

**REPORT ON THE JOINT WORLD HERITAGE CENTRE / ICOMOS
TECHNICAL ASSISTANCE MISSION TO**

**MEMPHIS AND ITS NECROPOLIS – THE PYRAMID FIELDS FROM GIZA TO DAHSHUR
SITE (C.86)**

5-9 March 2017



View of the Pyramids from the Ring-Road path

ICOMOS
international council on monuments and sites


United Nations
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World
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EXECUTIVE SUMMARY

Egypt has been engaged for the past two decades in attempts to promote a major traffic scheme – the Cairo Ring-Road – which, given its placement, risks impacting negatively on the Outstanding Universal Value (henceforth OUV) of the World Heritage property "Memphis and its Necropolis - the Pyramid Fields from Giza to Dahshur", (henceforth the Giza WH property) inscribed on the World Heritage List in 1979 (see <http://whc.unesco.org/en/list/86>).

The WHC/ICOMOS Mission had as its major aim to establish that relevant authorities of the State Party (henceforth SP) – both those dealing with heritage protection and management and those dealing with planning, design and construction of the proposed traffic scheme – have a good understanding of what is required to ensure that the proposed development projects, if they are to take place, do not bring harm to the Giza WH property and its OUV. More specifically, the Mission proceeded by engaging with the SP and its relevant authorities on the contents and requirements of the recent World Heritage Committee Decision 40 COM. 7B.22 and related ICOMOS reports and recommendations (in Annex 2, 3, 4 & 5 below). The Mission went step by step through the various points and requirements set in the decision documents, and provided some guidance on ways for the SP to satisfactorily respond.

The Mission recommended that in order to comply with the requests of Decision 40COM 7B.22, the State Party needed to provide comprehensive data and procedures, collate and present all the information requested as a basis for the preparation of a Heritage Impact Assessment (hereafter HIA). The following standalone documents (as discussed in detail in Section 2) should be provided:

- An archaeological report containing comprehensive archaeological data, detailed archaeological investigation/sampling strategy and archaeological procedures for undertaking a Heritage Impact Assessment.
- A traffic management study report: providing justification for the proposed ring road link through the WH property evaluated using established traffic engineering principles considering several alternative route options, determination of the minimum number of lanes required and discussion on the long term traffic vision beyond 2035.
- Preliminary engineering design drawings and supporting technical reports: (e.g. air quality and noise & vibration assessment report, engineering site assessment) based on the proposed tunnel scheme and include existing, construction and completion stages are to be completed and updated; also including a narrative description of the proposed construction sequence including plan and cross section images supporting technical reports

It is recommended that the above three stand-alone project documents should be submitted to the World Heritage Centre for review by ICOMOS to in advance of the HIA being undertaken.

Then to proceed, on the basis of these documents, with the undertaking of a credible and comprehensive Heritage Impact Assessment on the potential impact of a cut and cover tunnel on the OUV of the property, in terms of impact on archaeology (taking into account the archaeological impact done during the 1995 path clearing) and on all other attributes of OUV; including from construction work, traffic, noise, and visual pollution, and to submit this to the World Heritage Centre for review by ICOMOS

The State Party has committed to send the archaeological, traffic and engineering reports , and subsequently the revised project documents, and the related HIA, to the World Heritage Centre for reviews by ICOMOS, before the 41st session of the World Heritage Committee in Krakow (July 2017).

On 2 May 2017, the State Party sent to the World Heritage Centre the Memphis Management Plan, maps, a structural map of the tunnel, a traffic study and a PowerPoint presentation showing the removal of waste material in the WHS (in Arabic). These will be reviewed by ICOMOS alongside the archaeological, traffic and engineering reports, when these are received, and the reviews shared with the State Party in due time.

More broadly, in line with its Terms of Reference (see Annex 1) the Mission was also able to provide advice to the SP on ways to avoid negative impacts on the attributes of OUV for the property, and on ways to enhance the property and its management in line with the World Heritage Committee' decision.

For the existing condition of the WH property, it is recommended that the SP should give immediate priority to the following:

- Bring to a total end any further illegal uses and encroachment of the WH property, through physical barriers and boundaries' protection, as well proactive enforcement mechanism, and to undertake, as highlighted by previous missions, the removal of illegally dumped fill material from the WH property.
- Repair the damages caused by illegal quarrying, which adversely impact on the authenticity of the site, by returning the landscape as close as possible to its natural state.
- Remove the waste incineration site and reinstate the landscape to stop the structural and visual impact of the monuments from atmospheric pollution from south-east bound winds.

It is also recommended that **actions be taken to comply with the requests of Decision 40COM 7B.22, for the protection of OUV and heritage management considering the property in its entirety when it comes to reporting to the World Heritage Committee:**

- To compile and harmonise the four different management plans, and proceed with the compilation of a robust and enforceable management plan for the WH property as a whole.
- Include the Retrospective Statement of Outstanding Universal Value (RSOUV) in the management plan after it's validation by the World Heritage Committee together with detailed attributes of OUV, which should form the basis of management and protection.
- To formulate, as an introductory chapter, an overarching statement with main principles, objectives, guidelines with regards to OUV (protection, enhancement, tourism, urban encroachment etc.). The main focus should be on protection of the WH property and its OUV in physical terms (encroachment, illegal quarrying) and in terms of its visual and other associations. Clear lines of responsibilities and enforcement capacities between the national bodies (Ministry of Interior, of Defense, of Tourism, of Antiquities) and the local municipalities should be set out.
- To establish a committee for the overall co-ordination and management of the WH property, with members from the different bodies and persons involved, led by the Ministry of Antiquities.

- To strengthen and make explicit the legal framework for the protection and management of the immediate and wider setting of the property and undertake a study to identify an appropriate buffer zone
- To explore the introduction in national legislation of protection mechanisms specific to World Heritage Sites.
- To clearly identify the Ministry of Antiquities as the professional body in charge of responding to the WH Committee, and more generally as the coordinating authority on all matters relating to OUV, heritage protection and enhancement.

1. INTRODUCTION

This joint WHC/ICOMOS/ Technical Assistance mission was undertaken between the 5th and 9th of March 2017 at the request of the Government of the Republic of Egypt, the State Party to the 1972 World Heritage Convention (henceforth the SP) and thanks to extra-budgetary funds provided by the World Heritage Centre. The SP has been engaged for the past two decades in attempts to promote a major traffic scheme – the Cairo Ring-Road – which, given its placement, risks impacting negatively on the Outstanding Universal Value (henceforth OUV) of the World Heritage property "Memphis and its Necropolis - the Pyramid Fields from Giza to Dahshur", (henceforth the Giza WH property) inscribed on the World Heritage List in 1979 (see <http://whc.unesco.org/en/list/86>).

The current mission had as its major aim to establish that relevant authorities of the SP – both those dealing with heritage protection and management and those dealing with planning, design and construction of the proposed traffic scheme – have a good understanding of what is required to ensure that the proposed development projects, if they are to take place, do not bring harm to the Giza WH property and its OUV. More specifically, the Mission proceeded by engaging with the SP and its relevant authorities on the contents and requirements of the recent World Heritage Committee Decision 40 COM. 7B.22 and related ICOMOS reports and recommendations (reproduced here in Annex 2, 3, 4 & 5 below). The Mission went step by step through the various points and requirements set in the decision documents, and provided some guidance on ways for the SP to satisfactorily respond.

More broadly, in line with its Terms of Reference (see Annex 1 below) the Mission was also able to offer advice to the SP on ways to avoid negative impacts on the attributes of OUV for the Giza WH property, and on ways to enhance the WH property and its management in line with the WH Committee's decision.

1.1 BACKGROUND AND AIMS OF THE MISSION

Traffic issues

The Giza WH property is one of the most iconic sites on the UNESCO World Heritage List, and the Giza Pyramids within it are the sole monuments among the Seven Wonders of the Ancient World that still survive today. Inscribed on the UNESCO WH list in 1979 (in the very early days of the list, both in terms of management planning and in terms of the definition of outstanding universal value), the Giza WH property spans over an area of 163 Sq Km on the fringe of the desert plateau to the west of the Nile valley and to the immediate south of Cairo.

Several decades of urban growth – with now over 10 million people living on an area of 530 sq km in Cairo alone, and double that in the greater metropolitan area – have led the Egyptian authorities to undertake ambitious transportation and traffic programmes. In 1995 a Ring Road was designed and partially constructed around Cairo. The design included a stretch of road that would have cut through the perimeter Giza WH property, some 5 km south of the three Pyramids of Giza (see Map 1, 2). As these plans progressed, international bodies, chief of them UNESCO and its World Heritage Committee, expressed their misgiving that such a ring-road would cause grievous and irreparable damage to the OUV of the Giza WH property (see Decision of the Bureau of the World Heritage Committee, 19 BUR VI.22, 1995). Consequently, the SP abandoned its plan for the stretch of the ring-road within the WH property perimeter, and developed instead alternative traffic solutions, as encouraged by the WH Committee.

With further growth in traffic needs and urban expansion, the SP has come to view these alternative solutions as unsatisfactory. It has therefore begun during the past few years to reconsider the completion of the unfinished stretch of the ring-road, in ways that would not impact negatively on the OUV of the WH property.

In doing so, the SP has abided by the indications given in the UNESCO *Operational guidelines* (2015), which state, in paragraph 172, that:

172. The World Heritage Committee invites the States Parties to the Convention to inform the Committee, through the Secretariat, of their intention to undertake or to authorize in an area protected under the Convention major restorations or new constructions which may affect the Outstanding Universal Value of the property. Notice should be given as soon as possible (for instance, before drafting basic documents for specific projects) and before making any decisions that would be difficult to reverse, so that the Committee may assist in seeking appropriate solutions to ensure that the Outstanding Universal Value of the property is fully preserved.

The 2015 WHC/ICOMOS Mission and its follow-up

As part of this notice given to the World Heritage Committee, the SP invited an ICOMOS Advisory Mission to visit the property on the 27 – 30 of July 2015. This mission has produced a report, submitted to the SP in 2015 and subsequently made available on the UNESCO portal at <http://whc.unesco.org/en/list/86/documents>

This 2015 mission was requested by the SP to reconsider the implementation of the ring-road project, given the traffic challenges now facing the Cairo metropolis, and in view of the need to secure access to major new cultural developments, such as the still-in-construction Grand Egyptian Museum (see summary in Annex 2). Following its on-site visit, and upon discussions with the SP authorities, the Mission recognized that the alternative routes that had been used since 1995 were no longer sufficient for ongoing traffic. The recommendations formulated by the July 2015 mission to the SP include (see further Annex 2):

- finalise a comprehensive management plan for the WH property as a whole.
- establish a buffer zone for the property,
- establish physical boundaries (fence, wall) for the property,
- undertake the removal of encroaching buildings and waste material dumped within the property.
- in case a ring-road within the WH property was the only remaining option, it should be done only by means of an underground tunnel, which would be best able to preserve the site's OUV and prevent illegal encroachment.

