Methodology

To establish the boundaries of the study area, the surveyor's coordinates provided by Planning Partners (PP) were converted to decimal degrees using Map Source software. Coordinates of appropriate boundary points were then downloaded to a Garmin Etrex Vista hand-held Geographical Positioning System (GPS). Map Datum WGS84 was used and set up to measure in units of decimal degrees. Coordinates of sites PK7, 8, 12 and 14 reported on by Kaplan (1997) were also entered to the GPS. Initially the GPS was used to navigate to selected boundary points, which were then clearly marked with hazard tape on surveyor's stakes and high in vegetation – port Jackson where possible. Once the boundary of the study area was established and marked, the GPS was used to navigate to sites reported by Kaplan (1997) that appeared to fall within the boundaries of the study area. Then a comprehensive foot survey was conducted and all archaeological occurrences were plotted with a GPS, described, assessed in terms of significance, photographed and a decision was taken whether or not specific sites required further investigation by means of shovel test excavations. Once the foot survey was complete, shovel test excavations were carried out at selected sites and excavated materials were sieved through 1.5mm mesh where appropriate. Results of the foot survey and shovel test excavations were used to ascertain whether sites required conservation and/or archaeological mitigation.

Description of the Affected Environment

Standing at point Erf 678 F, some 70 m inland from or north of the gravel road one can see the southern tip of Africa. Between the gravel road and the calcrete exposures at the top of the "cliffs" – including the area between points Erf 678 E and Erf 678 F -are vegetated dune sands that are banked up against the calcrete "cliff" faces that vary in height and make-up. The dune sands rise up steeply toward the "cliff" and are erratically vegetated by Fynbos - including a variety of shrubs, bushes and grasses and the alien Port Jackson. The latter is dominant, particularly toward the East and impenetrable in most parts of the landscape below the "cliff" faces. A great deal of the Port Jackson has been cut and is strewn across the landscape. I believe the calcrete "cliff" face is fossilized dune. Point Erf 678 G is situated near the edge atop the "cliff" face some 70 m North-East of Erf 678 F. A few fragments of marine shell were seen near the gravel road, but were not noted within the boundaries between points Erf 678 E and Erf 678 F. It is likely that archaeological materials lie beneath the dune sands, but due to very low visibility of the ground surface (less than 5%), this foot survey cannot be seen as exhaustive. It will certainly be necessary to conduct some shovel testing after the alien vegetation is cleared.

Archaeological Occurrences Identified During the Foot Survey

Site 001

S 34.82463^0 E 019.98456^0

A short distance east of boundary point Erf 678 G is a very ephemeral scatter of archaeological material consisting of less than 1 eco-/artefact per m^2. The area of this scatter is approximately 40 x 15 m or 600 m^2 with a roughly west to east orientation. The scatter lies on top of an exposed and un-vegetated patch of calcrete and comprises

fragmented marine shells of limpets - dominated by patella granatina - and turbo sarmaticus (shells and operculae), including some large specimens. A few pieces of milky quartz were observed including a smallish core (about 5 cm^3) that displays at least 2 clear flake scars. A silcrete flake with either minor retouch or accidental chipping was noted. A single pottery shard was noted with heavily eroded and/or weathered surfaces. The content of this scatter indicates the material is of Later Stone Age origin and includes material (Cape Coastal pottery) dating to the last 2000 years. A few land snail shells, which appear to be ubiquitous across the landscape, were also observed. This scatter of eco- and artefacts were either deposited directly onto the calcrete surface, deflated onto it through erosion and weathering or became imbedded in the calcrete during fossilization of the dune sands on and in which the archaeological material was deposited. The latter depositional scenario is supported by the presence of at least a few limpet fragments that are imbedded in the calcrete.

Significance: Medium to low. Due to large numbers of sites already destroyed due to development in the area, these unique scatters on and possibly in the exposed calcrete deposits should be sampled for conservation and scientific purposes. The sparse nature of sites like these may represent the remains of very brief occupations or purpose specific use of these areas for human activity. As such, these sites are worthy of mitigation.

Impact: Will be impacted by proposed development.

Suggested mitigation: map and collect 10% selected/random sample of surface scatter ($60m^2$).

