MTR Corporation Limited

HONG KONG SECTION OF GUANGZHOU - SHENZHEN - HONG KONG EXPRESS RAIL LINK

(No. EP-349/2009)

Monitoring and Emergency Response Plan

Certified by: Glenn Fronmer

Position: Environmental Team Leader

Date: 24 FEB 2010

1. INTRODUCTION

1.1 BACKGROUND

Further to the Government's decision made in April 2008, MTR Corporation (MTR) commenced to plan and design the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (hereinafter referred to "the XRL" or "the Project"), which is a committed cross boundary transport infrastructure project.

The XRL will provide high speed rail services between Hong Kong and Guangzhou, and a connection to the national high-speed passenger rail network serving major mainland cities outside of Guangdong province. The Hong Kong section of the XRL is about 26km from new terminus located in West Kowloon (i.e. West Kowloon Terminus (WKT)) to the boundary at Huang gang. Along the railway corridor, there will be a total of eight ventilation buildings/ emergency access point (EAP), stabling sidings and a maintenance facility at Shek Kong (SSS) and an Emergency Rescue Station (ERS) next to SSS serving the operation of the XRL.

1.2 PURPOSE OF THE REPORT

In accordance with the requirement of the Environmental Permit, a Monitoring and Emergency Response Plan should be formulated in relation to the potential impact to fishponds in Mai Po area due to noise or vibration. The purpose of this Plan is to outline the monitoring and emergency response procedure.

In addition, it was stipulated in the EIA Report that ecological impact monitoring should be conducted during the construction phase focusing on habitats and species of conservation interest. In this regard, the outline of ecological impact monitoring programme for construction stage is included in this Plan.

2. MONITORING OF NOISE/VIBRATIONS

2.1 AIR-BORNE NOISE

2.1.1 Monitoring methodology

Currently there is no criteria available for assessment of adverse impact to fish ponds due to air-borne noise. With the absence of criteria, it is proposed to adopt the noise acceptance criteria under EIAO-TM of 75 dB(A) for domestic premises during day-time for the assessment of adverse impact to fisheries due to air-borne noise.

2.1.2 Monitoring location

The nearest fish-pond located in the vicinity of the works area in Mai Po was identified as a representative air-borne noise monitoring location (Please refer to Appendix A for the monitoring location). Due to safety concern, it was not recommended to select noise monitoring location over the bund of fish pond.

2.1.3 Monitoring frequency

2.1.3.1 Pre-construction stage monitoring

The construction work would be scheduled to be undertaken during daytime on normal weekdays (0700-1900 on normal weekdays[1]). Prior to the commencement of construction, the baseline noise levels should be measured for at least 14 consecutive days to obtain one set of 30-minute measurement during day-time (0700-1900) every day during the baseline monitoring period. The Leq, L10 and L90 should be recorded at the specified interval.

In the event that construction be anticipated outside the above-mentioned period, additional baseline monitoring would be undertaken at the proposed working hours prior to the commencement of the construction concerned.

In addition to the baseline noise monitoring, a fishpond survey at the nearby fishpond would be conducted to record the baseline condition prior to construction with

[1] Normal weekdays refer to any day not being Sundays or general holidays.

photo-record for reference.

2.1.3.2 Construction stage monitoring

During construction stage, routine air-borne noise monitoring would be carried out at the respective monitoring location when there are project-related construction activities being undertaken within a radius of 300m from the monitoring station. An initial guide on the monitoring is to obtain one set of 30-minute measurement at a frequency of once a week when the above-mentioned construction activities are underway.

2.1.4 Action and Limit Levels

The Action and Limit levels for construction noise are defined in the table below. Should non-compliance of the noise quality criteria occur, actions in accordance with the Emergency and Response Plan as specified in Chapter 4 should be carried out.

Time Period	**Action Level**	**Limit Level**
All time period	When one documented complaint related to adverse impact to fisheries from fish-pond operator or any abnormal ecological monitoring results	75 dB(A) for air-borne noise

Table 1: Action and Limit Level for air-borne noise

2.2 GROUND-BORNE NOISE AND VIBRATION

2.2.1 Monitoring methodology

Currently there are no ground-borne noise and vibration criteria available for assessment of adverse impact to fish ponds. It is proposed to adopt the day-time ground-borne noise acceptance criteria of 65 dB(A) for domestic premises for the assessment of adverse impact to fisheries due to ground-borne noise and vibration.

2.2.2 Monitoring location

The nearest fish-pond located in the vicinity of the works area in Mai Po was

identified as a representative air-borne noise monitoring location (Please refer to Appendix A for the monitoring location). Due to safety concern, it was not recommended to select noise monitoring location over the bund of fish pond.

2.2.3 Monitoring frequency

2.2.3.1 Pre-construction stage monitoring

The construction work would be scheduled to be undertaken during daytime on normal weekdays (0700-1900 on normal weekdays). Prior to the commencement of TBM operation, the baseline noise levels should be measured for at least 7 consecutive days to obtain one set of 30-minute measurement during day-time (0700-1900) every day during the baseline monitoring period. The Leq, L10 and L90 should be recorded at the specified interval.

In the event that construction be anticipated outside the above-mentioned period, additional baseline monitoring would be undertaken at the proposed working hours prior to the commencement of the construction concerned.

In addition to the baseline noise monitoring, a fishpond survey at the nearby fishpond would be conducted to record the baseline condition prior to construction with photo-record for reference.

2.2.3.2 Construction stage monitoring

During the construction stage, ground-borne noise monitoring would be carried out at the respective monitoring location when TBM head is operating underneath the designated monitoring locations. An initial guide on the monitoring is to obtain one set of 30-minute measurement at a frequency of once a week when the above-mentioned construction activities are underway.

2.2.4 Action and Limit Levels

The Action and Limit levels for construction noise are defined in the table below. Should non-compliance of the noise quality criteria occur, actions in accordance with the Emergency and Response Plan as specified in Chapter 4 should be carried out.

Time Period	Action Level	Limit Level
All time period	When one documented complaint related to adverse impact to fisheries from fish pond operator or any abnormal ecological monitoring results	65 dB(A) for ground-borne noise/vibration

Table 2: Action and Limit Level for ground-borne noise or vibration

3. ECOLOGICAL MONITORING

3.1 MONITORING METHODOLOGY

In addition to the adverse impact to fisheries due to noise/vibration, ecological impact monitoring for avifauna focusing on habitats and species of conservation interest would be conducted during the construction phase at the Mai Po Ventilation Building Works Area where a number of avifauna of conservation interest and areas of conservation interest were identified. Please refer to the Ecological Monitoring Plan at Appendix B for outlines of the monitoring programme.