The results and recommendation of the July 2015 Cairo Mission, together with other exchanges with the SP, were the basis for the decision 40 COM. 7B.22 (see Annex 3) of the World Heritage Committee at its 40th session (held in July 2016 in Istanbul and in October 2016 in Paris).

Following discussions with the State Party at the 40th session of the World Heritage Committee, ICOMOS agreed to provide the SP with advice on details of the data and other background documents necessary for the production of an HIA that could consider potential impacts of a proposed tunnel on the OUV of the property.

The document entitled "*Memphis and its Necropolis - the Pyramid Fields from Giza to Dahshur (Egypt) ICOMOS Advice to the State Party of Egypt on Preliminary Data Requirements Necessary for an Heritage Impact Assessment on the Cairo Ring Road Tunnel Project*" was submitted to the SP in September 2016. Based only on previous documentation and reports, the advice provided in this document (see Annex 4 below) set out a four stage process, including (a) the assembly of preliminary data, (b) preliminary engineering design, (c) drafting of a retrospective SOUV and (d) scoping for a Heritage Impact Assessment.

Decision 40 COM. 7B.22 (see Annex 3), and this document, formed the basis for the current mission, as thoroughly discussed in section 2 below.

1.2 UNFOLDING OF THE MISSION

Details of the mission programme and a list of the attendees are provided in Annex 6 & 7 below. It is important however to emphasize two aspects of the mission at this stage of the report: the on-site visit and the identification of the persons and coordinating roles.

On site visit

The on-site visit took place in the morning of Tuesday 7 March, and involved travel in a convoy on the proposed alignment of the ring-road across the World Heritage property, from east to west. Along this 5 km or so stretch, the Mission made several important observations, which (as further explained in section 2 below) bear on its advice and recommendations.

1) The presence of an abandoned surface road, crossing through the WH property, was observed. It appears that construction of the ring road had actually been fairly advanced up to 1995. Not only has the path of the Ring-Road been cleared throughout the 5 km stretch within the WH property, with all the surface disturbances involved, several hundred metres of stone and concrete embankments, together with drainage and road infrastructures, have already been constructed (see photos below). In other words, this 1995 alignment, representing the proposed path of a future tunnel, has already affected adversely the integrity of the WH property.

2) This abandoned surface road has also made possible illegal traffic, and particularly the transit of trucks or skips, which have resulted in numerous dumps of soil/rock and construction debris and some garbage. These dumps are particularly present in the several hundred metres by the eastern and western entrances – some appeared to be weathered, but other appear to be fairly recent with relatively fresh garbage and detritus.

3) This abandoned road has also facilitated another illegal activity on the WH property – that of sand quarrying. Located about half way through the route, two quarries identified by the Mission represent systematic and near-industrial exploitation.

Further details and implications of these observations are discussed below.

Persons and organisation of the proposed tunnel project

During the mission, it has become possible to better identify the official agencies involved, their role and remit.

In addition to the institutional role of the Department of Antiquities (Ministry of Antiquities), who acts as WHC's counterpart for the World Heritage matters and coordinates the responses

of the SP regarding decision 40 COM 7B.22, it is important to clarify that the implementation of the proposed tunnel project will not be carried out by the Department of Antiquities but under the supervision of a national coordinator responsible for the involvement of the different departments partners and persons : the presence of this Department is effective at all meetings held in the presence of the Mission and its role is clearly recognized and accepted by all the partners.

2. FOLLOW UP ON WH COMMITTEE DECISION 40 COM 7B.22

During the initial part of the mission it became clear that the State Party's various departments and their consultants involved in the Ring Road project have indeed undertaken relevant work and individually produced documents that begin to address and respond to WHC Decision and Heritage Impact Assessment requirements. However, it was generally evident that documents were still in progress, not up to date and further documents were required. A coordinated approach, led by the Department of Antiquities, to meeting the WHC requirements is required and was recommended by the Mission to the SP.

The Mission engaged with the SP and its relevant authorities on the contents and requirements of the recent World Heritage Committee Decision 40 COM. 7B.22 and related ICOMOS reports and recommendations (reproduced in Annex 2, 3, 4 & 5). The Mission discussed the various points and requirements set in out the decision documents, and provided guidance on ways for the SP to satisfactorily respond.

The principle points of this engagement are summarised below.

<p>1. <u>Having examined</u> Document WHC/16/40.COM/7B,</p> <p>2. <u>Recalling</u> Decisions 28 COM 15B.50, 29 COM 7B.45 and 31 COM 7B.61, adopted at its 28th (Suzhou, 2004), 29th (Durban, 2005) and 31st (Christchurch, 2007) sessions respectively,</p>
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<p>3. <u>Notes</u> the delays in the implementation of conservation projects at the property, and the State Party's intention to submit shortly a Management Plan for the property; and <u>urges</u> the State Party to submit a detailed, integrated Management Plan taking into account the July 2015 ICOMOS Advisory mission recommendations;</p>

Management plan

The SP and the Ministry of Antiquities confirmed to the Mission the existence of management plans, at various state of completion, for the four delimited areas of the Giza WH property (namely Giza Pyramids, Sakkara, Dahshour and Mitrahina). The Plan for the Giza part of the WH property (where the ring-road tunnel is projected) is said to be complete and available (though not seen by the Mission).

The SP has been advised:

- (a) To consider the property and all its components (i.e. the whole WH property) when it comes to reporting to the World Heritage Committee.
- (b) To compile and harmonise the four different management plans, avoiding unnecessary repetitions.
- (c) To formulate, as an introductory chapter, an overarching statement which defines the attributes of OUV and sets out the main principles, objectives, guidelines with regards to OUV (protection, enhancement, tourism, urban encroachment etc.). A major focus should be on protection of the WH property and its OUV in physical terms (addressing encroachment, illegal quarrying) and clear responsibilities and enforcement capacities between the national bodies (Ministry of Interior, of Defense, of Tourism, of Antiquities) and the local municipalities.

It was emphasized to the SP that the key point of a management plan was not only its contents and thoroughness, but also its optimal implementation in practice. This includes the ability of those in charge of the WH property to enforce decisions, to arbitrate, to coordinate between

agencies, and also to use legal means to prohibit physical or visual harm to the WH property. This may require strengthening the capacities of professionals and establishing a functional coordination mechanism.

4. Also urges the State Party to complete the Retrospective Statement of **Outstanding Universal Value (OUV)** for the property for examination by the World Heritage Committee;

Retrospective statement of OUV

A Retrospective Statement of Outstanding Universal Value (RSOUV) has been completed by the SP with ICOMOS comments. Its latest version has been submitted to WHC for examination by the World Heritage Committee at its 41st session (Krakow, July 2017).

5. Further urges the State Party to define the **buffer zone** for the property and submit a Minor Boundary Modification proposal, in accordance to Paragraph 164 and Annex 11 of the Operational Guidelines, and define the immediate and wider setting to further protect the integrity of the property;

Buffer zone

The Giza WH property was inscribed without standardized maps at a time when this was not yet standard procedure for WH property, and without a buffer zone.

The establishment of such maps and the adoption of a buffer zone for the property were among the recommendation of the July 2015 advisory mission.

Produce clear and accurate mapping of the WH property to define the boundary of the site and buffer zone at a scale that can be established precisely by survey onsite to enable management of the site, determine encroachments and developments that fall within the buffer zone.

Discussions during the current mission have clarified that the SP understands the need for such a buffer zone.

It has proved useful to distinguish between UNESCO's understanding and expectations of buffer zones (e.g. as set in the *Operational guidelines*, paragraph 103-107) and the SP own national system of buffer zones. The SP has indeed as part of its urban planning system various mechanisms for restricting the location, height and use of various constructions and infrastructure, for zoning activities and so forth.

The SP has been advised to provide more details on these regulations and restrictions already in place, their application and enforcement, and more generally on the way they could serve to protect and enhance the immediate and wider setting of the WH property in relation to the attributes of OUV, and on the basis of this work to undertake a setting study in order to identify an appropriate buffer zone.

The Governorate of Giza (General Organization for Physical Planning) presented a proposed large phased redevelopment of the Khufu Plateau around the northern boundary of the WH property. It is critical that a buffer zone is established so that such proposals around the WH property would fall within a zone where the impact on OUV will be readily considered and protected. This demonstrates the need for the Department of Antiquities to have a team

specialized in the management of properties inscribed on the World Heritage List. This team would be responsible for ensuring the protection of the OUV of property through the protection of its various components, especially as they face multiple pressures due to increasing development projects.

6. Requests the State Party to remove the **fill materials** from the World Heritage property and refrain from further use of the property for solid waste purposes;

Protection of the WH property, Removal of Dumped Fill and Quarries

The alignment of the proposed ring road was visited on the 7th March 2017 crossing the WH property from east to west in vehicles (as indicated above, "Unfolding of the mission"). The surface road works abandoned in 1995 were evident from the outset comprising an embankment and cuttings with side slopes protected with stone paving. The abandoned surface road alignment has been used to dump fill material, mostly excavated sand and rock but also building rubble.

A low height concrete wall with cut down fence posts runs along the road alignment. This was advised as the old southern boundary wall of the archaeological area, a boundary which has now been moved 2 to 3km to the north, towards the Pyramids.

At approximately half way across the WH property, two large sand quarries were observed adjacent to the road alignment. They are each approximately 500m across and perhaps 20m deep giving an estimated volume of several million cubic meters each. With reference to Google Earth maps, the northern quarry was commenced in 1989 and the southern quarry in 2013. This landscape is within view of the pyramids to the north.

As the Mission approached the west of the WH property the extent of dumped fill substantially increased and was no longer confined to the abandoned road alignment. The dumped fill extended from El Faiyum-Desert Road over a large area into the WH property. With reference to Google Earth maps, there are many thousands of individual piles of dumped fill predominantly extending from El Faiyum-Desert Road on the western side of the WH property. The Google Earth maps show the commencement of fill being dumped from around the year 2000 with an extensive area existing before 2011. This coincides with the development of the land opposite to the WH property to the west of El Faiyum-Desert Road. At the same time, the excavation of seven quarries up to 3km from the El Faiyum-Desert Road within the WH property in this area has occurred. After 2011, one quarry can be seen to being backfilled with dumped fill.

The State Party has place concrete barriers along El Faiyum-Desert Road (see photo) to restrict access to the WH property. However these barriers did not extend along the full length of the WH property. The perimeter of the site therefore needs to be secured to prevent exploitation and dumping of fill material. As highlighted by previous missions, the dump fill material should be removed. In addition, the quarries adversely impact on the authenticity of the site and must be returned to the natural landscape. The proposed ring road tunnel project provides an opportunity to remediate these quarries (see concluding comments).

