International design contest

Museo Egizio 2024.

2.2 - B.1 Design Guidelines

Fondazione Compagnia di San Paolo

MUSEO EGIZIO

MUSEO EGIZIO

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1. Introduction

This is the preliminary document required to start the design work on the roofing and refurbishment of the internal courtyard of the *Palazzo del Collegio dei Nobili* and consequently reorganise the parts owned by the *Accademia delle Scienze* [Academy of Sciences] and of those used by *Fondazione Museo delle Antichità Egizie* di Torino [Museum of Egyptian Antiquities Foundation of Turin], with a view to celebrating the bicentenary of the establishment of the *Museo Egizio* [Egyptian Museum] in 2024.

The project described below is intended to enhance the historical dimension of the building by removing the glass infills from the portico of the seventeenth-century building and creating permeability between the portico space and the internal courtyard.

The project construction provides for the active involvement of the museum management and the relevant superintendency, in order to achieve shared outcomes right from the conceptual stages of the project and address both the conservation requirements of the collections and ensure user satisfaction and environmental, economic and cultural sustainability in a technologically innovative way.

A combination of Baroque and contemporary architecture, the project will help renew the image of the *Museo Egizio* in Turin by showing how tradition and innovation can be integrated.

The construction of the roof will allow public services, including the bookshop, cafeteria and ticket office, to be transferred to the courtyard, thus creating a multipurpose meeting space.

Furthermore, the new courtyard will provide access to the Temple of Ellesyia, donated by Egypt to the Italian state as recognition for its involvement in the UNESCO mission to save the Nubian temples.

In addition, the roof of the internal courtyard will further enhance the *Giardino Egizio* [Egyptian Garden], inside the courtyard, thus creating an excellent combination of nature, greenery and hybrid and multifunctional spaces. The project as a whole will allow the city to enjoy a gathering place or *agora*, conceptually conceived as a covered square, a few steps from the nearby Piazza Carignano, accessible by citizens and tourists during the Museum's opening hours.

The underground floor may in future be used as a new and significant extension of the museum itinerary, thus offering the public further options to enjoy the museum's collection.

The scope of the project is therefore of value not only for the *Museo Egizio* but also for the city of Turin, enhancing the whole historic centre in accordance with the UNESCO Recommendation on the Historic Urban Landscape, Paris, 10 November 2011.

The project will propose a suitable solution that is compatible with the protection requirements of this historic building and the history and landscape of Turin, while also ensuring the energy efficiency of the covered and air-conditioned courtyard. The project will also include redesigning the spaces and functions that will become available as a result of the work.

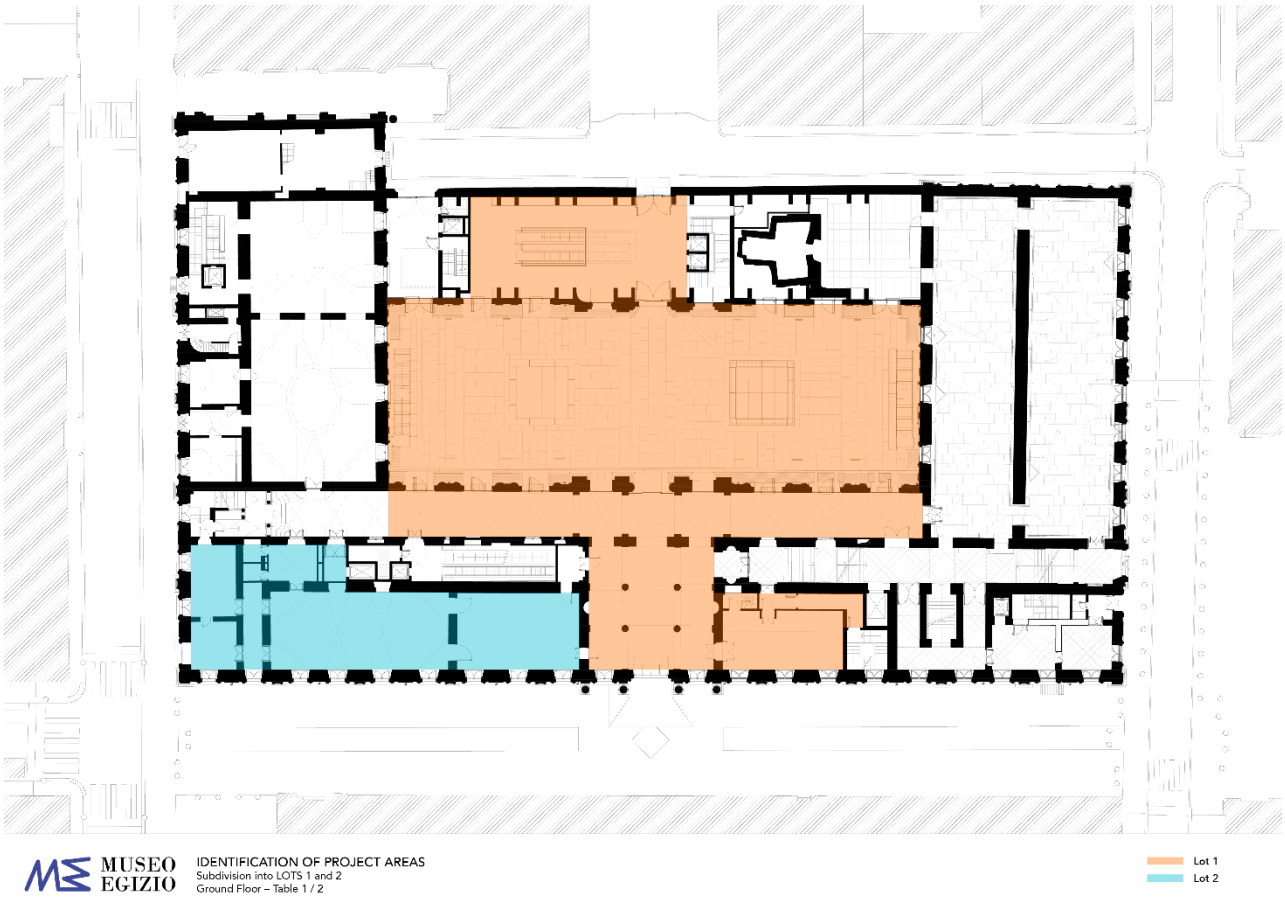

Figure 1 Project areas on the ground floor.

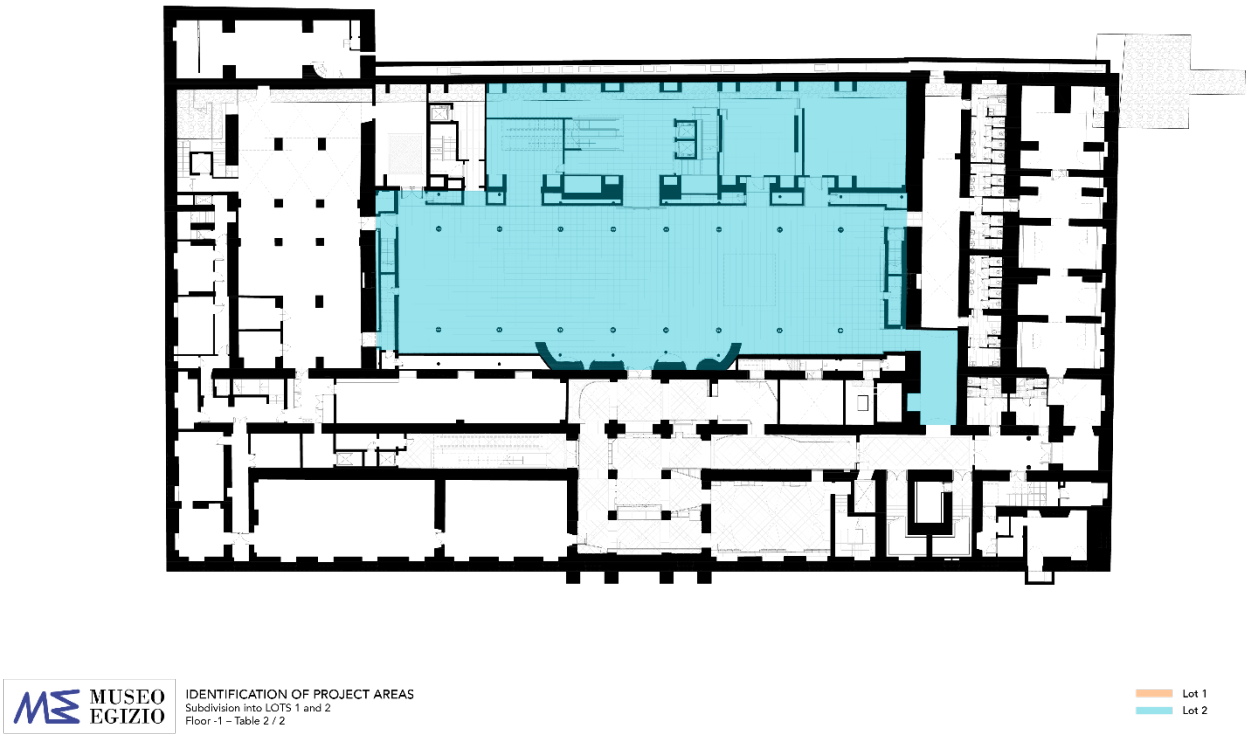

Figure 2 Project areas on the first underground floor.

At the same time as the project described in this document, the *Museo Egizio* intends to implement a broader design plan that includes four further projects:

1) To refit and allow free use of the hall of the Temple of Ellesyia on the ground floor;
2) To refit the *Galleria dei Re* on the ground floor;
3) To set up a permanent exhibition space on the first underground floor (the architectural design of which only is included in Lot 2), dedicated to scientific research and analyses carried out on the collection, drawing inspiration from several recent projects including the Bordless Team Lab in Tokyo (https://borderless.teamlab.art/) or the *Meet di Milano* (https://www.meetcenter.it/it/home-page/); this new 'digital' section of the Museum will enliven scientific research and allow people to experience it through immersive and interactive displays.
4) To expand the *Giardino Egizio* on the Roof Garden terrace (Schiaparelli Wing) currently open to visitors but hardly used.

All four of these projects will be independent both financially and in terms of design.

However, the design work for Lot 1 and Lot 2 will need to take into account this general context of transformation of the *Museo Egizio*'s spaces.

The *Museo Egizio* was founded in 1824 by King Carlo Felice *di Savoia*, starting with the nucleus of around 8000 antiquities in the collection owned by Bernardino Drovetti, which had been purchased the previous year.

Under the direction of Ernesto Schiaparelli (1856 - 1928), who began a series of important excavation campaigns in Egypt, the collection was enriched with about 30,000 finds.

From its foundation until 2004 it was a state institution, initially as part of the University of Turin, then directly attached to the Ministry through the *Soprintendenza alle Antichità del Piemonte e Liguria* [Antiquities Authority of Piedmont and Liguria], and from 1939 through the *Soprintendenza alle antichità - Torino II – Egittologia* [Antiquities - Turin II - Egyptology Authority] (which became the *Soprintendenza per le Antichità Egizie* [Egyptian Antiquities Authority] in 1971 and subsequently the *Soprintendenza al Museo delle Antichità Egizie* [Egyptian Antiquities Museum Authority].

Since 10 October 2004, the *Museo Egizio* has been managed by the *Fondazione Museo delle Antichità Egizie di Torino* [Egyptian Antiquities Museum Foundation of Turin] (hereinafter the "Foundation"). The Foundation is the first experiment by the State to set up a museum management entity with private sector involvement. Its founding members are: the Italian Ministry of Cultural Heritage and Activities (now the Ministry of Culture), which has transferred its assets to the Foundation for thirty years, the Piedmont Region, the Province of Turin, the City of Turin, *Compagnia di San Paolo* and *Fondazione CRT*.

This management model has had significant positive results to date. Since its establishment between 2005 and 2019, the Foundation has guided and managed the transformation of the Museum into a leading international research institution in the fields of science, culture and tourism. On 1 April 2015, the refurbishment project (completed between 2010 and 2015) returned to the community a contemporary archaeological museum with the ability to conduct research projects, welcome large flows of school groups and visitors, and produce content for different types of audiences.

The number of visitors grew from 321,756 in 2004 to one million in the first year after it reopened (April 2015 - April 2016), stabilising at around 850,000 units in the period between 2016 and 2019. From 2016 to date, the Foundation has achieved a positive surplus year on year, thus exceeding the 100% self-financing quota, and allocated the profits for the year to increasing the funds set aside to pursue its institutional goals.

In 2020, the pandemic that began in February led to a year of closures and crisis in the system, but also a year of resilience and experimentation. Faced with a 72% fall in the

number of visitors compared to 2019, and 180 days of closure, compared to just one in 2019, the *Museo Egizio* developed 23 research projects and recorded a 31% increase in followers compared to 2019, inaugurating a new temporary exhibition entitled *Lo Sguardo dell'Antropologo* [The Anthropologist's Gaze] and making four stops with its three travelling exhibition projects (in Finland, Estonia, USA and Brazil), while also producing and launching seven new online formats. Furthermore, it set aside €1,292,408 for institutional purposes, took part in 10 tender applications for a total of €216,000 in contributions, increased its income from travelling exhibitions by 114%, compared to 2019, collected €25,000 from fundraising campaigns, and won 2 awards (Europa Nostra Awards, Metti in mostra l'Archeometria).

