

Outlying Islands Sewerage Stage 2
 Upgrading of Tai O Sewage Collection Treatment
 and Disposal Facilities

Detailed Calculation of Operation Noise Levels

Mitigated Scenario

Noise Criterion (dB(A))

50 07:00-23:00
 45 23:00-07:00

SST - Christian Zheng Sheng Association Ltd

Project Specific PME Item	SWL dB(A)	No. of Items	Total SWL, dB(A)	Dist. From NSR, m	Dist. Corr., dB(A)	Screening Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Levels, dB(A)
Operation Noise of Tai O STW								
Submersible pump (ref 1)	85	16	97	211	-54.5	-20	3	25.5
Mechanically raked fine screen (ref 3)	92	2	95	211	-54.5	-20	3	23.5
Deodorization fans (ref 4)	85	14	96	211	-54.5	-20	3	24.5
Exhaust Fan (ref 2)	79	45	96	211	-54.5	-10	3	34.5
Mechanical Pump (ref 5)	92	25	106	211	-54.5	-20	3	34.5
Blower (ref 6)	85	6	93	211	-54.5	-20	3	21.5
Total								38.2

SST - Christian Zheng Sheng Association Ltd
 Daytime
 Night-time

Max.
 38
 38

Comply with Noise Criterion
 Yes
 Yes

Remarks:

- (ref 1) SWL of plant refer 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 refer to the approved EIA Report on Tai Po Sewage Treatment Works Stage V (EIA-097/2004)
- (ref 4) SWL of plant refer 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 refer to the tender specification for Shatin STW Stage 3 Upgrading and approved EIA of Harbour Area Treatment Scheme (HATS) Stage 2A (EIA-148/2008)

All plants are enclosed inside concrete structure of the STW building. A -20 dB(A) noise reduction has been assumed.
 10 dB(A) reduction applied for the noise sources which are blocked and do not have direct line of sight to the NSRs
 The specified SWLs have included characteristics of tonality, impulsiveness and intermittency

Detailed Calculation of Operation Noise Levels

Mitigated Scenario

Noise Criterion (dB(A))

45 07:00-23:00
 42 23:00-07:00

NCT6 - No. 10 Nam Chung Tsuen

Project Specific PME Item	SWL dB(A)	No. of Items	Total SWL, dB(A)	Dist. From NSR, m	Dist. Corr., dB(A)	Screening Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Levels, dB(A)
Operation Noise of Fan Kwai Tong SPS								
Submersible pump (ref 1)	85	1	85	16	-32.1	-20	3	35.9
Deodourization fans (ref 4)	85	1	85	16	-32.1	-20	3	35.9
Exhaust Fan (ref 2)	79	1	79	21	-34.3	-10	3	37.7
Total								41.4

NCT6 - No. 10 Nam Chung Tsuen	Max.	Comply with Noise Criterion
Daytime	41	Yes
Night-time	41	Yes

Remarks:

(ref 1) SWL of plant refer 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 4) SWL of plant refer to Good Practices on Ventilation System Noise Control based on the flow rate of 17,000 m³/hr and 125 Pa.

All plants are enclosed inside concrete structure of the STW building. A -20 dB(A) noise reduction has been assumed.

10 dB(A) reduction applied for the noise sources which are blocked and do not have direct line of sight to the NSRs

The specified SWLs have included characteristics of tonality, impulsiveness and intermittency

Detailed Calculation of Operation Noise Levels

Mitigated Scenario

Noise Criterion (dB(A))

45 07:00-23:00

PT2 - Planned GIC Site at Fan Kwai Tong

42 23:00-07:00

Project Specific PME Item	SWL dB(A)	No. of Items	Total SWL, dB(A)	Dist. From NSR, m	Dist. Corr., dB(A)	Screening Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Levels, dB(A)
Operation Noise of Fan Kwai Tong SPS								
Submersible pump (ref 1)	85	1	85	19	-33.6	-20	3	34.4
Deodourization fans (ref 4)	85	1	85	19	-33.6	-20	3	34.4
Exhaust Fan (ref 2)	79	1	79	20	-33.9	-10	3	38.1
Total								40.8

PT2 - Planned GIC Site at Fan Kwai Tong

Max.