The satellite photos also show to the south east the location of more quarries and a waste incineration site accessed from the eastern boundary of the WH property. The State Party's

Saqqara Archaeological Site Enhancement Plan (2012) does recognise dump fill and the structural and visual impact of the monuments from atmospheric pollution from south-east bound winds. The plan identifies an action to relocate the waste incineration site which is operated by the Giza Governorate.

The SP representative said that they had already elaborated a plan for the fill materials removing with an estimated cost and that the province of Giza and the Ministry of Defense had already announced financial contributions for its implementation. They were intending to ask for the support of UNESCO to mobilize the complementary resources.

The Mission advised the SP to start working with the already available resources to remove part of the fill materials.

7. Takes notes with great concern of the rapid and intense urban growth of the Cairo Megalopolis and its related urban encroachment and traffic pressure that affect the property;

The Mission recalled the need for the country to increase vigilance in order to stem any future development likely to have an impact on the property and its OUV. In this regard, it would be crucial to move forward with the definition of a buffer zone with appropriate protective urban regulations and urban sprawl control and protective measures for a defined wider setting.

8. Also takes note that the alternative routes to the Ring Road to the North of the Giza Plateau and through the Maryoutiyah and Mansouriyah canals, developed by the State Party as recommended by the World Heritage Committee at its 19th session (Berlin, 1995), are no longer sufficient to address the traffic needs of the area surrounding the property, and that the State Party is seeking a viable traffic solution protecting the property while addressing the growing development pressures in the Cairo Megalopolis;

9. Further takes note of the recommendations of the ICOMOS Advisory mission, that an underground tunnel is the only acceptable solution for a road crossing the property, and requests the State Party, in conformity with Paragraph 172 of the Operational Guidelines, to submit to the World Heritage Centre, for review by the Advisory Bodies, and before any irreversible decisions on road projects are made, the following documents:

- a) a detailed **traffic management study** and plan of the area,
- b) any **projects** for an underground tunnel inside the property or other road projects in its vicinity,
- c) a **Heritage Impact Assessment (HIA)** for all of the above, including remote sensing and physical investigations of potential archaeological remains;

(A) Ring Road: Traffic Management Study Report

The State Party presented to the Mission the strategic traffic management plan for the greater Cairo area involving two larger ring roads (middle and outer) beyond the current 'inner' ring road. A critical component of this strategic plan was providing a connection from the inner Cairo Ring Road to the El Faiyum-Desert Road through the WH property. This would alleviate severe traffic congestion to the north of the WH property as well as provide direct access to the new Visitor Centre from the east. While traffic predictions were up to 2035, the long term strategy was explained as providing metro connection to 6th October City and developing New Cairo City to the east.

The Mission advised the State Party to provide a traffic management study in a report format setting out of the context of the strategy traffic management for greater Cairo. The justification of the ring road link through the WH property should be evaluated using established traffic engineering principles considering several alternative route options. Comparisons should be made by point scoring against several evaluation criteria to be determined by the State Party. The purpose of such a justification is to demonstrate the credible assessment of alternative routes to avoid impact on heritage and on the OUV of the WH property.

The traffic study report should include an explanation of the benefits that the ring road link would have with the new Visitor Centre and Grand Egyptian Museum, with particular reference to visitor access to these facilities. The traffic study presentation given to the Mission showed significant annual monetary 'environmental impact' savings associated with the proposed ring road link. Further explanation of these should also be provided. The report should include the acceptance that the Al-Mansouriyah and Al-Maryoutiyah routes to the east are no longer viable.

The report should also include the determination of the minimum number of lanes required.

The long term traffic vision beyond 2035 should also be discussed in the report to give confidence that this road is not just a short term fix but there is a plan to manage future demand. The State Party explained its intention of providing a future metro connection to 6th October City and developing New Cairo City to the east.

The traffic study report should:

- a) be a standalone report but one that will inform the HIA.
- b) contain a non-technical executive summary for non-traffic engineers to understand the purpose, content and findings of the report.

The Mission recommended that the traffic management report should be submitted to the World Heritage Centre for review by ICOMOS before the HIA is undertaken.

(B) Ring Road: Preliminary Engineering Design

Details of the proposed cut-and-cover twin four lane road tunnel were shown on presentation slides during the mission. For the assessment of heritage impact by the Ministry of Antiquities, engineering drawings at appropriate scale must be provided.

These engineering drawings should include:

- a) Plan drawings: showing tunnel alignment, width, portals, maximum excavation extents, WH property boundary, existing roads and developments, topography and the proposed tunnel control buildings. Co-ordinates should be provided on the drawings to allow areas of archaeological investigations to be positioned.
- b) Profile drawings: showing tunnel chainages (imaginary lines used to measure distance, often corresponding to the centre of a road), ground surface and tunnel levels.
- c) Section drawings: typical cross section drawings at several locations along the alignment showing the tunnel geometry, ground surface and temporary excavation slope.

The Mission advised that any above ground structures would have a negative impact on the OUV of the WH property. The State Party had developed the tunnel ventilation design to

remove the proposed three ventilation shafts within the WH property however three emergency escape shafts were presented. The Mission advised that having such structures at ground level would have a negative visual impact on the property and should be avoided. Such surface structures would attract future surface access routes for maintenance and evacuation even though they may not be envisaged in the current design. Having access routes through the WH property has been demonstrated to attract dumping of fill and exploitation of sand which is unacceptable. The State Party advised that they had an alternative option to evacuate people from one tunnel to the other in the case of a fire and that that option didn't need surface shafts.

Also a narrative description of the proposed construction sequence including plan and cross section images should also be provided for the Heritage Impact Assessment.

Supporting technical reports (e.g. air quality and noise & vibration assessment report) should be based on the proposed tunnel scheme and include existing, construction and completion stages. These reports should include a non-technical executive summary for non-engineers to understand the purpose, content and findings of the report.

The engineering site assessment report should only include what is relevant to the proposed route and present clear readable plans/images. It should describe existing geological, groundwater, topographical and seismic conditions of the site so that the Ministry of Antiquities can consider appropriate archaeological investigation techniques.

The standalone preliminary engineering design drawings and reports should then be provided to the Ministry of Antiquities to inform the production of an HIA. The Ministry of Antiquities can then use extracts, results and/or summaries of these documents within the HIA.

The mission recommended that the project information should be submitted to the World Heritage Centre for review reviewed by ICOMOS before the HIA is undertaken.

(C) Ring Road: Heritage Impact Assessment

As it has become clear in the course of the Mission, the SP has taken several important steps towards addressing and responding to the Heritage Impact Assessment requirements. Moreover, on the eve of the mission, the SP forwarded a range of relevant files, including a dossier entitled "Ring-Road Project" which actually comprised several elements relevant to the HIA. Discussions with representatives of the Ministry of Antiquities during the Mission confirmed that they have a good understanding of what documents are needed to form the basis for the HIA. .

The main documents are:

- An archaeological report
- A traffic management study report
- Preliminary engineering design drawings

The Traffic Management study report and the Preliminary engineering design drawings have been considered above. The Archaeological report is considered here together with comments on the necessary legal framework.

Ring Road: Archaeological data / documentation Report

The Mission underlined the need for the Archaeological Report to set out a detailed sites and monuments record of the WH property based high quality maps and reflecting the extent of the known and potential archaeological heritage of the area.

The importance of making available high quality maps at different scales (starting with 1:2500 or as appropriate) of the WH property and its components was stressed during the mission. Such maps are an indispensable tool for informing decisions and for initiating processes, infrastructure works and other matters as well as for the HIA. The maps currently made available, e.g. in presentation of the WH property on the UNESCO website, were not considered by the mission to be fit for these purposes. Maps need to be clear and accurate for mapping of the WH property to define the boundaries of the property and buffer zone at a scale that can be established precisely by survey onsite to enable management of the site, determine developments and land (as well as encroachments) that fall within and out with the boundaries.

The mission considered it necessary for the SP to provide – and if need be to produce – an "archaeological map". On such a map, which would be the equivalent of a "site and monument record", of all the known archaeological occurrences, of whatever nature and date that have been identified on the Giza plateau and in the area of the proposed Ring-Road, together with defined areas of archaeological sensitivity. This presupposes that there exists, at the Ministry of Antiquities or as part of the management structure of the WH property, such an accurate record and spatial localization of all archaeological finds made under the authority of the Ministry. Ideally such a record should normally be a legal or administrative requirement, associated with the excavation or survey permits procedure.

Such archaeological maps made at several scales (including those covering a distance of 5 km, and 15 km southwards from the Giza Pyramid, the northern border of the Giza WH property) are clearly an important predictive tool to establish the archaeological sensitivity of the area which can be used in the HIA, and the likelihood of further encounters with sites in the light of development plans.

In this regard, at the end of the mission, the Ministry of Defense took a first aerial photo of the project area with a drone. The scale was adequate and the Department of Antiquities had to add on it various indications relating in particular to archeology. The Mission recommended the continuation of this work on all parts of the property inscribed on the World Heritage List.

The mission thus advised of the need to assemble and make available a range of maps and spatial resources, (these include topographic maps, geomorphology and geology, aerial photography, Google Maps, Lidar etc.) that would enable the characterisation of the known and potential archaeological and heritage of the property, and could be used to assess the heritage impact of the ring-road plan as part of the overall impact assessment on the OUV of the WH property.

The overall impact on OUV would also need to be based on a visual survey of the WH property. This survey needs to delineate the setting of the WH property in relation to the attributes of OUV. As the proposed tunnels could have the potential to facilitate the development of areas to the west of the property, it is essential that the tunnel project is based on a clear analysis of the visual as well as the archaeological setting of the property, both of which supports its OUV, and both of which need to be defined, respected and protected.

Specifically to the proposed ring-road tunnel under consideration, the on-site visit by the mission (see above, "Unfolding of the mission") has highlighted the degree of advancement of the initial (1995) project, which has resulted in a now abandoned (but occasionally illegally used) road surface, including embankments and infrastructures. This alignment has already affected adversely the integrity of the WH property, and its construction would have led to negative impact and disturbances on any archaeological occurrences that might have laid on its path.

Upon inquiry by the Mission, the SP indicated that a specific archaeological evaluation had actually been undertaken by members of the Pyramids inspectorate (of the Supreme council of Antiquities) in relation to the layout of the 1995 Ring Road. The results of this evaluation were negative, insofar as no antiquities were found in the 16 trial trenches carried out, from east to west. At the request of the Mission, this evaluation report was retrieved and translated for the Mission. It should be noted that the standards of operations and reporting on this evaluation, more than 20 years ago (apparently without any maps or plans) do not corresponds to the requirements of today.

