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# Masjed-e Jāme' of Isfahan (Iran) No 1397

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## Official name as proposed by the State Party

Masjed-e Jāme' of Isfahan

## Location

City of Isfahan  
Isfahan Province  
Islamic Republic of Iran

## Brief description

Masjed-e Jāme' is the oldest Friday (congregational) mosque in Iran, located in the historical centre of Isfahan. The monument illustrates a sequence of architectural construction and decorative styles of different periods in Iranian Islamic architecture, covering 12 centuries, most predominantly the Abbasid, Buyid, Seljuq, Ilkhanid, Muzaffarid, Timurid and Safavid eras. Following its Seljuq expansion and the characteristic introduction of the four iwans (*Chahar Ayyān*) around the courtyard as well as two extraordinary domes, the mosque became the prototype of a distinctive Islamic architectural style.

## Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *monument*.

## 1 Basic data

### Included in the Tentative List

22 June 1997

### International Assistance from the World Heritage Fund for preparing the Nomination

None

### Date received by the World Heritage Centre

31 January 2011

## Background

This is a new nomination.

## Consultations

ICOMOS has consulted several independent experts.

## Literature consulted (selection)

Finster, B., *Frühe iranische Moscheen: vom Beginn des Islam bis zur Zeit Salğūqischer Herrschaft*, Berlin, D. Reimer, 1994.

Galdieri, E., *Isfahān: Masjid-I Gum'a*, Rome, IsMEO, 1972.

Grabar, O., The Islamic dome, some considerations, in *Journal of the Society of Architectural Historians*, vol. 22, 4 (Dec.), p.191-198, 1963.

Grabar, O., *The great mosque of Isfahan*, London, Tauris, 1990.

Ozdural, A., A mathematical sonata for architecture: Omar Khayyam and the Friday Mosque of Isfahan, in *Technology and Culture*, vol. 39, 4, p. 699-715, 1998.

## Technical Evaluation Mission

An ICOMOS technical evaluation mission visited the property from 8 to 13 September 2011.

## Additional information requested and received from the State Party

ICOMOS sent letters to the State Party on 9 September and 14 December 2011. In these it requested additional information with regard to the historical development of the mosque, the justification and comparative analysis related to criteria (ii), (iv) and (vi), the development of the Meydan-e Atiq project, the management framework, and the established monitoring procedures. The State Party responded by letter of 21 October 2011 and of 25 February 2012 and provided additional information in response to all queries. This information is included under the relevant sections below.

## Date of ICOMOS approval of this report

14 March 2012

## 2 The property

### Description

Located in the historic centre of Isfahan, the Masjed-e Jāme' (Friday or congregational mosque) is the centrepiece of Islamic religious life in the city. Organically integrated in the urban fabric, the 20,756 square metre mosque can be accessed through ten portals, two of which are closed at present, many directly from the labyrinthine covered bazaar. In its current condition, the Masjed-e Jāme' is a composite of a variety of Iranian Islamic styles of construction and decoration and has even been referred to as a "museum of mosque architecture". The mosque is surrounded by a buffer zone of approximately 18 hectares.

Upon entering the mosque, the dominant space of the monument is its *sahn* (courtyard) of 60m by 70m, with the impressive four iwans (vaulted halls opening into the courtyard) situated in all the cardinal directions. Two water basins are the only free-standing architectural elements in this rectangular space, one a square basin with a platform standing on four columns in the centre of the courtyard, and the other a polygonal basin on its northern side.

The north-south axis of the mosque indicates the *qiblah* (prayer direction) and emphasizes the southern iwan and the *maqsura* (a space in the centre of the *qiblah* wall). The *maqsura*, at the southernmost centre of the mosque, is the location of the Nezam al-Molk dome, the first dome of the mosque. It was built on the orders of the Seljuq ruler

Malek Shah and initiated and supervised by his minister Nezam al-Molk, who gave his name to it. Built on the square-shaped ground plan of the *maqsura* hall at 11.5m from the ground, an intermediate polygonal independent section 6.37m high provided a circular base for the dome, which was constructed with a diameter of 15m. This first example of a gradual transition section, which converted the square to an octagon on the first level, then to a 16-sided plan, which then provided the base for the circular walls carrying the dome, was an innovation, which paved the way for much larger and more secure dome structures.

Also the construction of the dome itself, reckoned to have been during 479-480AH (1086-1088AD), brought in the innovation of an internal load-bearing framework of so-called *tarkineh* (ribs), which often have egg-shaped forms built upon a dome cylinder. This technique is referred to as connected double-shelled rib dome construction. A second dome of smaller size and the same technique is located at the northernmost centre of the mosque and is referred to as Taj al-Molk. Taj al-Molk, the succeeding minister and opponent of Nezam al-Molk, copied the general technique of the earlier dome but perfected its proportions to such fine effect, that the dome is often praised as demonstrating the Golden Ratio in dome architecture. Both dome structures were initially free standing but were later connected to the *shabestani* (hypostyle) sections of the mosque.

The *shabestani* sections were the initial components of the square Abbasid mosque, and were partly destroyed for the construction of the dome and iwans. The *shabestans* visible today are mostly Seljuq structures with extensions added during Timurid and Safavid times. Among the most significant features of the mosque are the 484 vaults of these hypostyle sections, which were constructed utilising approximately 50 different techniques, some of them open to allow light into the inner structure, others closed. Brick pillars carrying the covering vaults, so-called *taq-o-cheshmehs* (small domes often with central openings) show a variety of decorations and each of the 484 small domes is different in characteristics, dimensions and appearance.

The centrepieces, and the most visible features of the Masjed-e Jāme', are the four iwans (*chahar ayvān*), one in the centre of each of the façades of the courtyard. Their differing dimensions, structures and decorative motives emphasise their different levels of importance. Most impressive is the southern iwan which lies in front of the Nezam al-Molk dome chamber, followed by the western and eastern iwans and lastly, the northern of significantly smaller width.

The southern iwan is a platform of 12 by 12 metres skilfully annexed to the *maqsura* hall. It can be assumed that the intention of the construction was to connect the free-standing *maqsura* and dome to the courtyard by means of a representative transition that provides an access route of impressive status. Two service staircases, which provide access to the roof, illustrate that it may not

have been connected to the neighbouring hypostyle halls in its initial construction phase. All the interior walls of the southern iwan were decorated during the reign of Ozun Hassan, an Aq Qoyunlus king, in the late 9<sup>th</sup> century AH with large *muqarnases* (an Islamic ceiling decoration style), as well as *mo'araq* (enamel coloured tile work). He also ordered the construction of the two minarets on both sides of the iwan, which have similar surface decoration and Kufic inscriptions, written upon turquoise coloured tiles in spiral style. Unfortunately, the southern iwan has suffered heavy damage during the course of the centuries.

