

Annex B

Supporting Information for Noise Impact Assessment

Annex B1

Preliminary Construction Programme

Regulation of Shenzhen River Stage IV

Annex B1: Preliminary Summarised Construction Programme

| No. | Activity Description | 2012 | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 |
|--|---|------|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|
| | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 |
| DESIGNATED PROJECT | | | | | | | | | | | | | | | | | | | | | |
| <u>Regulation of Shenzhen River Stage IV</u> | | | | | | | | | | | | | | | | | | | | | |
| I Site Preparation | | | | | | | | | | | | | | | | | | | | | |
| 1 | Site Clearance | | | | | | Y | | | | | | | | | | | | | | |
| 2 | Haul Road | | | | | | Y | | | | | | | | | | | | | | |
| II Works Area I | | | | | | | | | | | | | | | | | | | | | |
| 3 | River Excavation (Sediment) | | | | | | | Y | Y | | | | | | | | | | | | |
| 4 | Haul Road | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 5 | Excavation and River Training | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 6 | Landscaping | | | | | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| III Works Area II | | | | | | | | | | | | | | | | | | | | | |
| 7 | River Excavation (Sediment) | | | | | | | Y | Y | | | | | | | | | | | | |
| 8 | Haul Road | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 9 | Excavation and River Training | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 10 | Landscaping | | | | | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| IV Works Area III | | | | | | | | | | | | | | | | | | | | | |
| 11 | River Excavation (Sediment) | | | | | | | | | | | Y | Y | | | | | | | | |
| 12 | Haul Road | | | | | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 13 | Excavation and River Training | | | | | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 14 | Landscaping | | | | | | | | | | | | | | | | Y | Y | Y | Y | |
| V Works Area IV | | | | | | | | | | | | | | | | | | | | | |
| 15 | River Excavation (Sediment) | | | | | | | | | | | Y | Y | | | | | | | | |
| 16 | Haul Road | | | | | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 17 | Excavation and River Training | | | | | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 18 | Landscaping | | | | | | | | | | | | | | | | Y | Y | Y | Y | |
| VI Others | | | | | | | | | | | | | | | | | | | | | |
| 19 | Reprovisioning Works | | | | | | | | | | | | | | | | | | | Y | |
| VII Advanced Works | | | | | | | | | | | | | | | | | | | | | |
| 20 | Backfilling | Y | Y | Y | Y | | | | | | | | | | | | | | | | |
| 21 | Road Construction | | | | Y | Y | Y | | | | | | | | | | | | | | |
| 22 | Fence Installation | | | | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 23 | Drainage / Sinage Works | | | | | | | Y | Y | Y | Y | | | | | | | | | | |
| CONCURRENT PROJECTS | | | | | | | | | | | | | | | | | | | | | |
| <u>Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)</u> | | | | | | | | | | | | | | | | | | | | | |
| 24 | Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) ^[1] | Y | Y | Y | Y | | | | | | | | | | | | | | | | |
| 25 | Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) ^[1] | Y | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | | |
| <u>Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works.^[2]</u> | | | | | | | | | | | | | | | | | | | | | |
| 26 | BCP Site Formation | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 27 | Lin Ma Hang Road next to BCP | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 28 | Chuk Yuen Village Access Road | | | | | | | | | | Y | | | | | | | | | | |
| 29 | Lin Ma Hang Road Improvement Work | | | | | | | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| 30 | Viaduct Section from BCP to Wo Keng Shan | | | | | | | | | | | Y | Y | Y | | | Y | Y | Y | Y | |

Notes:
 [1] Reference was made to the latest tentative construction programme provided by ArchSD.
 [2] Reference was made to Appendices 4.4b2 and 4.4g2 of the *Environmental Impact Assessment Report for Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works* (LT/HYW EIA Report) dated August 2010.

Annex B2

Construction Plant Inventory (Unmitigated)

Regulation of Shenzhen River Stage IV

Annex B2: Construction Plant Inventory (Unmitigated)

Daytime Period (Normal days 0700 - 1900 hrs)

| No. | Activities | Plant Item | TM / EPD ^[1] / BS 5228 ref. | No. of PME | On-time % | Unit SWL, dB(A) | SWL, dB(A) | Total SWL, dB(A) ^[2] |
|--|-------------------------------|---|--|------------|-----------|-----------------|------------|---------------------------------|
| Construction of Shenzhen River Stage IV | | | | | | | | |
| I) Site Preparation | | | | | | | | |
| 1 | Site Clearance | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | 111 |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| 2 | Haul Road | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 116 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| II) Works Area I | | | | | | | | |
| 3 | River Excavation (Sediment) | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 119 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 2 | 75% | 112 | 114 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 3 | 50% | 105 | 107 | |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | 110 | 107 | |
| | | Crane, mobile/barge mounted (diesel) | CNP 048 | 1 | 50% | 112 | 109 | |
| | | Concrete lorry mixer | CNP 044 | 1 | 50% | 109 | 106 | |
| | | Concrete pump, stationary/lorry mounted | BS C6 36 | 1 | 50% | 106 | 103 | |
| | | Drill/grinder, hand-held (electric) | CNP 065 | 1 | 50% | 98 | 95 | |
| 4 | Haul Road | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 116 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| 5 | Excavation and River Training | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | 115 |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Breaker, hand-held, mass > 20kg and < 35kg | CNP 025 | 2 | 50% | 111 | 111 | |
| | | Concrete mixer (petrol) | CNP 046 | 1 | 50% | 96 | 93 | |
| | | Concrete pump, stationary/lorry mounted | CNP 047 | 1 | 50% | 109 | 106 | |
| 6 | Landscaping | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 117 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | 110 | 107 | |
| | | Crane, mobile/barge mounted (diesel) | CNP 048 | 1 | 50% | 112 | 109 | |
| III) Works Area II | | | | | | | | |
| 7 | River Excavation (Sediment) | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 119 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 2 | 75% | 112 | 114 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 3 | 50% | 105 | 107 | |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | 110 | 107 | |
| | | Crane, mobile/barge mounted (diesel) | CNP 048 | 1 | 50% | 112 | 109 | |
| | | Concrete lorry mixer | CNP 044 | 1 | 50% | 109 | 106 | |
| | | Concrete pump, stationary/lorry mounted | BS C6 36 | 1 | 50% | 106 | 103 | |
| | | Drill/grinder, hand-held (electric) | CNP 065 | 1 | 50% | 98 | 95 | |
| 8 | Haul Road | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 116 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| 9 | Excavation and River Training | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | 115 |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Breaker, hand-held, mass > 20kg and < 35kg | CNP 025 | 2 | 50% | 111 | 111 | |
| | | Concrete mixer (petrol) | CNP 046 | 1 | 50% | 96 | 93 | |
| | | Concrete pump, stationary/lorry mounted | CNP 047 | 1 | 50% | 109 | 106 | |
| 10 | Landscaping | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 117 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | 110 | 107 | |
| | | Crane, mobile/barge mounted (diesel) | CNP 048 | 1 | 50% | 112 | 109 | |
| IV) Works Area III | | | | | | | | |
| 11 | River Excavation (Sediment) | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 119 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 2 | 75% | 112 | 114 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 3 | 50% | 105 | 107 | |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | 110 | 107 | |
| | | Crane, mobile/barge mounted (diesel) | CNP 048 | 1 | 50% | 112 | 109 | |
| | | Concrete lorry mixer | CNP 044 | 1 | 50% | 109 | 106 | |
| | | Concrete pump, stationary/lorry mounted | BS C6 36 | 1 | 50% | 106 | 103 | |
| | | Drill/grinder, hand-held (electric) | CNP 065 | 1 | 50% | 98 | 95 | |
| 12 | Haul Road | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 116 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| 13 | Excavation and River Training | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | 115 |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Breaker, hand-held, mass > 20kg and < 35kg | CNP 025 | 2 | 50% | 111 | 111 | |
| | | Concrete mixer (petrol) | CNP 046 | 1 | 50% | 96 | 93 | |
| | | Concrete pump, stationary/lorry mounted | CNP 047 | 1 | 50% | 109 | 106 | |

Regulation of Shenzhen River Stage IV

Annex B2: Construction Plant Inventory (Unmitigated)

