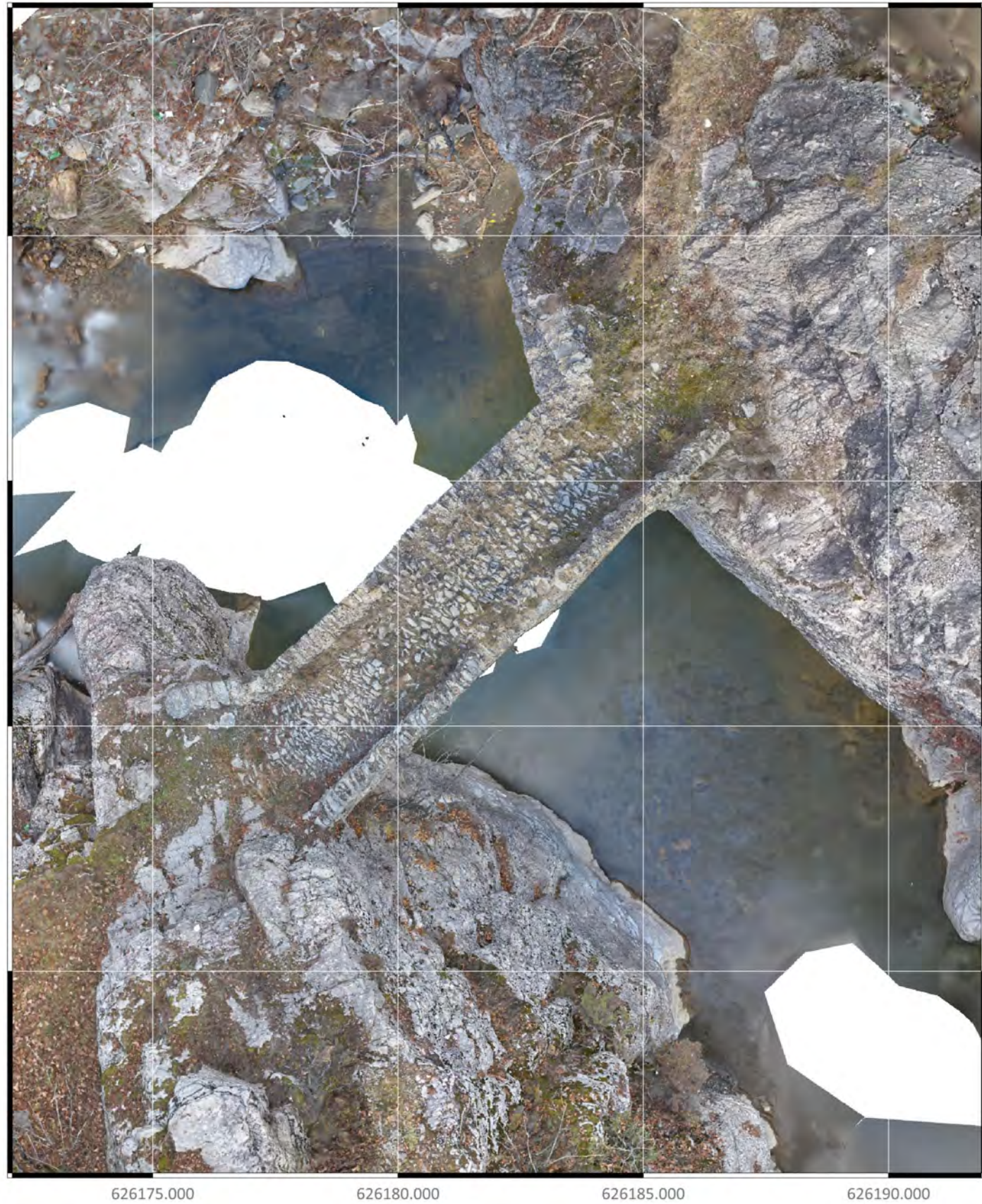


Fig. 1. Georeferenced ortho-image of Gandza bridge extracted from the textured 3D scan (Iconem 2021)

GANDZA BRIDGE

| | |
|------------------------|----------------------|
| Coordinates: | 39.710028, 46.471944 |
| Locality : | Gandza / Seyidlar |
| Region: | Lachin |
| Site type: | Bridge |
| Dating: | Unknown |
| Photogrammetry survey: | Iconem - 25/11/2020 |
| Diagnostic: | 30/09/2021 |

1. General History

There is no mention of this bridge in historical sources, neither there are scientific publications¹.



Fig. 2. Aerial view of Gandza bridge (Iconem 2020)

1. In a publication dedicated to the bridges of Artsakh, S. Karapetyan mentions bridges from the other Gandzak, the actual city of Gandja (Karapetyan 2009, p. 29, 40-41).

2. Site description

The bridge is located 700 meters east from the village of Gandza (Seyidlar), on the river Shalua, also called Arquet (fig. 1). It is a 10 meters long arched bridge with a width of 3 meters, founded on the natural rocks (fig. 2 - 3). The bridge's arch is almost pointed. The extremities of the lower row are made of cut and polished stones and the rest of the bridge is built with thin flagstones assembled vertically with lime mortar.

On the eastern part of the bridge, the polished stones of the lower row have collapsed, but the bridge is still standing thanks to the internal structure of the bridge with the flagstones. However, parts of the flagstones are also missing, especially near the bases of the bridge, which could endanger the structure.

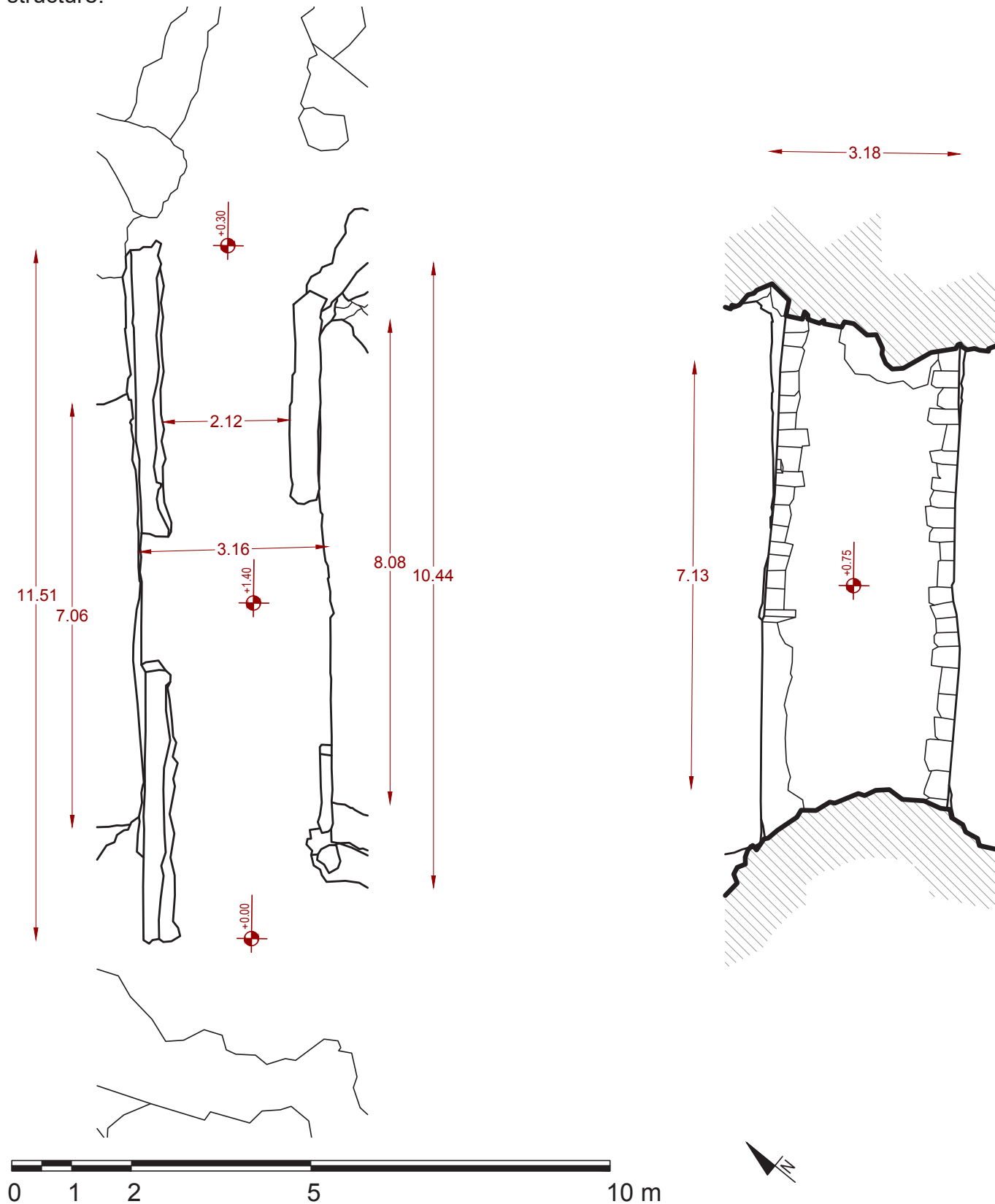
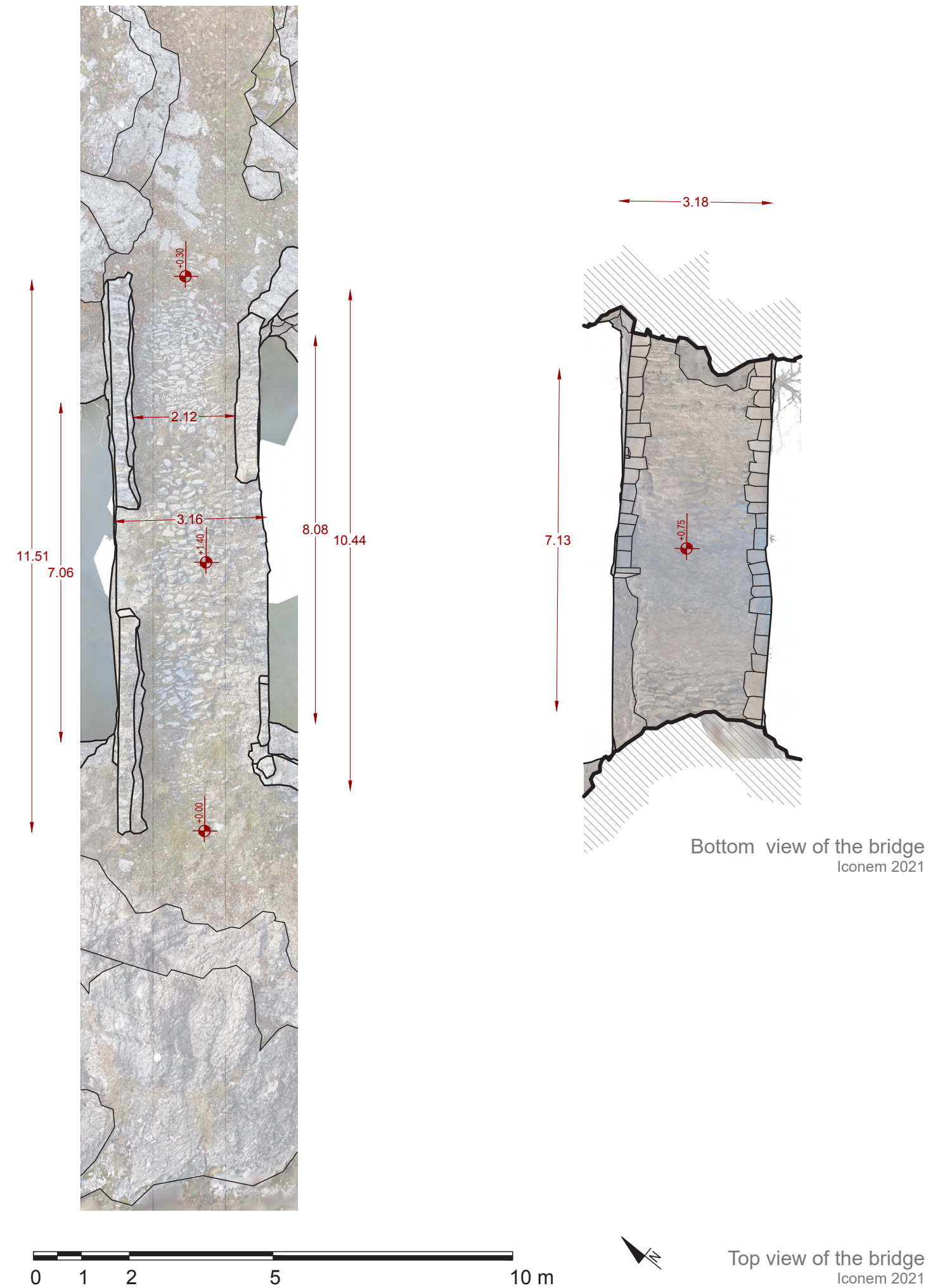


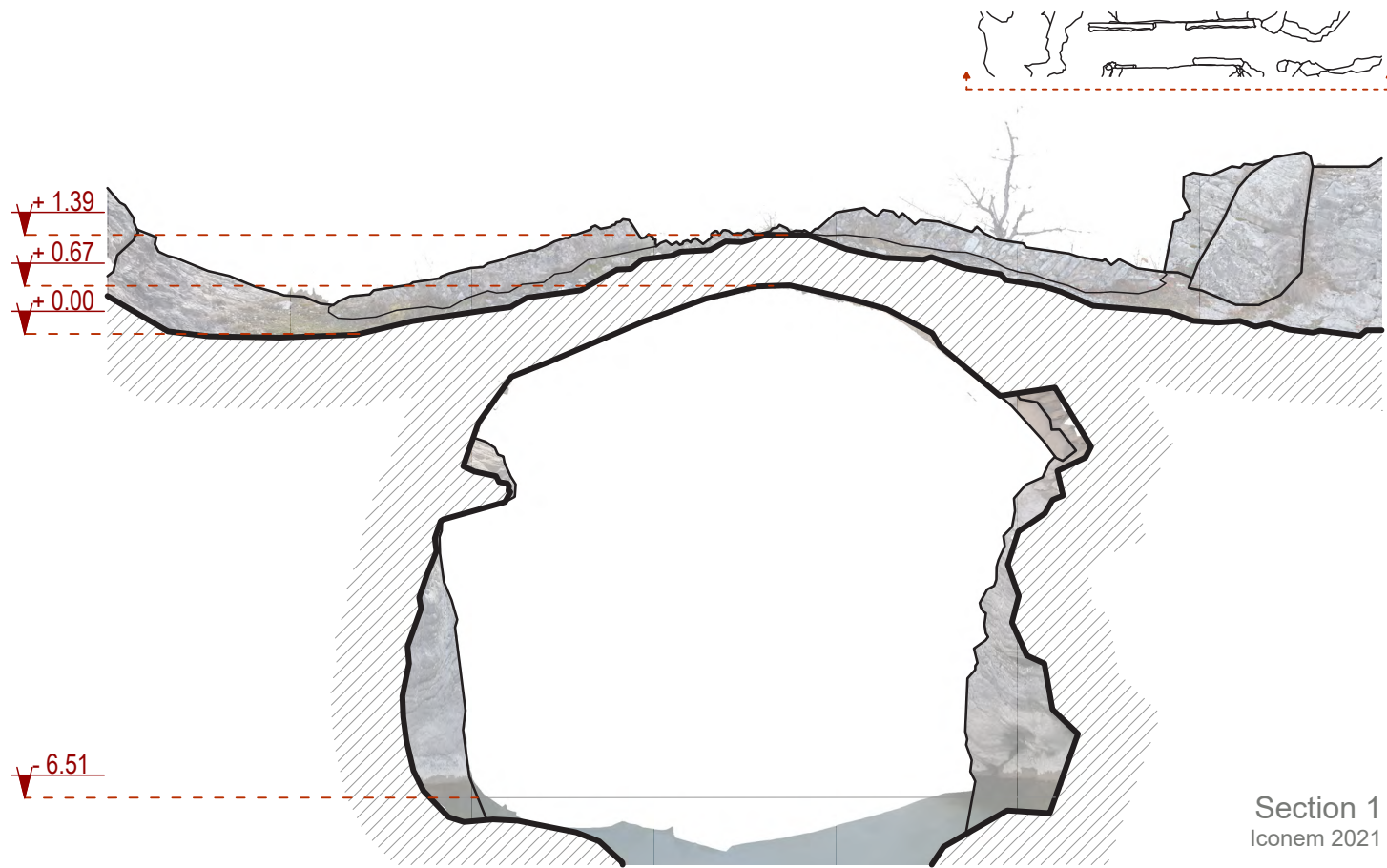
Fig. 3. Plan of Gandza bridge (Iconem 2021)

3. Boards



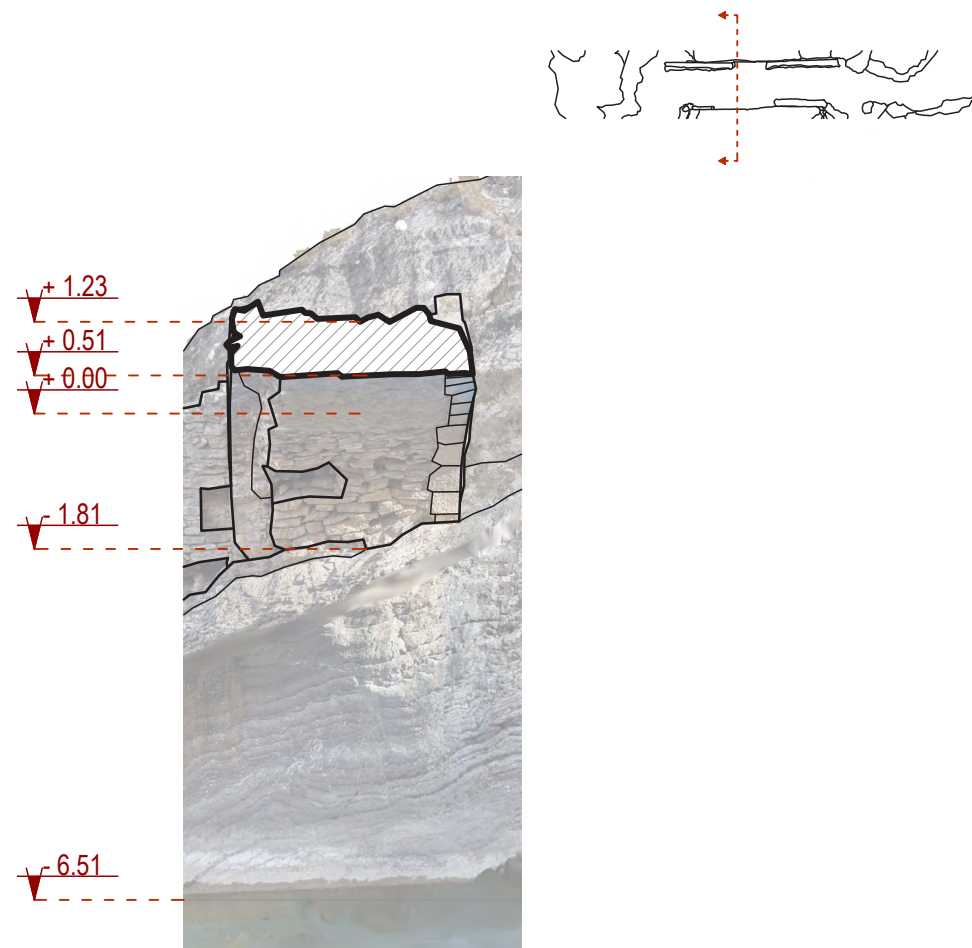
Bottom view of the bridge
Iconem 2021

Top view of the bridge
Iconem 2021



BIBLIOGRAPHY

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Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 1. Georeferenced ortho-image of Takyaghaya site extracted from the textured 3D scan (Iconem 2021)

TAKYAGHAYA CHURCH

| | |
|------------------------|--|
| Coordinates: | 40.263754, 46.131146 |
| Locality : | Tekkaya |
| Region: | Karvachar |
| Site type: | Church |
| Dating: | 13 th -14 th century |
| Photogrammetry survey: | Iconem - 17/11/2020 |
| Diagnostic: | 30/09/2021 |

1. General History

This church has not been mentioned in any historical sources, however it is known that in modern times, the village paid a tax to the monastery of Dadivank. The study of its carved relief allows dating it from the end of the 13th century or beginning of the 14th century.

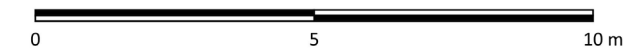


Fig. 2 Georeferenced ortho-image of Takyaghaya church extracted from the textured 3D scan (Iconem 2021)

2. Site description

The church is a quadrangular single nave basilica of small dimensions (7,46 x 5,58 m), built with semi-processed stone blocks assembled with a lime mortar (fig. 1 - 3). The original semi-circular vault has not been preserved and has been replaced by sheet roofing. When the church was first documented in 1993 the vault had already collapsed. There is no apse as the eastern wall is flat on the inside and the outside, which could explain the presence of a semi-circular altar (fig. 4), a specificity of this church. The altar is very damaged but part of its *antependium* has been preserved and is carved with crosses.

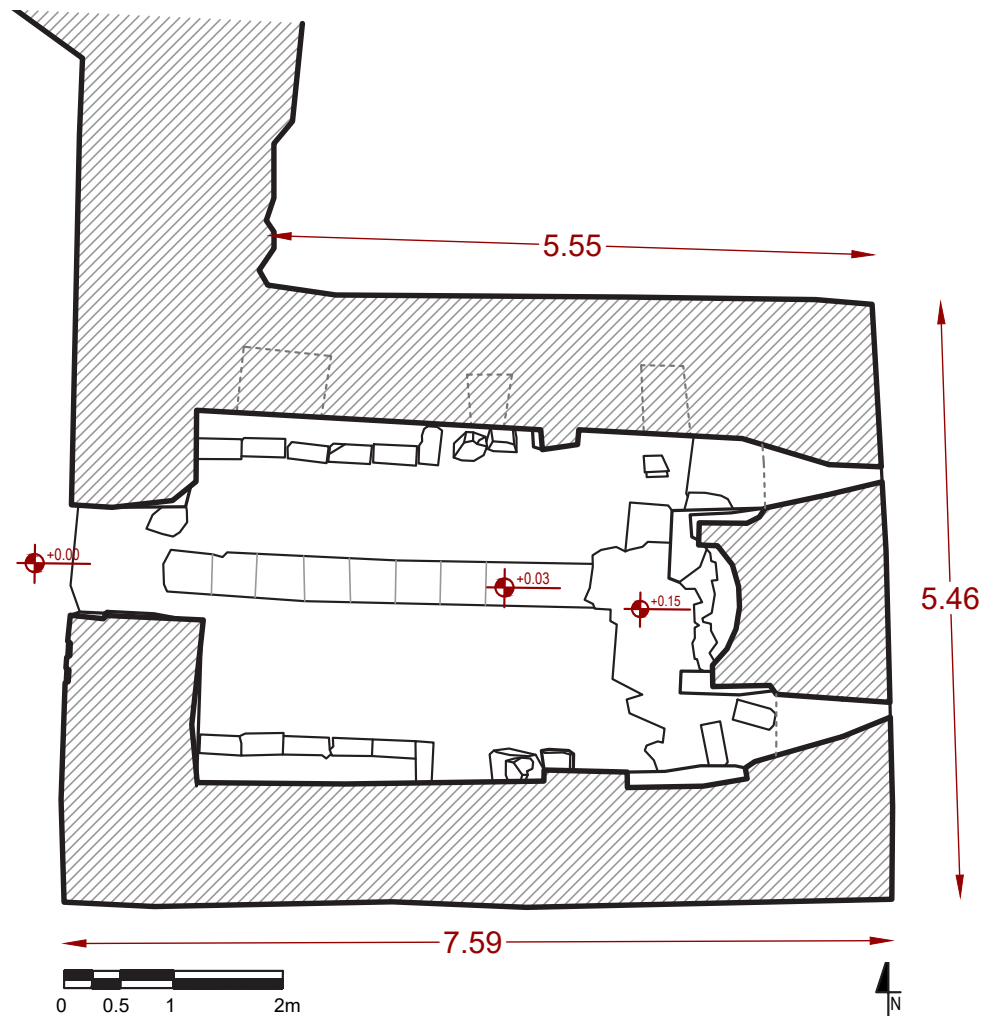


Fig. 3. Plan of Takyaghaya's church (Iconem 2021)



Fig. 4. The church's altar (Iconem 2020)

There are no sacristies as separated rooms but two cavities flanking the apse could have been used for liturgical purpose. The only two windows are located inside the sacristies, on the eastern wall. Other parts inside the church are quite atypical, such as the pavement of the floor, which only covers the east-western axis in the middle of the nave or the lower row on the northern and southern walls near the entrance creating a rectangular font. Outside the church, a section of a wall continues the western wall to the north, indicating the presence of a structure that cannot be identified (fig. 3).

Besides the altar, there are many carved crosses on the façades of the church and near it. The western façade is quite remarkable for the profusion of carved crosses (fig. 5). The cross carved on the tympanum is particularly noteworthy, not only because of the quality of its carving but also because of its strong similarity with a *khachkar* precisely dated from 1330¹, probably made by the same hand (fig. 6). There are also carved stones on the rocks around the church.

A medieval cemetery is located on the north and south of the church with five to six richly ornamented *khachkars*². The ruins of modern buildings can be observed around the church.



Fig. 5. Orthoimage of the western facade (Iconem 2021)

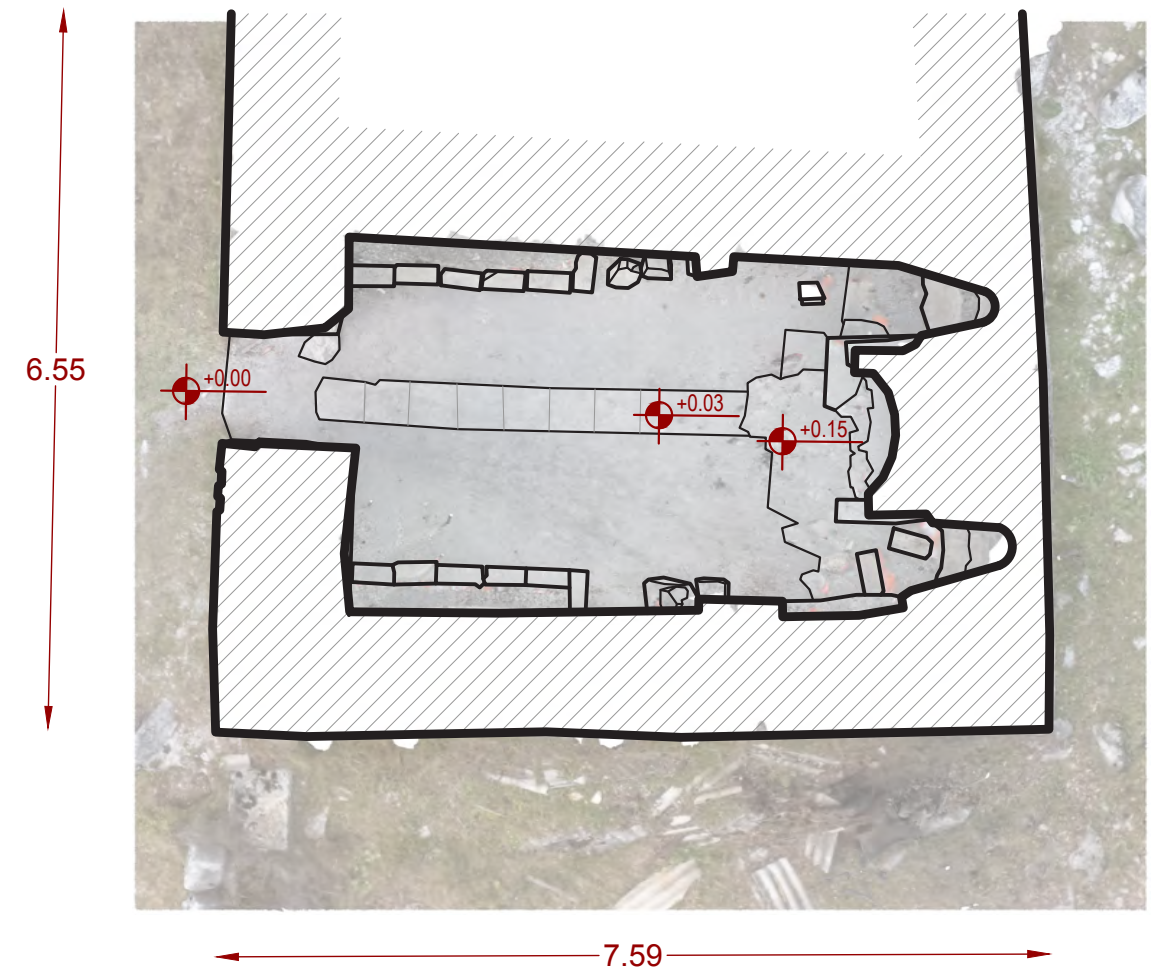
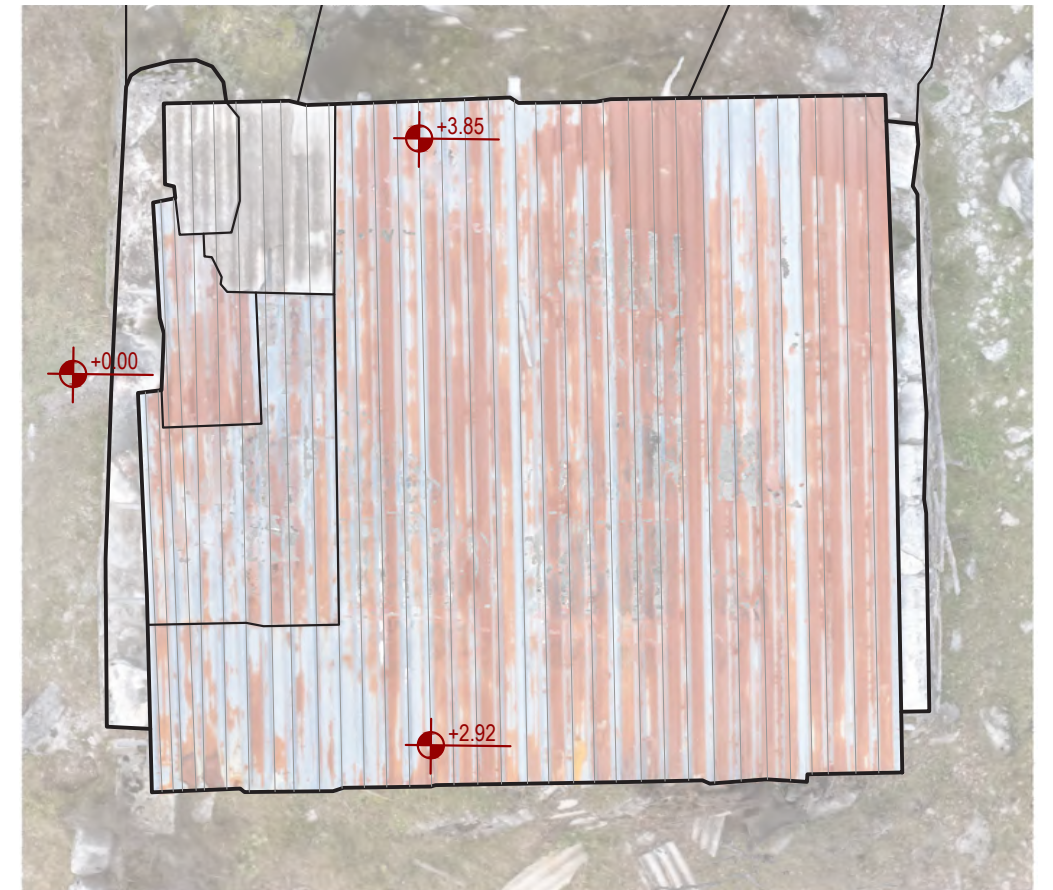
1. The *khachkar* bears a dedicatory inscription which reads : « I erected this holy Sign for the salvation of Ana. When you worship, remember my prayers. In the year of 1330. » (Karapetyan 2001, p. 29).

2. Karapetyan 2001, p. 29.

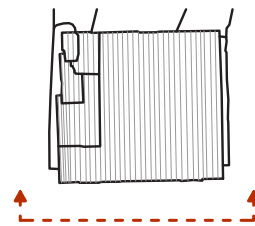
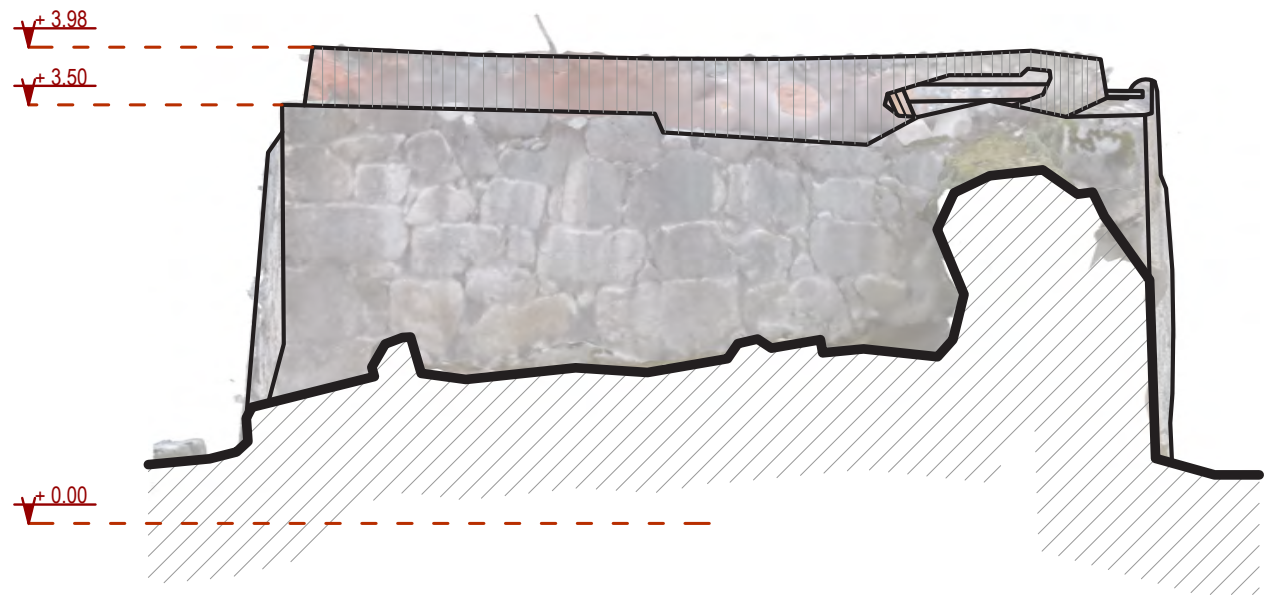
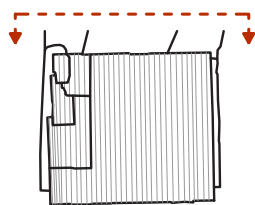
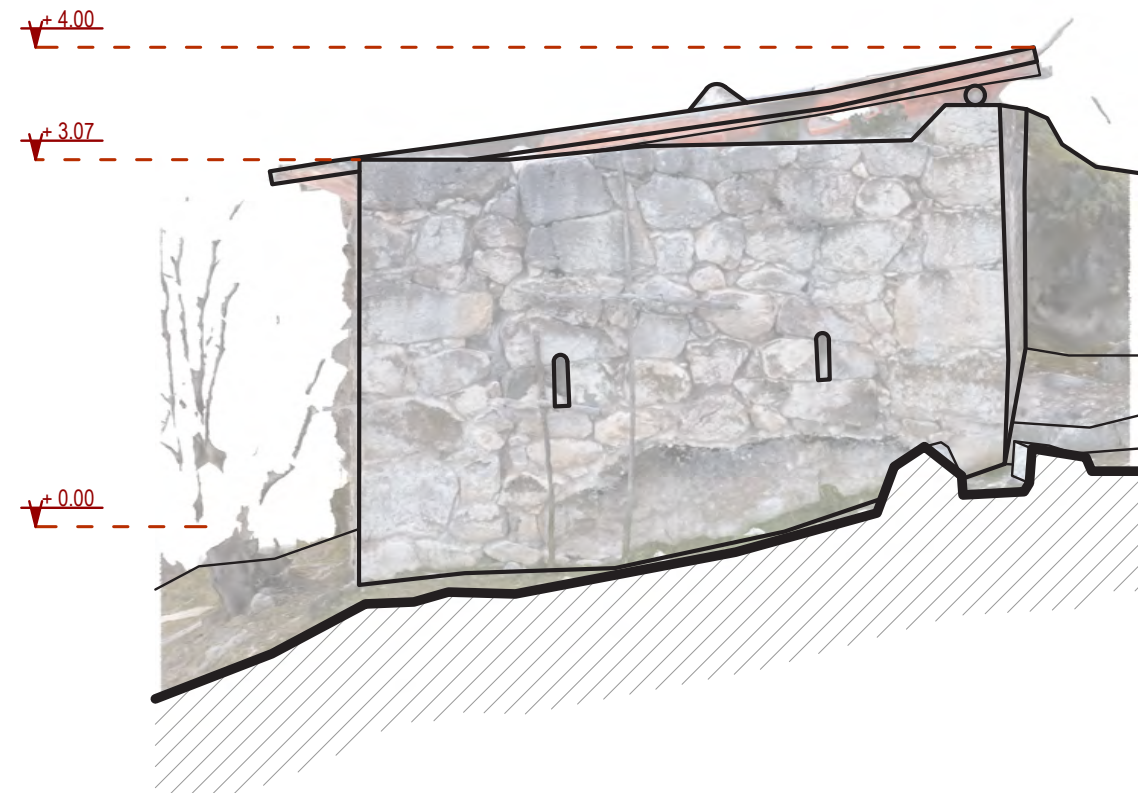
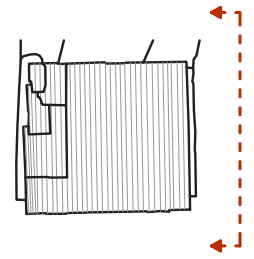
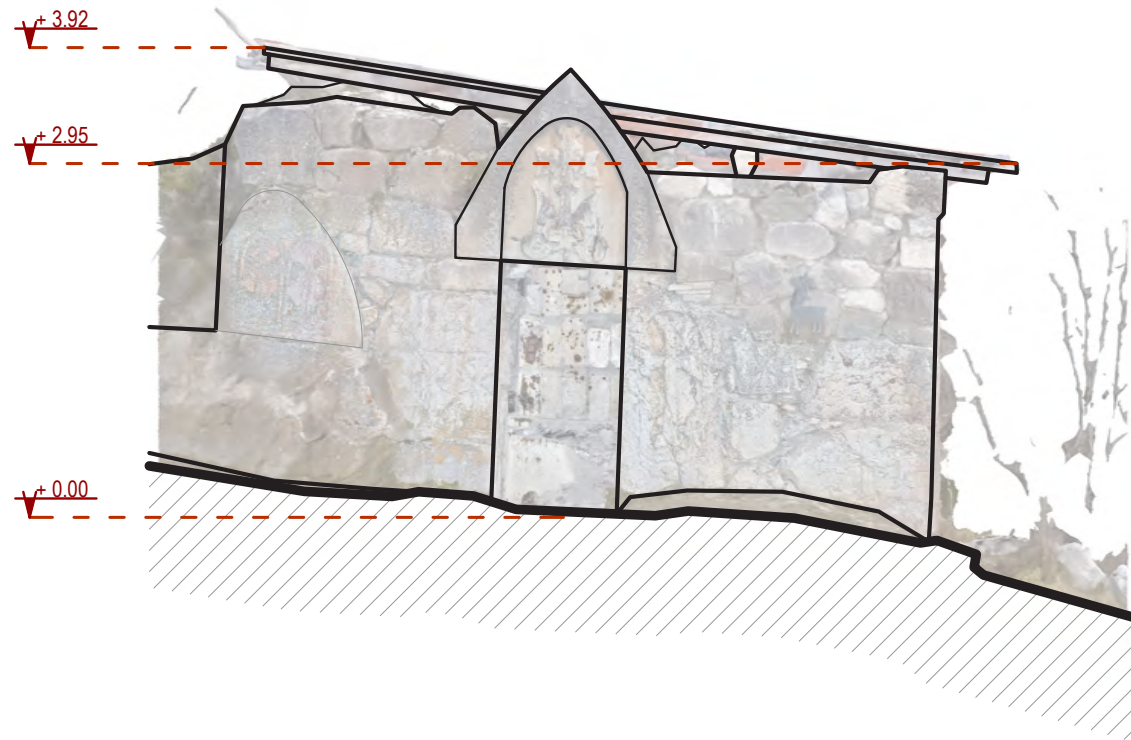
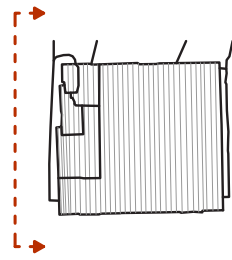


Fig. 6. The western entrance and its carved crosses (Iconem 2020)

3. Boards

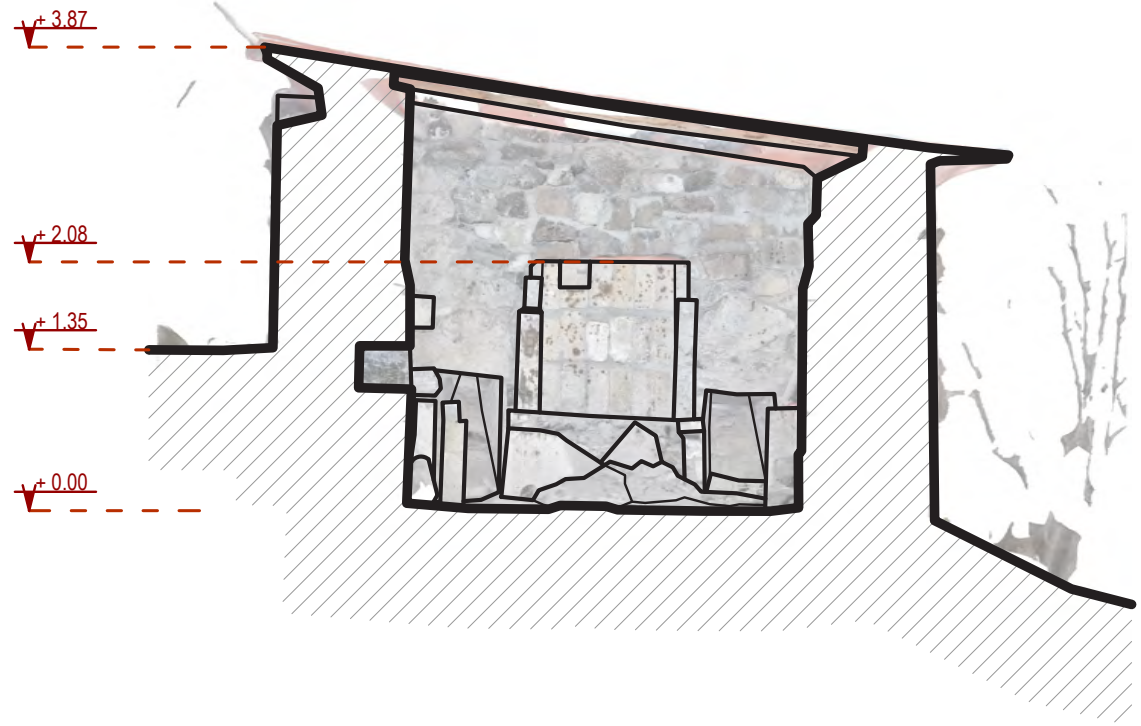
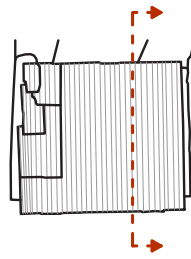


Site plan & Floor plan at +1.50m
Iconem 2021



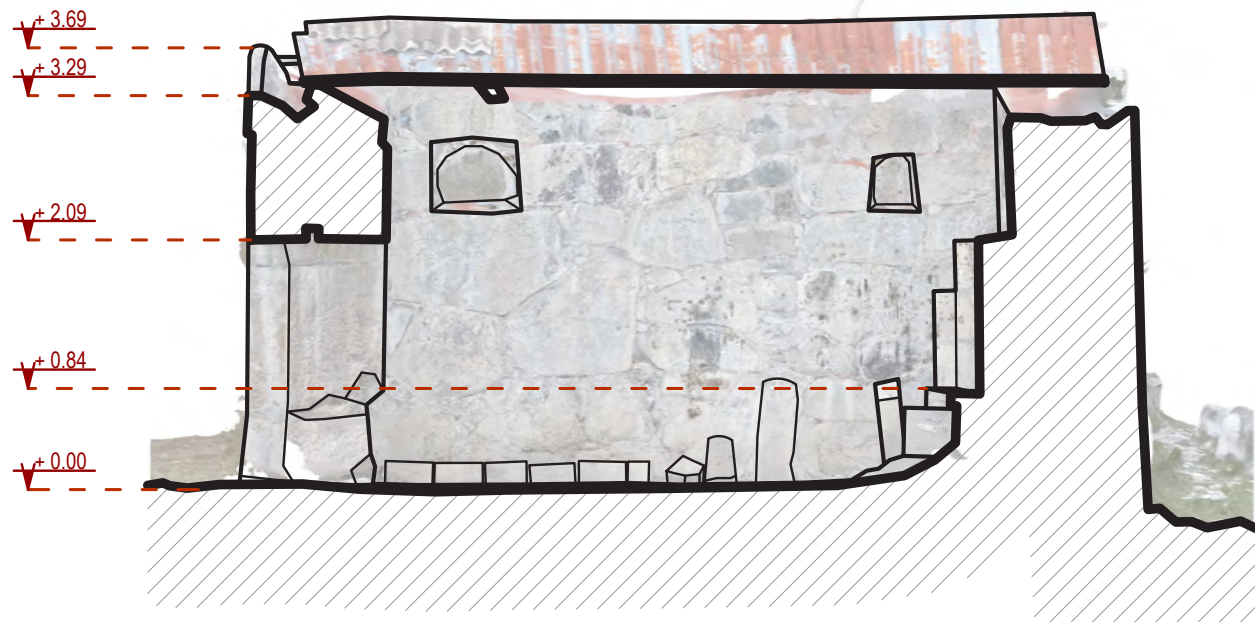
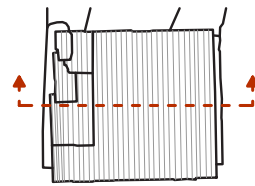
Northern & western Facade
Iconem 2021

Northern & western Facade
Iconem 2021



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Northern & western Facade
Iconem 2021



Fig. 1. Georeferenced ortho-image of the monastery of Srvegh extracted from the textured 3D scan (Iconem 2021)

SRVEGH MONASTERY

| | |
|------------------------|--|
| Coordinates: | 40.96569, 45.24395 |
| Locality : | Aygehovit |
| Region: | Tavush |
| Site type: | Monastery |
| Dating: | 12 th -13 th century |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 11/2021 |

1. General History

No historical sources mention the construction of the monastery. However, an inscription on the church of the Holy-Sign affirms the architect Hovhannes built it in 1152¹. According to another inscription, the church of the Holy-Mother-of-God was built in 1889.



