

Appendix 4.1

Details of Construction Noise Impact Assessment



NSR 1



NSR 2



NSR 3



NSR 4



NSR 5



NSR 6



NSR 7



NSR 8

Planned residential development



NSR 9

NSR 10

**Figure 1
Photographs of the Representative Noise Sensitive Receivers**

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Black & Veatch Hong Kong Limited
 12th Floor, Millennium City 5,
 418 Kwun Tong Road, Kowloon, Hong Kong
 (Attn. Mr. P K Lee)

Dear Sirs,

Agreement No. CE 3/74
Development in Yuen Long District (Stage 1)
Lau Fau Shan Development
PWP Item No. 705CL – Hang Hau Tsuen Channel at Lau Fau Shan
Environmental Impact Assessment (EIA) – Construction Equipment

I refer to your letter dated 6.6.08 and have no comment on your proposed equipment list for the construction works of the above designated project.

Yours faithfully,



(Thomas W K Chan)
 for Project Manager (New Territories North and West)
 New Territories North and West Development Office

CWK/

Our reference PKL/WKC/MC/0095/LFS/280

BY HAND

Your reference

Project Manager/NTN&W Development Office,
Civil Engineering and Development Department,
New Territories North and West,
Development Office, 9/F., Sha Tin Government Offices,
1 Sheung Wo Che Road,
Sha Tin, New Territories, Hong Kong.

6 June 2008

For the attention of Mr. Thomas Chan

Dear Sir,

Agreement No. CE 3/74
Development in Yuen Long District (Stage 1), Lau Fau Shan Development
PWP Item No. 705CL – Hang Hau Tsuen Channel at Lau Fau Shan
Environmental Impact Assessment (EIA) – Construction Equipment

We refer to Item 3.4.6.2. (iv) (a) of the EIA Study Brief requiring the relevant government departments / authorities to confirm the validity of a set of construction equipment for construction noise calculation.

A list of the construction equipment used in the noise calculation (ref. Appendix 4.1 of the EIA Report) is enclosed for your confirmation. The construction equipment has been derived from other similar construction projects, though there may be variations during the actual construction stage.

Yours faithfully
for and on behalf of
BLACK & VEATCH HONG KONG LIMITED


P. K. LEE
PROJECT MANAGER

COPY

Encl.

Appendix 4.1

Equipment List and Associated Sound Power Level for Construction Activities (unmitigated)

(A) Channel Construction at Hang Hau Tsuen

A1. Site Clearance

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Excavator / loader	081	112	112	1	118
Dump truck	067	117	117	1	

A2. Excavation to Formation Level

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Excavator / loader	081	112	112	1	118
Dump truck	067	117	117	1	
Generator	102	100	100	1	
Water pump, submersible	283	85	85	3	

A3. Construction of Channel Lining, Crossings and other Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Generator	102	100	100	1	120
Excavator / loader	081	112	112	1	
Dump truck	067	117	117	1	
Crane	048	112	112	1	
Roller, vibratory	186	108	108	1	
Water pump, submersible	283	85	85	3	

A4. Concreting Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Generator	102	100	100	1	118
Crane	048	112	112	1	
Concrete lorry mixer	044	109	109	1	
Poker, vibratory	170	113	113	2	

A5. Road Surfacing Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Asphalt paver	004	109	109	1	118
Road roller	185	108	108	1	
Dump truck	067	117	117	1	

A6. Landscaping and Finishing Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Excavator	081	112	112	1	118
Dump truck	067	117	117	1	

PME = Powered Mechanical Equipment

SWL = Sound Power Level

TM = Technical Memorandum on Noise from Construction Work other than Percussive Piling

BS = BS 5228

Appendix 4.1

Equipment List and Associated Sound Power Levels for the Construction Activities (Level 1 Mitigation : Use of Quiet Plant)

(A) Channel Construction at Hang Hau Tsuen

A1. Site Clearance

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Excavator / loader	C.3-97	105	105	1	107
Dump truck	C.9-39	103	103	1	

A2. Excavation to Formation Level

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Excavator / loader	C.3-97	105	105	1	107
Dump truck	C.9-39	103	103	1	
Generator, super silenced	103	95	95	1	
Water pump, submersible	283	85	85	3	

