



# CLEVE HILL SOLAR PARK

ENVIRONMENTAL STATEMENT  
VOLUME 4 - TECHNICAL APPENDIX A12.5  
OTHER CONSTRUCTION ACTIVITIES CALCULATION SHEETS - ECOLOGICAL RECEPTORS

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Revision A

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**Activity**

**Handstanding and Tracks**

Receptor Name	SFA	Activity Level	49.2
Receptor Height	1	Haulage Level	52.9
		TOTAL	54.5

Facade Correction Options	Screening Correction Options
0	0
3	5
	10

BS 528 Reference	Plant	Quantity	Sound Pressure Level, L <sub>eq</sub> , dB	Distance to SPL (m)	Distance to Receptor (time-weighted average for mobile plant)	Source Height (H <sub>s</sub> )	Receptor Height (H <sub>r</sub> )	% Soft Ground	Sound Power Level	% On-time	Facade Correction, dB	Screening Correction, dB
Table C2, Item 21	Tracked Excavator	2	71	10	500	2.5	1	100	102	100	0	0
Table C2, Item 30	Dump Truck	1	79	10	500	2.5	1	100	107	100	0	0
Table C2, Item 20	Vibratory Roller	1	75	10	500	2.5	1	100	103	100	0	0
Table C2, Item 26	Diesel Brawler	1	89	10	500	2.5	1	100	117	100	0	0
								<b>Total:</b>				

K's	K'm	K'h	Distance Adjustment Assumed (based on distance to receptor, and source receiver heights and soft ground %)	Average Propagation Height if Soft Ground and H <sub>r</sub> > 2.5	Soft Ground Adjustment for mobile plant or Receptor Height > 2.5m	Ground Type / Barriers Assumed (based on distance adjustment assumed and screening correction)	Distance Attenuation given ground type, K' dB (including Screening Correction)	On-time correction, dB	Resulting Pressure Level, dB L <sub>eq</sub> , <sup>1</sup>	Anti Log
68.5	68.5	62.0	Ks (H <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	68.5	0.0	33.3	2257
68.5	68.5	62.0	Ks (H <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	68.5	0.0	34.2	712
68.5	68.5	62.0	Ks (H <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	68.5	0.0	48.5	7126
									<b>Total:</b>	<b>49</b>

**Haul Road**

Segment	Distance to Haulage, m	Movements per hour	Average Speed, Km/h	BS 5228 Reference	Plant	LWA	L <sub>eq</sub> , T, dB	Facade Correction, dB	Screening Correction, dB	Angle of View	Angle of View Correction, dB	Corrected L <sub>eq</sub> , T, dB	Anti Log
1	500	37	15	C-2/24	Haulage 40 T Lorry	109	52.9	0	0	189	0.0	52.9	154600
								<b>Total:</b>				<b>52.9</b>	

**Activity**

**Handstanding and Tracks**

Receptor Name	MHS	Activity Level	48.0
Receptor Height	1	Haulage Level	47.4
		TOTAL	50.7

Facade Correction Options	Screening Correction Options
0	0
3	5
	10

BS 528 Reference	Plant	Quantity	Sound Pressure Level, L <sub>eq</sub> , dB	Distance to SPL (m)	Distance to Receptor (time-weighted average for mobile plant)	Source Height (H <sub>s</sub> )	Receptor Height (H <sub>r</sub> )	% Soft Ground	Sound Power Level	% On-time	Facade Correction, dB	Screening Correction, dB
Table C2, Item 21	Tracked Excavator	2	71	10	500	2.5	1	100	102	100	0	5
Table C2, Item 30	Dump Truck	1	79	10	500	2.5	1	100	107	100	0	5
Table C2, Item 20	Vibratory Roller	1	75	10	500	2.5	1	100	103	100	0	5
Table C2, Item 26	Diesel Brawler	1	89	10	500	2.5	1	100	117	100	0	5
								<b>Total:</b>				