Daytime Period (Normal days 0700 - 1900 hrs)

| No. | Activities | Plant Item | TM / EPD ^[1] / BS 5228 ref. | No. of PME | On-time % | Unit SWL, dB(A) | SWL, dB(A) | Total SWL, dB(A) ^[2] |
|----------------------------|-------------------------------|---|--|------------|-----------|-----------------|------------|---------------------------------|
| 14 | Landscaping | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 117 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | 110 | 107 | |
| | | Crane, mobile/barge mounted (diesel) | CNP 048 | 1 | 50% | 112 | 109 | |
| V) Works Area IV | | | | | | | | |
| 15 | River Excavation (Sediment) | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 119 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 2 | 75% | 112 | 114 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 3 | 50% | 105 | 107 | |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | 110 | 107 | |
| | | Crane, mobile/barge mounted (diesel) | CNP 048 | 1 | 50% | 112 | 109 | |
| | | Concrete lorry mixer | CNP 044 | 1 | 50% | 109 | 106 | |
| | | Concrete pump, stationary/lorry mounted | BS C6 36 | 1 | 50% | 106 | 103 | |
| | | Drill/grinder, hand-held (electric) | CNP 065 | 1 | 50% | 98 | 95 | |
| 16 | Haul Road | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 116 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| 17 | Excavation and River Training | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | 115 |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Breaker, hand-held, mass > 20kg and < 35kg | CNP 025 | 2 | 50% | 111 | 111 | |
| | | Concrete mixer (petrol) | CNP 046 | 1 | 50% | 96 | 93 | |
| | | Concrete pump, stationary/lorry mounted | CNP 047 | 1 | 50% | 109 | 106 | |
| 18 | Landscaping | Bulldozer | CNP 030 | 1 | 75% | 115 | 114 | 117 |
| | | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | 110 | 107 | |
| | | Crane, mobile/barge mounted (diesel) | CNP 048 | 1 | 50% | 112 | 109 | |
| VI) Others | | | | | | | | |
| 19 | Reprovisioning Works | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | 114 |
| | | Crane, mobile/barge mounted (diesel) | CNP 048 | 1 | 50% | 112 | 109 | |
| | | Concrete lorry mixer | CNP 044 | 2 | 50% | 109 | 109 | |
| VII) Advanced Works | | | | | | | | |
| 20 | Backfilling | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | 112 |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Generator, standard | CNP 101 | 1 | 50% | 108 | 105 | |
| | | Water pump (electric) | CNP 281 | 1 | 50% | 88 | 85 | |
| 21 | Road Construction | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | 112 |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Road roller | CNP 185 | 1 | 50% | 108 | 105 | |
| 22 | Fence Installation | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | 107 |
| | | Generator, standard | CNP 101 | 1 | 50% | 108 | 105 | |
| | | Drill/grinder, hand-held (electric) | CNP 065 | 1 | 50% | 98 | 95 | |
| 23 | Drainage / Sinage Works | Excavator/loader, wheeled/tracked | CNP 081 | 1 | 75% | 112 | 111 | 115 |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne | EPD/PME/36 | 1 | 50% | 105 | 102 | |
| | | Breaker, hand-held, mass > 20kg and < 35kg | CNP 025 | 2 | 50% | 111 | 111 | |
| | | Concrete mixer (petrol) | CNP 046 | 1 | 50% | 96 | 93 | |
| | | Concrete pump, stationary/lorry mounted | CNP 047 | 1 | 50% | 109 | 106 | |

Concurrent Project :

Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)

Maximum SWLs for Activities 24 and 25 were extracted from the approved EIA Report (AEIAR-136/2009)

| | | |
|----|--|-----|
| 24 | Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) | 104 |
| 25 | Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) | 104 |

Notes:

- [1] BS - British Standard BS 5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites
SWLs of EPD/PME items refer to the document prepared by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
- [2] The figures are rounded-up to a whole number.

Annex B3

Summaries of Predicted
Noise Levels (due to the
Project and Cumulative
Impact – Unmitigated)

Annex B3-b : II) Summary of Predicted Noise Levels during Daytime Period (Unmitigated)

| | NSR Location | EIAO-TM Noise Criteria, dB(A) | Predicted Construction Noise Level (dB(A)) | | | | | | | | | | | | | | | | | | | | Max. CNL, dB(A) |
|-----|---------------------|--|--|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|-----------------------|
| | | | 2012 | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | |
| | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | |
| HK1 | Tsung Yuen Ha | 75 | 62 | 62 | 65 | 66 | 64 | 68 | 74 | 74 | 71 | 71 | 73 | 73 | 73 | 73 | 57 | 60 | 60 | 60 | 60 | 65 | 74 |
| HK2 | Chuk Yuen Village | 75 | 66 | 66 | 69 | 69 | 67 | | | | | | | | | | | | | | | | 69 |
| HK3 | Kaw Liu Village | 75 | 76 | 76 | 79 | 80 | 77 | 81 | 79 | 79 | 79 | 79 | 85 | 85 | 82 | 82 | 82 | 85 | 85 | 85 | 85 | 78 | 85 |
| HK4 | Kan Tau Wai | 75 | 60 | 60 | 63 | 63 | 61 | 65 | 64 | 64 | 63 | 63 | 70 | 70 | 67 | 67 | 67 | 69 | 69 | 69 | 69 | 62 | 70 |
| HK5 | Ta Kwu Ling Village | 75 | 71 | 71 | 74 | 75 | 73 | 77 | 75 | 75 | 74 | 74 | 81 | 81 | 78 | 78 | 78 | 80 | 80 | 80 | 80 | 74 | 81 |

Annex B3-c: III) Summary of Predicted Cumulative Noise Levels during Daytime Period (Unmitigated)

| | NSR Location | EIAO-TM Noise Criteria, dB(A) | Predicted Construction Noise Level (dB(A)) | | | | | | | | | | | | | | | | | | | | Max. CNL, dB(A) |
|-----|---------------------|--|--|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|-----------------------|
| | | | 2012 | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | |
| | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | |
| HK1 | Tsung Yuen Ha | 75 | 62 | 62 | 65 | 66 | 64 | 72 | 75 | 75 | 73 | 73 | 74 | 74 | 74 | 74 | 70 | 68 | 68 | 68 | 68 | 69 | 75 |
| HK2 | Chuk Yuen Village | 75 | 66 | 66 | 69 | 69 | 67 | | | | | | | | | | | | | | | | 69 |
| HK3 | Kaw Liu Village | 75 | 76 | 76 | 79 | 80 | 77 | 81 | 80 | 80 | 79 | 79 | 85 | 85 | 82 | 82 | 82 | 85 | 85 | 85 | 85 | 78 | 85 |
| HK4 | Kan Tau Wai | 75 | 60 | 60 | 63 | 63 | 61 | 65 | 64 | 64 | 63 | 63 | 70 | 70 | 67 | 67 | 67 | 69 | 69 | 69 | 69 | 62 | 70 |
| HK5 | Ta Kwu Ling Village | 75 | 71 | 71 | 74 | 75 | 73 | 78 | 76 | 76 | 76 | 76 | 81 | 81 | 79 | 78 | 78 | 80 | 80 | 80 | 80 | 74 | 81 |

Annex B4

Construction Noise Impact Assessment (Unmitigated)

Annex B4-a

Construction Airborne Noise Impact Assessment (Unmitigated)

NSR: HK1 Tsung Yuen Ha

| No. | Activity Description | SWL dB(A) ^[2] | Distance m | Corr. for distance dB(A) ^{[1][2]} | Corr. for façade dB(A) | 2012 | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | |
|--|--|-----------------------------|---------------|--|------------------------------|------|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|
| | | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>DESIGNATED PROJECT</u> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Regulation of Shenzhen River Stage IV</u> | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | Site Preparation | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Site Clearance | 111 | 175 | -53 | 3 | | | | | | | | | | | | | | | | | | | | |
| 2 | Haul Road | 116 | 175 | -53 | 3 | | | | | | | | | | | | | | | | | | | | |
| II | Works Area I | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | River Excavation (Sediment) | 119 | 175 | -53 | 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | Haul Road | 116 | 175 | -53 | 3 | | | | | | | | | | | | | | | | | | | | |
| 5 | Excavation and River Training | 115 | 175 | -53 | 3 | | | | | | | | | | | | | | | | | | | | |
| 6 | Landscaping | 117 | 175 | -53 | 3 | | | | | | | | | | | | | | | | | | | | |
| III | Works Area II | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | River Excavation (Sediment) | 119 | 265 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| 8 | Haul Road | 116 | 265 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| 9 | Excavation and River Training | 115 | 265 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| 10 | Landscaping | 117 | 265 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| IV | Works Area III | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | River Excavation (Sediment) | 119 | 720 | -65 | 3 | | | | | | | | | | | | | | | | | | | | |
| 12 | Haul Road | 116 | 720 | -65 | 3 | | | | | | | | | | | | | | | | | | | | |
| 13 | Excavation and River Training | 115 | 720 | -65 | 3 | | | | | | | | | | | | | | | | | | | | |
| 14 | Landscaping | 117 | 720 | -65 | 3 | | | | | | | | | | | | | | | | | | | | |
| V | Works Area IV | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | River Excavation (Sediment) | 119 | 1300 | -70 | 3 | | | | | | | | | | | | | | | | | | | | |
| 16 | Haul Road | 116 | 1300 | -70 | 3 | | | | | | | | | | | | | | | | | | | | |
| 17 | Excavation and River Training | 115 | 1300 | -70 | 3 | | | | | | | | | | | | | | | | | | | | |
| 18 | Landscaping | 117 | 1300 | -70 | 3 | | | | | | | | | | | | | | | | | | | | |
| VI | Others | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Reprovisioning Works | 114 | 175 | -53 | 3 | | | | | | | | | | | | | | | | 65 | | | | |
| VII | Advanced Works | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Backfilling | 112 | 175 | -53 | 3 | 62 | 62 | 62 | 62 | | | | | | | | | | | | | | | | |
| 21 | Road Construction | 112 | 175 | -53 | 3 | | | | | 62 | 62 | 62 | | | | | | | | | | | | | |
| 22 | Fence Installation | 107 | 175 | -53 | 3 | | | | | 57 | 57 | 57 | 57 | 57 | | | | | | | | | | | |
| 23 | Drainage / Sinage Works | 115 | 175 | -53 | 3 | | | | | | | | | | | | | | | | | | | | |
| <u>CONCURRENT PROJECTS</u> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)</u> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) | 104 | 1917 | -74 | 3 | 33 | 33 | 33 | 33 | | | | | | | | | | | | | | | | |
| 25 | Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) | 104 | 1042 | -68 | 3 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | | | | | | | | | | | | | |
| <u>Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works^[3]</u> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | BCP Site Formation | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | Lin Ma Hang Road next to BCP | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | Chuk Yuen Village Access Road | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | Lin Ma Hang Road Improvement Work | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Viaduct Section from BCP to Wo Keng Shan | | | | | | | | | | | | | | | | | | | | | | | | |
| Predicted Noise Levels during Daytime Period, dB(A) | | | | | | 62 | 62 | 65 | 66 | 64 | 68 | 74 | 74 | 71 | 71 | 73 | 73 | 73 | 73 | 57 | 60 | 60 | 60 | 65 | |
| Predicted Cumulative Noise Levels during Daytime Period, dB(A) | | | | | | 62 | 62 | 65 | 66 | 64 | 72 | 75 | 75 | 73 | 73 | 74 | 74 | 74 | 74 | 70 | 68 | 68 | 68 | 69 | |
| Predicted Noise Level due to Advanced Works only, dB(A) | | | | | | 62 | 62 | 65 | 66 | 64 | 57 | 66 | 66 | 65 | 65 | | | | | | | | | | |