Fig. 2. Georeferenced ortho-image of Surb-Nshan church extracted from the textured 3D scan (Iconem 2021)

1. Barkhudaryan 1963.

2. Site description

The monastic complex is located 3km to the southwest of the Aygehovit village, in a place called Khachi tak (“under the cross”), in the middle of the woods. It is composed of several buildings, among which two churches and monastic cells, as well as a cemetery, surrounded by an enclosure. However, because of the vegetation, only the main church was documented (fig. 1-2).



Fig. 3. Southern facade of Surb-Nshan church (Iconem 2021)

The main church was dedicated to the Holy-Sign (Surb-Nshan), as evidenced by an inscription on the altar. Although the first rows of the church are built with stone rocks, the rest of it is made of bricks (fig. 3), a Georgian specificity which can also be found in the churches of Kirants and Berdavan². The church is topped with a high pointed dome resting on a dodecagonal drum. It has an inscribed apse flanked by two sacristies (fig. 4). On the northern wall, an arched niche contains a baptismal font. Several *khachkars* and other architectural elements from another structure have been inserted in the walls, probably during renovations (fig. 5). The church has been renovated several times, more precisely the eastern façade’s corners, the main apse, the western entrance and the dome. The western part of the church has collapsed (fig. 6).

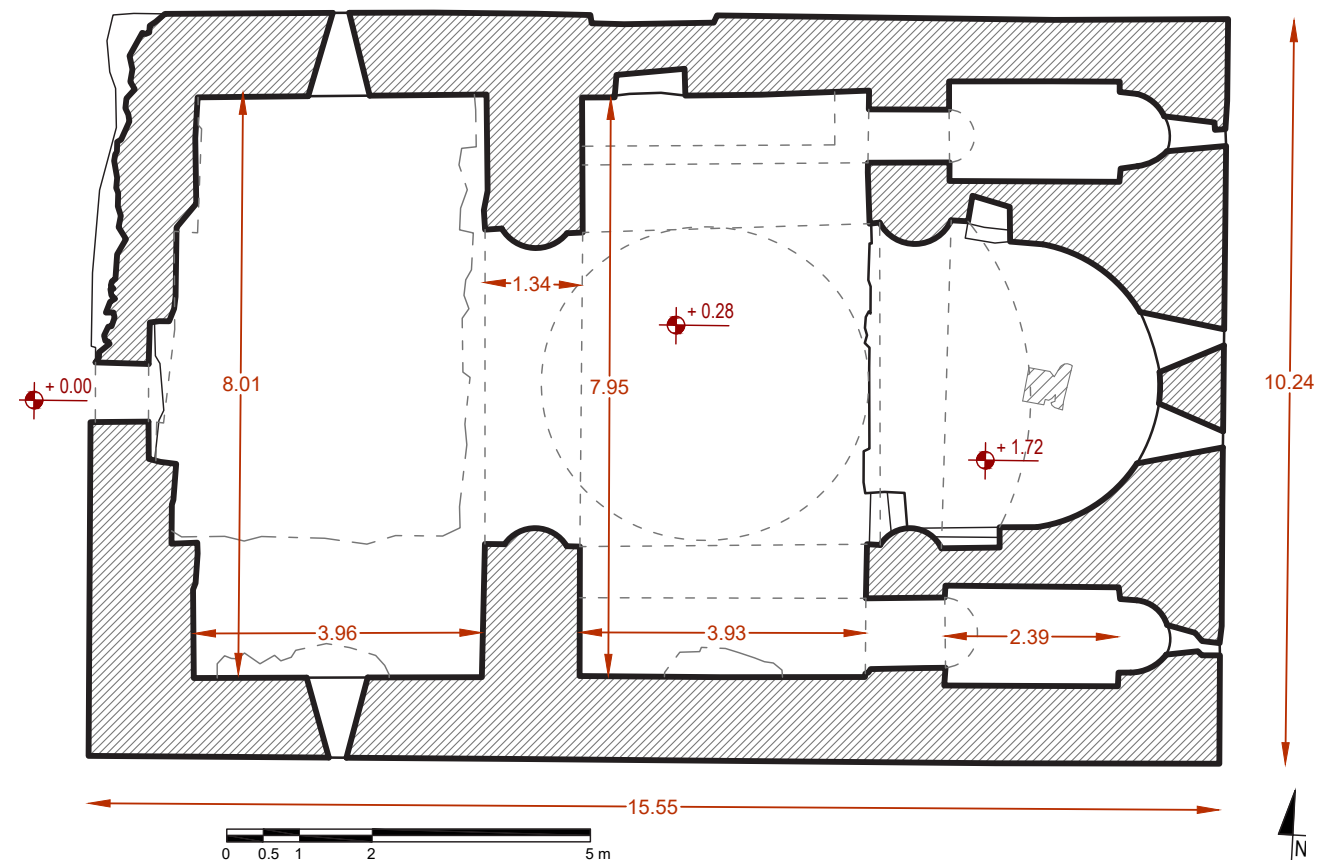


Fig. 4. Plan of Surb-Nshan church (Iconem 2021)



Fig. 5. A *khachkar* inserted into the eastern facade (Iconem 2021)

2. Thierry 1983, p. 195; Donabédian 2019, p. 148.



Fig. 6. Interior view of the western part of the church (Iconem 2021)

Another small church was built with stone blocks in the end of the 19th century, dedicated to the Holy-Mother-of-God (Surb-Astvatsatsin), on the northern side of the monastic complex (fig. 1 and 7). An original medieval *khachkar*, which is carved with two large crosses and one small cross in the middle, was inserted in the left side of the main entrance (fig. 8). The roofing has entirely collapsed and the church is invaded by vegetation.

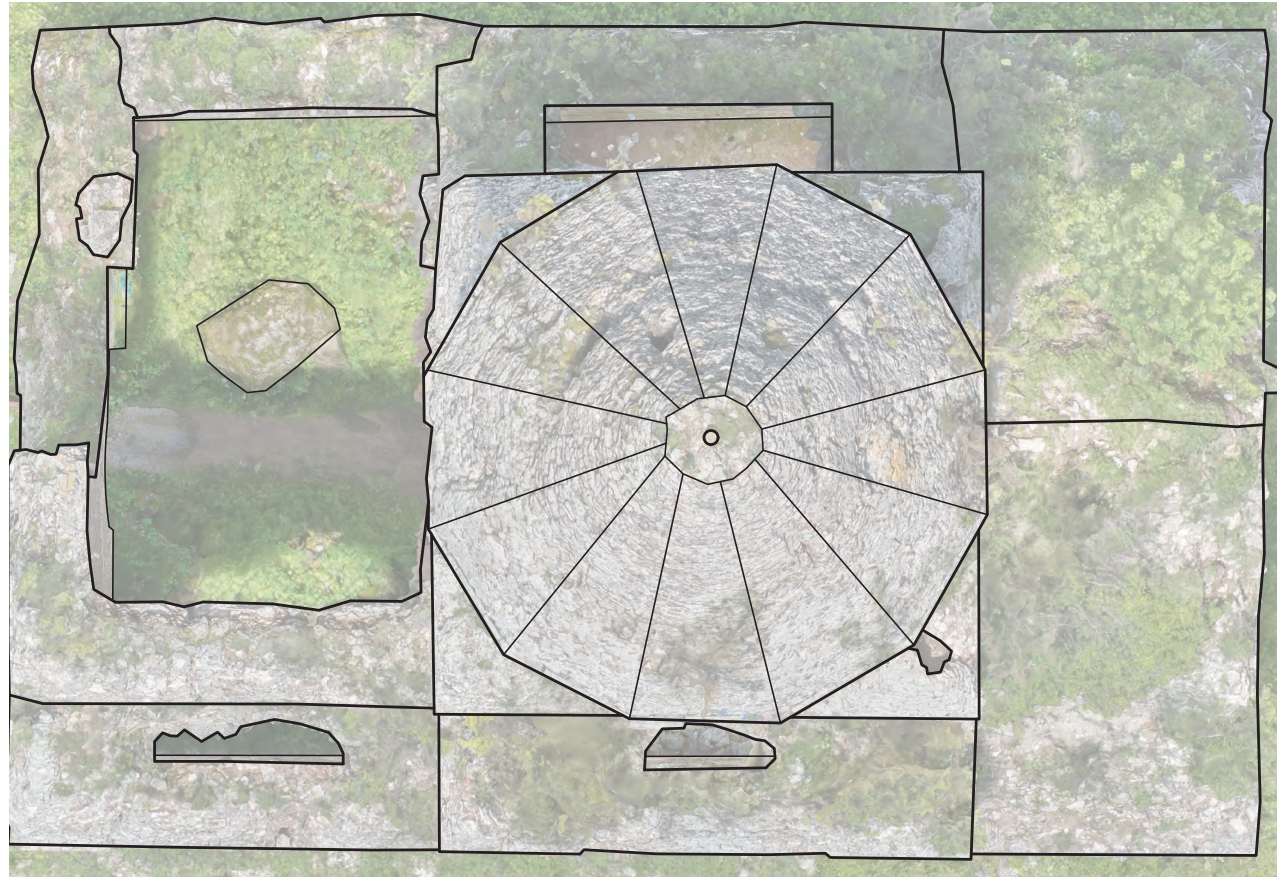


Fig. 7. South-western corner of Surb-Astvatsatsin church (Iconem 2021)

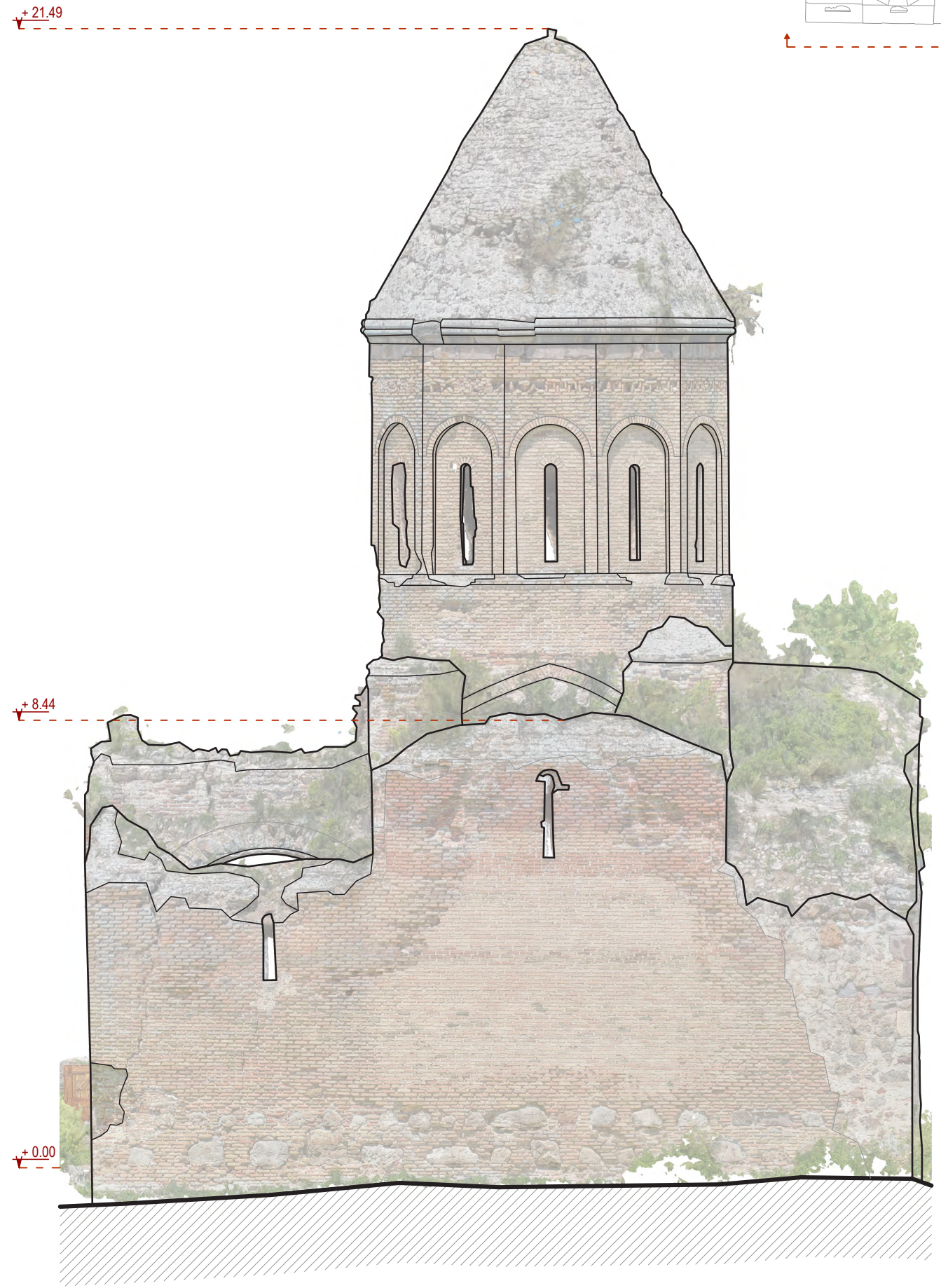
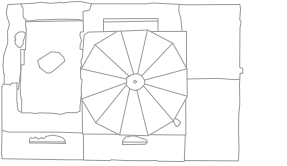


Fig. 8. The main entrance of Surb-Astvatsatsin church (Iconem 2021)

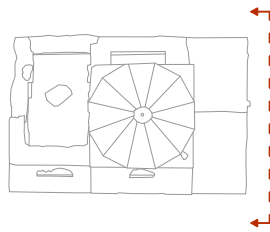
3. Boards



Site plan & Plan +150cm
Iconem 2021



Southern Facade
Iconem 2021



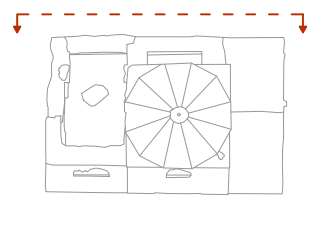
+21.49

+8.88

+0.00



Eastern Facade
Iconem 2021

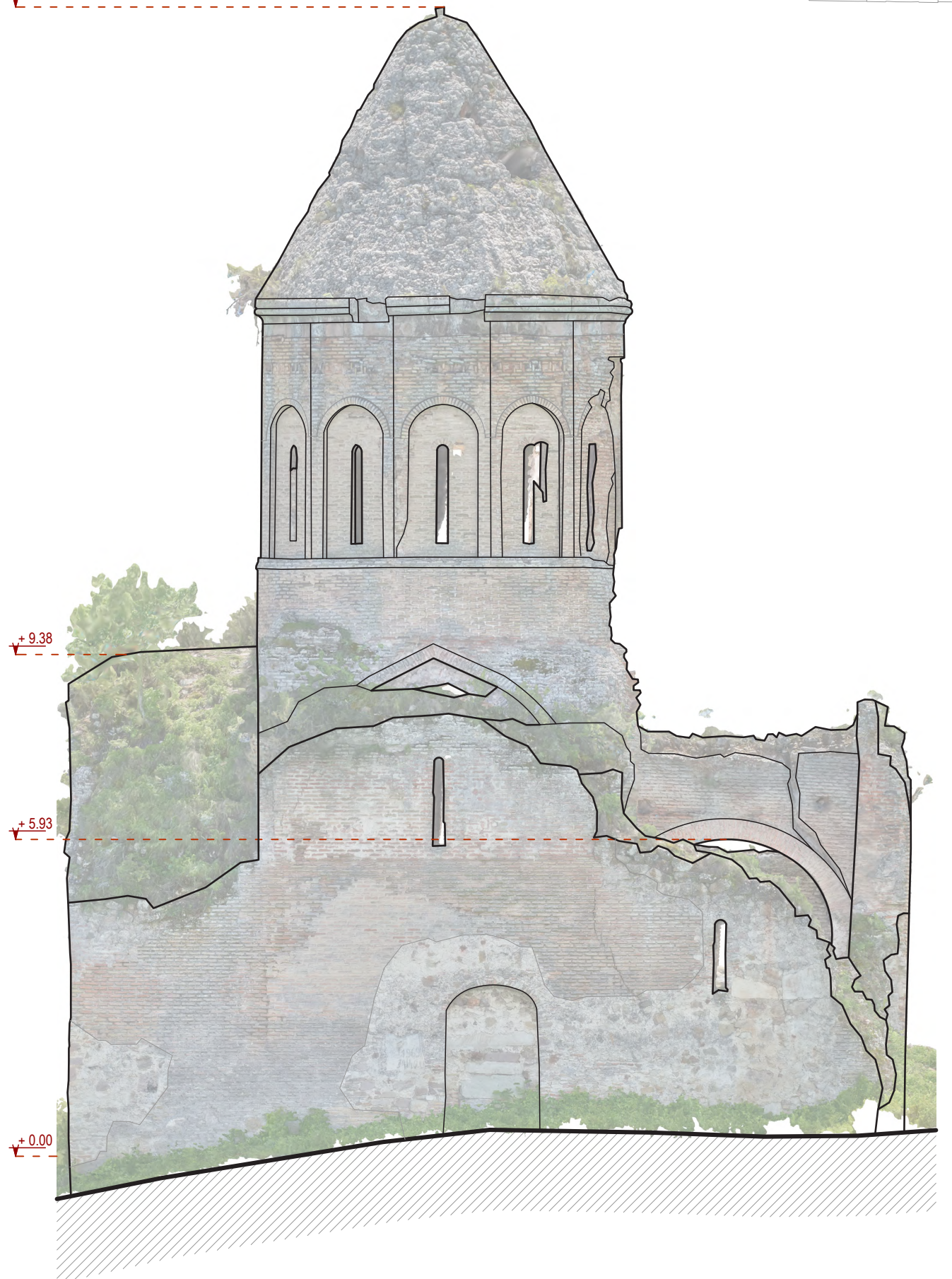


+21.49

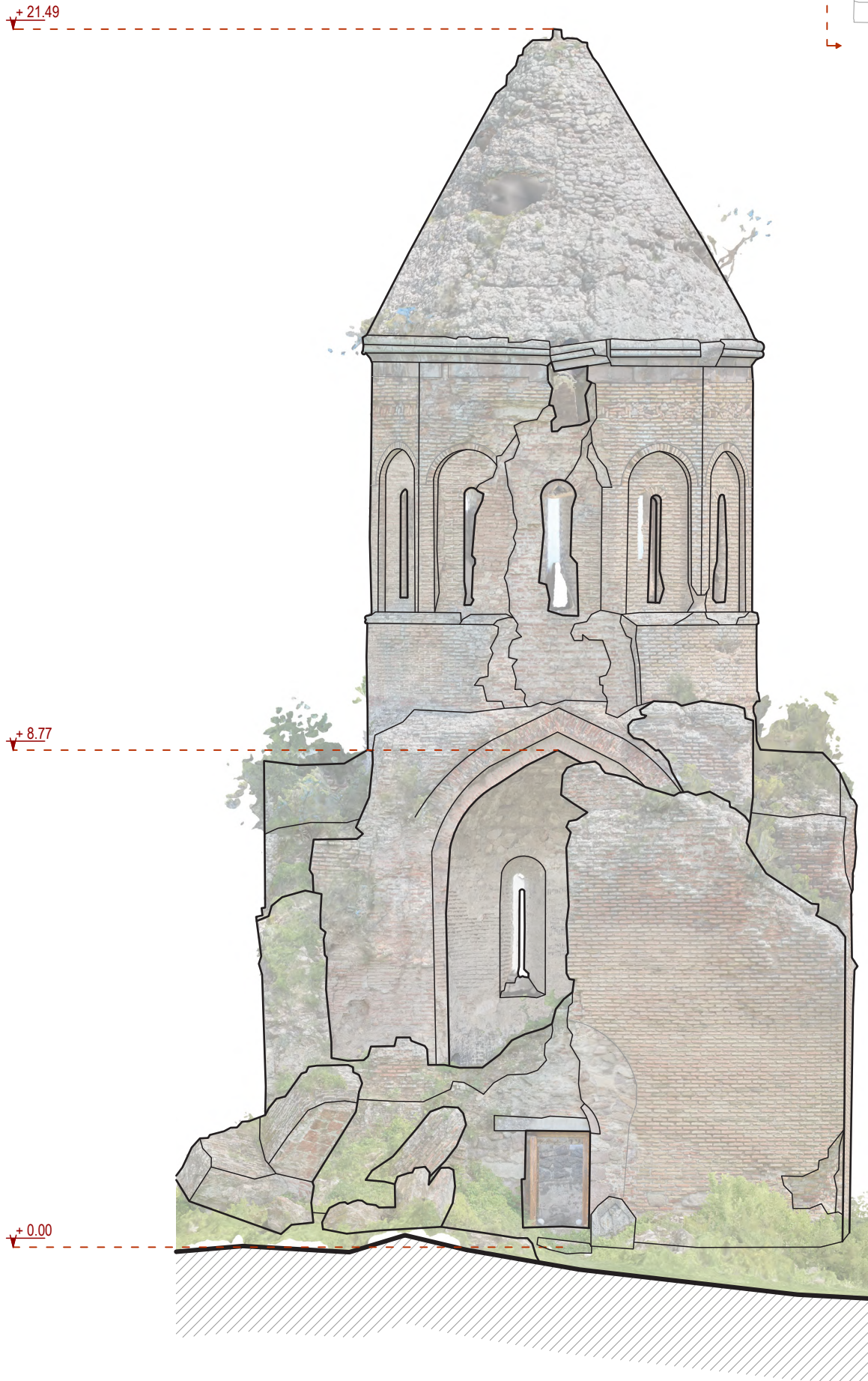
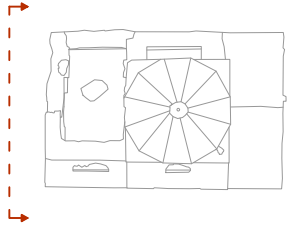
+9.38

+5.93

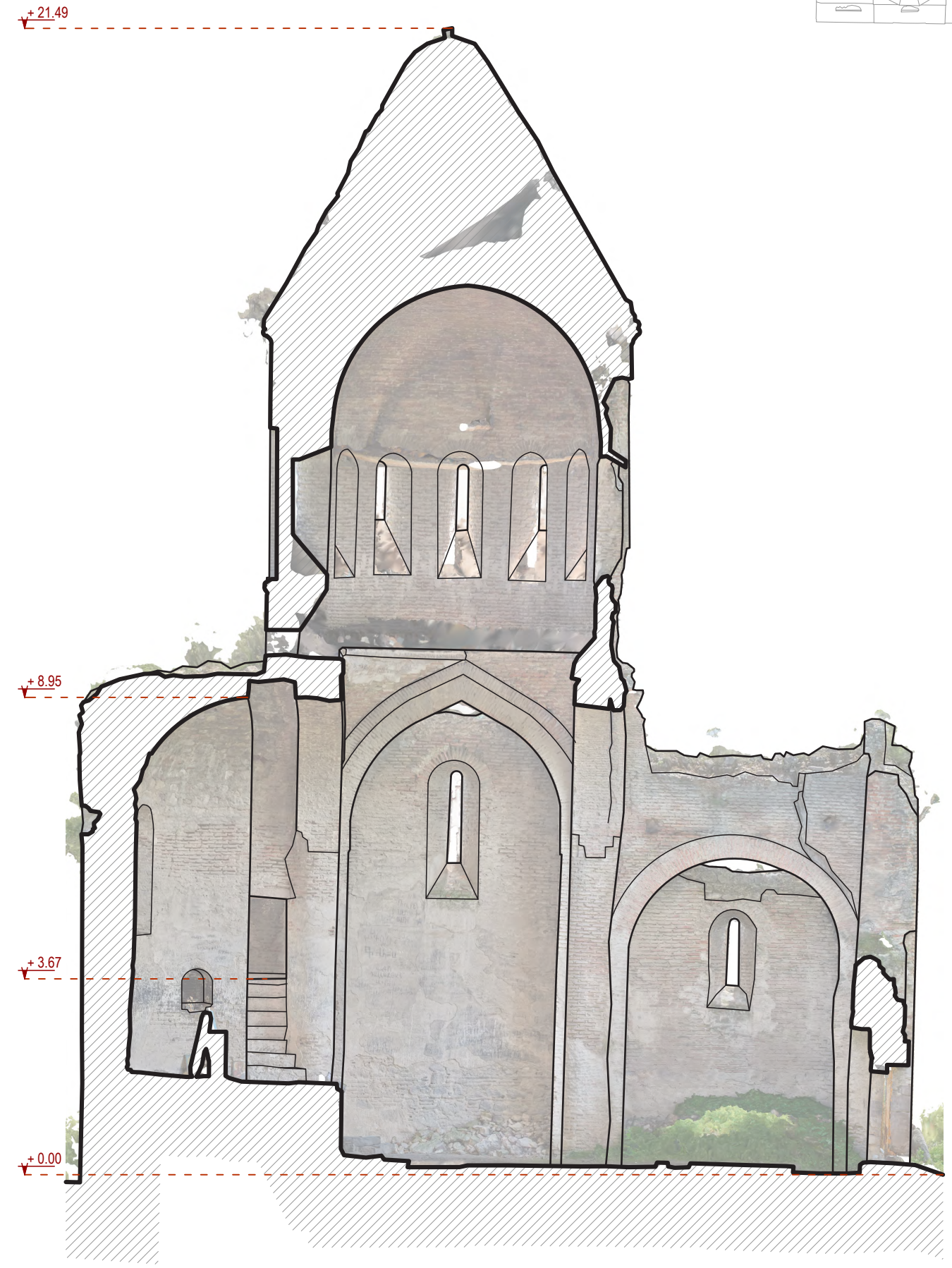
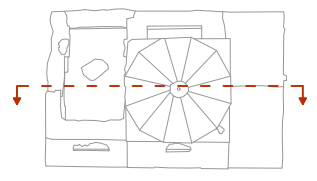
+0.00



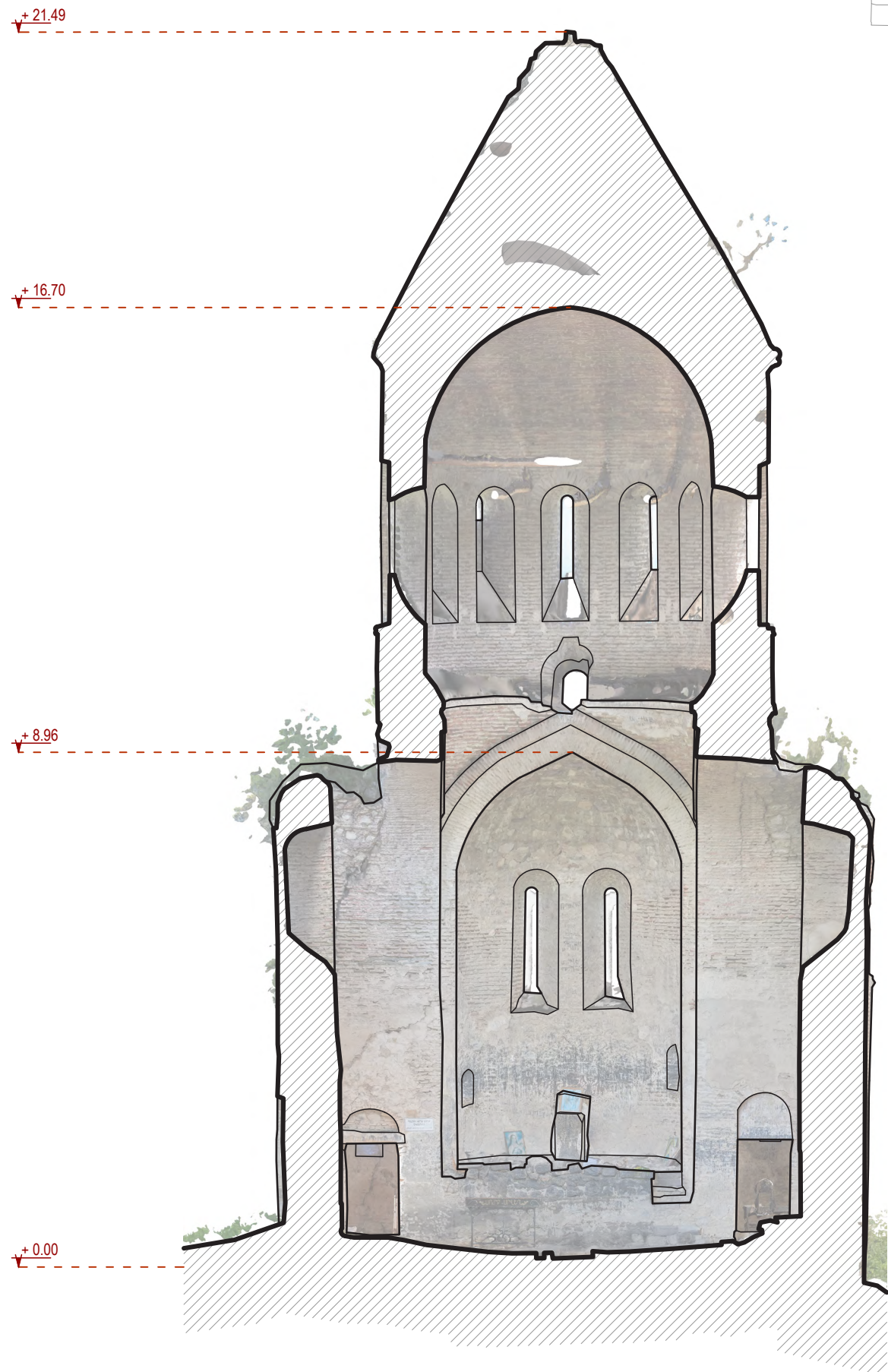
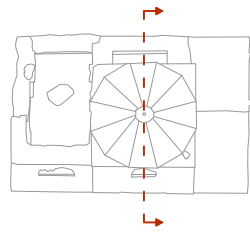
Northern Facade
Iconem 2021



Western Facade
Iconem 2021



Section 01
Iconem 2021



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Section 02
Iconem 2021

BARDZRYAL KHACH MAUSOLEUM

| | |
|------------------------|------------------------------------|
| Coordinates: | 41.17221, 45.09537 |
| Locality : | Barekamavan |
| Region: | Tavush |
| Site type: | Mausoleum-chapel |
| Dating: | 5 th -6 th c |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 11/2021 |

1. General History

There are no historical sources mentioning this monument, however the architectural and artistic features indicate that initially, it had a funerary function (although no burial was found), and was then transformed into a church when a *khachkar* was installed inside during the Middle ages¹.

Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 1. Georeferenced ortho-image of Bardzryal Khach mausoleum site extracted from the textured 3D scan (Iconem 2021)

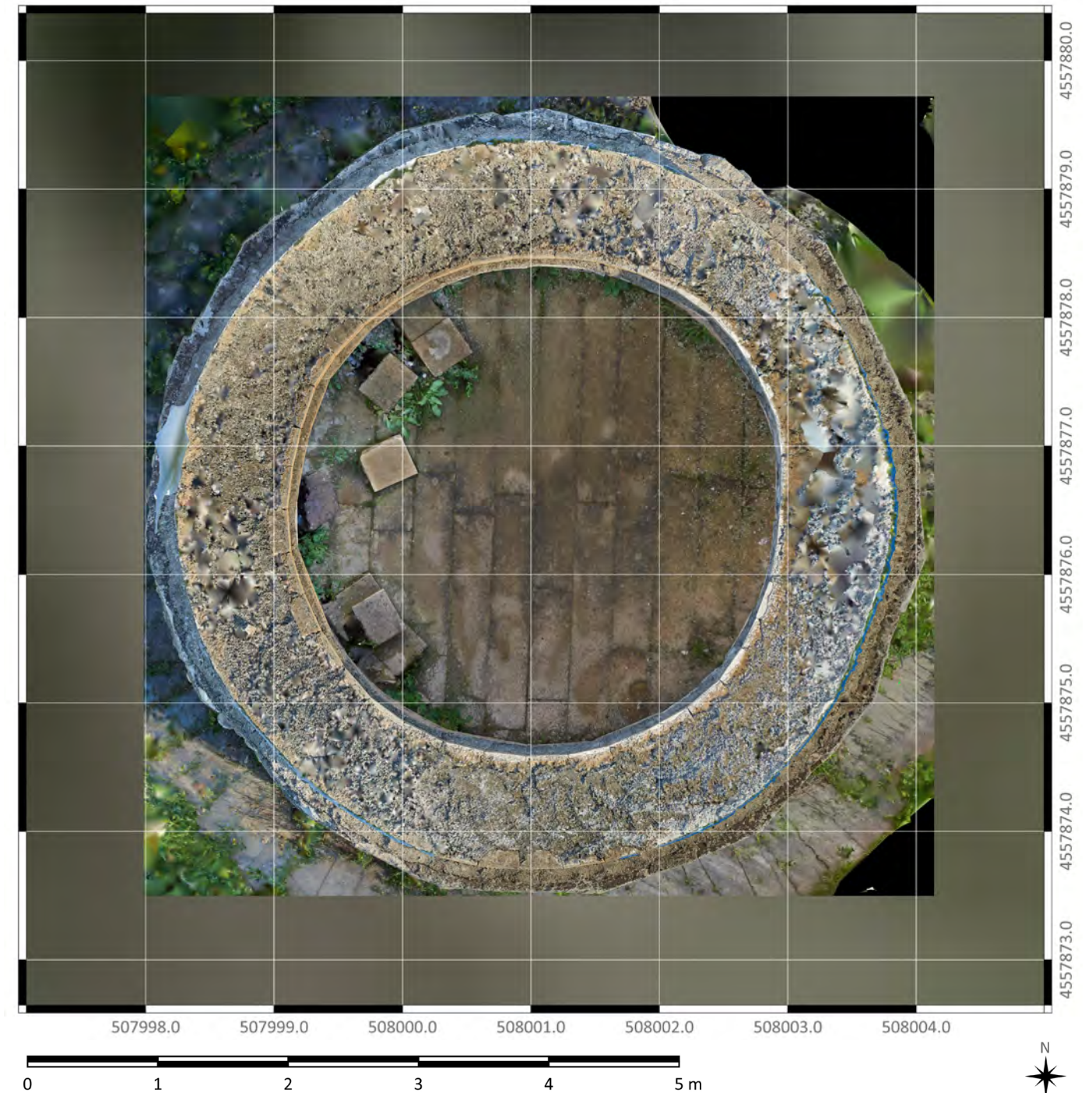


Fig. 2. Georeferenced ortho-image of Bardzryal Khach mausoleum site extracted from the textured 3D scan (Iconem 2021)

1. Ghazaryan 2008, p. 94-95.

2. Site description

The mausoleum is located on the top of a mountain, about 3km west of Barekamavan village (fig. 1-2). It is a small circular building of 15m diameter in the inside, polygonal from the outside and built with limestone (fig. 3). It has a single entrance on the north, and a cross-shaped window on the eastern side (fig. 4-5).

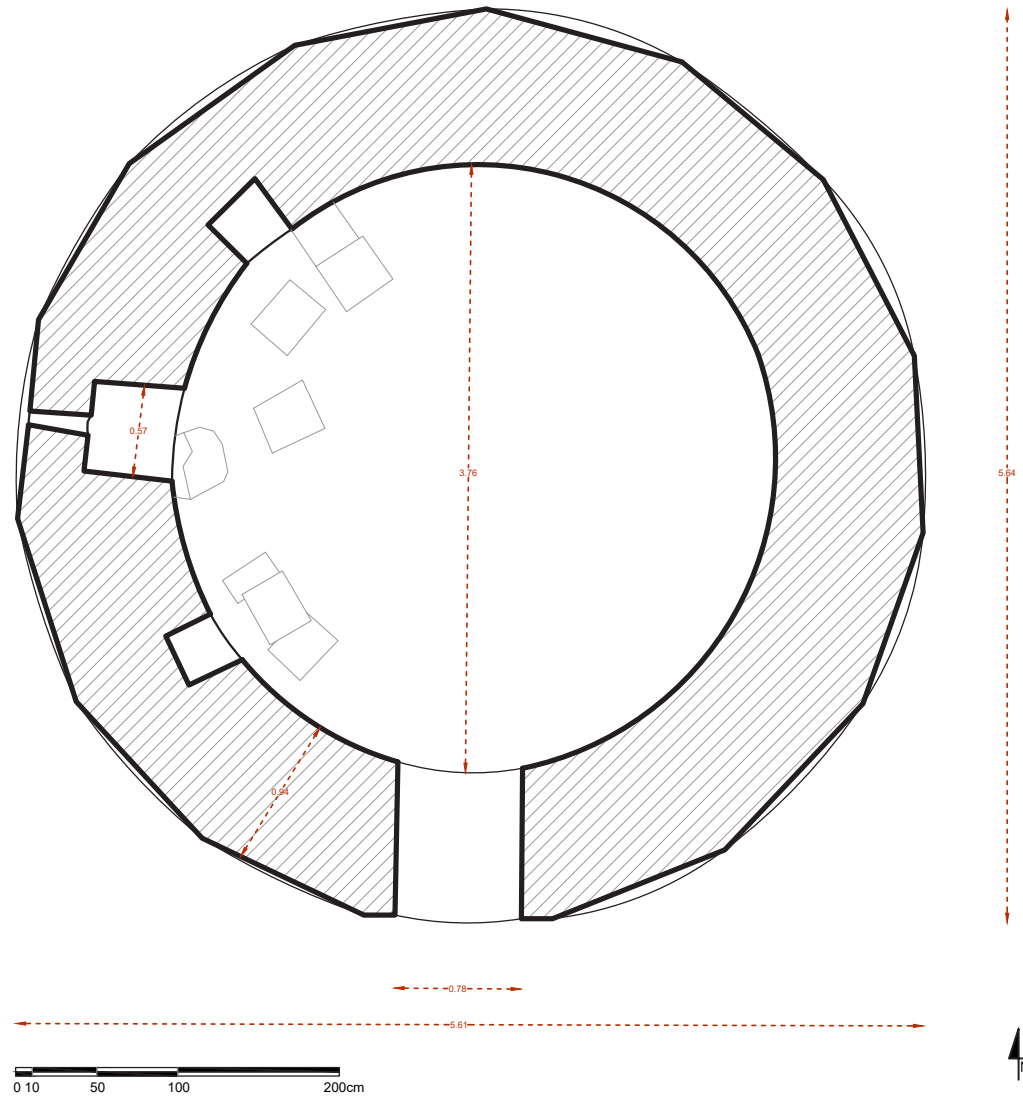


Fig. 3. Plan of Bardzryal Khach mausoleum (Iconem 2021)

The mausoleum's entablature is carved with garlands intercepted with heads of various animals (ox, ram, boar...). There are also vegetal motives, such as acanthus leaves and flowers (fig. 6-7). A carved band of leaves surmounts the window's arch (fig. 5).