Comply with Noise Criterion

Daytime

41

Yes

Night-time

41

Yes

Remarks:

(ref 1) SWL of plant refer 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 4) SWL of plant refer to Good Practices on Ventilation System Noise Control based on the flow rate of 17,000 m³/hr and 125 Pa.

All plants are enclosed inside concrete structure of the STW building. A -20 dB(A) noise reduction has been assumed.

Acoustic Louvers: assume a -10 dB(A) noise reduction

The specified SWLs have included characteristics of tonality, impulsiveness and intermittency

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Noise Criterion (dB(A))

45 07:00-23:00
 39 23:00-07:00

WHV4 - No. 21 Wang Hang Village

Project Specific PME Item	SWL dB(A)	No. of Items	Total SWL, dB(A)	Dist. From NSR, m	Dist. Corr., dB(A)	Screening Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Levels, dB(A)
Operation Noise of Hang Mei SPS								
Submersible pump (ref 1)	85	1	85	48	-41.6	-20	3	26.4
Deodourization fans (ref 4)	85	1	85	48	-41.6	-20	3	26.4
Exhaust Fan (ref 2)	79	1	79	46	-41.3	-10	3	30.7
Total								33.1

WHV4 - No. 21 Wang Hang Village	Max.	Comply with Noise Criterion
Daytime	33	Yes
Night-time	33	Yes

Remarks:

(ref 1) SWL of plant refer 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 4) SWL of plant refer to Good Practices on Ventilation System Noise Control based on the flow rate of 17,000 m³/hr and 125 Pa.

All plants are enclosed inside concrete structure of the STW building. A -20 dB(A) noise reduction has been assumed.

10 dB(A) reduction applied for the noise sources which are blocked and do not have direct line of sight to the NSRs

The specified SWLs have included characteristics of tonality, impulsiveness and intermittency

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Noise Criterion (dB(A))

45 07:00-23:00
 39 23:00-07:00

WHV6 - No. 18 Wang Hang Village

Project Specific PME Item	SWL dB(A)	No. of Items	Total SWL, dB(A)	Dist. From NSR, m	Dist. Corr., dB(A)	Screening Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Levels, dB(A)
Operation Noise of Hang Mei SPS								
Submersible pump (ref 1)	85	1	85	34	-38.6	-20	3	29.4
Deodourization fans (ref 4)	85	1	85	34	-38.6	-20	3	29.4
Exhaust Fan (ref 2)	79	1	79	33	-38.4	-10	3	33.6
Total								36.0

WHV6 - No. 18 Wang Hang Village	Max.	Comply with Noise Criterion
Daytime	36	Yes
Night-time	36	Yes

Remarks:

(ref 1) SWL of plant refer 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 4) SWL of plant refer to Good Practices on Ventilation System Noise Control based on the flow rate of 17,000 m³/hr and 125 Pa.

All plants are enclosed inside concrete structure of the STW building. A -20 dB(A) noise reduction has been assumed.

10 dB(A) reduction applied for the noise sources which are blocked and do not have direct line of sight to the NSRs

The specified SWLs have included characteristics of tonality, impulsiveness and intermittency

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Mitigated Scenario

Noise Criterion (dB(A))

45 07:00-23:00
 39 23:00-07:00

WHV7 - No. 25 Wang Hang Village

Project Specific PME Item	SWL dB(A)	No. of Items	Total SWL, dB(A)	Dist. From NSR, m	Dist. Corr., dB(A)	Screening Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Levels, dB(A)
Operation Noise of Hang Mei SPS								
Submersible pump (ref 1)	85	1	85	41	-40.3	-20	3	27.7
Deodourization fans (ref 4)	85	1	85	41	-40.3	-20	3	27.7
Exhaust Fan (ref 2)	79	1	79	41	-40.3	-10	3	31.7
Total								34.3

WHV7 - No. 25 Wang Hang Village	Max.	Comply with Noise Criterion
Daytime	34	Yes
Night-time	34	Yes

Remarks:

(ref 1) SWL of plant refer 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 4) SWL of plant refer to Good Practices on Ventilation System Noise Control based on the flow rate of 17,000 m³/hr and 125 Pa.

All plants are enclosed inside concrete structure of the STW building. A -20 dB(A) noise reduction has been assumed.

10 dB(A) reduction applied for the noise sources which are blocked and do not have direct line of sight to the NSRs

The specified SWLs have included characteristics of tonality, impulsiveness and intermittency