

## Environmental Permit No. EP-457/2013/C


### Central Kowloon Route

### Independent Environmental Checker Verification

<b>Works Contract:</b>	Yau Ma Tei East (HY/2014/08)
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<b>Reference Document/Plan</b>	
<del>Document</del> /Plan to be <del>Certified</del> / Verified:	Construction Noise Mitigation Measure Plan
Date of Report:	- (Rev. 11)
Date received by IEC:	9 July 2019

<b>Reference EP Condition</b>	
Environmental Permit Condition:	2.9
<p>To further reduce the air-borne construction noise impacts on Yau Ma Tei Catholic Primary School (Hoi Wang Road), Tak Cheong Building, Prosperous Garden Block 1, The Coronation Tower 1, Ko Fai House of Kwun Fat Court, Grand Waterfront Tower 3 and Hang Chien Court Block J, the Permit Holder shall, no later than one month before the commencement of construction of the corresponding component(s) of the Project, submit to the Director for approval four hard copies and one electronic copy of an updated Construction Noise Mitigation Measure Plan (CNMMP). The plan shall include:-</p> <ul style="list-style-type: none"><li>(a) a schedule of construction works to be carried out at the works areas of the Project within 300m from the NSRs;</li><li>(b) an updated construction methodology of the construction works;</li><li>(c) an updated powered mechanical equipment (PME) list for the construction works;</li><li>(d) an updated proposal of air-borne construction noise mitigation measures for the Noise Sensitive Receivers as mentioned above, including the provision of noise barriers, enclosures;</li><li>(e) other initiatives proposed by the Permit Holder; and</li><li>(f) an updated prediction of noise levels in accordance with the above updated information and mitigation proposals in place.</li></ul> <p>Before submission to the Director, the CNMMP shall be certified by the ET and verified by the IEC as conforming to the relevant information and recommendations contained in the EIA Report. The approved CNMMP shall be fully and properly implemented.</p>	

<b>IEC Verification</b>	
I hereby verify that the above referenced <del>document</del> /plan complies with the above referenced condition of EP-457/2013/C.	
	
Ms Mandy To Independent Environmental Checker	Date: 15 July 2019

**Response to Comments Table for Construction Noise Mitigation Measures Plan Rev.10.1**

Comments		Responses
Your Ref.: ( ) in Ax(1) to EP2/K2/A/04 pt.28 Issued Date: 28 June 2019		
Major Comments		
1	In response to our previous comment concerning the substantiation of proper NMM implementation, the consultant stated that “Site records, including photos and measurement reports, for substantiating proper implementation of the Plan shall be well kept by the contractor on site for review/ checking by ET/IEC/EPD at any time”. As the records (e.g. site photos, noise measurement reports of the quiet PME and noise barriers/enclosures adopted on site, etc.) are considered as critical and important to substantiate proper implementation of the NMM (including the use of quiet PME and noise barriers with no line-of-site from the NSRs, etc.), the project proponent / consultant should provide such records either in the relevant EM&A report or the above suggested review report every 6 months, in addition to keeping on-site records for inspection.	Currently, such records are available on site, regularly reviewed, inspected and checked by ET and IEC. No exceedance of impact monitoring noise level as stipulated in the EM&A manual was recorded since commencement of the Contract.  In response, BKSKJV will regularly provide records about the updated noise mitigation measures implemented in review report.  Meanwhile, the EM&A report content was suggested to be aligned with other contracts of CKR and agreed by the project proponent.
Specific Comments		
1	<u>Section 3.2</u> - Please advise what major PME will be involved for the construction works of decanting of Library and Government Offices in MSCB and YMT Police Station (worksite S17 and S31).	- To further clarify, no PME will be involved for the construction works of decanting of Library and Government Offices in MSCB and YMT Police Station (worksite S17 and S31). Decanting just simply decant the building but is not demolition of building. For demolition, please refer to worksite S18 and S35.

# **Build King – SKEC Joint Venture**

**Central Kowloon Route Contract HY/2014/08**

**Yau Ma Tei East Section**

Construction Noise Mitigation Measures Plan

Rev.11

Certified by: Kevin Li



Position: Environmental Team Leader

Date: 15 July 2019

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## **PART A GENERAL**

### **1.0 Background**

#### **1.1 Project Description**

Central Kowloon Route (CKR) was proposed in the West Kowloon Reclamation Transport Study that a route in tunnel should be developed to link the West Kowloon Highway since 1990.

Highways Department (HyD) commissioned the Design and Construction Assignment for the Central Kowloon Route in June 1998. CKR is a dual 3-lane trunk road across central Kowloon linking the West Kowloon in the west and the proposed Kai Tak Development (KTD) in the east. The CKR will be about 4.7km long with an underground tunnel section of about 3.9km long, in particular, there will be an underwater tunnel of about 370m long in Kowloon Bay to the north of the To Kwa Wan Typhoon Shelter. It will connect the West Kowloon Highway at Yau Ma Tei Interchange with the road network at Kowloon Bay and the future Trunk Road T2 at KTD which will connect to the future Tseung Kwan O – Lam Tin Tunnel (TKO-LTT) and Cross Bay Link (CBL). CKR, Trunk Road T2 and TKO-LTT will form a strategic highway link, namely Route 6, connecting West Kowloon and Tseung Kwan O. Consultancy studies for Trunk Road T2, TKO-LTT and CBL have been commissioned by CEDD. In addition, 3 ventilation buildings, which will be located in Yau Ma Tei, Ho Man Tin and ex-Kai Tak airport area, are proposed to ensure acceptable air quality within the tunnel.

The Central Kowloon Route – Design and Construction Environmental Impact Assessment Report (Register No.: AEIAR-171/2013) was approved with conditions by the Environmental Protection Department (EPD) on 11 July 2013. An Environmental Permit (EP-457/2013) was issued on 9 August 2013. Variations of EP (VEP) was subsequently applied for and the latest EP (EP-457/2013/C) was issued by EPD on 16 January 2017.

Build King - SKEC Joint Venture (BKSKJV) was commissioned by Highways Department as the appointed main contractor for Contract No. HY/2014/08: Central Kowloon Route – Yau Ma Tei East (YMTE).

The Works to be executed under this Contract included, but not exclusively, the following items:

- Construction of approximately 390m long cut-and-cover tunnel between Yau Cheung Road and Shanghai Street;
- Construction and subsequent handover of Yau Ma Tei Access Shaft for facilitating the access and using by the contractor of CKR – Central Tunnel contract for the construction of tunnelling works of CKR;
- Construction and maintenance of a composite building for the temporary Public Library cum Jade Hawker Bazaar and a building for the temporary Maternal and Child Health Centre;
- Re-provisioning of a Methadone Clinic in the Yau Ma Tei Jockey Club Polyclinic Building;
- Demolition of the existing Yau Ma Tei Multi-storey Carpark Building, the existing Yau Ma Tei Specialist Clinic Extension Building and the existing Yau Ma Tei Jade Hawker Bazaars;
- Demolition of existing Subway No. KS55 and ancillary buildings of existing Yau Ma Tei Police Station;
- Design and construction of the Noise Barrier Works
- Demolition and re-provisioning of a section of Gascoigne Road Flyover (GRF) between Nathan Road and Ferry Street. Implementation of temporary measures for maintaining the normal operation of the GRF during the contract period;
- Other civil works

A Site Layout showing the site boundary is shown in **Appendix A**.

## **1.2 Requirements for Construction Noise Mitigation Measure Plan (CNMMP)**

According to the condition 2.9 of the EP-457/2013/C, the Permit Holder shall, no later than one month before the commencement of construction of the Project, submit to the Director of Environmental Protection (DEP) for approval four hard copies and one electronic copies of an update Construction Noise Mitigation Measure Plan (CNMMP) to further reduce the air-borne construction noise impacts on Yau Ma Tei Catholic Primary School (Hoi Wang Road), Tak Cheong Building, Prosperous Garden Block 1, The Coronation Tower 1, Ko Fai House of Kwun Fat Court, Grand Waterfront Tower 3 and Hang Chien Court Block J. In view of the worksites location under this contract and their respective distance to the above NSRs (300 meters study area according to the EIA methodology), predicted noise impact on Yau Ma Tei Catholic Primary School (Hoi Wang Road), Tak Cheong Building, Prosperous Garden Block 1, The Coronation Tower 1 are studied in this CNMMP, while that of Ko Fai House of Kwun Fat Court, Grand Waterfront Tower 3 and Hang Chien Court Block J would be assessed in other Sections of the Central Kowloon Route according to their worksite location.

The CNMMP shall include:

- A schedule of construction works to be carried out at the works areas of the Project within 300m from the Noise Sensitive Receivers (NSRs);
- An updated construction methodology of the construction works;
- An updated powered mechanical equipment (PME) list for the proposed construction works;
- An updated proposal of air-borne construction noise mitigation measures for the Noise Sensitive Receivers as mentioned above, including the provision of noise barriers, enclosures;
- Other initiatives proposed by the Permit Holder; and
- An updated prediction of noise levels in accordance with the above updated information and mitigation proposals in place.

Before submission to the Director, the CNMMP shall be certified by the ET and verified by the IEC as conforming to the relevant information and recommendations contained in the EIA Report (Register No. AEIAR-171/2013).

## 2.0 Description of Construction Works in the Study Area

### 2.1 Noise Sensitive Receivers

According to Further Environmental Permit No. FEP-02/457/2013/C for CKR-YMTE, 4 Noise Sensitive Receivers (NSRs) would be addressed in this CNMMP. The 4 NSRs are Yau Ma Tei Catholic Primary School (Hoi Wang Road) (W-N1A), Tak Cheong Building (W-N8A), Prosperous Garden Block 1 (W-N25A) and The Coronation Tower 1 (W-P11).

The list of NSRs are shown in **Table 2.1**. The Layout plans of the works area showing the NSRs and their distance to the works area are provided in **Appendix A and Appendix F**.

Table 2.1 List of Noise Sensitive Receivers (NSRs)

NSRID	NSR Description	Use <sup>[1]</sup>	Criterion, dB(A) <sup>[2]</sup>	Maximum Construction Noise Levels, dB(A) <sup>[3]</sup>		Noise exceedance, dB(A) <sup>[3]</sup>
				Unmitigated	Mitigated	
W-N1A	Yau Ma Tei Catholic Primary School (Hoi Wang Road)	E	70(65)	82	70 (69)	-(4)
W-N8A	Tak Cheong Building	R	75	95	82	7
W-N25A	Prosperous Garden Block 1	R	75	93	81	6
W-P11	The Coronation (West Façade)	R	75	88	77	2

Notes:

[1] R- Residential; E- Educational Institution; GIC- Government, institution and community

[2] Values in parentheses indicate the noise criterion during examination period of educational institution

[3] Data are extracted from Tables 5.13 and 5.16 of approved EIA Report”



## **2.2 Construction Methodology**

The proposed construction methodology is generally following that presented in Section 3.5 of the approved CKREIA Report (Register No. AEIAR-171/2013). The tunnel section of Yau Ma Tei (from Hoi Wang Road to Shanghai Street) will be constructed by ‘top-down’ cut-and-cover method to reduce impact upon the surrounding area, pedestrians and road traffic.

A breakdown of the major construction activities in sequence to be carried out within the contract are provided in **Appendix B**.

## **2.3 Updated Preliminary Construction Programme**

The updated preliminary construction programme prepared by BKSKJV has been used in this CNMMP and has been presented on a monthly basis for the duration of the construction works in corresponding worksites.

Since the commencement of the project has been delayed for 3 years., the potential concurrent projects have been reviewed. Upon reviewing the concurrent projects close to YMTE, other than YMTW section under CKR itself, there is no additional potential concurrent projects which would have cumulative construction noise impacts on the NSRs during the construction phase. The concurrent effect on noise impact contributed by YMTW section is also considered.

The construction schedule has been adjusted such that to minimize concurrent construction works to be carried out in the vicinity as far as practicable. The updated preliminary construction programme is provided in **Appendix B**.

## **2.4 Updated Powered Mechanical Equipment List**

The updated Powered Mechanical Equipment (PME) list for the construction works is provided in **Table 2.2**. The Sound Power Levels (SWL) for the PMEs have been adopted from EPD’s Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM), list of SWLs of other commonly used PME or British Standard 5228 - Part 1:2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites. It should be noted that the PMEs

proposed are commonly available in Hong Kong market. The PME's to be adopted for individual construction activities for this contract are provided in **Appendix C**.

Taking into account the latest construction programme and PME inventory, extra quiet PME for dump truck, roller and vibratory are proposed in addition to the quiet PME proposed in the Approved CKR EIA Report. The quiet PME as listed in Table 2.2 could be found in Hong Kong. However, if the exact model specified in the references of the listed quiet PME are not available during the construction period, the model with SWL not higher than the listed SWL shall be adopted. BKSKJV has also confirmed that the programme and plant inventory are reasonable and practicable for completing the works of CKR-YMTE within the scheduled timeframe.

Table 2.2: List of Updated Powered Mechanical Equipment (PME)

<b>PME Description</b>	<b>TM Ref./ Other Ref. <sup>(a)</sup>/ BS 5228 Ref. <sup>(b)</sup>/ QPME ID Code <sup>(c)</sup></b>	<b>Unit Sound Power Level, SWL dB(A)</b>
Air Compressor	CNP003	104
Asphalt Paver	EPD-01226	104
Bar Bender and Cutter	CNP021	90
Bored Piling Crane mounted auger	BS D4-37	111
Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110
Bulldozer	CNP030	115
Compactor, vibratory	CNP050	105
Concrete Lorry Mixer	CNP044	109
Concrete pump	CNP047	109
Concrete crusher, excavator mounted	CNP055	103
Crane Mobile	BS D7-114	101
Dump Truck with Grab	CNP069	105
Excavator/Loader, Wheeled/Tracked	EPD-01145	99
Generator	CNP103	95
Grout mixer	CNP105	90
Grout pump	CNP106	105
Lorry	CNP142	105
Piling, Diaphragm Wall, Bentonite	CNP162	105

Filtering Plant		
Piling, large dia bored, oscillator	CNP165	115
Poker, Vibratory, Hand Held	CNP173	102
Rock Crusher	Reference to approved West Island Line EIA report	118
Rock drill, crawler mounted (pneumatic)	SIL EIA	108
Rock Drill	SIL EIA	108
Road Roller	EPD-01183	97
Saw, Circular Wood	BS D7-79	103
Saw, Wire	CNP205	101
Tracked crane	BS D7-114	101
Ventilation Fan	CNP241	108
Water Pump, Submersible (Electric)	CNP283	85

Note:

- (a) Other references refer to the approved West Island Line EIA Report/South Island Line (East) EIA Report/SWLs of other commonly used PME provided in the document prepared by the Noise Control Authority  
[http://www.epd.gov.hk/epd/english/application\\_for\\_licences/guidance/files/OtherSWLe.pdf](http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
- (b) BS 5228 Ref. refers to British Standard 5228 - Part 1:2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites
- (c) QPME ID Code refer to Quiet Powered Mechanical Equipment from EPD's website  
[http://www.epd.gov.hk/cgi-bin/npg/qpme/search\\_gen.pl?lang=eng](http://www.epd.gov.hk/cgi-bin/npg/qpme/search_gen.pl?lang=eng)

### 3.0 Noise Assessment and Proposed Mitigation Measures

#### 3.1 Assessment Methodology and Assumptions

The scope of this plan does not cover all the construction works of West Portion of CKR Project. This Plan only includes the noise assessment for CKR-YMTE's works area and the remaining works areas shall be addressed by another CKR contract namely CKR-YMTW. However, the cumulative effect from YMTW will be considered in the noise assessment of this Plan. Worksite S13 is located within the site boundary of both YMTE and YMTW. However, the construction of landscape deck at worksite S13 will be carried out by YMTW only and thus the noise assessment is not included in this plan, but the noise assessment is included in the cumulative effect of this plan. Besides, according to the contract information provided by HyD, some construction activities at worksites are different from those mentioned in EIA report or not included in the scope of works of YMTE contract. Worksite S9 is construction of Community Liaison Centre for CKR project and worksite S7 is the construction of Temporary Library & Temporary Jade Market. Activities in worksites S48 is the construction of Ferry Street Subway, which is not the scope of works under YMTE contract as per the contract information.

The construction noise assessment has been carried out in accordance with the methodology used in the approved CKR EIA Report (Register No. AEIAR-171/2013). Notional source distances adopted in the calculation has made reference to those used in the CKR EIA Report (Register No. AEIAR-171/2013) except worksite S3, S4, S5 and S13 according to the updated construction layout as provided in **Appendix A**. The updated distance between NSRs and worksite are tabled in **Appendix F**.

The percentage on-time for each PME has been estimated individually for each construction activity to ensure practicality and is consistent with assumptions made in CKR EIA Report (Register No. AEIAR-171/2013).

The BKSKJV has confirmed that the programme and plant inventory are reasonable and practicable for completing the Works Contract within the scheduled timeframe.

All mitigation measures and their effectiveness proposed in the CKR EIA Report (Register No. AEIAR-171/2013) including the use of temporary movable noise barrier and enclosure (with

sufficient ventilation) for relatively static plant, acoustic mat and quiet plant have been considered in this CNMMP. The use of quiet plant associated with construction work is prescribed in British Standard "Code of practice for noise and vibration control on construction and open sites, BS5228" which contains the SWLs for specific quiet PME.

Central Kowloon Route – Yau Ma Tei West (CKR-YMTW) is identified to be concurrent projects of the works at CKR-YMTE. CKR-YMTW commenced in November 2018 and is estimated to complete in October 2024. Cumulative construction noise impact from construction activities of CKR-YMTW is addressed in this CNMMP and detail assessment is shown in Appendix C. For the construction works for two noise enclosures at Gascoigne Road Flyover, they will be carried out under our contract.

### **3.2 Proposed Mitigation Strategy and Noise Assessment Results**

The mitigation measures proposed in the approved CKR EIA report (Register No. AEIAR-171/2013) have been adopted.

Movable temporary noise barriers that can be located close to noisy plant and be moved concurrently with the plant along a worksite can be very effective for screening noise from NSRs. A typical design which has been used locally is a wooden framed barrier with a small-cantilevered on a skid footing with 25mm thick internal sound absorptive lining. This measure is particularly effective for low level zone of NSRs. A cantilevered top cover would be required to achieve screening benefits at upper floors of NSRs. Movable barriers will be used for some PME (e.g. asphalt paver, excavator etc). It is anticipated that suitably designed barriers could achieve at least 5 - 10dB(A) reduction. For a conservative assessment, only a reduction of 5dB(A) is assumed. The use of enclosure (with sufficient ventilation and surface mass at least 10 kg/m<sup>2</sup>) has been considered in this assessment to shelter relatively static plant including air compressor, generator. The enclosures barriers can provide about 10dB(A) noise reduction. For ventilation fan, enclosure namely SilentCUBE would be used as noise mitigation and -15 dB(A) would be applied in the assessment for conservatism. BKSKJV shall ensure the practicability to block the line-of-sight for nearby NSRs during the usage of noise barriers.

The construction activities to be carried out under traffic deck or underground, will adopt -20dB(A) screening effect has PMEs, except ventilation fan will be located at grade.

For one of the mucking out points in CKR project, the temporary full noise enclosure will be constructed after the access shaft completion to screen off the future construction activities for tunnelling works with the noise reduction of -15dB(A). The mucking out point with temporary full noise enclosure will be located at worksite S57. Such temporary full noise enclosure will be erected for the activities of dump trucks with grab and lorry at grade. Other activities and PME to be operated at worksite S57 will be carried out under the traffic deck and thus will adopt -20dB(A), except the construction activity of “Site Establishment, Utility Diversion and Mobilization of Plant”. The design drawing of the noise enclosure and the information of acoustic material are shown in **Appendix D**.

For the ventilation fan, dump truck with grab and lorry working at grade of mucking out area, they will be operated with noise barrier made of minimum 10 mm thick plywood (or 1 mm thick steel plate) and minimum 50 mm thick sound absorbing internal lining. The barrier can achieve noise reduction of -10dB(A). Details of the acoustic noise barriers are shown in **Appendix E**.

For the demolition works of the Yau Ma Tei Multi-storey Carpark Building, temporary noise barrier will be erected at the floor to be demolished surrounding the 4 sides of the building. The temporary noise barriers can provide about 10dB(A) noise reduction. Details of the acoustic noise barriers are shown in **Appendix G**.

The predicted noise levels at identified NSRs after implementation of mitigation measures, including quiet plants, noise enclosure/shed, movable barriers and acoustic fabric are shown in **Appendix C** and summarised in Table 3.1. The mitigation measures and noise control design will be implemented by the frontline staff of the contractor, supervised by the Environmental Officer/ Site Engineer and checked by the ET, IEC and RE during routine site inspection under the EM&A programme. Some of the construction activities will not involve PME and thus are not shown in noise assessment such as worksites S17 and S31 which are decanting of Library and Government Offices in MSCB and YMT Police Station respectively.

Site records, including photos and measurement reports, for substantiating proper implementation of the Plan shall be well kept by the Contractor on site for review/checking by ET/IEC/EPD at any time.

Table 3.1 Summary of Noise Assessment Result

NSR ID	NSR Description	Predicted Max. Noise Level <sup>(a)</sup> , dB(A)	Noise Criteria <sup>(b)</sup> , dB(A)	Exceedance, dB(A)	Duration (month) of Exceedance <sup>(c)</sup>
W-N1A	Yau Ma Tei Catholic Primary School (Hoi Wang Road)	67( <b>67</b> )	70(65)	-(2)	-(2)
W-N8A	Tak Cheong Building	<b>82</b>	75	7	35
W-N25A	Prosperous Garden Block 1	<b>80</b>	75	5	4
W-P11	The Coronation	75	75	-	-

Note:

- (a) Bolded values mean exceedance of the relevant noise criteria.
- (b) Values in parentheses indicate the noise criterion during examination period of educational institution.
- (c) Typical examination period is in May, June, November and December. The exceedance duration is subject to the examination schedule when available.

With the implementation of the above-mentioned mitigation measures, residual impacts exceeding the construction noise criterion are still expected. The comparison of residual impacts between CKR EIA Report and this CNMMP is shown in Table 3.2.

Table 3.2 Comparison of Residual Impacts between CKR EIA Report and this CNMMP (Residential Premises)

NSR	EIA Prediction					CNMMP Prediction				
	Max. Noise Level, dB(A)	Duration (month) of Exceedance				Max. Noise Level, dB(A)	Duration (month) of Exceedance			
		1-4 dB(A)	5 dB(A)	6 dB(A)	7 dB(A)		1-4 dB(A)	5 dB(A)	6 dB(A)	7 dB(A)
W-N8A	82	26	5	4	2	82	26	3	5	1
W-N25A	81	6	-	3	-	80	1	3	-	-
W-P11	77	4	-	-	-	75	-	-	-	-

Table 3.3 Comparison of Residual Impacts between CKR EIA Report and this CNMMP (Educational Institution During Examination Period)

NSR	EIA Prediction (during exam period )								CNMMP Prediction (during exam period)							
	Duration (month) of Exceedance								Duration (month) of Exceedance							
	1 dB(A)	2 dB(A)	3 dB(A)	4 dB(A)	5 dB(A)	6 dB(A)	7 dB(A)	≥8 dB(A)	1 dB(A)	2 dB(A)	3 dB(A)	4 dB(A)	5 dB(A)	6 dB(A)	7 dB(A)	≥8 dB(A)
W-N1A	2	3	-	1	-	-	-	-	-	2	-	-	-	-	-	-

Table 3.4 Comparison of Residual Impacts between CKR EIA Report and this CNMMP (Educational Institution During Normal Period)

NSR	EIA Prediction (during normal period )								CNMMP Prediction (during normal period)							
	Duration (month) of Exceedance								Duration (month) of Exceedance							
	1 dB(A)	2 dB(A)	3 dB(A)	4 dB(A)	5 dB(A)	6 dB(A)	7 dB(A)	≥8 dB(A)	1 dB(A)	2 dB(A)	3 dB(A)	4 dB(A)	5 dB(A)	6 dB(A)	7 dB(A)	8 dB(A)
W-N1A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

When comparing with the predicted noise impact in the EIA study, the residual impacts predicted in this CNMMP would either remain unchanged or reduced in respect of both exceedances and duration with the implementation of mitigation measures proposed in this CNMMP. Number of months of Examination periods for Yau Ma Tei Catholic Primary School (Hoi Wang Road) predicted to exceed the criterion for school examination periods was reduced from 6 from EIA report to 2 from this CNMMP. Number of months for Tak Cheong Building (W-N8A) predicted to experience the max. noise level (i.e. 82 dB(A)) was reduced from 2 months from EIA report to 1 month from this CNMMP. The predicted max. noise level at Prosperous Garden Block 1 (W-N25A) would be reduced from 81 dB(A) from EIA report to 80 dB(A) in this CNMMP and the during of exceedance would be reduced from 9 months from EIA report to 4 months from this CNMMP. Number of months for The Coronation Block 1 (W-P11) predicted to exceed the noise criteria was reduced from 4 months from EIA report to nil from this CNMMP.

Specific measures will be implemented for Tak Cheong Building (W-N8A), which is predicted to experience the most severe exceedance for the longest period. BKSKJV will well plan the working programme for those work sites close to W-N8A and try the best to shorten the working hours at weekends or avoid to carry out noisy activities at sensitive hours (0700 – 0900 & 1700 – 1900).



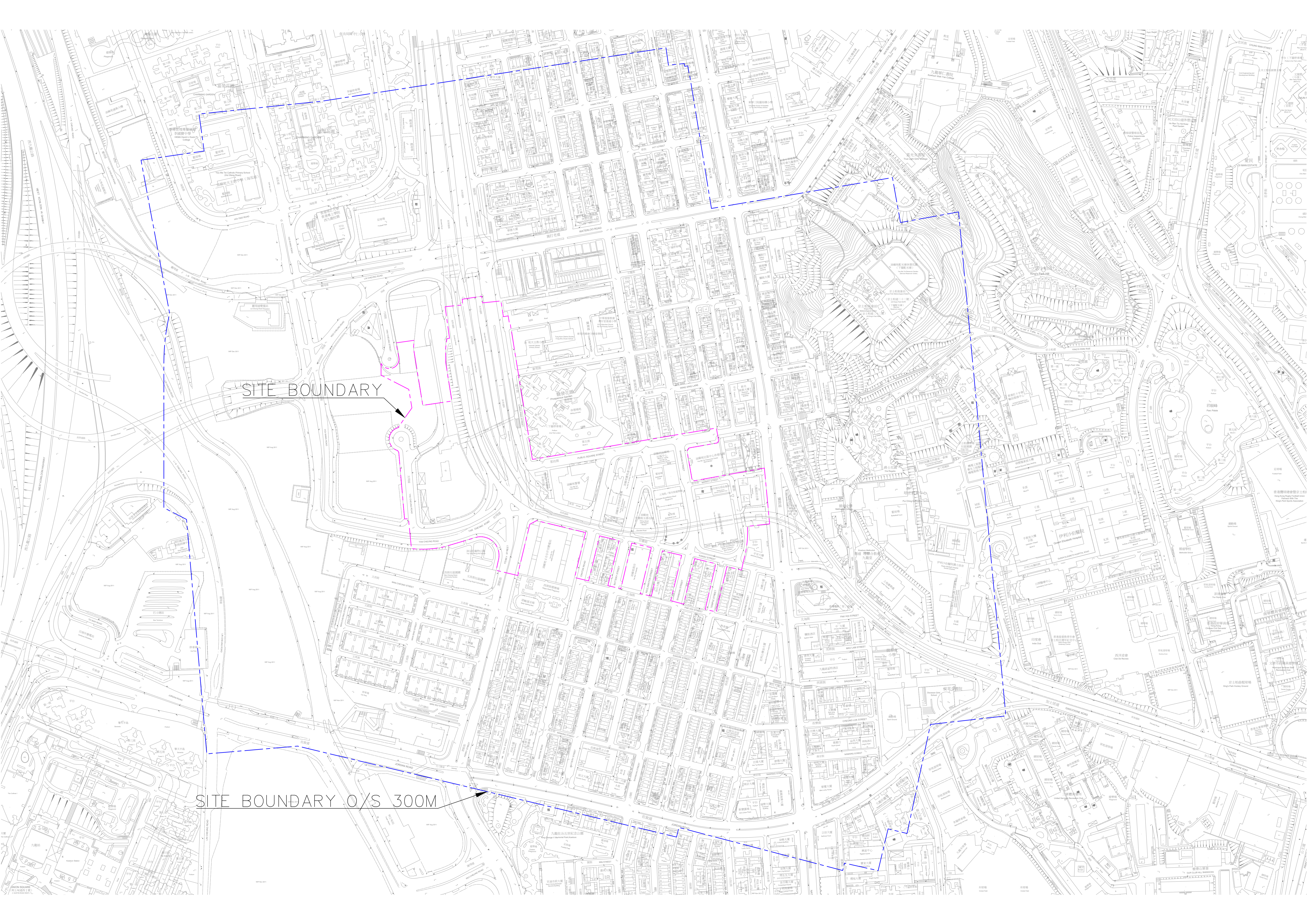
#### **4.0 Conclusion**

The CNMMP has predicted the construction noise impact from CKR-YMTE to identified NSRs. This plan has taken into account the updated information on PMEs and works programme which would be adopted by BKSKJV. With the implementation of mitigation measures in form of quiet plants, barrier and acoustic fabrics, the construction noise impact are predicted would either remain unchanged or to be reduced in respect of both exceedances and duration.

Further review and update will be performed with a frequency of at least every 6 months during the construction phase and liaison with affected parties is recommended to minimise the construction noise impacts as far as practicable.