A3. Construction of Channel Lining, Crossings and other Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Generator, super silenced	103	95	95	1	109
Excavator / loader	C.3-97	105	105	1	
Dump truck	C.9-39	103	103	1	
Crane	C.7-114	101	101	1	
Roller, vibratory	C.3-115	102	102	1	
Water pump, submersible	283	85	85	3	

A4. Concreting Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Generator, super silenced	103	95	95	1	107
Crane	C.7-114	101	101	1	
Concrete lorry mixer	C.6-23	100	100	1	
Poker, vibratory	C.6-32	100	100	2	

A5. Road Surfacing Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Asphalt paver	C.8-24	101	101	1	106
Road roller	C.8-25	96	96	1	
Dump truck	C.9-39	103	103	1	

A6. Landscaping and Finishing Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Corrected SWL	No. of Units	Total SWL - dB(A)
Excavator	C.3-97	105	105	1	107
Dump truck	C.9-39	103	103	1	

PME = Powered Mechanical Equipment

SWL = Sound Power Level

TM = Technical Memorandum on Noise from Construction Work other than Percussive Piling

BS = BS 5228

Appendix 4.1

Equipment Lists and Associated Sound Power Level for Construction Activities (Level 2 Mitigation : Quiet Plant + Temporary Barrier)

(A) Channel Construction at Hang Hau Tsuen

A1. Site Clearance

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Barrier Correction	Corrected SWL	No. of Units	Total SWL - dB(A)
Excavator / loader	C.3-97	105	-5	100	1	102
Dump truck	C.9-39	103	-5	98	1	

A2. Excavation to Formation Level

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Barrier Correction	Corrected SWL	No. of Units	Total SWL - dB(A)
Excavator / loader	C.3-97	105	-5	100	1	102
Dump truck	C.9-39	103	-5	98	1	
Generator, super silenced	103	95	-10	85	1	
Water pump, submersible	283	85	-10	75	3	

A3. Construction of Channel Lining, Crossings and other Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Barrier Correction	Corrected SWL	No. of Units	Total SWL - dB(A)
Generator, super silenced	103	95	-10	85	1	104
Excavator / loader	C.3-97	105	-5	100	1	
Dump truck	C.9-39	103	-5	98	1	
Crane	C.7-114	101	-5	96	1	
Roller, vibratory	C.3-115	102	-5	97	1	
Water pump, submersible	283	85	-10	75	3	

A4. Concreting Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Barrier Correction	Corrected SWL	No. of Units	Total SWL - dB(A)
Generator, super silenced	103	95	-10	85	1	101
Crane	C.7-114	101	-5	96	1	
Concrete lorry mixer	C.6-23	100	-5	95	1	
Poker, vibratory	C.6-32	100	-5	95	2	

A5. Road Surfacing Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Barrier Correction	Corrected SWL	No. of Units	Total SWL - dB(A)
Asphalt paver	C.8-24	101	-5	96	1	101
Road roller	C.8-25	96	-5	91	1	
Dump truck	C.9-39	103	-5	98	1	

A6. Landscaping and Finishing Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Barrier Correction	Corrected SWL	No. of Units	Total SWL - dB(A)
Excavator	C.3-97	105	-5	100	1	102
Dump truck	C.9-39	103	-5	98	1	

PME = Powered Mechanical Equipment

SWL = Sound Power Level

TM = Technical Memorandum on Noise from Construction Work other than Percussive Piling