As the Mission pointed out to the SP, there are here several implications.

a) First, it may of course well be the case that the alignment evaluated in view of the 1995 ring-road was indeed free of any archaeological occurrences. This is in itself an essential piece of information for HIA, which may serve at least to formulate some initial hypotheses.

b) At the same time, it will of course be necessary to undertake a new and thorough evaluation of the archaeological potential of the area. In doing so, it will be important to keep in mind that the path of the 1995 Ring-Road has undergone prior disturbances. These non-pristine conditions will make it necessary to adjust and adapt methodologies of detection of archaeological occurrences, be they non-intrusive (geophysical prospection, walking surveys) or intrusive (trial trenching). Based on a proper assessment and mapping of these disturbances, a sampling strategy can be devised that will avoid the overly disturbed areas, or deploy methodologies that are more appropriate (e.g. aerial surveys) rather than, say, ground penetrating radar or electromagnetic resistivity.

c) This makes it all the more important to recover all information on archaeological activities in the area (say 10 km south of the pyramids). Any reports on previous surveys undertaken in the area will be useful, including the reports of surveys which have yielded only negative results (no finds) – and which are thus less likely to be published. The mission recommended that SP and the Ministry of Antiquities should retrieve all the information it has available in its own archives and records on the operations of archaeological missions on the Giza plateau (both narrowly and broadly defined). It may also have to proactively seek information among these archaeological missions.

As indicated by the Mission to the SP all these observations and results will have to be taken into account in the HIA scoping that it undertakes, and serve to adapt the strategy to the situation at hand.

In summary, the mission recommended that the Archaeological Report should be submitted to the World Heritage Centre for review reviewed by ICOMOS before the HIA is undertaken.

Ring Road: Legal framework

a) The mission recommended to the SP that, as part of the HIA, it will be essential to provide substantial details on the current legal framework, protection measures and Antiquities law (as they apply throughout the land, and to WH property). The provision of the relevant sections (not just the n° of the articles) will be expected. On the links between development (building and infrastructure works) on the one hand, and archaeology on the other, it will not be sufficient to state that "development is stopped when antiquities are encountered". With reference to the Antiquities law or specified regulations, it will be necessary to specify the anticipation and mitigation mechanisms available, in order to understand how archaeology is integrated in the development process. Who authorizes construction work, and who decides that this work is to be stopped, and for how long? What are the controlling measures (how efficient they are)? What permits are required in order to advance with the construction project? Who decides to proceed with excavations, and who undertakes them? Who can request / impose changes of building plans? At whose costs? Is there a distinction between movable and immovable finds? What are the anticipatory measures available – prospections, impact assessments, archaeological sites and monuments records? Overall, the SP will have to include in the HIA a through explanation of the integration of archaeology in the planning process.

Two further points to add on these legal and administrative aspects.

Subsequent to the mission, the SP (the Ministry of Antiquities) has provided the Mission with translations of some relevant articles (articles 20, 21, 22 of Law 117 of 1983, as amended by Law n°3 of 2010 promulgation of Antiquities' protection law). These should of course be included in the SP response to WHC 40 COM 7B.22.

As well, the SP (the Ministry of Antiquities) has expressed its interest in including in its Antiquities law some measures and articles specifically dealing with the protection and management of UNESCO World Heritage Sites. The SP has turned to ICOMOS for advice in this matter, notably through a comparison with other national legislations who have incorporated this WH property dimension. ICOMOS will provide this advice separately.

10. Notes the document on the proposed road cutting (referred to as an open tunnel) called the Mansouris Axis – Cairo Fayoum Ring road, and the related air quality report, submitted by the State Party, and acknowledges that proposals for an open road cutting across the property are not in line with the recommendations of the mission, as discussed with the State Party on site, and could have a major, irreversible adverse impact on the OUV of the property;
11. Also requests the State Party to provide information of urban or architectural developments that could potentially affect the OUV of the property, in conformity with Paragraph 172 of the Operational Guidelines;
12. Further requests the State Party to submit to the World Heritage Centre, by **1 February 2017**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 41st session in 2017.

The Mission provided all the information and clarification on these points by responding to the questions raised by representatives of the State Party who confirmed that they now have the necessary understanding to prepare responses to requests from the World Heritage Committee.

3. MISSION CONCLUSIONS AND RECOMMENDATIONS

A joint WHC/ICOMOS technical assistance mission was undertaken between the 5th and 9th March 2017 in Cairo at the request of the Government of the Republic of Egypt, the State Party, in view of recent propositions bearing on the World Heritage property "Memphis and its Necropolis - the Pyramid Fields from Giza to Dahshur (c. 86)".

As part of the development of the Cairo metropolis transport system, a ring-road scheme had been carried out around the city in 1995. However, the completion of a 5 km or so stretch of this ring-road, within the Giza WH property, was abandoned in view of its clear negative impact on the OUV of the WH property, and alternative traffic solutions were selected. Twenty years onwards, these alternative solutions are no longer tenable, and the State Party seeks now to reconsider the completion of the original ring-road project. The World Heritage Committee, duly notified, has initiated an advisory process involving ICOMOS and the WH Centre, including an on-site mission (in July 2015) and leading to a specific WH Committee decision (40 COM 7B.22 in October 2016).

The current WHC/ICOMOS technical assistance mission forms part of this ongoing process of consultation and interaction with the State Party. The Mission's principal aim, as per its TOR, has been to establish that the SP's relevant authorities – both those dealing with heritage protection and management and those dealing with planning, design and construction of the proposed road scheme – have a clear understanding of what is required to ensure that any proposed developments do not bring harm to the Giza WH property and its OUV. This notably applies to the State Party's proposition, made in December 2016 in response to the recommendations of the July 2015 ICOMOS/WHC mission, to place the ring-road stretch within the WH property site in a cut-and-cover tunnel.

The Mission usefully engaged with the SP and its relevant authorities on the contents and requirements of this WH Committee Decision and related ICOMOS reports and recommendations. As it unfolded over three working days – the State Party is again to be thanked for its investment and good-will – the Mission included both meetings with relevant official bodies and on-site visits to the WH property.

The Mission was able to meet the **major persons and official bodies**, be they related to the planning, traffic and infrastructure sectors, or to the heritage and antiquities sectors. It was quickly established that, notwithstanding previous misinterpretations and difficulties in communication, the SP has a good appreciation of what is requested for abiding by decision 40 COM 7B.22. These requirements were discussed point by point with the SP. The SP presented a range of infrastructure data, including traffic studies and projections, environmental studies (pollution, noise...) and tunnel designs: to varying degrees, all show an understanding of obligations regarding OUV protection and enhancement. Specifically to the necessity of undertaking an Heritage Impact Assessment (HIA) prior to an approval given to any development plan, the relevant SP authority, namely the Ministry of Antiquities, has taken several important steps to respond to these demands, and is now in a good position to formulate a full-fledged HIA programme regarding the proposed tunnelling of the ring-road within the WH property perimeter. In addition, the Mission was able to establish, with all the persons concerned, the leading role of the Ministry of Antiquities in coordinating and centralising the SP's responses to the WH Committee.

The site visit undertaken by the Mission included the crossing (on 7th March 2017) of the WH property east to west, following the path of the ring-road laid-out and abandoned in 1995. The Mission was able to observe the presence of an abandoned surface route throughout the 5 km length of the ring-road within the WH property, including surface disturbances, built embankments and other road infrastructures. Although not surfaced, this route has been systematically used over the years for two illegal purposes: (i) the recurrent dumping of soil/rock and other construction debris, especially at its eastern and western extremities, and (ii) the near-industrial exploitation of sand quarries, notably towards the centre of the WH property. The situation created in 1995, with an unfinished and unsupervised route, has clearly been detrimental to the OUV of the WH property (as notably iterated in the recently formulated Retrospective Statement of OUV), and has adversely impacted the WH property's integrity and landscape values.

In view of the above, the Mission considers that the SP would need to proceed with diligence and efficiency to comply with the requests of Decision 40COM 7B.22, to collate and present all the information requested, and to proceed with the undertaking of a credible and comprehensive HIA on the WH property. In this respect, the Mission reiterates the offer of ongoing support made by WHC and ICOMOS to SP in assembling the elements requested by Decision 40COM 7B.22, notably regarding the HIA requirements. The WHC will keep regular communication with the Ministry of Antiquities as the institution responsible for World Heritage matters, and cultural heritage protection and enhancement at large.

The Mission recommends to the SP that the three main reports below are necessary to underpin the HIA, and should include the following:

(i) The Traffic report:

- Justification for the proposed ring road link through the WH property, to demonstrate the credible assessment of alternative routes to avoid impact on heritage of the WH property.
- The justification should be evaluated using established traffic engineering principles considering several alternative route options.

ii) Preliminary engineering design drawings and supporting technical reports:

- Complete and updated preliminary engineering design drawings and reports to the Ministry of Antiquities to allow the production of a HIA.
- A narrative description of the proposed construction sequence including plan and cross section images should also be provided for the Heritage Impact Assessment.
- Supporting technical reports (e.g. air quality and noise & vibration assessment report, etc.) should be based on the proposed tunnel scheme and include existing, construction and completion stages. These reports should include a non-technical executive summary for non-engineers to understand the purpose, content and findings of the report.
- The engineering site assessment report should only include what is relevant to the proposed route and present clear readable plans/images. It should describe existing

geological, groundwater, topographical and seismic conditions of the site so that the Ministry of Antiquities can consider appropriate archaeological investigation techniques.

iii) Archaeological Report:

- Maps indicating the archaeological occurrences in the area, as well the location and results of any prospections and surveys undertaken, including aerial photographs, satellite mapping etc.
- Details all known archaeological or historical documentation/photographs relevant to the line of the proposed road and its immediate setting;
- Details on the existence of the 1995 ring-road within the WH property, and to evaluate on the ground the degree of surface disturbance caused by this initial layout.
- Detailed archaeological investigation/sampling strategy to be adopted for a new and thorough evaluation of the archaeological potential of the area taking into consideration the degree of ground surface disturbance from the existence of the 1995 ring-road within the WH property. Evaluation shall include confirmation (or otherwise) of the field trenching report made in 1995 whereby no antiquities at all were reportedly found on the path of the road. Independently of that, the SP should adapt its HIA framework, in terms of scope, location and methodology, in view of this extensive surface disturbance.
- Clear archaeological procedures for undertaking a Heritage Impact Assessment on the potential archaeological impact of a cut and cover tunnel within the WH property.

The Mission recommends that these three stand-alone reports should be submitted to the World Heritage Centre for review by ICOMOS before the HIA is undertaken.

The State Party has committed to send the archaeological, traffic and engineering reports , and subsequently the revised project documents, and the related HIA, to the World Heritage Centre for reviews by ICOMOS, before the 41st session of the World Heritage Committee in Krakow (July 2017).

On 2 May 2017, the State Party sent to the World Heritage Centre the Memphis Management Plan, maps, a structural map of the tunnel, a traffic study and a PowerPoint presentation showing the removal of waste material in the WHS (in Arabic). These will be reviewed by ICOMOS alongside the archaeological, traffic and engineering reports, when these are received, and the reviews shared with the State Party in due time.

