Azhar Park, being currently completed by the Aga Khan Trust for Culture (AKTC) in central Cairo, furnishes rare insight, in its development process, into the impetus behind urban land development and the precarious position of parks within the otherwise relentless drive of urban development. The origins of parks, whether humble or grand in scale and design, can spring from single acts of vision and, by good design and implementation, result in the enhancement of a special tract of land. Land becomes developed when it has significant value and that value can be generated by its inherent quality or natural attraction, its location, or both. Even highly unattractive land can take on special value in certain circumstances, although, first, the social or economic case needs to become compelling for the process to start.

In more recent periods, major parks in inner cities have tended to depend on a high degree of coordination by the developing authority and some degree of serendipity in gaining access to a large, under-utilised space. In the increasingly strongly commoditised world of real estate (the market translation of the three-dimensional space of the landscape designer), the case for open space is one which is often hard to construct and harder to defend. When the criteria for judging competing potential uses of central city space are predominantly economic ones, the less-intensive, passive, reflective, and civic functions of a public park can be difficult, in these narrow terms, to promote as a priority, if not a necessity for a measure of urban balance.

Which makes it even more significant that in historic Cairo, less than four kilometres from the Nile and one kilometre from the Citadel, and abutting the eastern historic wall of the Ayyubid era, a tract of thirty-one hectares has remained essentially untouched for more than ten centuries by the residents surrounding the site, other than for the purpose of tipping loads of debris and rubble from the historic city over its eastern edge. The integrity of the site can perhaps be said to have been defended by these man-made deposits, which gradually reached such levels and heights that the more than one kilometre of the historic wall along its edge was submerged on the outside face by the undulations and hills of loose fill, up to forty-five metres in depth.

The increasingly prohibitive cost of removing the debris or finding uses for the artificial hills which could support no heavy structures without deep piling, must have excluded this tract earlier from
the normal pressures of urban development. Initially, the historic walls set firm and irrefutable limits to the city's breadth and width. Fortifications on the town's perimeter were meant to protect and insulate those inside from the outside domain, to designate (protected) internal urban space from (unprotected) external rural space. As in many other medieval settlements, the void outside had for residents physical and mental attributes, only eventually worn down in later periods. An example of how stretches of the outlying city spaces can be reunited with the inner city settlement in their post-medieval phase is illustrated by the development of Azhar Park.

THE PARK'S PHYSICAL SETTING

The long-time isolation of the park site from the inner city of Cairo is better understood when viewed in a larger geographical and geological context. The city of Cairo, which has been expanding since its original founding, itself sits largely on an alluvial plain overlying approximately three hundred metres of unconsolidated sediment, transported over the millennia by the Nile. Historic Cairo was founded in the relatively narrow floodplain valley between the Nile and the neighbouring limestone escarpment of the Moqattam Hills, which rise to nearly 500 metres above the otherwise flat plain and form a natural barrier eastwards of the river.

Between the alluvial plains and the Moqattam Hills rests an intermediate zone, a structural plain of sandstone, quartzite and calcareous clay. Characterised by a diverse topography, this area features diverse landforms, including hills, ridges, remains of petrified forests, and shifting sand masses. The park site falls at the eastern border of the alluvial plain, overlooked by the nearby escarpments. The extraordinary levels of sediment have played a pivotal part in the physical development and evolution of the city and do so today where certain sites near the central city pose complex problems for the support and stability of the increasingly intensive and high-rise developments—the typical response to the high cost of land. As Cairo continues to expand along its eastern and southern edges, the city increasingly extends beyond the edge of the alluvial plain and its historic site, into this intermediary plain.