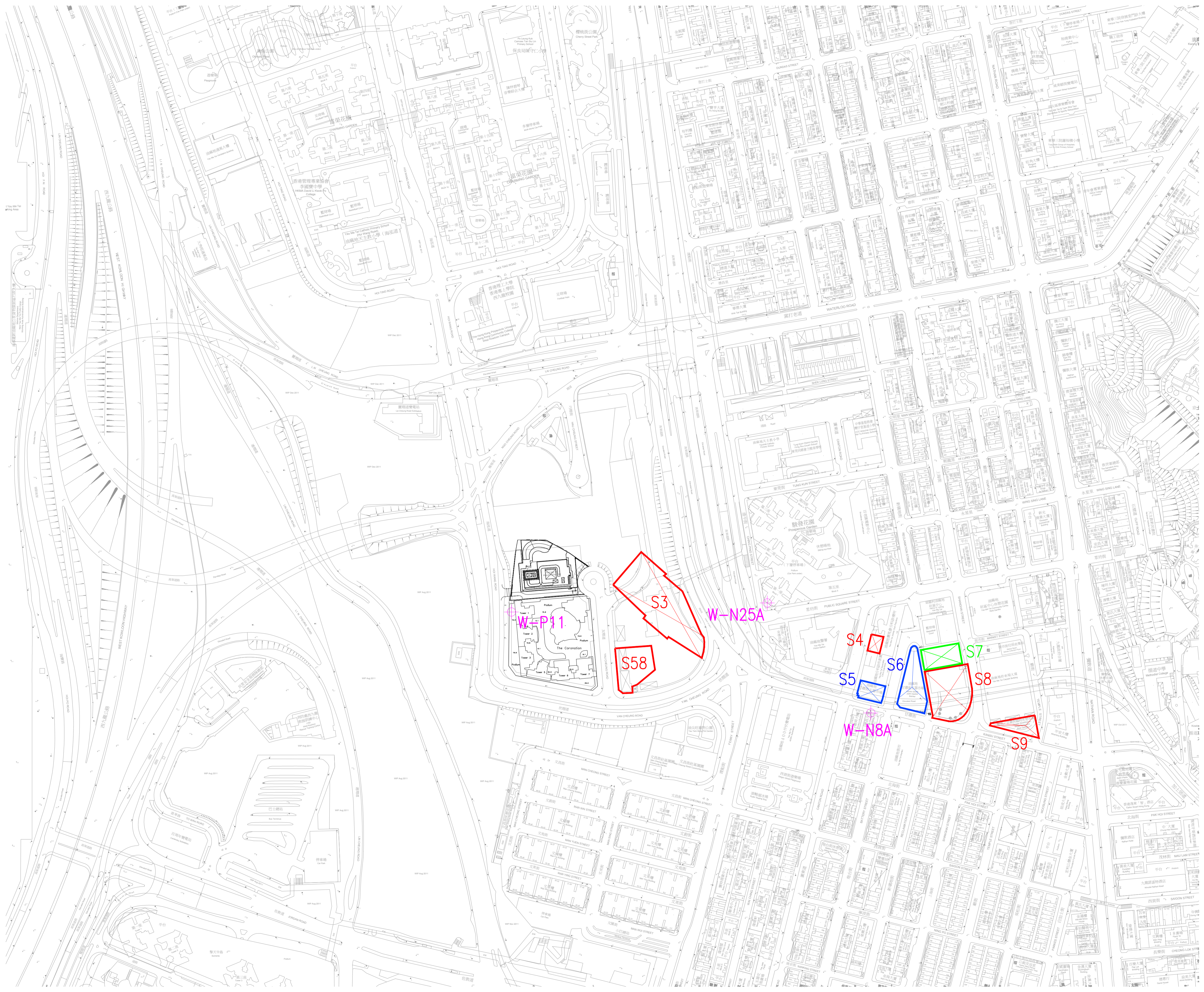
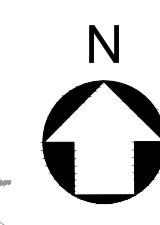
## **Appendix A**

### **Site Layout and NSR Locations**



SITE BOUNDARY

SITE BOUNDARY O/S 300M



Printed by : Chan Po Wah, Power  
Filename : YMTE\_West Portion\_10001A.dwg

A	SUBMISSION	PC	03/19
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修訂	內容摘要	設計	日期

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承建商



**BUILD KING - SKEC JOINT VENTURE**

Project title  
工程名稱

Contract No. HY/2014/08

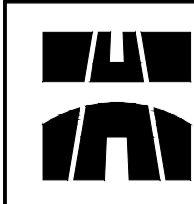
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Yau Ma Tei East

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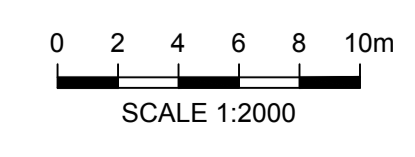
**APPENDIX  
LOCATIONS OF NSR'S AND  
NOTIONAL SOURCES  
(WEST PORTION - STAGE 1)**

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Scale 比例	1:2000 @A1 1:4000 @A3		

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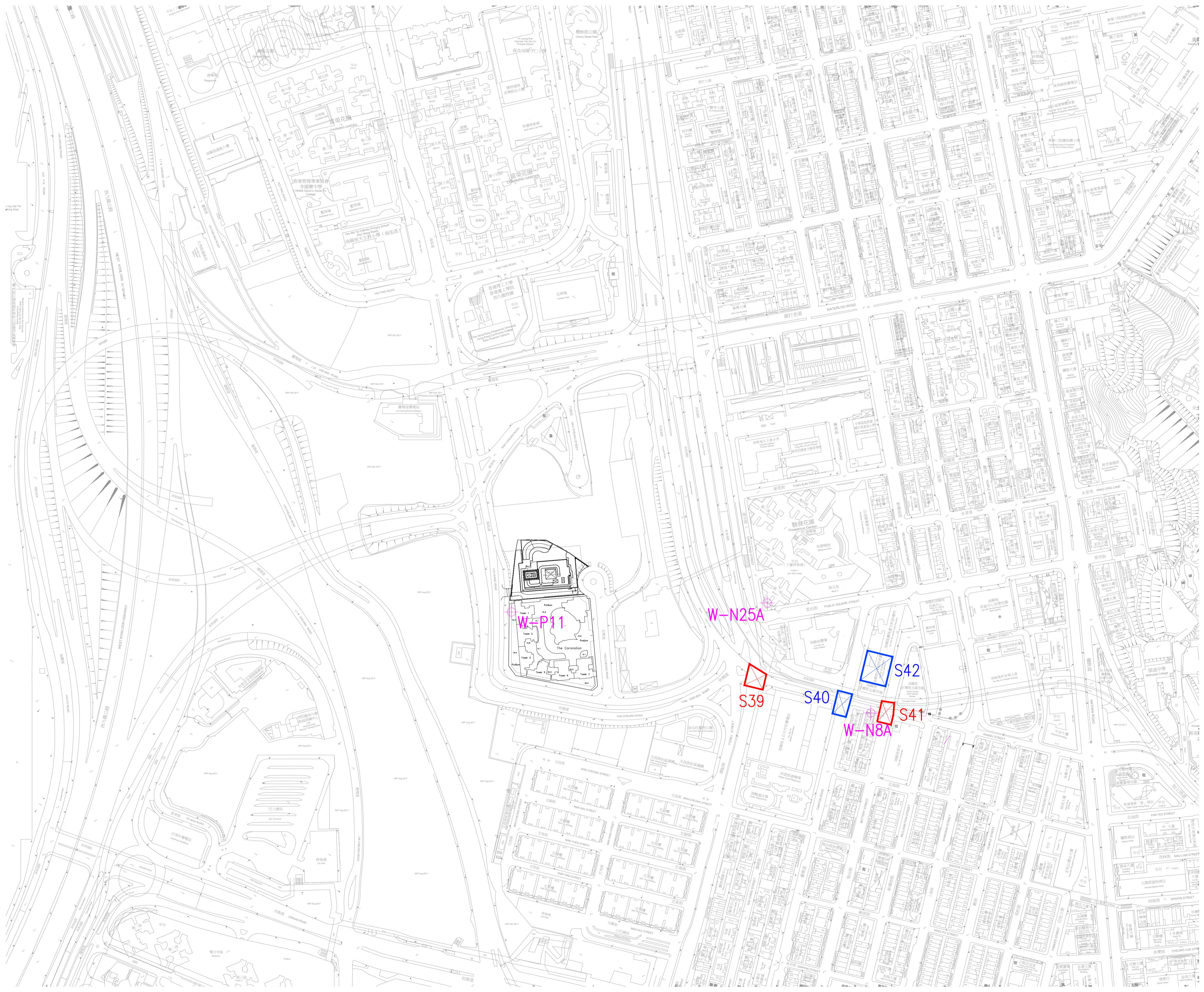
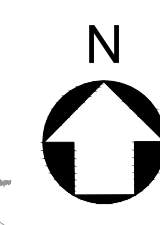
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Contractor  
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**BUILD KING - SKEC JOINT VENTURE**

Project title  
工程名稱

Contract No. HY/2014/08

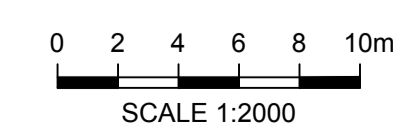
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Yau Ma Tei East

Drawing title  
圖紙名稱

**APPENDIX  
LOCATIONS OF NSR'S AND  
NOTIONAL SOURCES  
(WEST PORTION - STAGE 5)**

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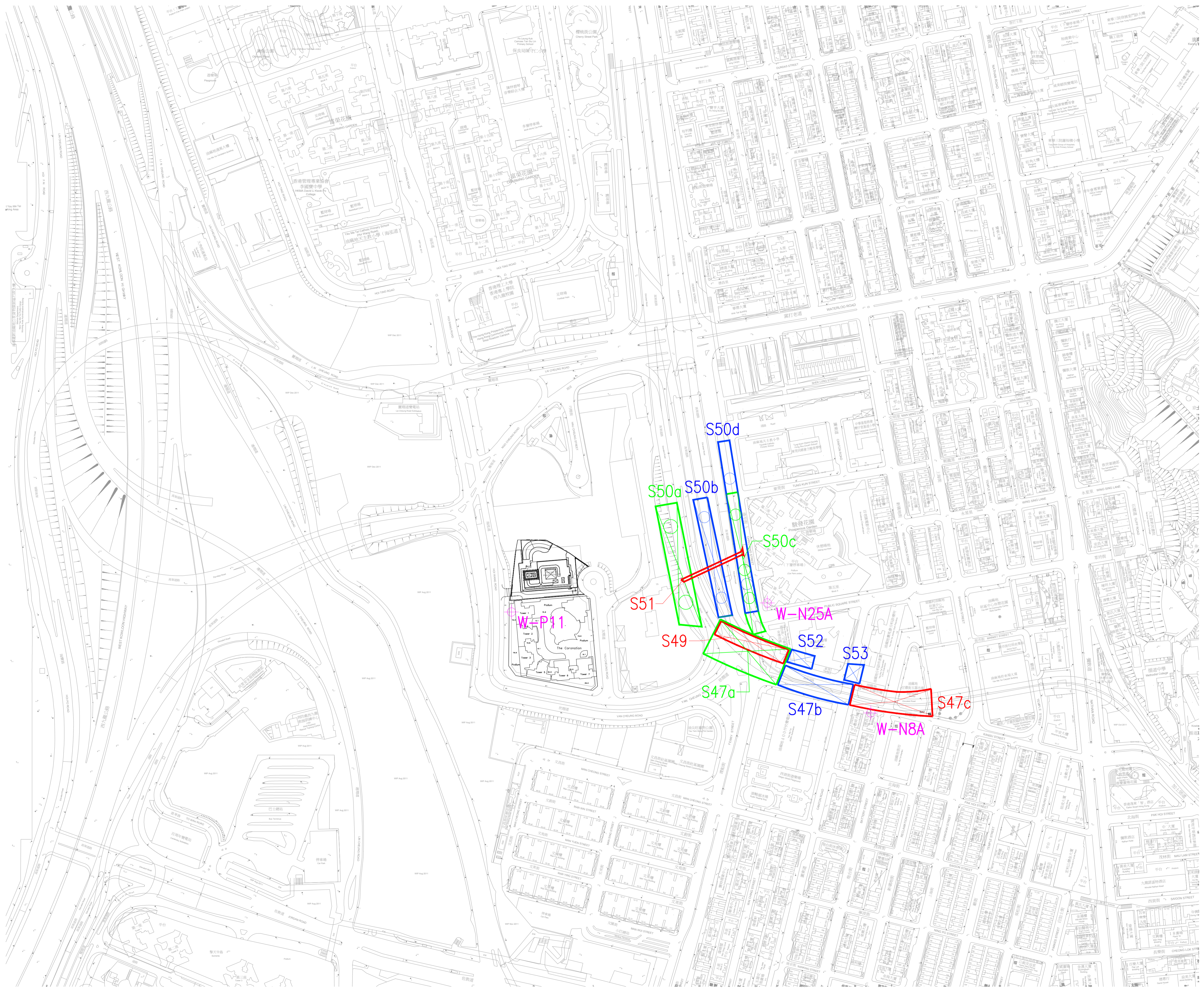
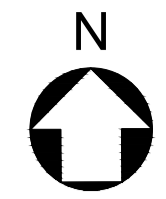
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**BUILD KING - SKEC JOINT VENTURE**

Project title  
 工程名稱

Contract No. HY/2014/08

Central Kowloon Route -  
 Yau Ma Tei East

Drawing title  
 圖紙名稱

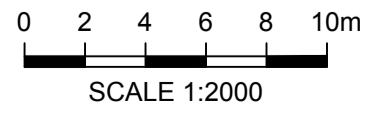
**APPENDIX  
 LOCATIONS OF NSR'S AND  
 NOTIONAL SOURCES  
 (WEST PORTION - STAGE 7)**

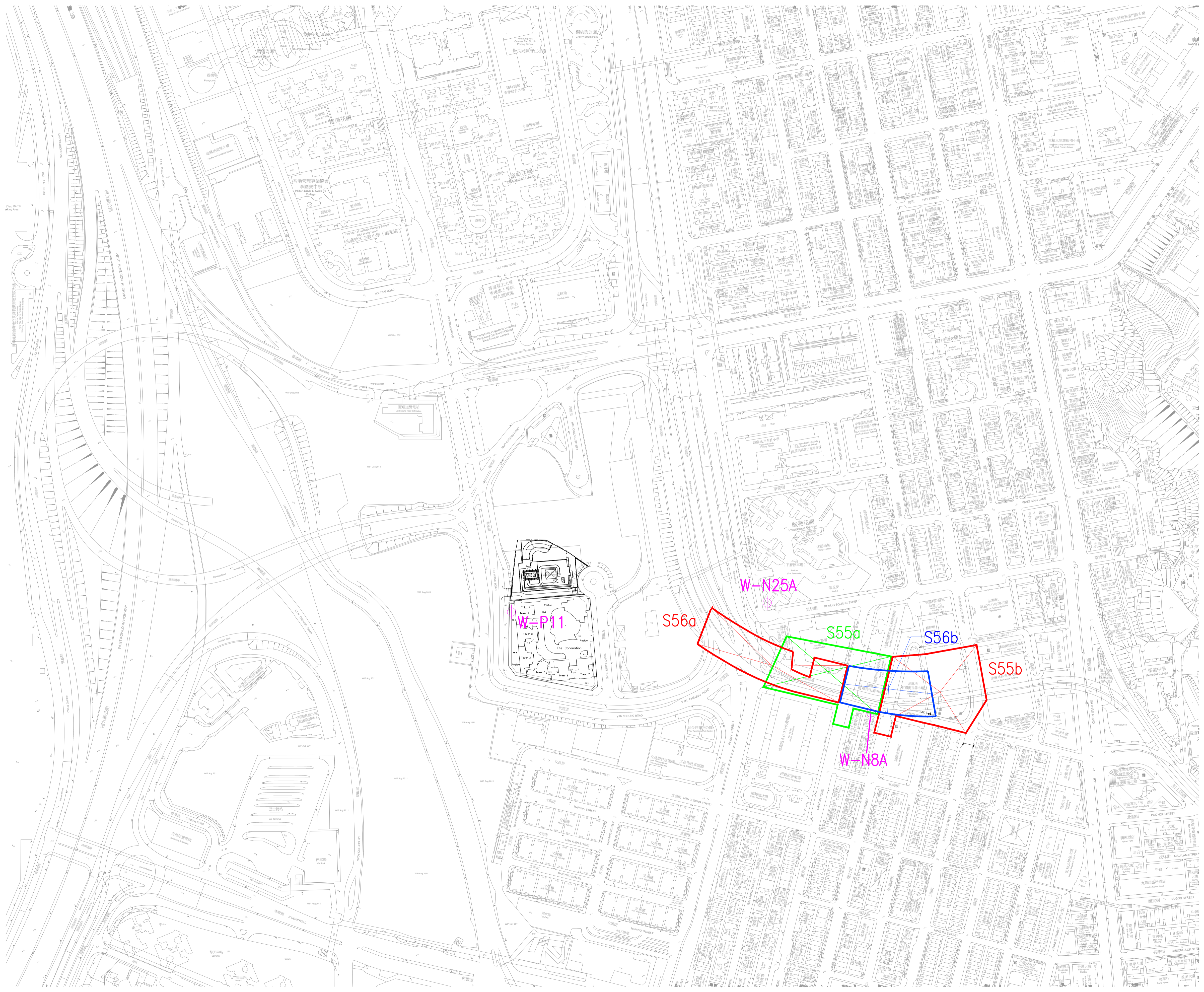
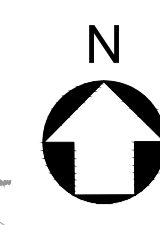
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Rev. 修訂	Description 內容摘要	By 設計	Date 日期

Contractor  
承建商



**BUILD KING - SKEC JOINT VENTURE**

Project title  
工程名稱

Contract No. HY/2014/08

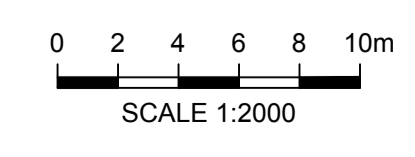
Central Kowloon Route -  
Yau Ma Tei East

Drawing title  
圖紙名稱

**APPENDIX  
LOCATIONS OF NSR'S AND  
NOTIONAL SOURCES  
(WEST PORTION - STAGE 8)**

Drawing no. 圖紙編號	BKSK/YMTE/C/10008	Rev. 修訂	A
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## **Appendix B**

# **Updated Preliminary Construction Programme**









## **Appendix C**

### **Detailed Construction Noise Assessment**

**Build King - SKEC Joint Venture**

Construction Noise Assessment

Period: 0700 to 1900 (except general holidays)

Noise Sensitive Receiver: W-N1A Yau Ma Tei Catholic Primary School (Hoi Wang Road)

Mitigation Measures Scenario

Noise Criteria: 70dB(A), 65dB(A) during exam

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Façade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)		
S3	Construct Dwall and Traffic Deck - Piling for King Post	Jul-18	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	300	-58	3	-5	47	51		
			Concrete pump	CNP047	109	80	-1	108	1	108	300	-58	3	-5	43			
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	300	-58	3	-5	44			
			Generator	CNP103	95	100	0	95	2	98	300	-58	3	-5	33			
			Lorry	CNP142	105	60	-2	103	1	103	300	-58	3	-5	43			
			or															
			Generator	CNP103	95	100	0	95	2	98	300	-58	3	-5	33			
			Lorry	CNP142	105	60	-2	103	1	103	300	-58	3	-5	43			
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	300	-58	3	-5	40			
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	2	112	300	-58	3	-5	48			
	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	300	-58	3	-5	38					
	Construct Dwall and Traffic Deck - Diaphragm Walls	Aug 2018 - Nov 2018	Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	300	-58	3	0	34	51		
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	300	-58	3	-5	47			
			Concrete pump	CNP047	109	80	-1	108	1	108	300	-58	3	-5	43			
			Generator	CNP103	95	100	0	95	2	98	300	-58	3	-5	33			
			Lorry	CNP142	105	70	-2	103	1	103	300	-58	3	-5	44			
			Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	300	-58	3	-5	40			
			or															
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	300	-58	3	-5	44			
			Generator	CNP103	95	100	0	95	2	98	300	-58	3	-5	33			
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	300	-58	3	-5	40			
	Construct Southern Dwall & Traffic Deck - Excavation for Diaphragm Walls	Nov 2018 - Jan 2019	Excavator/Loader, Wheeled/Tracked	CNP162	105	90	0	105	1	105	300	-58	3	-5	40	47		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	300	-58	3	-5	37			
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	300	-58	3	-5	44			
			Generator	CNP103	95	100	0	95	1	95	300	-58	3	-5	30			
			Lorry	CNP142	105	70	-2	103	1	103	300	-58	3	-5	44			
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	300	-58	3	-5	40			
Excavator/Loader, Wheeled/Tracked			CNP162	105	90	0	105	1	105	300	-58	3	-5	40				
Excavator/Loader, Wheeled/Tracked			EPD-01145	99	60	-2	97	1	97	300	-58	3	-5	37				
Bar Bender and Cutter			CNP021	90	70	-2	88	1	88	300	-58	3	0	34				
Concrete Lorry Mixer			CNP044	109	60	-2	107	1	107	300	-58	3	-5	47				
Construct Southern Dwall & Traffic Deck - Concreting for Diaphragm Walls	Feb-19	Concrete pump	CNP047	109	80	-1	108	1	108	300	-58	3	-5	43	49			
		Generator	CNP103	95	70	-2	93	1	93	300	-58	3	-5	29				
Construct Southern Dwall & Traffic Deck - Temporary Traffic Deck	Mar-19	Generator	CNP103	95	70	-2	93	1	93	300	-58	3	-5	29	47			
		Lorry	CNP142	105	90	0	105	1	105	300	-58	3	-5	45				
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	300	-58	3	-5	38				
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	300	-58	3	-5	40				
S13a	Removal of Excavated Material through West End Portal	Apr 2019 - Mar 2020	Dump Truck with Grab	CNP069	105	70	-2	103	10	113	300	-58	3	-5	54	54		





Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
16a	Construct Dwall and Traffic Deck - Piling for King Post	Jul-18	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	55	-43	3	-5	62	66
			Concrete pump	CNP047	109	80	-1	108	1	108	55	-43	3	-10	58	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	55	-43	3	-5	59	
			Generator	CNP103	95	100	0	95	2	98	55	-43	3	-10	48	
			Lorry	CNP142	105	60	-2	103	1	103	55	-43	3	-5	58	
			or													
	Construct Middle Dwall and Traffic Deck - Diaphragm Walls	Oct 2018 Jan 2019	Generator	CNP103	95	100	0	95	2	98	55	-43	3	-10	48	65
			Lorry	CNP142	105	60	-2	103	1	103	55	-43	3	-5	58	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	55	-43	3	-5	55	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	2	112	55	-43	3	-10	63	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	55	-43	3	-5	53	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	55	-43	3	0	49	
	Construct Middle Dwall and Traffic Deck - Diaphragm Walls	Oct 2018 Jan 2019	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	55	-43	3	-5	62	65
			Concrete pump	CNP047	109	80	-1	108	1	108	55	-43	3	-10	58	
			Generator	CNP103	95	100	0	95	2	98	55	-43	3	-10	48	
			Lorry	CNP142	105	70	-2	103	1	103	55	-43	3	-5	59	
			Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	55	-43	3	-5	55	
			or													
	Construct Middle Dwall and Traffic Deck - Temporary Traffic Deck	Feb 2019	Dump Truck with Grab	CNP069	105	70	-2	103	1	103	55	-43	3	-5	59	62
			Generator	CNP103	95	100	0	95	2	98	55	-43	3	-10	48	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	55	-43	3	-5	55	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	55	-43	3	-10	55	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	55	-43	3	-5	52	
			Generator	CNP103	95	70	-2	93	1	93	55	-43	3	-10	44	
Construct Middle Dwall and Traffic Deck - Temporary Traffic Deck	Feb 2019	Lorry	CNP142	105	90	0	105	1	105	55	-43	3	-5	60	62	
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	55	-43	3	-5	53		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	55	-43	3	-5	55		
		Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	22	-35	3	-5	70		
		Concrete pump	CNP047	109	80	-1	108	1	108	22	-35	3	-10	66		
		Dump Truck with Grab	CNP069	105	70	-2	103	1	103	22	-35	3	-5	67		
Construct Dwall and Traffic Deck - Piling for King Post	Jul-18	Generator	CNP103	95	100	0	95	2	98	22	-35	3	-10	56	74	
		Lorry	CNP142	105	60	-2	103	1	103	22	-35	3	-5	66		
		or														
		Generator	CNP103	95	100	0	95	2	98	22	-35	3	-10	56		
		Lorry	CNP142	105	60	-2	103	1	103	22	-35	3	-5	67		
		Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	22	-35	3	-5	63		
Construct Middle Dwall and Traffic Deck - Diaphragm Walls	Oct 2018 Jan 2019	Dump Truck with Grab	CNP069	105	70	-2	103	1	103	22	-35	3	-5	67	70	
		Generator	CNP103	95	100	0	95	2	98	22	-35	3	-10	56		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	22	-35	3	-5	63		
		Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	22	-35	3	-10	63		
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	22	-35	3	-5	60		
		Generator	CNP103	95	70	-2	93	1	93	22	-35	3	-10	52		
Construct Middle Dwall and Traffic Deck - Temporary Traffic Deck	Feb 2019	Lorry	CNP142	105	90	0	105	1	105	22	-35	3	-5	68	70	
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	22	-35	3	-5	61		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	22	-35	3	-5	63		
		Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	60	-2	108	1	108	135	-51	3	-5	55		
		Dump Truck with Grab	CNP069	105	70	-2	103	2	106	135	-51	3	-5	54		
		Crane crusher, excavator mounted	CNP044	109	60	-2	107	1	107	135	-51	3	-5	70		
Construct Middle Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Apr-19	Crane Mobile	BS D7-114	101	70	-2	99	1	99	135	-51	3	-5	47	59	
		Saw, Wire	CNP205	101	60	-2	99	1	99	135	-51	3	-5	46		
		Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	32	-38	3	0	53		
		Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	32	-38	3	-5	67		
		Concrete pump	CNP047	109	80	-1	108	1	108	32	-38	3	-10	63		
		Dump Truck with Grab	CNP069	105	70	-2	103	1	103	32	-38	3	-5	63		
Construct Middle Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2019 Jun 2019	Generator	CNP103	95	100	0	95	1	93	32	-38	3	-10	56	72	
		Lorry	CNP142	105	70	-2	103	1	103	32	-38	3	-5	63		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	32	-38	3	-5	59		
		Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	32	-38	3	-10	59		
		Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	32	-38	3	-5	60		
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	32	-38	3	-5	57		
Construct Middle Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Apr-19	Generator	CNP103	95	100	0	95	1	93	32	-38	3	-10	48	69	
		Lorry	CNP142	105	70	-2	103	1	103	32	-38	3	-5	64		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	32	-38	3	-5	60		
		Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	45	-41	3	-10	56		
		Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	45	-41	3	-5	57		
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	45	-41	3	-5	54		
Construct Middle Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2019 Jun 2019	Generator	CNP103	95	100	0	95	1	93	45	-41	3	-10	48	63	
		Lorry	CNP142	105	90	0	105	1	105	45	-41	3	-5	64		
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	45	-41	3	-5	57		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	45	-41	3	-5	59		
		Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	45	-41	3	0	50		
		Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	45	-41	3	-5	64		
Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Reclamation Street to Ferry Street) - Foundation and pier	Jul-19	Concrete pump	CNP047	109	80	-1	108	1	108	45	-41	3	-10	60	74	
		Dump Truck with Grab	CNP069	105	70	-2	103	1	103	45	-41	3	-5	60		
		Generator	CNP103	95	100	0	95	1	95	45	-41	3	-10	47		
		Lorry	CNP142	105	70	-2	103	1	103	45	-41	3	-5	60		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	45	-41	3	-5	56		
		or														
Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Reclamation Street to Ferry Street) - Bridge Deck	Aug 2019 Sep 2019	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	31	-38	3	-5	70	68	
		Dump Truck with Grab	CNP069	105	60	-2	103	2	106	31	-38	3	-5	66		
		Generator	CNP103	95	100	0	95	3	100	31	-38	3	-10	55		
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	2	99	31	-38	3	-5	59		
		Crane Mobile	BS D7-114	105	60	-2	103	2	106	31	-38	3	-5	66		
		Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	31	-38	3	0	54		
Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Reclamation Street to Ferry Street) - Surfacing, MJ, noise	Oct-19	Concrete pump	CNP047	109	70	-2	107	1	107	31	-38	3	-10	63	65	
		Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	31	-38	3	-10	68		
		Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	3	104	31	-38	3	-5	64		
		Crane Mobile	BS D7-114	101	60	-2	99	2	102	31	-38	3	-5	62		
		Generator	CNP103	95	100	0	95	3	100	31	-38	3	-10	55		
		Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	31	-38	3	0	54		
Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Reclamation Street to Ferry Street) - Surfacing, MJ, noise	Oct-19	Concrete pump	CNP047	109	70	-2	107	1	107	31	-38	3	-10	63	65	
		Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	31	-38	3	-10	68		
		Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	3	104	31	-38	3	-5	64		
		Crane Mobile	BS D7-114	101	60	-2	99	2	102	31	-38	3	-5	62		
		Generator	CNP103	95	100	0	95	3	100	31	-38	3	-10	55		
		Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	31	-38	3	0	54		
Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Reclamation Street to Ferry Street) - Surfacing, MJ, noise	Aug-19	Concrete pump	CNP047	109	70	-2	107	1	107	100	-48	3	-10	52	64	
		Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	100	-48	3	-10			