4. EMERGENCY AND RESPONSE

4.1 ACTION AND LIMIT LEVEL EXCEEDANCE

In the event of Action/Limit Level exceedance or any unpredicted indirect ecological impacts arising from the proposed Project be detected, the following Emergency and Response Plan should be implemented.

EVENT	RESPONSE			
	ET (Environmental Team)	**IEC (Independent Environmental Checker)**	**ER (Engineer's Representative)**	**CONTRACTOR**
Action Level	1. Notify IEC, ER and Contactor 2. Carry out investigation 3. Report the results of investigation to the IEC, ER and Contactor 4. Discuss jointly with the ER and Contractor and formulate remedial measures 5. Increase monitoring frequency to check mitigation effectiveness	1. Review the analysed results submitted by the ET 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analysed noise problem 4. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals to ER with copy to IEC and ET 2. Implement noise mitigation proposals
Limit Level	1. Notify IEC, ER, EPD and Contractor 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency	1. Discuss amongst ER, ET and Contractor on the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to

	5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 6. Inform IEC, ER, EPD the causes and actions taken for the exceedances 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results 8. If exceedance stops, cease additional monitoring	effectiveness and advise the ER accordingly 3. Supervise the implementation of remedial measures	measures for the analysed noise problem 4. Ensure remedial measures are properly implemented 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	ER with copy to IEC and ET 3. Implement the agreed proposals 4. Revise and resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Table 3: Emergency and Response Plan for impact to fishpond due to Noise/Vibration and adverse ecological impact

4.2 COMPLAINT HANDLING PROCEDURE

Any complaints on impact to fishpond due to noise/vibration should be referred to the ET Leader for action. The ET Leader should undertake the following procedures upon receipt of any complaint:

i. Log complaint and date of receipt onto the complaint database and inform the ER and IEC immediately;

ii. Investigate the complaint to determine its validity, and assess whether the source of the problem is due to works activities;

iii. Identify mitigation measures in consultation with the IEC if a complaint is valid and due to the works of the Project;

iv. Advise the Contractor if mitigation measures are required;

v. Review the Contractor's response to identified mitigation measures, and the updated situation;

vi. Undertake additional monitoring and audit to verify the situation if necessary, and review that circumstances leading to the complaint do not recur;

vii. If the complaint is referred by EPD, submit interim report to EPD on the status of the complaint investigation and follow-up action within the time frame assigned by EPD; and

viii. Record the complaint, investigation, the subsequent actions and the results in the monthly EM&A reports.

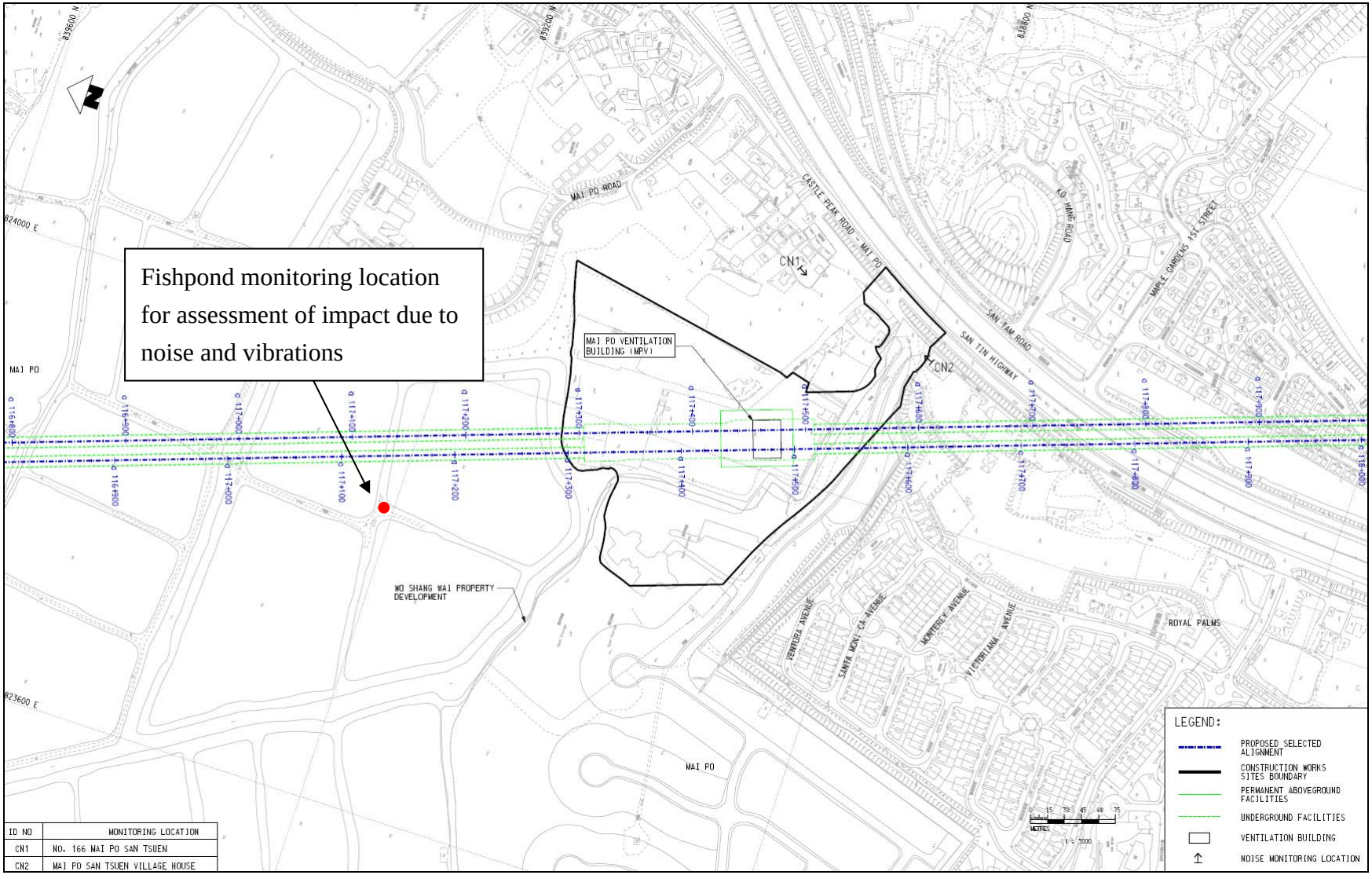
During the complaint investigation work, the Contractor and ER should cooperate with the ET Leader in providing all the necessary information and assistance for completion of the investigation. If mitigation measures are identified in the investigation, the Contractor should promptly carry out the mitigation. The ER should ensure that the measures have been carried out by the Contractor. A work flow of the complaint response procedures is shown in Appendix C.

