The Cultural Sites of Al Ain

(Hafit, Hili, Bidaa Bint Saud and Oases Areas)

Serial Property

Nomination File

Submission to the World Heritage Centre, UNESCO

by the United Arab Emirates

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1. Identification of the Property	
1.a Country	United Arab Emirates
1.b State, Province or Region	Abu Dhabi
1.c Name of Property	The Cultural Sites of Al Ain (Hafit, Hili, Bidaa Bint Saud and Oases Areas)
1.d Geographical coordinates to the nearest second	Please see table below. For the full list of component and buffer zones boundary coordinates, please refer to Annex 2: Geographical Coordinates and Area of the Component Sites and Buffer Zones

Table 1.1: Summary of components of the Cultural Sites of Al Ain, Serial Property:

SITE NO.	COMPONENT CODE	COMPONENT NAME	COORD. EAST	COORD. NORTH
	Component Group 1	**Hafit Assemblage**		
001	Component 1.1	Jebel Hafit Desert Park	378679	2662265
002	Component 1.2	Jebel Hafit North Tombs	374030	2672186
003	Component 1.3	Al Ain Wildlife Park Tombs	373000	2674623
004	Component 1.4	West Ridge Hafit Tombs	372846	2675984
005	Component 1.5	Al Naqfa Ridge	374951	2678315
	Component Group 2	**Hili Assemblage**		
006	Component 2.1	Hili Archaeological Park	377195	2687187
007	Component 2.2	Hili 2	376128	2686986
008	Component 2.3	Hili North Tomb A	377134	2688791
009	Component 2.4	Hili North Tomb B	377197	2688511
010	Component 2.5	Rumailah Site	374073	2685476
	Component Group 3	**Bidaa Bint Saud**		
011	Component 3.1	Bidaa Bint Saud	369749	2697151
	Component Group 4	**Oases**		
012	Component 4.1	Al Ain Oasis	374792	2678852
013	Component 4.2	Hili Oasis	375139	2685901
014	Component 4.3	Al Jimi Oasis	372593	2683241
015	Component 4.4	Al Qattara Oasis	373195	2684088
016	Component 4.5	Mutaredh Oasis	372247	2678788
017	Component 4.6	Al Muwaiji Oasis	370653	2679845

1.e Maps and plans, showing the boundaries of the nominated property and buffer zone	For viewing the maps, please refer to Annex 1: Maps of Nominated Property.

Table 1.2: List of maps:

MAP NO.	MAP NAME	SCALE	DATE
1	General Map	1/50,000	17.12.2009
2	Jebel Hafit Desert Park and Jebel Hafit North Tombs	1/15,000	26.9.2009
3	West Ridge Hafit Tombs	1/5,500	26.9.2009
4	Al Naqfa Ridge, Al Ain Oasis (large scale)	1/15,000	24.12.2009

5	Al Naqfa Ridge, Al Ain Oasis (small scale)	1/3,500	24.12.2009
6	Hili Assemblage and Hili Oasis	1/5,500	26.9.2009
7	Hili Assemblage	1/3,500	26.9.2009
8	Hili Oasis and Rumailah Site	1/3,500	26.9.2009
9	Bidaa Bint Saud	1/5,000	26.9.2009
10	Al Jimi Oasis and Al Qattara Oasis	1/3000	26.9.2009
11	Mutaredh Oasis and Al Muwaiji Oasis	1/2,500	26.9.2009

1.f Area of nominated property (ha.) and proposed buffer zone (ha.) Area of nominated property: 4,945.45 ha Buffer zone: 7,605.46 ha Total : 12,550.91 ha	Please see Table 1.3 below.

Table 1.3: Summary List of Components and Buffer Zones (With Components Central Coordinate and Surface Area):

COMPNT. NO.	COMPNT. CODE	COMPONENT NAME	REGION	COMPNT. CENTER POINT NO.	COORD. EAST	COORD. NORTH	BUFFER ZONE NO.	COMPONENT AREA (HA)	BUFFER ZONE AREA (HA)	MAP NO.
	Component Group 1	**Hafit Assemblage**		-						
001	Component 1.1	Jebel Hafit Desert Park	Jebel Hafit	1.1.P000	378679	2662265	BZ.01	3,828.52	5,909.92	1, 2
002	Component 1.2	Jebel Hafit North Tombs	Sanaiya	1.1.P000	374030	2672186	BZ.01	281.84	5,909.92	1, 2, 4
003	Component 1.3	Al Ain Wildlife Park Tombs	Shiab Al Ashkar	1.3.P000	373000	2674623	BZ.02	65.39	166.93	1, 3
004	Component 1.4	West Ridge Hafit Tombs	Falaj Hazza	1.4.P000	372846	2675984	BZ.02	92.86	166.93	1, 3
005	Component 1.5	Al Naqfa Ridge	Al Mutawa'a	1.5.P000	374951	2678315	BZ.01	0.78	5,909.92	1, 4, 5
	Component Group 2	**Hili Assemblage**		-	-	-	-	-	-	
006	Component 2.1	Hili Archaeological Park	Hili	2.1.P000	377195	2687187	BZ.03	193.83	518.40	1, 6, 7
007	Component 2.2	Hili 2	Hili	2.2.P000	376128	2686986	BZ.03	1.71	518.40	1, 6, 7
008	Component 2.3	Hili North Tomb A	Hili	2.2.P000	377134	2688791	BZ.03	0.57	518.40	1, 6, 7
009	Component 2.4	Hili North Tomb B	Hili	2.4.P000	377197	2688511	BZ.03	0.12	518.40	1, 6, 7
010	Component 2.5	Rumailah Site	Al Qattara	2.5.P000	374073	2685476	BZ.03	5.43	518.40	1, 6, 8
	Component Group 3	**Bidaa Bint Saud**		-	-	-	-	-	-	
011	Component 3.1	Bidaa Bint Saud	Bidaa Bint	3.1.P000	369749	2697151	BZ.04	112.09	659.20	1, 9

			Saud							
	Component Group 4	**Oases**		-	-	-	-			
012	Component 4.1	Al Ain Oasis	Central District	4.4.P000	374792	2678852	BZ.01	119.78	5,909.92	1, 4, 5
013	Component 4.2	Hili Oasis	Hili	4.2.P000	375139	2685901	BZ.03	63.55	518.40	1, 6, 8
014	Component 4.3	Al Jimi Oasis	Al Jimi	4.3.P000	372593	2683241	BZ.05	78.81	274.73	1, 10
015	Component 4.4	Al Qattara Oasis	Al Qattara	4.4.P000	373195	2684088	BZ.05	64.38	274.73	1, 10
016	Component 4.5	Mutaredh Oasis	Al Mutaredh	4.5.P000	372247	2678788	BZ.06	24.90	43.80	1, 4, 11
017	Component 4.6	Al Muwaiji Oasis	Al Muwaiji	4.6.P000	370653	2679845	BZ.07	10.89	32.48	1, 11
TOTAL								***4,94.45***	***7,605.46***	
								Grand Total:	**12,550.91**	**ha**
Note: Some buffer zones protect several site components at once, thus appear on the list more than once (in italics whenever it is not the first appearance); however, each buffer zone has only been inlcuded in the total area calculation once.										

2. Description	
2.a Description of Property	The Cultural Sites of Al Ain: Hafit, Hili, Bidaa Bint Saud and Oases Areas, constituting this Serial Property Nomination, are situated in Al Ain City, the capital of the Eastern Region of the Emirate of Abu Dhabi, United Arab Emirates. These sites represent a culture that evolved over time, but was characterized by its ability to overcome the challenges and limitations of a harsh natural environment with scarce resources, and manage to develop a distinctive culture with unique and exceptional achievements at the level of human subsistence, agriculture and irrigation, long distance trade, cross-community relationships, architecture and funerary traditions. Perhaps the most impressive aspect of this culture (we will refer to it as the culture of Al Ain Cultural Sites, or simply the culture of Al Ain) is its capacity to re-invent itself every once in a while, thus recreating the elements of its sustainability. It is the assemblage of these sites collectively, and in the case of Hili Assemblage individually, which constitutes the outstanding universal value of this cultural serial property warranting its nomination as a World Heritage Site responding to criteria (i), (iii), (iv) and (v). What is central to the culture of Al Ain however is the story of survival, human invention and adaptation to the harshness of the desert environment and the meager resources available for man to exist and continue. The story of Al Ain is that of overcoming the limitations and restrictions of the place and its geographical and climatic constraints; it is about human ingenuity which allowed for the ancient communities of Al Ain to move from a wandering nomadic lifestyle to a sedentary one, to farm the desert, irrigate fertile oases, organize and administer water rights, grow food and amass surpluses, establish Al Ain at an important crossing point along the trade routes linking together the ancient cultures of the region: Mesopotamia, Persia and the Indus Valley. The story of Al Ain is also about the testimonies to these transformations and the evident expressions of cultures which left their imprints in ancient land-use forms, agriculture, engineering and architecture, funerary traditions and rituals, defense and objects of art of everyday use. These testimonies survive until this day in the cultural sites of Al Ain, some of

	which gave their names (type-sites) to material cultures spread-out across the Gulf, but never so coherently manifest in time and space as in the Cultural Sites of Al Ain. These sites represent the remaining evidence of the ancient 'story of survival', in the form of archaeological sites formed by the interaction of human activity with the surrounding ecosystems. The Cultural Sites of Al Ain have been grouped under four main headings, which distnguish themselves by their historical and cultural type/ period, geographic and physical characteristics, and/or by their geographic distribution within the city of Al Ain. These have been code-named as Component Groups (eg. 1, 2, 3..), under which the actual sites have been code-named as Components (eg. 1.1, 1.2, 1.3..) to show the main type of site they fall under and, as well as being numbered 001-017. The Components further include smaller elements such as individual structures, which are code-named as Sub-Components (eg. 1.1.1, 1.1.2, 1.1.3..). **Component Group 1: Hafit Assemblage** The roots of this distinctive culture lie in the Neolithic Period 8,000 to 4,000 BC, where evidence of desert encampments and remains of flint tools located on elevated outcrops suggest that small nomadic communities inhabited that area in the past. These communities were pastoral nomads, who moved around with their domestic cattle, sheep or goats, remaining somewhat close to water sources (the most significant ones were probably associated with the geological formations of the nearby mountain known as Jebel Hafit. These surface sites are currently located within the Jebel Hafit Desert Park site, a site extending alongside part of the eastern edge of Jebel Hafit, bound from the south by the Omani border and from the east by the Mezyad Highway. It is further bound from the north by a truck road going across the mountain edge (see Map. 6 for core area and buffer zone). Jebel Hafit itself is a spectacular, barren limestone structure that rises abruptly out of the flat surrounding desert plains and dune fields. The mountain is believed to have been formed some 25 million years ago; marine fossils found on the site though are far much older, dating between 135 and 70 million years ago. The natural heritage of Jebel Hafit (with its flora & fauna) and the surrounding oasis areas is exceptional, as is Al Ain's red desert

	sand dune landscape. The red sand dunes are unlike the white-yellow sand dunes to be found in much of the rest of the peninsula. Situated along the western flank of the Hajar Mountains, Jebel Hafit looms over the southern side of Al Ain, rising to a height of about 1160 metres above sea level. It is an outlier of the extensive Hajar mountain range to the east, and represents the only true mountain within Abu Dhabi emirate. Lying in a north-south direction, the mountain is approximately 29 kilometres long and 5 kilometres wide, part of it lying in neighbouring Oman, with about 1600 hectares located in the UAE. Alongside pastoral communities that continue to exist until this day and time, late 4th to early 3rd millennium permanent settlements emerged and relied on farming, establishing trade relations with other cultures, such as those of Mesopotamia, Persia and the Indus Valley. While evidence of these settlements is preserved mainly at Hili Assemblage, funerary architecture of that period is represented in the Hafit Graves, consisting of round tomb single-chamber structures with multiple burials noted alongside the eastern ridge of Jebel Hafit (within the Desert Park and beyond). It is believed that settled communities that buried their dead within these tombs enjoyed trading relations with Mesopotamia; evidence of trade is clear from the many offerings deposited with the dead inside these tombs and consisting of pottery and beads of the Jemdet Nasr type, characteristic of a type site from southern Iraq, dating to ca. 3100-2900 BC. The Hafit funerary tradition, which includes over 120 graves, is known internationally as the “type-site” for the period designated as the “Hafit Period” or “Hafit Cultural Horizon”, which dates to between 3200 and 2700 BC. The Hafit graves are well-known to archaeologists, as they represent an early period in the history of settlement in the area. The term “Hafit Graves,” however, is also used for similar graves discovered elsewhere in Southeast Arabia. Altogether, these burials cover five centuries of the ancient history of the region (3200-2700 BC) and have become representative of the Hafit Culture. The graves are located in several areas along Jebel Hafit’s linear north-south axis, extending from the south across the Oman border along the same low ridges of the mountain and the plain. Although

	part of the same mountain ridge system, these areas have been somewhat separated from each other by surrounding modern urban development, and thus separately defined as Components 1.1 to 1.5 for this nomination (see below for the separate descriptions). The most prominent of these is the Bronze Age necropolis on the eastern foothills of Jebel Hafit (Component 1.1), while others are found in lines marching along the crests of prominent hills and ridges leading northward towards Al Ain, which lies some 20 km to the north from the main mass of the mountain (Components 1.2 to 1.5). Generally speaking, the tombs at Hafit share common structural characteristics, though some variations exist. Unlike the elaborated circular collective tombs of Umm an-Nar—a culture that thrived in the second half of the 3rd millennium BC and is considered to be the most developed phase of the Bronze Age due to its wider interaction with other civilizations—each grave in the Jebel Hafit area has a single round or oval chamber built of rough local stones. One-, two-, or three-ring walls encircle the chamber and rise to a height of 3-4 metres above the ground. The diameters of the chamber range between 2 to 3 metres, while the total diameters of the whole structure are 6 to 8 meters. The ring walls gradually slope inwards until they eventually meet and form what looks like a dome. A narrow entrance, usually facing south, pierces the wall at the ground level. Unlike the collective Umm an-Nar tombs (situated on the island of Umm an-Nar and at Hili Assemblage), the Hafit tombs normally contained 2 to 5 people but could have contained more individuals; they definitely held fewer burials than the Umm an-Nar period tombs at Hili Assemblage, which could contain hundreds of individuals. Although most of the Hafit tombs were found disturbed, surviving evidence suggests that the dead were buried in contracted positions with the head against the wall without specific orientation. Unlike the Umm an-Nar tombs—where every individual was supplied with a pottery vessel or more—Hafit tombs contained only one pot that within the entire grave. Finds are rare because most of the excavated graves were plundered in the past. However, imported pottery from Mesopotamia has been discovered in the tombs; this pottery dates from the

	earliest use of the tombs. These are small painted vessels of a type known as Jemdet Nasr (late 4th - early 3rd millennium BC). Jemdet Nasr is an archaeological site located near Babylon in Iraq famous for its polychrome pottery, which is also known in a number of Iranian archaeological sites. Some archaeologists consider Jemdet Nasr a "horizon" (rather than a "period") that became known in the last two centuries of the 4th millennium BC. The Jemdet Nasr pottery vessels are sharply carinated around the middle or just below the shoulders. The rims are everted and slightly over-hanging. Some of these vessels are decorated with geometric motifs, a design well known among the Jemdet Nasr vessels of Mesopotamia. Different types of beads have also been discovered. The most significant are small blue-green tubular beads made from faience, a kind of backed paste. This type is well known in some of Jemdet Nasr graves in Mesopotamia, therefore the beads found at Hafit seem to have been an import as well. The other types of beads discovered at Hafit seem to be of local production. They are made of stone in flat and trapezoidal or square shapes and have horizontal holes. Although most of the pottery and also some types of beads found in the Hafit Graves are of Mesopotamian origins, the architecture of the graves is local and not known in Mesopotamia. Discovery of Mesopotamian objects in these graves does indicate, however, a trade relationship between the upper and lower Gulf during the Hafit period. Indeed, contact between the two regions goes back to the Al 'Ubaid period in the 5th millennium BC and perhaps even earlier. The pre-Uruk culture of Al Ubaid originated in southern Iraq and extended to northeast Syria, southwest Iran, and the western shores of the Arabian Gulf. It is distinctive for its painted pottery. Fishermen or traders from Mesopotamia must have visited these shores and exchanged items with their inhabitants. Some spearheads and a dagger belonging to the second millennium have been discovered in the tombs as well. Some of the Hafit graves yielded bronze and copper objects and vessels made of soapstone, as well as beads of much later date, which indicates that these graves remained in use and/or were re-used in later periods, mainly during the Iron

	Age period. The phenomenon of Iron Age people reusing old graves is well known in the United Arab Emirates and Oman; it is therefore not always possible to date the skeletal remains found within those graves with accuracy. Future excavations and new technologies will help clarify burial chronology further. The Hafit cairns, being the earliest known monuments in the interior, show evidence of trade between the settlements of Al Ain and the outside world, across the sea. In fact, textual as well as archaeological evidence relate that large quantities of copper were mined in the Hajar mountains of Oman and exported to Mesopotamia (eg. Potts 1990:119-125, 137, 145; Weisgerber 1981). In addition, the main trade artery during the subsequent Umm an-Nar period passed along the western side of the mountains, through Al Ain and up to the coast for transhipment from ports such as that on Umm al-Nar island itself. It is reasonable to suggest that this trade originated in the Hafit period, but that it developed significantly in the subsequent period. Hili Assemblage was therefore ideally placed to benefit from such trade, with its strategic location on the caravan routes and potential for human settlement. The culture of Al Ain Sites evolved over time and so did its subsistence economy based on small-scale irrigation using water extracted from wells. The produce as well as those responsible for it lived in tower-like structures with thick walls protecting themselves and their food supply as well as the very same element of their sustainability, i.e., the water well, located within the fortified settlement. This agricultural and architectural evolution, which is so typical to the Cultural Sites of Al Ain, occurred in the Bronze Age period. **Component 1.1: Jebel Hafit Desert Park (Site 001)** The largest and most prominent part of the Jebel Hafit cultural landscape has been defined as the Jebel Hafit Desert Park, as it covers the necropolis of Hafit Graves, Mezyad Fort and associated oasis, and the natural terrain immediately surrounding it, which have together been designated as an area under the protection and management of ADACH. More detailed descriptions of these are given below.

	Sub-Component 1.1.1: Mezyad Fort One of the monumental forts built after the Abu Dhabi ruler the late Sheikh Zayed Bin Sultan Al Nahyan consolidated power over the region, Mezyad Fort is located on the outskirts of Al Ain at the foot of Jebel Hafit and bordering Oman. This fort stands spectacularly in the desert, flanked by an oasis and overshadowed by Jebel Hafit's impressive profile. Mezyad is one of the largest and most heavily fortified buildings in the Al Ain region, occupying an area of around 3,600 square metres, and guarded by high watchtowers at each of its four corners. Unrest between tribes was quite common and the fort's proximity to the tribal border gave further need for an exceptionally well-defended building. The fort is a huge rectangular structure, approximately 63 metres long and 60 metres wide. Its 5.7-metre-high walls enclose a large courtyard. Machicolations (masonry projections with a hole in the floor for dropping stones and boiling liquids on the enemy below) and gun openings punctuate the walls at regular intervals. More than forty rooms face inwards onto the large courtyard and would have provided accommodation and storerooms for a sizeable military force. In common with most similar fortifications, Mezyad Fort is constructed of timber and mud brick. Its condition is maintained by an ongoing programme of maintenance. ***Sub-Component 1.1.5: Hafit Tombs-Necropolis*** The Bronze Age necropolis, located south of Al Ain and just west of the town of Mezyad, is comprised of 122 graves covering more than two kilometers of the eastern foothills of Jebel Hafit. **Component 1.2: Jebel Hafit North Tombs (Site 002)** The Jebel Hafit North Tombs comprise the southernmost group of tombs located along the series of ridges leading from the main mountain of Jebel Hafit northward towards Al Ain. This site is located within the Sanaiya District, about 10 km from the geographic center of Component 1.1: Jebel Hafit Desert Park Area, and bordered on the east and west by two parallel branches of the Wadi Tarabat, which is the western one of two wadis running in a north-south direction along the Jebel Hafit ridges.

	Component 1.3: Al Ain Wildlife Park Tombs (Site 003) The Al Ain Wildlife Park Tombs comprise one of the groups of tombs located along the series of ridges leading from the main mountain of Jebel Hafit northward towards Al Ain. This group falls within the Shiab Al Ashkar District, about 3 km north of Component 1.2: Jebel Hafit North Tombs and just south of Component 1.4: West Ridge Hafit Tombs. Together with the latter group, this site is bordered on the east by the Wadi Tarabat, which is the western one of the two wadis running in a north-south direction along the Jebel Hafit ridges. **Component 1.4: West Ridge Hafit Tombs (Site 004)** The west Ridge Hafit Tombs comprise one of the groups of tombs located along the series of ridges leading from the main mountain of Jebel Hafit northward towards Al Ain. This group falls within the Falaj Hazza District, about 4 km north of Component 1.2: Jebel Hafit North Tombs and just north of Component 1.3: West Ridge Hafit Tombs. Together with the latter group, this site is bordered on the east by the Wadi Tarabat, which is the western one of the two wadis running in a north-south direction along the Jebel Hafit ridges. **Component 1.5: Al Naqfa Ridge (Site 005)** Al Naqfa Ridge is the northernmost group of tombs located along the series of ridges leading from the main mountain of Jebel Hafit northward towards Al Ain. This group is located immediately south of Al Ain Oasis, on the western bank of the Wadi Idan, which is the eastern one of the two wadis running in a north-south direction along the Jebel Hafit ridges. The archaeological remains in this site are notable not only in terms of the Hafit graves characterizing the Jebel Hafit landscape, but also for Naqfa Fort, which is described in more detail below. ***Sub-Component 1.5.1: Naqfa Fort*** The ruins of the structure known as Naqfa Fort are located at the northern end of one the rocky outcrops of Jebel Hafit, commanding the approach to the oasis of Al Ain. The fort may represent the earliest surviving defensive structure in the city, though further archaeological investigation is required to confirm this and provide a definite date for its construction. The location of the modern-day

	cemetery to the east of Naqfa and the use of the area to the west for communal prayers during holidays give some indication of the significance this location has had in the past cultural life of Al Ain. **<u>Component Group 2: Hili Assemblage</u>** ***Location*** Hili Assemblage incorporates archaeological sites that occupy the northeastern part of the city of Al Ain and nestle the most important archaeological site known so far in the UAE and the region. An archaeological garden encloses some of the archaeological finds, while the rest lie in the surrounding archaeological site. Sometime around the beginning of the Bronze Age period, at around 3000 BC, sedentary communities, believed to have buried their dead in the Bronze Age cemeteries of Hafit, praticed small-scale irrigation and grew enough crops to sustain small communities living inside fortified tower-like structures incorporating the source of water (the water well). Around this time, trade intensified between the cultures of the ancient world (Mesopotamia, Persia, Indus Valley) and the land of Magan (incorporating large parts of Oman and the eastern part of Abu Dhabi Emirate), probably enticing people to settle at the junction of an important trade route linking the coastal and inland sites of Oman with those on the Emirati coast. These communities developed a sophisticated culture with monumental architecture in the form of dwellings as well as burials for the dead. Nowhere in the region can one find such a representation of settlements and graves to illustrate the emergence of the Bronze Age cultures of Hili and Umm an-Nar, situated on the crossroads of inter-cultural trade. Archaeological evidence collected at Hili has contributed to a clearer understanding of documentary sources (cuneiform texts) written in Mesopotamia in the late 3rd millennium, the analysis of which confirms that the area was known as Magan to the ancient Mesopotamians. Around 1000 BC, a new technological advancement changed the concept of life and society in that part of the world with the invention of the ingenuous falaj (plural: *aflaj*) system. The new invention challenged the limitations of the scarce desert environment and expanded the potential of the water resources, allowing an unprecedented

	expansion to occur on many levels. Being the precursor of the well-known qanat water system in Iran, the falaj system consisted of an underground tunnel, which brought water by force of gravity across long distances from the source of an aquifer (situated at the foot of the mountain) all the way to low-lying oasis agricultural terrain. Once the water reached the oasis it was distributed in accordance with a complex water allocation plan to the different owners of arable land. This necessitated a developed administrative system, which sustained the social system and allowed for the community structure to exist and continue. The potential of oasis agriculture in allowing for a wider range of vegetation to grow and larger produce to be collected entailed an expansion in the population. This had a profound effect on the way of life, subsistence economy, security and the expression of the very same culture through architecture, religion and art. Moreover, this meant that a new capital could be amassed in order to influence developments in trade and exchange across the region. This evolutionary model of a modest self-dependent agricultural system based on small-scale irrigation by water-wells, evolving into a large-scale engineering project which provided running water in substantial quantities to allow for the significant expansion of agricultural terrain, and its repercussions on settlement as well as funerary architecture and traditions, is all witnessed through the archaeological remains of Hili Assemblage. The number of settlement sites forming part of Hili Assemblage indicates that a quite extensive community inhabited this part of Al Ain from the beginning of the 3rd millennium BC to the end of the Iron Age, around 300 BC. The ancient oasis site (Hili Archaeological Park and surrounding sites, basically constituting the Hili Assemblage) has always been a link between the shores of the Arabian Gulf and the Gulf of Oman. Apart from the exotic pottery types discovered at the Hili tombs and the textual evidence about Magan from Mesopotamia, the existence of thousands of graves along the western range of Al Hajar Mountains and the ravines crossing them suggest the importance of trade at this time. The nature of the mountains of Oman, and the passes such as Wadi Suq and Wadi Jizzi, make communication between the Oman coastal area and