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S28	Diversion of Ferry Street Junction	Jul 2019 - Sep 2019	Asphalt Paver	EPD-01126	104	80	-1	103	1	103	160	-52	3	-5	49	60
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	160	-52	3	-5	56	
			Dump Truck with Grab	CNP069	105	70	-2	103	2	106	160	-52	3	-5	52	
			Generator	CNP103	95	100	0	95	3	100	160	-52	3	-10	41	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	3	105	160	-52	3	-5	51	
			Road Roller	EPD-01183	97	70	-2	95	2	98	160	-52	3	-5	44	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	160	-52	3	-5	48	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	160	-52	3	-5	45	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	160	-52	3	0	39	
			Concrete pump	CNP047	109	80	-1	108	1	108	160	-52	3	-10	49	
S29	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jul-19	Generator	CNP103	95	100	0	95	1	95	140	-51	3	-10	37	55
			Lorry	CNP142	105	60	-2	103	1	103	140	-51	3	-5	50	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	140	-51	3	-5	47	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	1	109	140	-51	3	-10	52	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	140	-51	3	-5	45	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting for King post	Aug-19	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	140	-51	3	-5	54	55
			Concrete pump	CNP047	109	80	-1	108	1	108	140	-51	3	-10	50	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	140	-51	3	-5	51	
			Generator	CNP103	95	100	0	95	1	95	140	-51	3	-10	37	
			Lorry	CNP142	105	70	-2	103	1	103	140	-51	3	-5	51	
S30	Construct Southern Dwall & Dwall Crossing Ferry Street - Excavation for Diaphragm Walls	Sep 2019 - Nov 2019	Crane Mobile	BS D7-114	101	70	-2	99	1	99	140	-51	3	-5	47	55
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	140	-51	3	-10	47	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	140	-51	3	-5	44	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	140	-51	3	0	41	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	140	-51	3	-5	54	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Temporary Traffic Deck	Jan-20	Concrete pump	CNP047	109	80	-1	108	1	108	140	-51	3	-10	50	53
			Generator	CNP103	95	70	-2	93	1	93	140	-51	3	-10	36	
			Lorry	CNP142	105	90	0	105	1	105	140	-51	3	-5	52	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	140	-51	3	-5	45	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	140	-51	3	-5	47	
S31	Underpinning Works for YMT Police Station - Diaphragm Wall and Transfer Beams	Jun 2019 - Sep 2019	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	85	-47	3	-5	61	66
			Concrete pump	CNP047	109	80	-1	108	1	108	85	-47	3	-10	54	
			Dump Truck with Grab	CNP069	105	60	-2	103	2	106	85	-47	3	-5	57	
			Generator	CNP103	95	100	0	95	2	98	85	-47	3	-10	44	
			Lorry	CNP142	105	70	-2	103	2	106	85	-47	3	-5	58	
	Underpinning Works for YMT Police Station - Underpinning Excavation	Oct 2019	Crane Mobile	BS D7-114	101	70	-2	99	1	99	85	-47	3	-5	51	58
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	85	-47	3	-10	51	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	3	105	85	-47	3	-5	57	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	85	-47	3	-5	48	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	2	88	85	-47	3	0	44	
S32	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jul-19	Dump Truck with Grab	CNP069	105	60	-2	103	2	106	85	-47	3	-5	57	64
			Generator	CNP103	95	100	0	95	2	98	85	-47	3	-10	44	
			Lorry	CNP142	105	70	-2	103	2	106	85	-47	3	-5	58	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	85	-47	3	-5	51	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	85	-47	3	-10	51	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting	Aug-19	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	85	-47	3	-5	44	64
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	85	-47	3	0	42	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	85	-47	3	-5	62	
			Concrete pump	CNP047	109	80	-1	108	1	108	85	-47	3	-10	58	
			Generator	CNP103	95	70	-2	93	1	93	85	-47	3	-10	44	
S33	Construct Southern Dwall & Dwall Crossing Ferry Street - Excavation for Diaphragm Walls	Sep 2019 - Nov 2019	Dump Truck with Grab	CNP069	105	70	-2	103	1	103	55	-43	3	-5	59	64
			Generator	CNP103	95	100	0	95	1	95	55	-43	3	-10	45	
			Lorry	CNP142	105	70	-2	103	1	103	55	-43	3	-5	59	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	55	-43	3	-5	55	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	55	-43	3	-10	55	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Concreting for Diaphragm Walls	Dec 2019	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	55	-43	3	-5	52	64
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	55	-43	3	0	46	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	55	-43	3	-5	62	
			Concrete pump	CNP047	109	80	-1	108	1	108	55	-43	3	-10	58	
			Generator	CNP103	95	70	-2	93	1	93	55	-43	3	-10	44	
S34	Construct Southern Dwall & Dwall Crossing Ferry Street - Temporary Traffic Deck	Jan 2020	Lorry	CNP142	105	90	0	105	1	105	55	-43	3	-5	60	62
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	55	-43	3	-5	53	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	55	-43	3	-5	55	
			Generator	CNP103	95	100	0	95	1	95	55	-43	3	-10	44	
			Lorry	CNP142	105	70	-2	103	1	103	55	-43	3	-5	62	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jul-19	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	8	-26	3	-5	62	80
			Lorry	CNP142	105	60	-2	103	1	103	8	-26	3	-5	75	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	8	-26	3	-5	71	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	1	109	8	-26	3	-10	76	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	8	-26	3	-5	69	
S35	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting	Aug-19	Concrete Lorry Mixer	CNP044	109	50	-3	106	1	106	8	-26	3	-5	78	81
			Concrete pump	CNP047	109	50	-3	106	1	106	8	-26	3	-10	73	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	8	-26	3	-5	75	
			Generator	CNP103	95	100	0	95	1	95	8	-26	3	-10	62	
			Lorry	CNP142	105	70	-2	103	1	103	8	-26	3	-5	75	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Excavation for Diaphragm Walls	Sep 2019 - Nov 2019	Crane Mobile	BS D7-114	101	70	-2	99	1	99	8	-26	3	-5	71	80
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	8	-26	3	-10	71	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	8	-26	3	-5	69	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	8	-26	3	0	65	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	8	-26	3	-5	79	
S36	Construct Southern Dwall & Dwall Crossing Ferry Street - Concreting for Diaphragm Walls	Dec 2019	Concrete pump	CNP047	109	80	-1	108	1	108	8	-26	3	-10	75	68
			Generator	CNP103	95	70	-2	93	1	93	8	-26	3	-10	60	
			Lorry	CNP142	105	90	0	105	1	105	8	-26	3	-5	76	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	8	-26	3	-5	67	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	8	-26	3	-5	71	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Temporary Traffic Deck	Jan 2020	Generator	CNP103	95	100	0	95	1	95	32	-38	3	-10	50	68
			Lorry	CNP142	105	60	-2	103	1	103	32	-38	3	-5	63	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	32	-38	3	-5	59	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	1	109	32	-38	3	-10	64	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	32	-38	3	-5	57	
S37	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting	Aug 2019	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	32	-38	3	-5	67	69
			Concrete pump	CNP047	109	80	-1	108	1	108	32	-38	3	-10	63	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	32	-38	3	-5	63	
			Generator	CNP103	95	100	0	95	1	95	32	-38	3	-10	50	
			Lorry	CNP142	105	70	-2	103	1	103	32	-38	3	-5	63	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Excavation for															

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Façade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S37a	Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Foundation and pier	Jun 2020	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	23	-35	3	-5	73	77
			Dump Truck with Grab	CNP069	105	60	-2	103	2	106	23	-35	3	-5	69	
			Generator	CNP103	95	100	0	95	3	100	23	-35	3	-10	58	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	2	99	23	-35	3	-5	62	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	23	-35	3	-5	65	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	23	-35	3	0	56	
	Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Bridge Deck	Jul 2020 - Aug 2020	Concrete pump	CNP047	109	70	-2	107	1	107	23	-35	3	-10	65	
			Asphalt Paver	EPD-01126	104	50	-3	101	1	101	23	-35	3	-5	58	
			Road Roller	EPD-01183	97	60	-2	95	1	95	23	-35	3	-5	58	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	23	-35	3	-5	65	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	90	-47	3	-5	61	
			Dump Truck with Grab	CNP069	105	60	-2	103	2	106	90	-47	3	-5	57	
S37b	Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Foundation and pier	Mar 2020	Generator	CNP103	95	100	0	95	3	100	90	-47	3	-10	46	65
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	2	99	90	-47	3	-5	50	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	90	-47	3	-5	53	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	90	-47	3	0	44	
			Concrete pump	CNP047	109	70	-2	107	1	107	90	-47	3	-10	53	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	90	-47	3	-10	53	
	Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Bridge Deck	Apr 2020 - May 2020	Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	3	104	90	-47	3	-5	59	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	90	-47	3	-5	53	
			Generator	CNP103	95	100	0	95	3	100	90	-47	3	-10	46	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	90	-47	3	0	44	
			Concrete pump	CNP047	109	70	-2	107	1	107	90	-47	3	-10	53	
			Asphalt Paver	EPD-01126	104	50	-3	101	1	101	90	-47	3	-5	52	
S39	Construct Southern Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Mar 2020 - Apr 2020	Road Roller	EPD-01183	97	60	-2	95	1	95	90	-47	3	-5	46	60
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	90	-47	3	-5	53	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	120	-50	3	0	42	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	120	-50	3	-5	55	
			Concrete pump	CNP047	109	80	-1	108	1	108	120	-50	3	-10	51	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	120	-50	3	-5	52	
	Construct Southern Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2020	Generator	CNP103	95	100	0	95	1	95	120	-50	3	-10	38	
			Lorry	CNP142	105	70	-2	103	1	103	120	-50	3	-5	52	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	120	-50	3	-5	48	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	120	-50	3	-10	48	
			Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	120	-50	3	-5	48	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	120	-50	3	-5	45	
S40	Construct Southern Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Mar 2020 - Apr 2020	Generator	CNP103	95	70	-2	93	1	93	120	-50	3	-10	37	72
			Lorry	CNP142	105	90	0	105	1	105	120	-50	3	-5	53	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	120	-50	3	-5	46	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	120	-50	3	-5	48	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	29	-37	3	0	54	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	29	-37	3	-5	68	
	Construct Southern Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2020	Concrete pump	CNP047	109	80	-1	108	1	108	29	-37	3	-10	64	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	29	-37	3	-5	64	
			Generator	CNP103	95	100	0	95	1	95	29	-37	3	-10	51	
			Lorry	CNP142	105	70	-2	103	1	103	29	-37	3	-5	64	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	29	-37	3	-5	60	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	29	-37	3	-10	60	
S41	Construct Southern Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Mar 2020 - Apr 2020	Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	29	-37	3	-5	61	78
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	29	-37	3	-5	58	
			Generator	CNP103	95	70	-2	93	1	93	29	-37	3	-10	49	
			Lorry	CNP142	105	90	0	105	1	105	29	-37	3	-5	65	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	29	-37	3	-5	58	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	29	-37	3	-5	60	
	Construct Southern Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2020	Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	15	-32	3	0	60	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	15	-32	3	-5	73	
			Concrete pump	CNP047	109	80	-1	108	1	108	15	-32	3	-10	70	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	15	-32	3	-5	70	
			Generator	CNP103	95	100	0	95	1	95	15	-32	3	-10	56	
			Lorry	CNP142	105	70	-2	103	1	103	15	-32	3	-5	70	
S42	Demolish special clinic extension building	Jan 2020 - Jun 2020	Crane Mobile	BS D7-114	101	70	-2	99	1	99	15	-32	3	-5	66	71
			Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	70	-2	108	1	108	40	-40	3	-5	66	
			Dump Truck with Grab	CNP069	105	70	-2	103	3	108	40	-40	3	-5	66	
			Concrete crusher, excavator mounted	CNP055	103	90	0	103	2	106	40	-40	3	-5	64	
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	40	-40	3	-5	60	
			Saw, Wire	CNP205	101	70	-2	99	2	102	40	-40	3	-5	60	
	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Generator	CNP103	95	100	0	95	2	98	40	-40	3	-10	51	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	5	105	135	-51	3	-20	37	
			Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	5	114	135	-51	3	-20	46	
			Ventilation Fan	CNP241	108	90	0	108	10	118	135	-51	3	-15	55	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	12	96	135	-51	3	-20	28	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	3	112	135	-51	3	-20	44	
S43	Piling Works for Cut and Cover Tunnel (under cover of traffic deck)	Dec 2020 - Jul 2022	Concrete pump	CNP047	109	80	-1	108	3	108	135	-51	3	-20	40	52
			Generator	CNP103	95	100	0	95	6	103	135	-51	3	-20	35	
			Crane Mobile	BS D7-114	101	70	-2	99	4	105	135	-51	3	-20	38	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	6	118	135	-51	3	-20	51	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	135	-51	3	-20	33	
			Generator	CNP103	95	100	0	95	3	100	55	-43	3	-10	50	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jun-20	Lorry	CNP142	105	60	-2	103	1	103	55	-43	3	-5	58	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	55	-43	3	-5	55	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	3	114	55	-43	3	-10	64	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	55	-43	3	-5	53	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	55	-43	3	-5	65	
			Concrete pump	CNP047	109	80	-1	108	1	108	55	-43	3	-10	58	
S44	Construct Southern Dwall & Traffic Deck - Excavation for Diaphragm Walls	Jul 2020 - Aug 2020	Dump Truck with Grab	CNP069	105	70	-2	103	1	103	55	-43	3	-5	59	66
			Generator	CNP103	95	100	0	95	4	101	55	-43	3	-10	51	
			Lorry	CNP142	105	70	-2	103	1	103	55	-43	3	-5	59	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	55	-43	3	-5	55	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	55	-43	3	-5	52	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	55	-43	3	0	49	
	Construct Southern Dwall & Traffic Deck - Concreting for Diaphragm Walls	Aug 2020	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	55	-43	3	-5	65	
			Concrete pump	CNP047	109	80	-1	108	1	108	55	-43	3	-10	58	
			Generator	CNP103	95	70	-2	93	1	93	55	-43	3	-10	44	
			Lorry	CNP142	105	90	0	105	2	108	55	-43	3	-5	63	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	55	-43	3	-5	53	
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	55	-43	3	-5	58	

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S45	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jun-20	Generator	CNP103	95	100	0	95	3	100	30	-38	3	-10	55	71
			Lorry	CNP142	105	60	-2	103	1	103	30	-38	3	-5	63	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	30	-38	3	-5	60	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	3	114	30	-38	3	-10	70	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	30	-38	3	-5	58	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	30	-38	3	-5	70	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting	Jul-20	Concrete pump	CNP047	109	60	-1	108	1	108	30	-38	3	-10	63	71
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	30	-38	3	-5	64	
			Generator	CNP103	95	100	0	95	4	101	30	-38	3	-10	56	
			Lorry	CNP142	105	70	-2	103	1	103	30	-38	3	-5	64	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	30	-38	3	-5	60	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	2	108	30	-38	3	-10	63	
S45	Construct Southern Dwall & Traffic Deck - Excavation for Diaphragm Walls	Jul 2020 - Aug 2020	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	30	-38	3	-5	57	71
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	30	-38	3	0	54	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	30	-38	3	-5	70	
			Concrete pump	CNP047	109	60	-1	108	1	108	30	-38	3	-10	63	
			Generator	CNP103	95	70	-2	93	1	93	30	-38	3	-10	49	
			Lorry	CNP142	105	90	0	105	2	108	30	-38	3	-5	68	
	Construct Southern Dwall & Traffic Deck - Temporary Traffic Deck	Sep 2020	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	30	-38	3	-5	58	70
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	30	-38	3	-5	63	
			Generator	CNP103	95	100	0	95	3	100	60	-44	3	-20	39	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	60	-44	3	-20	40	
			Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	2	110	60	-44	3	-20	49	
			Ventilation Fan	CNP241	108	90	0	108	3	112	60	-44	3	-15	57	
S46a	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Water Pump, Submersible (Electric)	CNP044	109	60	-2	107	2	110	60	-44	3	-20	49	50
			Concrete Lorry Mixer	CNP047	109	60	-1	108	1	108	60	-44	3	-20	46	
			Concrete pump	CNP047	109	60	-1	108	1	108	60	-44	3	-20	46	
			Generator	CNP103	95	100	0	95	2	98	60	-44	3	-20	37	
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	60	-44	3	-20	39	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	60	-44	3	-20	45	
	Piling Works for Cut and Cover Tunnel (under cover of traffic deck)	Dec 2020 - Jul 2022	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	60	-44	3	-20	29	47
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	60	-44	3	-20	34	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	60	-44	3	-20	45	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	60	-44	3	-20	29	
			Generator	CNP103	95	100	0	95	3	100	60	-44	3	-20	39	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	60	-44	3	-20	40	
S46b	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	2	110	60	-44	3	-20	49	58
			Ventilation Fan	CNP241	108	90	0	108	3	112	60	-44	3	-15	57	
			Water Pump, Submersible (Electric)	CNP044	109	60	-2	107	2	110	60	-44	3	-20	49	
			Concrete Lorry Mixer	CNP047	109	60	-1	108	1	108	60	-44	3	-20	46	
			Concrete pump	CNP047	109	60	-1	108	1	108	60	-44	3	-20	46	
			Generator	CNP103	95	100	0	95	2	98	60	-44	3	-20	37	
	Piling Works for Cut and Cover Tunnel (under cover of traffic deck)	Dec 2020 - Jul 2022	Crane Mobile	BS D7-114	101	70	-2	99	1	99	60	-44	3	-20	39	55
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	60	-44	3	-20	53	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	60	-44	3	-20	37	
			Generator	CNP103	95	100	0	95	3	100	60	-44	3	-20	39	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	60	-44	3	-20	40	
			Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	2	110	60	-44	3	-20	49	
S46c	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Ventilation Fan	CNP241	108	90	0	108	3	112	60	-44	3	-15	70	71
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	60	-44	3	-20	44	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	60	-44	3	-20	46	
			Concrete pump	CNP047	109	60	-1	108	1	108	60	-44	3	-20	61	
			Generator	CNP103	95	100	0	95	2	98	60	-44	3	-20	51	
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	60	-44	3	-20	34	
	Piling Works for Cut and Cover Tunnel (under cover of traffic deck)	Dec 2020 - Jul 2022	Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	60	-44	3	-20	66	68
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	60	-44	3	-20	50	
			Generator	CNP103	95	100	0	95	1	95	120	-50	3	-20	28	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	120	-50	3	-20	22	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	120	-50	3	-20	40	
			Concrete pump	CNP047	109	60	-1	108	1	108	120	-50	3	-20	41	
S47a	Underpinning of Existing Bridges (under cover of traffic deck)	Nov 2020 - Apr 2021	Crane Mobile	BS D7-114	101	70	-2	99	1	99	120	-50	3	-20	33	48
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	120	-50	3	-20	30	
			Ventilation Fan	CNP241	108	90	0	108	1	108	120	-50	3	-15	46	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	1	85	120	-50	3	-20	18	
			Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	120	-50	3	-20	21	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	120	-50	3	-20	40	
	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Aug 2020 - Nov 2022	Concrete pump	CNP047	109	60	-1	108	1	108	120	-50	3	-20	41	53
			Generator	CNP103	95	100	0	95	2	98	120	-50	3	-20	31	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	120	-50	3	-20	39	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	120	-50	3	-20	34	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	120	-50	3	-20	31	
			Ventilation Fan	CNP241	108	90	0	108	4	114	120	-50	3	-15	52	
S47b	Underpinning of Existing Bridges (under cover of traffic deck)	Aug 2020 - Nov 2022	Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	120	-50	3	-20	24	57
			Generator	CNP103	95	100	0	95	1	95	45	-41	3	-20	37	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	45	-41	3	-20	30	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	45	-41	3	-20	49	
			Concrete pump	CNP047	109	60	-1	108	1	108	45	-41	3	-20	50	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	45	-41	3	-20	41	
	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Aug 2020 - Nov 2022	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	45	-41	3	-20	39	61
			Ventilation Fan	CNP241	108	90	0	108	1	108	45	-41	3	-15	54	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	1	85	45	-41	3	-20	27	
			Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	45	-41	3	-20	30	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	45	-41	3	-20	49	
			Concrete pump	CNP047	109	60	-1	108	1	108	45	-41	3	-20	50	
S47c	Underpinning of Existing Bridges (under cover of traffic deck)	Nov 2020 - Apr 2021	Generator	CNP103	95	100	0	95	1	95	14	-31	3	-20	47	67
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	14	-31	3	-20	41	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	14	-31	3	-20	59	
			Concrete pump	CNP047	109	60	-1	108	1	108	14	-31	3	-20	60	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	14	-31	3	-20	52	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	14	-31	3	-20	49	
	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Aug 2020 - Nov 2022	Ventilation Fan	CNP241	108	90	0	108	1	108	14	-31	3	-15	65	71
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	1	85	14	-31	3	-20	37	
			Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	14	-31	3	-20	40	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	14	-31	3	-20	59	
			Concrete pump	CNP047	109	60	-1	108	1	108	14	-31	3	-20	60	
			Generator	CNP103	95	100	0									



Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S50b	Foundation (west side) for noise enclosure on GRF Flyover (Ferry Street Section)	Apr 2022 - Jun 2022	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	205	-54	3	-5	54	59
			Concrete pump	CNP047	109	80	-1	108	1	108	205	-54	3	-10	47	
			Generator	CNP103	95	100	0	95	3	100	205	-54	3	-10	39	
			Lorry	CNP142	105	70	-2	103	2	106	205	-54	3	-5	50	
			Crane Mobile	BS D7-114	101	60	-2	99	3	104	205	-54	3	-5	47	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	205	-54	3	-10	52	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	205	-54	3	-5	44	
			Compactor, vibratory	CNP050	105	70	-2	103	3	108	205	-54	3	-5	52	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	205	-54	3	-5	47	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	205	-54	3	-5	43	
S50c	Foundation (west side) for noise enclosure on GRF Flyover (Ferry Street Section)	Jul 2022 - Sep 2022	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	170	-53	3	-5	52	59
			Concrete pump	CNP047	109	80	-1	108	1	108	170	-53	3	-10	48	
			Generator	CNP103	95	100	0	95	3	100	170	-53	3	-10	40	
			Lorry	CNP142	105	70	-2	103	1	103	170	-53	3	-5	49	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	170	-53	3	-5	47	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	170	-53	3	-10	53	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	170	-53	3	-5	46	
			Compactor, vibratory	CNP050	105	70	-2	103	2	106	170	-53	3	-5	52	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	170	-53	3	-5	49	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	170	-53	3	-10	41	
S50d	Road works for re-align Ferry Street at-grade road	Jan 2022 - Jun 2022	Generator	CNP103	95	100	0	95	1	95	170	-53	3	-10	35	50
			Lorry	CNP142	105	70	-2	103	1	103	170	-53	3	-5	49	
			Asphalt Paver	EPD-01126	104	80	-1	103	1	103	185	-53	3	-5	48	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	185	-53	3	-5	51	
			Concrete pump	CNP047	109	80	-1	108	1	108	185	-53	3	-10	48	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	185	-53	3	-5	48	
			Generator	CNP103	103	100	0	103	1	103	185	-53	3	-10	43	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	185	-53	3	-10	40	
			Road Roller	EPD-01183	97	80	-1	96	1	96	185	-53	3	-10	41	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	1	110	185	-53	3	-10	50	
S51	Demolish the Existing Ferr Street Subway	Jul 2022 - Aug 2022	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	185	-53	3	-5	42	54
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	185	-53	3	-5	44	
			Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	50	-3	107	1	107	225	-55	3	-5	50	
			Dump Truck with Grab	CNP069	105	70	-2	103	2	106	225	-55	3	-5	49	
			Concrete crusher, excavator mounted	CNP055	103	80	-1	102	1	102	225	-55	3	-5	45	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	225	-55	3	-5	42	
			Saw, Wire	CNP205	101	70	-2	99	1	99	225	-55	3	-5	42	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	85	-47	3	-5	55	
			Generator	CNP103	95	100	0	95	1	95	85	-47	3	-10	41	
			Lorry	CNP142	105	70	-2	103	1	103	85	-47	3	-5	55	
S52	Construct Northern Dwall & Traffic Deck (cross road sections) - Excavation for Diaphragm Walls	Oct 2020	Crane Mobile	BS D7-114	101	70	-2	99	1	99	85	-47	3	-5	51	60
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	85	-47	3	-10	51	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	85	-47	3	-5	48	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	85	-47	3	0	45	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	85	-47	3	-5	58	
			Concrete pump	CNP047	109	80	-1	108	1	108	85	-47	3	-10	54	
			Generator	CNP103	95	70	-2	93	1	93	85	-47	3	-10	40	
			Lorry	CNP142	105	90	0	105	1	105	85	-47	3	-5	56	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	85	-47	3	-5	49	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	85	-47	3	-5	51	
S53	Construct Northern Dwall & Traffic Deck (cross road sections) - Excavation for Diaphragm Walls	Nov 2020	Generator	CNP103	95	100	0	95	1	95	40	-40	3	-10	48	66
			Lorry	CNP142	105	70	-2	103	1	103	40	-40	3	-5	61	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	40	-40	3	-5	61	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	40	-40	3	-10	58	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	40	-40	3	-5	55	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	40	-40	3	0	51	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	40	-40	3	-5	65	
			Concrete pump	CNP047	109	80	-1	108	1	108	40	-40	3	-10	61	
			Generator	CNP103	95	70	-2	93	1	93	40	-40	3	-10	46	
			Lorry	CNP142	105	90	0	105	1	105	40	-40	3	-5	63	
S55a	Reinstate the affected roads and footpaths	Jan 2020 - Feb 2020	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	50	-42	3	-5	53	66
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	50	-42	3	-5	55	
			Asphalt Paver	EPD-01126	104	80	-1	103	1	103	50	-42	3	-5	59	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	50	-42	3	-5	63	
			Generator	CNP103	95	100	0	95	1	95	50	-42	3	-10	46	
			Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	2	103	50	-42	3	-10	54	
			Road Roller	EPD-01183	97	70	-2	95	1	95	50	-42	3	-5	51	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	50	-42	3	-5	53	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	50	-42	3	-5	55	
			Asphalt Paver	EPD-01126	104	80	-1	103	1	103	50	-42	3	-5	59	
S55b	Road works for Section between Ferry Street and Nathan Road	Apr 2023 - Sep 2023	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	50	-42	3	-5	66	70
			Concrete pump	CNP047	109	80	-1	108	1	108	50	-42	3	-10	59	
			Generator	CNP103	95	100	0	95	2	98	50	-42	3	-10	49	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	35	-39	3	-10	55	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	35	-39	3	-5	57	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	35	-39	3	-5	59	
			Asphalt Paver	EPD-01126	104	80	-1	103	1	103	35	-39	3	-5	62	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	35	-39	3	-5	66	
			Concrete pump	CNP047	109	80	-1	108	1	108	35	-39	3	-10	62	
			Generator	CNP103	95	100	0	95	1	95	35	-39	3	-10	49	
S56a	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Apr 2020 - Nov 2022	Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	75	-46	3	-20	25	59
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	75	-46	3	-20	47	
			Concrete pump	CNP047	109	80	-1	108	1	108	75	-46	3	-20	46	
			Generator	CNP103	95	100	0	95	3	100	75	-46	3	-20	37	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	75	-46	3	-20	37	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	75	-46	3	-20	38	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	75	-46	3	-20	35	
			Ventilation Fan	CNP241	108	90	0	108	6	115	75	-46	3	-15	58	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	6	93	75	-46	3	-20	30	
			Compactor, vibratory	CNP050	105	70	-2	103	1	103	75	-46	3	-20	41	
S56b	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Apr 2020 - Nov 2022	Generator	CNP103	95	100	0	95	2	98	75	-46	3	-20	36	44
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	75	-46	3	-20	38	
			Road Roller	EPD-01183	97	80	-1	96	1	96	75	-46	3	-20	34	
			Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	15	-32	3	-20	39	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	15	-32	3	-20	61	
			Concrete pump	CNP047	109	80	-1	108	1	108	15	-32	3	-20	59	
			Generator	CNP103	95	100	0	95	3	100	15	-32	3	-20	51	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	15	-32	3	-20		

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)						
S57	Site Establishment, Utility Diversion and Mobilization of Plant	Apr 2018 Oct 2018	Air Compressor	CNP003	104	70	-2	102	1	102	75	-46	3	-10	50	67						
			Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	70	-2	108	3	113	3	113	75	-46	3		-5	66				
			Dump Truck with Grab	CNP069	105	50	-3	102	2	105	2	105	75	-46	3		-5	57				
			Lorry	CNP142	105	50	-3	102	1	102	1	102	75	-46	3		-5	54				
			Saw, Wire	CNP205	101	70	-2	99	2	102	2	102	75	-46	3		-5	55				
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	100	0	99	1	99	1	99	75	-46	3		-5	51				
			Bar Bender and Cutter	CNP021	90	50	-3	87	2	90	2	90	75	-46	3		-20	27				
			Concrete Lorry Mixer	CNP044	109	70	-2	107	1	107	1	107	75	-46	3		-20	45				
			Concrete pump	CNP047	109	70	-2	107	1	107	1	107	75	-46	3		-20	45				
			Dump Truck with Grab	CNP069	105	50	-3	102	1	102	1	102	75	-46	3		-15	44				
Diaphragm Walls Construction and Shaft Excavation - Bored Piling Works (underground)	Apr 2018 Jul 2018	Jul 2018	Generator	CNP103	95	100	0	95	3	100	75	-46	3	-20	37	53						
			Lorry	CNP142	105	50	-3	102	1	102	1	102	75	-46	3		-15	44				
			Crane Mobile	BS D7-114	101	50	-3	98	1	98	1	98	75	-46	3		-20	35				
			Crane Mobile	CNP162	105	100	0	105	2	108	2	108	75	-46	3		-20	46				
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	2	103	2	103	75	-46	3		-20	41				
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	1	96	1	96	75	-46	3		-20	33				
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	4	91	75	-46	3		-20	29				
			Bar Bender and Cutter	CNP021	90	70	-2	88	2	91	2	91	75	-46	3		-20	29				
			Concrete Lorry Mixer	CNP044	109	50	-3	106	2	109	2	109	75	-46	3		-20	46				
			Concrete pump	CNP047	109	50	-3	106	2	109	2	109	75	-46	3		-20	46				
Diaphragm Walls Construction and Shaft Excavation - Diaphragm Walls (underground)	Apr 2018 Jul 2019	Jul 2019	Dump Truck with Grab	CNP069	105	50	-3	102	1	102	75	-46	3	-15	44	53						
			Generator	CNP103	95	100	0	95	4	101	4	101	75	-46	3		-20	39				
			Lorry	CNP142	105	50	-3	102	1	102	1	102	75	-46	3		-15	44				
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	1	99	75	-46	3		-20	37				
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	100	0	105	1	105	1	105	75	-46	3		-20	42				
			Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	2	102	2	102	75	-46	3		-20	39				
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	1	96	1	96	75	-46	3		-20	33				
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	4	91	75	-46	3		-20	29				
			Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	70	-2	108	1	108	1	108	75	-46	3		-20	46				
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	102	4	108	4	108	75	-46	3		-15	51				
Diaphragm Walls Construction and Shaft Excavation - Excavation of Access Shaft (underground)	Apr 2018 Jul 2019	Jul 2019	Dump Truck with Grab	CNP069	105	50	-3	102	3	100	75	-46	3	-20	37	53						
			Generator	CNP103	95	100	0	95	3	100	3	100	75	-46	3		-20	37				
			Lorry	CNP142	105	50	-3	102	1	102	1	102	75	-46	3		-15	44				
			Tracked crane	BS D7-114	101	70	-2	99	1	99	1	99	75	-46	3		-20	37				
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	100	0	99	3	104	3	104	75	-46	3		-20	41				
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	8	94	8	94	75	-46	3		-20	32				
			Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	50	-3	107	2	110	2	110	75	-46	3		-20	47				
			Dump Truck with Grab	CNP069	105	70	-2	103	4	109	4	109	75	-46	3		-15	52				
			Lorry	CNP142	105	70	-2	103	4	109	4	109	75	-46	3		-15	52				
			Rock Drill	SIL EIA	108	70	-2	106	4	112	4	112	75	-46	3		-20	50				
Non-blast Tunnelling - Drilling Charge Hole, Mucking Out and Scaling (underground)	Jul 2019 - Apr 2022	Apr 2022	Tracked crane	BS D7-114	101	70	-2	99	3	104	75	-46	3	-20	42	60						
			Ventilation Fan	CNP241	108	100	0	108	4	114	4	114	75	-46	3		-15	57				
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	4	91	75	-46	3		-20	29				
			Rock Crusher	Reference to approved West Island Line EIA report	118	40	-4	114	1	114	1	114	75	-46	3		-20	52				
			Grout mixer	CNP105	90	70	-2	88	2	91	2	91	75	-46	3		-20	29				
			Grout pump	CNP106	105	70	-2	103	2	106	2	106	75	-46	3		-20	44				
			Rock Drill	SIL EIA	108	70	-2	106	4	112	4	112	75	-46	3		-20	50				
			Ventilation Fan	CNP241	108	100	0	108	4	114	4	114	75	-46	3		-15	57				
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	4	91	75	-46	3		-20	29				
			Rock Crusher	Reference to approved West Island Line EIA report	118	40	-4	114	1	114	1	114	75	-46	3		-20	52				
Non-blast Tunnelling - Rock Bolting & Shotcreting (underground)	Jul 2019 - Apr 2022	Apr 2022	Bar Bender and Cutter	CNP021	90	100	0	90	2	93	75	-46	3	-20	31	59						
			Concrete Lorry Mixer	CNP044	109	70	-2	107	2	110	2	110	75	-46	3		-20	48				
			Concrete pump	CNP047	109	70	-2	107	2	110	2	110	75	-46	3		-20	48				
			Generator	CNP103	95	100	0	95	2	98	2	98	75	-46	3		-20	36				
			Crane Mobile	BS D7-114	101	100	0	101	1	101	1	101	75	-46	3		-20	38				
			Poker, Vibratory, Hand Held	CNP173	102	100	0	102	2	105	2	105	75	-46	3		-20	43				
			Saw, Circular Wood	BS D7-79	103	50	-3	100	2	103	2	103	75	-46	3		-20	40				
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	4	91	75	-46	3		-20	29				
			Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	1	99	1	99	260	-56	3		-5	41				
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	1	97	260	-56	3		-5	39				
S58	Construction of Temporary Maternal and Child Health Centre	Apr 2018 Jun 2018	Bar Bender and Cutter	CNP021	90	60	-2	88	2	91	260	-56	3	0	37	43						
			Concrete Lorry Mixer	CNP044	109	50	-3	106	2	109	2	109	260	-56	3		-5	51				
			Concrete pump	CNP047	109	70	-2	107	1	107	1	107	260	-56	3		-10	44				
			Generator	CNP103	95	100	0	95	2	98	2	98	260	-56	3		-10	35				
			Crane Mobile	BS D7-114	101	50	-3	98	1	98	1	98	260	-56	3		-5	40				
			Saw, Circular Wood	BS D7-79	103	50	-3	100	2	103	2	103	260	-56	3		-5	45				
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	1	97	260	-56	3		-5	39				
			Construction of Temporary Maternal and Child Health Centre - Superstructure	Jul 2018 - Dec 2018	Dec 2018	Bar Bender and Cutter	CNP021	90	60	-2	88	2	91	260	-56		3	0	37	53		
						Concrete Lorry Mixer	CNP044	109	50	-3	106	2	109	2	109		260	-56	3		-5	51
						Concrete pump	CNP047	109	70	-2	107	1	107	1	107		260	-56	3		-10	44
Generator	CNP103	95				100	0	95	2	98	2	98	260	-56	3	-10	35					
Crane Mobile	BS D7-114	101				50	-3	98	1	98	1	98	260	-56	3	-5	40					
Saw, Circular Wood	BS D7-79	103				50	-3	100	2	103	2	103	260	-56	3	-5	45					
Excavator/Loader, Wheeled/Tracked	EPD-01145	99				70	-2	97	1	97	1	97	260	-56	3	-5	39					