Constructed with cradle type arches, the slightly smaller western and eastern iwans (10.5 x 10.5m) were built after destruction of the hypostyle mosque elements of Abbasid times, which had previously stood on their locations. They were built as structures separate from the existing buildings, but were later connected through small corridors decorated with *muqarnas*. Regrettably, the courtyard front of the eastern iwan was completely destroyed during restoration work in 1312AH (1894AD), when reconstruction was carried out in a rather unconventional fashion. Its western counterpart is in a better condition and has retained the tile-work and *muqarnas* commissioned by Shah Sultan Hosein Safavid.

The northern iwan connects to the courtyard on the shorter side of its rectangular shape and takes up the north-south axis of the southern iwan. It was built in the last phase of Seljuq alterations to the mosque and creates an opening through the original northern enclosure wall, making a direct connection to the Taj al-Molk Dome. The outer façade was destroyed in 1313AH (1896AD) and also the first 3.5m from the iwan's edge is a modern reconstruction. The northern iwan is the only structure of the mosque that was built on foundations and initially its characteristic inner portals, now closed up by brick walls, were open to the hypostyle sections on either side.

The Masjed-e Jāme' of Isfahan, apart from its architectural and structural qualities, also contains fine examples of stucco decoration and tile-work. In the case of the stucco decoration, the additions of the Ilkhanid period should be highlighted, in particular the so-called Uljeitu Mehrab and the Ilkhanid Mehrab. The Uljeitu Mehrab, located on the northern outer wall of the western iwan, is a *mehrab* (prayer niche) of very fine stucco work, containing floral and geometric designs as well as inscriptions in Thuluth and Kufic script. The second *mehrab* of later Ilkhanid times can be found in the roofed corridor of the Eastern entrance.

### History and development

The Masjed-e Jāme' is the oldest preserved Friday (congregational) mosque in Iran and was built and extended in several subsequent stages. As a result of its multi-layered architecture and the occasional lack of documentation for certain phases of its construction and extension, different scholars of Iranian and Islamic architectural history have proposed different theories regarding its historic evolution, some of which seem contradictory. The history and development of the mosque

presented below is based on the latest archaeological and architectural findings presented in the nomination dossier, which occasionally revise theories published earlier.

Earlier theories have for example assumed that the Abbasid hypostyle mosque, constructed from 226AH (841AD) onwards, was built on virgin land. However, archaeological excavations have confirmed the existence of a pre-Islamic structure, which shows a north-eastern, south-western axis like Sassanid buildings and therefore differs by 20 degrees from the *qiblah* wall. This structure was demolished to allow the correct orientation of the *qiblah* wall of the Abbasid hypostyle construction, which provided the existing square courtyard and the main hypostyle sections of the mosque. It was initiated under the reign of al-Mo'tasem the Abbasid and was again extended under al-Moqtader.

In the Abbasid construction four buildings with porticos, each occupied by separate *khanqahs* (a building designed for gatherings of a brotherhood) and *madrāsas* (religious schools), were arranged around the central court. In total the hypostyle sections of the four buildings contained 262 arches and 355 brick pillars. Although little of the original Abbasid fabric remains, some sections of the Abbasid enclosure wall are still visible in the roof spaces of the later extensions.

The first changes were implemented in the Buyid period (10-11<sup>th</sup> cent. AD), when colonnaded arcades were added to the four sides of the courtyard, reducing its original size. The elevations were relined with poly-lobed piers faced with small bricks, which gave the facades a more decorative character. The surfaces of the external enclosure wall of Abbasid times show similar patterns, which suggests that the mosque must have been surrounded by colonnades during the Buyid era.

The most influential period for the Masjed-e Jāme' of Isfahan was during Seljuq rule. The various architectural innovations and additions can be chronologically arranged in three intervention phases. The first phase took place under the reign of Malek Shah (1072-1092AD), who ordered his minister Nezam al-Molk to construct the first dome in the southern *maqsurā* (1086-1088AD). For this project 24 pillars of the Abbasid hypostyle mosque had to be removed. Also during the rule of Malek Shah, the second phase started, now carried out by the minister's successor, Taj al-Molk.

The second phase added the famous Taj al-Molk Dome, constructed in imitation of the first on a smaller scale but more elaborate aesthetically. Its superior quality in architectural structure and decoration has brought it even higher praise than the prototype structure of the Nezam al-Molk Dome. In addition, vaulted roofs were constructed for the free section between the Nezam al-Molk Dome and the hypostyle sections of the mosque to its east and west, which connected the previously isolated dome to the other parts of the mosque complex.

In the third and final Seljuq phase, the mosque required extensive restoration after a devastating fire in 515AH (1121AD), which destroyed most of the courtyard facades. In an attempt to make the mosque more magnificent after reconstruction, four iwans were introduced, which dramatically changed the architectural emphasis of the mosque layout. It was the first ever attempt to integrate iwans, an element of Sassanid palace architecture, into Islamic religious structures. This change led to a new prototype in mosque layouts for large parts of, in particular, the Eastern Muslim Empire, and the four iwans are still considered the most eminent elements of the golden age of Seljuq architecture. As mentioned in the description above, the eastern iwan, of all the four, retains the most elements of the original Seljuq construction and decoration.

Following Mongolian raids, until the reign of the Ilkhanids (14<sup>th</sup> cent. AD), no significant changes were recorded. The Ilkhanid rulers changed the inner courtyard elevations into two-storey structures. The Ilkhanids further added rich decoration to different elements of the mosque, most strikingly two *mehrab*s, the Uljeitu (710AH (1310AD)) and the so-called Ilkhanid *Mehrab*. The Beit ash-Shata Shabestan was originally a Muzaffarid *mosallah* (open prayer place). Under the reign of Qotb-e din Shah Mahmud Muzaffar (759-776AH, 1358-1374AD) the Muzaffarid Madrasa was constructed outside the eastern wall of the Abbasid mosque complex.

During the Timurid era (16<sup>th</sup> cent. AD), the south western *shabestan* of the main prayer hall was extended towards the outer limits of the Muzaffarid *mosallah*. However, little is visible of this extension today, as the Safavids later destroyed parts of this Timurid *shabestan* to replace it with the so-called Safavid Shabestan. Surviving Timurid elements can be seen in the structures that covered the passageways of the previously free-standing iwans which connect them to the neighbouring *shabestan* prayer areas.