Notes:

- [1] Distance Correction for PMEs = 10*log(2*PI*r²)
- [2] The figures are rounded-up to a whole number.
- [3] The maximum predicted noise levels due to Activities 26 to 30 were extracted from the Environmental Impact Assessment Report for Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works (LT/HYW EIA Report) dated August 2010.
 - HK1 refers to TYH in the LT/HYW EIA Report
 - HK2 refers to Chuen Yuen, which should be moved up on the commencement of LT/HYW.
 - HK3 refers to KL1 in the LT/HYW EIA Report
 - HK4 does not have relevant NSRs in the LT/HYW EIA Report
 - HK5 refers to TKL1 in the LT/HYW EIA Report
- i) Maximum predicted noise levels for Activities 26 & 27 were extracted from Appendix 4.4b2 of the LT/HYW EIA Report for TYH (ie HK1).
- ii) Maximum predicted noise levels for Activities 28 to 30 were extracted from Appendix 4.4g2 of the LT/HYW EIA Report for KL1 & TKL1 (ie HK3 & HK5 respectively).

Annex B4-b

Construction Airborne Noise Impact Assessment (Unmitigated)

NSR: HK2 Chuk Yuen Village

| No. | Activity Description | SWL dB(A) ^[2] | Distance m | Corr. for distance dB(A) ^{[1][2]} | Corr. for façade dB(A) | 2012 | | 2013 | | | 2014 | | | 2015 | | | 2016 | | | 2017 | | | | |
|--|---|-----------------------------|---------------|--|------------------------------|------|----|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|----|----|
| | | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>DESIGNATED PROJECT</u> | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Regulation of Shenzhen River Stage IV</u> | | | | | | | | | | | | | | | | | | | | | | | | |
| I | Site Preparation | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 Site Clearance | 111 | 120 | -50 | 3 | | | | | | | | | | | | | | | | | | | |
| | 2 Haul Road | 116 | 120 | -50 | 3 | | | | | | | | | | | | | | | | | | | |
| II | Works Area I | | | | | | | | | | | | | | | | | | | | | | | |
| | 3 River Excavation (Sediment) | 119 | 520 | -62 | 3 | | | | | | | | | | | | | | | | | | | |
| | 4 Haul Road | 116 | 520 | -62 | 3 | | | | | | | | | | | | | | | | | | | |
| | 5 Excavation and River Training | 115 | 520 | -62 | 3 | | | | | | | | | | | | | | | | | | | |
| | 6 Landscaping | 117 | 520 | -62 | 3 | | | | | | | | | | | | | | | | | | | |
| III | Works Area II | | | | | | | | | | | | | | | | | | | | | | | |
| | 7 River Excavation (Sediment) | 119 | 120 | -50 | 3 | | | | | | | | | | | | | | | | | | | |
| | 8 Haul Road | 116 | 120 | -50 | 3 | | | | | | | | | | | | | | | | | | | |
| | 9 Excavation and River Training | 115 | 120 | -50 | 3 | | | | | | | | | | | | | | | | | | | |
| | 10 Landscaping | 117 | 120 | -50 | 3 | | | | | | | | | | | | | | | | | | | |
| IV | Works Area III | | | | | | | | | | | | | | | | | | | | | | | |
| | 11 River Excavation (Sediment) | 119 | 300 | -58 | 3 | | | | | | | | | | | | | | | | | | | |
| | 12 Haul Road | 116 | 300 | -58 | 3 | | | | | | | | | | | | | | | | | | | |
| | 13 Excavation and River Training | 115 | 300 | -58 | 3 | | | | | | | | | | | | | | | | | | | |
| | 14 Landscaping | 117 | 300 | -58 | 3 | | | | | | | | | | | | | | | | | | | |
| V | Works Area IV | | | | | | | | | | | | | | | | | | | | | | | |
| | 15 River Excavation (Sediment) | 119 | 890 | -67 | 3 | | | | | | | | | | | | | | | | | | | |
| | 16 Haul Road | 116 | 890 | -67 | 3 | | | | | | | | | | | | | | | | | | | |
| | 17 Excavation and River Training | 115 | 890 | -67 | 3 | | | | | | | | | | | | | | | | | | | |
| | 18 Landscaping | 117 | 890 | -67 | 3 | | | | | | | | | | | | | | | | | | | |
| VI | Others | | | | | | | | | | | | | | | | | | | | | | | |
| | 19 Reprovisioning Works | 114 | 120 | -50 | 3 | | | | | | | | | | | | | | | | | | | |
| VII | Advanced Works | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 Backfilling | 112 | 120 | -50 | 3 | 66 | 66 | 66 | 66 | | | | | | | | | | | | | | | |
| | 21 Road Construction | 112 | 120 | -50 | 3 | | | 66 | 66 | 66 | | | | | | | | | | | | | | |
| | 22 Fence Installation | 107 | 120 | -50 | 3 | | | | 60 | 60 | | | | | | | | | | | | | | |
| | 23 Drainage / Sinage Works | 115 | 120 | -50 | 3 | | | | | | | | | | | | | | | | | | | |
| <u>CONCURRENT PROJECTS</u> | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)</u> | | | | | | | | | | | | | | | | | | | | | | | | |
| | 24 Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) | 104 | 1252 | -70 | 3 | 37 | 37 | 37 | 37 | | | | | | | | | | | | | | | |
| | 25 Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) | 104 | 1685 | -73 | 3 | 34 | 34 | 34 | 34 | 34 | | | | | | | | | | | | | | |
| <u>Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works^[3]</u> | | | | | | | | | | | | | | | | | | | | | | | | |
| | 26 BCP Site Formation | | | | | | | | | | | | | | | | | | | | | | | |
| | 27 Lin Ma Hang Road next to BCP | | | | | | | | | | | | | | | | | | | | | | | |
| | 28 Chuk Yuen Village Access Road | | | | | | | | | | | | | | | | | | | | | | | |
| | 29 Lin Ma Hang Road Improvement Work | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 Viaduct Section from BCP to Wo Keng Shan | | | | | | | | | | | | | | | | | | | | | | | |
| Predicted Noise Levels during Daytime Period, dB(A) | | | | | | 66 | 66 | 69 | 69 | 67 | | | | | | | | | | | | | | |
| Predicted Cumulative Noise Levels during Daytime Period, dB(A) | | | | | | 66 | 66 | 69 | 69 | 67 | | | | | | | | | | | | | | |
| Predicted Noise Level due to Advanced Works only, dB(A) | | | | | | 66 | 66 | 69 | 69 | 67 | | | | | | | | | | | | | | |

Notes:

- [1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$
- [2] The figures are rounded-up to a whole number.
- [3] The maximum predicted noise levels due to Activities 26 to 30 were extracted from the *Environmental Impact Assessment Report for Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works* (LT/HYW EIA Report) dated August 2010.
 - HK1 refers to TYH in the LT/HYW EIA Report
 - HK2 refers to Chuen Yuen, which should be moved up on the commencement of LT/HYW.
 - HK3 refers to KL1 in the LT/HYW EIA Report
 - HK4 does not have relevant NSRs in the LT/HYW EIA Report
 - HK5 refers to TKL1 in the LT/HYW EIA Report
- i) Maximum predicted noise levels for Activities 26 & 27 were extracted from Appendix 4.4b2 of the LT/HYW EIA Report for TYH (ie HK1).
- ii) Maximum predicted noise levels for Activities 28 to 30 were extracted from Appendix 4.4g2 of the LT/HYW EIA Report for KL1 & TKL1 (ie HK3 & HK5 respectively).