5.REPORTING

The results and findings of the airborne/ground-borne noise and ecological monitoring, pre-construction fishpond survey required in this Plan would be recorded in the monthly EM&A reports prepared by the ET Leader and endorsed by IEC. The Report will be prepared and submitted within 10 working days of the end of each reporting month.

Appendix A

Fishpond Monitoring Location



Fishpond monitoring location

Appendix B

Ecological Monitoring Plan

AECOM

MTR Corporation Limited

Consultancy Agreement No. C8012

Ecological Monitoring Plan

	Name	Signature
Prepared & Checked:	Gigi Lam	
Reviewed & Approved:	Josh Lam	

Version: Final	Date: February 2010

The information contained in this report is, to the best of our knowledge, correct at the time of printing. The interpretation and recommendations in the report are based on our experience, using reasonable professional skill and judgment, and based upon the information that was available to us. These interpretations and recommendations are not necessarily relevant to any aspect outside the restricted requirements of our brief. This report has been prepared for the sole and specific use of our client and AECOM Environment accepts no responsibility for its use by others.

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1 INTRODUCTION

Project Background

1.1 The Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) is planned to connect Hong Kong, Shenzhen and Guangzhou. The Hong Kong Section of XRL (hereinafter referred to "the Project") runs as an underground railway in dedicated tunnels from the boundary at Huanggang to West Kowloon Terminus (WKT). An overview of the Project alignment and the associated works areas is provided in **Figure Nos. NOL/ERL/300/C/XRL/ENS/M50/001 to 003**.

1.2 Key elements of the Project are as follows:

- Approximately 26km of underground railway running from West Kowloon to the boundary at Huanggang;
- A terminus in West Kowloon, and its associated building elements such as ventilation facilities, public transport interchange, traction sub-station, and seawater cooling facility;
- Seven tunnel ventilation buildings at Mai Po, Ngau Tam Mei, Pat Heung, Shing Mun, Kwai Chung, Nam Cheong and Mong Kok West; and an Emergency Access Point (EAP) at Tai Kong Po;
- Stabling sidings and maintenance facilities located at Shek Kong (Shek Kong Stabling Sidings (SSS)) to provide for train stabling, minor maintenance and cleaning;
- An emergency rescue station (ERS) located next to the SSS; and
- Supporting works areas, access roads, barging facilities, magazines and nursery sites to support the construction of the Project.

1.3 Apart from the key elements above, supporting works areas, access roads, barging facilities, magazines and nursery sites will be required to support the construction of the Project.

1.4 The proposed construction is tentatively scheduled to commence in late 2009, for completion in 2015.

1.5 An Environmental Impact Assessment Report (hereafter refers to as "the EIA Report") was prepared in accordance with the Study Brief No. ESB-197/2008 and subsequently approved under the Environmental Impact Assessment Ordinance (EIAO) in October 2009. An Environmental Permit (EP) EP-349/2009 was issued in October 2009.

Purpose of this Ecological Monitoring Plan

1.6 As stipulated in the Environmental Monitoring and Audit Manual (EM&A Manual) of the EIA Report, ecological impact monitoring focusing on habitats and species of conservation interest should be conducted during the construction phase at the MPV, TPP, SSS / ERS, PHV, and TUW sites where a number of avifauna of conservation interest (e.g. overwintering bird, Greater Painted-snipe) and areas of conservation interest (e.g. country parks, conservation areas, and wetlands) were recorded. An Ecological Monitoring Plan outlining the implementation details of the ecological impact monitoring programme is required to be submitted for Environmental Protection Department (EPD) approval before the commencement of construction activities.

1.7 This Plan outlines the ecological impact monitoring programme to be conducted during construction phase of the Project.

2 MONITORING REQUIREMENT

2.1 The requirement for ecological impact monitoring is presented below.

Ecological Impact Monitoring

2.2 Mitigation measures have been proposed under this Project to control any potential indirect impact to the avifauna utilizing areas of conservation interest which are sensitive to disturbance. Ecological impact monitoring should therefore be conducted during construction phase to monitor the effectiveness of proposed mitigation measures and detect any unpredicted indirect ecological impacts arising from the proposed Project. Remedial actions can then be recommended, where appropriate, based on the impact monitoring results.

2.3 Ecological impact monitoring for avifauna focusing on habitats and species of conservation interest will be conducted during the construction phase at the MPV, TPP, SSS / ERS, PHV, and TUW sites where a number of avifauna of conservation interest and areas of conservation interest were recorded.

2.4 Avifaunal communities will be surveyed quantitatively by transect count or / and point count method covering the vicinity of the abovementioned works areas, where appropriate. Birds heard or seen within the survey area will be identified to species and counted. The nature of construction works within works area conducting during each impact monitoring visit will also be recorded. Weather condition and other noticeable activities occur within or in the vicinity of the survey areas will be recorded such as ongoing routine drainage channel maintenance works, activities in fishponds, farming activities, significant changes in land use and habitat condition, and crops in agricultural fields, etc. The ecological impact monitoring will be undertaken by qualified ecologist(s) with university degree in ecology or relevant disciplines, and at least 5-years relevant post qualification project experience. The impact monitoring results will be compared quantitatively to the baseline data collected before construction (such as the baseline data collected under the EIA study, etc.). Should any unpredicted indirect ecological impacts arising from the proposed Project be detected, remedial measures will be developed and implemented by the Contractor. The location, frequency and duration of construction impact monitoring are provided in **Table 2.1** and **Figure 1** to **6**.

Table 2.1 Requirement of Ecological Impact Monitoring for Avifauna

Works Area	Survey Site	Monitoring Location	Survey Method	Monitoring Frequency	Monitoring Duration
MPV	MPV-1	• Fishponds in Wetland Conservation Area (WCA) within 500 m from the boundary of MPV works area	Point count: bird species seen or heard within active and abandoned fishponds identified and counted from the fixed points up to a distance where birds are still detectable within the survey area (refer to **Figure 1**). Transect count: bird species seen or heard within active and abandoned fishponds on either sides of the transect identified up to a distance within the survey area (refer to **Figure 1**).	Weekly	During erection of site hoarding
				Monthly	During construction phase of MPV works area