The Safavid period brought little architectural modification but left highly visible traces in decoration, and crucial restoration projects to the older structures were also carried out. The most obvious changes affected the courtyard facades, which to today have sophisticated Safavid decoration. Apart from the facades, Safavid decoration can be seen in much of the northern iwan and in a marble *mehrab* at the southern wall of the western iwan. Like the Timurid *shabestan*, the Muzaffarid *mosallah* was also restored and partly modified. The *mosallah* was extended northwards and covered with a vaulted roof structure. Restorations and repairs during Safavid time are particularly well documented in a variety of inscriptions in different parts of the complex.

Following the Safavid era the Masjed-e Jāme' of Isfahan underwent regular conservation and repairs, but it has retained the principle layout and decoration it had during the 14<sup>th</sup> century AD. An air attack on the 12<sup>th</sup> of March 1984 destroyed sections close to the southern dome and the northern enclosure. These were reconstructed on the

basis of maps and photographs by the ICHHTO (Iranian Cultural Heritage, Handicraft and Tourism Organization), which continues to supervise and approve conservation or restoration projects which are required in the Masjed-e Jāme' complex.

### 3 Outstanding Universal Value, integrity and authenticity

#### Comparative analysis

The comparative analysis in the nomination dossier compares the Masjed-e Jāme' of Isfahan with other mosque complexes in three chrono-typological sequences, with: (1) mosques built before the initial construction of the Masjed-e Jāme' at Isfahan, (2) mosques built at the same time during the Abbasid era and a consideration of their later development, and (3) mosques constructed after this era, in particular those having similar features to those constructed during the Seljuq era. The latter gives special consideration to those mosques constructed after the prototype Masjed-e Jāme' of Isfahan and thereby provides a comprehensive catalogue of *Chahar Ayyāni* mosques. Among the mosques reproducing the layout of the Masjed-e Jāme' of Isfahan are the Masjed-e Jāme' of Varamin, the Masjed-e Bibi-Khanym in Samarkand, Uzbekistan, the Masjed-e Jāme' of Herat, Afghanistan, the Masjed-e Jāme' of Bukhara, Uzbekistan, and the Masjed-e Iman in Isfahan. A tabular comparison allows for immediate visual comparison of the central mosque features in relation to ground plans, construction dates, perspectives and types.

The additional information sent by the State Party at ICOMOS's request deepens the comparative analysis through consideration of other types of dome structures and dome construction technologies, both in the Islamic context and beyond, including Hagia Sophia in Istanbul, the dome in the mosque of Yerevan, and Soltaniyeh Dome in Iran. ICOMOS further requested the State Party to enhance the comparative analysis to compare the Masjed-e Jāme' with architectural structures illustrating similar mathematical complexities and associated beliefs and meanings. The response received referenced the mosques discussed in the comparative analysis in the nomination dossier but did not add specific information on comparability with regard to associated scholarly inspiration.

ICOMOS considers that the comparative analysis is sufficient to confirm the prototype role of the Masjed-e Jāme' of Isfahan with regard to the four iwan layout in Islamic religious architecture as well as the prototype role of the Nezam al-Molk dome with regard to double-shell ribbed dome structures. ICOMOS further considers that the comparative analysis has not fully demonstrated the unique role of the Taj al-Molk dome as the most perfect example of a dome structure in Islamic architecture, nor of the associated knowledge and philosophies expressed in its proportions and decoration.

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ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

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#### Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- It is a masterpiece of Seljuq brick architecture and contains innovative elements, which were celebrated for their structural ingenuity and complexity;
- Masjed-e Jāme' illustrates outstanding innovations of Friday mosques during the Seljuq period, most notably its *Chahar Ayyān* structure and the two Seljuq domes;
- Taj al-Molk Dome is a masterpiece in engineering and, according to several authors, the most perfect dome ever created; it follows the ideal mathematical proportions of a perfect dome and has stood without any cracks appearing for more than 900 years;
- The Uljeitu *mehrab* of the Ilkhanid period is a masterpiece of stucco work with complex compositions and three-dimensional inscriptions, merged with floral and geometrical carvings;
- Masjed-e Jāme' represents more than 1,000 years of different traditions of mosque construction in Iran, and with its variety of techniques and decoration is a textbook example of the evolution of mosque architecture.

ICOMOS considers that only the justification in relation to the prototype aspect of the double-shell ribbed Nezam al-Molk dome, the first use of the four iwan (*Chahar Ayyān*) typology in Islamic architecture, as well as the textbook character of the Masjed-e Jāme' as a compilation of Islamic architectural styles is appropriate. The Masjed-e Jāme' of Isfahan is an outstanding example of innovation in architectural adaptation and technology applied during the restoration and expansion of an earlier mosque complex during the Seljuq era, which has been further added to during later Islamic periods through the addition of high quality extensions and decoration.

#### Integrity and authenticity

##### Integrity

The integrity of the Masjed-e Jāme' of Isfahan is judged in relation to its completeness and adequacy of its size, in particular as these relate to its ability to express all necessary elements of its Outstanding Universal Value. The Masjed-e Jāme' contains a continuous sequence of Islamic architectural styles, the most prominent of which date from the Seljuq period. The remains from the Seljuq era, especially the key elements of the ground plan, the four iwans, and the two domes are sufficient to illustrate the advances in mosque and dome architecture made at the time.

The boundaries of the property are adequate to encompass the entire mosque complex with all its extensions and significant functions over time. However, the Meydan-e Atiq project, which is currently being developed on the south-eastern side of the property is planned to be connected to the eastern bazaar structures, which form the outer structural boundary of Masjed-e Jāme'. This will likely have an adverse impact on the integrity of the property, if not implemented in a sensitive fashion. The State Party provided revised plans for the Meydan-e Atiq project, in particular for the north-western section, which was initially designed to attach to the eastern entrance of the mosque. The State Party submitted the architectural drawings for the section in question and suggested that comments and indications for required changes from ICOMOS were welcome. ICOMOS considers that the latest design submitted shows several improvements when compared to the earlier designs but could still negatively impact on the integrity of the property, and that further revision will be required. ICOMOS further considers that, based on the future revised design proposal, a comprehensive Heritage Impact Assessment (HIA) should be carried out to analyse the potential negative impacts of the project on the physical structure of the mosque complex and its setting, before its approval can be considered.

#### Authenticity

Most elements of the mosque, in particular the four iwans and the Malek al-Molk and Taj al-Molk domes, are authentic in material, design and location. Restorations and a reconstruction, which was necessary following the air raid in 1984, were carried out to an adequate standard, using traditional craftsmanship and materials. ICOMOS considers that an important aspect of authenticity is the function of the Masjed-e Jāme' of Isfahan, both as a mosque, which continues to be used for prayers, and also as a component of the Isfahan historic bazaar fabric. Connected to and accessed from the street network of the bazaar area, the mosque has a significant setting, which seems at present endangered by the Meydan-e Atiq project, designed to border the eastern outer bazaar structures. As a new square, intended to provide space for up to 25,000 people, the Meydan-e Atiq is likely to change visitor flows and put added pressure on the eastern section of the mosque, which may impact on the authenticity of its atmosphere as well as historic substance.