In its activities, the Foundation complies with the international standards set by ICOM (International Council of Museums), which are also included in the decree issued by the Italian Ministry of Cultural Heritage and Activities (Legislative Decree no. 42 of 22 January 2004, *Codice dei beni culturali e del paesaggio* [Cultural heritage and landscape code] pursuant to article 10 of law no. 137 of 6 July 2002, article 101 *Istituti e luoghi della cultura* [Cultural sites and institutions], paragraph 2), and operates the *Museo Egizio* in accordance with the definition of a museum provided by ICOM:

A museum is a non-profit, permanent institution in the service of society and its development. It is open to the public and carries out research on the tangible and intangible heritage of humanity and its environment; it acquires, conserves, communicates and, above all, exhibits it for study, education and enjoyment".

In accordance with international standards and recommendations, and Italian law, the pillars of the Foundation are:

1) Education and social role (Identity)
2) Scientific research (Knowledge, Protection, Enhancement)
3) Sustainability (Economic management)

The Foundation's three pillars (Fig. 2) are divided into five strategic goals that guide the planning of medium to long term activities, reflecting the identity of the institution.

Figure 3 Pillars of the Foundation showing the 5 strategic aims.

Three of the five strategic goals are associated with the internal environment, and therefore processes and activities, the driver for the value creation model. These are the strategic goals intended to:

1) Be a national and international scientific research hub: research is the primary vocation of the *Museo Egizio*, which intends to be a research centre and an international point of reference for anyone with a scientific interest in ancient Egypt, archaeology and museum science in general.
2) Promote the dissemination of knowledge through a variety of experiences: the museum's aim is to offer an experience that is not limited to observing the finds, but contributes to providing a biography of the objects and, in doing so, encouraging visitors to learn about the past.
3) Be a centre of education and training: the Museum aims to be a place for people to meet, discuss, exchange and disseminate knowledge, and a centre for technical-specialist training.

The other two are overarching strategic goals, more closely related to the relevant context and guiding all processes and activities:

4) To express and develop best practices in museum management: to be a research institution and cultural centre that questions its own sustainability and accessibility, developing a solid management model based on the long-term

planning of activities and constant monitoring of its financial balance, ensuring the enhancement of staff varying the sources of financing.

5) To contribute positively to the sustainability and economic development of the area: to be a participatory institution, a place where, through meeting and dialogue, social and cultural barriers can be overcome. An institution that contributes to cultural development and the growth of the community.

Based on the strategic guidelines set by the Foundation, the work is intended to make a positive contribution to the sustainability and economic development of the local area and to promote the dissemination of knowledge by creating new exhibition and reception spaces for the community.

2. Project site

The *Palazzo del Collegio dei Nobili*, where the work will take place, is located in Turin, in the block circumscribed by Via Accademia delle Scienze, Via Principe Amedeo, Via Eleonora Duse and Via Maria Vittoria.

Figure 4 Aerial photo of *Palazzo del Collegio dei Nobili*.

The main access to the building, which is home to the *Museo delle Antichità Egizie di Torino* [Museum of Egyptian Antiquities], is at number 6, Via Accademia delle Scienze. The building is in the city centre (Figure 4), in the prestigious area where the Savoy government buildings were concentrated (*Palazzo Madama, Palazzo Reale, Palazzo Carignano*), in a central and strategic position on the best itinerary for visiting the city of Turin.

The historic centre, the core of the city, is the perimeter of the Roman fort and of the subsequent colony of Augusta Taurinorum. The Roman origins of the city are evidenced by the *Porta Palatina* [Palatine Gate] the most representative vestige of the walls of the ancient fort. This perimeter is still discernible from the road layout and some important remains of the wall which have survived to this day.

3. Historical setting of the *Palazzo del Collegio dei Nobili*

Since 1824, the *Museo delle Antichità Egizie* has been located inside the *Palazzo del Collegio dei Nobili*, which has also housed the *Accademia delle Scienze* [Academy of Sciences] since 1784.

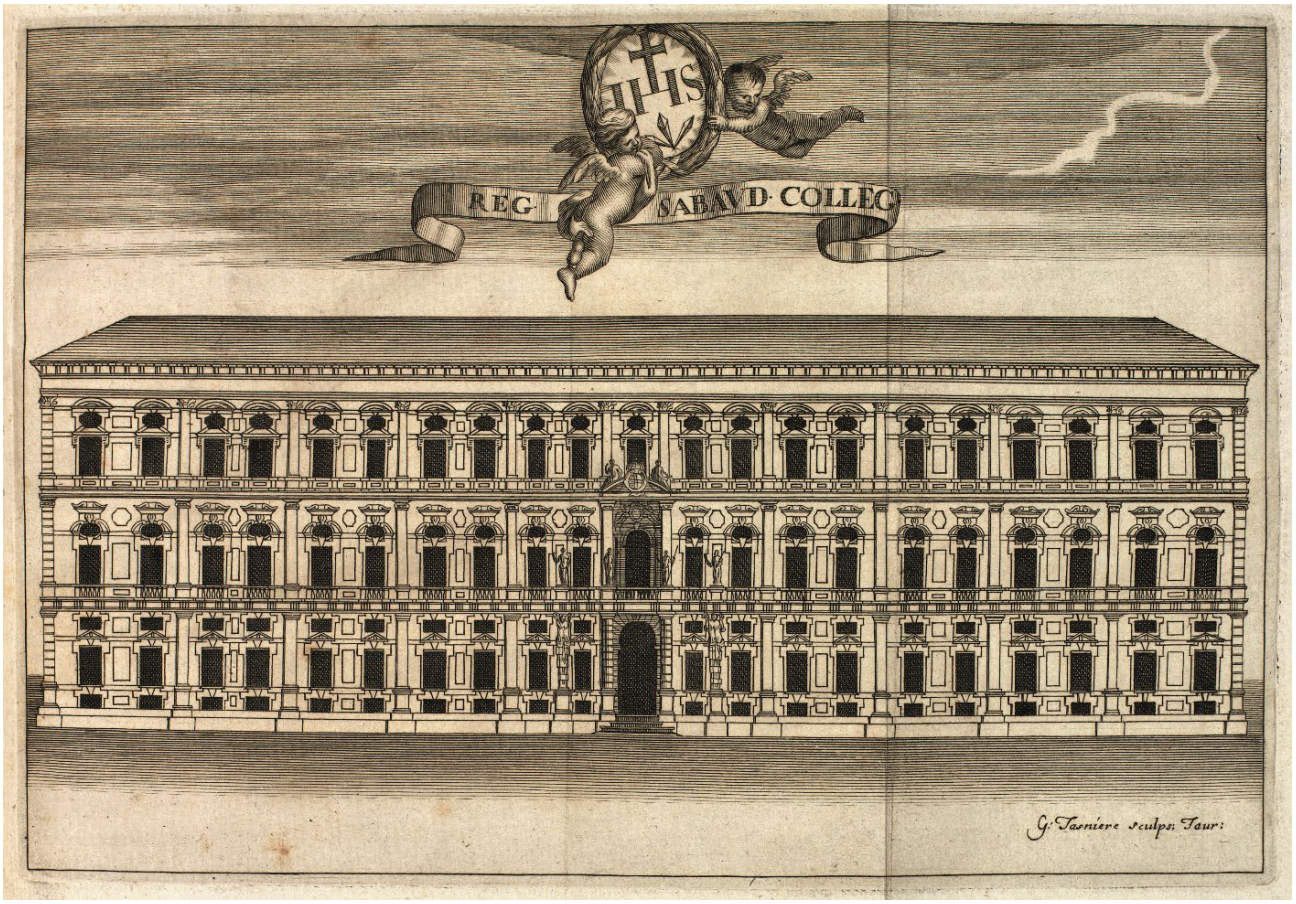

Figure 5 Representation of the front of the *Palazzo del Collegio dei Nobili* (1711). Engraving by Georges Tasnière, from "*Reriae villae poetice descriptae*..." by Camillo Maria Andiberti, Turin 1711. State Archive of Turin.

The *Palazzo del Collegio dei Nobili* is a seventeenth century building designed to house a Jesuit College intended for the sons of aristocratic families. The first stone was laid on 15 May 1679 by Maria Giovanna Battista *di Savoia-Nemours*. The construction site was directed by Michelangelo Garove (1650-1713), but the design was attributed to Guarino Guarini (1624-1683): his name does not appear in the sources relating to the College, but the influence of Guarini in the style of the building is unquestionable, particularly in the staircase that leads to the historic rooms of the Academy.

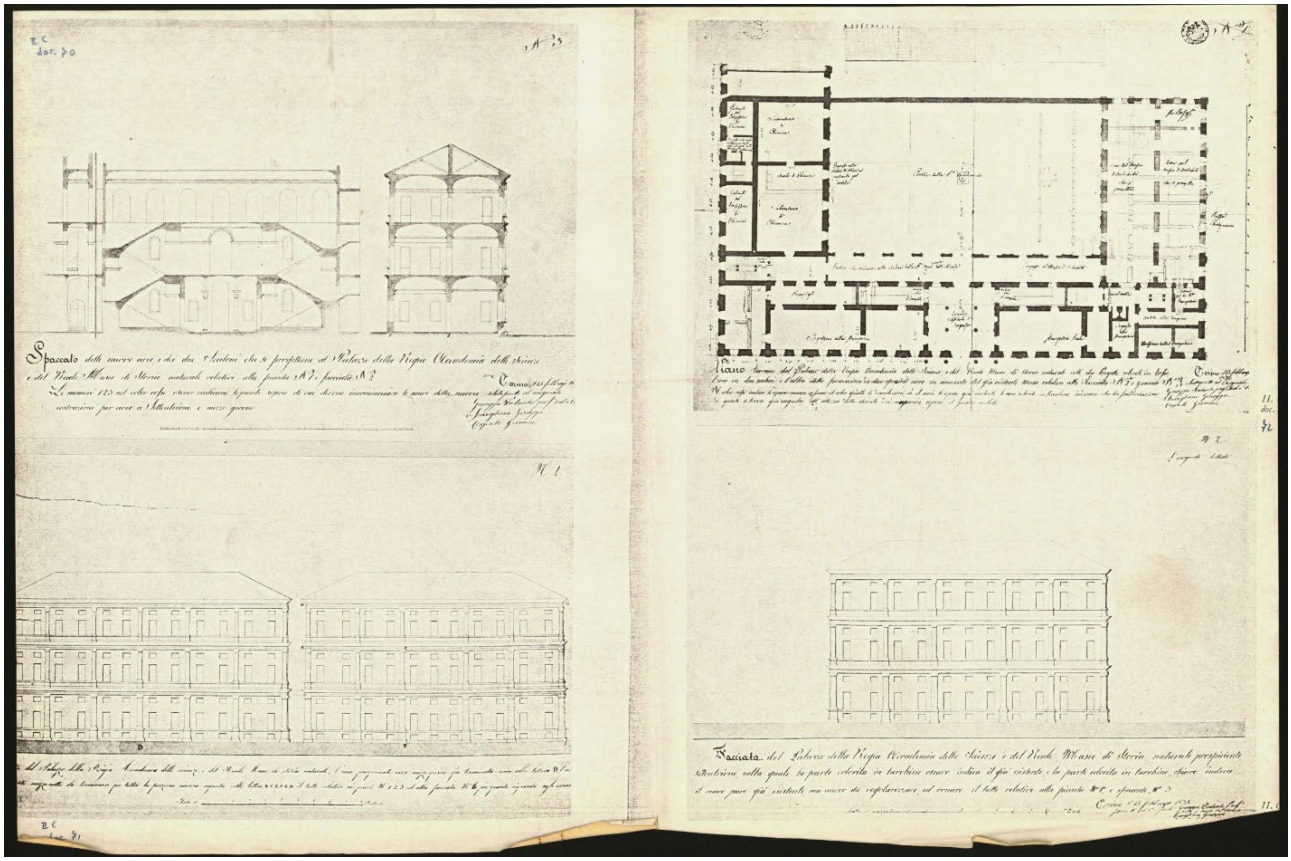

Figure 6 Plans, elevations and sections of the *Palazzo del Collegio dei Nobili* (1773). State Archive of Turin.