Works Area	Survey Site	Monitoring Location	Survey Method	Monitoring Frequency	Monitoring Duration
Access road leading to TPP	TPP-1	• The whole alignment of drainage channel KT5	Point count: bird species seen or heard within the KT5 drainage channel identified and counted from the fixed points up to a distance where birds are still detectable within the survey area (refer to **Figure 3**). Transect count: bird species seen or heard within the KT5 drainage channel on either sides of the transect identified up to a distance within the survey area (refer to **Figure 3**).	Weekly	During erection of site hoarding
				Monthly	During upgrading and operation of access road for construction phase activities
	TPP-2	• The section of drainage channel 95CD along the proposed alignment of access upgrading	Point count: bird species seen or heard within the main drainage channel 95CD identified and counted from the fixed points up to a distance where birds are still detectable within the survey area (refer to **Figure 2**). Transect count: bird species seen or heard within the main drainage channel 95CD on either sides of the transect identified up to a distance within the survey area (refer to **Figure 2**).	Weekly	During erection of site hoarding
				Monthly	During upgrading and operation of access road for construction phase activities
	TPP-3	• The whole alignment of abandoned meander of conservation interest 43CD-1	Point count: bird species seen or heard within the abandoned meander 43CD-1 identified and counted from the fixed points up to a distance where birds are still detectable within the survey area (refer to **Figure 2**).	Weekly	During erection of site hoarding
				Monthly	During upgrading and operation of access road for construction phase activities
Access road leading to SSS / ERS	• SSS-1	• The section of drainage channel 95CD along the proposed alignment of access upgrading	Point count: bird species seen or heard within the main drainage channel 95CD identified and counted up to a distance where birds are still	Weekly	During erection of site hoarding

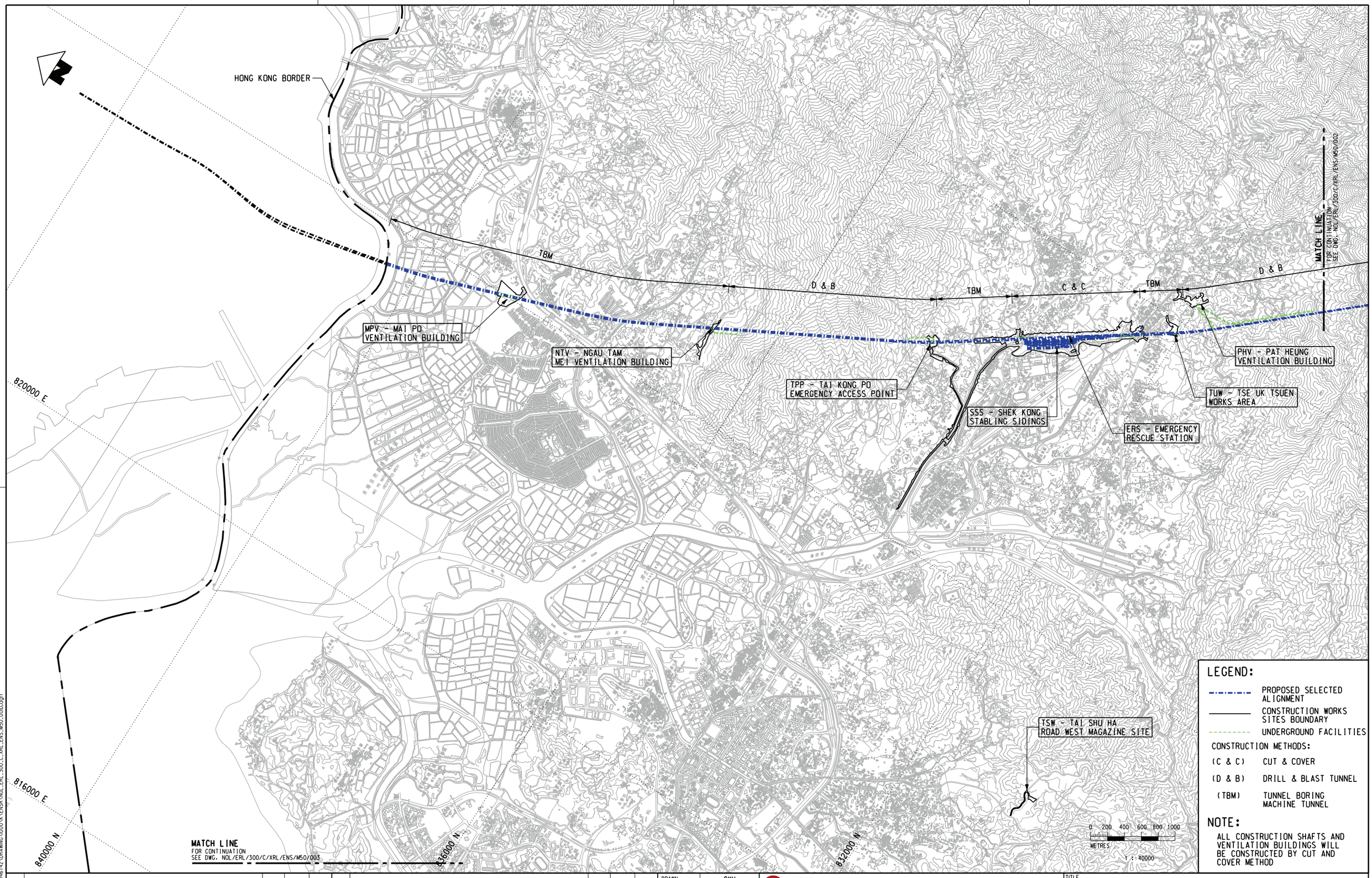
Works Area	Survey Site	Monitoring Location	Survey Method	Monitoring Frequency	Monitoring Duration
			detectable within the survey area (refer to **Figure 3**). Transect count: bird species seen or heard within the main drainage channel 95CD on either sides of the transect identified up to a distance within the survey area (refer to **Figure 3**).	Monthly	During upgrading of and operation access road for construction phase activities
	• SSS-2a and SSS-2b	• The whole alignment of abandoned meanders of conservation interest 95CD-4 and 95CD-5	Point count: bird species seen or heard within the abandoned meanders 95CD-4 and 95CD-5 identified and counted from the fixed points up to a distance where birds are still detectable within the survey area (refer to **Figure 3**).	Weekly	During erection of site hoarding
				Monthly	During upgrading of and operation access road for construction phase activities
SSS / ERS	• SSS-3	• Agricultural land within 500 m from the boundary of SSS / ERS works area between Shek Kong Road and Kam Sheung Road	Point count: bird species seen or heard within the active and inactive agricultural area identified and counted from the fixed points up to a distance where birds are still detectable within the survey area (refer to **Figure 4**). Transect count: bird species seen or heard within active and inactive agricultural area on either sides of the transect identified up to a distance within the survey area (refer to **Figure 4**).	Monthly	During construction phase of SSS / ERS works area
TUW	• TUW-1	• Agricultural land within 500 m from the boundary of TUW works area to the south of Kam Sheung Road	Point count: bird species seen or heard within the active and inactive agricultural area identified and counted from the fixed points up to a distance where birds are still detectable within the survey area (refer to **Figure 5**). Transect count: bird species seen or heard within active and inactive agricultural area on either	Monthly	During construction phase of TUW works area