**Build King - SKEC Joint Venture**

Construction Noise Assessment

Period: 0700 to 1900 (except general holidays)

Noise Sensitive Receiver: W-N25A Prosperous Garden Block 1

Mitigation Measures Scenario

Noise Criteria: 75dB(A)

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S3	Construct Dwell and Traffic Deck - Piling for King Post	Jul-18	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	110	-49	3	-5	56	60
			Concrete pump	CNP047	109	80	-1	108	1	108	110	-49	3	-5	52	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	110	-49	3	-5	53	
			Generator	CNP103	95	100	0	95	2	98	110	-49	3	-5	42	
			Lorry	CNP142	105	60	-2	103	1	103	110	-49	3	-5	52	
			or													
	Construct Dwell and Traffic Deck - Diaphragm Walls	Aug 2018 - Nov 2018	Generator	CNP103	95	100	0	95	2	98	110	-49	3	-10	42	59
			Lorry	CNP142	105	60	-2	103	1	103	110	-49	3	-5	52	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	110	-49	3	-5	49	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	2	112	110	-49	3	-10	57	
			Excavator/Loader, Wheeled/Tracked	EPP-01145	99	70	-2	97	1	97	110	-49	3	-5	47	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	110	-49	3	0	43	
	Construct Dwell and Traffic Deck - Diaphragm Walls	Aug 2018 - Nov 2018	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	110	-49	3	-5	56	59
			Concrete pump	CNP047	109	80	-1	108	1	108	110	-49	3	-10	52	
			Generator	CNP103	95	100	0	95	2	98	110	-49	3	-10	42	
			Lorry	CNP142	105	70	-2	103	1	103	110	-49	3	-5	53	
			Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	110	-49	3	-5	49	
			or													
Construct Southern Dwell & Traffic Deck - Excavation for Diaphragm Walls	Nov 2018 - Jan 2019	Dump Truck with Grab	CNP069	105	70	-2	103	1	103	110	-49	3	-5	53	56	
		Generator	CNP103	95	100	0	95	2	98	110	-49	3	-10	42		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	110	-49	3	-5	49		
		Piling, Diaphragm Wall, Bentonite Filtering	CNP162	105	90	0	105	1	105	110	-49	3	-10	49		
		Excavator/Loader, Wheeled/Tracked	EPP-01145	99	60	-2	97	1	97	110	-49	3	-5	46		
		Dump Truck with Grab	CNP069	105	70	-2	103	1	103	110	-49	3	-5	53		
Construct Southern Dwell & Traffic Deck - Excavation for Diaphragm Walls	Nov 2018 - Jan 2019	Generator	CNP103	95	100	0	95	1	95	110	-49	3	-10	39	57	
		Lorry	CNP142	105	70	-2	103	1	103	110	-49	3	-5	53		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	110	-49	3	-5	49		
		Piling, Diaphragm Wall, Bentonite Filtering	CNP162	105	90	0	105	1	105	110	-49	3	-10	49		
		Excavator/Loader, Wheeled/Tracked	EPP-01145	99	60	-2	97	1	97	110	-49	3	-5	46		
		Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	110	-49	3	0	43		
Construct Southern Dwell & Traffic Deck - Concreting for Diaphragm Walls	Feb-19	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	110	-49	3	-5	56	58	
		Concrete pump	CNP047	109	80	-1	108	1	108	110	-49	3	-10	52		
		Generator	CNP103	95	100	0	95	1	93	110	-49	3	-10	38		
		Lorry	CNP142	105	70	-2	103	1	103	110	-49	3	-5	54		
		Excavator/Loader, Wheeled/Tracked	EPP-01145	99	70	-2	97	1	97	110	-49	3	-5	47		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	110	-49	3	-5	49		
Construct Southern Dwell & Traffic Deck - Temporary Traffic Deck	Mar-19	Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	110	-49	3	0	41	56	
		Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	110	-49	3	-5	56		
		Concrete pump	CNP047	109	80	-1	108	1	108	110	-49	3	-10	52		
		Generator	CNP103	95	100	0	95	1	93	110	-49	3	-10	38		
		Lorry	CNP142	105	70	-2	103	1	103	110	-49	3	-5	54		
		Excavator/Loader, Wheeled/Tracked	EPP-01145	99	70	-2	97	1	97	110	-49	3	-5	47		
Construction of Methodone Clinic	Apr 2018 - Jan 2019	Crane Mobile	BS D7-114	101	70	-2	99	1	99	110	-49	3	-5	49	61.3	
		Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	120	-50	3	0	41		
		Concrete Lorry Mixer	CNP044	109	60	-2	106	3	111	120	-50	3	-5	59		
		Concrete pump	CNP047	109	70	-2	107	1	107	120	-50	3	-10	51		
		Generator	CNP103	95	100	0	95	1	95	120	-50	3	-10	38		
		Crane Mobile	BS D7-114	101	50	-3	98	1	98	120	-50	3	-5	46		
S4	Construction of Methodone Clinic	Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	3	104	120	-50	3	-5	52	61.3	
		Saw, Circular Wood	BS D7-79	103	50	-3	100	2	103	120	-50	3	-5	51		
		Excavator/Loader, Wheeled/Tracked	EPP-01145	99	70	-2	97	1	97	120	-50	3	-5	46		
		Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	60	-2	108	1	108	135	-51	3	-5	55		
		Dump Truck with Grab	CNP069	105	50	-3	102	2	105	135	-51	3	-5	52		
		Concrete crusher, excavator mounted	CNP055	103	70	-2	101	1	101	135	-51	3	-5	49		
S5	Decant and demolish existing Jade Market	Crane Mobile	BS D7-114	101	100	0	101	1	101	135	-51	3	-5	48	58.6	
		Saw, Wire	CNP205	101	50	-3	98	2	101	135	-51	3	-5	48		
		Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	80	-1	109	1	109	170	-53	3	-5	54		
		Dump Truck with Grab	CNP069	105	70	-2	103	2	106	170	-53	3	-5	52		
		Concrete crusher, excavator mounted	CNP055	103	90	0	103	1	103	170	-53	3	-5	48		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	170	-53	3	-5	48		
S6	Decant and demolish existing Jade Market	Saw, Wire	CNP205	101	50	-3	98	2	101	135	-51	3	-5	48	57.5	
		Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	80	-1	109	1	109	170	-53	3	-5	54		
		Dump Truck with Grab	CNP069	105	70	-2	103	2	106	170	-53	3	-5	52		
		Concrete crusher, excavator mounted	CNP055	103	90	0	103	1	103	170	-53	3	-5	48		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	170	-53	3	-5	48		
		Saw, Wire	CNP205	101	50	-3	98	2	101	170	-53	3	-5	46		
S7	Construction of Temporary Library & Temporary Jade Market	Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	80	-1	109	1	109	170	-53	3	-5	54	58.0	
		Dump Truck with Grab	CNP069	105	70	-2	103	2	106	170	-53	3	-5	52		
		Concrete crusher, excavator mounted	CNP055	103	90	0	103	1	103	170	-53	3	-5	48		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	170	-53	3	-5	48		
		Saw, Wire	CNP205	101	50	-3	98	2	101	170	-53	3	-5	46		
		Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	80	-1	109	1	109	170	-53	3	-5	54		
S8	Construction of Western Access Shaft - Excavation of Diaphragm Walls	Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	180	-53	3	0	38	58.8	
		Concrete Lorry Mixer	CNP044	109	60	-2	106	3	111	180	-53	3	-5	56		
		Concrete pump	CNP047	109	70	-2	107	1	107	180	-53	3	-10	47		
		Generator	CNP103	95	100	0	95	2	98	180	-53	3	-10	38		
		Crane Mobile	BS D7-114	101	50	-3	98	2	101	180	-53	3	-5	46		
		Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	3	104	180	-53	3	-5	49		
S8	Construct Western Access Shaft - Soil Excavation of Access Shaft (covered by traffic deck with opening)	Saw, Circular Wood	BS D7-79	103	50	-3	100	2	103	180	-53	3	-5	48	54.0	
		Excavator/Loader, Wheeled/Tracked	EPP-01145	99	70	-2	97	1	97	180	-53	3	-5	42		
		Dump Truck with Grab	CNP069	105	50	-3	102	2	105	205	-54	3	-5	49		
		Generator	CNP103	95	100	0	95	3	100	205	-54	3	-10	39		
		Lorry	CNP142	105	70	-2	103	1	103	205	-54	3	-5	47		
		Tracked crane	BS D7-114	101	70	-2	99	1	99	205	-54	3	-5	43		
S8	Construct Western Access Shaft - Rock Excavation of Access Shaft (covered by traffic deck with opening)	Excavator/Loader, Wheeled/Tracked	EPP-01145	99	60	-2	97	2	100	205	-54	3	-5	44	54.0	
		Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	205	-54	3	0	40		
		Ventilation Fan	CNP241	108	90	0	108	2	111	205	-54	3	-15	44		
		Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	60	-2	108	2	111	205	-54	3	-5	55		
		Dump Truck with Grab	CNP069	105	70	-2	103	3	108	205	-54	3	-5	52		
		Generator	CNP103	95	100	0	95	3	100	205	-54	3	-10	39		
S8	Construct Western Access Shaft - Cast Bottom Slab (covered by traffic deck with opening)	Lorry	CNP142	105	70	-2	103	1	103	205	-54	3	-5	47	57.4	
		Tracked crane	BS D7-114	101	70	-2	99	1	99	205	-54	3	-5	43		
		Ventilation Fan	CNP241	108	90	0	108	2	111	205	-54	3	-15	44		
		Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	205	-54	3	0	37		
		Concrete Lorry Mixer	CNP044	109	60	-2	106	3	111	205	-54	3	-5	55		
		Concrete pump	CNP047	109	70	-2	107	1	107	205	-54	3	-10	46		
S13a	Removal of Excavated Material through West End Portal	Generator	CNP103	95	100	0										

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
16a	Construct Dwall and Traffic Deck - Piling for King Post	Jul-18	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	80	-46	3	-5	59	62
			Concrete pump	CNP047	109	80	-1	108	1	108	80	-46	3	-10	55	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	80	-46	3	-5	55	
			Generator	CNP103	95	100	0	95	2	98	80	-46	3	-10	45	
			Lorry	CNP142	105	60	-2	103	1	103	80	-46	3	-5	55	
			or													
	Construct Middle Dwall and Traffic Deck - Diaphragm Walls	Oct 2018 - Jan 2019	Generator	CNP103	95	100	0	95	2	98	80	-46	3	-10	45	62.1
			Lorry	CNP142	105	60	-2	103	1	103	80	-46	3	-5	55	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	80	-46	3	-5	51	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	2	112	80	-46	3	-10	59	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	80	-46	3	-5	49	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	80	-46	3	0	45	
Construct Middle Dwall and Traffic Deck - Temporary Traffic Deck	Feb 2019	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	80	-46	3	-5	59	58.6	
		Concrete pump	CNP047	109	80	-1	108	1	108	80	-46	3	-10	55		
		Generator	CNP103	95	100	0	95	2	98	80	-46	3	-10	45		
		Lorry	CNP142	105	70	-2	103	1	103	80	-46	3	-5	55		
		Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	80	-46	3	-5	52		
		or														
	Construct Middle Dwall and Traffic Deck - Temporary Traffic Deck	Feb 2019	Dump Truck with Grab	CNP069	105	70	-2	103	1	103	80	-46	3	-5	55	58.3
			Generator	CNP103	95	100	0	95	2	98	80	-46	3	-10	45	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	80	-46	3	-5	51	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	80	-46	3	-10	51	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	80	-46	3	-5	49	
			Generator	CNP103	95	70	-2	93	1	93	80	-46	3	-10	40	
Construct Dwall and Traffic Deck - Piling for King Post	Jul-18	Lorry	CNP142	105	90	0	105	1	105	80	-46	3	-5	56	56	
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	80	-46	3	-5	49		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	80	-46	3	-5	51		
		Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	160	-52	3	-5	53		
		Concrete pump	CNP047	109	80	-1	108	1	108	160	-52	3	-10	49		
		Dump Truck with Grab	CNP069	105	70	-2	103	1	103	160	-52	3	-5	49		
	Construct Middle Dwall and Traffic Deck - Diaphragm Walls	Oct 2018 - Jan 2019	Generator	CNP103	95	100	0	95	2	98	160	-52	3	-10	39	56.1
			Lorry	CNP142	105	60	-2	103	1	103	160	-52	3	-5	49	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	160	-52	3	-5	45	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	2	112	160	-52	3	-10	53	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	160	-52	3	-5	43	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	160	-52	3	0	39	
Construct Middle Dwall and Traffic Deck - Temporary Traffic Deck	Feb 2019	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	160	-52	3	-5	53	52.3	
		Concrete pump	CNP047	109	80	-1	108	1	108	160	-52	3	-10	49		
		Generator	CNP103	95	100	0	95	2	98	160	-52	3	-10	39		
		Lorry	CNP142	105	70	-2	103	1	103	160	-52	3	-5	49		
		Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	160	-52	3	-5	46		
		or														
	Construct Middle Dwall and Traffic Deck - Temporary Traffic Deck	Feb 2019	Dump Truck with Grab	CNP069	105	70	-2	103	1	103	160	-52	3	-5	49	52.6
			Generator	CNP103	95	100	0	95	2	98	160	-52	3	-10	39	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	160	-52	3	-5	45	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	160	-52	3	-10	45	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	160	-52	3	-5	43	
			Generator	CNP103	95	70	-2	93	1	93	160	-52	3	-10	34	
Demolish Multi-storey Carpark Building (partially)	Dec 2019 - Apr 2019	Lorry	CNP142	105	90	0	105	1	105	160	-52	3	-5	50	53.9	
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	160	-52	3	-5	43		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	160	-52	3	-5	45		
		Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	60	-2	108	1	108	245	-56	3	-5	50		
		Dump Truck with Grab	CNP069	105	70	-2	103	2	106	245	-56	3	-5	49		
		Concrete crusher, excavator mounted	CNP055	103	70	-2	101	2	104	245	-56	3	-5	47		
	Construct Middle Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Apr-19	Crane Mobile	BS D7-114	101	70	-2	99	1	99	245	-56	3	-5	42	60.1
			Saw, Wire	CNP205	101	60	-2	99	1	99	245	-56	3	-5	41	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	120	-50	3	0	42	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	120	-50	3	-5	55	
			Concrete pump	CNP047	109	80	-1	108	1	108	120	-50	3	-10	51	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	120	-50	3	-5	52	
Construction Middle Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2019 - Jun 2019	Generator	CNP103	95	100	0	95	1	95	120	-50	3	-10	38	54.8	
		Lorry	CNP142	105	90	0	105	1	105	120	-50	3	-5	53		
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	120	-50	3	-5	43		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	120	-50	3	-5	48		
		Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	165	-52	3	0	39		
		Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	165	-52	3	-5	52		
	Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Reclamation Street to Ferry Street) - Foundation and pier	Jul-19	Concrete pump	CNP047	109	80	-1	108	1	108	165	-52	3	-10	49	66.2
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	165	-52	3	-5	49	
			Generator	CNP103	95	100	0	95	1	95	165	-52	3	-10	36	
			Crane Mobile	CNP142	105	70	-2	103	1	103	165	-52	3	-5	49	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	165	-52	3	-5	45	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	165	-52	3	0	45	
Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Reclamation Street to Ferry Street) - Bridge Deck	Aug 2019 - Sep 2019	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	80	-46	3	-5	58	59.8	
		Concrete pump	CNP047	109	80	-1	108	1	108	80	-46	3	-10	47		
		Dump Truck with Grab	CNP069	105	60	-2	103	2	106	80	-46	3	-5	51		
		Generator	CNP103	95	100	0	95	3	100	80	-46	3	-10	47		
		Crane Mobile	BS D7-114	101	60	-2	99	2	102	80	-46	3	-5	54		
		Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	80	-46	3	-10	60		
	Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Reclamation Street to Ferry Street) - Surfacing, MJ, noise barriers	Oct-19	Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	3	104	80	-46	3	-5	56	56.8
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	80	-46	3	-5	54	
			Generator	CNP103	95	100	0	95	3	100	80	-46	3	-10	47	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	80	-46	3	0	45	
			Concrete pump	CNP047	109	70	-2	107	1	107	80	-46	3	-10	54	
			Asphalt Paver	EPD-01126	104	50	-3	101	1	101	80	-46	3	-5	53	
Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Temple Street to Reclamation Street) - Foundation and pier	Jul-19	Road Roller	EPD-01183	97	60	-2	95	1	95	80	-46	3	-5	47	57.4	
		Crane Mobile	BS D7-114	101	60	-2	99	2	102	80	-46	3	-5	54		
		Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	210	-54	3	-5	53		
		Dump Truck with Grab	CNP069	105	60	-2	103	2	106	210	-54	3	-5	49		
		Generator	CNP103	95	100	0	95	3	100	210	-54	3	-10	38		
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	2	99	210	-54	3	-5	43		
	Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Temple Street to Reclamation Street) - Bridge Deck	Aug 2019	Crane Mobile	BS D7-114	101	60	-2	99	2	102	210	-54	3	-5	45	51.5
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	210	-54	3	-5	37	
			Concrete pump	CNP047	109	70	-2	107	1	107	210	-54	3	-10	46	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	210	-54	3	-10	52	
			Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	3	104	210	-54	3	-5	47	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	210	-54	3	-5	45	
Construct Proposed GRF Flyover (two lanes) on Northern Side and the Temporary Deck (From Temple Street to Reclamation Street) - Surfacing, MJ, noise barriers	Aug-19	Generator	CNP103	95	100	0	95	3	100	210	-54	3	-10	38</		

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)	
S28	Diversion of Ferry Street Junction	Jul 2019 - Sep 2019	Asphalt Paver	EPD-01126	104	80	-1	103	1	103	85	-47	3	-5	54	65.3	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	3	85	-47	3	-5		61
			Dump Truck with Grab	CNP069	105	70	-2	103	2	106	85	-47	3	-5	58		
			Generator	CNP103	95	100	0	95	3	100	85	-47	3	-10	46		
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	3	105	85	-47	3	-5	57		
			Road Roller	EPD-01183	97	70	-2	95	2	98	85	-47	3	-5	50		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	85	-47	3	-5	52		
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	85	-47	3	-5	51		
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	85	-47	3	0	45		
			Concrete pump	CNP047	109	80	-1	108	1	108	85	-47	3	-10	54		
S29	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jul-19	Generator	CNP103	95	100	0	95	1	95	45	-41	3	-10	47	64.9	
			Lorry	CNP142	105	60	-2	103	1	103	45	-41	3	-5	60		
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	45	-41	3	-5	56		
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	1	109	45	-41	3	-10	61		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	45	-41	3	-5	54		
	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting for King post	Aug-19	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	45	-41	3	-5	64	65.2	
			Concrete pump	CNP047	109	80	-1	108	1	108	45	-41	3	-10	60		
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	45	-41	3	-5	60		
			Generator	CNP103	95	100	0	95	1	95	45	-41	3	-10	47		
			Lorry	CNP142	105	70	-2	103	1	103	45	-41	3	-5	60		
S30	Construct Southern Dwall & Dwall Crossing Ferry Street - Excavation for Diaphragm Walls	Sep 2019 - Nov 2019	Crane Mobile	BS D7-114	101	70	-2	99	1	99	45	-41	3	-5	56	65.3	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	45	-41	3	-10	56		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	45	-41	3	-5	54		
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	45	-41	3	0	50		
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	45	-41	3	-5	64		
	Construct Southern Dwall & Dwall Crossing Ferry Street - Concreting for Diaphragm Walls	Dec-19	Concrete pump	CNP047	109	80	-1	108	1	108	45	-41	3	-10	60	65.4	
			Generator	CNP103	95	70	-2	93	1	93	45	-41	3	-10	45		
			Lorry	CNP142	105	90	0	105	1	105	45	-41	3	-5	61		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	45	-41	3	-5	54		
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	45	-41	3	-5	56		
S31	Construct Southern Dwall & Dwall Crossing Ferry Street - Temporary Traffic Deck	Jan-20	Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	70	-45	3	-5	47	63.3	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	70	-45	3	-5	63		
			Concrete pump	CNP047	109	80	-1	108	1	108	70	-45	3	-10	56		
			Dump Truck with Grab	CNP069	105	60	-2	103	2	106	70	-45	3	-5	59		
			Generator	CNP103	95	100	0	95	2	98	70	-45	3	-10	46		
	Underpinning Works for YMT Police Station - Diaphragm Wall and Transfer Beams	Jun 2019 - Sep 2019	Lorry	CNP142	105	70	-2	103	2	106	70	-45	3	-5	60	67.2	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	70	-45	3	-5	53		
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	70	-45	3	-10	53		
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	3	105	70	-45	3	-5	58		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	70	-45	3	-5	50		
S32	Underpinning Works for YMT Police Station - Underpinning Excavation	Oct 2019	Water Pump, Submersible (Electric)	CNP283	85	100	0	85	2	88	70	-45	3	0	46	59.9	
			Dump Truck with Grab	CNP069	105	60	-2	103	2	106	70	-45	3	-5	59		
			Generator	CNP103	95	100	0	95	2	98	70	-45	3	-10	46		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	1	98	70	-45	3	-5	51		
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	2	88	70	-45	3	0	46		
	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jul-19	Generator	CNP103	95	100	0	95	1	95	95	-48	3	-10	40	58.4	
			Lorry	CNP142	105	60	-2	103	1	103	95	-48	3	-5	53		
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	95	-48	3	-5	50		
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	1	109	95	-48	3	-10	55		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	95	-48	3	-5	48		
S33	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting	Aug 2019	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	95	-48	3	-5	57	58.8	
			Concrete pump	CNP047	109	80	-1	108	1	108	95	-48	3	-10	53		
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	95	-48	3	-5	54		
			Generator	CNP103	95	100	0	95	1	95	95	-48	3	-10	40		
			Lorry	CNP142	105	70	-2	103	1	103	95	-48	3	-5	54		
	Construct Southern Dwall & Dwall Crossing Ferry Street - Excavation for Diaphragm Walls	Sep 2019 - Nov 2019	Crane Mobile	BS D7-114	101	70	-2	99	1	99	95	-48	3	-5	50	58.8	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	95	-48	3	-10	50		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	95	-48	3	-5	47		
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	95	-48	3	0	44		
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	95	-48	3	-5	53		
S34	Construct Southern Dwall & Dwall Crossing Ferry Street - Concreting for Diaphragm Walls	Dec 2019	Concrete pump	CNP047	109	80	-1	108	1	108	150	-52	3	-10	50	58.9	
			Generator	CNP103	95	70	-2	93	1	93	150	-52	3	-10	35		
			Lorry	CNP142	105	90	0	105	1	105	150	-52	3	-5	51		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	150	-52	3	-5	44		
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	150	-52	3	-5	46		
	Construct Southern Dwall & Dwall Crossing Ferry Street - Temporary Traffic Deck	Jan 2020	Generator	CNP103	95	100	0	95	1	95	150	-52	3	-10	39	56.8	
			Lorry	CNP142	105	90	0	105	1	105	150	-52	3	-5	55		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	150	-52	3	-5	48		
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	150	-52	3	-5	50		
			Generator	CNP103	95	100	0	95	1	95	150	-52	3	-10	36		
S35	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jul-19	Crane Mobile	BS D7-114	101	70	-2	99	1	99	150	-52	3	-5	49	54.4	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	1	109	150	-52	3	-10	51		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	150	-52	3	-5	44		
			Concrete Lorry Mixer	CNP044	109	50	-3	106	1	106	150	-52	3	-5	52		
			Concrete pump	CNP047	109	50	-3	106	1	106	150	-52	3	-10	47		
	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting	Aug 2019	Dump Truck with Grab	CNP069	105	70	-2	103	1	103	150	-52	3	-5	50	55.3	
			Generator	CNP103	95	100	0	95	1	95	150	-52	3	-10	36		
			Lorry	CNP142	105	70	-2	103	1	103	150	-52	3	-5	50		
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	150	-52	3	-5	46		
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	150	-52	3	-10	46		
S36a	Construct Southern Dwall & Dwall Crossing Ferry Street - Excavation for Diaphragm Walls	Sep 2019 - Nov 2019	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	150	-52	3	-5	43	54.9	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	150	-52	3	0	40		
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	150	-52	3	-5	53		
			Concrete pump	CNP047	109	80	-1	108	1	108	150	-52	3	-10	50		
			Generator	CNP103	95	70	-2	93	1	93	150	-52	3	-10	35		
	Construct Southern Dwall & Dwall Crossing Ferry Street - Concreting for Diaphragm Walls	Dec 2019	Lorry	CNP142	105	90	0	105	1	105	150	-52	3	-5	51	52.9	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	150	-52	3	-5	44		
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	150	-52	3	-5	46		
			Generator	CNP103	95	100	0	95	1	95	150	-52	3	-10	34		
			Lorry	CNP142	105	70	-2	103	1	103	150	-52	3	-5	48		
S37	Construct Southern Dwall & Dwall Crossing Ferry Street - Excavation for Diaphragm Walls	Jul-19	Crane Mobile	BS D7-114	101	70	-2	99	1	99	190	-54	3	-10	34	52.4	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	1	109	190	-54	3	-10	49		
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	190	-54	3	-5	42		
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	190	-54	3	-5	51		
			Concrete pump	CNP047	109	80											

**Build King - SKEC Joint Venture**

Construction Noise Assessment

Period: 0700 to 1900 (except general holidays)

Noise Sensitive Receiver: W-N25A Prosperous Garden Block 1

Mitigation Measures Scenario

Noise Criteria: 75dB(A)

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S37a	Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Foundation and pier	Jun 2020	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	80	-46	3	-5	62	65.8
			Dump Truck with Grab	CNP069	105	60	-2	103	2	106	80	-46	3	-5	58	
			Generator	CNP103	95	100	0	95	3	100	80	-46	3	-10	47	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	2	99	80	-46	3	-5	51	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	80	-46	3	-5	54	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	80	-46	3	0	45	
	Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Bridge Deck	Jul 2020 - Aug 2020	Bored Piling Crane mounted auger	CNP047	109	70	-2	107	1	107	80	-46	3	-10	54	
			Poker, Vibratory, Hand Held	CNP173	102	60	-3	99	3	104	80	-46	3	-10	60	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	80	-46	3	-5	54	
			Generator	CNP103	95	100	0	95	3	100	80	-46	3	-10	47	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	80	-46	3	0	45	
			Concrete pump	CNP047	109	70	-2	107	1	107	80	-46	3	-10	54	
Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Surfacing, MJ, noise barriers	Aug 2020	Asphalt Paver	EPD-01126	104	50	-3	101	1	101	80	-46	3	-5	53	56.8	
		Road Roller	EPD-01183	97	60	-2	95	1	95	80	-46	3	-5	47		
		Crane Mobile	BS D7-114	101	60	-2	99	2	102	80	-46	3	-5	54		
		Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	230	-55	3	-5	53		
		Dump Truck with Grab	CNP069	105	60	-2	103	2	106	230	-55	3	-5	49		
		Generator	CNP103	95	100	0	95	3	100	230	-55	3	-10	38		
S37b	Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Foundation and pier	Mar 2020	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	230	-55	3	-5	53	56.6
			Dump Truck with Grab	CNP069	105	60	-2	103	2	106	230	-55	3	-5	49	
			Generator	CNP103	95	100	0	95	3	100	230	-55	3	-10	38	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	2	99	230	-55	3	-5	42	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	230	-55	3	-5	45	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	230	-55	3	0	36	
	Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Bridge Deck	Apr 2020 - May 2020	Concrete pump	CNP047	109	70	-2	107	1	107	230	-55	3	-10	45	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	230	-55	3	-10	51	
			Poker, Vibratory, Hand Held	CNP173	102	60	-3	99	3	104	230	-55	3	-5	47	
			Crane Mobile	BS D7-114	101	60	-2	99	2	102	230	-55	3	-5	45	
			Generator	CNP103	95	100	0	95	3	100	230	-55	3	-10	38	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	230	-55	3	0	36	
Construct Proposed GRF Flyover (the remain Part from Reclamation Street to Ferry Street) - Surfacing, MJ, noise barriers	Jun 2020	Concrete pump	CNP047	109	70	-2	107	1	107	230	-55	3	-10	45	47.6	
		Asphalt Paver	EPD-01126	104	50	-3	101	1	101	230	-55	3	-5	44		
		Road Roller	EPD-01183	97	60	-2	95	1	95	230	-55	3	-5	38		
		Crane Mobile	BS D7-114	101	60	-2	99	2	102	230	-55	3	-5	45		
		Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	75	-46	3	0	46		
		Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	75	-46	3	-5	59		
S39	Construct Southern Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Mar 2020 - Apr 2020	Concrete pump	CNP047	109	80	-1	108	1	108	75	-46	3	-10	56	64.2
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	75	-46	3	-5	56	
			Generator	CNP103	95	100	0	95	1	95	75	-46	3	-10	47	
			Lorry	CNP142	105	70	-2	103	1	103	75	-46	3	-5	56	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	75	-46	3	-5	52	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	75	-46	3	-10	52	
	Construct Southern Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2020	Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	75	-46	3	-5	52	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	75	-46	3	-5	49	
			Generator	CNP103	95	100	0	95	1	95	75	-46	3	-10	41	
			Lorry	CNP142	105	90	0	105	1	105	75	-46	3	-5	57	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	75	-46	3	-5	50	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	75	-46	3	-5	52	
S40	Construct Southern Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Mar 2020 - Apr 2020	Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	130	-50	3	0	41	59.4
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	130	-50	3	-5	55	
			Concrete pump	CNP047	109	80	-1	108	1	108	130	-50	3	-10	51	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	130	-50	3	-5	51	
			Generator	CNP103	95	100	0	95	1	95	130	-50	3	-10	38	
			Lorry	CNP142	105	70	-2	103	1	103	130	-50	3	-5	51	
	Construct Southern Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2020	Crane Mobile	BS D7-114	101	70	-2	99	1	99	130	-50	3	-5	47	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	130	-50	3	-10	47	
			Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	130	-50	3	-5	48	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	130	-50	3	-5	45	
			Generator	CNP103	95	100	0	95	1	95	130	-50	3	-10	36	
			Lorry	CNP142	105	90	0	105	1	105	130	-50	3	-5	52	
S41	Construct Southern Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Mar 2020 - Apr 2020	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	130	-50	3	-5	45	57.3
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	130	-50	3	-5	47	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	165	-52	3	0	39	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	165	-52	3	-5	52	
			Concrete pump	CNP047	109	80	-1	108	1	108	165	-52	3	-10	49	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	165	-52	3	-5	49	
	Construct Southern Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2020	Generator	CNP103	95	100	0	95	1	95	165	-52	3	-10	34	
			Lorry	CNP142	105	90	0	105	1	105	165	-52	3	-5	52	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	165	-52	3	-5	45	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	165	-52	3	-5	47	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	165	-52	3	0	39	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	165	-52	3	-5	52	
S42	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Concrete pump	CNP047	109	80	-1	108	3	112	45	-41	3	-20	50	65.2
			Dump Truck with Grab	CNP069	105	70	-2	103	5	114	45	-41	3	-20	56	
			Generator	CNP103	95	100	0	95	10	105	45	-41	3	-20	47	
			Rock drill, crawler mounted (pneumatic)	SIL E1A	108	80	-1	107	5	114	45	-41	3	-20	56	
			Ventilation Fan	CNP241	108	90	0	108	10	118	45	-41	3	-15	64	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	12	96	45	-41	3	-20	38	
	Piling Works for Cut and Cover Tunnel (under cover of traffic deck)	Dec 2020 - Jul 2022	Concrete Lorry Mixer	CNP044	109	60	-2	107	3	112	45	-41	3	-20	50	
			Concrete pump	CNP047	109	80	-1	108	1	108	45	-41	3	-20	53	
			Generator	CNP103	95	100	0	95	6	103	45	-41	3	-20	45	
			Crane Mobile	BS D7-114	101	70	-2	99	4	105	45	-41	3	-20	47	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	6	118	45	-41	3	-20	61	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	45	-41	3	-20	42	
S43	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jun-20	Generator	CNP103	95	100	0	95	3	100	50	-42	3	-10	51	62.4
			Lorry	CNP142	105	60	-2	103	1	103	85	-47	3	-5	54	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	85	-47	3	-5	51	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	6	118	85	-47	3	-10	61	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	85	-47	3	-5	49	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	85	-47	3	-5	61	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting	Jul-20	Concrete pump	CNP047	109	80	-1	108	1	108	85	-47	3	-10	54	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	85	-47	3	-5	55	
			Generator	CNP103	95	100	0	95	4	101	85	-47	3	-10	47	
			Lorry	CNP142	105	70	-2	103	1	103	85	-47	3	-5	55	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	85	-47	3	-5	51	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP16												



Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S45	Construct Southern Dwall & Dwall Crossing Ferry Street - Piling for King Post	Jun-20	Generator	CNP103	95	100	0	95	3	100	130	-50	3	-10	42	58.5
			Lorry	CNP142	105	60	-2	103	1	103	130	-50	3	-5	51	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	130	-50	3	-5	47	
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	3	114	130	-50	3	-10	57	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	130	-50	3	-5	45	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	130	-50	3	-5	58	
	Construct Southern Dwall & Dwall Crossing Ferry Street - Grouting	Jul-20	Concrete pump	CNP047	109	80	-1	108	1	108	130	-50	3	-10	51	58.3
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	130	-50	3	-5	51	
			Generator	CNP103	95	100	0	95	4	101	130	-50	3	-10	44	
			Lorry	CNP142	105	70	-2	103	1	103	130	-50	3	-5	51	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	130	-50	3	-5	47	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	2	108	130	-50	3	-10	50	
S46a	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	130	-50	3	-5	45	58.4
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	130	-50	3	0	41	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	130	-50	3	-5	58	
			Concrete pump	CNP047	109	80	-1	108	1	108	130	-50	3	-10	51	
			Generator	CNP103	95	70	-2	93	1	93	130	-50	3	-10	36	
			Lorry	CNP142	105	90	0	105	2	108	130	-50	3	-5	55	
	Construct Southern Dwall & Traffic Deck - Excavation for Diaphragm Walls	Jul 2020 - Aug 2020	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	130	-50	3	-5	45	56.7
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	130	-50	3	-5	47	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	2	108	130	-50	3	-10	50	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	130	-50	3	-5	45	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	130	-50	3	0	41	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	130	-50	3	-5	58	
S46b	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Concrete pump	CNP047	109	80	-1	108	1	108	130	-50	3	-10	51	56.8
			Generator	CNP103	95	70	-2	93	1	93	130	-50	3	-10	36	
			Lorry	CNP142	105	90	0	105	2	108	130	-50	3	-5	55	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	130	-50	3	-5	45	
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	130	-50	3	-5	50	
			Generator	CNP103	95	100	0	95	4	101	65	-44	3	-20	40	
	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	65	-44	3	-20	40	58.0
			Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	2	110	65	-44	3	-20	49	
			Ventilation Fan	CNP241	108	90	0	108	4	114	65	-44	3	-15	57	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	65	-44	3	-20	30	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	65	-44	3	-20	46	
			Concrete pump	CNP047	109	80	-1	108	1	108	65	-44	3	-20	47	
S46c	Piling Works for Cut and Cover Tunnel (under cover of traffic deck)	Dec 2020 - Jul 2022	Generator	CNP103	95	100	0	95	2	98	65	-44	3	-20	37	54.4
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	65	-44	3	-20	41	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	65	-44	3	-20	49	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	65	-44	3	-20	36	
			Generator	CNP103	95	100	0	95	3	100	80	-46	3	-20	37	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	80	-46	3	-20	38	
	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	2	110	80	-46	3	-20	47	55.2
			Ventilation Fan	CNP241	108	90	0	108	3	112	80	-46	3	-15	54	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	80	-46	3	-20	28	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	80	-46	3	-20	44	
			Concrete pump	CNP047	109	80	-1	108	1	108	80	-46	3	-20	45	
			Generator	CNP103	95	100	0	95	2	98	80	-46	3	-20	35	
S47a	Piling Works for Cut and Cover Tunnel (under cover of traffic deck)	Dec 2020 - Jul 2022	Crane Mobile	BS D7-114	101	70	-2	99	1	99	80	-46	3	-20	36	52.5
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	80	-46	3	-20	50	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	80	-46	3	-20	34	
			Generator	CNP103	95	100	0	95	3	100	155	-52	3	-20	31	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	155	-52	3	-20	32	
			Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	2	107	155	-52	3	-20	38	
	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Ventilation Fan	CNP241	108	90	0	108	3	112	155	-52	3	-15	49	49.1
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	155	-52	3	-20	22	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	155	-52	3	-20	38	
			Concrete pump	CNP047	109	80	-1	108	1	108	155	-52	3	-20	39	
			Generator	CNP103	95	100	0	95	2	98	155	-52	3	-20	29	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	155	-52	3	-20	31	
S47b	Underpinning of Existing Bridges (under cover of traffic deck)	Nov 2020 - Apr 2021	Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	155	-52	3	-20	52	56.8
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	155	-52	3	-20	29	
			Generator	CNP103	95	100	0	95	1	95	45	-41	3	-20	37	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	45	-41	3	-20	30	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	45	-41	3	-20	49	
			Concrete pump	CNP047	109	80	-1	108	1	108	45	-41	3	-20	50	
	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Aug 2020 - Nov 2022	Crane Mobile	BS D7-114	101	70	-2	99	1	99	45	-41	3	-20	41	61.3
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	45	-41	3	-20	32	
			Ventilation Fan	CNP241	108	90	0	108	1	108	45	-41	3	-15	54	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	1	85	45	-41	3	-20	27	
			Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	45	-41	3	-20	30	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	45	-41	3	-20	49	
S47c	Underpinning of Existing Bridges (under cover of traffic deck)	Aug 2020 - Nov 2022	Concrete pump	CNP047	109	80	-1	108	1	108	45	-41	3	-20	50	50.3
			Generator	CNP103	95	100	0	95	2	98	45	-41	3	-20	42	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	45	-41	3	-20	43	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	45	-41	3	-20	32	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	45	-41	3	-20	38	
			Ventilation Fan	CNP241	108	90	0	108	4	114	45	-41	3	-15	60	
	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Aug 2020 - Nov 2022	Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	45	-41	3	-20	33	54.8
			Generator	CNP103	95	100	0	95	1	95	95	-48	3	-20	30	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	95	-48	3	-20	24	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	95	-48	3	-20	42	
			Concrete pump	CNP047	109	80	-1	108	1	108	95	-48	3	-20	43	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	95	-48	3	-20	35	
S47d	Underpinning of Existing Bridges (under cover of traffic deck)	Aug 2020 - Nov 2022	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	95	-48	3	-15	42	58.4
			Ventilation Fan	CNP241	108	90	0	108	4	114	95	-48	3	-20	33	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	1	85	95	-48	3	-20	20	
			Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	95	-48	3	-20	23	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	95	-48	3	-20	42	
			Concrete pump	CNP047	109	80	-1	108	1	108	95	-48	3	-20	43	
	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Aug 2020 - Nov 2022	Generator	CNP103	95	100	0	95	2	98	95	-48	3	-20	33	56.8
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	95	-48	3	-20	35	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	95	-48	3	-20	36	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	95	-48	3	-20	33	
			Ventilation Fan	CNP241	108	90	0	108	4	114	95	-48	3	-15		

**Build King - SKEC Joint Venture**

Construction Noise Assessment

Period: 0700 to 1900 (except general holidays)

Noise Sensitive Receiver: W-N25A Prosperous Garden Block 1

Mitigation Measures Scenario

Noise Criteria: 75dB(A)

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Facade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S50b	Foundation (west side) for noise enclosure on GRF Flyover (Ferry Street Section)	Apr 2022 - Jun 2022	Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	55	-43	3	-5	65	70.6
			Concrete pump	CNP047	109	80	-1	108	1	108	55	-43	3	-10	58	
			Generator	CNP103	95	100	0	95	3	100	55	-43	3	-10	50	
			Lorry	CNP142	105	70	-2	103	2	106	55	-43	3	-5	62	
			Crane Mobile	BS D7-114	101	60	-2	99	3	104	55	-43	3	-5	59	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	55	-43	3	-10	63	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	55	-43	3	-5	56	
			Compactor, vibratory	CNP050	105	70	-2	103	3	106	55	-43	3	-5	63	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	55	-43	3	-5	59	
			S50c	Construct noise barriers and noise enclosure on GRF Flyover (Ferry Street Section) and along Ting Ping Street	Oct 2022 - Apr 2023	Crane Mobile	BS D7-114	101	70	-2	99	1	99	55	-43	
Generator	CNP103	95				100	0	95	1	95	55	-43	3	-10	45	
Lorry	CNP142	105				70	-2	103	1	103	55	-43	3	-5	59	
Concrete Lorry Mixer	CNP044	109				60	-2	107	1	107	16	-32	3	-5	72	
Concrete pump	CNP047	109				80	-1	108	1	108	16	-32	3	-10	69	
Generator	CNP103	95				100	0	95	3	100	16	-32	3	-10	60	
Lorry	CNP142	105				70	-2	103	1	103	16	-32	3	-5	69	
Crane Mobile	BS D7-114	101				60	-2	99	2	102	16	-32	3	-5	67	
Bored Piling Crane mounted auger	BS D4-37	111				80	-1	110	2	113	16	-32	3	-10	74	
Excavator/Loader, Wheeled/Tracked	EPD-01145	99				70	-2	97	2	100	16	-32	3	-5	66	
S50d	Road works for re-align Ferry Street at-grade road	Jan 2022 - Jun 2022	Compactor, vibratory	CNP050	105	50	-3	102	2	105	16	-32	3	-5	71	74.3
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	16	-32	3	-5	69	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	16	-32	3	-5	65	
			Generator	CNP103	95	100	0	95	1	95	16	-32	3	-10	56	
			Lorry	CNP142	105	70	-2	103	1	103	16	-32	3	-5	69	
			Asphalt Paver	EPD-01126	104	80	-1	103	1	103	25	-36	3	-5	65	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	25	-36	3	-5	69	
			Concrete pump	CNP047	109	80	-1	108	1	108	25	-36	3	-10	65	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	25	-36	3	-5	65	
			Generator	CNP103	95	100	0	95	1	95	25	-36	3	-10	60	
S51	Demolish the Existing Ferr Street Subway	Jul 2022 - Aug 2022	Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	25	-36	3	-10	57	64.8
			Road Roller	EPD-01183	97	80	-1	96	1	96	25	-36	3	-5	58	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	1	110	25	-36	3	-10	67	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	25	-36	3	-5	59	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	25	-36	3	-5	61	
			Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	50	-3	107	1	107	65	-44	3	-5	61	
			Dump Truck with Grab	CNP069	105	70	-2	103	2	106	65	-44	3	-5	60	
			Concrete crusher, excavator mounted	CNP055	103	80	-1	102	1	102	65	-44	3	-5	56	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	65	-44	3	-5	53	
			Saw, Wire	CNP205	101	70	-2	99	1	99	65	-44	3	-5	53	
S52	Construct Northern Dwall & Traffic Deck (cross road sections) - Excavation for Diaphragm Walls	Oct 2020 - Nov 2020	Dump Truck with Grab	CNP069	105	70	-2	103	1	103	65	-44	3	-5	57	62.1
			Generator	CNP103	95	100	0	95	1	95	65	-44	3	-10	44	
			Lorry	CNP142	105	70	-2	103	1	103	65	-44	3	-5	57	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	65	-44	3	-5	53	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	65	-44	3	-10	53	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	65	-44	3	-5	51	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	65	-44	3	0	47	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	65	-44	3	-5	61	
			Concrete pump	CNP047	109	80	-1	108	1	108	65	-44	3	-10	57	
			Generator	CNP103	95	70	-2	93	1	93	65	-44	3	-10	42	
S53	Construct Northern Dwall & Traffic Deck (cross road sections) - Concreting for Diaphragm Walls	Oct 2020 - Nov 2020	Lorry	CNP142	105	90	0	105	1	105	65	-44	3	-5	58	60.1
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	65	-44	3	-5	51	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	65	-44	3	-5	56	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	115	-49	3	-5	52	
			Generator	CNP103	95	100	0	95	1	95	115	-49	3	-10	39	
			Lorry	CNP142	105	70	-2	103	1	103	115	-49	3	-5	52	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	115	-49	3	-5	48	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	115	-49	3	-10	48	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	115	-49	3	-5	46	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	115	-49	3	0	42	
S55a	Reinstate the affected roads and footpaths	Jan 2020 - Feb 2020	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	103	75	-46	3	-5	66	62.2
			Concrete pump	CNP047	109	80	-1	108	1	108	75	-46	3	-5	59	
			Generator	CNP103	95	100	0	95	1	95	75	-46	3	-10	42	
			Lorry	CNP142	105	70	-2	103	1	103	75	-46	3	-5	52	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	75	-46	3	-5	48	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	115	-49	3	-10	48	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	115	-49	3	-5	46	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	115	-49	3	0	42	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	115	-49	3	-5	56	
			Concrete pump	CNP047	109	80	-1	108	1	108	115	-49	3	-10	52	
S55b	Road works for Section between Ferry Street and Nathan Road	Apr 2023 - Sep 2023	Generator	CNP103	95	100	0	95	2	98	75	-46	3	-10	46	64.6
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	2	103	75	-46	3	-10	51	
			Road Roller	EPD-01183	97	80	-1	96	1	96	75	-46	3	-5	49	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	75	-46	3	-5	48	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	75	-46	3	-5	52	
			Asphalt Paver	EPD-01126	104	80	-1	103	1	103	75	-46	3	-5	56	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	75	-46	3	-5	62	
			Concrete pump	CNP047	109	80	-1	108	1	108	75	-46	3	-10	56	
			Generator	CNP103	95	100	0	95	2	98	75	-46	3	-10	46	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	2	103	75	-46	3	-10	51	
S55c	Reinstate the affected roads and footpaths	Jan 2020 - Feb 2020	Road Roller	EPD-01183	97	70	-2	95	1	95	175	-53	3	-5	41	54.7
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	175	-53	3	-5	43	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	175	-53	3	-5	48	
			Asphalt Paver	EPD-01126	104	80	-1	103	1	103	175	-53	3	-5	48	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	175	-53	3	-5	62	
			Concrete pump	CNP047	109	80	-1	108	1	108	175	-53	3	-10	48	
			Generator	CNP103	95	100	0	95	1	95	175	-53	3	-10	35	
			Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	175	-53	3	-10	40	
			Road Roller	EPD-01183	97	70	-2	95	1	95	175	-53	3	-5	41	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	175	-53	3	-5	43	
S55d	Road works for Section between Ferry Street and Nathan Road	Apr 2023 - Sep 2023	Crane Mobile	BS D7-114	101	70	-2	99	1	99	175	-53	3	-5	45	55.6
			Asphalt Paver	EPD-01126	104	80	-1	103	1	103	175	-53	3	-5	48	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	175	-53	3	-5	62	
			Concrete pump	CNP047	109	80	-1	108	1	108	175	-53	3	-10	48	
			Generator	CNP103	95	100	0	95	1	95	175	-53	3	-10	35	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	175	-53	3	-10	41	
			Road Roller	EPD-01183	97	80	-1	96	1	96	175	-53	3	-5	41	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	175	-53				

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Façade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S57	Site Establishment, Utility Diversion and Mobilization of Plant	Apr 2018 - Oct 2018	Air Compressor	CNP003	104	70	-2	102	1	102	205	-54	3	-10	41	58.4
			Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	70	-2	108	3	113	205	-54	3	-5	57	
			Dump Truck with Grab	CNP069	105	50	-3	102	2	105	205	-54	3	-5	49	
			Lorry	CNP142	105	50	-3	102	1	102	205	-54	3	-5	46	
			Saw, Wire	CNP205	101	70	-2	99	2	102	205	-54	3	-5	46	
	Diaphragm Walls Construction and Shaft Excavation - Bored Piling Works (underground)	Apr 2018 - Jul 2018	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	100	0	99	1	99	205	-54	3	-5	43	
			Bar Bender and Cutter	CNP021	90	50	-3	87	2	90	205	-54	3	-20	19	
			Concrete Lorry Mixer	CNP044	109	70	-2	107	1	107	205	-54	3	-20	36	
			Concrete pump	CNP047	109	70	-2	107	1	107	205	-54	3	-20	36	
			Dump Truck with Grab	CNP069	105	50	-3	102	1	102	205	-54	3	-15	36	
			Generator	CNP103	95	100	0	95	3	100	205	-54	3	-20	29	
			Lorry	CNP142	105	50	-3	102	1	102	205	-54	3	-15	36	
			Crane Mobile	BS D7-114	101	50	-3	98	1	98	205	-54	3	-20	27	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	2	108	205	-54	3	-20	37	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	2	103	205	-54	3	-20	32	
Diaphragm Walls Construction and Shaft Excavation - Diaphragm Walls (underground)	Apr 2018 - Jul 2019	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	1	96	205	-54	3	-20	25		
		Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	205	-54	3	-20	20		
		Bar Bender and Cutter	CNP021	90	70	-2	88	2	91	205	-54	3	-20	20		
		Concrete Lorry Mixer	CNP044	109	50	-3	106	2	109	205	-54	3	-20	38		
		Concrete pump	CNP047	109	50	-3	106	2	109	205	-54	3	-20	38		
		Dump Truck with Grab	CNP069	105	50	-3	102	1	102	205	-54	3	-15	36		
		Generator	CNP103	95	100	0	95	4	101	205	-54	3	-20	30		
		Lorry	CNP142	105	50	-3	102	1	102	205	-54	3	-15	36		
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	205	-54	3	-20	28		
		Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	100	0	105	1	105	205	-54	3	-20	34		
Diaphragm Walls Construction and Shaft Excavation - Excavation of Access Shaft (underground)	Apr 2018 - Jul 2019	Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	2	102	205	-54	3	-20	31		
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	50	-3	96	1	96	205	-54	3	-20	25		
		Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	205	-54	3	-20	20		
		Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	70	-2	108	1	108	205	-54	3	-20	37		
		Dump Truck with Grab	CNP069	105	50	-3	102	4	108	205	-54	3	-15	42		
		Generator	CNP103	95	100	0	95	3	100	205	-54	3	-20	29		
		Lorry	CNP142	105	50	-3	102	1	102	205	-54	3	-15	36		
		Tracked crane	BS D7-114	101	70	-2	99	1	99	205	-54	3	-20	28		
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	100	0	99	3	104	205	-54	3	-20	33		
		Water Pump, Submersible (Electric)	CNP283	85	100	0	85	8	94	205	-54	3	-20	23		
Non-blast Tunnelling - Drilling Charge Hole, Mucking Out and Scaling (underground)	Jul 2019 - Apr 2022	Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	50	-3	107	2	110	205	-54	3	-20	39		
		Dump Truck with Grab	CNP069	105	70	-2	103	4	109	205	-54	3	-15	43		
		Lorry	CNP142	105	70	-2	103	4	109	205	-54	3	-15	43		
		Rock Drill	SIL EIA	108	70	-2	106	4	112	205	-54	3	-20	41		
		Tracked crane	BS D7-114	101	70	-2	99	3	104	205	-54	3	-20	33		
		Ventilation Fan	CNP241	108	100	0	108	4	114	205	-54	3	-15	48		
		Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	205	-54	3	-20	20		
		Rock Crusher	Reference to approved West Island Line EIA report	118	40	-4	114	1	114	205	-54	3	-20	43		
		Non-blast Tunnelling - Rock Bolting & Shotcreting (underground)	Jul 2019 - Apr 2022	Grout mixer	CNP105	90	70	-2	88	2	91	205	-54	3	-20	20
				Grout pump	CNP106	105	70	-2	103	2	106	205	-54	3	-20	35
Rock Drill	SIL EIA			108	70	-2	106	4	112	205	-54	3	-20	41		
Ventilation Fan	CNP241			108	100	0	108	4	114	205	-54	3	-15	48		
Water Pump, Submersible (Electric)	CNP283			85	100	0	85	4	91	205	-54	3	-20	20		
Rock Crusher	Reference to approved West Island Line EIA report			118	40	-4	114	1	114	205	-54	3	-20	43		
Construction of Structure (underground)	Jun 2022 - Jun 2022			Bar Bender and Cutter	CNP021	90	100	0	90	2	93	205	-54	3	-20	22
				Concrete Lorry Mixer	CNP044	109	70	-2	107	2	110	205	-54	3	-20	39
				Concrete pump	CNP047	109	70	-2	107	2	110	205	-54	3	-20	39
				Generator	CNP103	95	100	0	95	2	98	205	-54	3	-20	27
		Crane Mobile	BS D7-114	101	100	0	101	1	101	205	-54	3	-20	30		
		Poker, Vibratory, Hand Held	CNP173	102	100	0	102	2	105	205	-54	3	-20	34		
		Saw, Circular Wood	BS D7-79	103	50	-3	100	2	103	205	-54	3	-20	32		
		Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	205	-54	3	-20	20		
		Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	1	99	160	-52	3	-5	45		
		S58	Construction of Temporary Maternal and Child Health Centre	Apr 2018 - Jun 2018	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	160	-52	3	-5
Bar Bender and Cutter	CNP021				90	60	-2	88	2	91	160	-52	3	0	42	
Concrete Lorry Mixer	CNP044				109	50	-3	106	2	109	160	-52	3	-5	55	
Concrete pump	CNP047				109	70	-2	107	1	107	160	-52	3	-10	48	
Generator	CNP103				95	100	0	95	2	98	160	-52	3	-10	39	
Construction of Temporary Maternal and Child Health Centre - Superstructure	Jul 2018 - Dec 2018		Crane Mobile	BS D7-114	101	50	-3	98	1	98	160	-52	3	-5	44	
			Saw, Circular Wood	BS D7-79	103	50	-3	100	2	103	160	-52	3	-5	49	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	160	-52	3	-5	43	





**Build King - SKEC Joint Venture**

Construction Noise Assessment

Period: 0700 to 1900 (except general holidays)

Noise Sensitive Receiver: W-P11 The Coronation (West Façade)

Mitigation Measures Scenario

Noise Criteria: 75dB(A)

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Façade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)			
S3	Construct Dwell and Traffic Deck - Piling for King Post	Jul-18	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	165	-52	3	-5	52	56			
			Concrete pump	CNP047	109	80	-1	108	1	108	165	-52	3	-10	49				
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	165	-52	3	-5	49				
			Generator	CNP103	95	100	0	95	2	98	165	-52	3	-10	39				
			Lorry	CNP142	105	60	-2	103	1	103	165	-52	3	-5	48				
			or																
			Generator	CNP103	95	100	0	95	2	98	165	-52	3	-10	39				
			Lorry	CNP142	105	60	-2	103	1	103	165	-52	3	-5	48				
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	165	-52	3	-5	45				
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	2	112	165	-52	3	-10	53				
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	165	-52	3	-5	43				
			Construct Dwell and Traffic Deck - Diaphragm Walls	Aug 2018 Nov 2018	Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	165	-52	3		0	39	56
	Concrete Lorry Mixer	CNP044			109	60	-2	107	1	107	165	-52	3	-5	52				
	Concrete pump	CNP047			109	80	-1	108	1	108	165	-52	3	-10	49				
	Generator	CNP103			95	100	0	95	2	98	165	-52	3	-10	39				
	Lorry	CNP142			105	70	-2	103	1	103	165	-52	3	-5	49				
	Poker, Vibratory, Hand Held	CNP173			102	60	-2	100	1	100	165	-52	3	-5	45				
	or																		
	Dump Truck with Grab	CNP069			105	70	-2	103	1	103	165	-52	3	-5	49				
	Generator	CNP103			95	100	0	95	2	98	165	-52	3	-10	39				
	Crane Mobile	BS D7-114			101	70	-2	99	1	99	165	-52	3	-5	45				
	Piling, Diaphragm Wall, Bentonite Filtering	CNP162			105	90	0	105	1	105	165	-52	3	-10	45				
	Construct Southern Dwell & Traffic Deck - Excavation for Diaphragm Walls	Nov 2018 Jan 2019			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	165	-52	3	-5	42	54	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	165	-52	3	-5	49				
Generator			CNP103	95	100	0	95	1	95	165	-52	3	-10	36					
Lorry			CNP142	105	70	-2	103	1	103	165	-52	3	-5	49					
Crane Mobile			BS D7-114	101	70	-2	99	1	99	165	-52	3	-5	45					
Piling, Diaphragm Wall, Bentonite Filtering			CNP162	105	90	0	105	1	105	165	-52	3	-10	45					
Excavator/Loader, Wheeled/Tracked			EPD-01145	99	60	-2	97	1	97	165	-52	3	-5	42					
Bar Bender and Cutter			CNP021	90	70	-2	88	1	88	165	-52	3	0	39					
Concrete Lorry Mixer			CNP044	109	60	-2	107	1	107	165	-52	3	-5	52					
Concrete pump			CNP047	109	80	-1	108	1	108	165	-52	3	-10	49					
Generator			CNP103	95	70	-2	93	1	93	165	-52	3	-10	34					
Construct Southern Dwell & Traffic Deck - Concreting for Diaphragm Walls			Feb-19	Lorry	CNP142	105	90	0	105	1	105	165	-52	3	-5	50	54		
	Excavator/Loader, Wheeled/Tracked	EPD-01145		99	70	-2	97	1	97	165	-52	3	-5	43					
	Crane Mobile	BS D7-114		101	70	-2	99	1	99	165	-52	3	-5	45					
	or																		
	Dump Truck with Grab	CNP069		105	70	-2	103	1	103	165	-52	3	-5	49					
	Generator	CNP103		95	100	0	95	1	95	165	-52	3	-10	36					
	Lorry	CNP142		105	70	-2	103	1	103	165	-52	3	-5	49					
	Crane Mobile	BS D7-114		101	70	-2	99	1	99	165	-52	3	-5	45					
	Piling, Diaphragm Wall, Bentonite Filtering	CNP162		105	90	0	105	1	105	165	-52	3	-10	45					
	Excavator/Loader, Wheeled/Tracked	EPD-01145		99	60	-2	97	1	97	165	-52	3	-5	42					
	Bar Bender and Cutter	CNP021		90	70	-2	88	1	88	165	-52	3	0	39					
	Construct Southern Dwell & Traffic Deck - Temporary Traffic Deck	Mar-19		Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	165	-52	3	-5	52		52	
Concrete pump			CNP047	109	80	-1	108	1	108	165	-52	3	-10	49					
Generator			CNP103	95	70	-2	93	1	93	165	-52	3	-10	34					
Lorry			CNP142	105	90	0	105	1	105	165	-52	3	-5	50					
Excavator/Loader, Wheeled/Tracked			EPD-01145	99	70	-2	97	1	97	165	-52	3	-5	43					
Crane Mobile			BS D7-114	101	70	-2	99	1	99	165	-52	3	-5	45					
or																			
Dump Truck with Grab			CNP069	105	70	-2	103	10	113	165	-52	3	-5	59					
Generator			CNP103	95	100	0	95	2	98	285	-57	3	-5	48					
Crane Mobile			BS D7-114	101	70	-2	99	1	99	285	-57	3	-10	44					
Piling, Diaphragm Wall, Bentonite Filtering			CNP162	105	90	0	105	1	105	285	-57	3	-5	44					
S13a			Remove of Excavated Material through West End Portal	Apr 2019 - Mar 2020	Dump Truck with Grab	CNP069	105	70	-2	103	10	113	165	-52	3	-5	59		59
	or																		
	Concrete Lorry Mixer	CNP044			109	60	-2	107	1	107	285	-57	3	-5	48				
	Concrete pump	CNP047			109	80	-1	108	1	108	285	-57	3	-10	44				
	Dump Truck with Grab	CNP069			105	70	-2	103	1	103	285	-57	3	-5	44				
	Generator	CNP103			95	100	0	95	2	98	285	-57	3	-10	34				
	Lorry	CNP142			105	60	-2	103	1	103	285	-57	3	-5	44				
	or																		
	Generator	CNP103			95	100	0	95	2	98	285	-57	3	-10	34				
	Lorry	CNP142			105	60	-2	103	1	103	285	-57	3	-5	44				
	Crane Mobile	BS D7-114			101	70	-2	99	1	99	285	-57	3	-5	44				
	Construct Dwell and Traffic Deck - Piling for King Post	Jul-18			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	285	-57	3	-5	48	51	
			Concrete pump	CNP047	109	80	-1	108	1	108	285	-57	3	-10	44				
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	285	-57	3	-5	44				
			Generator	CNP103	95	100	0	95	2	98	285	-57	3	-10	34				
			Lorry	CNP142	105	60	-2	103	1	103	285	-57	3	-5	44				
			or																
			Generator	CNP103	95	100	0	95	2	98	285	-57	3	-10	34				
			Lorry	CNP142	105	60	-2	103	1	103	285	-57	3	-5	44				
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	285	-57	3	-5	44				
			Bored Piling Crane mounted auger	BS D4-37	111	70	-2	109	2	112	285	-57	3	-10	48				
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	285	-57	3	-5	41				
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	285	-57	3	0	34				
	Construct Middle Dwell and Traffic Deck - Diaphragm Walls	Oct 2018 - Jan 2019	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	285	-57	3	-5	48	51			
Concrete pump			CNP047	109	80	-1	108	1	108	285	-57	3	-10	44					
Dump Truck with Grab			CNP069	105	70	-2	103	1	103	285	-57	3	-5	44					
Generator			CNP103	95	100	0	95	2	98	285	-57	3	-10	34					
Lorry			CNP142	105	60	-2	103	1	103	285	-57	3	-5	44					
Poker, Vibratory, Hand Held			CNP173	102	60	-2	100	1	100	285	-57	3	-5	41					
or																			
Dump Truck with Grab			CNP069	105	70	-2	103	1	103	285	-57	3	-5	44					
Generator			CNP103	95	100	0	95	2	98	285	-57	3	-10	34					
Crane Mobile			BS D7-114	101	70	-2	99	1	99	285	-57	3	-5	40					
Piling, Diaphragm Wall, Bentonite Filtering			CNP162	105	90	0	105	1	105	285	-57	3	-10	40					
Excavator/Loader, Wheeled/Tracked			EPD-01145	99	60	-2	97	1	97	285	-57	3	-5	38					
Construct Middle Dwell and Traffic Deck - Temporary Traffic Deck	Feb 2019	Generator	CNP103	95	70	-2	93	1	93	285	-57	3	-10	29	47				
		Lorry	CNP142	105	90	0	105	1	105	285	-57	3	-5	45					
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	285	-57	3	-5	38					
		Crane Mobile	BS D7-114	101	70	-2	99	1	99	285	-57	3	-5	40					
		Asphalt Paver	EPD-01126	104	80	-1	103	1	103	150	-52	3	-5	50					
		Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	150	-52	3	-5	56					
		Dump Truck with Grab	CNP069	105	70	-2	103	2	106	150	-52	3	-5	53					
		Generator	CNP103	95	100	0	95	3	105	150	-52	3	-10	41					
		Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	3	105	150	-52	3	-5	52					
		Road Roller	EPD-01183	97	70	-2	95	2	98	150	-52	3	-5	45					
		Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	150	-52	3	-5	47					