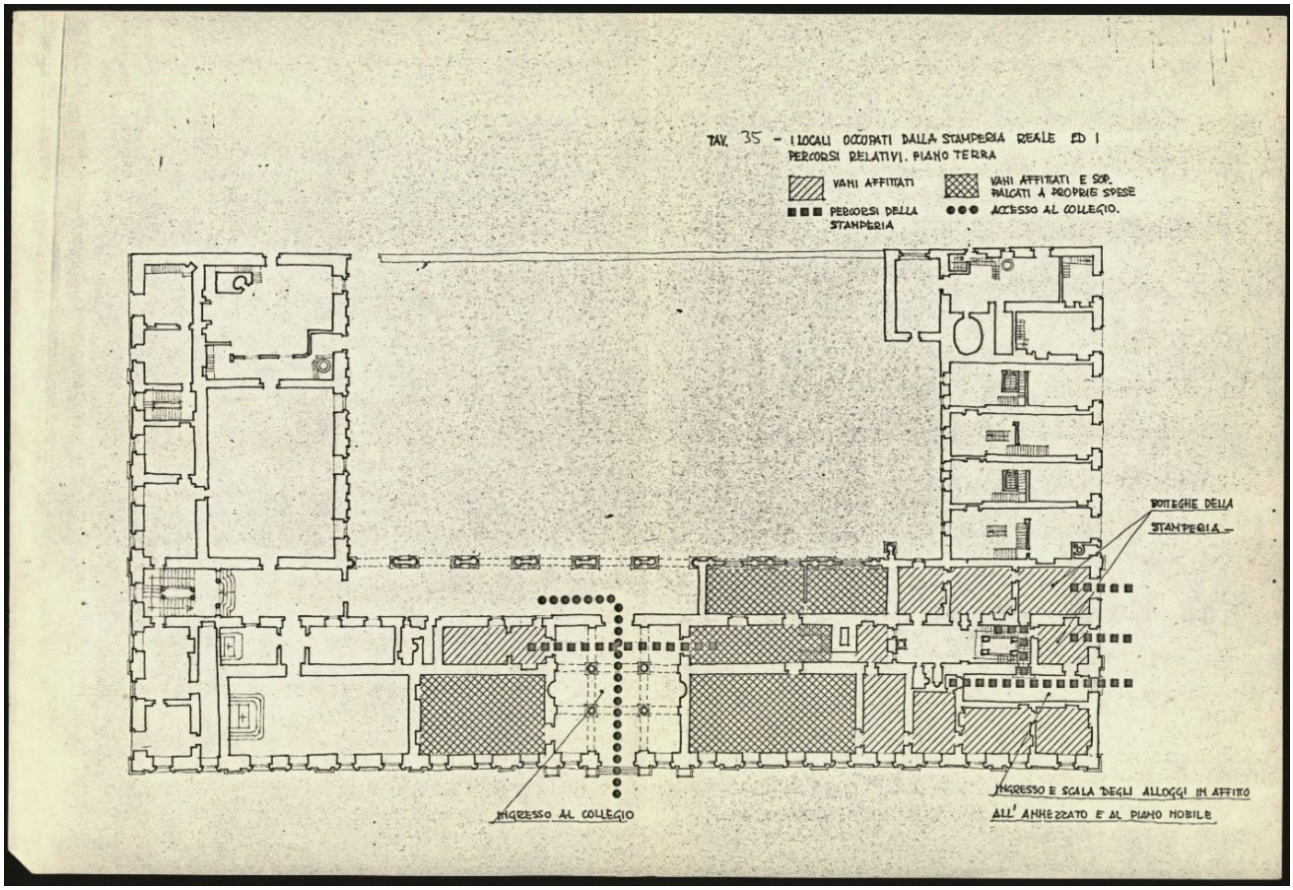

Figure 7 Plan of the ground floor of the *Palazzo del Collegio dei Nobili* (1773). Source: State Archive of Turin.

In 1773, the Jesuit order was abolished and the building became the property of the Savoy State, which in 1784 granted the wing on Via Maria Vittoria to the newly established *Accademia delle Scienze*.

Over its nearly 350 years of history, the building has been an important cultural meeting point for the city of Turin, a witness to the dynamic events that have shaped its rooms and the collections housed. As already mentioned, since 1783-84, part of the building has been the seat of the *Accademia delle Scienze*. In 1824, a series of rooms was selected to house the Egyptian collection recently sold by Bernardino Drovetti to King Carlo Felice. Between 1824 and 1830, the collections of the *Museo di Scienze Naturali* [Museum of Natural Sciences] were also transported to the building, and in 1832 the *Museo di Antichità* [Museum of Antiquities] was combined with the *Museo Egizio* [Egyptian Museum] to form the *Regio Museo di Antichità ed Egizio* [Royal Museum of Antiquities and Egypt], under the direction of Abbot Ignazio Barucchi. Finally, in 1865, the *Quadreria* or picture gallery (formerly the *Galleria Sabauda*) was added. The building was therefore divided as follows: antiquities on the ground floor and second floor, in the central body and right wing of the

building; the *Museo di Scienze Naturali* [Museum of Natural Sciences] on the first floor, and the *Pinacoteca* or picture gallery on the second floor. Endowing the city with a "Universal Museum" (albeit formed of three independent museums) seemed at the time a response to the challenge presented by the other leading European museums, but the limited exhibition space in the building greatly hampered this attempt at emulation. Thus, the *Museo di Scienze Naturali* was moved elsewhere as early as 1874. The construction of the *Manica Nuova* [New Wing], in the 1880s, provided more space for the classical antiquities.

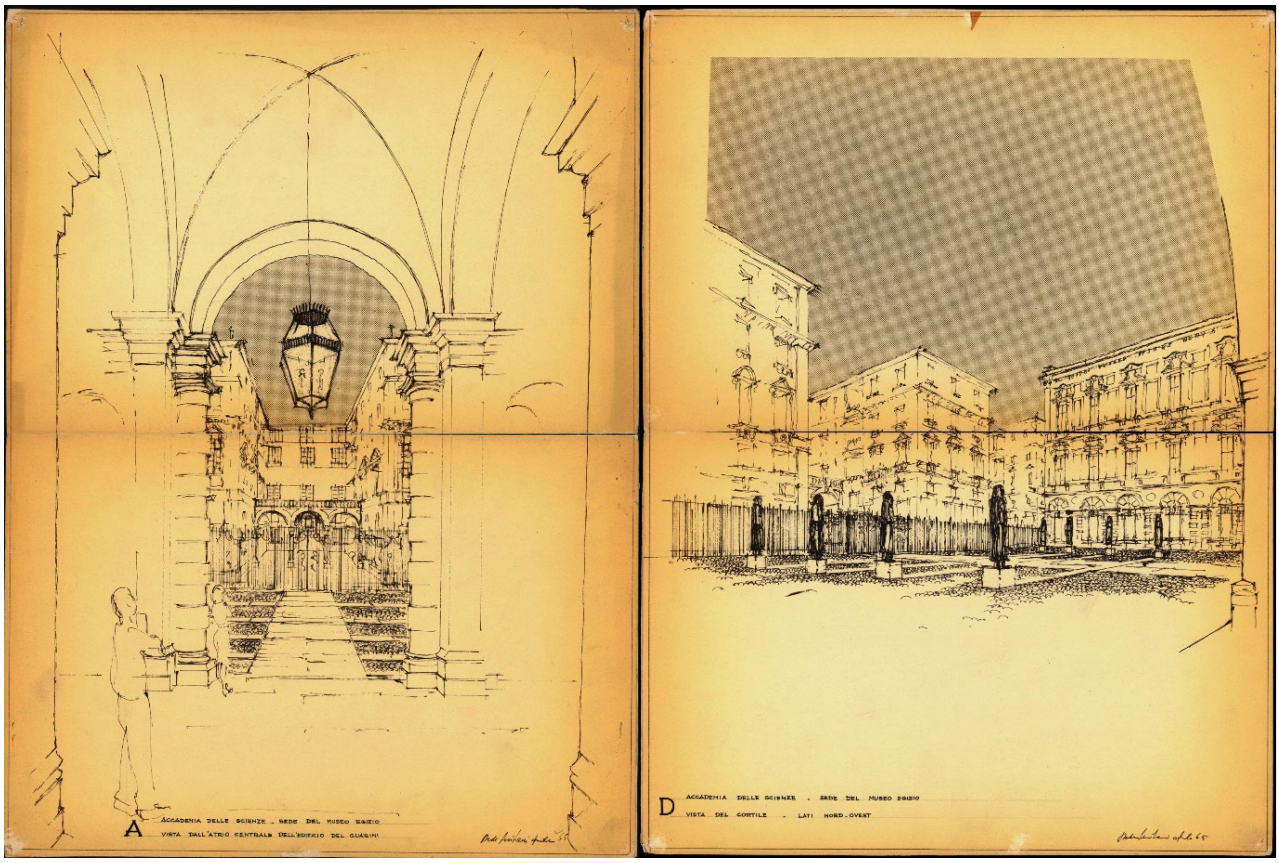

Figure 8 Perspective sketches of the internal courtyard, design by Brayda-Aru (1965). Source: State Archive of Turin.

In 1939-40, the *Museo di Antichità* was definitively separated from the *Museo Egizio* to create two independent entities, and in the 1970s the classical antiquities were transferred to their current location: the Royal Palace Orangeries. This allowed the *Museo Egizio* to expand the exhibition space, which was necessary to cope with the increased flow of visitors, carrying out structural work to better organise the antiquities, including the

installation of the Temple of Ellesyia in the 1960s, and work on the Topographical rooms in the 1990s.

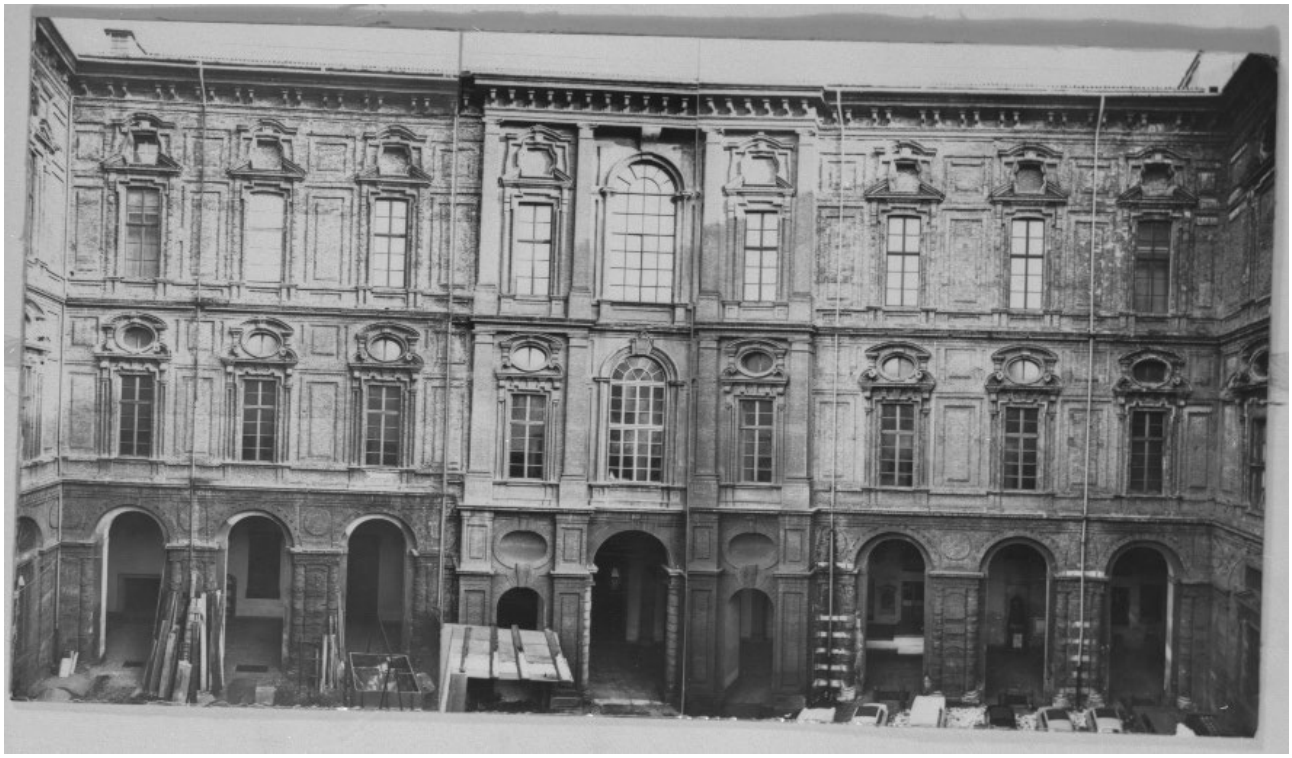

Figure 9 Internal façade of the *Palazzo del Collegio dei Nobili* before the glass infills were added (around 1960). Source: Photographic archive of the *Museo Egizio*.

Figure 10 Internal façade of the *Palazzo del Collegio dei Nobili* before the glass infills were added (around 1970). Source: Photographic archive of the *Museo Egizio*.

Figure 11 Images of the internal courtyard of the *Palazzo del Collegio dei Nobili* in around 1960. Source: Photographic archive of the *Museo Egizio*.

Finally, with the recent transfer of the *Galleria Sabauda* to the *Musei Reali* [Royal Museums] and the major renovations carried out in 2015, the *Museo Egizio* has undergone a radical transformation based on a design intended to improve the exhibition system and enhance the collection, providing the structure with a new modern and functional system. The renewed and refurbished architectural layout was required to respect the museum's four fundamental activities:

1) the collection of new or temporarily non-displayed materials required the creation of functional rooms suited to hosting them and allowing them to be analysed, inventoried, photographed and catalogued;

2) the conservation of the collections had to ensure that the finds were kept in a suitable microclimate to minimise any potential deterioration; this same microclimate was also created in the store rooms;
3) the study of the materials held and their provenance required additional spaces to be created;
4) the dissemination of knowledge about the materials by exhibiting them in a way that is comprehensive, understandable, clear and evocative.

Since 2015, these activities have led to the transformation of various museum environments, adapting them to the most recent conservation and public dissemination technologies (including the creation of the *Sala della Vita* in 2021).

In addition to these transformations, there is a need to further lengthen the exhibition itinerary, which today extends for over 2.5 km across an area of 4,500 square metres.

In this renewed context, some of the functions involved in welcoming visitors will have to be moved from the first underground floor to the ground floor, from which the tour itinerary will then begin.