Construction Airborne Noise Impact Assessment (Unmitigated)

NSR: HK3 Kaw Liu Village

| No. | Activity Description | SWL dB(A) ^[2] | Distance m | Corr. for distance dB(A) ^{[1][2]} | Corr. for façade dB(A) | 2012 | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | | |
|--|--|-----------------------------|---------------|--|------------------------------|------|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|--|
| | | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DESIGNATED PROJECT | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Regulation of Shenzhen River Stage IV</i> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | Site Preparation | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Site Clearance | 111 | 36 | -39 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 2 | Haul Road | 116 | 36 | -39 | 3 | | | | | | | | | | | | | | | | | | | | | |
| II | Works Area I | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | River Excavation (Sediment) | 119 | 1500 | -72 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 4 | Haul Road | 116 | 1500 | -72 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 5 | Excavation and River Training | 115 | 1500 | -72 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 6 | Landscaping | 117 | 1500 | -72 | 3 | | | | | | | | | | | | | | | | | | | | | |
| III | Works Area II | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | River Excavation (Sediment) | 119 | 800 | -66 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 8 | Haul Road | 116 | 800 | -66 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 9 | Excavation and River Training | 115 | 800 | -66 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 10 | Landscaping | 117 | 800 | -66 | 3 | | | | | | | | | | | | | | | | | | | | | |
| IV | Works Area III | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | River Excavation (Sediment) | 119 | 210 | -54 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 12 | Haul Road | 116 | 210 | -54 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 13 | Excavation and River Training | 115 | 210 | -54 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 14 | Landscaping | 117 | 210 | -54 | 3 | | | | | | | | | | | | | | | | | | | | | |
| V | Works Area IV | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | River Excavation (Sediment) | 119 | 36 | -39 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 16 | Haul Road | 116 | 36 | -39 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 17 | Excavation and River Training | 115 | 36 | -39 | 3 | | | | | | | | | | | | | | | | | | | | | |
| 18 | Landscaping | 117 | 36 | -39 | 3 | | | | | | | | | | | | | | | | | | | | | |
| VI | Others | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Reprovisioning Works | 114 | 36 | -39 | 3 | | | | | | | | | | | | | | | | 78 | | | | | |
| VII | Advanced Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Backfilling | 112 | 36 | -39 | 3 | 76 | 76 | 76 | 76 | | | | | | | | | | | | | | | | | |
| 21 | Road Construction | 112 | 36 | -39 | 3 | | | | | 76 | 76 | 76 | | | | | | | | | | | | | | |
| 22 | Fence Installation | 107 | 36 | -39 | 3 | | | | | 71 | 71 | 71 | 71 | 71 | | | | | | | | | | | | |
| 23 | Drainage / Sinage Works | 115 | 36 | -39 | 3 | | | | | | | | | | | | | | | | | | | | | |
| CONCURRENT PROJECTS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)</i> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) | 104 | 718 | -65 | 3 | 42 | 42 | 42 | 42 | | | | | | | | | | | | | | | | | |
| 25 | Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) | 104 | 2340 | -75 | 3 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | | | | | | | | | | | | | | |
| <i>Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works^[3]</i> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | BCP Site Formation | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | Lin Ma Hang Road next to BCP | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | Chuk Yuen Village Access Road | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | Lin Ma Hang Road Improvement Work | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Viaduct Section from BCP to Wo Keng Shan | | | | | | | | | | | | | | | | | | | | | | | | | |
| Predicted Noise Levels during Daytime Period, dB(A) | | | | | | 76 | 76 | 79 | 80 | 77 | 81 | 79 | 79 | 79 | 79 | 85 | 85 | 82 | 82 | 82 | 85 | 85 | 85 | 85 | 78 | |
| Predicted Cumulative Noise Levels during Daytime Period, dB(A) | | | | | | 76 | 76 | 79 | 80 | 77 | 81 | 80 | 80 | 79 | 79 | 85 | 85 | 82 | 82 | 82 | 85 | 85 | 85 | 85 | 78 | |
| Predicted Noise Level due to Advanced Works only, dB(A) | | | | | | 76 | 76 | 79 | 80 | 77 | 71 | 79 | 79 | 79 | 79 | | | | | | | | | | | |

Notes:[1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$

[2] The figures are rounded-up to a whole number.

[3] The maximum predicted noise levels due to Activities 26 to 30 were extracted from the *Environmental Impact Assessment Report for Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works* (LT/HYW EIA Report) dated August 2010.

- HK1 refers to TYH in the LT/HYW EIA Report

- HK2 refers to Chuen Yuen, which should be moved up on the commencement of LT/HYW.

- HK3 refers to KL1 in the LT/HYW EIA Report

- HK4 does not have relevant NSRs in the LT/HYW EIA Report

- HK5 refers to TKL1 in the LT/HYW EIA Report

i) Maximum predicted noise levels for Activities 26 & 27 were extracted from Appendix 4.4b2 of the LT/HYW EIA Report for TYH (ie HK1).

ii) Maximum predicted noise levels for Activities 28 to 30 were extracted from Appendix 4.4g2 of the LT/HYW EIA Report for KL1 & TKL1 (ie HK3 & HK5 respectively).

Construction Airborne Noise Impact Assessment (Unmitigated)

NSR: HK4 Kan Tau Wai

| No. | Activity Description | SWL dB(A) ^[2] | Distance m | Corr. for distance dB(A) ^{[1][2]} | Corr. for façade dB(A) | 2012 | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | |
|--|---|-----------------------------|---------------|--|------------------------------|------|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|
| | | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| DESIGNATED PROJECT | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Regulation of Shenzhen River Stage IV</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | Site Preparation | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 Site Clearance | 111 | 240 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 2 Haul Road | 116 | 240 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| II | Works Area I | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3 River Excavation (Sediment) | 119 | 1700 | -73 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 4 Haul Road | 116 | 1700 | -73 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 5 Excavation and River Training | 115 | 1700 | -73 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 6 Landscaping | 117 | 1700 | -73 | 3 | | | | | | | | | | | | | | | | | | | | |
| III | Works Area II | | | | | | | | | | | | | | | | | | | | | | | | |
| | 7 River Excavation (Sediment) | 119 | 1080 | -69 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 8 Haul Road | 116 | 1080 | -69 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 9 Excavation and River Training | 115 | 1080 | -69 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 10 Landscaping | 117 | 1080 | -69 | 3 | | | | | | | | | | | | | | | | | | | | |
| IV | Works Area III | | | | | | | | | | | | | | | | | | | | | | | | |
| | 11 River Excavation (Sediment) | 119 | 480 | -62 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 12 Haul Road | 116 | 480 | -62 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 13 Excavation and River Training | 115 | 480 | -62 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 14 Landscaping | 117 | 480 | -62 | 3 | | | | | | | | | | | | | | | | | | | | |
| V | Works Area IV | | | | | | | | | | | | | | | | | | | | | | | | |
| | 15 River Excavation (Sediment) | 119 | 240 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 16 Haul Road | 116 | 240 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 17 Excavation and River Training | 115 | 240 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 18 Landscaping | 117 | 240 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| VI | Others | | | | | | | | | | | | | | | | | | | | | | | | |
| | 19 Reprovisioning Works | 114 | 240 | -56 | 3 | | | | | | | | | | | | | | | | 62 | | | | |
| VII | Advanced Works | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 Backfilling | 112 | 240 | -56 | 3 | 60 | 60 | 60 | 60 | | | | | | | | | | | | | | | | |
| | 21 Road Construction | 112 | 240 | -56 | 3 | | | | | 60 | 60 | 60 | | | | | | | | | | | | | |
| | 22 Fence Installation | 107 | 240 | -56 | 3 | | | | | 54 | 54 | 54 | 54 | 54 | | | | | | | | | | | |
| | 23 Drainage / Sinage Works | 115 | 240 | -56 | 3 | | | | | | | | | | | | | | | | | | | | |
| CONCURRENT PROJECTS | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 24 Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) | 104 | 772 | -66 | 3 | 41 | 41 | 41 | 41 | | | | | | | | | | | | | | | | |
| | 25 Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) | 104 | 2636 | -76 | 3 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | | | | | | | | | | | | | |
| <i>Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works^[3]</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 26 BCP Site Formation | | | | | | | | | | | | | | | | | | | | | | | | |
| | 27 Lin Ma Hang Road next to BCP | | | | | | | | | | | | | | | | | | | | | | | | |
| | 28 Chuk Yuen Village Access Road | | | | | | | | | | | | | | | | | | | | | | | | |
| | 29 Lin Ma Hang Road Improvement Work | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 Viaduct Section from BCP to Wo Keng Shan | | | | | | | | | | | | | | | | | | | | | | | | |
| Predicted Noise Levels during Daytime Period, dB(A) | | | | | | 60 | 60 | 63 | 63 | 61 | 65 | 64 | 64 | 63 | 63 | 70 | 70 | 67 | 67 | 67 | 69 | 69 | 69 | 62 | |
| Predicted Cumulative Noise Levels during Daytime Period, dB(A) | | | | | | 60 | 60 | 63 | 63 | 61 | 65 | 64 | 64 | 63 | 63 | 70 | 70 | 67 | 67 | 67 | 69 | 69 | 69 | 62 | |
| Predicted Noise Level due to Advanced Works only, dB(A) | | | | | | 60 | 60 | 63 | 63 | 61 | 54 | 63 | 63 | 62 | 62 | | | | | | | | | | |

Notes:[1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$

[2] The figures are rounded-up to a whole number.

[3] The maximum predicted noise levels due to Activities 26 to 30 were extracted from the *Environmental Impact Assessment Report for Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works* (LT/HYW EIA Report) dated August 2010.

- HK1 refers to TYH in the LT/HYW EIA Report

- HK2 refers to Chuen Yuen, which should be moved up on the commencement of LT/HYW.