Fig. 6. Ortho-image of the mausoleum's southern facade (Iconem 2021)



Fig. 4. The northern entrance of the mausoleum (Iconem 2021)

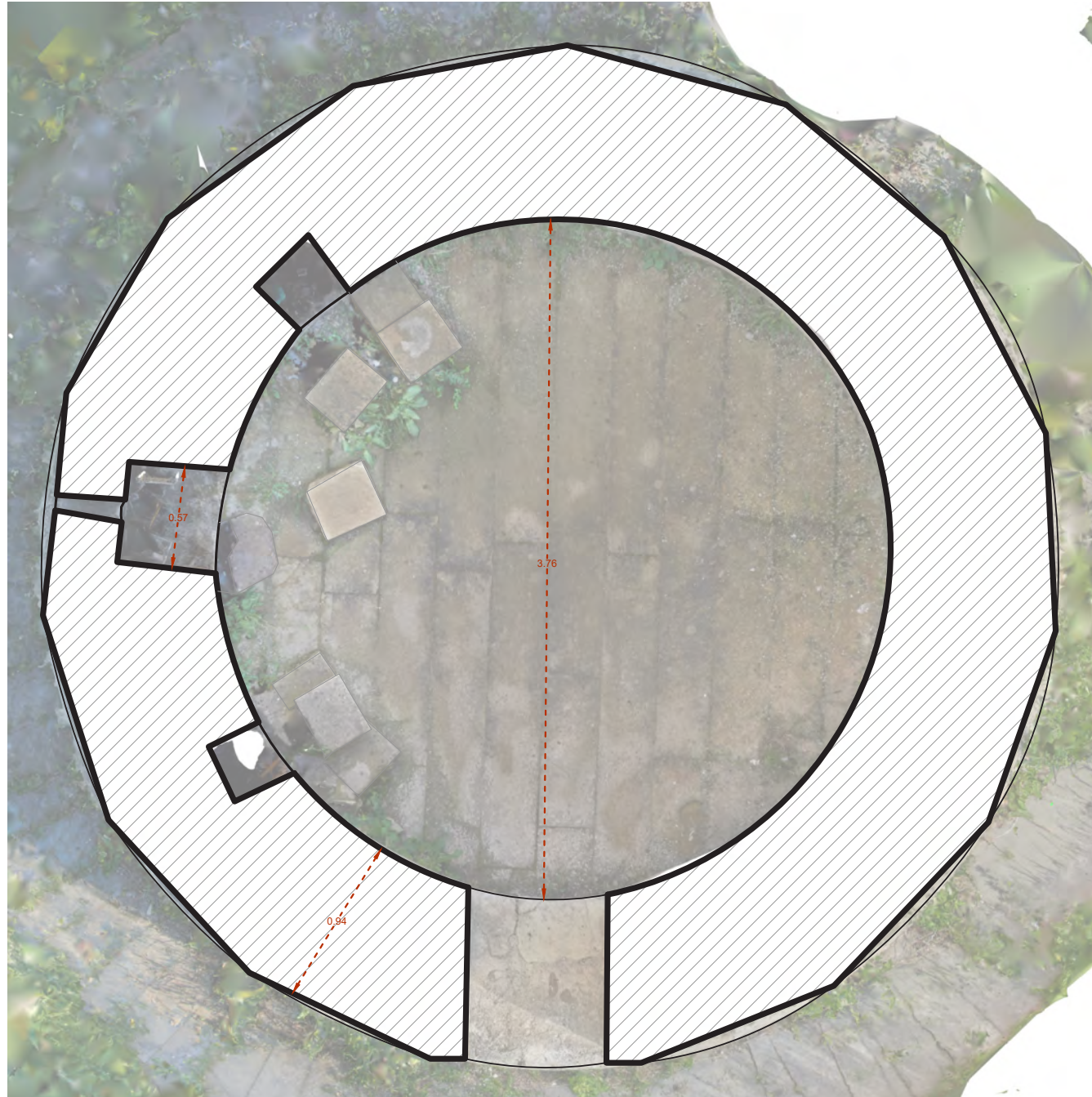


Fig. 5. The eastern window (Iconem 2021)



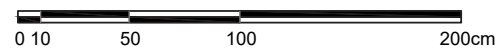
Fig. 7. Detail of the entablature extracted from the ortho-image (Iconem 2021)

3. Boards

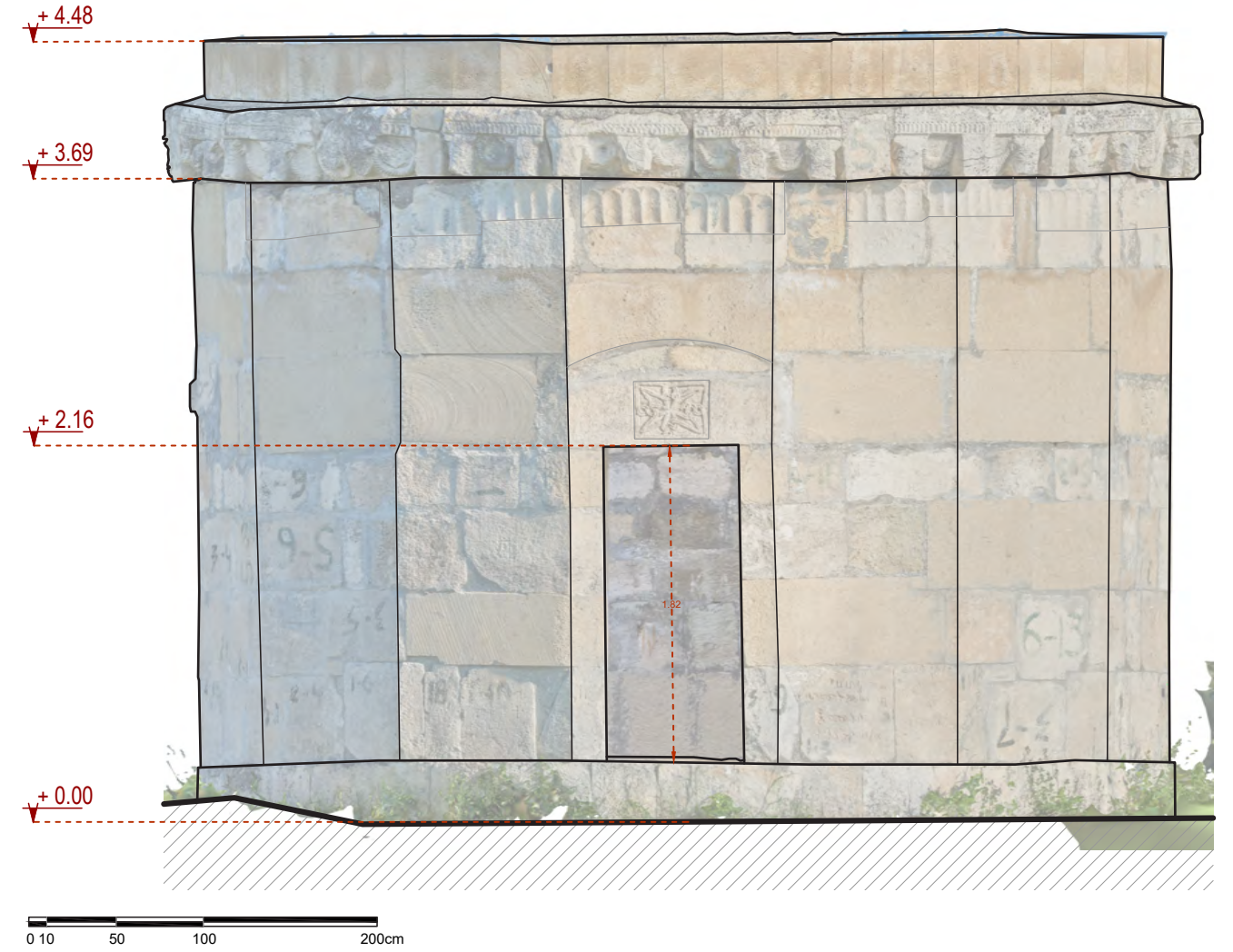


-0.78-

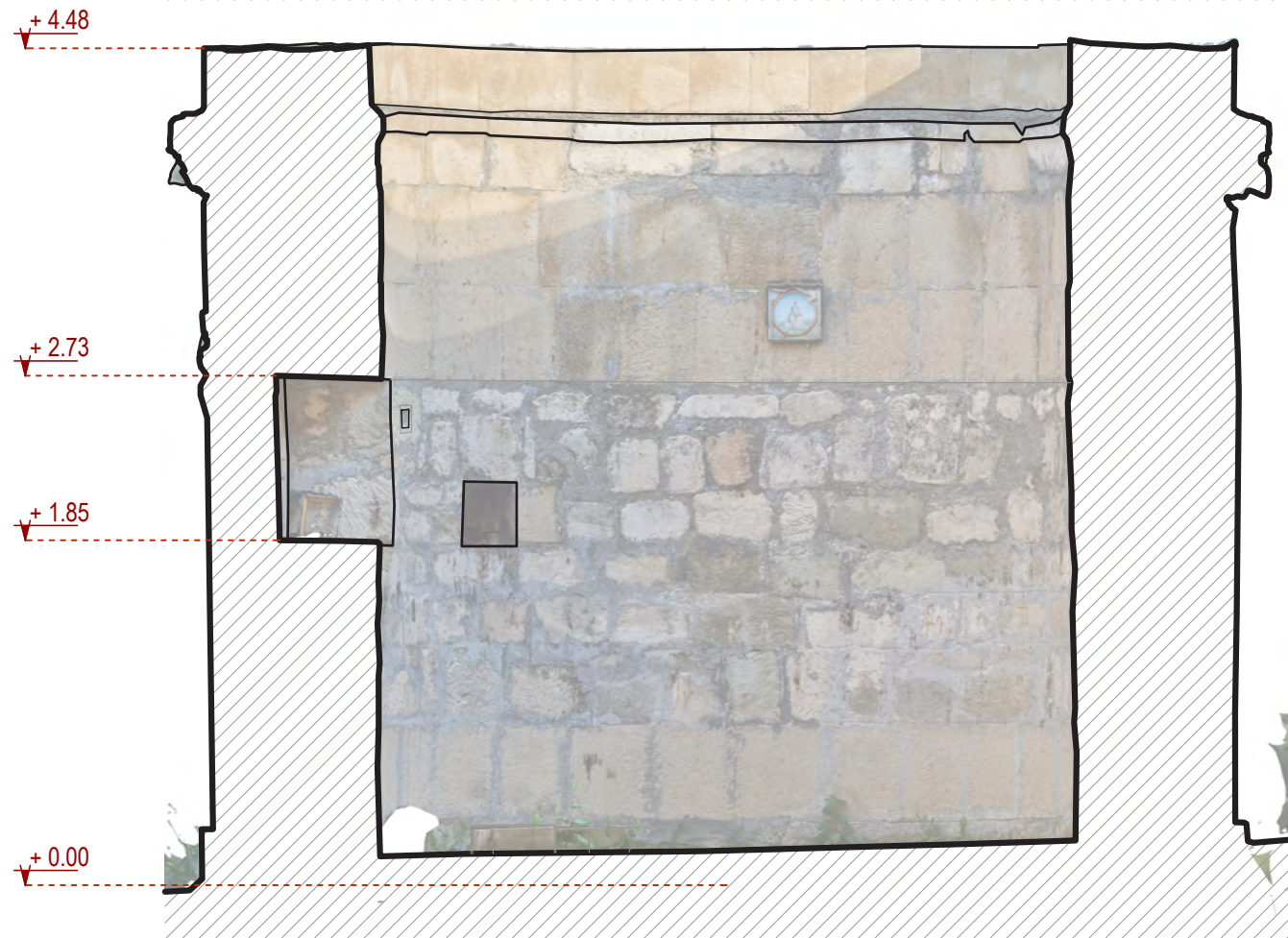
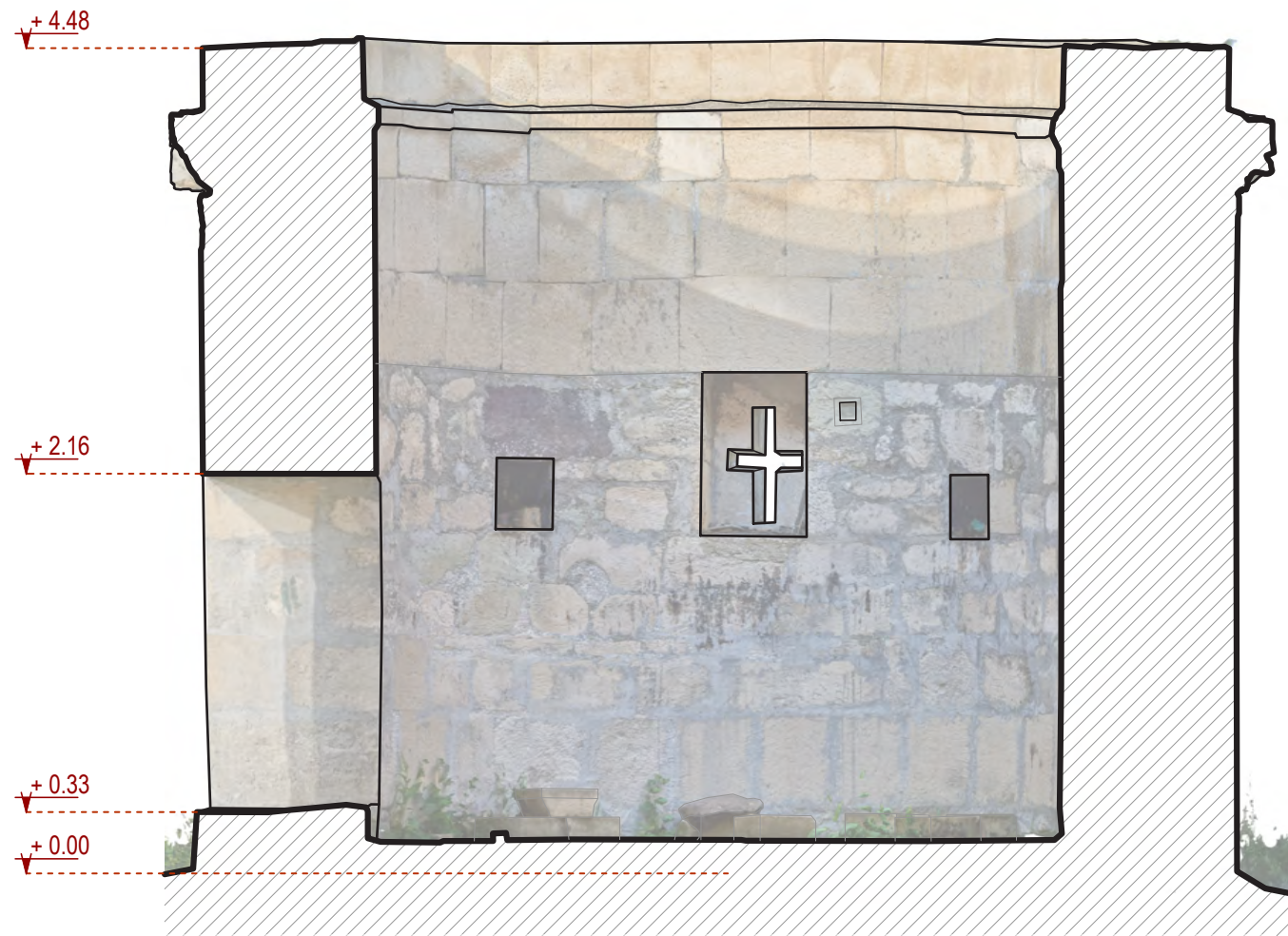
-5.61-



Plan +150cm
Iconem 2021



Southern facade
Iconem 2021



0 10 50 100 200cm

Section 1&2
Iconem 2021

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Fig. 1. Georeferenced ortho-image of Berdavan extracted from the textured 3D scan (Iconem 2021)

BERDAVAN

| | |
|-------------------------------|--|
| Coordinates: | 41.20376, 45.02042 |
| Locality : | Berdavan |
| Region: | Tavush |
| Site type: | Fortress, church, cemetery |
| Dating: | 10 th -11 th c - 18 th c. |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 09/2021 |

1. General History

Berdavan (previously called Ghalacha) was one of the main centers of the Kyurikyan dynasty (10th-12th c.), and then of the Vahramyans (12th-14th c.). The fortress, first mentioned in the beginning of the 12th century by Georgian authors, was built in the 10th-11th centuries¹.



Fig. 2. Aerial view of Berdavan's fortress, church and cemetery (Iconem 2021)

1. Barseghyan, Khachatryan 1962, p. 71.



Fig. 3. Georeferenced ortho-image of Berdavan's fortress and church extracted from the textured 3D scan (Iconem 2021)

2. Site description

The site is composed of a fortress, a church and a cemetery (fig. 1-3).

The fortress, called Ghalinjakar, is built on a hill. Made of felsite stone blocks assembled with lime mortar, it has a triangular plan with rounded corners and was most probably two-storied (fig. 4)². It has three large semi-cylindrical exterior towers, and smaller ones on the southern side. Some of the stone blocks are carved, such as the crosses on one of the eastern towers (fig. 5). A single entrance is located on the western side. The fortress had an underground tunnel leading to the valley. The fortress was renovated in the 1980s.

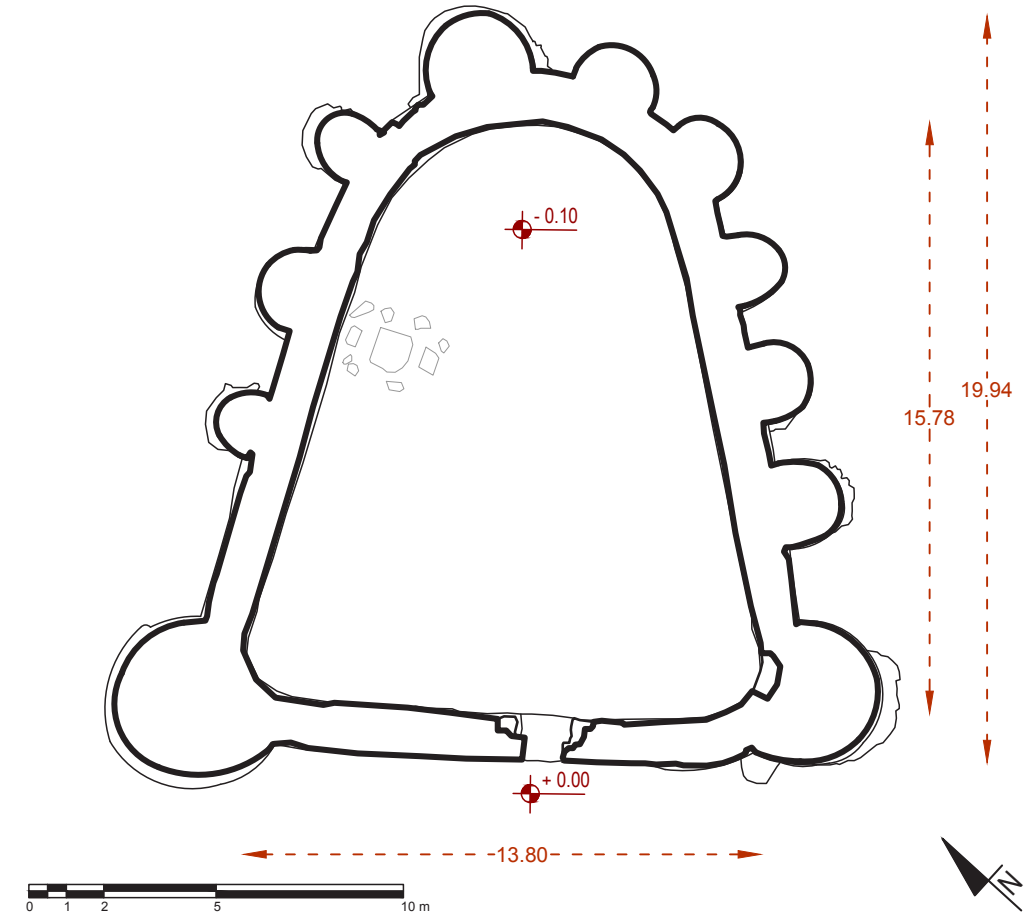


Fig. 4. Plan of Berdavan's fortress (Iconem 2021)



Fig. 5. The crosses on one of the eastern towers (Iconem 2021)

² Barseghyan, Khachatryan 1962, p. 73.

200 meters southwest of the fortress stands the Holy-Sign (Surb-Nshan) church, dated to the 18th-19th centuries (fig. 6). It is a three-nave basilica with an inscribed apse flanked with two sacristies. The roofing has not been preserved. There is a single entrance on the northern façade and several window openings. Part of the arcature of the northern and southern walls is preserved. However, the church's roof has collapsed and is invaded by vegetation.

The cemetery lays 50 meters south of the church, with a small chapel, *khachkars* and several tombstones with inscriptions and representations of the deceased, dated to the 13th to the 17th centuries (fig. 7-8). A couple of *khachkars* are inside the small chapel (fig.9) The free-standing cross (13th century) is particularly noteworthy (fig. 10)³. The cemetery's tombstones and *khachkars* are quite deteriorated as well.



Fig. 6. Aerial view of Berdavan's church (Iconem 2021)



Fig. 9. A *khachkar* inside the chapel (Iconem 2021)



Fig. 10. The free standing cross (Iconem 2021)



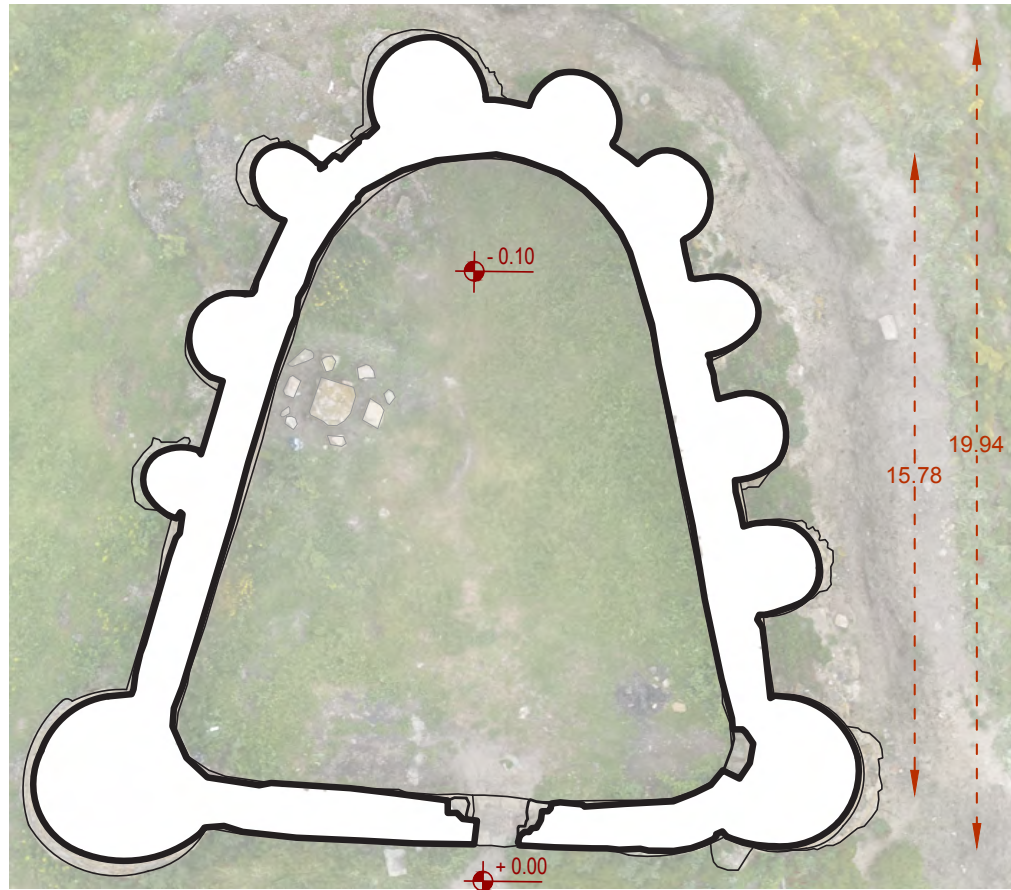
Fig. 7. A tombstone from the cemetery (Iconem 2021)



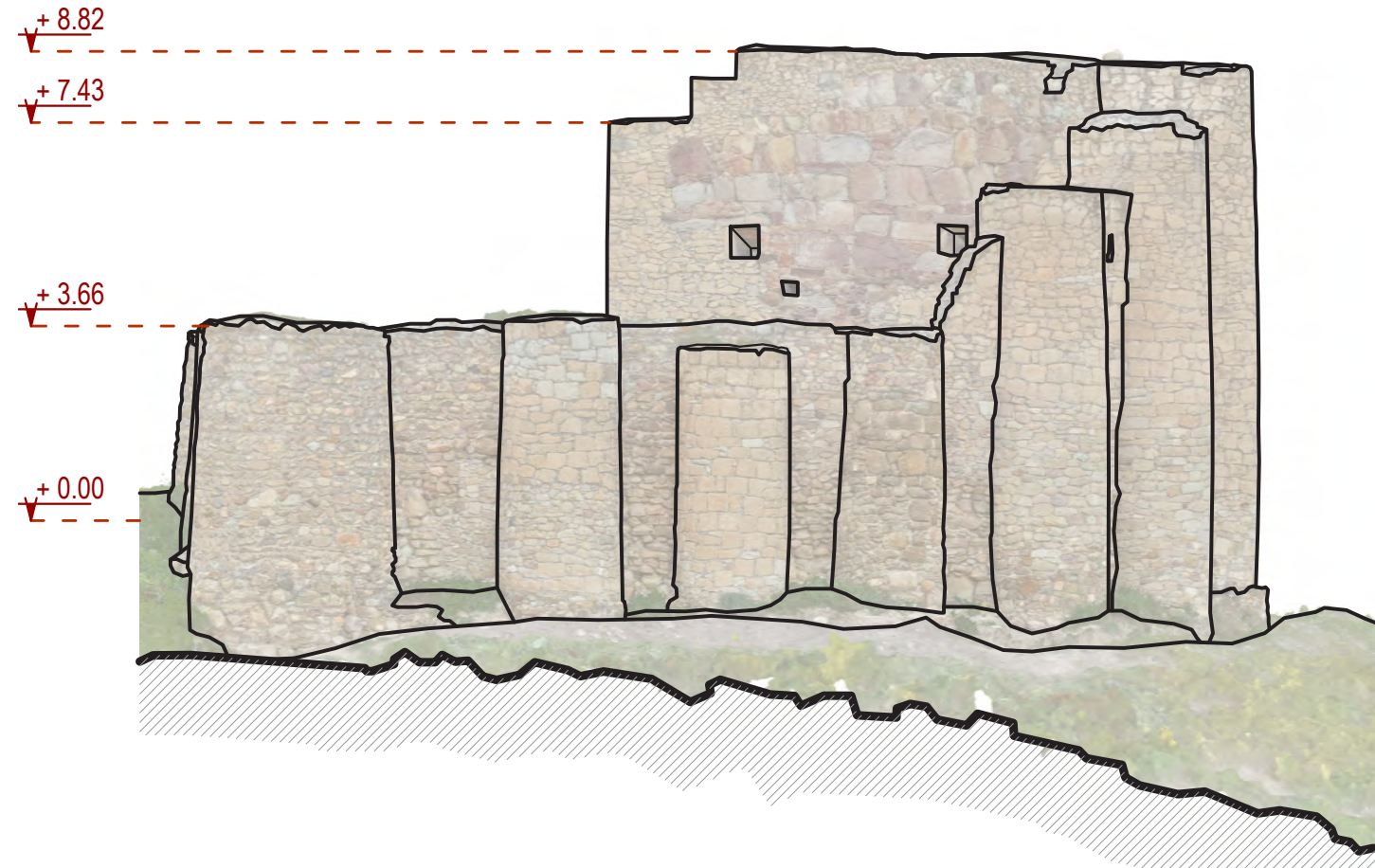
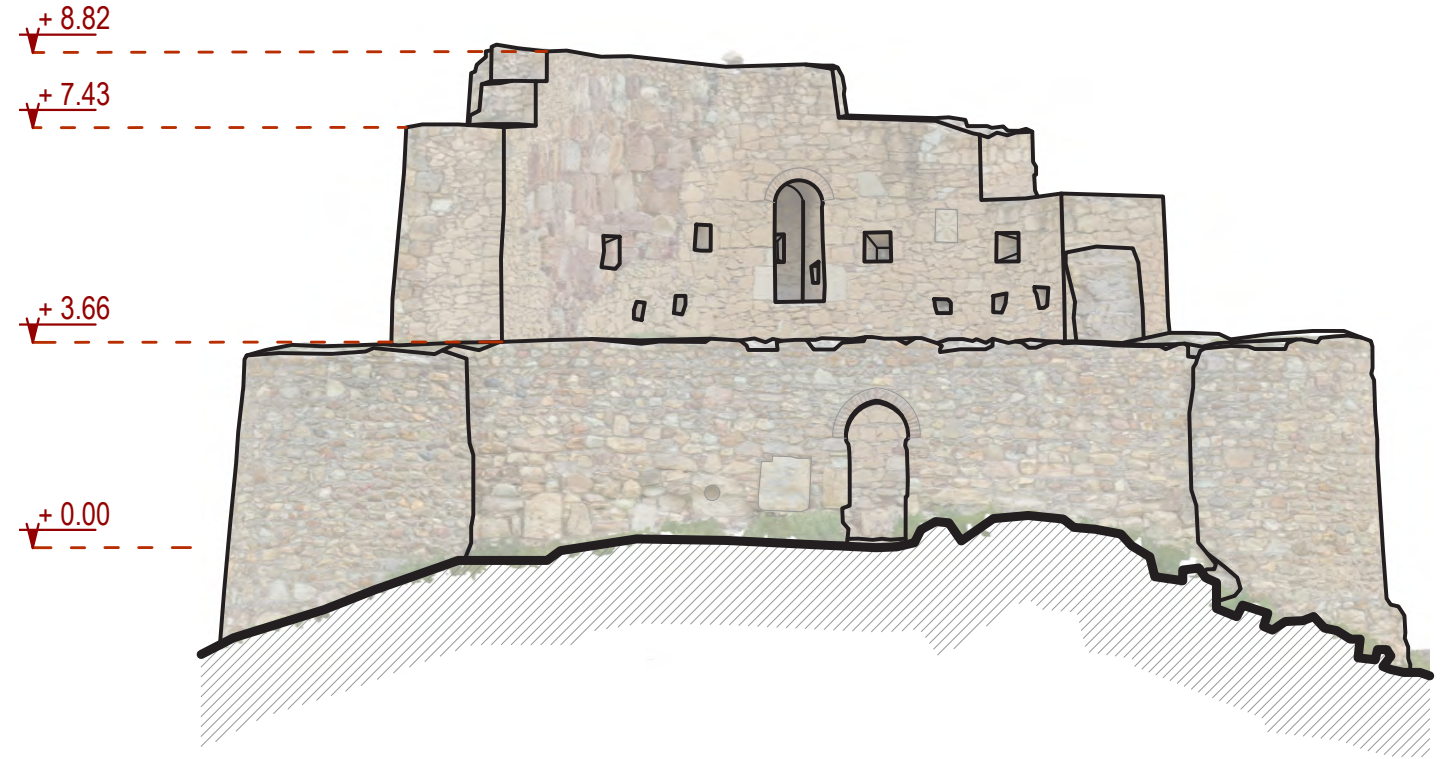
Fig. 8. A *khachkar* from the cemetery (Iconem 2021)

3. Barkhudaryan, Ghafandaryan, Saghumyan 2012, p. 497-498 ; Karapetyan 2014, p. 434.

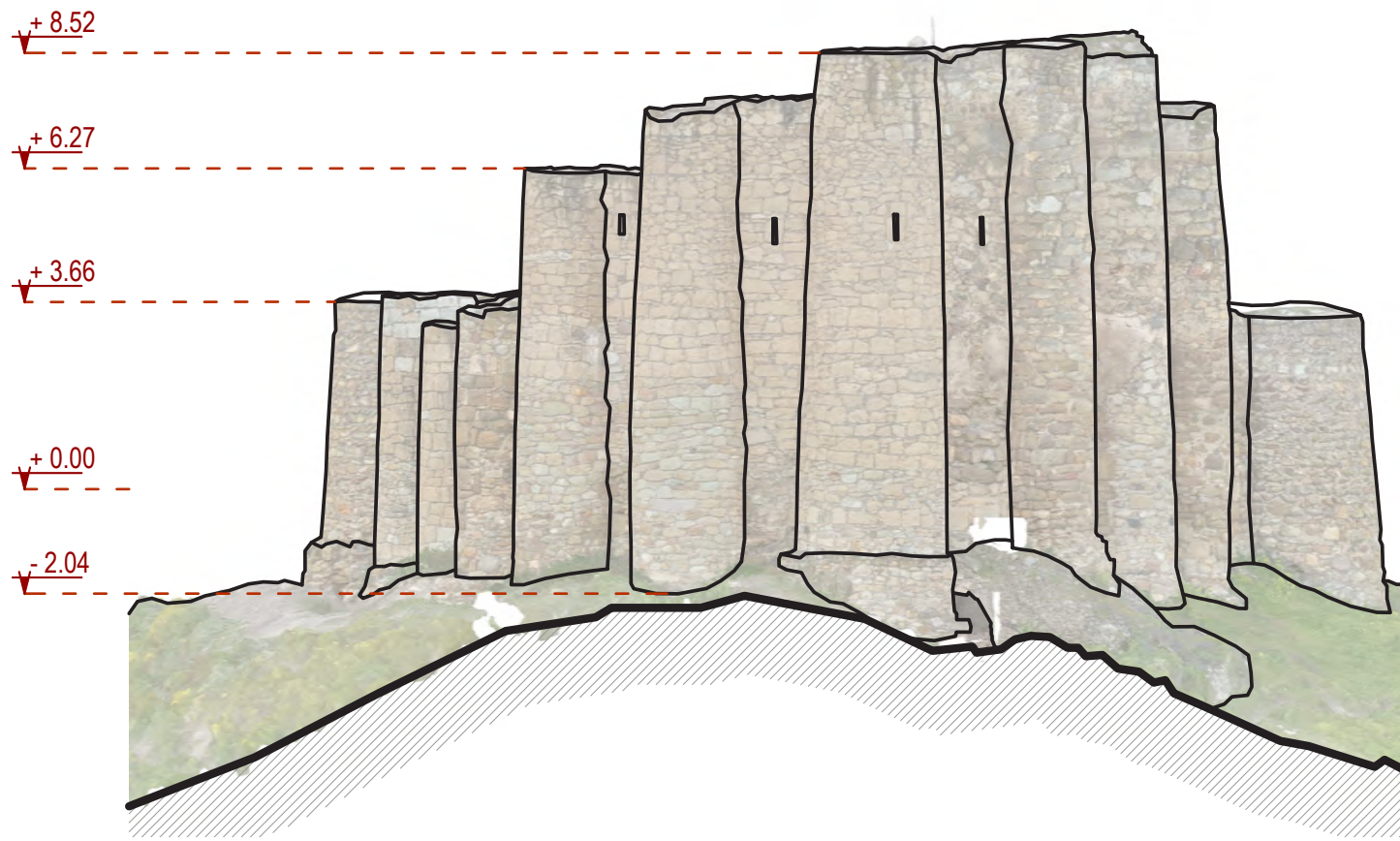
4. Boards



Site plan & Plan +150cm
Iconem 2021



Southern & Eastern Facade
Iconem 2021



Western & Northern Facade
Iconem 2021

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- S. Karapetyan, *Armenia*, Yerevan 2014.

KOGHB CEMETERY

| | |
|------------------------|---|
| Coordinates: | 41.177626717055965, 44.9809323805593 |
| Locality : | Koghb |
| Region: | Tavush |
| Site type: | Four-sided stelae - church |
| Dating: | 7 th century – 9 th century |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 11/2021 |

1. General History

There are no historical sources mentioning this cemetery and its surrounding monuments.

Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 1. Georeferenced ortho-image of Koghb cemetery extracted from the textured 3D scan (Iconem 2021)



Fig. 2. Georeferenced ortho-image of the cemetery's church extracted from the textured 3D scan (Iconem 2021)



Fig. 3. Aerial view of the cemetery's church (Iconem 2021)

2. Site description

The cemetery of Koghb is located at the south-east of the village (fig. 1). It is extremely dense with tombstones dating from the Middle Age to nowadays, as it is still active. In its oldest part, there is a 13th century church (fig. 2-3-4), partially ruined. It is a small single nave building with an inscribed apse, built with coarse stones assembled with lime mortar with a cladding of cut stone blocks on the façade. It was not decorated, however 7th century four-sided stelae have been used as building blocks¹.

Most of the stelae's faces are hidden due to the re-employment in the building. However the visible faces present figurative, zoomorphic and ornamental carved reliefs with motives of acanthus leaves, crosses, peacock and saints (fig. 5). One of the sculpted blocks (a lintel or a base) presents a figurative scene that either represents a scene of Cross veneration or the restitution of the True Cross by the emperor Heraclius (fig. 6)².



Fig. 5. The northern wall of the church with inserted stela (Iconem 2021)



Fig. 6. The inserted lintel/base (Iconem 2021)

1. About four-sided stela, see Tchakerian 2016.
2. Hakobyan 2010, p. 76.

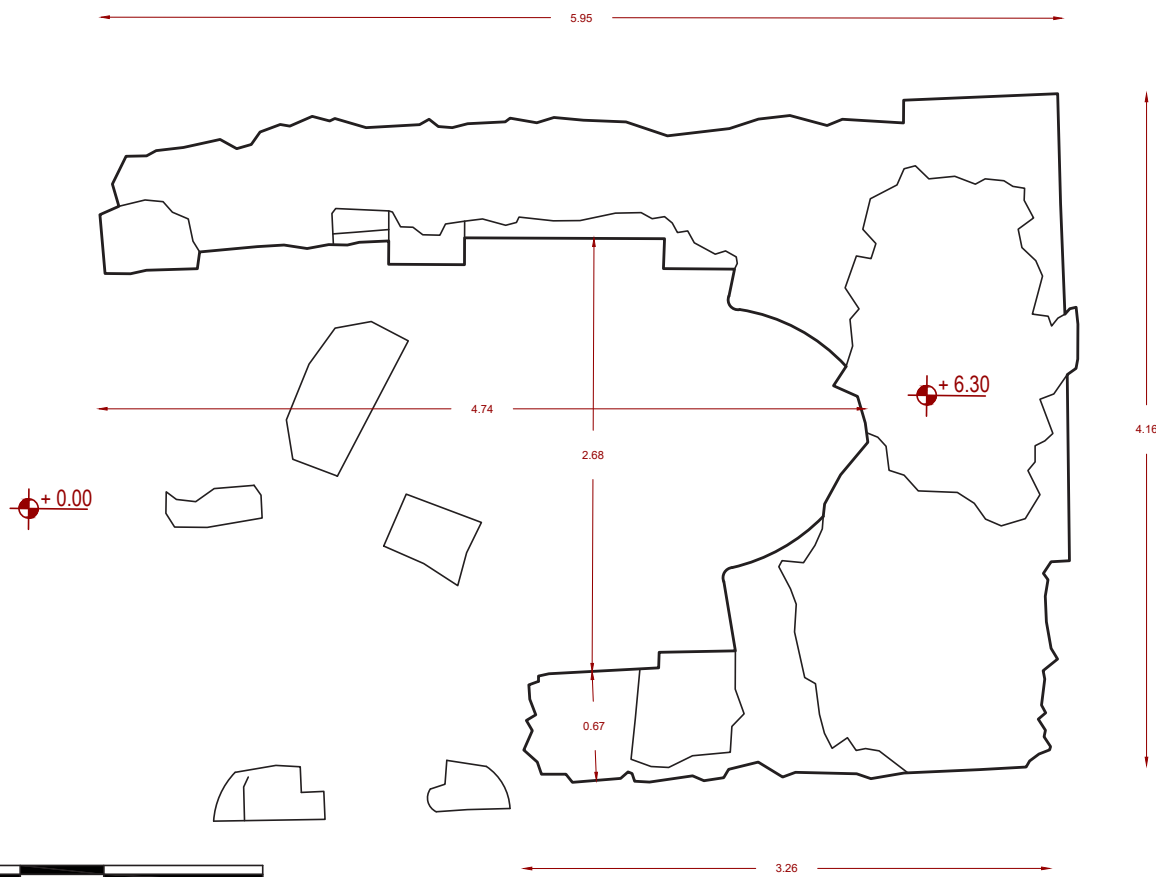


Fig. 4. Plan of the cemetery's church (Iconem 2021)



Six meters south to the church, there are the rumble of a small chapel as well as two *khachkars* (fig. 7).



Fig. 7. khachkar in the south to the church (Iconem 2021)

The church is severely deteriorated, as well as the chapel. The chapel's cladding's stone blocks have disappeared almost entirely: only some of them are preserved on the eastern façade. An archive photography from 1935 shows that the deterioration got worse during the last century (fig. 8.). Although the chapel was already destroyed, its vault was better preserved, especially on the northern wall. The small chapel was in a much better state, with its façade still visible. Both *khachkar* were also still standing in 1935. The one on the ground is covered with moss. As regards the four-sided stelae and the lintel, their re-use allowed preserving them, although they are fragmentary and their relief significantly eroded.



Fig. 8. Archive photography from 1935 by Ghevond Ghukasyan (History Museum of Armenia)

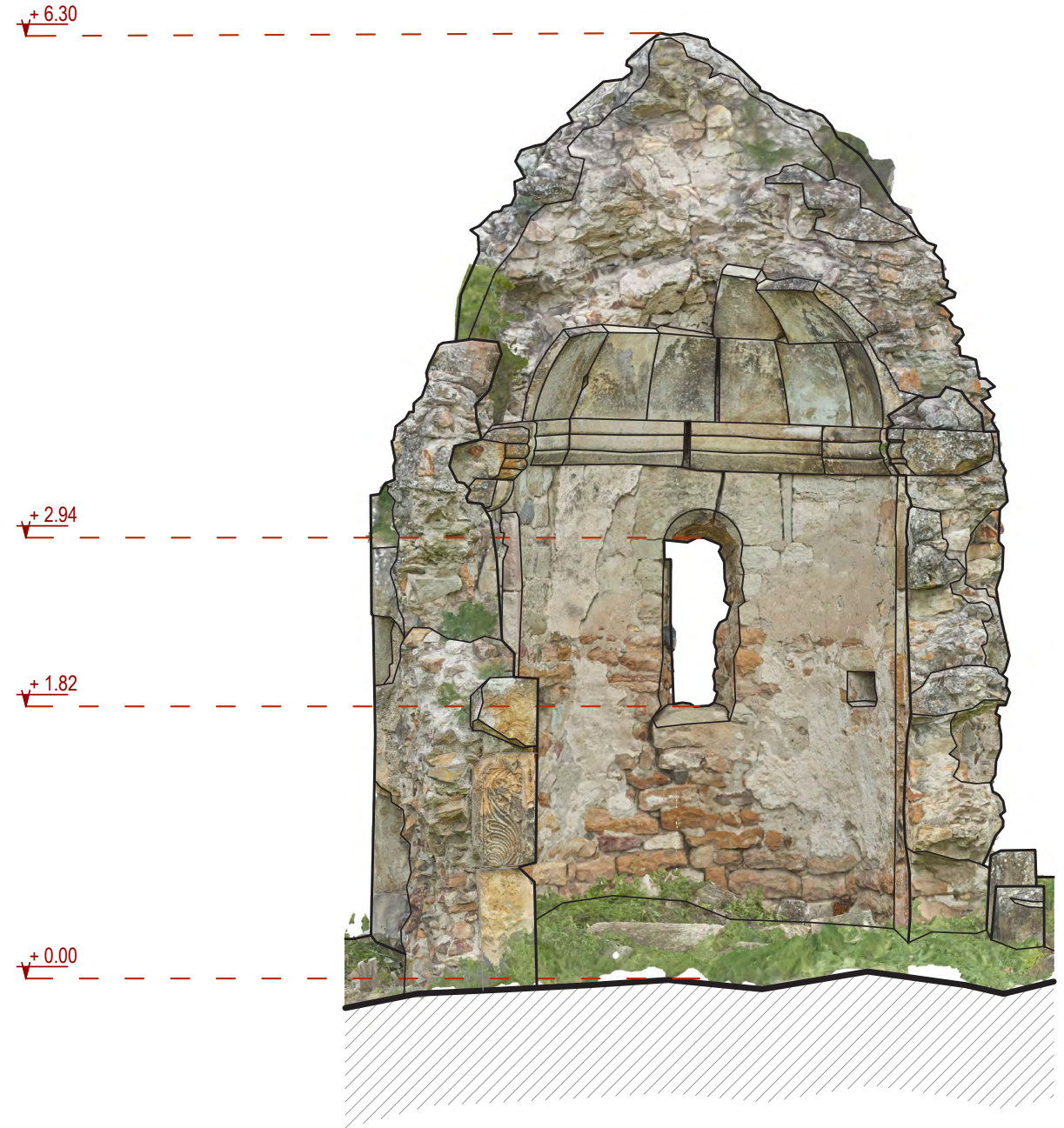
3. Boards



Site plan
Iconem 2021



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0 0.5 1 2m

Facade 2
Iconem 2021

KIRANTS MONASTERY

| | |
|------------------------|--|
| Coordinates: | 41.01205, 44.99044 |
| Locality : | Kirants |
| Region: | Tavush |
| Site type: | Monastery |
| Dating: | 12 th -13 th centuries |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 11/2021 |

1. General History

The historical sources do not mention this monastery. However, the architectural and artistic features allow dating it from the end of the 12th century to the middle of the 13th century¹.

Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638

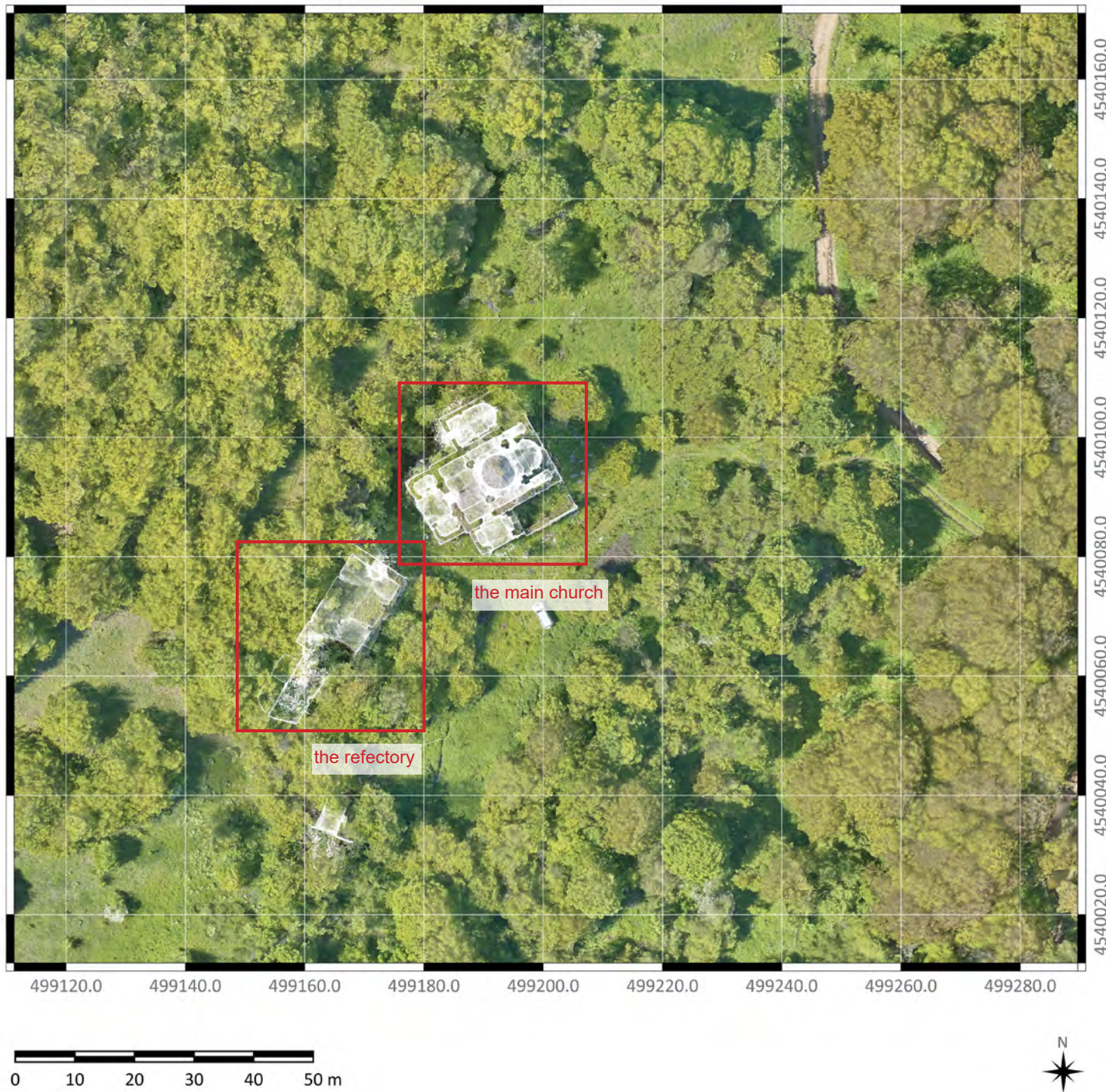


Fig. 1. Georeferenced ortho-image of the monastery of Kirants extracted from the textured 3D scan (Iconem 2021)



Fig. 2. Aerial view of Kirants's church (Iconem 2021)

1. Thierry 1983, p. 214.

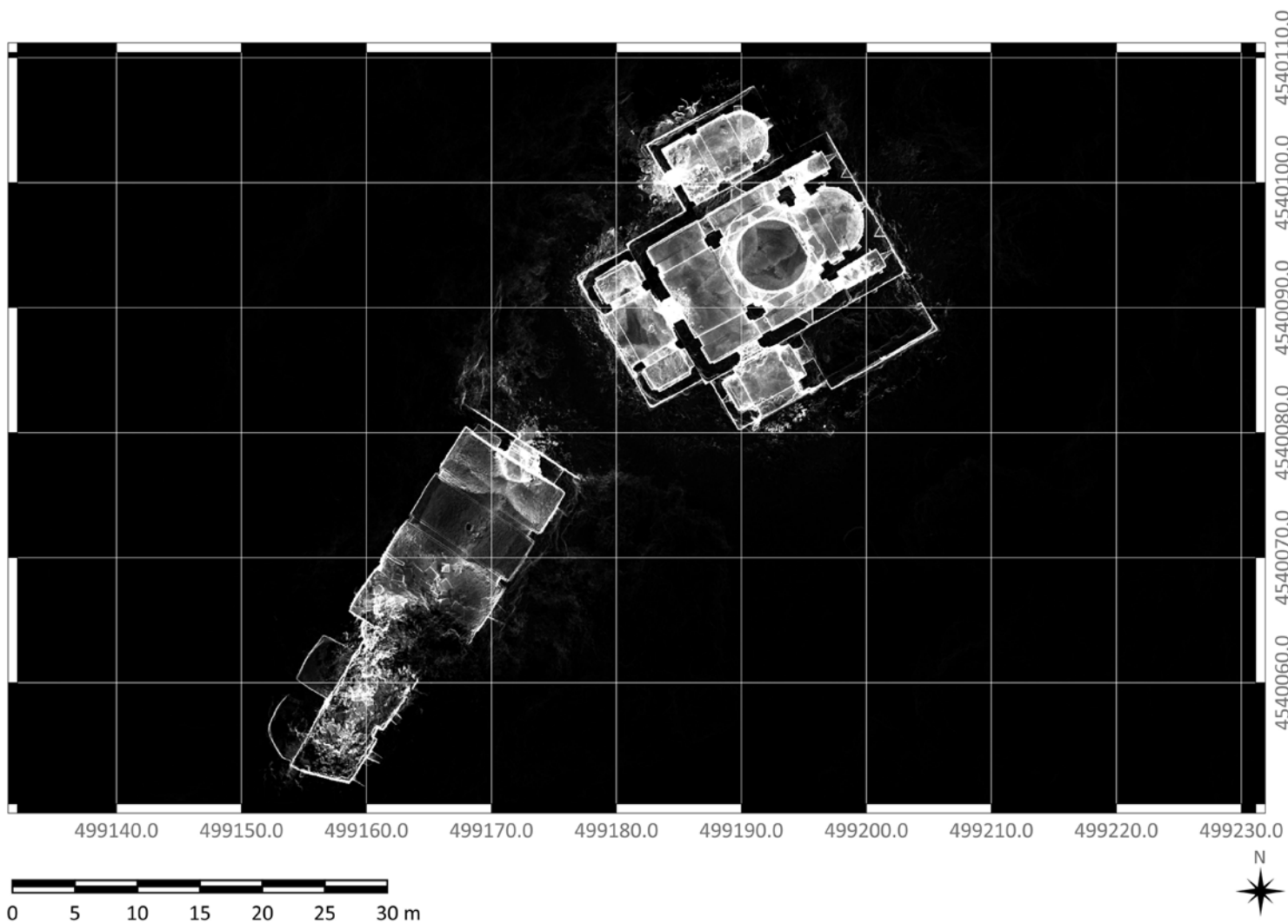


Fig. 3. Transparent plan on the Georeferenced ortho-image of the monastery of Kirants extracted from the textured 3D scan (Iconem 2021)(Iconem 2021)

2. Site description

The monastery of Kirants is located 12 km west of the eponymous village, far into the woods (fig. 1-3). It consists of a church, a refectory, auxiliary buildings (kitchens, cells...) and a cemetery, enclosed within fortified walls with wide vaulted gates.