3.1 History of the *Museo Egizio* collections

Turin's *Museo Egizio* is dedicated exclusively to the art and culture of Ancient Egypt. The Museum consists of a set of collections, mainly from the nineteenth century, which have been expanded over time to include the finds acquired, by virtue of the laws in force at the time, following excavations conducted in Egypt by the Italian Archaeological Mission (1903 - 1937).

The project and the establishment of an Egyptian collection were pursued by the Rulers of the House of Savoy starting from 1630 with the acquisition, by the *Gonzaga* of *Mantova*, of the so-called *Mensa Isiaca*, an archaeological find dating back to the 1st-2nd century AD, depicting religious ceremonies in honour of the Goddess Isis. These collections were initially kept in the Ducal Palace, later transferred to the Royal University and finally placed in the building undergoing the work, where the *Museo Egizio* has been housed since 1824. The building currently houses both the *Museo Egizio* and the *Accademia delle Scienze*.

The *Regio Museo delle Antichità Egizie* [Royal Museum of Egyptian Antiquities] was established in 1824, when a collection of 5,268 finds (100 statues, 170 papyri, steles, sarcophagi, mummies, bronzes, amulets and objects of everyday life) and 3007 coins, collected by the Piedmontese Bernardino Drovetti, the French consul in Egypt, was bought by King Carlo Felice *di Savoia*.

As early as 1823, even before the Drovetti collection arrived in Turin, there were

discussions about the most suitable site to house the antiquities. Partly as a result of surveys conducted by Giulio Cordero di S. Quintino, a decision was eventually made to place the antiquities in some of the rooms of the building that had once housed the *Collegio dei Nobili,* at the time owned partly by the *Accademia delle Scienze* and partly by other institutions. During 1824, once the antiquities arrived in the building, some were placed on the ground floor, others on the second floor. In 1832, the collection of antiquities kept at the Royal University of Turin was also transferred to the building of the former *Collegio dei Nobili.* Together with the Egyptian collection, already in the building since 1824, this went to form the *Regio Museo di Antichità ed Egizio* [Royal Museum of Antiquities and Egypt], under a single director, Abbot Ignazio Barucchi, as part of the University of Turin. In the subsequent decades some minor collections were merged into the Museum, without substantial changes to the layout of the rooms.

The arrival of the new century marked a radical turning point for the museum, which embarked on a series of archaeological campaigns in Egypt. Excavations in numerous sites (Heliopolis, Giza, Assiut, Hammamija, Deir el-Medina, Gebelein, etc.) commissioned by the directors Ernesto Schiaparelli and Giulio Farina led to important discoveries, which allowed the museum to acquire thousands of finds, thus turning into a major centre for Egyptian art and culture. The antiquities it holds are unquestionably a showcase portraying the history, traditions and habits of the civilisation that developed on the banks of the Nile starting from the fourth millennium BC and up to the first centuries of the Christian Era.

The last major acquisition by the museum was the small temple of Ellesyia, donated to Italy by the Arab Republic of Egypt in 1966 in recognition of the technical and scientific support provided during the campaign to save the Nubian monuments, threatened by Lake Nasser as a consequence of the construction of the Aswan Dam.

Around 12,000 artefacts are currently exhibited in the rooms of the *Museo Egizio*. More than 28,000 artefacts are held in the store rooms, either for conservation purposes or because they are of purely scientific interest (pottery, fragmentary statues, baskets, steles, papyri) and are the subject of studies whose results are regularly published.

4. General project details

4.1 Project leader

The project leader is *Fondazione Museo delle Antichità Egizie di Torino*.

The Foundation has a thirty-year term (2004 - 2034) and its Equity consists of the rights of use of movable and immovable property granted by the Ministry, contributions of any nature, for whatever reason they are made, as well as the movable and immovable property received by the Foundation.

The governing bodies of the Foundation are the following:

1) the Board of Founders,
2) the Scientific Committee,
3) the Board of Directors,
4) the Chairman,
5) the Board of Auditors,
6) the Director and his Staff.

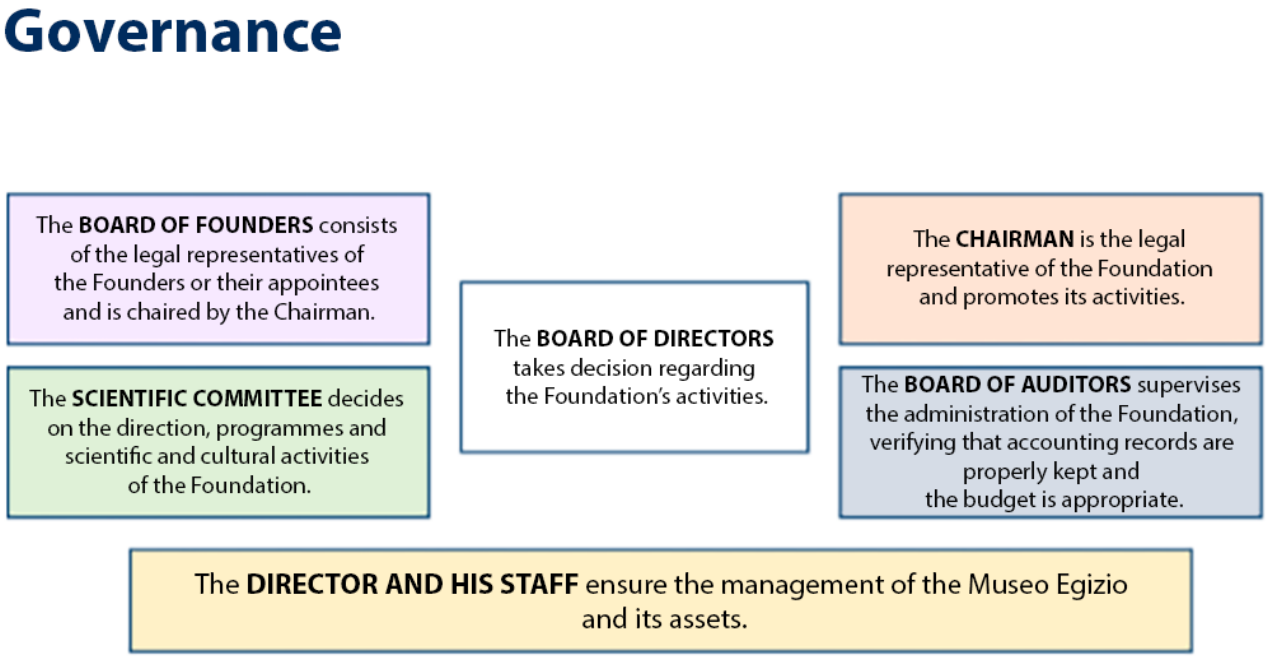

Figure 12 Governing bodies of *Fondazione Museo delle Antichità Egizie di Torino.*

The Board of Founders consists of the legal representatives of the Founders, which is chaired by the Foundation's Chairman.

The Scientific Committee decides on the direction, programmes and scientific and cultural activities of the Foundation.

The Board of Directors takes decision regarding the Foundation's activities.

The Chairman is the legal representative of the Foundation and promotes its activities.

The Board of Auditors supervises the administration of the Foundation, verifying that accounting records are properly kept and the budget is appropriate.

The Director and his Staff ensure the management of the *Museo Egizio* and its assets.

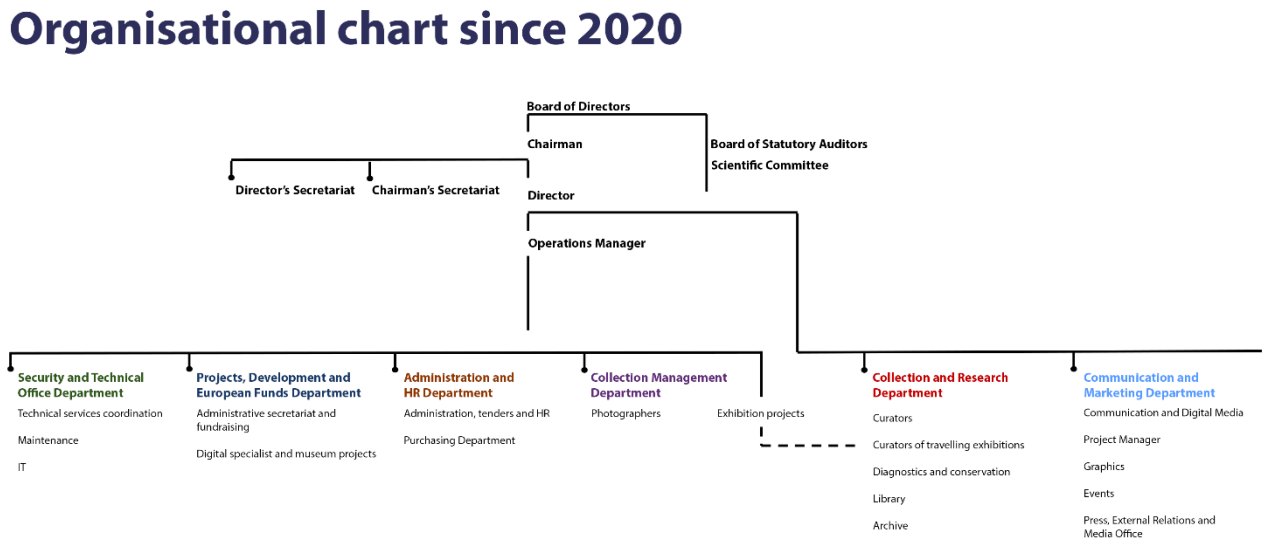

Figure 13 Organisational chart of *Fondazione Museo delle Antichità Egizie di Torino*.

The Foundation is a cultural, sustainable and competitive business, flexible and open to discussion. The entrepreneurial approach to the management of the museum is not contradictory but vital for a long-term, independent scientific, protection and enhancement programme. A management model based on long-term planning of all the salient aspects of museum activity, careful and constant monitoring of budget items and financial balances, ensuring the professional development of staff and varying the sources of funding. For further information on the results achieved by the institution in recent years, the 2021 Integrated Report is attached (Annex 1 - 2021 Integrated Report).

4.2 Project scope

Current situation of the *Museo Egizio*

The *Palazzo Collegio dei Nobili*

Third floor: Room used for themed displays, offices of the Foundation

Mezzanines: Cultural Material Galleries

Second floor: Predynastic Period (**Room 2**), Tomb of the Unknown and Tomb of Iti and Neferu (**Room 3**), Middle Kingdom (**Rooms 4 and 5**), New Kingdom (**Room 5**), Foundation offices

First floor: Deir el-Medina (**Room 6**), Tomb of Kha (**Room 7**), Gallery of the Sarcophagi (**Room 8**), Scholar's Laboratory (**Room 9**), Valley of the Queens (**Room 10**), Galleries of Material Culture and Late Period (**Room 11**), Ptolemaic Period (**Room 12**), Roman Period (**Room 13**), cafeteria

Ground floor: Gallery of Kings, Foundation reception, Conference room, entrance atrium from Via Accademia delle Scienze 6, Space 0-6, former bookshop

First underground floor: Historical Rooms (**Room 1**), underground atrium, ticket office, cloakroom, audio-guides and radio-guides desk, bookshop, toilets, store room -1

Second underground room: store rooms, machinery/systems rooms

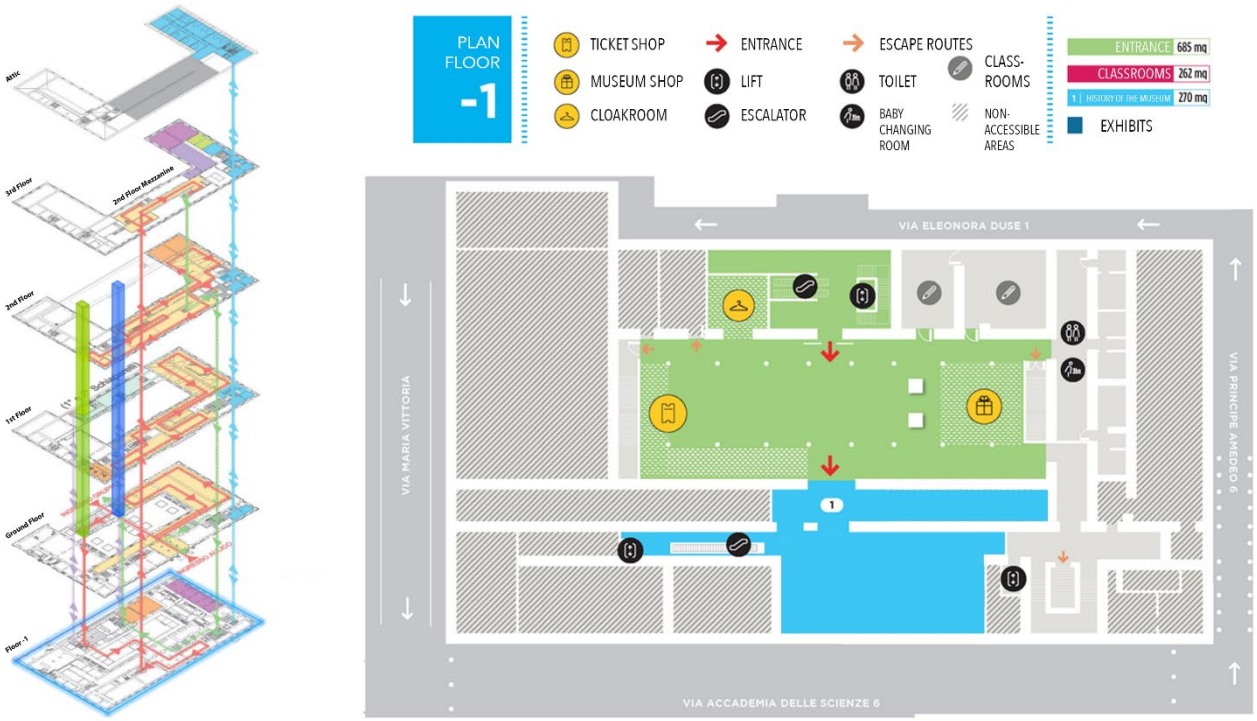

Figure 14 Current uses of the first underground floor.

