

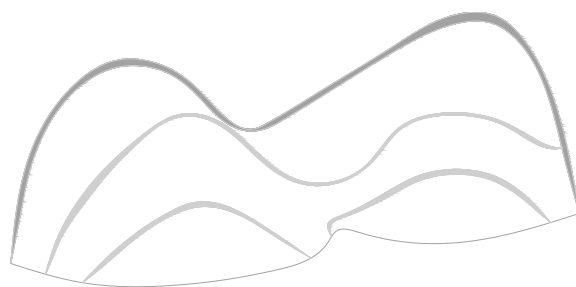
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Musical Instruments Museum (MEM)
Istanbul



Diplomarbeit

Musical Instruments Museum (MEM)
Istanbul

ausgeführt zum Zwecke der Erlangung des akademischen Grades einer Diplom-Ingenieurin
unter der Leitung von

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Institut für Architektur und Entwerfen E253
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verfasst von

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Wien, am März 2016

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1 Abstract

Music retained a very important position for Turkish military, public and religious life throughout thousand years of Turkish history. Istanbul is an art centre along history, where the infinite composers have lived and were highly developed.

This thesis proposes a Musical Instruments Museum design for Turkey in Istanbul. Absence of a Museum pertaining Classical Turkish Music, which is among a few well-known classical music in the point of generating tradition and permanence, is a big loss. The project, which is going to be prepared, has been set while considering it was not ever built in Istanbul. European Council has confirmed the museum in 2006 and it came to the fore in 2010 once again, because of Istanbul has been designated as The European Capital of Culture in the mentioned year and also that year was 400th anniversary of Ali Ufkî Bey's birth.

I have chosen the area for location which is currently used as a multi-storey car park in Beyoglu. This place that is known as "Pera" stands for ,up' in ancient Greek language. I aimed to create an appropriate centre in this area which is very central both for Istanbul residents and tourists, accommodating functions such as café, archive, and study or experience workshops in where visitors may know and learn the instruments; and a centre which corresponds the Musical Complex idea in Turkish Culture. The building has been interpreted organically with musical waves in its form. The large bright fields inside are representing the relieving atmosphere given by Dom in Turkish culture.

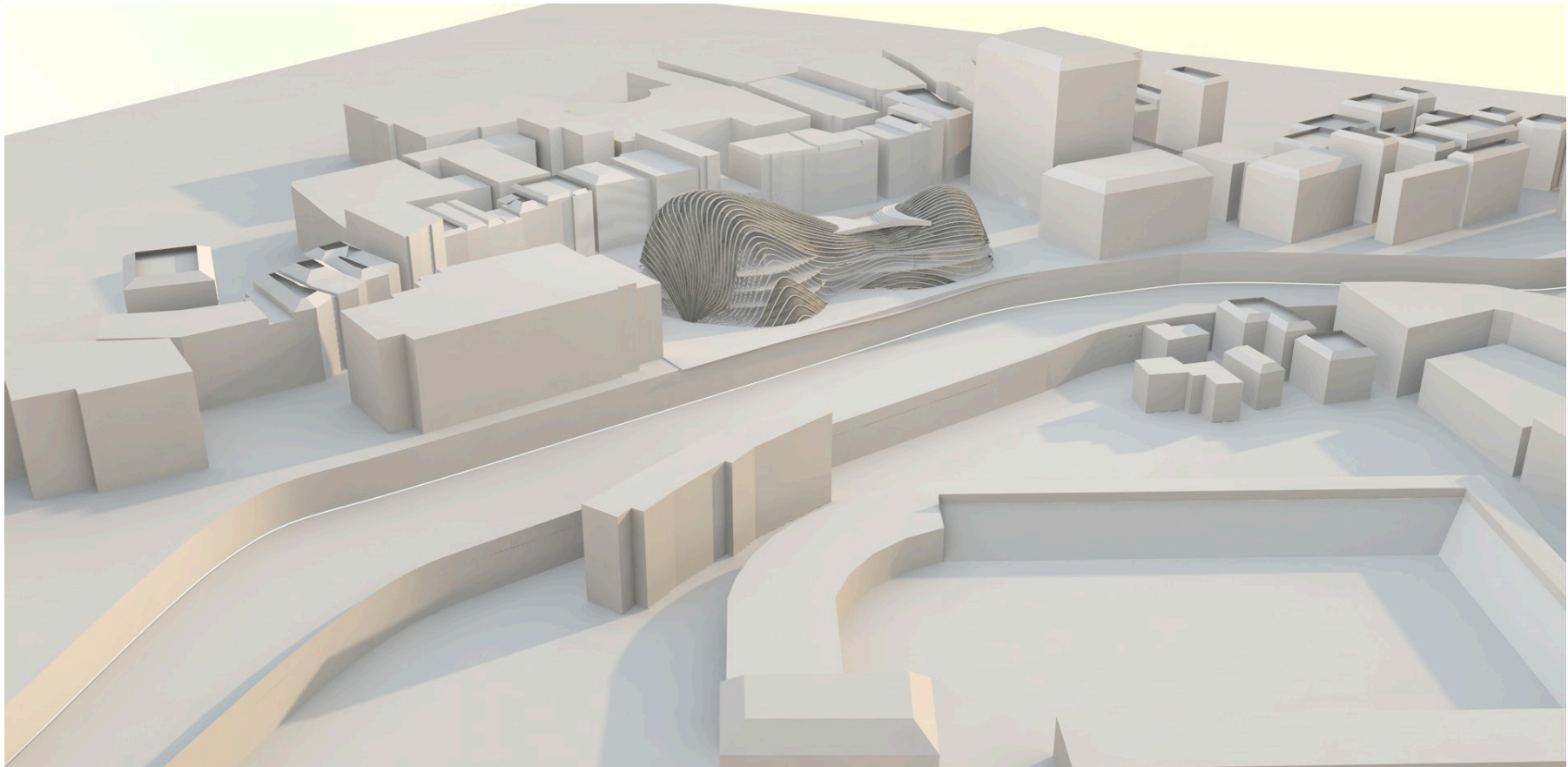


Figure 1. Musical Instruments Museum

Acknowledgements

I want to kindly thank my family, my sister Esmanur Petek and my friends Ilknur Cakiroglu, Irmana Begic, Azur Begic for the important support and help he assisted me during the completion of my Diplomarbeit. Thank you for the helpful suggestions and the kind cooperation.

The Diplomarbeit is dedicated to my Family.

2 History of Turkish Music

Turkish Music spread among 2500 years in a wide geographical area, which also effects today with its remainders and impressions. We can see the cultural heritage from the Arctic Ocean to Danube River stretching, from the Himalayan to Volga River. Turkish Musical System after classical west music is the most spread music in the world. However written sources are limited from early periods, because Music system had a verbal tradition.

2.1 Pre-Islamic Period

Allowing the birth of civilization from the Neolithic period ca.9000 BC belief in the music and entertainment world throughout the history of ancient societies in Anatolia, songs and dance shows covered important part of daily life.¹

Anatolian people used music and dance for the abundance and fertility worshipping ceremonies. Musical instruments were made by bone and pottery in this period. Having look at archaeological records we can assume that instruments such as rattle, drum, bell, whistles and deer horn were used in ceremonies.²

1 Tayfun Yıldırım, Tunç Sipahi, "Kabartma Vazolarında Müzik Tasvirleri", 2011, p. 99

2 Oğuz Elbaş, "Tarihsel Süreç İçinde Türkiye'de Müzik Kültürü ve Müzik Müzesi", 2011, p. 6.

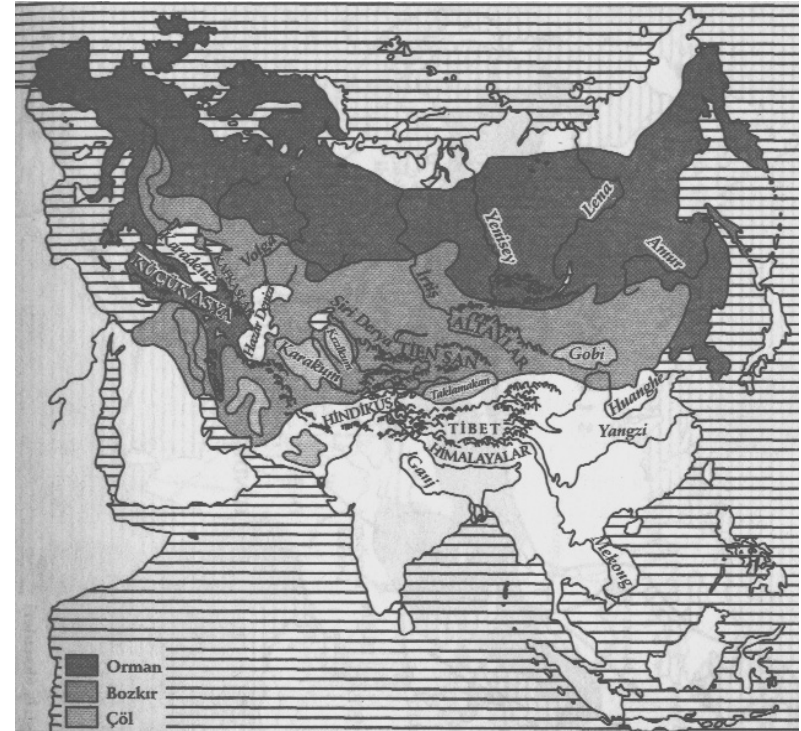


Figure 2. Turks in the Worlmap

Anatolian geography has played a very important role in the development of Music and Folklore. There is no doubt that Black Sea dance rhythms represent the death throes of the fishes by copying their movements.¹

Huns established the first known Turkish state in central Asia in 220 BC. Music has been an important element, which was used in religion and state ceremonies, feasting (toy) and entertainment on social life.

Within Göktürk Khanate (552-745), the palaces have been important centres in terms of music, and musicians were supported by the empire. The differences between the music performed in palace and the music performed among society in terms of content, style and reap, have emerged in this period for the first time. Common musical instruments were kopuz, drums and pipe.

The Uyghurs having the first Turkish state leading a sedentary life ensured to improve musical tradition. They developed a national musical system, makam, providing a system of composing with ca 600 varieties, that has also been transferred to next generation musicians.²

1 Mahmut Ragip Gazmihal, Anadolu Türküleri ve Musiki Istikbalimiz

2 Görgülü, D. (2015). Geleneksel Türk Müziği Tarihi. Milli Eğitim Bakanlığı Press



Figure 3. A man playing Tanbur

2.2 Post-Islamic Period

Since Karahans state (740-1212) was established music contained overtones of Göktürks and Uyghurs, but along with the acceptance of Islam as the official religion 920 AC, music has been restructured and the religious music arose. Fârâbî indited first music theory book, Ihsa el ulum Musik-i el Kebir (Count of Great Music Science). In this book, he referred to music's being field of art and science and clarified the relationships with physics. Al-Fârâbî confirmed by experiments that wavelength of sound fluctuates according to the length of the wire used and he performed this on tambour. Furthermore in this period of Karahans, tambour became a traditional instrument for Turks.

Turkish Music had an influence from Egypt, Iran and Arab music on the verge of westward expansion of Great Seljuk Empire. In addition to the differences, which become evident between folk music and court music, a two-wire instrument was improved, which is very close to nowadays convention after kopuz. The culture of the religious music advanced and has been used prevalent rebab as the classical instrument in the dervish lodge (tekke).¹

1

Görgülü, D. (2015). Geleneksel Türk Müziği Tarihi. Milli Eğitim Bakanlığı Press.



Figure 4. The oldest turkish song from Kitabu'l Edvar

Balkans and Eastern Europe have been gradually, influenced from Turkish music to a large extent in the period of the Ottoman Empire (1301-1922). As result of the folk music studies carried out in the areas such as Russians, white Russians, Ukrainian, Polish, Czech and Slovakia, such as Slavic, Leton, Easton, Udmurtain areas, effects of Turkish music were observed.

After Ghaznavid's conquest, India had relations between Muslims until 1857, thus music was influenced by Turkish music. Then it overlapped on „Hindu Music“of India, which is a great and ancient civilization. Turkish musical pieces were performed in the palaces of Delhi, Agra and Lahore between 16-18th centuries.

The Turkish dominance was established over the Iran Ghaznavids and the Seljuk Empire. The Reign of the Imperial dynasty in Iran was Turks from 1037 to 1925. Seljuks and Ottoman played an important role in progress of culture and language interaction. New Iranian music is based on Turkish makams.¹

1 Ak, A. Ş. (2009). Türk Musikisi Tarihi. Ankara, Akçağ Press.



Figure 5. Persish Miniature, Tanbur and Bendir

Music in the Arab world was current in the period of ignorance (jahiliyyah), and then has been eliminated in the first years of Islam transition. Before Islam the Arabs lived traditionally a nomadic life in tents, domesticated camels, and sheep for trade. Music, which is very close to the poetry, taking place at a high level, as having the rhythmic form of language, begun to improve.¹

Later with the rise of Islam, the unity of God and pure love superseded the lyrics containing idolatry and prostitution. Either in the east or in the west, especially in Bagdad, in Andalusia, the most accomplished 'Arab Music' schools has consisted. Furthermore in Tunisia, Algeria performed fasil music, also known as Andalusian (Spanish) is a mixture of Ottoman music. The instruments of fasil music are Kanun, Ut, Kemençe, Keman, Ney, Ritmsaz, Def.²

1 Ak, A. Ş. (2009). Türk Musikisi Tarihi. Ankara: Akçağ Press.
2 <http://fasil.nedir.com/#ixzz3rmaIEz00>



Figure 6. A youth playing a stringed instrument

3 The Interaction of Turkish Music

3.1 The Influence of Turkish Music on Western Classical Music and Composers

Ancient Greece Music formed a pattern between physic and natural sciences. Afterwards in medieval Europe music consisted church hymns, however pagan rites harmonized to music. Al-Fârâbî and Al-Ferec are the first names that contributed music by deepening musical notes in 10th century.¹

King of Catholic Spain wishes Islamic scholar Muhammad bin Ahmad Al Murcia to teach Christians music besides medicine, Mathematics and philosophy, when they conquered Murcia.

There is not a Western composer who made use of all the elements of Turkish music. Western composers appreciated throughout listening musical works and then they emulated.