BS = BS 5228

Appendix 4.1

Predicted Construction Noise Levels (unmitigated) at Representative NSRs

NSR	Construction Activities	Total SWL dB(A)	Horizontal Distance (m)	Vertical Distance (m)	Distance Correction dB(A)	Facade Correction dB(A)	Predicted Noise Level dB(A)
NSR 1*	A1 Site clearance	118	65	10.0	44	+ 3.0	<u>77</u>
	A2 Excavation to formation level	118	65	10.0	44	+ 3.0	<u>77</u>
	A3 Construction of channel lining, crossings and other works	120	65	10.0	44	+ 3.0	78
	A4 Concreting works	118	65	10.0	44	+ 3.0	<u>77</u>
	A5 Road surfacing works	118	65	10.0	44	+ 3.0	<u>77</u>
	A6 Landscaping and finishing works	118	65	10.0	44	+ 3.0	<u>77</u>
NSR 2	A1 Site clearance	118	17	1.2	33	+ 3.0	89
	A2 Excavation to formation level	118	17	1.2	33	+ 3.0	89
	A3 Construction of channel lining, crossings and other works	120	17	1.2	33	+ 3.0	90
	A4 Concreting works	118	17	1.2	33	+ 3.0	88
	A5 Road surfacing works	118	17	1.2	33	+ 3.0	88
	A6 Landscaping and finishing works	118	17	1.2	33	+ 3.0	89
NSR 3	A1 Site clearance	118	15	1.2	32	+ 3.0	90
	A2 Excavation to formation level	118	15	1.2	32	+ 3.0	90
	A3 Construction of channel lining, crossings and other works	120	15	1.2	32	+ 3.0	91
	A4 Concreting works	118	15	1.2	32	+ 3.0	90
	A5 Road surfacing works	118	15	1.2	32	+ 3.0	90
	A6 Landscaping and finishing works	118	15	1.2	32	+ 3.0	90
NSR 4	A1 Site clearance	118	15	1.2	32	+ 3.0	90
	A2 Excavation to formation level	118	15	1.2	32	+ 3.0	90
	A3 Construction of channel lining, crossings and other works	120	15	1.2	32	+ 3.0	91
	A4 Concreting works	118	15	1.2	32	+ 3.0	90
	A5 Road surfacing works	118	15	1.2	32	+ 3.0	90
	A6 Landscaping and finishing works	118	15	1.2	32	+ 3.0	90
NSR 5	A1 Site clearance	118	16	1.2	32	+ 3.0	89
	A2 Excavation to formation level	118	16	1.2	32	+ 3.0	89
	A3 Construction of channel lining, crossings and other works	120	16	1.2	32	+ 3.0	90
	A4 Concreting works	118	16	1.2	32	+ 3.0	89
	A5 Road surfacing works	118	16	1.2	32	+ 3.0	89
	A6 Landscaping and finishing works	118	16	1.2	32	+ 3.0	89
NSR 6	A1 Site clearance	118	14	1.2	31	+ 3.0	90
	A2 Excavation to formation level	118	14	1.2	31	+ 3.0	90
	A3 Construction of channel lining, crossings and other works	120	14	1.2	31	+ 3.0	92
	A4 Concreting works	118	14	1.2	31	+ 3.0	90
	A5 Road surfacing works	118	14	1.2	31	+ 3.0	90
	A6 Landscaping and finishing works	118	14	1.2	31	+ 3.0	90
NSR 7	A1 Site clearance	118	165	1.2	52	+ 3.0	69
	A2 Excavation to formation level	118	165	1.2	52	+ 3.0	69
	A3 Construction of channel lining, crossings and other works	120	165	1.2	52	+ 3.0	70
	A4 Concreting works	118	165	1.2	52	+ 3.0	69
	A5 Road surfacing works	118	165	1.2	52	+ 3.0	69
	A6 Landscaping and finishing works	118	165	1.2	52	+ 3.0	69
NSR 8	A1 Site clearance	118	255	1.2	56	+ 3.0	65
	A2 Excavation to formation level	118	255	1.2	56	+ 3.0	65
	A3 Construction of channel lining, crossings and other works	120	255	1.2	56	+ 3.0	66
	A4 Concreting works	118	255	1.2	56	+ 3.0	65
	A5 Road surfacing works	118	255	1.2	56	+ 3.0	65
	A6 Landscaping and finishing works	118	255	1.2	56	+ 3.0	65
NSR 9	A1 Site clearance	118	55	1.2	43	+ 3.0	78
	A2 Excavation to formation level	118	55	1.2	43	+ 3.0	78
	A3 Construction of channel lining, crossings and other works	120	55	1.2	43	+ 3.0	80
	A4 Concreting works	118	55	1.2	43	+ 3.0	78
	A5 Road surfacing works	118	55	1.2	43	+ 3.0	78
	A6 Landscaping and finishing works	118	55	1.2	43	+ 3.0	78
NSR 10	A1 Site clearance	118	12	1.2	30	+ 3.0	92
	A2 Excavation to formation level	118	12	1.2	30	+ 3.0	92
	A3 Construction of channel lining, crossings and other works	120	12	1.2	30	+ 3.0	93
	A4 Concreting works	118	12	1.2	30	+ 3.0	91
	A5 Road surfacing works	118	12	1.2	30	+ 3.0	91
	A6 Landscaping and finishing works	118	12	1.2	30	+ 3.0	92

Notes:

* Wing Jan Kindergarten

Daytime construction noise criteria: residential premises 75 dB(A); educational institution 70 dB(A)

Please refer to Figure 4.1 for location of NSR.