The main church's plan is an inscribed cross with two isolated western supports (fig. 4), a typology specific to Georgian architecture that developed in Armenia after the 13th century, as attest of it the churches of Akhtala, Berdavan and Srvegh². At the west, the church is extended with a *jamatun* or a transverse gallery, a chapel at its north, and another chapel at its south which has its own *jamatun*³. The architectural plan is extremely close to that of the church of Kintsvisi, in Georgia. Another Georgian characteristic of Kirants' church is that it has the particularity to be built with bricks assembled with mortar with stone rows, used for solidity and humidity issues (fig. 5), which can also be observed in the church of Srvegh. It has been suggested that the use of bricks is not due to a lack of means but is a deliberate attempt to imitate Iranian architecture⁴. The drum of the dome is particularly high, similarly to Georgian contemporary churches such as Kintsvisi and Timotesubani. It is ornamented with a blind arcade, each arch being pierced with a narrow window. The use of turquoise green enamel in the ornamentation of the exterior of the drum attests of the influence of Seldjukid architecture, which can be observed in the region of Nakhichevan (fig. 6)⁵. Furthermore, the church was entirely covered with monumental paintings which are extremely damaged. However, a careful study allowed establishing the iconographic program and the quality of the workshop's production⁶. Greek and Georgian inscriptions were also documented (fig. 7).

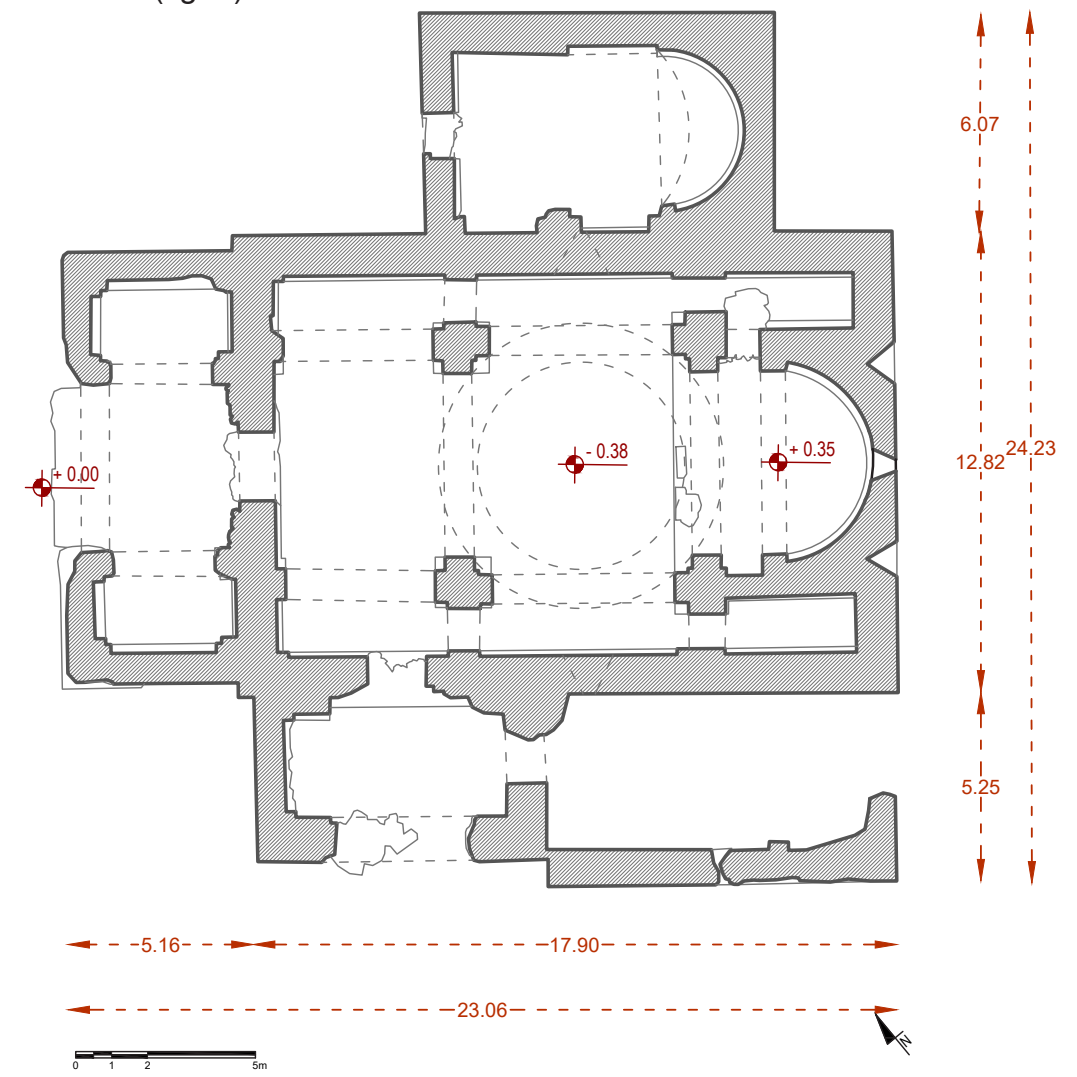


Fig. 4. plan of Kirants's church (Iconem 2021)

2. Donabédian 2017, p. 148.

3. Thierry 1983, p. 194 ; Donabédian 2017, p. 148.

4. Thierry 1983, p. 197-198.

5. As an example, N. Thierry quotes de mausoleum of Mömine Khatun, dated to 1186-1187 (Thierry 1983, p. 198).

6. Idem, p. 214.



Fig. 5. Southern angle of the church (Iconem 2021)

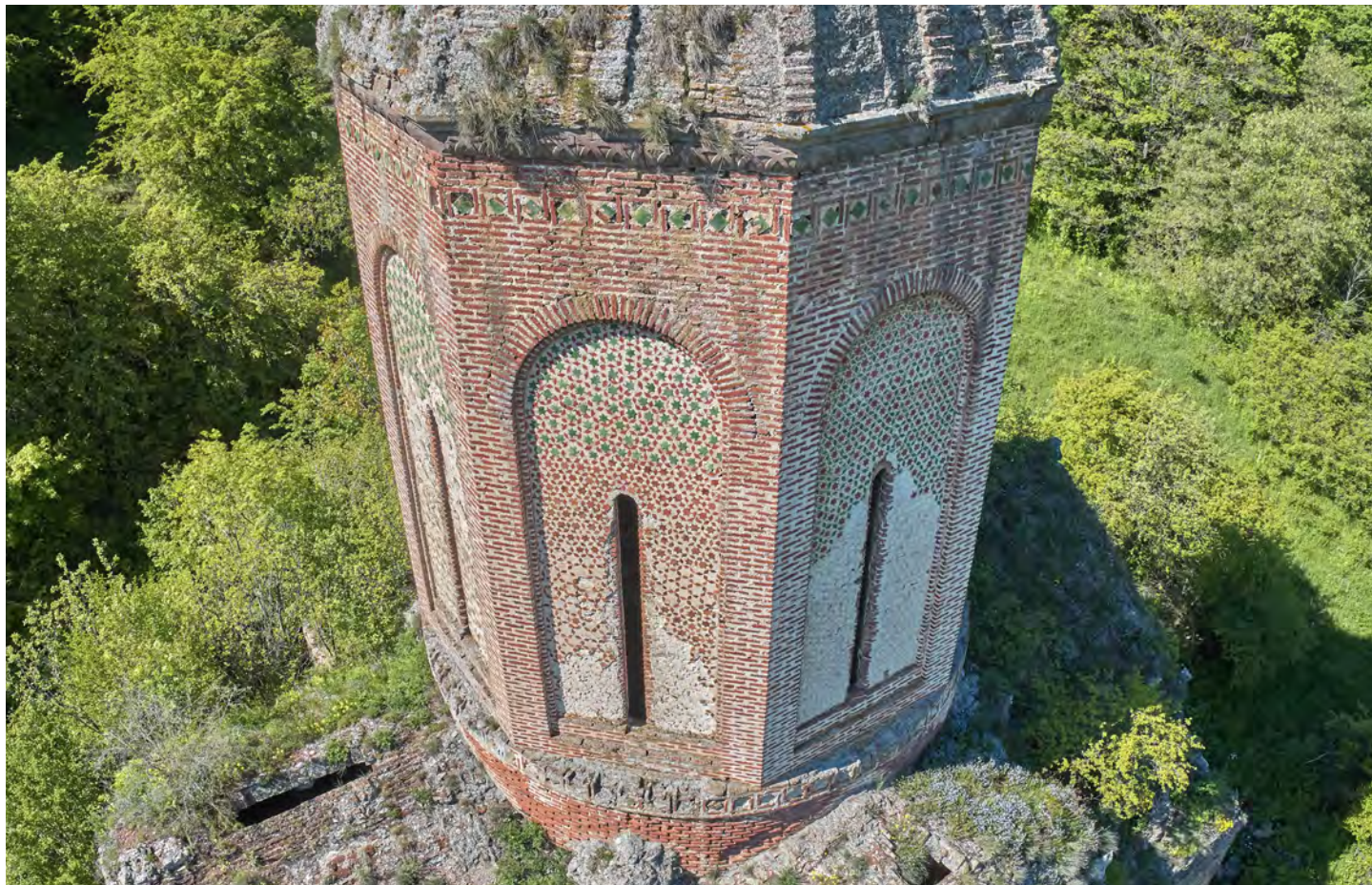


Fig. 6. Aerial view of the dome's drum (Iconem 2021)



Fig. 7. The main apse and its frescoes (Iconem 2021)

The refectory is located on the church's west. It is a rectangular building with a barrel vault. There is a single entrance at the east and windows on the southern and western walls. The building is very deteriorated, especially the southern part (fig. 8-9).



Fig. 8. The main entrance of the refectory (Iconem 2021)

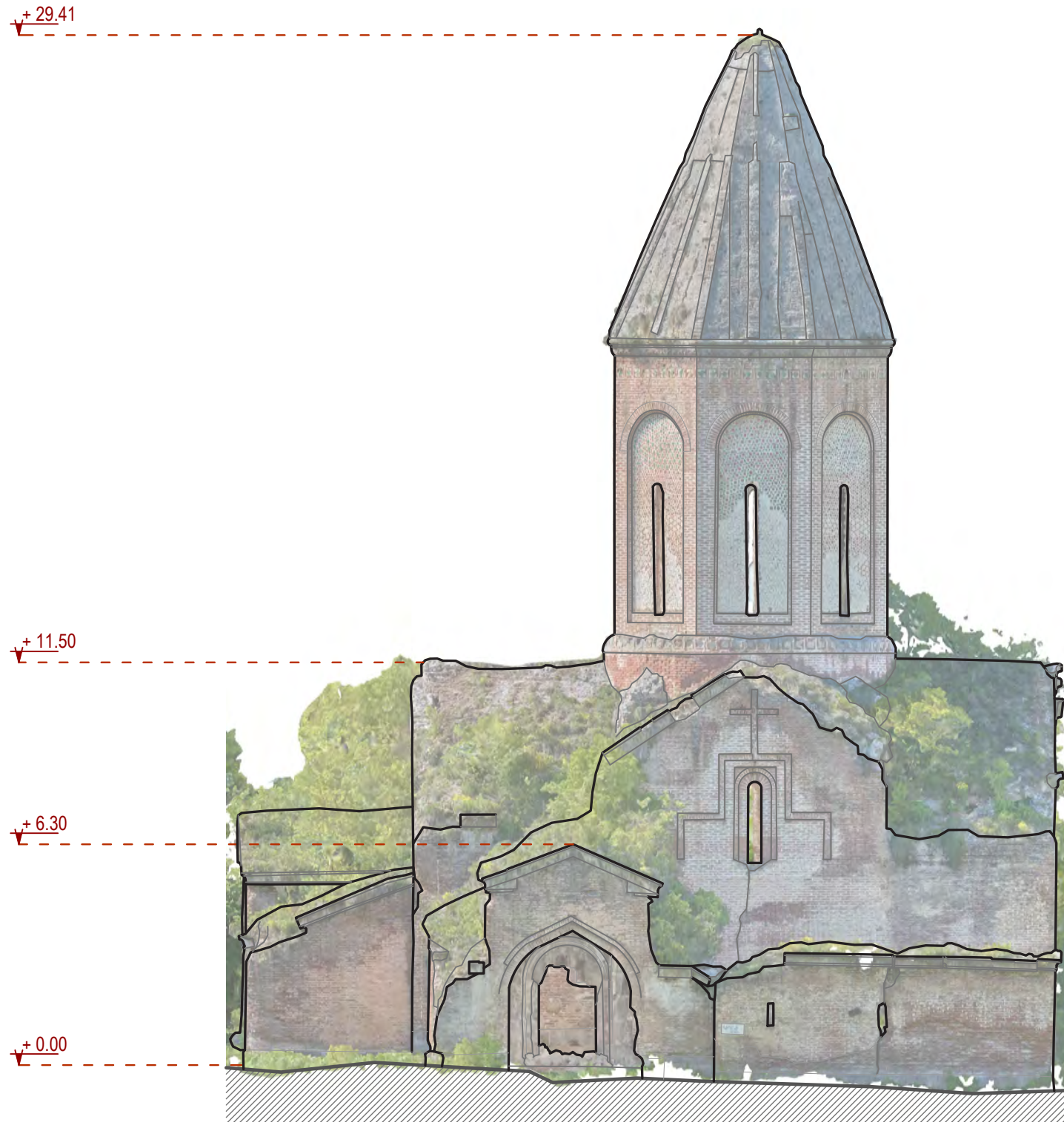


Fig. 9. Interior view of the refectory (Iconem 2021)

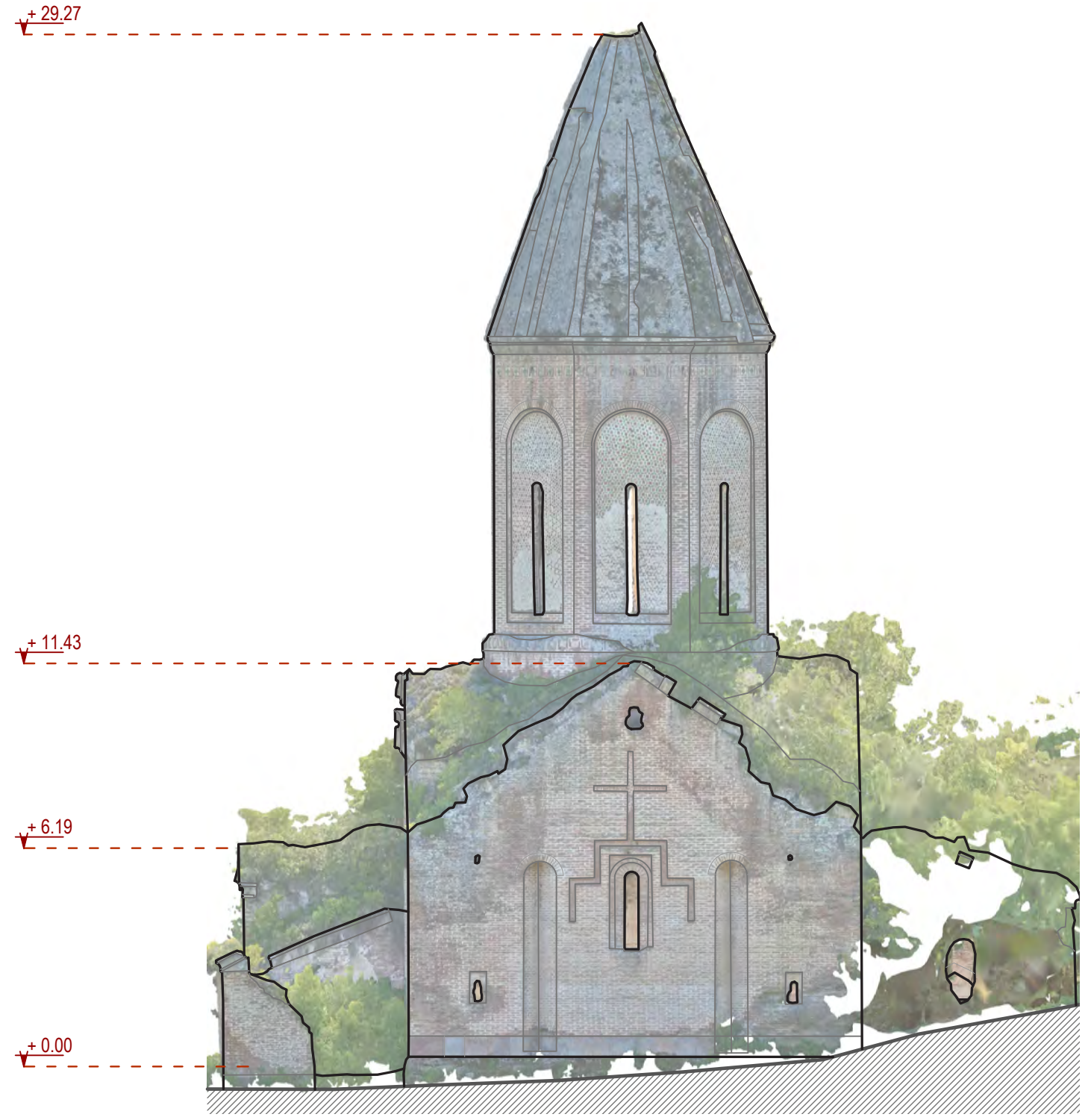
3. Boards



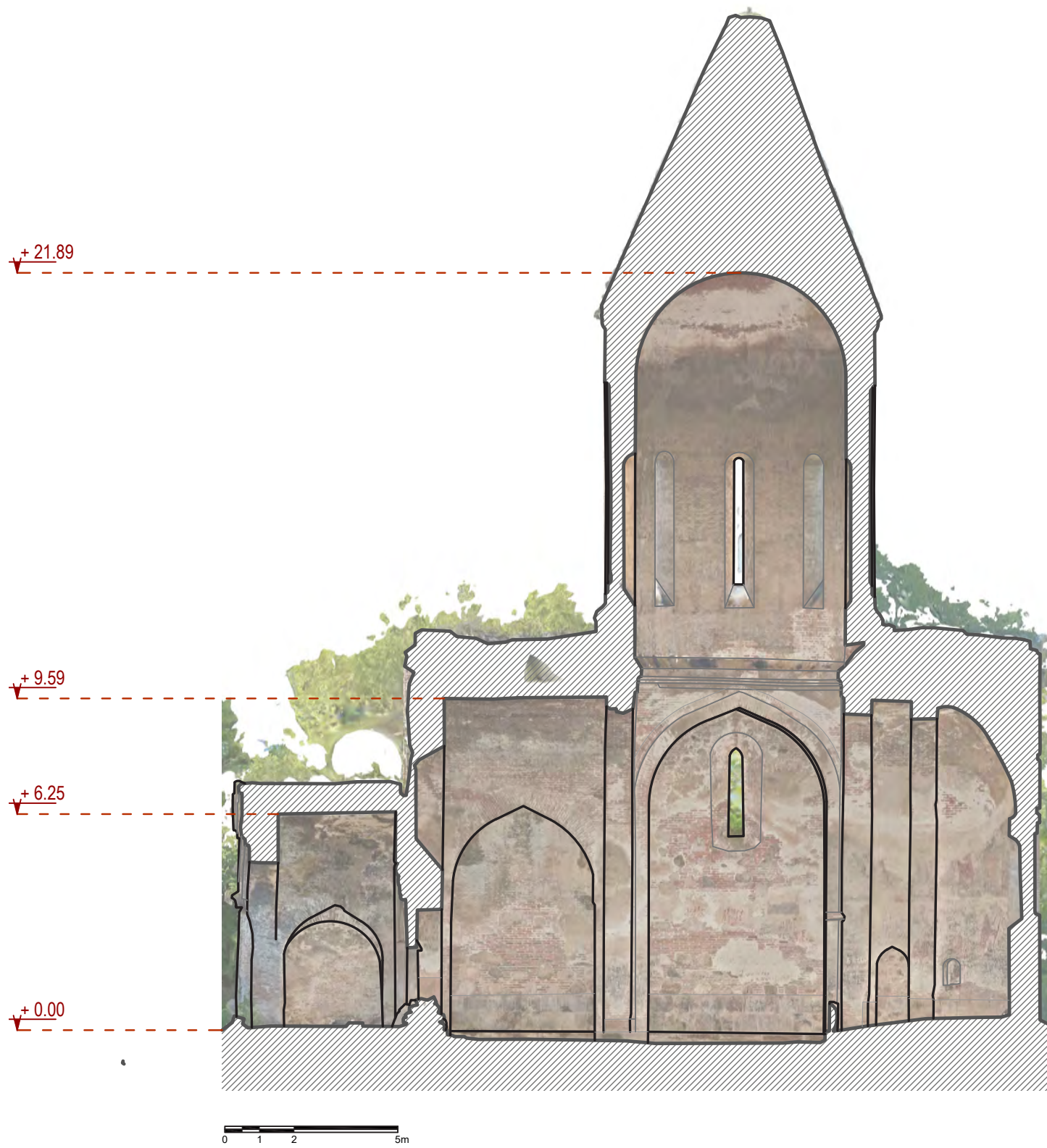
Site plan+ Plan +150cm
Iconem 2021



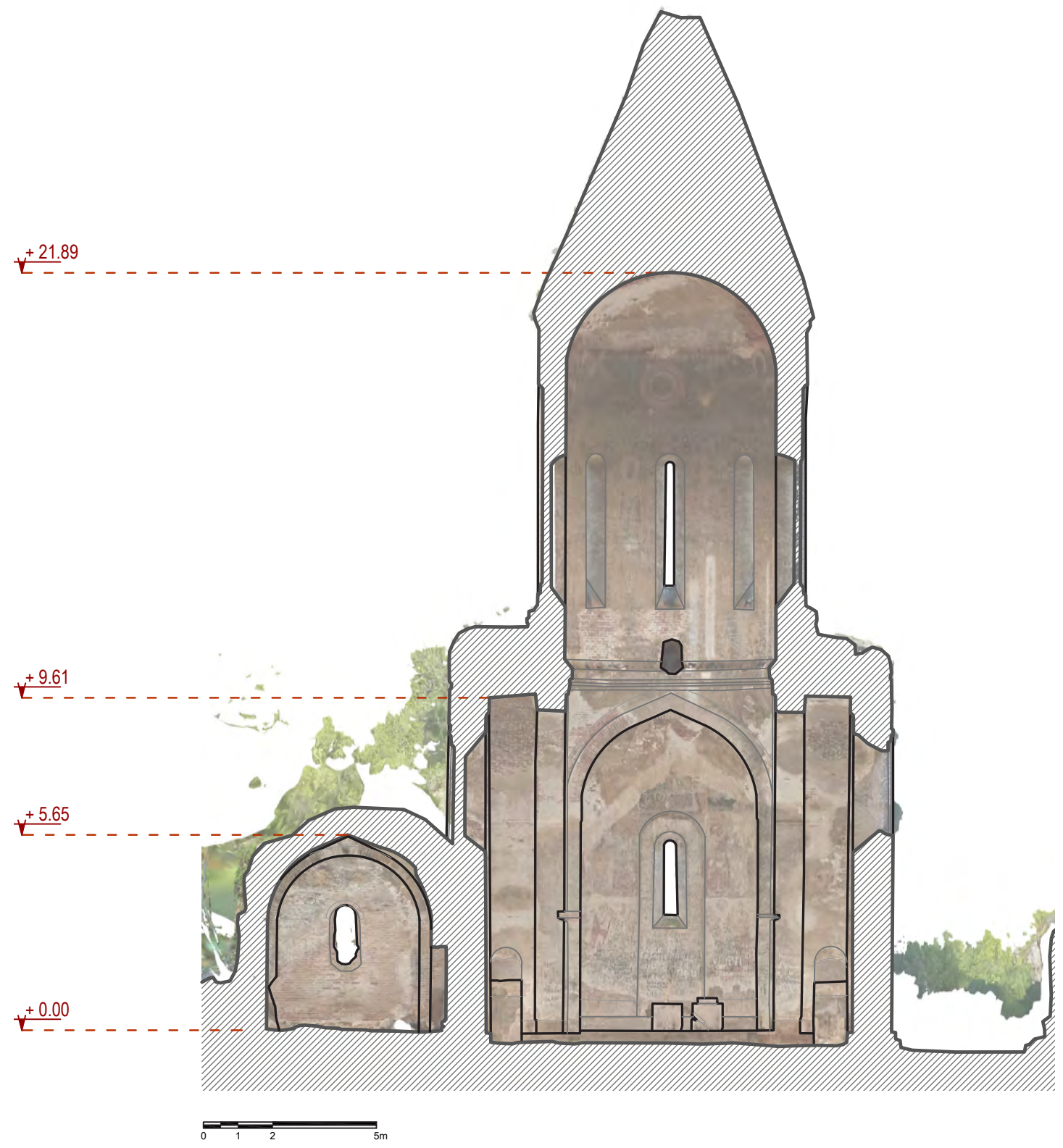
Southern Facade
Iconem 2021



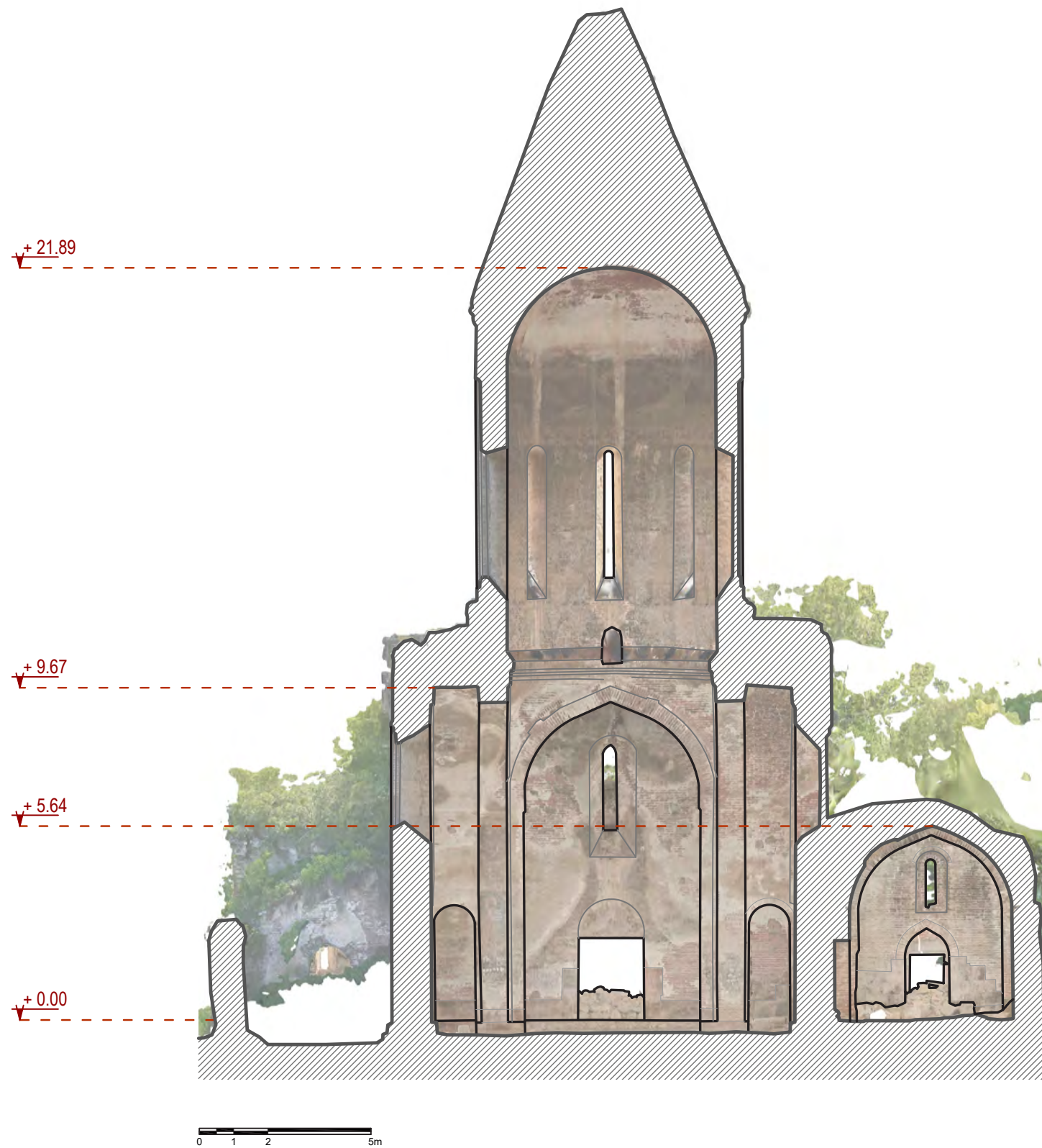
Eastern Facade
Iconem 2021



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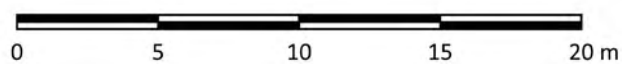
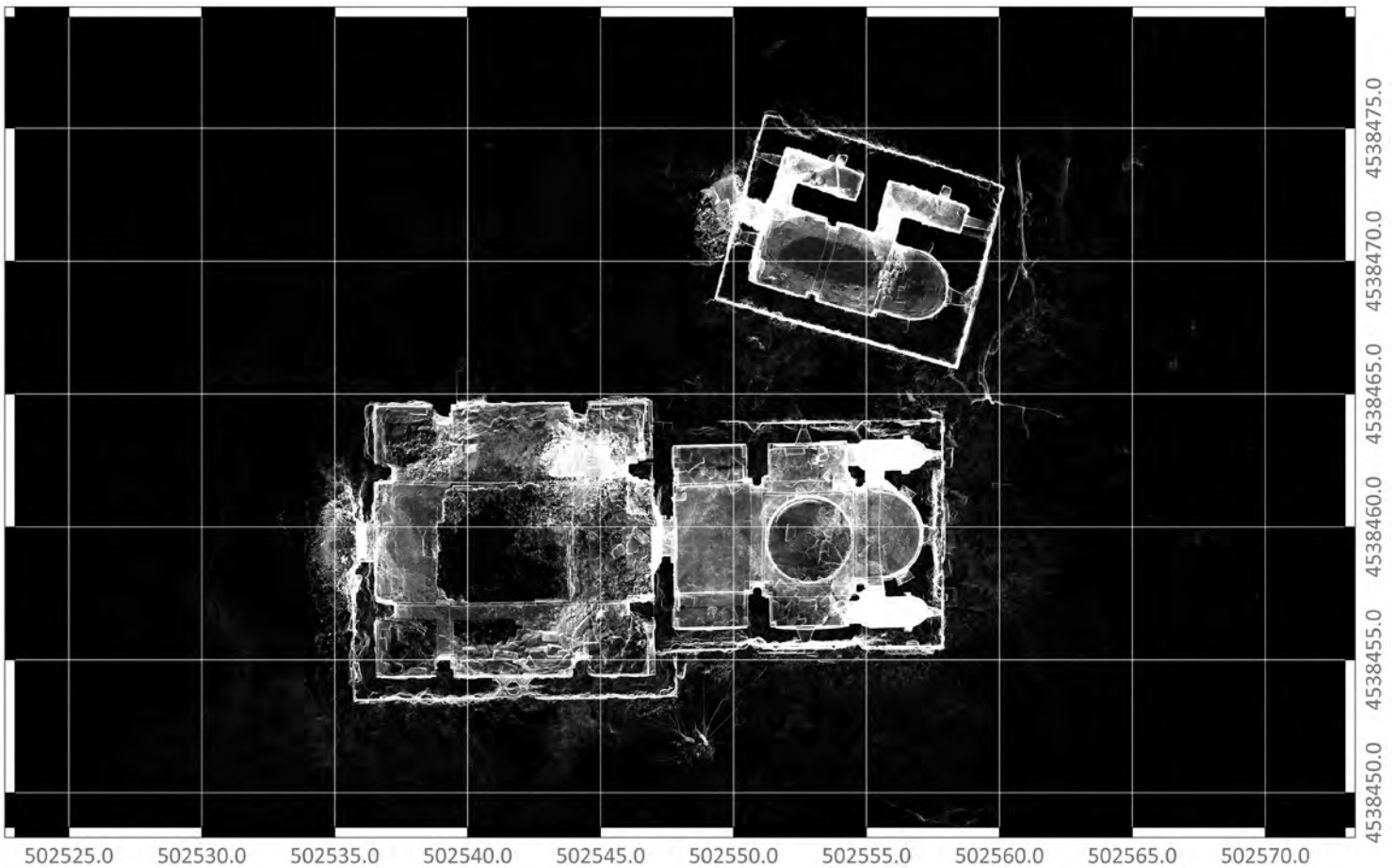


Fig. 1. Transparent plan on a georeferenced ortho-image of the monastery of Deghdznut site extracted from the textured 3D scan (Iconem 2021)

MONASTERY OF DEGHDZNUT

| | |
|------------------------|--------------------------|
| Coordinates: | 41.049962, 45.101094 |
| Locality : | Acharkut |
| Region: | Tavush |
| Site type: | Monastery |
| Dating: | 13 th century |
| Photogrammetry survey: | Iconem - 13/05/2021 |
| Diagnostic: | 11/2021 |

1. General History

Medieval authors do not mention the monastery of Deghdznut. However, twelve inscriptions, mainly dedicatory, and three manuscript's colophons allow asserting that the monastery of Deghdznut was one of the main spiritual centers and *scriptoria* of the region¹. They indicate that it was founded by the *vartapet* (priest) Arakel in the 13th c., probably replacing a 7th c. church, and that the construction was done by 1274². The monastery was built on an important road and close to the Mahkanaberd fortress, which was used as the seat of the princely house of the Artsrunis in the 12th-13th centuries, and more precisely the prince Sadun the 2nd in the second half of the 13th century under who the monastery of Deghdznut was the most active, as well as the monasteries of Arakelots, Kirants and Haghpat³.



Fig. 2. Aerial view of the Deghdznut church (Iconem 2021)

1. Minasyan 2020, p. 73.
2. Idem, p. 75 ; Sargsyan 1953.
3. Minasyan 2020, p. 74-75, p. 81-82.

2. Site description

The monastic complex is located in the middle of the forest, around 2 km southeast of the monastery of Kirants. It includes the main church (*katholokoi*), a second smaller church, the remains of auxiliary buildings and of the monks' cells, as well as a settlement and its cemetery at the north-west of the monastery. Only the two churches have been preserved and documented because of the vegetation (fig. 1-2).

The main church of the monastery has a cross-in-square plan (fig. 3 and 6). Two-storey sacristies flank the main apse, from which stairs lead to the upper rooms. The church is topped with a dome sitting on a circular drum pierced with narrow windows. The only entrance is on the western façade, and is decorated with sculpted geometrical and vegetal ornaments and a cross on the lintel (fig. 4). On the church's western side, there is a *gavit* (narthex) with a central square plan. It has two entrances: the main one on the western wall and the second one on the northern one, which has been closed with stones. A window with a double opening and a small column in between, is on the southern wall. Inside the church, there is a fragmented *khachkar* with a dedicatory inscription (fig. 5).

The church and its *gavit* are invaded by vegetation, and their roof has collapsed.

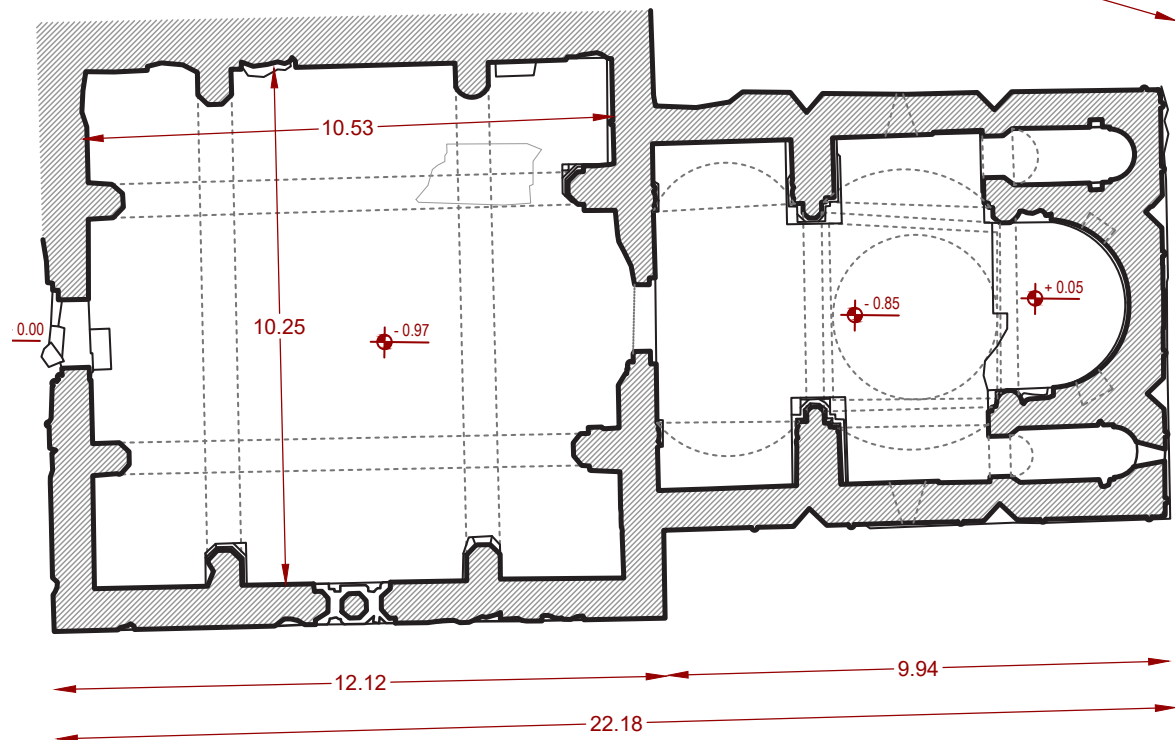
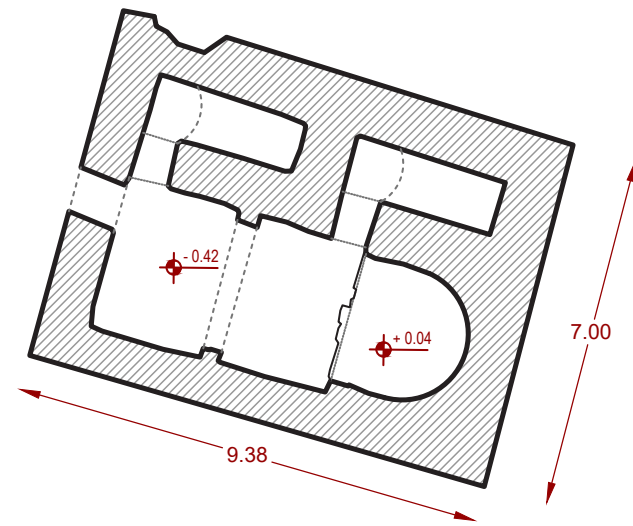


Fig. 3. plan of the monastery of Deghdznut (Iconem 2021)



Fig. 4. Western entrance of the main church inside the narthex (Iconem 2021)



Fig. 5. The fragmented *khachkar* inside the church (Iconem 2021)

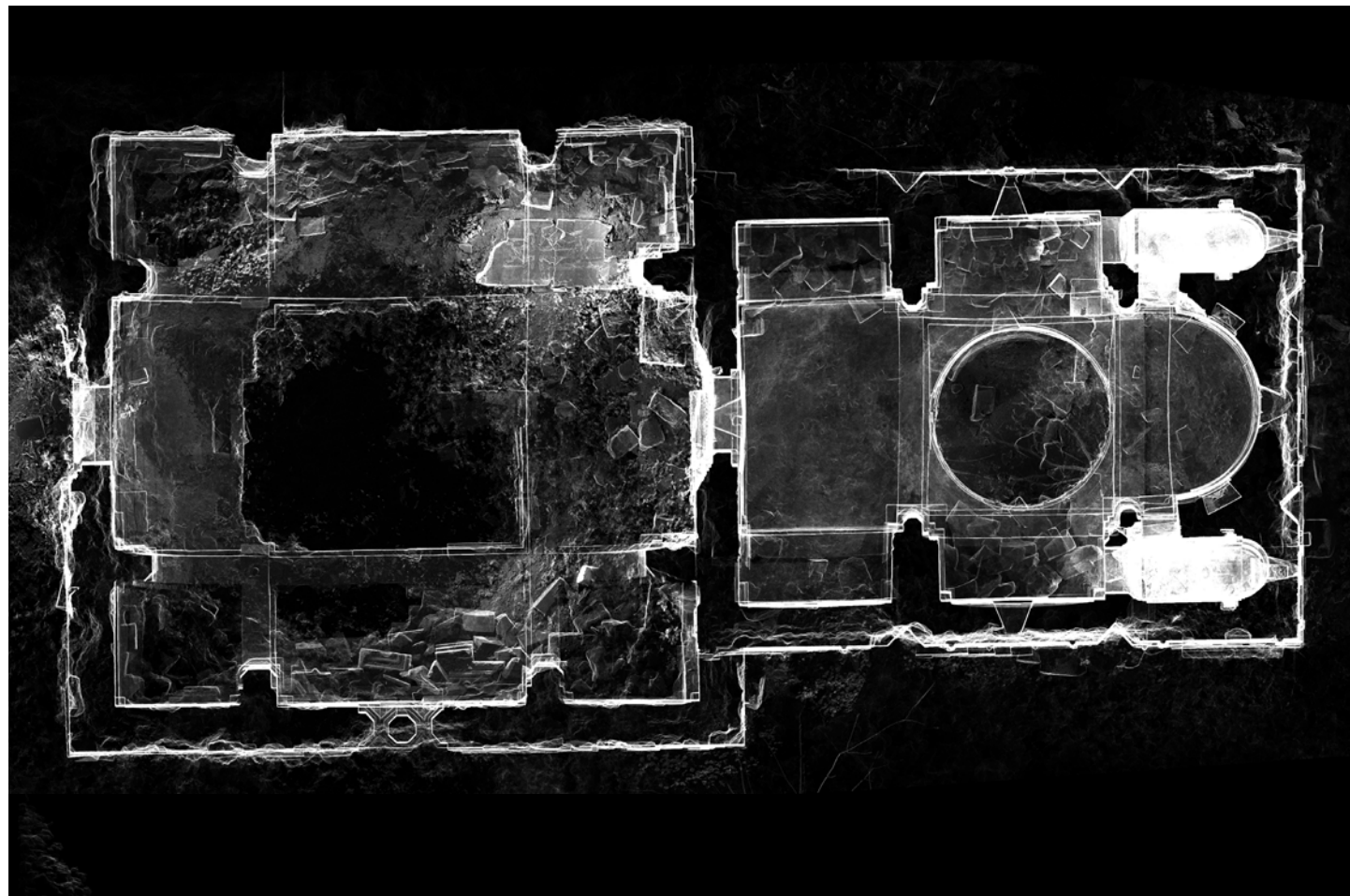


Fig. 6. transparent plan and section of the De-ghdznut church (Iconem 2021)

A second smaller church is located at the main church's north. It is a single nave vaulted church with two smaller rooms on its northern side (fig. 1, 7 and 8). It is also dated to the 13th century, but at the contrary of the main church, it was built with roughly cut stone-blocks. The roof is covered by vegetation.