1 Ak, A. Ş. (2009). Türk Musikisi Tarihi. Ankara, Akçağ Press.

In 16th century initiated the interaction with Ottoman military band (mehter), which is the oldest accompanied army marching in the world. Some percussion instruments of mehterhane have been adapted for European orchestra and brass band. Consequently, a Turkish style (allaturca) trend spreaded out and western composers were inspired as well as Mozart, Haydn, Beethoven, and Bizet. Thus Mozart composed „The Piano Sonata No. 11 in A major, (1783) also known as „Rondo allaturca“, „The Abduction from the Seraglio“ Beethoven „The Symphony No. 9 in D minor „s (1824) „Allamarcia“ and „the Ruins of Athens“ and were themed as „Turkish March“. During this period Turkish irregular beats such as 5/8, 7/8, 8/8 was incorporated Western music.

In addition to Feliciano David (1810-1876) accomplished to use the Turkish makams properly. After a trip from Egypt to Turkey musical works „La Desert“ (1844), „La Captive“ (1869), „La Saphir“ (1865), „LallaRookh“ (1862), do contain lots of Turkish makams and melodies.²

2 Ak, A. Ş. (2009). Türk Musikisi Tarihi. Ankara, Akçağ Press.

The French composer Camille Saint-Saëns resided for a long time in Algeria and impressed excessively from the Turkish-Arab music. Thus third act of the „Samson and Dalila“ Opera (1868-1877) the Bacchanale music turns neveser makam.

Austrian musicologist Gottfried Scholz summarised that after the wars against the Turks, hostility situation changed, prejudice is eliminated, most of the western artists sought all these humanitarian ideals, in this new movement, that they couldn't find in the West. Supreme humanity adds to the nobility of these movements the most spectacular and epitomes are given. Characters in Lessing's „Nathan der Weise“ artwork Saladin and Mozart's „The Abduction from the Seraglio“ Operathat mentioned before, thrives in the Bassa Selim, the pasha figure.

After Vienna siege when threat of Turks is no more, Europe adopted the noble, humanitarian and attractive sides of Ottoman Turks and that's how „Turkish Music entered their lives.“¹

1

Ak, A. Ş. (2009). Türk Musikisi Tarihi. Ankara, Akçağ Press.



Figure 7 Ottoman Mehteran Miniature

Figure 8 Miniature at the Feast



3.2 Turkish Music Through Regarding of European Pilgrims

Despite Turks began theoretical studies of music in the ninth century infinite of the written sources has not been to obtained up to the present. We utilise from European pilgrims (orientalist) travelogues belong to that period.

French nobleman Bertrandon de la Broquiere perceived the Turks mehter music in 1432 also due to the observations, and after listening reported follows: „The Turks are liberated and cheerful, they sing song (türkü) on occasion, can not be melancholy when you live with them. They endure into the big toils, but expect little things.”¹

1 BROQUIERE, Bertrandon de la, *Deniz Aşırı Seyahati*, Eren Press, İstanbul, 2000. p.21

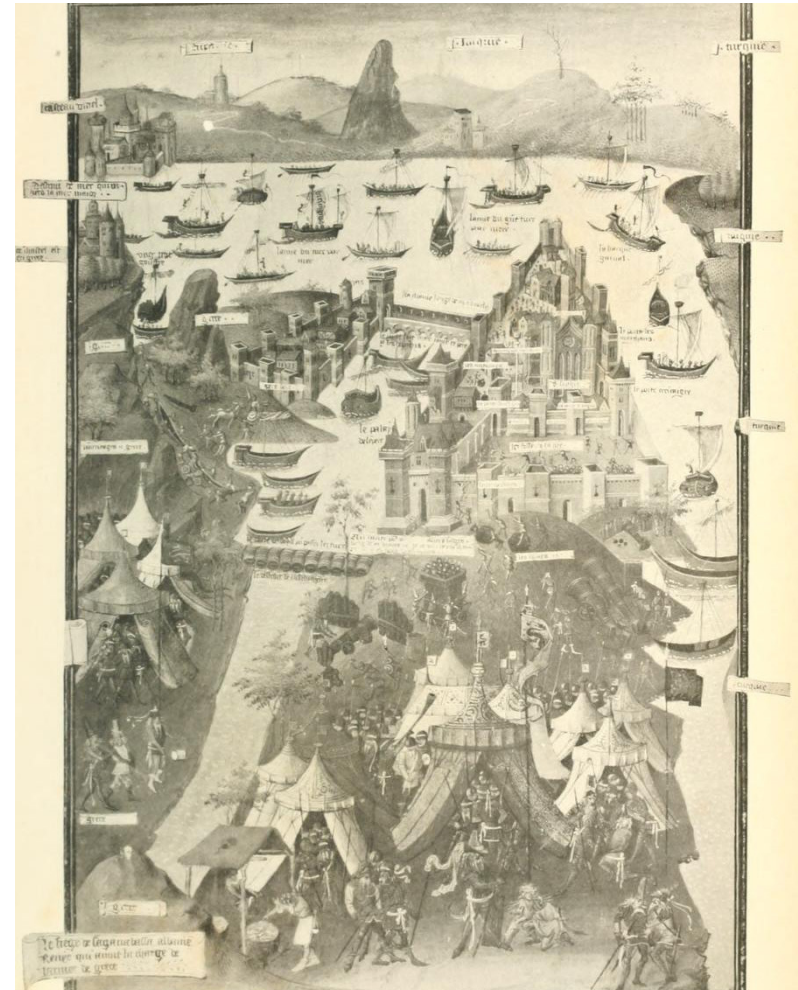


Figure 9. The Fall of Constantinople in 1453, from a manuscript of Bertrandon's Voyage

Salomon Schweigger is the other name, who visited in 1577 out of the way from Vienna, reported the memories of the 4 years in his book: "Men generally play the instruments that they use on the battlefield. These include, for instance, a pipe made out of brass (F), kavala a wooden flute, which in Germany shepherd play, sound and in terms of form very similar German flute (C), half the sized of the German drums, that is lined with red fabric (D). Among the instruments of the Turks, made in brass, sized plate and that are similar to the cardinal's hat with two round cap (G), thus perform sound by passing the fingers in the rings and banging each other. This sound related to friction of various weapons. During campaigns, weddings, religious festivals, and other fun occasion or when sultans want to listen to music, they play these instruments. In addition, they use in the army, sized high casque of the Germans, two small drums, which taper towards the bottom (E)."¹

1

Schweigger, Salomon, (2004), *Sultanlar Kentine Yolculuk*, Translation: Türkis Noyan



Figure 10. Illustration from the book of Solomon Schweigger

4 Classical Turkish Music Instruments

4.1 Present Turkish Music Instruments

Nowadays, classical Turkish music and religious music used particularly instruments as percussion bendir, daire and kudüm, stringed instruments, oud, kanun, lute, dulcimer, fiddle, rebab, Ney wind instruments.



Figure 11. A man playing Kudüm

4.1.1 Kudüm, Naqareh

The Kudüm is the most prominent percussion instrument in religious and non-religious music that often play in couples. Its body made of cast copper, consist two bowls that are generally 16cm height, the rim diameter 28-30 cm. Leather fastened around rim that acted as skin, for greater bowl 2mm and for smaller 1mm thick. Kudüm is beaten with two wooden sticks having rounded ends.¹

4.1.2 Def, Daire and Bendir (Frame Drum)

The Frame drum is used as a rhythm instrument that constructed a skin stretched into the bent wood. The pulley size may be up to 30-40 cm. Walnut tree is preferred considering its quality, mainly dog and calf leather is used that gives the distinct timbre. This instrument has been transferred to Europe through Spain, which is also played in Arab and Iran. The Daire has diversely attached metal jingles.²

¹ Özalp, D. M. (2000). Türk Musikisi Tarihi. İstanbul: Milli Egitim Bakanlığı Press.

² Özalp, D. M. (2000). Türk Musikisi Tarihi. İstanbul: Milli Egitim Bakanlığı Press.



Figure 12. Miniature from The Surname-i Hümayun

4.1.3 Tanbur (Tanbour)

The Tanbur is the most significant instrument of Turkish classical music that played diversely in the history. Mesopotamian excavations were encountered primitive instrument of tanbur in 2000 BC. It is known in Europe as tanburica, tanbudicusbracs, dombra, and domra. In early period its body was being constructed from tortoise shell, dried pumpkin, coconut shell, or by carving a long necked wood block. Over time according to requirements applied diverse variety of tanbur and is nowadays designed as round body connected with frets (perde) and chord a thin neck. Its body diameter is generally 35cm and it has eight metal strings. Tanbur is played with a wire plectrum (mızrap), which is made by the shell of sea turtles.

Tanburi Cemil Bey is considered the greatest virtuoso and composer of the tanbur, who has provided innovation and improvisation.¹

1

Yesim Altınay, 2010, Turkish Musical Instruments p. 10,



Figure 13. Mr Levett et Mlle Glavani in Turkish costume, Jean-Etienne Liotard

4.1.4 Ud

The term Ud originated in Asia that stringed instrument, it is not known precisely when and who invented. Al-Fârâbî has studied on ud and made some innovations. Through Andalus transferred to west, which is played commonly in Arab and Persian culture. Besides, it is regarded an ancestor of the guitar that has short neck and huge wooden body. Though the Ud was being played with the chicken or eagle wings in early periods, nowadays it is played with a plastic plectrum.¹

4.1.5 Lavta

The Lavta is a plucked string instrument that improved from old Turkish instrument, kopuz. Western countries recognise as lute, lut or lauta. The lavta is originated between ud and tanbur both in terms of form and tone. In 17th century it gained currency in Europe and many artists painted its images and for instance J. S. Bach has composed suites for the lute. The stem of the lavta has four double strings, with a length of approximately 72 cm.²

1 Özalp, D. M. (2000). Türk Musikisi Tarihi. İstanbul: Milli Eğitim Bakanlığı Press.

2 Özalp, D. M. (2000). Türk Musikisi Tarihi. İstanbul: Milli Eğitim Bakanlığı Press.



Figure 14. The Lute Player, Andrea Solari

4.1.6 Qanun

The Kanun ranged the civilizations of Mesopotamia and Ancient Egypt that instances were found in archaeological excavations resembling its present form. Especially in Pakistan, India and China the common designations of kanun are available. The Kanun is long curved narrow edge trapezoidal soundboard, thus adjusted the length of wires. Totally 72 strings stretched in trio per course and gives the same tone. It is played on knees with metal thimble affixing forefinger and placing them as plectrum. Chest unit is constructed from sycamore tree, in the back part lime tree, wimble unit rosewood, ebony or cranberry tree.¹

4.1.7 Santur

The Santur is used since time immemorial in Turkish music, which imitates kanun in terms of shape. In the ancient Greek named kithara with particularly stretched strings to the soundboard. It is played with small hammers on which bonded wires to rubber sheets, thus regarded as ancestor of piano.²

1 Yesim Altınay, 2010, Turkish Musical Instruments p. 10,

2 Özalp, D. M. (2000). Türk Musikisi Tarihi. İstanbul: Milli Eğitim Bakanlığı Press.



Figure 15. Arab qanun performer in Jerusalem, Thomson, 1859

4.1.8 Rebab

The Rebab is a sort of bowed string instrument that was played since Uyghur Turks. In the middle age of Turkish-Islamic world especially it is developed in the lodge music. Characteristic pear-shaped body is made of coconut and the strings are horsehair. ¹

4.1.9 Kemençe

Kemençe is a bowed lute instrument with three strings. It is classified classical or fasıl kemençe to distinguish from kemençe of the black sea. Until early 19th century miniatures contain rebab, which is similar to kemençe. It is played in the way that fingers pressed not the strings but lean on the strings. In view of the narrow fret gap and complicated technique, the kemençe didn't widespread. The body and neck are constructed from walnut, plum or mulberry tree. ²

1 Özalp, D. M. (2000). Türk Musikisi Tarihi. İstanbul: Milli Eğitim Bakanlığı Press.

2 Özalp, D. M. (2000). Türk Musikisi Tarihi. İstanbul: Milli Eğitim Bakanlığı Press.



Figure 16. Kopuz, Kemençe, Def

4.1.10 Ney

The Ney is an end blown flute, which has been played constantly for 5000 years. It has diverse of variety in Arab, Persian and Balkan cultures. The Turkish ney is hollow reed with nine equal finger holes. The Ney is rim blown in that the mouthpiece is effectively a narrowing of the flute pipe to a sharp end.

„Hear, how yon reed in sadly pleasing tales
Departed bliss and present woe bewails!
With me, from native banks untimely torn,
Love-warbling youths and soft-ey'd virgins mourn.“¹

Mevlana Jeleddin Rumi began his Masnavi the mystery of the universe telling from the language of this instrument.

1

<http://www.dar-al-masnavi.org/reedsong.html>



Figure 17. Whirling dervishes

4.2 Forgotten Turkish Music Instruments

Lack of written sources many instruments have been lost, which we distinguish the existence from Evliya Calabi's travel book. The instruments from that period, we are able to obtain information about them from the miniatures and from the travel books of European travellers. ¹

4.2.1 Mûsikâr

Mûsikar is a wind instrument that is played in the Ottoman Empire by end of 18th century. This instrument resembles pan flute that Romanian Zamfir introduced to the world. The Mûsikar is created with combination of dissimilar 22 cams. It was termed in Romanian muscala or miskal. ²

4.2.2 Şehrud

The Şehrud is familiarized with five strings in 16th century, which is an imitative instrument of ud, larger sized. It is derived originally from Persian word of sah-irûd that symbolizes "king of lutes".

¹ <http://www.turkishmusicportal.org>

² Karakaya, F. (2010). Unutulmus Osmanlı Sazları. İstanbul.



Figure 18. Man playing Ney and Şehrud

4.2.3 Ceng

The Ceng belongs to "open harps" family, which is similar to the lyre of the ancient Greeks. It was used commonly in 15-16th centuries in Turkish music. The ancestor of Turk Ceng was Iranian, however composers in Istanbul added innovative features to it.

4.2.4 Kopuz

The Kopuz is classified the oldest fretless string instrument that used in central Asia. Its body is pear shaped long neck and assembled in combination of wood and leather. In the period of Kanuni Sultan Süleyman it was assumed the most current musical instrument that is observed the expenditure of the palace sources. Although Evliya Celebi stated in his travel book that as three strings, the miniatures presented four strings.

4.2.5 Mugnî

The Mugnî is a synthesis of the ud and kanun, which was invented by Safiyuddin Urmevi. American musicologist Walter Feldman stated that it is related to Ukrainian instrument of bandura.¹

1

Karakaya, F. (2010). *Unutulmus Osmanli Sazlari*. Istanbul.