THE HISTORICAL TRANSFORMATION OF THE SITE

Since the founding of Cairo, the cyclical collapse and demolition of man-made structures have added vast amounts of debris to the overall quantum of fill the city rests upon. Large areas of historic Cairo, itself, sit on fill from earlier periods. The large-scale deposit of such fill in physically discrete zones at the edges of the expanding city seems to have been an early practice. The cycle of building decay and demolition and subsequent removal as fill to adjacent heaps east of the built city, in the vicinity of the Citadel, is noted as having intensified, by one account, during the period following the end of the Mamluk era (1517).
A seventeenth-century French travelogue mentions that the heights of debris nearly hid the high walls surrounding the old city of Cairo. During the later Ottoman era, urban growth is described as having been vigorous on the western side of Cairo whilst decay was underway on the east. The opportunities created by the shifting riverbank of the Nile on the west and the geological deterrents on the east have contributed to this pattern. Maps prepared by the French expedition at the start of the nineteenth century graphically confirm large and well-established tracts of man-made hills immediately east of the Ayyubid wall and north of the Citadel and Bab al-Wazir cemetery.

Reflections of this area are still visible today, in Azhar Park's topography. The park site, known also as the Darassa Hills, lies east of the historic city, and is characterised by northwards running hills, where layers from twenty to forty metres of fill have been found. Unique geological and man-made environmental pressures have jointly shaped over millennia, in the one case, and over centuries, in the other, the essential physical parameters, which ultimately were to become a park site.

THE RATIONALE FOR THE SITE'S DEVELOPMENT AS A PARK

While excluded from the historic city, the proximity and size of the park site have in recent years posed a dilemma to would-be occupants. The disadvantages of its geo-technical properties have been significant enough to create a quasi 'frontier' to urban growth, while its proximity to the historic core and offer of large open space has made it a natural zone for transformation, and the opportunities to transform Cairo's edges have not gone unnoticed in the last few decades.

The inspired proposal in 1990 to transform the rugged site into a municipal park can be singled out as the prime reason for its current integrity. The resultant use of it to contain a water reservoir as well as a park added complexity, but further underlined the civic function associated with the site, reinforcing its place in the public domain.

Parks have historically been ideal forms of buffer zones between competing urban uses as well as transitional devices in separating or differentiating various intensive districts. The surrounding inter-urban routes of al-Azhar Street and Salah Salem Street, which have, over time, become vital transport links, and the discontinuity between al-Darb al-Ahmar and the City of the Dead...
in the east-west direction, and al-Azhar and the Citadel to its south, have skirted the site, turning it into a buffer zone with highly contrasting edges and vistas. The housing built on top of sections of the historic wall on its west and signs of squatter activity signalled a situation that had reached a head in terms of urban pressures needing resolution in one form or another.

The initiative to develop a park on this large but hemmed in site turns a corner in the evolution of this district, allowing the city to respect its past (the limits of the old city, the more than 1300-metre-long historic wall, and the barren expanse of the site) while providing significant open space in which the pedestrian resident/visitor can move through a three-dimensional space in the absence of the ubiquitous car, providing him with the chance to escape the predominant general urban experience. Surrounded on the north, east and part of the west by roadways, the site's park space declares a local victory of nature and pedestrian movement over the vehicle.

THE PARK MASTER PLAN
At its earlier stages, Sasaki Associates was enlisted to establish with the AKTC the guiding principles for the park’s master planning process. In the mid-1990s, this included the careful insertion of a park circulatory system and feature spaces around and above the constructed water reservoir. Due to its size, centrality and proximity to historic Cairo, the park site was assigned a value by its planners, which called for its treatment as a metropolitan park in scale.

Al-Darb al-Ahmar’s need for green space was a clear priority from the start. The educational or informational value of a multi-purpose park, which could be a large gateway to historic Cairo and a platform from which to overlook the monumental skyline of the city, was a further objective. Parks
should contain walkways and amenities, but they are clearly intended to provide plentiful areas of green space. While small parks can thrive on a narrow range of plant life, Azhar Park was viewed as a space which would encompass a wide diversity of plant form serving as a central theme itself.