Fig. 7. Western facade of the second church (Iconem 2021)

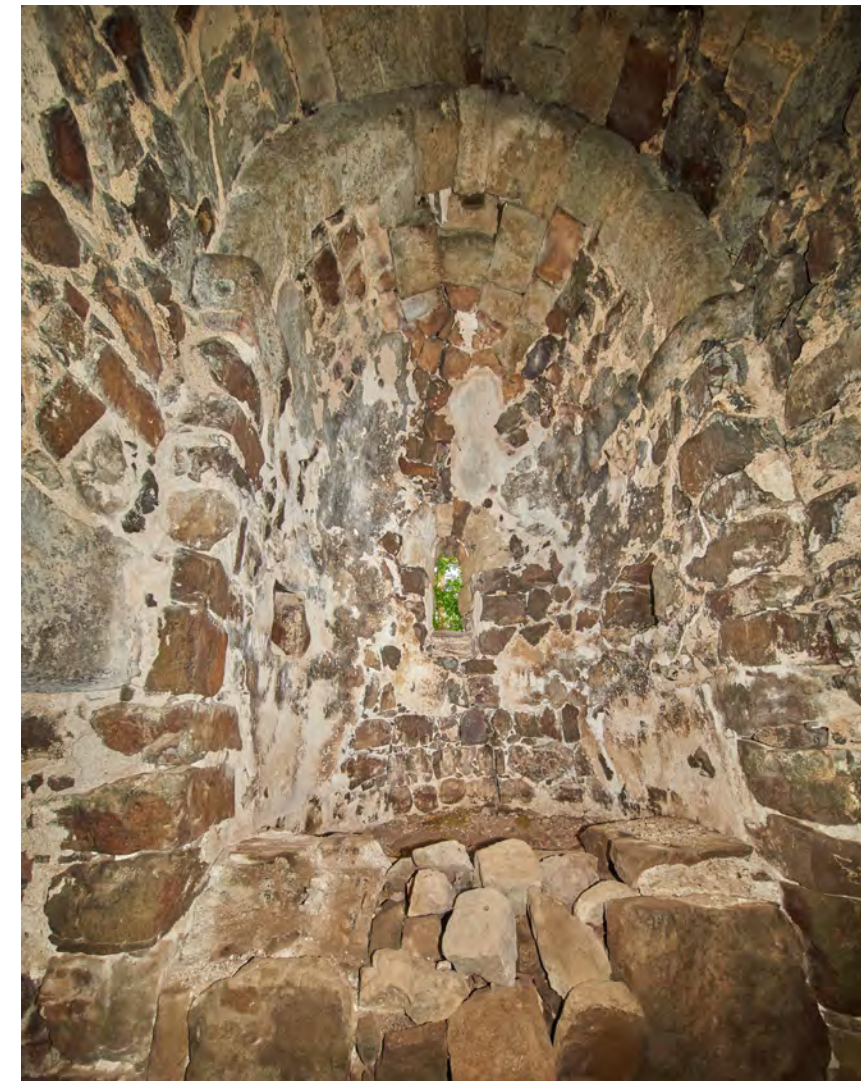
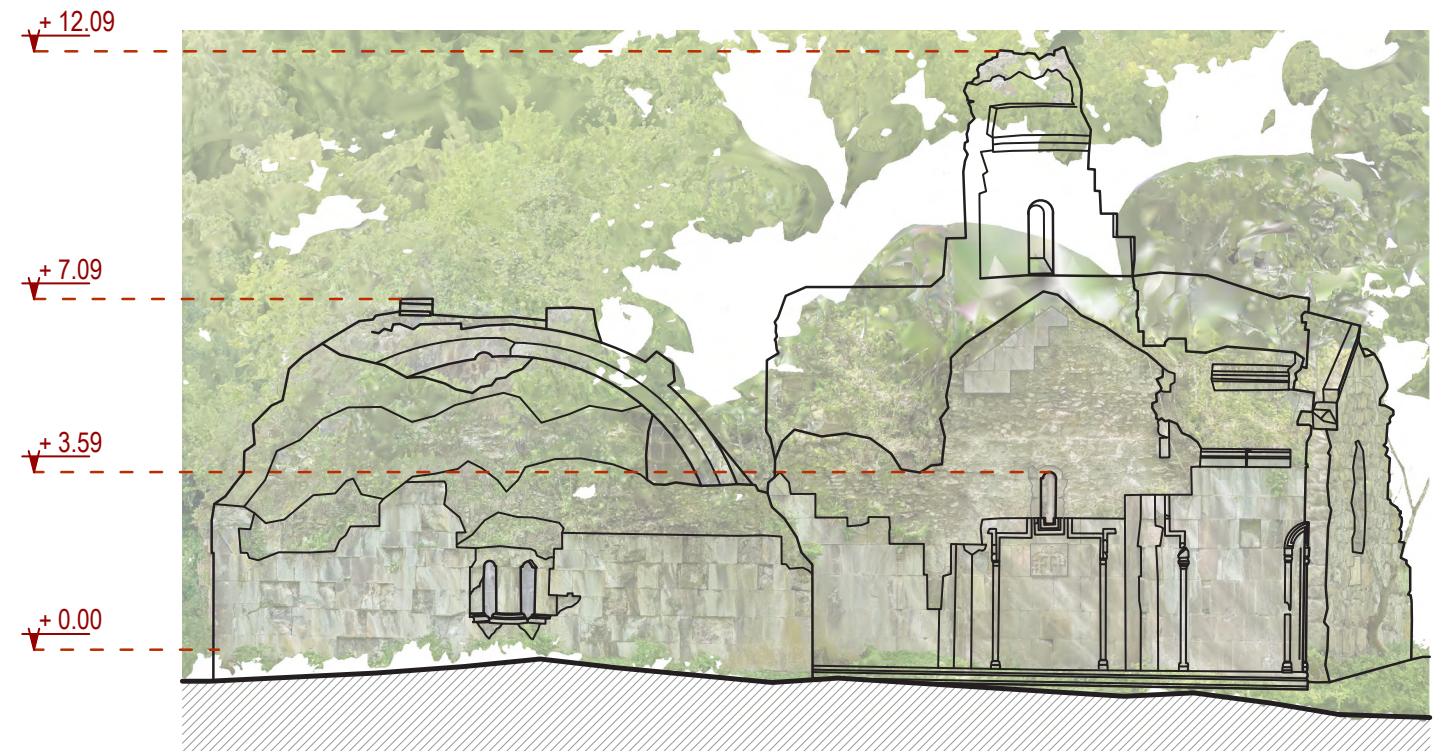
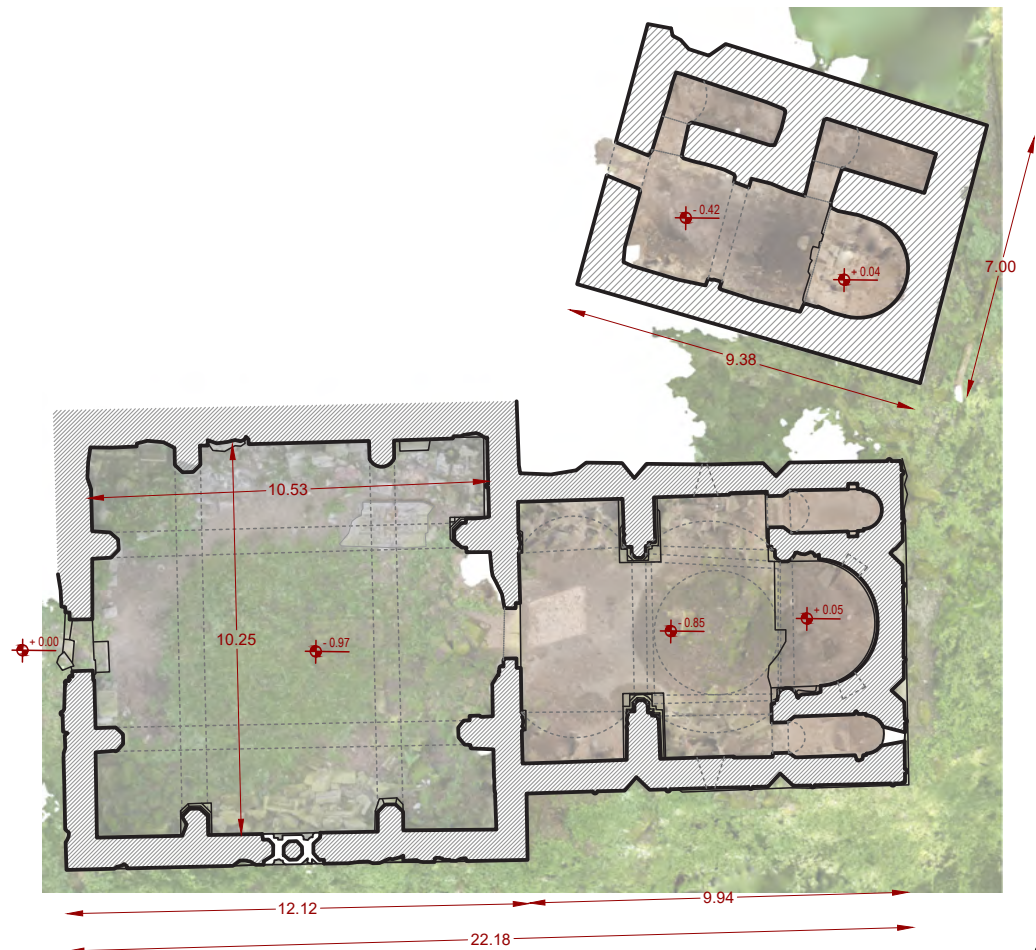
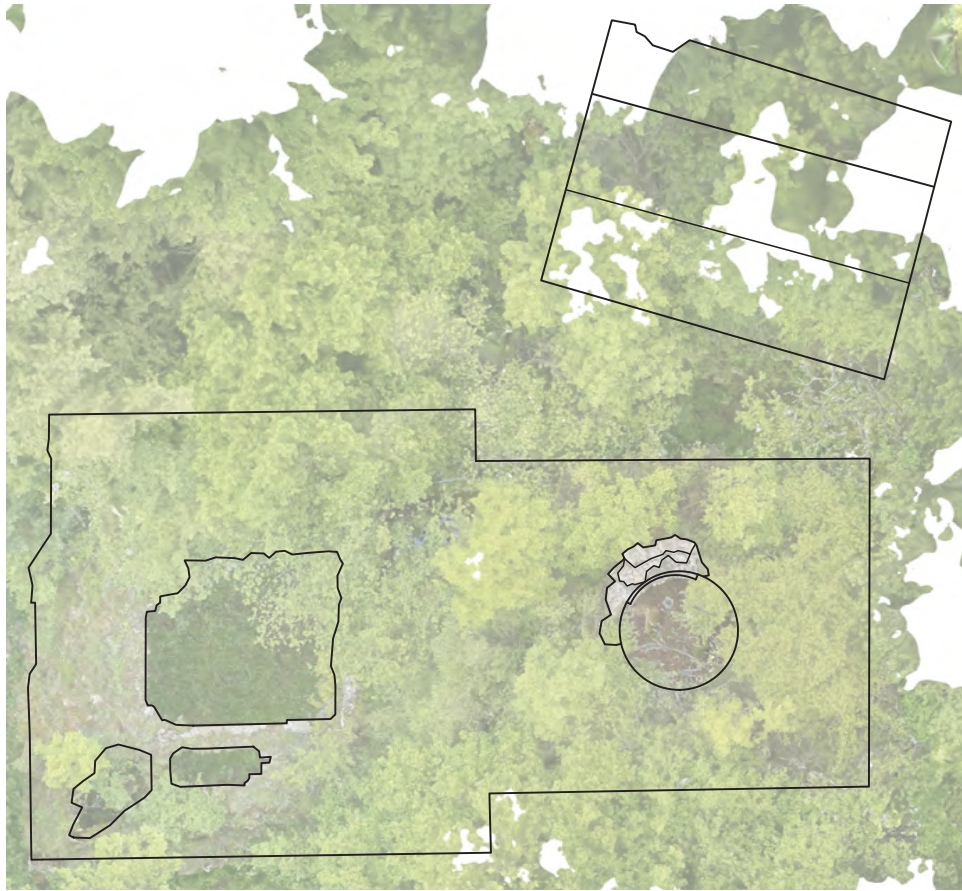
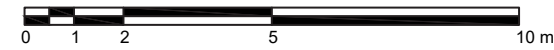


Fig. 8. The apse of the second church (Iconem 2021)

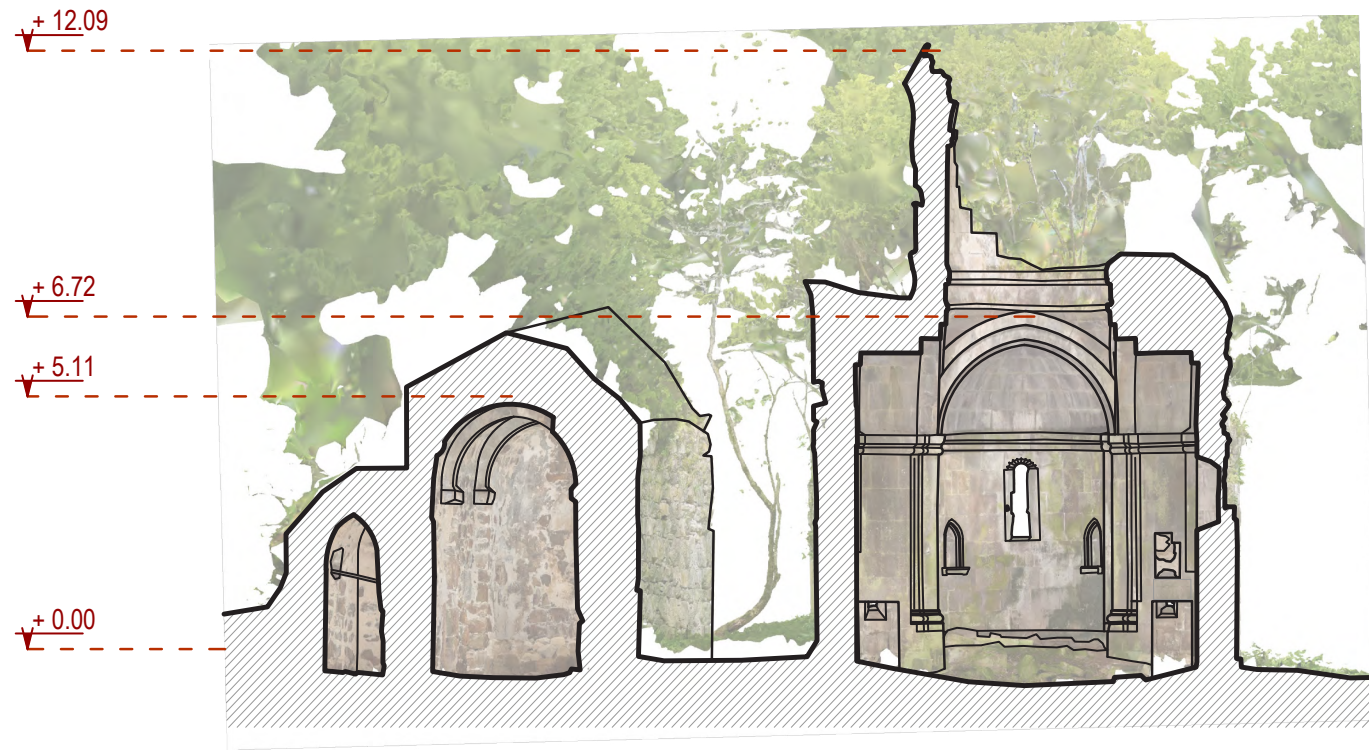
3. Boards



Site plan + Plan +150cm
Iconem 2021



East & West Facade
Iconem 2021



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- T. Minasyan, *Scriptoria of Utik province*, Yerevan 2020



Section 1
Iconem 2021

CHURCH OF VOSKEPAR

| | |
|------------------------|--|
| Coordinates: | 41.07365, 45.07555 |
| Locality : | Voskepar |
| Region: | Tavush |
| Site type: | Church |
| Dating: | Second half of the 7 th century |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 09/2021 |

1. General History

Dedicated to the Holy-Mother-of-God (Surb-Astvatsatsin), the church of Voskepar is not mentioned in medieval sources. However, based on architectural and artistic features, it has been dated to the second half of the 7th century¹. The complexity of the architecture, the care given to the brickwork and to the carved relief testify to the quality of the architectural execution (fig. 1-2).

Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 1. Georeferenced ortho-image of Voskepar church extracted from the textured 3D scan (Iconem 2021)



Fig. 2. Aerial view of Voskepar church (Iconem 2021)

1. Donabédian 2008, p. 162. It has also been suggested that it was built in the first half of the 7th century (Hasratyan 2010, p. 66).

2. Site description

Raised on a stepped stylobate, this church built with felsite tuff is a centrally planed building with four apses (fig. 3), thus being one of the few 7th century churches belonging to this typology of the Armenian architecture², although it is the smallest one³. This architectural plan allows the widening of the central cupola, which has a drum leaning on the squared base through four squinches (fig. 4). On the inside, the drum is octagonal at its base and cylindrical at its top, and entirely octagonal on the exterior and ornamented with a blind arcade (fig. 5). The four apses of the church, including the eastern one, are very deep and inscribed, which means they are rectangular from the outside although they are semi-circular inside. The two sacristies flanking the eastern apse have a rectangular plan and their eastern end protrude the main apse's wall, which is a specificity of this church. They are also lower than the four apse's height. Another particularity of this church is the *synthronon* (the bench in the eastern apse): it was quite widespread in early Byzantine churches but has only been documented in one other early-Christian Armenian church (fig. 6)⁴.

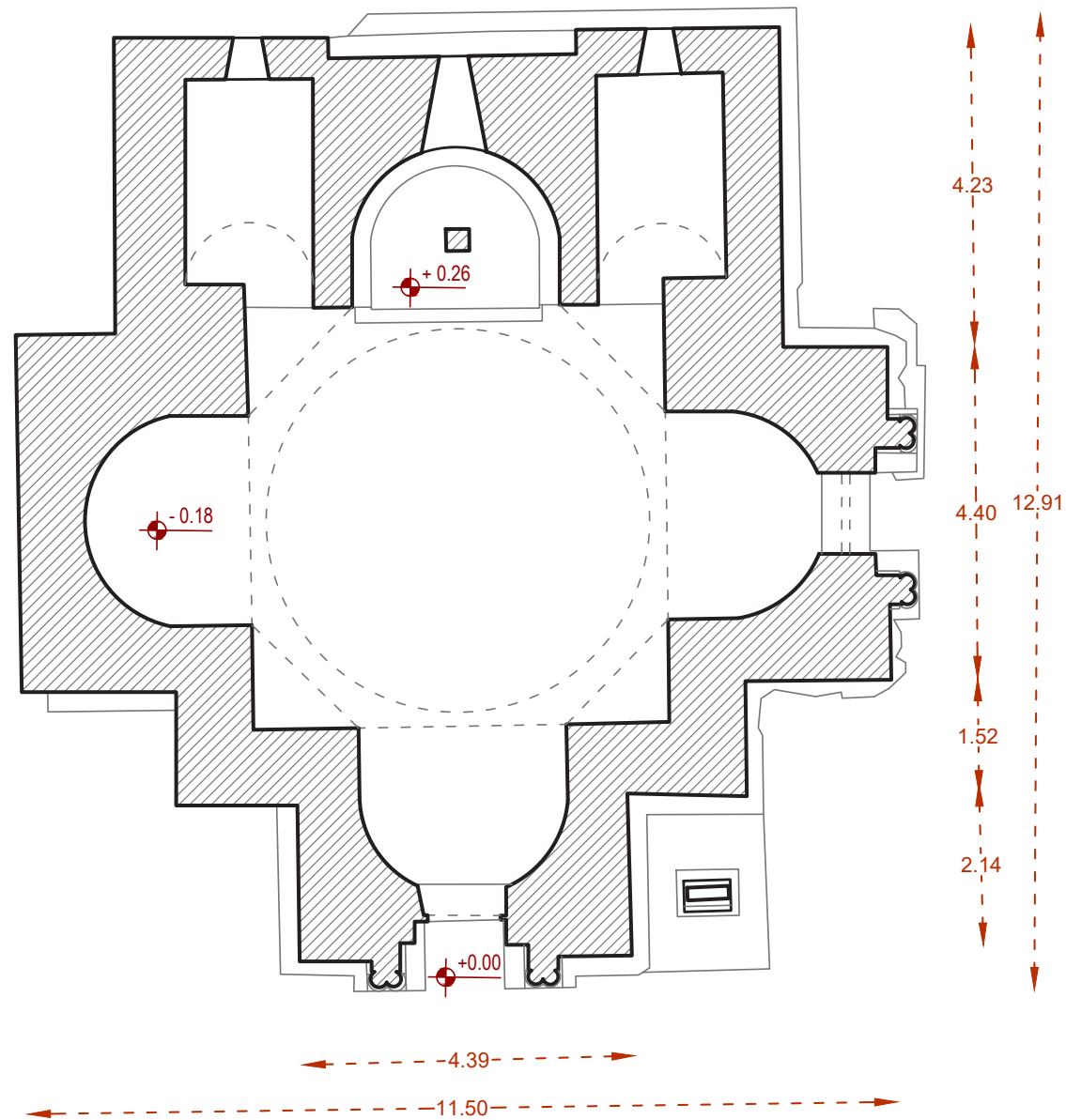


Fig. 3. Plan of Voskepar church (Iconem 2021)

2. In french, this typology is called « carré tétraconque » and was probably created around the end of the 5th century for the cathedral of Echmiadzin and then used in the 7th century on the churches of Bagaran, Mastara, Artik, Voskepar and Haritj. This plan was rarely used after the early middle age, probably because of the complexity of its structure. For a detailed description of this typology, see Donabédian 2008, p. 153-154.

3. About this Church, see Cuneo 1988, p. 319 ; Donabédian 2008, p. 161-162 ; Hasratyan 2010, p. 66 ;

4. Donabédian 2008, p. 161.



Fig. 4. South western view of the interior of the church (Iconem 2021)



Fig. 5. Aerial view of the church's drum (Iconem 2021)



Fig. 6. The *synthronon* inside the main apse (Iconem 2021)

Two entrances lead to the church, on the western and southern arms. Both of their *tympanum* is carved with an ornamented cross on a globe that is raised on a pedestal with acanthus leaves blossoming from its feet (fig. 7). The entrances are framed with an arched structure made of two engaged double columns. Carved relief can also be observed on the arcs of the windows. On the southern wall, the window's arc is grooved and framed with two crosses. On the eastern one, the arc itself is ornamented with a vegetal motif frieze with a cross in the middle. The church was restored in the middle of the 1970's⁵, so the structure is stable. However, the carved relief is very deteriorated .

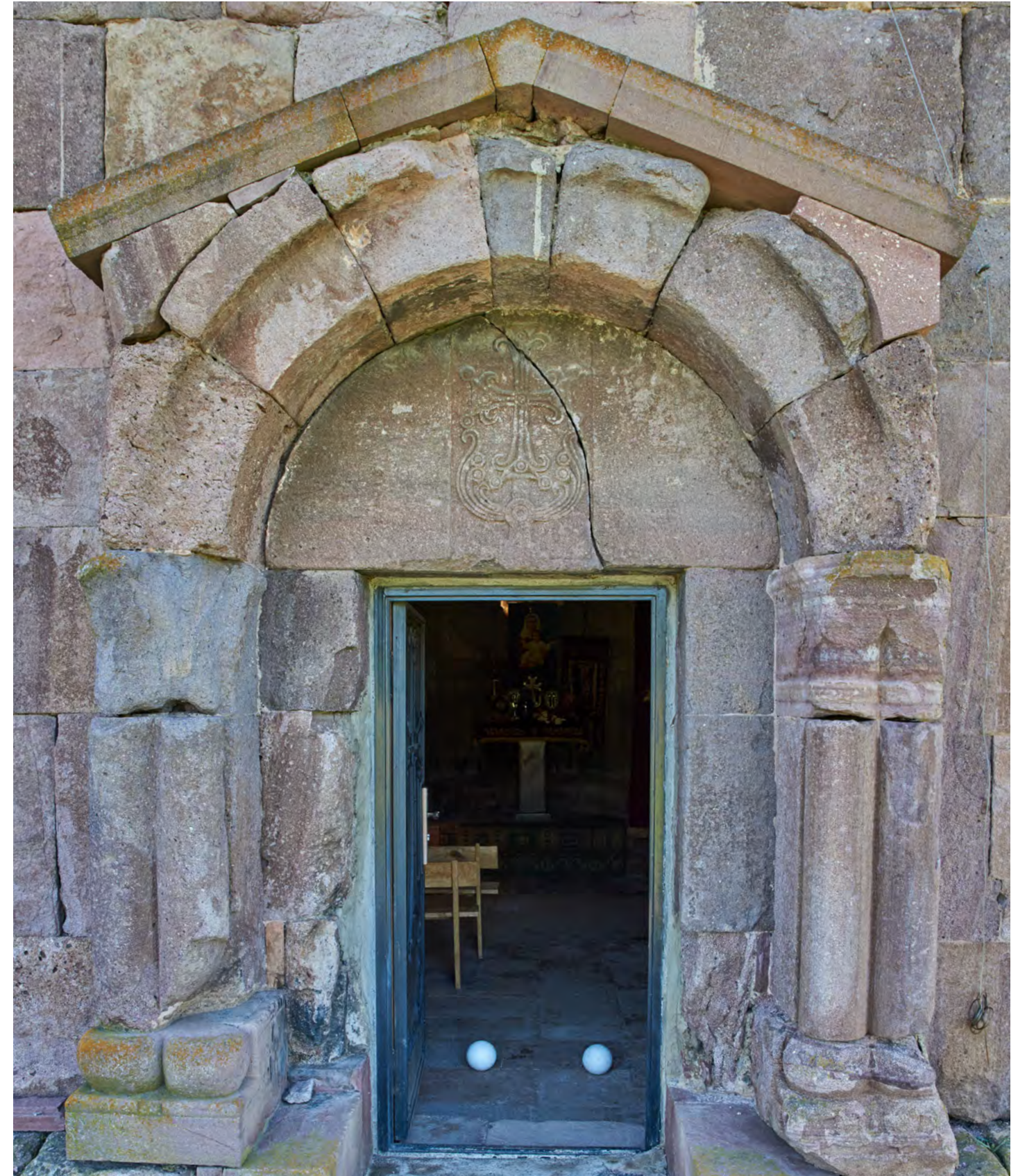
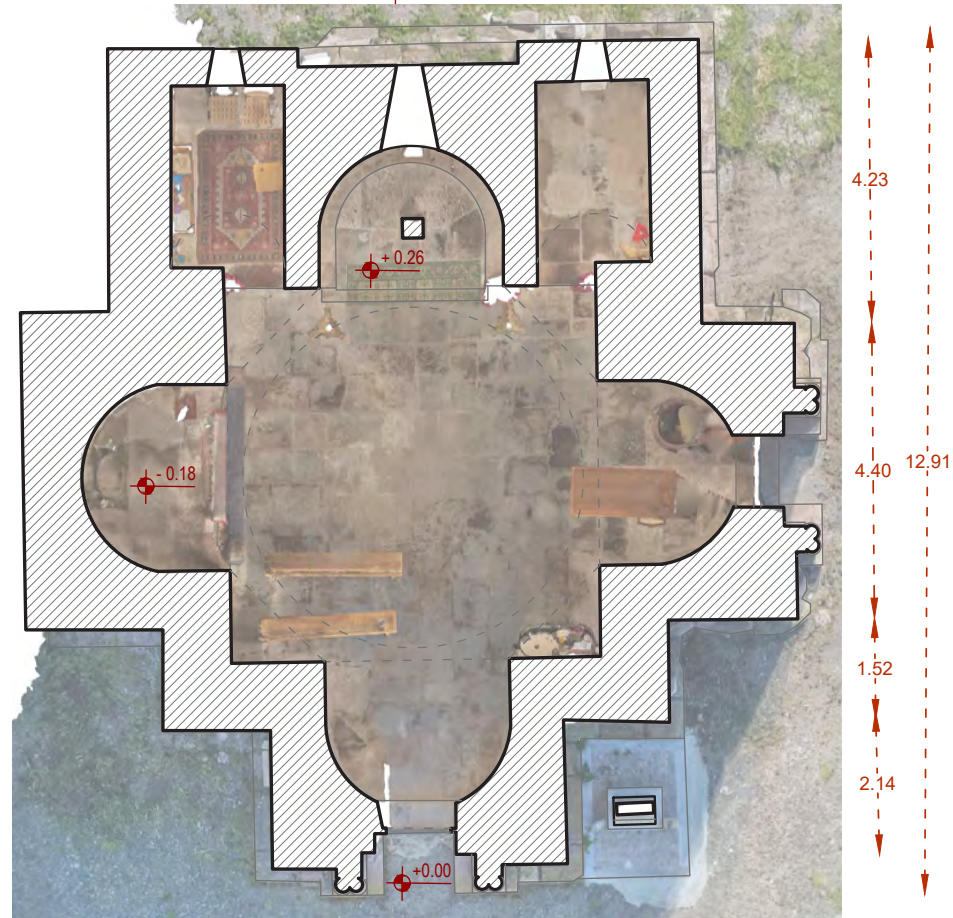
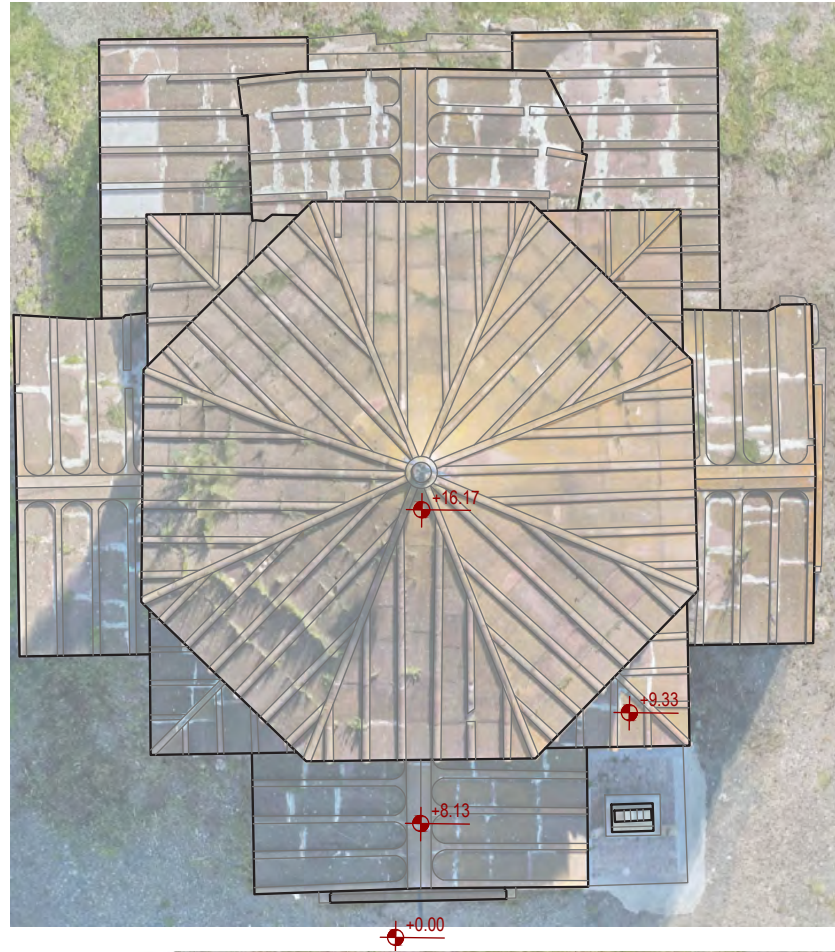


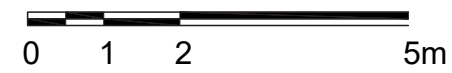
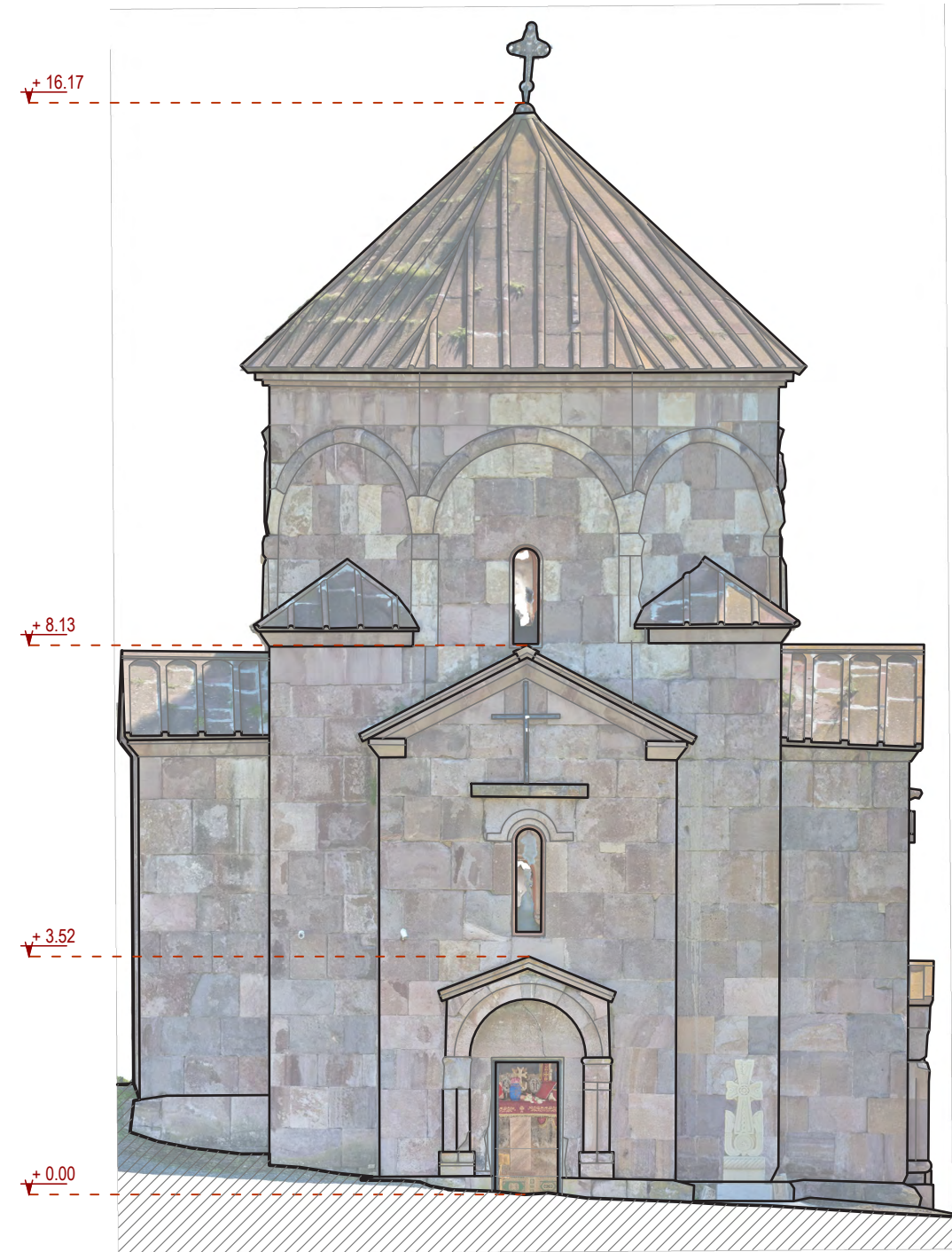
Fig. 7. Western entrance of the church (Iconem 2021)

5. Donabédian 2008, p. 161.

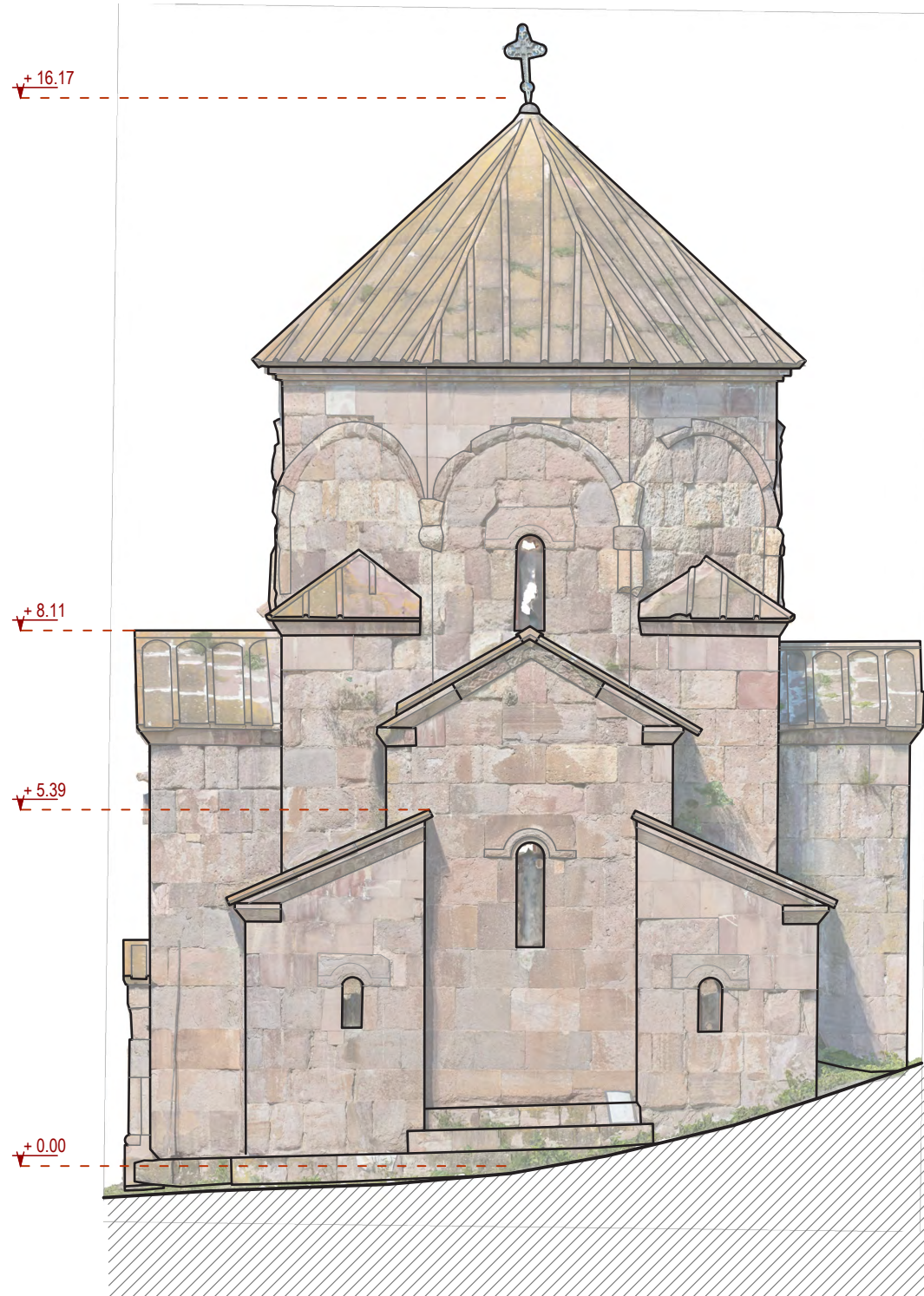
3. Boards



Site plan & Plan +150cm
Iconem 2021
192



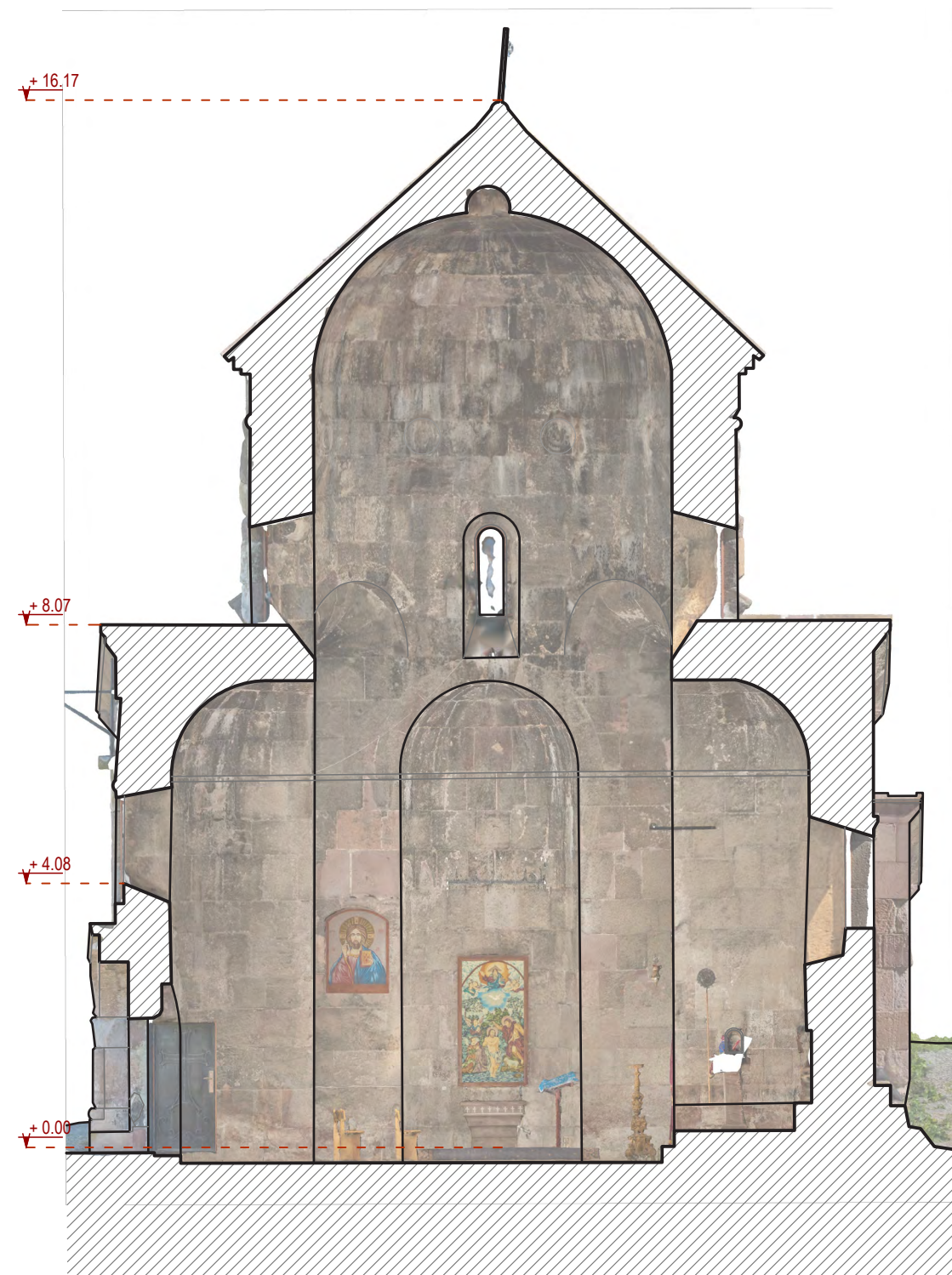
Façade 1
Iconem 2021
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Façade 2
Iconem 2021
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Iconem 2021
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Section 2
Iconem 2021

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Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 1. Georeferenced ortho-image of Sotk church extracted from the textured 3D scan (Iconem 2021)

SOTK CHURCH

| | |
|------------------------|---------------------------|
| Coordinates: | 40°12'00.2"N 45°51'54.3"E |
| Locality : | Sotk |
| Region: | Gegharkunik |
| Site type: | Church |
| Dating: | 12 th century |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 11/2021 |

1. General History

Sotk was one of the main centers of medieval Syunik. It was ruled by several dynasties from Khachen (former Artsakh), such as the Dopyan family from the 12th to the 16th century¹.