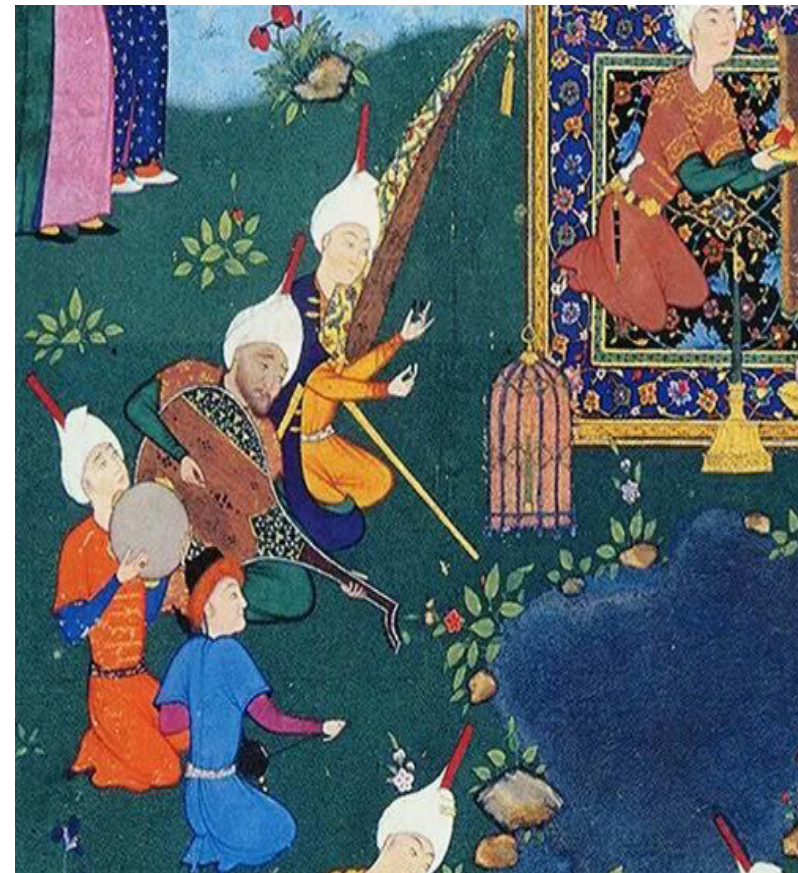


Figure 19. Night banquet. 16th century. (Ceng, Sevrud, Def and Rebab)

4.2.6 Barbat (Barbut)

The Barbat is the other name of ud that nowadays used in Iran. In the history, the body was made from leather has formed into wooden instrument.

4.2.7 Şeşhane

The Şeşhane is classified as a string instrument similar to kopuz that Evliya çelebi quoted in his travel book. Its neck is longer than ud and the body is constructed by stretching fish leather.

4.2.8 İkliğ (İklık)

The Iklig was widely used in Middle Asia, Ughurs and Islamic countries. The Rebab and classical Kemence were derived from this old Turkish instrument. It is played on knees, held precipitously with bow, whose body is constructed from natural materials just as coconut. ¹

1

Karakaya, F. (2010). Unutulmus Osmanlı Sazları. İstanbul.



Figure 20. A man playing Şeşhane

5 Project

5.1 Concept

Sound can propagate through compressible media as waves and Museum took its form by interpretation of these waves by an organic approach. The Museum building was meant to get attention about its design and usage which was noticeable in first place when it was about environmental mismatch. The Museums in Pera are well located for the tourist and local people. In order to introduce the instruments and teach the guests music, there are study and experience workshops and 750 seat auditorium which hydraulic orchestra pit will be used for musical performances, showrooms, library, archive, parking, cafe, workshops. The exhibition area was designed as a closed area against moisture and humidity which may possibly harm the instruments. The Museum establishes a continuous relationship between its shape and ground, interior and exterior, private and public. A terrace is located on the roof that gives opportunity for visitors to listen live music performance and chance to see view of the Istanbul.

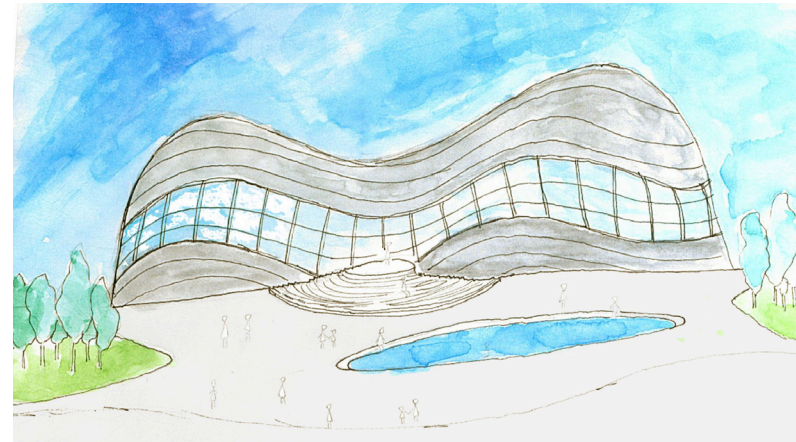
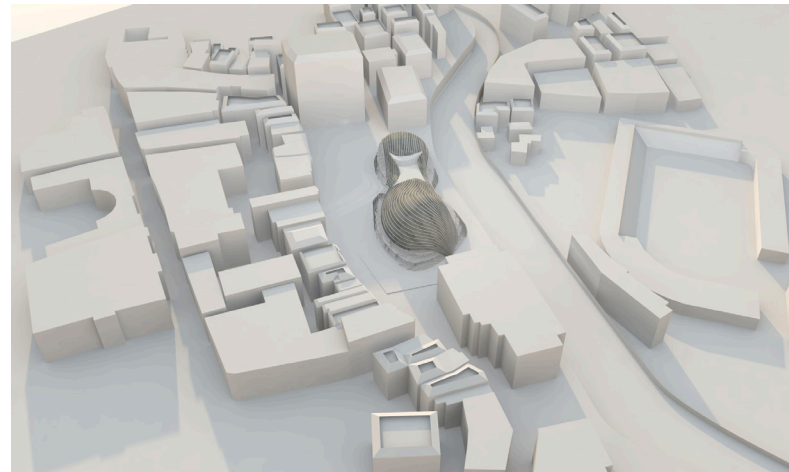
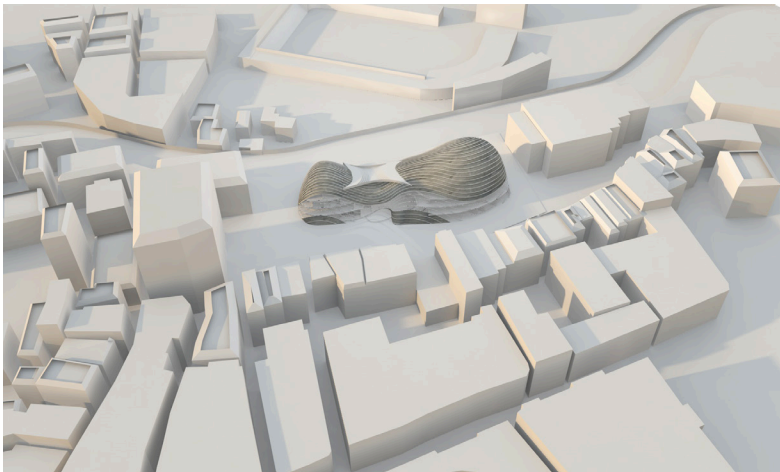
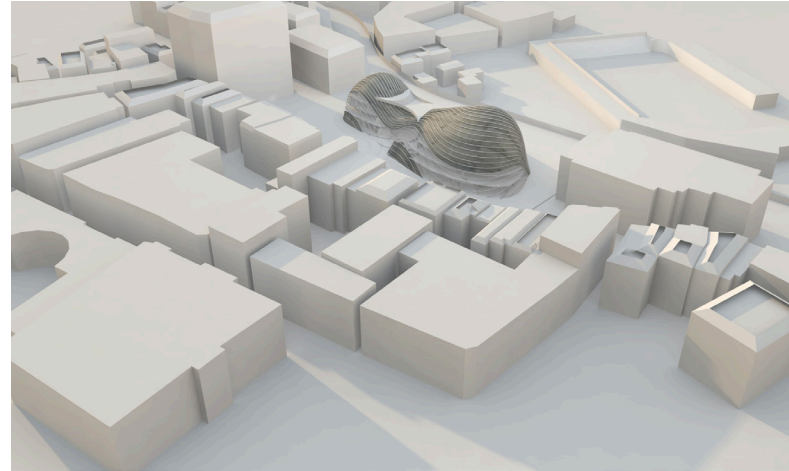
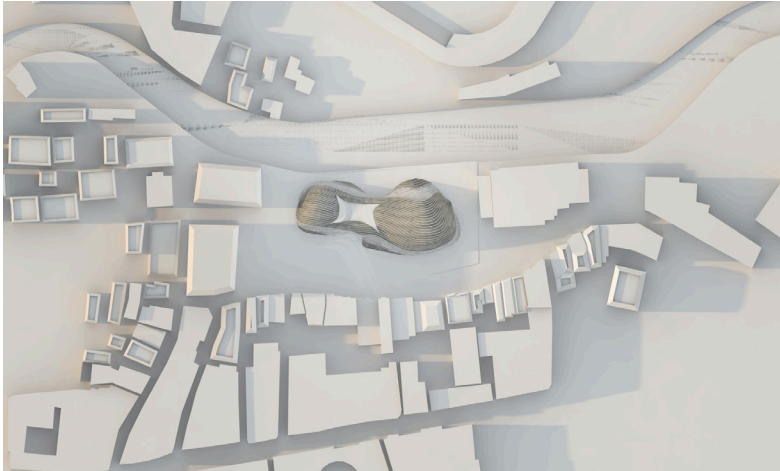