K's	K'm	K'h	Distance Adjustment Assumed (based on distance to receptor, and source receiver heights and soft ground %)	Average Propagation Height if Soft Ground and H <sub>r</sub> > 2.5	Soft Ground Adjustment for source or Receptor Height > 2.5m	Ground Type / Barriers Assumed (based on distance adjustment assumed and screening correction)	Distance Attenuation given ground type, K' dB (including Screening Correction)	On-time correction, dB	Resulting Pressure Level, dB L <sub>eq</sub> , <sup>1</sup>	Anti Log
69.7	69.7	63.0	Ks (H <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	69.7	0.0	32.3	1700
69.7	69.7	63.0	Ks (H <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	69.7	0.0	37.3	5365
69.7	69.7	63.0	Ks (H <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	69.7	0.0	33.3	2136
69.7	69.7	63.0	Ks (H <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	69.7	0.0	47.3	3395
									<b>Total:</b>	<b>48</b>

**Haul Road**

Segment	Distance to Haulage, m	Movements per hour	Average Speed, Km/h	BS 5228 Reference	Plant	LWA	L <sub>eq</sub> , T, dB	Facade Correction, dB	Screening Correction, dB	Angle of View	Angle of View Correction, dB	Corrected L <sub>eq</sub> , T, dB	Anti Log
1	500	37	15	C-2/24	Haulage 40 T Lorry	109	52.4	0	5	189	0.0	47.4	55453
								<b>Total:</b>				<b>47.4</b>	

Activity

Manoeuvring Piling Plant

Receptor Name  
Receptor Height

SPA
1

Activity Level	76.6
Haulage Level	52.9
TOTAL	76.7

Facade Correction Options	Screening Correction Options
0	0
3	5
	10

BS 5228 Reference	Plant	Quantity	Sound Pressure Level, L <sub>Aeq</sub> , dB	Distance to Receptor (time-weighted average for mobile plant)	Source Height (H <sub>s</sub> )	Receptor Height (H <sub>r</sub> )	% Soft Ground	Sound Power Level	% On-time	Facade Correction, dB	Screening Correction, dB
Table C4, Item S4 SWL taken from Table C4, Item S4	Trenchdriller Piler	2 4	79 88	20	2.5 2.5	1 1	100 100	110 102	100 100	0 0	0 0
Table C4, Item S6	Diesel Basher	1	89	500	2.5	1	100	117	100	0	0
							<b>Total:</b>				

K's	K'm	K'h	Distance Adjustment Assumed (based on distance to receptor, and source receiver heights and soft ground %)	Average Propagation Height if Soft Ground (based on ground and H <sub>s</sub> > 2.5)	Soft Ground Adjustment (Distance to Receptor Height > 2.5m)	Ground Type / Barriers Assumed (based on distance adjustment assumed and screening correction)	Distance Attenuation (based on distance to receptor including screening correction)	On-time correction, dB	Resulting Pressure Level, dB, L <sub>Aeq,T</sub>	Anti Log
33.5	33.5	34.0	K <sub>1</sub> (H <sub>s</sub> <= 2.5)	-	-	Hard Ground / No Barrier	34.0	0.0	76.0	397.6412
33.5	33.5	34.0	K <sub>2</sub> (H <sub>s</sub> > 2.5)	-	-	Hard Ground / No Barrier	34.0	0.0	86.0	609573
69.5	69.5	69.0	K <sub>3</sub> (H <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	68.5	0.0	85.2	71216
							<b>Total:</b>		<b>77</b>	

Haul Road

Segment	Distance to Haulage, m	Movements per hour	Average Speed, Km/h	BS 5228 Reference	LWA	L <sub>Aeq, T</sub> , dB	Facade Correction, dB	Screening Correction, dB	Angle of View	Corrected L <sub>Aeq, T</sub> , dB	Anti Log
1	500	37	15	C-2/24	109	52.9	0	0	180	52.9	196400
							<b>Total:</b>			<b>52.9</b>	