**Build King - SKEC Joint Venture**

Construction Noise Assessment

Period: 0700 to 1900 (except general holidays)

Noise Sensitive Receiver: W-P11 The Coronation (West Façade)

Mitigation Measures Scenario

Noise Criteria: 75dB(A)

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Façade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S39	Construct Southern Dwall and Traffic Deck (cross road sections) - Diaphragm Walls	Mar 2020 - Apr 2020	Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	260	-56	3	0	35	53
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	260	-56	3	-5	48	
			Concrete pump	CNP047	109	80	-1	108	1	108	260	-56	3	-10	45	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	260	-56	3	-5	45	
			Generator	CNP103	95	100	0	95	1	95	260	-56	3	-10	32	
			Lorry	CNP142	105	70	-2	103	1	103	260	-56	3	-5	45	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	260	-56	3	-5	41	
			Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP162	105	90	0	105	1	105	260	-56	3	-10	41	
			Poker, Vibratory, Hand Held	CNP173	102	60	-2	100	1	100	260	-56	3	-5	41	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	260	-56	3	-5	38	
S39	Construct Southern Dwall and Traffic Deck (cross road sections) - Temporary Traffic Deck	May 2020	Generator	CNP103	95	70	-2	93	1	93	260	-56	3	-10	30	48
			Lorry	CNP142	105	90	0	105	1	105	260	-56	3	-5	46	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	260	-56	3	-5	39	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	260	-56	3	-5	41	
			Generator	CNP103	95	100	0	95	10	105	210	-54	3	-20	34	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	5	105	210	-54	3	-20	34	
			Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	5	114	210	-54	3	-20	43	
			Ventilation Fan	CNP241	108	90	0	108	10	118	210	-54	3	-15	51	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	12	96	210	-54	3	-20	24	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	3	112	210	-54	3	-20	40	
S43	Piling Works for Cut and Cover Tunnel (under cover of traffic deck)	Sep 2020 - Apr 2022	Concrete pump	CNP047	109	80	-1	108	1	108	210	-54	3	-20	37	52
			Generator	CNP103	95	100	0	95	6	103	210	-54	3	-20	31	
			Crane Mobile	BS D7-114	101	70	-2	99	4	105	210	-54	3	-20	34	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	6	118	210	-54	3	-20	47	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	210	-54	3	-20	29	
			Generator	CNP103	95	100	0	95	4	101	195	-54	3	-20	30	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	195	-54	3	-20	30	
			Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	2	110	195	-54	3	-20	39	
			Ventilation Fan	CNP241	108	90	0	108	4	114	195	-54	3	-15	48	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	195	-54	3	-20	20	
S43	Piling Works for Cut and Cover Tunnel (under cover of traffic deck)	Dec 2020 - Jul 2022	Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	195	-54	3	-20	36	48
			Concrete pump	CNP047	109	80	-1	108	1	108	195	-54	3	-20	37	
			Generator	CNP103	95	100	0	95	2	98	195	-54	3	-20	27	
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	195	-54	3	-20	32	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	195	-54	3	-20	43	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	195	-54	3	-20	27	
			Generator	CNP103	95	100	0	95	3	100	275	-57	3	-20	26	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	275	-57	3	-20	27	
			Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	2	110	275	-57	3	-20	36	
			Ventilation Fan	CNP241	108	90	0	108	3	112	275	-57	3	-15	44	
S46a	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	195	-54	3	-20	20	48
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	195	-54	3	-20	36	
			Concrete pump	CNP047	109	80	-1	108	1	108	195	-54	3	-20	37	
			Generator	CNP103	95	100	0	95	2	98	195	-54	3	-20	27	
			Crane Mobile	BS D7-114	101	70	-2	99	2	102	195	-54	3	-20	32	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	195	-54	3	-20	43	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	195	-54	3	-20	27	
			Generator	CNP103	95	100	0	95	3	100	275	-57	3	-20	26	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	275	-57	3	-20	27	
			Rock drill, crawler mounted (pneumatic)	SIL EIA	108	80	-1	107	2	110	275	-57	3	-20	36	
S46b	Excavation of Tunnel Tubes (under cover of traffic deck)	Sep 2020 - Apr 2022	Ventilation Fan	CNP241	108	90	0	108	3	112	275	-57	3	-15	44	44
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	275	-57	3	-20	17	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	275	-57	3	-20	33	
			Concrete pump	CNP047	109	80	-1	108	1	108	275	-57	3	-20	34	
			Generator	CNP103	95	100	0	95	2	98	275	-57	3	-20	24	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	275	-57	3	-20	26	
			Bored Piling Crane mounted auger	BS D4-37	111	90	0	111	2	114	275	-57	3	-20	40	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	275	-57	3	-20	24	
			Generator	CNP103	95	100	0	95	1	95	225	-55	3	-20	23	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	80	-1	98	2	101	275	-57	3	-20	27	
S47a	Underpinning of Existing Bridges (under cover of traffic deck)	Nov 2020 - Apr 2021	Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	225	-55	3	-20	16	43
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	225	-55	3	-20	35	
			Concrete pump	CNP047	109	80	-1	108	1	108	225	-55	3	-20	36	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	225	-55	3	-20	27	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	225	-55	3	-20	25	
			Ventilation Fan	CNP241	108	90	0	108	1	108	225	-55	3	-15	40	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	1	85	225	-55	3	-20	13	
			Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	225	-55	3	-20	16	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	225	-55	3	-20	35	
			Concrete pump	CNP047	109	80	-1	108	1	108	225	-55	3	-20	36	
S47a	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Aug 2020 - Nov 2022	Generator	CNP103	95	100	0	95	2	98	225	-55	3	-20	26	47
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	225	-55	3	-20	27	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	225	-55	3	-20	28	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	225	-55	3	-20	25	
			Ventilation Fan	CNP241	108	90	0	108	4	114	225	-55	3	-15	47	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	4	91	225	-55	3	-20	19	
			Generator	CNP103	95	100	0	95	1	95	230	-55	3	-20	23	
			Bar Bender and Cutter	CNP021	90	70	-2	88	1	88	230	-55	3	-20	16	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	230	-55	3	-20	35	
			Concrete pump	CNP047	109	80	-1	108	1	108	230	-55	3	-20	36	
S49	Underpinning of Existing Bridges (under cover of traffic deck)	Jan 2022 - Mar 2022	Crane Mobile	BS D7-114	101	70	-2	99	1	99	230	-55	3	-20	27	43
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	60	-2	97	1	97	230	-55	3	-20	25	
			Ventilation Fan	CNP241	108	90	0	108	1	108	230	-55	3	-15	40	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	1	85	230	-55	3	-20	13	
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	180	-53	3	-5	55	
			Concrete pump	CNP047	109	80	-1	108	1	108	180	-53	3	-10	48	
			Generator	CNP103	95	100	0	95	3	100	180	-53	3	-10	40	
			Lorry	CNP142	105	70	-2	103	2	106	180	-53	3	-5	51	
			Crane Mobile	BS D7-114	101	60	-2	99	3	104	180	-53	3	-5	48	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	2	113	180	-53	3	-10	53	
S50a	Foundation (west side) for noise enclosure on GRF Flyover (Ferry Street Section)	Jan 2022 - Mar 2022	Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	180	-53	3	-5	45	60
			Compactor, vibratory	CNP050	105	70	-2	103	3	108	180	-53	3	-5	53	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	180	-53	3	-5	48	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	180	-53	3	-5	44	
			Generator	CNP103	95	100	0	95	1	95	180	-53	3	-10	35	
			Lorry	CNP142	105	70	-2	103	1	103	180	-				

**Build King - SKEC Joint Venture**

Construction Noise Assessment

Period: 0700 to 1900 (except general holidays)

Noise Sensitive Receiver: W-P11 The Coronation (West Façade)

Mitigation Measures Scenario

Noise Criteria: 75dB(A)

Worksite	Activity	Period	PME	TM Ref. / other Ref.	Unit Quiet Plant SWL	On-time, %	Time Factor	Quiet Plant SWL with on-time %	No. of plants	Total SWL	Distance from Notional Sources, m	Distance Attenuation	Façade Correction, dB(A)	Barrier Correction, dB(A)	Predicted Noise Level, dB(A)	Total Predicted Noise Level for each group, dB(A)
S50d	Road works for re-align Ferry Street at-grade road	Jan 2022 - Jun 2022	Asphalt Paver	EPD-01126	104	80	-1	103	1	103	245	-56	3	-5	45	55
			Concrete Lorry Mixer	CNP044	109	60	-2	107	1	107	245	-56	3	-5	49	
			Concrete pump	CNP047	109	80	-1	108	1	108	245	-56	3	-10	45	
			Dump Truck with Grab	CNP069	105	70	-2	103	1	103	245	-56	3	-5	46	
			Generator	CNP103	103	100	0	103	1	103	245	-56	3	-10	40	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	245	-56	3	-10	38	
			Road Roller	EPD-01183	97	80	-1	96	1	96	245	-56	3	-5	38	
			Bored Piling Crane mounted auger	BS D4-37	111	80	-1	110	1	110	245	-56	3	-10	47	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	245	-56	3	-5	40	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	245	-56	3	-5	42	
S51	Demolish the Existing Ferr Street Subway	Jul 2022 - Aug 2022	Breaker, Excavator Mounted (Hydraulic)	BS D8-13	110	50	-3	107	1	107	200	-54	3	-5	51	55
			Dump Truck with Grab	CNP069	105	70	-2	103	2	106	200	-54	3	-5	50	
			Concrete crusher, excavator mounted	CNP055	103	80	-1	102	1	102	200	-54	3	-5	46	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	200	-54	3	-5	43	
			Saw, Wire	CNP205	101	70	-2	99	1	99	200	-54	3	-5	43	
S56a	Construction of the Cut and Cover Tunnel (under cover of traffic deck)	Apr 2020 - Nov 2022	Bar Bender and Cutter	CNP021	90	60	-2	88	1	88	235	-55	3	-20	15	49
			Concrete Lorry Mixer	CNP044	109	60	-2	107	2	110	235	-55	3	-20	37	
			Concrete pump	CNP047	109	80	-1	108	1	108	235	-55	3	-20	36	
			Generator	CNP103	95	100	0	95	3	100	235	-55	3	-20	27	
			Crane Mobile	BS D7-114	101	70	-2	99	1	99	235	-55	3	-20	27	
			Poker, Vibratory, Hand Held	CNP173	102	70	-2	100	1	100	235	-55	3	-20	28	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	235	-55	3	-20	25	
			Ventilation Fan	CNP241	108	90	0	108	6	115	235	-55	3	-15	48	
			Water Pump, Submersible (Electric)	CNP283	85	100	0	85	6	93	235	-55	3	-20	20	
			Compactor, vibratory	CNP050	105	70	-2	103	1	103	235	-55	3	-20	31	
			Generator	CNP103	95	100	0	95	2	98	235	-55	3	-20	26	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	2	100	235	-55	3	-20	28	
			Road Roller	EPD-01183	97	80	-1	96	1	96	235	-55	3	-20	24	
S58	Construction of Temporary Maternal and Child Health Centre - Superstructure	Apr 2018 - Jun 2018	Poker, Vibratory, Hand Held	CNP173	102	50	-3	99	1	99	160	-52	3	-5	45	47
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	160	-52	3	0	42	
			Bar Bender and Cutter	CNP021	90	60	-2	88	2	91	160	-52	3	-5	55	
		Jul 2018 - Dec 2018	Concrete Lorry Mixer	CNP044	109	50	-3	106	2	109	160	-52	3	-5	48	
			Concrete pump	CNP047	109	70	-2	107	1	107	160	-52	3	-10	48	
			Generator	CNP103	95	100	0	95	2	98	160	-52	3	-10	39	
S58	Construction of Temporary Maternal and Child Health Centre - Superstructure	Jul 2018 - Dec 2018	Crane Mobile	BS D7-114	101	50	-3	98	1	98	160	-52	3	-5	44	57
			Saw, Circular Wood	BS D7-79	103	50	-3	100	2	103	160	-52	3	-5	49	
			Excavator/Loader, Wheeled/Tracked	EPD-01145	99	70	-2	97	1	97	160	-52	3	-5	43	



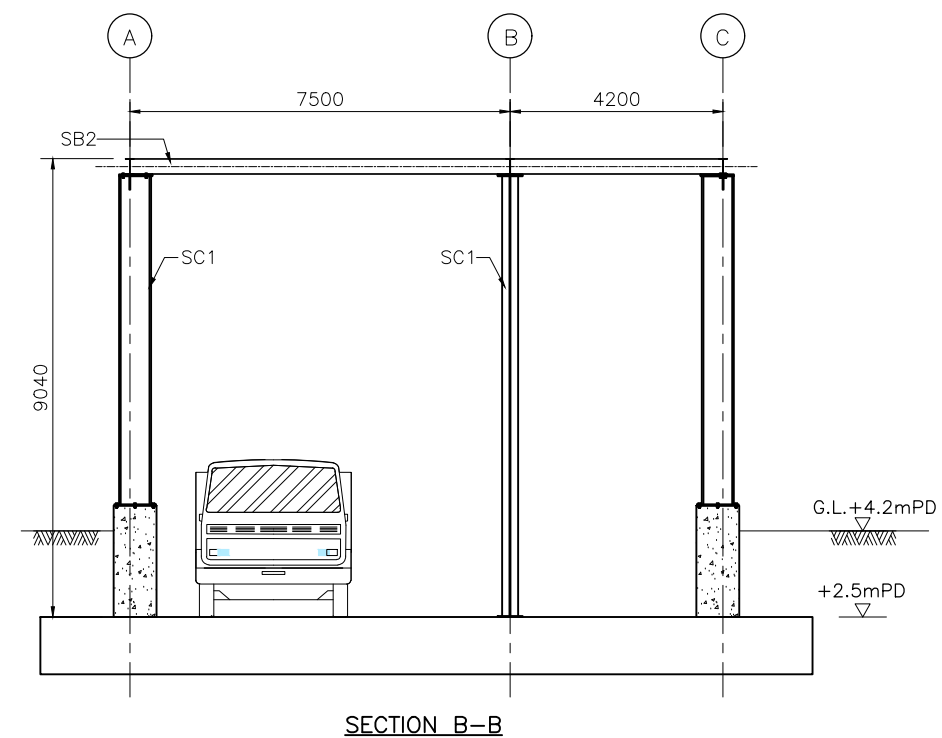
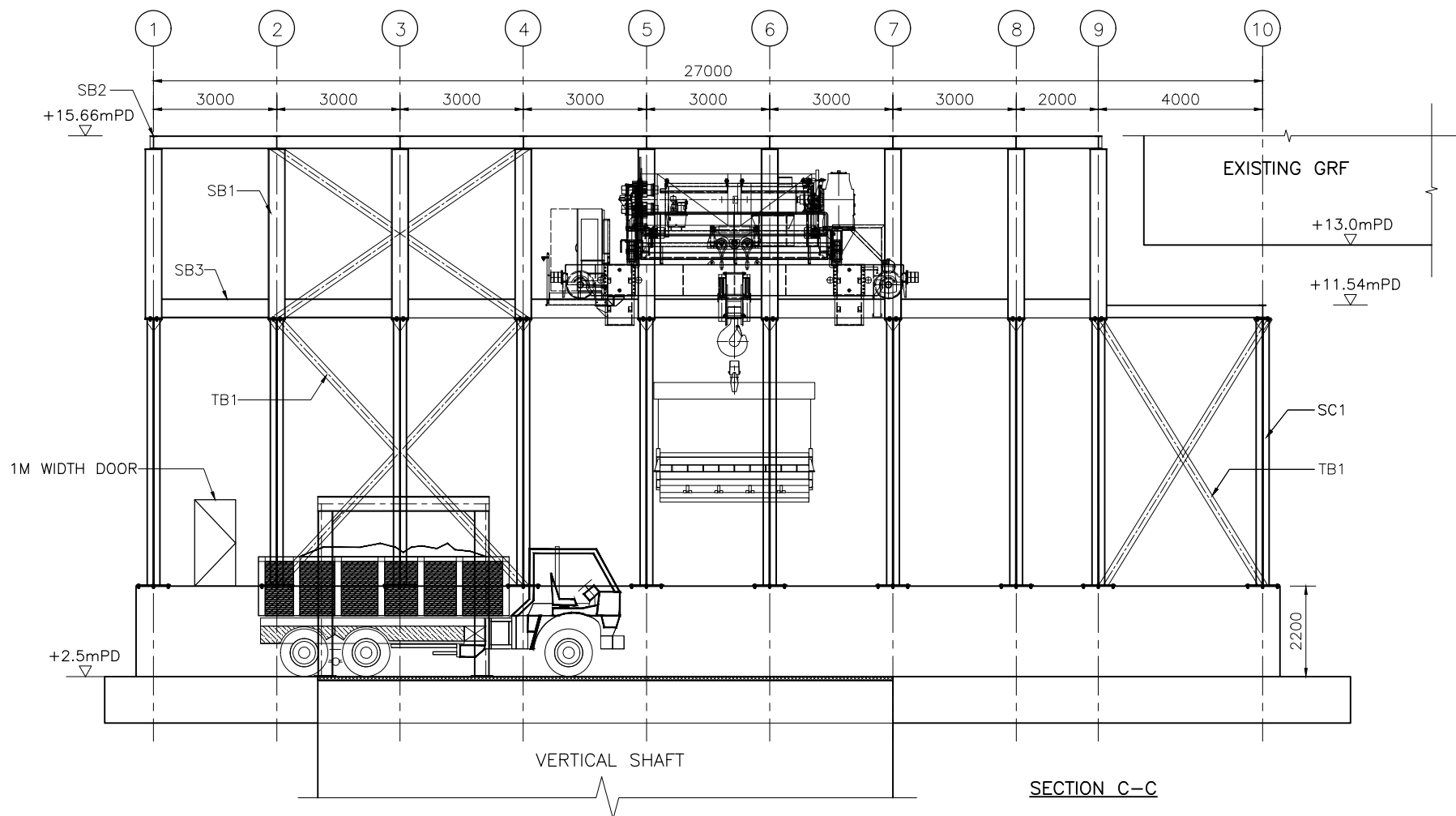
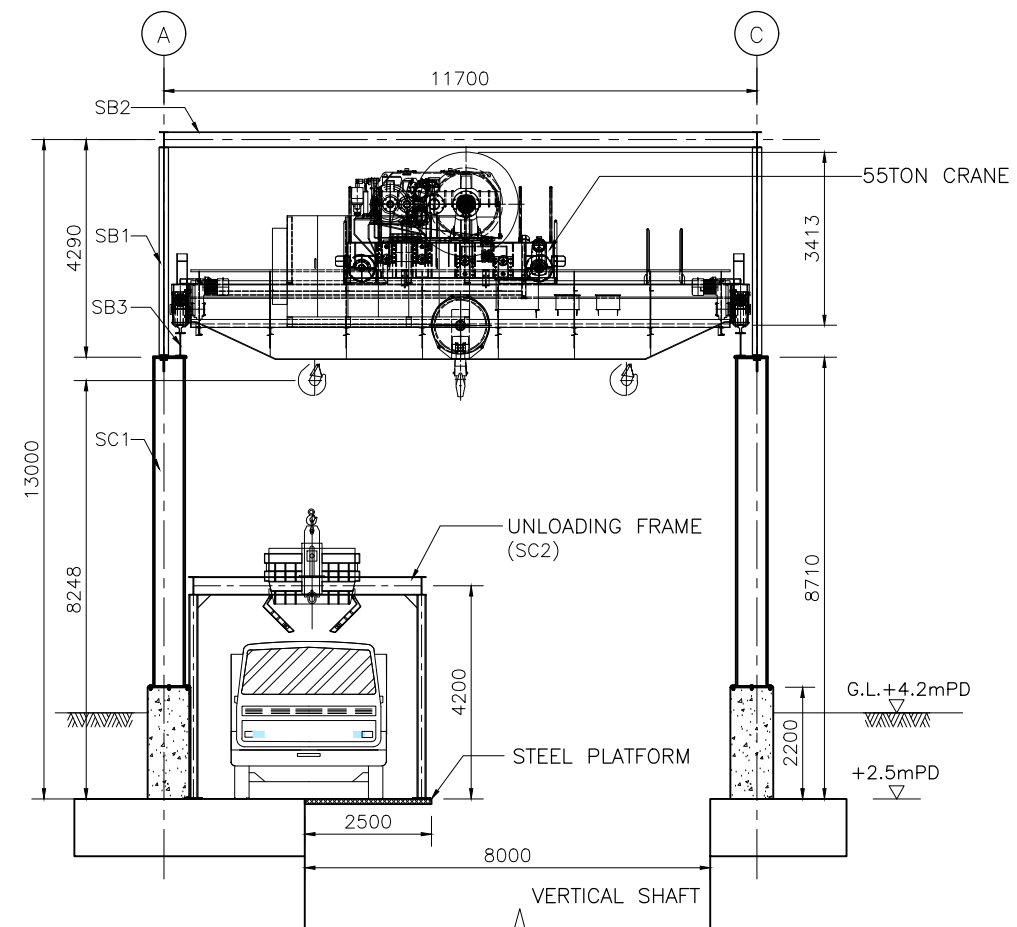
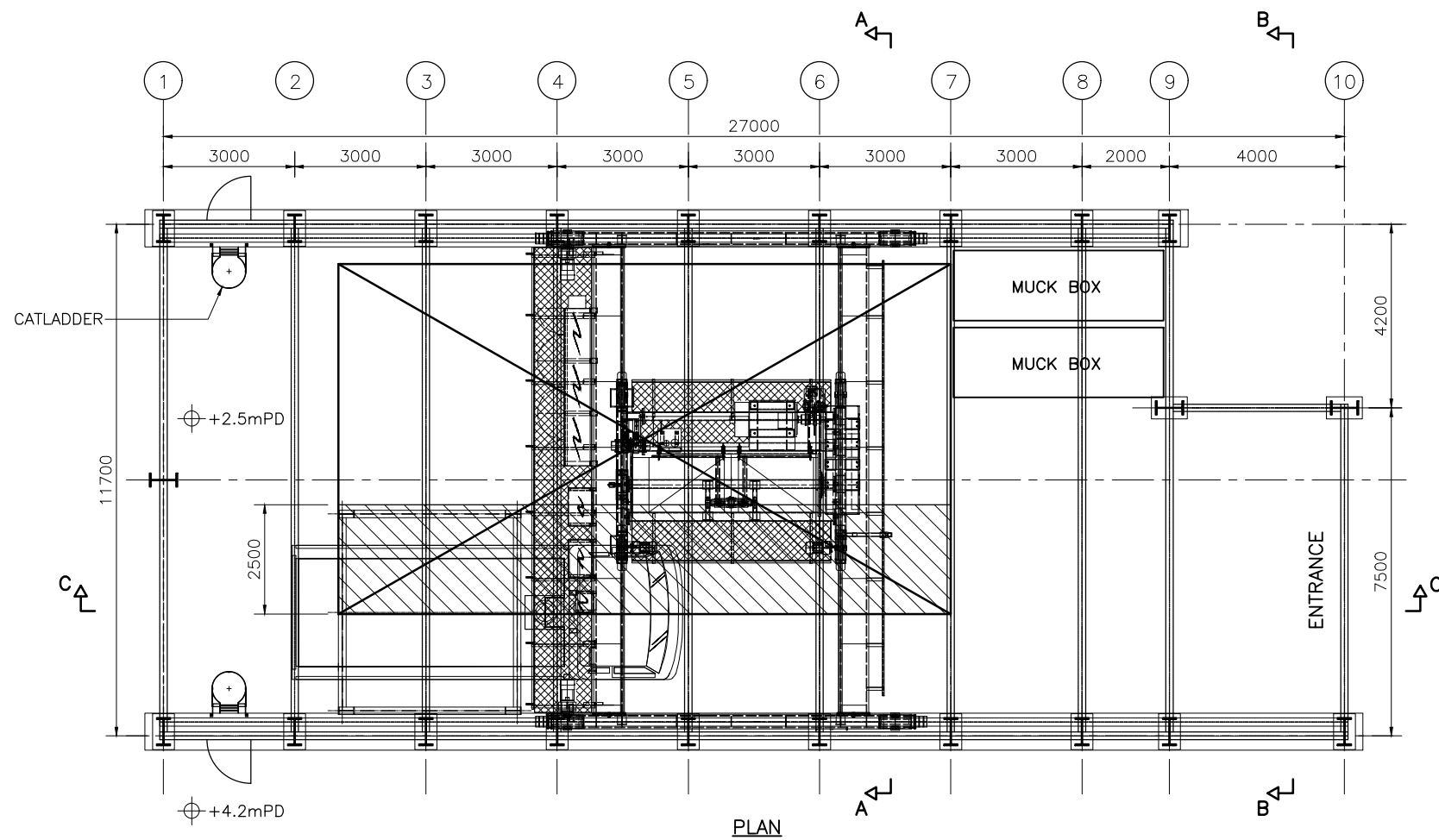


## **Appendix D**

### **Details of Temporary Noise Enclosure at Mucking Out Point**

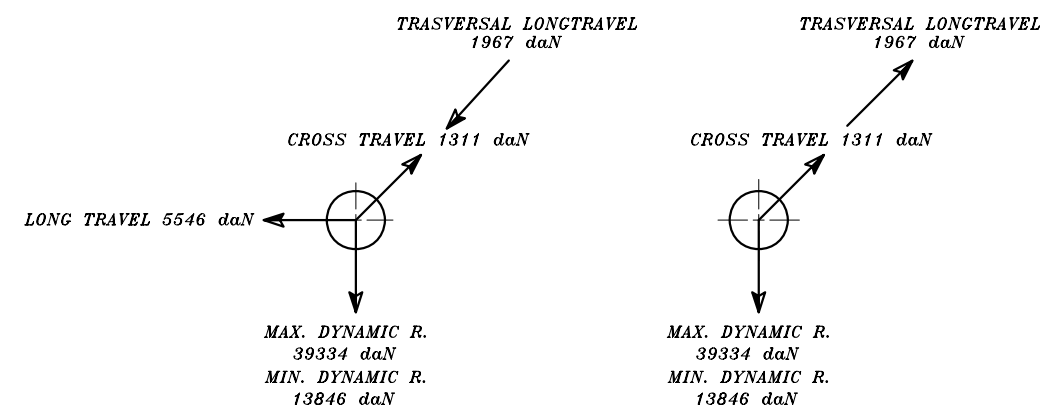
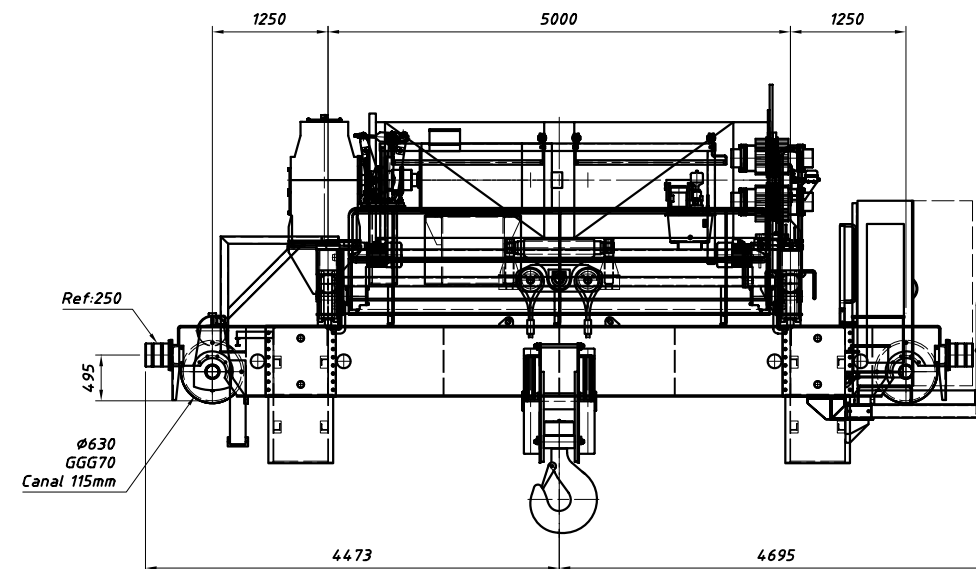
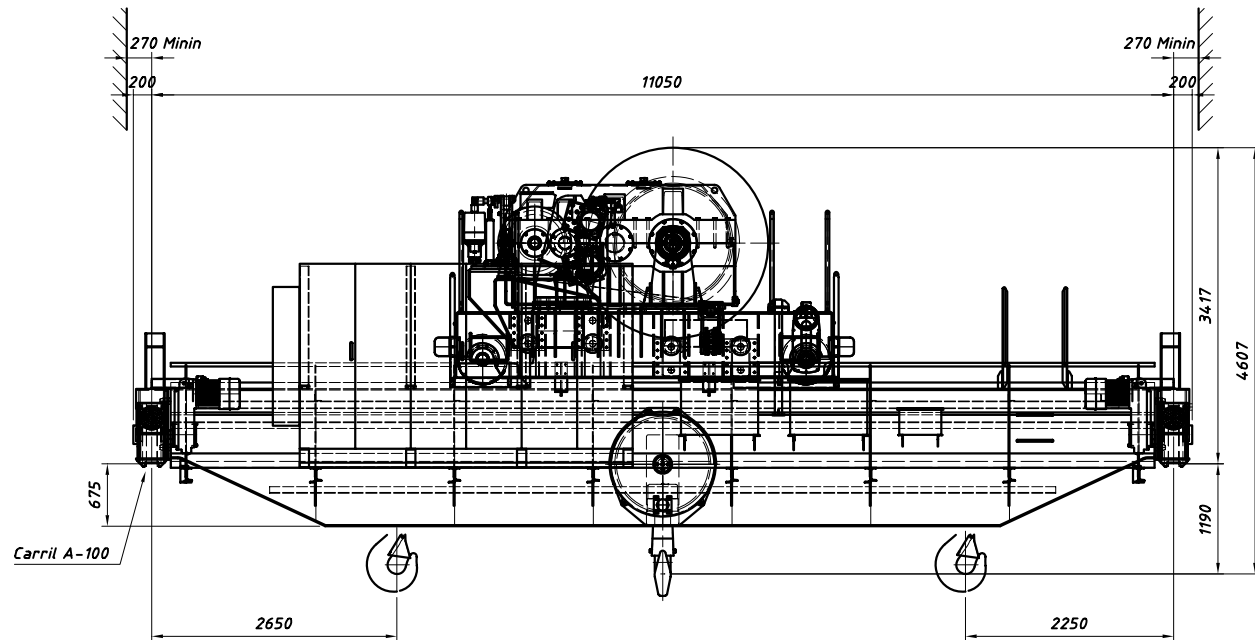