Figure 21. Musical Instruments Museum Sketch



5.2 Plan Documents

Siteplan 1/1.500





5.2 Plan Documents

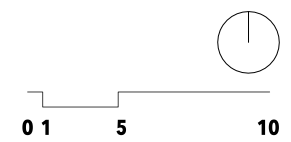
Consisted Situation
Tepebasi Carpark

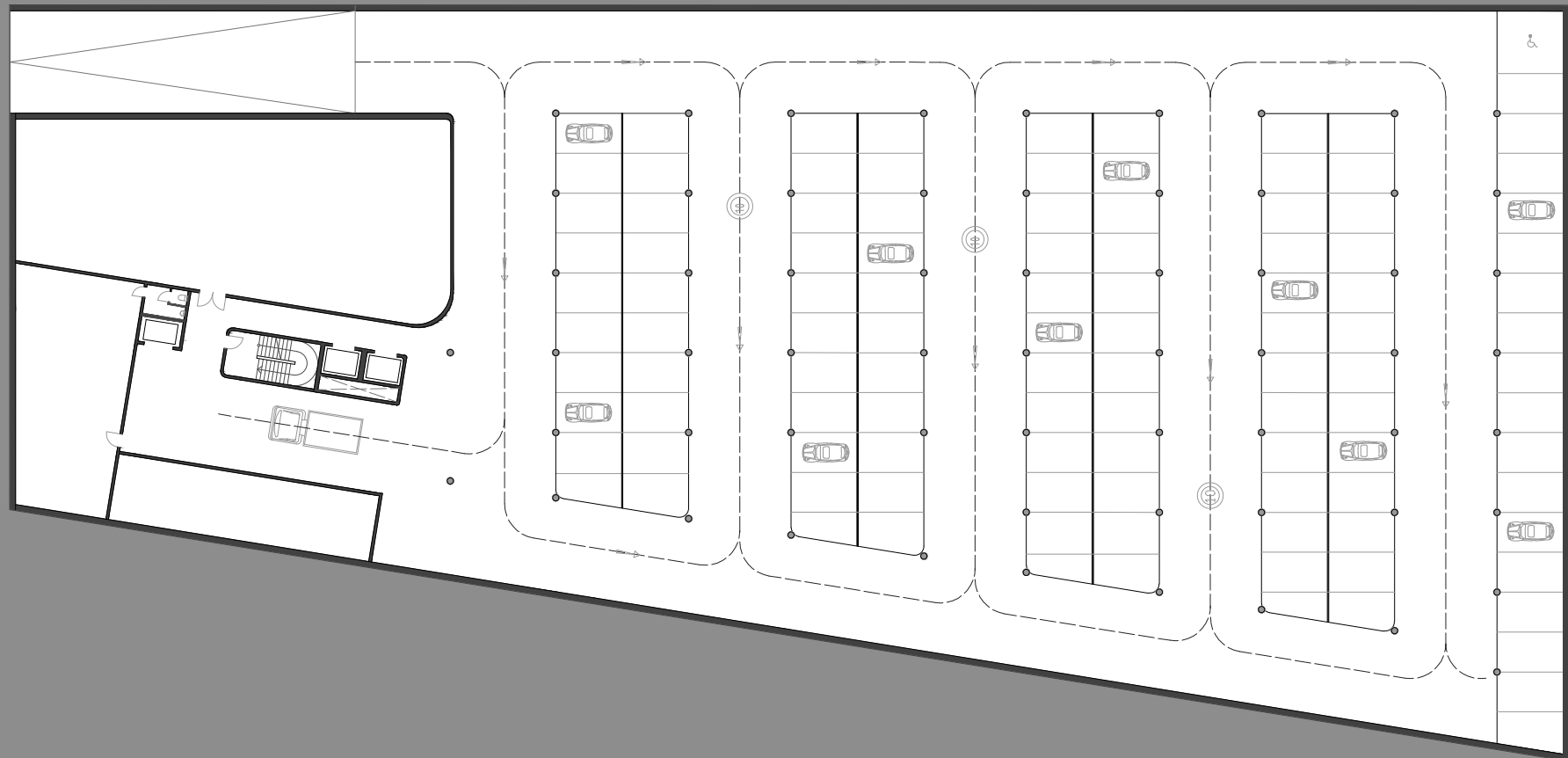


Figure 22,23,24. Tepebasi Carpark, Beyoglu, Istanbul

5.2 Plan Documents

Level 1 Car Parking
Scale 1/500



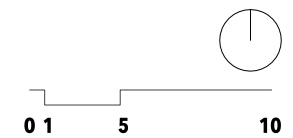


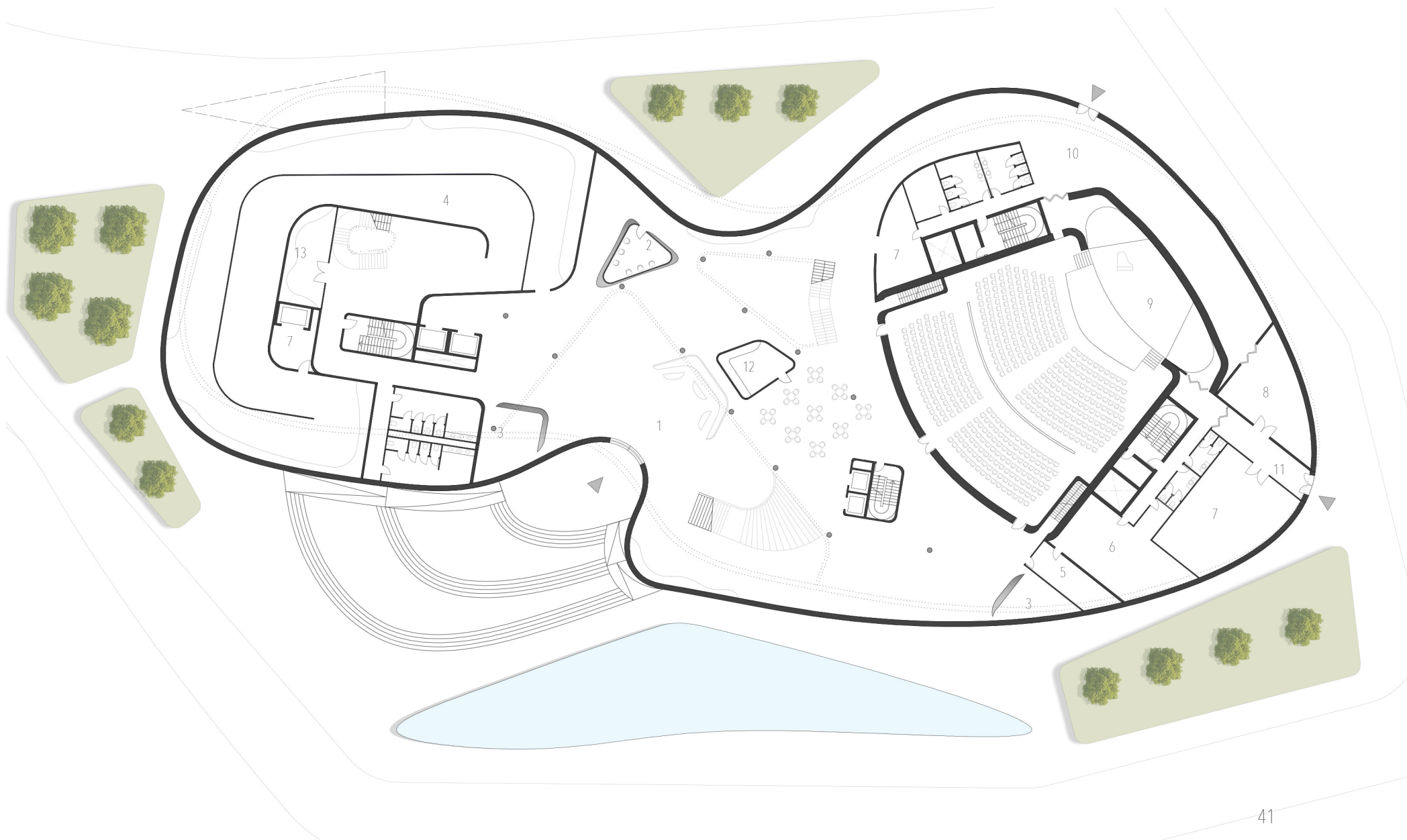
5.2 Plan Documents

Level 2

Scale 1/500

- 1 Entrance / Foyer
- 2 Information / Ticket
- 3 Cloakroom
- 4 Exhibition
- 5 Security
- 6 Staff
- 7 Storage
- 8 Working room
- 9 Main Stage
- 10 VIP Entrance
- 11 Loading Area
- 12 Eat & Drink
- 13 Video Room



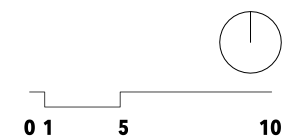


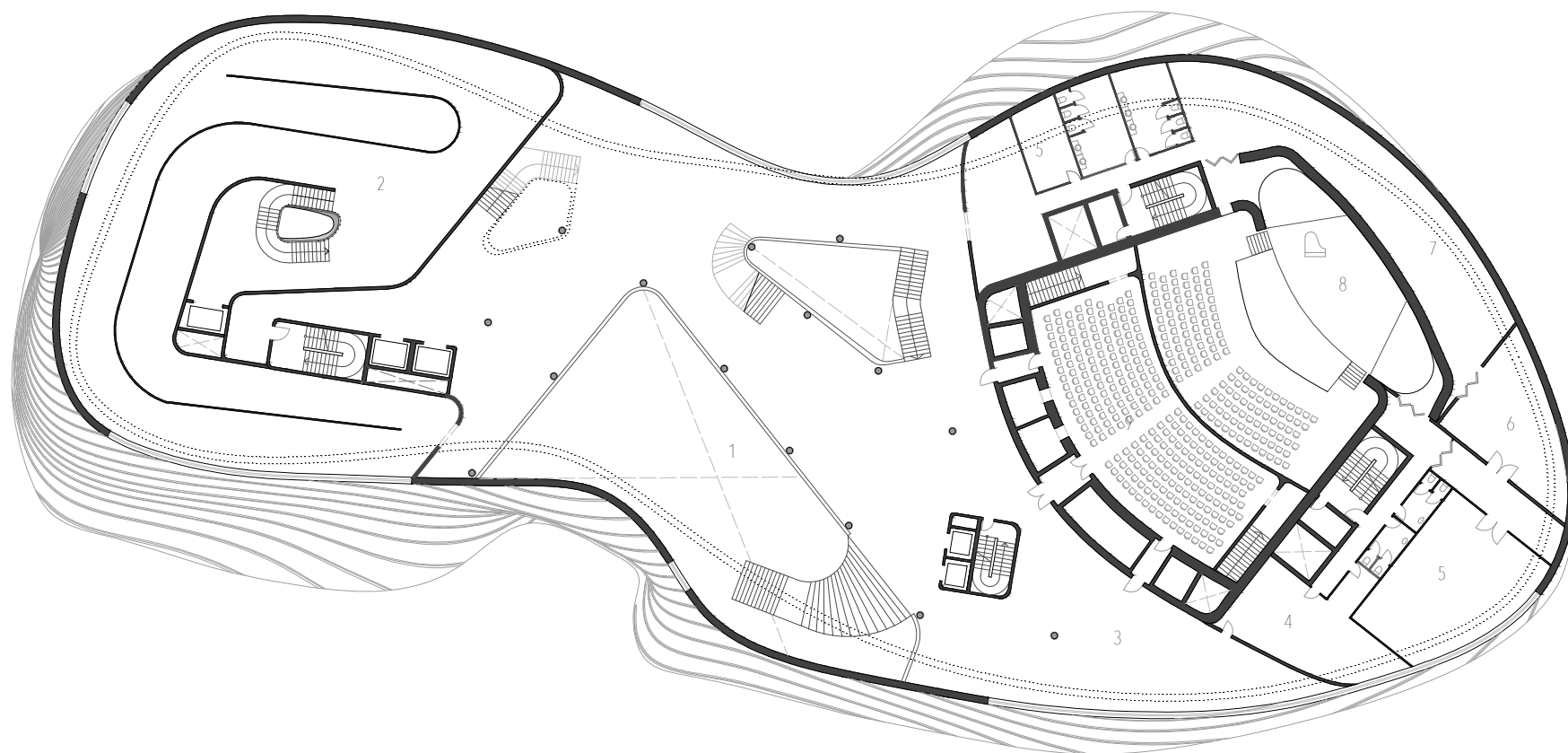
5.2 Plan Documents

Level 3

Scale 1/500

- 1 Gallery
- 2 Exhibition
- 3 Lobby
- 4 Service
- 5 Storage
- 6 Staff
- 7 Backstage Area
- 8 Main Stage
- 9 Circle



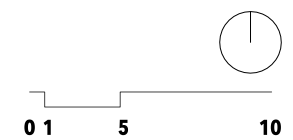


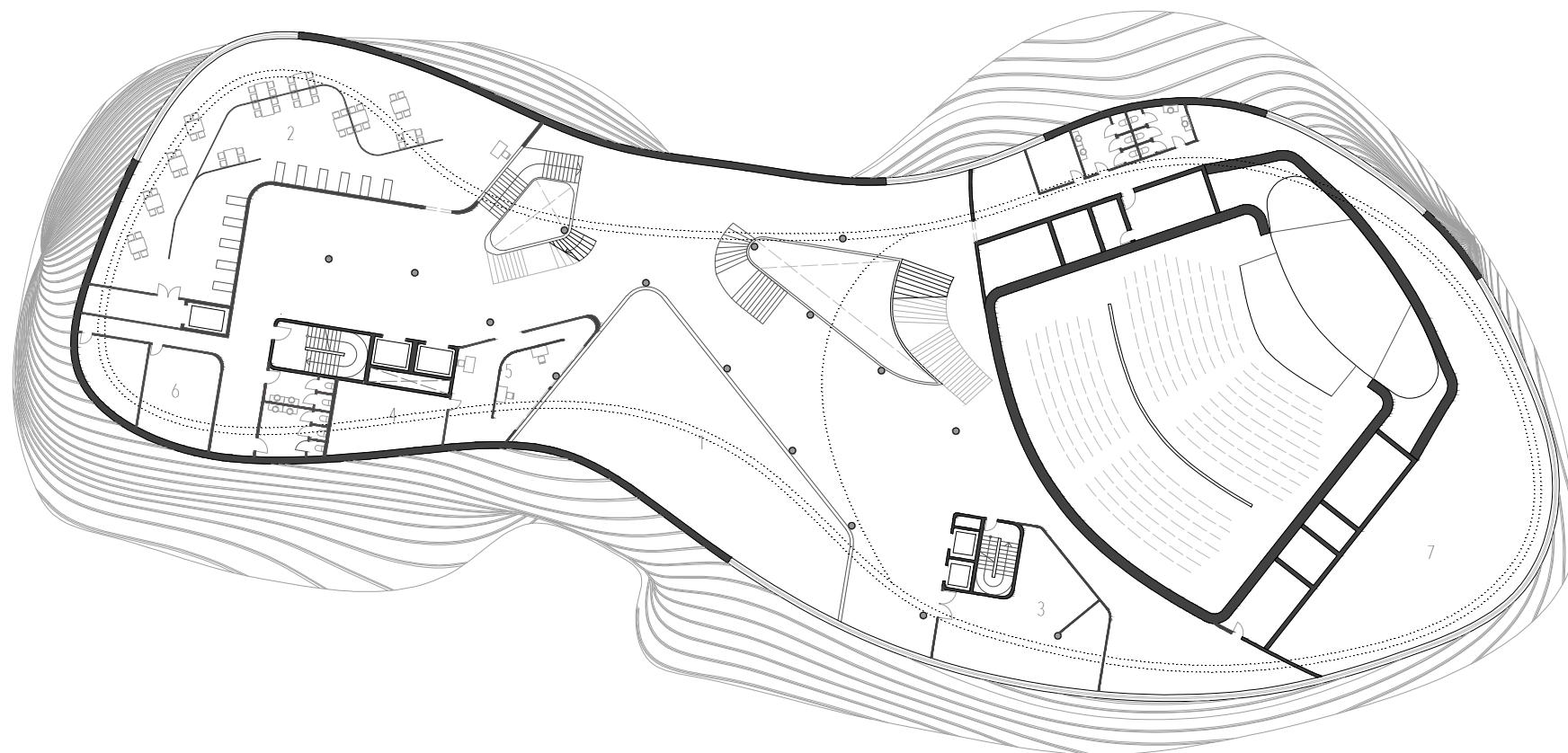
5.2 Plan Documents

Level 4

Scale 1/500

- 1 Gallery
- 2 Library / Culturel Research
- 3 Meeting Room
- 4 Museum Admin
- 5 Office
- 6 Praying Room
- 7 Technic



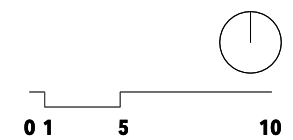


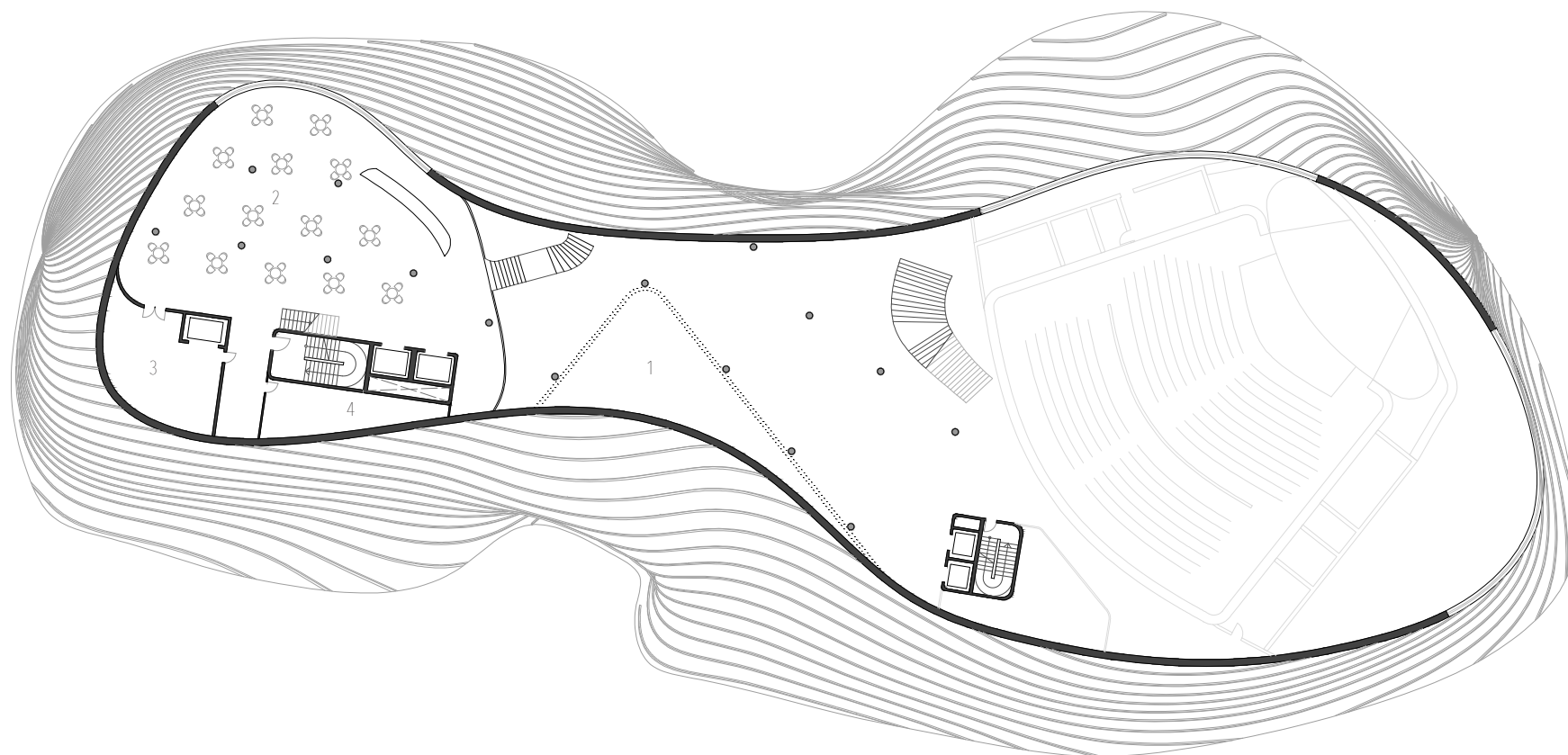
5.2 Plan Documents

Level 5

Scale 1/500

- 1 Gallery
- 2 Museum Cafe
- 3 Kitchen
- 4 Storage
- 5 Education
- 6 Workshop
- 7 Free Space