Works Area	Survey Site	Monitoring Location	Survey Method	Monitoring Frequency	Monitoring Duration
			sides of the transect identified up to a distance within the survey area (refer to **Figure 5**).		
	• TUW-2 (grouped with PHV-1 due to overlapping of survey area)	• Woodland in Conservation Area (CA) within 500 m from the boundary of TUW works area	Point count: bird species seen or heard within the woodland area identified and counted from the fixed points up to a distance where birds are still detectable within the survey area (refer to **Figure 6**). Transect count: bird species seen or heard within woodland area along the transects identified up to a distance within the survey area (refer to **Figure 6**).	Monthly	During construction phase of TUW works area
PHV	• PHV-1 (grouped with TUW-2 due to overlapping of survey area)	• Woodland in CA within 500 m from the boundary of PHV works area	Point count: bird species seen or heard within the woodland area identified and counted from the fixed points up to a distance where birds are still detectable within the survey area (refer to **Figure 6**). Transect count: bird species seen or heard within woodland area along the transects identified up to a distance within the survey area (refer to **Figure 6**).	Monthly	During construction phase of PHV works area

3 REPORTING

3.1 The results and findings of ecological impact monitoring will be recorded in Monthly Ecological Monitoring Report. The Ecological Monitoring Report will be prepared and submitted within 10 working days of the end of each reporting month, with the first report due in the month after construction commences.

Figures



LEGEND:

- PROPOSED SELECTED ALIGNMENT
- CONSTRUCTION WORKS SITES BOUNDARY
- UNDERGROUND FACILITIES

CONSTRUCTION METHODS:

(C & C)	CUT & COVER
(D & B)	DRILL & BLAST TUNNEL
(TBM)	TUNNEL BORING MACHINE TUNNEL

NOTE:

ALL CONSTRUCTION SHAFTS AND VENTILATION BUILDINGS WILL BE CONSTRUCTED BY CUT AND COVER METHOD

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DRAWN	GXH
DESIGNED	TWF
CHECKED	KCC
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DATE	19/AUG./2008

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D & B

SMV - SHING MUN VENTILATION BUILDING

SYW - SHEK YAM WORKS AREA

KCV - KWAI CHUNG VENTILATION BUILDING

MLW - MEI LAI ROAD WORKS AREA

LCW - LAI CHI KOK WORKS AREA

RCB - RAMBLER CHANNEL BARGING POINT

TBM

C & C

NCV - NAM CHEONG VENTILATION BUILDING

MKV - MONG KOK WEST VENTILATION BUILDING

NCB - NAM CHEONG BARGING POINT

PTI - PUBLIC TRANSPORT INTERCHANGE

WKT - WEST KOWLOON TERMINUS

WKB - WEST KOWLOON BARGING POINT

TSUEN WAN

RAMBLER

VICTORIA

MATCH LINE
FOR CONTINUATION
SEE DWG NO. NOL/ERL/300/C/XRL/ENS/M50/001

LEGEND:

- PROPOSED SELECTED ALIGNMENT
- CONSTRUCTION WORKS SITES BOUNDARY
- UNDERGROUND FACILITIES

CONSTRUCTION METHODS:

(C & C)	CUT & COVER
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(TBM)	TUNNEL BORING MACHINE TUNNEL

NOTE:

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NOL / ERL-300
ENVIRONMENTAL IMPACT ASSESSMENT
OVERALL VIEW OF ALIGNMENT

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FOR CONTINUATION
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HONG KONG BORDER

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SKW - SO KWUN WAT
MAGAZINE SITE &
NURSERY AREA

TCB - TSING CHAU TSAI
BARGING POINT

SLB - SIU LAM
BARGING POINT

SLSW - SIU LANG SHUI
NURSERY AREA

LKB - LUNG KWU
SHEUNG TAN
BARGING POINT

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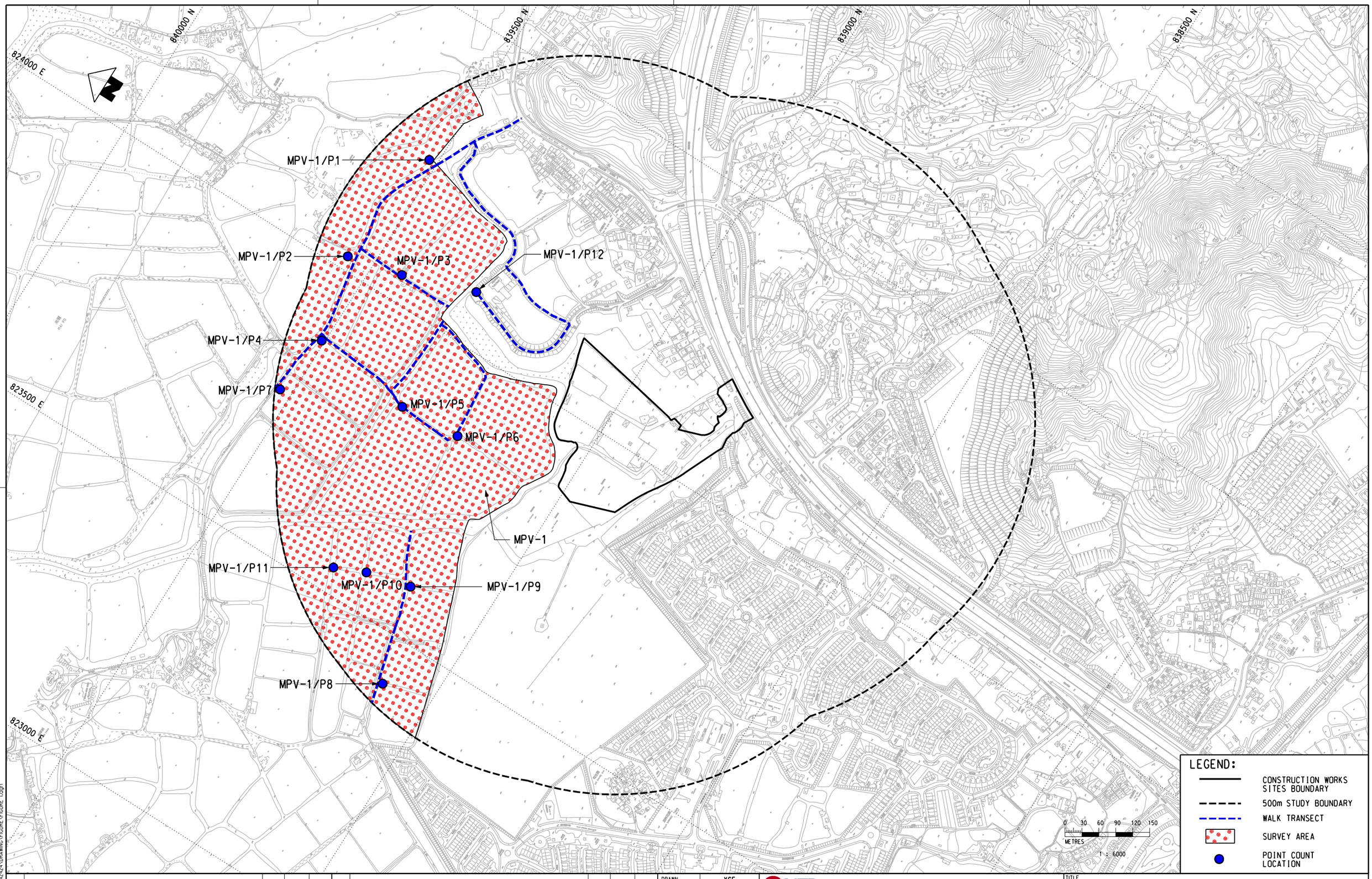
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APPROVED	PL
DATE	19/AUG./2008