While the concept master plan had reached a clear level of definition as early as 1996, the project’s advance was delayed by a requisition from the General Organisation of Greater Cairo (GOGCWS) to the Governorate of Cairo to use the same site for the construction of a municipal water reservoir complex, consisting of three large, circular reservoirs (each 80 m diameter) and a pump station to serve the adjacent district. In a comparatively short period, the site shifted from its historic derelict status to one of strategic importance with respect to the district infrastructure. In a sense, in modern terms, the real estate pressure on the site had begun.

A multi-year programme of excavation, piling and grading works was set in motion to construct the reservoir system between 1991 and 1996. The superimposition of this water reservoir system on the site inevitably created an additional set of constraints in terms of safeguarding the investment value of the infrastructure and the necessity to provide maintenance access to the reservoir tanks and distribution lines (including a 1400 mm diameter transmission line), which run the length of the park. A set of design guidelines, prepared by the GOGCWS consultant team, established criteria for areas of interface between the park design and the reservoir system. As the AKTC team resumed design in the mid-1990s, it was clear that the park design would need to nimbly incorporate the reservoir tank tops into a general master plan.

RESUMING THE DESIGN OF THE PARK

By 1998, a number of preliminary environmental strategies for overcoming the site’s geo-technical and soil problems had been advanced and tested, an off-site nursery established to commence propa-
vation of a wide range of plants, and a landscape architectural team, Sites International, appointed. As lead design consultant, Sites International took on the central organising role in the development of the final master planning and schematic design.

The resultant scheme — developed over 1998-1999 — tackled head-on the problem of creating a natural, organic landscaped area with an array of amenities next to a dense, urban community and medieval monuments. Linkages through gates in the wall with the community were sought and, by means of extensive excavation along the historic wall, the park topography was brought in cascading slopes down to a new ‘Historic Wall Promenade’, which forms a principal walkway at the base of the wall and western slopes, interconnected to all parts of the park. Flatter areas were studied for more intensive pedestrian-water-viewing relationships, and the large reservoir tank tops were incorporated into the design as special gardens at higher altitudes.

THE MASTER PLAN’S RESPONSE TO THE SITE CHALLENGES

In the further development of the master planning of the park, site analysis capitalised on the opportunities offered by the site, deriving from its neglect over the centuries as a result of its exclusion from the living urban fabric of Old Cairo. The historic wall, a massive defence wall system, exceeding 1300 metres along the eastern perimeter of the city, represented an absolute edge on the east of the original Fatimid city. It was later extended but essentially respected in an outer line built by the Ayyubids. It provided, at one stroke, both a limit to sprawl and a magnificent testimony to the abilities of military engineering and masonry skills of the twelfth century.

Following a major programme of debris removal and master grading by the AKTC, involving the excavation and off-site disposal of more than one million cubic metres of fill, the experience of the site has been radically changed. Excavation of debris to depths of seven to eight metres along the eastern face of this wall and the discovery and exposure of a buried 300-metre extension of the wall along the north has re-established visually the original scale and importance of the wall system, in turn raising renewed interest in the archaeological richness of this part of Cairo. Uncovering the wall reinforced the importance of utilising the park project not only as general park space but also as a platform to view panoramically, and re-interpret, the built heritage of historic Cairo. Large areas of the park sit over twenty metres above the Darb al-Ahmar district, while the peaks of the park hills exceed it by around forty metres.

Master grading of the western half of the site from the high fixed points of hills and reservoir tank tops to the lowest point of the historic wall has relieved the original slopes. The western slopes remain radical from the viewpoint of landscape treatment, and design solutions have necessitated, accordingly, attention to slope stability, techniques of planting, irrigation, and drainage in this relatively steep and narrow zone flanking the wall.
THE GEO-TECHNICAL CHALLENGE: 1997-1999

Extensive soil physical property tests, initiated in the concept phase, led to the classification of site fill as being very silty and compressible, with an extremely low level of absorbency of water. While variable across the site, the fill had been laid over the years without proper compaction. Under light loads, the fill naturally undergoes moderate settlement, if it does not become wet; upon wetting, the fill compresses under its own weight. Geo-technical studies conducted early in the project made it evident that anything heavier than light structures would need piling support.