	Al Ain easy (Al Tikriti 1981: 227). Interaction between the ancient communities of Ras al Khaima in the north and Bahla in the south would have never taken place without Hili serving as a hub for the ancient trade. The significance of the Hili sites also lies in the fact that the discovery of some palaeoecological data has allowed for the partial reconstruction of the subsistence economy of the region during the 3rd millennium BC (Cleuziou 1989:74). Palaeobotanical evidence consisted of imprints of grains in mudbricks as well as charred grains. **Component 2.1: Hili Archaeological Park (Site 006)** Nearly five decades of archaeological excavations in the area brought to light the remains of two ancient periods at this location: the Bronze Age and the Iron Age. The two cultures—the Umm an-Nar culture and the Iron Age Hili culture—seem to have thrived in this region some 5,000 to 3,000 years ago. An overview of the layout of Hili Archaeological Park is provided in Annex 8- Plan of Hili Archaeological Park ***Sub-Component 2.1.1: Hili Archaeological Garden (the Garden)*** The archaeological sites located within the boundary of the Garden (Hili Archaeological Garden) at Hili Archaeological Park include settlement sites and collective burials. Sites from the Bronze Age (3rd millennium BC) reside in the southern half of the Garden. The northern section has unexcavated remains represented by small mounds from the Iron Age (1st millennium BC). The southern section is more unique than the northern one, which represents the periphery of the Iron Age remains located to the north and west outside the Garden. *2.1.1.2: Hili 1* The remains of quite a large settlement are located right in the middle of the Garden. The settlement belongs to the Bronze Age period and relates to the early development of agriculture using irrigation from wells, situated within the fortified settlement units. A fort-like building has several rooms built of mud bricks and a well within its ring

	wall. Other smaller buildings with unclear plans surround the tower from the western side. Findings from excavations indicate that, like Hili 8, Hili 1 was originally surrounded by a moat. *2.1.1.3: Hili 10* This is an incomplete building located right across the main gate of the Garden. It has been designated by the excavators of the former Department of Antiquities (DAT), now part of ADACH, as Hili 10. Excavations revealed the remains of a mud brick tower-like building similar to Hili 1 and Hili 8. The walls were discovered preserved up to about one metre high. A well was also discovered inside the building. Pottery collections discovered in association with the lower portions of the walls belong to the 2nd half of the 3rd millennium BC. Prior to excavations, pottery collected from the surface belonged to the 1st millennium BC. The type of Umm an-Nar pottery discovered within the building (3rd millennium BC), the architecture of the building itself and the well within it, all indicate that this building was built more than 4,000 years ago and re-occupied during the Iron Age, more than 1,000 years later. The existence of this building, as well as the towers of Hili 1 and 8, explain settlement patterns and the architecture of the Umm an-Nar period. *2.1.1.4: Tombs E and N* Tomb E is a typical circular collective burial while Tomb N, located next to the former, is subterranean. The plan of tomb E is similar to many other tombs in the area. It is circular in shape with interior intersected walls forming six chambers. The tomb has been restored and its walls stand up to about one metre above the ground. Just outside the eastern ring wall of Tomb E, the former Department of Antiquities and Tourism (DAT), now part of ADACH, discovered a subterranean grave, Tomb N. From the architectural point of view, this nearly eight-metre-long tomb is simple, but in terms of understanding the ancient population and the diversity of burial customs in the region during the 3rd millennium BC, the tomb is very important. Skeletal remains belonging to more than 600 people have been excavated and carefully studied. The tomb is very rich in archaeological objects, such as pottery, stone vessels, carnelian beads, and some copper objects including finger

	rings. ***Sites located outside the Garden*** One settlement site and ten circular tombs have been excavated during the four last decades. These are located to the south and southwest of the Garden, where the landscape and local environment are maintained to a very good standard. ***Sub-Component 2.1.2: Hili 8 Bronze Age Settlement and Tombs*** This site is one of the most important settlement sites excavated in the UAE. Only two other similar sites have been discovered—they are also inside the park (Hili 1 and Hili 10). The archaeological data collected from this interior site represent the backbone of the ancient history of the UAE. Excavations at this site carried out by a French team from the University of Paris and the Centre National de la Recherche Scientifique (CNRS), led by Prof. Serge Cleuziou, from 1979 to 1984 revealed a fairly large round building surrounded by a moat and dated to the 3rd millennium BC. The construction material of the site is mainly mud-bricks, which has deteriorated in surface (the site is mainly re-burried) since it was first excavated, so ADACH considers the conservation of the site a priority. Eight excavated tombs in association with Hili 1, 8, and 10 are located outside the Garden, all within walking distance from Hili 8. Two more tombs are located within the boundary of the nearby children's amusement park, Hili Fun City. All of these tombs have ring walls of dressed stones, and they represent interesting monuments standing above the ground. They are circular in shape ranging in diameter between 6 and 12 metres. ***Sub-Component 2.1.3: Hili 14 Iron Age Settlement*** This unique site, located northwest of the Garden, is composed of a single squarish building, measuring more than 50 metres in length on each side. The thick walls of this building and the presence of some towers supporting the exterior wall make it of special interest. French archaeologists described the site as a caravanserai. Being located

	near the falaj (Hili 15) that was discovered after the completion of the French report, Hili 14 may have been an administrative place for controlling the falaj and the water distribution (Beit al falaj, similar to the one unearthed at Bidaa Bint Saud). No real excavations have taken place at this site, but the French team scraped off the surface for the purpose of drawing the plan. ***Sub-Component 2.1.4: Hili 15 Falaj*** Hili 15, also an Iron Age settlement, is the site of the most ancient falaj identified anywhere in the world (1000 BC). The site is located just outside the northern wall of the Garden. There, the falaj extends 450 metres inside the park. Eight areas have been excavated along the falaj path, revealing several sections of the canal. Identified sections of the falaj include: open channels, a shari'a (path for water to flow), a cut-and-cover, and a shaft hole. ***Sub-Component 2.1.5: Hili 17 Iron Age Settlement*** Also northwest of the park, this site is a small village composed of perhaps five houses. One house of the three that have been excavated is of much interest as it represents the nucleus of the village, which seems to have been involved in pottery production and perhaps also in copper smelting. Walls are built of mud bricks and still stand high. **Component 2.2: Hili 2 (Site 007)** Apart from the afore-mentioned Iron Age sites, there is a very interesting site called Hili 2. This site, which is located outside Hili Archaeological Park, on the west side of the Al Ain-Dubai road across from the Park, represents a village from the Iron Age period whose houses are well-preserved. Some of the walls stand up to about two metres, so one can walk around inside the houses. Large storage jars were found indicating a prosperous community and a surplus of cereals due to the new irrigation system in use. **Component 2.3: Hili North Tomb A (Site 008)** This site, together with Component 2.4: Hili North Tomb B, forms part of the Umm an-Nar Tombs at Hili North, located a few hundred metres to the north of Hili Archaeological Park across the Al Ain- Dubai Road. They fall among the most

	outstanding features of the Umm an-Nar Culture in Southeast Arabia and they belong to the largest burials in the region. Of the two large monumental tombs of circular shapes discovered, Tomb A is slightly larger than Tomb B and measures 10.50 m in diameter. This tomb is the closest to the Grand Tomb from the architectural point of view. Large stones were used in this tomb, which, like Tomb B, has two story burials. The lower story was built below the ground level while the upper one originally formed a monumental structure with ashlars similar to those used in the Grand Tomb. Tomb A was found better preserved than Tomb B and at least one of its four chambers was found intact, yielding more than twenty complete skeletons furnished with pottery and stone vessels and ornaments such as beads and copper finger rings. **Component 2.4: Hili North Tomb B (Site 009)** This site, together with Component 2.3: Hili North Tomb A, forms part of the Umm an-Nar Tombs at Hili North, located a few hundred metres to the north of Hili Archaeological Park across the Al Ain- Dubai Road. They fall among the most outstanding features of the Umm an-Nar Culture in Southeast Arabia and they belong to the largest burials in the region. Of the two large monumental tombs of circular shapes discovered, Tomb B is slightly smaller than Tomb A, but like Tomb A, has two story burials. **Component 2.5: Rumailah Site (Site 010)** This site is a large settlement located at about three kilometres west of Hili Archaeological Park. The site is a rectangular elongated mound measuring about 600x100 metres. Excavations at the site showed two different levels of occupation with buildings. While Rumailah is a major Iron Age site (1st millennium BC) in Al Ain, some of the dates suggested by archaeological investigations indicate that occupation at Rumailah began in the last quarter of the 2nd millennium BC. Most of the buildings excavated so far belong to the second phase of the site when it became a large farming village, perhaps associated with a falaj. **<u>Component Group 3: Bidaa Bint Saud</u>** **Component 3.1: Bidaa Bint Saud (Site 011)**

	Another testimony to the evolving culture of Al Ain is depicted in the Bidaa Bint Saud archaeological site. Some 3,000 years ago, man inhabited the area of Bidaa Bint Saud, located to the north of Hili, 25 kilometers from the Al Ain National Museum. The area is dominated by an outcrop of stratified stone rising to about 40 metres above the surrounding landscape. Cemeteries were discovered here in 1970, and since then a number of graves have been located and excavated along the eastern side and on the top of the outcrop. The graves located along the eastern side of the outcrop are of a Bronze Age date similar to those within the Hafit Assemblage. According to the small finds, these are dated to the late 4th and early 3rd millennia BC. Though appearing disturbed and resembling solid heaps of stones, excavations showed that each heap concealed a hollow chamber surrounded by a ring wall that was pierced by a narrow passage leading inside. The roofs were corbelled in such a way that the ring walls inclined inwards the higher it rose. Originally these graves would have resembled domes. Although it has graves from the Early Bronze Age Period, Bidaa Bint Saud became important during the Iron Age. Being only 14 km north of Hili, it was a rural centre with a permanent farming community. A series of Iron Age sites to the north of Bidaa Bint Saud suggest that a caravan route must have existed, linking Al Ain oases with other contemporary sites in Dubai, Sharjah, Umm Al Quwain, and Ras Al Khaima. Bidaa Bint Saud is the first major post heading north from the Al Ain oasis on this route. Another group of graves belonging to the Iron Age is located on the top of the outcrop (Sub-Component 3.1.3). They are of various shapes and dates, though mostly circular in shape. Like the first group, they are built above ground from local rough stones. These are collective graves divided into a number of chambers, each allocated to several dead. The discovered skeletons were in poor condition and only fragmented bones were found. Though these graves had been plundered in the past, the excavations yielded a number of discoveries including pottery and stone vessels, dagger blades, bronze arrowheads, and different types of beads. Other small finds also came to light. These artifacts belong to the first and second millennia BC and are

	on display in the Al Ain National Museum. About 300 metres to the east of the outcrop, a well was also discovered (Sub-Component 3.1.2). A few hundred metres to the west of the outcrop, a local team from the former DAT (now part of ADACH) excavated a public building, the first of its kind discovered in the region (Sub-Component 3.1.1). The building, which was found covered with blown sand, is built of mud bricks similar to those of structures of the same date already known in the region. The plan and function of this find, however, are new. The building mainly consists of a large hall. The roof is missing but originally seems to have been supported by twelve columns, the plinths of which are still visible. Storage rooms must have been added to the outside of the building, and many storage jars were found inside them. The building referred to by the excavators as Beit al-falaj might have housed the administration of the falaj system whereby the distribution of water rights took place. This is deduced from the administrative character of the building and its proximity to a falaj main access point referred to as shari'a). It could also have served the purpose of trade counter on the trade routes heading towards the north. About 150 metres to the south of the building, a falaj was discovered and partly excavated (Sub-Component 3.1.4). Revealed were several shaft holes, an underground shari'a (main access point) with steps leading to it, and a large open cistern. A second falaj has also been discovered in the same region (Sub-Component 3.1.5). These discoveries provide further evidence that the falaj system was indigenous to the region, being introduced during the Iron Age. **<u>Component Group 4: Oases</u>** ***Location*** The Oases of Al Ain are six in number and are scattered along the urban core of the city. They are distributed as follows: 1 Al Ain Oasis: In the centre east of the city 2 Hili: Northernmost oasis, northern sector of the city 3 Jimi: North of Mutaredh Oasis, south of Hili

	4 Qattara: North of Jimi Oasis and south of Hili 5 Mutaredh: In the centre of the city, west of Al Ain Oasis 6 Muwaiji; In the centre of the city, west of Mutaredh There is also an oasis associated with Mezyad Fort, located within the Hafit Assemblage, which has been addressed separately within the scope of Component 1.1. ***Overview*** Al Ain's six oases sustained the settlement of the area in the 2nd millennium BC (and possibly earlier); they now constitute an indissoluble aspect of the landscape of the city. Each oasis most likely started with one farm or a group of trees, possibly watered by a deep well, and then grew larger as technological innovations associated with the invention of the falaj irrigation systems made it possible to increase cultivation, sustain a larger settlement and grow surpluses which were then traded against other commodities. Today, the oases are dense irrigated date palm gardens surrounded by bustling modern city streets. Al Ain's oases have roots in the past; they are surviving elements of a culture which developed in the Iron Age period and possibly earlier as evidenced in the cultural sites of Hili and Bidaa Bint Saud, additional elements of this nomination. These oases are an important heritage asset, not only for their ecological value, but also for the important cultural value they hold, which is linked to a way of life that has survived until today. The practice of harvesting dates and other crops continues as it has for generations. The active cultivation of the oases is integrated into the urban fabric of the city. The oases of Al Ain are still watered by historic falaj irrigation systems that bring water from mountain aquifer recharge zones through arid regions to the cultivated areas. Falaj systems in Al Ain are of two types: one taps water from mother wells sunk down to the groundwater, and the other (known as ghail) taps surface water from seasonal streams. ***Archaeological Remains associated with the Oases***

	Two important archaeological sites are found in the vicinity of, and possibly associated with the oases. These are described in more detail under their respective headings, ie Component 2.5: Rumailah (Site 010) and Sub-Component 4.4.23: Qattara Tomb. ***Major Historic Buildings associated with the Oases*** Historic oasis architecture is of several types, including large forts, defensive towers, and fortified houses (*murabbas*) built to protect the inhabitants of the oases and their produce. Also found in oases are mosques and even a traditional market or souk. All these buildings demonstrate the traditional building techniques of Al Ain – massively thick mud walls with limited small openings for light and air, roofed with palm logs and palm mat roofs, and mud plaster floors and walls. Traditional building materials in the mountains and along the coast of the UAE are stone and coral, but inland at Al Ain there is a long and rich tradition of mud brick building using clay collected from the wadis (ravines) that bring down water from the nearby mountains. Surviving ancient examples of local mud brick architecture include the houses of the Iron Age settlement at Rumailah as well as round buildings with massively thick mud brick walls found in both the Bronze Age and Iron Age settlements of Hili. Archive photographs show that mud brick houses, often supplemented by arish structures (made from palm branches and leaves), continued to be extensively used in Al Ain until the end of the pre-oil era in the 1960s. Historic mud brick buildings have evolved as an integral part of the oasis systems, although some of them lie within the actual oasis boundaries, defined by the boundaries of individual farm plots, some buildings lie outside these boundaries and their relationship with the main oasis areas have often been severed by modern development. The status of the buildings has been indicated in the table showing the full list of sub-components and coordinates (Annex 2). Although those buildings falling outside oasis boundaries have not been included in the component boundaries of this nomination, they are included in the buffer zones; they have also been mentioned in Annex 2, and some notable ones have been described below for reference.

	Component 4.1: Al Ain Oasis (Site 012) Located in the centre east of the city, in the Central District, Al Ain Oasis is believed to be the largest and oldest among Al Ain's oases. The vegetation of the oasis has a dense character, with few historic buildings within the palm gardens, but several important buildings at its western and eastern edges. ***Sub-Component 4.1.4: Al Murab'a Fort*** Located in the center of Al Ain, the fort takes its name from the large, rectangular, three-storey tower that dominates its low-walled courtyard. At the street entrance, the multi-foil arch has a traditionally constructed ceiling of date palm trunks and woven palm-frond matting., The newly-constructed *arish* or palm branch hut which can be seen to one side of the main tower is an excellent example of traditional Emirati vernacular architecture. ***Sub-Component 4.1.5: Eastern (Sultan) Fort*** The Eastern or Sultan Fort at the edge of Al Ain Oasis is another historic building associated with the increased influence of the ruling family in Al Ain from the end of the nineteenth century onwards. The fort is a well-preserved mud brick structure with towers at three of the corners and a gate in the southern façade. It was occupied by the son of Zayed I, Sheikh Sultan, in 1910, apparently in preference to the fort at Jahili, which then went into decline. It now lies within the grounds of the Al Ain National Museum and forms one of its major attractions. ***Sub-Component 4.1.6: Al Jahili Fort*** Adjacent to Al Ain Oasis, this fort was probably erected to ensure the security and integrity of the oasis. Consolidation of the power of the ruler of Abu Dhabi over Al Ain was achieved by Sheikh Zayed the First between 1887-1891. The construction of several forts—Jahili, Mezyad, and Sultan, as well as the large enclosure known as Muwaiji Palace—appears to have ensued at the end of the nineteenth century. Jahili nowadays is located in Al Ain city center next to Jahili Public Gardens, in the west of Al Ain Oasis. The Jahili Fort complex contains within one site many of the different individual

	elements of traditional mud brick architecture preserved in other parts of Al Ain, including a round watchtower, a square fort with defensive towers at the corners, a larger enclosure wall, and a mosque outside the walls. Recent work has even uncovered the remains of a falaj or covered irrigation channel, which probably formed part of the public works carried out during the expansion of Al Ain that accompanied the arrival of the Al Nahyan family at the end of the nineteenth century. The oldest parts of Jahili are the inner fort and the separate multi-tiered round tower. An inscription over the south gate shows that the inner square fort dates back to the 1890s, when it was built by Sheikh Zayed the First as a powerful reminder of the relative political stability achieved during his long reign, though he also used it as a summer residence. The round tower is probably older than the square fort and may have originally been a single watchtower of the type built to protect the oases of Al Ain during the frequent raids of the eighteenth and nineteenth century. The choice of location was probably also influenced by the availability of water and the presence of an existing settlement around the oasis watered by the falaj. Contemporary with the construction of the fort, a large courtyard was created between the fort and tower by joining them within a single enclosure wall. The significance of Jahili lies in its central location in modern Al Ain and the survival within it of a large and imposing traditional building. The different elements of this building provide a strong physical and visual link to important local and regional historical events of both the nineteenth and twentieth centuries. The fort preserves important associations with the rise of the Nahyan family and the person of Sheikh Zayed the First, as well as the formative historical events of the region during the 1950s, namely the Buraimi dispute of 1952-55 and the Jebel Akhdar war in Oman in the years 1954-59. Indeed, the location and landmark status of the site is such that Al Jahili Fort has come to symbolize the traditional architecture and cultural heritage of the UAE. At present, Al Jahili Fort is open as a visitor's center, a permanent exhibition on the explorer Wilfred Thesiger, a temporary exhibition space, and other visitor facilities. An innovative

	walk-through audio-visual installation will be added by the end of 2009. This multi-media experience, which will be displayed in the fort's iconic round tower, will focus on the history and development of Al Ain city. **Component 4.2: Hili Oasis (Site 013)** Located in the northern sector of the city, within Hili District, about 2 km northeast of Jimi Oasis, and about 1 km southwest of Hili Archaeological Park, Hili is the northernmost oasis, with several historic buildings remaining within its boundaries. The most prominent of these buildings is the Hemad Bin Hadi al Darmaki House, described below. ***Sub-Component 4.2.1: Hemad Bin Hadi al Darmaki (Bin Hadi) House*** Located in the center of Hili oasis, the house is an abandoned ruin with many phases of occupation. A good example of the fortified houses that guarded oases, the Bin Hadi Al Darmaki House displays the usual rectangular enclosure with a large square tower at one corner. Oral tradition appears to place the foundation of the building in the generation before the arrival of the family of Sheikh Zayed the First in Al Ain, i.e. around 1820 AD. Archaeological work has sought to address more general questions concerning both the history of construction and the history of use of the Bin Hadi House and others like it. This has involved considering the evidence that may be preserved for a number of phases or themes, ranging from the topography of the area, the first construction of the building, any intervening phases and changes to the building, and the extent of modern restoration. ***Sub-Components 4.2.8 and 4.2.9 (Hili Watchtowers): Sheikh Zayed Bin Sultan Al Nahyan Tower and Khalifa Bin Nahayah Al Darmaki Tower (Hili Watchtower 2)*** Located to the northeast of Al Ain City, Sheikh Zayed Tower stands on top of a man-made earth mound, and has the classic features of the defensive murab'a or square tower. The ground floor has no windows and contains a wooden staircase leading to the battlements, from where guards kept watch over the surrounding area.

	Around 50 metres away, the Khalifa Bin Nahayah Tower, a 7.4 m round watchtower, dominates another earth mound of similar height and diameter. Both towers are built of the materials found locally: mud brick and palm trunks and fronds. **Component 4.3: Jimi Oasis (Site 014)** Jimi Oasis is located in the northern part of the city, within Jimi District, immediately south of Qattara Oasis, and about 4 km northwest of Al Ain Oasis. Jimi and Qattara Oases are located within the same city block, and are tied together closely by their proximity and physical form. They are the largest oases in the city after Al Ain Oasis, their vegetation not as dense as Al Ain Oasis but having a larger number of historic buildings within their boundaries. In Jimi Oasis, many buildings are found bearing the family name Al Dhahiri. **Component 4.4: Qattara Oasis (Site 015)** Qattara Oasis is located in the northern part of the city, within Qattara District, immediately north of Jimi Oasis, and about 5 km northwest of Al Ain Oasis. Jimi and Qattara Oases are located within the same city block, and are tied together closely by their proximity and physical form. They are the largest oases in the city after Al Ain Oasis, their vegetation not as dense as Al Ain Oasis but having a larger number of historic buildings in and around them. Qattara Oasis is noted for the Murayjib Buildings located nearby, as well as many buildings within the oasis bearing the family names Al Darmaki or Al Dhahiri. ***Sub-Components 4.3.21-22: Murayjib Buildings*** Situated west of Qattara Oasis, Al Murayjib Fort (4.3.21) and Tower (4.3.22) are the earliest firmly-dated buildings in Al Ain, believed to have been founded around 1816 by the former ruler of Abu Dhabi, Sheikh Shakhbut bin Dhiyab. Today they are located within a public family garden. ***Sub-Component 4.4.23: Qattara Tomb*** Discovered adjacent to Qattara Oasis, on land which could have been associated with the oasis historically, this tomb exhibits architecture that is quite different from the circular tombs of Hili and Umm an-Nar (see below). The shape is rectangular,

	about 14 m long and 2 m wide. A small section of the farm measuring 90x60 metres was bought from the owner. Excavations have unearthed a large cache of weapons, stone vessels, pottery, and jewellery, including golden pendants, at this site. The site has been dated to the Wadi Suq Period (the first half of the 2nd millennium BC) and represents a very significant stage in the development of the Culture of Al Ain Sites. **Component 4.5: Mutaredh Oasis (Site 016)** Mutaredh Oasis is located in the central/ western part of the city, within Mutaredh District, and about 2 km west of Al Ain Oasis. Mutaredh Oasis is noted for the House of the late Sheikh Mohammed Bin Khalifa located nearby, as well as several buildings within the oasis bearing the family name Bin Suroor. ***Sub-Component 4.5.5: House of the late Sheikh Mohammed Bin Khalifa (Mohammed Khalifa House)*** The House of the late Mohammed Bin Khalifa is a fine example of palace architecture dating back to the mid-twentieth century. It is situated close by to Mutaredh oasis and is one of the few remaining concrete buildings built during the 1960s using traditional architectural forms and elements. This house is important both for its blending of traditional architectural elements—such as the division into separate wings for the male and female members of the household—and the construction technology combining the traditional use of stone and plaster with early concrete. Additional importance stems from its historical associations, its size, and the large amount of intact original fabric, which provides insight into the changing building traditions in Al Ain during the transition from the pre-oil period. **Component 4.6: Muwaiji Oasis (Site 017)** Muwaiji Oasis is located in the western part of the city, within Muwaiji District, and about 2 km west of Al Ain Oasis. The smallest among Al Ain's extant oases, it is noted for Muwaiji Palace located in the southern edge of the oasis. ***Sub-Component 4.6.1: Muwaiji Palace***

	Muwaiji Palace is located on the western approach road from Abu Dhabi within the oasis of the same name. This large mud brick enclosure appears to have been first built during the reign of Sheikh Zayed the First. Archaeological investigations inside the courtyard of the fort have revealed the remains of a number of buildings that may be associated with the original construction of the fort. Much of its later significance derives from the fact that Sheikh Zayed bin Sultan moved there and used it as his administrative base from when he became the Ruler's Representative in the Eastern Region in 1946. The President of the UAE, Sheikh Khalifa bin Zayed was born at Muwaiji in 1948.
2.b History and Development	Archaeological investigations have proven that Al Ain has been continuously inhabited since the Late Stone Age or Neolithic Period (around 6,000 years ago). Today, Al Ain holds various archaeological sites and remains dating back to the Neolithic, Bronze Age, Iron Age, Hellenistic, pre-Islamic, and Islamic eras. Al Ain's natural and cultural landscapes contribute to the special character of the area. One of the remarkable features of Al Ain is the mosaic between the desert, lush oases, and mountains. The settlement of Al Ain would not function and have developed without the interaction and combination of these three ecozones. The vast wealth of archaeological remains concentrated within Al Ain's area and its immediate surroundings illustrates the extraordinary importance the area held as a cradle of desert civilization. The archaeological findings and sites that constitute the Cultural Sites of Al Ain have been presented in numerous scientific assemblies and publications. **<u>Component Group 1: Hafit Assemblage</u>** The Hafit Assemblage, shaped by the funerary traditions of the Bronze Age Hafit Culture taking place on the distinctive setting of Jebel Hafit and its northern extensions of rocky ridges, has maintained its significant landscape characteristics, not least due to the early recognition by archaeologists of its importance and subsequent protective measures, as well as a tendency of urban development to take place outside of the component sites. Some highlights of the development of the

	Assemblage are described below. **Component 1.1: Jebel Hafit Desert Park (Site 001)** Jebel Hafit Desert Park, the site of 122 ancient graves and Neolithic surface sites largely avoided encroachment or development, with a few special exceptions. A modern paved road was installed in the late 1990's on the southeastern slope of the mountain to allow for easy access to the top of the mountain for views and recreation. Lookout points with parking lots are sprinkled along the road, and a café and parking lot was established at the summit. A Mercure Hotel facility was built along the new road close to the summit, and a private palace is currently under construction nearby on the summit. These developments it is worth mentioning, have occurred away from the concentration of archaeological resources and have little if any impact on the cultural significance of the Park. No development has taken place at the site, which is still only accessible by 4-wheel drive vehicles. The whole area is protected by the Department of Historic Environment, part of ADACH. ***Sub-Component 1.1.1: Mezyad Fort*** Mezyad Fort dates back to the nineteenth century, although it is not known who ordered its construction. The fort provided a safe haven for local people in times of dange and a center for communal gatherings. The proximity of the fort to the Oman border meant that the fort saw use as a police post in the 1970s. Subsequently it underwent a major program of restoration from 1983-84 carried out by the former Department of Antiquities and Tourism (now ADACH). Currently, Mezyad Fort is being redeveloped with a new use to enhance accessibility and education of the whole area (i.e., the fort, the nearby oasis, the Jebel Hafit Bronze Age tombs, and the surrounding cultural landscape). Mezyad Fort will be developed as an oasis spa hotel. ***Sub-Component 1.1.5: Hafit Tombs-Necropolis***

	The Jebel Hafit necropolis was among the first archaeological sites identified in the United Arab Emirates, and indeed the southeastern Arabian Peninsula as a whole. The Danish Archaeological Expedition was responsible for the first explorations carried out at Hafit in the early 1960s, followed by small local teams (70s and 90s), and the French Archaeological Expedition (1976/1977). The latter dug six of the tombs located on the escarpment between the two arms of the Jebel. The discovery and dating of Hafit tombs has led to the designation of an entire cultural horizon as the "Hafit Period". To date, 122 graves have been surveyed. Thirty-two graves of this group have been excavated, yielding, apart from beads, a number of pottery vessels of Mesopotamian origin, dating back to the late fourth and early third millennium BC. Seven of the surveyed graves have been restored according to their original construction. ***Sub-Component 1.5.1: Naqfa Fort*** Naqfa fort perhaps represents the earliest surviving defensive structure, but further archaeological investigation is required to confirm this and provide a definite date for its construction. The former Department of Antiquities and Tourism carried out work to stabilize and support the existing structures and protect them from encroachment. The Department undertook new excavations in January 2004. Although these were only limited excavations, they led to the discovery of three rooms and remains of three towers jutting from the exterior wall, which was built in the shape of a semi-circle following the topography of the ridge. Activities halted before being able to understand the full plan and determine the relationship in architecture between the Late Islamic Period and the Iron Age remains. A large collection of Iron Age pottery was made but it is still too early to say that this Late Islamic fort was built on top an Iron Age structure. Further excavations are required to clarify this point. **<u>Component Group 2: Hili Assemblage</u>** **Component 2.1: Hili Archaeological Park (Site 006)** A substantial area of the Hili Archaeological Park has been saved from development as Al Ain has grown. The former Department of Antiquities

	(now part of ADACH) managed to salvage the most important part of the vast Hili remains, namely the settlement sites and cemeteries located within the existing fence. The protected zone encircles the well-known Hili Archaeological Park, which was established in 1969-1970 by the late Sheikh Zayed Bin Sultan Al Nahyan, the former president, in order to facilitate the visit to the excavated sites. ADACH is currently drafting a plan to preserve and enhance the sites. A management plan is also under preparation for Hili Archaeological Park. Specific sites within the Park have experienced different levels of intervention that have led to their current states. ***Sub-Component 2.1.1: Hili Archaeological Garden (the Garden)*** *2.1.1.1: Hili Grand Tomb* The Hili Grand Tomb was restored from 1973-1975. Though left unroofed when restored, later evidence from Umm an-Nar Island shows that circular tombs like these were originally corbelled and looked like domes from the outside. No plans currently exist to update the appearance of Hili Grand Tomb according to this new information. *2.1.1.2: Hili 1* The site designated Hili 1 was excavated in 1968 by a Danish archaeological expedition from the Moesgaard Museum led by Dr. Karen Frifelt. Consisting of a fort-like building, most of the excavated rooms at this site were filled back with sand soon after excavations. *2.1.1.3: Hili 10* Excavations at Hili 10 carried out from 1989 to 1990 by the former DAT revealed walls preserved up to about one metre high. *2.1.1.4: Tombs E and N* Archaeologists and anthropologists from the former DAT (now part of ADACH) and the CNRS (France) recently excavated and studied the materials at Tombs E and N. Dr. Kath McSweeney completed the recording of the human bones from Tomb N. Tomb E was restored in 1985, and its walls stand up to about one metre above the ground. ***Sites located outside the Garden*** ***Sub-Component 2.1.2: Hili 8 Bronze Age***

	Settlement and Tombs A French team from the Centre National de la Recherche Scientifique (CNRS) led by Prof. Serge Cleuziou conducted the excavations at Hili 8 from 1979-1984 that revealed a large round building surrounded by a moat dated to the third millennium BC. Eight tombs associated with Hili 1, 8, and 10 lie outside the Garden and have been excavated. Two of these tombs were restored in 1975 while the remainder await a proper restoration plan. ***Sub-Component 2.1.3: Hili 14 Iron Age Settlement*** No real excavations have taken place at Hili 14, but a French team, with the guidance of Dr. Sophie Mery, Director of the French Archaeological Mission, scraped off the surface for the purpose of drawing a plan in 1982. **Sub-Component 2.1.4: Hili 15 Falaj** Eight areas have been excavated along the falaj path, revealing several sections of the canal. ***Sub-Component 2.1.5: Hili 17 Iron Age Settlement*** Hili 17 is a small Iron Age village of perhaps five houses, three of which have been excavated in 1991 by the former Department of Antiquities and Tourism. **Component 2.2: Hili 2 (Site 007)** Hili 2 has also been excavated. A local team began excavations from 1976 to 1980 and then resumed them for seven successive seasons from 1983 to 1990. Some of the well-preserved houses have walls stand up to about two metres, so one can walk around inside the houses. **Component 2.3: Hili North Tomb A (Site 008)** Tomb A was excavated by a French team. It was found better preserved than Tomb B and at least one of its four chambers was found intact, yielding more than twenty complete skeletons furnished with pottery and stone vessels and ornaments such as beads and copper finger rings. Both tombs have been partially restored using new stones fitted between the original ones of the circular walls.