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ENSR | AECOM
CADD REF. NOL_ERL_300_C_XRL_ENS_M50_003C.dgn

TITLE
NOL / ERL-300
ENVIRONMENTAL IMPACT ASSESSMENT
OVERALL VIEW OF ALIGNMENT

SCALE 1 : 60000 (A3) | FIGURE NO. NOL/ERL/300/C/XRL/ENS/M50/003 | REV. C



REV	DESCRIPTION	BY	DATE	APPROVED

REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	XCF
DESIGNED	TWF
CHECKED	KCC
APPROVED	PL
DATE	10/OCT./2008

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ORIGINATOR

AECOM

CADD REF.
FIGURE 1.dgn

TITLE
NOL / ERL-300
BASELINE BIRD SURVEY FOR EIA
PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR MPV-1

SCALE	FIGURE NO.	REV.
1 : 6000 (A3)	FIGURE 1	–

PLOT DRV: r:\ustrnset\MTR\PLOTDRVER\WINDOWS\A3 COLOUR.pH
MODELNAME: Default PRINTED BY: CHENYG 2010-2-5
FILENAME: p:\PROJECTS\60042424\DRAWINGS\FIGURE 1.dgn 859947

834500 N
834000 N
833500 N
824000 E
824500 E
825000 E
825500 E

43CD-1
TPP-3/P3
TPP-3/P1
TPP-3/P2
TPP-3
TPP-2/P4
95CD
TPP-2/P3
TPP-2
TPP-2/P2
TPP-2/P1

0 30 60 90 120 150
METRES
1 : 6000

LEGEND:
- CONSTRUCTION WORKS SITES BOUNDARY
- 500m STUDY BOUNDARY
- WALK TRANSECT
- SURVEY AREA
- POINT COUNT LOCATION

PLOT DRV
MODELNAME:
FILENAME: F:\lastmod\WATER\PLOTDRV\ERWINDOWS\AS COLOUR.plt
DEFAULT
DATA\PROJECTS\60412470\DRAWING\FIGURE\FIGURE 2.dgn
PRINTED BY: spmyg
2009-11 13:51:44

