

Outlying Islands Sewerage Stage 2
 Upgrading of Cheung Chau Sewage Collection Treatment
 and Disposal Facilities

Detailed Calculation of Operation Noise Levels

Unmitigated Scenario

Noise Criterion (dB(A))

53 7am-23pm

45 23pm-7am

CKH - Cheung King House

Project Specific PME Item	SWL dB(A)	No. of Items	Total SWL, dB(A)	Dist.	Dist. Corr., dB(A)	Screening Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Levels, dB(A)
Operation Noise of Cheung Chau STW								
Operation of Area A - Primary Treatment Units								
Submersible pump (ref 1)	85	10	95	82	-46.3	0	3	51.7
Mechanically raked fine screen (ref 3)	89	3	94	82	-46.3	0	3	50.7
Deodourization fans (ref 4)	85	4	91	82	-46.3	0	3	47.7
Exhaust Fan (ref 2)	79	14	90	82	-46.3	0	3	46.7
Operation of Area B - MBR Equipment Unit (Part 1)								
Mechanical Pump (ref 5)	92	9	102	65	-44.2	0	3	60.8
Deodourization fans (ref 4)	85	2	88	65	-44.2	0	3	46.8
Exhaust Fan (ref 2)	79	8	88	65	-44.2	0	3	46.8
Operation of Area C - MBR Equipment Unit (Part 2)								
Mechanical Pump (ref 5)	92	9	102	117	-49.3	0	3	55.7
Deodourization fans (ref 4)	85	2	88	117	-49.3	0	3	41.7
Exhaust Fan (ref 2)	79	4	85	117	-49.3	0	3	38.7
Operation of Area D - Sludge Treatment Unit								
Submersible pump (ref 1)	85	2	88	127	-50.1	0	3	40.9
Deodourization fans (ref 4)	85	2	88	127	-50.1	0	3	40.9
Exhaust Fan (ref 2)	79	6	87	127	-50.1	0	3	39.9
Operation of Area E - Air Blower Room								
Blower (ref 6)	85	7	93	159	-52.0	0	3	44.0
Exhaust Fan (ref 2)	79	4	85	159	-52.0	0	3	36.0
Operation of Area F - Existing Outfall Pumping Station and Header Tank								
Mechanical Pump (ref 5)	92	12	103	160	-52.1	0	3	53.9
Deodourization fans (ref 4)	85	4	91	160	-52.1	0	3	41.9
Exhaust Fan (ref 2)	79	14	90	160	-52.1	0	3	40.9
Total								64.0

CKH - Cheung King House	Max.	Comply with Noise Criterion
Daytime	64	No
Night-time	64	No

Remarks:

- (ref 1) SWL of plant refers to CNP283
- (ref 2) SWL of plant refers to approved EIA of Harbour Area Treatment Scheme (HATS) Stage 2A (EIA-148/2008) and Good Practices on Ventilation System Noise Control based on the flow rate of 1,300 m³/h)
- (ref 3) SWL of plant refers to the approved EIA Report on Tai Po Sewage Treatment Works Stage V (EIA-097/2004)
- (ref 4) SWL of plant refers to Good Practices on Ventilation System Noise Control based on the flow rate of 17,000 m³/hr and 125 Pa.
- (ref 5) SWL of plant refer to Good Practices on Pumping System Noise Control based on the horsepower of pumpset 20 hp at 1800 rpm.
- (ref 6) SWL of plant refers to the tender specification for Shatin STW Stage 3 Upgrading and approved EIA of Harbour Area Treatment Scheme (HATS) Stage 2A (EIA-148/2008)

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Unmitigated Scenario

Noise Criterion (dB(A))