	Component 2.4: Hili North Tomb B (Site 009) Tomb B was dug by a team from the former department of Antiquities and Tourism. Unlike Tomb A, which was found relatively well-preserved, Tomb B was badly disturbed. Both tombs have been partially restored using new stones fitted between the original ones of the circular walls. **Component 2.5: Rumailah Site (Site 010)** Excavations carried out at the site by the Danish archaeological team in the 1960s, the French team in the 1980s, and a local team in the 1970s and 2005 progressively revealed remains of houses built of mud bricks. **<u>Component Group 3: Bidaa Bint Saud</u>** **Component 3.1: Bidaa Bint Saud (Site 011)** The first excavations were by the Danish team from the Moesgaard Museum in 1970, followed by teams from the former DAT (now part of ADACH) from 1973-1974. Because of the fragile condition of the construction materials, the earthen structure (Sub-Component 3.1.1) had to be back-filled with sand. It will be re-exposed only when a restoration plan is implemented. Following some destruction that took place in mid-1980s, the excavated Iron Age graves (Sub-Component 3.1.3) at the top of the outcrop were rebuilt according to their original plans. **<u>Component Group 4: Oases</u>** ***Oases History*** Oases are unique geological and ecological settings that can be exploited for the natural resources they provide in an otherwise inhospitable environment. The oases forming part of the Cultural Sites of Al Ain, Serial Nomination, provided the means for human settlement and expansion, creating opportunities for a new desert culture to emerge with sophisticated forms of cultural expression, whether it is through architecture, funerary traditions, agriculture and engineering, trade and the arts. To understand their current state, one must understand the history of human interaction with this unique eco-zone.

	Origins of the Oases The results of archaeological research allow us to trace the origins of oases to the times of the great social and economic transformations that occurred in the area at the close of the fourth millennium BC (Cleuziou and Tosi 2007: 139). The earliest archaeological evidence and references to the oases are the Hafit tombs. "Hafit type" graves not only identify the territories of the Early Bronze Age political groups; they also help archaeologists find their main settlements along the coasts or in the interior by creating an artificial environment for agriculture. When we observe the conjunction of a modern oasis and the "Hafit type" graves, archaeological investigations are likely to uncover the remains of Early Bronze Age agricultural settlements (Cleuziou and Tosi 2007: 142-143). Oases are a particular environment exploited and maintained by human communities in order to ensure, year after year, a reliable supply of food, not only by bringing a permanent supply of water but also by creating an artificial environment under the shade of palm trees. Under this protection, fruits and legumes, like cereals and dates, can be harvested several times throughout the year, being not only a source of food but also wealth through trade. Oases incorporate diverse farming systems. They are places to locate the activities of fairly large communities, including all types of arts and crafts like pottery, stone cutting, weaving or metal working and also places that require vast labour investments and a central authority. The fact that the largest cemeteries of "Hafit type" cairns are found in their vicinity makes it likely that they became the centripetal flywheel to enlarge the communities at the beginning of the early Bronze Age (Cleuziou and Tosi 2007: 145). The historical development of the Oases of Al Ain therefore can be traced back to the Early Bronze Age Period, or to the turn of the 4th millennium BC. This is demonstrated by the Bronze Age cemeteries forming part of the Hafit Assemblage as well as those that we found in association with the archaeological site of Bidaa Bint Saud. Settlement evidence and evidence of irrigation and farming was recovered at Hili Assemblage, whereby remains of farming was found in the

	recovered remains of grain cultivation (wheat and other) as well as in the fortified settlements with water-wells, which are the precursors of the wider-scale *falaj* irrigation systems. Early Bronze Age irrigation and farming identified through the archaeological remains of Hili 1, 8 and 10 were probably small-scale and produced small oases areas that could be sustained by modest irrigation from wells, sustained by self-contained nuclei of communities. The larger-scale agricultural projects which gave rise to the larger-scale oases areas emerged during the Iron Age period and were conditioned by the discovery and development of the *falaj* irrigation system or network. Such a system required a more complex social structure and organization as well as a functioning administrative system to guarantee that the *falaj* system is constantly maintained, protected and that water resources are equitably distributed among landowners. This allowed for large plots of oases lands to develop and to agricultural surpluses to amass, thus giving rise to a new capital which had a deep impact on the trade network and system in place in that part of the region. Beyond this point, the scale of oases areas and their sustainability was determined by the availability of water resources to allow for the oases to continue, to expand further or to recede, depending on how much water was available and how much of it was stored in underground aquifers. The condition of the *falaj* networks, the security conditions as well as the efficiency of the *falaj* management system are all determinants of the existence and condition of the oases. *Tower Oasis Settlements* By the third millennium BC, towers became characteristic of large oasis settlements like at Hili Archaeological Park, for example. Excavations at Hili Archaeological Park have uncovered a well at the centre of the tower, suggesting that the towers were fortified residences for prominent members of the community, whose affiliates, clients, and kin-related groups were housed at the foot of or near the tower (Cleuziou and Tosi 2007: 147). The well probably opened into the central space of the living quarters, providing a permanent supply of water to those who lived inside. The earliest known tower at present is building III at Hili 8 dated to 3000 BC. Though not actually located within the modern

	boundary of an oasis, Hili 8 was situated nearby to control and manipulate the water for the adjacent oasis. Archaeobotanical evidence for the exploitation of various cultivated plants was discovered at Hili 8 including dates (Phoenix dactylifera), three varieties of two-row and six-row barley (Hordeum distichum, Hordeum vulgare and Hordeum vulgare var. nudum), and two varieties of wheat (Triticum dicoccum and Triticum cf. aestivum). Legumes (peas) were also found, together with an unidentified variety of melon. Charred grains and imprints of jujube seeds (Ziziphus spina christi) were also found at Hili 8, witness to the exploitation of the surrounding wooded steppe, as jujube trees would preferentially grow in the best watered areas near the oases. From these we can deduce information about the oasis agricultural system and its origins (Cleuziou and Tosi 2007: 149-150). The agricultural system appears similar to that known in historical times. Various types of crops would grow under the shade of palm trees. Outside the protective shade of the palms, cereals, mainly wheat and barley, were grown in adjacent irrigated fields during the winter season. Oases had the advantage of being able to produce food at various times of year, e.g. in July-September when the dates were gathered, and April when the wheat and barley were harvested. The exploitation of other local wild plant resources such as jujube demonstrates that such resources also provided a precious supplement. Analysis of the animal bone remains found during the excavations at Hili 8 reveals that domestic animals occur among 95% of the total number of bones. Most of the meat eaten at Hili was produced by animal husbandry. Among the domesticated animals, cattle were the most important producers of meat and milk. Sheep and goats were more numerous than cattle but produced less meat. In period II, goats become more important than sheep, as the latter are mainly grazers, and this may indicate either a changing environment because of over-exploitation or may be due to climatic reasons (Uerpmann and Uerpmann 2007: 158-9). *Falaj and Oases* The traditional falaj irrigation method is generally supposed to have been introduced at the beginning of the first millennium BC. This complex and skillful system of underground and/or surface

	channels brought water across several kilometres of rugged countryside to large oases and small gardens throughout the area (Al-Tikriti 2002a,b; Cleuziou and Tosi 2007: 151). Oasis agriculture and the falaj were adopted by a society that incorporated these new practices into its established economic and political traditions of sharing the results of hunting and gathering among the whole community (Cleuziou and Tosi 2007: 157). From the beginning of the 3rd millennium BC, we have good archaeological evidence that the piedmontane strip of the al-Hajar mountains towards the Rub' al-Khali in the inland of the Oman Peninsula was already shaped into territories centered on palm tree oases watered by man-made means. The steppe surrounding environment was exploited by sheep and cattle-herding. The site of Hili 8, part of Hili Assemblage, is one of the only sites relating to this period that has received detailed archaeological excavation. The study of the distribution of early burial cairn fields indicates, however, that most of the areas where irrigated cultivation was possible were already settled by that time (Cleuziou 1996: 160). *Political Structure of the Oases* The political structure of these early oases is unknown. The settlements consisted of one to several huge towers, some reaching over 30 metres in diameter, surrounded by moats (e.g. Hili, Tell Abraq, Bat, Bidiya, and Bisyah). Multi-cellular rectangular houses were excavated at Maysar and Bat in Oman, recalling the coastal architecture of Umm an-Nar and Ra's al-Jins, or were detected from the surface of various other sites. These towers have often been compared to those held by the leading families (sheikhs) in the modern oases of Oman. On the other hand, nothing in the funerary record points to the development of any kind of hierarchy. By 2800 BC, the single chambered cairns gradually transformed into larger multi-chambered monuments (the “Umm an-Nar”-type graves), built in close vicinity to the settlements, leaving to the older ancestors their role of territorial markers on the surrounding ridges. With time, these burials became more and more monumental, containing more and more skeletons, linked to increasingly complex rituals. Among the recurrent features is an

	increasingly strict division into two halves, each with its separate door. Little is known about the recruitment of the corpses deposited in the various chambers, except the fact that both men and women, adults and children, were buried in the various compartments. The dead were accompanied by personal ornaments and various offerings, among which, for instance, a golden band (possibly a head ornament) found in tomb XI at Umm an-Nar may indicate that some were provided with objects of a high status during life. But all corpses seem to have undergone secondary processes that confused them into a single community, suggesting an affirmation of kinship as the base of the social system (Cleuziou 1996: 161). *Later Oasis History and Development* The treatment of the oases has been sustainable out of necessity, as the oases, for much of Al Ain's history, provided much-needed water, shelter, nourishment, and commerce. The surge of development across the UAE since the 1970s has left the oases untouched, encircling rather than developing them. Oases Laws issued by Sheikh Tahnoon in 2004 and by Sheikh Mohamed bin Zayed in 2005 (see Annexes 4 and 5) have contributed to the ongoing protection of the oases. The fringes of some oases have seen some encroachment, but the oases of Cultural Sites of Al Ain are overwhelmingly intact and well-maintained. Further information is given on the history and development of some important elements of the oasis areas below: ***Sub-Component 4.1.4: Al Murab'a Fort*** The late Sheikh Zayed bin Sultan Al Nahyan ordered the construction of the fort in 1948 when he ruled the Eastern Region, and its original use was as a watchtower and headquarters for the royal guards. The fort once formed the focal point of the community, providing a venue for wedding ceremonies, religious festivals such as Ramadan, and formal appointments, At times it was used as a prison and police station. ***Sub-Component 4.1.5: Eastern (Sultan) Fort*** The fort has been maintained as part of the museum grounds. Future plans involve restoring the former visibility of the fort as a prominent landmark

	within the landscape of the oasis of Al Ain and the centre of the town. ***Sub-Component 4.1.6: Al Jahili Fort*** The fort was originally the summer home of the Al Nahyan ruling family and served as a seat of power in the region. However, much of the earlier group of buildings had fallen into disrepair by 1955, when Sheikh Shakhbut offered the fort to the Trucial Oman Levies (TOL) (a British-officered force) following the resolution of the Buraimi Dispute in 1954. The military occupation involved the creation of a new administrative compound against the northwest corner of the old enclosure wall, with accommodation for the troops and stores arranged in blocks around a courtyard. The round tower was initially used as a sentry post but was converted to officers' quarters in 1957. Further changes were made in 1962 when the fort was painted white and the buttresses visible around the inner fort were added. This military use of the tower continued until the fort was passed over to the Union Defence Force in 1971. From 1986-89 the former Department of Antiquities and Tourism, incorporated in 2005 into the Abu Dhabi Authority for Culture and Heritage (ADACH), undertook a restoration of the fort which included the removal of some of the buildings of the British-period administrative compound to create a single large courtyard now used for public events, including a major classical musical festival that takes place in March each year. The present monumental entrance flanked by large towers was also added during the 1986-89 restoration, along with the arcaded gallery forming the western edge of this courtyard. All the new parts of the building added during the 1980s were built using the same traditional combination of mud brick walls with palm log roofs. More recently, ADACH rehabilitated the Al Jahili Fort so that it now houses a visitor's center, a permanent exhibition on the explorer Wilfred Thesiger, a temporary exhibition space, and other visitor facilities. The process of rehabilitation began with a thorough archaeological survey that revealed nuances to the different phases of the Fort's history.[1]

[1] It is ADACH policy to include archaeological work with rehabilitation programs. It often helps identify the historical construction sequence and the significant changes that buildings have gone through even in relatively recent times.

	For example, archaeological excavation showed that while the fort had been extensively modified in the 1980's, much of the earlier structure had not been destroyed but merely incorporated into the new layout. Similarly, a jail was discovered within the eastern wing – where the Mubarak bin London exhibition is now housed. This jail was complete with iron rings set into concrete floors, all surrounded by a steel mesh fence. The investigations have not stopped there, as a future project looks to collect the oral histories of locals and former soldiers linked to the fort. The fabric of the building has been carefully preserved and sensitive restoration work has recreated much of its original 19th century appearance through a combination of traditional materials and new technologies. The aim was to alter the building as little as possible, whilst at the same time equip it with the requirements of a modern visitor facility. Climate control inside the buildings was accomplished by combining new technologies with some of the oldest known to man. Mud brick (or adobe) is ideally suited to hot arid climates – it has excellent insulation properties, keeping the heat of the day out and helping to even out the difference between day and night time temperatures. This natural climate control was enhanced by embedding cold water pipes into the mud plaster of the walls, resulting in a comfortable internal temperature of 22°C. Additional cooling is provided by cold air ventilation controlled by intelligent sensors that minimize energy consumption. These innovations exploit new and old technologies, enabling the fort to look largely unchanged yet able to comfortably meet the needs of its 21st century guests. New construction at the Fort was designed to harmonise with the existing buildings. This was achieved by reusing historic building materials whenever possible, and utilising traditional construction techniques, including mud blocks, mud plaster, and palm logs. The new design follows the old floor plan and references the niches and openings of the historic structure. The result is a sympathetic blend of ancient and modern, bringing new life to a historic building. ***Sub-Component 4.2.1: Hemad Bin Hadi al Darmaki (Bin Hadi) House***

	The house is an abandoned ruin showing many phases of occupation. The primary source for the long sequence of occupation is the enclosure wall of the house, which demonstrates many episodes of repair. Archaeological work inside the buildings has also shown that later phases included the construction of a number of substantial mudbrick rooms along the internal of the enclosure, including a madbasa or date press. These buildings were then abandoned, and numerous postholes cut into their walls provide evidence for a long period of subsequent occupation and use characterized by more ephemeral arish structures made of palm leaves and branches. ***Sub-Components 4.2.8 and 4.2.9 (Hili Watchtowers): Sheikh Zayed Bin Sultan Al Nahyan Tower and Khalifa Bin Nahayah Al Darmaki Tower (Hili Watchtower 2)*** The Sheikh Zayed Tower was built at the command of the late Sheikh Zayed Bin Sultan Al Nahyan. Its role was to protect the village of Hili. The building was used by the Ruler's Representative, whose task was to resolve any disputes arising between local families; he also taught their children to read and write, and versed them in the tenets of Islam. The tower played a significant role in the 1950s conflict known as the Hili Attack. The Khalifa bin Nahaya Tower similarly protected the entrance to the village and its vital water supply. ***Sub-Components 4.3.21-22: Murayjib Buildings*** During the 1970s the three buildings forming the Murayjib complex were restored and enclosed within a boundary wall by the former Department of Antiquities and Tourism. This wall subsequently became the boundary wall for the present Ladies' Park around the buildings, a project created and managed by the Al Ain Municipality (AAM). The Abu Dhabi Authority for Culture and Heritage is currently preparing a project for the buildings' conservation and interpretation. ***Sub-Component 4.4.23: Qattara Tomb*** This tomb was accidentally discovered on a private farm close to the border with Buraimi in 1973. The land-owner had decided to flatten a

	mound he had on the edge of his farm, but to his surprise he encountered a number of swords and daggers. He reported the discovery and the antiquities department intervened with proper excavations. The former DOT restored the tomb. ***Sub-Component 4.5.5: House of the late Sheikh Mohammed Bin Khalifa (Mohammed Khalifa House)*** The house was abandoned by the 1990s and was latterly used as informal accommodation for guest workers. A project to restore the building was begun by AAM in 2007, with the Abu Dhabi Authority for Culture and Heritage providing conservation advice and supervision. The wooden door of the building's main entrance has been treated for termites in Spring 2008, and is currently stored in the National Archives in Abu Dhabi, until it can be displayed and used in its original setting. ***Sub-Component 4.6.1: Muwaiji Palace*** The living areas of the palace continued to be occupied into the 1970s. The area inside the enclosure walls was then turned over to cultivation and planted with palms. Restoration work on the walls and buildings of the palace was carried out by the former Department of Antiquities and Tourism in the 1980s and again in 2006, at which time the palms were removed from the enclosure.
3. Justification for Inscription	
3.a Criteria under which inscription is proposed (and justification for inscription under these criteria)	***(i) represent a masterpiece of human creative genius*** Hili Complex, one of the sites of this serial property houses one of the most ancient (if not the most ancient) water irrigation system in this part of the world. The invention of the falaj system is a masterpiece of human creative genius and a complex engineering feat that allowed for the development of oasis farmed land through an intricate system of underground tunnels and open irrigation channels that brought water from a remote underground aquifer source across long distances. It is not only an ingenious engineering project which needed to be mathematically calculated and planned and regularly maintained; it functioned effectively thanks to a complex water management system (*Beit al falaj* at Hili 14 and at Bidaa Bin Saud Site) which ensured the fair-share distribution of water resources

	amongst several oases farms, situated in a harsh and arid desert environment where farming is a major challenge. The ancient culture of Al Ain depended on the resources of the natural environment, and this creative technological masterpiece harnessed a power that would change the pattern of life and culture for the future. The invention of the *falaj* revolutionized society in that part of the world and has proven to be a successful concept, which is still used until today in the oases of A Ain. ***(iii) bear a unique or exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared*** The Cultural Sites of Al Ain bear a unique and exceptional testimony to the representative cultures of Hafit, Hili (both type-sites situated in Al Ain) and Umm an-Nar (situated outside of Al Ain) occuring within an environment characterized by three main components: the oasis, the desert and the mountain. These sites trace the evolution of society in that part of the world from mobile hunter-gatherer groups of the Neolithic period (6th millenium to 4th millenium BC in Al Ain) with remains contained in surface-sites and flint-tool scatters discovered alongside the eastern ridge of Jebel Hafit, to small-scale farming communities (3rd millenium BC Bronze Age communities) which practiced limited well-irrigation farming and lived in fortified circular settlements (Hili 1, 8 and 10), to larger oasis-agriculture communities (late second to first millennium BC sites at Hili 2, 14 and 17) with expanded farm-land and accumulated surpluses that evolved following the successful invention of the *falaj* system and its complex management structure. Living in close interaction with these settled communities are mobile nomadic communities which wandered the desert for centuries looking for pastures, growing livestocks and trading with trade stations situated along the cost as well as further inland. The Iron Age settlement at Hili Archaeological Park, with its distinctive fortified architecture and circular and shaft tombs, includes one of the most ancient extant falaj irrigation systems in the world. Indeed, placing the falaj at Hili 15 at around 1000 BC, makes the technology indigenous to this part of Arabia, preceding the celebrated Iranian qanat by several centuries. The so-called Beit al Falaj or House of Falaj public

	building (discovered at both Hili 14 and at Bidaa Bint Saud Site), believed to have played the role of a water management administration, provides insights into this complex culture which challenged the environment, developed a distinctive architectural repertoire of defensive settlement architecture and produced an enigmatic funerary tradition representative of highly sophisticated communal burial traditions and rituals. The Grand Tomb at Hili, the largest and most well-known from the Umm an-Nar period tombs in the UAE and Oman (2500 – 2000 BC) is just one example of this unique and indigenous repertoire of funerary architecture. Circular cairns characteristic of the Hafit archaeological horizon are built tombs where long distance trade between ancient civilizations is evidenced by imported objects from Mesopotamia. Ubaid period painted pottery and beads were among the items imported. Textual evidence from Mesopotamia as well as copper objects discovered in some of these graves indicate that ancient Magan (the UAE and Oman) was the source of much Mesopotamian copper. ***(iv) Outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history*** Each one of the Cultural Sites of Al Ain yielded an outstanding example of a type of building, an architectural or technological ensemble or a landscape which illustrates significant stages in human history. Hili: The invention of the *falaj* system during the Iron Age period at Hili signaled a significant leap from the Bronze Age small-scale agriculture based on irrigation from underground wells, to the Iron Age large scale irrigation via water brought through channels from a far-away acquifer. This allowed for the build-up of agricultural surpluses and signaled a new start for the development of extensive trade and the exchange of luxury products, many of which were deposited with the dead in sophisticated circular multiple-chamber burials or multiple burial underground collective shaft tombs. This leap brought with it a transition from the self-contained small-scale Bronze Age circular tower settlements with a central water well (Hili 1, 8, 10) to larger scale spread-out settlements protected with thick walls and towers at the corners

	of defensive walls (Hili 14). Villages as well started to emerge in and around oases such as at Hili 2. The dead were housed in circular multiple burial tombs of different sizes and typologies, Bronze Age as well as Iron Age examples are equally significant, but the most spectacular example is the larger scale Bronze age exceptional Grand Tomb at Hili, considered the largest and most well-known from the Umm an-Nar period (2500-2000 BC) in the whole of the UAE and Oman. Colossal stones mined at the nearby mountain ridge to the east were shaped in situ and removed to the site. with its anthropomorphic and zoomorphic reliefs as well as the subterranean collective tomb N with skeletal remains of over 600 persons are important for understanding the ancient population and the diversity of burial customs in the region during the 3rd millennium BC. Hafit Assemblage: The Hafit Assemblage is outstanding with its unique set of features: prehistoric desert encampments, late 4th millennium and 3rd millennium cairns, an Islamic period falaj system, and associated fort and oasis. These features all attest to a cultural model that survived several millenia with much success and relevance to the attributes of the natural environment. Bidaa Bint Saud Site: With its Bronze Age Hafit-type graves, its Iron Age falaj systems and most significantly, its Iron Age water management administrative building, all set at the crossroads of ancient trade routes linking Al Ain sites with other far away coastal trading centres testify to the major leap in culture and human development made possible by the invention of the *falaj* system. Oases: The continuously settled oases agricultural areas with tightly knit farmlands irrigated by a complex network of falaj systems with an embedded architectural ensemble of historic buildings where people lived, collected the produces of the oases, stacked their surpluses traded and defended their water and food resources against attackers. ***(v) Outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change***

	The oases of Al Ain, part of the Cultural Sites of Al Ain, with roots in the Bronze and Iron Age cultures of the place represent this outstanding traditional and continuous human interaction with the arid desert environment, gathering the resources of the land to enable growth and development of a distinctive oasis culture with unique agricultural, architectural and technological achievements and a socio-administrative organization very much reflective of tribal structures which revolve around the unit and the whole, all bound by one destiny sharing resources, security and identity, both in life and death. It is exactly this settlement pattern, land use, human interaction with the environment and belief in the collective fate in the afterlife, which are reminiscent of millennia of continuous evolution that is coming under threat today due to the irreversible change brought forth by the oil economy, galloping development and insufficient water resources. Intact oases endure in the urban terrain as a symbol of life in the past and the capacity of man to settle and adapt to the harsh desert environment but are now subject to a new threat, that of encroashing urban development.
3.b Proposed Statement of Outstanding Universal Value	The cultural sites of Al Ain are reminiscent of the cultures of Hili, Hafit (both type-sites) and Umm an-Nar. They are set together in a landscape characterized by the oasis, the desert and the mountain, and constitute an assemblage of sites of outstanding universal value since they bear witness to unique cultural traditions, which developed on the crossroads of ancient routes between what is nowadays Oman, Saudi Arabia and the coastal settlements of the UAE. These cultural sites are the remaining representatives of a vanished culture which developed and manifested its cultural expression via unique and quite distinctive technological developments such as the ingenious falaj system and its associated falaj management system, through specific architectural traditions such as the circular fortified settlement at Hili 8 and through the specific funerary traditions of Hafit and Hili Grand Tomb and Tomb N architecture, among others. The Cultural Sites of Al Ain: Hafit, Hili, Bidaa Bint Saud and Oases Areas (Serial Property) have outstanding universal value because: They represent a culture which evolved over

	millennia, successfully overcoming the challenges of its environment while developing unique solutions to desert-farming, oasis irrigation, settlement and defensive architecture and funerary customs which made their contributions to the development and shaping of society throughout the centuries in that part of Arabia; They incorporate the representative ancient cultures of Al Ain and the coastal parts of Arabia (Hafit Culture, Umm An-Nar Culture, Hili Culture) which had their bearing on intercultural trade and economics in the Gulf and the Indian Ocean during the Bronze and Iron Ages, joining the world cultures of Mesopotamia, Persia and the Indus Valley together with trade posts and production zones in Oman and the UAE, providing raw materials and commodities to these cultures and exchanging goods with them; They represent a culture which is long gone/vanished, but which made its contributions and left its imprints on life and development of Arabian society through the invention of the ingenuous *falaj* system and *falaj* management system; through the circular tower architecture for settlement and defense, which is significant for open desert landscapes; through the complex funerary architecture and traditions to account for the journey of the dead from the community to the other side; through the development of the oasis agricultural model with its year-round yield and crop-diversity, etc. They made an impact on the emergence of an important trade post on the trade route linking Oman's interior and the Indian Ocean with the coastal sites of Umm an-Nar, Mesopotamia and Persia and further beyond, mainly due to the invention of the *falaj* system and its repercussion on the expansion of settlement and society, with the accumulation of agricultural capital used to boost trade and exchange. They represent the interaction of three socio-economic communities which supported each other, ie the nomadic, the trading and the farming, thus creating a sustainable system that survived at a different scale until today. The oasis model continues and survives today in the oases of Al Ain with their roots in the Bronze Age period. The oases incarnate surviving