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

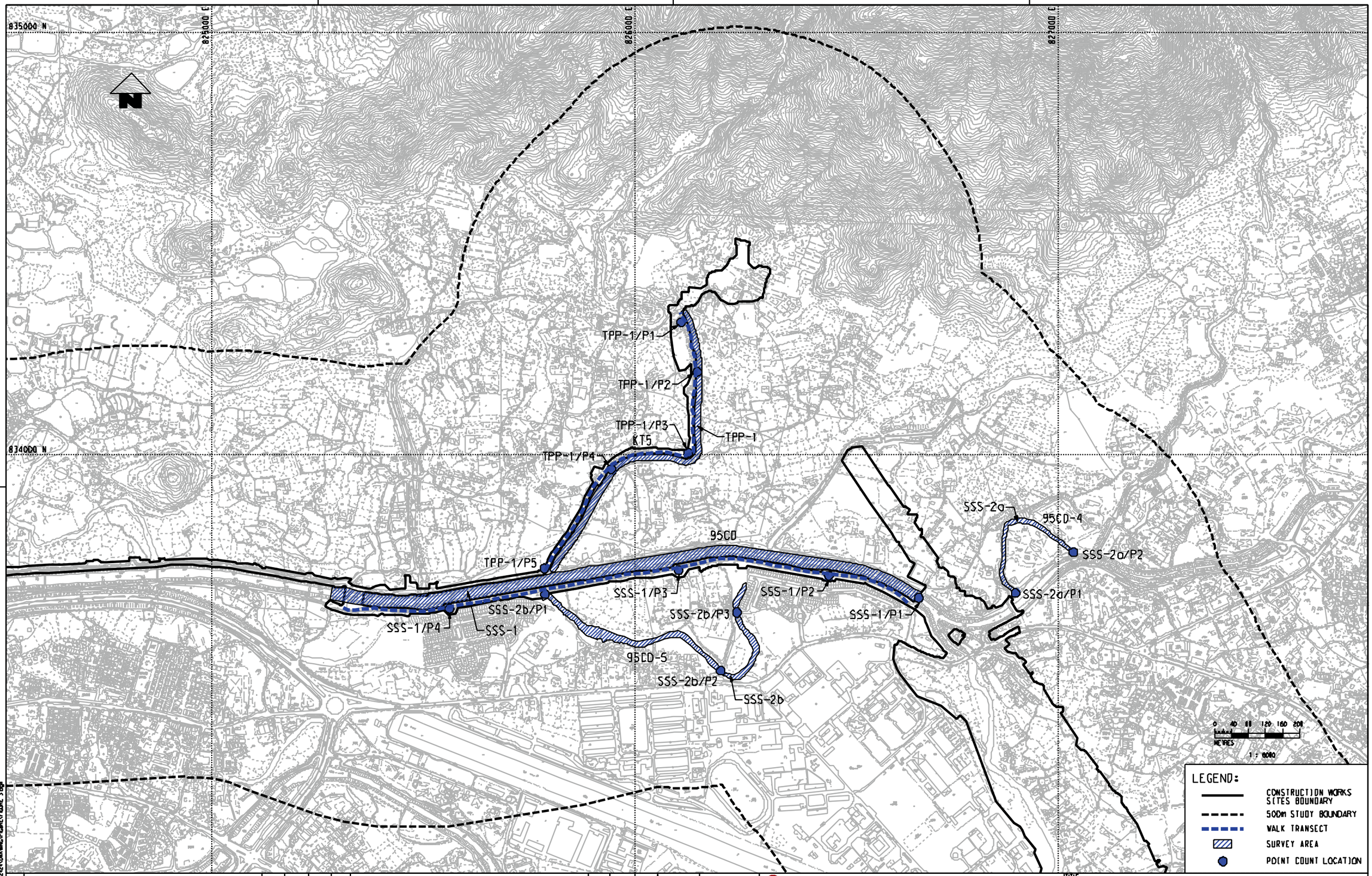
DRAWN	YJP
DESIGNED	TWF
CHECKED	KCC
APPROVED	PL
DATE	14/SEP./2009

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CADD REF. FIGURE 2.dgn

TITLE
NOL / ERL-300
BASELINE BIRD SURVEY FOR EIA
PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR TPP-2 AND TPP-3

SCALE	FIGURE NO.	REV
1 : 6000 (A3)	FIGURE 2	-



REV	DESCRIPTION	BY	DATE	APPROVED
REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	Y.JP
DESIGNED	TWF
CHECKED	K.CC
APPROVED	PL
DATE	14/SEP./2009

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ENDORSEMENT

AECOM

CADD REF FIGURE 3.dgn

TITLE

NOL / ERL-300

BASELINE BIRD SURVEY FOR EIA

PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR TPP-1, SSS-1,SSS-2a AND SSS-2b

SCALE 1 : 8000 (A3)

FIGURE NO. FIGURE 3

REV. -

PLOT DRW: c:\autocad\MTRYLO\DRIVER\NODEFLAS COLOUR.ctb
ADDED/MODIFIED BY: Cheryl
PLOTTED BY: 204-rm
FILENAME: P:\PROJECTS\60422\DIAGRAMS\FIGURE 3.dgn
19:13:40

827500 E
828000 E
828500 E
827000 E
833500 N
833000 N
832500 N
832000 N
831500 N

SSS-3

SSS-3/P1
SSS-3/P2
SSS-3/P3
SSS-3/P4
SSS-3/P5
SSS-3/P6
SSS-3/P7
SSS-3/P8
SSS-3/P9
SSS-3/P10
SSS-3/P11
SSS-3/P12

LEGEND:

- CONSTRUCTION WORKS SITES BOUNDARY
- 500m STUDY BOUNDARY
- WALK TRANSECT
- POINT COUNT LOCATION
- ACTIVE AGRICULTURE
- INACTIVE AGRICULTURE
- ACTIVE FISHPOND
- INACTIVE FISHPOND/POND
- REEDBED/FRESHWATER MARSH
- WATERCOURSE
- DRAINAGE CHANNEL
- GRASSLAND
- SEASONALLY WET GRASSLAND
- SECONDARY WOODLAND
- SHRUBLAND
- PLANTATION
- DEVELOPED AREA/WASTEGROUND

0 30 60 90 120 150
METRES
1 : 6000

PLOT DRV
MODELNAME
FILENAME: P:\mastmain\MTRPLOTDRIVER\WINDOWS\AS COLOUR.pltPLOTTED BY: CHWIYP 14/8/24
Default DATE: 2009-11
DATA\PROJECTS\60412621\PLOT\MRG\FIGURE\FIGURE 4.dgn

REV	DESCRIPTION	BY	DATE	APPROVED

REV	DESCRIPTION	BY	DATE	APPROVED

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AECOM

CADD REF.
FIGURE 4.dgn

TITLE
NOL / ERL-300
BASELINE BIRD SURVEY FOR EIA
PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR SSS-3

SCALE	FIGURE NO.	REV
1 : 6000 (A3)	FIGURE 4	-

827500 E
828000 E
828500 E
833500 N
833000 N
832500 N
832000 N
831500 N

TUW-1/P1
TUW-1/P2
TUW-1/P3
TUW-1/P4
TUW-1/P5
TUW-1/P6
TUW-1/P7
TUW-1

LEGEND:

- CONSTRUCTION WORKS SITES BOUNDARY
- 500m STUDY BOUNDARY
- WALK TRANSECT
- POINT COUNT LOCATION
- ACTIVE AGRICULTURE
- INACTIVE AGRICULTURE
- ACTIVE FISHPOND
- INACTIVE FISHPOND/POND
- REEDBED/FRESHWATER MARSH
- WATERCOURSE
- DRAINAGE CHANNEL
- GRASSLAND
- SEASONALLY WET GRASSLAND
- SECONDARY WOODLAND
- SHRUBLAND
- PLANTATION
- DEVELOPED AREA/WASTEGROUND

0 30 60 90 120 150
METRES
1 : 6000

PLOT DRV: P:\ustmaan\MTRPLOTDRIVER\WIN00RSV.AS COLOUR.pltr
MODELNAME: Default
PLTCHANGE: DATA\PROJECTS\60412621\PLOT\MXD\FIGURE 5.MXD
PLOTTED BY: CHWIYU 2009-11 14:54:44

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	YJP
DESIGNED	TWF
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DATE	07/DEC./2009

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ORIGINATOR: AECOM

CADD REF.: FIGURE 5.dgn

TITLE
NOL / ERL-300
BASELINE BIRD SURVEY FOR EIA
PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR TUW-1

SCALE	FIGURE NO.	REV
1 : 6000 (A3)	FIGURE 5	-

826000 E
827000 E
828000 E
829000 E
832000 N
833000 N
831000 N

TUW-2 and PHV-1/P2

TUW-2 and PHV-1/P1

TUW-2 AND PHV-1

LEGEND:

- CONSTRUCTION WORKS SITES BOUNDARY
- 500m STUDY BOUNDARY
- WALK TRANSECT
- SURVEY AREA
- POINT COUNT LOCATION

0 40 80 120 160 200
METRES
1 : 8000

REV	DESCRIPTION	BY	DATE	APPROVED
REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	CYG
DESIGNED	TWF
CHECKED	KCC
APPROVED	PL
DATE	07/DEC./2009

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FIGURE 6.dgn

TITLE

NOL / ERL-300

BASELINE BIRD SURVEY FOR EIA

PROPOSED SURVEY AREA, POINT COUNT LOCATION AND WALK TRANSECT FOR TUW-2 AND PHV-1

SCALE 1 : 8000 (A3)