CRANE SPECIFICATION:  
 LIFTING CAPACITY: 55000KG  
 LIFTING SPEED: 30m/min  
 LIFTING HEIGHT: 45M



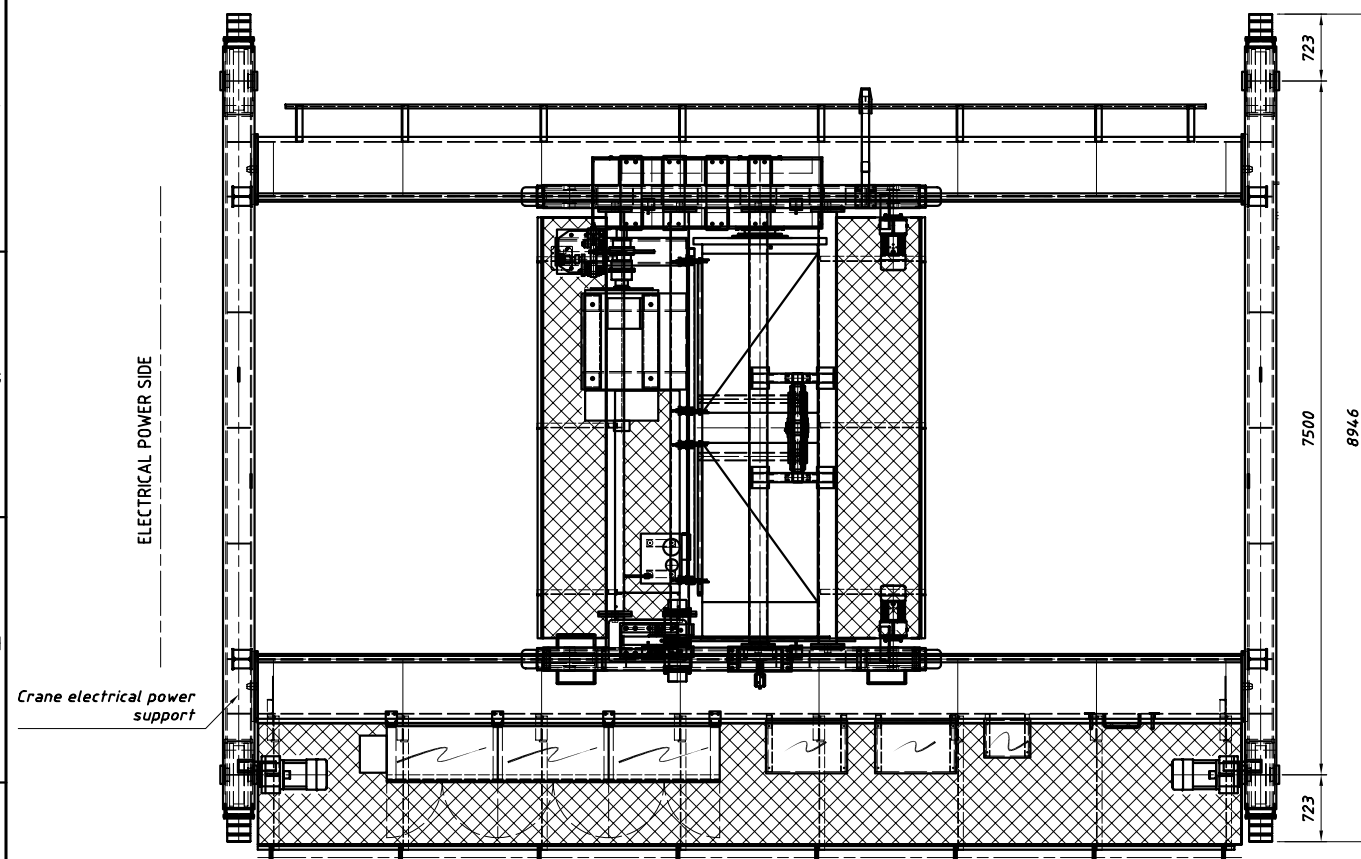
MEMBER SCHEDULE

ITEM	DESCRIPTION
SB1	406X178X74 UB
SB2	305X165X54 UB
SB3	457X191X98 UB
SC1	610X305X238 UB
TB1	200X200X16 EA
SC2	356x171x67 UB



CAPACITY OF THE CRANE 55000 Kg  
 WEIGHT OF THE CRANE WITHOUT TROLLEY 20360 Kg  
 WEIGHT OF THE TROLLEY 31000 Kg  
 TOTAL WEIGHT OF THE CRANE 51360 Kg

REV.	DESCRIPCION DE LA MODIFICACION	FECHA	FIRMA
01	Colocar pesos y reacciones	2012.01.11	Pelo OLANO



**Tolerancias del camino de rodadura F.E.M. 1.001-98**

Desnivel entre apoyos consecutivos:  $\Delta s \leq \frac{L}{1000}$

Desnivel entre los dos carriles:  $\Delta s \leq 10$

Tolerancia de la luz entre ejes de carriles 2 m:  $\Delta s \leq \frac{S}{1000}$

$s \leq 15 \text{ m} : \Delta s = \pm 3 \text{ mm}$

$s > 15 \text{ m} : \Delta s = \pm [3 + 0.25 \times (s - 15)] \text{ mm}$

**GH**

INDUSTRIAS ELECTROMECANICAS, S.A.  
 TEL.: (34) - 943.805.660  
 ghsa@ghsa.com  
 www.ghsa.com

OBJETO: DOUBLE GIRDER EOT CRANE 55 t M8 Span=11,05  
 ELEMENTO: KIER LAING O'ROURKE KADEN JOINT HONG-KONG

Uso	Nombre	Fecha	Escala	1:40	Revisión
Aprobado			Formato	GH-A1	<b>01</b>
Revisado	AJESTARAN		Hoja	1/1	
Dibujado	Pelo OLANO	2011.12.13	Ref:	500803	
C. Ordenador	500803-00G-01		C. Material		

Nº Plano: \_\_\_\_\_

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# Supreme Acoustics

盈达声学科研有限公司  
Supreme Acoustics Research Limited



**NAP** ACOUSTICS (FAR EAST) LTD  
声学工程(远东)有限公司

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## REPRESENTATIVES

Indonesia • Japan • Korea • Malaysia • Philippines • Taiwan • Thailand

# ACOUSTIC ENCLOSURE SYSTEM



*Supreme  
Acoustics*

**NAP Acoustics**

Supreme NAP is an international acoustics company established in Australia in the 1970's. With the tremendous growth of business, expansion to Far East and South East Asia regions took place in the early 1980's and became our base. Our principal activities are in building acoustics, noise and vibration control. Supreme NAP is a leading designer and manufacturer of noise control equipment in the Asia Pacific region. We provide proven engineered and technically advanced solutions for noise problems relating to architectural, transportation, commercial and industrial applications.

盈达社群  
普惠宁静

AFTER SALES  
SERVICE  
售后服务



The Company's standard range of products are listed as follows:

**Sound Attenuation:**

- Rectangular Duct Silencers
- Tunnel Ventilation Splitters
- Elbow Duct Silencers
- Circular Duct Silencers
- Cross Talk Silencers
- Resonator Silencers
- Devil Industrial Silencers
- Vent Silencers
- Gas Turbine Exhaust Silencers
- Acoustic Louvres

**Sound Insulation:**

- Noise Barriers
- QRD Noise Reducers
- Acoustic Enclosures
- Audiometric Rooms
- Acoustic Doors
- Acoustic Windows
- Door & Window Seals, Hinges
- Floating Floors / Floor Underlayment
- Isolated Ceilings
- Isolated Walls / Partitions

**Sound Absorption:**

- Ripple Acoustic Linings
- Conventional Acoustic Linings
- Acoustic Metal Ceilings
- Timber Acoustic Panels
- Cocktail Panels
- Soundfield Improvers
- Space Functional Absorbers

**Vibration Isolation:**

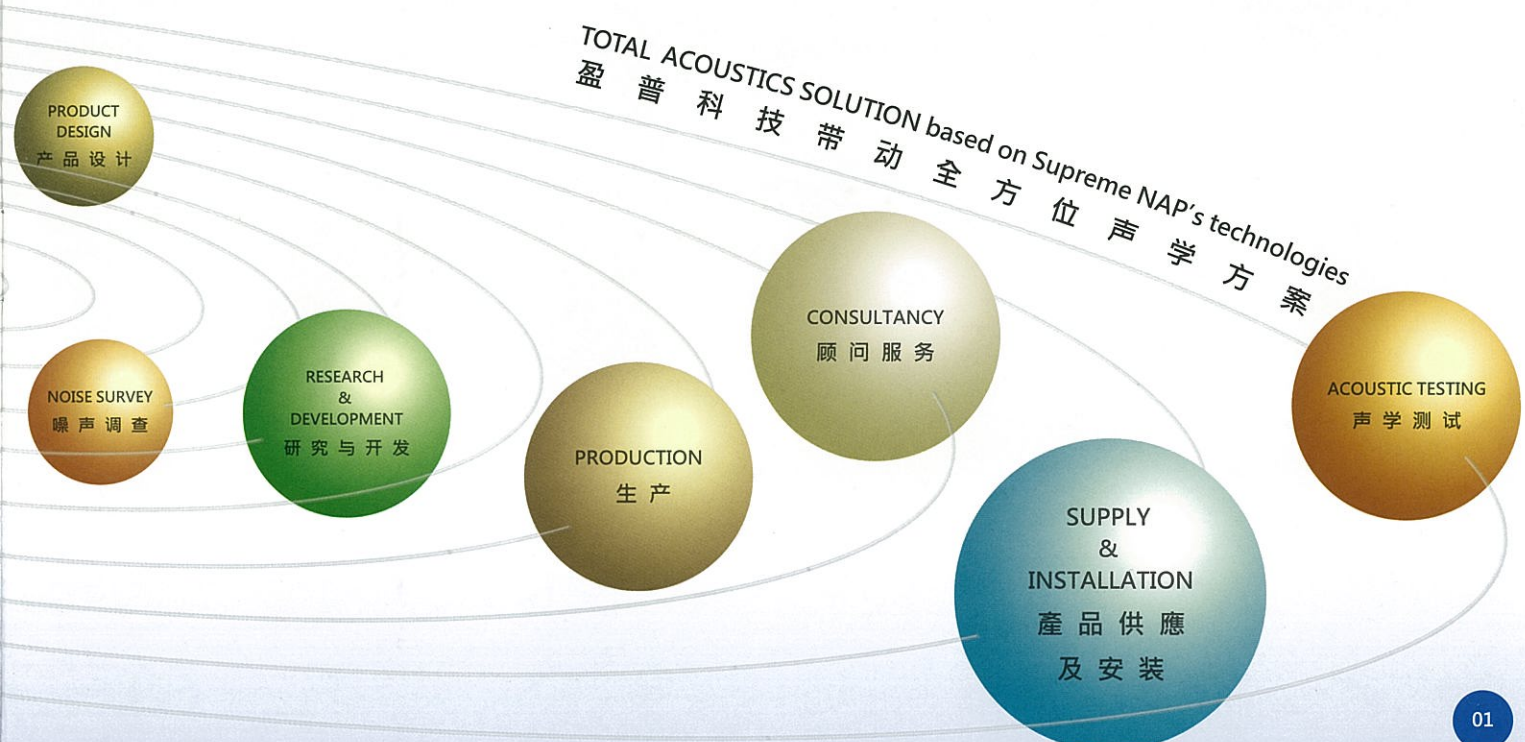
- Spring Mounts
- Rubber Mounts

In this catalogue, we are pleased to introduce one of our many remarkable products - Acoustic Enclosures for Sound Insulation and the following information will be covered:

Chapter 1 : NAP Acoustic Enclosures with Modular Panel System •—————• 02-07

Chapter 2 : Supreme-NAP "Mini-Booth" •—————• 08

Chapter 3 : Laboratory Testing of Acoustic Enclosures •—————• 09



is for general reference only, final specification may vary to meet the requirements for each individual project.

## CHAPTER 1

# NAP ACOUSTIC ENCLOSURES WITH MODULAR PANEL SYSTEM

### INTRODUCTION

As legislation and local standards are introduced to control noise, there is an upward tendency for the need of modular acoustic panel system. In response to this demand, NAP provides the unique Sound Snap system. Its practical design and wide range of application are illustrated in this catalogue.

Following many years of development, the Sound Snap panel system is now widely used in hundreds of installation. This is because it is proven, developed, tested and economical, for all applications in noise and vibration control involving acoustic enclosures, plenums, noise barriers, sound booths, isolated walls or ceilings.



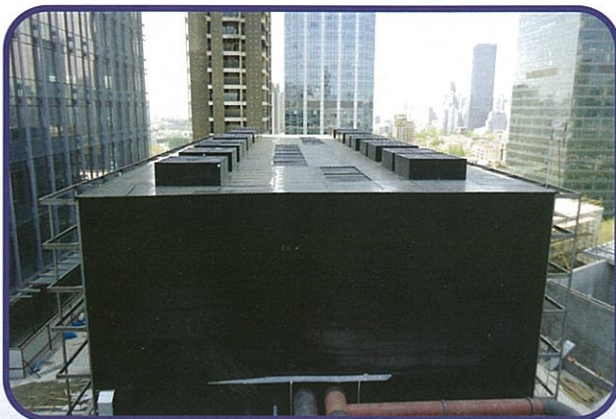
Wylie Road Ancillary Building, Hong Kong

### APPLICATIONS

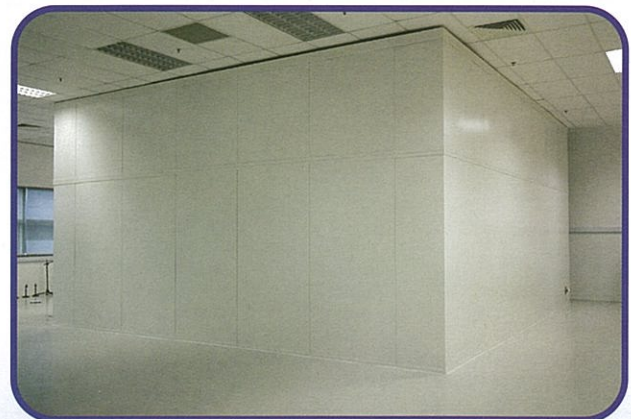
The wide range of panels enables enclosures and structures of any size to be assembled. This catalogue refers to the most common uses of Sound Snap Panels including:

- Air-cooled Chiller enclosures
- Cooling Tower enclosures
- Enclosures to reduce construction noise
- Machine acoustic enclosures
- Fan enclosures
- Enclosures to reduce transportation noise

Sound Snap panels are recognized by consultants and engineers alike and selected for their functionality, low cost, ease of installation, attractive appearance, high noise absorption and high noise insulation performance.



Shanghai IAPM Mall, Huaihai Road Central, China



Dyson, Singapore

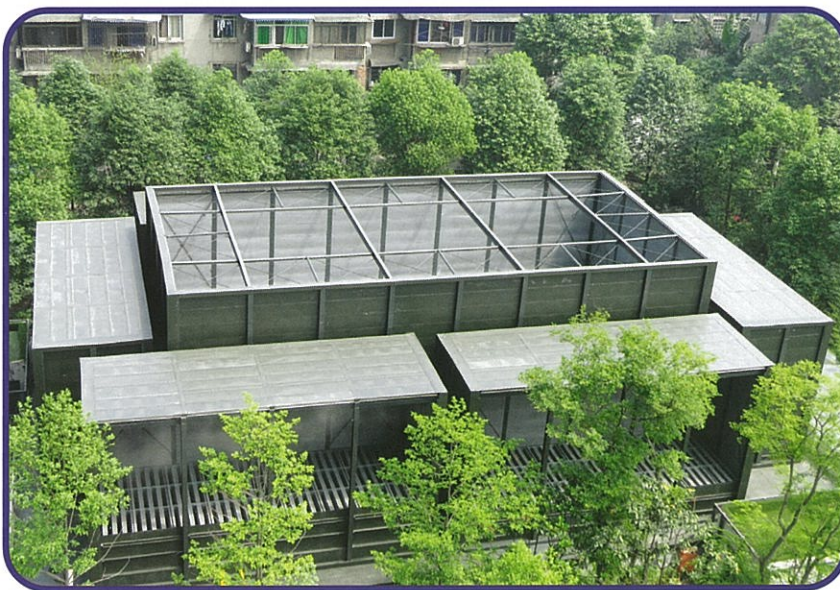
— PRODUCT FEATURES —

**Integrated System**

Integrated with the Sound Snap panels are complementary components; corner panels, glazed panels, doors, windows, access hatch, ventilation silencer, inlet and outlet feed chutes, cable and pipe penetrations and locating channels.

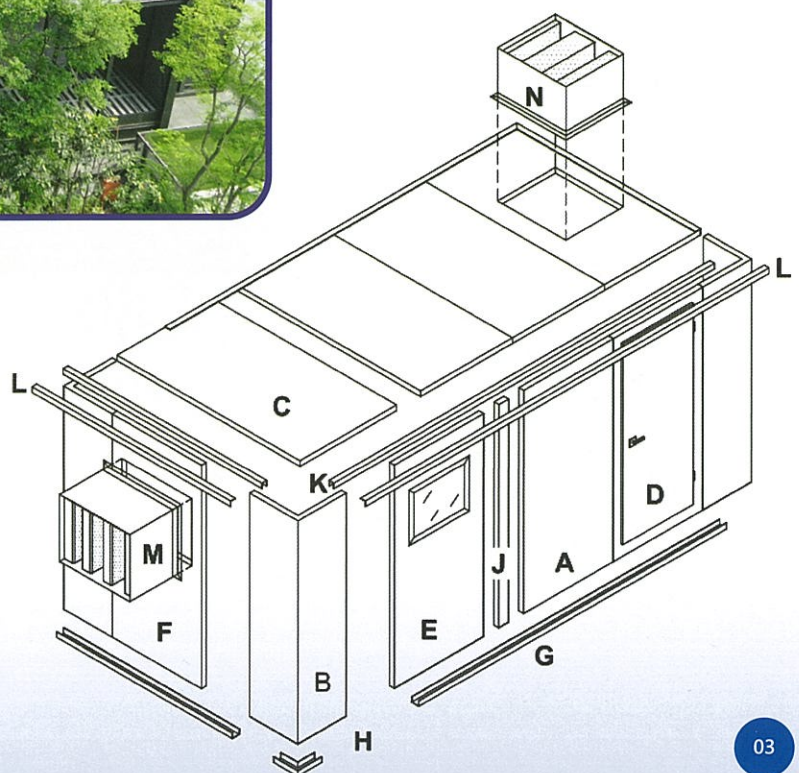
Roof panels are similar to wall panels. Standard corner panels, joiner panels, H-joiners and L-angles provide integral connections without degrading the performance.

NAP has profound experience in many noise control applications. Use our experience to help solving your problems. We offer a comprehensive design services based upon proven experience and the understanding of the requirements of your particular plant or machinery.



**Chengdu Raffle City Cooling Tower, China**

Total solution by using NAP's acoustic enclosures and duct silencers to achieve noise reduction of 35 dB(A) and bring a quiet life to the nearby residents



**Acoustic Enclosure System:**

- |                                 |                         |
|---------------------------------|-------------------------|
| A. Standard panel               | G. Floor channel        |
| B. Corner panel                 | H. Floor insert channel |
| C. Roof panel                   | J. Joiner piece         |
| D. Acoustic door                | K. Wall capping channel |
| E. Window panel                 | L. Flashing strip       |
| F. Special panel (with cut out) | M. Inlet silencer       |
|                                 | N. Discharge silencer   |

## — PRODUCT FEATURES —

**Standard Modular Panel** – Sound Snap enclosures can be erected using standard sized panels to suit most requirements, the panels can be installed and disassembled as required, to suit production or machine changes and alterations in plant layout. The use of modular panels makes installation fast and simple even for inexperienced teams.

**Materials and Finishes** – Materials available include galvanized steel, stainless steel, aluminum and colourbond steel sheet. Optional surface finishes are polyester powder coating, PVDF coating and paint coating.

**Surface Densities** – The surface weight of 50 mm thick panel is 15 kg/m<sup>2</sup> to 30kg/m<sup>2</sup> and that for the 100 mm thick panel is 30 kg/m<sup>2</sup> to 50 kg/m<sup>2</sup>. Selection of panel size shall depend on factors such as ease of erection, transportation, space limitation at site, etc. in order to optimize the cost.



Shanghai IAPM Mall,  
Huaihai Road Central, China



Festival Walk Shopping Mall,  
Hong Kong

## — MATERIAL AND PANEL CONSTRUCTION —

Sound Snap panels are factory produced in variety of thicknesses and lengths. All standard acoustic panels are manufactured from heavy gauge metal on external faces and internal perforated metal sheet retaining inert, fire resistant acoustic infill.

These products are laboratory tested. Non-combustible rockwool or glass fibre insulating material is specially selected to achieve maximum performance. Fibreglass tissue and water resistant polyester membrane are available to further protect the acoustic infill.

<b>Panel size and Material Thickness</b>	Thickness : 50 mm, 75 mm, 100 mm, 125 mm, up to 300 mm Width : Maximum 1200 mm Length : Maximum 4000 mm Outer Skin (solid) : 0.8 mm, 1.0 mm, 1.2 mm, 1.5 mm Inner Skin (Perforated) : 0.5 mm, 0.8 mm, 1.0 mm, 1.2 mm
<b>Infill Material</b>	The sound absorptive infill is inert, non-hygroscopic, moisture proof, non-capillary, verim proof, non-combustible and laboratory tested according to BS 476: Part 4.1970.
<b>Doors</b>	Normally size for single leaf door is 800 x 2000 mm, with stainless steel hinges, tubular latch and lever handles. Cabin latch and D pulls are optional. Noise leakage is minimized by installation of acoustic seal closure. Hinged door can be selected for clockwise or anticlockwise opening. Double leaf doors and sliding doors are also available. Sliding doors can be operated by manual or motor drive.
<b>Windows</b>	Windows or vision panels in safety, laminated or double layers glass as options.
<b>Ventilation, Inlet and Discharge</b>	Using NAP Duct Silencers or NAP Flowline Acoustic Louvres sized to suit acoustics and airflow requirements.
<b>Structural Strength</b>	For modular panel length of 3600 mm, deflection is less than 8 mm by applying panel thickness of 0.8 kN/M (50 mm panel) or 1.2 kN/M (100 mm panel) to leverage the imposed load.

ACOUSTIC PERFORMANCE

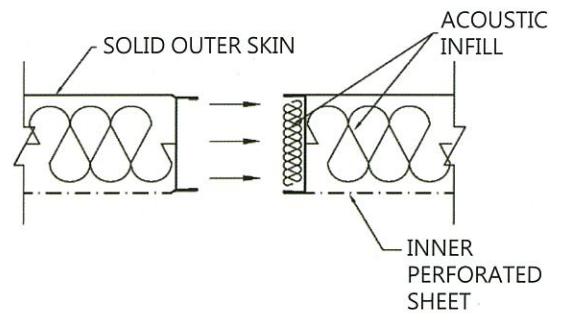
Airborne Sound Insulation

Supreme NAP Sound Snap Panels have been tested in accordance with International Standard ISO 10140-2, ISO 140-3 or American Standard ASTM E90 to determine **Sound Reduction Index** or **Sound Transmission Loss**.

The **Weighted Sound Reduction Index,  $R_w$** , or **Sound Transmission Class, STC**, which gives a single number rating of the airborne sound insulation of a panel system are as follows:

PANEL THICKNESS	$R_w$ / STC
50 mm	25 – 40 dB
75 mm	30 – 45 dB
100 mm	35 – 50 dB
125 mm	40 – 55 dB
300 mm	50 – 60 dB

TYPICAL PANEL SNAPLOCK JOINT SYSTEM



Note: The airborne sound insulation performance shall depend on the material construction, e.g. steel or aluminium, thickness of the panel, types of damping material and acoustic infill. Furthermore, a good jointing system to prevent noise leakage shall play an important role to maintain the overall performance of the acoustic enclosure.

Sound Absorption

Supreme NAP Sound Snap Panels have been tested by N.A.T.A, CNAS or HOLAS accredited laboratories in accordance with International Standard ISO 354 or American Standard ASTM C423 to determine **Sound Absorption Coefficients**.

**Weighted Sound Absorption Coefficient  $\alpha_w$** , **Sound Absorption Average SAA**, or **Noise Reduction Coefficient NRC** which gives a single number rating of the average of the **sound absorption coefficients** of a panel system, are in the range of 0.8 to 1.05.

Note: The sound absorption performance shall depend on the density and thickness of acoustic infill, type of acoustic infill, e.g. fibreglass or rockwool, the panel facing (e.g. perforation percentage) and infill facing (e.g. fibreglass scrim or Melinex polyester membrane). NAP engineers are pleased to provide assistance in selecting the appropriate materials according to the project requirements.



Fat Kwong Street, Hong Kong



Gascoigne Road Garden, Hong Kong

## MORE APPLICATION EXAMPLES

### Construction Site

NAP Acoustic panels were supplied for erection of acoustic enclosures at construction sites:

- MTR Hong Kong (West Island Line) - KET Praya & Hill Road
- MTR Hong Kong (Kwun Tong Line Extension) - Yau Ma Tei Whampoa Tunnels
- MTR Hong Kong (Kwun Tong Line Extension) - Ho Man Tin Station
- MTR Hong Kong (Shatin to Central Link) - To Kwa Wan Station

The design of the panel was carefully engineered providing optimal noise attenuation to improve people's quality of life and minimizing disturbance of the construction progress.

A remarkable result was achieved for the project of Shatin to Central Link To Kwa Wan Station where the construction work was extremely closed to the nearby residential buildings. NAP's unique design of enclosures were able to reach an insertion loss of 60 dB(A), which is considered as an extremely high standard.

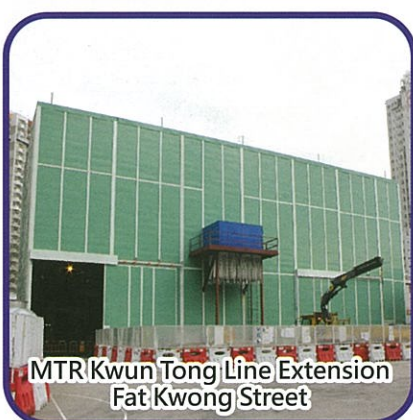
Similar acoustic enclosures were erected using NAP acoustic panels throughout Hong Kong for construction noise mitigation and achieved prestigious performance.



MTR Shatin to Central Link  
(To Kwa Wan Station)



MTR Access Shafts at KET Praya



MTR Kwun Tong Line Extension  
Fat Kwong Street



MTR Kwun Tong Line extension  
Gascoigne Road Garden



MTR West Island Line  
HKU Station  
Hill Road, Hong Kong

### Train Noise

To meet Hong Kong MTR Corporation's stringent requirements, NAP is fully capable of designing acoustic panels to provide high performance enclosure systems. At MTRC Tai Wai Station, NAP acoustic panels were employed to construct noise enclosures to shield train noise from the residents. These panels are made in aluminium with powder coating finishes with an acoustic performance design life of 20 years.



MTR  
Tai Wai Station,  
Hong Kong

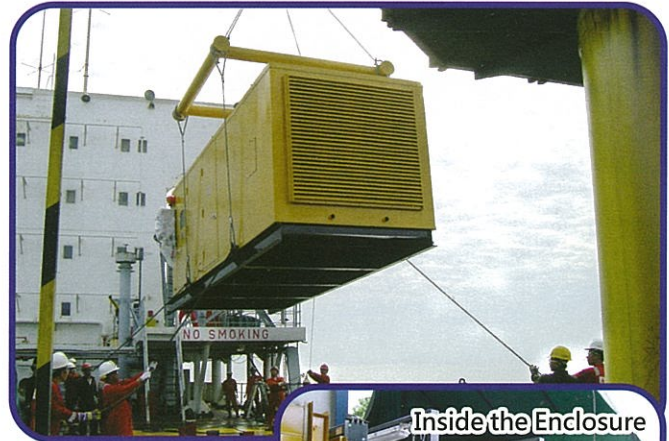


## Power Generators

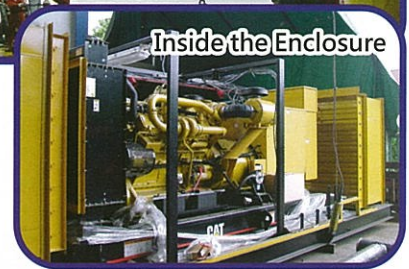
Acoustic enclosures should not impede the operation, maintenance or efficiency of the enclosed equipment. Careful integration of the design with the machinery is essential for a useful and effective enclosure.

The example here illustrates the advantages of all-in-one NAP Acoustic Enclosure erected from Sound Snap panel system including silencers, weatherproof louvres, access doors, vision panels and steel supporting frame.

The enclosure with all necessary components is assembled in the factory to save labour cost at site and ensure guaranteed acoustic performance. The enclosure can be lifted and delivered to the customer as a one stop acoustic solution. Typical applications are for diesel powered generators and ventilation fans.



Genset Enclosure for Star Energy



## Balancing Machines

NAP often works with various partners to supply and install different types of noise enclosures to suit special machineries. Special acoustic enclosures are designed to suit Schenck Balancing Machines, which are equipped with control functions to cater for the operation of the Balancing Machine.