Fig. 2. Aerial view of Sotk church (Iconem 2021)

1. Mirijanyan, Grigoryan 2018, p. 88.

2. Site description

The church of Holy-Mother-of-God (Surp-Astvatsatsin) is a three-nave basilica with an inscribed apse flanked by two sacristies (fig. 1-3). There is a single entrance on the southern façade, surrounded by several *khachkars*, and small openings for luminosity (fig. 4). It is vaulted with transverse arches supported by large pillars separating the main nave from the laterals. The church is topped with a two-sloped roof on top of which there is a small dome with arcades (fig. 5). In the northern wall, a large niche houses a tombstone and a smaller one, a baptismal font. The church was renovated in the 1980s².

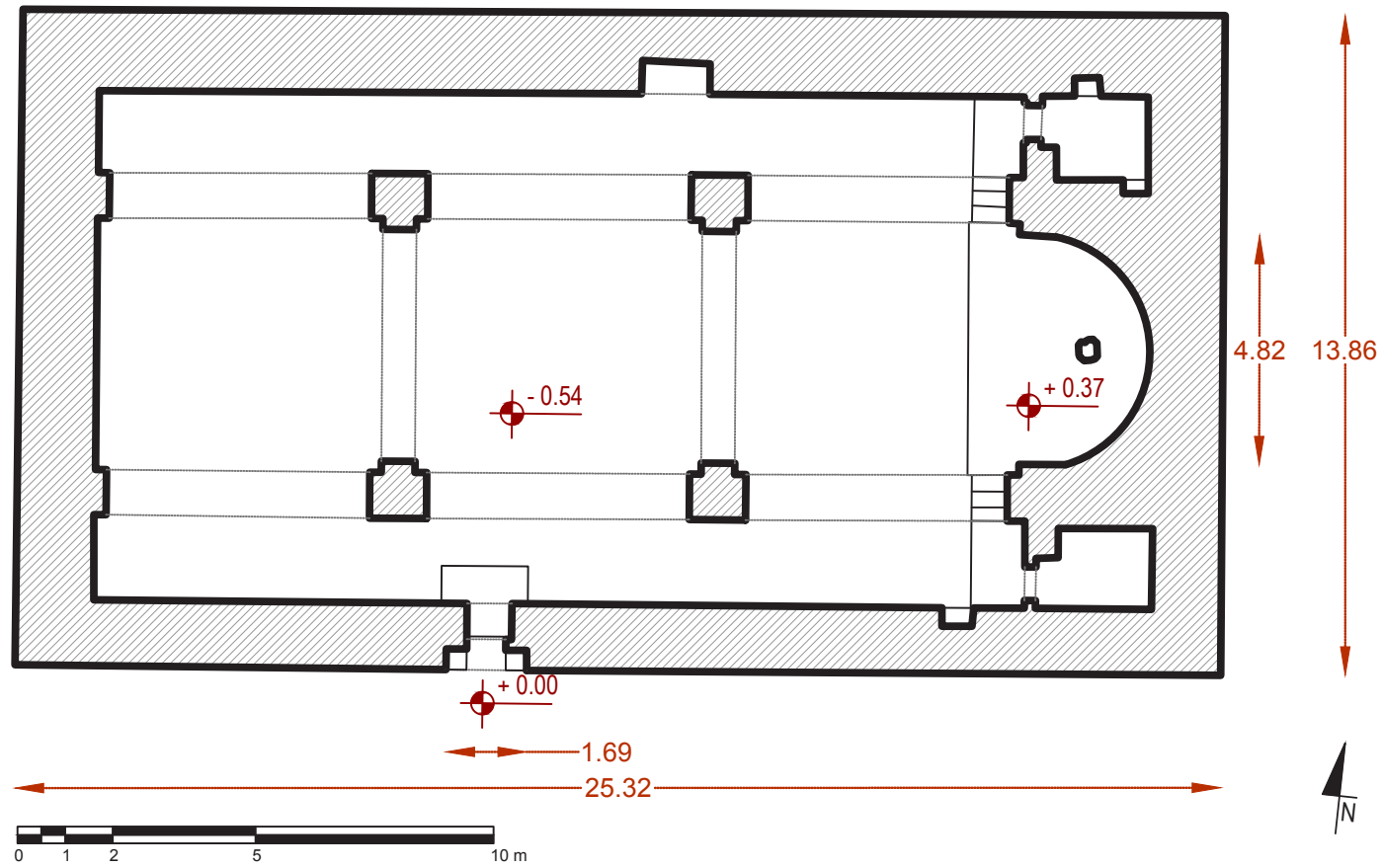


Fig. 3. Plan of Sotk church (Iconem 2021)



Fig. 4. Ortho-image of the Southern Façade extracted from the textured 3D scan (Iconem 2021)

Twenty-seven inscriptions have been documented on *khachkars* and tombstones in the church and in the surroundings, three of them having been discovered lately³. Many *khachkars* are inserted in the church's façades, especially on the western one (fig. 5-7).



Fig. 5. Ortho-image of the Western Façade extracted from the textured 3D scan (Iconem 2021)

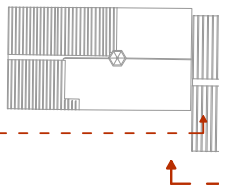
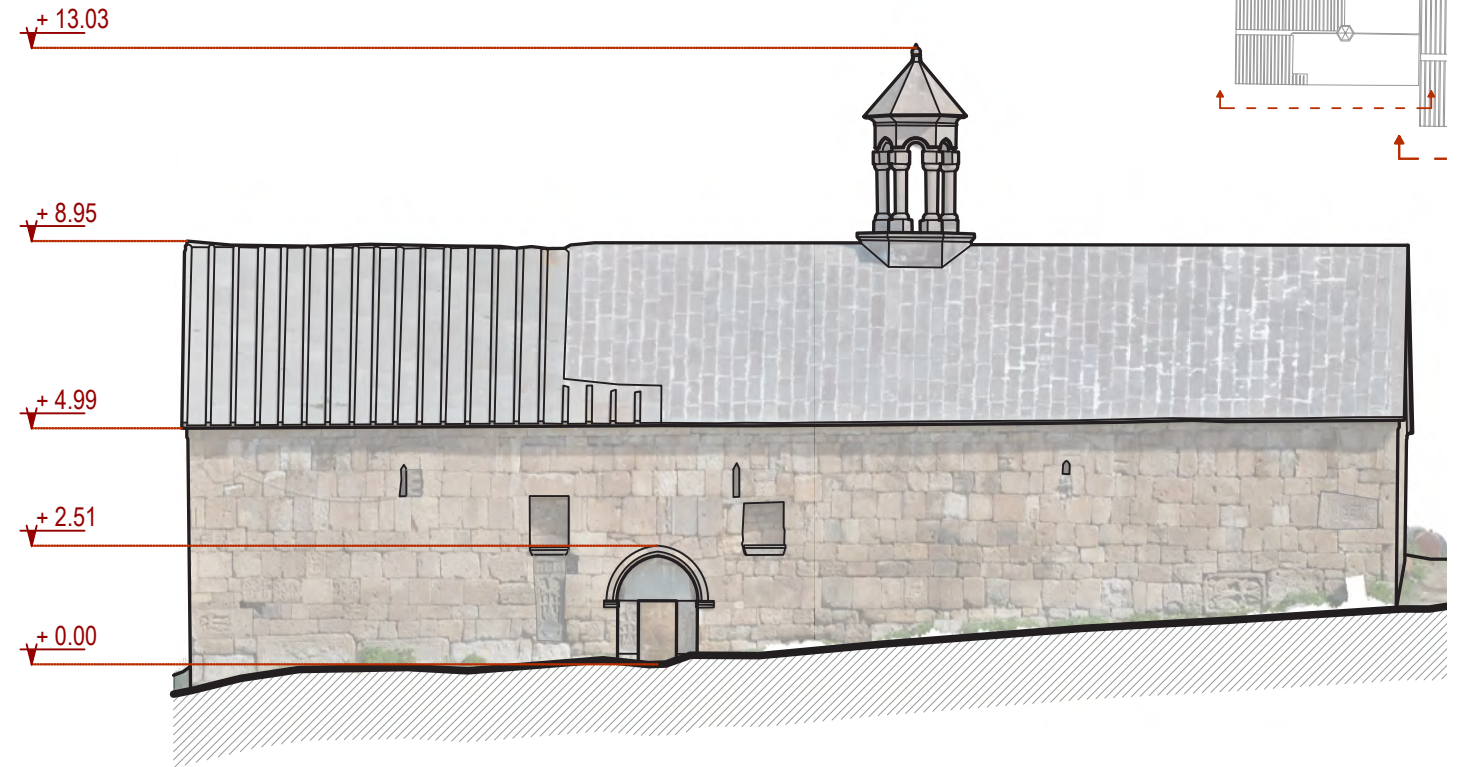
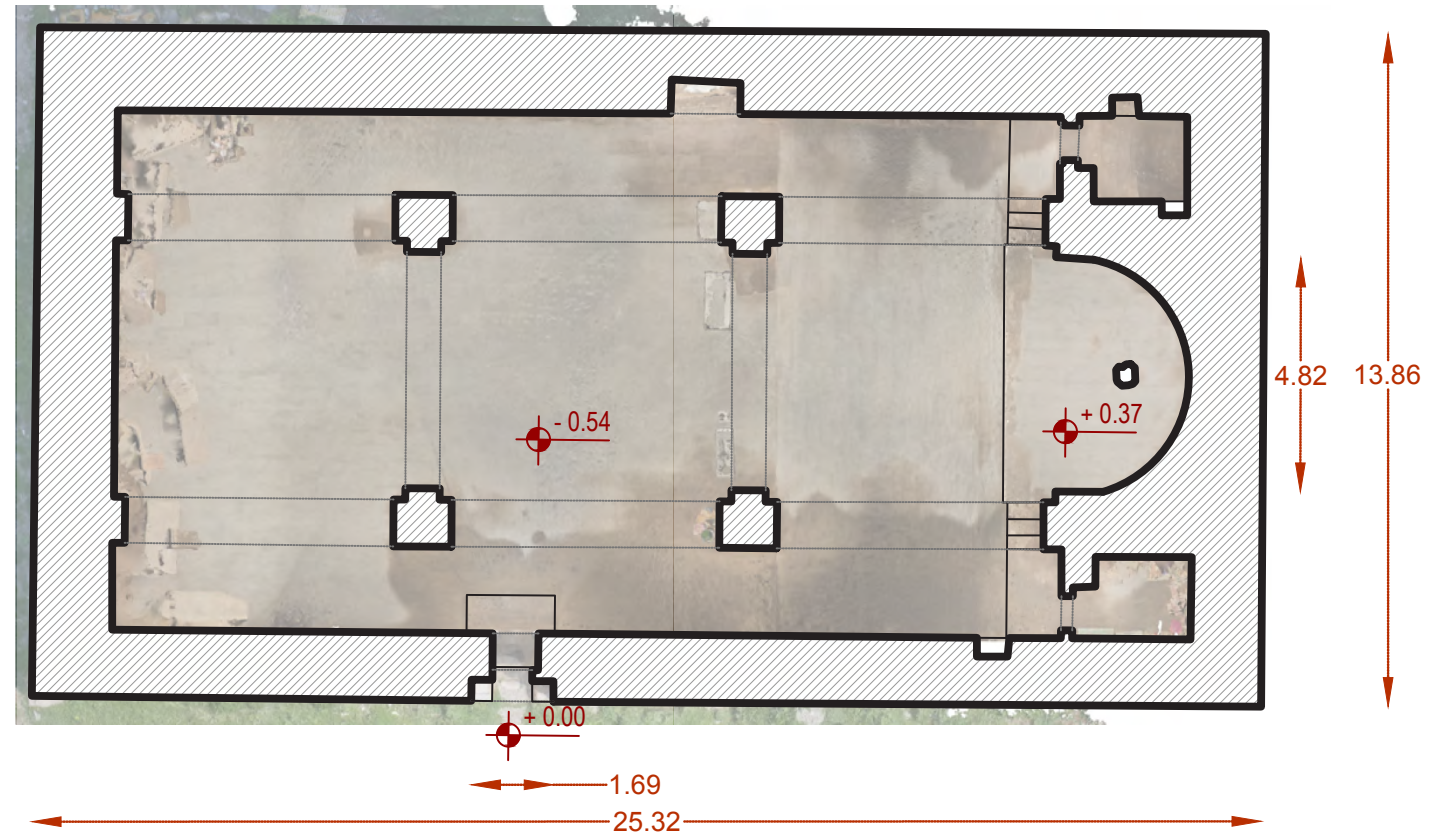
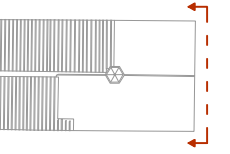
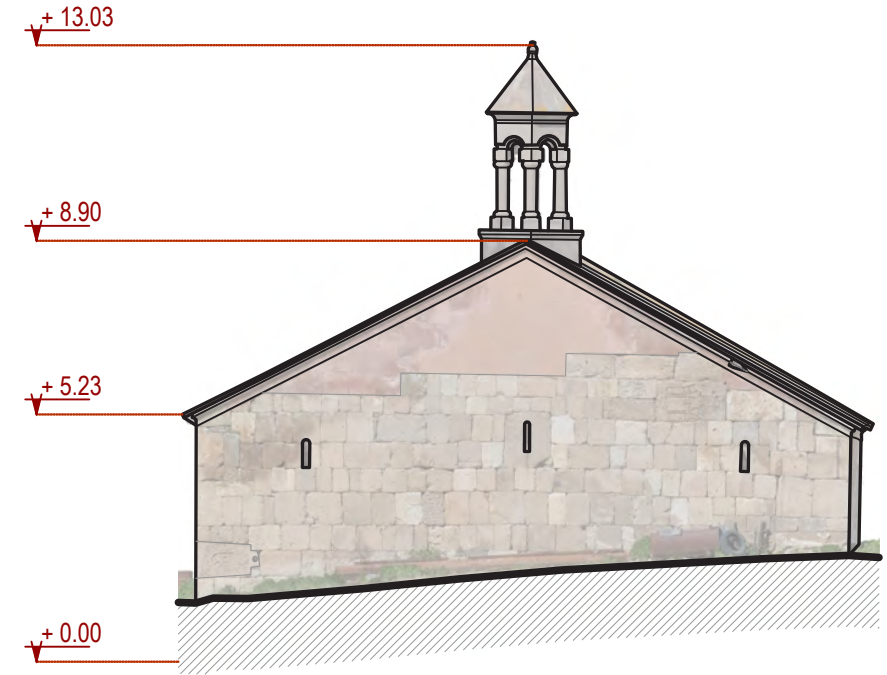
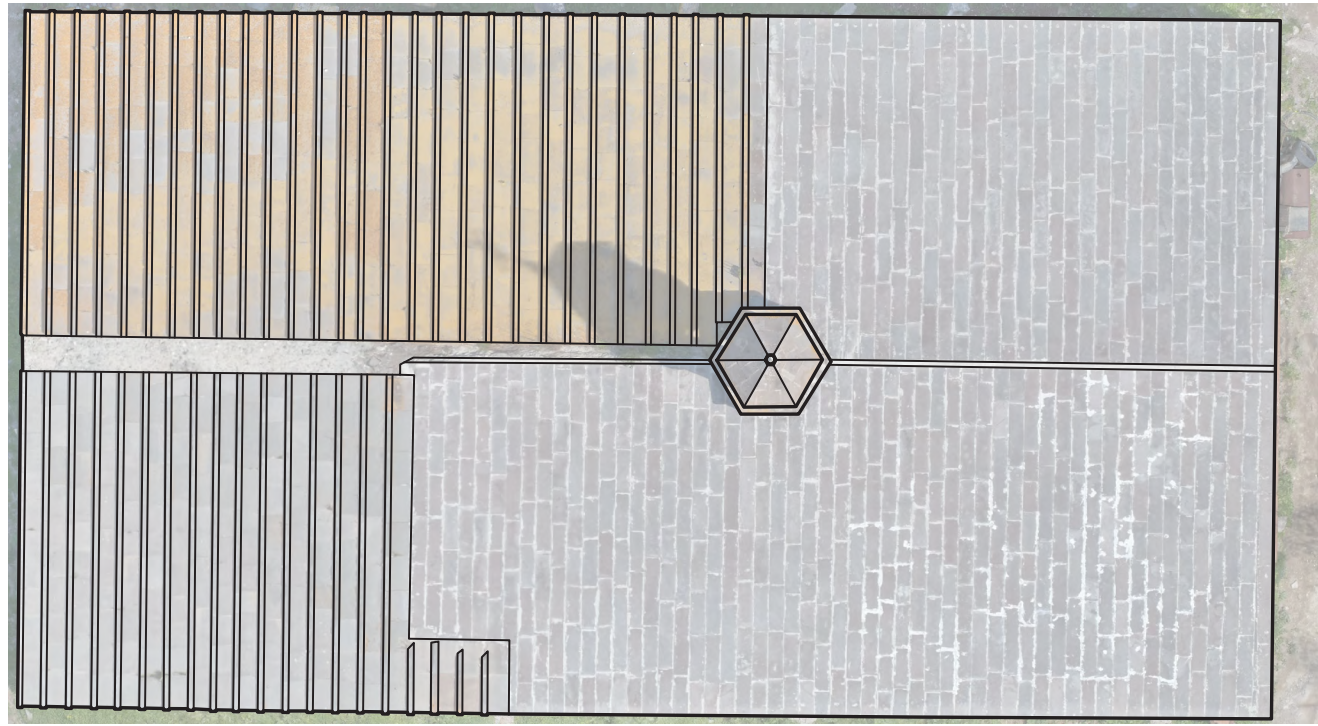


Fig. 6 and 7. Details of the *khachkars* (Iconem 2021)

2. Mirijanyan, Grigoryan 2018, p. 89.

3. Grigoryan 2019, p. 57.

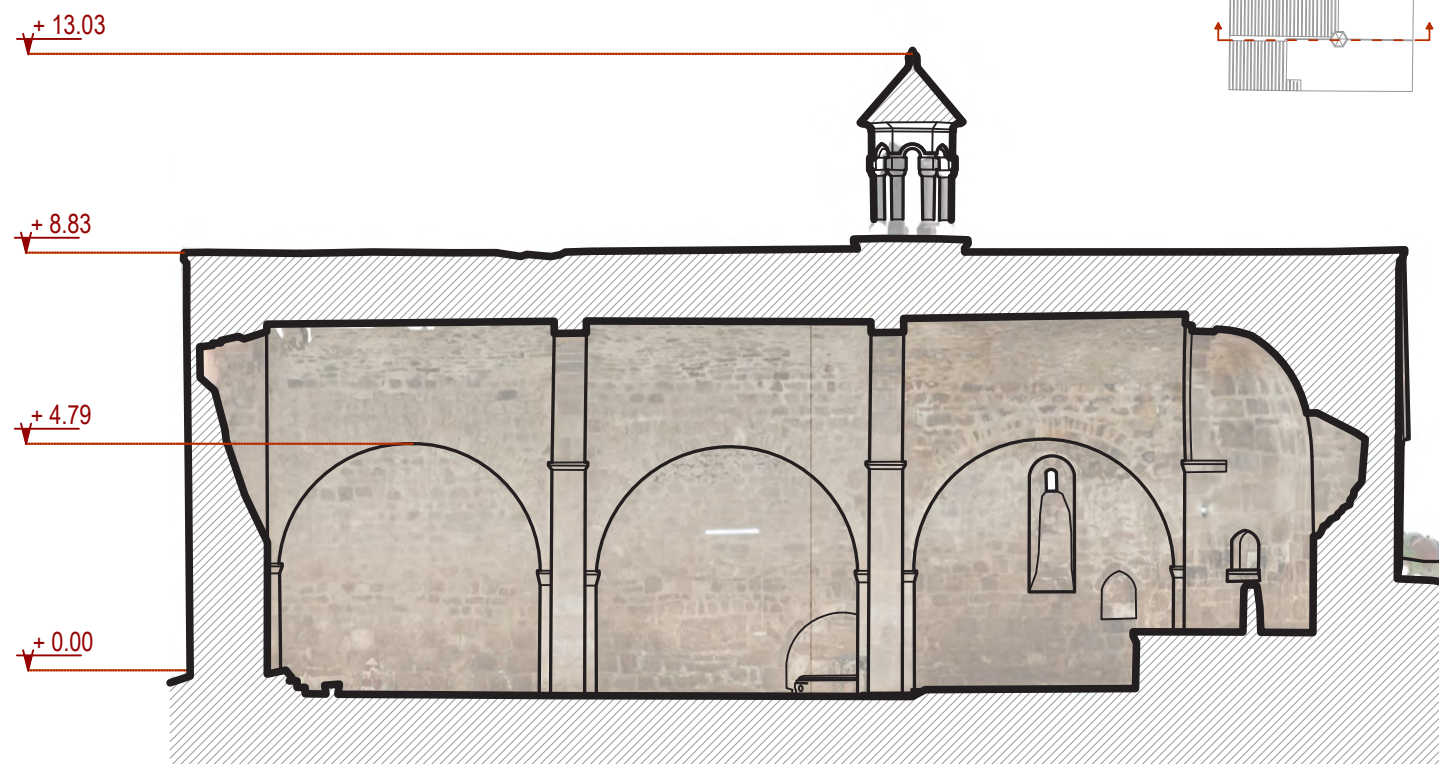
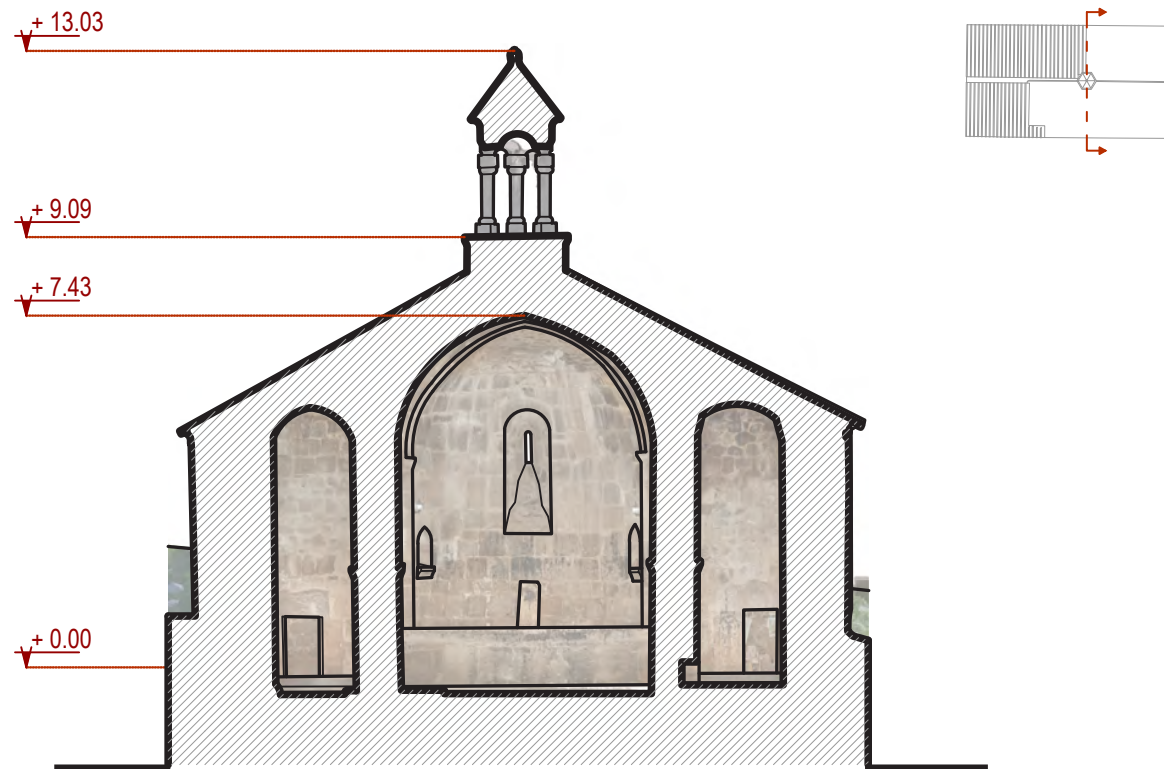
3. Boards



Site plan & Plan +150cm
Iconem 2021



Southern and Eastern Facade
Iconem 2021



Section 1
Iconem 2021

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Fig. 1. Georeferenced ortho-image of the site of Bgheno Noravank monastry extracted from the textured 3D scan (Iconem 2021)

BGHENO NORAVANK MONASTERY

| | |
|------------------------|--------------------------|
| Coordinates: | 39.388155°N 46.360081°E |
| Locality : | Bardzravan |
| Region: | Syunik |
| Site type: | Monastery |
| Dating: | 11 th century |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 09/2021 |

1. General History

According to Stepanos Orbelian (13th c.), the monastery of Bgheno Noravank was founded by a priest from an aristocratic family also named Stepanos and built by “the wonderful masters father Gevorg and the priest Yovhannes”¹. The monastery also had a scriptorium where manuscripts were copied, such as the famous Echmiadzin Gospels².



Fig. 2. Aerial view of Bgheno Noravank monastery (Iconem 2021)

1. Rapti 2019, p. 252.

2. Idem, p. 245-246. Because of the inconsistency between the Gospels' colophon, Orbelian's testimony and the inscriptions in the monastery, I. Rapti remains cautious with this connection.

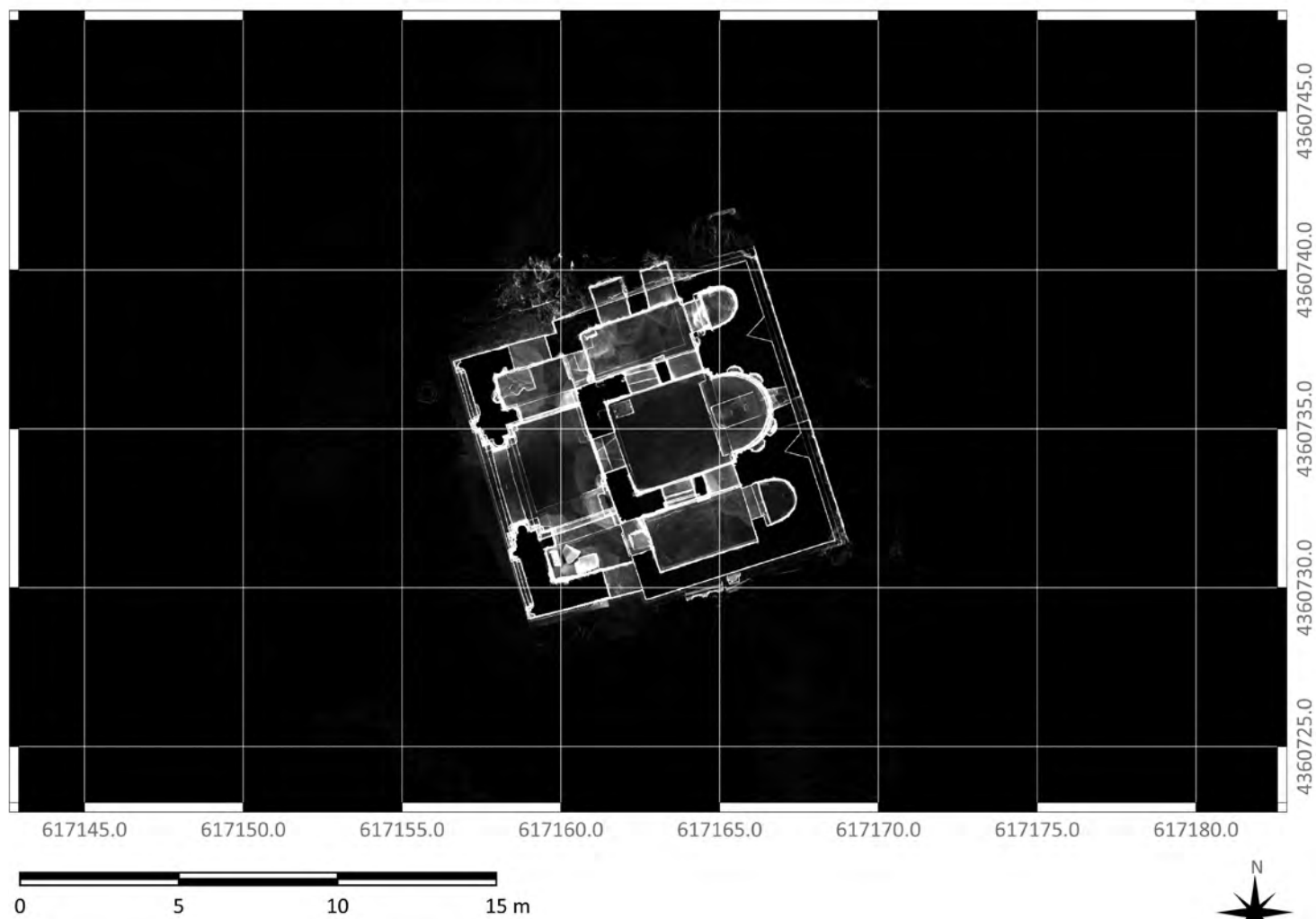


Fig. 3. Transparent view of the first floor plan placed on the Georeferenced ortho-image to show the position of Bgheno Noravank monastery extracted from the textured 3D scan (Iconem 2021)

2. Site description

The church here presented was part of a larger monastic ensemble with other buildings, of which only the ruins have been preserved (fig. 1- 2). Being established in the middle of the forest, the estimation of the extent of the complex is difficult to evaluate (fig. 3). The preserved church is a memorial church, as evidenced by its architecture, inscriptions and carved relief.

The church is a small building with a square barrel-vaulted nave flanked with two lateral naves (fig. 4). Each nave ends with an apse on its eastern side, the middle one being larger and carved with four niches (fig. 5). On the western side of the church, instead of the traditional *gavit/jamatun*, a vestibule, architecturally similar to Byzantine narthexes, opens with a triple arcade with a large opening (fig. 6)³. The church was restored in the 1960s.

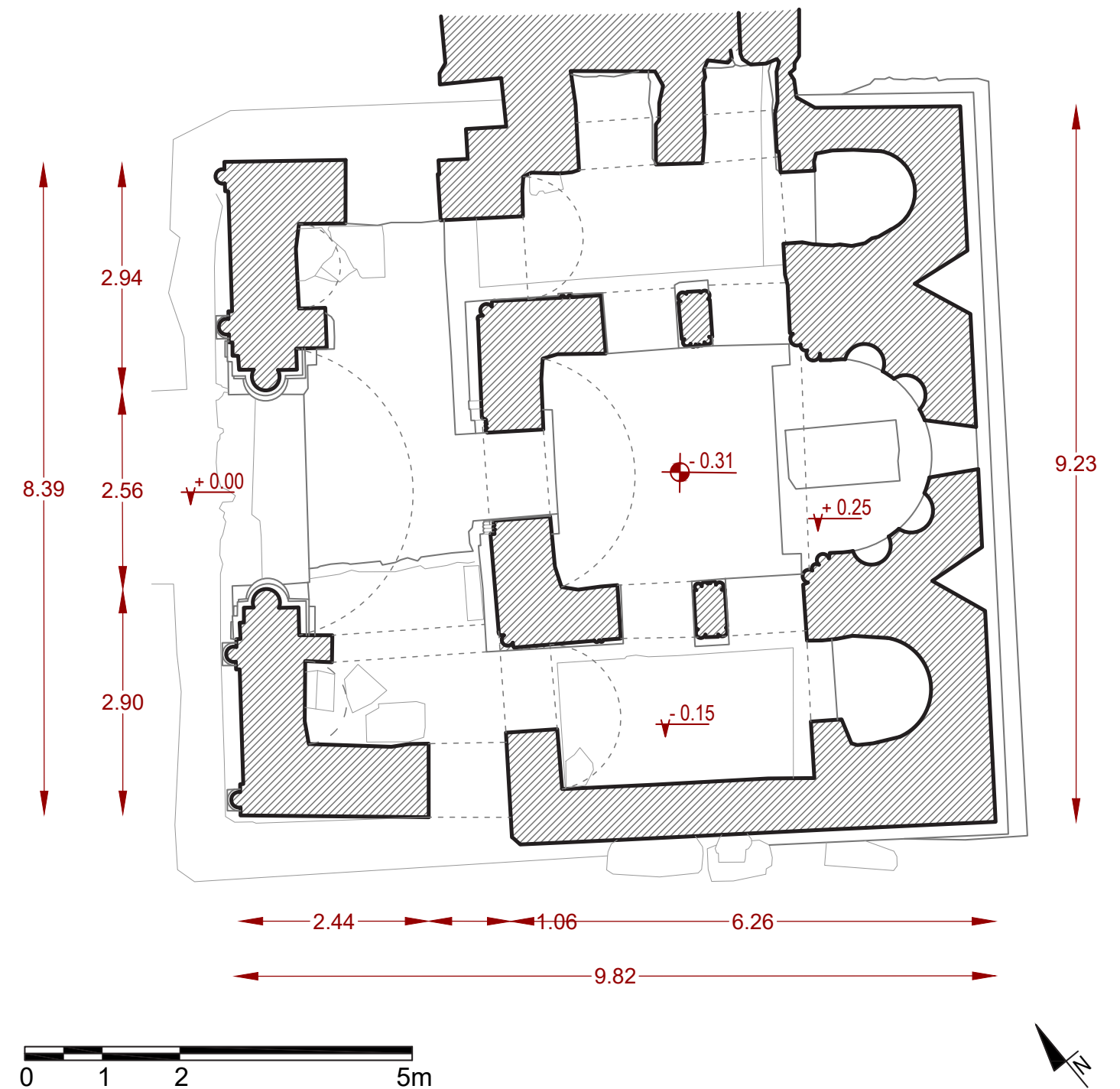


Fig. 4. plan of Bgheno Noravank church (Iconem 2021)

3. Rapti 2019, p. 248.



Fig. 5. The main apse (Iconem 2021)



Fig. 6. The western facade of the church (Iconem 2021)

The carved decoration of the church is profuse, with figurative and ornamental themes, both outside and inside the building. It shows parallels with the school of Ani, as well as the churches of Zvartnots, Holy Cross of Aghtamar, Sissian, and other examples of medieval Armenia⁴. The ornamentation uses architectural, geometrical and vegetal themes (vines, pomegranate), which belong to the “symbolic repertoire of redemption” and participated to the faithful’s liturgical experience (fig. 7)⁵. The iconographical stone relieves, although not located in their original location, display themes such as the Annunciation to Mary, the myrophores and the Christ in Majesty, and date back most probably to the 10th century (fig. 8-10)⁶.

Many inscriptions have been documented in the church, dating from the 10th to the 15th century⁷. Several of them, including the longest, mention the bishop “Ter Yovhannes” who was most probably the founder of this memorial church and might have been buried below⁸.



Fig. 7-8-9-10. Some examples of vegetal and figural sculpture: pomegranate tree, Christ in Majesty, Christ blessing Mary Magdalena, the myrophores (Iconem 2021)

4. Rapti 2019, p. 255.

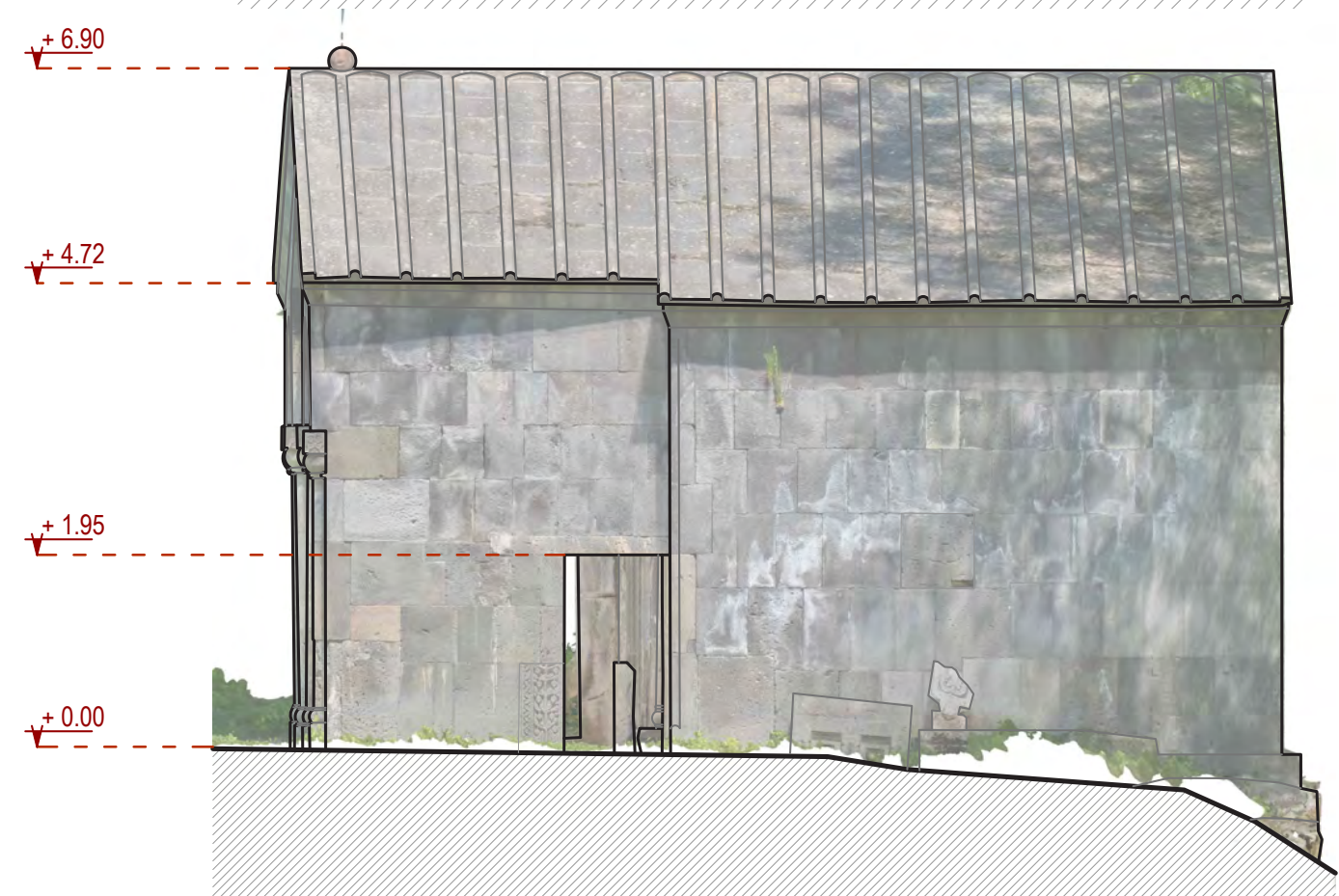
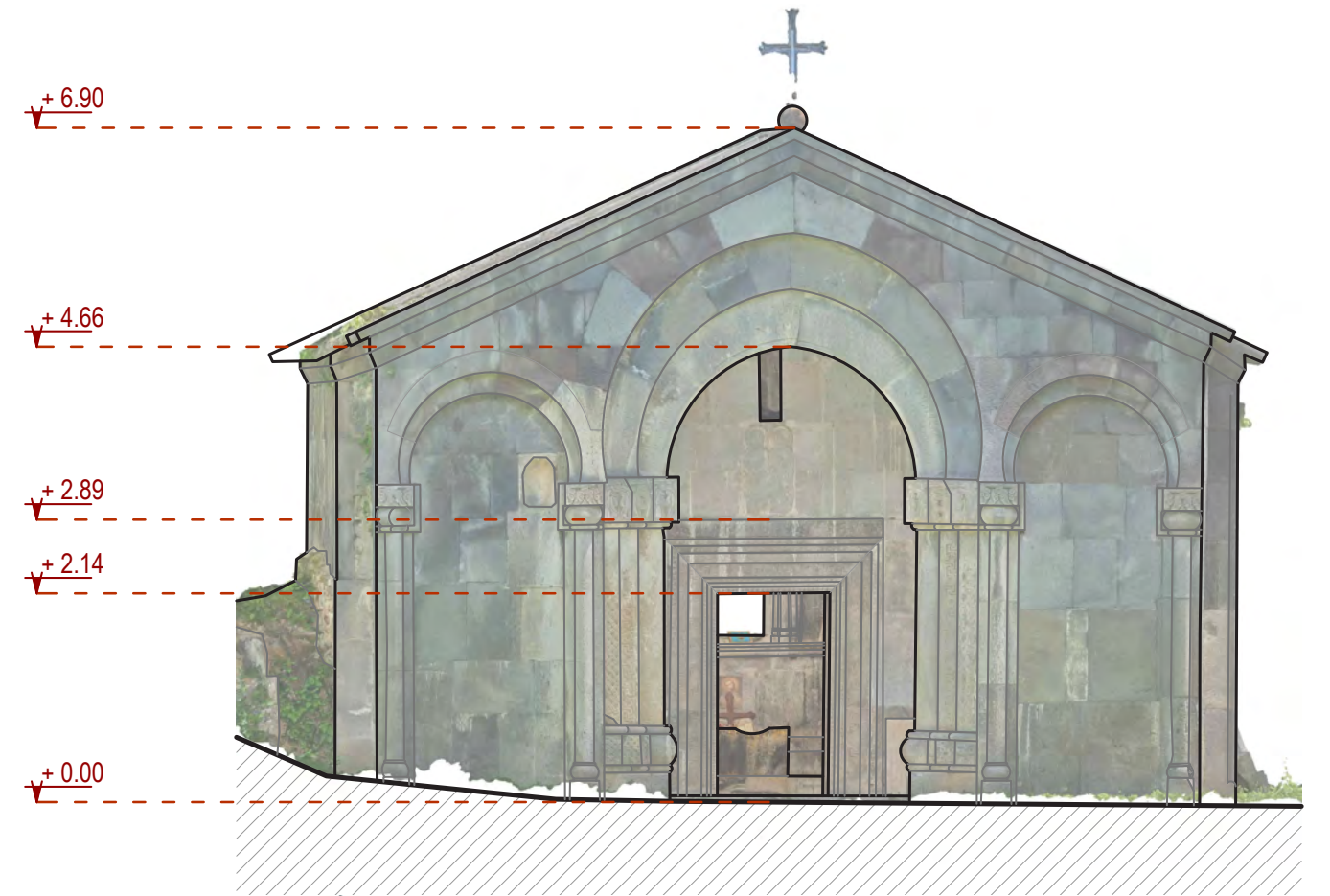
5. Idem, p. 257.

6. For a detailed study of the iconographic program, see Rapti 2019, p. 257-263.

7. The inscriptions mention the dates of 935, 1062, 1417 ... For a detailed presentation of the epigraphical corpus and an English translation of the inscriptions, see Rapti 2019, p. 249-251, 267-268.