Figures in **BOLD** denote exceedance of the daytime construction noise standards

Appendix 4.1

Predicted Construction Noise Levels (Level 1 mitigation : use of quiet plant) at Representative NSRs

NSR	Construction Activities	Total SWL dB(A)	Horizontal Distance (m)	Vertical Distance (m)	Distance Correction dB(A)	Facade Correction dB(A)	Predicted Noise Level dB(A)
NSR 1*	A1 Site clearance	107	65	10.0	44	+ 3.0	66
	A2 Excavation to formation level	107	65	10.0	44	+ 3.0	66
	A3 Construction of channel lining, crossings and other works	109	65	10.0	44	+ 3.0	68
	A4 Concreting works	107	65	10.0	44	+ 3.0	65
	A5 Road surfacing works	106	65	10.0	44	+ 3.0	64
	A6 Landscaping and finishing works	107	65	10.0	44	+ 3.0	66
NSR 2	A1 Site clearance	107	17	1.2	33	+ 3.0	77
	A2 Excavation to formation level	107	17	1.2	33	+ 3.0	78
	A3 Construction of channel lining, crossings and other works	109	17	1.2	33	+ 3.0	80
	A4 Concreting works	107	17	1.2	33	+ 3.0	77
	A5 Road surfacing works	106	17	1.2	33	+ 3.0	76
	A6 Landscaping and finishing works	107	17	1.2	33	+ 3.0	77
NSR 3	A1 Site clearance	107	15	1.2	32	+ 3.0	79
	A2 Excavation to formation level	107	15	1.2	32	+ 3.0	79
	A3 Construction of channel lining, crossings and other works	109	15	1.2	32	+ 3.0	81
	A4 Concreting works	107	15	1.2	32	+ 3.0	78
	A5 Road surfacing works	106	15	1.2	32	+ 3.0	77
	A6 Landscaping and finishing works	107	15	1.2	32	+ 3.0	79
NSR 4	A1 Site clearance	107	15	1.2	32	+ 3.0	79
	A2 Excavation to formation level	107	15	1.2	32	+ 3.0	79
	A3 Construction of channel lining, crossings and other works	109	15	1.2	32	+ 3.0	81
	A4 Concreting works	107	15	1.2	32	+ 3.0	78
	A5 Road surfacing works	106	15	1.2	32	+ 3.0	77
	A6 Landscaping and finishing works	107	15	1.2	32	+ 3.0	79
NSR 5	A1 Site clearance	107	16	1.2	32	+ 3.0	78
	A2 Excavation to formation level	107	16	1.2	32	+ 3.0	78
	A3 Construction of channel lining, crossings and other works	109	16	1.2	32	+ 3.0	80
	A4 Concreting works	107	16	1.2	32	+ 3.0	77
	A5 Road surfacing works	106	16	1.2	32	+ 3.0	77
	A6 Landscaping and finishing works	107	16	1.2	32	+ 3.0	78
NSR 6	A1 Site clearance	107	14	1.2	31	+ 3.0	79
	A2 Excavation to formation level	107	14	1.2	31	+ 3.0	80
	A3 Construction of channel lining, crossings and other works	109	14	1.2	31	+ 3.0	81
	A4 Concreting works	107	14	1.2	31	+ 3.0	79
	A5 Road surfacing works	106	14	1.2	31	+ 3.0	78
	A6 Landscaping and finishing works	107	14	1.2	31	+ 3.0	79
NSR 7	A1 Site clearance	107	165	1.2	52	+ 3.0	58
	A2 Excavation to formation level	107	165	1.2	52	+ 3.0	58
	A3 Construction of channel lining, crossings and other works	109	165	1.2	52	+ 3.0	60
	A4 Concreting works	107	165	1.2	52	+ 3.0	57
	A5 Road surfacing works	106	165	1.2	52	+ 3.0	56
	A6 Landscaping and finishing works	107	165	1.2	52	+ 3.0	58
NSR 8	A1 Site clearance	107	255	1.2	56	+ 3.0	54
	A2 Excavation to formation level	107	255	1.2	56	+ 3.0	54
	A3 Construction of channel lining, crossings and other works	109	255	1.2	56	+ 3.0	56
	A4 Concreting works	107	255	1.2	56	+ 3.0	53
	A5 Road surfacing works	106	255	1.2	56	+ 3.0	52
	A6 Landscaping and finishing works	107	255	1.2	56	+ 3.0	54
NSR 9	A1 Site clearance	107	55	1.2	43	+ 3.0	67
	A2 Excavation to formation level	107	55	1.2	43	+ 3.0	68
	A3 Construction of channel lining, crossings and other works	109	55	1.2	43	+ 3.0	69
	A4 Concreting works	107	55	1.2	43	+ 3.0	67
	A5 Road surfacing works	106	55	1.2	43	+ 3.0	66
	A6 Landscaping and finishing works	107	55	1.2	43	+ 3.0	67
NSR 10	A1 Site clearance	107	12	1.2	30	+ 3.0	80
	A2 Excavation to formation level	107	12	1.2	30	+ 3.0	81
	A3 Construction of channel lining, crossings and other works	109	12	1.2	30	+ 3.0	83
	A4 Concreting works	107	12	1.2	30	+ 3.0	80
	A5 Road surfacing works	106	12	1.2	30	+ 3.0	79
	A6 Landscaping and finishing works	107	12	1.2	30	+ 3.0	80