For the existing condition of the WH property, the Mission recommends that SP should take the following as its immediate priorities:

1. Bring to a total end any further illegal uses and encroachment of the WH property, through physical barriers and boundaries' protection, as well proactive enforcement mechanism, and

2. Repair the damages caused by illegal quarrying, which adversely impact on the authenticity of the site, by returning the landscape as close as possible to its natural state.
3. Remove the waste incineration site and reinstate the landscape to stop the structural and visual impact of the monuments from atmospheric pollution from south-east bound winds.

So far as the RSOUV, protection and management is concerned, the Mission recommends the SP to:

1. Follow its submission of the revised Retrospective Statement of Outstanding Universal Value (RSOUV), include it in the management plan after it's validation by the World Heritage Committee at its 41st session (Krakow, 2017).
2. Proceed with the compilation of a robust and enforceable management plan for the WH property as a whole. A committee could be established by the SP for the overall co-ordination and management of the WH property, with members from the different bodies and persons involved, led by the Ministry of Antiquities.
3. Establish and adopt of a buffer zone for the property, strengthen and make explicit the legal framework for the implementation of the buffer zone (notably in the Giza pyramids area), and also to explore the introduction in national legislation of protection mechanisms specific to World Heritage properties.

ANNEXES

Annex 1 - Terms of Reference of the mission

Annex 2 – Context of Decision on Memphis and its Necropolis (C86) 40 World Heritage Committee (July 2016, October 2016) See <http://whc.unesco.org/archive/2016/whc16-40com-7B-en.pdf>

Annex 3 –Decision 40 COM 7B.22 on Memphis and its Necropolis (C86), 40 World Heritage Committee (July 2016, October 2016) See <http://whc.unesco.org/en/decisions/6687/>

Annex 4 - ICOMOS Advice to the State Party of Egypt On Preliminary Data Requirements Necessary for an Heritage Impact Assessment on the Cairo Ring Road Tunnel Project (September 2016).

Annex 5 – Comments by ICOMOS (January 2017) to the SP reply (December 2016)

Annex 6 - Programme of the joint WHC/ICOMOS Mission (March 2017)

Annex 7 - List of Attendees at the meetings of the Mission

Annex 8 :Memphis and its Necropolis – The Pyramid Fields From Giza to Dahshur Site Visit Photographs (7 March 2017)Photographs (by the mission)

Annex 9 :Maps (Google earth) : Cairo mission quarries 1995-2004
Cairo Mission quarries 2011.2016

Annex 1 - Terms of Reference by the SP of the present mission

Terms of reference for a joint UNESCO World Heritage Centre/ICOMOS Advisory Mission

Title of the mission:

Technical assistance to the Egyptian Government in view of the proposed construction of a tunnel within the **World Heritage site: Memphis and its Necropolis – the Pyramid Fields from Giza to Dahshur** and its potential impact on the property and its setting following decision 40COM7B.22 (<http://whc.unesco.org/en/decisions/6687>), and the submission by the State Party in December 2016 of outline details for the tunnel, together with information on traffic flows and integrated tourism management for Dahshour,

The UNESCO World Heritage Centre and two senior experts from ICOMOS will conduct a mission to Cairo to provide technical assistance to the Egyptian authorities on the proposed construction of a tunnel within the World Heritage site: Memphis and its Necropolis – the Pyramid Fields from Giza to Dahshur; the mission shall:

- Provide Preliminary Data Requirements Necessary for a Heritage Impact Assessment on the Cairo Ring Road Tunnel Project for the foreseen tunnel in the property;
- Follow-up with the State Party of Egypt on the recommendations of the ICOMOS Advisory Mission of December 2015, of the World Heritage Committee decision 40 COM 7B.22, (<http://whc.unesco.org/en/decisions/6687>), and of the ICOMOS Advice on Preliminary Data Requirements Necessary for an Heritage Impact Assessment on the Cairo Ring Road Tunnel Project of September 2016;
- Provide the technical team in charge of the tunnel project with technical feedback on the documents sent to the World Heritage Centre on 19 December 2016; exchange with the team on the compliance of the tunnel's project with the documents listed in paragraph a above;
- Provide recommendations on any additional data, documents, drawings or actions to be provided or undertaken to allow an Heritage Impact Assessment (HIA) of the project to be undertaken, and detailed submissions to be made to the World Heritage Centre in compliance with the World Heritage status of the property;
- Prepare and submit the Advisory mission report to UNESCO World Heritage Centre by 21 April 2017

A second phase of technical assistance would be convened between UNESCO and ICOMOS following the results of the advisory mission.

Annex 2 – Context of Decision on Memphis and its Necropolis (C86) 40 World Heritage Committee

See <http://whc.unesco.org/archive/2016/whc16-40com-7B-en.pdf>

Memphis and its Necropolis – the Pyramid Fields from Giza to Dahshur (Egypt) (C 86)

Year of inscription on the World Heritage List 1979

Criteria (i)(iii)(vi)

Year(s) of inscription on the List of World Heritage in Danger N/A

Previous Committee Decisions see page <http://whc.unesco.org/en/list/86/documents/>

Previous monitoring missions

1993, 1995, 1998, 1999, 2001, November 2014: joint World Heritage Centre/ICOMOS

Advisory mission, July 2015: ICOMOS Advisory mission

Factors affecting the property identified in previous reports

- Growing number of visitors (issue resolved)
- Uncontrolled development of the nearby village (issue resolved)
- Deterioration of the stones (issue resolved)
- Road construction project (issue resolved)
- Tunnel construction project (issue resolved)
- Urban encroachment
- Infrastructure and tourism developments
- Development and Urban Infrastructure projects (Ring Road project)

Illustrative material see page <http://whc.unesco.org/en/list/86/>

Conservation issues presented to the World Heritage Committee in 2016

On 29 January 2015, the State Party submitted a state of conservation report on the property, which is available at <http://whc.unesco.org/en/list/86/documents>, as a response to the World Heritage Committee's Decision **31 COM 7B.61**.

The report provides information about conservation and development projects for the archaeological sites on the Giza Plateau and in the Saqarra and Mit Rahina areas, including a list of the national institutions and international organizations involved.

Due to the unrest of 2011 and financial constraints, the implementation of projects has been delayed and conservation activities and excavation works have stopped, giving priority to the protection of archeological sites and related storages.

Conservation was resumed slowly in 2012-2013, and the Ministry of Antiquities had to face the issue of illegal constructions that emerged during the period of unrest. As the situation stabilized in 2014, development projects for the enhancement and protection of the property resumed and committees have been established for their implementation.

Finally, the report indicates that the management plan for the entire site should be sent to the World Heritage Centre in 2016.

Due to longstanding and evolving major urban growth issues in the Cairo Megalopolis, the State Party invited an ICOMOS Advisory mission between 27 and 30 July 2015, to address the protection of the property in the face of development pressures, the growing traffic around the property, and to examine alternative solutions. The report of the Advisory mission is accessible at <http://whc.unesco.org/en/list/86/documents>.

Some of the issues considered by the mission date back to the beginning of the 1990s, when urban encroachment had taken place and construction works had been begun to connect the Cairo Ring Road to the south of the Giza Plateau with a road across the World Heritage property. In 1995, the project was halted as a result of local pressure and in response to the recommendation **19 BUR VI.22** of the Bureau of the World Heritage Committee (Berlin, 1995). In 1998, an Agreement signed between UNESCO and the Egyptian Government, reaffirmed

the importance of preventing any encroachment upon the property, including from highways, roads, water supply pipes and buildings. In 2001, a World Heritage Centre mission reported that uncontrolled urban encroachment and the potential resumption of the Ring Road were threatening the integrity of the site.

This issue has been subject to reporting at several Committee sessions in 1998, 1999, 2002 and 2005. At the 31st session of the World Heritage Committee (Christchurch, 2007), the State Party announced the reactivation of the Ring Road project to cross the Pyramid Plateau in the property; the World Heritage Committee reiterated “its previous decisions requesting the abandonment of the Ring Road project, tunnel or trench, crossing the Pyramid Plateau of Giza” and requested “the State Party to officially confirm this cancellation” (Decision **31 COM 7B.61**).

In addition, on 12 April, the State Party submitted a document entitled Ring road (Mansouria Axis, - Cairo Fayoum) that provides the General layout of an open tunnel. On 29 March 2016, it submitted a technical report on the impact on the air quality of the Plateau Area for the proposed construction across the property of a 6 kilometre, eight lane, road cutting (referred to as an open tunnel) called the Mansouria Axis – Cairo Fayoum Ring road. It concluded that although current air pollution is below limits established by law, the construction of the proposed road cutting would further decrease concentration of air pollutants.

Analysis and Conclusions of the World Heritage Centre, ICOMOS and ICCROM

The delays in the implementation of conservation projects and the preparation of a Management Plan for the property have hindered the efficacy of measures for holistic conservation of the property and its setting.

The mission examined in detail the urban encroachment and traffic growth in the Cairo Megalopolis and the related future prospects. It noted that the alternative routes to the Ring Road, which were recommended by the World Heritage Committee in 1995 (namely through the Maryoutiyah and Mansouriyah canals), as well as an alternative motorway bypass to the north of the Giza Plateau, linking the existing Ring Road, the 6th of October City and the road to Alexandria, have been implemented by the State Party. However, they are no longer sufficient to address the fast-growing traffic volume.

The State Party informed the mission about urban development plans, the potential evolution of traffic in the larger area surrounding the property, and several urban and traffic projects such as the metro. The State Party requested the mission to reconsider the former Ring Road project in view of the growing development pressures in the Cairo Megalopolis; moreover, it informed the mission that the Ring Road would allow access to the Great Egyptian Museum and the National Museum of Egyptian Civilization (NMEC), currently under construction.

After discussion with the Egyptian authorities, the mission produced the following recommendations which were discussed with the State Party on site:

- Clearly establish a buffer zone and define the wider setting of the property, based on planning studies of the adjacent area, and establish acute urban controls to define the limits of development around the entirety of the World Heritage property and allow for the Pyramids to remain as the predominant element of the landscape, as well as ensure the long-term protection around the entire perimeter of the World Heritage property.
- Establish clear property boundaries, with masonry walls or other forms, to define the limits of the World Heritage property and deter further encroachment.
- Address the removal of buildings, including the existing large military compound, and informal settlement encroachment within the property boundaries adjacent to the Giza Pyramids and at the east Ring Road entry zone.
- Urgently finalize the preparation and adoption of a detailed, well-integrated Management Plan that includes, in addition to conservation and maintenance measures, regulations for the buffer zone and wider setting, visitor management including the planned Great Egyptian Museum, and provisions to revisit traffic projections to manage vehicular access routes as

well as other urban issues. Proposals for future development should take into account the 2011 UNESCO Recommendation on Historic Urban Landscape.