Site 002

S 34.82494^0 E 019.98517^0

The geological and sedimentary context of this scatter is the same as that described above for Site 001. The area of the scatter is some 40 x 10 to 15 m or 400 to 600 m2 and is oriented from west to east though the scatter does appear to continue in a northern direction. The southern edge of the site is close to the cliff edge. This scatter is notably denser than that at Site 001, but there are areas with sparser scatters of eco- and artefacts. There are clear examples of shellfish fragments and stone artefacts embedded in the calcrete. This site offers a good opportunity to probe into the calcrete to determine whether archaeological strata or significant archaeological deposits are preserved beneath the surface of the calcrete. Shellfish remains are like those described for Site 001 but also include whelk (burnupena sp). Shellfish remains are very fragmented, weathered and sandblasted and/or water worn. Stone artefacts include small pieces of milky quarts, a fairly large broken quartzite cobble, a small silcrete flake with cobble cortex and a small, fist-sized quartzite cobble of aquatic origin that appears smoothed on one side as is common on grindstone surfaces. The small size of this manuport suggests it may be an upper rather than lower grindstone. A small fragment of poor quality ochre was seen. The vegetated edges of the scatter may support some deposit containing in situ archaeological material though this proposal must be tested through shovel test excavations.

Significance: Medium to high. For the reasons detailed above, this scatter should be sampled for conservation and scientific purposes. Because it site is similar to, but denser than Site 001, it requires more thorough mitigation. For this reason, **shovel test excavations and probing** will be conducted at this site.

Impact: Will be impacted by proposed development.

Suggested mitigation: Map and collect 25% selected/random sample of surface scatter ($60m^2$) and devise plans to preserve this and possibly a few of the other scatters for conservation, scientific, education and tourism purposes. Such plans must be made in consultation with Heritage Western Cape.

Site 003
S 34.82545^0 E 019.98616^0
Denser scatter w granatina and longicosta, quartz , pieces embedded in calcrete. Some 40x20m – **NOTE: revisit site 003 as the sound of recording was useless**
Conducted test by pick axing into calcrete.

Site 004
S 34.82610^0 E 019.98847^0
Also exposure on calcrete along the Erf 678 E and Erf 679 V boundary line. S E edge of property. Mostly quartzite stone artefacts , cores, flakes, mostly fair crude, small retouch flakes in quarts and quartzite, bits of orange, grey – ochre, no pottery, shell incl turbo, patella granatina, longicosta, no bone. Mostly stone and few shell, fair dense scatter some 15 pieces in less than meter – confined to 2 m area, as walk away no more – predominantly stone artefacts. Almost like a little stone napping site. No material beyond some 2 m sq.

Site 005
S 34.82518^0 E 019.98906^0
Exposed calcrete outcrop. Ephemeral scatter of shellfish. Quartzite artefact embedded in calcrete. Land snail. Shellfish include Turbo sarmaticus, Patella granatina, some bone – fairly weathered, tooth of medium size bovid with very high crown (? Hartebeest wildebeest size). Very ephemeral scatter. Decided to do a shovel test into the calcrete. Scatter is some 20 x 20 meters. Less than 1 artefact per 1 m sq. Also seen a few pieces of ochre. Some quarts – one small core (bipolar) some 1.5 to 2 cm in max length. Nothing in dune profile adjacent to site some 2meter thick – took photo of section with bakkie as snail. Conducted pick axe test into calcrete.

Site 006
S 34.81513^0 E 019.98565^0
Individual shell fragments of Patella longicosta coming up in a large animal burrow. This is like 007 and all the sites tested on top of the ridge on the northern boundary of the property.

Site 007
S 34.81664^0 E 020.00355^0
Ephemeral scatter of shellfish coming up in animal burrows including patella and Turbo sarmaticus. Probably coming up as a result of dune mole burrowing. Conducted shovel test.

Site 008
S 34.81581^0 E 020.00130^0

Isolated limpet shell.

Site 009
S E
Also top of ridge, patch void of vegetation with lots of mole heaps. Five or 6 pieces Patella granatina and a lot of land snail, bits and pieces of calcrete. A bit further on there are no shells. Scatter continues toward the east and more burrowing and more limpets. Also seen some turbo. Scatter some 40 x20 m with east west orientation.

GPS 010
S E
Small test pit probably to check soil – all dune sand - some 1 meter deep with a profile of some 2 meters long. Saw no archaeology at all in profile and spoil heap.
Vegetation cover is so dense that cannot really see what is going on on the ground and therefore probably worth monitoring during veg clearance and earth moving. All shell thus far seen coming up in animal burrows on the southern side of the ridge and there are exposures of calcrete on the northern part of the ridge and no archaeological traces were seen on those exposures. Possibly continuous scatter of shellfish along southern edge of ridge.

Site 011
S E
Shellfish scatter – very ephemeral - in vehicle track including some quarts and silcrete – very small pieces – were photographed. Quarts looks like a small bipolar core. Small bovid third phalanx smaller than raphicerus. Land snail also present. Certainly not worth mitigating as very little material.