Notes:

* Wing Jan Kindergarten

Daytime construction noise criteria: residential premises 75 dB(A); educational institution 70 dB(A)

Please refer to Figure 4.1 for location of NSR.

Figures in **BOLD** denote exceedance of the daytime construction noise standards

Appendix 4.1

Predicted Construction Noise Levels (Level 2 mitigation : use of quiet plant + temporary noise barrier) at Representative NSRs

NSR	Construction Activities	Total SWL dB(A)	Horizontal Distance (m)	Vertical Distance (m)	Distance Correction dB(A)	Facade Correction dB(A)	Predicted Noise Level dB(A)
NSR 1*	A1 Site clearance	102	65	10.0	44	+ 3.0	61
	A2 Excavation to formation level	102	65	10.0	44	+ 3.0	61
	A3 Construction of channel lining, crossings and other works	104	65	10.0	44	+ 3.0	63
	A4 Concreting works	101	65	10.0	44	+ 3.0	60
	A5 Road surfacing works	101	65	10.0	44	+ 3.0	59
	A6 Landscaping and finishing works	102	65	10.0	44	+ 3.0	61
NSR 2	A1 Site clearance	102	17	1.2	33	+ 3.0	72
	A2 Excavation to formation level	102	17	1.2	33	+ 3.0	73
	A3 Construction of channel lining, crossings and other works	104	17	1.2	33	+ 3.0	74
	A4 Concreting works	101	17	1.2	33	+ 3.0	72
	A5 Road surfacing works	101	17	1.2	33	+ 3.0	71
	A6 Landscaping and finishing works	102	17	1.2	33	+ 3.0	72
NSR 3	A1 Site clearance	102	15	1.2	32	+ 3.0	74
	A2 Excavation to formation level	102	15	1.2	32	+ 3.0	74
	A3 Construction of channel lining, crossings and other works	104	15	1.2	32	+ 3.0	76
	A4 Concreting works	101	15	1.2	32	+ 3.0	73
	A5 Road surfacing works	101	15	1.2	32	+ 3.0	72
	A6 Landscaping and finishing works	102	15	1.2	32	+ 3.0	74
NSR 4	A1 Site clearance	102	15	1.2	32	+ 3.0	74
	A2 Excavation to formation level	102	15	1.2	32	+ 3.0	74
	A3 Construction of channel lining, crossings and other works	104	15	1.2	32	+ 3.0	76
	A4 Concreting works	101	15	1.2	32	+ 3.0	73
	A5 Road surfacing works	101	15	1.2	32	+ 3.0	72
	A6 Landscaping and finishing works	102	15	1.2	32	+ 3.0	74
NSR 5	A1 Site clearance	102	16	1.2	32	+ 3.0	73
	A2 Excavation to formation level	102	16	1.2	32	+ 3.0	73
	A3 Construction of channel lining, crossings and other works	104	16	1.2	32	+ 3.0	75
	A4 Concreting works	101	16	1.2	32	+ 3.0	72
	A5 Road surfacing works	101	16	1.2	32	+ 3.0	72
	A6 Landscaping and finishing works	102	16	1.2	32	+ 3.0	73
NSR 6	A1 Site clearance	102	14	1.2	31	+ 3.0	74
	A2 Excavation to formation level	102	14	1.2	31	+ 3.0	74
	A3 Construction of channel lining, crossings and other works	104	14	1.2	31	+ 3.0	76
	A4 Concreting works	101	14	1.2	31	+ 3.0	73
	A5 Road surfacing works	101	14	1.2	31	+ 3.0	73
	A6 Landscaping and finishing works	102	14	1.2	31	+ 3.0	74
NSR 7	A1 Site clearance	102	165	1.2	52	+ 3.0	53
	A2 Excavation to formation level	102	165	1.2	52	+ 3.0	53
	A3 Construction of channel lining, crossings and other works	104	165	1.2	52	+ 3.0	55
	A4 Concreting works	101	165	1.2	52	+ 3.0	52
	A5 Road surfacing works	101	165	1.2	52	+ 3.0	51
	A6 Landscaping and finishing works	102	165	1.2	52	+ 3.0	53
NSR 8	A1 Site clearance	102	255	1.2	56	+ 3.0	49
	A2 Excavation to formation level	102	255	1.2	56	+ 3.0	49
	A3 Construction of channel lining, crossings and other works	104	255	1.2	56	+ 3.0	51
	A4 Concreting works	101	255	1.2	56	+ 3.0	48
	A5 Road surfacing works	101	255	1.2	56	+ 3.0	47
	A6 Landscaping and finishing works	102	255	1.2	56	+ 3.0	49
NSR 9	A1 Site clearance	102	55	1.2	43	+ 3.0	62
	A2 Excavation to formation level	102	55	1.2	43	+ 3.0	62
	A3 Construction of channel lining, crossings and other works	104	55	1.2	43	+ 3.0	64
	A4 Concreting works	101	55	1.2	43	+ 3.0	62
	A5 Road surfacing works	101	55	1.2	43	+ 3.0	61
	A6 Landscaping and finishing works	102	55	1.2	43	+ 3.0	62
NSR 10	A1 Site clearance	102	12	1.2	30	+ 3.0	75
	A2 Excavation to formation level	102	12	1.2	30	+ 3.0	76
	A3 Construction of channel lining, crossings and other works	104	12	1.2	30	+ 3.0	77
	A4 Concreting works	101	12	1.2	30	+ 3.0	75
	A5 Road surfacing works	101	12	1.2	30	+ 3.0	74
	A6 Landscaping and finishing works	102	12	1.2	30	+ 3.0	75