A number of strategies to overcome the inherent problems in the site soils in supporting hardscaped and planted areas were developed. While major buildings would clearly require piling or raft foundation support, a technique involving the partial excavation and replacement of soil in compacted layers of 'structural fill', to depths of two to three metres, is sufficient for support of hardscape areas. To further minimise chances of settlement due to infiltration of water from planted zones, an impervious barrier has been provided below the compacted layer.

This, in turn, further justified the removal of one to two metres of the top layer of existing fill for replacement with a similar barrier and improved soils. Isolation of the irrigated top zone, combined with systems of controlled irrigation and below-grade drainage, will enable the planted area to operate independently of the ancient layers of fill below. Wetting agents and mixtures of imported sand and agricultural soil will further improve the physical soil properties.

THE CHALLENGE OF PLANTATION ON THE SCALE OF THE PARK

Most of Egypt and Cairo fall within an extremely arid climate belt, which continues westwards across the North African desert. It is the river, the sustenance of much of Egypt and Cairo, that allows the Nile valley to avoid the harshness otherwise implicit in extremely arid climes. The realities of high temperatures, low humidity, scant rainfall and desert winds at certain seasons set possible if stringent criteria for planting systems.

A plentiful and reliable source of irrigation water is of critical importance to man-made gardens in any arid climate. The existence of a pipeline supplying river water from the Nile within adjacent Salah Salem Street, on the east of the site, was indispensable. Realising the growing pressures on available water supplies in the region, irrigation system efficiency and the goal of moderating total consumption by selective usage of xerophytic plants have been set as high priorities.

Despite these climatic extremes, Egypt boasts a wide range of native plants and trees, including dry landscape and desert species. The project has, in a sense, coincided with a phase of significant research and development projects involving desert reclamation, the introduction of new irrigation application techniques, and the expansion of commercial farming in Egypt, culminating over re-
cent decades. While landscape architecture is still struggling for its rightful position as a speciality distinct from horticultural engineering in Egypt, the level of public and private interest in, and involvement with, horticultural issues is significant and growing.

The park project presented a special horticultural case in which highly unusual man-made environmental conditions were found to be superimposed over the normal constraints and challenges found on arid climate sites. Initial testing of existing soil and mixtures with various additives over several months demonstrated, in the early investigative phases, that a reasonable range of plant types could survive with conditioning of the soil medium. In order to support other than solely xerophytic plant types, which can survive in drought-like conditions and tolerate highly saline soil conditions, a programme of soil improvement including additives (sand, agricultural soils, gypsum), nutrients, and salt flushing by initial irrigation was proposed and tested on site. Planting prototypes were established on both flat and highly sloped areas to test these options. Feedback from both horticultural and prototype planted areas has been an essential part of the design methodology.

With approximately two-thirds of the site scheduled to be covered by planting of various types, sources of sufficient plant stock for 210,000 to 220,000 square metres became a significant issue. Despite the presence of some commercial nurseries, a decision was taken to establish a limited on-site nursery for the above-described horticultural testing and a larger, off-site nursery for propagation of the main stock. In an important example of cooperation, the American University of Cairo made available to the project a plot of fifty feddans in their desert agricultural research centre in South Tahrir over a multi-year period for cultivation as a park nursery. The park’s landscape will vary from dry, succulent plants on the western slopes to lush, grassy meadows with shade trees, to formal gardens, and finally to bustan-like orchard space. The variety of species, particularly native Egyptian plants, will aim at establishing a new benchmark for park spaces in the region.