Site 012
S E
VERY ephemeral little scatter of shellfish with Turbo, granatina – very few pieces maybe 5 pieces in a scatter of some 50cm sq – still in a vehicle track – tiny piece of quarts with flake scar. Maybe worth shovel testing. No photos as not much to see.

GPS 013
S E
Very dense scatter of turbo shells and almost certainly a poachers dump with maybe 80 to 100 turbo including many undersized one. Also, while working on calcrete ridge above cliffs the guys told me of locals that were busy poaching perlemoen and waiting for everyone to leave before they pulled the bags from the water. A guy on the cliff top was keeping watch while others below were at the ready to retrieve the abelone.

Site 014
Isolated quartzite flake with some flake removal scars with patinated surface and think it MSA as pattinated and the flake scars are certainly not fresh. Cobble cortex.

Site 015
Single limpet shell coming up in burrow and to the south there is an area that is void of vegetation, possibly due to extensive animal burrowing.

Site 016

Single quartz artefact. Conducted shovel test.

GPS 017
Large pit of some 10 x 15 meters and excavated to a depth of some 1.5m. The calcrete occurs some 30 to 100cm below the surface. Did not see any archaeology in the spoil heaps or exposed profiles.

Site 018
Very ephemeral scatter with single limpet and turbo shells. Conducted shovel test.

Site 019
Very ephemeral scatter with turbo, whelk, limpet, dune mole rat skull.

Site 020
Ephemeral scatter of shellfish remains. Conducted shovel test.

Site 021
Ephemeral scatter of shellfish remains.

Site 022
Upper grindstone, flaked quartzite, patella. All remains are on the south side of the vehicle track right opposite the "cross road". Materials certainly disturbed and exposed by the vehicle tracks and could not see any in situ material in the profiles on the sides of the road or in the undisturbed areas adjacent to the point in the vehicle track where the pieces were noted.

Site 023
Single limpet shell. Conducted shovel test.

GPS 024 & 025
Profile of topsoil, dune sands and calcrete in excavated dump which was excavated by mechanical excavators for the purpose of dumping all types of rubbish. While land snails are present through much of the sequence, no eco- and/or artefacts were seen.

Site 026
Very sparse marine shell being exposed in mole heaps. Conducted shovel test.

Site 027
Sparse marine shell. Conducted shovel test.

Site 028
Sparse marine shell including periwinkle (oxystele). Conducted shovel test.

Site 029
Single limpet shell.

Site 030
Sparse marine shell with raphicerus size astragalus.

Site 031
Sparse limpet shell and some quartz – some limpet fragments appear burnt.

GPS 032
See photo of exposed dune profile with no archaeological traces.

Site 033
Isolated turbo shell.

Site 034
Very sparse limpet and turbo shell. Conducted shovel test excavation

Site 035
Isolated upper grindstone.

Site 036
Medium to low density scatter of marine shell with mostly Patella granatina and turbo covering an area of some 6m2. Some of the shell looks burnt. Saw a very nice hammer stone/anvil/grind stone, but was lost by Marlin during the shovel test. Conducted shovel test excavation.

Site 037
Similar to 036 and possibly an extension of the same site/deposit. Shovel test excavation conducted. The dune to the north of this scatter was also tested to determine whether in situ material was sitting under the dune.

Site 038
This is a scatter similar to 036 and 037, but also includes several pieces of OES. Conducted shovel test excavation.

Site 039
Low density scatter of marine shellfish with Patella and periwinkle.

Site 040
Single limpet shell.

Site 041
Single periwinkle shell.

Site 042
Very sparse limpet shells. Conducted shovel test excavation.

Site 043
Very sparse limpet shells. Conducted shovel test excavation.

Site 044
Very sparse turbo shells.

Site 045
Isolated limpet shell.

Site 046
Very sparse limpet and turbo shells. Conducted shovel test excavation.

Site 047
Isolated limpet shell. Conducted shovel test excavation.

Site 048
Very sparse limpet and turbo shells. Conducted shovel test excavation.

Site 049
Single quartz artefact. Conducted shovel test excavation.

Site 050
Few limpet fragments.

Site 051
Few limpet fragments. Conducted shovel test excavations.

Site 052
Low density limpet shells. Conducted shovel test excavations.

Site 053
Very sparse limpet and turbo scatter. Conducted shovel test excavation.

Site 054
Medium to low density scatter of limpet and turbo shell in vehicle track. Also saw some quartz. Surface collection (shovel test?)

