

**Appendix 4.9 Calculations of Construction Noise Levels with Mitigation Measures**

**NSR ID:** N1a  
**NSR Description:** Hong Kong Baptist Theological Seminary (HKBTS) Staff & Students Quarters  
**Landuse:** Residential  
**No. of Storey:** 6

**Lowest Assessment Level, mPD [4]:** 7.8

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2]														
					2021		2022				2023				2024				
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1	Site Clearance	100	41	41		63													
2	Excavation and Lateral Support (ELS)	106	41	41			68	68	68										
3	Bulk Excavation	101	41	41				64	64	64									
4	Steel Fixing and Concreting of Structure	104	41	41						66	66	66	66	66					
5	Backfilling	99	41	41								62							
6	E&M Installations & Pipeworks	96	41	41								59	59	59	59				
7	Finishing and Landscape Works	103	41	41									65	65	65				

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 63 68 70 70 68 66 66 68 69 66 66 - -  
**Exceedance, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 63 - 70

**Middle Assessment Level, mPD [4]:** 16.8

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2]														
					2021		2022				2023				2024				
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1	Site Clearance	100	41	43		63													
2	Excavation and Lateral Support (ELS)	106	41	43			68	68	68										
3	Bulk Excavation	101	41	43				64	64	64									
4	Steel Fixing and Concreting of Structure	104	41	43						66	66	66	66	66					
5	Backfilling	99	41	43								61							
6	E&M Installations & Pipeworks	96	41	43								58	58	58	58				
7	Finishing and Landscape Works	103	41	43									65	65	65				

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 63 68 69 69 68 66 66 68 69 66 66 - -  
**Exceedance, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 63 - 69

**Highest Assessment Level, mPD [4]:** 22.8

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2]														
					2021		2022				2023				2024				
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1	Site Clearance	100	41	45		62													
2	Excavation and Lateral Support (ELS)	106	41	45			68	68	68										
3	Bulk Excavation	101	41	45				63	63	63									
4	Steel Fixing and Concreting of Structure	104	41	45						66	66	66	66	66					
5	Backfilling	99	41	45								61							
6	E&M Installations & Pipeworks	96	41	45								58	58	58	58				
7	Finishing and Landscape Works	103	41	45									65	65	65				

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 62 68 69 69 68 66 66 67 69 65 65 - -  
**Exceedance, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 62 - 69

Notes:

- [1] The notional source position is taken following the GW-TM.  
Distance Attenuation in dB(A) =  $20 \log D + 8$ , where D is slant distance in metres.
- [2] A +3 dB(A) façade correction was added to the predicted noise level to account for the façade effect at the NSR.
- [3] The construction noise criteria for residential dwelling is 75dB(A).
- [4] The floor to floor height of the NSR is assumed as 3m and the assessment levels adopted are 1.2m from the floor of the lowest, middle and highest storeys. The noise source is assumed at 5.5mPD.

**Appendix 4.9 Calculations of Construction Noise Levels with Mitigation Measures**

**NSR ID:** N1b  
**NSR Description:** Hong Kong Baptist Theological Seminary (HKBTS) Staff & Students Quarters  
**Landuse:** Residential  
**No. of Storey:** 6

**Lowest Assessment Level, mPD [4]:** 7.8

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2]															
					2021		2022				2023				2024					
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
1	Site Clearance	100	32	32		65														
2	Excavation and Lateral Support (ELS)	106	32	32			71	71	71											
3	Bulk Excavation	101	32	32				66	66	66										
4	Steel Fixing and Concreting of Structure	104	32	32					68	68	68	68	68							
5	Backfilling	99	32	32								64								
6	E&M Installations & Pipeworks	96	32	32								61	61	61	61					
7	Finishing and Landscape Works	103	32	32									67	67	67					

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 65 71 72 72 70 68 68 70 71 68 68 - -  
**Exceedance, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 65 - 72