	traditions of engineering, agricultural, architectural, social and economic models, which evolved from ancient times and continue to evolve and adapt themselves to the constraints of today.
3.c Comparative analysis (including state of conservation of similar properties)	Based on the parameters mentioned in the Statement of Outstanding Universal Value (ie representing a culture which evolved over millennia; incorporate the representative ancient cultures of Al Ain and the coastal parts of Arabia; representing a vanished culture which contributed to Arabian society through the invention of the *falaj* system; making an impact on the emergence of an important trade post linking Oman's interior and the Indian Ocean with the coastal sites of Umm an-Nar, Mesopotamia and Persia; representing the interaction of three socio-economic communities of the nomadic, the trading and the farming; and the surviving oasis model which has roots in the Bronze Age period), comparative analysis will be undertaken with properties that relate in one way or another to the elements of the OUV mentioned above. We therefore chose to compare mainly with the WH properties of *Archaeological Sites of Bat, Al-Khutm and Al-Ayn in Oman*; *Aflaj Irrigation Systems of Oman*; and *the Palmeral of Elche in Spain*. We have also made reference to other irrigation systems around the world, most notably in Iran. The sites of Bat, Al-Khutm, and Al-Ayn located within the interior of Oman are already inscribed on the World Heritage Site List since 1988: "…together with its neighbouring sites, it forms the most complete collection of settlements and necropolises from the 3rd millennium B.C. in the world." (Source: http://whc.unesco.org/en/list/434). The Cultural Sites of Al Ain: Hafit, Hili, Bidaa Bint Saud and Oases Areas include yet a more comprehensive representation of the evolving culture of northern Arabia encompassing the necropolis graveyards of the Bronze Age period and later Iron Age period (Hafit Assemblage, Hili Assemblage and Bidaa Bint Saud), settlements associated with these graveyards (Hili Assemblage), an evolving agricultural tradition going from limited well-irrigated farm-land to expanded oasis system based on the invention of the *falaj* system and its complex administrative management system, and evidence of international trade depicted in the items of import from and

	evidence of export to the main cultures of the Ancient World in that region. All of these elements are set within a natural landscape of interwoven oases land, desert dunes and mountainous ridges. Unlike the contemporary graves at Bat in Oman, the Hafit graves are homogeneous. Their location along the mountain indicates that there was an ancient trade route between the interior of Oman and the southern shores of the Arabian Gulf. The unique homogeneity of the graves and their contribution to understanding ancient interregional interaction make the Jebel Hafit graves of outstanding significance. Evidence of the Bronze Age Umm an-Nar culture and the Iron Age Hili culture exists in other parts of the United Arab Emirates. However, the Hili and Hafit archaeological sites represent the two largest complexes in the country. The falaj systems of the Cultural Sites of Al Ain (namely at, Hili Archaeological Park (Site 006), Bidaa Bint Saud (Site 011) and at the Oases Areas (Sites 012-017)) can be compared to other irrigation engineering feats like the falaj systems of Oman (World Heritage Site inscribed in 2006) and the *Shushtar Historical Hydraulic System (inscribed in 2009) inscribed as a masterpiece of creative genius and the* qanat systems in Iran. Indeed, the falaj system has been used in North Africa, Spain, Sicily, Greece, Iraq, Afghanistan, and other places in Central Asia. However, the falaj systems of the Cultural Sites of Al Ain are actually the oldest examples, and their excellent state of preservation makes them exceptionally valuable archaeologically. The falaj at Hili 15, which is very well preserved and contemporaneous with the nearby settlement sites, is a sophisticated system dating back to the Iron Age, making it the earliest known falaj. Other falaj systems in Al Ain (at Bidaa Bint Saud, Wadi al-Ayay, Jebeeb and Nahil) have also been dated to the Iron Age (some 3,000 years ago), supports the dating for Hili 15. None of the Iranian qanat systems that were thought to have been at the origin of the system have such an ancient date; it is therefore now widely accepted that the system originated in Arabia rather than in Iran (Al Tikriti 2002). The Al Ain oasis continues to use this ancient practice as it is itself still irrigated by two falaj systems. In addition to the system itself, the administrative *falaj* management

	system is evidenced by the two occurrences of the *Beit al-Falaj* structures, believed to have been built as administrative buildings where the fair-share distribution of *falaj* water was administered. This system continues until today and is currently being maintained and managed by the *falaj*'es Directorate at the Al Ain Municipality. A nearby example of another important oasis landscape is that of Al Liwa in the southern desert of Abu Dhabi Emirate. The northern fringe of Al Liwa is believed to form the longest (90 km) oasis in Arabia, if not the world. The groundwater salinity in the Al Ain area, west of the Oman Mountains, increases to the west, so the the general Liwa area is the site of extensive gypsum and salt-bearing sabkhas (Glennie 2005: 89). This contributes to the main contrast with Al Ain, which is that agriculture in Liwa seems to have been fed principally by wells rather than the technological innovation of falaj systems. Liwa only has a series of ten historic buildings throughout its extent, as compared to Al Ain's 72 registered historic buildings. Another oasis area that houses important cultural values is the Elche Oasis in Spain. The Elche Palm Grove (better known as Palmeral de Elche in Spanish, or as Palmeral d'Elx in Valencian), an orchard of over 200,000 palm trees that was declared a World Heritage Site by UNESCO in 2000. It is the largest palm grove (Spanish: palmeral) in Europe and one of the largest in the world, surpassed in size only by some in Arab countries. It is interesting to observe that the total number of palm trees in all six of the Al Ain oases (374,695 total palms) is almost double the number at the Elche Oasis. The palmeral includes the Parque Municipal and many other orchards (huertos), covering over 3.5 square kilometres, including 1.5 km² within the city of Elche (Elx). It contains more than 11,000 palm trees, mostly date palms, with individual specimens up to 300 years old. At its peak, in the 18th century, it may have covered an area twice as large. The largest palm is the "Imperial Palm" (Palmera Imperial), with 7 stems in the shape of a candelabra, named after Elisabeth, known as Sissi, the Empress consort of Franz Joseph, who visited the plantation in 1894. It is thought that palms were originally

	planted at this location as early as the fifth century BC by Carthaginians who settled in southeast Spain. The plantation survived under the Romans and the Moors. The irrigation system was extended in the times of Abd ar-Rahman I and remains in use. The formal landscape of the palmeral that still exists today was created when the city was under Moorish control in the 10th century. Although the area has an annual rainfall of only 300 mm, the palm trees planted along a network of irrigation canals from the salty River Vinalopo creates a patchwork of agricultural plots (huertos), each demarcated and shaded by the palm trees to create a protected microclimate. Laws were passed to protect the plantation after the Reconquista. In 2005, it was discovered that the larvae of the red palm weevil (Rhynchophorus ferrugineus) had infested some trees, laying its eggs inside the stems. For a comparison of the historic architecture, many of the historic buildings of Al Ain form part of a wider group of similar forts and watchtowers built across the region from the late seventeenth century onwards. These defensive buildings reflect the changing political circumstances in the Arabian peninsula and, in particular, the struggle for hegemony between the rulers of Oman and Saudi Arabia, and the rising power of the Beni Yas in what is now the UAE. The close parallels between buildings of the period across this huge area are a product both of the broadly similar level of military technology available to these rivals and of their equally significant function as visible markers of the extent of each ruler's power and influence. Although these buildings have the form and structure of military architecture they were often intended to be residences for the various rulers, like Jahili Fort in Al Ain and Jabrin in Oman. These similarities extend both to the basic layout of the forts, usually built with massively thick walls and round corner towers to defend the flanks, but also to the details of their defensive features such as crenellations, gun slots, and machicolations or murder holes. The methods and materials used in these constructions also derive of a wider regional vernacular architecture based on available resources, with the mud brick used in the nineteenth century forts and towers of Al Ain, paralleled, for example, at the World Heritage Site of Bahla Fort in Oman and at the Qasr al Masmak, built in Riyadh around

	1865. In spite of this similarity to other architecture across the region, Al Ain's historic buildings are singular and worthy of World Heritage recognition because of their uniquely authentic settings and their clear testimony to the rugged desert cultures that flourished in the region, and their legible historical significance and continuous tradition with roots in the Bronze Age period. The forts of Al Ain have a clear historical context in their proximity to the oases, and they clearly illustrate the importance of natural resources in establishing communities and in maintaining power.
3.d Integrity and/or Authenticity	The Cultural Sites of Al Ain: Hafit, Hili, Bidaa Bint Saud and Oases Areas cover an area that is of sufficient size and inclusive of elements and attributes sufficiently expressive of their Outstanding Universal Value. As also mentioned in Section 3.c, the sites form a comprehensive representation of the unique culture of northern Arabia, encompassing the necropolis graveyards of the Bronze and Iron Age (Hafit Assemblage, Hili Assemblage and Bidaa Bint Saud), settlements associated with these graveyards (Hili Assemblage), an evolving agricultural tradition based on the invention of the *falaj* system and its complex administrative management system (the aflaj found in Hili Archaeological Park, Bidaa Bint Saud and at the Oases Areas), and evidence of international trade depicted in the items of import from and evidence of export to the main cultures of the Ancient World in that region. The boundaries of the Cultural Sites of Al Ain have been defined in a manner that captures the core physical areas reflecting the site values, in compact and contiguous form; this forms a set of sites connected by their associated attributes and by their proximity within the landscape of Al Ain, but which are enveloped by the modern fabric of the living, contemporary city of Al Ain. The Hafit sites are defined by the boundaries of the distinct open terrain on which each component is set (in the case of the Jebel Hafit Desert Park, only the open terrain that is immediately adjacent to and has direct visual connection with the tombs is included; the entire mass of the mountain provides the setting of this core site, and as a natural asset of national significance, is subject to protection plans by several agencies as a National Park; the buffer zone in this

	part extends to the top of the mountain ridge, encompassing all of the eastern slope up to the international border with Oman). All Hafit components are joined together by common/ contiguous buffer zones. The Hili sites are clearly defined by their existing physical boundaries. All Hili components are joined together by a common buffer zone. Bidaa Bint Saud is defined by the distinct open terrain that contains the elements of significance within a proximity that provides compactness to the assemblage. The Oases are defined by the cluster of farming plots in each oasis, and their boundaries trace the outer perimeter of the historic plot boundaries of these farms. Historic buildings falling within these boundaries are part of the core components of the nominated serial property, while the rest of the buildings are included in the buffer zones and are already registered monuments. In spite of the fast pace of development in the UAE, the Cultural Sites of Al Ain managed to retain a high level of authenticity and integrity. This is demonstrated further below: From a broad perspective, the city of Al Ain maintains its unique environmental setting consisting of a lush canopy of palm trees and other native desert trees, desert dunes and mountainous ridges which form the natural settings of the Cultural sites of Al Ain. The fact that Al Ain maintains strict regulations over building heights in the city preserves views across from and to the Cultural Sites of Al Ain, constituting the components of this serial nomination. At Hafit Desert Park, especially closer to the eastern slope with the graves, the landscape has not suffered much apart from some tracks made for seismic survey purposes several years ago. Today, the plain between the main road and the mountain is littered with a few camel enclosures, making the way to the graves difficult. There is a decision and commitment by the Al Ain Municipality to relocate these enclosures and a substantial number of them has in fact been relocated outside of the Park. The Neolithic surface sites and the Bronze Age graves are away from the mass of camel enclosures and in good condition, their integrity and authenticity remain uncompromised. A desert restoration masterplan which forms part of the management plan for the Desert Park is in the process of

	finalization and work will start as soon as the rest of the camel enclosures have exited the site. The integrity of Hili Assemblage has not been much disturbed as the archaeological areas have been fenced off since the 1970s. Small herds of goats and sheep grazed on Hili Archaeological Park before the erection of a fence around the site, and there was very little damage inflicted thereon. Grazing in the area stopped a long time ago, and the archaeological landscape today is not very much different from what it looked like four thousand years ago. The acacia trees (semer) are in their natural habitat dotting the complex area. At Bidaa Bint Saud Site, the area suffered from private farms development and the introduction of high tension pylons as well as random tracks, but the archaeologically site itself, including the outcrop where the graves are situated are fenced off and protected within a substantial buffer zone. In terms of the integrity of Oases Areas, remote sensing data in the form of both a time series of satellite images and historic aerial photographs taken in 1968 of the oases provide a valuable key indicator of their integrity and authenticity. Remarkably little has changed on their boundaries since the pre-oil era. On the contrary, current efforts are being spent by ADACH and other government bodies to make sure that urban encroachment does not occur in the buffer zones of oases areas and archaeological sites. Of the sources of information on authenticity listed in the Nara Document on Authenticity (1994), the Cultural Sites of Al Ain rate very highly for form and design, use and function, traditions and techniques, location and setting, and spirit and feeling (see Operational Guidelines, Annex 4, p. 94). The authenticity of materials and substance is high in terms of material type, but the fragility of original building materials (earthen masonry, earthen finishes, and palm logs and fronds) has often sparked recurrent intervention and replacement in the past. Some restorations have been carried out at a portion of Al Ain Oases historic buildings by the former Department of Antiquities in the 1980's and 90's, which have helped to preserve the form of the structures, but led to the loss of authentic fabric and architectural elements. These restorations are now

	being readdressed to correct errors in repair, while the buildings not previously restored are being conserved with meticulous methodologies ensuring proper documentation and minimal intervention to the authentic fabric. Since the establishment of the Abu Dhabi Authority for Culture and Heritage (ADACH) in October 2005, cultural properties are being systematically inventoried, conserved, and maintained. Several historic houses and forts located within the Oases Areas are currently undergoing conservation works. Whenever feasible, the buildings' original uses are being revived (e.g., an old traditional market in Qattara); otherwise, new uses are introduced in order to integrate these buildings into the living structure of the city and thus guarantee their long term maintenance (e.g., Al Jahili Fort, which has been fully rehabilitated and now houses the city's information center as well as two exhibition spaces).
4. State of Conservation and factors affecting the Property	
4.a Present state of conservation	**<u>Component Group 1: Hafit Assemblage</u>** Hafit Assemblage is inextricably linked to Jebel Hafit, the only major mountain within Abu Dhabi emirate. The mountain itself is relatively inaccessible except by the single, dramatically winding road that ascends to the summit where visitors find a hotel, two cafes, and a palace. This relative inaccessibility of the majority of the mountain leaves most of its higher slopes in a good state of conservation of its natural habitats. The Environment Agency Abu Dhabi (EAD) is making efforts to establish a conservation zone (Jebel Hafit National Park). These efforts are likely to maintain this desirable state of conservation and extend protection down to the more accessible lower slopes. The areas of the mountain proposed as components of the Word Heritage Site are physically delineated and designated as under the protection and management of the Abu Dhabi Authority for Culture and Heritage. A recent survey of the area mapped a total of 122 tombs within the Hafit Desert Park site (Component 1.1, Site 001) on the eastern side of Jebel Hafit. This included measurement with a hand held GPS unit (accuracy +/- 5m) to document GPS co-ordinates. Also recorded were the height and

	maximum diameter of each tomb, the orientation of its entrance, and other details pertaining to the state of conservation of the tombs. At least two of these graves were found completely preserved up to the roof. Seven of the surveyed graves have been restored following their original shape. In spite of the rugged inaccessibility of the site, finds are rare. Most of the graves have been plundered at some point in history since they were abandoned. At the northern escarpment of the mountain overlooking the city from the south is another group of similar graves (Hafit North Tombs, Component 1.2, Site 002), but they are less well-preserved, and they are mostly excavated. These are well protected as they are fenced off and ADACH has applied to the Municipality to own the land. On the western arm of the mountain, which borders the Al Ain Wild Life Park Tomb (Component 1.3, Site 003) there are 26 graves mostly similar in architecture to the former group, but also including a number of shelter graves (Hafit West Ridge Component 1.4, Site 004). The latter are simple graves as shown by the excavations of the Danes in the 1960s. These shelters are either completely or partly blocked by a stone wall. On the same ridge across the road to the zoo are more tombs in a form of stone mounds. None of the above-mentioned tombs have been restored. ***Sub-Component 1.1.1: Mezyad Fort*** Mezyad's project aims at developing the whole area (i.e., the fort, the nearby palm grove, the Jebel Hafit Bronze Age tombs, and the surrounding cultural landscape) as a desert park. The objective is to enable people to explore and understand the important ancient landscape of this area. Mezyad Fort will be developed as an oasis spa hotel. The hotel would comprise a variety of room types. Within the fort itself: 8-12 rooms & spa treatment rooms and other facilities. This offer is to be complemented by around 36 rooms housed in 6 garden clusters around the fort's oasis, and some further 20 rooms on the edge of the desert, including 4 luxury seasonal tents for those wishing to have a more 'remote' experience. The essential feature of the solution is that the hotel will provide food and spa products, ideally in partnership with the oasis farm that are grown on the site. It is hoped that this focus on what the desert

	and desert oasis can offer will provide a unique and genuine experience to the visitor. It also offers the opportunity to develop a range of spa products based on desert plants that can be more widely marketed. The visitor experience in the area is to be further enhanced by a range of tours and cultural activities organized within the national park in partnership with the area's visitor center. The revenue from the operation of the Desert hotel spa will be channeled towards the conservation of the cultural assets of the desert park as well as maintaining the desert landscape. Mezyad Fort project is envisaged to be completed by the year 2012. **<u>Component Group 2: Hili Assemblage</u>** The Bronze Age complex at Hili Archaeological Park (Component 2.1, Site 006) comprises five settlement sites and ten aboveground tombs. Only the remains of one building (Hili 10) have been conserved, while the other two settlements (Hili 1 and Hili 8), which are partly eroded from the top surface of the walls, require further excavation before any conservation work can take place. The interior of the tower buildings at Hili 1 and Hili 8 (Sub-Component 2.1.2) have been re-buried by the excavators to protect them from exposure to the harsh weather. All the known grave mounds at Hili have been excavated. Two out of ten graves excavated outside the park have been partly restored using similar masonry mined from the Al Ain region. Two more graves located inside the park (the Grand Tomb and Tomb E) have been restored. The Iron Age remains of Hili 17 settlement-site (Sub-Component 2.1.5) are exposed and have deteriorated in surface since they were first uncovered. Hili 2 (Component 2.2, Site 007) however is much better than Hili 17. One or more new courses of mud bricks have been added to the top of the walls protecting the ones below. The walls remain vulnerable to the rain, though. The site is fenced off with a high mud brick wall built a short time after the excavation. Before erecting the wall the impact of the wind on the plaster of the exterior walls was immense. Unlike the exteriors, many of the walls inside still show the original plaster. The falaj at Hili 15 (Sub-Component 2.1.4),

	which may have also served the farming communities of Hili 17 and 2, is well preserved, due to robust construction materials. Large sections of the channels have been discovered lined with stones, while its main section (the shari'a, or access for water) is in excellent form. Excavated sections are presently exposed to the elements but are monitored and cleaned seasonally. At Rumailah (Component 2.5, Site 010), excavated buildings are not preserved to roof level but to a significant height. Since the site is protected by a brick wall enclosure, what remains is protected from the effects of wind-blown sand-blasting. The site is subject to the preparation of a conservation plan. **<u>Component Group 3: Bidaa Bint Saud</u>** At Bidaa Bint Saud and just to the west of the well-known outcrop (Jarn Bint Saud, Sub-Component 3.1.3), an Iron Age falaj associated with a large mud brick building was discovered. Parts of this falaj were excavated and turned out to be in a quite good condition. The nearby building, its main feature a hall measuring 10x13 meters with traces of columns that originally supported a roof, may have been used as an administration base for the falaj and a control center for water distribution (denominated by the Excavators as *Beit al-falaj,* Sub-Component *3.1.1*). Some walls of the building stand to a height of 160 cm but are not, generally speaking, very sturdy. To protect it, the whole building was sander-buried. The site is subject to a conservation and development exercise, which is currently under preparation. On top of the outcrop, there are graves belonging mainly to the Iron Age, while much older stone cairns from Hafit-type graves are located along the lower areas from the eastern side. Today, the outcrop is fenced off and well protected, while the tombs on top were restored in 1985 according to the archaeological evidence for their original plans, their condition is stable. **<u>Component Group 4: Oases Areas</u>** A major programme is currently underway by ADACH to conserve the six historic date plantation oases and restoration of old buildings, especially forts, many of which were predominantly constructed with mud bricks. New uses will be encouraged so as to integrate these historic buildings

	into the structure of the city and thus ensure their long-term preservation. The fact that a large number of historic buildings still exist within the oases of Al Ain attests to the intactness of important cultural sites within the city. Apart from the buildings themselves, ADACH is planning to restore the mudbrick walls of the oases to their original nature, or develop alternative design solutions that are appropriate in terms of character and authenticity. Accordingly, a master plan including design solutions for the oases boundary walls and access ways is currently being developed. Water management continues to be administered by the *aflaj* Directorate at Al Ain Municipality and quite successfully. ***Sub-Component 4.4.23: Qattara Tomb*** The tomb lies on a private farm on a small section that has been purchased from the private owner. In this setting the tomb has been restored and is currently partially backfilled for protection. **Historic Buildings** The ADACH sites database includes a total of 55 historic buildings within the oases and 72 in Al Ain in total.

Table 4.1: Statistical information on the Oases.

Oasis	Falaj Name	Number of Palms (*)	Area / m sq. (*)	Number of Historic Buildings
Al Ain Oasis	Al Ain falaj + Daudie falaj	147,120	1308578	2
Hili Oasis	Hili falaj	54,145	1123457	9
Al Jimi Oasis	Jimi falaj	70,740	1053937	17
Al Qattara Oasis	Qattara falaj	40,880	704495	20
Mutaredh Oasis	Al Mutaredh falaj	40,860	507089	5
Al Muwaiji Oasis	Al Muwaiji falaj	20,950	304447	2
TOTAL		**374,695**	**5,002,003**	**55**

	Condition Overview Historic buildings in the Oases Areas of Al Ain exhibit a varied state of conservation, but can be

	said to generally fall into two groups: those that were restored or rebuilt from the 1980s onwards, and those where no restoration or conservation work has been carried out previously. Recent policy has been to combine sympathetic reuse of the modern parts of the buildings with protection and conservation of the remaining areas of authentic historic fabric. In the case of ruins, ADACH implements a careful program of conservation and stabilization that secures structural integrity without compromising authenticity or cultural value. In general, the location of most historic buildings in and around the oases affords some degree of protection from ongoing real estate development in Al Ain, although increased vehicular traffic to serve the agricultural aspect of the oases has undoubtedly had an effect on the condition of some of the buildings. The presence in the oases, particularly Mutaredh, of large numbers of low-wage workers has also created additional pressure on the surviving historic buildings, some of which have been occupied and reused for informal housing. Out of 72 buildings in Al Ain registered in the ADACH database, 40 have been restored under the agencies preceding ADACH. The Authority at times faces maintenance issues resulting from unsustainable materials and techniques used in previous interventions. Of the 32 buildings that have not been rehabilitated, four buildings are currently undergoing conservation works, with special attention to stabilization and proper documentation with sensitive conservation methods. The 28 buildings that have not been subject to conservation projects like the above, are generally in an advanced state of structural and material decay, presenting safety hazards. These buildings are now being addressed under the Emergency Conservation Program, prepared and implemented by ADACH's Conservation Department (see Section 5), to alleviate the urgent problems of safety and structural integrity. **Conservation Projects** As part of its mandate to conserve the tangible heritage of Abu Dhabi Emirate, the Abu Dhabi Authority for Culture and Heritage has been developing policies and programming numerous initiatives for the conservation of the historic

	buildings of Al Ain, mainly in our case, those within the boundaries and buffer zones of Oases Areas. This has been done based on the Abu Dhabi Cultural Heritage Management Strategy (Annex 3), prepared by a UNESCO-led team of experts in 2005, and the ADACH Entity Strategic Plan 2009-2013, which defines Priority Area 1 as 'to conserve the threatened tangible cultural heritage of Abu Dhabi.' These initiatives are undertaken jointly by the Entity Strategic Planning Office, the Department of Conservation, and the Department of the Historic Environment, as well as other departments of ADACH. Historic building conservation works are tied closely with ADACH's initiatives aimed at preserving and managing Al Ain's cultural resources on the urban scale, which includes the Entity Strategic Plan target to 'enhance and manage the potential of Al Ain's oasis areas' (ADACH-01/5T-03). As per the 2-Year Target of 'Improvement measures and management plans implemented in 2 out of Al Ain's 5 oases', plan preparation is underway in Al Ain Oasis, where the Al Ain Oasis Cultural Quarter Master Plan is being prepared, and in Qattara and Jimi Oases, where planning works have commenced in early 2009, encompassing a studio at the Harvard Graduate School of Design (USA) and establishment of a Center for Design, Arts and Crafts. These planning works at the oases address, among other aspects, the approach for conservation and reuse of the historic buildings located within the oasis boundaries. ADACH is also liaising with the Abu Dhabi Urban Planning Council regarding the Al Ain 2030 Structure Framework Plan, to enable coordination with ADACH policies. Conservation works on building scale, which also emphasize documentation as a pre-requisite to proper protection of cultural heritage resources, are guided by the Entity Strategic Plan targets to 'complete the Abu Dhabi Emirate inventory of tangible cultural properties' (ADACH-01/5T-01) and to have '30% of Abu Dhabi's historical buildings and sites conserved' (ADACH-01/5T-04). Documentation works are continuing at multiple levels, including surveying for photogrammetric documentation of buildings, development of a central and evolving database of historic buildings and sites, photographic

	documentation, oral history research to gather information from local inhabitants and builders on the background of the buildings, and condition surveying as part of the Emergency Conservation program explained below. The current initiative to establish the ADACH Cultural Heritage Information Resources Management System (CHIRMS) is expected to facilitate the integration and enhancement of these inventorying efforts to produce an effective information base for making informed conservation decisions. Within this framework, a number of important conservation projects are underway. The framework gives the buildings of Al Ain a high priority, and projects focus largely on historic building sites with a variety of conservation issues. **Al Jahili Fort Rehabilitation Project** First among these is Al Jahili Fort, located next to Jahili Public Gardens, near Al Ain Oasis in the city center. The recently concluded full-scale restoration project was designed and conducted with equal concern to all layers of the building's history, from local founders through British occupation (this intervention is more fully explained in section 2.b.iii Building History and Development). The Strategic Planning Office, in collaboration with the Department of Conservation and the Department of the Historic Environment, led the project, and the facility was opened to visitation before the end of 2008. A video project documented the whole conservation process. Jahili's present state of conservation, then, can be considered excellent. In most places, historic finishes were gone or had been replaced, so new earthen plaster matching historic specifications protects the historic foundational masonry. Repairs and finishes are in excellent condition. **Hemad Bin Hadi al Darmaki (Bin Hadi) House Conservation Project** A second major conservation project is currently under implementation at the Hamad Bin Hadi Al Darmaki House, in Hili Oasis. As the house is largely an abandoned ruin with many phases of occupation, the project here aims to consolidate the building and conserve the historic surfaces without radically changing the archaeological appearance of the structure. Conservation works are currently led by an earthen conservation expert working closely

	under the supervision of the Department of Conservation and the Department of Historic Environment. Following Phase 1 (March- September 2007) of the project, the project is currently in Phase 2 (September 2007- April 2010). Similar projects combining archaeology and conservation are planned for other similar fortified houses like that of Abdullah Bin Salem al Darmaki in Qattara Oasis and Bin Jabr al Suedi in Jimi Oasis. **House of the late Sheikh Mohammed Bin Khalifa (Mohammed Bin Khalifa House) Conservation Project** Currently underway is a conservation project commissioned by the Al Ain Municipality and supervised by ADACH to preserve the monument and reuse it as a cultural center. The wooden door of the building's main entrance has been treated for termites in Spring 2008, and is currently stored in the National Archives in Abu Dhabi, until it can be displayed and used in its original setting. **Eastern (Sultan) Fort Conservation Project** Future plans involve restoring the former visibility of the fort as a prominent landmark within the landscape of the oasis of Al Ain and the centre of the town. **Muwaiji Palace Conservation and Development Project** The building is in a good state of conservation. Currently a project is being developed to make the palace the centerpiece of a regional research center. **Emergency Conservation Program** In addition to these projects for single buildings is an intensive program for Emergency Conservation. This program encompassing numerous historic structures was launched in Summer 2008 with the purpose of directing conservation at structures in urgent need of intervention. This program will ensure the safety of these buildings and prevent further decay. Within the scope of this program—the first stage of which is scheduled to take two years—various activities are underway, including the development of methodologies; site condition surveys carried out in consultation with a structural engineering specialist;

	scheduling of interventions; fencing, cleaning, shoring work, and preliminary consolidation; photographic and photogrammetric documentation; and consolidation work, accompanied by archaeological investigations.