Site 055
Low density scatter of mostly patella in vehicle track.

Site 056
A few marine shells with limpet and turbo fragments. Conducted shovel test excavation.

Site 057
Isolated limpet shell and quartzite artefact that looks MSA some 30 meters to the north west.

Site 058
Isolated limpet shell.

GPS 059
An existing test pit dug to some 80cm and there is no archaeological material visible in the exposed profile or on top of the spoil heap.

Site 060
Isolated quartz chunk.

Site 061
Isolated quartzite chunk.

Site 062
A few limpet and turbo shells.

Site 063
A few limpet and turbo shells.

GPS 064
Photo 7683. Exposed profile along vehicle track. I walked several hundred meters along the vehicle track as chances are high of seeing any archaeological material as the surface and substrate is exposed. None were seen.

Site 065
Isolated limpet fragment.

Site 066
A few limpet and turbo fragments.

Site 067
A few limpet and turbo shells and a large patella Barbara are exposed in disturbed and burrowed area to the north of the building that has driving range painted on the one wall. Conducted shovel test excavation.

GPS 068
Borrow pit with some 50 m of profile with no archaeological material though land snail is present throughout. Photos 7684 & 7685

GPS 069
Storm water trench through calcrete with no archaeological materials. Photo 7686.

Site 070
Ephemeral scatter of limpet and turbo shell and saw a few pieces of quartz. Very low density scatter across some 20 X 5 m. The profile at the adjacent storm water drain shows no archaeological material in the profile. Conducted shovel test excavation. Photos 7687 & 7688

Site 071
Isolated limpet shell.

Site 072 (outside study area)
This site was found while navigating to the coordinates of PK 8. Variety of limpet species, turbo, OES. Some very large turbo specimens. Some of the shell is burnt. Medium density scatter that includes manuports and cracked and/or flaked quartzite cobbles. The scatter is some 15 x 10 m. Also saw quartz and silcrete. It is likely that in situ material is covered by the dune down which the archaeological material is eroding. This site is outside the study area and the coordinates of PK 8 are even further to the west and so certainly lie outside the study area.

PK 8 (outside study area)
Navigated to Kaplan's PK 8 and no site or archaeological occurrence was found and neither was archaeological material found at PK 9, which is supposed to be some 20 m east of PK 8.

Site 073 (outside study area)

Shellfish and stone scatter some 15 x 6 m in area and certainly worth testing, but lies outside study area. Saw flaked calcrete and some manuports, but no time for detailed inspection. The site is situated immediately to the south of the vehicle track.

Site 074 (outside study area)
Very rich site in vehicle track and in situ archaeological material is visible in the profiles on the edges of the vehicle track. The material includes shellfish, considerable quantities of stone, but no bone was seen. A lot of silcrete is present as well as several manuports. The site is being damaged and ruined by a vehicle track running right through it and is in the conservation area (Agulhas National Park). Actually saw conservation officers driving a bakkie through it and when I asked if they were aware of the sites they said yes. It appears that these sites need to be protected as they are being ruined by vehicles. I also saw quad bikes on these tracks on several occasions. See photos 7689 – 7691.

Site 075
Just east of the Agulhas National Park board is an ephemeral scatter of shellfish and manuports.

Site 076
A very sparse scatter of turbo and limpet shell on exposed calcrete outcrop and also saw a silcrete flake, some quartz and quartzite. This scatter is extensive, but very ephemeral. No pieces were seen to be imbedded in the calcrete.

Site 077
This is a fairly large and expansive scatter of mostly limpet shells and also saw some silcrete. The site lies in a basin between dunes and is situated under fairly dense, low vegetation. Conducted shovel test excavation. See photos 7692 – 7694.

Site 080
Similar to and a continuation of Site 003.

Site 081
Shellfish and stone exposed in road. Conducted shovel test.

Site 082
This is similar to the sites on the exposed calcrete with shellfish, quartz and quartzite.

Site 083
Continuation of scatter on calcrete.

Site 084
Continuation of scatter on calcrete.

Site 085
Continuation of scatter on calcrete.

Site 086
Exposure of calcrete between dunes with an isolated quartz artefact and a few shell fragments.

Site 087
Exposure of calcrete between dunes with an isolated quartz artefact and a few shell fragments. This is the same as Site o86, but contains a bit more material.

Site 088
This is a continuation of Site 087

Site 089
Exposed scatter in vehicle track with mostly limpets and includes some quartz artefacts.

Site 090
Exposed calcrete with low density scatter of marine shell.

Site 091
Isolated quartzite hammer stone and a few shell fragments on exposed calcrete.