- HK3 refers to KL1 in the LT/HYW EIA Report

- HK4 does not have relevant NSRs in the LT/HYW EIA Report

- HK5 refers to TKL1 in the LT/HYW EIA Report

i) Maximum predicted noise levels for Activities 26 & 27 were extracted from Appendix 4.4b2 of the LT/HYW EIA Report for TYH (ie HK1).

ii) Maximum predicted noise levels for Activities 28 to 30 were extracted from Appendix 4.4g2 of the LT/HYW EIA Report for KL1 & TKL1 (ie HK3 & HK5 respectively).

Construction Airborne Noise Impact Assessment (Unmitigated)

NSR: HK5 Ta Kwu Ling Village

| No. | Activity Description | SWL dB(A) ^[2] | Distance m | Corr. for distance dB(A) ^{[1][2]} | Corr. for façade dB(A) | 2012 | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | |
|--|---|-----------------------------|---------------|--|------------------------------|------|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|
| | | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| DESIGNATED PROJECT | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Regulation of Shenzhen River Stage IV</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | Site Preparation | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 Site Clearance | 111 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 2 Haul Road | 116 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | |
| II | Works Area I | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3 River Excavation (Sediment) | 119 | 1650 | -72 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 4 Haul Road | 116 | 1650 | -72 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 5 Excavation and River Training | 115 | 1650 | -72 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 6 Landscaping | 117 | 1650 | -72 | 3 | | | | | | | | | | | | | | | | | | | | |
| III | Works Area II | | | | | | | | | | | | | | | | | | | | | | | | |
| | 7 River Excavation (Sediment) | 119 | 950 | -68 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 8 Haul Road | 116 | 950 | -68 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 9 Excavation and River Training | 115 | 950 | -68 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 10 Landscaping | 117 | 950 | -68 | 3 | | | | | | | | | | | | | | | | | | | | |
| IV | Works Area III | | | | | | | | | | | | | | | | | | | | | | | | |
| | 11 River Excavation (Sediment) | 119 | 360 | -59 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 12 Haul Road | 116 | 360 | -59 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 13 Excavation and River Training | 115 | 360 | -59 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 14 Landscaping | 117 | 360 | -59 | 3 | | | | | | | | | | | | | | | | | | | | |
| V | Works Area IV | | | | | | | | | | | | | | | | | | | | | | | | |
| | 15 River Excavation (Sediment) | 119 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 16 Haul Road | 116 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 17 Excavation and River Training | 115 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 18 Landscaping | 117 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | |
| VI | Others | | | | | | | | | | | | | | | | | | | | | | | | |
| | 19 Reprovisioning Works | 114 | 62 | -44 | 3 | | | | | | | | | | | | | | | | 74 | | | | |
| VII | Advanced Works | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 Backfilling | 112 | 62 | -44 | 3 | 71 | 71 | 71 | 71 | | | | | | | | | | | | | | | | |
| | 21 Road Construction | 112 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 22 Fence Installation | 107 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | |
| | 23 Drainage / Sinage Works | 115 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | |
| CONCURRENT PROJECTS | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 24 Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) | 104 | 449 | -61 | 3 | 46 | 46 | 46 | 46 | | | | | | | | | | | | | | | | |
| | 25 Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) | 104 | 2758 | -77 | 3 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | | | | | | | | | | | | | |
| <i>Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works^[3]</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 26 BCP Site Formation | | | | | | | | | | | | | | | | | | | | | | | | |
| | 27 Lin Ma Hang Road next to BCP | | | | | | | | | | | | | | | | | | | | | | | | |
| | 28 Chuk Yuen Village Access Road | | | | | | | | | | | | | | | | | | | | | | | | |
| | 29 Lin Ma Hang Road Improvement Work | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 Viaduct Section from BCP to Wo Keng Shan | | | | | | | | | | | | | | | | | | | | | | | | |
| Predicted Noise Levels during Daytime Period, dB(A) | | | | | | 71 | 71 | 74 | 75 | 73 | 77 | 75 | 75 | 74 | 74 | 81 | 81 | 78 | 78 | 78 | 80 | 80 | | | |
| Predicted Cumulative Noise Levels during Daytime Period, dB(A) | | | | | | 71 | 71 | 74 | 75 | 73 | 78 | 76 | 76 | 76 | 76 | 81 | 81 | 79 | 78 | 78 | 80 | 80 | | | |
| Predicted Noise Level due to Advanced Works only, dB(A) | | | | | | 71 | 71 | 74 | 75 | 73 | 66 | 75 | 75 | 74 | 74 | | | | | | | | | | |

Notes:[1] Distance Correction for PMEs = $10 \cdot \log(2 \cdot \pi \cdot r^2)$

[2] The figures are rounded-up to a whole number.

[3] The maximum predicted noise levels due to Activities 26 to 30 were extracted from the *Environmental Impact Assessment Report for Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works* (LT/HYW EIA Report) dated August 2010.

- HK1 refers to TYH in the LT/HYW EIA Report

- HK2 refers to Chuen Yuen, which should be moved up on the commencement of LT/HYW.

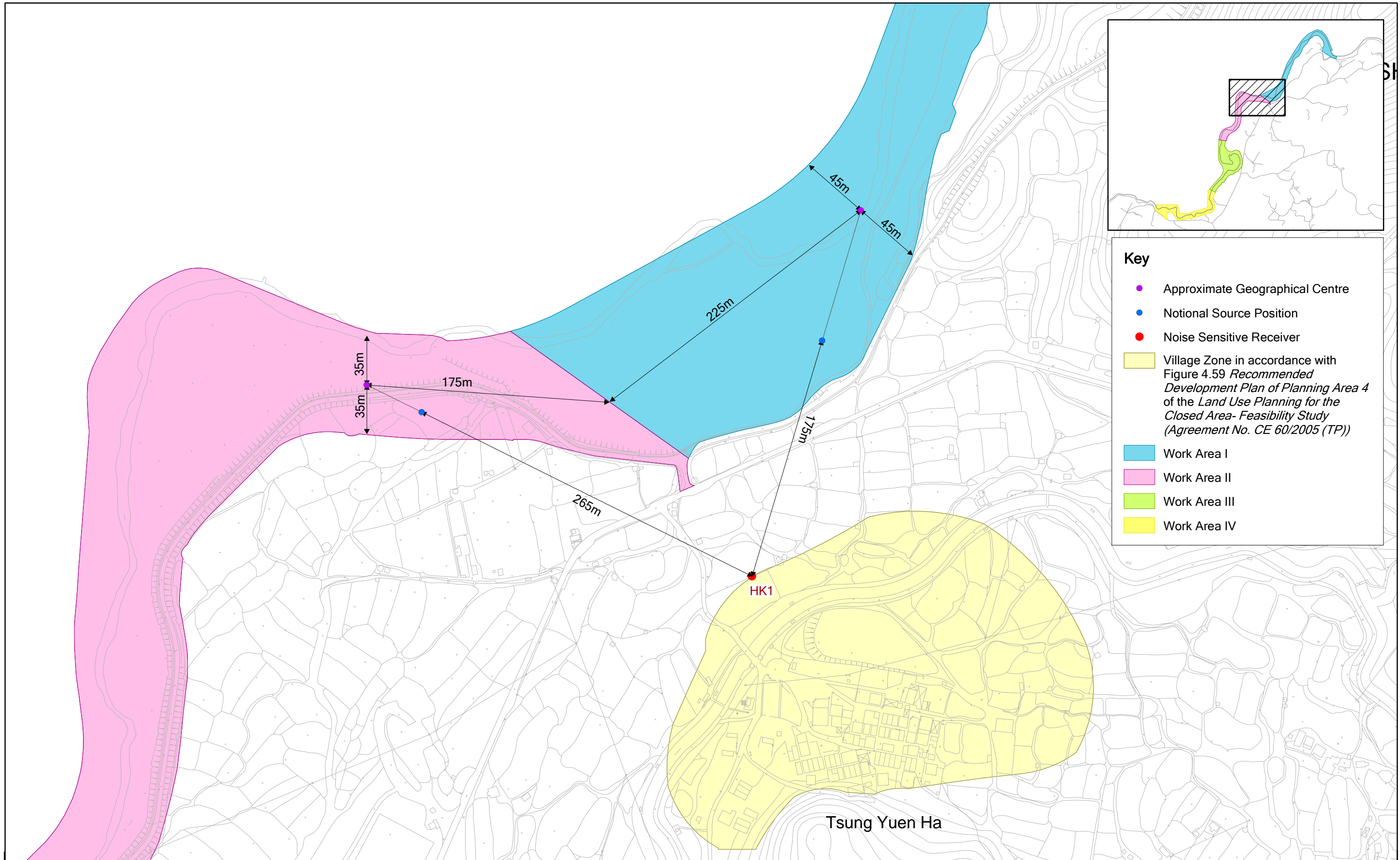
- HK3 refers to KL1 in the LT/HYW EIA Report