Activity

Manoeuvring Piling Plant

Receptor Name  
Receptor Height

MHWS
1

Activity Level	59.8
Haulage Level	47.4
TOTAL	60.1

Facade Correction Options	Screening Correction Options
0	0
3	5
	10

BS 5228 Reference	Plant	Quantity	Sound Pressure Level, L <sub>Aeq</sub> , dB	Distance to Receptor (time-weighted average for mobile plant)	Source Height (H <sub>s</sub> )	Receptor Height (H <sub>r</sub> )	% Soft Ground	Sound Power Level	% On-time	Facade Correction, dB	Screening Correction, dB
Table C4, Item S4 SWL taken from Table C4, Item S4	Trenchdriller Piler	2 4	79 88	80	2.5 2.5	1 1	100 100	110 102	100 100	0 0	0 0
Table C4, Item S6	Diesel Basher	1	89	560	2.5	1	100	117	100	0	0
							<b>Total:</b>				

K's	K'm	K'h	Distance Adjustment Assumed (based on distance to receptor, and source receiver heights and soft ground %)	Average Propagation Height if Soft Ground (based on ground and H <sub>s</sub> > 2.5)	Soft Ground Adjustment (Distance to Receptor Height > 2.5m)	Ground Type / Barriers Assumed (based on distance adjustment assumed and screening correction)	Distance Attenuation (based on distance to receptor including screening correction)	On-time correction, dB	Resulting Pressure Level, dB, L <sub>Aeq,T</sub>	Anti Log
46.6	46.6	46.1	K <sub>1</sub> (H <sub>s</sub> <= 2.5)	-	-	Hard Ground / Barrier	51.1	0.0	58.9	284965
46.6	46.6	46.1	K <sub>2</sub> (H <sub>s</sub> > 2.5)	-	-	Hard Ground / Barrier	51.1	0.0	51.0	124704
69.7	69.7	63.0	K <sub>3</sub> (H <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	69.7	0.0	47.3	53645
							<b>Total:</b>		<b>60</b>	

Haul Road

Segment	Distance to Haulage, m	Movements per hour	Average Speed, Km/h	BS 5228 Reference	LWA	L <sub>Aeq, T</sub> , dB	Facade Correction, dB	Screening Correction, dB	Angle of View	Corrected L <sub>Aeq, T</sub> , dB	Anti Log
1	500	37	15	C-2/24	109	52.4	0	5	180	47.4	55453
							<b>Total:</b>			<b>47.4</b>	

**Activity**

**PV Panel Installation**

Receptor Name	SFA	Activity Level	76.0
Receptor Height	1	Haulage Level	52.9
		TOTAL	76.0

Facade Correction Options	Screening Correction Options
0	0
3	5
	10

BS 5228 Reference	Plant	Quantity	Sound Pressure Level, L <sub>Aeq</sub> , dB	Distance to SPL (m)	Distance to Receptor (time-weighted average for mobile plant)	Source Height (H <sub>s</sub> )	Receptor Height (H <sub>r</sub> )	% On-time	Sound Power Level	Screening Correction, dB	Facade Correction, dB	Screening Correction, dB
Table C4, Item 54	Telehandler	2	79	10	20	2.5	1	100	110	0	0	0
Table C6, Item 36	Diesel Bowser	1	89	10	500	2.5	1	100	117	0	0	0
								<b>Total:</b>				

K's	K'm	K'h	Distance Adjustment Assessed (to receptor, and source to receptor, and source to receiver heights and soft ground %)	Average SPL (m)	Soft Ground Adjustment for Source or Receptor Height > 2.5m	Ground Type / Barriers given ground type, K' dB (including screening correction)	Distance Attenuation given ground type, K' dB (including screening correction)	Resulting Pressure Level, dB, L <sub>Aeq</sub> ?	Anti Log
33.5	33.5	34.0	Ks (R <sub>s</sub> <= 2.5)	-	-	Hard Ground / No Barrier	34.0	76.0	397.19412
68.5	68.5	62.0	Ks (R <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	68.5	48.5	71216
								<b>Total:</b>	<b>76</b>