**Middle Assessment Level, mPD [4]:** 16.8

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2],[3]															
					2021		2022				2023				2024					
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
1	Site Clearance	100	32	34		65														
2	Excavation and Lateral Support (ELS)	106	32	34			70	70	70											
3	Bulk Excavation	101	32	34				66	66	66										
4	Steel Fixing and Concreting of Structure	104	32	34					68	68	68	68	68							
5	Backfilling	99	32	34								63								
6	E&M Installations & Pipeworks	96	32	34								60	60	60	60					
7	Finishing and Landscape Works	103	32	34									67	67	67					

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 65 70 71 71 70 68 68 70 71 68 68 - -  
**Exceedance, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 65 - 71

**Highest Assessment Level, mPD [4]:** 22.8

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2],[3]															
					2021		2022				2023				2024					
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
1	Site Clearance	100	32	36		64														
2	Excavation and Lateral Support (ELS)	106	32	36			70	70	70											
3	Bulk Excavation	101	32	36				65	65	65										
4	Steel Fixing and Concreting of Structure	104	32	36					67	67	67	67	67							
5	Backfilling	99	32	36								63								
6	E&M Installations & Pipeworks	96	32	36								60	60	60	60					
7	Finishing and Landscape Works	103	32	36									66	66	66					

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 64 70 71 71 69 67 67 69 70 67 67 - -  
**Exceedance, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 64 - 71

Notes:

- [1] The notional source position is taken following the GW-TM.  
Distance Attenuation in dB(A) = 20 log D + 8, where D is slant distance in metres.
- [2] A +3 dB(A) façade correction was added to the predicted noise level to account for the façade effect at the NSR.
- [3] The construction noise criteria for residential dwelling is 75dB(A).
- [4] The floor to floor height of the NSR is assumed as 3m and the assessment levels adopted are 1.2m from the floor of the lowest, middle and highest storeys. The noise source is assumed at 5.5mPD.

**Appendix 4.9 Calculations of Construction Noise Levels with Mitigation Measures**

NSR ID: N2  
 NSR Description: HKBTS Administration and Education Block  
 Landuse: Education  
 No. of Storey: 5

Lowest Assessment Level, mPD [5]: 8.1

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2],[3]													
					2021		2022				2023				2024			
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Site Clearance	100	67	67		59												
2	Excavation and Lateral Support (ELS)	106	67	67			64	64	64									
3	Bulk Excavation	101	67	67				60	60	60								
4	Steel Fixing and Concreting of Structure	104	67	67						62	62	62	62					
5	Backfilling	99	67	67									58					
6	E&M Installations & Pipeworks	96	67	67									55	55	55	55		
7	Finishing and Landscape Works	103	67	67										61	61	61		

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 59 64 66 66 64 62 62 64 65 62 62 - -  
**Exceedance during Normal School Day, dB(A)<sup>[4]</sup>:** - 0 0 0 0 0 0 0 0 0 0 0 0 - -  
**Exceedance during Examination Period, dB(A)<sup>[4]</sup>:** - 0 0 1 1 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 59 - 66

Middle Assessment Level, mPD [5]: 14.1

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2],[3]													
					2021		2022				2023				2024			
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Site Clearance	100	67	67		59												
2	Excavation and Lateral Support (ELS)	106	67	67			64	64	64									
3	Bulk Excavation	101	67	67				60	60	60								
4	Steel Fixing and Concreting of Structure	104	67	67						62	62	62	62					
5	Backfilling	99	67	67									57					
6	E&M Installations & Pipeworks	96	67	67									54	54	54	54		
7	Finishing and Landscape Works	103	67	67										61	61	61		

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 59 64 66 66 64 62 62 64 65 62 62 - -  
**Exceedance during Normal School Day, dB(A)<sup>[4]</sup>:** - 0 0 0 0 0 0 0 0 0 0 0 0 - -  
**Exceedance during Examination Period, dB(A)<sup>[4]</sup>:** - 0 0 1 1 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 59 - 66

