

Conservation and Revitalization of the Central Police Station Compound (CPS)

Annex B4-1 : Construction Plant Inventory - Mitigated

No.	Activities Plant	TM / EPD ^[1] / BS 5228 ref.	No. of PME	On- time %	Type of Noise Control (Barrier/Enclosure) ^[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A) ^[2]	Groups ^[4]
I) Existing Buildings										
1 Phase 1 & Site Wide Structure										
Sub-total SWL for Phase 1 & Site Wide Structure = 107										
Demolition										
	Breaker, hand-held, mass < 10kg	CNP 023	4	50%	Noise Barrier	-5	108	106	107	A
	Hydraulic breaker, excavator mounted	BS D8 12	1	75%	Noise Barrier	-5	106	100		A
	Dump truck	BS D9 39	2	50%			103	103		B
	Generator, super silenced, 70dB(A) at 7m	CNP 103	1	100%			95	95		A
Excavation and Lateral Support (ELS)										
	Tracked Excavator/loader	BS D3 97	2	75%	Noise Barrier	-5	105	102	106	A
	Drill rig, rotary type (diesel)	EPD/PME/12	2	75%	Noise Insulation Sheet	-10	110	102		A
	Air Compressor, air flow > 30m3/min	CNP 003	2	75%	Enclosure	-10	104	96		A
	Water pump (electric)	CNP 281	3	50%			88	90		A
	Generator, super silenced, 70dB(A) at 7m	CNP 103	1	100%			95	95		A
	Compactor, vibratory	CNP 050	2	50%			105	105		B
	Mobile crane (62kW)	BS D7 114	2	50%			101	101		C
	Grout mixer	EPD/PME/14	1	75%	Noise Barrier	-10	90	79		C
	Grout pump	EPD/PME/15	1	75%	Noise Barrier	-10	105	94		C
II) New Building										
2 Foundation										
Sub-total SWL for Foundation = 106										
Piling										
	Generator, super silenced, 70dB(A) at 7m	CNP 103	1	100%			95	95	103	A
	Drill rig, rotary type (diesel)	EPD/PME/12	2	75%	Noise Insulation Sheet	-10	110	102		A
	Air Compressor, air flow > 30m3/min	CNP 003	2	75%	Enclosure	-10	104	96		A
	Grout mixer	EPD/PME/14	1	75%	Noise Barrier	-10	90	79		B
	Grout pump	EPD/PME/15	1	75%	Noise Barrier	-10	105	94		B
	Mobile crane (62kW)	BS D7 114	2	50%			101	101		C
	Crane, tower (electric)	CNP 049	1	75%			95	94		C
CAP										
	Tracked Excavator/loader	BS D3 97	2	75%	Noise Barrier	-5	105	102	106	A
	Saw, circular, wood	CNP 201	2	50%	Noise Barrier	-10	108	98		A
	Bar bender and cutter (electric)	CNP 021	2	75%	Noise Barrier	-10	90	82		A
	Breaker, hand-held, mass > 20kg and < 35kg	CNP 025	1	50%	Noise Barrier	-5	111	103		A
	Concrete lorry mixer	CNP 044	2	50%	Noise Barrier	-5	109	104		B
	Concrete pump, stationary/lorry mounted	BS D6 36	2	50%	Noise Barrier	-5	106	101		B
	Poker, vibratory, hand-held	BS D6 40	4	50%	Noise Barrier	-5	98	96		B
	Compactor, vibratory	CNP 050	2	40%			105	104		C
	Water pump (electric)	CNP 281	2	50%			88	88		C
	Air Compressor, air flow > 30m3/min	CNP 003	1	75%	Enclosure	-10	104	93		C
	Generator, super silenced, 70dB(A) at 7m	CNP 103	1	100%			95	95		C
	Crane, tower (electric)	CNP 049	1	75%			95	94		D
	Mobile crane (62kW)	BS D7 114	1	50%			101	98		D
	Dump truck	BS D9 39	1	50%			103	100		D
3 Excavation and Lateral Support (ELS)										
Sub-total SWL for ELS = 106										
	Tracked Excavator/loader	BS D3 97	2	75%	Noise Barrier	-5	105	102	106	A
	Drill rig, rotary type (diesel)	EPD/PME/12	2	75%	Noise Insulation Sheet	-10	110	102		A
	Air Compressor, air flow > 30m3/min	CNP 003	2	75%	Enclosure	-10	104	96		A
	Water pump (electric)	CNP 281	3	50%			88	90		A
	Generator, super silenced, 70dB(A) at 7m	CNP 103	1	100%			95	95		A
	Compactor, vibratory	CNP 050	2	50%			105	105		B
	Mobile crane (62kW)	BS D7 114	2	50%			101	101		C
	Grout mixer	EPD/PME/14	1	75%	Noise Barrier	-10	90	79		C
	Grout pump	EPD/PME/15	1	75%	Noise Barrier	-10	105	94		C
4 Basement / Superstructure Construction										
Sub-total SWL for Basement / Superstructure Works = 106										
	Tracked Excavator/loader	BS D3 97	2	75%	Noise Barrier	-5	105	102	106	A
	Saw, circular, wood	CNP 201	2	50%	Noise Barrier	-10	108	98		A
	Bar bender and cutter (electric)	CNP 021	2	75%	Noise Barrier	-10	90	82		A
	Breaker, hand-held, mass > 20kg and < 35kg	CNP 025	1	50%	Noise Barrier	-5	111	103		A
	Concrete lorry mixer	CNP 044	2	50%	Noise Barrier	-5	109	104		B
	Concrete pump, stationary/lorry mounted	BS D6 36	2	50%	Noise Barrier	-5	106	101		B