THE PARK’S FINAL DESIGN

Due to size and centrality, Azhar Park is expected to fulfil a vital function in expanding park and green space available to the public in Greater Cairo, the population of which stood close to seventeen million in 2002. It is anticipated that the park will attract visitors from other regions as well. Total annual visitation is projected to reach as many as 1.5 million persons in the initial years. The park design, of necessity, has needed to keep this large potential user group in perspective.

The design of the park also sought to make maximum and skilful use of the site’s location, elevated topography, and unique vistas overlooking historic Cairo. Generously dimensioned pedestrian paths follow the contours in most areas, allowing comfortable circuits of the entire park site. An
important exception to the curvilinear path system occurs along the main promenade, off the eastern entry gate. Here a formal and linear promenade runs along a straight, but descending, course from a restaurant on the northern hill, through the centre of the central tank-top, and continues 250 metres southwards on axis with the Citadel complex to the south. This processional path measures eight metres wide and is flanked on both sides by a double row of royal palms and parallel side paths, with pockets for seating.

At an étoile at the southern extreme of this path, the main promenade turns in a south-western direction, passing through a compartmentalised, formal garden and thence to a lakeside pavilion café overlooking a large lake. The outer zones of the plain feature an orchard (husyan), which will provide shade, a stimulating variety of flowering and fruit trees, and further room to stroll. The main promenade and series of formal gardens are anchored at each end by the hilltop restaurant and lakeside pavilions, which provide internal landmarks for the park. Water features provide an additional and traditional theme from Islamic gardens, tying this central pathway together along its entire length. Water fountains, pools, and carefully confined water channels are dispersed and lead, ultimately, to the freer form of the lake in the south meadow. Lighting has been introduced into the park with maximum use of low-level, custom-built bollards and restriction of pole-type light fixtures to the parking and eastern edge. Along the main spine, custom marble light towers are integrated, as with all seating, into the main spine’s design motifs.

The terrain in the western half of the park consists predominantly of steep and continuous slopes, running from the summits to the foot of the historic wall. A continuous pathway has been carved into the hillside at approximately mid-height between the walkway along the historic wall and the summits of the hills and provides lateral access at points to the eastern half. The western hillside will be cloaked with flowering and succulent plants with luxuriant tones. Views from the many vantage points along the west, across these slopes and the restored historic wall to Old Cairo, beyond, with its beguiling constellation of monuments and minarets, will be captivating for residents and visitors to Cairo alike.

The sensitive and purposeful integration of the recently constructed reservoir tank tops into the surrounding park plan has been an important design priority from the start. The park design calls for a seating area under trees on the south tank top, with views out over the city. The central tank top, in line with the main promenade, will contain a formal garden symmetrically sub-divided into a rich geometric design of landscaped zones. Here, associations with historical models of Islamic gardens are evoked in the form of symmetrical layout, inner and outer zones, the defining medium of pools and fountains, and important axes. The northern tank top, easily accessed from the main park as well as al-Azhar Street from the north, is scheduled to serve as a play area for various age groups and in close vicinity to an intimately-scaled amphitheatre.
1. Main entrance from Salah Salem Street.
2. Side entrance through rediscovered city gate in the Ayyubid wall (Bab al-Barqiyya).
4. Proposed community centre and park administration in the rehabilitated Shoughlan Street School. This location will connect the park and the old city, visitors being led through the internal chambers of the Ayyubid wall.
5. Connection towards the Bab al-Wazir area, the Citadel and the Sultan Hasan complex, as well as a way of entering the courtyard behind Khayrbek Mosque.