Besides its religious function, the mosque is open to visitors with an interest in its historic and architectural qualities. Via its eastern gate, which functions as a museum entrance and integrates a visitor centre, non-Muslim visitors are allowed access to explore the Masjed-e Jāme' of Isfahan. The new museum function is supported by exhibitions and information panels, which at present are remarkably sensitive and well-placed. However, even with growing visitor numbers, ICOMOS considers that visitor information has to remain sensitive to the mosque's religious functions and architectural

perspectives, to prevent any reduction of authenticity in design, spirit and feeling.

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In conclusion, ICOMOS considers that the conditions of integrity and authenticity have been met at present but are highly vulnerable. In order to ensure that integrity and authenticity are maintained in the future, the Meydan-e Atiq project requires to be further revised, assessed, and a comprehensive Heritage Impact Assessment should be conducted.

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#### Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (i), (ii), (iii), (iv) and (vi).

*Criterion (i): represent a masterpiece of human creative genius;*

This criterion is justified by the State Party on the grounds that the mosque represents a masterpiece in its innovative design which became a reference for the planning and construction of mosques in later centuries, as well as being the most significant architectural testimony of the Seljuq period in Iran.

ICOMOS considers that although the introduction of the four iwan layout provided the reference for later mosque complexes, it is an adaptation of the layout of earlier Sassanid palaces to Islamic religious architecture and as such not a creative innovation that could justify recognition under this criterion. With regard to the argument that the Masjed-e Jāme' is a masterpiece of Seljuq architecture in Iran, ICOMOS notes that such a characteristic would need to be demonstrated against Seljuq architecture in general, and is difficult to be justified in a complex, which is characterized by a large number of subsequent architectural interventions of different periods.

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ICOMOS considers that this criterion has not been justified.

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*Criterion (ii): exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the Masjed-e Jāme' was a prototype for the later design and construction of mosques in Central Asia and that its technological innovation of the double-shelled ribbed dome represents new engineering skills, which had not been used before in the construction of domes. Therefore, the State Party argues, the Masjed-e Jāme' should be recognized for having the most perfect dome structure of its time.

ICOMOS considers that the Masjed-e Jāme' is the first Islamic building that adapted the four iwan (*Chahar Ayyān*) courtyard layout of Sassanid palaces to Islamic religious architecture and thereby became the prototype

construction for a new layout and aesthetic in mosque design. ICOMOS also considers that the Nezam al-Molk Dome is the first double-shell ribbed dome structure in the Islamic empire, which introduced new engineering skills, allowing for more elaborate dome constructions in later mosque and burial complexes. On the basis of these two elements, the Masjed-e Jāme' became a recognized prototype for mosque design, layout and dome construction, which was referenced in several later eras and regions of the Islamic world.

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ICOMOS considers that this criterion has been justified.

*Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the Masjed-e Jāme' of Isfahan provides a unique or at least exceptional testimony to the tradition of mosque construction over a span of more than a thousand years, starting with the 8<sup>th</sup> century Abbasid era up to the Safavids in the 17<sup>th</sup> century.

ICOMOS considers that the evolution of mosque construction cannot be considered a cultural tradition as recognized under this criterion. ICOMOS further considers that the Masjed-e Jāme' cannot be recognized as an exceptionally well-preserved testimony of the Seljuq era, mostly as a result of its later modifications in different historical periods.

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ICOMOS considers that this criterion has not been justified.

*Criterion (iv): be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the Masjed-e Jāme' is an outstanding example of mosque architecture, which became influential as a new prototype for mosque design, both within and far beyond the borders of Iran.

ICOMOS considers that the prototype character of the Masjed-e Jāme', which is based on its four iwan layout and its dome technology, is better recognized under criterion (ii). ICOMOS further considers that the description of the Taj al-Molk as the most perfect dome ever created, based on its ideal proportions and fine workmanship, could fall under this criterion. However, ICOMOS notes that whilst the dome may have an exceptional status in Islamic dome architecture, its uniqueness in an international context has not yet been demonstrated. Further documentation on its aesthetic perception, decoration and its so-called Golden Ratio needs to be provided and compared with other perfect-ratio dome structures.

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ICOMOS considers that this criterion has not been justified.

*Criterion (vi): be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;*

This criterion is justified by the State Party on the grounds that the Masjed-e Jāme' is tangibly associated with values and concepts manifested in mathematical complexities and shapes, which inspired many scholars and their scholarly theories, and referenced philosophical and theological principles.

ICOMOS considers that the mathematical complexities applied in the mosque layout and decoration, in symbols, inscriptions, and geometrical proportions, may have been a tangible source of inspiration for scholarly theories in Islamic philosophy and theology. However, the nomination dossier does not provide information on the nature and interpretation of these complexities. ICOMOS requested further elucidation from the State Party as well as identification of the attributes, proportions and mathematical complexities that demonstrate the associations described. The State Party's response highlighted the role of the Masjed-e Jāme' of Isfahan as a functional mosque, in which prayers take place and which therefore has spiritual associations. ICOMOS considers that many mosques in Isfahan and beyond are functional and that this fact does not justify Outstanding Universal Value. Should, however, specific scholarly theories and references be demonstrated in the specific mathematical proportions and designs of the architecture, these could, if very significant, fall under this criterion. However, ICOMOS considers that the information provided at present is not sufficient to justify criterion (vi).

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ICOMOS considers that this criterion has not been justified.

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ICOMOS considers that the nominated property meets criterion (ii) and that the conditions of authenticity and integrity have been met but are highly vulnerable, and that Outstanding Universal Value has been demonstrated.

#### **Description of the attributes**

- The Masjed-e Jāme' is the first Islamic building that adapted the four iwan courtyard layout of Sassanid palaces to Islamic religious architecture. This layout became the prototype for mosque design in the Eastern Islamic empire for many centuries.
- The Nezam al-Molk Dome set new engineering standards as the first double-shell ribbed dome structure with a gradual transition base in the Islamic world. As such, the dome equally became a prototype, which was not only reproduced in the Masjed-e Jāme' but also in dome constructions of later periods and regions of the Islamic world.