8. See I. Rapti’s study (idem).

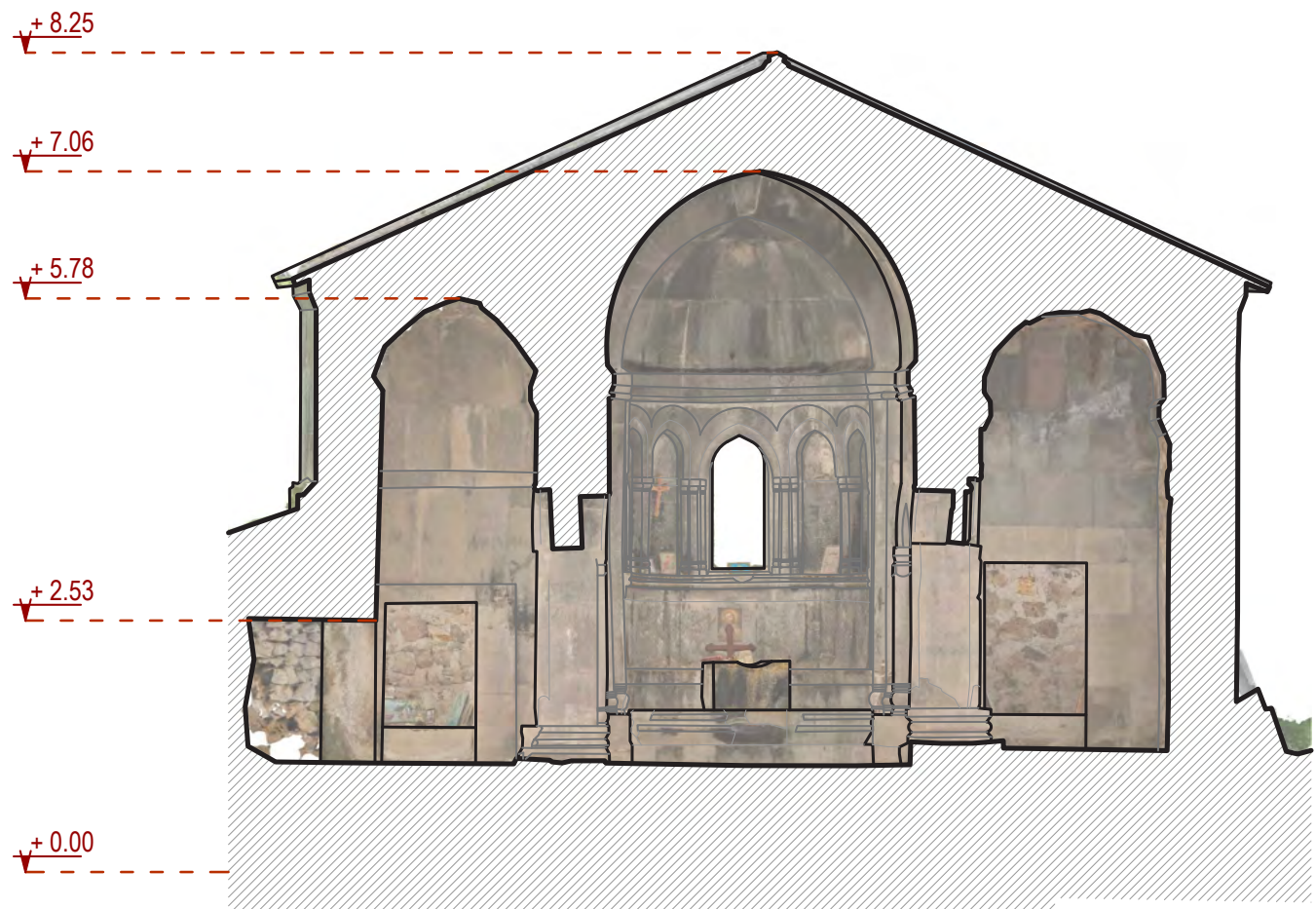
3. Boards



Site plan + Plan +150cm
Iconem 2021



West & South Facade
Iconem 2021



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Section 1+2
Iconem 2021

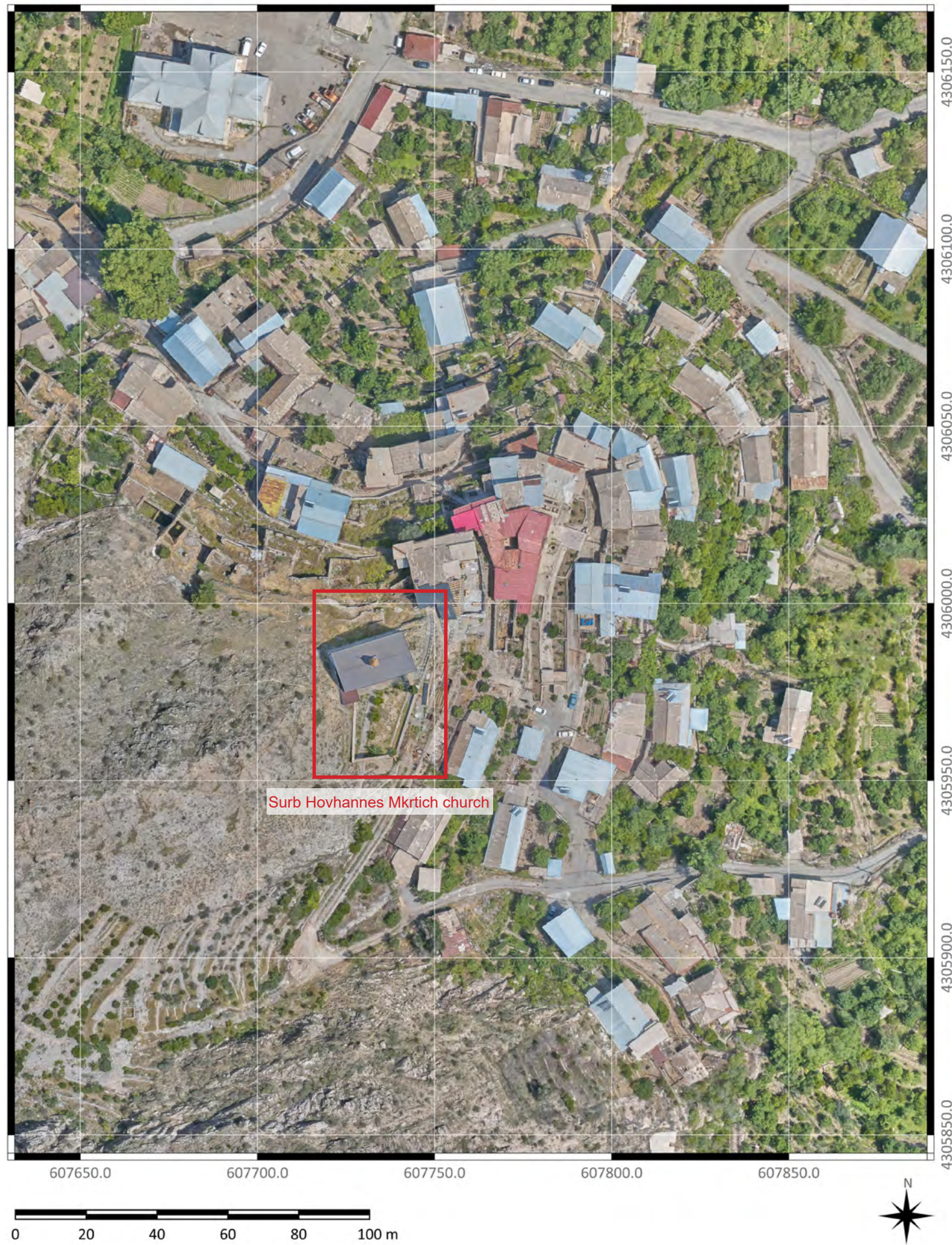


Fig. 1. Georeferenced ortho-image of Surp Astvatsatsin Meghri site extracted from the textured 3D scan (Iconem 2021)

SURP HOVHANNES MKRTICH CHURCH OF MEGHRI

| | |
|------------------------|--------------------------|
| Coordinates: | 38.89610, 46.24240 |
| Locality : | Meghri |
| Region: | Syunik |
| Site type: | Church |
| Dating: | 17 th century |
| Photogrammetry survey: | Iconem - 17/05/2021 |
| Diagnostic: | 11/2021 |

1. General History

A few medieval and modern authors, such as Stepanos Orbelian (13th c.), the catholicos Abraham Kretatsi (18th century) and Ghevond Alishan (19th c.), have mentioned a monastery in Meghri dedicated to Saint-John (Surp-Hovhannes), but they were most probably referring to the main monastery of Saint-John in Meghri, also called Anapastanats, located in the big quarter of Meghri¹. The church of St-John-the-Baptist (Surb Hovhannes Mkrkich) here presented is located in the small quarter of Meghri and dates back to the 17th century, with 18th and 19th century frescoes (fig. 1-2).

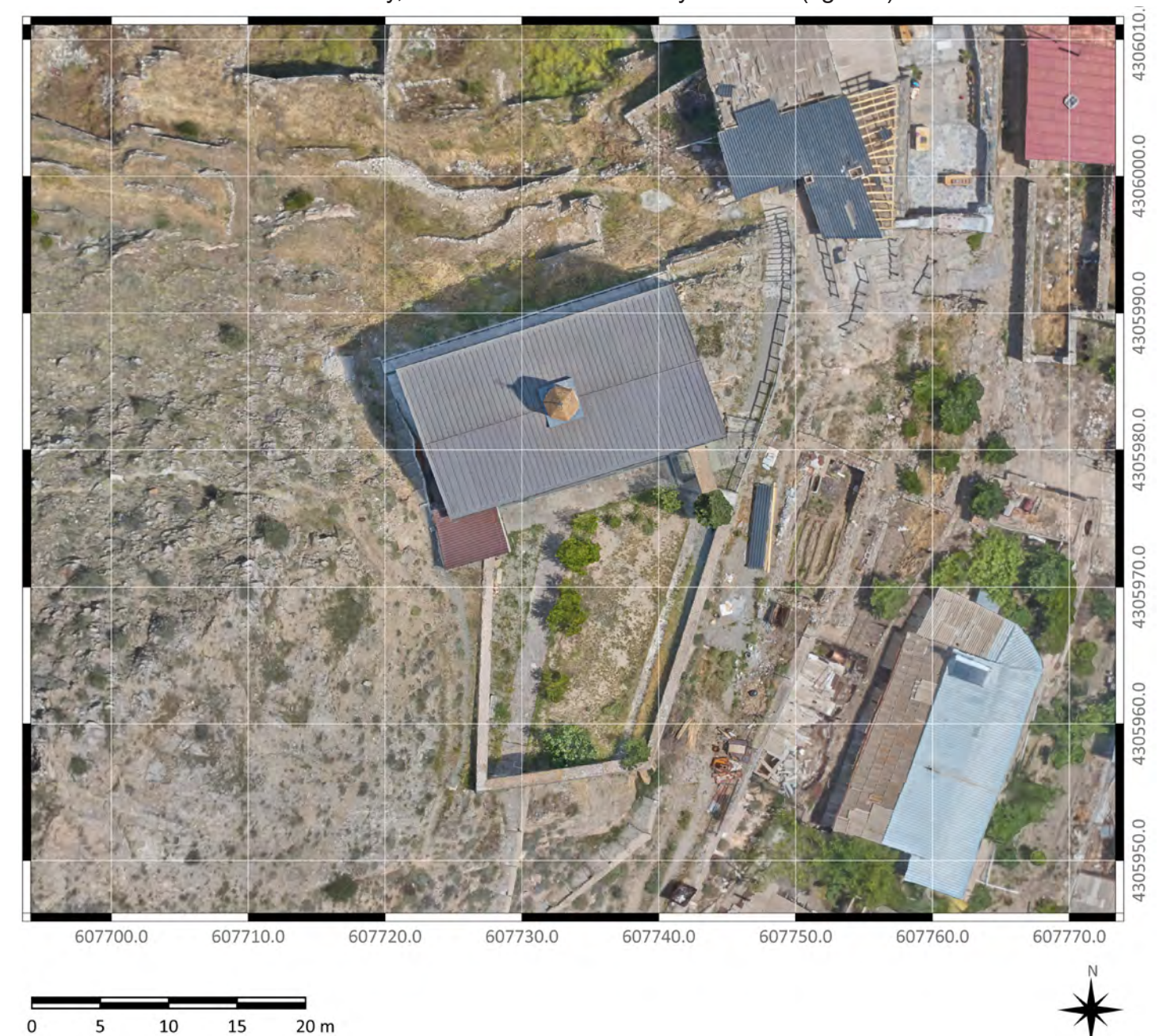


Fig. 2. Georeferenced ortho-image of The church of St-John-the-Baptist extracted from the textured 3D scan (Iconem 2021)

1. Nalbandyan 2019, p. 275 ; Melik-Bakhdjian 2009, p. 263

2. Site description

The church is a three-nave basilica with two sacristies flanking the central apse. Two arcades with four-sided pillars divide the naves (fig. 3). The church has a barrel vault with a small opening in its middle, which is topped with a small bell-tower on the roof (fig. 4)². There is a single entrance on the southern façade as well as three small windows on each façades.

The church is fully covered inside with monumental paintings made for the most part in 1700, but also in 1793 and 1866. The program displays episodes from the Old and the New Testaments and images of various saints, as well as crosses and ornamental motives (fig. 5).

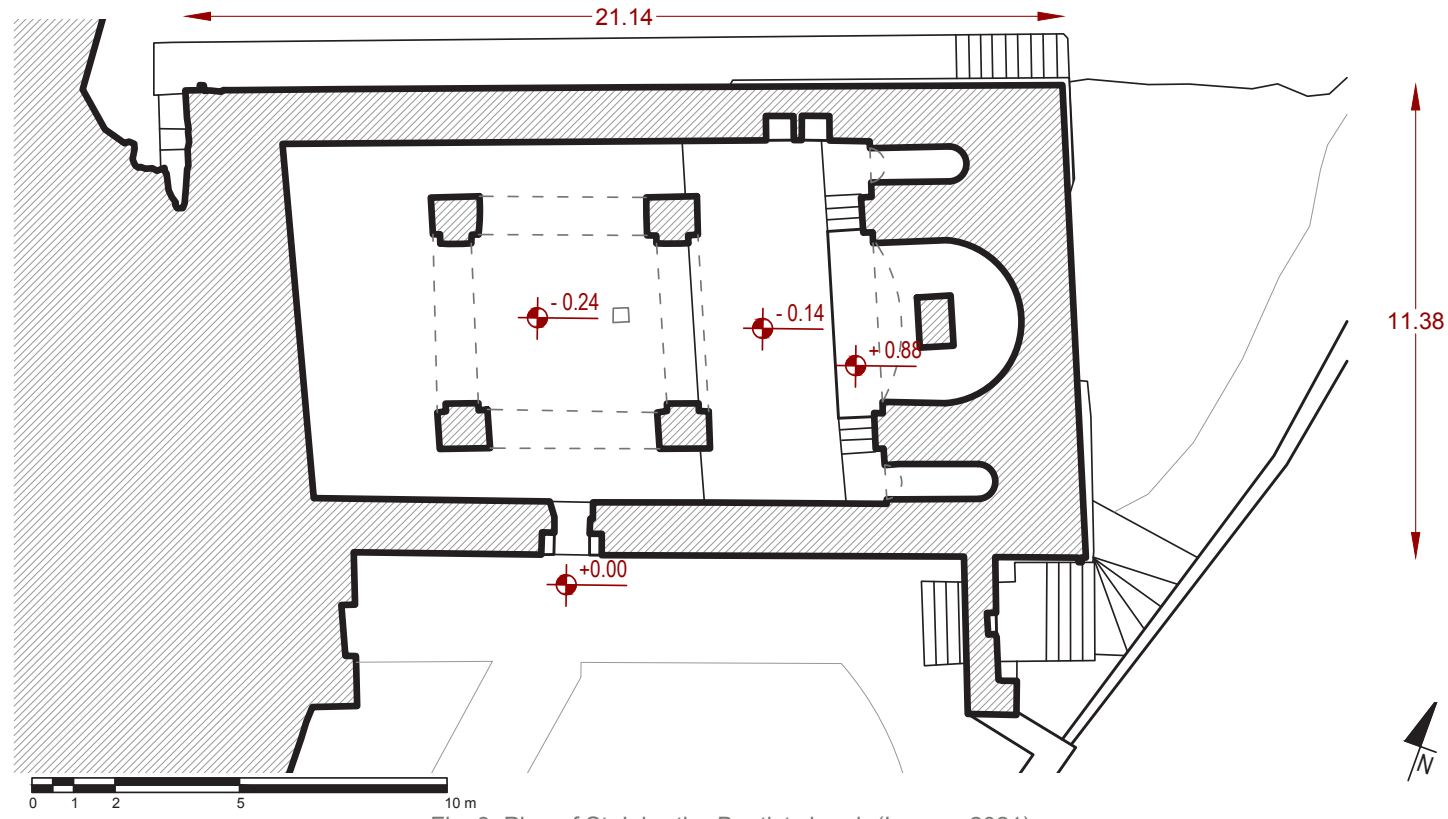


Fig. 3. Plan of St-John-the-Baptist church (Iconem 2021)



Fig. 4. Aerial view of the church (Iconem 2021)

The paintings were damaged throughout the history for different reasons. Specialists have identified a layer of paint displayed on the lower parts of the walls at the end of 19th c., a layer of oil paint and lime covering the iconographic program and applied in the 1920's (fig. 6), the scratching of this lime layer by locals during the 20th c., iconoclastic destruction during the soviet times, and deteriorations due to water infiltration from the roof and the western window³. Some restorations were made in the 1984-1986 and 1994-1995, but had to be renewed in 2018-2019 after a meticulous study for restoring both the building and the paintings⁴.

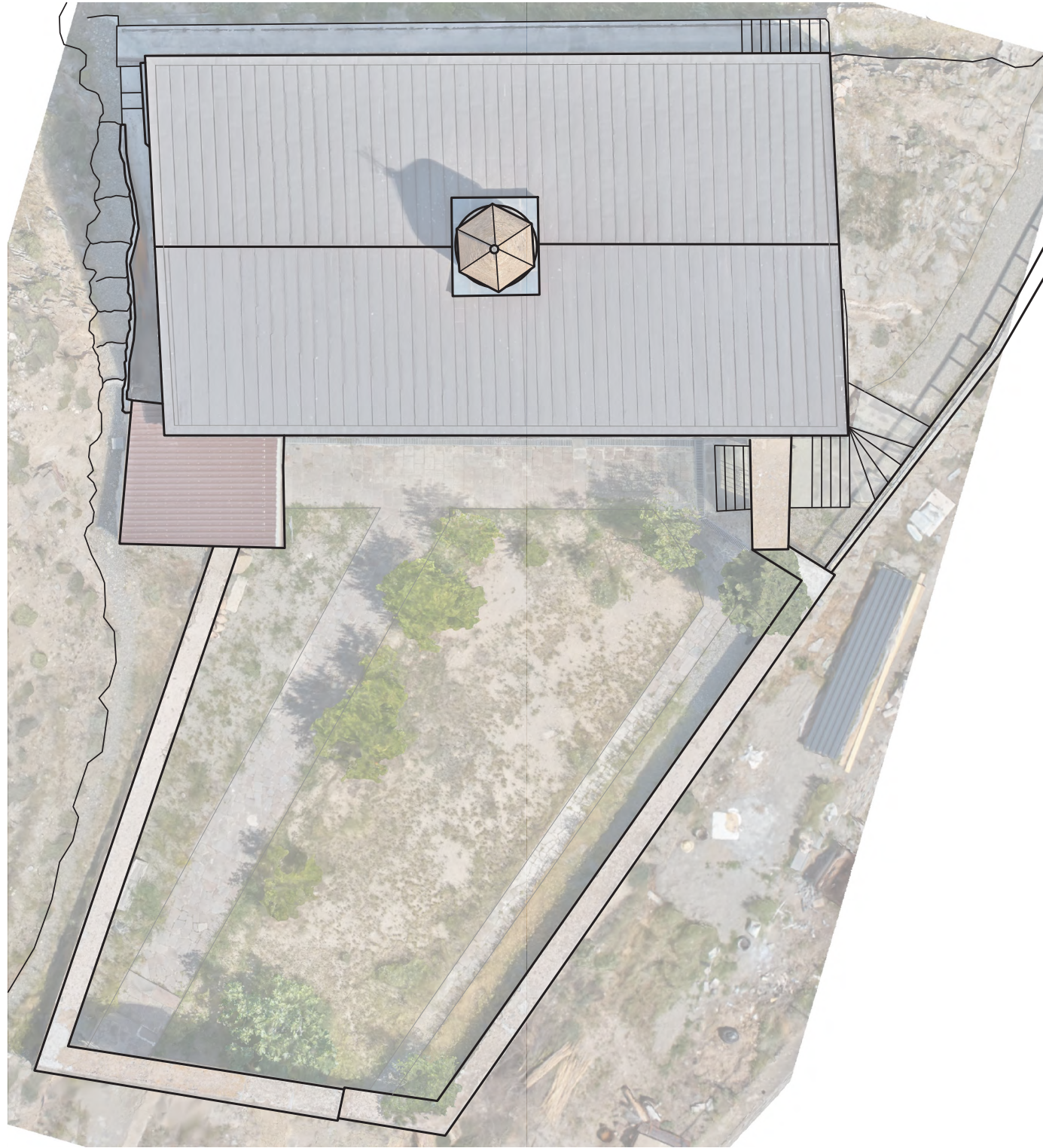


Fig. 5. Inside view of the monumental paintings (Iconem 2021)



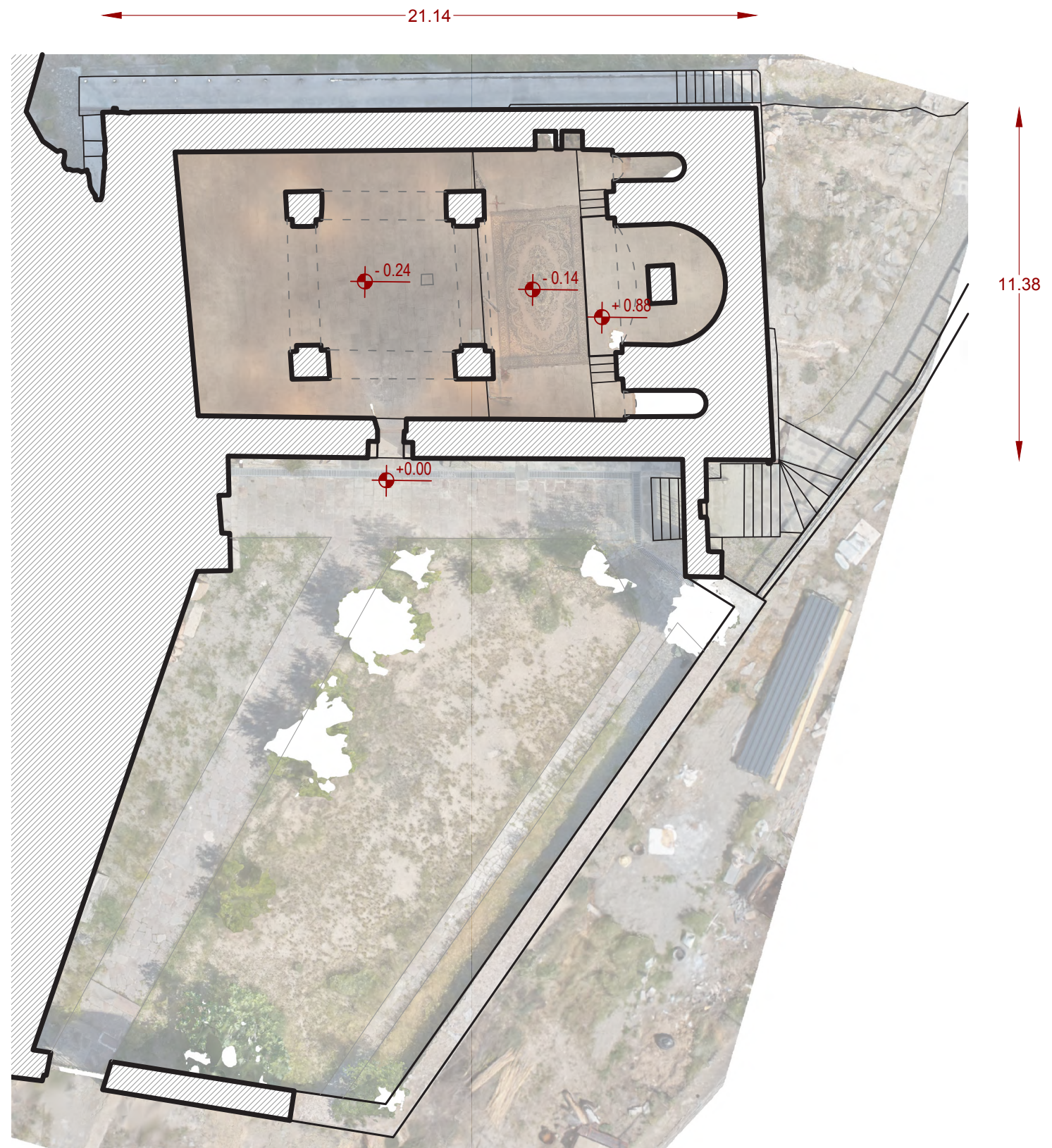
Fig. 6. Inside view of the church in 1932 (Photography of P. Grigoryan, from Avetisyan 2020, fig. 2-3)

3. Boards



Site plan
Iconem 2021

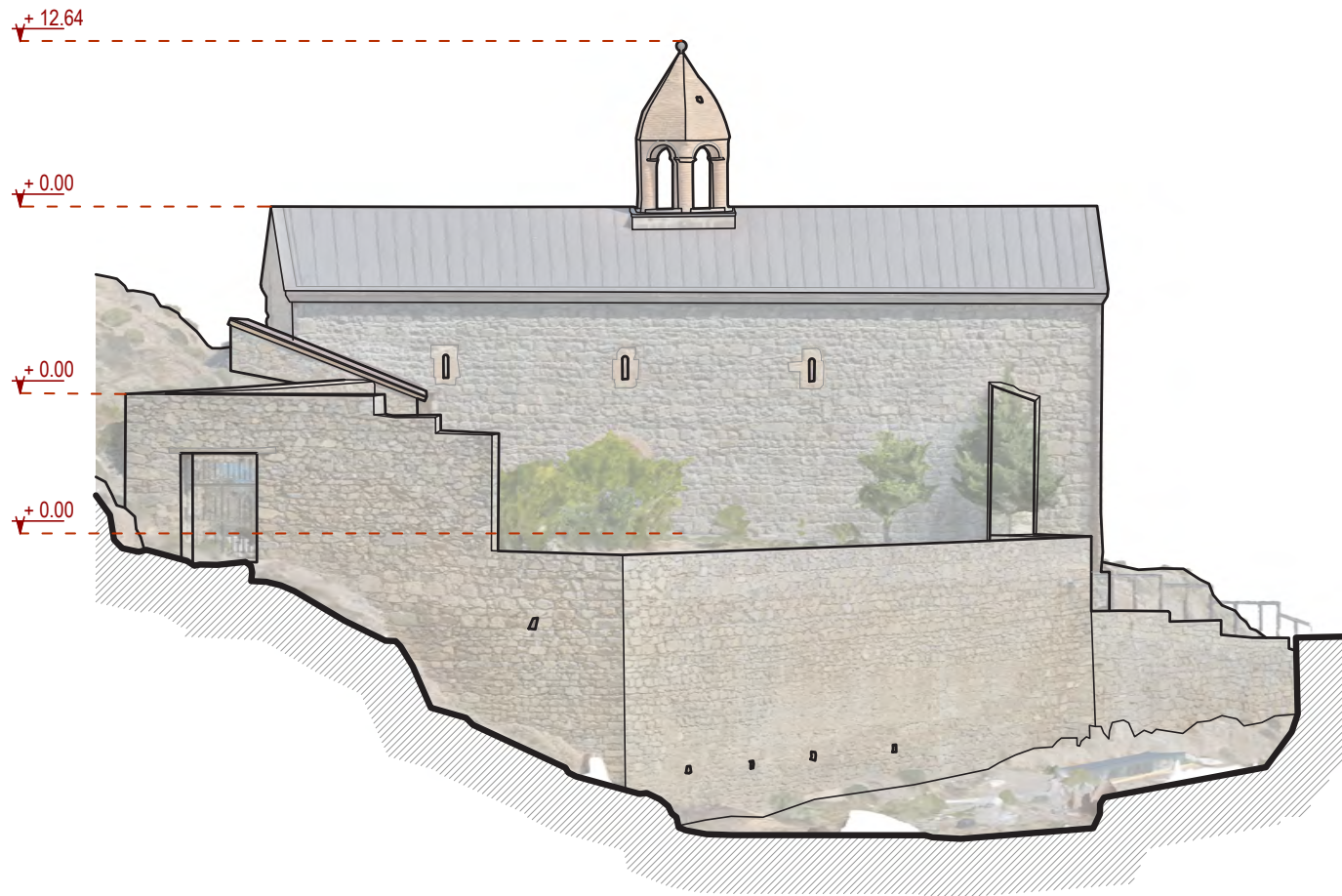
220



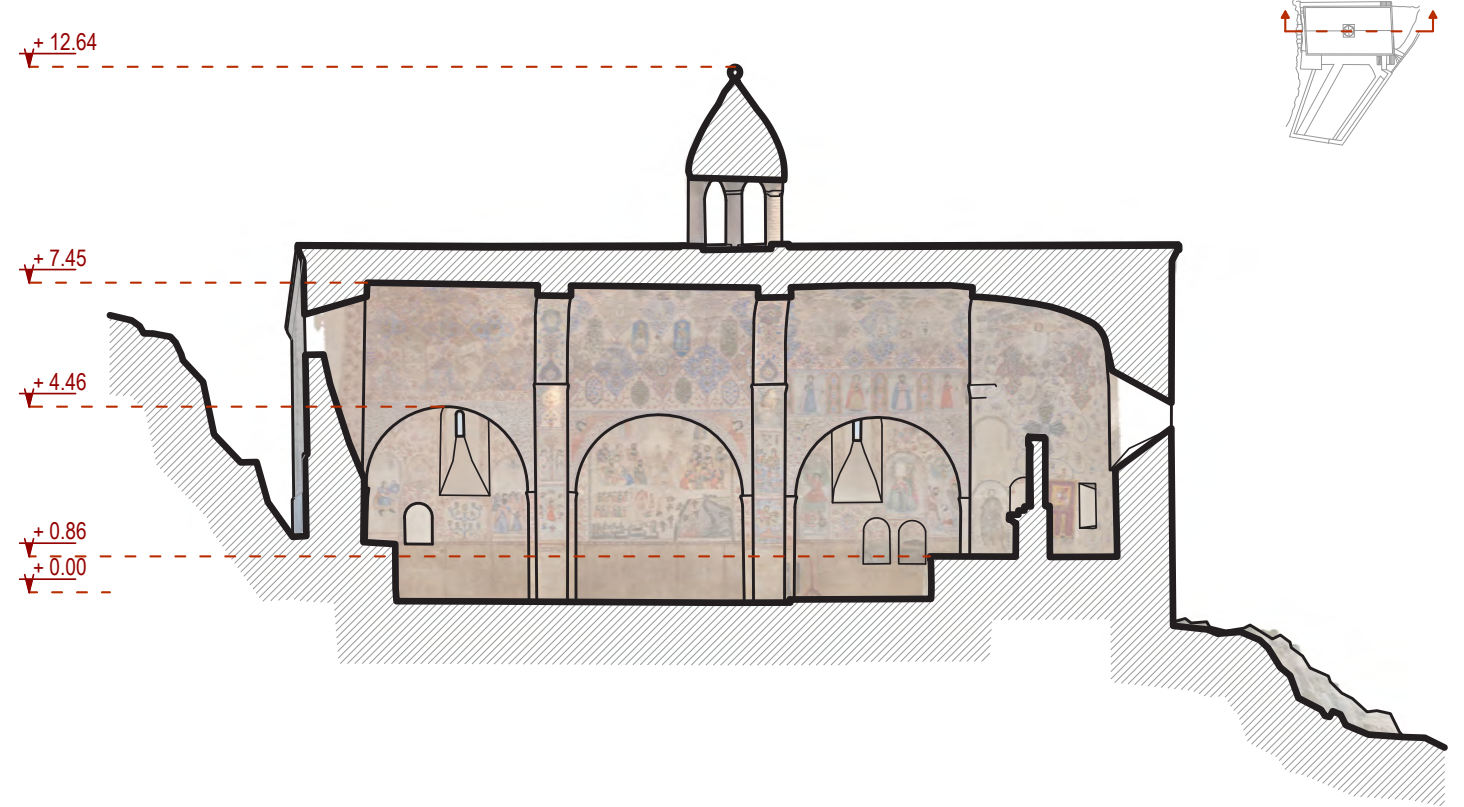
Plan +150cm
Iconem 2021

221

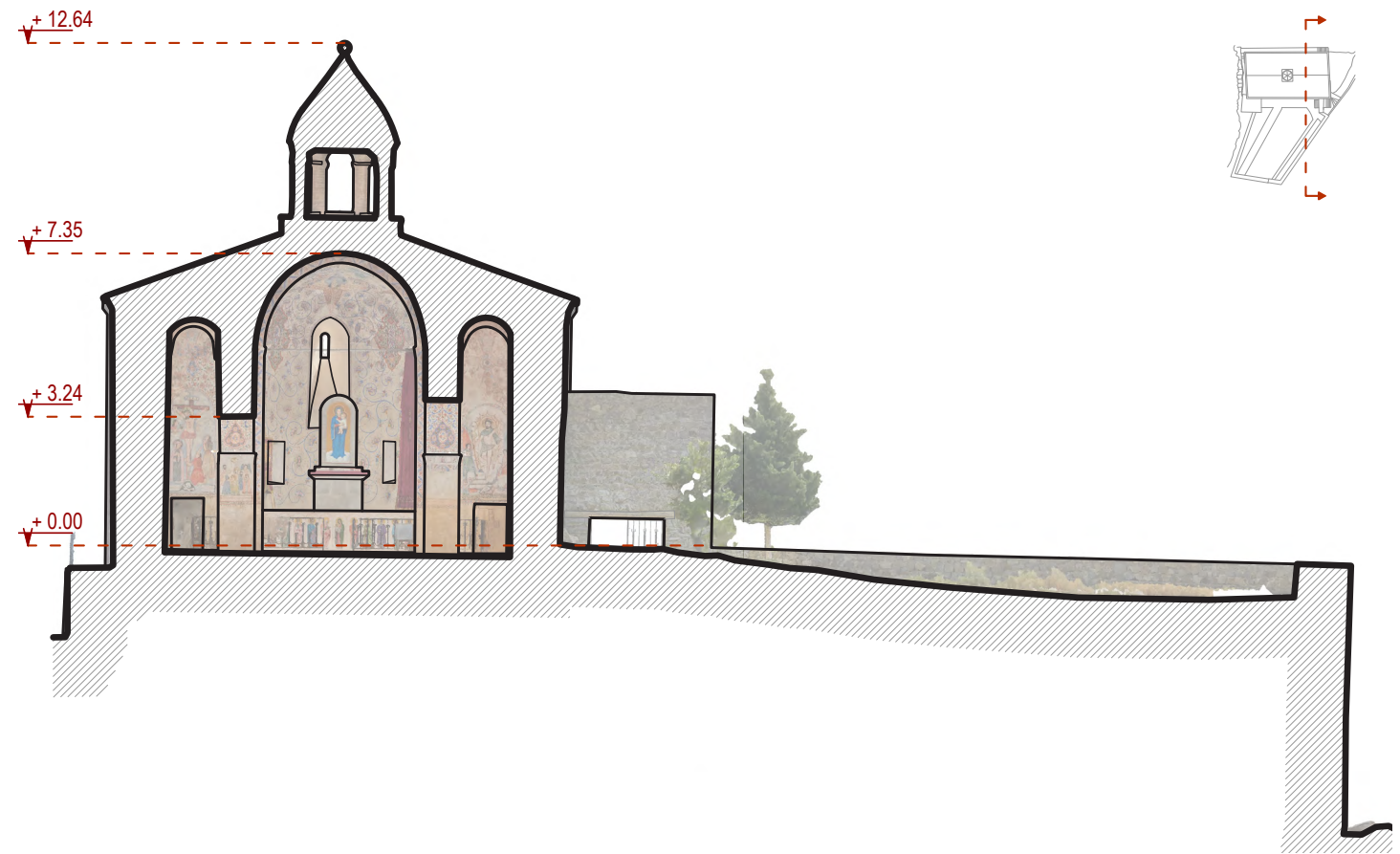
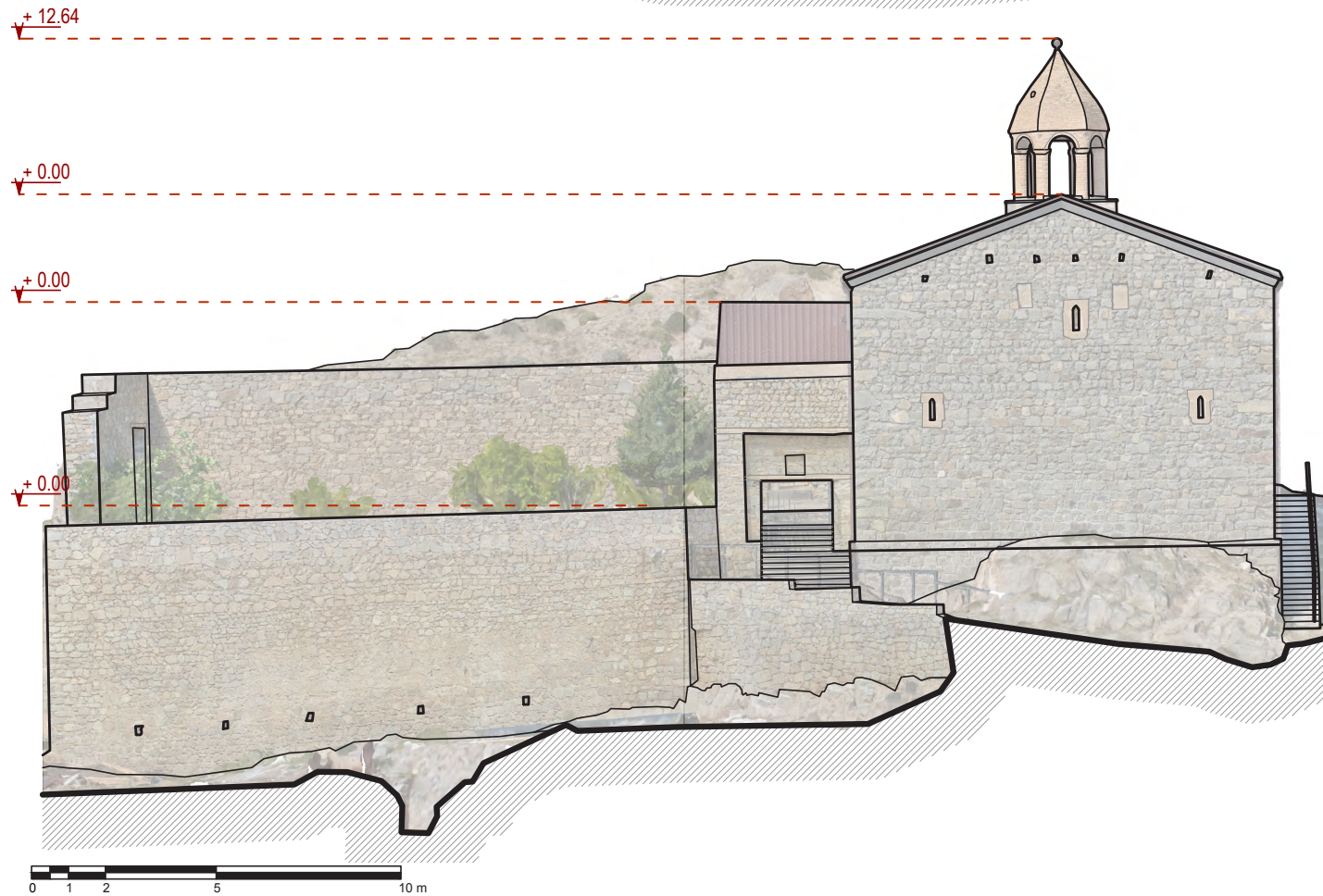




Façade 1+2
Iconem 2021



Section 1 + 2
Iconem 2021



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- M. Hasratyan, *Մեղրու շրջանի հուշարձանները (Monuments in the region of Meghri)*, Yerevan 1987.
- A. Nalbandyan, «Արձանագիր խաչքարեր Մեղրիի Ս. Հովհաննես վանքից» (Khachkars (cross-stones) with inscriptions from St. Hovhannes (Anapastanats) Monastery of Meghri), in P. Avetisyan (ed.), *Herald of Social Sciences*, n°2(656), Yerevan, may-august 2019, p. 272-287.
- St. Melik-Bakhdjian, *Հայոց պաշտամունքային վայրեր*, Yerevan 2009.



Fig. 1. Georeferenced ortho-image of the site of the monastery of Vahanavank extracted from the textured 3D scan (Iconem 2021)

MONASTERY OF VAHANAVANK

| | |
|------------------------|---------------------|
| Coordinates: | 39.21840, 46.33238 |
| Locality : | Shgharjik |
| Region: | Syunik |
| Site type: | Monastery |
| Dating: | 10th century |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 11/2021 |

1. General History

According to the 13th century historian Stepanos Orbelian, the prince Vahan the 2nd, son of prince Gagik of Kapan, founded the monastery of Vahanavank in 911 after having lived in hermitages as a monk to cure his demoniac illness, and dedicated its main church to Saint Grigor the Illuminator (Grigor Lusavorich)¹. The church's *gavit* (narthex) and gallery were built in 920-967². The second church, dedicated to the Mother of God (Surb-Astvatsatsin), was built by Queen Shahandukht the 2nd of Syunik in 1086 (fig. 1-4.). In the 11th century, the monastery was the educational and religious center of the kingdom of Syunik, as well as the pantheon of the local kings and princes, among witch Vahan the 2nd himself.



Fig. 2. Georeferenced ortho-image of the monastery of Vahanavank extracted from the textured 3D scan (Iconem 2021)

1. Orbelian, *Histoire de la Siounie*, p. 122, 141-142.
2. Thierry, Donabédian 1987, p. 178.



Fig. 3. Aerial view of the monastery of Vahanavank (Iconem 2021)

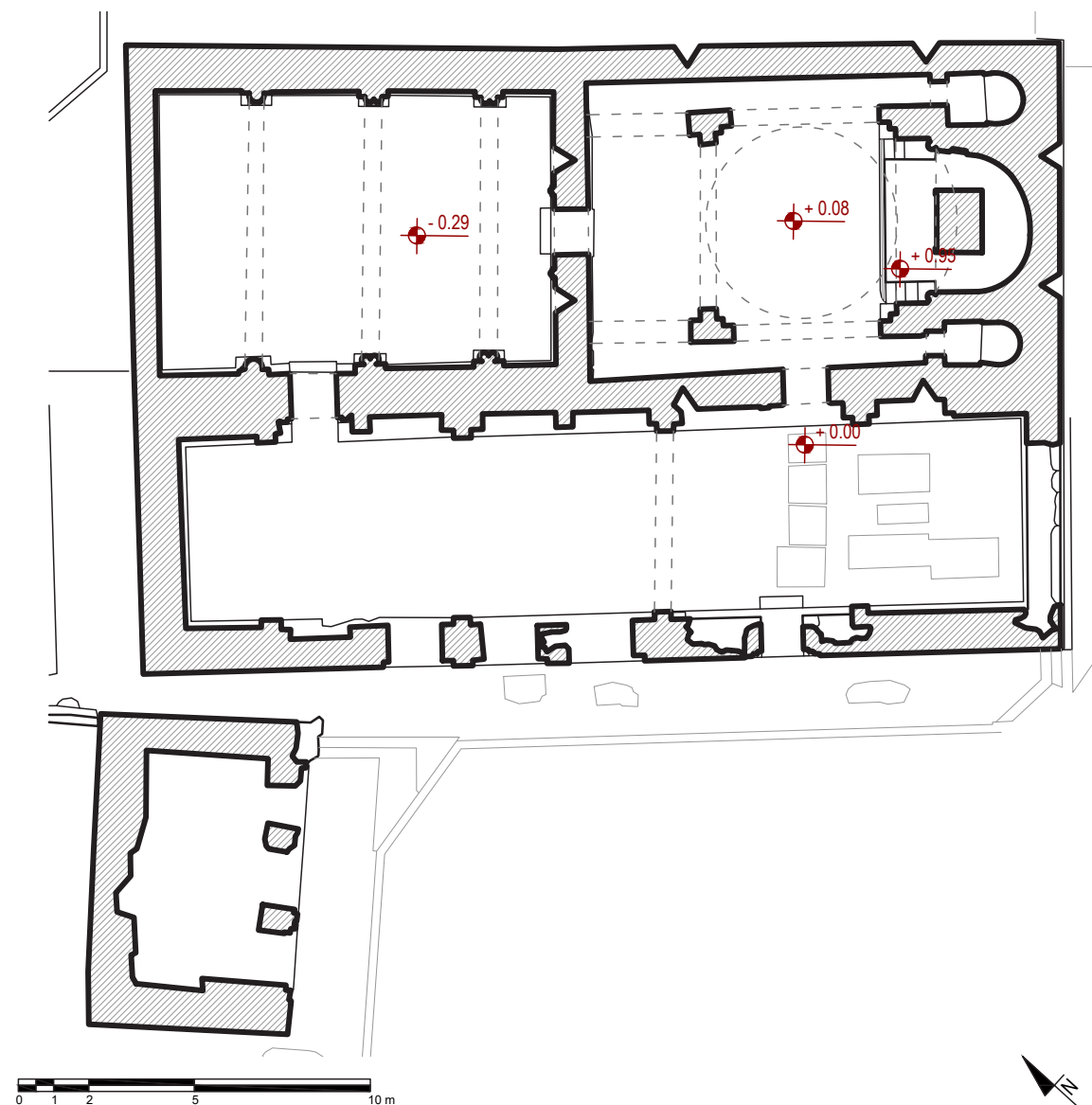


Fig. 4. Plan of the monastery of Vahanavank (Iconem 2021)

2. Site description

The monastery is located 7km west of Kapan, at around 1100m altitude. It is composed of several buildings built with finely cut basalt. The main church of the monastery (*katholikon*) is the church of St-Gregory-the-Illuminator (Grigor Lusavorich). It is centrally planned with an inscribed cross, topped with a dome, whose two western support pillars are engaged (fig. 3-4)³. Two sacristies flank the main apse (fig. 5). The main entrance of the church is on its southern wall, and a second door leads to the *gavit* (narthex), which is a rectangular room with a barrel vault (fig. 6). A portico, probably a summer *gavit*, flanks the southern façade of the church, leaning on open arcades. Both the *gavit* and the portico belong to a type of annexes, which appeared in eastern Syunik's 10th century architecture⁴.

From 2006 to 2009, the church and its *gavit* were entirely renovated, and the portico was only partially restored.



Fig. 5. Interior view of the the church of St-Gregory-the-Illuminator (Iconem 2021)

3. J-M. Thierry and P. Donabédian define the plan as a « croix inscrite cloisonnée ouverte à appuis engagés » (*Idem*, p. 600). See also Cuneo 1988, p. 223.