Table 4.2: State of conservation of component sites of the Cultural Sites of Al Ain:

State of Conservation	Description and cause	Related site	Baseline data and magnitude of problem as of Sept. 2009	Degree of complexity and mitigation measures
Hafit Assemblage				
Structurally unstable graves	Natural processes linking to erosion of understructure namely at graves situated on elevated mounts thus causing small portions to roll-down and erode	Jebel Hafit Desert Park/Jebel Hafit North Tombs/Hafit West Ridge Tombs/naqfa Ridge	Very low, occurring at 5% of total number of graves	Medium, requiring ground stabilization and stabilization of superstructure
Erosion of grave construction material	Natural processes due to rainfall action	Jebel Hafit Desert Park/Jebel Hafit North Tombs/Al Ain Wild Park Tombs/ Hafit West Ridge Tombs/Naqfa Ridge	Low, occurring at 2% of graves with exposed cores where water barrowing occurs	Low, requires repair of exposed core material and combing of voids
Collapsed structural components	Natural processes due to advanced erosion and formation of cavities that threaten the stability of grave structure. This pattern is mainly due to long episodes of rainfall and heavy inundations	Jebel Hafit Desert Park/Jebel Hafit North Tombs/Hafit West Ridge Tombs/ Naqfa Ridge	Low occurring at 2% of graves due to their exposed and precarious construction and location within exposed areas of the site	Medium, requiring partial excavation in order to make good the structure of the graves and then restitution of core material. Documentation work should accompany all activities and reporting as it constitutes an important record for determining the success of treatments
Highly damaged grave structures	Natural processes associated with heavy inundation and washing away of grave fabric	Jebel Hafit Desert Park/Jebel Hafit North Tombs/Hafit West Ridge Tombs/Naqfa	Low, occurring at 1% of total grave numbers	Low complexity, requiring construction of flood-barriers in the way of seasonal streams in

		Ridge		order to divert the destructive flow of water.
Erosion of surface materials at Neolithic sites	Natural processes due to long episodes of seasonal rainfall causing a very slow erosion of historic finds located on the surface of the elevated mounds. These mounds (the ones that we know of and are preserved until today)	Jebel Hafit Desert Park	Low level, a historical phenomenon with very slow pattern of impact	Low complexity requiring detailed documentation of surface finds and stabilization of these finds in situ via partial re-burial.
Integrity of Neolithic surface sites is partially compromised	Human/animal processes linked to uncontrolled access and the relocation/destruction of in-situ evidence, loss of physical evidence in the form of displaced finds	Jebel Hafit Desert Park	Very low average (1-3) might have occurred in the past but today more control is exercised to avoid access to these fragile sites	Low complexity, requiring monitoring by park rangers and the installation of visitor behavior signs. Daily monitoring in the context of the operation of the property is needed.
Site boundary partially compromised	Human processes possibly due to infringement of site boundaries by adjacent site owners	Jebel Hafit Desert Park	Very low (1-3 instances), Municipality and ADACH are alert to these situations and address them on the spot	Very low complexity, requiring law enforcement at compromised location
Hili Assemblage and Bidaa Bint Saud				
Erosion of grave construction material	Natural processes due to seasonal rainfall action	Hili Archaeological Park/ Hili North Tomb 1&2	Low, occurring at 20% of graves with exposed cores where water barrowing occurs	Low, requires seasonal monitoring and repair of exposed core material and combing of voids.
Erosion of architectural surfaces	Natural processes due to rainfall causing the erosion of tops of walls mainly	Hili Archaeological Park/Rumailah	Medium level, occurring at 50% of exposed structures	Medium, requiring regular maintenance in the form of repair of cavities and runnels and the limited provision of sacrificial renders.
Exposed structures where coving of base of walls occurs	Due to natural processes of rising salinity and	Hili Archaeological Park/Rumailah	Medium, occurring at 50% of exposed	Low, requiring regular seasonal monitoring and

	humidity building-up on the bottom of walls/exteriors		structures	maintenance repair of coved areas.
Fragmentation of fabric due to salt crystallization as well as to impact of harsh environment	Due to natural processes pertaining to significant temperatures margins between day and night, rapid expansion and contraction causing significant stresses on the historic fabric, rising salinity of the soil and crystallization on wall surfaces.	Hili Archaeological Park/Rumailah	Medium, occurring at 50% of exposed structures	Medium, requiring the implementation of emergency conservation programs and tailored conservation plans
Sand blasting by wind-born particles	Due to prevailing site winds carrying sand particles and causing the erosion of the surface of walls via sand-blasting phenomenon	Hili Archaeological Park/Rumailah	Low occurring at 10% of exposed structures but quite localized	Low, requiring the application of sacrificial renders of the erection of intermediary barrier walls to take the impact of wind-blown sand.
Vegetation damage	Due to growth of certain varieties with deep roots causing mechanical damage to historic walls	Hili Archaeological Park/Rumailah	Very low, occurring in 2% of exposed structures and localized in areas with significant underground humidity to sustain vegetation growth.	Very low, limited in scale. Requiring careful mechanical eradication of growing species.
Oases areas				
Partial infringement on oases boundary limits has occurred	Human processes linked to property owners infringing on informal areas across their properties either via unsympathetic development or activities	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low (1-3 instances) and limited in scope and area	Low complexity requiring regular visits via rangers (bi-weekly). Mitigation measures pertain to removal of infringements and making good affected areas.
Unsympathetic developments affecting visual significance of oases areas	Human processes linked to unsympathetic developments of areas adjacent to	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii	Low (1-3), limited in scope and area	Low complexity requiring regular visits to oases buffer zone areas (bi-weekly) and

	the core zones of oases	Oasis/		the enforcement of planning regulations on development and construction in buffer zones.
Uncontrolled littering within the oases	Human processes, unsightly disposal of rubbish and agricultural waste	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low (1-3), limited and localized	Low complexity requiring notification of concerned Municipal department for mitigation.
Erosion of architectural surfaces (associated with oases mud brick boundary walls and historic buildings)	Natural processes due to rainfall causing the erosion of tops of walls mainly	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Medium, occurring at 30% of exposed structures	Medium, requiring maintenance in the form of repair of cavities and runnels and the limited provision of sacrificial renders.
Exposed structures where coving of base of walls occurs	Due to natural processes of rising salinity and humidity building-up on the bottom of walls/exteriors	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low, occurring at 30% of exposed structures	Low, requiring regular maintenance and repair of coved areas.
Fragmentation of fabric due to salt crystallization as well as to impact of harsh environment (associated with oases mud brick boundary walls and historic buildings)	Due to natural processes pertaining to significant temperatures margins between day and night, rapid expansion and contraction causing significant stresses on the historic fabric, rising salinity of the soil and crystallization on wall surfaces.	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low occurring at 20% of exposed structures	Medium, requiring the implementation of emergency conservation programs and tailored conservation plans
Sand blasting by wind-born particles (associated with oases mud brick boundary walls and historic buildings)	Due to prevailing site winds carrying sand particles and causing the erosion of the surface of walls via sand-blasting phenomenon	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low occurring at 5% of exposed structures but quite localized	Low, requiring the application of sacrificial renders of the erection of intermediary barrier walls to take the impact of wind-blown sand.
Vegetation damage (associated with	Due to growth of certain varieties	Al Ain Oasis/Hili Oasis/Jimi	Very low, occurring in 5%	Very low, limited in scale. Requiring

oases mud brick boundary walls and historic buildings)	with deep roots causing mechanical damage to historic walls	Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	of exposed structures and localized in areas with significant underground humidity to sustain vegetation growth.	the careful mechanical eradication of growing species.

Table 4.3: Inventory of conservation measures at each one of the component site of the Cultural Sites of Al Ain, Serial Property:

#	Conservation measures	Responsible Body	Baseline Data	Reporting schedule	Next Cycle
Hafit Assemblage					
1	Percentage of graves localized and fully documented	ADACH	25%	2y	2011
2	Percentage of graves assessed for their state of conservation	ADACH	25%	2y	2011
3	Number of graves requiring consolidation/conservation	ADACH	-	4y	2011
4	Number of graves consolidated/conserved	ADACH	-	1y	2012
5	Number of Neolithic sites documented	ADACH	25%	1y	2010
6	Number of Neolithic sites protected from natural and human impact	ADACH	-	1y	2010
7	Percentage of site boundaries secured	ADACH/ Al Ain Municipality	80%	1y	2010
8	Percentage of site cleaned-up of human debris and leftovers	ADACH	-	1y	2010
10	Ratio of protected views maintained/total views	ADACH/ Al Ain Municipality/ UPC	4/4	1y	2010
11	Ratio of visitors to carrying capacity maximums	ADACH	0.01/1	1y	2010
12	Management Plan for site drafted	ADACH	1	1y	2009
Hili Assemblage					
	Ratio of conservation plans drafted/ total number of components	ADACH	0/5	1y	2010
	% of emergency conservation works implemented	ADACH	1%	1y	2010
	% of overall archaeological remains documented	ADACH	50%	2y	2011
	% of overall archaeological remains conserved	ADACH	20%	2y	2011
	Percentage of site cleaned-up of human debris and leftovers	ADACH	20%	2y	2011
	Percentage of unsympathetic physical intrusions removed	ADACH	20%	2y	2011
	Number of protected views maintained	ADACH	2/2	1y	2010

	Ratio of visitors to carrying capacity maximums	ADACH	0.01/1	1y	2010
	Management Plan for site drafted	ADACH	0	1	2010
Bidaa Bint Saud Site					
	Percentage of graves localized and documented	ADACH	25%	2y	2011
	Percentage of graves assessed for their state of conservation	ADACH	25%	2y	2011
	Number of graves requiring consolidation/conservation	ADACH	TBD	2y	2012
	Number of graves consolidated/conserved	ADACH	TBD	2y	2012
	Falaj structure documented and condition assessed	ADACH	0	1y	2010
	Conservation plan for *Beit al-falaj completed*	ADACH	0	2y	2011
	Conservation plan for *Beit al-falaj* and for *falaj* structure implemented and completed	ADACH	0	4y	2014
	Site masterplan completed	ADACH	0	1y	2010
	Site masterplan implemented	ADACH	0	4y	2014
Oases Areas					
	% of oases boundaries secured	ADACH/ Al Ain Municipality	60%	2y	2011
	Ratio Oases management plans drafted /# of oases	ADACH	1/5	1y	2010
	% of implementation of oases management plans	ADACH/ Al Ain Municipality/ UPC	1/5	1y	2010
	% of oases boundary walls restored to original shape and materials	ADACH	0	1y	2010
	% of emergency conservation works completed out total program	ADACH	6/25	1y	2010
	Number of long-term conservation projects under implementation	ADACH	4	1y	2010
	Ratio of historic buildings conserved /total number of buildings	ADACH	6/40	1y	2010
	Ratio of historic buildings provided with new sympathetic uses/suitable examples for re-use	ADACH	3/40	3y	2010

4.b Factors affecting the property	
(i) Development Pressures (e.g., encroachment, adaptation, agriculture, mining)	***Hospitality and Commercial Real Estate*** Al Ain's main commercial corridor lies west of the Al Ain Oasis. Growing out of Al Ain's traditional commercial hub around the Al Ain Souk, commercial development pressure has pushed west, following the city's overall direction of growth away from the UAE-Oman border and away from the oases. Al Ain's westward expansion is decentralizing the traditional business core, but a rejuvenation of the original downtown business

	district could threaten oasis border properties with unsympathetic development. The leisure and hospitality industry is likely to want to develop properties immediately proximate to protected, scenic, and culturally-significant areas. Such encroachment on the proposed WHS would impact viewsheds, accessibility, and environmental quality. There are plans afoot to develop the Ain Al Fayda resort at the northern foot of the Jebel Hafit. However, it is still not clear at the present time if this project will go ahead or not. Threat Mitigation: The Al Ain Town Planning Department (of the Al Ain Municipality) previously had a general rule known as G+4, which meant that no new building could be built more than 4 storeys high. This helped to preserve the skyline of Al Ain and meant that the oases were not dwarfed or overshadowed by tall buildings. There were only a few special exemptions to this rule, and these were mainly large municipal or other Government buildings. More recently there has been some debate in the Urban Planning Council (UPC) Charrette on 'Al Ain 2030' whether or not it is a good idea to continue with this rule. Some new real estate projects proposed for Al Ain include very tall buildings that will certainly dramatically affect the aesthetic appearance of the city. A local decree requires that no new buildings be built within five metres of the outer boundary of each oasis. In the past, there has been no strict patrolling of this rule. Recently, one local decided to build a new property within two metres of the outer boundary of one oasis. Improved enforcement and patrolling of ADACH properties will be able to stop such problems in the future. ADACH, in partnership with the Abu Dhabi Urban Planning Council (ADUPC), regulate development in and around the proposed World Heritage site through zoning, advocacy, and direct management of historic buildings. Plans already exist at present (Al Ain Oasis Cultural Quarter Master Plan, Al Ain 2030) that support sensitive and sustainable development around the oases, discouraging encroachment and inappropriate land-use before it becomes a problem. ***Agricultural Activity***

	Agricultural activity—especially date palm cultivation—is central to the oases' cultural heritage and significance. Economic pressures, like falling date palm prices, might influence the private farmers/land owners in the oases to adopt higher-yield, unsustainable harvesting techniques or to stop cultivation altogether. Increasing stocks of goats and camels stress the natural resources of the cultural landscape. Over-grazing strains the limited resources of the desert eco-system. Catastrophic over-grazing has ensued as a direct consequence from the wealth generated by the oil sector. Now that local herdsmen are no longer reliant on natural vegetation as their sole source of livestock fodder and water is freely available, they have been able to increase their livestock holdings substantially by importing supplementary fodder. Whereas in the past they operated within the carrying capacity of the land, more recently large herds have remained in relatively small areas, denuding the natural vegetation. This is especially the case on the eastern side of Jebel Hafit where the explosion of camel farms and camel grazing activities, as well as the keeping of goats, has damaged the local environment. Threat Mitigation: Legislation—known as the Oases Law—currently exists to ensure the continued sustainable farming practices that have made the oases centers for settlement and agriculture. The fundamental principles of this legislation are set to be bolstered and renewed by plans put forth by ADACH and ADUPC (Cultural Quarter Master Plan, Al Ain 2030). Desert Park recognition efforts are underway for the mountain and desert landscapes around Al Ain. Regulation and education are expected to discourage over-grazing. ***Mining and Oil Drilling*** There has been some disturbance to the vicinity of the mountain by the digging of so-called '*catch*' pits. These are quarry pits to obtain primarily limestone and other hardcore material that is crushed for use as road or track material. Clear indications exist in some areas around Jebel Hafit that seismic surveys were at some point carried out for oil exploration purposes. Long parallel and perpendicular transects running for

	many kilometers can be seen especially on the eastern side of Jebel Hafit. These date back to the 1970's to early 1980's when a more destructive form of seismic surveys was carried out which meant that bulldozers had to prepare and clear a suitable path for the seismic lorries to pass along the transect and take their measurements. Mining and oil extraction, however, do not now represent a threat to the proposed WHS physically. However, the unprecedented wealth they have brought to the emirate's population does threaten the traditional practice of date palm cultivation (in the oases) in that the Emirati population has less interest in continuing this agricultural activity. Labourers involved in the day-to-day maintenance of the gardens and falaj systems today are more likely to be from Pakistan, Iran, Bangladesh, or India than from the Emirates. This has to some extent disenfranchised modern UAE nationals from their heritage. Threat Mitigation: ADACH's project to regenerate the oases by restoring and developing some of the historical buildings within these oases is an important one as it aims to breathe new life into the oases. By turning them into arts centres, exhibition space, information centres, cafes and restaurants, the people will again return to the oases, which after all provide an ideal shady walk and experience for visiting tourists. This will invariably raise the value of the property within the oasis and demand on palm products will also rise thus invigorating the pratice of oases farming. Additionally, further opportunities should be sought to provide locals and especially children with an educational experience within the oases so that they can learn and preserve the art of maintaining traditional date palm gardens and their associated sustainable agricultural activities. Beyond the oases, in the desert and mountain landscapes where quarrying has disturbed the landscape, establishment of a Jebel Hafit conservation area will ensure that such activities do not infringe on visible, culturally-significant areas. ***Recreational Areas*** Off-road driving is a popular pastime in the Emirates, but it erodes the quality of the desert dune landscape, disturbing fragile desert eco-systems.

	The driving of 4WD cars off-road also causes severe damage to the lower mountain slopes. Unlike the desert dunes where traces of car tracks may disappear with the wind after a short time, here the multiple and regular use of tracks leads to erosion and an increase in dust throughout the area. Threat Mitigation: Vehicular access to the Hafit Assemblage sites will be restricted to ADACH rangers monitoring and managing the sites. ***Transport Infrastructure*** The 'truck road' on the northern flank of Jebel Hafit and another road travels north from the cement factory towards the Sinaiya industrial area of southern Al Ain. These roads are extremely busy with lorries and heavy vehicles. There is a new proposal for a cargo and passenger railway line to run across the northern flank of Jebel Hafit, parallel to the existing truck road, although the precise routing of this is still to be firmly established. Threat Mitigation: Road planning agencies of Al Ain have become increasingly aware of the impact of transit on the quality of the surrounding environment. This awareness, accompanied by advising from ADACH, will ensure the ecological sensitivity of the placement of new roads. At the same time, existing roads can be regulated when and if they become a threat by re-routing traffic through other corridors or at certain times of day. ADACH is currently scheduling a preliminary cultural review to evaluate the impact of the planned railway. Revision of a certain portion of the railway near Jebel Hafit has already taken place, so the future neutralization of this threat is likely. The proposed railway route now comes from Abu Dhabi and skirts the southwestern edge of Al Ain and now enters Oman on the western side of Jebel Hafit before heading towards Sohar on the Batinah coast. Under these revised plans, the railway does not pose a problem to any of the oases areas or to the Mezyad project on the eastern side of Jebel Hafit.
(ii) Environmental pressures (e.g., pollution, climate change, desertification)	***Pollution*** Pollution of air, water, and soil has the potential to adversely affect the proposed WHS. Air pollution in the area of Al Ain is primarily due to a widespread dependence on the

	automobile for transportation. A secondary component of atmospheric pollution is suspended particulate matter from the loosely-packed earth of the region. Both natural aeolian processes and human activity (like construction) disperse soil particulate matter into the air around Al Ain. Water pollution could harm oasis soil quality and endanger the tradition of date palm cultivation. Sources of water pollution are motorway runoff, insufficient treatment of wastewater, landscaping chemical/fertilizer runoff, and environmental decline of the aquifer recharge area (the area being the mountains around Al Ain that receive rainfall). Soil pollution comes from the introduction of polluted water but can also stem from wind-born soil deposition and litter. Also, there have been instances of the oases being used illegally for the dumping of waste material. This is often deposited illicitly at night. Threat Mitigation: The emirate is taking major steps to maintain and to improve environmental quality in Al Ain. Air pollution will be combated by improving the variety of public transit options. For example, a high-speed train station is planned (Al Ain 2030) for Al Ain's city center to reduce reliance on private cars for travel to Al Ain. At the same time, Oases Law protects the environmental quality of water and soil in the oases legally, while stricter patrolling and prosecution will enforce this protection with clear signage and strict penalization. Further legislation protecting the sources of water for the oases in the mountains around Al Ain is in process under the auspices of the UPC. ***Climate Change*** Oases are low-lying areas where the water table comes to the surface naturally or with irrigation. Changes in weather patterns and rainfall can change the level of the water table around Al Ain and contribute to desertification of the lush oases. Climate change—in combination with the limited nature of a water supply shared between agriculture, landscaping, industry, and fixtures—is a continuing threat to the health and preservation of the oases Threat Mitigation: The municipality of Al Ain manages water distribution through its Water

	Department, and so water use can be monitored and regulated through this authority. The threat of climate change, however, is a much broader regional phenomenon and will have to be addressed at a national and international level.
(iii) Natural disasters and risk preparedness (earthquakes, floods, fires, etc.)	The Cultural Sites of Al Ain, Serial Property are not at major risk of earthquakes, floods, or fire. The closest major fault line is the Zagros Belt across the Arabian Gulf in Iran, which has secondary faults running out toward Dibba, on the northeast coast of the UAE. Northern areas of the UAE have received tremors as a result of activity on the Zagros Belt. However, Al Ain itself has no history of significant seismic activity, and the local restriction on building heights limits the effect that any unexpected tremors will have on the built landscape and, as a result, on the natural landscape of the oases. Al Ain is a land-locked desert climate, so it also is not at risk of flood. Fire similarly is not a risk in this arid, sparsely-vegetated natural environment. Local land planning also lacks the density required for major accidental uncontrolled fires.
(iv) Visitor/tourism pressures	Current levels of visitation are well below the physical, environmental, social, and economic carrying capacities of the proposed WHS. Tourist numbers are likely to increase significantly over the next decade, and the site is prepared to absorb increases with visitor management facilities at various attractions in Al Ain, thereby regulating and dispersing visitors and their impact. Continuous monitoring will gauge the efficacy of management efforts over the short- and long-terms. ***Visitation Levels*** Current levels of visitation to the sites of Al Ain are well below capacity: sites show little to no deterioration due to visitation, visitors do not strain public utilities or site infrastructure, environmental quality does not suffer from tourism activities, and site congestion is not an issue. Tourism numbers are likely to increase substantially in the coming years, however. In its publication Tourism 2020 Vision, the World Tourism Organization predicts a 6.7% increase in

	international visitation per year through the next decade for the countries of the Middle East.[2] More current reports indicate that visitation to the Middle East has grown substantially more than the 6.7% predicted; the June 2008 issue of World Tourism Barometer reports 12% growth in international tourism to the region for the first half of 2008 when compared to the same period in 2007. The World Tourism Organization includes a diverse set of countries in its statistics for the Middle East, including Egypt, Lebanon, and Iraq in the same set of regional statistics with Gulf states like Saudi Arabia, Yemen, and the UAE.[3] War-torn Iraq is likely to have a very low or negative growth rate, so to average into a result of 12% growth for the region, some of the other countries in the data set are bound to have growth at well over 12% for the year. The UAE is surely one of these countries with its two booming international ports at Abu Dhabi and Dubai. Al Ain museum visitation statistics provide a more local snapshot of tourism trends (Table 4.4, Graph 4.1). Though museum visitation growth has moderated over the last three years, it remains strong and is expected to grow as Al Ain gain gains increased recognition nationally and internationally.

Table 4.4: Al Ain museum visitation statistics:

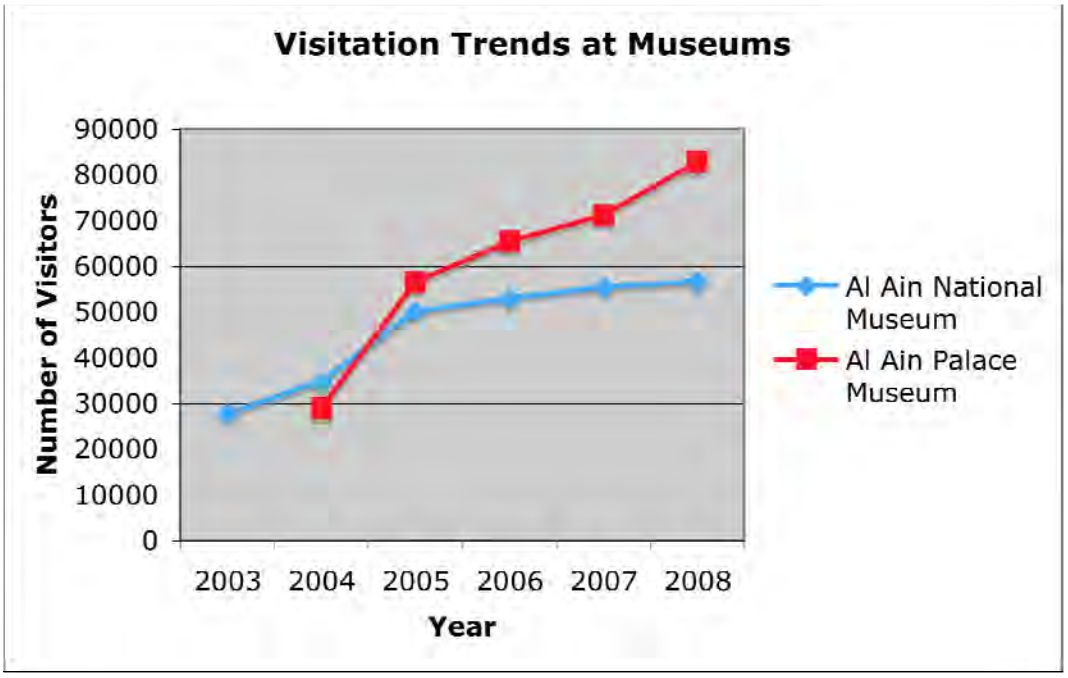
Al Ain National Museum						
	2003	2004	2005	2006	2007	2008
Tourists	17900	26089	40754	46447	48472	46808
Yearly Increase		46%	56%	14%	4%	-3%
Total*	27801	34975	50143	53110	55517	56693
Yearly Increase		26%	43%	6%	5%	2%
Sheikh Zayed Palace Museum						
	2003	2004	2005	2006	2007	2008
Yearly Increase		27381	47865	56562	62047	72276
Tourist Increase			75%	18%	10%	16%
Total*		29026	56596	65510	71227	82872

[2] World Tourism Organization, "Facts & Figures: Tourism 2020 Vision," http://www.unwto.org/facts/menu.html. Accessed October 27, 2008.
[3] World Tourism Organization, "Facts & Figures: Methodological Notes," http://www.unwto.org/facts/menu.html. Accessed October 27, 2008.

Yearly Increase			95%	16%	9%	16%

* Total number of visitors includes, in addition to tourists, students, teachers, and official visitors.

Graph 4.1: Al Ain visitation trends at museums:



	Two other historic sites in Al Ain can also shed some light on visitation trends. Al Jahili Fort, which was just recently re-opened as a visitors' center and exhibition space, received 971 visitors in December, 2008. Although this figure is not statistically useful, it does indicate that the site is being integrated into the cultural tourism offerings in the city. The large space is prepared to absorb far greater numbers as tour operators and other key players of the tourism industry begin to include the site in tour itineraries. The other historic site in Al Ain that can add to the picture of visitation levels is Hili Archaeological Park, which displays archaeological sites in a lush garden setting. Total tickets sold for the year 2007 came to 74,974; tickets sold in 2008 through September came to 47,185. Actual visitation numbers are slightly higher, since not all visitors (such as children, school groups, and official visitors) have to buy tickets. Though these figures are again not statistically useful, they do show that

	the site enjoys a strong level of recurrent visitation from both those specifically visiting the archaeological sites and those casually enjoying the verdant gardens. Overall, heightened marketing and recognition of Al Ain as a desirable tourism destination is expected to draw more international tourists from Abu Dhabi and Dubai into the interior. While Al Ain's growth is not likely to match the frenzied pace on the UAE's coast, it will surely catch some of the eddies of the massive tide of coastal visitors. Al Ain's proposed WHS is prepared to absorb increased visitation. A review of the parameters of its carrying capacity confirms this. ***Physical Carrying Capacity*** The physical carrying capacity of the site is limited by the robustness of site materials. In the case of oases and other natural/cultural landscape features, paths and roads that will be used by visitors are not themselves historic, so damage and repair is acceptable as part of on-going maintenance. The private land under cultivation in the oases is more sensitive, however, because visitation can result in soil compaction and the introduction of invasive flora/fauna. Landowners will likely cap such visitation—if they allow it at all—well within carrying capacities out of self-interest. Even if landowners lack the foresight to cap visitation, on-going monitoring by ADACH will ensure that visitation can be curtailed prior to unacceptable site decline. Historic buildings within the bounds of the proposed WHS are mostly composed of mud-brick and earthen finishes—the historically preferred building materials of the region. Earthen materials are delicate and tolerate only low levels of abrasion from visitors before deterioration is noticeable. Walking surfaces are far more robust. Visitor access to areas with original fabric will be tightly controlled according to ADACH management plans. In some cases, as at Al Jahili Fort, previous interventions have replaced historic earthen finishes and covered the original masonry units, so visitation is not likely to jeopardize original fabric. Archaeological sites are sensitive to the trampling, vandalism, and abrasion that comes with visitation. Hili Archaeological Park responds to these threats by strictly regulating access and

	monitoring visitors. Other archaeological sites that are not enclosed within park walls are protected to a reasonable extent by leaving them relatively inaccessible—rugged roads navigable only by 4x4 vehicles have discouraged visitation or disruption of the tombs at the base of Jebel Hafit, for example. ***Environmental Carrying Capacity*** The most significant limiting factor for the environmental carrying capacity of the site is likely to be the water supply for the region. As tourism consumes more of this limited resource, the water table is likely to fall, resulting in site decline when the flora of the oases cannot reach underground water sources. Potable and irrigation water is available in abundance at the moment, giving some sense of the room for increased demand. Al Ain municipal agencies will be monitoring water usage and the quality of the oases to assure swift intervention at the first sign of water table change or environmental impact. Groundwater quality is also a limiting factor. Increased visitation is likely to bring increased pollution of groundwater from litter, garbage management, and greywater and sewage output. Groundwater quality will be closely monitored to ensure it meets a standard well within the thresholds necessary to support continued cultivation of the oases. ***Social Carrying Capacity*** The social carrying capacity of the site is well above current levels of visitation. At present, visitors can wander the oases freely and remain relatively isolated in the shade of the date palms. The quality of the experience will decrease with a) tourism congestion and b) increased competition with agricultural activities for site access. The same is likely to be true for other natural features like the wadis and Jebel Hafit. While the cool isolation offered in oases limits their social carrying capacities, the adaptive reuse of historic structures like Al Jahili Fort as a visitors' center will increase the area's overall social carrying capacity. As a hub of cultural activities and visitor information, Jahili will not be experienced as an isolated ruin but as a living, vibrant introduction to the resources of the proposed WHS. The social

	carrying capacity of historic buildings adapted to new, high-density functions, then, is likely to be quite high. The social carrying capacity of historic ruins and archaeological sites falls between the extremes of isolation (as at the oases) and the energy of crowds (as at adaptively reused historic structures). Hili Archaeological Park, for example, presents archaeological ruins in a park setting where the social carrying capacity might be comparable to that of a natural recreation setting or a city park. As a regulated and enclosed park, access to Hili is tightly controlled; this visitor regulation will allow for the careful limiting of visitation within a tolerable threshold. ***Economic Carrying Capacity*** The main constraint on tourism growth economically is the agricultural industry that operates within the bounds of the proposed WHS. Agricultural activity within the oases is a traditional practice that reflects the living heritage of the sites and the origins of settlement. As tourism numbers increase and potentially create crowding on the lanes in and around the oases, agricultural production is likely to be hampered. ADACH is actively planning to improve tourist access to the Al Ain Oasis while respecting the on-going operation of cultivation on the private plots. This plan will serve as a model for the continued monitoring and management of the other oases included in the nomination. ***Visitation Management Conclusion*** As mentioned throughout the discussion of capacity thresholds, ADACH is the emirate body actively engaged in cultural heritage promotion and preservation. ADACH is committed to preserving the integrity and culture of the proposed WHS area through continued research, planning, intervention, and monitoring. Partnerships with local stakeholders, such as the municipality, the Environment Agency, and the Authority for Tourism, continue to develop while ADACH also takes a broad view to increasing heritage site accessibility via, for instance, site preservation and interpretation. Through this balanced approach of conducting on-the-ground research and pursuing a regional growth perspective,

	ADACH has developed specific management plans for the sites that will receive the main force of the visitor influx; some examples of which include the Al Jahili Fort Visitors' Center, Mezyad Fort, and the Al Ain Oasis. Going forward, these model management plans will provide guidance for the management of the other cultural landscape and building features included in the nomination.