## 4 Factors affecting the property

### Development pressures

Development pressures are at present the most relevant threat to the Masjed-e Jāme' of Isfahan, particularly the Meydan-e Atiq project, which is partly located in the buffer zone and is designed to immediately adjoin the eastern bazaar structures connected to the walls of the property. This project, which is already under construction at its southern, opposite end, but has not yet commenced in the area which affects the Masjed-e Jāme', is of concern for a number of reasons. The open square project with surrounding arcades is designed to accommodate up to 25,000 people and has one of its access points in the north-west corner at the visitor entrance gate of the Masjed-e Jāme'.

Designed to reduce vehicular traffic in the historic city, the square project has tunnelled two main traffic axes and creates a vast, pedestrianised public space. Besides aesthetic concerns with regard to the currently planned visual façade superimposition of the new Meydan galleries on both sides of the historic mosque gate, the plaza exit in the current design may create significant increases in pedestrian movements, and crowds passing through a rather narrow connection passage would unduly stress the outer bazaar structures attached to the mosque. In addition, the schedule proposed for this major project, aimed to be completed within two years, has given little opportunity for archaeological excavations ahead of the project implementation, which does not seem adequate due to the significant potential of archaeological finds in the area. ICOMOS in its first letter requested additional information regarding the exact design, planning status and implementation schedule of the Meydan-e Atiq project. In its response to the request, the State Party provided detailed drawings and stated that the current designs were still subject to further discussion, and that revised drawings would soon be made available. Following this ICOMOS in its second letter requested a more detailed indication concerning the finalization and approval procedures of the revised drawings and the time available for archaeological excavations. In its second response, the State Party provided detailed revised drawings, a historical overview of the project undertakings to date and the envisaged completion date within two years. While the revised drawings indicate clear improvements, such as the disassociation of the new structure from the mosque entrance gate itself, the connections to the historic bazaar structures attached to the mosque, the narrowly designed visitor access routes along these bazaar structures and the aesthetic aspects of the façade superimpositions still raise concerns. ICOMOS considers that the latest design of the north-western section of the square and the present time schedule for anticipated completion are not yet acceptable and need to be further revised, submitted and analysed with regard to their impact on the mosque structure as well as its setting before they are approved. This future revision should be based on a clear structural disassociation of the new

additions and the historic structure to prevent any additional loads on the outer walls of the mosque. ICOMOS notes that this should ideally be facilitated based on local urban design principles, which may not necessitate that the structural disassociation is visibly obvious. The revised design should further include provision for alternative routes of visitor access in the north-eastern corner of Meydan-e Atiq, which prevent potential visitor congestion in the narrow passageways of the bazaar before or after major events on the square. ICOMOS welcomes the opportunity to provide further comments to the State Party with regard to the revisions required and would be available to conduct an advisory mission at the invitation of the State Party in this context.

Any future developments in the buffer zone, in particular if attached to the outer walls of the mosque, such as further rehabilitations of the surrounding historic bazaar or the construction of the envisaged religious ablution facilities, to the north-west of the mosque, should be formulated on the basis of ample archaeological and cultural heritage impact assessments, expert reviews, and with an approach based on minimal intervention to the historic structures.

### Tourism pressures

Whilst at the moment visitor pressures are limited to the major religious and public holidays, in particular during Nouruz, the Iranian New Year celebration, an increase in visitor numbers can be expected after the completion of the Meydan-e Atiq project.

While the improvement of tourism facilities is a clear priority in the action plan presented as part of the introduction to the general management approach, ICOMOS considers that new installations of signboards and other means of interpretation should be planned with caution to prevent any negative impact on the authenticity of the complex. Visitor management would in addition require more detailed consideration of visitor flows and carrying capacity in certain spaces, as well as ensuring a harmonious co-existence between touristic and religious use, which seems an important opportunity at the Masjed-e Jāme' of Isfahan.

### Environmental pressures

Two major environmental factors, which have an impact on the conservation of the property, are moisture, both in the form of ascending and descending humidity, and air pollution. The ascending humidity results from the fact that in previous times a small stream flowed underneath the mosque. Although this stream has now dried up, during periods of intense rainfall water gathers underneath the foundations and causes physical, biological and chemical reactions within the soil layers. This problem has partly been dealt with through the construction of rainwater drainage channels and ventilation systems but in some areas of the mosque it persists.

Rainwater causes yet another challenge, as the air pollution of Isfahan, a result of dense vehicular traffic and

natural gas heating systems, has turned it acid and thus highly damaging once it penetrates the brick domes. ICOMOS notes that at present a detailed study on protective impermeable coating materials is being conducted.

#### Natural disasters

Despite several past earthquakes, the Masjed-e Jāme' has never experienced any major damage or collapse as a result. To ensure the future continuation of this positive trend, ICOMOS recommends that risk management plans and emergency procedures for earthquakes should be elaborated. These plans should equally address the risk of fire, which is a second disaster-risk in the bazaar area, with its densely interconnected architectural structures.

#### Impact of climate change

No measurable impact of climate change has been observed in the context of this property.

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ICOMOS considers that the main threats to the property are development pressures within the buffer zone, in particular the Meydan-e Atiq project, as well as the risk of earthquakes and fire.

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## 5 Protection, conservation and management

### Boundaries of the nominated property and buffer zone

The boundaries of the property and the buffer zone are adequate. However, developments in the buffer zone as well as the wider historical and cultural axis of Isfahan need to be designed and implemented with full respect to the Outstanding Universal Value of the proposed and existing World Heritage properties in Isfahan. ICOMOS therefore considers it essential to have in place clear and concise regulations for any new construction in the buffer zone, as well as the wider historical and cultural axis, which apply both *de jure* and *de facto*.

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ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

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### Ownership

As an Islamic religious foundation, the Masjed-e Jāme' of Isfahan is a public *Vaqf* (religious endowment) administered by the Endowment and Charity Affairs Organization of Iran.

### Protection

#### Legal Protection

Masjed-e Jāme' of Isfahan is designated as a national monument (no. 95 of 1932AD) following article 83 of the Constitution Law of the Islamic Republic of Iran (1920) and the more detailed regulations in article 26 of the

Iranian Civil Law (1939). According to the latest version of the Iranian Penal Law (1996, art. 558-569) violation of any regulations established by ICHHTO resulting in deterioration, defect, or damage of heritage property is a crime subject to punishment.

The buffer zone is protected by specific regulations set up by the ICHHTO, following a cabinet decision adopted in 2001, which stipulates that buffer zones fall under national law. ICOMOS considers that it is essential that the designated buffer zone is also integrated in the zoning bylaws and the Isfahan urban master plan.

#### Traditional Protection

As a *Vaqf* property, the Masjed-e Jāme' of Isfahan is protected as a religious site in addition to its heritage value. *Vaqf* properties are cared for by the religious communities and institutions responsible, often on the basis of donations, and cannot be used for private interests.