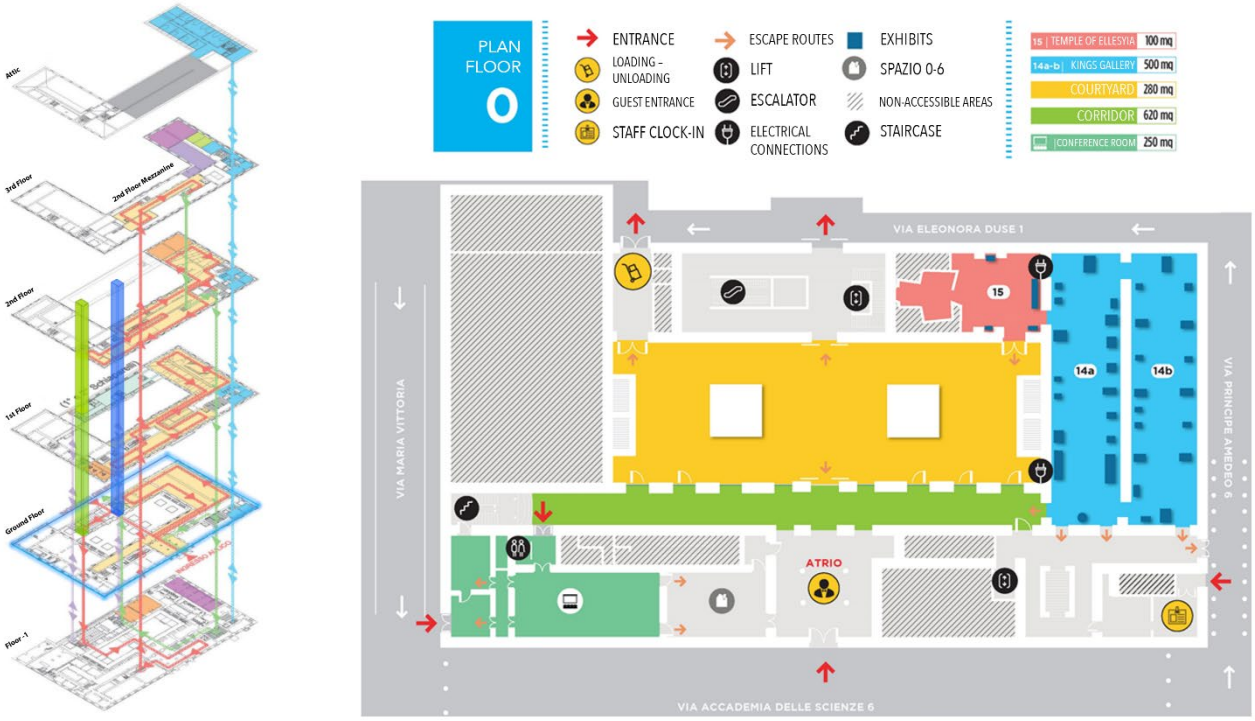

Figure 15 Current uses of the ground floor.

Schiaparelli Wing

Second floor: Roof Garden (with projection room connected to *Sala della Vita*)

First floor: *Sala della Vita* and Foundation offices

Mezzanine: Curto Library and Foundation offices

Ground floor: Nubian Room with Temple of Ellesyia, Duse atrium and lowering shaft

The museum itinerary

The museum itinerary currently starts on the first underground floor, entered via the underground atrium. This leads into the Historical Rooms (**Room 1**) on the same floor, where the history of the collection and the birth of the *Museo Egizio* is shown.

The escalator leads to the second floor, where the trail through the permanent collection begins (with themed display rooms on the third floor).

The itinerary proceeds through the collection in chronological order from the Predynastic Period to the Roman era.

Current state of the areas covered by the works

The intention of the project is to re-purpose some of the internal and external parts of the *Palazzo del Collegio dei Nobili* used by the Foundation.

Given the complexity of the work, the project is divided into **two lots** in relation to the available funding.

"Lot 1" will include the roofing of the courtyard and rearrangement of spaces on the ground floor, including architectural, structural and system design aspects. Full financial cover for Lot 1 is available from funds held by *Fondazione Museo delle Antichità Egizie di Torino*.

"Lot 2" will involve the re-purposing of some of the rooms on the ground floor (as shown in Figure 1), and areas on the first underground floor (Figure 2) but include only a general design of the rooms and systems (any additional information will made available during the second stage of the design competition) and exclude any setup work. This lot will be subject to the completion of Lot 1 depending on the finances available. In order to ensure unity of style and design, the work planned for Lots 1 and 2 must take place at the same time.

The work will involve the following areas:

Work areas on the GROUND FLOOR (Lot 1 and Lot 2) (see Figure 16)

1) Entrance atrium (on Via Accademia delle Scienze);
2) Former bookshop;

3) Distribution portico (facing the internal courtyard);
4) Internal courtyard;
5) Duse Atrium (which connects the internal courtyard to Via Eleonora Duse);
6) Spazio 0-6;
7) Conference room.

The internal courtyard is a long rectangular shape. A portico runs along one side of the courtyard, on the Via Accademia delle Scienze side.

Currently, the main entrance for visitors is on Via Accademia delle Scienze, through the vaulted atrium, where groups of tourists, scholars and school children arrive, without any distinction made between them.

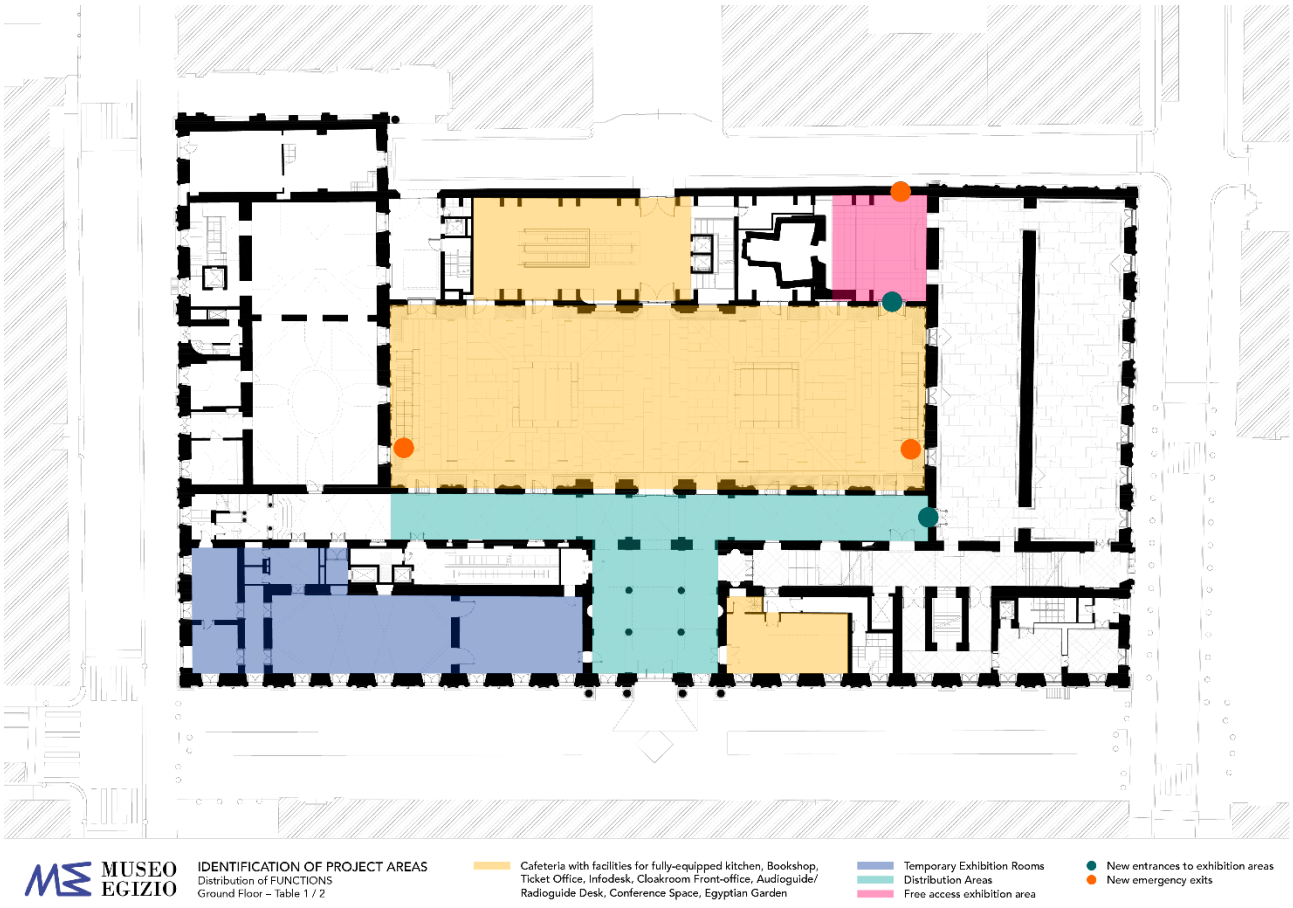

Figure 16 Functional areas of the ground floor, Lots 1 and 2.

The courtyard space is separated from the rest of the ground floor by glass infills in the portico. This is an open-air environment confined within the four wings of the building and

is symmetrical with the transversal route that connects the main entrance to the entrance of the so-called Schiaparelli Wing. Along this axis of symmetry the only obstacles, equally distributed both on the right and on the left, are the two large skylights (640 x 640 x 50h cm approximately) and the two emergency staircases placed adjacent to the two smaller façades.

Figure 17 View of the internal courtyard (current state).

As for the main wing on via Accademia delle Scienze, the internal rooms of the ground floor, which will be reorganised, are currently occupied by various activities including: the former bookshop (often used as a temporary store or temporary teaching room because it has a toilet and double entrance as well as a large mezzanine), the Spazio 0-6 (classroom dedicated to early childhood educational games) and the conference room. These last two rooms, which are included in the Lot 2 design, will be refurbished to host temporary exhibitions.

As for the Schiaparelli Wing, the space involved in the design is currently used for visitors to ascend to the upper floors.

Work area on the FIRST UNDERGROUND FLOOR (Lot 2)

8) Distribution area under the Duse atrium;
9) Existing cloakroom;
10) Existing lower ground floor atrium (including bookshop, ticket office and front office);
11) Teaching rooms;
12) Technical rooms with ventilation systems currently facing the courtyard.

The first underground floor is primarily used to welcome visitors into a large open space lit by the skylights of the courtyard above. The welcome services include: ticket office, bookshop, group audio-guide and radio-guide desk, toilets, cloakroom. There are also two teaching rooms, the cloakroom store and the ticket office and bookshop service areas.

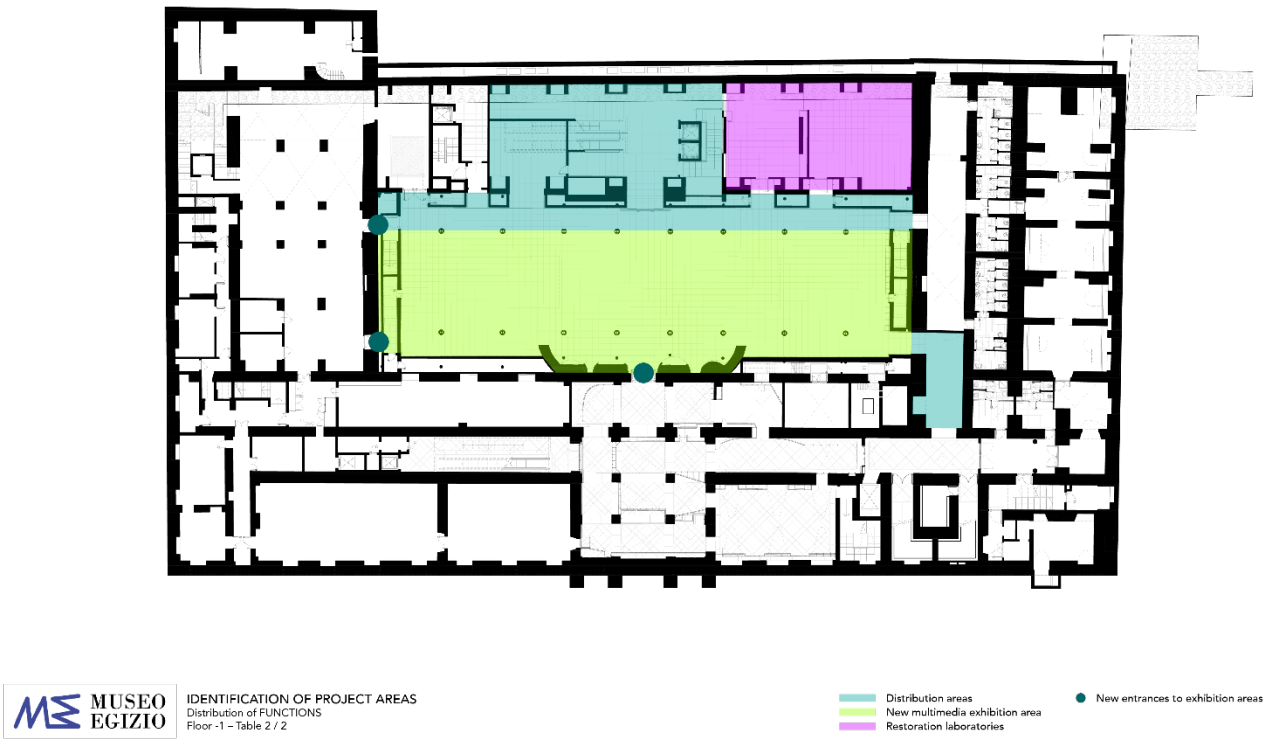

Figure 18 Functional areas of the first ground floor, Lot 2.