- HK4 does not have relevant NSRs in the LT/HYW EIA Report

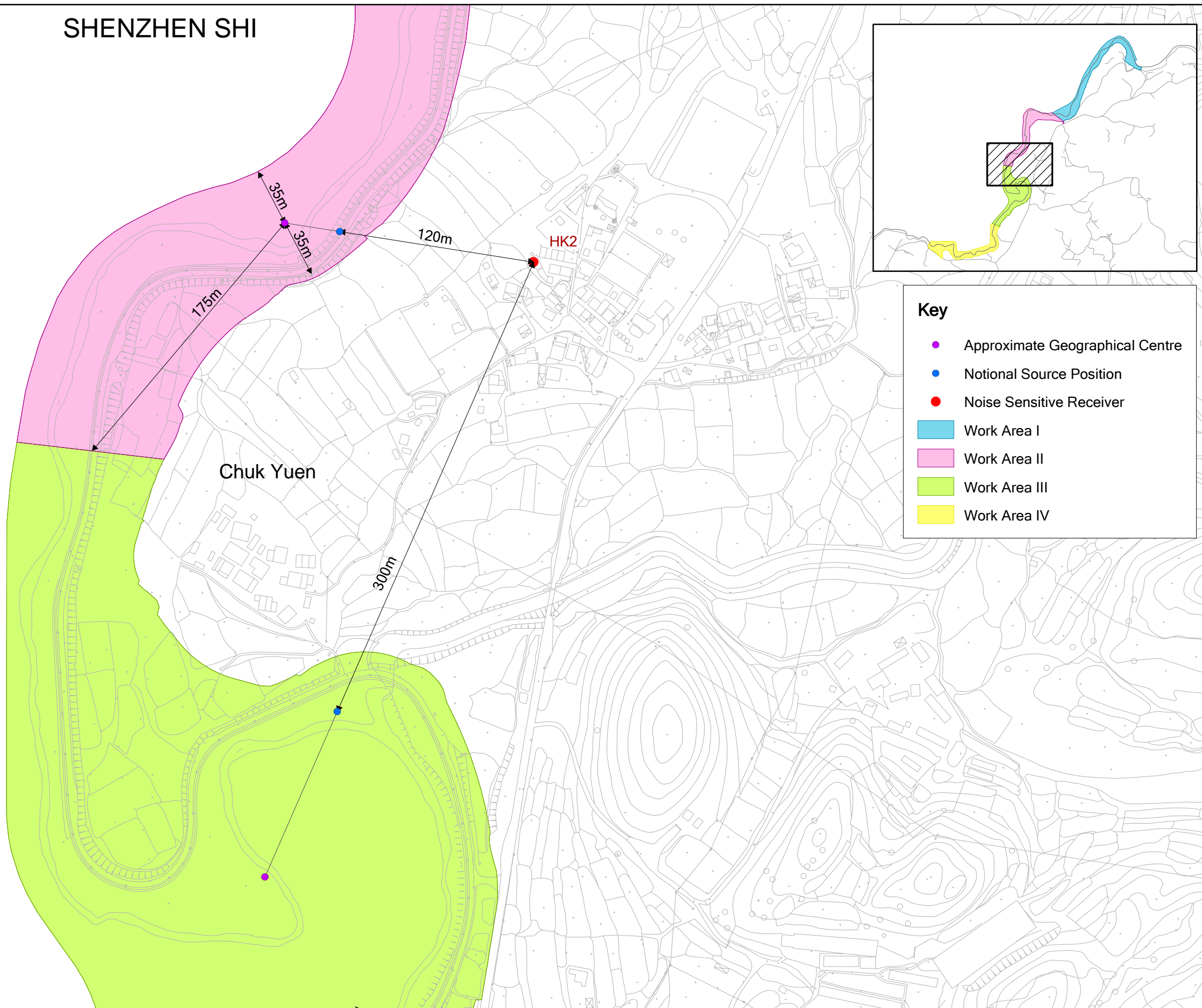
- HK5 refers to TKL1 in the LT/HYW EIA Report

i) Maximum predicted noise levels for Activities 26 & 27 were extracted from Appendix 4.4b2 of the LT/HYW EIA Report for TYH (ie HK1).

ii) Maximum predicted noise levels for Activities 28 to 30 were extracted from Appendix 4.4g2 of the LT/HYW EIA Report for KL1 & TKL1 (ie HK3 & HK5 respectively).

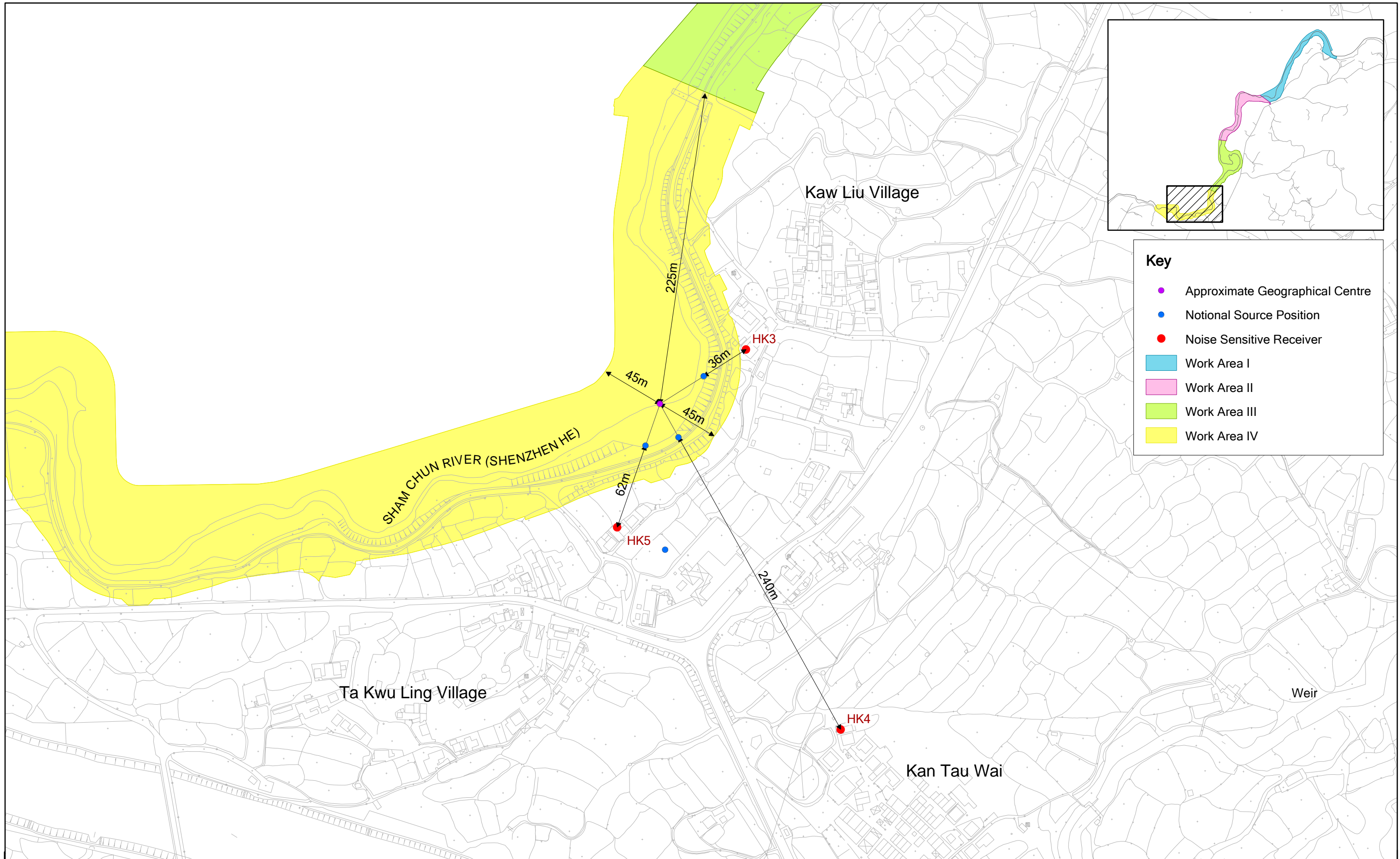


SHENZHEN SHI



Key

- Approximate Geographical Centre
- Notional Source Position
- Noise Sensitive Receiver
- Work Area I
- Work Area II
- Work Area III
- Work Area IV



Key

- Approximate Geographical Centre
- Notional Source Position
- Noise Sensitive Receiver
- Work Area I
- Work Area II
- Work Area III
- Work Area IV

Annex B5

Construction Plant Inventory (Mitigated)

Regulation of Shenzhen River Stage IV

Annex B5: Construction Plant Inventory (Mitigated)