Rolls Royce Seletar, Singapore - Acoustic Enclosure for Balancing Machine



TEXL Acoustic Enclosure, Xiamen, China

## Chillers & Cooling Towers

Air cooled chiller and cooling towers are commonly equipped with acoustic enclosures to reduce noise generated from the fans, compressors, water sprinkling and associated equipment. NAP has over 30 years' experience in providing one-stop service in the design, supply and installation of noise control measures to achieve environmental noise requirements while minimizing the influence of cooling loads.



Diocesan Girl's Junior School and Diocesan Girl's School, Hong Kong



Acoustic enclosures for chillers, City Plaza, Hong Kong

## CHAPTER 2

### Supreme NAP "MINI-BOOTH"

#### INTRODUCTION

Supreme NAP Mini-booth is specifically designed for precision noise measurement of small equipment in which the influence from ambient noise must be suppressed. It is particularly suitable for product quality testing in industrial environments.



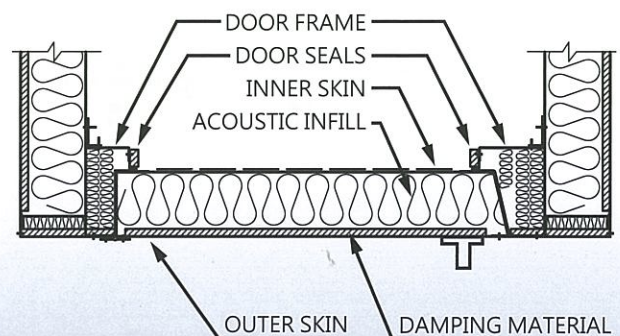
#### PRODUCT FEATURES



- Galvanized steel construction with powder coating for long service life.
- Fire resistant material.
- Typical outer dimensions: 0.9 m x 0.9 m x 0.9 m. Size and colour can be selected to suit your requirements.
- Acoustic panel thickness 100 mm, constructed with perforated or solid inner skin and fibrous infill.
- Acoustic panel door access with door seal to avoid noise leakage.
- Mounted on vibration isolators to suppress structure borne noise.
- A small opening is fitted for cable trimming and covered by a flexible noise barrier to maintain the acoustic performance.
- Acoustic wedges can be installed inside the booth to enhance the sound absorption.

#### ACOUSTIC PERFORMANCE

High noise insulation up to 35 dB(A) under International test standard ISO 11957 (test performance based on typical outer dimension of 0.9 m x 0.9 m x 0.9 m, panel thickness 100 mm.)



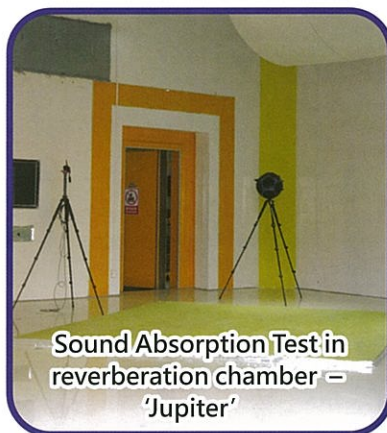


# CHAPTER 3

## LABORATORY TESTING OF ACOUSTIC ENCLOSURES

Laboratory testing is required to ensure the sound insulation performance of the acoustic enclosures. NAP's Sound Snap Panels and mini-booth have been tested at a laboratory accredited by CNAS (China National Accreditation Service). Field testing can also be conducted after installation of the enclosures to validate the required noise reduction is achieved. Common standards are listed as below:

Testing	Common Standards
Airborne Sound Insulation (Walls, Partitions)	<ul style="list-style-type: none"> <li>● ISO 140-3 (BS 2750-3), ISO 10140-2, ISO 16283-1</li> <li>● ASTM E90, ASTM E336</li> <li>● GB/T 8485, GB/T 19889.3, GB/T 16730, GB/T 19889.4</li> </ul>
Sound Insulation - Enclosures	<ul style="list-style-type: none"> <li>● ISO 11546-1, ISO 11957, ISO 11546-2</li> <li>● ASTM E596</li> <li>● GB/T 18699-1</li> </ul>
Sound Absorption	<ul style="list-style-type: none"> <li>● ISO 354, BS EN 1793-1</li> <li>● ASTM C423</li> <li>● GB/T 20247</li> </ul>



## **Appendix E**

### **Details of Acoustic Noise Barriers**



Acoustics Innovation

# SilentCUBE

## Movable Noise Enclosure

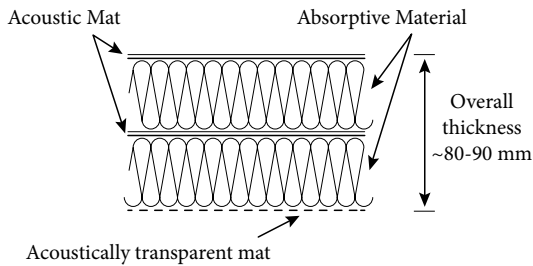
**SilentCUBE** is a movable noise enclosure for both indoor and outdoor use.

The lightweight design and user friendly installation mechanism enables contractors to quickly deploy and relocate SilentCUBE without using any specialized tools. Each CUBE can be seamlessly connected with another CUBE to accommodate larger machines.

SilentCUBE has been implemented in various construction sites, including:

- Night works conducted inside several MTR stations
- Road works at Tsuen Wan, Hoi Shing Road
- Concreting works for new office and education centre of Hong Kong Water Supplies Department in Tin Shui Wai

### Section of Acoustic Panel



### Product Specification

<b>Modular Size</b> (W) x (L)x (H)	1.5m x 1.5m x 2.2m
	2m x 2m x 2.2m
	2.5m x 2.5m x 2.2m
<b>Modular Weight</b>	~80kg
<b>Insertion Loss*</b>	18 dB(A)
<b>Surface Density</b>	3kg/m <sup>2</sup>
<b>Setup Time</b>	10 mins by 4 people
<b>Standard Colour</b>	Grey
<b>Ideal Solution for</b>	
• Hand-held Breaker	
• Vibratory Poker	
• Concrete Saw / Circular Saw, etc	
• Hammering and other PCW	

\* Tested with white noise source

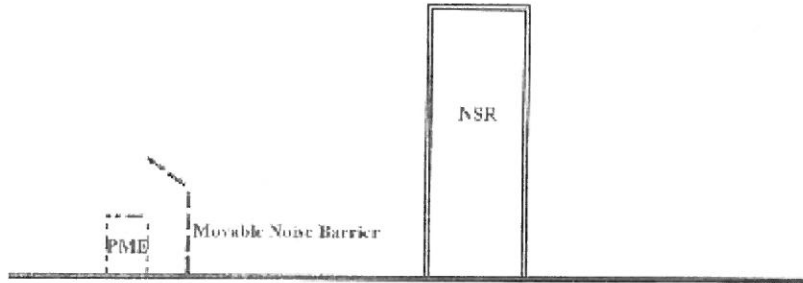


SilentCUBEs seamlessly connected with good gap sealing

**Shatin to Central Link**

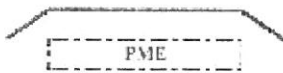
**Works Contract 1108 – Kai Tak Station and Associated Tunnel**

**Section View of Movable Noise Barrier**



Movable noise barrier composed of minimum 50mm thick sound absorbing lining and 10mm thick plywood (or 1mm thick steel) backing with a cantilevered upper portion located within 5m from any static or mobile plant. PME will be totally screened when viewed from the NSR.

**Plan View of Movable Noise Barrier**



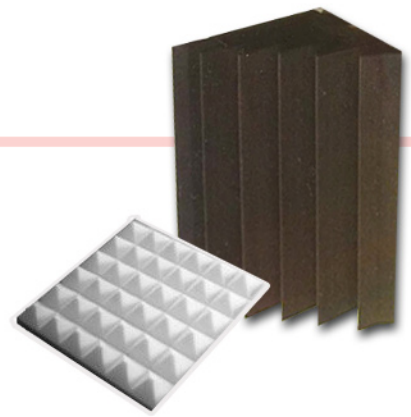
Static or mobile PME will be totally screened when viewed from the NSR.

# 吸音棉 SOUNDPROOF FOAM

吸音棉,學名為阻燃聚氨酯聲學泡沫是一種新型吸聲材料,具有重量輕,耐潮,可切割成形,施工安裝方便等優點。在泡沫塑料的背面塗上萬能膠,可將泡沫塑料吸音棉直接需要在需要吸聲的地方,施工十分方便。

吸音棉被廣泛應用於建築聲學和噪聲控制工程中,例如:隔聲屏吸聲層,空調消聲器,廠房車間吸聲降噪以及影劇院、禮堂、廣播電視錄音播音室等工程中控制混響時間,音箱內的吸音及改善室內音質等等。

吸音棉具有獨特的構造,細微多孔隙能有效吸收衰減聲波的能量,波浪型和金字塔型吸音棉在中頻與高頻音(500Hz~2000Hz)之吸音效果甚佳。若是低頻音的處理,則可選用三角柱體型,可將低頻做最大的降噪處理。



## 波浪型H25,H40,H50,H75 (經濟之選)

size: 1.5m x 2m

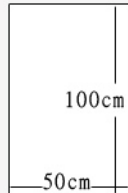
●厚度  
2.5cm, 4.0cm, 5.0cm, 7.5cm



●規格  
200cm X 100cm

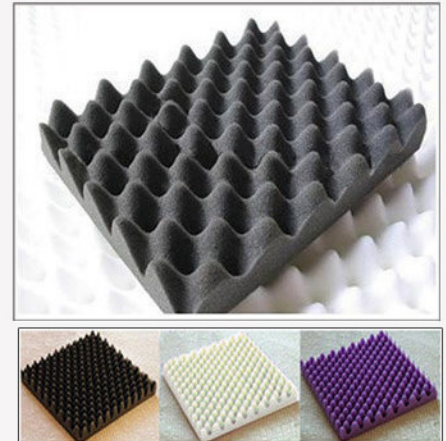
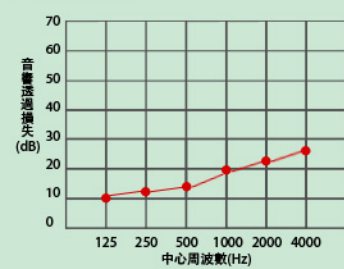
●密度  
16kg/m<sup>2</sup>

●顏色  
黑色, 白色和紫色



中心周波數 (Hz)	125	250	500	1000	2000	4000
音響透過損失 (dB)	10	12	15	20	25	28

●音響透過損失



## 金字塔型T50,T75 (質量之選)

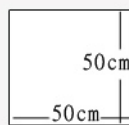
●厚度  
5.0cm, 7.5cm



●規格  
50cm X 50cm

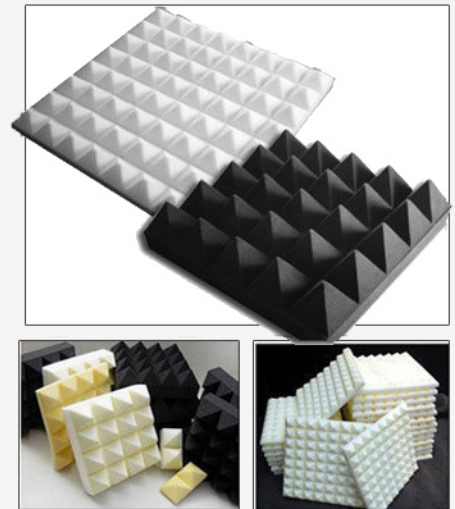
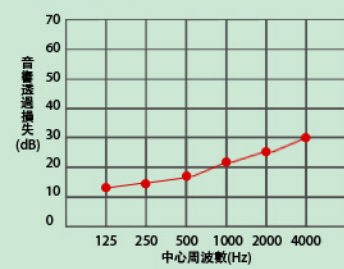
●密度  
18kg/m<sup>2</sup>

●顏色  
黑色和白色



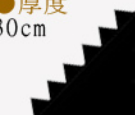
中心周波數 (Hz)	125	250	500	1000	2000	4000
音響透過損失 (dB)	12	15	18	22	27	30

●音響透過損失



## 三角柱體型TR50 (重低音之選)

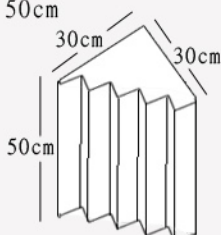
●厚度  
30cm



●規格  
30cm x 30cm x 50cm

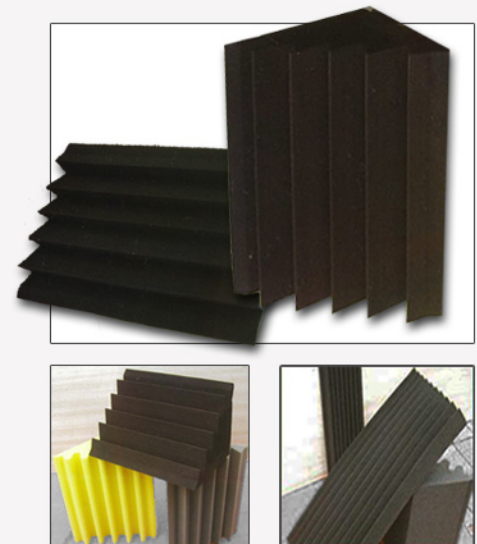
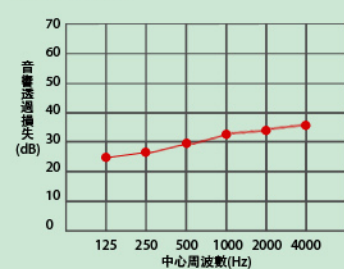
●密度  
20kg/m<sup>2</sup>

●顏色  
灰黑色



中心周波數 (Hz)	125	250	500	1000	2000	4000
音響透過損失 (dB)	25	28	30	32	34	36

●音響透過損失



Soundproof Testing  
of  
Foam



2008000188Z



(2008)国认监认字(047)号



检测  
CNAS L0846

# 检验报告

玻纤质检 (WSW) 字 第 (1111875) 号

(副本)

产品名称

波浪海棉

委托单位



检验类别

委托检验

国家玻璃纤维产品质量监督检验中心


二〇一一年五月五日

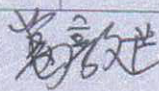


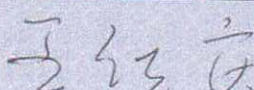
国家玻璃纤维产品质量监督检验中心

检 验 报 告

玻纤质检 (WSW) 字 第 (1111875) 号 共 2 页 第 1 页

产品名称	隔音毡	规格型号	Vinco-2.0
商 标	坤耐	样品状态	海棉制品
委托单位	██████████	检验类别	委托检验
生产单位	██████████	样品等级	——
抽样地点	——	送样日期	2011年11月29日
样品数量	约 (300×300) mm, 2块	送 样 者	██████████
抽样基数	——	生产日期	——
检验依据	试验方法详见附页	检验项目	隔声量
检 验 结 论	<p>样品经检验, 隔声量测定值详见附页 (第2页)。</p> <p>声明: 本检验结论仅对来样负技术责任。</p>		
备 注	 <p>(检验报告专用章) 2011年12月05日</p>		

批准: 

审核: 



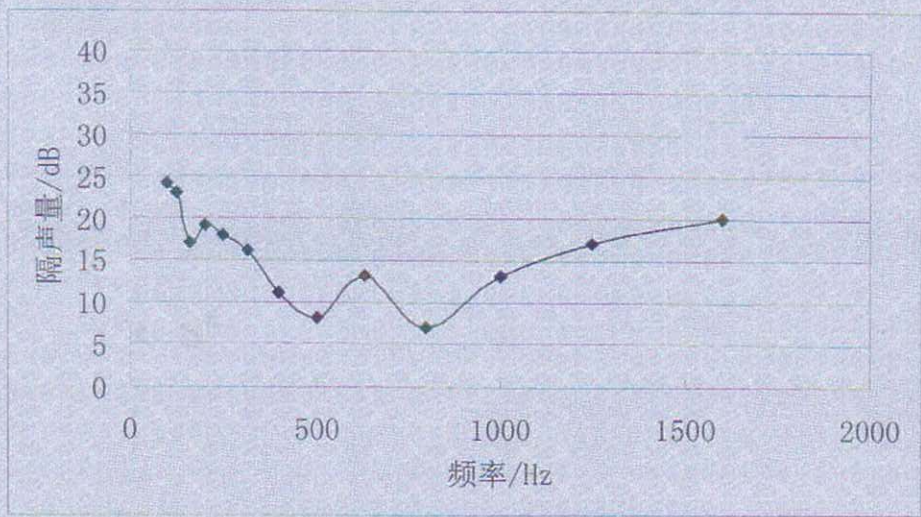


国家玻璃纤维产品质量监督检验中心

检验报告附页

玻纤质检 (WSW) 字 第 (1111875) 号 共 2 页 第 2 页

检验项目		试验方法	测定值
隔声量	100Hz	阻抗管法	24
	125Hz		23
	160Hz		17
	200Hz		19
	250Hz		18
	315Hz		16
	400 Hz		11
	500 Hz		8
	630 Hz		13
	800 Hz		6
	1000 Hz		13
	1250 Hz		16
	1600 Hz		20



编制: 张金红

Smouldering &  
Flammability Test  
of  
Foam



## STC Test Report

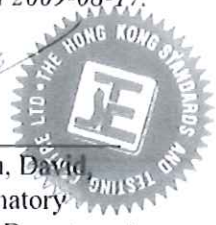
Date: 2009-09-16

Page 1 of 3  
(DUPLICATE)

No: HT196402

- Description of Sample(s)** : Two (2) groups submitted sample in black colour said to be  
(A) SPONGE  
Size: 12 inch x 3 inch x ½ inch (20pcs)  
(B) SPONGE  
Size: 8 inch x 7 ½ inch x 2 inch (6pcs)  
8 inch x 4 inch x 2 inch (6pcs)  
Country of Destination: U.S.A
- Date sample(s) Received** : (A) 2009-08-11  
(B) 2009-09-11
- Date Tested** : (A) 2009-08-11 to 2009-08-17  
(B) 2009-09-11 to 2009-09-16
- Investigation Requested** : Selected test(s) as detailed herein.
- Conclusion(s)** : 1. The submitted sample A complied with CAL TB 117:2000  
Section D Part II.  
2. The submitted sample B complied with CAL TB 117: 2000  
Section A Part I.

*This Test Result of Sample A refers to our previous Test Report, HT196092 issued on 2009-08-17.*

  
CHENG Chun-yiu, David  
Authorized Signatory  
Textile and Materials Department  
For and on behalf of  
The Hong Kong Standards and Testing Centre Ltd.

SATRA Accredited Laboratory  
International Safe Transit Association (ISTA) Certified Laboratory  
Members of  
Hong Kong Apparel Society Limited  
Hong Kong Footwear Association

Approved Laboratory of The Woolmark Company  
The Govmark Fire Laboratories Certified Laboratory

Hong Kong Association for Testing, Inspection and Certification Limited  
Knitwear Innovation and Design Society (KIDS)

**The Hong Kong Standards and Testing Centre Ltd.**

10, Dai Wang Street, Tai Po Industrial Estate, N. T., Hong Kong  
Tel: (852) 2656 1835 Fax: (852) 2654 4353 E-mail: hkstc@hkstc.org Homepage: www.stcgroup.org

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# STC Test Report

Date: 2009-09-16

Page 2 of 3  
(DUPLICATE)

No: HT196402

## TEST RESULTS:

### 1. Smouldering Screening Test

Ref. California Technical Bulletin No. 117-2000, Section D, Part II, Resilient Cellular Materials

#### Test Method

The apparatus and methods of testing were those described in California Technical Bulletin No. 117, Section D, Part II, for testing the smouldering tendency of resilient cellular materials used in upholstered furniture.

Test Results: Sample A

<u>Trial</u>	<u>Percentage (%) of non-smouldered residue</u>	<u>Comment</u>
1	99.9	Pass
2	99.9	
3	99.9	
Average	99.9	
<b>Requirement: All test specimens greater than 80% non-smouldered residue.</b>		

### 2. Flammability Test

Ref. California Technical Bulletin No. 117-2000, Section A, Part I, Resilient Cellular Materials

#### Test Method

The apparatus and methods of testing were those described in California Technical Bulletin No. 117, Section A, Part I, for testing the flame retardancy of resilient cellular materials used in upholstered furniture.

Test Results: Sample B

<u>Before Aging</u>			
<u>Specimen</u>	<u>After flame time (nearest 0.1 second)</u>	<u>Char length (nearest 0.1 inch)</u>	<u>After glow time (nearest 0.1 second)</u>
1	Nil	1.6	Nil
2	Nil	2.1	Nil
3	Nil	2.6	Nil
4	Nil	1.7	Nil
5	Nil	2.1	Nil
Average	Nil	2.0	Nil
<b>Requirement</b>			
<b>Individual</b>	<b>≤ 10 seconds</b>	<b>≤ 8 inches</b>	<b>/</b>
<b>Average</b>	<b>≤ 5 seconds</b>	<b>≤ 6 inches</b>	<b>≤ 15 seconds</b>

The Hong Kong Standards and Testing Centre Ltd.

10 Da Wang Street, Tai Po Industrial Estate, N. T., Hong Kong  
Tel: (852) 2666 1633 Fax: (852) 2664 4353 E-mail: hkstc@hkstc.org Homepage: www.hkgroup.org  
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## STC Test Report

Date: 2009-09-16

Page 3 of 3  
(DUPLICATE)

No: HT196402

### TEST RESULTS:

After Aging			
<u>Specimen</u>	<u>After flame time</u> (nearest 0.1 second)	<u>Char length</u> (nearest 0.1 inch)	<u>After glow time</u> (nearest 0.1 second)
1	Nil	1.5	Nil
2	Nil	2.3	Nil
3	Nil	1.6	Nil
4	Nil	1.9	Nil
5	Nil	2.3	Nil
Average	Nil	1.9	Nil
Requirement			
Individual	≤ 10 seconds	≤ 8 inches	/
Average	≤ 5 seconds	≤ 6 inches	≤ 15 seconds

**Comment : Pass**

\*\*\*\*\* End of Test Report \*\*\*\*\*

**The Hong Kong Standards and Testing Centre Ltd.**

10 Da Wang Street, Tai Po Industrial Estate, N.T., Hong Kong

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Hong Kong Job Reference  
of  
Foam



綽基建築科技有限公司

Tracki Building Technology Ltd

## Job Reference

### Soundproof Foam

Liantang/Heung Yuen Wai  
Boundary Control Point  
site formation and infrastructure works  
- Contract 5 CV/2012/09

Chun wo C&E Company Ltd

Residential Development  
RBL 1190, No v 8-12  
Deep Water Bay Drive

K. H. Foundations Ltd



## **Appendix F**

### **Distance between NSRs and Worksites**

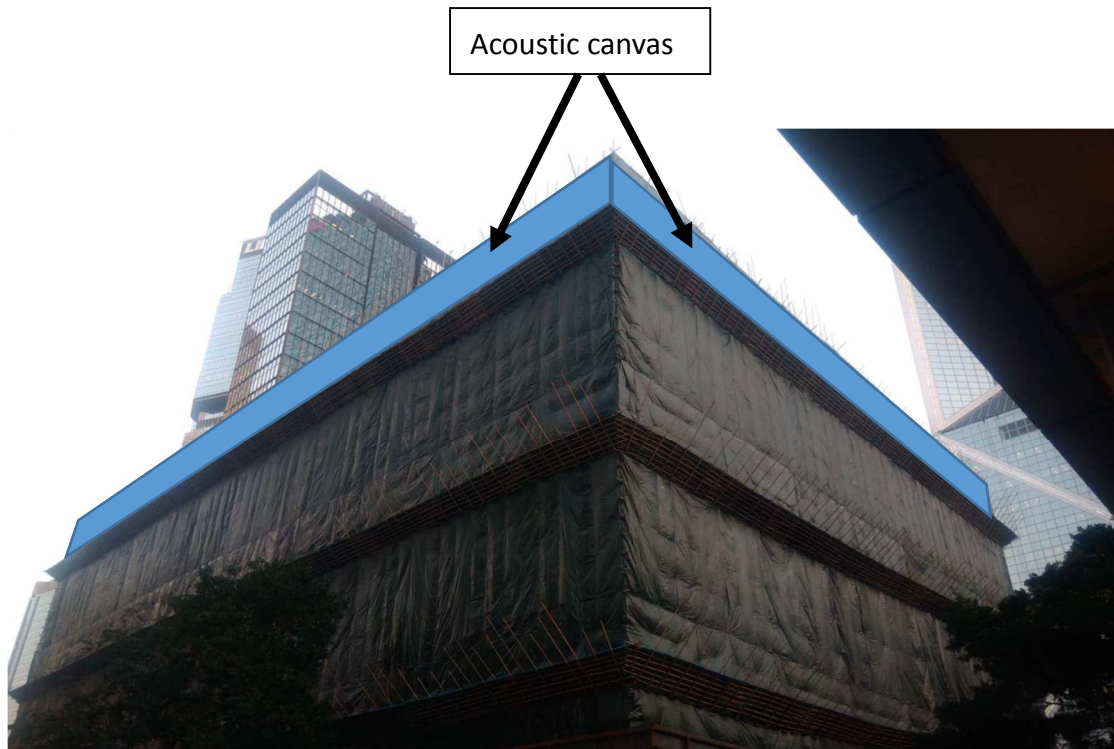


NSRs	S3	S4	S5	S6	S7	S8	S9	S13a	S16a	S16b	S17	S18	S25	S26	S27a	S27b	S28	S29	S30	S31	S32	S33	S34	S35	S36a	S36b	S37a	S37b	S39	S40	S41	S42	S43	S44	S45	S46a	S46b	S46c	S47a	S47b	S47c	S49	S50a	S50b	S50c	S50d	S51	S52	S53	S55a	S55b	S56a	S56b	S57	S58	
W-N1A Yau Ma Tei Catholic Primary School (Hoi Wang Road)	300	>300	>300	>300	>300	>300	>300	300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300
W-N8A Tak Cheong Building	250	70	19	45	85	80	135	250	55	22	75	135	32	45	31	100	160	140	85	70	55	8	32	135	32	50	23	90	120	29	15	40	135	55	30	155	60	13	120	45	14	125	225	205	170	185	225	85	40	50	35	75	15	75	260	
W-N25A Prosperous Garden Block 1	110	120	135	170	180	205	285	110	80	160	170	245	120	165	80	210	85	45	70	50	95	150	190	265	115	205	80	230	75	130	165	130	45	85	130	65	80	155	45	95	155	40	75	55	16	25	65	65	115	75	175	50	135	205	160	
W-P11 The Coronation (West Façade)	165	>300	>300	>300	>300	>300	>300	165	285	>300	>300	>300	>300	>300	>300	>300	>300	150	215	>300	>300	295	>300	>300	>300	>300	>300	>300	>300	260	>300	>300	>300	210	>300	>300	195	275	>300	225	>300	>300	230	180	215	250	245	200	>300	>300	>300	>300	235	>300	>300	160

## **Appendix G**

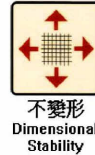
### **Details of Acoustic Noise Barriers for Demolition Works of YMT Yau Ma Tei Multistorey Carpark Building**

Temporary noise barrier will be erected at the floor to be demolished surrounding the 4 sides of the building



<b>Model No. CK2009</b>	<b>High Tenacity Polyester PVC Laminated Fabrics</b>
<b>General Applications:</b>	Construction, Marine (Field) covers, Storage covers and many other applications
<b>Colors:</b>	Yellow, Sky Blue, Green, Orange, Dark Green, White, Grey
<b>Available Grades:</b>	Fire-Retardant, Ultra-Violet, Anti-Mildew, Anti-Cold, Sound Insulated
<b>Type of Products:</b>	Roll Type
<b>Raw Material Origin:</b>	From Japan
<b>Flammability Test Method:</b>	BS 5867-2 2008
<b>Sizes:</b>	2M x 6M, 2M x 30M(roll type)

Sample name(provided by sponsor): PVC Tarpaulin  
 Color: Gray  
 Mass per unit area : 958 g/m<sup>2</sup>  
 Area, S, of test element : 3.8 m<sup>2</sup>  
 Air temp. in the test rooms : 27°C  
 Relative humidity in the test rooms : 58%  
 Receiving room volume : 67.9 m<sup>3</sup>

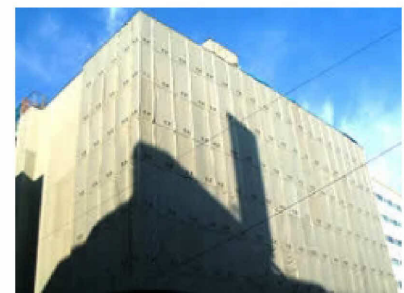
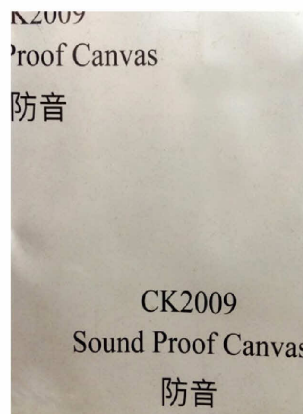
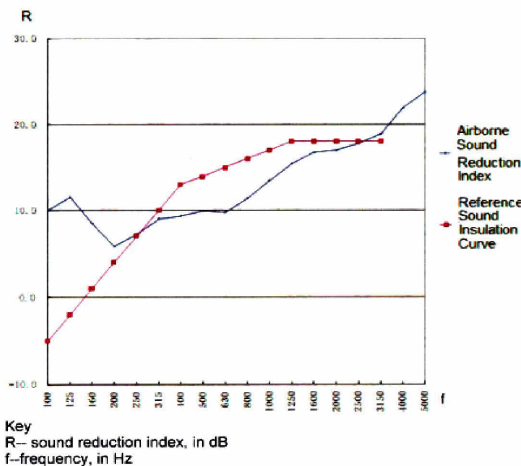


### Physical Properties:

#### III. Test results

f Hz	R dB
100	10.1
125	11.6
160	8.6
200	5.9
250	7.3
315	9.1
400	9.4
500	10.0
630	9.9
800	11.5
1000	13.5
1250	15.5
1600	16.7
2000	17.0
2500	17.8
3150	18.9
4000	21.9
5000	23.9
<b>Rw (C;Ctr)</b>	<b>14(-1;-2)</b>

Fabric Detail 網布規格	1000D x 1000D x 20 x22		
Item 項目名稱	Test Method 執行標準	Unit 單位	Value 數據
Thickness 厚度	DIN53353	mm	1.0
Total Weight 總重量	DIN53352	g/m <sup>2</sup>	1132.2
Tensile Strength 拉伸強度	DIN53354	N/5cm	經 Warp 3040 緯 Weft 2549
Elongation at Break 斷裂伸長率	DIN53354	%	經 Warp 17.3 緯 Weft 23.3
Tear Strength 撕裂強度	DIN53363	N	經 Warp 448 緯 Weft 374
Adhesion of Coating Strength 剝離負荷	DIN53357	N/5cm	經 Warp 123 緯 Weft 108
Remarks 備註			



This technical data is offered as helpful suggestion only. It's accurate to the best of our knowledge at time of printing.

**祥記帆布工程有限公司**  
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