53 7am-23pm

CSH2 - Cheung Shun House

45 23pm-7am

Project Specific PME Item	SWL dB(A)	No. of Items	Total SWL, dB(A)	Dist.	Dist. Corr., dB(A)	Screening Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Levels, dB(A)
Operation Noise of Cheung Chau STW								
Operation of Area A - Primary Treatment Units								
Submersible pump (ref 1)	85	10	95	84	-46.5	0	3	51.5
Mechanically raked fine screen (ref 3)	89	3	94	84	-46.5	0	3	50.5
Deodourization fans (ref 4)	85	4	91	84	-46.5	0	3	47.5
Exhaust Fan (ref 2)	79	14	90	84	-46.5	0	3	46.5
Operation of Area B - MBR Equipment Unit (Part 1)								
Mechanical Pump (ref 5)	92	9	102	81	-46.2	0	3	58.8
Deodourization fans (ref 4)	85	2	88	81	-46.2	0	3	44.8
Exhaust Fan (ref 2)	79	8	88	81	-46.2	0	3	44.8
Operation of Area C - MBR Equipment Unit (Part 2)								
Mechanical Pump (ref 5)	92	9	102	131	-50.3	0	3	54.7
Deodourization fans (ref 4)	85	2	88	131	-50.3	0	3	40.7
Exhaust Fan (ref 2)	79	4	85	131	-50.3	0	3	37.7
Operation of Area D - Sludge Treatment Unit								
Submersible pump (ref 1)	85	2	88	139	-50.8	0	3	40.2
Deodourization fans (ref 4)	85	2	88	139	-50.8	0	3	40.2
Exhaust Fan (ref 2)	79	6	87	139	-50.8	0	3	39.2
Operation of Area E - Air Blower Room								
Blower (ref 6)	85	7	93	165	-52.3	0	3	43.7
Exhaust Fan (ref 2)	79	4	85	165	-52.3	0	3	35.7
Operation of Area F - Existing Outfall Pumping Station and Header Tank								
Mechanical Pump (ref 5)	92	12	103	153	-51.7	0	3	54.3
Deodourization fans (ref 4)	85	4	91	153	-51.7	0	3	42.3
Exhaust Fan (ref 2)	79	14	90	153	-51.7	0	3	41.3
Total								63.0

CSH2 - Cheung Shun House	Max.	Comply with Noise Criterion
Daytime	63	No
Night-time	63	No

Remarks:

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- (ref 3) SWL of plant refers to the approved EIA Report on Tai Po Sewage Treatment Works Stage V (EIA-097/2004)
- (ref 4) SWL of plant refers to Good Practices on Ventilation System Noise Control based on the flow rate of 17,000 m³/hr and 125 Pa.
- (ref 5) SWL of plant refer to Good Practices on Pumping System Noise Control based on the horsepower of pumpset 20 hp at 1800 rpm.
- (ref 6) SWL of plant refers to the tender specification for Shatin STW Stage 3 Upgrading and approved EIA of Harbour Area Treatment Scheme (HATS) Stage 2A (EIA-148/2008)

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Noise Criterion (dB(A))

55 07:00-23:00

PSSL - No. 1A Pak She Second Lane

45 23:00-07:00

Project Specific PME Item	SWL dB(A)	No. of Items	Total SWL, dB(A)	Dist.	Dist. Corr., dB(A)	Screening Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Levels, dB(A)
Operation Noise of Sewage Pumping Station								
Operation of Sewage Pumping Station								
Submersible pump (ref 1)	85	2	88	22	-34.8	0	3	56.2
Exhaust Fan (ref 2)	79	2	82	22	-34.8	0	3	50.2
Mechanically raked fine screen (ref 3)	89	2	92	22	-34.8	0	3	60.2
Deodourization fans (ref 4)	85	1	85	22	-34.8	0	3	53.2
Total								62.0

PSSL - No. 1A Pak She Second Lane	Max.	Comply with Noise Criterion
Daytime	62	No
Night-time	62	No

Remarks:

- (ref 1) SWL of plant refers to CNP283
- (ref 2) SWL of plant refers to approved EIA of Harbour Area Treatment Scheme (HATS) Stage 2A (EIA-148/2008) and Good Practices on Ventilation System Noise Control based on the flow rate of 1,300 m³/h
- (ref 3) SWL of plant refers to the approved EIA Report on Tai Po Sewage Treatment Works Stage V (EIA-097/2004)
- (ref 4) SWL of plant refers to Good Practices on Ventilation System Noise Control based on the flow rate of 17,000 m³/hr and 125 Pa.