Notes:

* Wing Jan Kindergarten

Daytime construction noise criteria: residential premises 75 dB(A); educational institution 70 dB(A)

Please refer to Figure 4.1 for location of NSR.

Figures in **BOLD** denote exceedance of the daytime construction noise standards

Appendix 4.1

Predicted Construction Noise Levels (Further mitigation : Level 2 mitigation + restrict concurrent usage of equipment) at Representative NSRs 3, 4, 6 and 10

A2. Excavation to Formation Level

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Barrier Correction	Corrected SWL	No. of Units	Power Term	Total SWL - dB(A)
Excavator / loader	C.3-97	105	-5	100	1	1.00E+10	100
Dump truck	C.9-39	103	-5	98	0	0.00E+00	<--- restrict concurrent usage of equipment
Generator, super silenced	103	95	-10	85	1	3.16E+08	
Water pump, submersible	283	85	-10	75	3	9.49E+07	

A3. Construction of Channel Lining, Crossings and other Works

Type of PME	TM Code / BS Ref.	SWL - dB(A)	Barrier Correction	Corrected SWL	No. of Units	Power Term	Total SWL - dB(A)
Generator, super silenced	103	95	-10	85	1	3.16E+08	102
Excavator / loader	C.3-97	105	-5	100	1	1.00E+10	
Dump truck	C.9-39	103	-5	98	0	0.00E+00	<--- restrict concurrent usage of equipment
Crane	C.7-114	101	-5	96	1	3.98E+09	
Roller, vibratory	C.3-115	102	-5	97	0	0.00E+00	<--- restrict concurrent usage of equipment
Water pump, submersible	283	85	-10	75	3	9.49E+07	

PME = Powered Mechanical Equipment
 SWL = Sound Power Level
 TM = Technical Memorandum on Noise from Construction Work other than Percussive Piling
 BS = BS 5228