Daytime Period (Normal days 0700 - 1900 hrs)

| No. | Activities | Plant Item | TM / EPD ^[1] / BS 5228 ref. | No. of PME | On-time % | Type of Noise Control ^[3] | Noise reduction, dB(A) | Unit SWL, dB(A) | SWL, dB(A) | Total SWL, dB(A) ^[2] | Groups ^[4] |
|--|-------------------------------|--|--|------------|-----------|--------------------------------------|------------------------|-----------------|------------|---------------------------------|-----------------------|
| Construction of Shenzhen River Stage IV | | | | | | | | | | | |
| I) Site Preparation | | | | | | | | | | | |
| 1 | Site Clearance | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | 101 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | | |
| 2 | Haul Road | Bulldozer | BS C3 65 | 1 | 75% | Noise barrier | -5 | 111 | 105 | 106 | |
| | | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | | |
| IV) Works Area III | | | | | | | | | | | |
| 11 | River Excavation (Sediment) | Bulldozer | BS C3 65 | 1 | 75% | Noise barrier | -5 | 111 | 105 | 110 | |
| | | Tracked Excavator/loader | BS C3 97 | 2 | 75% | Noise barrier | -5 | 105 | 102 | | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 3 | 50% | Noise barrier | -5 | 105 | 102 | | |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | Noise barrier | -5 | 110 | 102 | | |
| | | Mobile crane (62kW) | BS C7 114 | 1 | 50% | Noise barrier | -5 | 101 | 93 | | |
| | | Concrete lorry mixer | CNP 044 | 1 | 50% | Noise barrier | -5 | 109 | 101 | | |
| | | Concrete pump, stationary/lorry mounted | BS C6 36 | 1 | 50% | Noise barrier | -5 | 106 | 98 | | |
| | | Drill/grinder, hand-held (electric) | CNP 065 | 1 | 50% | Noise barrier | -5 | 98 | 90 | | |
| 12 | Haul Road | Bulldozer | BS C3 65 | 1 | 75% | Noise barrier | -5 | 111 | 105 | 106 | |
| | | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | | |
| 13 | Excavation and River Training | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | 108 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | | |
| | | Breaker, hand-held, mass > 20kg and < 35kg | CNP 025 | 2 | 50% | Noise barrier | -5 | 111 | 106 | | |
| | | Concrete mixer (petrol) | CNP 046 | 1 | 50% | Noise barrier | -5 | 96 | 88 | | |
| | | Concrete pump, stationary/lorry mounted | BS C6 36 | 1 | 50% | Noise barrier | -5 | 106 | 98 | | |
| 14 | Landscaping | Bulldozer | BS C3 65 | 1 | 75% | Noise barrier | -5 | 111 | 105 | 108 | |
| | | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | | |
| | | Dump Truck (450kW, 50t) | CNP 072 | 1 | 50% | Noise barrier | -5 | 110 | 102 | | |
| | | Mobile crane (62kW) | BS C7 114 | 1 | 50% | Noise barrier | -5 | 101 | 93 | | |
| V) Works Area IV | | | | | | | | | | | |
| 15 | River Excavation (Sediment) | Bulldozer | BS C3 65 | 1 | 75% | Noise barrier | -5 | 111 | 105 | 105 | A |
| | | Tracked Excavator/loader | BS C3 97 | 2 | 75% | Noise barrier | -5 | 105 | 102 | | B |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 3 | 50% | Noise barrier | -5 | 105 | 102 | | C |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | Noise barrier | -5 | 110 | 102 | | C |
| | | Mobile crane (62kW) | BS C7 114 | 1 | 50% | Noise barrier | -5 | 101 | 93 | | C |
| | | Concrete lorry mixer | CNP 044 | 1 | 50% | Noise barrier | -5 | 109 | 101 | | B |
| | | Concrete pump, stationary/lorry mounted | BS C6 36 | 1 | 50% | Noise barrier | -5 | 106 | 98 | | B |
| | | Drill/grinder, hand-held (electric) | CNP 065 | 1 | 50% | Noise barrier | -5 | 98 | 90 | | C |
| | | 16 | Haul Road | Bulldozer | BS C3 65 | 1 | 75% | Noise barrier | -5 | | 111 |
| Tracked Excavator/loader | BS C3 97 | | | 1 | 75% | Noise barrier | -5 | 105 | 99 | | |
| Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | | | 1 | 50% | Noise barrier | -5 | 105 | 97 | | |
| 17 | Excavation and River Training | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | 106 | A |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | | A |
| | | Breaker, hand-held, mass > 20kg and < 35kg | CNP 025 | 2 | 50% | Noise barrier | -5 | 111 | 106 | | B |
| | | Concrete mixer (petrol) | CNP 046 | 1 | 50% | Noise barrier | -5 | 96 | 88 | | C |
| | | Concrete pump, stationary/lorry mounted | BS C6 36 | 1 | 50% | Noise barrier | -5 | 106 | 98 | | C |
| 18 | Landscaping | Bulldozer | BS C3 65 | 1 | 75% | Noise barrier | -5 | 111 | 105 | 105 | A |
| | | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | | B |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | | B |
| | | Drill rig, rotary type (diesel) | CNP 072 | 1 | 50% | Noise barrier | -5 | 110 | 102 | | B |
| | | Mobile crane (62kW) | BS C7 114 | 1 | 50% | Noise barrier | -5 | 101 | 93 | | B |
| VI) Others | | | | | | | | | | | |
| 19 | Reprovisioning Works | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | 105 | |
| | | Mobile crane (62kW) | BS C7 114 | 1 | 50% | Noise barrier | -5 | 101 | 93 | | |
| | | Concrete lorry mixer | CNP 044 | 2 | 50% | Noise barrier | -5 | 109 | 104 | | |
| VII) Advanced Works | | | | | | | | | | | |
| 20 | Backfilling | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | 101 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | | |
| | | Generator, super silenced, 70dB(A) at 7m | CNP 103 | 1 | 50% | Noise barrier | -5 | 95 | 87 | | |
| | | Mobile crane (62kW) | CNP 281 | 1 | 50% | Noise barrier | -5 | 88 | 80 | | |
| 21 | Road Construction | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | 104 | |
| | | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | | |
| | | Road roller | CNP 185 | 1 | 50% | Noise barrier | -5 | 108 | 100 | | |
| 22 | Fence Installation | Lorry, with crane/grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | 102 | |
| | | Generator, standard | CNP 101 | 1 | 50% | Noise barrier | -5 | 108 | 100 | | |
| | | Drill/grinder, hand-held (electric) | CNP 065 | 1 | 50% | Noise barrier | -5 | 98 | 90 | | |

Regulation of Shenzhen River Stage IV

Annex B5: Construction Plant Inventory (Mitigated)

Daytime Period (Normal days 0700 - 1900 hrs)

| No. | Activities | Plant Item | TM / EPD ^[1] / BS 5228 ref. | No. of PME | On- time % | Type of Noise Control ^[3] | Noise reduction, dB(A) | Unit SWL, SWL, dB(A) | dB(A) | Total SWL, Groups ^[4] dB(A) ^[2] |
|-----|-------------------------|---|---|---------------|---------------|--------------------------------------|------------------------------|-------------------------|-------|--|
| 23 | Drainage / Sinage Works | Tracked Excavator/loader | BS C3 97 | 1 | 75% | Noise barrier | -5 | 105 | 99 | 107 |
| | | Lorry, with crane/ grab, 5.5 tonne < gross vehicle weight | EPD/PME/36 | 1 | 50% | Noise barrier | -5 | 105 | 97 | |
| | | Breaker, hand-held, mass > 20kg and < 35kg | CNP 025 | 2 | 50% | Noise barrier | -5 | 111 | 106 | |
| | | Concrete mixer (petrol) | CNP 046 | 1 | 50% | Noise barrier | -5 | 96 | 88 | |
| | | Concrete pump, stationary/lorry mounted | CNP 047 | 1 | 50% | Noise barrier | -5 | 103 | 95 | |

Concurrent Project :

Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)

Maximum SWLs for Activities 24 and 25 were extracted from the approved EIA Report (AEIAR-136/2009)

| | | | | | | | | | | |
|----|--|--|--|--|--|--|--|--|--|-----|
| 24 | Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) | | | | | | | | | 104 |
| 25 | Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) | | | | | | | | | 104 |

Notes:

- [1] BS - British Standard BS 5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites
SWLs of EPD/PME items refer to the document prepared by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
- [2] The figures are rounded-up to a whole number.
- [3] Noise barrier for mobile PME -5dB(A)
- [4] Either Group A, B or C will be undertaken at any one time.

Annex B6

Summaries of Predicted
Noise Levels (due to the
Project and Cumulative
Impact – Mitigated)

Annex B6-b : II) Summary of Predicted Noise Levels during Daytime Period (Mitigated)

| | NSR Location | EIAO-TM Noise Criteria, dB(A) | Predicted Construction Noise Level (dB(A)) | | | | | | | | | | | | | | | | | | | | Max. CNL, dB(A) |
|-----|---------------------|--|--|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|-----------------------|
| | | | 2012 | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | |
| | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | |
| HK3 | Kaw Liu Village | 75 | 65 | 65 | 69 | 71 | 70 | 72 | 73 | 73 | 72 | 72 | 75 | 75 | 73 | 73 | 73 | 75 | 75 | 75 | 75 | 69 | 75 |
| HK5 | Ta Kwu Ling Village | 75 | 60 | 60 | 65 | 66 | 65 | 68 | 68 | 68 | 67 | 67 | 70 | 70 | 68 | 68 | 68 | 70 | 70 | 70 | 70 | 65 | 70 |

Annex B6-c: III) Summary of Predicted Cumulative Noise Levels during Daytime Period (Mitigated)

| | NSR Location | EIAO-TM Noise Criteria, dB(A) | Predicted Construction Noise Level (dB(A)) | | | | | | | | | | | | | | | | | | | | Max. CNL, dB(A) |
|-----|---------------------|--|--|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|-----------------------|
| | | | 2012 | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | |
| | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | |
| HK3 | Kaw Liu Village | 75 | 65 | 65 | 69 | 71 | 70 | 73 | 74 | 74 | 73 | 73 | 75 | 75 | 74 | 74 | 74 | 75 | 75 | 75 | 75 | 70 | 75 |
| HK5 | Ta Kwu Ling Village | 75 | 61 | 61 | 65 | 66 | 65 | 73 | 73 | 73 | 73 | 73 | 74 | 74 | 73 | 73 | 73 | 70 | 70 | 70 | 70 | 65 | 74 |

Annex B7

Construction Noise Impact Assessment (Mitigated)

Annex B7-a

Construction Airborne Noise Impact Assessment (Mitigated)