**Haul Road**

Segment	Distance to Haulage, m	Movements per hour	Average Speed, Km/h	BS 5228 Reference	Plant	LWA	L <sub>Aeq</sub> , T, dB	Screening Correction, dB	Angle of View	Angle of View Correction, dB	Corrected L <sub>Aeq</sub> , T, dB	Anti Log
1	500	37	15	C.2/24	Haulage 40t Lorry	109	50.9	0	180	0.0	52.9	159400
								<b>Total:</b>			<b>52.9</b>	

**Activity**

**PV Panel Installation**

Receptor Name	MHWS	Activity Level	59.2
Receptor Height	1	Haulage Level	47.4
		TOTAL	59.5

Facade Correction Options	Screening Correction Options
0	0
3	5
	10

BS 5228 Reference	Plant	Quantity	Sound Pressure Level, L <sub>Aeq</sub> , dB	Distance to SPL (m)	Distance to Receptor (time-weighted average for mobile plant)	Source Height (H <sub>s</sub> )	Receptor Height (H <sub>r</sub> )	% On-time	Sound Power Level	Screening Correction, dB	Facade Correction, dB	Screening Correction, dB
Table C4, Item 54	Telehandler	2	79	10	80	2.5	1	100	110	0	0	0
Table C6, Item 36	Diesel Bowser	1	89	10	550	2.5	1	100	117	0	0	0
								<b>Total:</b>				

K's	K'm	K'h	Distance Adjustment Assessed (to receptor, and source to receptor, and source to receiver heights and soft ground %)	Average SPL (m)	Soft Ground Adjustment for Source or Receptor Height > 2.5m	Ground Type / Barriers given ground type, K' dB (including screening correction)	Distance Attenuation given ground type, K' dB (including screening correction)	Resulting Pressure Level, dB, L <sub>Aeq</sub> ?	Anti Log
48.6	48.6	46.1	Ks (R <sub>s</sub> <= 2.5)	-	-	Hard Ground / Barrier	51.1	58.9	784965
69.7	69.7	63.0	Ks (R <sub>s</sub> <= 2.5)	-	-	Soft Ground / No Barrier	69.7	47.3	53645
								<b>Total:</b>	<b>59</b>

**Haul Road**

Segment	Distance to Haulage, m	Movements per hour	Average Speed, Km/h	BS 5228 Reference	Plant	LWA	L <sub>Aeq</sub> , T, dB	Screening Correction, dB	Angle of View	Angle of View Correction, dB	Corrected L <sub>Aeq</sub> , T, dB	Anti Log
1	550	37	15	C.2/24	Haulage 40t Lorry	109	51.4	0	180	0.0	47.4	55453
								<b>Total:</b>			<b>47.4</b>	

**Activity**  
**Electrical Compound Installation**

Receptor Name	SPA	Activity Level	45.5
Receptor Height	1	Haulage Level	37.4
		TOTAL	35.0

Facade Correction Options	0	Screening Correction Options	0
	3		5
			10

BS 5228 Reference	Plant	Quantity	Sound Pressure Level, Leq, dB	Distance to SPL (m)	Distance to Receptor (time-weighted average for mobile plant)	Source Height (Hs)	Receptor Height (Hr)	% Soft Ground	Sound Power Level (Lw), dB	% On-line	Facade Correction, dB	Screening Correction, dB
Table C4, Item 54	Trailer/Tractor	2	79	10	475	2.5	1	100	110	100	0	0
Table C4, Item 35	Diesel Bunker	1	89	10	500	2.5	1	100	117	100	0	0
Table C4, Item 50	Tracked Mobile Crane	1	71	10	475	2.5	1	100	99	100	0	0
								<b>Total:</b>				