Highest Assessment Level, mPD [5]: 20.1

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2],[3]													
					2021		2022				2023				2024			
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Site Clearance	100	67	68		59												
2	Excavation and Lateral Support (ELS)	106	67	68			64	64	64									
3	Bulk Excavation	101	67	68				59	59	59								
4	Steel Fixing and Concreting of Structure	104	67	68						62	62	62	62					
5	Backfilling	99	67	68									57					
6	E&M Installations & Pipeworks	96	67	68									54	54	54	54		
7	Finishing and Landscape Works	103	67	68										61	61	61		

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 59 64 65 65 64 62 62 64 65 62 62 - -  
**Exceedance during Normal School Day, dB(A)<sup>[4]</sup>:** - 0 0 0 0 0 0 0 0 0 0 0 0 - -  
**Exceedance during Examination Period, dB(A)<sup>[4]</sup>:** - 0 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 59 - 65

Notes:

- [1] The notional source position is taken following the GW-TM. Distance Attenuation in dB(A) = 20 log D + 8, where D is slant distance in metres.
- [2] A +3 dB(A) façade correction was added to the predicted noise level to account for the façade effect at the NSR.
- [3] Underlined values indicate exceedance of EIAO-TM noise criteria of 65 dB(A) for educational institution during examination period.
- [4] The construction noise criteria for educational institution is 70 dB(A) during normal school days and 65 dB(A) during examination period.
- [5] The floor to floor height of the NSR is assumed as 3m and the assessment levels adopted are 1.2m from the floor of the lowest, middle and highest storeys. The noise source is assumed at 5.5mPD.

**Appendix 4.9 Calculations of Construction Noise Levels with Mitigation Measures**

**NSR ID:** N2 (during Examination period)  
**NSR Description:** HKBTS Administration and Education Block  
**Landuse:** Education  
**No. of Storey:** 5

**Lowest Assessment Level, mPD [4]:** 8.1

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2]															
					2021		2022				2023				2024					
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
1	Site Clearance	100	67	67		59														
2 #	Excavation and Lateral Support (ELS)	101	67	67			59	59	59											
3	Bulk Excavation	101	67	67				60	60	60										
4 #	Steel Fixing and Concreting of Structure	102	67	67						61	61	61	61							
5	Backfilling	99	61	61									58							
6	E&M Installations & Pipeworks	96	61	61									55	55	55	55				
7	Finishing and Landscape Works	103	61	61										62	62	62				

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 59 59 63 63 63 61 61 64 65 63 63 - -  
**Exceedance during Normal School Day, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Exceedance during Examination Period, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 59 - 65

**Middle Assessment Level, mPD [4]:** 14.1

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2]															
					2021		2022				2023				2024					
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
1	Site Clearance	100	67	67		59														
2 #	Excavation and Lateral Support (ELS)	101	67	67			59	59	59											
3	Bulk Excavation	101	67	67				60	60	60										
4 #	Steel Fixing and Concreting of Structure	102	67	67						61	61	61	61	61						
5	Backfilling	99	67	67									57							
6	E&M Installations & Pipeworks	96	67	67									54	54	54					
7	Finishing and Landscape Works	103	67	67										61	61	61				

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 59 59 62 62 63 61 61 63 64 62 62 - -  
**Exceedance during Normal School Day, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Exceedance during Examination Period, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 59 - 64

**Highest Assessment Level, mPD [4]:** 20.1

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2]															
					2021		2022				2023				2024					
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
1	Site Clearance	100	67	68		59														
2 #	Excavation and Lateral Support (ELS)	101	67	68			59	59	59											
3	Bulk Excavation	101	67	68				59	59	59										
4 #	Steel Fixing and Concreting of Structure	102	67	68						61	61	61	61	61						
5	Backfilling	99	67	68									57							
6	E&M Installations & Pipeworks	96	67	68									54	54	54	54				
7	Finishing and Landscape Works	103	67	68										61	61	61				

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 59 59 62 62 63 61 61 63 64 62 62 - -  
**Exceedance during Normal School Day, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Exceedance during Examination Period, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 59 - 64