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No.	Activities Plant	TM / EPD ^[1] / BS 5228 ref.	No. of PME	On- time %	Type of Noise Control (Barrier/Enclosure) ^[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A) ^[2]	Groups ^[4]
	Poker, vibratory, hand-held	BS D6 40	4	50%	Noise Barrier	-5	98	96		B
	Compactor, vibratory	CNP 050	2	40%			105	104		C 105
	Water pump (electric)	CNP 281	2	50%			88	88		C
	Air Compressor, air flow > 30m ³ /min	CNP 003	1	75%	Enclosure	-10	104	93		C
	Generator, super silenced, 70dB(A) at 7m	CNP 103	1	100%			95	95		C
	Crane, tower (electric)	CNP 049	1	75%			95	94		D 103
	Mobile crane (62kW)	BS D7 114	1	50%			101	98		D
	Dump truck	BS D9 39	1	50%			103	100		D

Notes:

- [1] SWLs of EPD/PME items refer to the document prepared by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
BS - British Standard BS 5228:2009, Part 1 Noise and Vibration Control on Construction and Open Sites
- [2] The figures are rounded-up to a whole number.
- [3] Noise barrier for mobile PME -5dB(A)
Noise barrier for stationary PME -10dB(A)
Noise enclosure -10dB(A)
Noise Insulation Sheet -10dB(A)
- [4] Either Group A, B, C or D will be undertaken at any one time.

Conservation and Revitalization of the Central Police Station Compound (CPS)

Annex B4-3a Construction Airborne Noise Impact Assessment - Mitigated

NSR: N1

Amber Lodge

No.	Activity Description	SWL dB(A) ^[2]	Distance m	Corr. for distance dB(A) ^{[1][2]}	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A))																Max. CNL dB(A)				
						2012												2013								
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug
I	Existing Buildings																									
1	Phase 1 & Site Wide Structure	107	44	-41	3	69	69	69	69	69	69	69	69	69	69											
II	New Building																									
2	Foundation	106	50	-42	3	67	67	67	67	67	67	67														
3	Excavation and Lateral Support (ELS)	106	50	-42	3								67	67	67	67	67									
4	Basement / Superstructure Construction	106	50	-42	3													67	67	67	67	67	67	67		
Predicted Noise Level during Daytime Period, dB(A)						71	71	71	71	71	71	71	71	71	71	71	67	67	67	67	67	67	67	67	71	

Notes:

- [1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$
- [2] The figures are rounded-up to a whole number.

Conservation and Revitalization of the Central Police Station Compound (CPS)

Annex B4-3b Construction Airborne Noise Impact Assessment - Mitigated

NSR: N2

Ho Fook Building

No.	Activity Description	SWL dB(A) ^[2]	Distance m	Corr. for distance dB(A) ^{[1][2]}	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A))																Max. CNL dB(A)			
						2012												2013							
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul
I	Existing Buildings																								
1	Phase 1 & Site Wide Structure	107	38	-40	3	71	71	71	71	71	71	71	71	71	71										
II	New Building																								
2	Foundation	106	46	-41	3	68	68	68	68	68	68	68													
3	Excavation and Lateral Support (ELS)	106	46	-41	3								67	67	67	67	67	67							
4	Basement / Superstructure Construction	106	46	-41	3													68	68	68	68	68	68	68	
Predicted Noise Level during Daytime Period, dB(A)						72	72	72	72	72	72	72	72	72	72	67	67	67	68	68	68	68	68	68	72

Notes:

- [1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$
- [2] The figures are rounded-up to a whole number.