(v) Number of inhabitants within the property and the buffer zone Estimated population located within: Area of nominated property: Negligible (a few occupied historic buildings within the oases) Buffer zone: approx. 78,000 Total: approx. 78,000 City of Al Ain: 474,421 (2006)	An overall description of the demographic characteristics of the Abu Dhabi emirate is warranted in order to understand the population statistics within the property and buffer zone. The "Emirate's population, inclusive of Al Ain, the Western region and the Islands, stood at 1,463,491 as of end 2006, comprising one third of UAE's total population. Population grew by a compounded average of 4.57% annually between 2001 and 2006, and a similar growth is expected until 2010, when the emirate's population is forecasted to reach over 1.75 million. "Presently urban residents comprise 68.5% of Abu Dhabi's total population, and annual growth in the number of urban dwellers from 2001 and 2006 – at 4.93% - has been slightly higher than the emirate's average. In addition to the locals, the population figures include many expatriate residents that live and work in the emirate. Across the UAE, Emirati nationals comprise roughly 20% of total population, while expatriate workers' nationalities include Asians, Africans, Europeans as well as North and Latin Americans. Men outnumber women with a ratio of 2.03 men for every woman, which is slightly lower than the national average."[4] More specifically for the city of Al Ain, the total population stood at 381,211 for the year 2001, and at **474,421 for the year 2006**, with a growth rate of 24.45% over 5 years. A projection of the city's population into the year 2011 reveals a total expected population of 567,351, with a growth rate of 19.59%. More detailed figures including urban and rural population are given below in Table 4.4.

4 http://www.visitabudhabi.ae/en/uae.facts.and.figures/population.aspx

Al Ain Population	2001	2006	% Growth (2001-06)	2011 Projection	% Growth (2006-11)	% Growth (2001-11)
Urban	258,292	320,051	23.91%	382,742	19.59%	48.18%
Rural	122,919	154,370	25.59%	184,609	19.59%	50.19%
Total	381,211	474,421	24.45%	567,351	19.59%	48.83%

	Besides the online Abu Dhabi Government Portal cited above, a study commissioned by the Al Ain Municipality Town Planning and Survey Sector and published in 2007[5], gives a population forecast of 679,740 for the year 2015. Figures for this forecast are given below in Table 4.5.

Al Ain Population	2001	2015	% Growth (2001-15)
Citizen	133,081	212,930	60.00%
Non-citizen	271,401	466,810	72.00%
Total	404,482	679,740	68.05%

	The serial property proposed for nomination consists of sites scattered across the entire urban settlement of Al Ain, extending to some surrounding rural areas due to integral lanscape elements like Jebel Hafit and the archaeological sites comprising the falaj systems. This gives it a total span that effectively coincides with the entire city. Thus, it has been preferred to reference the total population of Al Ain (474,421 for 2006) as well as the population of the buffer zones. The population for the sum of the buffer zones has been calculated by comparing the surface area of the property with that of the city. This is a rough estimate not accounting for specific densities; however, the property covers about a sixth of the total city surface (which is approximately 768 km^2) and is large and geographically dispersed enough to present a good representativeness of densities.
5. Protection and Management of the Property	
5.a Ownership	Property ownership is generally of three types: emirate (government), private[6], and royal. This is the case with historic buildings. ADACH, on behalf of the emirate, formally owns previously restored buildings and those that are used for

5 Maunsell Consultancy Services Ltd, Al Ain Municipality-Town Planning and Survey Sector, *the Master Plan, Traffic and Transportation Study for Al Ain and Its Region to the Year 2015*, 2007.

6 "Prior to the enactment of the Abu Dhabi property laws, title to all land in Abu Dhabi resided in the Ruler…" – Property World Middle East, "Abu Dhabi Property Law: The Building Blocks," 2006. Accessed November 13, 2008. http://www.propertyworldme.com/content/html/1450.asp

	heritage purposes, such as Jahili and Mezyad Forts. Similarly, both Al Ain National Museum and the Sheikh Zayed Palace Museum are owned and maintained by ADACH. Currently historic buildings that have not been restored or conserved are largely privately owned, although they are directly managed and maintained by the Abu Dhabi Authority for Culture and Heritage. In some cases ownership has been passed over to the Authority in return for financial compensation, and efforts are being made to extend this to the remaining buildings. Royal ownership applies to some historic buildings, for example Muwaiji Palace, which is owned by HH the President Sheikh Khalifa Bin Zayed Al Nahyan. Their preservation and management is however totally delegated to ADACH. Oasis areas are formed by privately owned farm plots and public pathways. All archaeological sites are owned by ADACH.
5.b Protective designation	**5.b.i Legal** Al Ain's six oases are formally protected by the Al Ain Oases Law of 2004 (Annex 4) and by Law no.38 of 2005 on Preservation of Palm Oases, Al Ain (Annex 5). These laws were issued by Sheikh Tahnoon Bin Mohammed Al Nayhan, Representative of the Ruler of the Eastern Region and President of the Municipality and the City Planning Office, and Agriculture and Livestock Department, and by Sheikh Mohammed Bin Zayed Al Nayhan, Crown Prince of Abu Dhabi, Chairman of the Executive Council respectively. Law no. 38 of 2005 is practically a repetition of the Al Ain Oases Law that was issued the previous year, incorporating only small variations such as reference to the Abu Dhabi Authority for Culture and Heritage that was established in the year 2005. Both laws extend their protection to Al Ain six oases; i.e., Al Ain Oasis, Al Qattara Oasis, Al Jimi Oasis, Hili Oasis, Mutaredh Oasis and Al Muwaiji Oasis. They both emphasize the need to preserve and maintain the oases of Al Ain as an important symbol of national heritage. The laws protect both the physical integrity of the oases and

	their original natural habitat (e.g. prohibition to erect any new building or facility within the oases' boundaries, prohibition to remove any existing palm tree or to plant any non-native species to the oases flora) as well as the original purpose of the oases (e.g., prohibition to use the date palm fields of the oases for any other purpose not serving the oases). The oases' laws also identify the Al Ain Municipality as the body responsible for the oases' maintenance and monitoring. Law no. 38 of 2005 assigns the responsibility of protecting heritage landmarks within the oases to the Abu Dhabi Authority for Culture and Heritage, along with Al Ain Municipality and the Tourism Authority. The city of Al Ain has limited building height. The Al Ain Town Planning Department previously had a general rule known as G+4, which meant that no new building could be built more than 4 storeys high. This helped to preserve the skyline of Al Ain and meant that the oases were not dwarfed or overshadowed by tall buildings. There were only a few special exemptions to this rule, and these were mainly large municipal or other Government buildings. More recently the Plan Al Ain 2030 issued by the Urban Planning Council has reinforced this rule and stipulated a G+4/ 20 meter height restriction to hold all across the city, with the exception of minarets so as to accentuate the historic skyline of Al Ain. The Environment Agency in Abu Dhabi, EAD (formerly known as the Environmental Research and Wildlife Development Agency, ERWDA) has drawn out definitive plans for the establishment of the Jebel Hafit National Park. This includes protection of the desert areas around the mountain by curbing the grazing of goats and the removal of camel and goat herders' camps at the base of the mountain (Drew 2003; ERWDA 2003; Hornby 2004: 13- 14). Since 2007 the Abu Dhabi Authority for Culture and Heritage (ADACH) has been also working on a proposal for a Jebel Hafit Desert Park that incorporates all the eastern side of the mountain from the Mezyad border post as far north as the road to the cement factory. The plans include the removal of camel and goat farms, rehabilitation and restoration of the desert slopes at the foot of the mountain, development and enhanced presentation of the necropolis of Hafit tombs at Mezyad,

	restoration of the Mezyad Fort and its associated falaj, as well as plans for a new hotel and tourist facilities at Mezyad. This plan is currently being implemented and the desert park with its established boundaries included in this nomination file is now the property of ADACH and is subject to ADACH protection. Plan Al Ain 2030 also proposes the establishment of a Desert National Park surrounding the urban core of Al Ain. A protected zone encircles the well-known Hili Archaeological Park, which was established by the late Sheikh Zayed Bin Sultan Al Nahyan, the former president, in order to facilitate the visit to the excavated sites. Finally, perhaps the most important legal tool to protect the various cultural assets falling under this nomination as well as outside of it is the Draft Law for the Protection, Conservation, Management and Promotion of the Cultural Heritage of the Emirate of Abu Dhabi, currently being prepared by ADACH. The law takes into account the World Heritage convention as well as other conventions and integrates the concerns pertaining to the protection, conservation, management and promotion of world cultural heritage providing the right mechanisms and legal tools to fulfill these concerns. The draft law is expected to be presented to the Executive Council of the government of Abu Dhabi for ratification around mid-2010. **5.b.ii Regulatory** Historic buildings are protected through inclusion in the ADACH Sites Inventory, a recognition that affords the buildings regulation and monitoring by the Conservation Department and the Historic Buildings section of the Historic Environment Department. ADACH was established by Abu Dhabi Law No. 28 of 2005 (Annex 6); clause 6 of Law 28 charges ADACH with the responsibility of maintaining a heritage list; the monitoring powers of ADACH were granted in the same law, clause 12. The inventory—the compilation of which began in 2003, under the former Cultural Heritage Section of the Al Ain Economic Development and Tourism Promotion Authority (AAEDTPA)—consists of a main database, as well as auxiliary lists prepared for specific purposes at different times. An

	Emergency Conservation Database has also been compiled, based on condition reports and other investigations, to execute the Emergency Conservation Program and to monitor critically-dilapidated buildings over the longer term. The buildings listed in the main inventory are accepted as falling under the mandated responsibility of ADACH in terms of the conservation and management of their heritage assets, although their ownership may vary. This list is expected to be reinforced by cultural heritage legislation currently under preparation, where more direct legal definition of the listing would elaborate on the broad responsibilities given to ADACH by Law No. 28. Applicable properties: Jahili Fort, Hemad Bin Hadi al Darmaki House (Bin Hadi House), Sheikh Mohammed Khalifa House, Mezyad Fort, Muwaiji Fort, Qattara Fort, and the remaining, lower-profile 74 buildings on the registry. Archaeological sites are monitored by the Archaeology section of the Historic Environment Department in ADACH. ADACH and its Historic Environment Department were established by Abu Dhabi Law No. 28 of 2005; clause 6 of Law 28 charges ADACH with the responsibility of maintaining a heritage list; the monitoring powers of the Authority were granted in the same law, clause 12; and clause 7 empowers ADACH to regulate and limit the activities at archaeological sites. Applicable properties: Hili civilization remains (water management, fortified settlement architecture, burials); Jebel Hafit (prehistoric desert encampments, funerary remains, falaj system) Undeveloped land (including natural landscape features that contribute to the cultural landscape) within Al Ain municipality bounds is protected by the discretion of municipality officials and the oversight of ADACH. ADACH is empowered to track and influence land development (in case of “infringements to the Emirate’s cultural heritage”) by AD Law 28/2005, clause 12. Applicable properties: Jebel Hafit, red sand dunes, wadis, oases phenomena. **5.b.iii Planning** The ADACH Entity Strategic Plan 2009-2013 defines Priority Area 1 as 'to conserve the threatened tangible cultural heritage of Abu Dhabi.' The Entity Strategic Plan includes a target to

	'enhance and manage the potential of Al Ain's oasis areas' (ADACH-01/5T-03). As per the 2-Year Target of 'Improvement measures and management plans implemented in 2 out of Al Ain's 5 oases', plan preparation is underway in Al Ain Oasis and in Qattara Oasis. The Al Ain Oasis will be preserved according to the Al Ain Oasis Cultural Quarter Master Plan (2008) commissioned by ADACH and recently approved. The plan will improve site access and legibility for the visitor while assuring accommodation for the continued traditional operations of agriculture in the oasis. Currently, a further initiative is underway for a 'Detailed Master Plan' for Al Ain Oasis that will address the implementation issues of the Cultural Quarter Master Plan including ownership, infrastructure, community facilities, coordination with surrounding planning and design initiatives by Al Ain Municipality and the UPC. In Qattara and Jimi Oases, planning works have commenced in early 2009 through the efforts of a studio at the Harvard Graduate School of Design (USA) and establishment of a Center for Design, Arts and Crafts. A professional consultancy has been awarded in Fall 2009 for the master planning of the two oases, which will draw on the Harvard work for relevant input to the master plans. The Entity Strategic Plan also includes targets to 'complete the Abu Dhabi Emirate inventory of tangible cultural properties' (ADACH-01/5T-01) and to have '30% of Abu Dhabi's historical buildings and sites conserved' (ADACH-01/5T-04). Registered historic buildings (in the ADACH database) are continually monitored for misuse and, in cases of abandonment or vacancy, are continually under review for appropriate adaptive re-use opportunities Properties: Jahili Fort (rehabilitated as a visitors' center and exhibition space), Hemad Bin Hadi al Darmaki House (Bin Hadi House) (to become an interpretive archaeological ruin site), Sheikh Mohammed Khalifa House, Mezyad Fort (to become a sustainable hotel and cultural tourism site). **5.b.iv Institutional** Museum grounds are owned and maintained by ADACH. Historic buildings host a number of museums, and their institutional statuses assure their

	preservation and maintenance. Applicable properties: Al Ain Eastern Fort (on the grounds of the Al Ain National Museum), Sheikh Zayed (Al Ain) Palace Museum, Al Jahili Fort. Hili Archaeological Park is managed by ADACH and the Al Ain Municipality. The archaeology remains are owned and maintained by ADACH while the garden and park grounds are managed by the municipality. The former Department of Antiquities and Tourism established the park in 1969 under the guidance of the Late Sheikh Zayed. Park status assures that an area will remain public open space and that its historically significant remains will be monitored and preserved. Applicable properties: Hili civilization remains (falaj/water management, fortified settlement architecture, burials).
5.c Means of implementing protective measures	The various categories of protective status function in different ways but operate for the most part under the guidance of ADACH. **5.c.i Legal** Oases and the archaeological protected zone are monitored by the Historic Environment Department and the Al Ain Municipality. Staff from the Historic Environment Department check historic buildings within the oases. Overall management of the oases comes from Al Ain Municipality, Dar Al Aflaj Committee, who report any illegal dumping or other activities. Any observed violations are investigated, documented, and referred to the justice system for fines and enforcement. Building height is monitored by the Al Ain Municipality and the Town Planning Department through plan review and construction reports. Cases of violation are confronted and referred to the justice system for fines and enforcement when necessary. ADACH just completed the Draft Law for the Protection, Conservation and Management of Cultural Properties. The scope of the law covers aspects of protection, conservation, management and promotion and address all aspects of heritage, both tangible and intangible, movable as well as immovable property. The law responds to pre-requisites of the Abu Dhabi Cultural Heritage Management Strategy produced with the collaboration of UNESCO in 2005. **5.c.ii Regulatory**

	The main ADACH Sites Database lists all historic buildings, as well as other heritage sites, found in Abu Dhabi Emirate. Included are records for each entry, the site name(s), location, site code, coordinates, spatial reference, dimensions, owner, site type, period, description, condition, external threats, needed interventions, and available documentation, in both Arabic and English. The database in continuously evolving, as new sites are discovered in various parts of the Emirate, and as the information relating to the sites needs to be updated. All inventory records are due to be coordinated in a more centralized manner with the Cultural Heritage Information Resource Management System (CHIRMS) project. Historic buildings in the ADACH inventory are monitored by the Conservation Department and the Historic Buildings section of the Historic Environment Department. The Historic Environment Department operates a maintenance program that has two officers patrolling all sites on a weekly rotating basis to check for needed cleaning and minor repairs. This activity has had to be supplemented by the more comprehensive Emergency Conservation program (see Section 4.a.iii) to cover all unrestored and some previously restored buildings, which tend to have urgent structural problems that have accumulated over time. Archaeological sites and on-site research are monitored by the Archaeology section of the ADACH Historic Environment Department. Sites adjacent to Hili Archaeological Park are easily observed by continual security of the park grounds. On-going surveys and investigation of the Jebel Hafit archaeology area by the department itself provide continued monitoring of that more remote area. Observed infractions at archaeological sites can be reported to prosecutorial authorities, though this has not ever happened. Construction and development of undeveloped land requires approval from the Al Ain Municipality and its Town Planning Department. ADACH retains an interest as a governmental advisory body and can intervene in cases of inappropriate development. of development require the Historic Environment Department to perform a Preliminary Cultural Review (PCR), which affords another opportunity to regulate land development.

	5.c.iii Planning The Al Ain Oasis (Cultural Quarter) is monitored through the on-going operations of didactic cultural facilities spread across the quarter. The same mechanisms that monitor all oases will also apply to the Al Ain Oasis positioned in the middle of the cultural quarter. Registered historic buildings (in the ADACH database) are earmarked for preservation through monitoring, intervention, rehabilitation, and/or reuse. ADACH's Stategic Planning Office, Conservation Department, and Historic Environment Department only consider adaptive reuse options that are sensitive to the historic materials. **5.c.iv Institutional** Hili Archaeological Park is owned and maintained by ADACH as public open space. Its status as a park is a public declaration and commitment to maintain the area for the public good. Museum grounds are owned and maintained by ADACH. As operational, inhabited buildings and landscapes, museum properties have facilities management programs to detect and address deterioration while sustaining the commitment to the preservation of historic resources.
5.d Existing plans related to municipality and region in which the proposed property is located (e.g., regional or local plan, conservation plan, tourism development plan)	Several formal plans in addition to a policy of dune preservation exist for the city of Al Ain. The main recent initiatives in terms of planning studies include 1) the Strategic Economic Review and Tourism Sector Study for Al Ain and Its Region (or the "Tourism Sector study"), 2) the Master Plan, Traffic and Transportation Study for Al Ain and Its Region to the Year 2015 (or the "Al Ain 2015 study"), 3) the Al Ain 2030 Structure Framework Plan, and 4) the Al Ain Central District Plan. **The Tourism Sector Study** The Strategic Economic Review and Tourism Sector Study for Al Ain and Its Region was prepared for the Local Government (Dewan) of the Eastern Region by Maunsell Consultancy Services Ltd., Bone Wells Associates, and the World Tourism Organization, in February 2000. This study is a major reference document for studies in Al Ain like the Al Ain 2015 study. It was prepared to "provide a strategy and implementation plan, to achieve the

	goal of establishing Al Ain as a major tourism destination with significant and sustainable economic benefits to the citizens of the region, while safeguarding social and environmental integrity." In the context of the Strategic Economic Review, it was recommended that "the main emphasis of development should be on a range of compatible services including tourism and leisure." Based on a review of the existing situation, recommendations were made for the development of all the three major market segments: domestic, GCC, and international markets. Outputs produced included a strategy statement, structure plan maps with a written statement, action plans, planning briefs, and feasibility studies. Targets were set for the year 2015, to: 1) take annual overnight visitation from 70,000 to 375,000, and 2) increase average length of stay from 1.4 to 2.5 days. The study also recommends that Al Ain's tourism image be based on the oasis concept with two distinct themes: the ancient oasis product and the modern oasis product (from the Executive Summary of the Study). In the context of the Abu Dhabi Cultural Heritage Management Strategy, prepared by a UNESCO-led team of experts in 2003-2005, a cultural tourism strategy for the city of Al Ain was developed. The study emphasized the need to capitalize on Al Ain's distinctive character and to provide a tourist product extending beyond the traditional concept of cultural tours and conventional desert experience. **Al Ain 2015 Study** Commissioned by the Al Ain Municipality (AAM) Town Planning and Survey Sector (TPSS) in 2007, the Master Plan, Traffic and Transportation Study for Al Ain and Its Region to the Year 2015 was prepared by Maunsell. The Al Ain 2015 study is presented as the second main strategy report for infrastructure and development, following the first master plan study for Al Ain to the year 2000. It is also "intended as a model format for the Structure Plan Strategy and Policy Report to be issued by the [TPSS] and replaces the 1986 plan." It prescribes three levels of plans to guide planning; these levels are a Structure Plan, six Local Area Plans (at 1/5,000 scale), and various Action Area Plans (at 1/2,000 scale). The study foresees sectors for investment and employment growth as

	tourism, office-based financial and business services, higher education, and quality health care. It also foresees reduction of agriculture and non-citizen employment (target 8,000 workers) and increase in the share of tourism in employment. Among policies laid out in the study, policies for conservation of natural resources include minimizing plot sizes and reusing urban land; policies for preservation and enhancement of the natural environment include scenic high dune fields and ecological areas to be preserved; policies for conserving the fabric of landscape or archaeological value include, as urban strategy, applications for development of farms to be viewed favorably conditional to constraints, and as rural strategy, a Regional Desert Park, and archaeological sites such as Bidaa Bint Saud and Umm az-Zumul to be conserved with appropriate visitor facilities. **Al Ain 2030 Structure Framework Plan** Shortly after the issuing of the Al Ain 2015 study, and prior to its complete adoption, a new planning process, for the Al Ain 2030 Urban Structure Framework Plan, was initiated by the Abu Dhabi Urban Planning Council, a new organization established in 2007 with a broad mandate to oversee urban development in the Emirate. Launched in early 2008, the Plan Al Ain 2030 process was finalized in April 2009, when the Urban Structure Framework Plan document was issued for public dissemination. ADACH has had some input into the planning process, having provided 'Preliminary Comments' on the plan's Oases, Public Open Space, and Heritage Policies. ADACH has supported the plan's approach of embracing the UNESCO World Heritage Site designation; promoting remediation for traditional agricultural practices, including intercropping in the oases; reconnecting Al Ain Oasis with the city through urban design measures and compatible reuses; endorsing traditional building techniques in the oasis landscaping; establishing a National Park; developing an inventory of heritage resources, and designating and protecting key historic and archaeological sites. Further input to this process by ADACH is warranted and currently being pursued, to refine certain relevant policies of framework plan in the future stages of more detailed planning, and align

	them better with ADACH's mandate to conserve and manage the cultural heritage of the region. Relations with the Urban Planning Council have been growing over the past year toward improved collaboration, especially within the light of coordinating the Al Ain Oasis Cultural Quarter Master Plan developed by ADACH and the Al Ain Central District Plan currently being developed by the UPC. **Al Ain Central District Plan** As noted above, ADACH has been liaising with the Urban Planning Council to ensure coordination of the Al Ain Oasis Cultural Quarter Master Plan and other heritage protection activities with that of the Al Ain Central District Plan, which is currently in preparation as a continuation of the Plan Al Ain 2030 planning process at a more detailed level. Several coordination meetings have taken place to develop the consultation and data sharing mechanism; consequently, ADACH is accepted by the UPC as a key member of the inter-agency advisory committee for the plan's review and a key stakeholder in the series of consultation workshops being organized. The Central District Plan is due to be finalized in Spring 2010. One of the products of the Central District Plan will be the development regulations and design guidelines for Al Ain's Central District, where Al Ain Oasis is located. This will be the precursor of regulations for the wider city. Discussions have been held between ADACH and the UPC regarding the integration of the development regulations in the proposed World Heritage Site buffer zones with the wider Al Ain regulations. ADACH is aware that the support of AAM and the UPC in the development and enforcement of development control is necessary for effective protection of Al Ain's cultural assets, and these bodies are welcoming of ADACH's efforts for World Heritage Site designation, which is promising for the site's future protection and management. Most recently, a request has been made by ADACH to the UPC and AAM to declare an interim moratorium on building permits until the finalization of the AAOMP in April 2010, to be valid in the section ('Phase 1') of the proposed serial property and buffer zone that covers Al Ain Oasis (see Annex 7, Moratorium Boundary Map). Interagency coordination meetings are currently being held to develop the implementation strategy of such a moratorium.