- Remove contaminated fill materials, brought in along the proposed crossing route, from the property.
- If no other available road options exists outside the property, and, if necessary, any crossing of the World Heritage property by the Cairo Ring Road should be done by means of an underground tunnel, which is the only acceptable solution that would allow for the preservation of the integrity of the World Heritage property and its cultural landscape, and would prevent further illegal and informal urban encroachments. Any other mode of crossing should be rejected. If the underground tunnel option is explored, its width, within the context of the current and projected traffic and the extension of the metro, and the entry points should be studied again. Plans should also be made for the removal of large power transmission line from the Giza Plateau currently entering near the proposed west tunnel terminus to explore the placement of the transmission lines underground as a component of tunnel.

It is acknowledged that the State Party is seeking a viable solution that protects the property, while addressing the uncontrolled growing development pressure in the Cairo Megalopolis. However, an informed World Heritage Committee decision on the issue of traffic management and urban growth of the area can only be taken if the State Party provides the following documents, for review by the World Heritage Centre and the Advisory Bodies, before any works are approved:

- Detailed traffic management study and plan,
- Detailed preliminary design development plans for any proposed underground tunnel projects inside the property or road projects in its vicinity, as well as related Heritage Impact Assessments (HIAs) and results from remote sensing and physical investigations of potential archaeological remains in the area concerned by the tunnel or roads.

The air quality report for the proposed 6 km, eight lane, road cutting (referred to as an open tunnel) called the Mansouris Axis – Cairo Fayoum Ring road was submitted without any further details of the project across the property to which it referred. It is understood that the State Party intends to provide further details in the near future. The World Heritage Committee might like to acknowledge that the proposals for an open road cutting across the property are not in line with the recommendations of the mission which were discussed with the State Party on site.

Moreover, in conformity with Paragraph 172 of the Operational Guidelines, it is recommended that the Committee remind the State Party to inform the World Heritage Centre of any proposed urban and architectural developments surrounding the Giza Plateau that could potentially affect the Outstanding Universal Value (OUV) of the property.

**Annex 3 –Decision 40 COM 7B.22
on Memphis and its Necropolis (C86), 40 World Heritage Committee, July 2016,
October 2016**

See <http://whc.unesco.org/en/decisions/6687/>

Decision Adopted: 40 COM 7B.22

The World Heritage Committee,

1. Having examined Document WHC/16/40.COM/7B,
2. Recalling Decisions **28 COM 15B.50**, **29 COM 7B.45** and **31 COM 7B.61**, adopted at its 28th (Suzhou, 2004), 29th (Durban, 2005) and 31st (Christchurch, 2007) sessions respectively,
3. Notes the delays in the implementation of conservation projects at the property, and the State Party's intention to submit shortly a Management Plan for the property; and urges the State Party to submit a detailed, integrated Management Plan taking into account the July 2015 ICOMOS Advisory mission recommendations;
4. Also urges the State Party to complete the Retrospective Statement of Outstanding Universal Value (OUV) for the property for examination by the World Heritage Committee;
5. Further urges the State Party to define the buffer zone for the property and submit a Minor Boundary Modification proposal, in accordance to Paragraph 164 and Annex 11 of the **Operational Guidelines**, and define the immediate and wider setting to further protect the integrity of the property;
6. Requests the State Party to remove the fill materials from the World Heritage property and refrain from further use of the property for solid waste purposes;
7. Takes notes with great concern of the rapid and intense urban growth of the Cairo Megalopolis and its related urban encroachment and traffic pressure that affect the property;
8. Also takes note that the alternative routes to the Ring Road to the North of the Giza Plateau and through the Maryoutiyah and Mansouriyah canals, developed by the State Party as recommended by the World Heritage Committee at its 19th session (Berlin, 1995), are no longer sufficient to address the traffic needs of the area surrounding the property, and that the State Party is seeking a viable traffic solution protecting the property while addressing the growing development pressures in the Cairo Megalopolis;
9. Further takes note of the recommendations of the ICOMOS Advisory mission, that an underground tunnel is the only acceptable solution for a road crossing the property, and requests the State Party, in conformity with Paragraph 172 of the **Operational Guidelines**, to submit to the World Heritage Centre, for review by the Advisory Bodies, and before any irreversible decisions on road projects are made, the following documents:
 1. a detailed traffic management study and plan of the area,
 2. any projects for an underground tunnel inside the property or other road projects in its vicinity,
 3. a Heritage Impact Assessment (HIA) for all of the above, including remote sensing and physical investigations of potential archaeological remains;
10. Notes the document on the proposed road cutting (referred to as an open tunnel) called the Mansouris Axis – Cairo Fayoum Ring road, and the related air quality report, submitted by the State Party, and acknowledges that proposals for an open road cutting across the property are not in line with the recommendations of the mission, as discussed with the State Party on site, and could have a major, irreversible adverse impact on the OUV of the property;
11. Also requests the State Party to provide information of urban or architectural developments that could potentially affect the OUV of the property, in conformity with Paragraph 172 of the **Operational Guidelines**;
12. Further requests the State Party to submit to the World Heritage Centre, by **1 February 2017**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 41st session in 2017.

Annex 4 - ICOMOS Advice to the State Party of Egypt On Preliminary Data Requirements Necessary for an Heritage Impact Assessment on the Cairo Ring Road Tunnel Project (September 2016).

MEMPHIS AND ITS NECROPOLIS – THE PYRAMID FIELDS FROM GIZA TO DAHSHUR (EGYPT): ICOMOS Advice to the State Party of Egypt on Preliminary Data Requirements Necessary for an Heritage Impact Assessment on the Cairo Ring Road Tunnel Project

1. Background

Following on from an ICOMOS advisory mission undertaken in July 2015, the State Party of Egypt is exploring a project to complete the Cairo Ring Road through the construction of an underground dual carriageway road tunnel across part of the Giza Plateau, within the Memphis and its Necropolis—the Pyramid Fields from Giza to Dahshur World Heritage property.

The State Party has requested advice on how to take forward an Heritage Impact Assessment (HIA) and other necessary impact assessments for this project in order to allow the UNESCO World Heritage Committee to understand the scope of the project and its potential impacts on Outstanding Universal Value (OUV).

In collaboration with the World Heritage Centre, ICOMOS has consulted relevant experts. Below are set out our initial advice on the Preliminary Data Requirements necessary to allow for preliminary designs for the proposed tunnel to be drawn up and a detailed HIA to be undertaken to ensure that the proposed tunnel and its ancillary roads, portals and other structures can avoid having a potential negative impact on the OUV of the World Heritage property (including its integrity and authenticity).

ICOMOS is suggesting a four stage process:

1. Assemble preliminary data to assess the context and critical parameters within which the tunnel is being considered and to justify the line and size of the proposed tunnel and its links to existing road networks;
2. Create preliminary engineering designs, based on the preliminary data, and which set out the broad parameters of the proposed scheme;
3. Agree a final draft of the Statement of OUV for the property with ICOMOS;
4. Undertake a detailed HIA based on the preliminary engineering designs, and the agreed SOUV, in line with the *ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage properties* (January 2011).

These four stages are set out in more detail in the next section of this report.

2. Assemble Preliminary Data

The Preliminary data to be assembled should set out the critical parameters for the development of a detailed tunnel project. It will be essential for the credibility of the overall tunnel project, and of the subsequent HIA, that the critical parameters are identified on the basis of best international practice for all relevant disciplines.

The preliminary data should include reports on the following key aspects:

- Transport feasibility study report*
- Engineering site assessment report*
- Archaeological assessment report*
- Visual survey report of the Giza Plateau*

The requirements for each of these are set out in more detail below.

- a) *Transport feasibility study report.*

The aim of this feasibility report is to demonstrate the need for a tunnel on the proposed alignment and to justify the minimum size and arrangement necessary. The report should set out the strategic importance of the transport link as well as its specific role and function.

The report should review and assess existing information and identify current and future transport related problems (e.g. connectivity, reliability/resilience, road safety, accidents, journey times, congestion, etc.) without any improvement to the current ring road. The report should then identify the range of infrastructure proposals that could address these problems including a route option selection assessment process, to demonstrate alternatives have been considered and to justify the line of the preferred tunnel route.

It is understood that some traffic data was provided to the 2015 advisory mission but that this was somewhat fragmentary and did not include traffic modelling including future traffic growth for the proposed tunnels. The modelling and assessment of such data is necessary in order to demonstrate in the report the transport benefits of the scheme and to inform the technical justification for the size and construction of the tunnels.

As the cost of the tunnels will be linked closely to their size, the traffic predictions and modelling undertaken should inform assessments of tunnel options such as two two-lane tunnels, three two-lane tunnels (to allow one to reflect peak morning and evening traffic flows), or two three-lane tunnels.

The report should also recognise environmental issues and constraints where relevant to the scheme such as severe weather, noise and vibration, air quality, pollution, etc. Other issues such as geological and infrastructure maintenance may also be relevant.

b) Engineering Site Assessment report

The existing geological, groundwater, topography and seismic condition of the site should be described and characterised by undertaking a site specific desk study assessment collecting existing records (e.g. maps, reports, investigations, photos, etc.).

A preliminary intrusive ground investigated should also be undertaken, where necessary, to inform the preliminary engineering design.

c) Archaeological assessment report

Surveys of the line of the proposed tunnel and its hinterland including approach roads are needed to identify all archaeological sensitivities.

The Giza plateau, situated at the northern edge of the property, contains in addition to highly visible monuments, a range of sub-surface and below-ground ancient features – burial chambers, tombs, ditches, tunnels, and well as occupation areas and installations of various kinds, many dug in the outcropping or sand-buried limestone bedrock. The area includes known shallow graves, as well as rock-cut tombs, some of which extend down to around 30 metres in depth.

Only a small part of these archaeological features have been adequately recorded. The current information on the archaeological profile of the area of the proposed tunnels is based on quick and non-authenticated surveys undertaken before the 1990s and is not considered adequate. Since then a considerable amount of fill has been deposited on some parts of the area and the surface disturbed.

In order to provide adequate archaeological data, it will be necessary for surveys to be undertaken along the projected route. In line with international practice, a multiple survey approach should be adopted (that is both non-intrusive and intrusive surveys) in order to detect, identify and characterise archaeological remains likely to be impacted by tunnel development.

The non-intrusive surveys should include aerial photography and side-looking airborne radar (SLAR) in order to establish a micro-topographic model of the Plateau, as well as a dedicated

geomorphological survey. They should also include a walking survey, and a survey with ground penetrating radar and electromagnetic resistivity, with equipment and settings adapted to local geological conditions.

Studies undertaken in the past decade have shown that non-intrusive methods are relatively cost-effective and quick to deploy, and potentially are able to locate with considerable precision sub-surface or below-ground anomalies. However, they cannot as a rule provide sufficient data with which to interpret the nature of these anomalies (e.g. features, dates, associated finds, stratigraphic context). Thus non-intrusive results need to be supplemented by subsequent intrusive trial-trenching.