6. Hilltop Restaurant with sweeping views of Cairo’s major landmarks.

7. Main spine on the plateau connecting both the restaurant facility and the Lakeside Café.

8. Lakeside Café with courtyards and orchards in the Islamic tradition.

9. Viewing platform and gardens on the southern tank top, offering a panorama of historic Cairo.

10. Community sports complex, for residents of al-Darb al-Ahmarr and local youth clubs.

11. Children’s playground on the northern tank top.

During the course of the park’s design, significant time and attention was devoted, on the part of the AKTC, to exploring the potential for a sound, creative, and interpretative relationship between the architectural design treatment of key architectural features in the park — in particular, the lakeside pavilion café, hilltop restaurant, and various plazas — with the architecture of historic Cairo. This inquiry was taken to the level of a design competition for the restaurant facility, the outcome of which has led to the appointment of design architects for each facility, working in close co-ordination with the park architect. As an intrinsic part of the competition brief, the designs of these structures are each informed, in varying ways, by the careful survey of earlier examples of Fatimid and Mamluk architecture. These exercises led to the agreement by the Trust to construct two food-and-beverage facilities within the park, described in further detail below.

THE HILLTOP RESTAURANT
Originally conceived as a secluded, five-star restaurant set on the higher hills within the park, the design has evolved to that of a two-storey facility featuring a full restaurant, outdoor terrace, lobby, and, upstairs, a tearoom and manzara café. The total facility will consist of 1300 square metres on the ground floor and 500 square metres on the first. Access will be via the park main entrance (see drawings) and along an internal access drive. A zone for parking (twenty-four cars) will be provided opposite the restaurant entrance; valet parking will be able to park surplus cars in the main parking bays off the park entrance.

The building, designed by architects Rami El Dahan and Soheir Farid, provides a traditional shell for the various dining zones within an interpretation of historic Cairene architecture. The restaurant plan is based on a symmetrical

Fig. 58. Plan of the park’s main spine from the entry plaza to the tale.
Figs. 59, 60. Hilltop Restaurant.
Four principal elevations; ground-floor plan.
layout whose central axis passes through an entrance palm court, an entry portico, or takhtaboush, before arriving at a terraced garden overlooking the main axis of the park. Along this axis, vistas of the park’s main promenade and the Citadel complex, beyond, can be seen.

THE LAKESIDE CAFÉ
The conceptual design of the Lakeside Café, prepared by architect Serge Santelli, is based on a highly geometric array of pavilions set around the sides of a palm court, on the east side. On its western end, the café encloses a poolside terrace on three sides with the open edge overlooking the lake in the south meadow. While providing ample shade and fascinating courtyard areas, the Lakeside Café can be considered an indoor-outdoor space. The lakeside zone is further defined by two square pavilions at each end of the poolside terrace, enclosed with wood screen walls, with intricate detail referring to traditional mashrabiyya panels. In contrast to its hilltop counterpart, the Lakeside Café will offer light salads, snacks, and pastries together with a tea and coffee service, depending, naturally, on the time of day.

In the eastern portion, seating is provided under the various twelve shade pavilions, which provide shaded seating area on the sides of the palm court. Further service spaces are provided in the intermediate zone where one enters the Lakeside Café. The Palm Court is intended to serve general park visitors who wish to relax informally during their visit to the park.

THE PARK’S SUSTAINABILITY AND EVOLUTION
Park space marked by walkways, pools, hills, greenery and amenities constitute a park’s identity at its inception, but parks are unlike buildings and more like living urban districts, begging for the life and animation of users. Also unlike buildings, park softscape in particular – its biomass and plant profile – do not stand still but, rather, mature over time as its plant life takes root and prospers. Parks
really do need protection and the watching eye of a supervising entity. This fact has been recognised by the Governorate of Cairo and the Aga Khan Trust for Culture, and a Park Authority Board has been introduced as a special layer of trusteeship in the park’s long-term maintenance.

Over time, well maintained parks take on significant but less tangible values, and this is expected to be the case for Azhar Park as well. Successful parks inspire residents, provide joy to viewers, and foster civil society in the important realm of leisure and connection to nature and one’s environment. They become the settings for novels, films and festivities and often the containers for memories of a society. This is surely the role that Azhar Park aspires to over time.