#### Effectiveness of protection measures

According to civil law, the ICHHTO is the responsible authority for the conservation and protection of historical cultural monuments. To coordinate the management processes, the ICHHTO has set up a permanent office in the Masjed-e Jāme' of Isfahan. While the office is responsible for all conservation and property management-related aspects, the *Ovqaf* (pl. of *Vaqf*) organization participates in a Steering Committee, which serves as a platform for wider policy discussions as well as exchange of ideas and interests regarding use and function of the building.

While the protection of the property is effective, the protection of the buffer zone and the wider setting raises concerns. Although the ICHHTO legally has to approve all land use and infrastructure plans in the historical cultural axis of Isfahan as well as the designs of urban developments in the buffer zone, the development of Meydan-e Atiq, currently underway, is not fully sensitive to the Outstanding Universal Value of the property. It is essential that the role of cultural Heritage Impact Assessments is strengthened and that the time and budget available for these is increased.

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ICOMOS considers that legal protection for the property is adequate, but that the protection of the buffer zone and the wider setting needs to be strengthened through integration of the buffer zone in the Isfahan master plan and municipal by-laws.

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### Conservation

#### Inventories, recording, research

The property has been inventoried and a large number of historic documents relating to the construction and conservation of different components are available and have partially been transformed into electronic files. More than 100 dissertations, PhD theses and other scientific

and academic studies have been conducted on the Masjed-e Jāme' of Isfahan since the Iranian revolution in 1979, and there are copies of most of these available in the ICHHTO archives.

#### Present state of conservation

Following decades of continuous conservation activity, which has been largely well documented, the present state of conservation is adequate in most parts of the Masjed-e Jāme'. In other sections, conservation activities are either being carried out at the moment, with a team of approximately 30 academically-trained conservators, or are scheduled for the near future. ICOMOS considers that whilst at present conservation activities are initiated by the Steering Committee at rather short notice, the establishment of a medium or long term conservation plan would focus activities and provide opportunities for ample research before conservation activities start. ICOMOS therefore requested additional information from the State Party as to whether it is planning to develop a conservation plan. In its response, the State Party indicated that the development of such a conservation plan is a high priority, has already been started and is expected to be finalized within two years.

Detailed descriptions of the state of conservation and interventions since the 1970s, in particular measures to eliminate moisture from the façades and piers, have been provided. Interventions, although in traditional materials and techniques, are recognizable to the expert eye as they were carried out in slightly different sized-materials and/or colours. With this methodology, a harmonious appearance, important for religious visitors, is maintained, whilst heritage professionals can easily tell the original fabric and later restorations apart. A conservative estimate assumes about 80% original surfaces and about 20% restored or reconstructed surfaces.

#### Active conservation measures

Critical situations and therefore conservation challenges for the future are visible in the domed structures of the *shabestani* sections of the mosque, where old cross-bracings intended to stabilize the domes have become ineffective after movements and shifts of the building. The bracings are now more of a risk than a support to the structure but their removal requires a difficult intervention, which poses risk of dome collapses. ICOMOS notes that the best possible methodology for these interventions is currently being investigated.

#### Maintenance

Daily maintenance in the Masjed-e Jāme' is a shared task of the ICHHTO and the volunteers, who administer the religious functions and use of the complex. At present the ICHHTO is in the process of establishing a site office in the mosque itself, which will increase their presence and supervision of daily maintenance.

#### Effectiveness of conservation measures

The conservation measures have been effective in enhancing the condition of the property. Nevertheless, ICOMOS recommends that conservation activity should always be based on the principle of minimum intervention.

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In conclusion, ICOMOS considers that the present state of conservation is adequate but that a medium or long-term conservation plan should be finalized.

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#### Management

Management structures and processes, including traditional management processes

The management of the property is coordinated by three bodies, a Steering Committee, a Technical Committee and the Iranian Cultural Heritage, Handicrafts and Tourism Organization's (ICHHTO) site management office. The Steering Committee consist of representatives of the ICHHTO, the *Vaqf* authorities, the governor and mayor of Isfahan, as well as reputable experts. It is responsible for supervising the protection and conservation of the site and giving guidance to the site's management team. All projects have to be approved and evaluated by the Steering Committee.

The Technical Committee consists of local ICHHTO representatives and specialist architects, conservation architects and civil engineers. This Committee has the authority to review and approve detailed project plans and schedules of activities requested by the Steering Committee. It further reviews work progress at regular intervals and, if necessary, advises on how to improve the implementation of activities. Finally, the site management office is responsible for the day-to-day coordination and supervision of activities. It is at present located in the vicinity of the Masjed-e Jāme' but is in the process of moving into a permanent base in the mosque complex. The Masjed-e Jāme' office has approximately 15 staff members, including technical specialists, researchers and security personnel. The management office further coordinates the management processes with the volunteers, who facilitate the religious use and function of the mosque.

Policy framework: management plans and arrangements, including visitor management and presentation

The nomination dossier in several contexts refers to a finalized management plan. However, what have been presented are general management strategies, as well as lists of short, medium and long-term actions. Although this list can function as a preliminary management tool, which indicates priority activities, it lacks many essential elements of a management plan including responsibilities, budgeting, or monitoring and quality assurance indicators. The action plan provided emphasises aspects of visitor access and provision of information, but provides little reference to buffer zone management, apart from the provision of a car park for visitors, or conservation

concerns. The so-called action plan for site management is therefore rather an action plan for the provision of presentation and interpretation facilities, aimed at making the Masjed-e Jāme' a tourism destination.

ICOMOS considers that the obvious interest in tourism facilitation should not take place at the expense of essential management components and that additional information panels, if required at all, should be designed to cause minimal visual interference and should be limited to the most necessary locations. Alternative approaches envisaged, such as human or audio guides, seem more appropriate to the religious atmosphere of the mosque. ICOMOS further considers that the drafting of an integrated management and conservation plan, including a section dedicated to the visitor management strategy for the Masjed-e Jāme' is highly desirable.

#### Risk preparedness

In the State Party's view the proximity of the fire station provides for instant reaction in case of the main risks, fire and earthquakes, and that the mosque has been well-equipped with emergency equipment, such as fire extinguishers. In ICOMOS's view a more systematic risk-preparedness strategy should be developed along with the integrated conservation and management plan.

#### Involvement of the local communities

The Masjed-e Jāme' is a popular religious building and frequented by many merchants from the nearby bazaar during prayer times. These merchants and the local residents could be considered the most relevant local communities. Through the mosque administration and the volunteers as well as *Ovqaf* representatives, they are involved in the management considerations. In addition the merchants and local residents have been consulted regarding the buffer zone regulations and will continue to be involved in the regular evaluation and adjustment of these provisions.