Site 092
Very ephemeral scatter on exposed calcrete.

GPS 093
Calcrete exposure with no archaeological materials.

GPS 094
Calcrete exposure with no archaeological materials.

GPS 095
Dune profile in vehicle track. See photo 7724.

GPS 096
Calcrete exposure in dune embayment with no archaeological traces.

GPS 097
Calcrete exposure in dune embayment with no archaeological traces.

Shovel Test 1 at Site 007
Photos 7655 & 7656
Excavated to 120 cm. Medium brown sand to some 100 cm and then pale beige to white sand to depth. No archaeological materials or strata were exposed other than the ephemeral scatter of limpet and turbo seen at the surface.

Shovel Test 2 at Site 043
Photos 7657 & 7658
Excavated to 140 cm. Medium brown sand to 100 cm and then a pale beige to white dune sand to depth. No archaeological materials or strata were exposed other than the few limpet shells on the surface.

Shovel Test 3 at Site 042
Photos 7659 & 7660

Excavated to 130 cm. Medium brown sand to some 60 cm and then a pale beige to white sand to depth. No archaeological materials or strata were encountered other than the few limpet shells seen on the surface.

Shovel Test 4 at Site 053
Photos 7661 & 7662
Excavated to 120 cm. Medium brown sand to about 100 cm and then a pale beige to white dune sand to depth. No archaeological materials or strata were seen other than the very sparse limpet and turbo scatter on the surface.

Shovel Test 5 at Site 049
Photos 7663 & 7664
Excavated to 120 cm. Medium to pale brown sand that becomes more beige toward the bottom of the excavation. No archaeological material or strata were seen other than a very sparse scatter of limpet and turbo shells on the surface.

Shovel Test 6 at Site 048
Photos

Shovel Test 14
Site 040 and GPS 078.
Isolated limpet shell. Excavated to 120 cm. Medium brown sand becoming paler toward the base. No archaeological material or strata and single limpet I saw earlier is now missing☺ See photos 7698 – 7699.

Shovel Test 19
None site – GPS 079
Guys just excavated at wrong marker. Excavated to 120 cm and found no archaeological material or strata. See photos 7709 – 7710.

Table X. Summary of identified and mapped archaeological occurrences.

ID No.	Coordinates WGS 84	Contents	Density	Age	Context	Tested?	Mitigation
001	S34.82463 E19.98456	marine shell, stone artifacts, pottery	low	LSA with pottery, last 2000 yrs	Calcrete surface and embedded	no	50% surface collection with permit from HWC
002	S34.82494 E19.98517	marine shell, stone artifacts, ochre	low	LSA	Calcrete surface and embedded	no	50% surface collection with permit from HWC
003	S34.82545 E19.98616	marine shell, stone artifacts	medium to low	LSA	Calcrete surface and embedded	yes	50% surface collection with permit from HWC
004	S34.82610 E19.98847	marine shell, stone artifacts, ochre	medium to low	LSA	Calcrete surface	no	full collection with permit from HWC
005	S34.82518 E19.98906	marine shell, stone artifacts, bone, ochre	low	LSA	Calcrete surface and embedded	yes	full collection with permit from HWC
006	S34.81513 E19.98565	marine shell	isolated	Probably LSA	Mole heap	no	None required
007	S34.81664 E20.00355	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
008	S34.81581 E20.00130	marine shell	isolated	Probably LSA	Mole heap	no	None required
009	S34.81577 E19.99826	Marine shell	Very low	Probably LSA	Mole heap	no	None required
011	S34.82210 E19.99548	Marine shell, stone artifacts, bone	Very low	LSA	Vehicle track	no	None required
012	S34.82240 E19.99648	Marine shell, stone artifact	Very low	LSA	Vehicle track	no	None required
014	S34.82088 E19.99775	Stone artifact	isolated	MSA	Mole heap	no	None required
015	S34.82065 E19.99756	Marine shell	isolated	Probably LSA	Mole heap	no	None required
016	S34.81964 E19.99798	Stone artifact	isolated	LSA	Mole heap	yes	None required
018	S34.81590 E19.99843	Marine shells	Very low	Probably LSA	Mole heap	yes	None required
019	S34.81584 E19.99899	Marine shell	Very low	Probably LSA	Mole heap	no	None required
020	S34.82246 E19.99781	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
021	S34.82267 E19.99786	Marine shell	Very low	Probably LSA	Mole heap	no	None required
022	S34.82126 E19.99873	Marine shell, stone artifacts	Very low	LSA	Vehicle track	no	None required
023	S34.81934 E19.99896	Marine shell	isolated	Probably LSA	Mole heap	yes	None required
026	S34.81610 E19.99941	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
027	S34.81595 E19.99962	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
028	S34.81576 E19.99964	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
029	S34.81573 E19.99963	Marine shell	isolated	Probably LSA	Mole heap	no	None required
030	S34.81611 E20.00032	Marine shell, bone	isolated	Probably LSA	Mole heap	no	None required
031	S34.82263 E19.99886	Marine shell, stone artifacts	Very low	LSA	Mole heap	no	None required
033	S34.82286 E19.99931	Marine shell	Isolated	Probably LSA	Mole heap and/or surface	no	None required
034	S34.82257 E19.99929	Marine shell	Very low	Probably LSA	Mole heap and/or surface	yes	None required
035	S34.82255 E19.99934	Stone artifact	isolated	LSA	Mole heap and/or surface	no	None required
036	S34.82259 E19.99946	Marine shell, stone artifacts	Medium to low	LSA	Mole heap and/or surface	yes	20% surface collection and excavation with permit from HWC
037	S34.82268 E19.99956	Marine shell, stone artifacts	Medium to low	LSA	Mole heap and/or surface	yes	20% surface collection and excavation with permit from HWC