	Al Ain City Image Management Strategy (CIMS) Based on the findings in the Al Ain Cultural Heritage Management Strategy (UNESCO, September 2004) that '…developing a strong image for the area is critical to promote the place and [improve] current popular perceptions of Al Ain', a City Image Management Strategy (CIMS) is being developed by the AAM with consultants Roberts Day, the final report of which is due to be issued in early 2010. Through social and economic research, public interviews and forums, the CIMS has generated a set of four 'City Image Enhancing Themes' (Al Ain, Ancient and Authentic; Al Ain, the Contemporary Oasis; Al Ain, Sanctuary City; Al Ain, City of Knowledge and Learning), 12 Principles, approximately 150 strategic recommendations and 20 Priority Projects aimed at enhancing the city's image. ADACH is one of the stakeholders and consultees in this process. **Dune Protection** The Al Ain Town Planning Department has made a conscious effort to preserve the dune fields located to the west and north of the city. This preservation has been accomplished without any formal protective status. The Plan Al Ain 2030 has stipulated the establishment of a Desert National Park covering the sensitive dune areas, and identified an urban development boundary to contain new development expected to take place in the city over the next decades.
5.e Property management plan or other management system	**Introduction** The variety of resources in the proposed Cultural Sites of Al Ain, Serial Property require the expertise of a range of different departments and specialists to assure responsible, responsive management. As a result, a number of decentralized, specialized management plans govern different aspects of the property and report to the Office of Strategic Planning in ADACH. **The ADACH Office of Strategic Planning** The ADACH Office of Strategic Planning integrates Al Ain WHS management at an overarching level, steering the property through the activities of various reporting ADACH departments. Management at this highest level of administration is

	based on a recognition of the universal values inherent in the Al Ain site, and management follows the objectives set out in: 1) the Abu Dhabi Cultural Heritage Management Strategy, 2) the ADACH Entity Strategic Plan 2009-13, and 3) AD Law 28/2005, which founded ADACH, charging it with the vision of the late Sheikh Zayed Bin Sultan Al Nahyan to preserve cultural heritage in the face of the furious new pace of development. The Strategic Planning Office must "safeguard, manage and enhance national heritage"[7] with a commitment to "conserve and develop Abu Dhabi's heritage and local identity, making sure that social, economic and aesthetic needs and expectations are satisfied, while increasing people's sense of pride and enjoyment."[8] This requires the additional strategic consideration of "emphasizing and enhancing the role of cultural heritage in people's social and economic development, while looking after the short and medium term requirements of its conservation and management."[9] Through the supervision of the Strategic Planning Office, ADACH collaborates with other entities such as the Al Ain Municipality, the Abu Dhabi Tourism Authority, the Environment Agency of Abu Dhabi, and the Abu Dhabi Urban Planning Council, to ensure the WHS Management Plan is developed and implemented effectively. **ADACH Internal Departments** Under the guidance of Strategic Planning Office, the departments that directly implement the provisions of the Abu Dhabi Cultural Heritage Management Strategy, including the sites of the proposed Al Ain WHS, are: the Conservation Department and the Historic Environment Department, which includes the Cultural Landscapes, Historic Buildings and Archaeology Divisions. Action plans resulting from the elaboration of the Strategy contain common framing elements: values identification, stated objectives, asset documentation, inventory assessment, intervention where necessary, conditions monitoring, and encouragement of stakeholder participation in the

[7] ADACH Entity Strategic Plan 2007-2011.
[8] Abu Dhabi Cultural Heritage Management Strategy, p. 14.
[9] Abu Dhabi Cultural Heritage Management Strategy, p. 14.

	on-going process. ***The Department of the Historic Environment*** The Department of the Historic Environment with its three divisions of Archaeology, Historic Buildings and Cultural Landscapes implements the provisions of the Abu Dhabi Cultural Heritage Management Strategy prepared in collaboration with UNESCO. ***The Department of Conservation*** As part of its mandate to conserve the tangible heritage of Abu Dhabi Emirate, the Abu Dhabi Authority for Culture and Heritage has been developing policies and programming numerous initiatives for the conservation of the historic buildings of Al Ain, based on the Abu Dhabi Cultural Heritage Management Strategy, prepared by a UNESCO-led team of experts in 2003-2005, and the ADACH Entity Strategic Plan 2009-2013, which defines Priority Area 1 as 'to conserve the threatened tangible cultural heritage of Abu Dhabi'. These initiatives are undertaken jointly by the Strategic Planning Office, the Department of Conservation and the Department of the Historic Environment, as well as other departments of ADACH. A detailed analysis/explanation of the management plan prepared for the cultural assets of the Emirate of Abu Dhabi including the Cultural Sites of Al Ain is presented below in Table 5.1. This document is an update on the Abu Dhabi Cultural Heritage Management Strategy completed in November 2005. The Strategy provides the framework under which the sites of this nomination will be managed. The document refers to the critical issues affecting the proposed sites for World Heritage nomination as identified by the Nomination File as well as by the Strategy itself. Suggested solutions which are developed into a plan of action are the result of long term consultations with stakeholders, expert input and field assessments. The actions proposed within this plan are set within a specific timeframe and performance on the delivery of these activities is measured through a set of clear KPI’s. The **objectives** of this document are as

	follows: -Identify critical issues affecting the sites; -Attain the right standards of management worthy of a potential World Heritage Site; -Propose solutions to these issues in the framework of policy guidelines; -Provide a plan of action, which will elaborate policy guidelines into a master plan of activities to implement proposed solutions.

Table 5.1: Update on Implementation of the Abu Dhabi Cultural Heritage Management Strategy

Critical Issues	Description	Proposed solutions	Proposed Timespan (starting 2009)	Key Performance Indicators
Development Pressures and unsympathetic land use practices	Al Ain's main commercial corridor lies west of the Al Ain Oasis, one of the main cultural sites proposed as part of the serial-property nomination. Growing out of Al Ain's traditional commercial hub around the Al Ain Souk, commercial development pressure has pushed west, following the city's overall direction of growth away from the UAE-Oman border and *away from the oases*. Al Ain's westward expansion is decentralizing the traditional business core, but a rejuvenation of the original downtown business district could threaten oasis border properties with unsympathetic development	Monitor plans proposed for the rehabilitation of the commercial area situated to the north and east of Al Ain Oasis. Apply the policies stipulated in the Abu Dhabi Cultural Heritage Management Strategy with respect to providing more integration to the oases of Al Ain by providing visual accessibility, breathing spaces around the oasis and redefining informal derelict spaces on the edges of the oases.	By 2011	% of total plans reviewed and commented upon. % of total of recommendations and restrictions imposed by ADACH on planning of areas in and around buffer zones, accepted and enforced by planning authorities.
		Issue the Abu Dhabi Cultural Heritage Protection law, which will hopefully be ratified by the Executive Council in 2009. The law extends protection to sites of cultural significance and	By end of 2009	Law issued

		allows for the definition of buffer zones around those sites with the aims of applying certain restrictions and/or incentives which guarantee a sympathetic level of development (or no development at all) around these sites.		
	Al Ain lacks and suffers from a limited leisure and hospitality infrastructure, particularly in the hotel sector. The leisure and hospitality industry is likely to want to develop properties immediately proximate to protected, scenic, and culturally-significant areas. Such encroachment on the proposed WHS would impact viewsheds, accessibility, and environmental quality. There are plans afoot to develop the Ain Al Fayda resort at the northern foot of the Jebel Hafit. However, it is still not clear at the present time if this project will go ahead or not.	Re-direct proposed plans for the development of hospitality projects in close proximity to the oases into projects that enhance the setting and natural qualities of buffer zones around these oases.	By end of 2011	% of total of hospitality plans mitigated/diverted to the interests of the sites.
	Increased vehicular traffic to serve the agricultural gardens of the oases has undoubtedly had an effect on the condition of these oases as well as on some of the buildings. The presence in the oases, particularly Mutaredh, of large numbers of low-wage	Convert oases areas into pedestrian spaces maintaining only a few low-impact motorized access ways and/or restrict vehicular access to a specific schedule and allow for a only light-weight vehicles to enter these oases.	By end of 2013 for all oases landscapes	# of oases where traffic conversion measures have been implemented

	workers has also created additional pressure on the surviving historic buildings, some of which have been occupied and reused for informal housing.			
		Secure historic buildings within the oases, provide adaptive reuses for them of lock-up temporarily until a new adaptive function can be found for most of them. This will prevent these important elements of oasis culture from becoming run-down derelict spaces.	By end of 2011	% of total buildings secured/provided with adaptive reuse functions.
	DESERT: animals extinction due to hunting, human encroachment and habitat destruction.	Work with the environment agency to nominate desert reserve areas where restrictions on access are enforced. Monitor the condition of endangered animal species within these areas and allow for them to repopulate.	By end of 2011	% of total of desert areas proposed for nomination and declared as reserves.
	OASES: Economic pressures, like falling date palm prices, might influence the private farmers/land owners in the oases to adopt higher-yield, unsustainable harvesting techniques or to stop cultivation altogether.	Monitor in collaboration with the Al Municipality, Department of Agriculture and the Environment Agency Abu Dhabi agricultural practices within the oases and make sure that economic pressures affecting the integrity of oasis-culture and	By 2010	# of incentives provided to deter unsympathetic practices from damaging the traditions of the oasis.

		traditions are countered with specific incentive packages and the development of special products that will allow for the traditions of oasis agriculture to persist in the future.		
	Increasing stocks of goats and camels stress the natural resources of the cultural landscape (eg. overgrazing at J.Hafit).	Secure the boundaries of cultural sites such as Jebel Hafit cultural landscape and Hili Complex making sure cattle is kept off the plain.	By end of 2009	# of total of sites with secured boundaries.
	The unprecedented wealth oil has brought to the emirate's population *does* threaten the traditional practice of date palm cultivation (in the oases) in that the Emirati population has less interest in continuing this agricultural activity. Labourers involved in the day-to-day maintenance of the gardens and *falaj* systems today are more likely to be from Pakistan, Iran, Bangladesh, or India than from the Emirates. This has to some extent disenfranchised modern UAE nationals from their heritage. Also potential impact of tourism growth industry.	Re-introduce local Emiraties to the traditions of oasis-culture and arouse in them the spirit and pride of ancestral practices of oases care. This could be achieved via the recruitment of role models and the development of competitions and a full array of programs focusing on this traditional culture of the oasis.	By end of 2011	# of programs targeting local emirates developed and implemented.
		Interpret oasis culture in situ as well as via programs	By end of 2012	# of programs for the interpretation of oasis culture

		targeting different sections of society so as to increase awareness about its values.		developed and delivered.
Lack of comprehensive conservation policies, infrastructure and projects	Inadequate conservation and management of the tangible cultural heritage (deteriorating condition of historic and archaeological remains and collections, absence of an adequate and sustainable conservation infrastructure, absence of suitable management strategies to cope with the pressure of wide-scale tourism and infrastructure development).	Current conservation infrastructure insufficient to cope with emergency and long-term conservation, this is why an emergency conservation program has been set-up in order to prioritize on the use of existing resources while resorting to outsourced expertise and support for dealing with more complicated conservation projects.	By end of 2012	# of conservation specialists trained and hired on projects.
	Urban planning and landscape structures: Unsympathetic urban and infrastructure development, unsuccessful integration of oases areas with the rest of the urban environments, the effects of insensitive "modernization" programs in oases areas, bad integration and presentation of archaeological sites and historic buildings, the protection of the landscapes and the definition of clear edge for human growth, the protection and presentation of archaeological sites that add value to the environment,	Design and establish the Centre for Earthen Building Conservation and New Construction whose aim is to train resources and develop capacities in earthen conservation for Al Ain and beyond.	By end of 2010	% of completion of the centre

	"modernization" and the environmental improvement of the oases, the protection of historic and vernacular buildings and the strengthening of their integration in the urban context, the need for a comprehensive legislation dealing with the sustainable development and management of landscapes, improving public and institutional awareness of the conservation and sustainable use of landscapes, improving coordination and co-operation among concerned stakeholders, identifying and elaborating a strategic direction and framework for conservation and the sustainable development of the Abu Dhabi Emirate, Providing opportunities in landscape architecture education in the UAE.			
		Take the concerns of WHS management to the planning authorities of Al Ain and address issues pertaining to planning in cultural areas, the integration of cultural sites into the fabric of the city.	By mid 2010	# of recommendations addressed by planning authorities.
		Liaise with the Abu Dhabi Urban Planning Council	By end of 2009	Level of integration of ADACH concerns to the plan

		regarding the Al Ain 2030 Structure Framework Plan and derivative detail plans.		
	Data management: absence of a comprehensive design of the logical structure for data relating to the sites of the potential nomination = no standard definition for cultural heritage data: the need to establish standards in the documentation and recording of cultural data for Abu Dhabi Emirate, the need for a comprehensive and geo-referenced inventory of Abu Dhabi's cultural heritage, the need for sharing and exchanging data for cultural heritage among the different governmental bodies and non-governmental stakeholders, the need for state-of-the-art instrument to manage and upgrade data on cultural heritage, the need for specialized team to manage and maintain the cultural heritage inventory of Abu Dhabi Emirate.	Develop the Cultural Heritage Resources Management System which aims at integrating all the attributes of the culture of the sites subject ot this nomination as a dynamic tool for documenting the status of these sites. The current initiative to establish the ADACH Cultural Heritage Information Resources Management System (**CHIRMS**) is expected to facilitate the integration and enhancement of these inventorying efforts to produce an effective information base for making informed conservation decisions.	By Mid 2010	% of completion of the CHIRMS project.
	Legislation: Lack of clear and detailed legislated definition of competences , responsibilities and coordination between federal and local agencies,	The distribution of competences between the federal and the local level, amendment of the Law of Antiquities of Abu Dhabi, legislative coordination, wide	By end of 2010	Ratification of local aw for the protection of cultural heritage of Abu Dhabi Emirate.

	insufficient recognition of cultural heritage in legislation.	definition of the cultural heritage, elaboration of implementation decrees, ratification of international conventions.		
	Cultural Heritage Education: the absence of a well-defined policy for integrating cultural heritage education into the national curriculum, developing a framework for cultural heritage education, which identified policy guidelines, curriculum content and approaches.	Cultural heritage education: organizing a forum for establishing a framework for cultural heritage education in the UAE.	By end of 2010	% of completion of educational framework
	Promotion of cultural heritage and cultural tourism: promoting heritage awareness and accessibility, enhancing of media outreach, the need to develop a clear cultural tourism destination image and quality promotion, the shortage in qualified human resources for tourism management, the absence of proper interpretation and presentation tools, the need to upgrade tourist facilities and services, the need to invest in quality tourist promotion, boosting coordination among key tourism players.	Cultural Heritage Promotion: understanding stakeholders' knowledge and attitudes toward heritage and tourism, identifying the cultural image of Abu Dhabi Emirate.	Ongoing	% of completion of survey
Level currently below standard of management	Inefficient approach to the management of the sites	Demonstrate the holistic approach to heritage	By end of 2011	Completion of integrated holistic approach to planning

worthy of a potential World Heritage Site	presented to the nomination.	management, establishing an integrated and holistic planning approach to heritage management, establishing general criteria for protecting the cultural heritage and enhancing its potential as a point of strength for the future of the Abu Dhabi Emirate, developing a proactive planning strategy to promote heritage conservation and make the most of its potential, developing the Landscape Concept as a basic component of landscape planning for the environment.		from a culture and heritage perspective.
Unclear policy guidelines for the protection and management of cultural areas within the city among which the sites of the serial property nomination.	Absence of policy guidelines for historic/cultural areas.	ADACH, in partnership with the Abu Dhabi Urban Planning Council (ADUPC), regulate development in and around the proposed World Heritage site through zoning, advocacy, and direct management of historic buildings. Plans already exist at present (*Al Ain Oasis Cultural Quarter Master Plan*, *Al Ain 2030*) that support sensitive and sustainable development around the oases, discouraging encroachment and inappropriate land-use before it becomes a problem.	By end of 2009	# of plans discussed and agreed upon mutually with the ADUPC.
		ADACH's project to	By end of 2013	% of completion of al Qattara

		regenerate the oases by restoring and developing some of the historical buildings within these oases is an important one as it aims to breathe new life into the oases. By turning them into arts centres, exhibition space, information centres, cafes and restaurants, the people will again return to the oases, which after all provide an ideal shady walk and experience for visiting tourists.		and al Ain oasis regeneration projects.
		Awareness among road planning agencies & traffic monitoring and regulations. ADACH's review of proposed railway project.	By end of 2009	Railway project reviewed and ADACH comments shared with concerned parties.
		Registered historic buildings (in the ADACH database) are continually monitored for misuse and, in cases of abandonment or vacancy, are continually under review for appropriate adaptive re-use opportunities	Ongoing	First cycle of monitoring completed
Incomplete plan of action which will elaborate policy guidelines into a masterplan of activities to implement proposed solutions	Refer to pages 66-72 of the UNESCO Strategy document.	OASES: programme is underway to conserve the six historic date plantation oases, including revitalization of the ancient *falaj* system and restoration of old buildings.	By end of 2013	Completion of oases revitalization schemes.
		Implement conservation works on building scale, which also emphasize	By end of 2010	# of conservation projects executed.

		documentation as a pre-requisite to proper protection of cultural heritage resources, are guided by the Entity Strategic Plan		
		Implement conservation works on site elements at Hafit – Hili and Bida Bint Saud	By 2011	# of conservation projects executed.
		Combine sympathetic reuse of the modern parts of the buildings with protection and conservation of the remaining areas of authentic historic fabric. In the case of ruins, ADACH implements a careful program of conservation and stabilization that secures structural integrity without compromising authenticity or cultural value.	By end of 2011	Structural repair program completed.
Limited awareness about significance of these sites among the community		Implement interpretation programs for the sites & interpretation training. Enforce interpretation policy & initiatives.	By end of 2010	# of interpretation programs designed and implemented.
Site amenities underdeveloped	Inadequate site amenities at all of the sites subject to the nomination.	Design sensitive visitor amenities using materials that are low-profile, performing and sympathetic to the nature of the sites being interpreted.	By end of 2013	% of total sites provided with necessary visitor amenities
Limited community integration into management and promotion of sites	Lack of public programming and participation.	Development of public programming via the revised portfolio of the museum of the city providing more integration of the community	By end of 2012	# of public programs designed and delivered.

		into the process of preventive conservation and interpretation of the cultural heritage of the nominated sites.		

5.f Sources and levels of finance	As a semi-independent governmental entity, ADACH is the main source of funding for Al Ain's ongoing program of conservation. Every year ADACH's Department of Conservation prepares the budget necessary for the upkeep, promotion, and management of the city's various sites. This is then presented to ADACH's board of directors, who in turn will refer it to the government for approval. Recognising the importance of cultural heritage to the future of the Emirate, the Government of Abu Dhabi has chosen to treat its investments in the sector as investments in strategic infrastructure. ADACH, as the Government Ministry responsible, has been tasked to lead in this task. ADACH has recognised that post the initial capital investments, it is vital that these core heritage assets are, as far as is ever possible, protected for future generations; this demands ongoing secure funding. To serve this end legislation has been passed and income streams identified, which reduce the sites' and programmes' long-term dependency on government annual funding. This approach ensures that the heritage assets are not subject to future vicissitudes in government funding. This approach of creating debt-free and ADACH-owned commercial assets, is only possible due to the current cash wealth of the nation. Using a part of the national wealth to, in effect, endow its heritage assets, is a once-in-a-nation's-history opportunity, to underpin long term sustainability for such important assets. The Government of Abu Dhabi's support of its heritage is tangibly shown by its support of this approach.
5.g Sources of expertise and training in conservation and management techniques	ADACH draws on a combination of in-house staff and outsourced consultancy services to provide the necessary expertise in conservation and management of the cultural resources of Al Ain. The Strategic Planning Office, headed by an archaeologist, conservator and heritage management specialist with more than 20 years of experience, including six years in the local region, also employs two engineers with more than 20 years of project management experience in the region; a heritage interpretation and visitor management expert with more than 10 years of experience, including 6 in the region; a project manager with a double background in archaeology and cultural tourism; and three Emirati strategic planning officers recruited from an

	internship program, among other staff. The Department of the Historic Environment, in its three divisions of Archaeology, Historic Buildings, and Cultural Landscapes, employs 10 archaeologists, with experience up to 30 years, including several Emirati nationals and a specialist in conservation, and one architect. The Department of Conservation, also headed by the Director of Strategic Planning, currently houses the skills of an urban planner specializing in heritage conservation with more than 10 years of experience; an architect/ historic building conservator with over 5 years of experience in the local region; a chemist/ laboratory supervisor with over 20 years of experience, mostly in the local region; and 30 conservation workers which vary in skill levels from master masons and craftsmen to basic laborers. Several new professionals have been recruited in Summer 2009, including two highly trained paper conservators with an average experience of 5 years, a building conservation supervisor with more than 20 years of conservation architecture and consultancy experience, and a building conservator with more than 10 years of field experience focusing on earthen buildings. As a young organization that is steadily growing, ADACH has had to rely on consultants to deliver high quality conservation services in the first stage; however, through internships, training, and further recruitment, permanent staff with a higher percentage of local human resources is aimed to be created for the sustainability of ADACH's institutional capacity. Consultants who perform various service contracts for ADACH have to date included individual professionals and companies specializing in architectural documentation, architectural design with traditional material, architecture/ landscape architecture/ urban design in historic contexts, structural engineering for historic buildings, earthen building conservation, heritage interpretation, cultural tourism, video production in diverse cultural environments, and other fields. ADACH has started to employ the services of local students training in architecture, archaeology, and other related fields who wish to 1) do internships in the Authority, and 2) potentially join permanent staff in the future. Training is also an important component of the ADACH capacity-building strategy, as a Center for Earthen Building

	Conservation and Construction is being planned, with partner institutions including universities and centers from Germany, the UK, and the USA already having agreed to collaborate. An academic course focusing primarily on earthen building conservation is also being planned in conjunction with this Center (which overlaps with the Center for Design, Arts and Crafts mentioned earlier within Qattara Oasis).
5.h Visitor facilities and statistics	Statistical figures provided by the Abu Dhabi Tourism Authority are collected on the basis of hotel occupancy rates and do not distinguish between tourists and other types of visitors (e.g., long-stay residents for business and other purposes in the hotel); accordingly, they have not been included in this document. Al Ain museums statistics, along with visitation numbers for Hili Archaeological Park and the recently inaugurated Al Jahili visitor center provide a more reliable indicator of local tourism trends. These are viewable in Section 4.b.iv in the prose, and in Tables 4.2 and 4.3 (Al Ain National Museum and Sheikh Zayed Palace Museum Visitation Numbers), and Graph 4.1 (Visitation Trends). In general, the tourism infrastructure on the sites of the property is not yet adequate. Both Jebel Hafit tombs and Bidaa Bint Saud as well as the Hili sites that are located outside the Hili Archaeological Park are open areas of difficult accessibility and with no tourism facilities (i.e., no lavatories, no site interpretation, and no refreshment facilities nearby). However, all three sites are objects of major projects currently implemented or about to be implemented by the Abu Dhabi Authority for Culture and Heritage. They will, therefore, be provided with proper visitor facilities in the near future. Hili Archaeological Park does provide for visitor facilities in the form of interpretive panels, lavatories, and refreshments facilities. The site is also included in most tourist tours to Al Ain and therefore offers regular guided tours. The level of visitor facilities in Al Ain's six oases is rather poor. Out of the six oases, only Al Ain Oasis and Qattara Oasis have public lavatories. The Abu Dhabi Authority for Culture and Heritage is currently working on a project to rehabilitate the city's oases that will certainly address the need for

	enhancing their visitor facilities. Due to their remoteness and large surrounding esplanades, parking space is not an issue for any of the sites. Only Al Ain's six oases, located in the middle of the city, could face parking challenges if visitation numbers were to increase significantly in a short span of time, something unlikely to happen. The Abu Dhabi Authority for Culture and Heritage has recently completed a project to bridge the emirate's gap in heritage interpretation. The project is inscribed in the Authority's 5-year Entity Strategic Plan and is considered as an important initiative for the local and regional promotion of Abu Dhabi's culture and heritage. As part of the project, a series of 32 interpretive leaflets and three interpretive pocket maps have been produced about the Emirate's heritage resources (18 of which focus on Al Ain's heritage sites and resources). These leaflets are to be widely distributed through the emirate's museums, main hotels, and other key tourism players, as well as in Abu Dhabi's Cultural Foundation during the month of February 2009. In the context of the Authority's work to enhance public accessibility and appreciation of the emirate's heritage resources, 17 interpretive panels (12 of which will interpret Al Ain sites) are also being developed; they are expected to be installed at the sites within the first quarter of 2009. Along with this, several training programs to form a team of heritage interpreters are underway. A four-day guide training course, which was attended by Al Ain's fifteen museum guides, took place at Al Jahili Fort in November 2008. Another training program focusing on the importance of promoting Emirati culture is expected to be delivered to the same group of guides within the month of March 2009. Finally, a third more formal interpretive program with international accreditation, is also being planned for the last quarter of 2009. The interpretive offerings of Al Ain is further enhanced with the presence of the city's first visitor center, opened in December 2008 at Al Jahili Fort, as well as with the Al Ain National Museum, which provides a good overview of the area's history and development with special focus on its

	archaeology and ethnological values. As an important urban center, overnight accommodation, restaurants, shops, public lavatories, and search and rescue facilities are abundant and available in the city of Al Ain. As Table 5.2 below illustrates, at present the bulk of Al Ain's tourist accommodation capacity is strongly concentrated in the city's four 5-star hotels.

Table 5.2: Al Ain hotel capacities

Category	Hotel Name	Type of Ownership	Total Capacity
5-star hotels	Intercontinental Resort Al Ain	Governmental	216
	Al Ain Rotana Hotel	Privately owned	288
	Hilton Al Ain	Governmental	202
	Mercure Grand Hotel	Privately owned	124
3-star hotels	Al Massa Rest House	Privately owned	62
Rest houses	Al Ain Al Faydah	Governmental	77
	Al Remah Rest House	Governmental	36
	Al Sweihan Rest House	Governmental	10
	Al Wagan Rest House	Governmental	6
	Al Hayar Rest House	Governmental	4

	Reflecting the area's multi-cultural community, a fairly broad selection of international cuisine is available in Al Ain with gastronomic offerings including African, Indian, Far Eastern, Chinese, Italian, and Middle Eastern dishes, among others. The local gastronomy of the UAE is however poorly represented in the city's restaurants (in part due to the private nature of Emirati meals). Nevertheless, several catering companies do provide traditional dishes from the UAE; they remain highly popular during major religious festivities (e.g., the month of Ramandan) and important social occasions such as weddings. In the context of ADACH's project for the rehabilitation of Al Ain Oasis and its transformation into a cultural quarter, the oasis is expected to house a traditional restaurant dedicated to Emirati cuisine by the year 2012.
5.i Policies and programmes related to the presentation and promotion of the property	The guiding principles of ADACH's approach to interpretation include the need to improve public accessibility to the emirate's heritage

	resources, control visitors' crowds and behaviour as well as enhance people's overall experience in the emirate. Based on this policy, a series of interpretive programmes have been planned for and integrated into the Authority's 5-year Entity Strategic Plan. In addition to those described under section 5.h - visitor facilities and statistics, the following are envisaged for the year 2009-2010: - create two new culture and heritage programs for children - develop two TV programs focusing on culture and heritage Additionally, ADACH's Communication Department works in close relationship with the local schools and has an ongoing program to raise awareness about the emirate's culture and heritage specially aimed at schools. The program includes the organisation of site visits to Al Ain National Museum and other heritage sites in the city.
5.j Staffing levels (professional, technical, maintenance)	ADACH is a semi-independent government entity directly reporting to the diwan (government of Abu Dhabi). Subject to the board of directors' approval, ADACH has its own independent budget and administration. ADACH has 275 employees headed by a Director General who is responsible to the board of directors. The board is formed by a chairman, a vice-chairman, and 6 other members representing different core disciplines relevant to ADACH's mandate (e.g., the arts, media and communication, the tourism industry, and the UAE local history). ADACH is structured into six different departments, i.e., Historic Environment, Museums, Ethnology, Conservation, Arts & Culture and National Library. All ADACH departments are supported by six administrative departments, i.e., Human Resources, Finance, Logistics, Events & Marketing, Communication, and a Legal Office. The Strategic Planning Office is kept relatively independent from this structure; it plays an important advisory role to the Director General and reports directly to him and to the board of directors. Section 5g. Sources of expertise and training in conservation and management techniques covered in detail the level of expertise available at the various sites included for nomination. In addition to those, the following staff is available at the property

	on a regular basis: - For Al Ain's historic buildings, the team includes 10 technical staff working on the sites, two officers patrolling all sites on a weekly rotating basis (to report on the site's conditions and to conduct any needed cleaning and minor repair), as well as about 20 workers engaged in conservation work. - Two other staff members are exclusively dedicated to patrolling and monitoring the archaeological sites of Hili, Jebel Hafit, and Bidaa Bint Saud. The status of Al Ain's oases is regularly monitored by the Al Ain Municipality, and its historic buildings are patrolled by the same two officers in charge of the city's forts and other historic buildings.
6. Monitoring	
6.a Key indicators for measuring state of conservation	These indicators relate to the state of conservation of the Cultural Sites of Al Ain, Serial Property as presented under section 4.a of this nomination and are laid-out in the table below including reference to the periodicity of monitoring change occurring on the state of conservation.

Table 6.2: Key indicators on the state of conservation of the site components.

