Ix-Xaghra l-Hamra and Tal-Qortin, l/o Mellieha

PROPOSED GOLF COURSE AND SUPPORTING FACILITIES

Technical Appendix 8: Noise Baseline Survey

Supporting Document for
Environmental Impact Statement

Prepared by:

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of

Mediterranean Technical Services Ltd

On behalf of
Malta Tourism Authority

September 2005

Golf Course

Environmental Impact Statement

Noise Baseline Survey

Report for:

Malta Tourism Authority
Auberge D'Italie
Merchants Street
Valletta CMR 02
Malta

September 2005

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NOISE BASELINE SURVEY

PURPOSE OF SURVEY

1. To determine the current noise levels on the site of the proposed Golf Course project, in accordance with MEPA's draft Terms of Reference and BS 4142:1997.

DATE OF SURVEY

2. The daytime studies were carried out on Monday 29th, Tuesday 30th and Wednesday 31st August 2005.

3. Nine 60-minute studies to establish the present background noise situation were undertaken at locations marked 1 to 9 on the site plan attached as **Appendix A**.

4. Night time studies were all carried out in the late hours of Friday the 2nd September 2005 starting from 22:06.

5. Again nine studies were undertaken in the same locations. These measurements were for duration of 5 minutes as recommended in BS4142.

SURVEYOR

6. The surveys were carried out by Mr J.L. Demanuele of Mediterranean Technical Services Limited. Mr Demanuele has been approved by MEPA to undertake the noise surveys.

EQUIPMENT AND MEASUREMENTS

7. A "Quest" integrating, logging, sound level meter was used to take the measurements. L_{Aeq}, L_{max}, L_{A10} and L_{A90} are reported.

   - L_{Aeq} is the 'A' weighted average or residual noise;
   - L_{max} and LA10 are used to assess traffic related noise; and
   - L_{A90} indicates the background noise (ambient).

8. Measurements and procedures were in accordance with BS 4142:1997.

9. Paragraphs 5.1 to 5.5 of BS 4142 give guidelines on measurement practice. These require calibration of the instrument and give guidelines in choosing measurement locations as well as on taking precautions against interference with the measurements, particularly from inclement weather.

Equipment Data

10. The following equipment was used to undertake the survey:

- 'QUEST' sound level meter Model: 2900
- 'QUEST' Calibrator Model: QC-20

11. The sound level meter was calibrated before beginning the measurements and checked again at the end. In all locations the instrument was placed on a tripod stand 1.5 metres off the ground and away from reflecting surfaces in accordance with the recommendations of BS 4142 1997.

Monitoring locations

12. The current noise levels were established by undertaking a daytime survey at each of 9 noise monitoring locations and a night time survey at the same locations.

13. Key to assessing the impacts of noise arising from the construction and operation of the Scheme is the proximity of the noise-sensitive land uses and activities. The principal noise-sensitive land uses are the church and residences in Manikata and the hotel currently under construction on the site of the former Golden Sands Hotel. Other potential noise sensitive uses include farmhouses to the east and north east of the Application Site, the re-constructed Riviera Hotel, and wild life in the area. The noise monitoring locations were therefore set at points on the Application Site boundary closest to the noise sensitive receptors. The proposed noise monitoring points are shown on **Appendix A**. These points were agreed with MEPA prior to the commencement of the surveys.

Measurements

14. The date, time and weather conditions of each study are described in **Table 1**.

Table 1: Noise Survey conditions

Location		Date	Start	Stop	Conditions	Wind (Knots)	% Humidity
1	Day	29-Aug	14:36	15:36	Cloudy	Variable 3	78
	Night	02-Sep	22:40	22:45	Clear	Calm	78
2	Day	30-Aug	10:31	11:31	Cloudy	Variable 2	88
	Night	02-Sep	22:49	22:54	Clear	Calm	78
3	Day	30-Aug	13:06	14:06	Light rain showers	Variable 2	83
	Night	02-Sep	22:31	22:36	Clear	Calm	75
4	Day	29-Aug	13:20	14:20	Cloudy	SSE 5	74
	Night	02-Sep	22:23	22:28	Clear	Calm	75
5	Day	29-Aug	12:13	13:13	Cloudy	Variable 3	73
	Night	02-Sep	22:59	23:04	Clear	Calm	80
6	Day	30-Aug	09:23	10:23	Light rain showers	NNW 5	94

Location		Date	Start	Stop	Conditions	Wind (Knots)	% Humidity
	Night	02-Sep	23:10	23:15	Clear	Calm	80
7	Day	31-Aug	08:03	09:03	Cloudy	N 2	83
	Night	02-Sep	23:18	23:23	Clear	Calm	80
8	Day	30-Aug	14:40	15:40	Light rain showers	Variable 2	83
	Night	02-Sep	22:14	22:19	Clear	Variable 1	73
9	Day	30-Aug	11:52	12:52	Cloudy	Variable 1	78
	Night	02-Sep	22:05	22:10	Clear	Variable 1	73

15. Measurements thatwere interrupted by rain were stopped and started afresh after the rain stopped. The high humidity and cloud cover during all of the daytime studies are conducive to better sound propagation, which means that distant sounds carry better and contribute to a slightly higher ambient noise than at times when these conditions are not present.

16. The actual sound level measurements for each location and any applicable comments are shown in **Table 2.** The parameters measured were: $L_{Aeq,}$ $L_{Amax,}$ L_{A10} and L_{A90}. Although not shown in the table, it is to be understood that $L_{Aeq,60}$ (sixty minutes) is used for daytime studies while $L_{Aeq,05}$ (five minutes) is used for night-time studies in accordance with BS 4142:1997.