#### Resources, including staffing levels, expertise and training

As the most significant Friday mosque in Isfahan, the Masjed-e Jāme' was endowed a number of *Vaqf* properties in addition to the mosque itself. At present the mosque complex counts two residential houses, and 163 shops as its *Vaqf* endowment, which means that the income generated through rental of these is exclusively reserved for the upkeep and maintenance of the mosque. The *Vaqf* of a mosque cannot be reduced as the public property character of a *Vaqf* endowment does not allow for ownership changes. However, it can carry on increasing, if new endowments are added to the existing ones.

In addition to the *Vaqf* income, an annual budget has been designated from the Iranian Parliamentary allocation for national monuments. This has been entirely reserved for the necessary conservation and restoration measures. Additional funds are assigned to

national monuments once they have been inscribed on the World Heritage List. The training of conservation professionals and staff on site is adequate.

#### Effectiveness of current management

ICOMOS considers that the management strategies do not yet cover all relevant aspects of site management and that responsibility, time frames and monitoring indicators need to be better defined. ICOMOS recommends adopting an integrated conservation and management plan, with special sections on visitor management, buffer zone management and risk-preparedness, which will provide a more structured, better documented and more effective approach to site management.

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ICOMOS considers that while the management authorities are well defined, responsibilities for action, time frames and indicators for quality assurance are not. ICOMOS further considers that a comprehensive integrated management and conservation plan, including visitor management and risk-preparedness strategies, should be drafted and adopted.

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## 6 Monitoring

A number of monitoring indicators have been defined together with tools applied, periodicity and annual time frames. The indicators sometimes appear general and could benefit from increased detail and, where possible, quantification. Although monitoring responsibilities are not clearly indicated, it seems that the ICHHTO site office plays a key role. However, the monitoring procedures for the buffer zone do not yet seem adequate and should not be the exclusive responsibility of the ICHHTO. ICOMOS considers that in order to gain effective buffer zone protection, monitoring should be linked to the Isfahan master plan and municipal authorities should be involved in the process.

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In conclusion, ICOMOS considers that monitoring of the property is acceptable but that indicators could be expanded in the future, and that the monitoring for the buffer zone needs to be improved.

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## 7 Conclusions

ICOMOS recognizes the Outstanding Universal Value of the Masjed-e Jāme' of Isfahan and considers that criterion (ii) has been demonstrated. ICOMOS considers that the conditions of authenticity and integrity have been met at present, but that these are very vulnerable. The property is subject to potential negative impact of the urban development project of Meydan-e Atiq, which needs to be further modified to allow consideration of the inscription of the Masjed-e Jāme' of Isfahan on the World Heritage List.

ICOMOS is concerned that both the design and time schedule of the Meydan-e Atiq project do not fully respect the property's Outstanding Universal Value. The design, which channels one of the visitor access routes to the square through a narrow pathway via the historic bazaar structures directly connected to the mosque, creates a risk of undue stress on the historic structure and endangers its authenticity in material, substance, design and setting. ICOMOS considers that, in addition to the necessary further revision of the design, and the carrying out of a Heritage Impact Assessment to assess its potential risks to the mosque structure and its setting, the project implementation needs to be slowed down in order to give ample time for assessment and modification of the design, additional archaeological investigations and, if necessary, excavations adjacent to the property. To prevent that future projects, such as the Meydan-e Atiq, create negative impacts on the property, it is essential to strengthen the buffer zone protection and to broaden the monitoring procedures for the buffer zone.

ICOMOS is further concerned by the emphasis on visitor facilitation that currently characterises the management approach. ICOMOS requests the State Party to ensure that the visitor concept is sensitive to the religious function of the property and concentrates on non-intervention methods of visitor guidance, such as human, audio or mobile technology guides. ICOMOS recommends that an integrated conservation and management plan for the property, which includes sections on visitor management and risk-preparedness strategies, should be developed and adopted with high priority.

#### **Recommendations with respect to inscription**

ICOMOS recommends that the examination of the nomination of Masjed-e Jāme' of Isfahan, Islamic Republic of Iran, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Strengthen the protection of the buffer zone and wider setting and expand the monitoring mechanisms related to urban development, in particular through integration of the buffer zone in the Isfahan master plan and municipal by-laws.
- Develop and adopt an integrated conservation and management plan, with special sections on visitor management and risk-preparedness strategies.
- Further revise the Meydan-e Atiq project, in particular its north-western corner in the immediate vicinity of the Masjed-e Jāme' of Isfahan, in a way that will:

- a) not foresee any structural connection between the new galleries and the historic walls of the mosque or the structures connected to the

mosque walls, which could transmit loads or vibrations to these;

- b) provide ample passage for pedestrians, in particular through redesign of the entrance gate situation to the Meydan in the north-western corner, to ensure that the mosque and its adjacent historic structures are not endangered by crowds accessing the square during major events;
  - c) ensure that the overall design is appropriate to the local urban design tradition and setting of the mosque and sensitive to its Outstanding Universal Value, and
  - d) follow a revised implementation schedule that allows for ample time to assess the revision through a comprehensive Heritage Impact Assessment and conduct further archaeological excavations.
- Following the availability of a revised project design for Meydan-e Atiq (following the criteria listed above), conduct a comprehensive Heritage Impact Assessment (HIA) to ensure that the revised project proposal does not cause any negative impact on the historic mosque structure or its setting.