NSR: HK3 Kaw Liu Village

| No. | Activity Description | SWL dB(A) ^[2] | Distance m | Corr. for distance dB(A) ^{[1][2]} | Corr. for façade dB(A) | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----------------------------|---------------|--|------------------------------|------|----|----|----|-------------|----|----|----|-------------------------|----|----|----|------|----|----|----|------|----|----|----|------|
| | | | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 |
| | | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | |
| <u>DESIGNATED PROJECT</u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Regulation of Shenzhen River Stage IV</u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | Site Preparation | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 Site Clearance | 101 | 36 | -39 | 3 | | | | | 65 | | | | | | | | | | | | | | | | |
| | 2 Haul Road | 106 | 36 | -39 | 3 | | | | | 70 | | | | | | | | | | | | | | | | |
| IV | Works Area III | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 11 River Excavation (Sediment) | 110 | 210 | -54 | 3 | | | | | | | | | 58 58 | | | | | | | | | | | | |
| | 12 Haul Road | 106 | 210 | -54 | 3 | | | | | | | | | 55 55 55 55 55 55 55 55 | | | | | | | | | | | | |
| | 13 Excavation and River Training | 108 | 210 | -54 | 3 | | | | | | | | | 56 56 56 56 56 56 56 56 | | | | | | | | | | | | |
| | 14 Landscaping | 108 | 210 | -54 | 3 | | | | | | | | | 56 56 56 56 | | | | | | | | | | | | |
| V | Works Area IV | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 15 River Excavation (Sediment) | 105 | 36 | -39 | 3 | | | | | | | | | 69 69 | | | | | | | | | | | | |
| | 16 Haul Road | 106 | 36 | -39 | 3 | | | | | | | | | 70 70 70 70 70 70 70 70 | | | | | | | | | | | | |
| | 17 Excavation and River Training | 106 | 36 | -39 | 3 | | | | | | | | | 70 70 70 70 70 70 70 70 | | | | | | | | | | | | |
| | 18 Landscaping | 105 | 36 | -39 | 3 | | | | | | | | | 69 69 69 69 | | | | | | | | | | | | |
| VI | Others | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 19 Reprovisioning Works | 105 | 36 | -39 | 3 | | | | | | | | | | | | | | | | | 69 | | | | |
| VII | Advanced Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 Backfilling | 101 | 36 | -39 | 3 | 65 | 65 | 65 | 65 | | | | | | | | | | | | | | | | | |
| | 21 Road Construction | 104 | 36 | -39 | 3 | | | | | 67 67 67 | | | | | | | | | | | | | | | | |
| | 22 Fence Installation | 102 | 36 | -39 | 3 | | | | | 66 66 66 66 | | | | 66 | | | | | | | | | | | | |
| | 23 Drainage / Sinage Works | 107 | 36 | -39 | 3 | | | | | 71 71 71 71 | | | | | | | | | | | | | | | | |
| <u>CONCURRENT PROJECTS</u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)</u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 24 Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) | 104 | 718 | -65 | 3 | 42 | 42 | 42 | 42 | | | | | | | | | | | | | | | | | |
| | 25 Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) | 104 | 2340 | -75 | 3 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | | | | | | | | | | | | | |
| <u>Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works^[3]</u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 26 BCP Site Formation | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 27 Lin Ma Hang Road next to BCP | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 28 Chuk Yuen Village Access Road | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 29 Lin Ma Hang Road Improvement Work | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 Viaduct Section from BCP to Wo Keng Shan | | | | | | | | | | | | | | | | | | | | | | | | | |
| Predicted Noise Levels during Daytime Period, dB(A) | | | | | | 65 | 65 | 69 | 71 | 70 | 72 | 72 | 72 | 71 | 71 | 75 | 75 | 73 | 73 | 73 | 75 | 75 | 75 | 75 | 69 | |
| Predicted Cumulative Noise Levels during Daytime Period, dB(A) | | | | | | 65 | 65 | 69 | 71 | 70 | 73 | 73 | 73 | 72 | 72 | 75 | 75 | 74 | 74 | 74 | 75 | 75 | 75 | 75 | 70 | |
| Predicted Noise Level due to Advanced Works only, dB(A) | | | | | | 65 | 65 | 69 | 71 | 70 | 66 | 72 | 72 | 71 | 71 | | | | | | | | | | | |

Notes:

- [1] Distance Correction for PMEs = 10*log(2*PI*r²)
- [2] The figures are rounded-up to a whole number.
- [3] The maximum predicted noise levels due to Activities 26 to 30 were extracted from the *Environmental Impact Assessment Report for Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works* (LT/HYW EIA Report) dated August 2010.
 - HK1 refers to TYH in the LT/HYW EIA Report
 - HK2 refers to Chuen Yuen, which should be moved up on the commencement of LT/HYW.
 - HK3 refers to KL1 in the LT/HYW EIA Report
 - HK4 does not have relevant NSRs in the LT/HYW EIA Report
 - HK5 refers to TKL1 in the LT/HYW EIA Report
- i) Maximum predicted noise levels for Activities 26 & 27 were extracted from Appendix 4.4b2 of the LT/HYW EIA Report for TYH (ie HK1).
- ii) Maximum predicted noise levels for Activities 28 to 30 were extracted from Appendix 4.4g2 of the LT/HYW EIA Report for KL1 & TKL1 (ie HK3 & HK5 respectively).

Annex B7-b

Construction Airborne Noise Impact Assessment (Mitigated)

NSR: HK5 Ta Kwu Ling Village

| No. | Activity Description | SWL dB(A) ^[2] | Distance m | Corr. for distance dB(A) ^{[1][2]} | Corr. for façade dB(A) | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | | | |
|--|---|-----------------------------|---------------|--|------------------------------|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|
| | | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>DESIGNATED PROJECT</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Regulation of Shenzhen River Stage IV</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | Site Preparation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 Site Clearance | 101 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 Haul Road | 106 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| IV | Works Area III | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 11 River Excavation (Sediment) | 110 | 360 | -59 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 12 Haul Road | 106 | 360 | -59 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 13 Excavation and River Training | 108 | 360 | -59 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 14 Landscaping | 108 | 360 | -59 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| V | Works Area IV | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 15 River Excavation (Sediment) | 105 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 16 Haul Road | 106 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 17 Excavation and River Training | 106 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 18 Landscaping | 105 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| VI | Others | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 19 Reprovisioning Works | 105 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| VII | Advanced Works | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 Backfilling | 101 | 62 | -44 | 3 | 60 | 60 | 60 | 60 | | | | | | | | | | | | | | | | | | | | |
| | 21 Road Construction | 104 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 22 Fence Installation | 102 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 23 Drainage / Sinage Works | 107 | 62 | -44 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>CONCURRENT PROJECTS</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Construction of a Secondary Boundary Fence and New Sections of Primary Boundary Fence and Boundary Patrol Road (AEIAR-136/2009)</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 24 Construction Activities (Section 3 - Ng Tung River to Ping Yuen River) | 104 | 449 | -61 | 3 | 46 | 46 | 46 | 46 | | | | | | | | | | | | | | | | | | | | |
| | 25 Construction Activities (Section 3 - Pak Fu Shan to Lin Ma Hang Road) | 104 | 2758 | -77 | 3 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | | | | | | | | | | | | | | | | | |
| <u>Agreement No. CE 45/2008 (CE) Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works^[3]</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 26 BCP Site Formation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 27 Lin Ma Hang Road next to BCP | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 28 Chuk Yuen Village Access Road | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 29 Lin Ma Hang Road Improvement Work | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 Viaduct Section from BCP to Wo Keng Shan | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Predicted Noise Levels during Daytime Period, dB(A) | | | | | | 60 | 60 | 65 | 66 | 65 | 68 | 68 | 68 | 67 | 67 | 70 | 70 | 68 | 68 | 68 | 70 | 70 | 70 | 70 | 65 | | | | |
| Predicted Cumulative Noise Levels during Daytime Period, dB(A) | | | | | | 61 | 61 | 65 | 66 | 65 | 73 | 73 | 73 | 72 | 72 | 74 | 74 | 73 | 73 | 73 | 70 | 70 | 70 | 70 | 65 | | | | |
| Predicted Noise Level due to Advanced Works only, dB(A) | | | | | | 60 | 60 | 65 | 66 | 65 | 61 | 68 | 68 | 67 | 67 | | | | | | | | | | | | | | |

Notes:

[1] Distance Correction for PMEs = 10*log(2*PI*r²)

[2] The figures are rounded-up to a whole number.

[3] The maximum predicted noise levels due to Activities 26 to 30 were extracted from the *Environmental Impact Assessment Report for Liantang/Heung Yuen Wai Boundary Crossing Point and Associated Works* (LT/HYW EIA Report) dated August 2010.

- HK1 refers to TYH in the LT/HYW EIA Report

- HK2 refers to Chuen Yuen, which should be moved up on the commencement of LT/HYW.

- HK3 refers to KL1 in the LT/HYW EIA Report

- HK4 does not have relevant NSRs in the LT/HYW EIA Report

- HK5 refers to TKL1 in the LT/HYW EIA Report

i) Maximum predicted noise levels for Activities 26 & 27 were extracted from Appendix 4.4b2 of the LT/HYW EIA Report for TYH (ie HK1).

ii) Maximum predicted noise levels for Activities 28 to 30 were extracted from Appendix 4.4g2 of the LT/HYW EIA Report for KL1 & TKL1 (ie HK3 & HK5 respectively).