K's	K'm	K'h	Distance Adjustment Assumed (based on distance to receptor, and source receiver heights and soft ground %)	Average Propagation Height if Soft Ground and Hs > 2.5	Soft Ground Adjustment for Receptor Height > 2.5m	Ground Type / Barriers Assumed (based on distance adjustment assumed and screening correction)	Distance Attenuation given ground type, K, dB (including screening correction)	On-line correction, dB	Resulting Pressure Level, dB, L <sub>w,eq,T</sub>	Anti Log
67.9	67.9	61.5	KS (R <sub>h</sub> <= 2.5)	-	-	Soft Ground / No Barrier	67.9	0.0	42.1	16192
67.9	67.9	67.0	KS (R <sub>h</sub> <= 2.5)	-	-	Soft Ground / No Barrier	68.5	0.0	81.5	71218
67.9	67.9	61.3	KS (R <sub>h</sub> <= 2.5)	-	-	Soft Ground / No Barrier	67.9	0.0	41.1	1583
								<b>Total:</b>	<b>49</b>	

**Haul Road**

Segment	Distance to Haulage, m	Movements per hour	Average Speed, km/h	BS 5228 Reference	LWA	L <sub>eq, T</sub> , dB	Facade Correction, dB	Screening Correction, dB	Angle of View	Corrected L <sub>eq, T</sub> , dB	Anti Log
1	180	37	15	C.274	109	57.4	0	0	180	57.4	54554
									<b>Total:</b>	<b>57.4</b>	

**Activity**  
**Electrical Compound Installation**

Receptor Name	MHWS	Activity Level	46.6
Receptor Height	1	Haulage Level	47.4
		TOTAL	51.1

Facade Correction Options	0	Screening Correction Options	0
	3		5
			10

BS 5228 Reference	Plant	Quantity	Sound Pressure Level, Leq, dB	Distance to SPL (m)	Distance to Receptor (time-weighted average for mobile plant)	Source Height (Hs)	Receptor Height (Hr)	% Soft Ground	Sound Power Level (Lw), dB	% On-line	Facade Correction, dB	Screening Correction, dB
Table C4, Item 54	Trailer/Tractor	2	79	10	535	2.5	1	100	110	100	0	5
Table C4, Item 35	Diesel Bunker	1	89	10	535	2.5	1	100	117	100	0	5
Table C4, Item 50	Tracked Mobile Crane	1	71	10	535	2.5	1	100	99	100	0	5
								<b>Total:</b>				

K's	K'm	K'h	Distance Adjustment Assumed (based on distance to receptor, and source receiver heights and soft ground %)	Average Propagation Height if Soft Ground and Hs > 2.5	Soft Ground Adjustment for Receptor Height > 2.5m	Ground Type / Barriers Assumed (based on distance adjustment assumed and screening correction)	Distance Attenuation given ground type, K, dB (including screening correction)	On-line correction, dB	Resulting Pressure Level, dB, L <sub>w,eq,T</sub>	Anti Log
69.2	69.2	62.6	KS (R <sub>h</sub> <= 2.5)	-	-	Soft Ground / No Barrier	69.2	0.0	46.8	12027
69.2	69.2	62.6	KS (R <sub>h</sub> <= 2.5)	-	-	Soft Ground / No Barrier	69.2	0.0	47.8	60133
69.2	69.2	62.6	KS (R <sub>h</sub> <= 2.5)	-	-	Soft Ground / No Barrier	69.2	0.0	29.8	953
								<b>Total:</b>	<b>49</b>	

**Haul Road**

Segment	Distance to Haulage, m	Movements per hour	Average Speed, km/h	BS 5228 Reference	LWA	L <sub>eq, T</sub> , dB	Facade Correction, dB	Screening Correction, dB	Angle of View	Corrected L <sub>eq, T</sub> , dB	Anti Log
1	500	37	15	C.274	109	57.4	0	5	180	47.4	55483
									<b>Total:</b>	<b>47.4</b>	