Conservation and Revitalization of the Central Police Station Compound (CPS)

Annex B4-3c Construction Airborne Noise Impact Assessment - Mitigated

NSR: N3

Old Bailey Street Police Married Quarters

No.	Activity Description	SWL dB(A) ^[2]	Distance m	Corr. for distance dB(A) ^{[1][2]}	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A))																Max. CNL dB(A)			
						2012												2013							
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul
I	Existing Buildings																								
1	Phase 1 & Site Wide Structure	107	52	-42	3	68	68	68	68	68	68	68	68	68	68	68									
II	New Building																								
2	Foundation	106	40	-40	3	69	69	69	69	69	69	69													
3	Excavation and Lateral Support (ELS)	106	40	-40	3								69	69	69	69	69	69							
4	Basement / Superstructure Construction	106	40	-40	3													69	69	69	69	69	69		
Predicted Noise Level during Daytime Period, dB(A)						72	72	72	72	72	72	72	71	71	71	69	69	69	69	69	69	69	69	69	72

Notes:

- [1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$
- [2] The figures are rounded-up to a whole number.

Conservation and Revitalization of the Central Police Station Compound (CPS)

Annex B4-3d Construction Airborne Noise Impact Assessment - Mitigated

NSR: N4

Cambridge Villa

No.	Activity Description	SWL dB(A) ^[2]	Distance m	Corr. for distance dB(A) ^{[1][2]}	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A))																Max. CNL dB(A)			
						2012												2013							
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul
I	Existing Buildings																								
1	Phase 1 & Site Wide Structure	107	57	-43	3	67	67	67	67	67	67	67	67	67	67										
II	New Building																								
2	Foundation	106	30	-37	3	72	72	72	72	72	72	72													
3	Excavation and Lateral Support (ELS)	106	30	-37	3								71	71	71	71	71	71	71						
4	Basement / Superstructure Construction	106	30	-37	3															72	72	72	72		
Predicted Noise Level during Daytime Period, dB(A)						73	73	73	73	73	73	73	73	73	73	73	71	71	71	72	72	72	72	72	73

Notes:

- [1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$
- [2] The figures are rounded-up to a whole number.

Conservation and Revitalization of the Central Police Station Compound (CPS)

Annex B4-3e Construction Airborne Noise Impact Assessment - Mitigated

NSR: N5

Chancery House

No.	Activity Description	SWL dB(A) ^[2]	Distance m	Corr. for distance dB(A) ^{[1][2]}	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A))																Max. CNL dB(A)			
						2012												2013							
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul
I	Existing Buildings																								
1	Phase 1 & Site Wide Structure	107	57	-43	3	67	67	67	67	67	67	67	67	67	67										
II	New Building																								
2	Foundation	106	23	-35	3	74	74	74	74	74	74	74													
3	Excavation and Lateral Support (ELS)	106	23	-35	3								73	73	73	73	73	73							
4	Basement / Superstructure Construction	106	23	-35	3														74	74	74	74	74		
Predicted Noise Level during Daytime Period, dB(A)						75	75	75	75	75	75	75	74	74	74	73	73	73	74	74	74	74	74	75	

Notes:

- [1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$
- [2] The figures are rounded-up to a whole number.

Conservation and Revitalization of the Central Police Station Compound (CPS)

Annex B4-3f Construction Airborne Noise Impact Assessment - Mitigated

NSR: N6

Chancery House

No.	Activity Description	SWL dB(A) ^[2]	Distance m	Corr. for distance dB(A) ^{[1][2]}	Corr. for façade dB(A)	Predicted Construction Noise Level (dB(A))																Max. CNL dB(A)				
						2012												2013								
						Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		May	Jun	Jul	Aug
I	Existing Buildings																									
1	Phase 1 & Site Wide Structure	107	57	-43	3	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67				
II	New Building																									
2	Foundation	106	23	-35	3	74	74	74	74	74	74	74														
3	Excavation and Lateral Support (ELS)	106	23	-35	3								73	73	73	73	73	73	73	73	73	73				
4	Basement / Superstructure Construction	106	23	-35	3																					
Predicted Noise Level during Daytime Period, dB(A)						75	75	75	75	75	75	75	75	74	74	74	74	73	73	73	74	74	74	74	75	

Notes:

- [1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$
- [2] The figures are rounded-up to a whole number.