5. General comments about the project

The **design objectives** consist of:

- improving the reception of to the *Museo Egizio*, boosting the service provided to the public and citizens;
- returning the courtyard of the *Museo Egizio* to the public as a social area that provides opportunities for dialogue and interaction;
- creating a cultural space that provides free access to the temple of Ellesyia, which will be free to visit on the ground floor;
- extending the surface area of the museum.

Furthermore, roofing the courtyard will allow the usable space on the ground floor to be increased by 26% (+18% compared to the total surface area open to the public).

5.1 Requirements and functions

The plan to re-purpose the spaces of the *Museo Egizio* must include the composition, architecture and technical system aspects of the roof over the courtyard and achieve the general purpose of the work, which is to create and rationalise an integrated system and spaces and services to welcome the public (not only visitors to the *Museo Egizio* but also citizens and tourists, who will be free to move around the new covered space).

These are currently concentrated mainly on the first underground floor and at various points along the museum itinerary, but they occupy spaces that are too small to accommodate the flow of people that the museum can host (e.g. the cafeteria on the first floor with access to Room 7).

The work must however fulfil the various functional requirements, considering the need to operate in a museum environment that will continue to welcome the public, even while the work is being done. Particular attention must be paid to the need to manage visitor flows.

Lot 1

The key element of the work is the internal courtyard for welcoming the public and citizens, which will introduce visitors to the exhibition and will perform some of the functions currently distributed among several different rooms and floors of the building:

- bookshop
- lounge
- info point

- cafeteria (providing a fully-equipped kitched to be used by catering services[1])
- conference space (flexible and multifunctional)

The following must be placed on the same level (ground floor):

- ticket office
- desk and meeting point for guided tours
- audio-guides desk
- cloakroom desk

Lot 2

The first underground floor atrium will be become the start of the museum itinerary. Visitors will cross the underground space, which will be entirely dedicated to exhibition areas (this design stage includes the architectural, structural and system design, excluding the setting up) and then access the existing museum itinerary, with an introduction to the history of the museum followed by a visit to the collections. This space will included the following functions:

- museum spaces
- cloakroom store
- access to toilets
- spaces reserved for museum study and conservation activities

Lot 2 also includes designing the ground floor spaces of the existing conference room and Spazio 0-6.

5.2 Design requirements

Lot 1

As previously said, the main work will involve designing and installing the transparent roof over the internal courtyard of the *Palazzo del Collegio dei Nobili.*

The roof bearing must imperatively start from the string course that divides the ground floor from the first floor, therefore at a height of about 8.50 metres from the ground.

The new environment that will be created must be air-conditioned (the museum rooms are currently calibrated to the following values: temperature 20 °C +/- 2 °C and humidity 55% +/- 5%), to allow continuity with the existing areas of the Museum, and must have energy characteristics that guarantee an intelligent and respectful use of both financial

[1] This area must be fitted with the system connections and provided with appropriate ventilation to ensure it is suitable for preparing and heating food.

and environmental resources. Account must be taken of the existing *Giardino Egizio* [Egyptian Garden], which has tanks with aquatic plants, which could affect the thermohygrometric parameters of the surrounding environment.

Provision must also be made for solutions that mediate between air-conditioned and non-air-conditioned spaces: the first will be at the main entrance to the Museum (the door at number 6, Via Accademia delle Scienze); the second may be a passable curtain wall on the left wing of the portico leading to the staircase of the *Accademia delle Scienze* (which is in fact cold staircase), the third at the entrance to the temple of Ellesyia. In the latter case, there will be two areas, both air-conditioned, but probably having different calibration parameters (the solution may be a window, an air knife, or alternative solutions). Thus, with appropriate system design, the space inside the courtyard will in effect become an integrated environment of the existing 'museum system'.

The covered courtyard will have to be conceived as a large multifunctional space, freely accessible to the public, without needing to buy a ticket, and providing all the dedicated hospitality services.

Visitors will access this area (as they do now) via the door at 6, Via Accademia delle Scienze.

After passing through the entrance hall, the itinerary intersects the large transverse portico that connects the staircase of the *Accademia delle Scienze* with the side entrance of the *Galleria dei Re*. The portico is currently separated from the courtyard by large glazed curtain walls: these will be removed to create a uniform environment with the roofed area.

On the left side of the portico, towards the entrance to the *Accademia delle Scienze*, in order to continue to allow free access to the staircase, the space cannot be occupied by new functions.

Within the covered courtyard area, in addition to the aforementioned functions, visitors will then be able to enjoy the exhibition and nature trail of the "*Open Courtyard: Flora of Ancient Egypt" (Egyptian Garden)*", a permanent installation that gives a suggestion and partly recreates the vegetation of landscaped gardens in Ancient Egypt, part of which was inaugurated on 28 June 2022. The garden occupies the area that currently surrounds one of the two large skylights in the courtyard, with a double row of planted troughs and a row of tanks containing a small water basin for aquatic plants. Any variations suggested by the designer must be shared with the staff of *Fondazione Museo delle Antichità Egizie di Torino.* Note that the existing layout of the *"Open Courtyard: Flora of Ancient Egypt" (Egyptian garden)* is the result of choices made by curators, so the geometries, selection of tree species, structures and volumes must be compatible with the project.

Figure 19 Aerial photo of the *"Open Courtyard: Flora of Ancient Egypt"* project inaugurated on 28 June 2022.

Both skylights will need to be modified by bringing them to ground level.

In addition to the *Giardino Egizio*, the public will have free access to the hall of the Temple of Ellesyia, a gift made by Egypt to Italy in recognition for its help with the rescue of Nubian monuments coordinated by UNESCO in the 1960s; a monument that was entrusted to the Egyptian Museum, where it is still kept.

As it was a donation to the community, it will be usable by all and therefore excluded from the paid museum tour. Entry to and exit from the temple will take place from the covered courtyard. An emergency exit will then be created in the wall along via Eleonora Duse.

From the courtyard, visitors will enter the Schiaparelli Wing, the ground floor of which will be used for some of the activities indicated above and from which visitors will descend to the first underground floor.

Cleaning of external façades

In addition to the design work for the roof, a plan to clean the internal façades of the *Palazzo del Collegio dei Nobili* must be drawn up.

Lot 2

On the first underground floor, visitors will enter the large room (currently occupied by the main reception services of the Museum), which will be transformed into the first visiting area (to be used for multimedia, immersive and interactive installations as part of one of the plans to celebrate the bicentenary of the foundation of the museum).

Entering via the wall on the right, currently occupied by the ticket office, visitors will access the new museum rooms that will be opened in 2023.

Entering on the left will provide access to other services, including some reserved for visitors, such as the cloakroom and toilets, and others reserved for museum study and conservation activities. The plan is in fact to allocate the existing classrooms to the analysis, restoration and photography laboratories.

From this space access will then be gained to the existing tour route.

The features of this space must be consistent with the areas spaces resulting from the construction of the roof, preparing the environment for the installation of the immersive multimedia systems that are planned for this space. The finish and materials must give visitors the impression that they are within the same architectural structure.

The environment intended for this immersive experience must be separated from the circulation spaces that must be maintained on the underground floor (as shown in the attached plans). In fact, part of the space will continue to be dedicated to the other functions (toilets, laboratories, and tour routes), to allow visitors to freely use the spaces.

This lot also includes the refurbishment of the rooms currently used for Spazio 0-6 and the conference room. These environments will be refurbished as temporary exhibition space.

5.3 Systems, structures and safety

The current system structure

The building that houses the *Museo Egizio*, located in the north and east arms of the building, is served by a series of systems shared with the *Accademia delle Scienze*, which occupies the southern portion.
In particular, the following systems exist to produce and distribute fluids serving both users:

- gas heating plant located on the roof of the building in the *Museo Egizio* area;

- central heating system with geothermal heat pump located below the central courtyard;
- fire-fighting pressurisation unit for hydrants/hose reels, located in the basement of the *Museo Egizio*;
- fire-fighting pressurisation unit for sprinkler system, located in the basement of the *Accademia delle Scienze*;

Due to the mixed use of these systems, which are of significant importance for the safe management of the *Collegio dei Nobili*, and as recommended by the fire brigade, the system design must be unitary.

Relationship between new additions and pre-existing systems

Area intended for systems: the integrated design of the systems is of particular importance. The design will therefore ensure the identification, correct sizing, and preparation of the machine room for the air conditioning systems of the new environments. The rooms of the museum that could be used for this purpose are located on the second underground floor or on the attic floor, but more specific information will be provided at a more advanced stage of the design.

Mechanical systems

The roof of the internal courtyard of the museum must be built taking into account the constraints imposed by the existing plants, systems and equipment already present at the site.

When designing the new systems, the following interferences with existing systems must therefore be taken into account:

- presence of external air intake grilles for air conditioning systems;
- presence of air expulsion grilles for air conditioning systems;
- presence of air expulsion grilles for air from the toilets;
- presence of a smoke and heat extraction system expulsion grille;
- presence of condensing units serving autonomous cooling systems for technological rooms;
- presence of access cavity to underground technical rooms;
- presence of rainwater drain grilles.

The grilles placed on the floor of the internal courtyard must be kept free to ensure access to and ventilation for the emergency systems located in the basement, both in the museum and the academy.

The new roof of the internal courtyard must allow the installation of scaffolding or equivalent systems to ensure access to and maintenance of the technical façade elements (downpipes, guttering or windows).

Electrical and special systems - data transmission

- The available power from the MV/LV transformer substation owned by the existing system must be checked;
- the rooms must be classified in accordance with the current technical regulations;
- the electrical systems will be perfectly integrated into the existing plant structure, using the same distribution and management structure, while adding any new content to allow the ongoing technological evolution serving the museum's exhibits and their enjoyment and dissemination;
- the electrical systems will be designed by architectural zone and protections provided for the respective circuits, they will be aesthetically non-invasive and integrated into the architectural solutions;
- the energy distribution system must ensure maintainability and access to existing and newly laid systems;
- energy efficiency, resource saving and distribution flexibility necessary to meet future museum needs are essential design requirements, as is a guarantee that performance standards will be maintained and existing emergency power systems (generator and uninterruptible power supplies) can be managed;
- the feasibility of systems to generate electricity from renewable sources must be considered;
- special systems must be designed with open systems that use standard protocols and can be interfaced with the museum's existing systems. The new space must be equipped with the following special systems as a minimum:
    1) videosurveillance (CCTV);
    2) sound evacuation;
    3) manual and automatic fire detection;
    4) emergency and security lighting;
    5) fixed and Wi-Fi LAN network systems;
    6) audio/video systems for events, all with technology that is compatible and can be integrated with the systems currently in use in the museum.

The museum's Control Room will take over the management and control of all newly installed electrical and special systems serving the project area, with easy integration of the same within the existing monitoring systems.

Noise generated by the systems

The mechanical systems must comply with industry regulations on noise emitted in outdoor areas and on noise transmitted inside the rooms.

The following are required:

- forecast assessment of acoustic impact;
- assessment of the noise generated in the environment.

Acoustic correction of environments

An acoustic comfort for enclosed spaces is required and the acoustic requirements for the fire alarm detection and signalling (EVAC) systems must be assessed.

Maintaining the museum open to the public in conjunction with the construction site

- As the public must be able to visit the museum for the entire duration of the construction work, constant and continuous usability of the escape routes from the courtyard must be ensured, in terms of both the spaces and the construction schedule (e.g.: new escape route from the temple of Ellesyia as a temporary replacement for any other made unusable by the construction site, without significant modification of the overall capacity of the museum).
- Access to the construction site area must be gained as a priority via the passage from the so-called “lowering shaft”, evaluating the space and load restrictions and in any case guaranteeing its use by the museum for everyday activities.
- The new covered courtyard and the areas involved in the work must be equipped to allow the organisation of events, both as a primary use for some of them (e.g.: DJ sets in the courtyard) and to support others (dinners in the Galleria dei Re) when service areas are set up in the courtyard. Any technical needs that other spaces may have must be taken into consideration (e.g.: the new underground floor restoration laboratories).

General information on construction site fire prevention in a historic building

The conditions set out above require careful planning of the construction site. This means that, in addition to the usual safety aspects, due attention must also be paid to planning occupation of the areas in a way that guarantees the continued availability of access and exit routes pertaining to the activity, the installation of physical separations of the construction site areas which at the same time guarantee protection from dust, noise and compartmentalisation in the event of fire, independent access to the construction site, limited and scheduled material supplies, forbidding the use of open flames or hot work, forbidding the storage of flammable materials on site, etc.