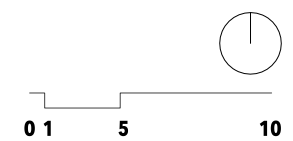


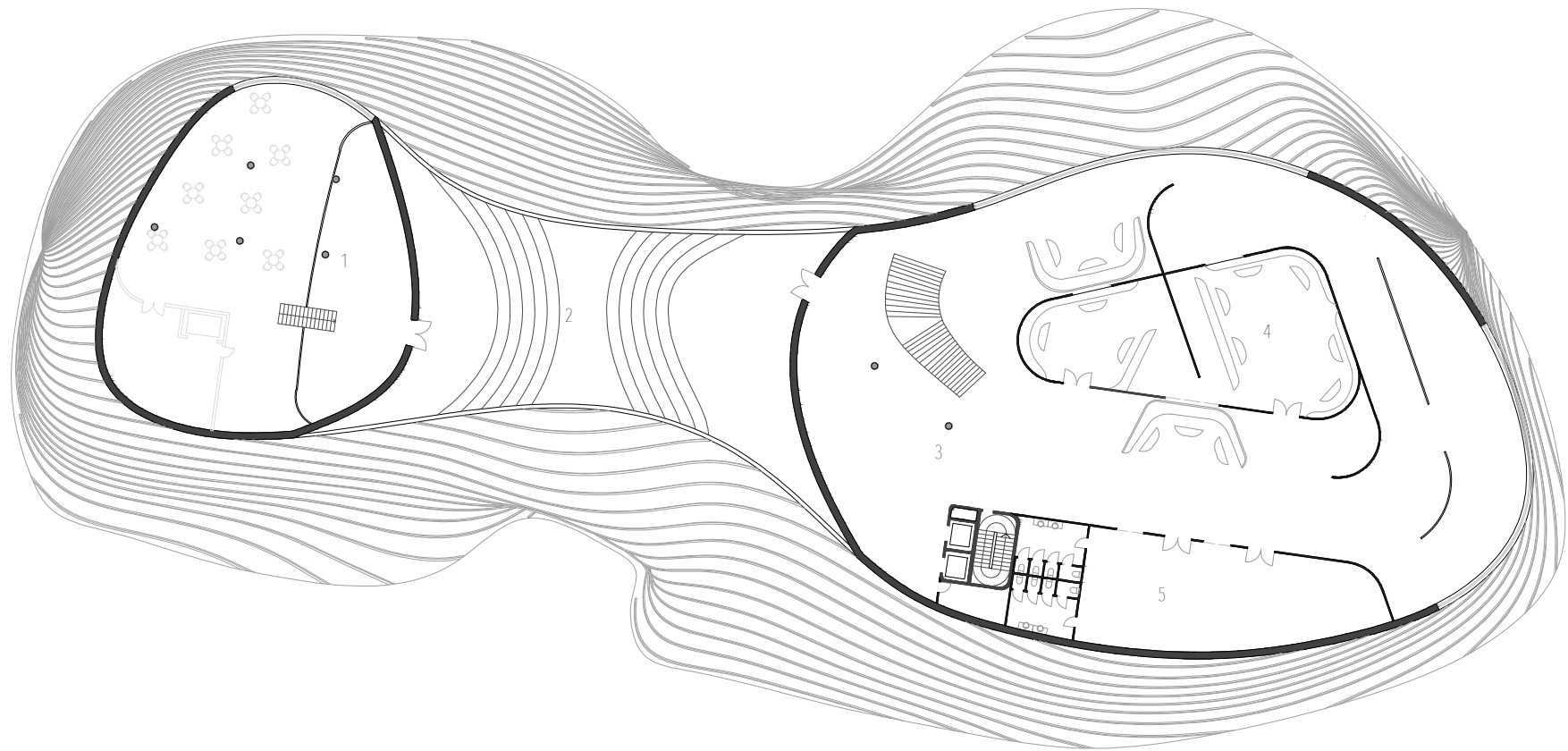


5.2 Plan Documents

Level 6
Scale 1/500

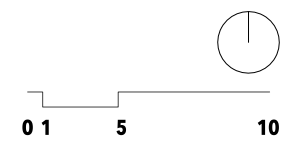
- 1 Balcony
- 2 Terrace for Open Music Performance
- 3 Free Space for Temporary Exhibitions
- 4 Musical Experience Space
- 5 Education / Workshop