Table X. (continued)

ID No.	Coordinates WGS 84	Contents	Density	Age	Context	Tested?	Mitigation
038	S34.82267 E19.99975	Marine shell, stone artifacts, OES	Medium to low	LSA	Mole heap and/or surface	yes	20% surface collection and excavation with permit from HWC
039	S34.82236 E19.99978	Marine shell	Very low	Probably LSA	Mole heap	no	None required
041	S34.82219 E19.99815	Marine shell	isolated	Probably LSA	Mole heap	no	None required
042	S34.81648 E20.00318	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
043	S34.81654 E20.00343	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
044	S34.81634 E20.00337	Marine shell	Very low	Probably LSA	Mole heap	no	None required
045	S34.81585 E20.00135	Marine shell	isolated	Probably LSA	Mole heap	no	None required
046	S34.81619 E20.00057	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
047	S34.81614 E20.00101	Marine shell	isolated	Probably LSA	Mole heap	yes	None required
048	S34.81612 E20.00194	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
049	S34.81616 E20.00215	Stone artifact	isolated	LSA	Mole heap	yes	None required
050	S34.81663 E20.00245	Marine shell	Very low	Probably LSA	Mole heap	no	None required
051	S34.81635 E19.99979	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
052	S34.81656 E20.00105	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
053	S34.81669 E20.00223	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
054	S34.81679 E20.00333	Marine shell, stone artifacts	Medium to low	LSA	Vehicle track	yes	Surface collection conducted
055	S34.81677 E20.00104	Marine shell	low	Probably LSA	Vehicle track	no	None required
056	S34.81662 E19.99985	Marine shell	Very low	Probably LSA	Mole heap	yes	None required
057	S34.81980 E20.00374	Marine shell, stone artifact	isolated	LSA & MSA	Mole heap	no	None required
058	S34.82128 E20.00517	Marine shell	isolated	Probably LSA	Mole heap	no	None required
060	S34.82106 E19.99930	Stone artifact	isolated	LSA	Mole heap	no	None required
061	S34.82109 E19.99948	Stone artifact	isolated	LSA	Mole heap	no	None required
062	S34.82267 E20.00486	Marine shell	Very low	Probably LSA	Mole heap	no	None required
063	S34.82302 E20.00557	Marine shell	Very low	Probably LSA	Mole heap	no	None required
065	S34.82383 E20.00442	Marine shell	isolated	Probably LSA	Mole heap	no	None required
066	S34.82201 E20.00014	Marine shell	Very low	Probably LSA	Mole heap	no	None required
067	S34.82261 E20.00103	Marine shell	low	Probably LSA	Mole heap	yes	None required
070	S34.82434 E20.00379	Marine shell, stone artifacts	low	LSA	Deflated surface	yes	None required
071	S34.81881 E19.98905	Marine shell	isolated	Probably LSA	Mole heap and/or surface	no	None required
075	S34.82307 E19.98315	Marine shell, stone artifacts	Very low	LSA	Calcrete surface	no	None required
076	S34.82431 E19.98309	Marine shell, stone artifacts	Very low	LSA	Calcrete surface	no	None required
077	S34.82262 E19.98355	Marine shell, stone artifacts	Medium to low	LSA	Surface	yes	20% surface collection and excavation with permit from HWC
078	S34.82238 E19.99886	Marine shell	isolated	Probably LSA	Mole heap	yes	None required
080	S34.82472 E19.98533	marine shell, stone artifacts	medium to low	LSA	Calcrete surface	yes	10% surface collection with permit from HWC