FIGURE NO. FIGURE 6

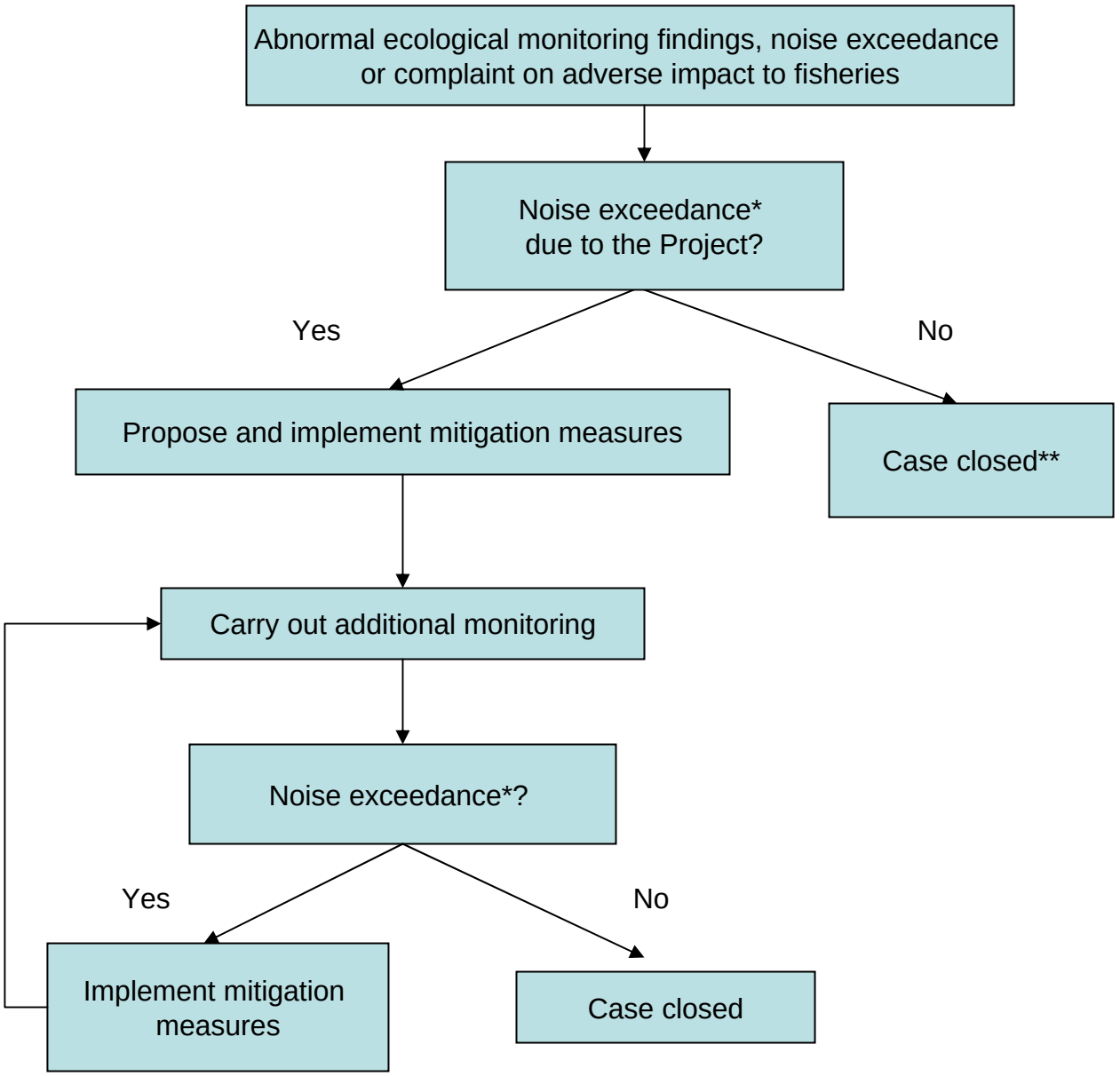
REV. -

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MODIFIED BY: Darfoon
FILENAME: P:\PROJECTS\60042210\DRAWING\FIGURE\FIGURE 6.dgn

Appendix C

Workflow for complaint on fisheries, abnormal ecological monitoring findings and noise exceedance

Work flow for complaint on fisheries / abnormal ecological monitoring findings / noise exceedance



Note:

*75 dB(A) for air-borne noise; 65 dB(A) for ground-borne noise and vibration

** The situation would be updated and major cause for abnormal ecological findings would be provided in the monthly EM&A Report (Ecological Monitoring).

Appendix D

Response to AFCD's Comments

Response to AFCD's comments dated 8.2.2010

Comments	Response
1. In accordance to section 3.4.13, 4.45-4.46 and 4.52 of the approved EIA report for the XRL project, a MERP should be put in place as a mitigation measure as well as EM&A process. Instead of acting upon complaints only, proactive and routine impact monitoring (particularly during the construction of the tunnel and the ventilation building) of both noise and vibration at the fish ponds should be considered.	Please be advised that routine monitoring for air-borne and ground-borne noise during construction stage are included in the monitoring programme. Please refer to Section 2.1.3.2 and 2.2.3.2 of the Plan for details.
2. It is mentioned that "Vibration could be measured provided there is permanent enclosed concrete structure....nearby the fish ponds". Please clarify if the vibration impacts could be measured and therefore monitored in the area concerned.	Please be advised that due to lack of acceptance criteria for impact of vibration to fisheries, the ground-borne noise criteria was adopted with reference to the approved EIA report. As such, ground-borne noise instead of vibration would be measured.
3. I presumed that details of the "work flow" would be elaborated in the MERP yet to be submitted.	Please refer to Section 4 of the Plan for details of the actions to be taken in response to exceedance or complaints.

Response to AFCD's comments dated 12.2.2010

Comments	Response
Section 2.2.3.1-2.2.3.2: It is noted that ground-borne noise monitoring would be carried out prior to and during the TBM operation. Other than the above, please consider if construction activities (including the erection of hoarding, construction of the Mai Po Ventilation Building by drilling and blasting) would also be monitored.	It is stated in the EIA Report that under the assumptions of worst case scenario, groundborne noise impact is mainly due to TBM operation and the use of PME for rock breaking/drilling or drill & blast activities. Please be advised that there will be no percussive piling nor blasting activities in the construction of the Mai Po Ventilation Building, the potential groundborne noise impact during construction of Mai Po Ventilation Building is not anticipated. For your information, the potential groundborne noise will be caused by structural vibration, which is transmitted from TBM operation to the nearby structure/noise sensitive receiver through the ground. Please be advised that according to Section 4.30 of the EIA report, potential groundborne noise impact to fishponds in Mai Po during construction would arise mainly from TBM operation for tunneling. According to the assessment, groundborne noise impact due to TBM operation at the sensitive receivers within Mai Po will be far below the statutory requirement. Nevertheless, groundborne noise monitoring at the sensitive receivers will be conducted prior to and during TBM operation.