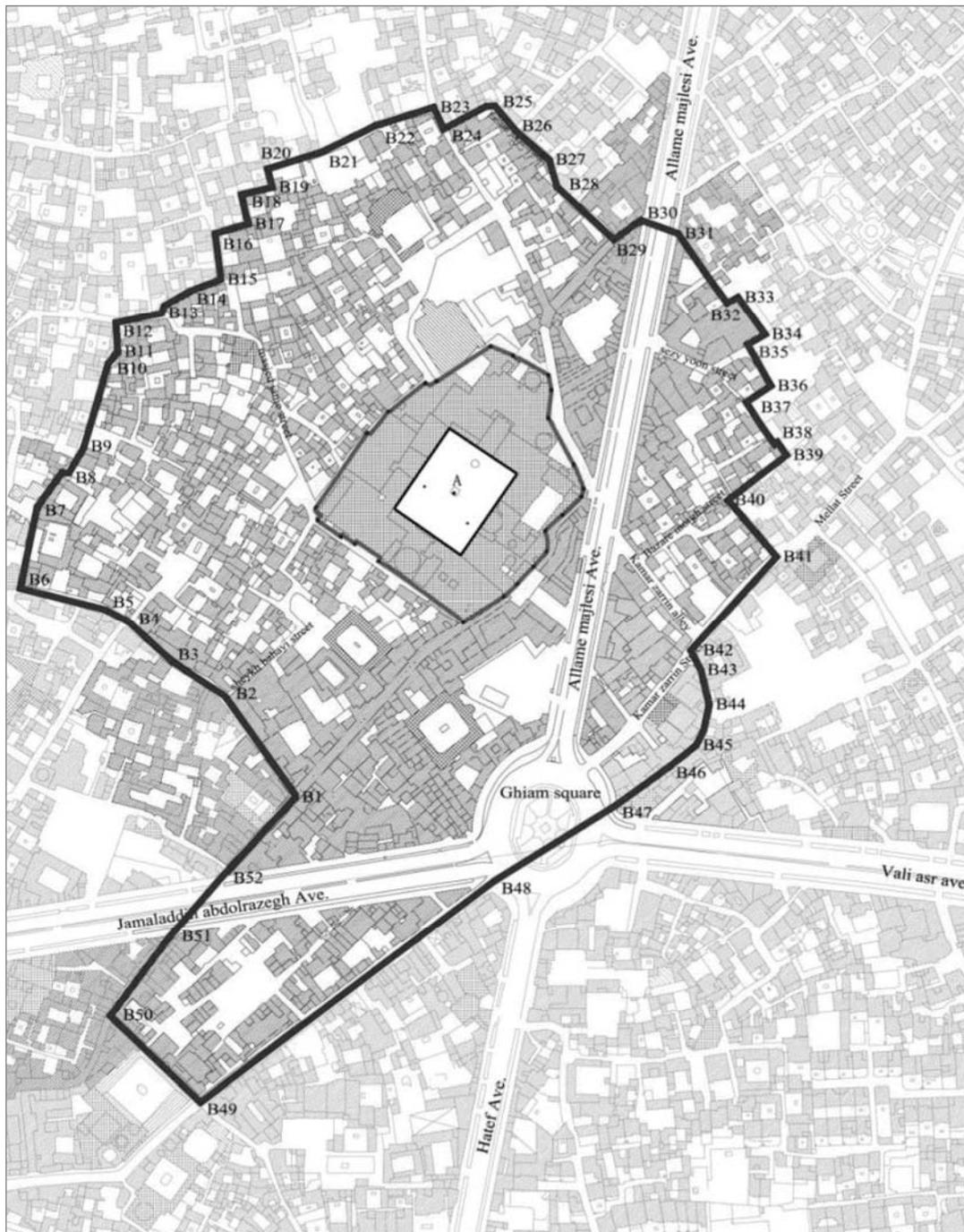
ICOMOS further confirms its availability to conduct an advisory mission at the invitation of the State Party to assist in the revision of the Meydan-e Atiq project, to ensure that it does not constitute a negative impact on the Outstanding Universal Value of the mosque.

ICOMOS further recommends that the State Party give consideration to the following:

- Ensuring that the design and presentation of information in the property is based on the principle of minimal intervention in full respect for the aesthetic and religious significance of the Masjed-e Jāme' of Isfahan;
- Giving priority attention to the challenge posed by the necessary removal of the bracings in the *shabestani* domed areas.

ICOMOS also recommends that Heritage Impact Assessments (HIA) are carried out for any future developments in the buffer zone, such as further rehabilitation of the surrounding historic bazaar or the envisaged ablution facilities to the north-west of the mosque, in particular if these are intended to be directly attached to the mosque complex or in its immediate vicinity, to ensure that any developments do not impact adversely on the property and its wider setting.

ICOMOS considers that any revised nomination would need to be considered by an expert mission to the site.



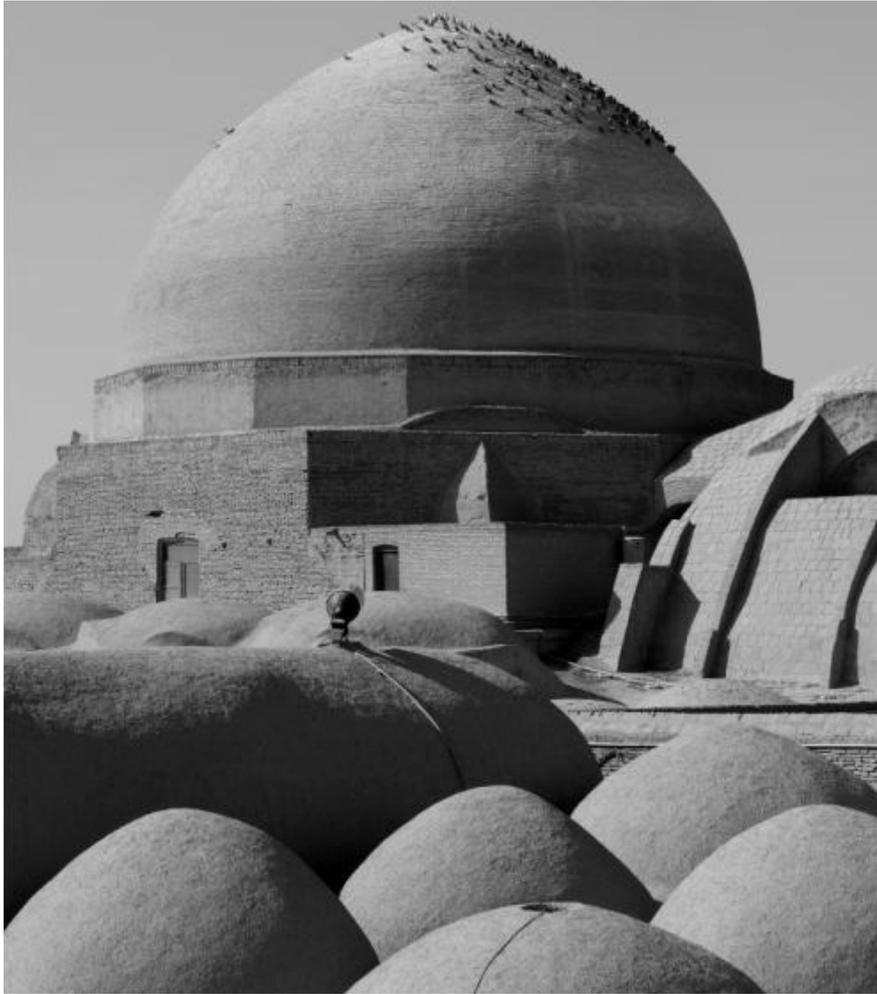
Map showing the boundaries of the nominated property



Aerial view of the nominated property



South-eastern entrance



Nezam al-Molk



Taj al-Molk