Trial-trenching should also be carried out sampling some 10% of the surface under consideration from topsoil to archaeologically sterile substrate.

These combined assessments will need to be undertaken across the area of proposed tunnel, and within a sufficiently large extension zone, as well as a substantial area surrounding the projected location of the tunnel portals, link roads and areas where roads created for the construction process are to be located.

d) Visual survey report of the Giza Plateau

This survey needs to delineate the setting of the World Heritage property in relation to the attributes of OUV (see below). As the proposed tunnels could have the potential to facilitate the development of areas to the west of the property, it is essential that the tunnel project is based on a clear analysis of the visual as well as the archaeological setting of the property, both of which supports its OUV, and both of which need to be defined, respected and protected.

3. Preliminary engineering design

Once assembled, these reports should inform the preliminary engineering design of the road tunnels on which the Heritage Impact Assessment (HIA) should be undertaken.

The preliminary engineering design should at a minimum provide the following:

- Alternative crossing options and definition of the preferred tunnel corridor;
- Preliminary tunnel alignment (vertical and horizontal);
- Locations and size of portals, tunnel control building and link roads;
- Size and configuration of tunnels (whether two tunnels of two or three lanes, or three tunnels of two lanes), width of road, and number of lanes;
- Construction methodologies and extents of temporary construction sites.

and should indicate how the designs are justified for the way they:

- Reflect traffic need/projections;
- Respect archaeological sensitivities;
- Respect visual sensitivities;
- Acknowledge geological and seismic data;
- Work within engineering rules for road design.

The preliminary engineering design could then be provided to a consultant to allow the production of an HIA.

4. Statement of OUV

For a successful HIA, there needs to be an agreed Statement of OUV (SOUV) for the property. So far, although one has been drafted, a revised version has not yet been submitted to the Committee for approval.

The SOUV needs to be progressed as the proposed HIA needs to be based on an approved text. As it might not be possible within the proposed timescale for the World Heritage Committee to approve the SOUV, it is suggested that a draft approved by ICOMOS should be used. Based on the approved draft, detailed attributes of OUV can then be defined which will be needed for the HIA.

The SOUV should also be provided to the HIA consultant.

5. Heritage Impact Assessment

The HIA should be undertaken in line with the *ICOMOS Guidance on Heritage Impact assessments for Cultural World Heritage properties*. Both the preliminary engineering design and the SOUV and attributes should be provided to the consultant. Background reports may also be needed if these have not been summarised in the preliminary engineering design document.

A Scoping Report (or terms of reference/brief for the HIA) as outlined in the *ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* should be produced prior to an HIA consultant being appointed or the HIA being undertaken.

6. Amplified details and Further work

ICOMOS would welcome the opportunity to present this Advice to the State Party and to discuss implementation and timeframes in relation to the requirements of the World Heritage Committee and the practicalities of the project in terms of, for instance, the time needed for the development of detailed designs and other parameters such as the delivery time of tunnel boring machines.

ICOMOS could also indicate areas where further details might be provided, if needed. Such areas could include:

a) The development of necessary terms of reference/briefs
for the:

- Four background studies on traffic study/traffic modelling, engineering site assessment, archaeological assessment, and setting assessment;
- HIA;
- Development of attributes of OUV.

b) Expert critique/technical review of the background studies

The advice could also be further developed to include how the HIA is related to other necessary impact studies such as an Environmental Impact Assessments.

c) Technical review of the proposed Road tunnel Project in the light of the completed HIA

ICOMOS, Charenton-le-Pont September 2016

Annex 5 – Comments by ICOMOS (January 2017) to the SP reply (December 2016)

MEMPHIS AND ITS NECROPOLIS - THE PYRAMID FIELDS FROM GIZA TO DAHSHUR, EGYPT: Cairo Ring Road ICOMOS Notes

On

Documentation provided by the State Party, December 2016

1. Documentation Provided:

The documentation was provided under the following headings:

- i. Dashour Training needs analysis
- ii. Dashour Strategic Plan – Sustainable Tourism Development Framework
- iii. Electric Towers
- iv. Environmental
- v. Giza
- vi. HIA
- vii. Tunnel

Two files, Environmental and Giza were only provided in Arabic.

The documentation provides contextual material for the Ring Road Tunnel. This included material on a possible lighting strategy for roads approaching the proposed Ring road Tunnel, on overhead transmission lines, the wider Dashour Tourism Development Framework, progress with a Management Plan for the property, and the intention to undertake further studies, if sufficient funds can be found, on the Ring Road Corridor, on enhancing the value of the Saqqara archaeological site, on the development of a Strategic plan for the Pyramids.

The new technical materials directly relevant to the proposed tunnel included presentations on tunnel construction, on the justification for the tunnel project, and on the Cairo traffic analysis and strategy.

2. Preliminary Assessment of documentation

ICOMOS has undertaken a preliminary assessment of this material in the light of the recommendations set out in our document on Preliminary Data Requirements necessary for an Heritage Impact Assessment on the Cairo Ring Road Tunnel Project in September 2016. The sequence of actions suggested in that document aimed to set out the data considered necessary for a successful Heritage Impact Assessment (HIA) to be undertaken. These were:

1. Assemble preliminary data to assess the context and critical parameters within which the tunnel is being considered and to justify the line and size of the proposed tunnel and its links to existing road networks; on the following:
 - *Transport feasibility study report*
 - *Engineering site assessment report*
 - *Archaeological assessment report*
 - *Visual survey report of the Giza Plateau*
2. Create preliminary engineering designs, based on the preliminary data, and which set out the broad parameters of the proposed scheme;
3. Finalise the HIA
4. Undertake an HIA

These are considered in turn:

1. Assemble preliminary data to justify the line and size of the tunnel
 - *Transport feasibility study report*

Some material has been provided on traffic modelling and predictions, although from the details provided it is not entirely clear how the size of the tunnel relates to the projections provided. It would be helpful to understand whether what has been provided is supported by more detailed studies.

- *Engineering site assessment report*

No details for this have yet been provided.

- *Archaeological assessment report*

No details for this have yet been provided. This is a crucial part of the whole as it will be one of the main focuses of the HIA.

- *Visual survey report of the Giza Plateau*

No further details for this have yet been provided in relation to how specific new road components will impact on the landscape. The visual aspect of the proposed tunnel will also be a key part of the HIA. Surveys will need to be based on a defined setting and related to attributes of OUV.

2. *Create preliminary engineering designs.*

Preliminary designs have been provided. The level of detail does not allow a full understanding of all the technical details.

What is clear is that a 'cut and cover' or covered tunnel is being proposed rather than an underground tunnel as requested by the Committee. Such a tunnel could have a highly detrimental impact on the archaeological landscape of the Giza Plateau.

3. *Finalise the Statement of OUV*

A revised draft has been submitted (in a folder entitled HIA). Once this SoOUV has been agreed by ICOMOS it will be necessary to clearly articulate the attributes of OUV in more detail.

3. Proposed UNESCO World Heritage Centre/ICOMOS advisory mission

ICOMOS would welcome the opportunity to discuss with the State Party what has been submitted in the context of the overall practicalities of the project and the requirements of the World Heritage Committee. The proposed mission would provide an opportunity to discuss specifically how the materials that have been submitted might be augmented to allow an HIA to be undertaken.

ICOMOS
Charenton-le-Pont
January 2017

Annex 6 - March 2017 ICOMOS / WHC Mission Programme

ICOMOS MISSION TO EGYPT (05 – 09 March 2017) Mission PROGRAMME

Hotel: Flamenco

Address: Golden Tulip Hotel Flamenco Cairo
02 El Gizera El Wosta St, Zamalik, Cairo, Egypt.
Tel: +2 02 27350815

Sunday 5 March

Arrivals

- Mr. Mohamed Ould Khattar (WHC-UNESCO) and Nathan Schlanger (ICOMOS) MS-0800 from CDG – 08:10 pm Cairo
- Mr. Chris Barker (ICOMOS) BA 0155 arriving from London – 12:25 am (Monday 6 March)

Transfer to Hotel Flamingo by UNESCO Cairo Office

Monday 6 March

8:30 am

Pick at Hotel Flamingo by UNESCO

9:00 – 10:30 am

Meeting with UNESCO Cairo Director, Dr. Ghaith Fariz
UNESCO office in Garden City

11:00 -1:00 pm Technical Meeting with team from the Ministry of Antiquities to discuss OUV and HIA at UNESCO Cairo office in Garden City with:

- Dr. Yasmin El Shazly, Head of the International cooperation department
- Mr. Mohamed Abdel-Fatah, Supervisor of the International cooperation department
- Dr. Mohamed Ismail, Head of the permanent committees and missions department

1:00 – 2:00 pm

Lunch

2:30 – 6:00 pm
with:

Technical Meeting with stakeholders of the project at the Ministry of Antiquities

- Representatives of Ministry of Defence
- Representatives of Ministry of Antiquities
- Representatives of Ministry of Tourism
- Representatives of Ministry of Environment
- Representatives of COSMOS (Engineering Company)
- Representatives of General Authority of Roads, Bridges and land transport (GARBLT)
- Number of Engineering professors from Ain Shams University

07:00 – 11:00 pm

Dinner at Golden Pharaoh Nile Cruise

Tuesday 7 March

08:30 am

Pick up at Hotel and transfer to Giza

9:00 -01:00 pm Visit of: "Memphis and its Necropolis –

The Pyramids Fields from Giza to Dahshur" site and the site of the proposed tunnel

01:30 – 02:00 pm

Visit of the Pyramids and the under construction visitor's center

02:30 – 03:00 pm

Visit of the Grand Egyptian Museum (Under-Construction)

03:00 - 6:00 pm

Lunch and Technical Meeting at Mena House Hotel

07:00 – 10:30 pm

Dinner at Nile Maxiam Cruise

Wednesday 8 March

08:45 am

Pick up at hotel

10:00 am- 02:00 pm Egyptian Final Meeting with stakeholders of the project at the National Museum of

Civilization (NMEC) with:

- Representatives from Ministry of Defence
- Representatives Ministry of Antiquities
- Representatives Ministry of Tourism
- Representatives Ministry of Environment
- Representatives COSMOS (Design Company)
- Representatives General Authority of Roads, Bridges and land transport (GARBLT)
- Representatives from the General Organization for Physical Planning, Governorate of Giza
- Number of Engineering professors from Ain Shams University

02:00 – 03:00 pm

Lunch

04:00 – 05:00 pm

Debrief meeting with the director of UNESCO Cairo office

Thursday 9 March

Departures

06:30 am

Pick at hotel for airport transfer

- Chris Barker on BA 0154 -10h00 Cairo – 13h40 London
- Nathan Schlanger and Mohamed Ould Khattar
- On MS 0799 09h30 Cairo – 13h25 Paris CDG

Useful numbers:

Dr. Yasmin El Shazly MoA: +01005664777

Salma El-Sayed – CLT Sector UNESCO (Cairo office): + 20 1123417279

Annex 7 - List of Attendees

Technical Meetings: ICOMOS Mission and the state party about the Ring Road Tunnel in Memphis and Memphis and its Necropolis – the Pyramid Fields from Giza to Dahshur site

Date: Monday, 06 March 2017

Place: Gamal Mokhtar Hall, Ministry of Antiquities, Zamlek, Cairo

- 1- General Tarek Saad El-Din, Ex-Governor of Luxor
- 2- General Engineer Adel Salah Turk, Chairman of the General Authority For Roads, Bridges & Land Transport (GARBLT)
- 3- Counselor Mostafa E. Saad, First Secretary, Dept. of UN Specialized Agencies (MOFA)
- 4- Dr. Ghaith Fariz, Director of UNESCO Cairo Office
- 5- General Ali Assaf, Counselor of GARBLT
- 6- Colonel Abdel-Aziz Afifi, Road Engineer, The Armed Forces Engineering Authority
- 7- Moustafa Mourad, Head of Air and Noise central Department, Egyptian Environmental Affairs Agency, Ministry of Environment
- 8- Dr. Mansour El-Bardesi, Professor of Mechanical Engineering, Faculty of Engineering, Ain Shams University
- 9- Dr. Hesham Sobhy Khedr, Ph. D. Chairman of COSMOS Engineers & Consultants
- 10- Ahmed Debaiky, Project Manager in COSMOS Engineers & Consultants
- 11- Sally Hassan, Sales Engineer, COSMOS Engineers & Consultants
- 12- Colonel Kamel El-Mahdy, Senior Road Engineer, The Armed Forces Engineering Authority
- 13- Mona Mahmoud El-Morshidy, Under-Secretary for infrastructure, Ministry of Housing
- 14- Samy AboZeid, Advisor, Ministry of Housing
- 15- Dr. Mahmoud Afifi, Head of the Egyptian Antiquities Department, Ministry of Antiquities
- 16- Salma El-Sayed, Culture Unit, UNESCO Cairo Office
- 17- Mohamed Ould Khatter, Programme Specialist, World Heritage Center
- 18- Chris Barker, ICOMOS Advisor, ICOMOS
- 19- Nathan Schlanger, ICOMOS Advisor, ICOMOS
- 20- Yasmine El-Shazaly, General Supervisor of International Cooperation Department, Ministry of Antiquities
- 21- Mohamed Abdel-Fatah, Director of the International Cooperation Department, Ministry of Antiquities
- 22- Mohamed Ismail, Director of Permanent committees and missions, Ministry of Antiquities

Date: Wednesday, 08 March 2017

Place: Conference Hall, The National Museum of Egyptian Civilization (NMEC), Fustat, Old Cairo

- 23- General Tarek Saad El-Din, Ex-Governor of Luxor
- 24- General Engineer Adel Salah Turk, Chairman of the General Authority For Roads, Bridges & Land Transport (GARBLT)
- 25- Counselor Mostafa E. Saad, First Secretary, Dept. of UN Specialized Agencies, Ministry of Foreign Affairs, (MOFA)
- 26- Ambassador Mohamed Negm, Dept. of UN Specialized Agencies, Ministry of Foreign Affairs, (MOFA)
- 27- General Ali Assaf, Counselor of GARBLT

- 28-** Colonel Abdel-Aziz Afifi, Road Engineer, The Armed Forces Engineering Authority
- 29-** Moustafa Mourad, Head of Air and Noise central Department, Egyptian Environmental Affairs Agency, Ministry of Environment
- 30-** Dr. Mansour El-Bardesi, Professor of Mechanical Engineering, Faculty of Engineering, Ain Shams University
- 31-** Dr. Hesham Sobhy Khedr, Ph. D. Chairman of COSMOS Engineers & Consultants
- 32-** Ahmed Debaiky, Project Manager in COSMOS Engineers & Consultants
- 33-** Colonel Kamel El-Mahdy, Senior Road Engineer, The Armed Forces Engineering Authority
- 34-** Mona Mahmoud El-Morshidy, Under-Secretary for infrastructure, Ministry of Housing
- 35-** Salma El-Sayed, Culture Unit, UNESCO Cairo Office
- 36-** Mohamed Ould Khattar, Programme Specialist, World Heritage Centre
- 37-** Chris Barker, ICOMOS Advisor, ICOMOS
- 38-** Nathan Schlanger, ICOMOS Advisor, ICOMOS
- 39-** Yasmine El-Shazaly, General Supervisor of International Cooperation Department, Ministry of Antiquities
- 40-** Mohamed Abdel-Fatah, Director of the International Cooperation Department, Ministry of Antiquities
- 41-** Deputy of Dr. Tarek Tawfik, The Grand Egyptian Museum Project
- 42-** Representative from the General Organization for Physical Planning, Governorate of Giza (Development of the Pyramids area Project).

Annex 8 - Site Visit Photographs (7 March 2017)



Quarry 1 looking north from ring road towards pyramids



Quarry 1 looking north from ring road towards pyramids



Quarry 2 looking south from ring road



Quarry 2 looking south from ring road



Ring Road



Ring Road





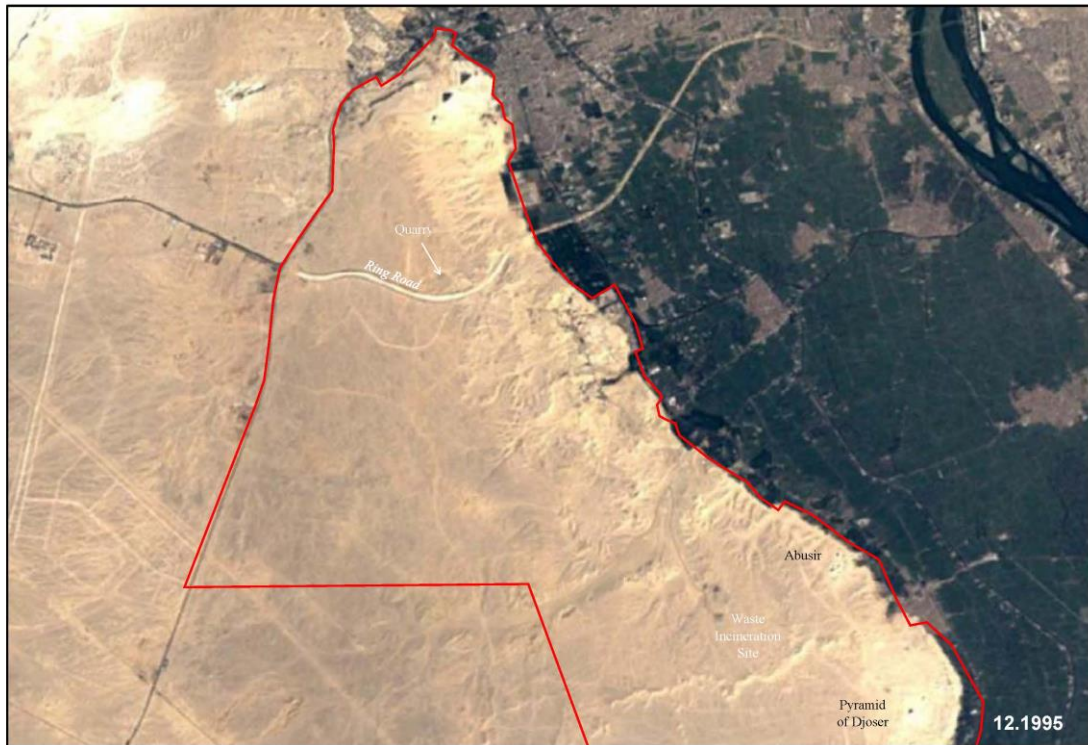
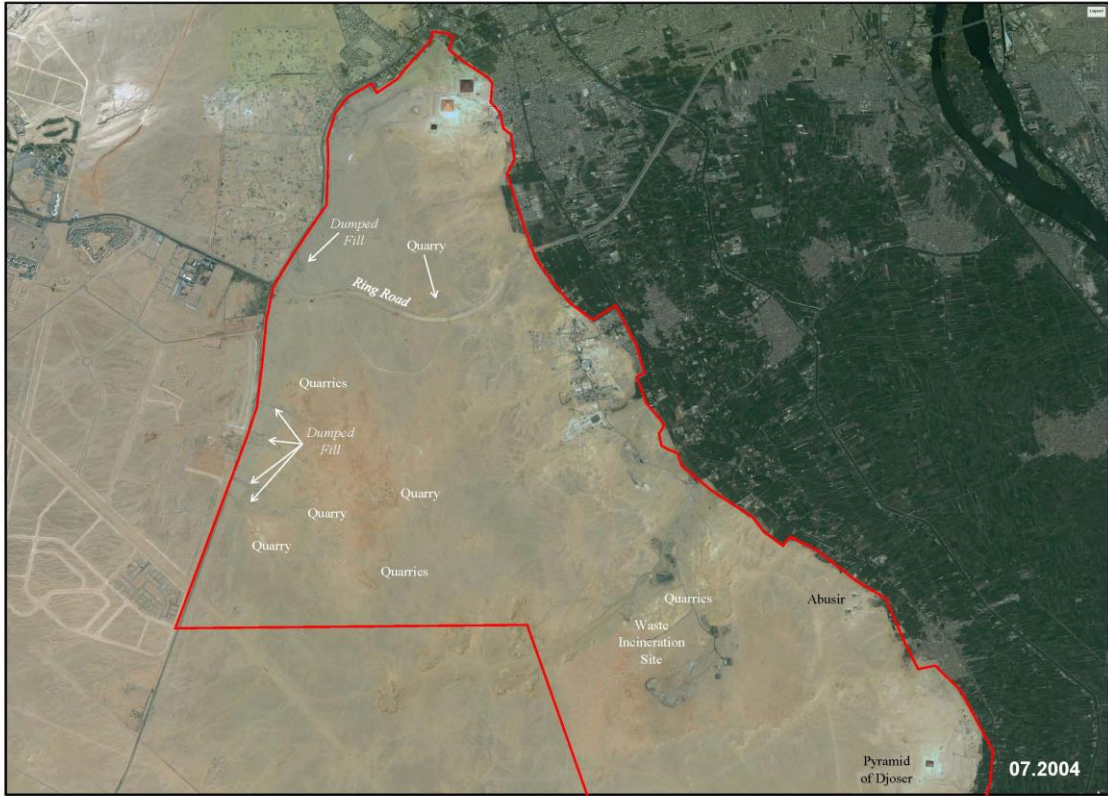
Looking west towards 6th October City



El Faiyum-Desert Road with section of concrete barriers

Annex 9 - Maps (Google Earth)

Giza Pyramid Fields 1995-2004



Giza Pyramid Fields 2011-2016