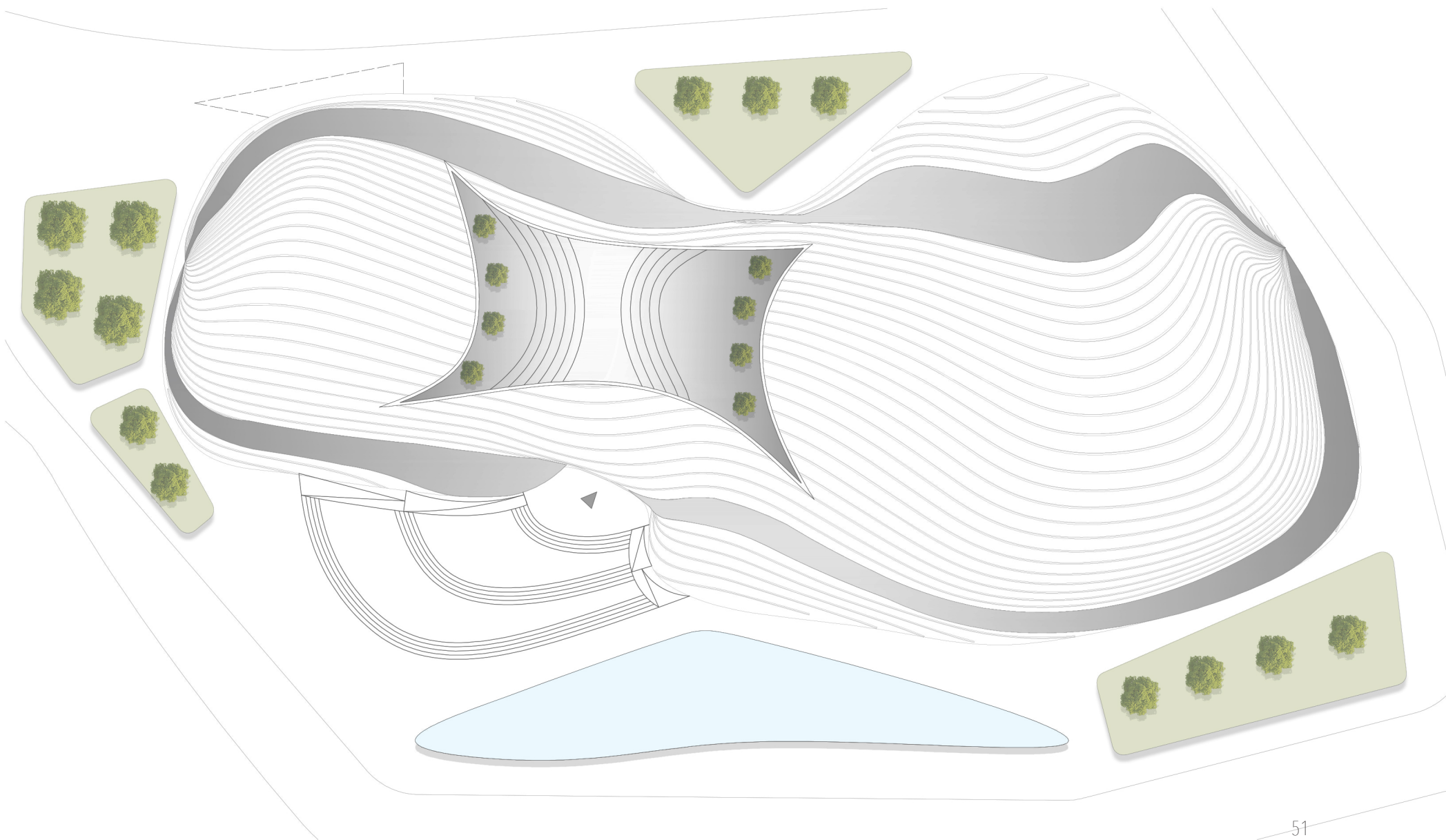




5.2 Plan Documents

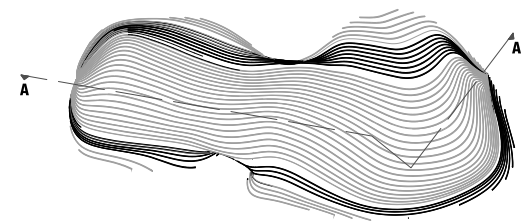
Top View
Scale 1/500

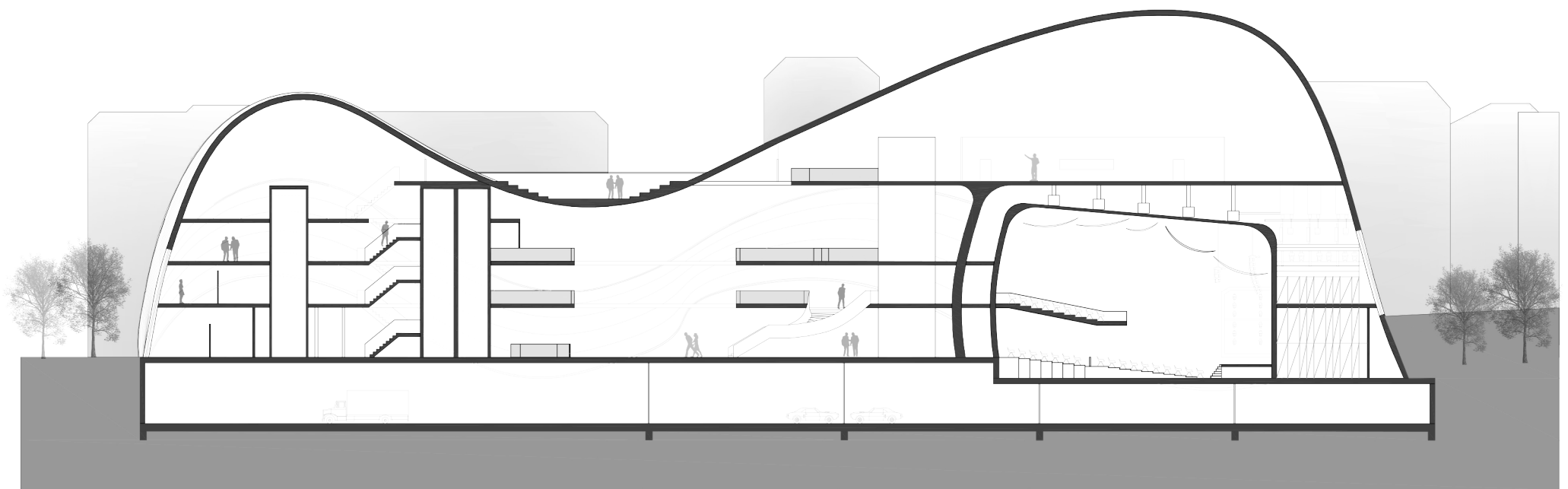




5.2 Plan Documents

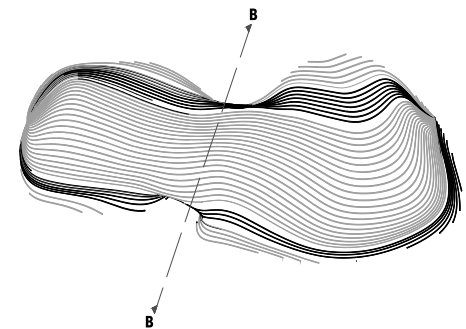
Section A-A
Scale 1/500

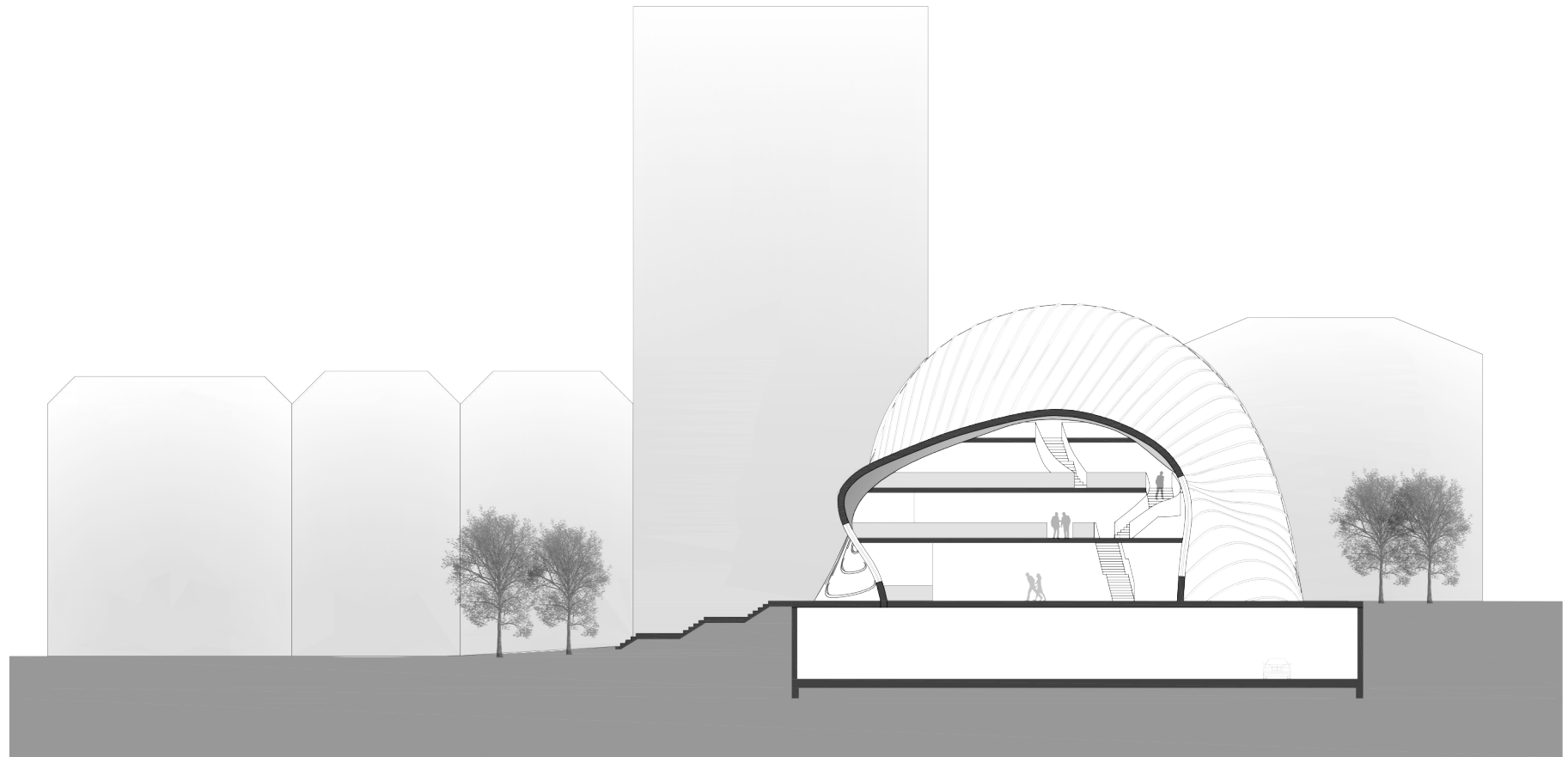




5.2 Plan Documents

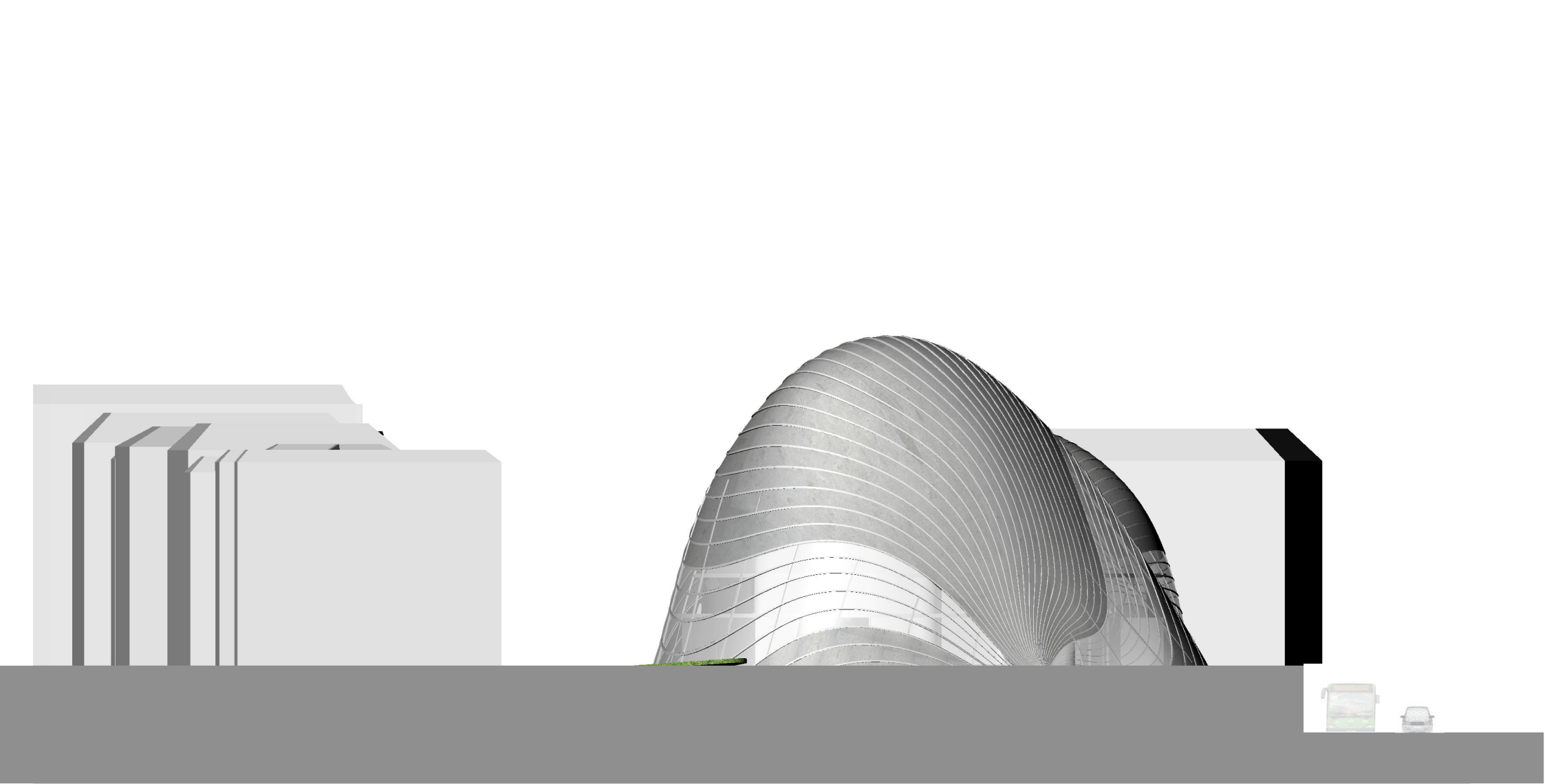
Section B-B
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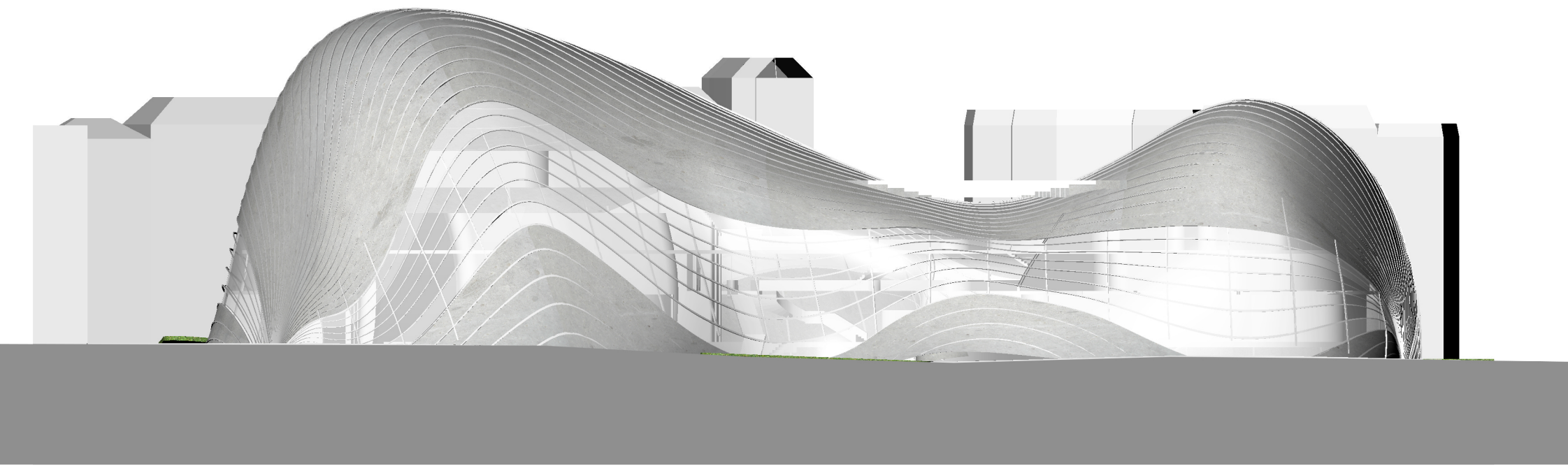
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North View
Scale 1/500



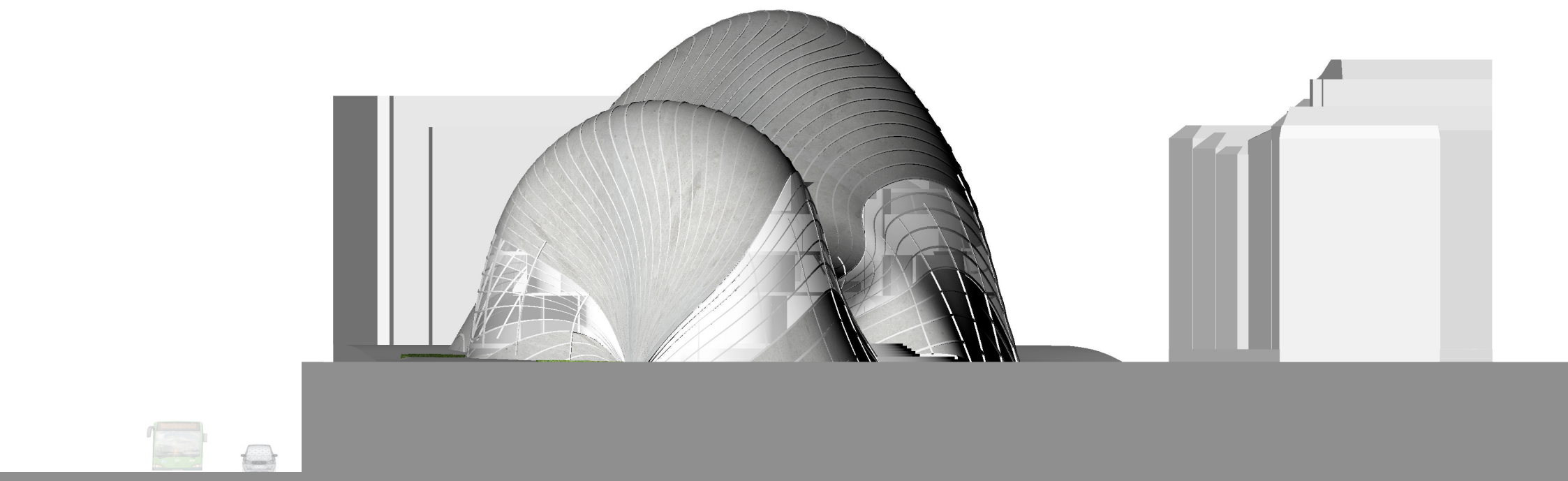
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West View
Scale 1/500



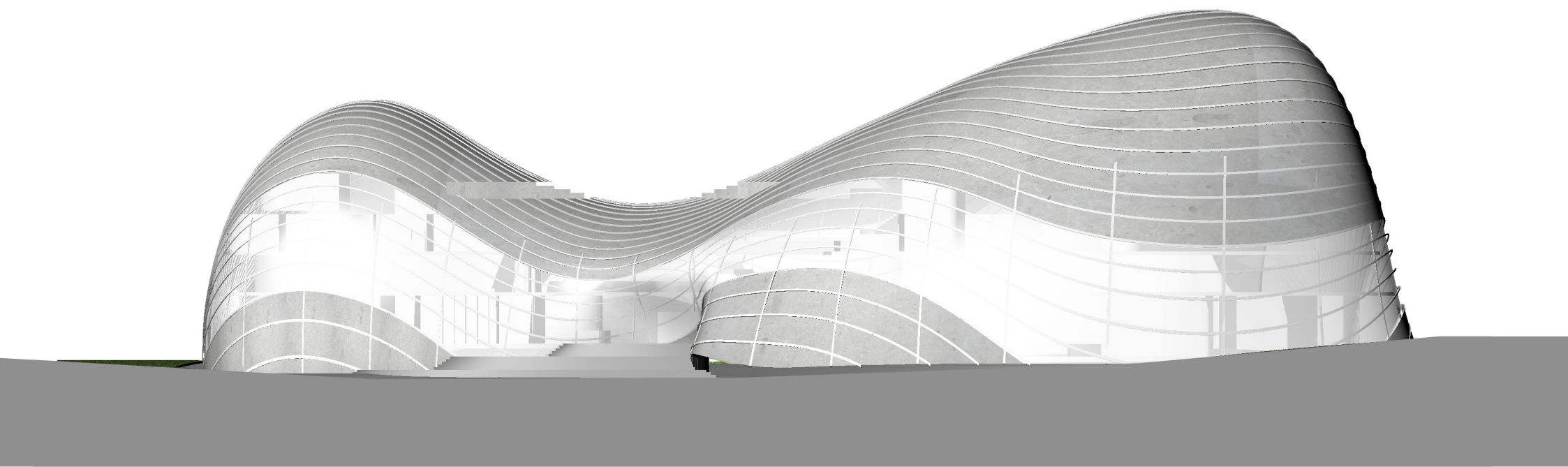
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South View
Scale 1/500