Table X. (continued)

ID No.	Coordinates WGS 84	Contents	Density	Age	Context	Tested?	Mitigation
081	S34.82411 E19.98462	Marine shell, stone artifacts	Medium to low	LSA	Vehicle track	yes	Excavate 50% (30m^2) or more of remaining deposit with permit from HWC
082	S34.82409 E19.98445	Marine shell, stone artifacts	low	LSA	Calcrete surface	no	full surface collection with permit from HWC
O83	S34.82420 E19.98412	Marine shell, stone artifacts	low	LSA	Calcrete surface	no	full surface collection with permit from HWC
084	S34.82373 E19.98381	Marine shell, stone artifacts	low	LSA	Calcrete surface	no	full surface collection with permit from HWC
085	S34.82349 E19.98380	Marine shell, stone artifacts	low	LSA	Calcrete surface	no	full surface collection with permit from HWC
086	S34.82384 E19.98518	Marine shell, stone artifact	isolated	LSA	Calcrete surface	no	None required
087	S34.82362 E19.98596	Marine shell, stone artifact	Very low	LSA	Calcrete surface	no	None required
088	S34.82382 E19.98619	Marine shell, stone artifact	Very low	LSA	Calcrete surface	no	None required
089	S34.82426 E19.98677	Marine shell, stone artifacts	low	LSA	Vehicle track	yes	Surface collection conducted
090	S34.82437 E19.98737	Marine shell	low	Probably LSA	Calcrete surface	no	None required
091	S34.82345 E19.98790	Marine shell, stone artifact	Very low	LSA	Calcrete surface	no	None required
092	S34.82474 E19.98696	Marine shell	Very low	Probably LSA	Calcrete surface	no	None required

Table X. Summary results of shovel test excavations (STE) at selected archaeological occurrences (ID numbers correspond with those in Table X).

STE No.	ID No.	Photo Numbers	Excavated Depth in cm	Archaeological Layers
1	007	7655 & 7656	120	None
2	043	7657 & 7658	140	None
3	042	7659 & 7660	130	None
4	053	7661 & 7662	120	None
5	049	7663 & 7664	120	None
6	048	7665 & 7666	140	None
7	047	7667 & 7668	100	None
8	052	7669 & 7670	60 – struck calcrete	None
9	046	7671 & 7672	110	None
10	046	7673 & 7674	100	None
11	056	7675 & 7676	90	None
12	027	7677 & 7678	90	None
13	030	7696 & 7697	120	None
14	078	7698 & 7699	120	None
15	028	7700 & 7701	60 – struck calcrete	None
16	026	7702 & 7703	130	None
17	018	7704 & 7705	120	None
18	023	7706 & 7707	140	None
19	079	7709 & 7710	120	None
20	016	7711 & 7712	110	None
21	040	7715 & 7717	90	None
22	040	none	90	None
23	039	7718 & 7719	120	None
24	067	7720 & 7721	110	None
25	020	7725 & 7726	100	None
26	005	7713 & 7714	30 – into calcrete	None
27	041	7722 & 7723	100	None
28	036	7727, 7728 & 7730	100	None, but marine shell and stone artifacts in top 10 to 15 cm – none to depth
29	034	7727, 7728 & 7729	90	None, but marine shell and stone artifacts in top 10 to 15 cm – none to depth
30	070	7731 & 7732	110	None
31	038	7735 & 7736	110	None, but marine shell, stone artifacts & OES in top 10 cm – none to depth
32	098	7733 & 7734	90	None
33	003 @ 099	7743	40 – into calcrete	None
34	003 @ 100	7742	15 - onto calcrete surface	None
35	101	None	30 – into calcrete	None
36	102	None	30 – into calcrete	None
37	081 @ 103	7750 & 7751	40 – struck calcrete	Thin, sparse - and unclear in profile – layer at 20 – 30 cm
38	081 @ 104	7750 & 7752	60 – struck calcrete	Same as STE 37 but thicker overlying dune
39	089	7753 - 7758	Surface brush and screening	Collection of surface scatter
40	089 @ 105	7759 - 7761	90	None
41	089 @ 106	7762 & 7763	100	None
42	077 @ 107	7764 & 7765	15	None, but marine shell & stone artifacts in top few cm
43	077 @ 108	7764 & 7766	30 – into calcrete	None and same as STE 42
44	077 @ 109	7764, 7767 & 7768	25 – struck calcrete	None and same as STE 42

Table X: Location and brief description of additional observations and shovel test excavations.