The design of the construction site must also be adapted to the needs arising from the emergency work being carried out in the *Collegio dei Nobili*, which is expected to continue throughout the construction site stage of the work.

Fire prevention plan

For fire prevention purposes, both the *Museo Egizio* and the *Accademia delle Scienze*, and their coexistence in the same building, involve activities that are subject to the fire prevention controls referred to in Annex I of Presidential Decree 151/2011, which have been the subject of numerous fire prevention survey reports by the Provincial Fire Brigade of Turin and which are the responsibility of the individual owners.

The activities have a rather complex prior authorisation process, partly due to the presence of shared evacuation routes, systems and structures that require a joint assessment between the two owners of the effects on the various activities as a consequence of the works included in the project, in relation to the situation as currently authorised.

It is important to point out that, being an *open air space*, the internal courtyard is a *dynamic safe place* and is therefore a key element in the current escape system from the *Museo Egizio* and *Accademia delle Scienze*. Moreover it provides access for fire fighting vehicles to the building, as well as being a space where ventilation systems and accesses to the various rooms and museum spaces on the underground floors converge.

The main points that are worth bearing in mind when drawing up the fire prevention plan for the courtyard as a whole and reorganising the museum spaces can be summarised as follows:

- Changes to the escape system: installing a roof over the internal courtyard will be a significant change and increase the level of risk, which requires the escape system of the entire complex to be reviewed.
- Presence of pre-existing systems: the roofing of the courtyard requires careful checks to be carried out on the existing system equipment, particularly the ventilation systems and accesses that currently converge on the open courtyard.
- Evacuation and disposal of smoke and heat: as it is currently an open air space, the internal courtyard also allows the evacuation and disposal of smoke and heat, so careful attention must be paid to its modification.
- Skylights to 1st underground floor: within the internal courtyard there are two glazed skylights, the function and construction features of which must be checked.
- Lowering shaft: this a multi-storey shaft used exclusively by internal staff to handle materials between the ground and underground floors.
- Accessibility for fire fighting vehicles: along the ‘Schiaparelli Wing’ there are vehicle entry doors allowing access to the internal courtyard by fire fighting vehicles coming from Via E. Duse.
- Authorisation procedures: both for the transitional stages of the construction site (which may include partial occupations and deliveries of the premises/areas) and

the final stage, authorization procedures are deemed to be necessary in order to allow the activities of the *Museo Egizio* and *Accademia delle Scienze* to take place in full compliance with the current fire prevention regulation (DPR 151/2011).

Guideline requirements for the fire prevention system design:

The main activity that is the subject of the work falls within the following category pursuant to Presidential Decree 151/2011:

"**Activity 72.1.C**: Protected buildings pursuant to Legislative Decree no. 42 of 22 January 2004, intended to contain libraries and archives, museums, galleries, exhibitions and shows, [...]"

Design guidelines:

The safety management systems, as well as the existing and necessarily integrated systems, must be interfaced with those of the *Accademia delle Scienze* in order to ensure unitary management of the museum complex.

- **Modification of the skylights** considering the compartmentalisation needs between the lower underground and underground floors.
- **Removal of all grilles, including the ones serving the technical premises of the *Accademia delle Scienze***, on the floor of the courtyard and used to evacuate smoke: compensate with alternative systems or by repositioning the premises to fulfil the new system requirements. The design must also consider that the compensatory measures require an evaluation by the fire authority, which has the authority to grant a waiver.
- **Passageways** to the courtyard must be free of doors and windows to allow direct access to the emergency exits on the external perimeter of the building (with a new emergency exit being provided for the Temple of Ellesyia room).
- Provision for **smoke evacuators** on the roof and **air stream vents** on the ground floor:
    - Total openable area of the NSHEVS = 10 m2, evenly distributed across the roof;
    - Natural air stream on the ground floor through three doors used as exits. The net open area is 21.1 square metres.
- Construction materials: R15 fire resistance class for the roof structure.
- The new exhibition areas will comply with the fire load limits set out in the fire prevention plan, which are 10-15 KgLS/sq.m.
- The windows that overlook the courtyard and fall below the bearing line of the roof are to be considered non-opening and the glass must have a minimum fire resistance class of EI30.

- The new furnishings that will be installed on the underground floor and the central courtyard must comply with the fire prevention plan requirements (attached), in particular:
    - In the lobbies, corridors, ramps, passages in general and escape routes, if installed, the use of FR Class 1 materials on a maximum of 50% of the total surface area (floor + walls + ceilings + horizontal projection of the stairs) and FR Class 0 on the remaining 50%.
    - Any new curtains will be RF Class 1.
    - The seats will be class 1 IM.
    - The materials mentioned above will be installed adhering to the non-combustible construction elements or by filling the cavities with non-combustible material.
    - The false ceiling will be made with Class 0 - 1/1 materials, considering the actual conditions of use and the potential sources of ignition.
    - Furthermore, it is recommended to distribute the furniture or sets of furniture at a of 1.5 m from each other, in order to limit the spread of a potential fire within the rooms.

The proposed design solution must be supported by documentation showing the consistency between the design and the existing fire prevention system, where necessary supporting the solution with a performance approach as shown in the NOF [*nulla osta di fattibilità* - preliminary feasibility authorisation] (note however that the "lowering shaft" area must remain a place intended for the museum's logistical operations, including the handling of finds, loading/unloading for the bookshop and other suppliers, access for external workers, etc.). Any identification of this area as an additional emergency exit must be carefully evaluated, proposing a mixed use of the space (current functions and escape route).

Reference should be made in this respect to the attached NOF and the opinion issued by the fire authority of Turin.

Description of the current structure

Existing structures

The *Palazzo del Collegio dei Nobili* is a historic seventeenth-century building whose current structure is the result of multiple and varied interventions over the centuries.

Most recently, the *Museo delle Antichità Egizie di Torino* [Museum of Egyptian Antiquities] underwent significant Refurbishment, restoration, expansion and safety work between 2011 and 2015.

As regards the roof to be built over the internal courtyard, the following should be noted:

- The structures that constitute the current courtyard floor and the underlying underground floors (2 underground floors and the underlying cold tank), were built during the aforementioned refurbishment work carried out between 2011 and 2015.
- The aforementioned underground structures, in terms of the foundation and elevation structures, as well as the horizontals, were generally made of reinforced concrete, with the exception of several steel pillars.
- The façades around the courtyard are wall structures that are part of the historic building and were built at different times.

With regard to the construction of the new opening between the room in which the Temple of Ellesyia is housed and the public highway on Via Eleonora Duse, the following should be noted in particular:

- this new opening will be created in the historic masonry of the New Arm (known as the Schiaparelli Wing), which was originally built in 1880s.

Structural requirements

The design of the roof structure must integrate with the historical context in which it is installed, so particular attention must be paid to its attachment to the historical structure, given the specifications established by the *Soprintendenza* and stated in the "**Design requirements**" section.

Furthermore, the roof structure must necessarily take into account the loads due to adverse and unexpected weather events and precipitation (such as heavy snowfalls, cloudbursts, strong wind).

Interferences

The structural proposal must ensure that attention is paid to the interferences with the other aspects of the design and construction (safety, fire prevention, plant engineering, maintenance of the museum's operation, etc.) and integration is ensured, for details, please refer to the specific relevant paragraphs.

Technical and regulatory requirements for structural design

The design must comply with the technical standards in force that regulate buildings and the prevention of seismic risk. The main regulatory references are listed below (non-exhaustive list):

- Ministerial Decree of 17 January 2018 - Update of the "Technical Standards for Construction".
- CIRCULAR no. 7 of 21 January 2019, High Council for Public Works - Instructions for applying the Update of the "Technical Standards for Construction" referred to in the ministerial decree of 17 January 2018.

Any forms of structural interconnection between the new roof and the existing building must be carefully evaluated according to regulatory requirements and verified considering the effects of these interactions with the behaviour of the existing structures.

Archive documentation

Extensive documentation has been found regarding the Declaration of reinforced concrete works no. 2012-18-2627 filed with the building archive of the City of Turin, relating to the "Refurbishment, restoration, expansion and safety measures of the *Museo delle Antichità Egizie di Torino*", carried out between 2011 and 2015. This documentation will be made available at the second stage of the design competition.

Investigation campaign

An examination of the historic walls located in the work areas that are deemed most significant is currently under way.

The respective documentation will be made available at the second stage of the design competition.

Maintainability requirements

The work must take into account the ordinary and extraordinary maintenance of the newly built architectural structure and the existing building.

Design requirements

The *Soprintendenza Archeologia Belle Arti e Paesaggio per la Città Metropolitana di Torino* [Archaeology, Fine Arts and Landscape Authority of Turin] has carried out a pre-assessment of the choices made, pointing out that the internal courtyard is among the spaces required to welcome the public and manage the significant flow of visitors to the museum.

The preliminary considerations of the *Soprintendenza* to be followed as guidelines for the design work are as follows:

- the courtyard must be interpreted as an "outdoor" space, different and separate from the hallways, choosing finishes that help with this interpretation, maintaining the formal balance of the building consisting of arms arranged around the courtyard;
- the courtyard roof must ensure maximum transparency; the structural components must be designed, if necessary using advanced technologies, in such a way as to reduce their size and perception; the structural construction must be as independent as possible of the load-bearing walls of the building, avoiding and/or minimising the need for brackets or other forms of structural interconnection;

- the design of the roof must take adequate account of the construction stages of the buildings distributed around the courtyard, analysing their main formal characteristics (potentially a unitary thread for the bearing and the ridge or, alternatively, different dimensions considered appropriate, potential rhythms in the pillars or in the windows etc ...) and carefully evaluating the interference between the existing façades and the new structure, both in terms of materials (possible connections to historical structures, pins, pillars, water collection systems, etc ...) and in terms of use (obscuring of decorative elements, new structural rhythms, etc.); all with a view to ensuring maximum continuity of the elevations of the existing building and creating a new building whose main compositional and material characteristics interact and are compatible with the historic façades of the courtyard.
- any potential closure of the access portico to the staircase of the *Accademia delle Scienze* must be preceded by an accurate and documented study of the historical phases characterising this part of the building (including the portico towards the *Galleria dei Re*, symmetrical with respect to the axis of the courtyard), to be implemented possibly also through a campaign of stratigraphic tests to verify the structures prior to the current one;
- similarly, the new opening between the room where the Temple of Ellesyia is kept (ground floor) and via Duse must be investigated by analysing the historical documentation and carrying out appropriate stratigraphic tests on site to better clarify the potential existence of previous openings. The intervention must be preceded by the necessary static checks.
- with regard to the proposal to modify at least one of the skylights in the courtyard, between level 0 and level -1, a symmetrical appearance of the courtyard is required, either removing or retaining both skylights, which are the result of the latest refurbishment of the complex.
- Furthermore, in addition to the opinion of the *Soprintendenza Archeologia Belle Arti e Paesaggio per la Città Metropolitana di Torino*, the requirements of the Board of the ***Accademia delle Scienze*** must also be considered binding.

This opinion indicates that the transparent roof must not exceed, in any of its dimensions, a level that may be deleterious, whether physically, visually or otherwise, to the enjoyment of the windows that provide a view of the courtyard of the *Sala dei Mappamondi.* A further condition for final approval will be the definition, to be agreed in the design stage, of an adequate space in the covered courtyard to be assigned to the *Accademia delle Scienze* to spread knowledge of the role played in the history of the *Museo Egizio*.

5.4 Legal requirements relating to the project site

The building is situated in the historic central urban area; within this area, the work is intended to protect the architecture and the environment through a correct understanding of historical values, urban transformations and the events that have shaped the city over time.

The historic central urban area identified by the Plan is classified as an "urban settlement having a historical-artistic and environmental character" pursuant to and for the purposes of article 24 of the Regional Urban Planning Law (paragraph 1(1)); this area is classified as category A according to Ministerial Decree no. 1444 of 02/04/1968 and a recovery area pursuant to and for the purposes of article 27 *et seq*. of Law no, 457 of 05/08/1978.

Figure 20 Extract from the municipal master plan of the Municipality of Turin, in which the entire courtyard of the *Palazzo del Collegio dei Nobili* is defined as a private courtyard and garden space distinguished by a prestigious architectural design.

In addition to the urban planning restrictions that relate to use of the area, the property is subject to:

- *Legislative Decree no. 42 of 22/01/2004, as amended and supplemented.*

The recovery and rearrangement of the complex, considering its historical and

architectural value, must take into due consideration the monument, which is covered by Legislative Decree 42/2004, providing for a careful historical, archival, documentary analysis, including a diagnostic investigation, based on chemical-physical analyses to identify the material compositions not only of the structure but above all of the wall systems, mortars, joint styling, cornices, friezes and pilasters, decorations and frescoes, which must be not be hidden by fittings or systems in the design and must "communicate" with the container, but not overlap with or cancel it out.

- *Legislative Decree no. 626 of 19/09/1994, as amended and supplemented;*
- *Presidential Decree no. 222 of 03/07/2003;*
- *Presidential Decree no. 34 of 25/01/2000;*
- *Environmental impact:*

The project in question is not included among those referred to in Regional Law no. 40 of 14/12/1998 and annexes III and IV, Part 2, Legislative Decree 152/2006. Therefore, there is no need to carry out an environmental impact assessment for it to be included among the specifications for the design stage.