NSR	Construction Activities	Total SWL dB(A)	Horizontal Distance (m)	Vertical Distance (m)	Distance Correction dB(A)	Facade Correction dB(A)	Predicted Noise Level dB(A)
NSR 3	A3 Construction of channel lining, crossings and other works	102	15	1.2	32	+ 3.0	73
NSR 4	A3 Construction of channel lining, crossings and other works	102	15	1.2	32	+ 3.0	73
NSR 6	A3 Construction of channel lining, crossings and other works	102	14	1.2	31	+ 3.0	74
NSR 10	A2 Excavation to formation level	100	12	1.2	30	+ 3.0	74
NSR 10	A3 Construction of channel lining, crossings and other works	102	12	1.2	30	+ 3.0	75

Notes:
 Daytime construction noise criteria: residential premises 75 dB(A); educational institution 70 dB(A)
 Please refer to Figure 4.1 for location of NSR.
 Figures in **BOLD** denote exceedance of the daytime construction noise standards

Appendix 4.1**Cumulative Construction Noise Impact Assessment for Representative NSRs 1, 3 and 7**

NSR	Construction Projects	Highest Mitigated Sound Power Level (dB(A))	Horizontal Distance (m)	Vertical Distance (m)	Distance Correction (dB(A))	Facade Correction dB(A)	Predicted Noise Level - mitigated (dB(A))	Total Cumulative Predicted Noise Level - mitigated (dB(A))
NSR1*	HHT Channel	104	65	1.2	44	+ 3.0	63	64
	LFS SPS	111	242	1.2	56	+ 3.0	58	
NSR3	HHT Channel	102	15	1.2	32	+ 3.0	73	74
	LFS SPS	111	194	1.2	54	+ 3.0	60	
NSR7	HHT Channel	104	165	1.2	52	+ 3.0	55	75
	LFS SPS	111	34	1.2	39	+ 3.0	75	

Notes:

* Wing Jan Kindergarten

- HHT Channel : Hang Hang Tsuen Channel
- LFS SPS : potential concurrent project (Lau Fau Shan Sewage Pumping Station) proposed under CE30/2006(DS)
- Highest Mitigated Sound Power Level for HHTC Channel at NSRs 1 & 7 is 104 dB(A) with Level 2 mitigation (use of quiet plant + temporary noise barrier)
- Highest Mitigated Sound Power Level for HHT Channel at NSR 3 is 102 dB(A) with Further Mitigation (Level 2 mitigation + restrict concurrent usage of equipment)
- Highest Mitigated Sound Power Level for LFS SPS project has made reference to the project profile for "Tai Po Tai Wo Road Sewage Pumping Station and Rising Mains" (DIR-161/2007); usage of quiet equipment has been assumed in the calculation.
- 3 dB(A) façade correction has been included in the Predicted Noise Level
- Daytime construction noise criterion for residential premises : 75 dB(A)
- Please refer to Figure 4.1 for location of NSR.
- Shielding effect from existing building structures, topographic features and construction sites not considered for worst-case scenario.

NOTE:

1. THE FINAL LOCATIONS OF THE TEMPORARY NOISE BARRIER SHALL BE PROPOSED BY THE CONTRACTOR AND CHECKED BY THE ENVIRONMENTAL TEAM (ET) LEADER.
2. WHERE TEMPORARY NOISE BARRIER CANNOT BE EFFECTIVELY ERECTED, MOBILE NOISE BARRIER OF SIMILAR OR BETTER PROTECTION SHALL BE PROVIDED.
3. TEMPORARY NOISE BARRIER SHALL BE IN PLACE WHEN POWERED MECHANICAL EQUIPMENT IS OPERATING.
4. TEMPORARY ACCESS AND STREAM CROSSINGS TO BE PROVIDED AND MAINTAINED DURING CONSTRUCTION.

LEGEND

- SITE BOUNDARY
- REPRESENTATIVE NOISE SENSITIVE RECEIVER
- NSR 1
- PROPOSED TEMPORARY NOISE BARRIER

Revision	Date	Description			Initial
		Designed	Checked	Drawn	
Initial	MC	WKC	JT	PKL	
Date	11/08	11/08	11/08	11/08	

Approved

project
HANG HAU TSUEN CHANNEL AT LAU FAU SHAN

Drawing Title
LOCATIONS OF TEMPORARY NOISE BARRIERS

Plan Register No. FIGURE APP4.1
Revision -

Scale AS SHOWN

土木工程拓展署
CEDD Civil Engineering and Development Department


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