ID No.	Coordinates WGS 84	Description	Photo numbers
010	S34.81885 E19.99697	Existing test with some 1 m deep with a profile of some 2 m long. No archaeology in profile or on spoil heap.	7654
013	S34.82120 E19.99757	"Poachers'" dump of some 100 Turbo sarmaticus shells. Active poaching observed during field work.	7621
017	S34.81870 E19.99837	Large pit of some 10 x 15 m excavated to a depth of around 1.5 m. Calcrete occurs some 30 to 100 cm below the surface. No archaeology seen on spoil heaps or in exposed profiles.	7624
024 025	S34.81790 E19.99970 S34.81801 E19.99950	Profile of topsoil, dune sands and calcrete in dump site that was excavated by mechanical excavators. While land snails are present through much of the sequence, no eco- and/or artefacts were seen.	7625, 7626 & 7627
032	S34.82297 E19.99935	Exposed dune profile with no archaeological traces.	7628
059	S34.82108 E20.00169	An existing test pit dug to some 80 cm. No archaeological material in the exposed profile or on the spoil heap	None
064	S34.82266 E20.00246	Exposed profile along vehicle track. Several hundred meters of this track was inspected as archaeological material would be clearly visible as surface, substrate and profiles are exposed. No archaeological traces were seen	7683
068	S34.82412 E20.00644	Borrow pit with some 50 m of profile with no archaeological material though land snail is present throughout. Photos 7684 & 7685	7684 & 7685
069	S34.82438 E20.00428	Storm water trench through calcrete with no archaeological materials.	7686
072	S34.81980 E19.97900	Archaeological site outside study area.	None
073	S34.82214 E19.97948	Archaeological site outside study area.	None
074	S34.82248 E19.98112	Archaeological site outside study area.	7689 & 7691
093	S34.82651 E19.98723	Calcrete exposure with no archaeological material.	None
094	S34.82662 E19.98655	Calcrete exposure with no archaeological material.	None
095	S34.82593 E19.98748	Dune profile in vehicle track with no archaeological traces.	7724
096	S34.82547 E19.98781	Calcrete exposure in dune embayment with no archaeological traces.	None
097	S34.82551 E19.98916	Calcrete exposure in dune embayment with no archaeological traces.	None
098	S34.82248 E19.99941	Shovel Test Excavation.	7733 & 7734
099	S34.82536 E19.98612	Shovel Test Excavation.	7743
100	S34.82532 E19.98619	Shovel Test Excavation.	7742
101	S34.82527 E19.98538	Shovel Test Excavation.	None
102	S34.82492 E19.98558	Shovel Test Excavation.	None
103	S34.82406 E19.98475	Shovel Test Excavation.	7750 & 7751
104	S34.82403 E19.98471	Shovel Test Excavation.	7750 & 7752
105	S34.82430 E19.98671	Shovel Test Excavation.	7759 - 7761
106	S34.82428 E19.98683	Shovel Test Excavation.	7762 & 7763
107	S34.82256 E19.98364	Shovel Test Excavation.	7764 & 7765
108	S34.82249 E19.98356	Shovel Test Excavation.	7764 & 7766
109	S34.82259 E19.98350	Shovel Test Excavation.	7764, 7767 & 7768

Table X. Coordinate data for boundary points of the study area (Courtesy Planning Partners).

Name of Boundary Point	Lat. and Long. coordinates. Map Datum WGS 84
1251B	S34.82445 E20.00674
1251C	S34.82460 E20.00608
678E	S34.82662 E19.98555
678F	S34.82512 E19.98210
678G	S34.82458 E19.98264
679A	S34.81572 E20.00108
679A1	S34.81640 E19.98320
679B	S34.81659 E20.00397
679B1	S34.81553 E19.98412
679C1	S34.81474 E19.98622
679K	S34.82454 E20.00486
679L	S34.82435 E20.00363
679S	S34.82246 E19.99589
679T	S34.82251 E19.99497
679U	S34.82272 E19.99348
679V	S34.82334 E19.99361
680C	S34.82391 E20.00227
680H	S34.82283 E19.99862
680N	S34.82255 E19.99646

Table X. Coordinate data for previously identified archaeological sites (Kaplan 1997).

Site Name (Kaplan 1997)	Coordinates (no map datum given)
PK12	S34.82512 E19.98525
PK14	S34.82845 E19.98457
PK7	S34.81857 E19.97872
PK8	S34.82015 E19.97872