Table 2: Recorded sound levels

Location		$L_{Aeq,}$	L_{Amax}	L_{A10}	L_{A90}	Comments
1	Day	58	88	55	37	
	Night	53	77	49	31	Traffic
2	Day	51	78	51	39	
	Night	33	50	36	29	
3	Day	51	82	53	38	
	Night	43	58	48	30	Dogs barking
4	Day	57	83	55	37	
	Night	44	65	39	31	
5	Day	61	89	59	49	
	Night	33	55	35	30	
6	Day	52	79	55	45	
	Night	48	65	50	39	Considerable Traffic
7	Day	62	89	64	52	Slow moving traffic, some heavy trucks
	Night	54	74	52	32	Traffic & talk
8	Day	57	94	57	45	Construction trucks
	Night	36	61	38	31	
9	Day	50	78	50	32	Locally quiet. Construction noise from Mellieha
	Night	39	61	38	34	Sound from small generator (unseen)

CONCLUDING COMMENTS

17. The Radisson Hotel was being constructed during the survey period. Although actual construction noise was very limited, the construction gave rise to heavy traffic, particularly large trucks carrying material to and from the site.

FOR AND ON BEHALF OF
MEDITERRANEAN TECHNICAL SERVICES LIMITED

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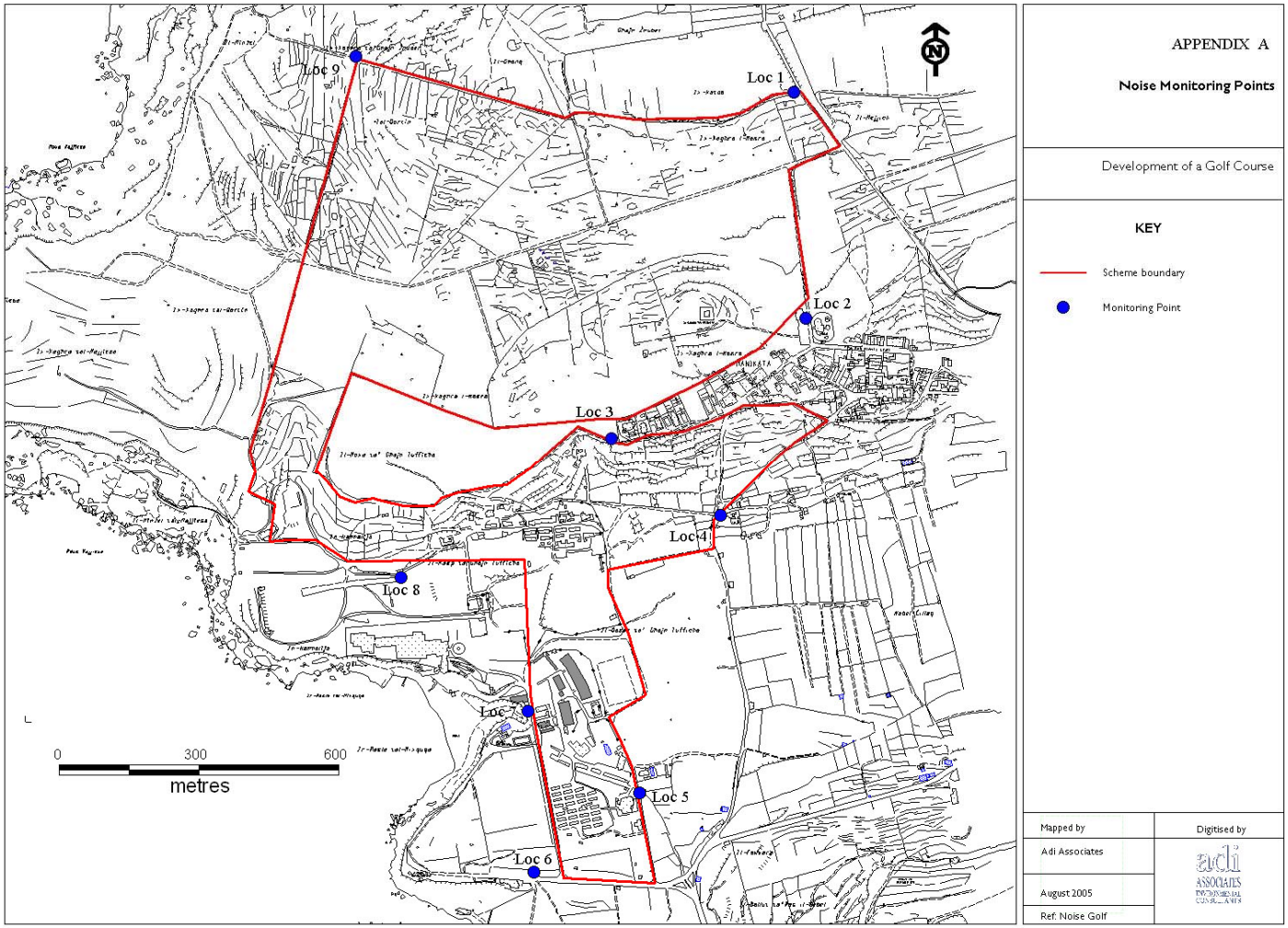
12th September 2005


Loc 9
Loc 1
Loc 2
Loc 3
Loc 4
Loc 8
Loc 7
Loc 5
Loc 6
0
300
600
metres
APPENDIX A
Noise Monitoring Points
Development of a Golf Course
KEY
Scheme boundary
Monitoring Point
Mapped by
Adi Associates
August 2005
Ref. Noise Golf
Digitised by