5.2 Plan Documents

East View
Scale 1/500

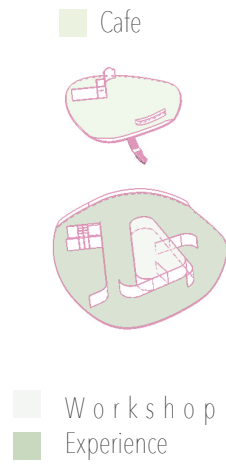


5.2 Plan Documents

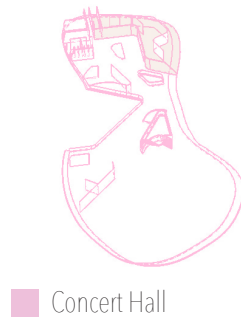
Functions Diagramm
without Scale



Cover



- Library
- Administration



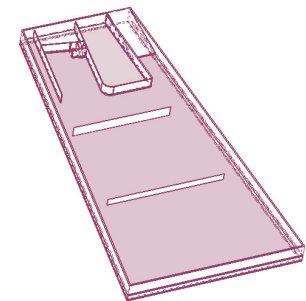
- Museum Exhibiton



- Foyer
- Museum Exhibiton



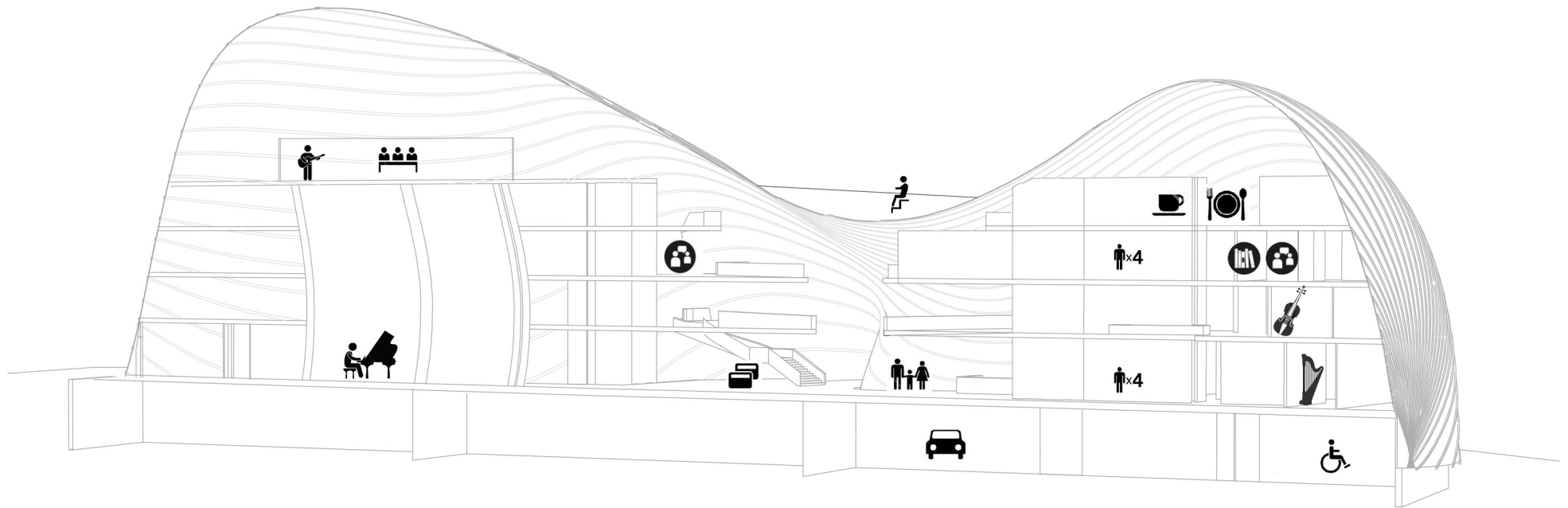
- Archive



- Parking

5.2 Plan Documents

Programm



Musical Instruments Exhibition



Meeting Area



Seminar Room



Concert Hall



Cafeteria



Library / Cultural Space



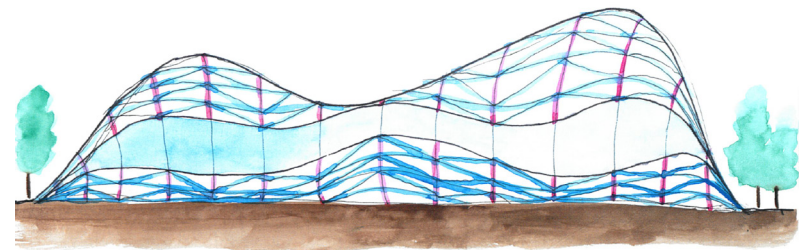
Experience Area / Temporary Exhibition Space

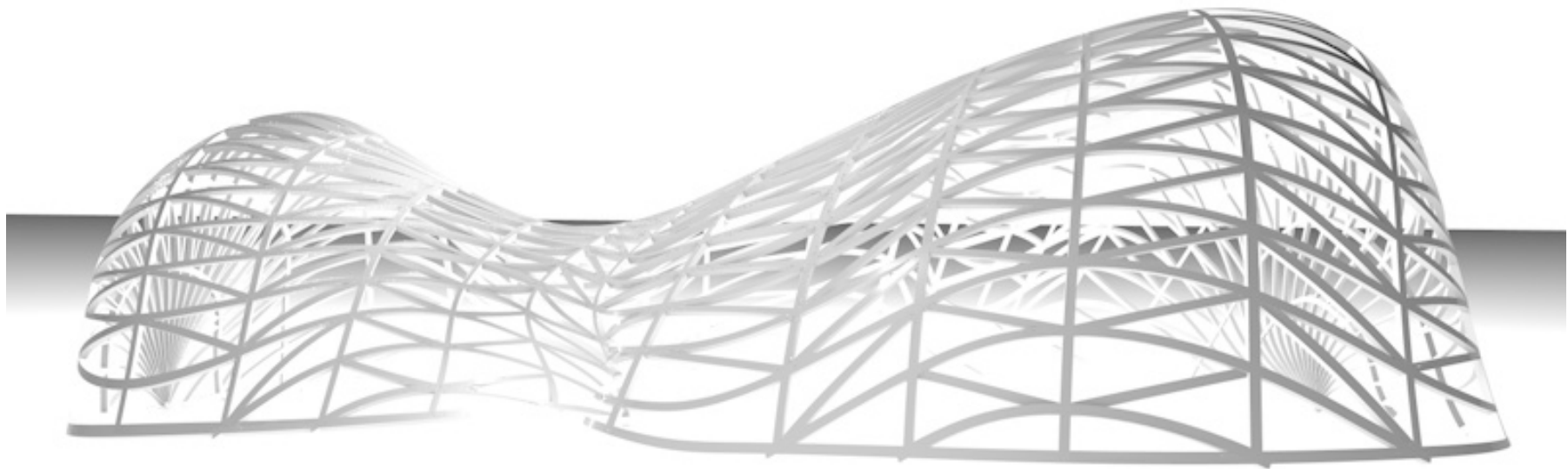


Car Parking

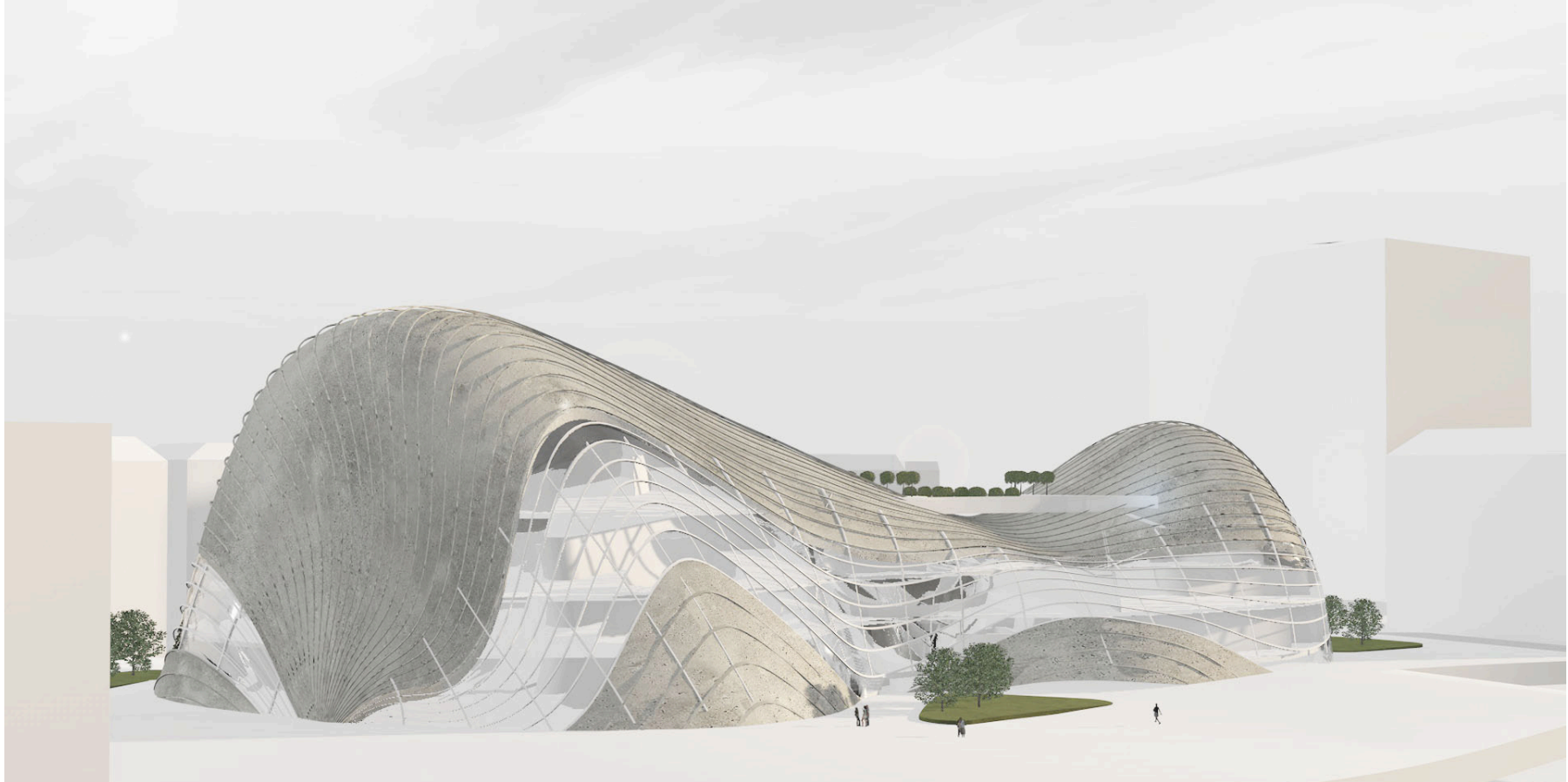
Construction

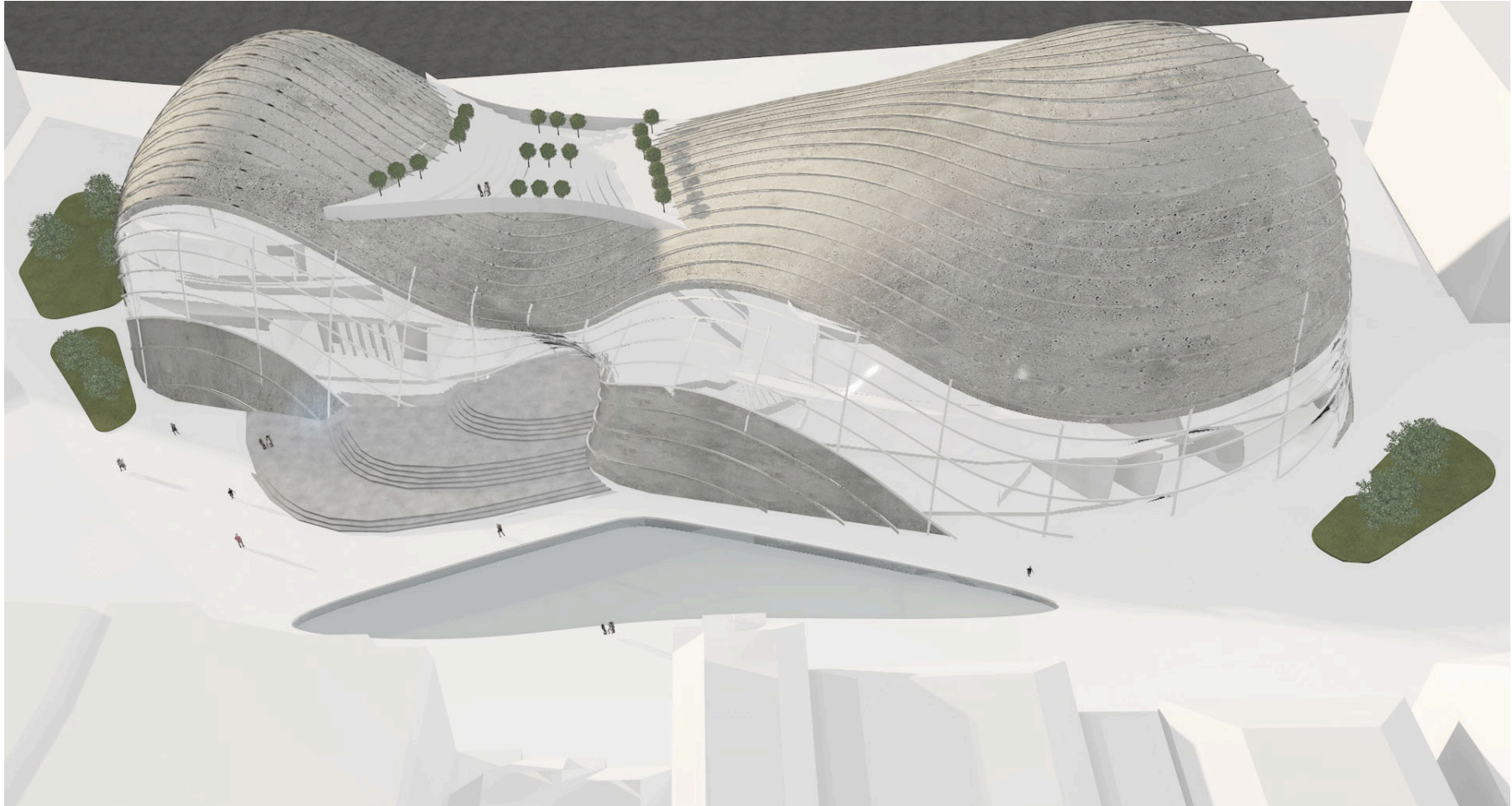
Geometrically a web of curved steel panels is got to this free form by bending. With its triangle mesh polylines, it achieves a structure on the mesh surface. In order to not lose the softness of form, Spread Concrete was chosen for the design. The purpose of glazing is to have natural lighting through the museum. The musical instruments are easily affected by damp, light, temperature, etc. so the exhibition rooms were partially lighted.