**Notes:**

- [1] The notional source position is taken following the GW-TM. Distance Attenuation in dB(A) = 20 log D + 8, where D is slant distance in metres.
  - [2] A +3 dB(A) façade correction was added to the predicted noise level to account for the façade effect at the NSR.
  - [3] The construction noise criteria for educational institution is 70 dB(A) during normal school days and 65 dB(A) during examination period.
  - [4] The floor to floor height of the NSR is assumed as 3m and the assessment levels adopted are 1.2m from the floor of the lowest, middle and highest storeys. The noise source is assumed at 5.5mPD.
- # Activity was implemented special arrangement of PMEs during examination period, such as no Piling, osciallator nor no overlapping with concret

**Appendix 4.9 Calculations of Construction Noise Levels with Mitigation Measures**

NSR ID: N4  
 NSR Description: Symphony Bay, Block 11  
 Landuse: Residential  
 No. of Storey: 7

Lowest Assessment Level, mPD [4]: 15.2

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2]														
					2021		2022				2023				2024				
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1	Site Clearance	100	210	211		49													
2	Excavation and Lateral Support (ELS)	106	210	211			54	54	54										
3	Bulk Excavation	101	210	211				50	50	50									
4	Steel Fixing and Concreting of Structure	104	210	211						52	52	52	52						
5	Backfilling	99	210	211									48						
6	E&M Installations & Pipeworks	96	210	211									45	45	45	45			
7	Finishing and Landscape Works	103	210	211										51	51	51			

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 49 54 56 56 54 52 52 54 55 52 52 - -  
**Exceedance, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 49 - 56

Middle Assessment Level, mPD [4]: 24.2

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2],[3]														
					2021		2022				2023				2024				
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1	Site Clearance	100	210	211		49													
2	Excavation and Lateral Support (ELS)	106	210	211			54	54	54										
3	Bulk Excavation	101	210	211				50	50	50									
4	Steel Fixing and Concreting of Structure	104	210	211						52	52	52	52						
5	Backfilling	99	210	211									48						
6	E&M Installations & Pipeworks	96	210	211									44	44	44	44			
7	Finishing and Landscape Works	103	210	211										51	51	51			

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 49 54 56 56 54 52 52 54 55 52 52 - -  
**Exceedance, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 49 - 56

Highest Assessment Level, mPD [4]: 33.2

Act No.	Main Construction Elements	SWL, dB(A)	Notional Distance, m [1]	Slant Distance, m	Predicted Noise Level, $L_{eq(30-min)}$ , dB(A) [2],[3]														
					2021		2022				2023				2024				
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1	Site Clearance	100	210	212		49													
2	Excavation and Lateral Support (ELS)	106	210	212			54	54	54										
3	Bulk Excavation	101	210	212				50	50	50									
4	Steel Fixing and Concreting of Structure	104	210	212						52	52	52	52	52					
5	Backfilling	99	210	212									47						
6	E&M Installations & Pipeworks	96	210	212									44	44	44	44			
7	Finishing and Landscape Works	103	210	212										51	51	51			

**Total SPL from the Proposed Project,  $L_{eq(30-min)}$ , dB(A):** - 49 54 56 56 54 52 52 54 55 52 52 - -  
**Exceedance, dB(A) [3]:** - 0 0 0 0 0 0 0 0 0 0 0 - -  
**Range, dB(A):** 49 - 56

Notes:

- [1] The notional source position is taken following the GW-TM.  
Distance Attenuation in dB(A) = 20 log D + 8, where D is slant distance in metres.
- [2] A +3 dB(A) façade correction was added to the predicted noise level to account for the façade effect at the NSR.
- [3] The construction noise criteria for residential dwelling is 75dB(A).
- [4] The floor to floor height of the NSR is assumed as 3m and the assessment levels adopted are 1.2m from the floor of the lowest, middle and highest storeys. The noise source is assumed at 5.5mPD.