Climate zone

The climate zone for the external conditions of the Municipality of Turin (altitude 239 m a.s.l.) can be classified, pursuant to Presidential Decree 412 of 26 August 1993, as zone E, with an annual day degrees value of 2,617, external winter temperature of -5 °C with 76% RH, summer dry bulb temperature of 33 °C with 50% RH, and a conventional heating period of 183 days.

Degree of seismicity

The project is located in an area falling within seismic zone 3 according to Regional Degree no. 6 –887 of 30.12.2019.

General technical standards

The project design must be drawn up in compliance with current legislation on public works with the following laws and regulations in particular:

- Legislative Decree 50/2016 - Public works code, as amended and supplemented.
- Presidential Decree no. 207 of 05/10/2010 - Regulation executing and implementing Legislative Decree no. 163 of 12 April 2006, containing the "Code for public contracts relating to works, services and supplies, implementing directives 2004/17/EC and 2004/18/EC", insofar as it is not repealed by the ANAC guidelines and the Ministry of Infrastructure and Transport decrees implementing Legislative Decree no. 50 of 2016.

- Ministerial Decree 10/05/2001 - Guidelines on the technical-scientific criteria and the operating and development standards of Museums.
- Ministerial Decree no. 154 of 22/08/2017 – Regulation of public contracts regarding cultural heritage protected pursuant to Legislative Decree 42/2004, as referred to in Legislative Decree no. 50 of 2016.

Worker safety

Consideration must be given to the potential need for particular safety measures as per Legislative Decree 81/2008, which may affect the financial assessment of the work and which must necessarily be determined based on a specific metric calculation of safety costs.

5.5 Design stages

The design stages, pursuant to article 23, paragraphs 6, 7, 8, of Legislative Decree 50/2016, are:

a) technical and financial feasibility report;
b) final design;
c) executive design;

Specifically, the designer is required to produce the following documentation to deliver the design according to the three design levels, pursuant to articles 17, 24, 33 of Presidential Decree no. 207/2010.

For the technical and financial feasibility report:

a) explanatory report;
b) technical report;
c) environmental pre-feasibility study;
d) studies needed to ensure adequate knowledge of the context in which the work is taking place, accompanied by bibliographic data, preliminary checks and investigations - such as historical, archaeological, environmental, topographic, geological, hydrological, hydraulic, geotechnical and interference data and related reports and graphic drawings - intended to achieve a complete characterisation of the territory and in particular of the areas involved;
e) general plan and drawings;
f) initial indications and measurements intended to protect the health and safety of the workplace for the drafting of safety plans;
g) summary calculation of expenditure;
h) financial framework of the project;

i) preliminary parcel plan of the areas or general survey of the buildings.

For the final design:

a) general report;
b) technical reports and specialist reports;
c) planimetric surveys and detailed study of urban insertion;
d) drawings;
e) environmental impact study where required by current regulations or environmental feasibility study;
f) calculations of structures and systems;
g) descriptive and performance specification of the technical elements;
h) census and project for resolving interference;
i) list of unit prices and any analyses;
j) bill of quantities;
k) update of the document containing the first indications and provisions for the drafting of safety plans;
l) financial framework with an indication of the safety costs inferred on the basis of the document referred to in letter n).

For the executive design:

a) general report;
b) specialist reports;
c) drawings including those of the structures, plants and environmental restoration and improvement;
d) executive calculations of structures and systems;
e) maintenance plan of the work and its parts;
f) safety and coordination plan referred to in Article 100 of Legislative Decree no. 81 of 9 April 2008, and labour incidence table;
g) bill of quantities and detail of expenses;
h) time schedule;
i) list of unit prices and any analyses;
j) draft contract and special tender specifications.

The following activities may also be contracted out:

- construction management and assistance with testing, measurement and accounting of works, safety coordination,

and the following ancillary services:

- checking of the plano-volumetric survey,
- photographic and stratigraphic surveys,

- surveys of artefacts and static survey,
- fire prevention formalities,
- land registry formalities

It should also be noted that all the design stages, as well as the direction of the works, will be subject to supervision by the *Soprintendenza Archeologia Belle Arti e Paesaggio*, which may also consider the merits of the methodological and operational choices, so as to ensure that the work, the systems, the application of the regulations in general are not in conflict with the architectural value of the monumental complex.

Note also that the contractor will be required to submit the design to constant review by the *Fondazione Museo delle Antichità Egizie*, agreeing on a programme of intermediate validations of the individual design stages.

5.6 Opinions, clearances, authorisations and approvals

The design for the work must be submitted to the following bodies, who are entitled to express their view of the work in question, in order to obtain all the opinions, clearances, authorisations and approvals, however named:

- *Soprintendenza Archeologia Belle Arti e Paesaggio per la Città Metropolitana di Torino* (which has already expressed a prior opinion on the basis of the design requirements framework);
- *Agenzia del Demanio* [State Property Agency];
- *Accademia delle Scienze di Torino*
- Municipality of Turin
- *Comando Provinciale dei Vigili del Fuoco di Torino* [provincial command of the fire brigade of Turin]
- ASL [local health trust]

Given the specific nature of the work and the number of entities concerned, and considering the need to sound opinions of the general preliminary design in a short space of time, it is considered appropriate, in order to verify the conditions for obtaining the aforementioned opinions, subject to any subsequent decisions which the *Fondazione Museo delle Antichità Egizie di Torino* reserves the right to evaluate, to convene a Conference of Services, pursuant to article 14-bis of law 241/1990, as amended.

5.7 Financial limits to be respected and preliminary cost estimate

Financial and Technical Framework

FINANCIAL FRAMEWORK			
a)	**Works covered by the tender**		
a.1)	Works (including the supply of materials, machinery, etc.)		€ 7,699,000
	Restoration and cleaning of internal façades		€ 1,200,000
	*Total works **Lot 1***		*€ 8,899,000*
a.2)	Safety charges (not subject to discount)	5% (of a.1)	€ 384,950
	Safety charges (not subject to discount) for restoration and cleaning of internal façades	5% (of a.1)	€ 60,000
	*Total safety charges **Lot 1***		*€ 444,950*
a.3)	Total works and charges **Lot 1** (a.1 + a.2)		€ 9,343,950
a.4)	Total for **Lot 2** works (without financial cover)		€ 2,371,429
a.4)bis	Safety charges for **Lot 2** (not subject to discount)	5% (of a.4)	€ 118,571
a.4)ter	Total works and charges **Lot 2** (a.4 + a.4bis)		€ 2,490,000
a.5)	Total for **Lot 1** and **Lot 2** works and charges		€ 11,833,950
b)	**Supply and installation of furnishings and accessories**		
b.1)	Furnishings and accessories		€ 517,300
b.2)	Safety charges (not subject to discount)	5% (of b.1)	€ 25,865
b.3)	Total supply and charges (b.1 + b.2)		€ 543,164
c)	**Total contract amount**		
c.1)	Total for works, supply and related charges (a.3 + b.3)		€ 9,887,114
d)	**Amounts available to the contracting authority**		
d.1)	Surveys, assessments and investigations (ancillary services)	0.75%	€ 88,856
d.2)	Connections to public services and urbanisation works, administrative construction costs		€ 45,000
d.3)	Unforeseen costs (on c.1)	10%	€ 988,711
d.4)	Purchase of areas or properties		€ 0
d.5)	Provision pursuant to article 29 of Decree Law no. 4 of 27/01/2022		€ 0

d.6)	Technical design expenses (TECHNICAL AND FINANCIAL FEASIBILITY PLAN) **Lot 1** and **Lot 2**	1%	€ 143,443
	Technical design expenses (FINAL-EXECUTIVE) **Lot 1** and **Lot 2**	7%	€ 809,855
	Total technical design expenses	8%	€ 953,298
d.6.1)	Technical expenses for D.L. and safety pursuant to Legislative Decree 81/2008	4-5%	€ 494,356
d.6.2)	Incentive fund pursuant to article 113, paragraph 2, of Legislative Decree 50/2016		€ 186,879
d.7)	Consultancy and other expenses		€ 282,196
d.8)	Expenses for advertising, tendering, commissions, etc.		€ 200,000
d.9)	Testing	0.10%	€ 125,118
d.10)	VAT		
	VAT on works	22%	€ 1,778,469
	VAT on restoration of internal façades	10%	€ 126,000
	VAT on furniture supply	22%	€ 119,496
	VAT on surveys, assessments and investigations (ancillary services)	22%	€ 19,548
	VAT on connections to public services and urbanisation works, administrative construction costs	22%	€ 9,900
	VAT on unexpected costs	22%	€ 217,517
	VAT on technical design expenses	22%	€ 209,725
	VAT on technical expenses for D.L. and safety pursuant to Legislative Decree 81/2008	22%	€ 108,758
	VAT on incentive fund pursuant to article 113, paragraph 2, of Legislative Decree 50/2016	22%	€ 41,113
	VAT on consultancy and other expenses	22%	€ 62,083
	VAT on expenses for advertising, tendering, commissions, etc.	22%	€ 44,000
	VAT on testing	22%	€ 27,526
	TOTAL VAT		€ 2,764,136
Total costs for design (Lot 1 and Lot 2) and implementation (Lot 1)			**€ 16,015,664**

6. Summary document

Essential design indications for construction of the courtyard roof

- **Celebrations of the bicentenary of the *Museo Egizio***. 2024 is a very important date for the Foundation and the *Museo Egizio* as it marks the 200th anniversary of its foundation and the arrival of the collection at the *Palazzo del Collegio dei Nobili.* The event is set for 6 October 2024, the day on which Curto celebrated the 150th anniversary.
- **Museum Projects 2024.** The plan to roof the internal courtyard of the *Palazzo del Collegio dei Nobili* and to refurbish the museum spaces on the ground floor and the first underground floor is part of a broader design plan:
    - To refit and allow free use of hall of the temple of Ellesyia on the ground floor;
    - To refit the *Galleria dei Re* on the ground floor;
    - To set up a permanent exhibition space on the first underground floor, dedicated to scientific research and analyses carried out on the collection, drawing inspiration from several recent projects including the Bordless Team Lab in Tokyo (https://borderless.teamlab.art/) or the *Meet di Milano* (https://www.meetcenter.it/it/home-page/); this new 'digital' section of the Museum will enliven the scientific research and allow people to experience it through immersive and interactive displays.
    - To expand the *Giardino Egizio* on the Roof Garden terrace (Schiaparelli Wing).
- All four of these projects will be independent both financially and in terms of design. However, the design work for Lot 1 and Lot 2 will need to take into account this general context of transformation of the Museum's spaces.
- **Public gathering place**. The court will be configured as a new urban public space allowing free access and free use by citizens and visitors. (conceptually a covered square although the work will not change the intended use of the space).
- **Implementation of reception services** and public spaces. The court will be transformed into a space dedicated to the major reception services for the public and citizens. This new public space will offer anyone who wants to enjoy it a new cultural experience in a renewed architectural context.
- **Expansion of the museum space**. The courtyard roof will increase the museum space, enhancing visits to the current exhibition itinerary.
- Integration of the ***Giardino Egizio*** within the architectural context. With the installation of the roof, the *Giardino Egizio* will also be redesigned within the new and transformed architectural context.

- Allowing free access to the **Temple of Ellesyia**. As a public asset, the Hall of the Temple of Ellesyia will be freely accessible from the courtyard, becoming independent from the museum itinerary and a separate exhibition nucleus.
- Opening of a further **escape route** from the Hall of the Temple of Ellesyia onto Via Duse. In order to reduce the impact of the transformation of the courtyard into an enclosed place on the crowding index, a new exit path through the historic masonry overlooking Via Duse, symmetrical to the existing exit through the lowering shaft, is considered necessary.
- Maximum **transparency and lightness** of the structure and materials. The roof must have these characteristics in order to integrate with the existing historical structure. The design may include a partial blackout system to filter the sunlight entering the environment at certain times of the day. Furthermore, the structure and composition must take into account the spans of the façades, the architectural design and the historical stratification of the building construction. Its height will be limited to that of the existing elements of the façades: its vertical height will be contained between the line of the string course and the lower line of the windows on the first floor.
- **Minimising the impact of the roof structure** on the existing structure. It is therefore preferable to limit the anchoring of the new structure to the existing historic walls as much as possible.
- Maintaining the **symmetry** of the courtyard. Furthermore, the existing skylights will both be brought to floor level.
- **Environmental sustainability**. The work will aim to minimise the energy impact of air conditioning and heating with innovative technological solutions, possibly favouring passive air conditioning solutions.
- **Maintainability of the roof**. The architectural structure must be easily maintained and allow an equally agile maintenance of the existing architectural complex.
- **Management of project stages**. Given the complexity of the work, the technical-economic, final and executive feasibility plans will be divided into two lots. “Lot 1” will include the roofing of the courtyard and rearrangement of spaces on the ground floor, including architectural, structural and system design aspects. Depending on the finances available to the *Fondazione Museo delle Antichità Egizie di Torino*, Lot 1 will have full financial cover. “Lot 2” of the project will consist of the refurbishment of the rooms on the first underground floor and some spaces on the ground floor. This lot will be subject to the completion of Lot 1 depending on the finances available. In order to guarantee the unity of the project, the design will be produced simultaneously for Lot 1 and Lot 2.