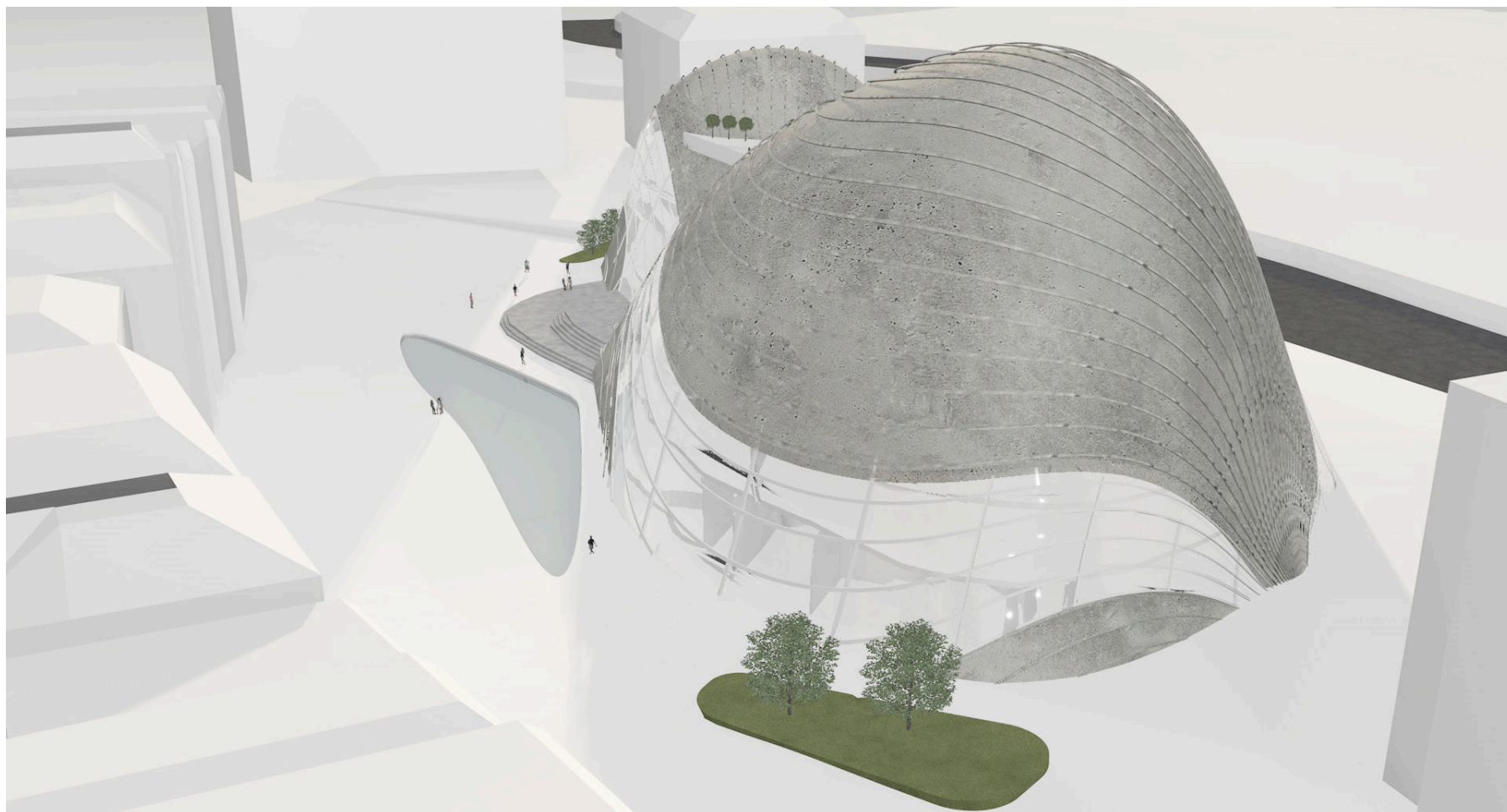


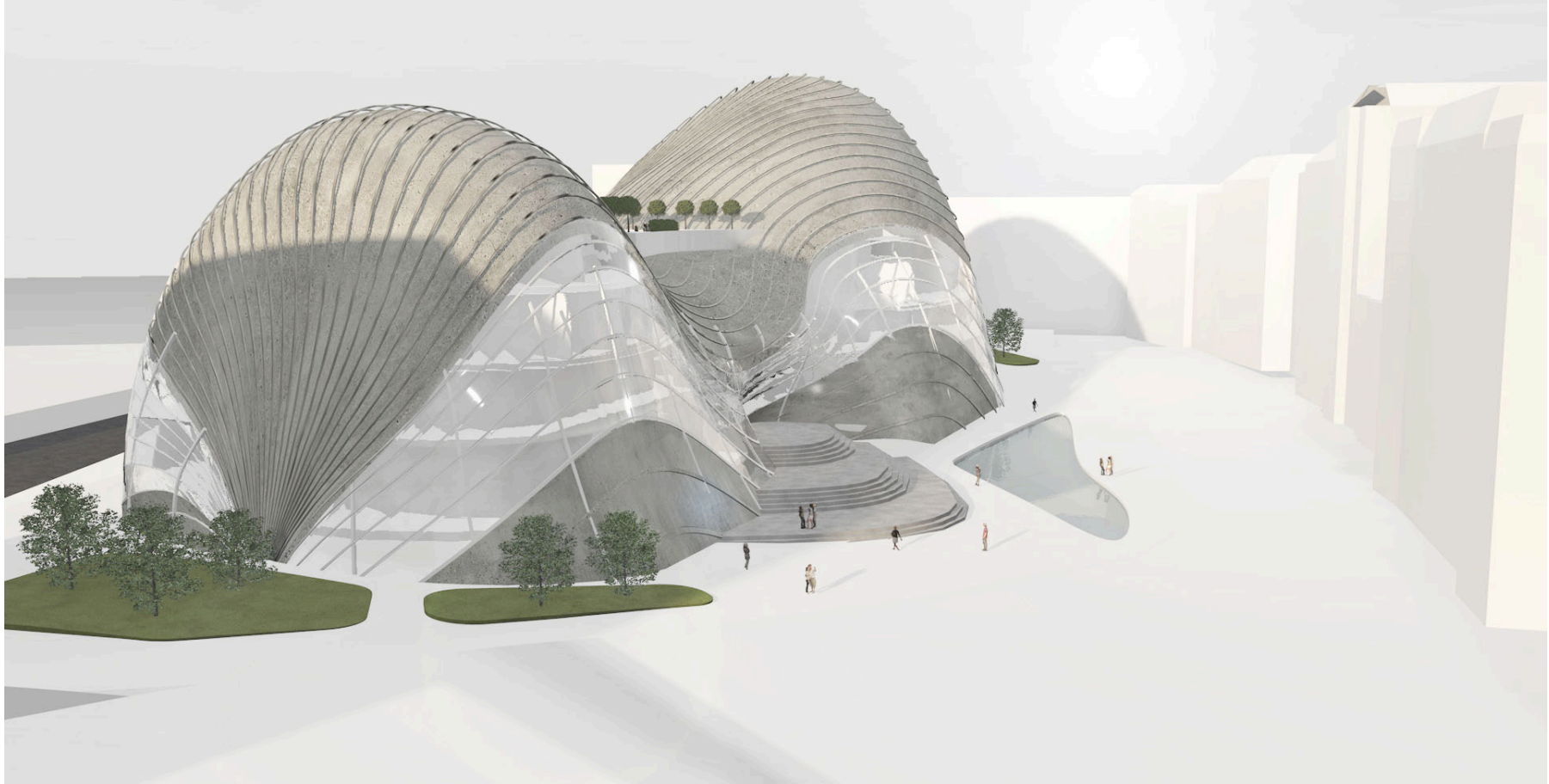


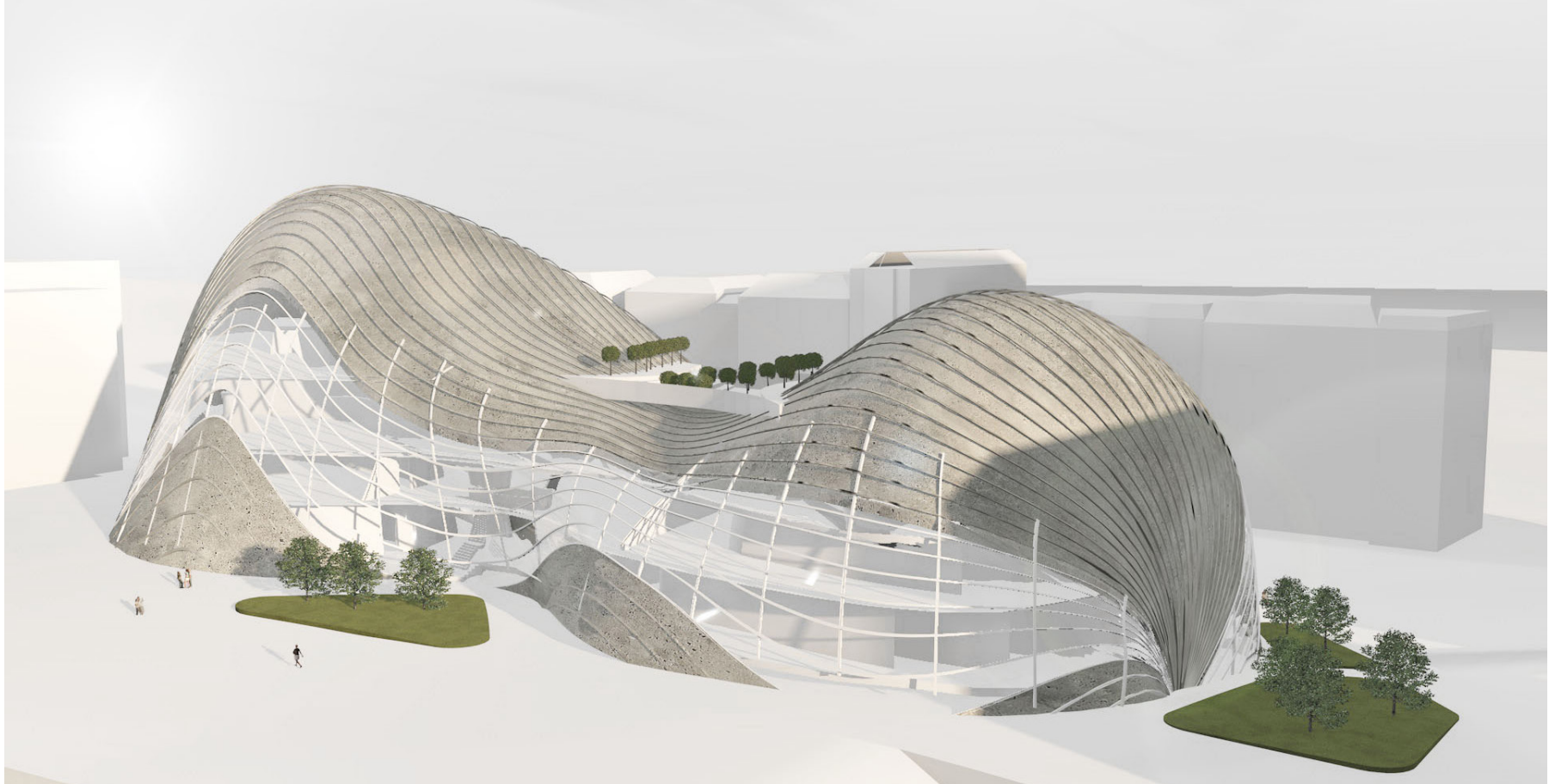
5.3 Visualisations

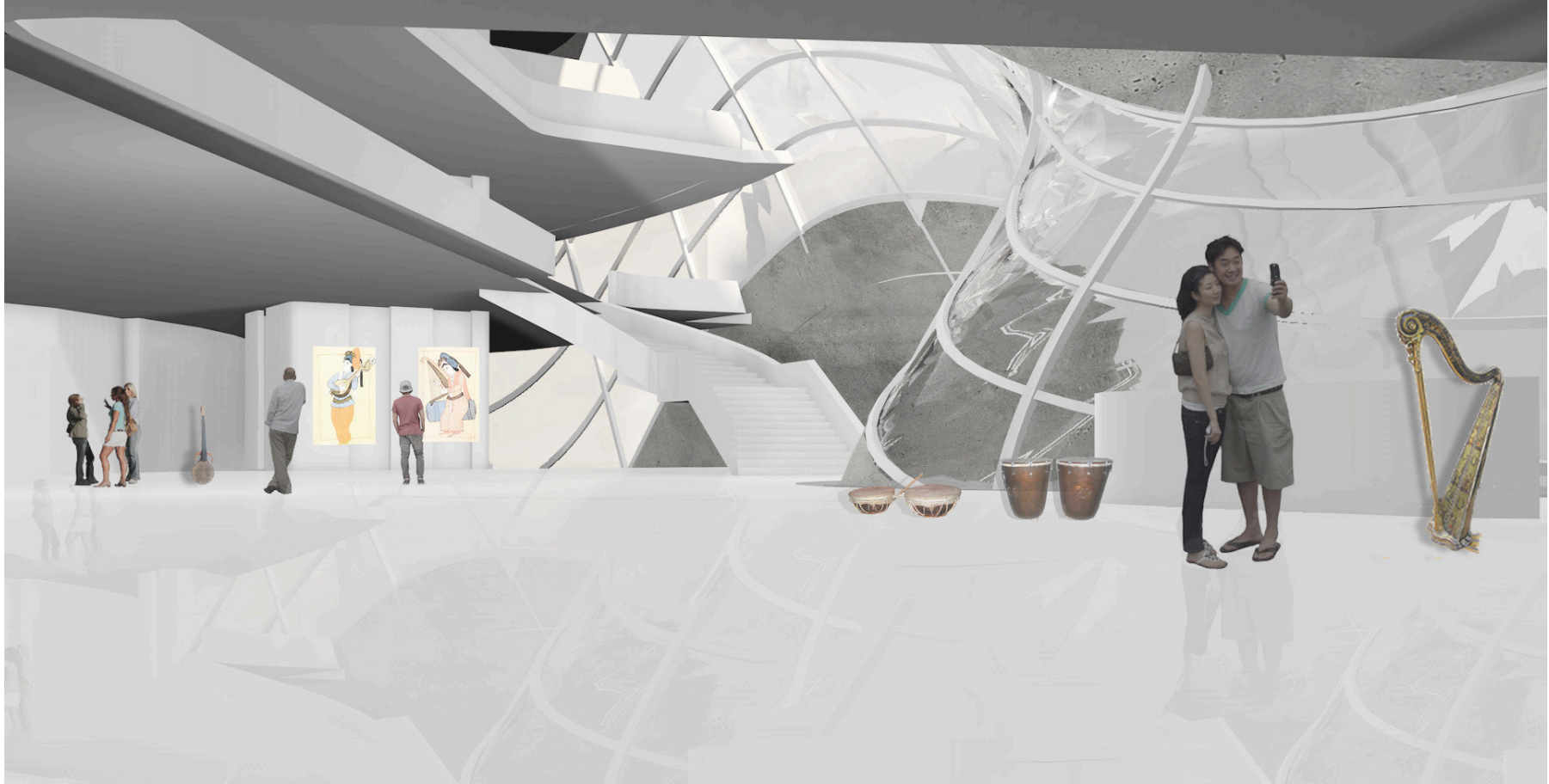












6 Appendix

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Fig. 21. Musical Instruments Museum Sketch