4. Thierry, Donabédian 1987, p. 178.



Fig. 6. Interior view of the rectangular room (Iconem 2021)

The church of Surp Astvatsatsin is located 50 meters south of the main church (fig. 1 and 7). It is a two-story building : the first floor was used as a mausoleum and the church stands on the second floor. It is a small single-nave building with a barrel vault (fig. 8), which was renovated during the soviet period. There are several inscriptions in the monastery (fig. 9), including one stating the construction the church of St-Astvatsatsin in 1086. A few *khachkars* with inscriptions were documented, mainly dated from the 10th-11th centuries (fig. 10).



Fig. 7. Aerial view of the church of Surp Astvatsatsin (Iconem 2021)



Fig. 8. Interior view of the church (Iconem 2021)



Fig. 9. An 11th century inscription near the entrance of the church (Iconem 2021)

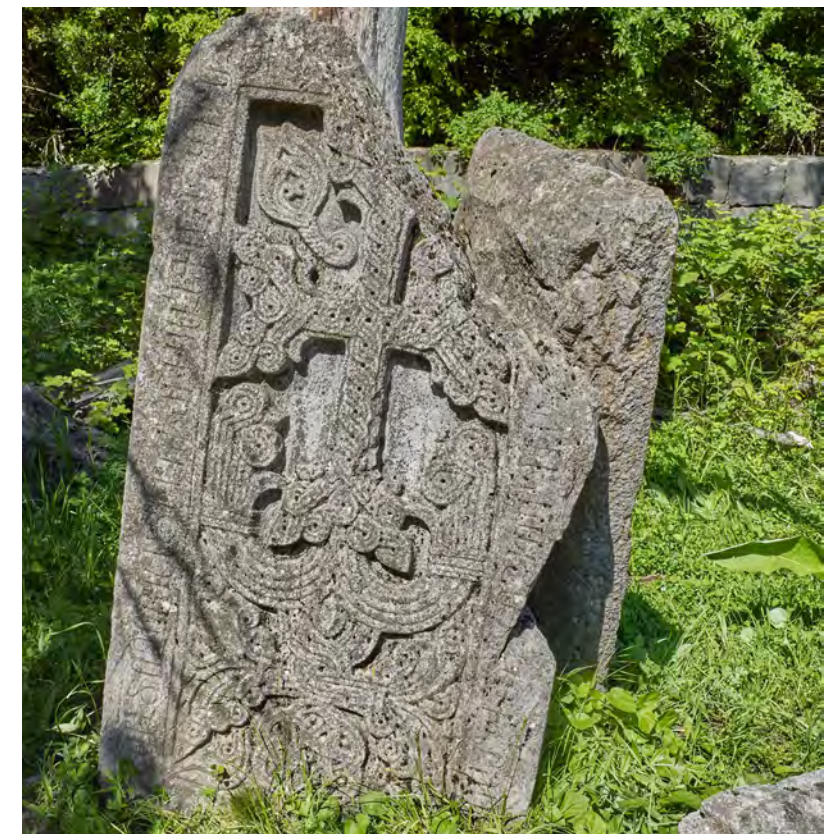
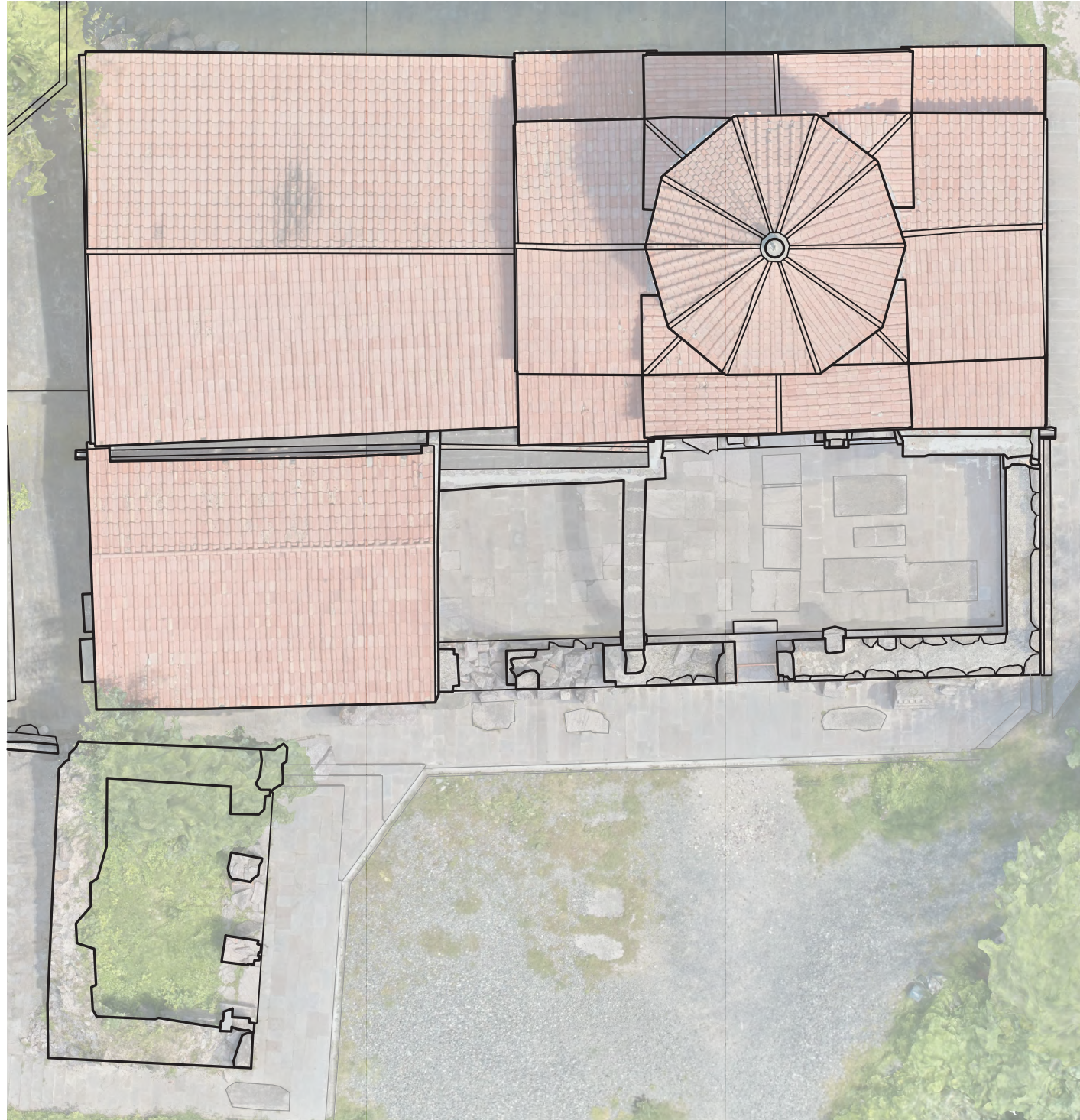
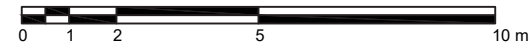


Fig. 10. A *khachkar* outside the church (Iconem 2021)

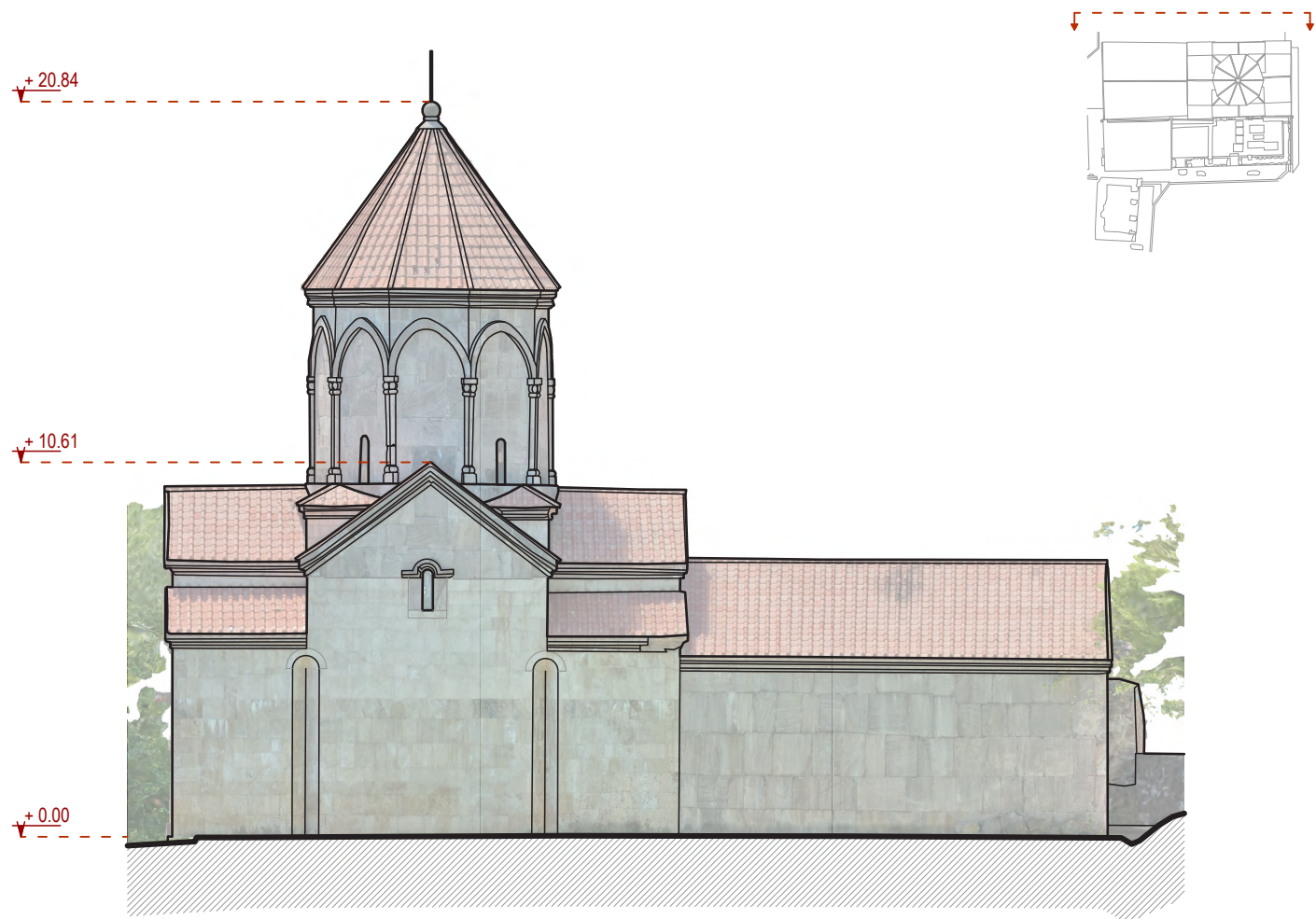
3. Boards



Site plan
Iconem 2021



Plan +150cm
Iconem 2021



North and South facade
Iconem 2021



East facade
Iconem 2021



Section 1 + 2
Iconem 2021

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KHORANASHAT MONASTERY

| | |
|------------------------|--------------------------|
| Coordinates: | 40.86725, 45.59871 |
| Locality : | Chinari |
| Region: | Tavush |
| Site type: | Monastery |
| Dating: | 13 th century |
| Photogrammetry survey: | Iconem - 25/05/2021 |
| Diagnostic: | 11/2021 |

1. General History

The monastery was constructed in the beginning of the 13th century: the church was first built from 1211 to 1221, followed by the *gavit*. It was founded by the *vardapet* (archimandrite) Hovhannes Vanakan, disciple of the famous Armenian theologian Mkhitar Gosh. Hovhannes became the main teacher of the monastery's school until his death in 1251, which led to the decline of the monastery¹.

In the first half of the 13th century, this monastery was one of the main centers of higher education in Armenia, along the lines of the monastic schools of Goshavank (founded by the aforementioned Mkhitar Gosh) and Gladzor² where the monks received a theological, scientific and philosophical education. It also featured a *scriptorium* where were produced a number of manuscript by Hovhannes Vanakan himself and his disciples, twenty-five of which are known and kept in different center of manuscripts around the world³. According to medieval authors, the monastery was destroyed by the Mongols in the 1220's⁴.

Coordinate Reference System : UTM 38N - WGS84 / EPSG: 32638



Fig. 1. Georeferenced ortho-image of Khoranasat monastery extracted from the textured 3D scan (Iconem 2021)



Fig. 2. Aerial view of of Khoranasat church (Iconem 2021)

1. Thierry, Donabédian 1987, p. 590.
2. Dédéyan 2007, p. 356-357.
3. For the list of the manuscripts from Khoranashat, see Minasyan 2020, p. 208-209.
4. Hacikyan *et al* 2002, p. 493.

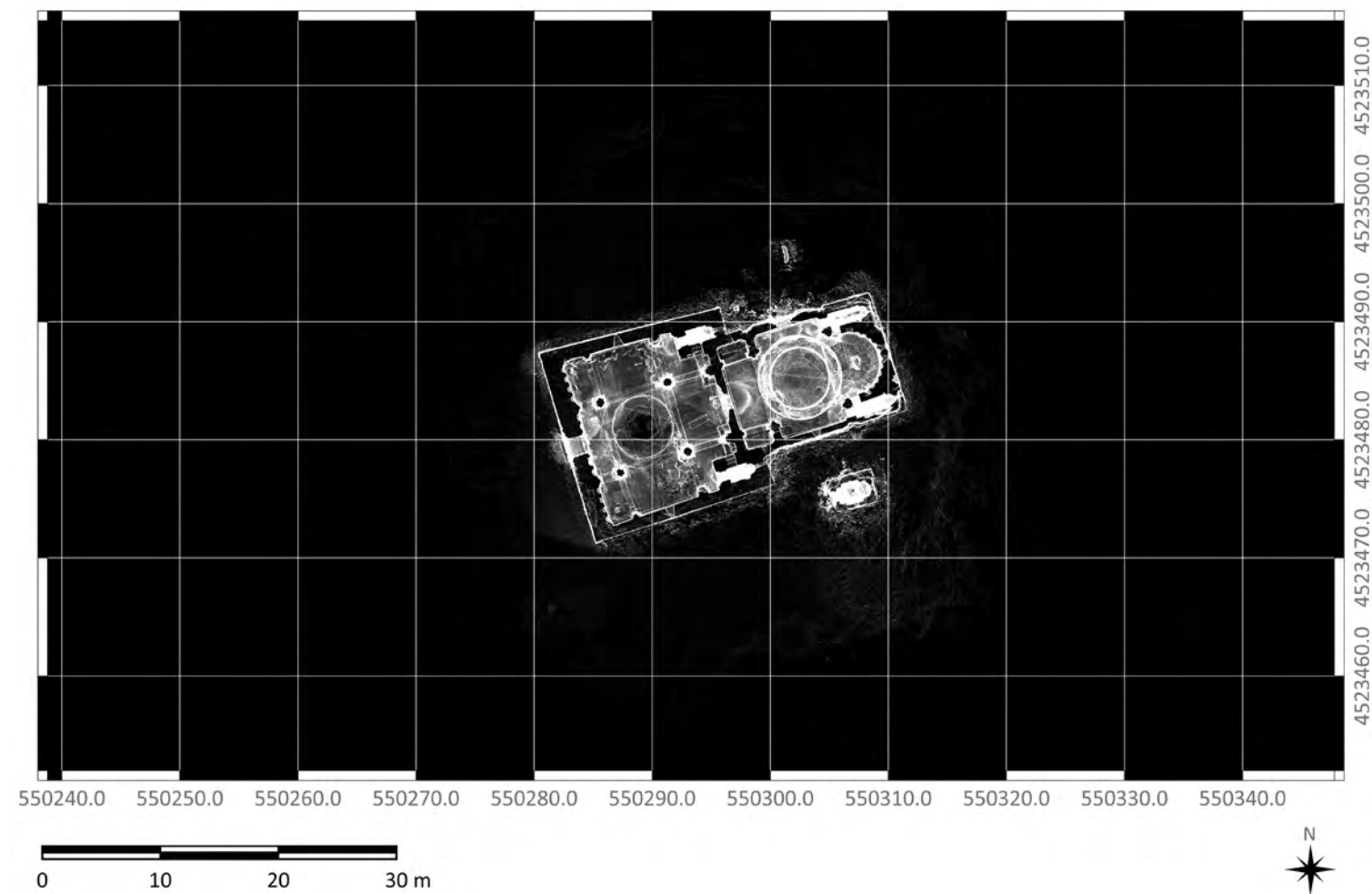
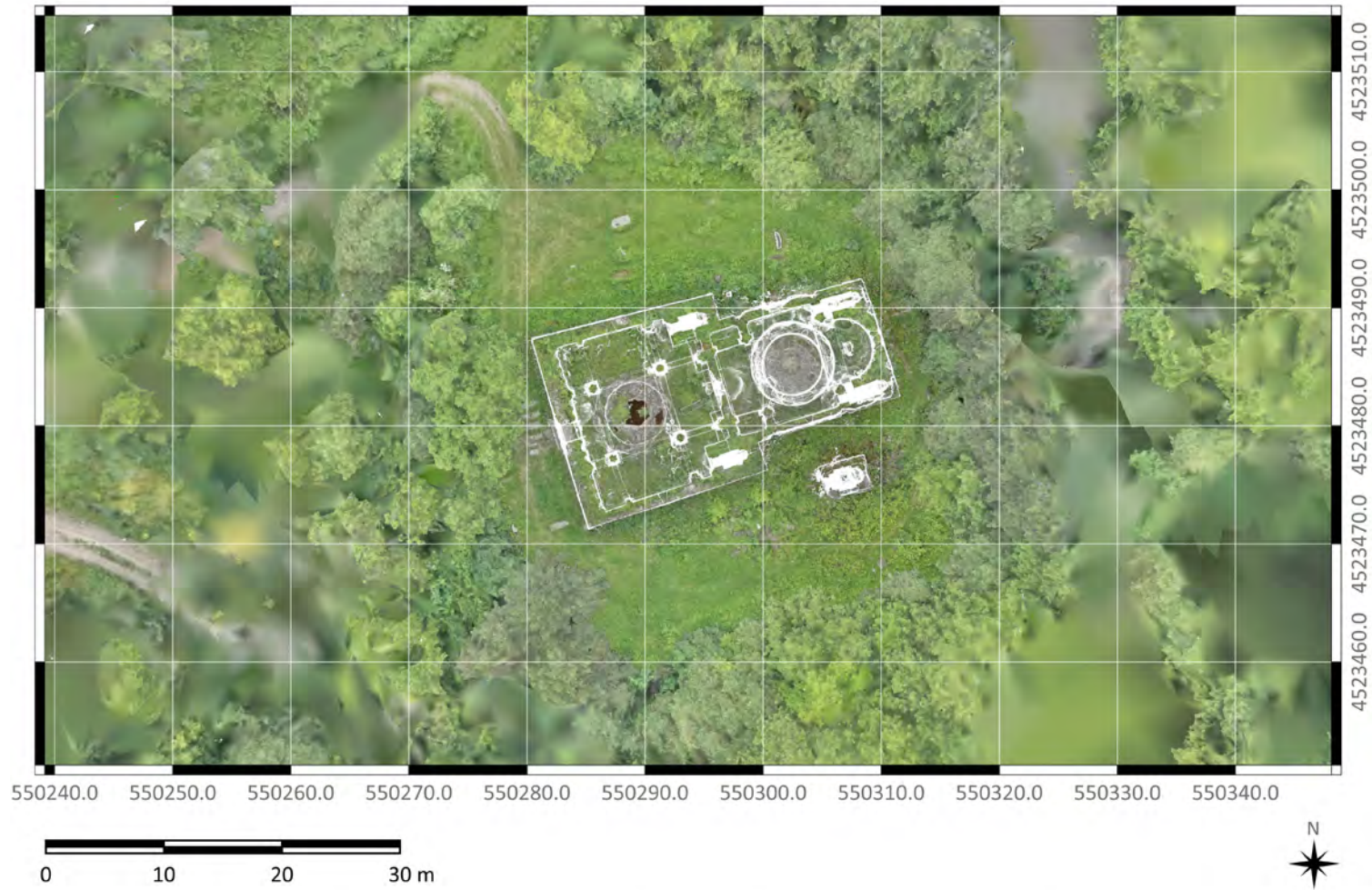


Fig. 3. Transparent plan on the Georeferenced ortho-image of Khoranasat monastery extracted from the textured 3D scan (Iconem 2021)

2. Site description

Located 2,5 km northeast of Chinari village, the monastic complex is composed of several buildings. The main one is the church dedicated to the Holy Mother of God (Surb-Astvatsatsin) (fig. 1-3). It is a cross-in-square church with an inscribed apse flanked by two sacristies (fig. 4). Fourteen niches are cut into the apse, a peculiarity of this church (fig. 5). The *naos* is topped with a cone-shaped dome sitting on a cylindrical drum, which was afterward renovated with bricks. The church's *gavit* has a central plan on four pillars and two small chapels in the eastern corners. It is topped with a dome pierced with a skylight (the stalactites have collapsed), which leans on crossed arches shaped like a six branch star⁵ (fig. 6).

The church and its *gavit* bear noteworthy carved relief, mostly bestiary. On the northern portal of the church, a bird and an ox's head with a ring are placed on top of the pointed arch surrounding a bicolor tympanum (fig. 7). On the eastern wall, below the carved cross and next to a carved small bird, an eagle with spread wings is represented gripping a prey between its claws. On the *gavit*'s western portal, two large lion and ox support the arch, which is itself carved with an ornamental band (fig. 8). The portal is topped with several carved crosses and *khachkars* that were added later, probably during a renovation. There are also sculpted animals inside the *gavit*, such as two lions sat around a saint, probably the prophet Daniel, sculpted on the western wall and two eagles with spread wings (now missing) on the keystones of the southern and northern sections.

The site preserves several inscriptions giving information about the context of foundation of the monastery and the different stages of construction. On the church, they are featured on the northern and southern walls, inside the *naos*, and on the eastern façade, below the windows. The *gavit* also bears inscriptions, such as on the tympanum of its northern chapel.

Several *khachkars* are inserted into the walls, inside and outside, and come from the monastery's cemetery, which was probably located near the church of Surb-Chgnavor which is still surrounded by tombstones.

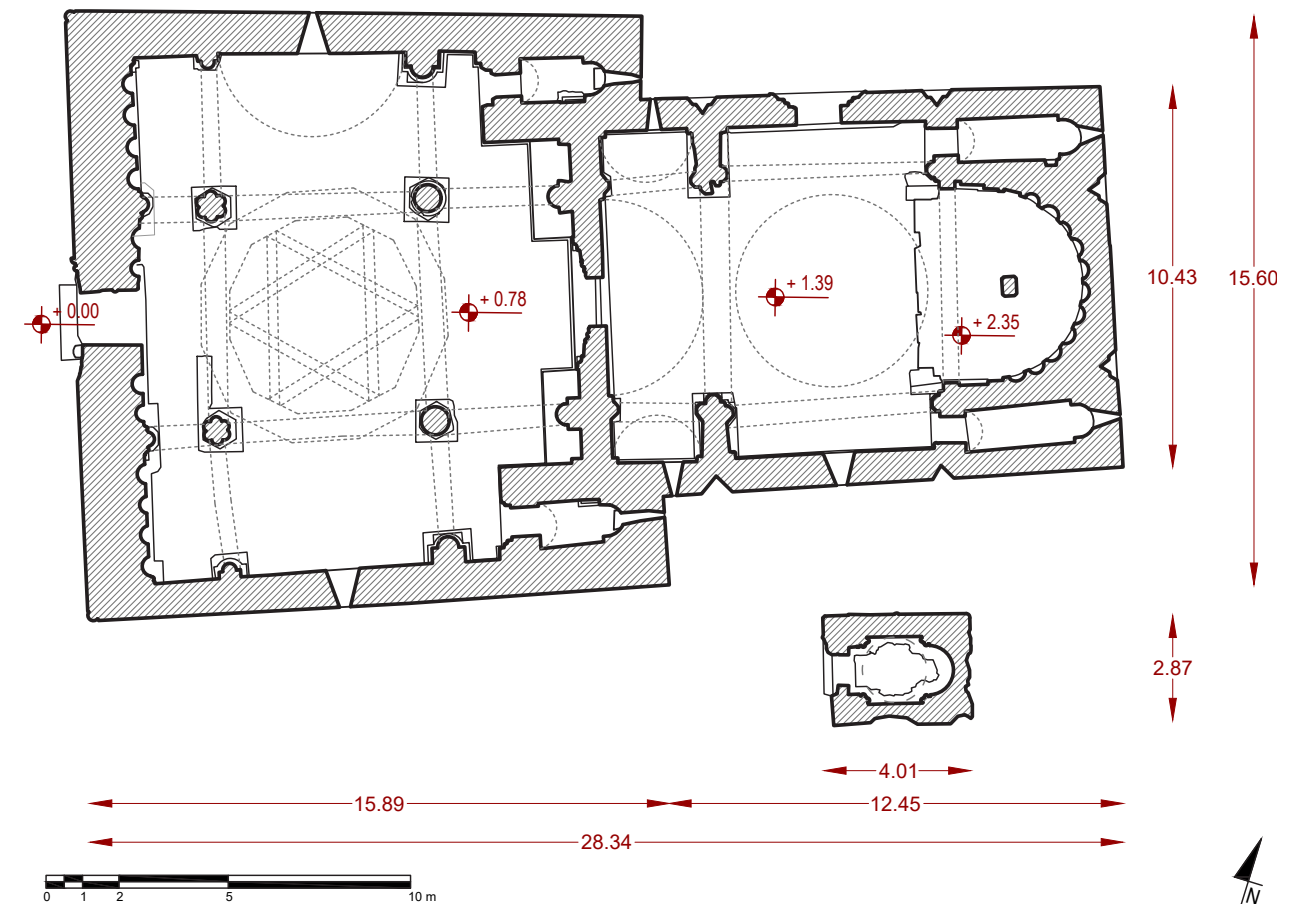


Fig. 4. Plan of Khoranasat monastery (Iconem 2021)

5. Thierry, Donabédian 1987, p. 590.

6. See the typology of architectural plans in Thierry, Donabédian 1987.



Fig. 5. The main apse of Surb-Astvatsatsin church (Iconem 2021)



Fig. 7. The northern portal of Surb-Astvatsatsin church (Iconem 2021)



Fig. 6. The gavit's dome of Surb-Astvatsatsin church (Iconem 2021)



Fig. 9. Ortho-image of the western portal of Surb-Astvatsatsin church (Iconem 2021)

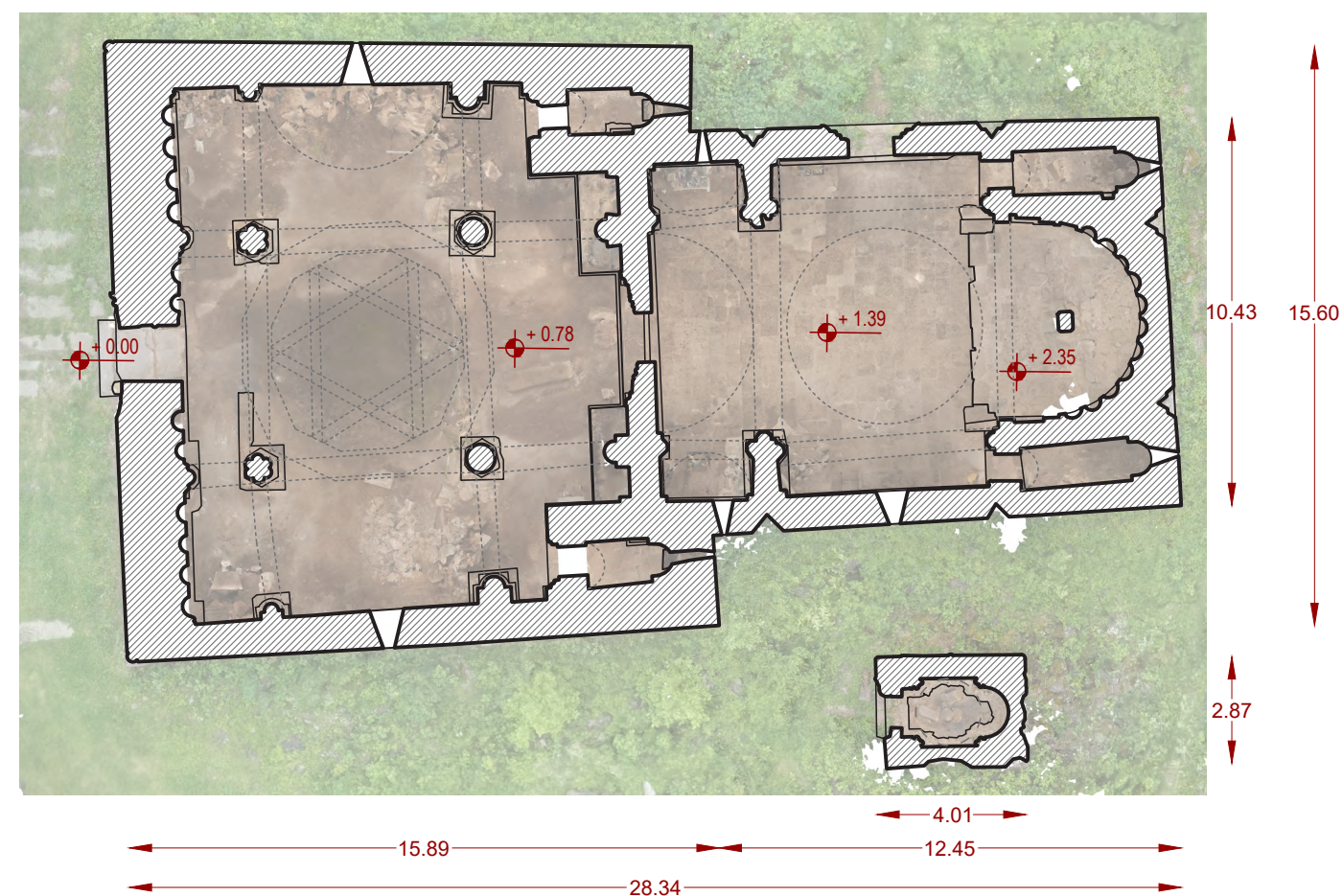
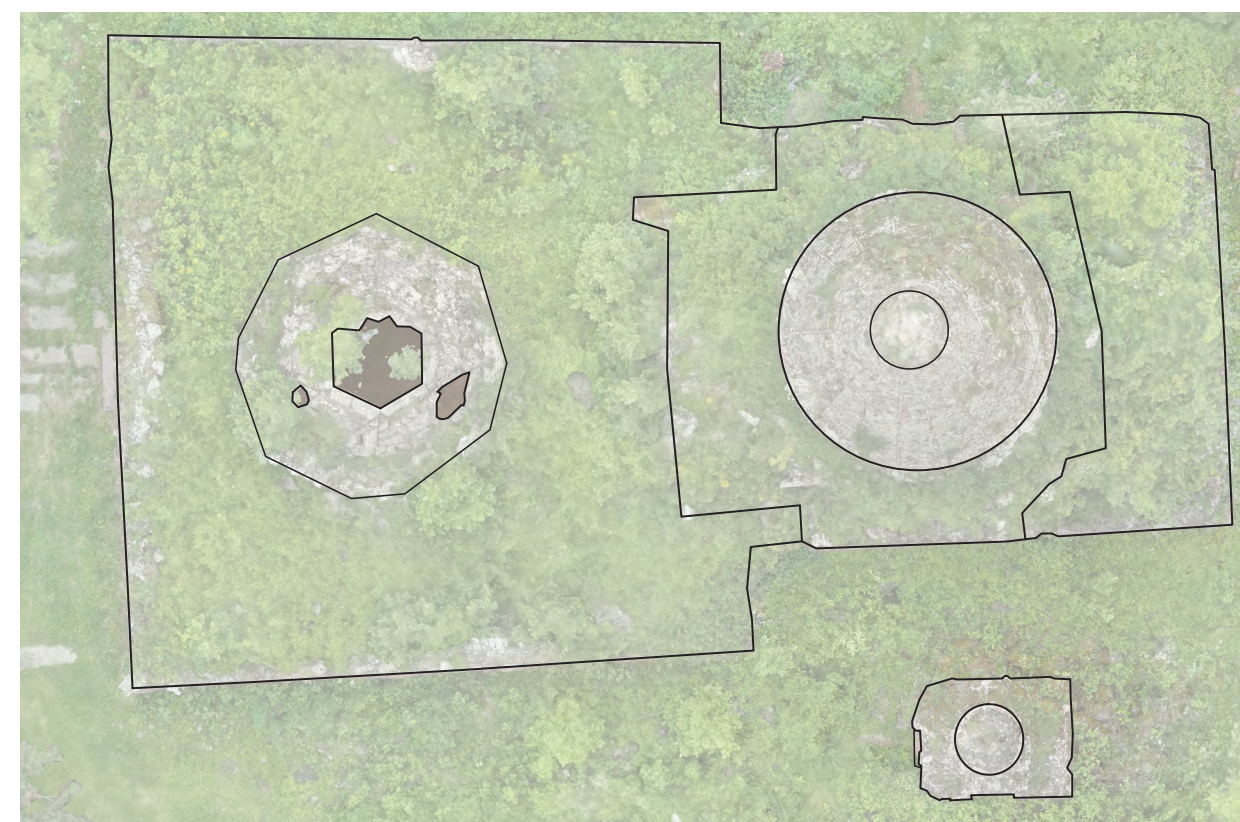
There is another small church 4m south of the church of Surb-Astvatsatsin named Surb-Kiraki. It is a small dome on square plan, called “coupole sur carré” according to the typology established by P. Donabédian (fig. 9)⁶. This architecture was widely used for memorial chapels. Another church, named Surp-Chgnavor, is located 15m east from the enclosure, which is in a state of ruin and does not appear in the model.

The monastery’s buildings are quite deteriorated, especially the domes. They are entirely covered with vegetation. Many architectural stone blocks, sometimes carved, are kept inside the church of Surb-Astvatsatsin. Some of them are particularly noteworthy, such as the four triangular stone blocks with a sculpted face kept on the *bema* and the southern sacristy : they were probably the pendentives supporting the dome. The floor is dilapidated in some part, especially in the sanctuary (the *bema* and the two sacristies), which may indicate looting.

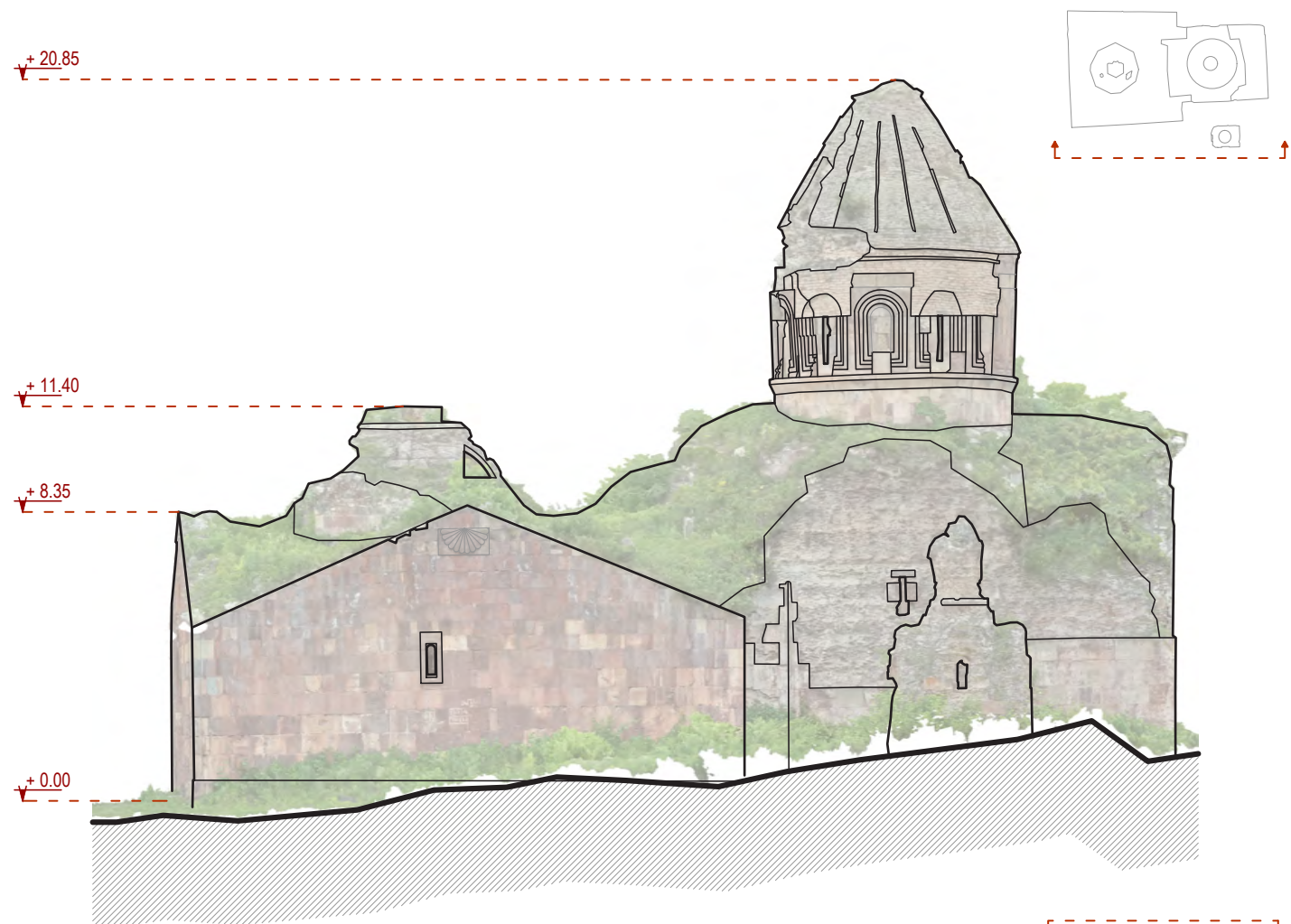


Fig. 9. The Surp-Kiraki church (Iconem 2021)

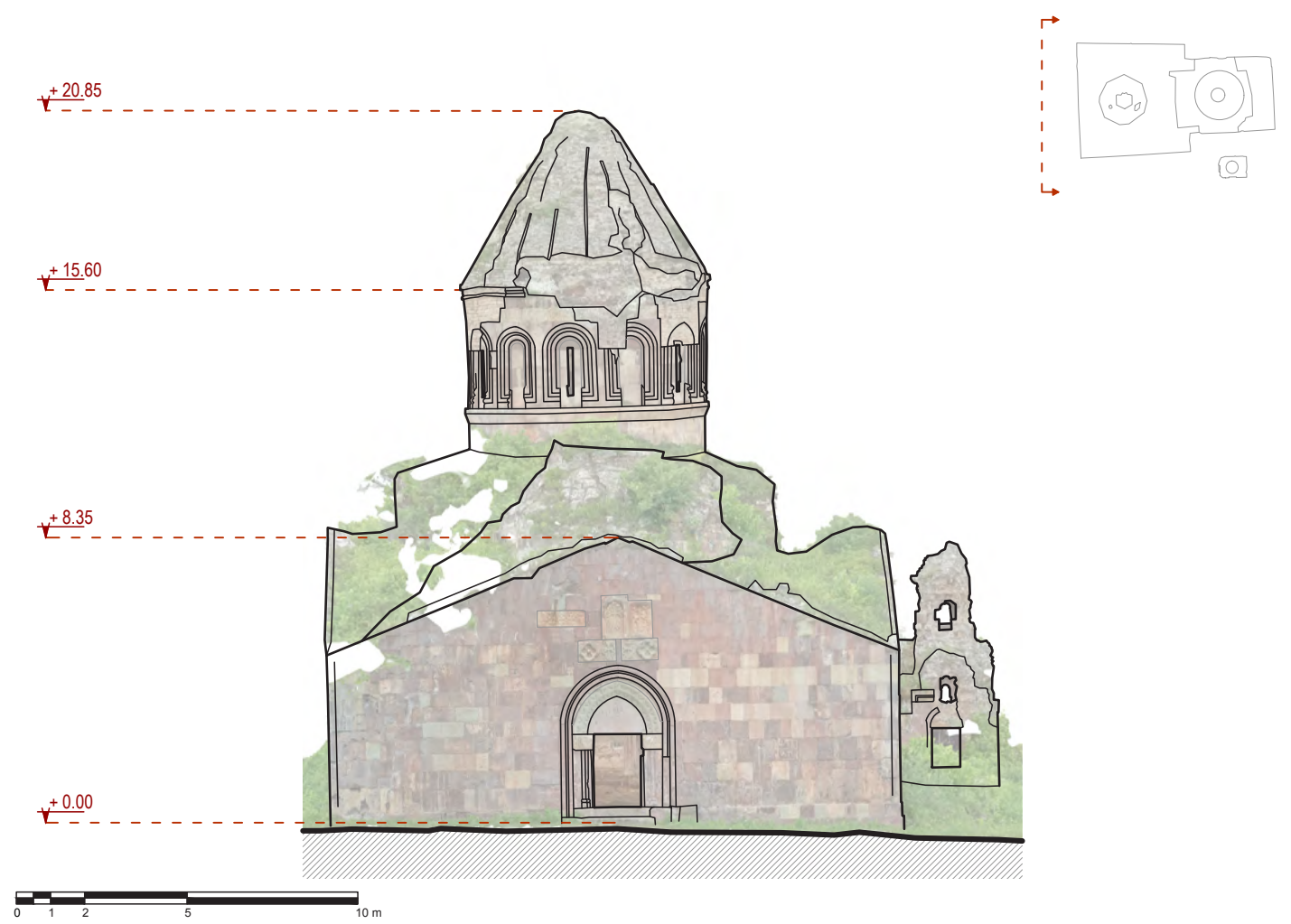
3. Boards



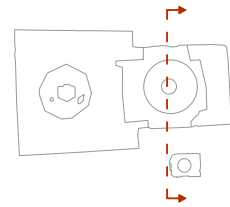
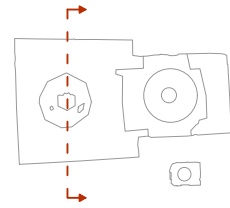
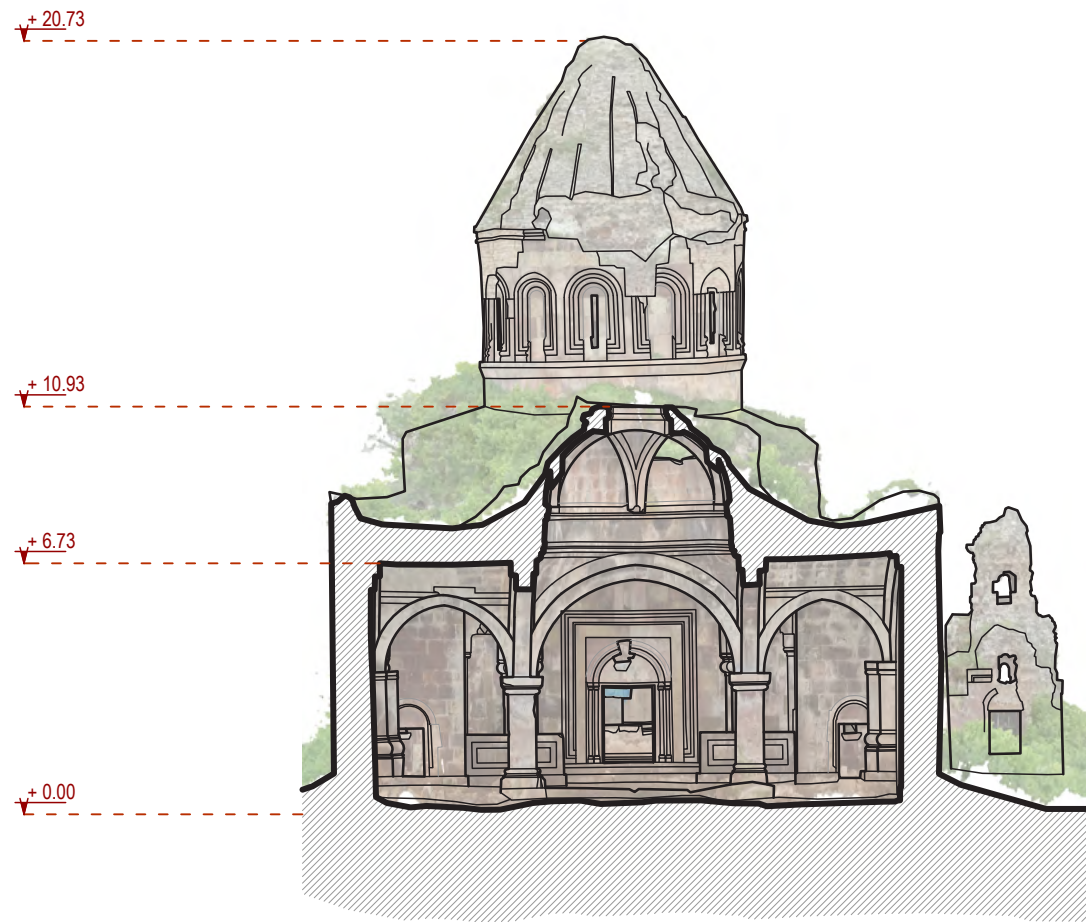
Site plan & Plan +150cm
Iconem 2021



Southern & Northern Facade
Iconem 2021



Easter Facade & Section 01
Iconem 2021



Section 02 & 03
Iconem 2021

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