Key Indicator on State of Conservation	Description and cause	Related site	Baseline data and magnitude of problem as of Sept. 2009	Monitoring periodicity
Hafit Assemblage				
Percentage of structurally unstable graves	Natural processes linking to erosion of understructure namely at graves situated on elevated mounts thus causing small portions to roll-down and erode	Jebel Hafit Desert Park/Jebel Hafit North Tombs/Hafit West Ridge Tombs/Naqfa Ridge	Very low, occurring at 5% of total number of graves	Yearly
Level of erosion of grave construction material	Natural processes due to rainfall action	Jebel Hafit Desert Park/Jebel Hafit North Tombs/Al Ain Wild Park Tombs/ Hafit West Ridge Tombs/Naqfa Ridge	Low, occurring at 2% of graves with exposed cores where water barrowing occurs	Yearly
Percentage of collapsed	Natural processes due to advanced erosion and	Jebel Hafit Desert	Low occurring at 2% of	Yearly

structural components	formation of cavities that threaten the stability of grave structure. This pattern is mainly due to long episodes of rainfall and heavy inundations	Park/Jebel Hafit North Tombs/Hafit West Ridge Tombs/ Naqfa Ridge	graves due to their exposed and precarious construction and location within exposed areas of the site	
Percentage of highly damaged grave structures	Natural processes associated with heavy inundation and washing away of grave fabric	Jebel Hafit Desert Park/Jebel Hafit North Tombs/Hafit West Ridge Tombs/Naqfa Ridge	Low, occurring at 1% of total grave numbers	Yearly monitoring is necessary in order to determine success of intervention and whether water flows are shifting to another threatening location.
Level of erosion of surface materials at Neolithic sites	Natural processes due to long episodes of seasonal rainfall causing a very slow erosion of historic finds located on the surface of the elevated mounds. These mounds (the ones that we know of and are preserved until today)	Jebel Hafit Desert Park	Low level, a historical phenomenon with very slow pattern of impact	Yearly
Average number of instances where integrity of Neolithic surface sites is compromised	Human/animal processes linked to uncontrolled access and the relocation/destruction of in-situ evidence, loss of physical evidence in the form of displaced finds	Jebel Hafit Desert Park	Very low average (1-3) might have occurred in the past but today more control is exercised to avoid access to these fragile sites	Yearly for level of impact.
Average number of instances whereby site boundary was compromised	Human processes possibly due to infringement of site boundaries by adjacent site owners	Jebel Hafit Desert Park	Very low (1-3 instances), Municipality and ADACH are alert to these situations and address them on the spot	Yearly
Hili Assemblage and Bidaa Bint Saud				
Level of erosion of grave construction material	Natural processes due to seasonal rainfall action	Hili Archaeological Park/ Hili North Tomb 1&2	Low, occurring at 20% of graves with exposed cores where water barrowing	Yearly

			occurs	
Level of erosion of architectural surfaces	Natural processes due to rainfall causing the erosion of tops of walls mainly	Hili Archaeological Park/Rumailah	Medium level, occurring at 50% of exposed structures	Yearly
Percentage of exposed structures where coving of base of walls occurs	Due to natural processes of rising salinity and humidity building-up on the bottom of walls/exteriors	Hili Archaeological Park/Rumailah	Medium, occurring at 50% of exposed structures	Yearly
Level of fragmentation due to salt crystallization as well as to impact of harsh environment	Due to natural processes pertaining to significant temperatures margins between day and night, rapid expansion and contraction causing significant stresses on the historic fabric, rising salinity of the soil and crystallization on wall surfaces.	Hili Archaeological Park/Rumailah	Medium, occurring at 50% of exposed structures	2-years
Sand blasting by wind-born particles	Due to prevailing site winds carrying sand particles and causing the erosion of the surface of walls via sand-blasting phenomenon	Hili Archaeological Park/Rumailah	Low occurring at 10% of exposed structures but quite localized	2-years
Number of locations where vegetation damage occurs	Due to growth of certain varieties with deep roots causing mechanical damage to historic walls	Hili Archaeological Park/Rumailah	Very low, occurring in 2% of exposed structures and localized in areas with significant underground humidity to sustain vegetation growth.	Yearly
Oases Areas				
Average number of instances where infringement on oases boundary limits has occurred	Human processes linked to property owners infringing on informal areas across their properties either via unsympathetic development or activities	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low (1-3 instances) and limited in scope and area	Yearly
Percentage of unsympathetic developments affecting visual significance of oases areas	Human processes linked to unsympathetic developments of areas adjacent to the core zones of oases	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low (1-3), limited in scope and area	Yearly
Frequency of uncontrolled littering within	Human processes, unsightly disposal of rubbish and agricultural waste	Al Ain Oasis/Hili Oasis/Jimi	Low (1-3), limited and localized	Weekly

the oases		Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/		
Level of erosion of architectural surfaces (associated with oases mud brick boundary walls and historic buildings)	Natural processes due to rainfall causing the erosion of tops of walls mainly	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Medium, occurring at 30% of exposed structures	Yearly
Percentage of exposed structures where coving of base of walls occurs	Due to natural processes of rising salinity and humidity building-up on the bottom of walls/exteriors	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low, occurring at 30% of exposed structures	Yearly
Level of fragmentation due to salt crystallization as well as to impact of harsh environment (associated with oases mud brick boundary walls and historic buildings)	Due to natural processes pertaining to significant temperatures margins between day and night, rapid expansion and contraction causing significant stresses on the historic fabric, rising salinity of the soil and crystallization on wall surfaces.	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low occurring at 20% of exposed structures	Yearly
Sand blasting by wind-born particles (associated with oases mud brick boundary walls and historic buildings)	Due to prevailing site winds carrying sand particles and causing the erosion of the surface of walls via sand-blasting phenomenon	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Low occurring at 5% of exposed structures but quite localized	2-years
Number of locations where vegetation damage occurs (associated with oases mud brick boundary walls and historic buildings)	Due to growth of certain varieties with deep roots causing mechanical damage to historic walls	Al Ain Oasis/Hili Oasis/Jimi Oasis/Qattara Oasis/Muatarid Oasis/Muayjii Oasis/	Very low, occurring in 5% of exposed structures and localized in areas with significant underground humidity to sustain vegetation growth.	Yearly

	All records pertaining to monitoring the state of conservation of the Cultural Sites of Al Ain are kept with the Department of Conservation at ADACH.

6.b Administrative arrangements for monitoring property	Department of Conservation, Abu Dhabi Authority for Culture and Heritage Tel. +971 2 621 2191 Fax. +971 2 621 2186 P.O.Box. 2380 Abu Dhabi, United Arab Emirates ege@adach.ae
6.c Results of previous reporting exercises	A number of reporting exercises have been carried out in the context of the Abu Dhabi Cultural Heritage Management Strategy ADACH Entity Strategic Plan. These include, among others, the Report on the Conservation of Earthen Sites of Al Ain, UAE, dated January 2007, by Dr. Enrico Fodde (Annex 9), and reports on the condition of buildings within the scope of the Emergency Conservation Program.
7. Documentation	
7.a Photographs, slides, image inventory and authorization table and other audiovisual materials	

Table 7.1: Image Inventory And Photograph And Audiovisual Authorization Form.

Id. No	Format	Caption	Date of photo	Photographer	Copyright owner	Non-exclusive cession of rights *
1- OASES						
1.0- OASES - GENERAL LANDSCAPE						
1.0.01	jpg file	Aerial photograph of Al Ain's oases in 1968	1968	NA	ADACH	Yes
1.0.02	jpg file	Aerial photograph of Hili Oasis in 1968, illustrating how the texture of farm boundaries have remained intact	1968	NA	ADACH	Yes
1.0.03	jpg file	Aerial photograph of Al Ain Oasis with Sheikh Zayed Palace Museum overlooking the western edge	2004	Domingo Garcia	Domingo Garcia	Yes
1.0.04	jpg file	Example of oasis entrance gates installed by Al Ain Municipality, Mutaredh Oasis	2008	Ege Yildirim	ADACH	Yes
1.0.05	jpg file	Example of controlled entry into oases along vehicular roads leading into public paths, Hili Oasis	2008	Ege Yildirim	ADACH	Yes
1.0.06	jpg file	General view of oasis environment seen from public path, Al Ain Oasis	2008	Ege Yildirim	ADACH	Yes
1.0.07	jpg file	A section of original mudbrick wall, with supporting buttressing on the farm side, and recent pathway walls constructed by Al Ain Municipality in the oases	2006	Bader al Nomani	ADACH	Yes
1.0.08	jpg file	Public paths in oases also afford transit by bicycle	2006	Bader al Nomani	ADACH	Yes
1.0.09	jpg file	Landscaping done along a public path in Hili Oasis	2008	Ege Yildirim	ADACH	Yes
1.0.10	jpg file	General view of palm trees in oasis	2006	Bader al Nomani	ADACH	Yes
1.0.11	jpg file	A section of the falaj system running throughout the oases	2006	Bader al Nomani	ADACH	Yes
1.0.12	jpg file	Example of cultivated farm land, Hili Oasis	2008	Ege Yildirim	ADACH	Yes

1.0.13	jpg file	Dates cultivated in the oases	2006	Bader al Nomani	ADACH	Yes
1.0.14	jpg file	Humbah, a mango-like fruit cultivated in the oases	2006	Bader al Nomani	ADACH	Yes
1.0.15	jpg file	Man collecting dates from a date palm	2004	Abu Dhabi Tourism Authority photographer	ADTA	Yes
1.1. HISTORIC BUILDINGS IN AND AROUND OASES - AL AIN OASIS						Yes
1.1.01	jpg file	Bin Shehail Al Mottawa Al Dhahiri House, Al Ain Oasis	2008	Ege Yildirim	ADACH	Yes
1.1.02	jpg file	Al Ain Palace Museum, Al Ain Oasis, front view	2006	Bader al Nomani	ADACH	Yes
1.1.03	jpg file	Al Ain Palace Museum, Al Ain Oasis, view into oasis	2006	Bader al Nomani	ADACH	Yes
1.1.04	jpg file	Murab'a Fort, Al Ain Oasis	2006	Bader al Nomani	ADACH	Yes
1.1.05	jpg file	Shaikh Sultan Bin Zayed Al Nahyan (Sultan/Eastern) Fort, Al Ain Oasis	2006	Bader al Nomani	ADACH	Yes
1.1.06	jpg file	Al Jahili Fort, west of Al Ain Oasis, view of new main gate	2006	Bader al Nomani	ADACH	Yes
1.1.07	jpg file	Al Jahili Fort, west of Al Ain Oasis, view of the tower from the old fort	2007	Peter Sheehan	ADACH	Yes
1.1.08	jpg file	Al Jahili Fort, west of Al Ain Oasis, view of site during rehabilitation works	2008	Ege Yildirim	ADACH	Yes
1.1.09	jpg file	Al Jahili Fort, west of Al Ain Oasis, a worker mixing mud during rehabilitation works	2008	Ege Yildirim	ADACH	Yes
1.1.10	jpg file	Al Jahili Fort, west of Al Ain Oasis, site meetings during rehabilitation works	2008	Ege Yildirim	ADACH	Yes
1.1.11	jpg file	Al Jahili Fort, west of Al Ain Oasis, inauguration of the rehabilitation project, December 3, 2008	2008	Ege Yildirim	ADACH	Yes
1.2. HISTORIC BUILDINGS IN AND AROUND OASES - HILI OASIS						
1.2.01	jpg file	Hamad Bin Hadi Al Darmaki House, Hili Oasis, scaffolding to support wall	2007	Ali Malekabbasi	ADACH	Yes
1.2.02	jpg file	Hamad Bin Hadi Al Darmaki House, Hili Oasis, site meeting	2007	Ali Malekabbasi	ADACH	Yes
1.2.03	jpg file	Hamad Bin Hadi Al Darmaki House, Hili Oasis, site work for conservation of wall	2008	Ali Malekabbasi	ADACH	Yes

1.2.04	jpg file	Hamad Bin Hadi Al Darmaki House, Hili Oasis, mudbrick production workshop	2008	Ege Yildirim	ADACH	Yes
1.2.05	jpg file	Hemaid Bin Hadheibah Al Dhahiri House, Hili Oasis, Emergency Conservation works	2008	Ali Malekabbasi	ADACH	Yes
1.2.06	jpg file	Hemaid Bin Hadheibah Al Dhahiri Fort, Hili Oasis, Emergency Conservation works	2008	Ali Malekabbasi	ADACH	Yes
1.2.07	jpg file	Bin Rayeh Al Darmaki Tower (Rumailah Tower), Hili Oasis	2004	Domingo Garcia	Domingo Garcia	Yes
1.2.08	jpg file	Hili watchtowers	2007	Peter Sheehan	ADACH	Yes
1.3. HISTORIC BUILDINGS IN AND AROUND OASES - AL JIMI OASIS						Yes
1.3.01	jpg file	Bin Humoodah Al Dhahiri House, Al Jimi Oasis	2006	Bader al Nomani	ADACH	Yes
1.3.02	jpg file	Khalfan and Saif bin Abudllah Al Dhahiri House, Al Jimi Oasis	2008	Ali Malekabbasi	ADACH	Yes
1.3.03	jpg file	Sultan Bin Abdullah Al Dhahiri House, Al Jimi Oasis	2008	Aqil Ahmed Aqil	ADACH	Yes
1.3.04	jpg file	Sheikh Mohammed Bin Ahmad Al Dhahiri Mosque, Al Jimi Oasis, with a master craftsmen who participated in the restoration of the mosque	2006	Bader al Nomani	ADACH	Yes
1.3.05	jpg file	Sheikh Ahmed bin Hilal al Dhahiri Tower, Al Jimi Oasis	2006	Bader al Nomani	ADACH	Yes
1.3.06	jpg file	Sheikh Ahmed Bin Hilal Al Dhahiri Fort, Al Jimi Oasis	2004	Domingo Garcia	Domingo Garcia	Yes
1.3.07	jpg file	Bin Jabr Al Swaidi House, Al Jimi Oasis, fencing done for Emergency Conservation works	2008	Ege Yildirim	ADACH	Yes
1.4. HISTORIC BUILDINGS IN AND AROUND OASES - AL QATTARA OASIS						
1.4.01	jpg file	Al Qattara Souk, Al Qattara Oasis	2008	Ege Yildirim	ADACH	Yes
1.4.02	jpg file	Abdullah bin Salem al Darmaki House (/ Fort), Al Qattara Oasis, general view	2008	Aqil Ahmed Aqil	ADACH	Yes
1.4.03	jpg file	Abdullah bin Salem al Darmaki House (/ Fort), Al Qattara Oasis, view of tower section	2008	Ege Yildirim	ADACH	Yes
1.4.04	jpg file	Mohammed Bin Bodowwah Al Darmaki House, Al Qattara Oasis	2008	Ege Yildirim	ADACH	Yes
1.4.05	jpg file	Daramkah Tower, Al Qattara Oasis	2007	Peter Sheehan	ADACH	Yes
1.4.06	jpg file	Bin Fudhaid Al Darmaki House, Al Qattara Oasis	2008	Ege Yildirim	ADACH	Yes

1.5. HISTORIC BUILDINGS IN AND AROUND OASES - MUTAREDH OASIS						
1.5.01	jpg file	Bin Suroor Eastern House, Mutaredh Oasis	2008	Ege Yildirim	ADACH	Yes
1.6. HISTORIC BUILDINGS IN AND AROUND OASES - AL MUWAIJI OASIS						
1.6.01	jpg file	Al Muwaiji Fort, Al Muwaiji Oasis	2008	Ege Yildirim	ADACH	Yes
1.6.02	jpg file	Al Muwaiji Fort, Al Muwaiji Oasis, archaeological investigation works	2008	Ege Yildirim	ADACH	Yes
2- JEBEL HAFIT						
2.1- JEBEL HAFIT PROTECTION AREA						
2.1.01	jpg file	Jebel Hafit, general view of the landscape around the mountain	2008	Ege Yildirim	ADACH	Yes
2.1.02	jpg file	Mezyad Fort, with Jebel Hafit in the background	2008	Peter Sheehan	ADACH	Yes
2.1.03	jpg file	Mezyad Fort, with Jebel Hafit in the background	2006	Bader al Nomani	ADACH	Yes
2.1.04	jpg file	Mezyad Fort, general view of the courtyard	2006	Bader al Nomani	ADACH	Yes
2.1.05	jpg file	Mezyad Fort, palm plantation around fort and Jebel Hafit in the background	2006	Bader al Nomani	ADACH	Yes
2.1.06	jpg file	Hafit tombs, a tomb before reconstruction	2006	Bader al Nomani	ADACH	Yes
2.1.07	jpg file	Hafit tombs, restored tomb against the mountain	2006	Bader al Nomani	ADACH	Yes
2.1.08	jpg file	Hafit tombs, restored tombs	2006	Bader al Nomani	ADACH	Yes
2.1.09	jpg file	Hafit tombs, restored tombs	2006	Bader al Nomani	ADACH	Yes
2.1.10	jpg file	Hafit tombs, restored tombs	2006	Bader al Nomani	ADACH	Yes
2.1.11	jpg file	Jebel Hafit, geological formations	2006	Bader al Nomani	ADACH	Yes
2.5- NAQFA RIDGE						
2.5.01	jpg file	Naqfa Ridge	2005	Abdullah Khamis	ADACH	Yes
2.5.02	jpg file	Naqfa Ridge, archeological survey work	2005	Abdullah Khamis	ADACH	Yes
3- HILI						
3.1- HILI						
3.1.01	jpg file	Hili Archaeological Park, Hili Grand tomb with relief of animal and human figures	2006	Bader al Nomani	ADACH	Yes

3.1.02	jpg file	Hili Archaeological Park, two animals carved on the ring wall of Hili Grand Tomb; this was also used for the logo of the former Department of Antiquities and Tourism of Al Ain	2006	Bader al Nomani	ADACH	Yes
3.1.03	jpg file	Hili Archaeological Park, relief of animal and human figures on tomb wall	2006	Bader al Nomani	ADACH	Yes
3.1.04	jpg file	Hili Archaeological Park, the reconstructed Tomb E	2006	Bader al Nomani	ADACH	Yes
3.1.05	jpg file	Hili Archaeological Park, middle section of reconstructed Tomb E looking south	2006	Bader al Nomani	ADACH	Yes
3.1.06	jpg file	Hili Archaeological Park, the central wall of the reconstructed Tomb E flanked by three chambers on each side	2006	Bader al Nomani	ADACH	Yes
3.1.07	jpg file	Hili Archaeological Park,the remaining ruins of the tower-like buildings at Hili 10 with well in the center	2006	Bader al Nomani	ADACH	Yes
3.1.08	jpg file	Hili Archaeological Park, Hili 8, taken during French Archaeological Team expedition	1984		ADACH	Yes
3.1.09	jpg file	Hili Archaeological Park, Hili 15, channel and shaft (thugbah) of falaj	2000	Walid Yasin	ADACH	Yes
3.1.10	jpg file	Hili Archaeological Park, Hili 15, channel of falaj	2000	Walid Yasin	ADACH	Yes
3.1.11	jpg file	Hili Archaeological Park, Hili 15, channel of falaj	2008	Ege Yildirim	ADACH	Yes
3.1.12	jpg file	Hili Archaeological Park, Hili 17	2000	Walid Yasin	ADACH	Yes
3.1.13	jpg file	Hili Archaeological Park, well at the Bronze Age site of Hili 8	2008	Ege Yildirim	ADACH	Yes
3.1.14	jpg file	Hili Archaeological Park, partial view of Bronze Age site of Hili 8	2008	Ege Yildirim	ADACH	Yes
3.1.16	jpg file	Hili Archaeological Park, Tomb H at Hili, a circular Umm-an Nar burial	2006	Ege Yildirim	ADACH	Yes
4- BIDAA BINT SAUD						
4.0.01	jpg file	Beyt Bidaa Bint Saud	2005	Walid Yasin	ADACH	Yes
4.0.02	jpg file		2006	Walid Yasin	ADACH	Yes
4.0.03	jpg file	Bidaa Bint Saud, a view of the eastern foothills of BBS Outcrop, looking south	2006	Bader al Nomani	ADACH	Yes

4.0.04	jpg file	Bidaa Bint Saud, reconstructed tomb on top of BBS ourcrop looking west	2006	Bader al Nomani	ADACH	Yes
4.0.05	jpg file	Bidaa Bint Saud, reconstructed tomb on top of BBS ourcrop looking east	2006	Bader al Nomani	ADACH	Yes
4.0.06	jpg file	Another reconstructed tomb on top of BBS outcrop	2006	Bader al Nomani	ADACH	Yes
4.0.07	jpg file	The only rectangular tomb discovered on top of BBS outcrop, dating to the 2nd millennium BC (reconstructed)	2006	Bader al Nomani	ADACH	Yes
4.0.08	jpg file	Bidaa Bint Saud, outcrop with farms in the background	2006	Bader al Nomani	ADACH	Yes
4.0.09	jpg file	Two shafts of the Iron Age Falaj 1 at Bidaa Bint Saud	2006	Walid Yasin	ADACH	Yes
4.0.10	jpg file	Two shafts of the Iron Age Falaj 1 at Bidaa Bint Saud	2006	Bader al Nomani	ADACH	Yes
4.0.11	jpg file	Bidaa Bint Saud, view from the outcrop toward power lines in the west	2006	Bader al Nomani	ADACH	Yes
5- RUMAILAH						
5.0.01	jpg file	Rumailah, a small section of the excavated area	2006	Walid Yasin	ADACH	Yes
5.0.02	jpg file	Rumailah, general view of the present site	2008	Ege Yildirim	ADACH	Yes
5.0.03	jpg file	Rumailah, remains of a house at Rumailah	2008	Ege Yildirim	ADACH	Yes
6- QATTARA TOMB						
6.0.01	jpg file	Qattara Tomb, general view after restorations	2007	Walid Yasin	ADACH	Yes
7- ARCHAEOLOGICAL AND ETHNOLOGICAL OBJECTS						
7.0.01	jpg file	Archaeological artefacts stored in the facilities in Rumailah, Al Ain	2008	Ege Yildirim	ADACH	Yes
7.0.02	jpg file	Stone artifacts, 2500 to 2000 BC	2006	Khalfan al Baabi	ADACH	Yes
7.0.03	jpg file	Storage jars discovered in Hili 2 and Rumailah, 1st millennium BC	2008	Ege Yildirim	ADACH	Yes
7.0.04	jpg file	An imported vessel discovered at Tomb A at Hili-North (DLA), end of 3rd millennium BC	2008	Ege Yildirim	ADACH	Yes
7.0.05	jpg file	Silver jewellery	2006	Khalfan al Baabi	ADACH	Yes
7.0.06	jpg file	Khanjars (traditional daggers)	2006	Khalfan al Baabi	ADACH	Yes

7.0.07	jpg file	Traditional chest	2006	Khalfan al Baabi	ADACH	Yes
7.0.08	jpg file	Traditional coffee pot	2006	Khalfan al Baabi	ADACH	Yes
8- INTANGIBLE HERITAGE						
8.1- ANIMAL HUSBANDRY AND SPORTS						
8.1.01	jpg file	Camel market	2006	Bader al Nomani	ADACH	Yes
8.1.02	jpg file	Camel market	2006	Bader al Nomani	ADACH	Yes
8.1.03	jpg file	Camel market	2006	Bader al Nomani	ADACH	Yes
8.1.04	jpg file	Camel market	2006	Bader al Nomani	ADACH	Yes
8.1.05	jpg file	Camel racing	2006	Bader al Nomani	ADACH	Yes
8.1.06	jpg file	Falcon and falconry equipment	2007	Emirates Falconers' Club	EFC	Yes
8.1.07	jpg file	Father and son with falcon	2007	Emirates Falconers' Club	EFC	Yes
8.1.08	jpg file	Falcon release	2007	Emirates Falconers' Club	EFC	Yes
8.1.09	jpg file	Falconers with their falcons	2007	Emirates Falconers' Club	EFC	Yes
8.2- DANCE						
8.2.01	jpg file	Ayyala dance	2006	Bader al Nomani	ADACH	Yes
8.2.02	jpg file	Al razeef performance	2006	Bader al Nomani	ADACH	Yes
8.2.03	jpg file	Al Na'ashat performance	2006	Bader al Nomani	ADACH	Yes
8.3- HANDICRAFTS AND BODY DECORATIONS						
8.3.01	jpg file	Emirati woman weaving palm basket	2006	Bader al Nomani	ADACH	Yes
8.3.02	jpg file	Traditional palm-woven baskets	2006	Bader al Nomani	ADACH	Yes
8.3.03	jpg file	Traditional palm-woven machab hasir (cover to keep flies away from the food)	2006	Bader al Nomani	ADACH	Yes
8.3.04	jpg file	Emirati women weaving cloth	2006	Bader al Nomani	ADACH	Yes
8.3.05	jpg file	Henna applied on hands	2006	Bader al Nomani	ADACH	Yes
8.3.06	jpg file	Henna applied on hands	2006	Bader al Nomani	ADACH	Yes
8.4- FOOD AND DRINK						
8.4.01	jpg file	Emirati women grinding coffee	2006	Bader al Nomani	ADACH	Yes
8.4.02	jpg file	Emirati man preparing coffee	2006	Bader al Nomani	ADACH	Yes

8.4.03	jpg file	Coffee offering as part of Emirati hospitality	2006	Bader al Nomani	ADACH	Yes
8.4.04	jpg file	Coffee and dates offered as part of Emirati hospitality	2006	Bader al Nomani	ADACH	Yes
8.4.05	jpg file	Woman preparing logemat	2006	Bader al Nomani	ADACH	Yes
8.4.06	jpg file	Traditional mamroosa dish	2006	Bader al Nomani	ADACH	Yes

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7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property	Please refer to Annex 7: Al Ain Oasis Cultural Quarter Master Plan (AAOMP) Documents; the AAOMP is the most advanced among ADACH plans relevant to the nominated property. The documents enclosed include the AAOMP Booklet including Interpretive Brief and Concept Design, and the Moratorium Boundaries map sent to the UPC and AAM. Several other documents are currently in preparation by ADACH in accordance with the Entity Strategic Plan targets, such as the Jebel Hafit National Park General Management Plan, the Plan for the Design and Development of Hili Cultural Landscape (Archaeological Park), the Plan for the Design and Development of Hafit Cultural Landscape (Mezyad Desert Park and Hotel), and the Qattara and Jimi Oases (co-publication with Harvard University Graduate School of Design).
7.c Form and date of most recent records or inventory of property	See Table 7.2 below.

Table 7.2: ADACH property inventories

Form	**Date**
ADACH Sites Comprehensive Database	August 2009
Historic Buildings Inventory	January 2009
Emergency Conservation Database	December 2009

7.d Address where inventory, records and archives are held	Department of Conservation, Abu Dhabi Authority for Culture and Heritage Tel. +971 2 621 2191 Fax. +971 2 621 2186 P.O.Box. 2380 Abu Dhabi, United Arab Emirates ege@adach.ae
7.e Bibliography	Absal, R. (2007). New research will help save Arabian Tahr from extinction. Gulf News, 2 October 2007. Online source: http://archive.gulfnews.com/articles/07/10/03/10157658.html Abu Dhabi Tourism Authority/UNESCO (2005) The Abu Dhabi Cultural Management Strategy.

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</table>

	Fawaz Khalfa, Assistant Engineer, Historic Buildings Section Interpretive consultants, Barker Langham Ltd and Hosta Ltd
8.b Official Local Institution/Agency	Abu Dhabi Authority for Culture and Heritage (ADACH) Cultural Foundation – Airport Road PO Box 2380 Abu Dhabi – United Arab Emirates Tel.: +971 2 621 2192 Fax: +971 2 621 2186 www.adach.ae
8.c Other Local Institutions	<u>Al Ain National Museum</u> P.O.Box: 15715 Al Ain, U.A.E. Telephone Number: 009713 7641595 Fax Number: 009713 765 8311 (Direct for Mr. Al Neyadi), 009713 751 0554 Email: antiqan@emirates.net.ae <u>Sheikh Zayed Palace Museum:</u> P.O.Box: 15715 Al Ain, U.A.E. Telephone Number: 009713 751 7755 Fax Number: 009713 751 7753 <u>Al Jahili Visitor Center:</u> P.O.Box: 15715 Al Ain, U.A.E. Telephone Number: 009713 784 3996 Fax Number: 009713 784 3928 <u>Al Ain Municipality:</u> P.O.Box: 1003 Al Ain, U.A.E. Telephone Number: 009713 763 5111 Fax Number: 009713 763 3288 <u>Abu Dhabi Urban Planning Council:</u> P.O.Box: 62221 Abu Dhabi, U.A.E. Telephone Number: 009712 409 6000 Fax Number: 009712 443 2903
8.d Official Web address	www.adach.ae

	The ADACH Web site currently features general information about Al Ain's heritage resources. A web site including virtual tours for all the main heritage sites in Al Ain alongside key information on the city's heritage resources and cultural offer is currently under construction. It will be accessible to the public in Al Jahili visitor centre by March 2009. Contact name: Dr. Sami el-Masri E-mail: smasri@adach.ae

9. Signature on behalf of the State Party

Name: Abdul Rahman Al-Owais

Title: Minister of Culture, Youth and Community Development

Signature: