FORM
5

Application No. :
Reference No. :
(For official use)

FORM 5
ENVIRONMENTAL IMPACT ASSESSMENT ORDINANCE
(CHAPTER 499)
SECTION 13(1)

Application for Variation of an Environmental Permit

PART A PREVIOUS APPLICATIONS

☐ No previous application for variation of an environmental permit.

☑ The environmental permit was previously amended.

Application No. : VEP-174/2005

PART B DETAILS OF APPLICANT

B1. Name : (person or company)

The Hongkong Electric Co., Ltd

[Note : In accordance with section 13(1) of the Ordinance, the person holding an environmental permit or a person who assumes responsibility for the designated project may apply for variation of the environmental permit.]

B2. Business Registration No. : (if applicable) [redacted]

B3. Correspondence Address : [redacted]

B4. Name of Contact Person : [redacted]

B5. Position of Contact Person : [redacted]

B6. Telephone No. : [redacted]

B7. Fax No. : [redacted]

B8. E-mail Address : (if any) [redacted]

PART C DETAILS OF CURRENT ENVIRONMENTAL PERMIT

C1. Name of the Current Environmental Permit Holder :

The Hongkong Electric Co., Ltd

C2. Application No. of the Current Environmental Permit : VEP-174/2005 (EP-071/2000/C)

C3. The Current Environmental Permit was Issued in : month / year

0 5 / 2 0 0 5

Important Notes : Please submit the application together with

(a) 3 copies of this completed form; and

(b) appropriate fee as stipulated in the Environmental Impact Assessment (Fees) Regulation

to the Environmental Protection Department at the following address :

The EIA Ordinance Register Office,
27th floor, Southorn Centre,130 Hennessy Road,
Wan Chai, Hong Kong.

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Office, E.P.D.

☐ Tick (✓) the appropriate box

EPD185

PART D PROPOSED VARIATIONS TO THE CONDITIONS IN CURRENT ENVIRONMENTAL PERMIT

D1 Condition(s) in the Current Environmental Permit	D2 Proposed Variation(s)	D3 Reasons for Variation(s)	D4 Describe the environmental changes arising from the proposed variation(s) :	D5 Describe how the environment and the community might be affected by the proposed variation(s)	D6 Describe how and to what extent the environmental performance requirements set out in the EIA report previously approved or project profile previously submitted for this project may be affected :	D7 Describe any additional measures proposed to eliminate, reduce or control any adverse environmental impact arising from the proposed variation(s) and to meet the requirements in the Technical Memorandum on Environmental Impact Assessment Process :
Please refer to the attached.	Please refer to the attached.	Please refer to the attached.	Potential environmental impacts associated with the proposed changes to the overall LMX development have been reviewed and no adverse environmental impacts are anticipated. Please refer to the associated Technical Note for details.	Potential environmental impacts associated with the proposed changes to the overall LMX development have been reviewed and no adverse environmental impacts are anticipated. Please refer to the associated Technical Note for details.	The environmental performance requirements set out in the approved EIA Report will not be exceeded or violated. Please refer to the associated Technical Note for details.	No additional measures are required.

PART D D1, D2 and D3

Item	D1 Condition(s) in the current Environmental Permit	D2 Proposed Variation(s)	D3 Reasons for Variation(s)
1.	**Title of Designated Project(s), Part B** **指定工程項目的名稱** a) Reclamation works for the formation of 22 hectares Lamma Extension site. 進行平整22公頃南丫島擴建廠址的填海工程。 b) Construction and operation of a 1,800MW gas-fired combined cycle plant at the Lamma Extension site and associated transmission system. 建造及營辦位於南丫島擴建廠址的一座 1,800兆瓦燃氣聯合循環發電廠及相關輸電系統。 c) Laying and operation of a submarine pipeline to supply gas from a regional liquefied natural gas (LNG) terminal in Shenzhen to the Lamma Extension site. 敷設及營辦一條海底氣體管道，將天然氣從設於深圳的液化天然氣接收站輸送至南丫島擴建廠址。 [This/these project(s) is/are hereinafter referred to as "the Project(s)".] [這項/這些工程項目下稱 "工程項目"。]	**Title of Designated Project(s), Part B** **指定工程項目的名稱** a) Reclamation works for the formation of 22 hectares Lamma Extension site. 進行平整22公頃南丫島擴建廠址的填海工程。 b) Construction and operation of a gas-fired combined cycle plant at the Lamma Extension site and associated transmission system. 建造及營辦位於南丫島擴建廠址的一座燃氣聯合循環發電廠及相關輸電系統。 c) Laying and operation of a submarine pipeline to supply gas from a regional liquefied natural gas (LNG) terminal in Shenzhen to the Lamma Extension site. 敷設及營辦一條海底氣體管道，將天然氣從設於深圳的液化天然氣接收站輸送至南丫島擴建廠址。 [This/these project(s) is/are hereinafter referred to as "the Project(s)".] [這項/這些工程項目下稱 "工程項目"。]	The total output capacity of the gas-fired power plant is no longer exactly 1,800MW.
2.	**Scale and Scope of Designated Project, Part B** **指定工程項目的規模和範圍** The projects include the reclamation works for the formation of a 22ha Lamma Extension site to the south of the existing Lamma Power Station; construction and operation of a 1,800MW power plant (6x300MW gas-fired combined cycle units) on the Lamma Extension site and the associated transmission cable from the power plant to the landing point at Telegraph Bay; and construction and operation of about 90km submarine gas pipeline to supply gas from a regional LNG terminal in Shenzhen to the power plant. 工程項目包括：在現有南丫島發電廠之南進行平整 22公頃南丫島擴建廠址的填海工程；建造及營辦位於南丫島擴建廠址的一座1,800兆瓦發電廠(合共6台，每台300兆瓦)燃氣聯合循環機組，和接連發電廠及鋼線灣的相關輸電纜；以及敷設及營辦一條約90公里長的海底氣體管道，將天然氣從設於深圳的液化天然氣站輸送至南丫島發電廠。	**Scale and Scope of Designated Project, Part B** **指定工程項目的規模和範圍** The projects include the reclamation works for the formation of a 22ha Lamma Extension site to the south of the existing Lamma Power Station; construction and operation of a gas-fired power plant with 5 units (one (1) 335MW class and four (4) 380MW class gas-fired combined cycle units) on the Lamma Extension site and the associated transmission cable from the power plant to the landing point at Telegraph Bay; and construction and operation of about 90km submarine gas pipeline to supply gas from a regional LNG terminal in Shenzhen to the power plant. 工程項目包括：在現有南丫島發電廠之南進行平整 22公頃南丫島擴建廠址的填海工程；建造及營辦位於南丫島擴建廠址的一座配備5台機組的燃氣發電廠(1台335兆瓦級別及4台380兆瓦級別燃氣聯合循環機組)，和接連發電廠及鋼線灣的相關輸電纜；以及敷設及營辦一條約90公里長的海底氣體管道，將天然氣從設於深圳的液化天然氣站輸送至南丫島發電廠。	The total output capacity of the gas-fired power plant is no longer exactly 1,800MW. The number of gas-fired units under the Project has been updated to include one 335MW class and four 380MW class gas-fired units.
3.	**Condition 1.8** The Permit Holder shall ensure that the Project(s) is designed, constructed and operated in accordance with the information and recommendations contained in the EIA Report. (Register No. AEIAR-010/1999) and the application documents for variation of an environmental permit (the Applications VEP-033/2000, VEP-047/2001 and VEP-174/2005); other relevant documents in the Register; and the information or mitigation measures described in this Permit, or mitigation measures to be recommended in submissions that shall be deposited with or approved by the Director as a result of permit conditions contained in this Permit, or mitigation measures to be recommended under on-going surveillance and monitoring activities during all stages of the Project(s). Where recommendations referred to in the documents of the Register are not expressly referred to in this Permit, such recommendations are nevertheless to be implemented unless expressly excluded or impliedly amended in this Permit.	**Condition 1.8** The Permit Holder shall ensure that the Project(s) is designed, constructed and operated in accordance with the information and recommendations contained in the EIA Report. (Register No. AEIAR-010/1999) and the application documents for variation of an environmental permit (the Applications VEP-033/2000, VEP-047/2001, VEP-174/2005 and VEP-xxx/xxxx); other relevant documents in the Register; and the information or mitigation measures described in this Permit, or mitigation measures to be recommended in submissions that shall be deposited with or approved by the Director as a result of permit conditions contained in this Permit, or mitigation measures to be recommended under on-going surveillance and monitoring activities during all stages of the Project(s). Where recommendations referred to in the documents of the Register are not expressly referred to in this Permit, such recommendations are nevertheless to be implemented unless expressly excluded or impliedly amended in this Permit.	To include and refer to this VEP application in Condition 1.8.

	許可證持有人須確保工程項目的設計、建造及營辦，按照下述資料及措施辦理：環評報告(登記冊編號：AEIAR-010/1999)內載的資料和建議；更改環境許可證的申請文件(申請書編號：VEP-033/2000、VEP-047/2001和VEP-174/2005)；登記冊內的其他相關文件；及本許可證所說明的資料或緩解措施，或根據本許可證內載的條件須向署長存放或獲署長批准的提交文件所建議的緩解措施；或在工程項目各階段進行的持續監察和監測工作所建議的緩解措施。如登記冊文件所述建議沒有在本許可證明確表示，則仍須實施這些建議，除非獲本許可證明確豁除或默示修訂。	許可證持有人須確保工程項目的設計、建造及營辦，按照下述資料及措施辦理：環評報告(登記冊編號：AEIAR-010/1999)內載的資料和建議；更改環境許可證的申請文件(申請書編號：VEP-033/2000、VEP-047/2001、VEP-174/2005和VEP-xxx/xxxx)；登記冊內的其他相關文件；及本許可證所說明的資料或緩解措施，或根據本許可證內載的條件須向署長存放或獲署長批准的提交文件所建議的緩解措施；或在工程項目各階段進行的持續監察和監測工作所建議的緩解措施。如登記冊文件所述建議沒有在本許可證明確表示，則仍須實施這些建議，除非獲本許可證明確豁除或默示修訂。	
4.	**Condition 1.12** The Permit Holder shall notify the Director in writing the commissioning date of the Project(s) no later than three months before the commissioning of the first 300MW unit. The Permit Holder shall notify the Director in writing immediately if there is any change of the commissioning date of the Project(s). 在第一台300兆瓦機組投入生產前，許可證持有人須至少提早3個月以書面方式把工程項目的投產日期通知署長。如投產日期有任何更改，許可證持有人必須立即以書面方式通知署長。	**Condition 1.12** The Permit Holder shall notify the Director in writing the commissioning date of the Project(s) no later than three months before the commissioning of the first unit. The Permit Holder shall notify the Director in writing immediately if there is any change of the commissioning date of the Project(s). 在第一台機組投入生產前，許可證持有人須至少提早3個月以書面方式把工程項目的投產日期通知署長。如投產日期有任何更改，許可證持有人必須立即以書面方式通知署長。	Not necessary to specify the actual output capacity of the first gas-fired unit.
5.	**Sub-heading for Conditions 2.6 to 2.8** Specific Submissions for the Reclamation Works & 1,800MW Power Plant 填海工程及 1,800 兆瓦發電廠的指定提交文件	**Sub-heading for Conditions 2.6 to 2.8** Specific Submissions for the Reclamation Works & Gas-fired Power Plant 填海工程及燃氣發電廠的指定提交文件	The total output capacity of the gas-fired power plant is no longer exactly 1,800MW.
6.	**Sub-heading for Conditions 3.2 to 3.7** Reclamation Works and 1800MW Power Plant 填海工程和 1,800 兆瓦發電廠	**Sub-heading for Conditions 3.2 to 3.7** Reclamation Works and Gas-fired Power Plant 填海工程和燃氣發電廠	The total output capacity of the gas-fired power plant is no longer exactly 1,800MW.
7.	**Condition 4.2** At least three months before commissioning of the first 300MW unit, the Permit Holder shall submit an EM&A manual for the operation phase of the Project(s) to the Director for approval. No operation of any of the new 300MW unit shall commence before the Director has approved the EM&A manual. The EM&A manual approved under this condition shall hereinafter be referred to as the "EM&A Manual (Operational Phase). 在第一台300兆瓦機組投產前，許可證持有人須至少提早3個月把工程項目營辦階段的環境監察及審核手冊提交署長批准。在環境監察及審核手冊獲署長批准前，不得把任何新設的300兆瓦機組投產。根據本條件規定獲准的環境監察及審核手冊，下稱"環境監察及審核手冊(營辦階段)"。	**Condition 4.2** At least three months before commissioning of the first unit, the Permit Holder shall submit an EM&A manual for the operation phase of the Project(s) to the Director for approval. No operation of any of the new gas-fired unit shall commence before the Director has approved the EM&A manual. The EM&A manual approved under this condition shall hereinafter be referred to as the "EM&A Manual (Operational Phase). 在第一台機組投產前，許可證持有人須至少提早3個月把工程項目營辦階段的環境監察及審核手冊提交署長批准。在環境監察及審核手冊獲署長批准前，不得把任何新設的燃氣機組投產。根據本條件規定獲准的環境監察及審核手冊，下稱"環境監察及審核手冊(營辦階段)"。	Not necessary to specify the actual output capacity of the first gas-fired unit.

8.	**Condition 4.3** The Permit Holder shall deposit with the Director, no later than three months prior to the commissioning of the first 300MW unit, a Commissioning Schedule for all six 300MW units by referring to Table 2.2a, Part A of the EIA Report. The Commissioning Schedule shall include timing(s) and detail(s) on the shifting(s) of the base load operation from the existing coal-fired and oil-fired units of Lamma Power Station to the six new 300MW units. 在第一台300兆瓦機組投產前，許可證持有人須至少提早3個月向署長存放環評報告A部表2.2a所指合共六台300兆瓦機組的投產時間表。投產時間表須包括由南丫島發電廠的現有燃煤及燃油機組轉換至六台新設300兆瓦機組作基底負荷運行的時間表和詳情。	**Condition 4.3** The Permit Holder shall deposit with the Director, no later than three months prior to the commissioning of the first unit, a Commissioning Schedule for all five gas-fired units under the Project(s). The Commissioning Schedule shall include timing(s) and detail(s) on the shifting(s) of the base load operation from the existing coal-fired and oil-fired units of Lamma Power Station to the five new gas-fired units. 在第一台機組投產前，許可證持有人須至少提早3個月向署長存放本工程項目下的合共五台燃氣機組的投產時間表。投產時間表須包括由南丫島發電廠的現有燃煤及燃油機組轉換至五台新設燃氣機組作基底負荷運行的時間表和詳情。	Not necessary to specify the actual output capacity of the first gas-fired unit. The number of gas-fired units under the Project is five instead of six.
9.	**Condition 4.4** At least three months before the commissioning of the first 300MW unit, the Permit Holder shall submit to the Director for approval an Emergency Plan, to include possible scenarios and the necessary remedial measures, for handling such situation(s) due to a sudden interruption in liquefied natural gas supply. 在第一台300兆瓦機組投產前，許可證持有人須至少提早3個月把一份應變計劃提交署長批准。計劃須包括可能發生的設想及相應的補救措施，以處理萬一液化天然氣供應突然中斷時出現的緊急情況。	**Condition 4.4** At least three months before the commissioning of the first unit, the Permit Holder shall submit to the Director for approval an Emergency Plan, to include possible scenarios and the necessary remedial measures, for handling such situation(s) due to a sudden interruption in natural gas supply. 在第一台機組投產前，許可證持有人須至少提早3個月把一份應變計劃提交署長批准。計劃須包括可能發生的設想及相應的補救措施，以處理萬一天然氣供應突然中斷時出現的緊急情況。	Not necessary to specify the actual output capacity of the first gas-fired unit. To better describe the type of fuel used.
10.	**Condition 4.5** At least three months before commissioning of the first 300MW unit, the Permit Holder shall deposit with the Director a Greenhouse Gas (GHG) Management Plan which shall include the following:- (i) a Life Cycle Management Programme for hydrofluorocarbon gases (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF6). The Programme shall include measures and requirements as described in Section 4.7.5, Part B of the EIA report to minimise leakage from systems or equipment containing HFCs, PFCs and SF6; (ii) the actions, including procedures to reduce emissions of CH4 from maintenance, operations and emergencies, and other possible upgrading works; (iii) a Carbon Accounting and Monitoring Programme, which shall include actions such as afforestation and reforestation; and (iv) a Conversion Plan which shall present the practicability of converting the existing peak lopping oil-fired gas turbines to gas-fired for reducing GHG emissions during emergency use or peak lopping operations. 在第一台300兆瓦機組投產前，許可證持有人須至少提早3個月向署長存放一份溫室氣體管理計劃。計劃須包括：	**Condition 4.5** At least three months before commissioning of the first unit, the Permit Holder shall deposit with the Director a Greenhouse Gas (GHG) Management Plan which shall include the following:- (i) a Life Cycle Management Programme for hydrofluorocarbon gases (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF6). The Programme shall include measures and requirements as described in Section 4.7.5, Part B of the EIA report to minimise leakage from systems or equipment containing HFCs, PFCs and SF6; (ii) the actions, including procedures to reduce emissions of CH4 from maintenance, operations and emergencies, and other possible upgrading works; (iii) a Carbon Accounting and Monitoring Programme, which shall include actions such as afforestation and reforestation; and (iv) a Conversion Plan which shall present the practicability of converting the existing peak lopping oil-fired gas turbines to gas-fired for reducing GHG emissions during emergency use or peak lopping operations. 在第一台機組投產前，許可證持有人須至少提早3個月向署長存放一份溫室氣體管理計劃。計劃須包括：	Not necessary to specify the actual output capacity of the first gas-fired unit.

	(i)有關氫氟化碳、全氟化碳及六氟化硫的生命周期管理計劃。計劃須包括環評報告B部第4.7.5節所說明的措施及規定，以盡量減少含氫氟化碳、全氟化碳及六氟化硫的系統或設備出現泄漏情況； (ii)各項工作，包括減少在保養維修、運作及緊急情況期間散發甲烷的程序，及其他可行的改善工作； (iii)一項碳統計及監察計劃，須包括植林和重新植樹等工作；及 (iv)一項轉換計劃，須顯示由現有用作調峰的燃油氣體渦輪轉換至燃氣渦輪，以減少緊急使用或調峰運作期間排放的溫室氣體的方法是否可行。	(i)有關氫氟化碳、全氟化碳及六氟化硫的生命周期管理計劃。計劃須包括環評報告B部第4.7.5節所說明的措施及規定，以盡量減少含氫氟化碳、全氟化碳及六氟化硫的系統或設備出現泄漏情況； (ii)各項工作，包括減少在保養維修、運作及緊急情況期間散發甲烷的程序，及其他可行的改善工作； (iii)一項碳統計及監察計劃，須包括植林和重新植樹等工作；及 (iv)一項轉換計劃，須顯示由現有用作調峰的燃油氣體渦輪轉換至燃氣渦輪，以減少緊急使用或調峰運作期間排放的溫室氣體的方法是否可行。	
11.	**Condition 4.6** The Permit Holder shall deposit with the Director a noise control study report to address the potential cumulative noise impacts arising from the 1,800MW power plant and other existing and planned noise source at the Lamma Power Station. The Report shall demonstrate that the noise performance of individual plants and the Lamma Power Station as a whole shall meet the recommendations and assumptions set out in Section 6.3.5, Part B of the EIA Report. It shall be submitted to the Director no later than three months prior to the commissioning of the first 300MW unit. 許可證持有人須向署長存放一份噪音管制研究報告，以提述1,800兆瓦發電廠及南丫島發電廠其他現有及經規劃的噪音源可能產生的累積噪音影響。報告須展示個別廠房及南丫島發電廠整體的噪音表現，須符合環評報告B部第6.3.5節所載的建議及假設。這份報告須在第一台300兆瓦機組投產前至少提早3個月向署長提交。	**Condition 4.6** The Permit Holder shall deposit with the Director a noise control study report to address the potential cumulative noise impacts arising from the gas-fired power plant and other existing and planned noise source at the Lamma Power Station. The Report shall demonstrate that the noise performance of individual plants and the Lamma Power Station as a whole shall meet the recommendations and assumptions set out in Section 6.3.5, Part B of the EIA Report. It shall be submitted to the Director no later than three months prior to the commissioning of the first unit. 許可證持有人須向署長存放一份噪音管制研究報告，以提述燃氣發電廠及南丫島發電廠其他現有及經規劃的噪音源可能產生的累積噪音影響。報告須展示個別廠房及南丫島發電廠整體的噪音表現，須符合環評報告B部第6.3.5節所載的建議及假設。這份報告須在第一台機組投產前至少提早3個月向署長提交。	The total output capacity of the gas-fired power plant is no longer exactly 1,800MW. Not necessary to specify the actual output capacity of the first gas-fired unit.
12.	**Condition 4.7** The Permit Holder shall deposit with the Director no later than three months prior to the commissioning of the first 300MW unit a Waste Management Plan for the operation of the Project(s). The Plan shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the operation of the Project(s) and shall take into account the recommendations in Section 8.5, Part B of the EIA report. 在第一台300兆瓦機組投產前，許可證持有人須至少提早3個月向署長存放一份廢物管理計劃，以營辦工程項目。計劃須說明營辦工程項目所產生各類廢物的避免產生、再使用、回收、循環再造、貯存、收集、處理和棄置安排，並須考慮環評報告B部第8.5節的建議。	**Condition 4.7** The Permit Holder shall deposit with the Director no later than three months prior to the commissioning of the first unit a Waste Management Plan for the operation of the Project(s). The Plan shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the operation of the Project(s) and shall take into account the recommendations in Section 8.5, Part B of the EIA report. 在第一台機組投產前，許可證持有人須至少提早3個月向署長存放一份廢物管理計劃，以營辦工程項目。計劃須說明營辦工程項目所產生各類廢物的避免產生、再使用、回收、循環再造、貯存、收集、處理和棄置安排，並須考慮環評報告B部第8.5節的建議。	Not necessary to specify the actual output capacity of the first gas-fired unit.
13.	**Condition 4.8** The Permit Holder shall investigate the practicality of lowering the residual chlorine concentrations to a level below 0.3 mg/L. The Permit Holder shall also investigate the practicality of using alternative biocides in the Project(s). The investigation report including design measures to prevent formation of foam at the cooling water outfalls, shall be deposited with the Director no later than three months prior to the operation of the first 300MW unit.	**Condition 4.8** The Permit Holder shall investigate the practicality of lowering the residual chlorine concentrations to a level below 0.3 mg/L. The Permit Holder shall also investigate the practicality of using alternative biocides in the Project(s). The investigation report including design measures to prevent formation of foam at the cooling water outfalls, shall be deposited with the Director no later than three months prior to the operation of the first unit.	Not necessary to specify the actual output capacity of the first gas-fired unit.

	許可證持有人須研究把餘氯濃度減至每公升0.3毫克以下的水平是否可行。許可證持有人也須研究在工程項目使用另類生物殺滅劑是否可行。在第一台300兆瓦機組投產前，須至少提早3個月向署長存放研究報告。報告須包括防止在冷卻水渠口形成泡沫的設計措施。	許可證持有人須研究把餘氯濃度減至每公升0.3毫克以下的水平是否可行。許可證持有人也須研究在工程項目使用另類生物殺滅劑是否可行。在第一台機組投產前，須至少提早3個月向署長存放研究報告。報告須包括防止在冷卻水渠口形成泡沫的設計措施。	
14.	**Condition 4.9** The Permit Holder shall deposit with the Director no later than three months prior to the commissioning of the first 300MW unit a Land Contamination Avoidance Plan which shall take into account the recommendations in Section 9.4, Part B of the EIA report. 在第一台300兆瓦機組投產前，許可證持有人須至少提早3個月向署長存放一份土地污染預防計劃，該計劃須考慮環評報告B部第9.4節的建議。	**Condition 4.9** The Permit Holder shall deposit with the Director no later than three months prior to the commissioning of the first unit a Land Contamination Avoidance Plan which shall take into account the recommendations in Section 9.4, Part B of the EIA report. 在第一台機組投產前，許可證持有人須至少提早3個月向署長存放一份土地污染預防計劃，該計劃須考慮環評報告B部第9.4節的建議。	Not necessary to specify the actual output capacity of the first gas-fired unit.
15.	**Condition 4.10** The Permit Holder shall deposit with the Director a Safety Management Plan to address fuel gas hazards no later than three months prior to the commissioning of the first 300MW unit. 在第一台300兆瓦機組投產前，許可證持有人須至少提早3個月向署長存放一份安全管理計劃，以提述燃氣風險。	**Condition 4.10** The Permit Holder shall deposit with the Director a Safety Management Plan to address fuel gas hazards no later than three months prior to the commissioning of the first unit. 在第一台機組投產前，許可證持有人須至少提早3個月向署長存放一份安全管理計劃，以提述燃氣風險。	Not necessary to specify the actual output capacity of the first gas-fired unit.
16.	**Condition 4.11** The Permit Holder shall deposit with the Director a review report on the Hazard Assessment to address non-fuel gas hazards included in the EIA Report proposing the required alternative mitigation measures at least three months before the installation works of the first 300 MW unit. 在第一台300兆瓦機組的安裝工程展開前，許可證持有人須至少提早3個月向署長存放一份風險評估檢討報告，以提述環評報告所述的非燃氣風險及建議所需的其他緩解措施。	**Condition 4.11** The Permit Holder shall deposit with the Director a review report on the Hazard Assessment to address non-fuel gas hazards included in the EIA Report proposing the required alternative mitigation measures at least three months before the installation works of the first unit. 在第一台機組的安裝工程展開前，許可證持有人須至少提早3個月向署長存放一份風險評估檢討報告，以提述環評報告所述的非燃氣風險及建議所需的其他緩解措施。	Not necessary to specify the actual output capacity of the first gas-fired unit.
17.	**Sub-heading for Conditions 5.2 and 5.3** <u>1800MW Power Plant</u> <u>1,800兆瓦發電廠</u>	**Sub-heading for Conditions 5.2 and 5.3** <u>Gas-fired Power Plant</u> <u>燃氣發電廠</u>	The total output capacity of the gas-fired power plant is no longer exactly 1,800MW.
18.	**Condition 5.2** All six 300MW gas-fired combined cycle units at the Lamma Extension shall be fuelled by liquefied natural gas only, except for the situation(s) as allowed in the Emergency Plan as approved under Condition 4.4 above. 南丫島擴建發電廠內合共6台300兆瓦燃氣聯合循環機組只可用液化天然氣作為燃料，但根據上文條件第4.4項獲准的應變計劃所容許的情況則屬例外。	**Condition 5.2** All five gas-fired combined cycle units at the Lamma Extension under the Project(s) shall be fuelled by natural gas only, except for the situation(s) as allowed in the Emergency Plan as approved under Condition 4.4 above. 南丫島擴建發電廠內本工程項目下的合共5台燃氣聯合循環機組只可用天然氣作為燃料，但根據上文條件第4.4項獲准的應變計劃所容許的情況則屬例外。	The number of gas-fired units under the Project is five instead of six. To better describe the type of fuel used.

19.	**Condition 5.3** After commissioning of the first 300MW unit, the Permit Holder shall undertake annual revisions and update of its GHG emissions inventory covering all existing facilities and new extension, for at least the six GHGs specified under the Kyoto Protocol (carbon dioxide (CO2), CH4, nitrous oxide (N2O), HFCs, PFCs and SF6). The inventory shall be established and maintained in accordance with the latest Intergovernmental Panel on Climate Change (IPCC) Guidelines or any other guidelines issued by Government, with details documented for regular reviews and updates. The inventory shall be reported on an annual basis, including actual figures and targets for the previous and current year, as well as the next year's forecast. Discrepancies for actual versus target figures and actions for improvement or enhancement shall be explained. An annual report of GHG emissions inventory shall be deposited with the Director within three months after the end of the reporting period. 在第一台300兆瓦機組投產後，許可證持有人須負責每年修訂及更新有關《京都議定書》所訂明至少6種溫室氣體(即二氧化碳、甲烷、氧化亞氮、氫氟化碳、全氟化碳及六氟化硫)的溫室氣體排放紀錄，包括所有現行設施及擴建發電廠的排放。排放紀錄須依據最新的氣候轉變跨政府委員會(IPCC)指引或政府發出的任何其他指引而設立及保存，而有關詳情須以文字記錄，供定期檢討及更新。排放紀錄須按年匯報，包括往年和本年的實際及目標數據，以及來年預測。紀錄內亦須解釋有關實際與目標數據的差異和相應改善或加強行動。在須提交報告期限結束後3個月內，許可證持有人須向署長存放溫室氣體排放紀錄的每年報告。	**Condition 5.3** After commissioning of the first unit, the Permit Holder shall undertake annual revisions and update of its GHG emissions inventory covering all existing facilities and new extension, for at least the six GHGs specified under the Kyoto Protocol (carbon dioxide (CO2), CH4, nitrous oxide (N2O), HFCs, PFCs and SF6). The inventory shall be established and maintained in accordance with the latest Intergovernmental Panel on Climate Change (IPCC) Guidelines or any other guidelines issued by Government, with details documented for regular reviews and updates. The inventory shall be reported on an annual basis, including actual figures and targets for the previous and current year, as well as the next year's forecast. Discrepancies for actual versus target figures and actions for improvement or enhancement shall be explained. An annual report of GHG emissions inventory shall be deposited with the Director within three months after the end of the reporting period. 在第一台機組投產後，許可證持有人須負責每年修訂及更新有關《京都議定書》所訂明至少6種溫室氣體(即二氧化碳、甲烷、氧化亞氮、氫氟化碳、全氟化碳及六氟化硫)的溫室氣體排放紀錄，包括所有現行設施及擴建發電廠的排放。排放紀錄須依據最新的氣候轉變跨政府委員會(IPCC)指引或政府發出的任何其他指引而設立及保存，而有關詳情須以文字記錄，供定期檢討及更新。排放紀錄須按年匯報，包括往年和本年的實際及目標數據，以及來年預測。紀錄內亦須解釋有關實際與目標數據的差異和相應改善或加強行動。在須提交報告期限結束後3個月內，許可證持有人須向署長存放溫室氣體排放紀錄的每年報告。	Not necessary to specify the actual output capacity of the first gas-fired unit.
20.	**Condition 5.4** After commissioning of the first 300MW unit, the Permit Holder shall deposit with the Director annual inventory reports on the CH4 emissions reduction and the achieved results of the procedural controls of CH4 emissions as described in Condition 2.12 of this Permit. The reports shall be deposited with the Director within three months after the end of the reporting period. 在第一台300兆瓦機組投產後，許可證持有人須如本許可證條件第2.12項所說明，向署長存放有關甲烷排放減量和甲烷排放程序管制所取得成效的每年排放報告。在提交報告期限結束後3個月內，須向署長存放有關報告。	**Condition 5.4** After commissioning of the first unit, the Permit Holder shall deposit with the Director annual inventory reports on the CH4 emissions reduction and the achieved results of the procedural controls of CH4 emissions as described in Condition 2.12 of this Permit. The reports shall be deposited with the Director within three months after the end of the reporting period. 在第一台機組投產後，許可證持有人須如本許可證條件第2.12項所說明，向署長存放有關甲烷排放減量和甲烷排放程序管制所取得成效的每年排放報告。在提交報告期限結束後3個月內，須向署長存放有關報告。	Not necessary to specify the actual output capacity of the first gas-fired unit.
21.	-	**Sub-heading for Condition 5.5** <u>Retirement of Coal-fired Units at the Lamma Power Station</u> <u>南丫島發電廠燃煤機組的退役</u>	To provide appropriate sub-heading for the newly added Condition 5.5.
22.	-	**Condition 5.5** Coal-fired Units L2, L4 and L5 at the Lamma Power Station shall be retired prior to the commissioning of the last new 380MW class unit under the Project(s).	To reflect the assessment assumptions under the Latest Scheme in the Technical Note.

		南丫島發電廠燃煤機組L2、L4及L5將於本工程項目下的最後一台380兆瓦級別機組投產前退役。	
23.	**Condition 6.11** Two hard copies and one soft copy of the Baseline Monitoring Report shall be submitted to the Director at least 2 weeks before the commissioning of the first 300MW unit which would affect the monitoring results. The submissions shall be certified by the ET Leader and verified by the IEC. Additional copies of the submission shall be provided to the Director upon request from the Director. 在任何影響監察結果的第一台300兆瓦機組投入生產前，須至少提早2個星期向署長提交基線監測報告的兩份硬複本和一份軟複本。提交文件須由環境小組組長核證及獨立環境查核人核實。如署長要求，須把提交文件的額外複本送交署長。	**Condition 6.11** Two hard copies and one soft copy of the Baseline Monitoring Report shall be submitted to the Director at least 2 weeks before the commissioning of the first unit which would affect the monitoring results. The submissions shall be certified by the ET Leader and verified by the IEC. Additional copies of the submission shall be provided to the Director upon request from the Director. 在任何影響監察結果的第一台機組投入生產前，須至少提早2個星期向署長提交基線監測報告的兩份硬複本和一份軟複本。提交文件須由環境小組組長核證及獨立環境查核人核實。如署長要求，須把提交文件的額外複本送交署長。	Not necessary to specify the actual output capacity of the first gas-fired unit.
24.	-	Figure A1 has been revised to indicate the location of the Lamma Extension Site.	To indicate the location of the Lamma Extension Site.

PART E DECLARATION BY APPLICANT

E1. I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental permit may be suspended, varied or cancelled if any information given above is false, misleading, wrong or incomplete.

[redacted] [redacted] [redacted]

Signature of Applicant | Full Name in Block Letters | Position

THE HONGKONG ELECTRIC CO. LTD. 香港電燈有限公司

on behalf of The Hongkong Electric Co., Ltd | 03 SEP 2020

Company Name and Chop (as appropriate) | Date

NOTES :

1. A person who constructs or operates a designated project in Part I of Schedule 2 of the Ordinance or decommissions a designated project listed in Part II of Schedule 2 of the Ordinance without an environmental permit or contrary to the permit conditions commits an offence under the Ordinance and is liable to a maximum fine of $5,000,000 and to a maximum imprisonment for 2 years.

2. A person for whom a designated project is constructed, operated or decommissioned and who permits the carrying out of the designated project in contravention of the Ordinance commits an offence and is liable to a maximum fine of $5,000,000 and to a maximum imprisonment for 2 years.

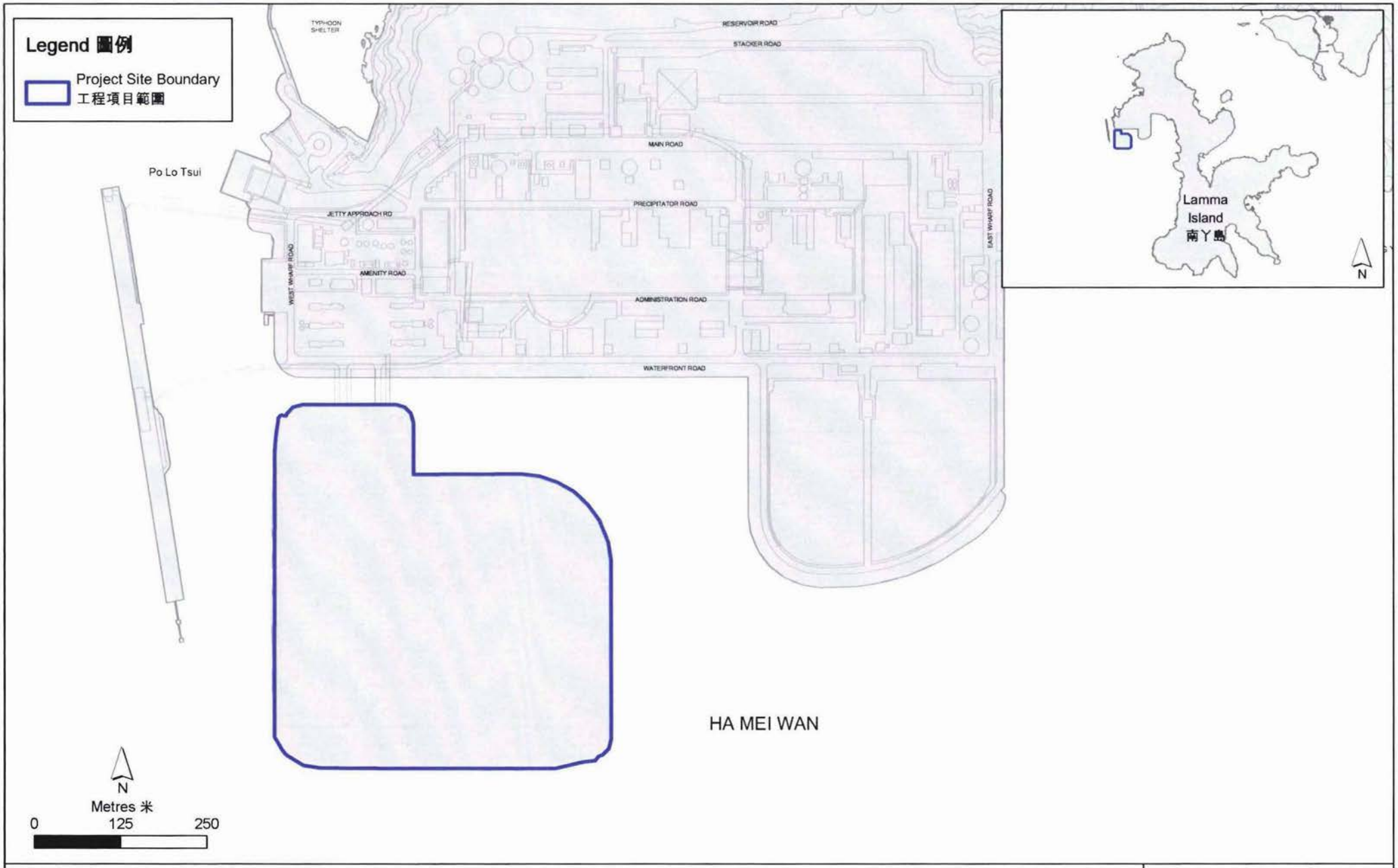

Figure A1
圖 A1

The Location of Gas-fired Power Station at Lamma Extension
南丫擴建之燃氣發電廠的位置

File: T:\GIS\CONTRACT\0526414\mxd\0526414_LMX_Boundary_bil.mxd
Date: 31/8/2020

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Lamma Power Station Extension – Review of Latest Overall Development Plan

Technical Note (Rev 7)

31 August 2020

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Technical Note (Rev 7)

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Client:	Project No:
HK Electric	0461936
Summary:	Date: 31 August 2020
This Technical Note presents the review of the latest Overall Development Plan for Lamma Power Station Extension.	Approved by: *Dr Robin Kennish* *Project Director*

Revision	Description	By	Checked	Approved	Date
7	Final Technical Note (further revised)	Var	ME	RK	31/08/20
6	Final Technical Note (further revised)	Var	ME	RK	09/03/20
5	Final Technical Note (further revised)	Var	ME	RK	05/12/19
4	Final Technical Note (further revised)	Var	ME	RK	04/02/19
3	Final Technical Note (further revised)	Var	ME	RK	31/10/18
2	Final Technical Note (revised)	Var	ME	RK	16/10/18
1	Final Technical Note	Var	ME	RK	11/10/18
0	Draft Technical Note	Var	ME	RK	05/07/18

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Figure 2.1	LMX Latest Scheme Layout and Components
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1 INTRODUCTION

1.1 BACKGROUND

The Environmental Impact Assessment (EIA) of a 1,800MW Gas-fired Power Station at Lamma Power Station Extension (LMX) has been completed and approved by the Environmental Protection Department (EPD) under the HKSAR *Environmental Impact Assessment Ordinance* (*EIAO*). An Environmental Permit (EP) has also been issued by EPD stipulating the environmental requirements in pursuant to the construction and operation of LMX comprising six (6) gas-fired combined cycle gas turbine (CCGT) units. The first unit, namely Unit 9 (L9), has been in operation since 2006. The second unit, Unit 10 (L10) has also been in operation since February 2020. Unit 11 (L11) is under construction and is scheduled for commercial operation in 2022. Unit 12 (L12) has also been approved under the 2019-2023 Development Plan and is planned to be commissioned in January 2023.

Hongkong Electric (HK Electric) has commissioned **ERM-Hong Kong, Limited** (ERM) to undertake a review of the latest Lamma Power Station Extension (LMX) overall development plan. This review has been undertaken in the context of the *Environmental Impact Assessment Ordinance Technical Memorandum (EIAO-TM)* requirements and compliance with the existing and approved Environmental Impact Assessment (EIA) and EP.

1.2 STUDY OBJECTIVE

HK Electric considers that there may be design changes associated with the future development of LMX compared with those assumed in the EIA undertaken in 1999. The objective of this Study is to review whether changes to the overall development of LMX are considered a Material Change to a Designated Project (DP) under the requirements of the *EIAO-TM* and as such requires a Variation of Environmental Permit (VEP).

1.3 STRUCTURE OF THE REPORT

The report has been structured as follows:

- *Section 2* provides the project description and an overview of the overall development of LMX;
- *Section 3* reviews the relevant existing documents for LMX with regard to the project proposals;
- *Sections 4* and *5* provide the key discussion to determine whether the project proposals are considered a Material Change in line with the *EIAO-TM*; and

- *Section 6* recommends the approach going forward for discussion with the EPD and provides a summary of the Report.

2.1 PROPOSED LAYOUT & KEY COMPONENTS

The updated layout for the LMX overall development plan is shown in *Figure 2.1*. The layout presents locations of the existing facilities associated with L9 and the locations set aside for units L10 - L13 as well as the gas receiving facilities. The layout has also reflected the changes in locations of the Light Oil Tanks, No. 4 C.W. Intake and the GRS accepted by EPD[1] compared with that in the approved EIA Report. It is noted from the layout that the physical footprint of each unit is now slightly larger than that presented in the approved EIA. This is as a result of the adoption of units with higher output capacities that are more efficient. The layout also reflected larger separation between individual units due to the requirement of providing Emergency Vehicular Access to meet the Building Ordinances.

The total output capacity of the new units and indicative timeline for operation is presented below in *Table 2.1*.

Table 2.1 ***Technical Information on Key Components of the Proposed Overall LMX Development***

Plant Component	Total Output Capacity	Timeline
L9	335 MW	In operation
L10	380 MW	In operation
L11	380 MW	2022
L12	380 MW	2023
L13	380 MW	Post 2023
Total	**1,855 MW**	

Capacities of Units L9 - L13 were all taken as 300MW in the approved EIA. Output of such capacity class CCGT has since then been improved primarily due to advancement in technology thereby yielding higher output resulted by higher efficiency and better combustion technology. The adoption of the more advanced units with higher output result in a total capacity of 1,855 MW which is higher than the 1,800 MW for six CCGT units, i.e. Units L9 – L14, assumed at the EIA stage.

The future plan is that a separate Environmental Impact Assessment and Environmental Permit will be prepared to determine whether construction and operation of Unit L14 will be within the footprint of the LMX or will be located within the main Lamma Power Station, potentially in an area freed up by the decommissioning of one or more of the retired coal fired units.

[1] Review Report on Non-Fuel Gas Hazard for Unit 9 combined Cycle Gas Turbine Rev. 1, October 2010

3 *REVIEW OF APPROVED ENVIRONMENTAL IMPACT ASSESSMENT AND REQUIREMENTS OF ENVIRONMENTAL PERMITS FOR LAMMA POWER STATION*

3.1 *APPROACH*

To set the context for this Study, a review has been undertaken of the approved Environmental Impact Assessment Report (AEIAR-010/1999) and granted Environmental Permit (EP - 071/2000/A/B/C) for the 1,800 MW Gas Fired Power Station at LMX.

The Project is a Designated Project (DP) for the following reasons:

- Reclamation works for the formation of 22 hectares at the LMX site;
- Construction and operation of a 1,800 MW gas-fired combined cycle plant at the LMX; and
- Laying of a submarine pipeline to supply gas from a regional Liquefied Natural Gas (LNG) terminal in Shenzhen to the LMX site.

3.2 *REVIEW OF APPROVED EIA REPORT*

Table 3.1 outlines the key aspects of the Approved EIA Report (AEIAR-010/1999) within the context of the proposed LMX overall development.

Table 3.1 Environmental considerations assessed within the EIA

Environmental Parameter Assessed in EIA	Findings and Conclusions	Implications for LMX Overall Development
Air Quality	• The Air Quality Assessment (AQA) was for six 300 MW CCGTs at LMX. • Wind tunnel modelling undertaken for three scenarios; baseline scenario with existing Lamma Power Station fully operating in 2002 (before the first new CCGT operating in 2003); 1,800MW Gas fired power station operate as base load units and the balance of 2,116MW will be delivered from the existing coal fired units with the most efficient units (units 4-8) operate first in 2012; and gas fired power station fully operating with existing Lamma Power Station and Waste to Energy Incinerator Facility (WEIF) in 2012. Modelling demonstrated stack heights of 110m PD are adequate for the CCGT for the new power station. No exceedances of the AQOs for SO_2 and NO_2 were predicted in 2012 (full operational year). • PATH numerical modelling was undertaken for two scenarios developed for the year 2012; Scenario A: all emissions excluding the emissions from the new CCGT units at Lamma and Scenario B: all emissions including the emissions from the new CCGT units. Modelling showed that both are in compliance with the relevant AQOs for NO_2, SO_2 and O_3. • Quantitative review of air pollution impacts on a regional scale in the Pearl River Delta region. Modelling concluded that new gas fired station would contribute negligibly to regional concentrations of O_3, NO_2 and SO_2 as the emissions from the additional power station are extremely small compared to the existing emissions in the PRD region. • The Greenhouse Gas Assessment demonstrated that although GHG emissions would continue to increase, all mitigation options that are both feasible and practical at the present time in HK had been considered in the Study and all options addressed by HK Electric. • Construction dust can be effectively managed through the application of measures referenced in the *Air Pollution Control (Construction Dust) Regulation* to minimise dust emissions.	• The total output capacity for five units at LMX would be 1,855 MW. • The assessment was based on a NOx standard of 90 mg/m^3. This standard applies to Unit L9 but all subsequent units will need to comply with the revised standard of 5 mg/m^3 (*Best Practicable Means for Electricity Works (BPM 7/1 (2014)*). • All coal-fired generating units were included in the EIA conducted in 1999. However, L1 and L3 have been retired so the installed capacity and pollutant emission quantities of the overall LPS will be significantly reduced compared with the 1999 EIA Report. • All coal fired units are equipped with low NO_x burners and/or FGD. The SO_2 removal efficiency and the combined dust removal efficiency of Electrostatic Precipitators and FGD has improved since the approval of the EIA Report.

Environmental Parameter Assessed in EIA	Findings and Conclusions	Implications for LMX Overall Development
Water Quality	• Assessment of the operational phase of LMX focussed on three aspects; discharge of heated water, discharge of residual chlorine from the cooling system and the potential for changes to occur in the natural sedimentation regime around the reclamation. • For thermal discharge, three scenarios have been modelled. The thermal discharge from the existing power station, the combined discharge from the existing power station and the LMX; and combined discharge from the existing power station and the LMX together with the discharge from the WEIF. The impacts from all scenarios were found to be environmentally acceptable. • For dispersion of residual chlorine, two scenarios have been modelled. The computer modelling used the conservative assumption that the residual chlorine would decay at the same rate as was measured in the cooling water system. The impacts to water quality would be localised to the outfalls and not impact upon any sensitive areas and as such were determined to be environmentally acceptable. • A qualitative assessment of the likely impacts of the power station operation on sediment erosion and deposition was carried out. The assessment concluded that the power station operation would not cause the natural patterns of erosion and deposition of the sea bed to change. • An Environmental Monitoring and Audit programme was devised to measure water temperature and residual chlorine and determine the exact size of the thermal and chlorine plumes during operation of the power station extension.	• The proposed overall development plan includes the construction and operation of a intake for Units L12 & L13 which has been previously covered in a review report submission to EPD for Unit 9, and was accepted by EPD (Ref: (65) in Ax(1) to EP2/N9/D/60/Pt. 11). • The overall development plan will not involve any changes to the LMX reclamation footprint which is already in operation. No deviation from the conclusion of the approved EIA would be expected from the proposed development plan. • The existing EM&A programme will be able to cover the discharges from the new units and no amendment to the existing EM&A programme is required.
Waste Management	• The EIA report estimated that during the operational phase, industrial wastes will be generated which have high scrap value. Chemical wastes (e.g. 240,000 litres of waste lube oil, 2,000 litres of spent resin, and 1,000 litres of spent solvent per year) will also be generated, and should be disposed at licensed disposal facilities or licensed recycling facilities. • Any sewage sludge will be burnt with coal at the existing power station, and approximately 54 kg of daily general refuse will be generated and disposed of at strategic landfills.	• HK Electric is registered with EPD under the *Waste Disposal Ordinance (Cap 354)* as a Chemical Waste Producer. • Additional wastes generated from the NOx reduction equipment (SCR catalysts) will require management. The use of SCR and management of used catalyst at LMX has previously been approved by EPD. As indicated in EPD's Approval Letter dated 14

Environmental Parameter Assessed in EIA	Findings and Conclusions	Implications for LMX Overall Development
		June 2013 (ref: (65) in Ax(1) to EP2/N9/D/60Pt/11) the adoption of SCR system in LMX would not constitute a material change.
Noise	• The construction works will be similar as assumed in Table 6.4d of the approved EIA Report, such that no adverse construction noise impact is anticipated. • The assumptions stated in the approved EIA Report for operation phase are still considered valid and will be adopted for the new plant equipment. As such, no adverse operational noise impact is anticipated by following the recommendations from the approved EIA Report and the necessary operational noise mitigation measures for the mentioned equipment. • Potential noise impacts as a result of the LMX operational phase has been assessed in the EIA. During the operational phase, the noise from Fixed Source should be 5dB(A) below the Acceptable Noise Level. Therefore the potential noise impact due to the extension shall be less than 55/45 dB(A) during the day/ at night. • Noise levels during normal operation of the plant extension are expected to meet the most stringent derived noise limit of 45dB(A) (night time) at all identified sensitive community locations and on this basis, plant noise during normal operation is not expected to give rise to a major environmental impact.	• Major noise sources in continuous operation will be within enclosed buildings and associated facilities within individual acoustic enclosures. • No implications as proper noise control measures will be implemented in accordance with the EIA report.
Landscape and Visual Impact	• The landscape and visual character of the power station has been assessed. The immediate sea area for the extension to the south of and surrounded by the existing facilities is considered to have a low landscape and visual quality and the future landscape quality is unlikely to be significantly different. • With the implementation of mitigation measures, i.e. considering the site layout; massing of building and structures; color scheme and landscaping, the potential visual impacts will be minimized and the overall residual impact is not considered significant.	• The physical layout of the LMX overall development plan now consists of 5 units instead of 6.
Hazards to Life	• Separate risk assessments have been undertaken for the fuel gas-related and non-fuel gas hazards associated with the power station component of the extension. • For hazard assessment, the main changes for LMX correspond to the layout footprint of the CCGT units (slight shift and increase in footprint, approximately 10 metres), as well as the adoption of more advanced units with higher total output capacity (1,855 MW vs 1,800 MW). Both changes are considered insignificant in terms of the risks associated with the fuel gas and non-fuel gas hazards that have already been assessed in the previously approved EIA Study. • For fuel gas hazard aspect, fuel gas (natural gas) facilities i.e. natural gas pipe work for the latest development plan with five (5) CCGTs has been reduced compared to the previously approved EIA Study	• The approved QRA remains valid, and the related environmental performance requirement set out in the approved EIA Report is not expected to be exceeded or violated, as such there are no implications to the safety hazard associated with the LMX overall development plan with 5 CCGT units instead of 6.

Environmental Parameter Assessed in EIA	Findings and Conclusions	Implications for LMX Overall Development
	with six (6) CCGTs, leading to relatively lower off-site risk impacts to the public. As such, the study findings for the previously approved EIA Study are still valid and are considered to be conservative, and also are in compliance with Hong Kong Risk Guidelines in terms of societal risk and individual risk for fuel gas-related hazard. • For non-fuel gas hazards, non-fuel gas (hydrogen, fuel oil) facilities i.e. hydrogen, fuel oil pipe work for the latest development plan with five (5) CCGTs has been reduced compared to the previously approved EIA Study with six (6) CCGTs, leading to relatively lower off-site risk impacts to the public. Other than that, the arrangements for the transport, storage and handling of non-fuel gas DGs for the project are mostly unchanged, and as such the study findings and the order of magnitude of quantitative risk assessment for the previously approved EIA Study are still valid and are considered to be conservative, as shown in Table 12.6a-c in the previously approved EIA Study, i.e. approximately 2×10^{-7} per year overall, which is well below risk criteria stipulated in EIAO-TM (10^{-5} per year).	

3.3 *REVIEW OF GRANTED ENVIRONMENTAL PERMIT 071-2000*

The Environmental Permit EP 071-2000 was granted by the EPD under the *Environmental Impact Assessment Ordinance (EIAO)* for the construction and operation of the Designated Projects; namely:

- Reclamation works for the formation of 22 hectares at the LMX site;
- Construction and operation of a 1,800 MW gas fired combined cycle plant at the LMX site and associated transmission system; and
- Laying and operation of submarine pipeline to supply gas from a regional LNG terminal in Shenzhen to the Lamma Extension site.

Variations to the Permit have been subsequently applied for and permits EP 071-2000/A/B and C have been granted. The revisions to the original EP have also been reviewed and it is concluded that the overall development of the LMX does not impact on the validity of the EP.

Specific points to note for the overall development of the LMX included within the EP are outlined in *Table 3.2* .

Table 3.2 Conditions of Environmental Permit relevant to the Proposed Overall Development of LMX

Permit Reference	Condition	Implication for the overall LMX development
4.2 of Part C	At least three months before commissioning of the first 300MW unit, the Permit Holder shall submit an EM&A manual for the operation phase of the Project(s) to the Director for approval. No operation of any of the new 300MW unit shall commence before the Director has approved the EM&A manual.	It is unlikely that the construction and operation of Unit L13 would require additional components to be included within the EM&A manual. The approved EIA (AEIAR-010/1999) noted that no additional EM&A is required for the operation phase, other than those already required by the *Specified Process Licence*.
Condition 4.7 of Part C	The Permit Holder shall deposit with the Director no later than three months prior to commissioning of the first 300MW unit a Waste Management Plan for the operation of the Project(s). The Plan shall describe the arrangements for the avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the operation of the Project(s) and shall take into account the recommendations in Section 8.5, part B of the EIA report.	The operation of the new units will generate additional waste in the form of spent catalysts which will need to be appropriately handled and disposed. As such this may require additional inputs to the WMP to show the spent catalysts will be disposed of correctly. *Section 8.5* of the EIA refers to mitigation measures for waste handling and management.

Permit Reference	Condition	Implication for the overall LMX development
Condition 4.9 of Part C	The Permit Holder shall deposit with the Director no later than three months prior to the commissioning of the first 300MW unit a Land Contamination Avoidance Plan which shall take into account the recommendations in Section 9.4, Part B of the EIA report.	If not handled correctly, the spent catalysts could result in leaching of metals which could lead to land contamination. The Land Contamination Avoidance Plan may need to be modified to identify appropriate handling and disposal techniques. *Section 9.4* of the EIA refers to the Contamination Avoidance Advice.

4 CONSIDERATION REGARDING MATERIAL CHANGE TO A DESIGNATED PROJECT

4.1 INTRODUCTION

This section describes the approach used to review the LMX overall development proposals to determine whether the additions would be considered a Material Change to a Designated Project or to an Environmental Impact under *Item 6* of the *EIAO-TM*.

4.2 RELEVANT LEGISLATION

The definition of material change under the *EIAO* is given in *Item 6* of the *EIAO-TM*. Under this, *Item 6.1* of the *EIAO-TM* states that "the material change shall refer to significant changes only" and "as a general rule, changes under the following circumstances are regarded as material changes to a designated project:

a) a change to physical alignment, layout or design of the project causing an environmental impact likely to affect existing or planned community, ecologically important areas or sites of cultural heritage;

b) a physical change resulting in an increase in the extent of reclamation or dredging affecting water flow or quality likely to affect ecologically important areas, or disrupting sites of cultural heritage;

c) an increase in pollution emissions or discharges or waste generation likely to violate guidelines or criteria in this technical memorandum without mitigation measures in place;

d) an increase in throughput or scale of the project leading to physical additions or alterations that are likely to violate the guidelines or criteria in this technical memorandum without mitigation measures in place; or

e) a change resulting in physical works that are likely to affect a rare, endangered or protected species, or an important ecological habitat, or a site of cultural heritage."

While *Item 6.1* defines "material change to a designated project", *Item 6.2* of the *EIAO-TM* defines "material change to an environmental impact" and states, "the environmental impact of a designated project, for which an environmental permit has been issued, is considered to be materially changed if the environmental performance requirements set out in the EIA report for this project may be exceeded or violated, even with the mitigation measures in place."

Considering the definitions stipulated under *Items 6.1 – 2* of the *EIAO-TM*, the LMX overall development proposals will firstly be evaluated against *Item 6.1* to justify whether there are any material changes to the DP and against *Item 6.2* to assess any material changes to the environmental impacts of the Project, as presented in the approved EIA report.

In addition to the above items, the level and significance of any environmental impacts resulting from implementation of the proposed design change are evaluated against *Annexes 3* and *Annex 4 - 10* of the *EIAO-TM*, which defines factors for consideration in identifying adverse environmental impacts and criteria for evaluation of environmental impacts, respectively, to determine if they constitute a material change in environmental impacts.

4.3 ASSESSMENT OF MATERIAL CHANGE TO A DESIGNATED PROJECT

General specifications of the LMX overall development are outlined in *Section 2*.

To determine if these proposals constitute a 'material change' to the designated project, they were considered against each of the circumstances in *Item 6.1*.

a) A change to physical alignment, layout or design of the project causing an environmental impact likely to affect existing or planned community, ecologically important areas or sites of cultural heritage

The modification to the layout to accommodate the larger capacity units were not assessed in the approved EIA report. As such the proposals are considered design changes of the approved Project. Note that these proposals are accommodated within the existing site footprint. Since material changes under *Item 6* shall refer to significant changes only, these changes are further evaluated against *Annex 3* of the *EIAO-TM* to determine if they will lead to significant/material changes in the environmental impacts likely to affect existing or planned community, ecologically important areas or sites of cultural heritage as assessed in the approved EIA under *Item 6.2* and hence significant/material changes to the Project Design under *Item 6.1(a)*, see *Section 4.3*.

b) A physical change resulting in an increase in the extent of reclamation or dredging affecting water flow or quality likely to affect ecologically important areas, or disrupting sites of cultural heritage

There is no additional reclamation or dredging needed for the LMX overall development proposals. The berthing jetty is already in operation and therefore no further structural marine works involving dredging or reclamation are needed which are likely to affect water flow or quality, ecologically important areas or disrupting sites of cultural heritage.

Therefore the LMX overall development would not be considered a material change under *Item 6.1(b)*.

c) ***An increase in pollution emissions or discharges or waste generation likely to violate guidelines or criteria in this technical memorandum without mitigation measures in place***

Air Pollutant Emissions

Change in Air Emissions from the CCGT Units

HK Electric proposes to construct the proposed L11 to L13, in addition to the existing L9 and L10, under the approved EIA Report (AEIAR-010/1999) and EP (EP-071/2000/C) (hereafter referred to as the "latest scheme"). The capacity of the existing L9 and L10 is 335 MW and 380MW, respectively, while the proposed L11 to L13 will have a capacity of 380MW each, resulting in a total output capacity of 1,855 MW for the latest scheme. The total output capacity of 1,855 MW for the latest scheme is slightly higher than the assumed 1,800 MW from six CCGT units (L9 to L14) in the approved EIA report (hereafter referred to as "approved EIA scheme").

A detailed quantitative air quality impact assessment (AQIA) was carried out to evaluate and compare the potential air quality impact arising from the main Lamma Power Station (LPS) and the LMX between the Approved EIA Scheme and Latest Scheme. The AQIA detailing the modelling methodology, modelling results and assessment findings are presented in *Appendix A*. The key air pollutants of concern that were quantitatively assessed include nitrogen dioxide (NO_2), sulphur dioxide (SO_2) and particulate matter (PM). The AQIA has demonstrated that, with respect to emissions from LPS and LMX as a whole, the air quality impact in terms of NO_2, SO_2 and PM under the Latest Scheme is considerably lower than that under the Approved EIA Scheme. The reduction in air quality impact is largely due to HK Electric's commitment to sequentially decommission existing coal-fired units at LPS while new gas-fired units at the LMX starting from L10 are put in operation, thereby lowering the overall air emissions from the LPS and LMX as a whole.

Cooling Water Discharges

Background Water Quality

The Project Site is located within the Southern Water Control Zone (WCZ). In 2016, the Southern WCZ attained an overall 69% compliance with the WQOs. At the EPD Marine Water Quality Monitoring Stations SM5 and SM7 nearest to the Project Site, full compliance of DO and NH_3-N objectives was achieved in 2016, while objectives of TIN could not be achieved due to combined effect of the Pearl River and the South China Sea (1).

Change in Discharge of Cooling Water

Based on the latest planning, coal-fired units L1 to L6 will all be retired when the new CCGT L13 is in operation under the peak demand day. As a result of

(1) Marine Water Quality in Hong Kong in 2016. Environmental Protection Department, 2017.

higher efficiency and better combustion technology, there would be an overall reduction of cooling water discharge rate and heat rejection under the latest scheme as compared with the EIA scheme. Overall, the maximum daily discharge volume under the latest scheme is about 4.3 Mm^3, which is considerably lower than that of 8.0 Mm^3 under the EIA scheme. Amount of rejected heat reduces from 51383.4 GCal per day in the approved EIA to 24422.3 GCal per day based on the latest design. Also, a reduction of cooling water discharge rate would result in a reduction of total residual chlorine discharged into the receiving water. Given that there is no change in the surrounding environment and the water sensitive receivers (WSRs) as identified in the approved EIA report remain valid, the impacts associated from the thermal discharge and residual chlorine discharge of the latest scheme is considered to be lower than the approved EIA scheme.

Waste Generation and Urea Handling

Selective Catalytic Reduction (SCR) is anticipated to be employed to reduce emissions from the CCGT units. Urea is key input for the process. The input product urea is not considered Dangerous Goods under the *Dangerous Goods Ordinance (Cap295)*. Furthermore it is not considered chemical waste under the *Waste Disposal (Chemical Waste) (General) Regulation Cap 354C* and as such no special waste handling is required to dispose of any waste, should this be generated. Urea handling and conveying needs to be considered within the context of its properties, i.e. being hygroscopic and able to absorb moisture from the air. Note the product itself and products of degradation are not toxic.

The use of SCR and management of catalysts at Lamma Extension has previously been approved by EPD. As indicated in EPD's Approval Letter dated 14 June 2013 (ref: (65) in Ax(1) to EP2/N9/D/60Pt/11) the adoption of SCR system in LMX would not constitute a material change under the EIAO and no variation of the EP was required. No unacceptable change would be expected from the latest scheme.

Therefore, in view of the above no unacceptable impact or change in terms of air quality impact, thermal discharge impact and residual chlorine discharge, and previously approved use of SCR and management of catalysts by EPD is expected. The LMX overall development should not be considered a material change under *Item 6.1(c)*.

d) An increase in throughput or scale of the project leading to physical additions or alterations that are likely to violate the guidelines or criteria in this technical memorandum without mitigation measures in place

The LMX proposals will not significantly increase the throughput or scale of the Project (1,800 to 1,855MW, i.e. 3% increase), but are designed to reduce NO_x emission levels to ensure compliance with the new emissions limits. As such the throughput or the scale of the Project will remain materially unchanged to that approved in the EIA report for LMX.

Therefore the LMX overall development should not be considered a material change under *Item 6.1(d)*.

*e) **A change resulting in physical works that are likely to affect a rare, endangered or protected species, or an important ecological habitat, or a site of cultural heritage***

The change in the total capacity of the units mean that there will be a change in physical works and Unit L14 which will be developed in the future will likely be constructed in the main Lamma Power Station area (this will be the subject of a separate EIA study). However, note that the works are all within the existing site footprint and therefore will not affect any rare, endangered or protected species or an important ecological habitats. As the physical works are a change from the original project, these are further evaluated against *Annex 3* of the *EIAO TM* to determine if the physical changes constitute significant material changes in environmental impacts as assessed in the approved EIA under *Item 6.2* and hence significant/material changes to the physical works under *Item 6.1(e)*.

4.4 SUMMARY

The proposals for the LMX overall development have been evaluated against Items *6.1(a) – (e)* of the *EIAO-TM* in order to justify whether the proposals should be considered as a Material Change to a Designated Project. The proposals are not considered material changes under *Item 6.1 (b), (c)* and *(d)*.

The proposals may be considered as material changes under *Item 6.1 (a)* and *(e)* and will be further evaluated against *Annex 3* of the *EIAO-TM* to determine if they contribute significant/ material changes in environmental impacts as assessed in the approved EIA under *Item 6.2* and hence significant/material changes to the design and physical works of the project under *Item 6.1* of the *EIAO-TM*.

5 CONSIDERATION REGARDING MATERIAL CHANGE TO ENVIRONMENTAL IMPACTS

5.1 INTRODUCTION

Item 6.2 of the *EIAO-TM* states, *"the environmental impact of a designated project, for which an environmental permit has been issued, is considered to be materially changed if the environmental performance requirements set out in the EIA report for this project may be exceeded or violated, even with the mitigation measures in place"*. The level and significance of any environmental impacts resulting from the proposed LMX overall development have been evaluated against *Annexes 3 - 10* of the *EIAO-TM* below in *Table 5.1* to determine if they constitute a material change in environmental impacts of the Project assessed in the approved EIA report.

Table 5.1 Review of the LMX overall development Proposals against Annex 3 Criteria of the EIAO-TM

Environmental Changes	Effects Resulting from Environmental Changes	Implications of LMX overall development
(a) Negative effects on the quality and/or quantity of the biophysical environment including: • marine waters • surface water • groundwater • soil • land • air • marine bottom sediments	(a) Negative effects on human health, including increases in mortality or morbidity, and/or decreases in personal well-being (b) Disruptions to normal learning, sleeping, and communication activities (c) Reduction of the quality or quantity of recreational opportunities, amenities or perceived aesthetics	The proposals will not have negative effects on the quality and/or quantity of the biophysical environment, including marine, surface and ground water, soil, land air or marine bottom sediments. This is reviewed against the following criteria from *Annexes 4 – 10* of the *EIAO-TM*, as below. *Annex 4 – Criteria for Evaluating Air Quality Impact and Hazard to Life* • NO_x, SO_2 and PM emissions from the LMX or from the LMX and LPS as a whole will be lower under the Latest Scheme compared with the Approved EIA Scheme. The air quality impact from LMX emissions or from the overall emissions from LMX and LPS is lower under the Latest Scheme compared with the Approved EIA Scheme. No change in stack parameters for the CCGT units. • No additional construction activities will be undertaken on site compared with the approved scheme, therefore the hourly TSP concentration of 500 $\mu g/m^3$ will continue to be met. *Annex 5 – Criteria for Evaluating Noise Impact* • The units will be within enclosed buildings and associated facilities within individual acoustic enclosures, per the approved EIA. • Noise criteria as listed in *Table 1A & 2 of Annex 5* for planning and design, and construction and decommissioning of DP will continue to be met by the latest scheme. *Annex 6 – Criteria for Evaluating Water Pollution* • The worst case discharge arrangement for the latest scheme would result in reduction of rejected heat and residual chlorine discharge into receiving waters when compared with the EIA scheme. *Annex 7 – Criteria for Evaluating Waste Management Implications* • Minimal waste will be generated from the operation of the SCR process on site. This has already been approved by EPD.

Environmental Changes	Effects Resulting from Environmental Changes	Implications of LMX overall development
		• HK Electric will continue to provide adequate, environmentally acceptable waste handling, storage, collection, transfer treatment and disposal facilities to deal with waste arising from the development. • HK Electric will provide proper handling, storage, collection and disposal of waste generated during construction phase in accordance with the requirements of the *Waste Disposal Ordinance.* *Annex 8 –Criteria for Evaluating Ecological Impact* • There will be no ecological impacts as the latest scheme are contained on site and no land encroachment will be undertaken. No habitats or species will be directly or indirectly affected by changes in the environment brought about by the latest scheme. *Annex 9 – Criteria for Evaluating Fisheries Impact* • There are no fisheries impacts expected as the latest scheme are contained on site and no marine works will be undertaken. *Annex 10 – Criteria for Evaluating Visual and Landscape Impact, and Impact on Sites of Cultural Heritage* • The latest scheme will be contained within the existing site footprint of LMX and will not encroach on adjoining land. As the site is already industrial in nature, per the approved EIA the latest scheme not impact on the existing industrial site and so there is no impact on the existing landscape and sites of cultural heritage.
(b) emissions, discharges or releases to the environment, including: • persistent and/or toxic chemicals • sediments • biological or microbial agents • nutrients • agricultural wastes • domestic or industrial liquid/semi-solid/solid wastes • electromagnetic field • noise	(d) Loss of, or damage to commercial species or renewable resources (e) Foreclosure of future resource use or production (f) Reduction in biodiversity and/or extinction of species in the area/region concerned (g) Loss of or risk to human lives	There will be no additional emissions, discharges to the environment, including persistent and/or toxic chemicals, sediments, biological or microbial agents, nutrients, agricultural wastes, domestic or industrial liquid/semi- solid/solid wastes, electromagnetic field, noise, gaseous emissions, dust, odour and thermal energy. Specifically, as discussed above, under the latest scheme air emissions will be lower than the approved EIA. Thermal and chlorine discharge will be lower than that under the EIA scheme. Waste from the spent catalyst will be handled appropriately within the existing waste stream complying with the *Waste Disposal Ordinance*.

Environmental Changes	Effects Resulting from Environmental Changes	Implications of LMX overall development
• gaseous emissions, dust, odour • thermal energy	(h) Effects of deposits on materials, material corrosion and damage, including nuisance and discomfort, reduction in visibility	There is no material change to the impacts on hazard to life resulting from the project against the risk criteria stipulated in *EIAO-TM*.
(c) threats to, loss of, or damage to flora and fauna and/or their habitats including habitat fragmentation	(i) Disruption to social activities	The latest scheme will not result in threats to, loss of, or damage to flora and fauna and their habitats, including habitat fragmentation as all proposed latest scheme activities will be contained within site and no encroachment on additional land will be undertaken.
(d) disruption of food webs	(j) Temporary or permanent loss of recreational area	The latest scheme will not result in a disruption to food webs.
(e) negative effects on the health of biota including flora and fauna	(k) Acute and chronic toxicity effects on biota due to discharge of pollutants	The latest scheme will not result in negative effects on the health of biota, including flora and fauna.
(f) the removal of resource materials from the environment	(l) Bioaccumulation and biomagnification of toxic substances in biota, especially on commercial food supplies	The latest scheme will not remove resource materials from the environment.
(g) reduction in the productivity of operations involved in primary or secondary production	(m) Long-term and short-term change on population size of biota including mortality, reproduction, maturity and distribution	The latest scheme will not result in reduction in the productivity of operations involved in primary or secondary production
(h) changes to existing landscapes	(n) Temporal and spatial cumulative effects resulting from environmental changes	As all physical structures to support the latest scheme are contained within the existing footprint, there are no changes to the existing landscape associated with the latest scheme.
(i) obstruction of migration, or passage of wildlife		There will be no obstruction of migration or passage of wildlife resulting from the latest scheme.
(j) negative effects on the protection of cultural heritage		There will be no negative effects on the protection of cultural heritage – all activities will be contained within the original site footprint within approved EIA.

5.2 SUMMARY

A review has been undertaken of the LMX overall development proposals against the criteria in *Annexes 3 – 10* of the *EIAO-TM* under *Item 6.2* of *the EIAO-TM* to determine whether changes identified under *Item 6.1 (a),* and *(e)* are significant to be considered Material Changes. The review has demonstrated that the proposals:

- Will not cause environmental impacts likely to affect existing or planned community, ecologically important areas or sites of cultural heritage;
- Will not result in pollution emissions, discharges or waste generation likely to violate guidelines or criteria in the *EIAO-TM* without mitigation measures in place; and
- Will not result or the physical works are not likely to affect rare, endangered or protected species, or an important ecological habitat or site of cultural heritage.

Although the proposals are changes to the Project under the approved EIA, they are not significantly different as assessed under *Item 6.2* of the *EIAO-TM* and overall, it is considered that the proposals do not pose a 'Material Change' during both the construction and operation phase of the Project under *Item 6.2* of the *EIAO-TM*.

A desk based review has been conducted of the latest scheme for LMX. The implications of the latest scheme have been considered within the context of the approved EIA and Environmental Permit for LMX. The *EIAO – TM* has been used to determine whether the latest proposed layout and key components at LMX would be considered a Material Change to a Designated Project under the requirements of the *Environmental Impact Assessment Ordinance*.

The review of the latest scheme proposals against the criteria in *Items 6.1* and *6.2* of the *EIAO – TM* presented in this Technical Note has concluded that the proposals are not considered a Material Change to a Designated Project. This technical note also serves as a supporting document for the application for variation of the EP-071/2000/C.

Table 6.1 Summary of Review Findings

Item	Requirements	Major Findings	Material Change?
6.1 (a)	A change to physical alignment, layout or design of the project causing an environmental impact likely to affect existing or planned community, ecologically important areas or sites of cultural heritage	The proposals are considered as design changes of the Project. However, these changes will not lead to significant/material changes in environmental impact likely to affect existing or planned community, ecologically important areas or sites of cultural heritage as assessed in the approved EIA (please refer to *Item 6.2* below).	No
6.1 (b)	A physical change resulting in an increase in the extent of reclamation or dredging affecting water flow or quality likely to affect ecologically important areas, or disrupting sites of cultural heritage	The proposals will not involve any dredging or reclamation works.	No
6.1 (c)	An increase in pollution emissions or discharges or waste generation likely to violate guidelines or criteria in this technical memorandum without mitigation measures in place	The latest scheme would result in reduction of stack emissions when compared with the approved EIA scheme. The worst case discharge for the latest scheme would result in reduction of rejected heat and residual chlorine discharge into receiving waters when compared with the EIA scheme.	No
6.1 (d)	An increase in throughput or scale of the project leading to physical additions or alterations that are likely to violate the guidelines or criteria in this technical memorandum without mitigation measures in place	The latest scheme would result in reduction of air quality impact when compared with the approved EIA scheme. The worst case discharge for the latest scheme would result in reduction of rejected heat and residual chlorine discharge into receiving waters when compared with the EIA scheme.	No
6.1 (e)	A change resulting in physical works that are likely to affect a rare, endangered or protected species, or an important ecological habitat, or a site of cultural heritage.	The latest scheme proposals will lead to a change in physical works. However, these changes will not lead to any environmental impacts which will exceed or violate those environmental performance requirements set out in the EIA report for this project (please refer to *Item 6.2* below).	No
6.2	The environmental impact of a designated project, for which an environmental permit has been issued, is considered to be materially changed if the environmental performance requirements set out in the EIA report for this project may be exceeded or violated, even with the mitigation measures in place.	The review has demonstrated that although changes to the current layout and physical changes to LMX are proposed as part of the overall development, impacts to water quality, marine ecology, fisheries, cultural heritage and waste management associated with the design changes will not exceed or violate the environmental performance requirements set out in the approved EIA report.	No

5.2 *SUMMARY*

A review has been undertaken of the LMX overall development proposals against the criteria in *Annexes 3 – 10* of the *EIAO-TM* under *Item 6.2* of *the EIAO-TM* to determine whether changes identified under *Item 6.1 (a),* and *(e)* are significant to be considered Material Changes. The review has demonstrated that the proposals:

- Will not cause environmental impacts likely to affect existing or planned community, ecologically important areas or sites of cultural heritage;
- Will not result in pollution emissions, discharges or waste generation likely to violate guidelines or criteria in the *EIAO-TM* without mitigation measures in place; and
- Will not result or the physical works are not likely to affect rare, endangered or protected species, or an important ecological habitat or site of cultural heritage.

Although the proposals are changes to the Project under the approved EIA, they are not significantly different as assessed under *Item 6.2* of the *EIAO-TM* and overall, it is considered that the proposals do not pose a 'Material Change' during both the construction and operation phase of the Project under *Item 6.2* of the *EIAO-TM*.

6 SUGGESTED APPROACH FOR PROGRESSION WITH PROPOSALS

A desk based review has been conducted of the latest scheme for LMX. The implications of the latest scheme have been considered within the context of the approved EIA and Environmental Permit for LMX. The *EIAO – TM* has been used to determine whether the latest proposed layout and key components at LMX would be considered a Material Change to a Designated Project under the requirements of the *Environmental Impact Assessment Ordinance*.

The review of the latest scheme proposals against the criteria in *Items 6.1* and *6.2* of the *EIAO – TM* presented in this Technical Note has concluded that the proposals are not considered a Material Change to a Designated Project. This technical note also serves as a supporting document for the application for variation of the EP-071/2000/C.

Table 6.1 Summary of Review Findings

Item	Requirements	Major Findings	Material Change?
6.1 (a)	A change to physical alignment, layout or design of the project causing an environmental impact likely to affect existing or planned community, ecologically important areas or sites of cultural heritage	The proposals are considered as design changes of the Project. However, these changes will not lead to significant/material changes in environmental impact likely to affect existing or planned community, ecologically important areas or sites of cultural heritage as assessed in the approved EIA (please refer to *Item* 6.2 below).	No
6.1 (b)	A physical change resulting in an increase in the extent of reclamation or dredging affecting water flow or quality likely to affect ecologically important areas, or disrupting sites of cultural heritage	The proposals will not involve any dredging or reclamation works.	No
6.1 (c)	An increase in pollution emissions or discharges or waste generation likely to violate guidelines or criteria in this technical memorandum without mitigation measures in place	The latest scheme would result in reduction of stack emissions when compared with the approved EIA scheme. The worst case discharge for the latest scheme would result in reduction of rejected heat and residual chlorine discharge into receiving waters when compared with the previously accepted 2009 Study. The use of the SCR catalyst has been previously approved by EPD.	No
6.1 (d)	An increase in throughput or scale of the project leading to physical additions or alterations that are likely to violate the guidelines or criteria in this technical memorandum without mitigation measures in place	The latest scheme would result in reduction of air quality impact when compared with the approved EIA scheme. The worst case discharge for the latest scheme would result in reduction of rejected heat and residual chlorine discharge into receiving waters when compared with the previously accepted 2009 Study.	No
6.1 (e)	A change resulting in physical works that are likely to affect a rare, endangered or protected species, or an important ecological habitat, or a site of cultural heritage.	The latest scheme proposals will lead to a change in physical works. However, these changes will not lead to any environmental impacts which will exceed or violate those environmental performance requirements set out in the EIA report for this project (please refer to *Item* 6.2 below).	No
6.2	The environmental impact of a designated project, for which an environmental permit has been issued, is considered to be materially changed if the environmental performance requirements set out in the EIA report for this project may be exceeded or violated, even with the mitigation measures in place.	The review has demonstrated that although changes to the current layout and physical changes to LMX are proposed as part of the overall development, impacts to water quality, marine ecology, fisheries, cultural heritage and waste management associated with the design changes will not exceed or violate the environmental performance requirements set out in the approved EIA report.	No

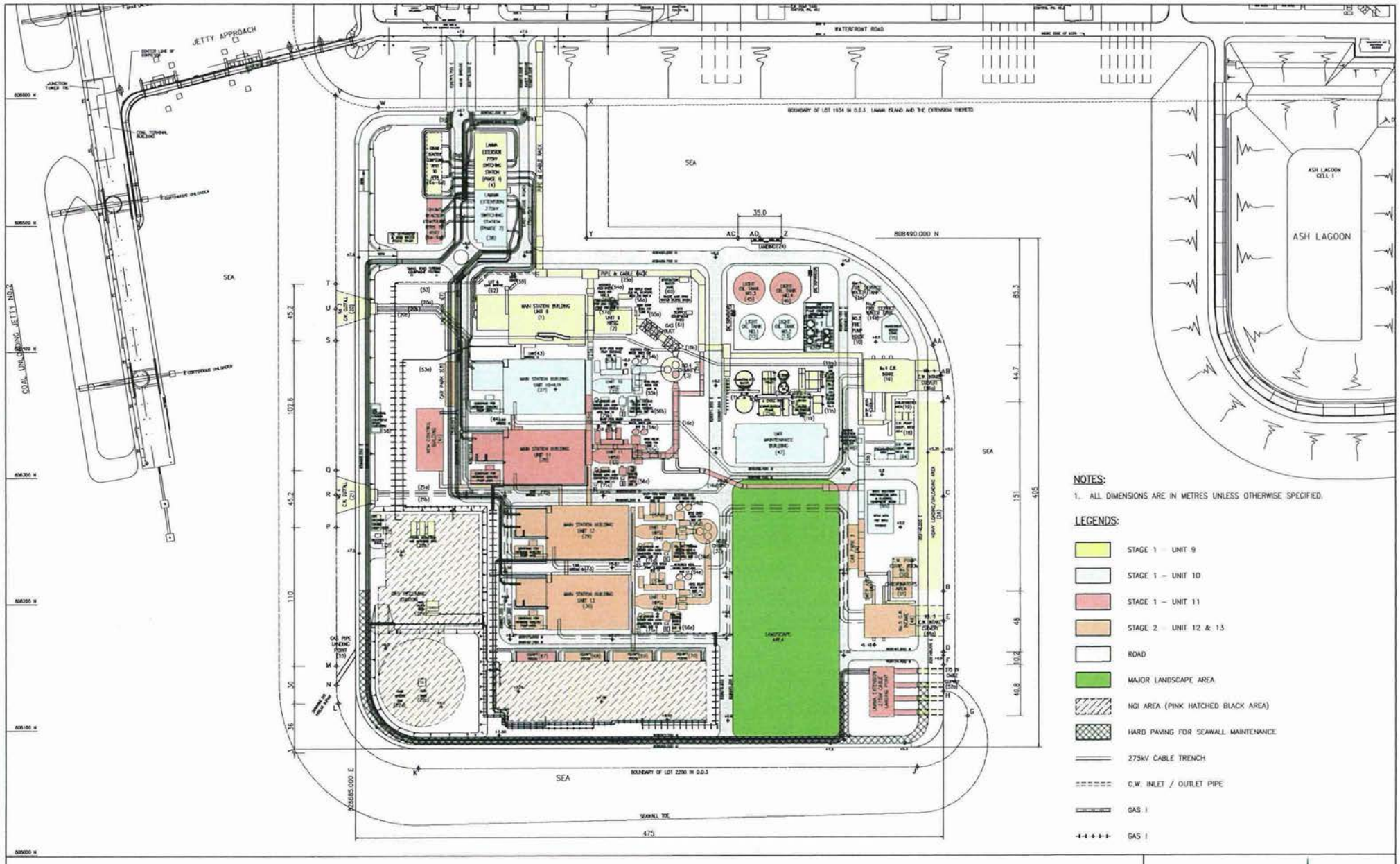

Figure 2.1

LMX Latest Scheme Layout and Components

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Environmental Resources Management

ERM

Appendix A

Air Quality Impact Assessment

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

The Environmental Impact Assessment (EIA) for the construction and operation of a 1,800MW Gas-fired Power Station at Lamma Power Station Extension (LMX or the Project) has been completed and approved by the Environmental Protection Department (EPD) under the Environmental Impact Assessment Ordinance (EIAO) (AEIAR-010/1999, hereafter referred to as the approved EIA report). An Environmental Permit (EP) has also been issued by EPD stipulating the environmental requirements pursuant to the construction and operation of LMX comprising six (6) gas-fired combined cycle gas turbine (CCGT) units, namely L9 to L14. During the EIA stage, it was assumed that each of the six units has an output capacity of 300MW with a total output capacity of 1,800MW (hereafter referred to as "the Approved EIA Scheme").

The first unit L9 with an output capacity of 335MW, has been in operation since 2006. The second unit L10 with an output capacity of 380MW has also commenced operation since February 2020. L11, with an output capacity of 380MW, is under construction and is scheduled for commercial operation in 2022. L12 with an output capacity of 380MW has also been approved under the 2019-2023 Development Plan and is planned to be commissioned in early 2023. The operation of L13, which also has an output capacity of 380MW and is planned to be commissioned beyond 2023, will lead to a total output capacity of 1,855MW in LMX which would be higher than the 1,800MW assumed at the Approved EIA Scheme. The latest LMX arrangement with the operation of L9 of 335MW and L10 to L13 of 380MW each is hereafter referred to as "the Latest Scheme". It should be noted that the development of LMX in phase up to L13 will bring along an overall improvement of air emission from Lamma Power Station (LPS) and LMX as a whole since the commissioning of new gas-fired units starting from L10 will come along with the decommissioning of coal-fired units at the LPS which has not been assumed in the Approved EIA Scheme. Furthermore, L10 to L13 will be equipped with Selective Catalytic Reduction (SCR) Systems to further improve the NO_x emission performance, which has also not been assumed in the Approved EIA Scheme. Given that the emission performance of the latest gas-fired units will be significantly better than either coal-fired units or the units without SCR, the overall emission performance during the course of development up to L13 in phase under the Latest Scheme is expected to have a significant improvement in air quality compared with the assumptions made during the Approved EIA Scheme.

1.2 PURPOSE OF THE AIR QUALITY IMPACT ASSESSMENT

This quantitative air quality impact assessment (AQIA) was carried out to supplement the *Technical Note on Lamma Power Station Extension – Review of the latest Overall Development Plan*. The Technical Note served to provide a

desktop review to demonstrate the overall development of LMX in phase up to L13 would not constitute a Material Change under the EIAO. A quantitative assessment has been conducted to evaluate the potential air quality impact arising from the LPS and LMX under the Approved EIA Scheme and Latest Scheme. This *AQIA* presents the modelling results under the Approved EIA Scheme and Latest Scheme using the latest EPD approved modelling tools to demonstrate that the air quality impact arising from the LPS and LMX under the Latest Scheme would be no worse than that under the Approved EIA Scheme and that the changes to the overall LMX development would not constitute a Material Change under the EIAO.

2 AIR QUALITY IMPACT ASSESSMENT

2.1 LMX AND LPS EMISSION SOURCES

Under the Approved EIA Scheme, the key air emission sources at LMX include stack emissions from L9 to L14, while under the Latest Scheme, the key air emission sources at LMX are stack emissions from L9 to L13. The locations of these emission sources are shown in *Figure 2.1*. The key air pollutant of concern arising from the abovementioned CCGT units is nitrogen dioxide (NO_2), with negligible emissions in terms of SO_2 and particulate matters (PM) (1).

Coal-fired units L1 & L3 in LPS have already retired in 2017 and 2018 respectively. The key air emission sources at LPS include stack emissions from the existing coal-fired units L2 and L4 to L8. The stack locations of these coal-fired units are shown in *Figure 2.1*. The key air pollutant of concern arising from the operation of these coal-fired units are NO_2, SO_2 and PM (1).

2.2 ASSESSMENT AREA AND AIR SENSITIVE RECEIVERS

The Assessment Area for this AQIA is defined as an area within 9.3 km from the LMX site boundary as specified in the approved EIA report. The Project site and the Assessment Area are shown in *Figure 2.2*.

The representative air sensitive receivers (ASRs) as identified in the approved EIA report have been reviewed and updated to reflect the latest situation. Details of the representative ASRs, including the ASR descriptions, uses, approximate building height and approximate distance from the LMX site boundary, are presented in *Annex A* and the ASR locations are shown in *Figure 2.2*.

2.3 ASSESSMENT METHODOLOGY AND ASSUMPTIONS

2.3.1 *Modelling Scenarios*

LMX Emissions Only

Two modelling scenarios considering the CCGT units at LMX only under the Approved EIA Scheme and the Latest Scheme have been assessed. The emission sources and the air pollutants considered in these two modelling scenarios (i.e. LMX emissions only) are summarised in *Table 2.1*. The detailed emission inventory is provided in *Annex B*.

(1) PM refers to both respirable suspended particulates (RSP) and fine suspended particulates (FSP).

Table 2.1 ***Emission Sources and Air Pollutants Considered in the Modelling Scenarios (LMX Emissions Only)***

Modelling Scenarios	Emission Sources	Air Pollutants
Approved EIA Scheme (LMX only)	L9, L10, L11, L12, L13 and L14	NO_2, SO_2, PM
Latest Scheme (LMX only)	L9, L10, L11, L12 and L13	NO_2, SO_2, PM

Note:
(a) Assessment results for PM apply to both RSP and FSP.

The modelling results from these two modelling scenarios (i.e. LMX emissions only) were analysed and compared to evaluate the difference in air quality impacts from the LMX under the Approved EIA Scheme and the Latest Scheme. For both Schemes, the CCGT units at the LMX were assumed to be operating continuously at their maximum allowable emission rates under normal operational condition as a conservative and consistent assumption in the modelling assessment (1).

LMX and LPS Emissions

In order to quantify the difference in air quality impacts between the Approved EIA Scheme and the Latest Scheme taking into account the overall emissions from the LPS and LMX as a whole, two modelling scenarios considering the coal-fired units at LPS in addition to the CCGT units at LMX under both Schemes have been assessed. The emission sources and the air pollutants considered in these two modelling scenarios (i.e. LMX and LPS emissions) are summarised in *Table 2.2*. The detailed emission inventory is provided in *Annex B*.

Table 2.2 ***Emission Sources and Air Pollutants Considered in the Modelling Scenarios (LMX and LPS Emissions)***

Modelling Scenarios	Emission Sources	Air Pollutants
Approved EIA Scheme (LMX and LPS)	L2, L4, L5, L6, L7, L8, L9, L10, L11, L12, L13 and L14	NO_2, SO_2, PM
Latest Scheme (LMX and LPS)	L6, L7, L8, L9, L10, L11, L12 and L13	NO_2, SO_2, PM

Note:
(a) Assessment results for PM apply to both RSP and FSP.

The development of LMX in phase up to L13 under the Latest Scheme will further bring about an overall improvement of air emissions from the LPS and LMX as a whole compared with that in the Approved EIA Scheme since the commissioning of new gas-fired units at the LMX starting from L10 will come along with the decommissioning of additional coal-fired units at the LPS, i.e. L2, L4 and L5. The modelling scenario under the Latest Scheme (LMX and LPS) has therefore removed emissions from L2, L4 and L5, taking into account of the decommissioning of these coal-fired units when L13 is in operation.

(1) The use of the maximum allowable emission rates for the entire assessment year would lead to conservative predictions of the long-term impact, under both the Approved EIA Scheme and Latest Scheme. The use of maximum allowable emission rates for all units under both the Approved EIA Scheme and Latest Scheme is a consistent modelling assumption and thus considered appropriate for the purpose of this quantitative comparative analysis.

The modelling results under these two modelling scenarios (i.e. LMX and LPS emissions) were analysed and compared to evaluate the difference in the overall air quality impacts from the LMX and LPS under the Approved EIA Scheme and the Latest Scheme. For both schemes, the CCGT and coal-fired units were assumed to be operating continuously at their maximum allowable emission rates under normal operational condition as a conservative and consistent assumption in the modelling assessment [1].

2.3.2 *Air Dispersion Model, Meteorological Data and Modelling Assumptions*

An EPD recommended air dispersion model, AERMOD, was used to assess the potential air quality impact at the representative ASRs due to LMX and LPS emissions under both Schemes. The quantitative assessment will be conducted following the latest EPD's *Guidelines for Local-scale Air Quality Assessment Using Model.*

The relevant PATH grids in which the representative ASRs are located have been identified. The predicted meteorological data for the relevant PATH grids from PATH-2016 model obtained from EPD's website [2] were used for model input. The relevant PATH grids for the identified ASRs are shown in *Annex A.*

AERMET was run to generate AERMOD-ready meteorological data for AERMOD model input. The land use parameters, including albedo, bowen ratio and surface roughness are required inputs for AERMET. The land use of 1km from the identified ASRs within each PATH grid has been evaluated to determine the PATH-grid specific surface roughness values. Four 10 km x 10 km regions covering the Assessment Area have been evaluated to determine the values of albedo and bowen ratio in the respective regions. The bowen ratio and albedo values of the region were applied to the PATH grids that correspond to that specific region. Detailed calculations of albedo, bowen ratio and surface roughness are presented in *Annex C.* Land use maps illustrating the determination of the land use parameters are also provided in *Annex C.*

The AERMET/AERMOD model input parameters and assumptions for the assessment are summarised in *Table 2.3.*

(1) The use of the maximum allowable emission rates for the entire assessment year would lead to conservative predictions of the long-term impact, under both the Approved EIA Scheme and Latest Scheme. The use of maximum allowable emission rates for all units under both the Approved EIA Scheme and Latest Scheme is a consistent modelling assumption and thus considered appropriate for the purpose of this quantitative comparative analysis.

(2) PATH-2016 Data Dissemination System (Data last updated in December 2015)
https://path.epd.gov.hk/

Table 2.3 ***Model Input Parameters and Assumptions for Assessment***

Input Parameters & Assumptions	Descriptions
Air dispersion model	AERMOD
Type of source	• Point sources
Assessment parameter	• Maximum 1-hour NO_2 and annual NO_2 • Maximum 10-minute SO_2 and maximum 24-hour SO_2 • Maximum 24-hour PM and annual PM
Assessment Heights	• 1.5 m, 5 m, 10 m, 15 m, 20 m, 25 m, 30 m above ground level • 40 m to 130 m (at interval of 10 m) above ground level
Meteorological data	• Weather Research and Forecasting Model (WRF) data in 2010 from PATH-2016 to be used to input into AERMET to produce AERMOD-ready meteorological data • Actual mixing heights recorded by the HKO in 2010 were in the range of 121 m to 1,667 m. Mixing heights from WRF data which are lower than 121m or higher than 1,667 m to be adjusted to 121 m and 1,667 m, respectively • Wind direction of 0° to be adjusted to 360° • Wind speed smaller than 1 m s^{-1} to be adjusted to 1 m s^{-1} • Anemometer height of WRF data = 9 m

2.3.3 *Post-processing of Modelling Results*

The hourly concentrations of NO_x were predicted at the relevant assessment heights of the representative ASRs. Ozone Limiting Method (OLM) will be adopted for the conversion of NO_x to NO_2.

The initial NO_2/NO_x ratio for stack emissions was assumed to be 0.1 (1). The conversion of NO_x to NO_2 for stack emissions was calculated as follows:

$$[NO_2]_{pred} = 0.1x[NO_X]_{pred} + MIN\ \{0.9x[NO_X]_{pred}, \text{ or } (46/48)x[O_3]_{bkgd}\}$$

where

$[NO_2]_{pred}$ = *the predicted NO_2 concentration*
$[NO_X]_{pred}$ = *is the predicted NO_X concentration*
MIN *means the minimum of the two values within the brackets*
$[O_3]_{bkgd}$ = *the representative O_3 background concentration; (46/48) is the molecular weight of NO_2 divided by the molecular weight of O_3*

Predicted ozone concentrations in 2020 in the relevant PATH grids obtained from the PATH-2016 model were used for the conversion of NO_x to NO_2 in OLM.

The predicted hourly SO_2 concentrations at the representative ASRs were converted into 10-minute SO_2 concentrations for comparison with the respective AQO criterion. According to the EPD's *"Guidelines on the Estimation of 10-minute Average SO_2 Concentration for Air Quality Assessment in Hong Kong"*, it is recommended that the stability-dependent multiplicative

(1) Air Quality Studies for Heathrow: Base Case, Segregated Mode, Mixed Mode and Third Runway Scenarios modelled using ADMS-Airport, 2007.

factors from Duffee *et al.*, 1991 (1) be used. The conversion factors adopted in this assessment for the different stability classes are shown in *Table 2.4*.

Table 2.4 ***Conversion Factors from 1-hour to 10-minutes Mean Concentrations***

Pasquill Stability Class	Conversion Factor (1-hour to 10-minute)
A	2.45
B	2.45
C	1.82
D	1.43
E	1.35
F	1.35

Note:

(a) Reference to the EPD's *"Guidelines on the Estimation of 10-minute Average SO_2 Concentration for Air Quality Assessment in Hong Kong"*

2.4 EVALUATION OF IMPACTS

2.4.1 *LMX Emissions Only*

The predicted concentrations of NO_2, SO_2 and PM due to LMX emissions only under the Approved EIA Scheme and the Latest Scheme at the relevant assessment heights of each ASR are provided in *Annex D*. It can be seen that the predicted concentrations of NO_2, SO_2 and PM at all relevant assessment heights of all identified ASRs under the Latest Scheme are lower than those under the Approved EIA Scheme. The amount of reduction in air pollutant contributions from the LMX emissions at each of the identified ASRs is presented in *Table 2.5*. The assessment results indicate that, when considering LMX emissions only, there is general reduction of air quality impacts under the Latest Scheme, with the reduction more prominent for NO_2 and SO_2 impacts.

(1) Richard A. Duffee, Martha A. O'Brien and Ned Ostojic (1991) Odor Modeling - Why and How. Page 295, *Recent Developments and Current Practices in Odor Regulations, Controls and Technology*. Air & Waste Management Association, 1991.

Table 2.5 ***Reduction in Air Pollutant Contributions from LMX Emissions under the Latest Scheme Compared with the Approved EIA Scheme***

ASR	Predicted Concentration (μg m^{-3})					
	Max 1-hour NO_2	Annual NO_2	Max 10-min SO_2	Max 24-hour SO_2	Max 24-hour PM [b]	Annual PM [b]
ASR1	-42.5	-1.8	-7.3	-1.5	-0.15	-0.009
ASR2	-45.7	-1.2	-8.2	-1.1	-0.07	-0.008
ASR3	-60.7	-2.1	-8.7	-1.6	-0.13	-0.010
ASR4	-56.0	-1.4	-13.5	-0.8	-0.08	-0.013
ASR5	-44.3	-1.0	-7.0	-0.8	-0.10	-0.010
ASR6	-87.1	-1.2	-33.7	-1.6	-0.22	-0.013
ASR7	-23.4	-0.9	-3.5	-0.8	-0.10	-0.009
ASR8	-33.7	-1.0	-6.9	-0.7	-0.07	-0.009
ASR9	-51.9	-1.0	-45.8	-1.9	-0.25	-0.011
ASR10	-25.8	-0.8	-4.3	-0.8	-0.10	-0.007
ASR11	-76.6	-1.1	-44.9	-3.4	-0.54	-0.020
ASR12	-26.6	-0.4	-4.3	-0.5	-0.07	-0.005
ASR13	-39.6	-0.9	-7.2	-0.7	-0.08	-0.009
ASR14	-27.5	-0.4	-4.0	-0.3	-0.06	-0.006
ASR15	-69.2	-0.6	-10.0	-0.7	-0.10	-0.005
ASR16	-46.6	-1.1	-7.9	-1.0	-0.13	-0.011
ASR17	-33.4	-0.5	-6.5	-0.4	-0.09	-0.007
ASR18	-32.6	-0.7	-5.7	-0.6	-0.05	-0.008
ASR19	-33.8	-0.6	-7.2	-0.5	-0.08	-0.007
ASR20	-33.1	-0.5	-5.8	-0.4	-0.04	-0.005
ASR21	-27.5	-0.4	-4.3	-0.3	-0.04	-0.004
ASR22	-44.4	-1.3	-9.3	-1.1	-0.14	-0.013
ASR23	-82.3	-1.0	-31.6	-1.9	-0.16	-0.009
ASR24	-40.3	-0.6	-5.5	-0.4	-0.03	-0.005
ASR25	-50.9	-1.2	-6.2	-1.0	-0.09	-0.010
ASR26	-57.8	-0.4	-7.3	-0.4	-0.03	-0.001
ASR27	-39.3	-0.2	-6.4	-0.3	-0.02	-0.002

Note:

(a) Figures shown are the largest reduction among all relevant assessment heights of each ASR.

(b) Assessment results for PM apply to both RSP and FSP.

2.4.2 *LMX and LPS Emissions*

The predicted concentrations of NO_2, SO_2 and PM taking into account the overall emissions from LMX and LPS as a whole under the Approved EIA Scheme and the Latest Scheme at the relevant assessment heights of each ASR are provided in *Annex D*. The assessment results show that the predicted concentrations of NO_2, SO_2 and PM at all relevant assessment heights of all identified ASRs under the Latest Scheme are lower than those under the Approved EIA Scheme. In particular, NO_2 and SO_2 impacts have reduced significantly as power generation shifts from coal-fired to gas-fired with the commissioning of new CCGT units and the decommissioning of some of the existing coal-fired units at LPS (i.e. L2, L4 and L5) under the Latest Scheme. The amount of reduction in air pollutant contributions taking into account the overall LMX and LPS emissions under the Latest Scheme relative to the Approved EIA Scheme at each of the identified ASRs is presented in *Table 2.6*.

Table 2.6 ***Reduction in Air Pollutant Contributions from the Overall LMX and LPS Emissions under the Latest Scheme Compared with the Approved EIA Scheme***

ASR	Predicted Concentration (μg m^{-3})					
	Max 1-hour NO_2	Annual NO_2	Max 10-min SO_2	Max 24-hour SO_2	Max 24-hour PM [(b)]	Annual PM [(b)]
ASR1	-71.8	-2.8	-407.0	-29.5	-0.82	-0.101
ASR2	-107.4	-2.5	-955.8	-66.7	-1.55	-0.201
ASR3	-52.1	-2.2	-154.1	-3.7	-0.13	-0.018
ASR4	-82.0	-3.3	-578.9	-71.3	-1.89	-0.270
ASR5	-96.1	-1.9	-786.7	-71.6	-1.91	-0.206
ASR6	-71.2	-3.0	-462.5	-78.4	-2.18	-0.196
ASR7	-39.0	-3.3	-407.9	-49.7	-1.33	-0.176
ASR8	-99.7	-2.5	-673.5	-66.4	-1.76	-0.208
ASR9	-56.7	-2.7	-572.8	-57.5	-1.50	-0.194
ASR10	-41.1	-2.7	-476.2	-36.6	-1.02	-0.132
ASR11	-48.2	-2.5	-634.5	-115.8	-3.15	-0.225
ASR12	-76.8	-2.1	-1719.7	-78.8	-2.03	-0.123
ASR13	-68.7	-2.5	-711.6	-68.4	-1.80	-0.201
ASR14	-91.2	-2.0	-1899.3	-75.1	-1.83	-0.156
ASR15	-59.8	-1.7	-475.1	-42.7	-1.12	-0.083
ASR16	-80.6	-2.5	-852.3	-99.9	-2.66	-0.237
ASR17	-98.1	-2.1	-2088.8	-102.1	-2.16	-0.191
ASR18	-110.5	-2.5	-612.5	-48.1	-1.28	-0.166
ASR19	-125.2	-2.2	-591.9	-53.1	-1.40	-0.144
ASR20	-58.9	-1.6	-562.8	-33.3	-0.89	-0.092
ASR21	-56.6	-1.7	-427.7	-29.5	-0.78	-0.080
ASR22	-110.6	-2.0	-895.2	-86.0	-2.21	-0.215
ASR23	-125.8	-2.7	-663.0	-46.5	-1.16	-0.153
ASR24	-58.1	-2.1	-621.3	-32.6	-0.86	-0.110
ASR25	-73.0	-2.1	-556.0	-67.4	-1.78	-0.183
ASR26	-81.0	-0.9	-508.3	-31.4	-0.85	-0.029
ASR27	-111.2	-1.2	-744.3	-40.8	-1.05	-0.055

Note:

(a) Figures shown are the largest reduction among all relevant assessment heights of each ASR.

(b) Assessment results for PM apply to both RSP and FSP.

3 *CONCLUSION*

The potential air quality impact arising from the LMX and LPS under the Approved EIA Scheme and Latest Scheme have been quantitatively evaluated. The Assessment Area is defined as an area of 9.3 km from the LMX site boundary as indicated in the approved EIA report and a set of updated representative ASRs within the Assessment Area have been identified. The identified air pollutants of concern include NO_2, SO_2 and PM. A modelling assessment focusing on LMX emissions only under the Latest Scheme and the Approved EIA Scheme was carried out and the modelling results under both Schemes were compared and analysed. Another modelling assessment considering both LMX and LPS emissions under the Latest Scheme and the Approved EIA Scheme was undertaken and the modelling results under both Schemes were also compared and analysed. The assessment results show that, when taking into account emissions from LMX only or LMX and LPS as a whole, the predicted concentrations of NO_2, SO_2 and PM at all relevant assessment heights of all identified ASRs under the Latest Scheme are lower than those under the Approved EIA Scheme. When considering LMX and LPS as a whole, NO_2 and SO_2 in particular have showed significant reduction as the operation of the new CCGT units (up to L13) will allow some of the existing coal-fired units at LPS to be decommissioned under the Latest Scheme.

It has been demonstrated that the air quality impact due to operation of the Project under the Latest Scheme would reduce compared with that under the Approved EIA Scheme. There is no fundamental change to the physical alignment, layout or design of the Project under the Latest Scheme that may cause potential implications to other environmental aspects. It is therefore considered that the proposed changes associated with the Latest Scheme do not constitute a Material Change to the Project with respect to the criteria as described in Section 6.1 and 6.2 of the EIAO-TM.

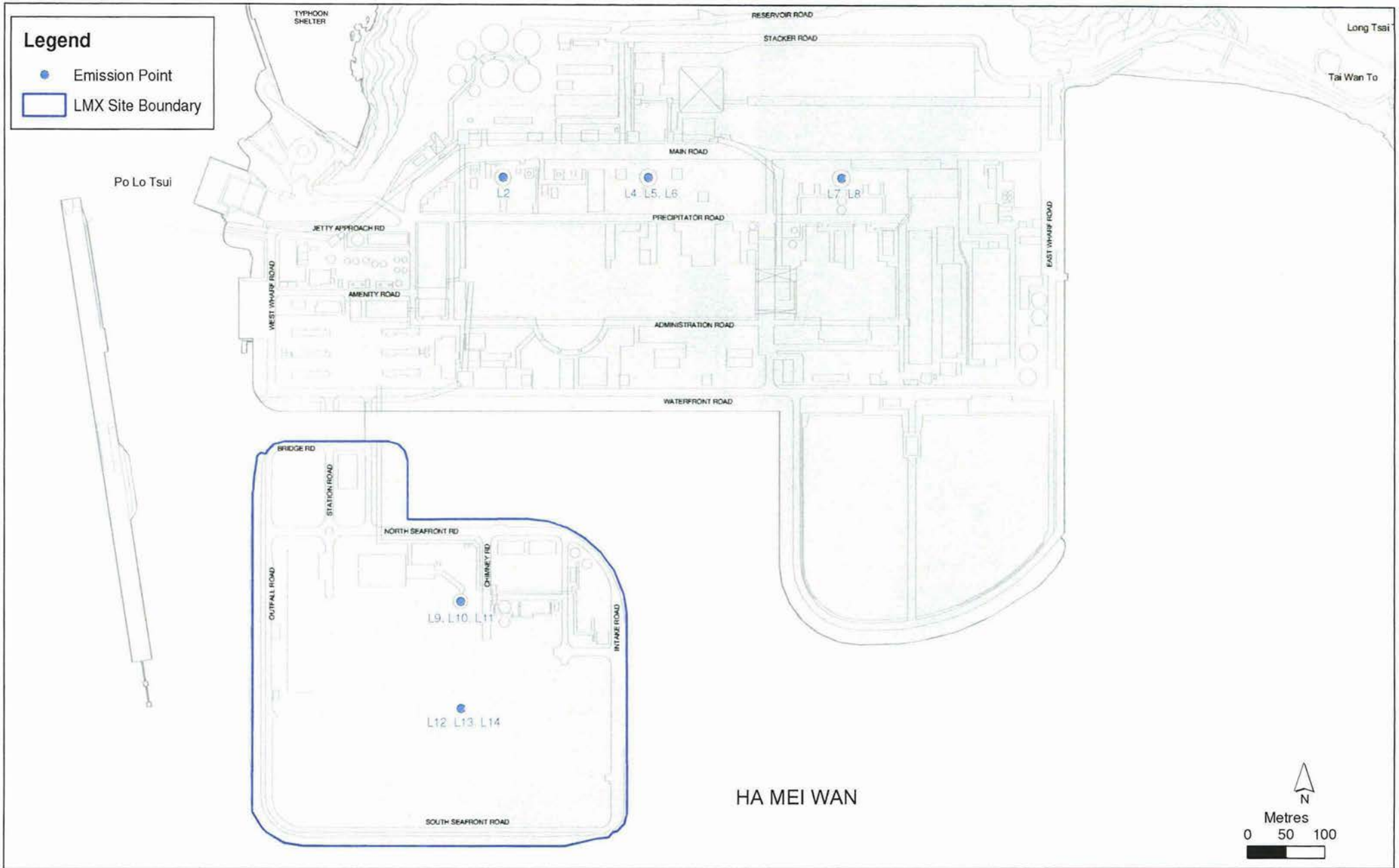

Figure 2.1

Locations of Emission Sources within Lamma Power Station Extension and Lamma Power Station

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Date: 11/11/2019

Environmental Resources Management

ERM

Figure 2.2

Locations of Representative Air Sensitive Receivers

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Date: 4/7/2019

Environmental Resources Management

ERM

Annex A

Details of Identified Representative Air Sensitive Receivers

Annex A - Details of the Identified Representative Air Sensitive Receivers

ASR ID	ASR description	Use	Approx. Height of Building (m above ground)	Distance from Site Boundary (km)	x-coordinate	y-coordinate	Base Height (m)	PATH Grid
ASR1	Village House at Po Wah Yuen	Residential	10	1.5	829437.0	809964.0	33.7	34, 23
ASR2	Pak Kok San Tsuen House 40	Residential	10	2.5	829742.0	810917.0	21.3	34, 24
ASR3	Village house at Tai Shan Central	Residential	10	0.9	829493.5	809321.6	30.5	34, 23
ASR4	Cape Mansions Block B	Residential	70	6.5	830513.0	814918.0	76.0	35, 28
ASR5	Pine Court Block 2	Residential	50	5.9	831111.0	814061.8	35.6	35, 27
ASR6	Queen Mary Hospital Block S	Hospital	55	6.6	831498.0	814635.0	146.2	36, 28
ASR7	Smithfield Court Block 1	Residential	70	7.7	831246.0	815920.0	7.0	35, 29
ASR8	Residence Bel-Air Phase 1 Tower 8	Residential	130	5.4	831702.0	813183.0	8.7	36, 26
ASR9	Baguio Villa Block 22	Residential	95	5.9	831812.0	813758.0	92.6	36, 27
ASR10	The University of Hong Kong Main Building	GIC	15	8.3	832242.0	816129.0	60.8	36, 29
ASR11	Pokfulam Gardens Block 1	Residential	105	5.7	832125.0	813293.0	131.5	36, 27
ASR12	Overthorpe Block A	Residential	10	7.8	833203.0	815151.0	478.7	37, 28
ASR13	Wah Fu (II) Estate Wah Tai House	Residential	80	5.1	832127.0	812588.6	61.0	36, 26
ASR14	Sherwood's Bluff Block A2	Residential	10	7.6	834038.3	814214.2	429.7	38, 27
ASR15	Regent On The Park Tower 1	Residential	115	8.9	834957.0	815212.0	59.8	39, 28
ASR16	Wah Kwai Estate Wah Hau House	Residential	120	5.2	832514.0	812386.0	10.6	37, 26
ASR17	Matilda International Hospital	Hospital	15	6.5	833409.7	813363.3	410.9	38, 27
ASR18	Aberdeen Centre Kwun Chiu Court	Residential	90	6.1	833955.0	812115.0	4.0	38, 25
ASR19	San Wui Commercial Society Chan Pak Sha School	School	20	7.0	835241.0	811862.0	23.1	39, 25
ASR20	Ocean Park Maritime Point	Theme Park	10	6.7	835538.0	810518.0	120.0	40, 24
ASR21	Hong Kong Ocean Park Marriott Hotel	Hotel	20	8.0	836213.0	812082.0	14.0	40, 25
ASR22	South Horizons Block 13 Yee Lok Court	Residential	115	5.1	833068.0	811660.0	6.0	37, 25
ASR23	Lei Tung Estate Tung Mau House	Residential	115	5.8	834115.0	811431.0	59.8	38, 25
ASR24	Seaview Garden	Residential	10	6.7	821972.0	807359.0	60.0	26, 21
ASR25	Planned development area (Green Island Reclamation)	Residential	130	8.0	830355.3	816443.0	0.0	35, 30
ASR26	Concerto Inn	Hotel	15	1.3	830329.5	808956.0	7.1	35,22
ASR27	South Lamma Public Library	GIC	10	2.5	831613.0	807477.0	4.8	36,21

Annex B

LMX and LPS Emission Inventory

Annex B - Emission Inventory for Lamma Power Station & Lamma Power Station Extension

Approved EIA Scheme (LMX Only)

Emission Point	Model Input ID	X	Y	Base Height	NOx Emission	SO_2 Emission	PM Emission [f]	Stack Height	Stack Temp	Exit Velocity	Stack Diameter [a]	Operation Hour
				mPD	g/s	g/s	g/s	mPD	K	m/s	m	
L9, L10, L11 [c]	A9_11	828942	808385	0	149.17	16.67	8.89	110	353	15	10.22	Continuous
L12, L13, L14 [c]	A12_14	828943	808247	0	149.17	16.67	9.17	110	353	15	10.22	Continuous

Latest Scheme (LMX Only)

Emission Point	Model Input ID	X	Y	Base Height	NOx Emission	SO_2 Emission	PM Emission [f]	Stack Height	Stack Temp	Exit Velocity	Stack Diameter [a]	Operation Hour
				mPD	g/s	g/s	g/s	mPD	K	m/s	m	
L9, L10, L11 [e]	B9_11	828942	808385	0	55.83	8.89	8.89	110	353	15	10.39	Continuous
L12, L13 [e]	B12_13	828943	808247	0	6.11	6.11	6.11	110	353	15	8.49	Continuous

Approved EIA Scheme (LMX and LPS)

Emission Point	Model Input ID	X	Y	Base Height	NOx Emission	SO_2 Emission	PM Emission [f]	Stack Height	Stack Temp	Exit Velocity	Stack Diameter [a]	Operation Hour
				mPD	g/s	g/s	g/s	mPD	K	m/s	m	
L2 [b]	A2	828998	808930	0	341.67	527.78	13.89	215	393	15	5.11	Continuous
L4, L5 [b]	A4_5	829188	808930	0	888.89	1411.11	35.56	215	383	15	7.95	Continuous
L6 [b]	A6	829188	808930	0	244.44	70.56	18.89	215	353	15	5.62	Continuous
L7, L8 [b]	A7_8	829440	808929	0	273.89	141.11	33.33	215	353	15	7.83	Continuous
L9, L10, L11 [c]	A9_11	828942	808385	0	149.17	16.67	8.89	110	353	15	10.22	Continuous
L12, L13, L14 [c]	A12_14	828943	808247	0	149.17	16.67	9.17	110	353	15	10.22	Continuous

Latest Scheme (LMX and LPS)

Emission Point	Model Input ID	X	Y	Base Height	NOx Emission	SO_2 Emission	PM Emission	Stack Height	Stack Temp	Exit Velocity	Stack Diameter [a]	Operation Hour
				mPD	g/s	g/s	g/s	mPD	K	m/s	m	
L6 [d]	B6	829188	808930	0	244.44	70.56	18.89	215	353	15	5.62	Continuous
L7, L8 [d]	B7_8	829440	808929	0	273.89	141.11	33.33	215	353	15	7.83	Continuous
L9, L10, L11 [e]	B9_11	828942	808385	0	55.83	8.89	8.89	110	353	15	10.39	Continuous
L12, L13 [e]	B12_13	828943	808247	0	6.11	6.11	6.11	110	353	15	8.49	Continuous

Notes:

(a) Calculated equivalent stack diameters.

(b) From the approved EIA report, 1,800MW gas fired power station was assumed to operate as base load units and the balance of 2,116MW would be delivered from the existing coal-fired units with the most efficient units (L4 – L8). However, the allocation of NOx and SO2 emissions per coal-fired units were not specified in the approved EIA report. For conservative assessment, it was assumed that L2, L4 to L8 would be operated at 2,000MW and the remaining 116MW would not be used such that the difference in emission performance between the two schemes is reduced, thereby presenting a more conservative improvement of the Latest Scheme compared with the Approved EIA Scheme. The NOx and SO2 emission rates for L2, L4 to L8 were made reference to Table 4.4a of the approved EIA report. PM emission rates were made reference to the current SP licence for LPS as PM was not assessed in the approved EIA Report.

(c) NOx and SO2 emission rates for L9 to L14 per gas-fired unit are 49.722 g/s and 5.556 g/s, respectively, making reference to Table 4.4a of the approved EIA report. PM emission rates for L9 and L10 were made reference to the current SP licence for LPS as PM was not assessed in the approved EIA Report. As L10 will be operated under a loading of >266MW during normal operational condition, the PM emission rate (i.e. 11kg/hr) corresponding to this loading were adopted. For future units L11 to L14, the PM emisison rate for each unit was assumed to be the same as that for L10 (i.e. 11kg/hr) as advised by HKE.

(d) NOx, SO2 and PM emission rates for L6 to L8 were made reference to the current SP licence for LPS.

(e) NOx, SO2 and PM emission rates for L9 and L10 were made reference to the current SP licence for LPS. As L10 will be operated under a loading of >266MW during normal operational condition, the emission rates (i.e. 11kg/hr) corresponding to this loading were adopted. For L11 to L13, NOx, SO2 and PM emission rates for each unit were assumed to be 11kg/hr as advised by HKE.

(f) PM emissions represent both RSP and FSP emissions.

Annex C

Calculations of Land Use Parameters and Land Use Figures

Annex C - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness

10km x 10km Area for Lamma Island

Land Cover	Area (km^2)	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Tree	13.0	0.13	0.750	0.163	ASR1, ASR2, ASR3, ASR26, ASR27
Urban	4.1	0.04	1.500	0.180	
Grasslands	1.2	0.01	0.800	0.185	
Water	81.7	0.82	0.100	0.100	
		Average:	**0.149**	**0.113**	

10km x 10km Area for Cheung Chau

Land Cover	Area (km^2)	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Tree	15.3	0.15	0.750	0.163	ASR24
Urban	1.0	0.01	1.500	0.180	
Grasslands	0.2	0.00	0.800	0.185	
Water	83.5	0.84	0.100	0.100	
		Average:	**0.140**	**0.111**	

10km x 10km Area for Central & Western part of Hong Kong Island

Land Cover	Area (km^2)	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Tree	20.5	0.21	0.750	0.163	ASR4, ASR6, ASR7, ASR10, ASR12, ASR15, ASR25
Urban	33.4	0.33	1.500	0.180	
Grasslands	0.8	0.01	0.800	0.185	
Water	45.2	0.45	0.100	0.100	
		Average:	**0.380**	**0.140**	

10km x 10km Area for Southwestern part of Hong Kong Island

Land Cover	Area (km^2)	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Tree	27.7	0.28	0.750	0.163	ASR5, ASR8, ASR9, ASR11, ASR13, ASR14, ASR16, ASR17, ASR18, ASR19, ASR20, ASR21, ASR22, ASR23
Urban	20.9	0.21	1.500	0.180	
Grasslands	1.8	0.02	0.800	0.185	
Water	49.6	0.50	0.100	0.100	
		Average:	**0.320**	**0.136**	

Notes:

(a) Bowen ratio was calculated based on the area-weighted geometric mean within 10km x 10km area from the Project Site. Considering the climate in Hong Kong covers dry and wet season throughout the year, bowen ratios for average moisture conditions have been adopted. With reference to Table A-2 of the AERSURFACE User's Guide 2008 (revised in 2013), the bowen ratios for tree area (Class 41 Deciduous Forest), urban area (Class 22 High Intensity Residential), grassland area (Class 71 Gasslands/Herbaceous) and water area (Class 11 Open Water) were assumed to be 0.75, 1.5, 0.8 and 0.1, respectively.

(b) Albedo was calculated based on the area-weighted arithmetic mean within 10km x 10km area from the Project Site. With reference to Table A-1 of the AERSURFACE User's Guide 2008 (revised in 2013), the albedos for tree area (Class 41 Deciduous Forest), urban area (Class 22 High Intensity Residential), grassland area (Class 71 Gasslands/Herbaceous) and water area (Class 11 Open Water) were assumed to be 0.163, 0.18, 0.185 and 0.1, respectively.

(c) The average of the albedo and bowen ratio values in spring, summer and autumn for each land use was used.

Annex C - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness

PATH Grid	Sector (degree)	Land Use Type	Area (km^2)	Fraction of Section Total Area	Distance (km)	Weighting	Surface Roughness (Zo) [a]	Resultant Surface Roughness (Zo) (m) [a]	Albedo (r)	Bowen Ratio (Bo)	ASR
26,21	20 - 200	Deciduous Forest	0.08	0.05	0.06	0.87	0.6	0.0088	0.111	0.140	
		Open Water	1.49	0.95	0.56	1.69	0.001				
	200 - 250	Deciduous Forest	0.12	0.27	0.38	0.70	0.6	0.0136	0.111	0.140	
		Open Water	0.32	0.73	0.72	1.02	0.001				ASR24
	250 - 300	Deciduous Forest	0.09	0.20	0.38	0.53	0.6	0.8456	0.111	0.140	
		Urban	0.35	0.80	0.74	1.08	1				
	300 - 20	Deciduous Forest	0.12	0.17	0.22	0.75	0.6	0.0119	0.111	0.140	
		Open Water	0.58	0.83	0.70	1.19	0.001				
34,23	130 - 160	Urban	0.02	0.08	0.18	0.46	1	0.1230	0.113	0.149	
		Deciduous Forest	0.13	0.49	0.53	0.92	0.6				
		Open Water	0.11	0.43	0.86	0.50	0.001				
	160 - 230	Deciduous Forest	0.14	0.23	0.26	0.89	0.6	0.6547	0.113	0.149	
		Commercial/Industrial/Transport	0.47	0.77	0.66	1.16	0.7				ASR1, ASR3
	230 - 340	Open Water	0.96				0.001	0.0010	0.113	0.149	
	340 - 130	Urban	0.14	0.11	0.07	1.61	1	0.7810	0.113	0.149	
		Deciduous Forest	1.17	0.89	0.59	1.51	0.6				
34,24	70 - 130	Deciduous Forest	0.42	0.81	0.59	1.36	0.6	0.2560	0.113	0.149	
		Open Water	0.10	0.19	0.92	0.21	0.001				
	130 - 205	Deciduous Forest	0.65				0.6	0.6000	0.113	0.149	ASR2
	205 - 250	Deciduous Forest	0.26	0.67	0.53	1.28	0.6	0.1482	0.113	0.149	
		Open Water	0.13	0.33	0.92	0.36	0.001				
	250 - 70	Open Water	1.57				0.001	0.0010	0.113	0.149	
35,22	45 - 95	Deciduous Forest	0.30	0.69	0.53	1.31	0.6	0.1480	0.113	0.149	
		Open Water	0.14	0.31	0.86	0.37	0.001				
	95 - 165	Deciduous Forest	0.61				0.6	0.6000	0.113	0.149	
	165 - 250	Open Water	0.74				0.001	0.0010	0.113	0.149	
	250 - 285	Open Water	0.11	0.37	0.39	0.94	0.001	0.0203	0.113	0.149	ASR26
		Commercial/Industrial/Transport	0.19	0.63	0.79	0.80	0.7				
	285 - 340	Deciduous Forest	0.32	0.67	0.39	1.70	0.6	0.6636	0.113	0.149	
		Urban	0.16	0.33	0.79	0.42	1				
	340 - 45	Deciduous Forest	0.57				0.6	0.6000	0.113	0.149	
35,27	60 - 110	Deciduous Forest	0.44				0.6	0.6000	0.136	0.320	
	110 - 155	Urban	0.39				1	1.0000	0.136	0.320	
	155 - 320	Commercial/Industrial/Transport	0.17	0.12	0.07	1.78	0.7	0.0352	0.136	0.320	ASR5
		Open Water	1.27	0.88	0.59	1.49	0.001				
	320 - 60	Urban	0.87				1	1.0000	0.136	0.320	
35,28	110 - 150	Urban	0.35				1	1.0000	0.140	0.380	
	150 - 280	Urban	0.06	0.05	0.07	0.80	1	0.0100	0.140	0.380	
		Open Water	1.07	0.95	0.59	1.60	0.001				ASR4
	280 - 340	Deciduous Forest	0.23	0.44	0.46	0.96	0.6	0.0403	0.140	0.380	
		Open Water	0.29	0.56	0.79	0.70	0.001				
	340 - 110	Deciduous Forest	1.13				0.6	0.6000	0.140	0.380	
35,29	40 - 90	Urban	0.44				1	1.0000	0.140	0.380	
	90 - 170	Urban	0.24	0.34	0.28	1.23	1	0.8098	0.140	0.380	
		Deciduous Forest	0.46	0.66	0.76	0.87	0.6				
	170 - 265	Urban	0.12	0.14	0.16	0.91	1	0.7330	0.140	0.380	ASR7
		Deciduous Forest	0.71	0.86	0.61	1.41	0.6				
	265 - 40	Urban	0.23	0.19	0.13	1.46	1	0.0355	0.140	0.380	
		Open Water	0.95	0.81	0.59	1.36	0.001				
35,30	105 - 150	Open Water	0.20	0.50	0.46	1.09	0.001	0.0127	0.140	0.380	
		Urban	0.20	0.50	0.79	0.63	1				
	150 - 195	Open Water	0.16	0.41	110.00	0.00	0.001	0.5810	0.140	0.380	
		Deciduous Forest	0.23	0.59	0.79	0.74	0.6				
	195 - 235	Open Water	0.35				0.001	0.0010	0.140	0.380	
	235 - 265	Open Water	0.02	0.06	0.13	0.48	0.001	0.0148	0.140	0.380	ASR25
		Deciduous Forest	0.01	0.05	0.30	0.18	0.6				
		Open Water	0.04	0.17	0.43	0.39	0.001				
		Deciduous Forest	0.12	0.47	0.72	0.65	0.6				
		Open Water	0.06	0.24	0.92	0.26	0.001				
	265 - 105	Open Water	1.75				0.001	0.0010	0.140	0.380	
36,21	15 - 60	Open Water	0.39				0.001	0.0010	0.113	0.149	
	60 - 200	Grasslands/Herbaceous	1.22				0.065	0.0650	0.113	0.149	
	200 - 330	Open Water	0.28	0.24	0.26	0.93	0.001	0.0284	0.113	0.149	ASR27
		Deciduous Forest	0.86	0.76	0.74	1.02	0.6				
	330 - 15	Open Water	0.14	0.36	0.38	0.96	0.001	0.0068	0.113	0.149	
		Grasslands/Herbaceous	0.25	0.64	0.78	0.81	0.065				
36,26	15 - 95	Deciduous Forest	0.12	0.17	0.20	0.86	0.6	0.6910	0.136	0.320	
		Urban	0.19	0.27	0.46	0.60	1				
		Deciduous Forest	0.39	0.56	0.79	0.70	0.6				
	95 - 125	Urban	0.09	0.33	0.39	0.83	1	0.7721	0.136	0.320	
		Deciduous Forest	0.18	0.67	0.79	0.85	0.6				ASR8, ASR13
	125 - 340	Urban	0.68	0.37	0.13	2.77	1	0.1458	0.136	0.320	
		Open Water	1.19	0.63	0.59	1.07	0.001				
	340 - 15	Deciduous Forest	0.15	0.49	0.46	1.06	0.6	0.7221	0.136	0.320	
		Urban	0.16	0.51	0.86	0.60	1				
36,27	145 - 205	Deciduous Forest	0.19	0.37	0.39	0.94	0.6	0.7580	0.136	0.320	
		Urban	0.33	0.63	0.79	0.80	1				
	205 - 285	Deciduous Forest	0.08	0.12	0.13	0.90	0.6	0.0992	0.136	0.320	
		Urban	0.23	0.33	0.46	0.71	1				
		Open Water	0.39	0.56	0.79	0.71	0.001				ASR9, ASR11
	285 - 335	Urban	0.10	0.23	0.26	0.87	1	0.7542	0.136	0.320	
		Deciduous Forest	0.34	0.77	0.72	1.07	0.6				
	335 - 145	Urban	0.38	0.26	0.13	1.96	1	0.8195	0.136	0.320	
		Deciduous Forest	1.10	0.74	0.59	1.25	0.6				
36,28	140 - 195	Urban	0.03	0.06	0.13	0.44	1	0.7189	0.140	0.380	
		Deciduous Forest	0.33	0.69	0.53	1.30	0.6				
		Urban	0.12	0.26	0.92	0.28	1				ASR6
	195 - 285	Urban	0.60	0.76	0.46	1.65	1	0.3659	0.140	0.380	
		Open Water	0.19	0.24	0.86	0.28	0.001				
	285 - 140	Deciduous Forest	1.88				0.6	0.6000	0.140	0.380	

Annex C - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness

PATH Grid	Sector (degree)	Land Use Type	Area (km^2)	Fraction of Section Total Area	Distance (km)	Weighting	Surface Roughness (Zo) (a)	Resultant Surface Roughness (Zo) (m) (a)	Albedo (r)	Bowen Ratio (Bo)	ASR
36,29	40 - 110	Urban	0.61				1	1.0000	0.140	0.380	
	110 - 170	Urban	0.20	0.38	0.36	1.06	1	0.7988	0.140	0.380	
		Deciduous Forest	0.32	0.62	0.74	0.83	0.6				
	170 - 245	Urban	0.04	0.06	0.14	0.42	1	0.6685	0.140	0.380	ASR10
		Deciduous Forest	0.62	0.94	0.60	1.57	0.6				
	245 - 275	Urban	0.26				1	1.0000	0.140	0.380	
	275 - 40	Urban	0.60	0.55	0.34	1.63	1	0.1714	0.140	0.380	
		Open Water	0.49	0.45	0.80	0.56	0.001				
37,25	80 - 135	Urban	0.09	0.19	0.46	0.40	1	0.8114	0.136	0.320	
		Deciduous Forest	0.19	0.39	0.66	0.60	0.6				
		Urban	0.20	0.42	0.92	0.46	1				
	135 - 290	Open Water	1.35				0.001	0.0010	0.136	0.320	ASR22
	290 - 80	Urban	0.10	0.08	0.20	0.41	1	0.0248	0.136	0.320	
		Open Water	0.56	0.43	0.33	1.31	0.001				
		Commercial/Industrial/Transport	0.41	0.31	0.53	0.59	0.7				
		Deciduous Forest	0.23	0.18	0.79	0.23	0.6				
37,26	80 - 110	Deciduous Forest	0.13	0.50	0.46	1.09	0.6	0.6329	0.136	0.320	
		Commercial/Industrial/Transport	0.13	0.50	0.86	0.58	0.7				
	110 - 140	Commercial/Industrial/Transport	0.05	0.20	0.33	0.61	0.7	0.0176	0.136	0.320	
		Open Water	0.17	0.66	0.66	1.00	0.001				ASR16
		Urban	0.04	0.14	0.92	0.15	1				
	140 - 285	Urban	0.16	0.13	0.26	0.49	1	0.0065	0.136	0.320	
		Open Water	1.10	0.87	0.66	1.32	0.001				
	285 - 355	Urban	0.61				1	1.0000	0.136	0.320	
	355 - 80	Deciduous Forest	0.74				0.6	0.6000	0.136	0.320	
37,28	110 - 305	Deciduous Forest	1.70				0.6	0.6000	0.140	0.380	
	305 - 345	Deciduous Forest	0.20	0.58	0.46	1.25	0.6	0.6938	0.140	0.380	
		Urban	0.15	0.42	0.86	0.50	1				ASR12
	345 - 110	Deciduous Forest	0.30	0.27	0.26	1.03	0.6	0.7723	0.140	0.380	
		Urban	0.79	0.73	0.72	1.01	1				
38,25	95 - 130	Urban	0.02	0.06	0.13	0.43	1	0.0246	0.136	0.320	
		Commercial/Industrial/Transport	0.05	0.18	0.33	0.54	0.7				
		Open Water	0.23	0.77	0.72	1.06	0.001				
	130 - 190	Urban	0.15	0.28	0.33	0.85	1	0.7593	0.136	0.320	
		Deciduous Forest	0.38	0.72	0.72	1.00	0.6				
	190 - 245	Urban	0.03	0.07	0.13	0.51	1	0.2295	0.136	0.320	ASR18, ASR23
		Deciduous Forest	0.30	0.63	0.53	1.21	0.6				
		Open Water	0.14	0.30	0.86	0.35	0.001				
	245 - 275	Urban	0.26				1	1.0000	0.136	0.320	
	275 - 95	Open Water	0.48	0.31	0.13	2.34	0.001	0.0105	0.136	0.320	
		Urban	0.67	0.43	0.46	0.93	1				
		Deciduous Forest	0.41	0.26	0.86	0.31	0.6				
38,27	50 - 340	Deciduous Forest	2.53				0.6	0.6000	0.136	0.320	
	340 - 50	Urban	0.43	0.70	0.39	1.77	1	0.9183	0.136	0.320	ASR14, ASR17
		Deciduous Forest	0.18	0.30	0.86	0.35	0.6				
39,25	40 - 95	Commercial/Industrial/Transport	0.48				0.7	0.7000	0.136	0.320	
	95 - 190	Deciduous Forest	0.83				0.6	0.6000	0.136	0.320	
	190 - 280	Deciduous Forest	0.10	0.12	0.13	0.95	0.6	0.0144	0.136	0.320	ASR19
		Open Water	0.69	0.88	0.66	1.33	0.001				
	280 - 40	Commercial/Industrial/Transport	0.40	0.38	0.20	1.91	0.7	0.6673	0.136	0.320	
		Deciduous Forest	0.65	0.62	0.72	0.86	0.6				
39,28	110 - 250	Deciduous Forest	1.22				0.6	0.6000	0.140	0.380	ASR15
	250 - 110	Urban	1.92				1	1.0000	0.140	0.380	
40, 24	45 - 75	Commercial/Industrial/Transport	0.03	0.11	0.20	0.58	0.7	0.0416	0.136	0.320	
		Deciduous Forest	0.06	0.24	0.46	0.53	0.6				
		Open Water	0.17	0.64	0.79	0.81	0.001				
	75 - 150	Commercial/Industrial/Transport	0.05	0.08	0.20	0.40	0.7	0.0118	0.136	0.320	
		Deciduous Forest	0.08	0.13	0.37	0.34	0.6				ASR20
		Open Water	0.52	0.79	0.66	1.21	0.001				
	150 - 330	Deciduous Forest	0.25	0.16	0.20	0.79	0.6	0.0116	0.136	0.320	
		Open Water	1.32	0.84	0.66	1.28	0.001				
	330 - 45	Deciduous Forest	0.65				0.6	0.6000	0.136	0.320	
40,25	100 - 185	Commercial/Industrial/Transport	0.13	0.18	0.20	0.91	0.7	0.0712	0.136	0.320	
		Deciduous Forest	0.19	0.25	0.42	0.60	0.6				
		Open Water	0.42	0.57	0.72	0.79	0.001				
	185 - 250	Commercial/Industrial/Transport	0.09	0.16	0.20	0.79	0.7	0.6362	0.136	0.320	ASR21
		Deciduous Forest	0.48	0.84	0.66	1.28	0.6				
	250 - 280	Commercial/Industrial/Transport	0.26				0.7	0.7000	0.136	0.320	
	280 - 100	Urban	0.92	0.58	0.33	1.78	1	0.8898	0.136	0.320	
		Deciduous Forest	0.65	0.42	0.79	0.53	0.6				

Note:

(a) With reference to Table A-3 of the AERSURFACE User's Guide 2008 (revised in 2013), the surface roughness values for urban area (Class 22 High Intensity Residential), grasslands/herbaceous area (Class 71 Grasslands/Herbaceous), open water area (Class 11 Open Water) and commercial/industrial/transport area (Class 23 Commercial/Industrial/Transp (Not at Airport)) were assumed to be 1m, 0.065m, 0.001m and 0.7m, respectively. With the height of trees (Deciduous Forest) assumed to be 6m on average, the surface roughness value of 0.6m has been adopted for tree areas based on the fact that the surface **roughness value can be estimated as about 10% of the average height of physical structures. For sector consisting of 2 or more different land use types, the resultant surface roughness length for the sector is** calculated based on the inverse-distance weighted geometric mean.

Annex C

10km x 10km Area for Lamma Island

File: T:\GIS\CONTRACT\0526414\mxd\0526414_LPS_10km_Landuse_v2_Lamma_Island.mxd
Date: 11/11/2019

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10km x 10km Area for Southwestern part of Hong Kong Island

File: T:\GIS\CONTRACT\0526414\mxd\0526414_LPS_10km_Landuse_v2_HKI_Southwest.mxd
Date: 11/11/2019

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10km x 10km Area for Central & Western part of Hong Kong Island

File: T:\GIS\CONTRACT\0526414\mxd\0526414_LPS_10km_Landuse_v2_HKI_Central.mxd
Date: 11/11/2019

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10km x 10km Area for Cheung Chau

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Date: 11/11/2019

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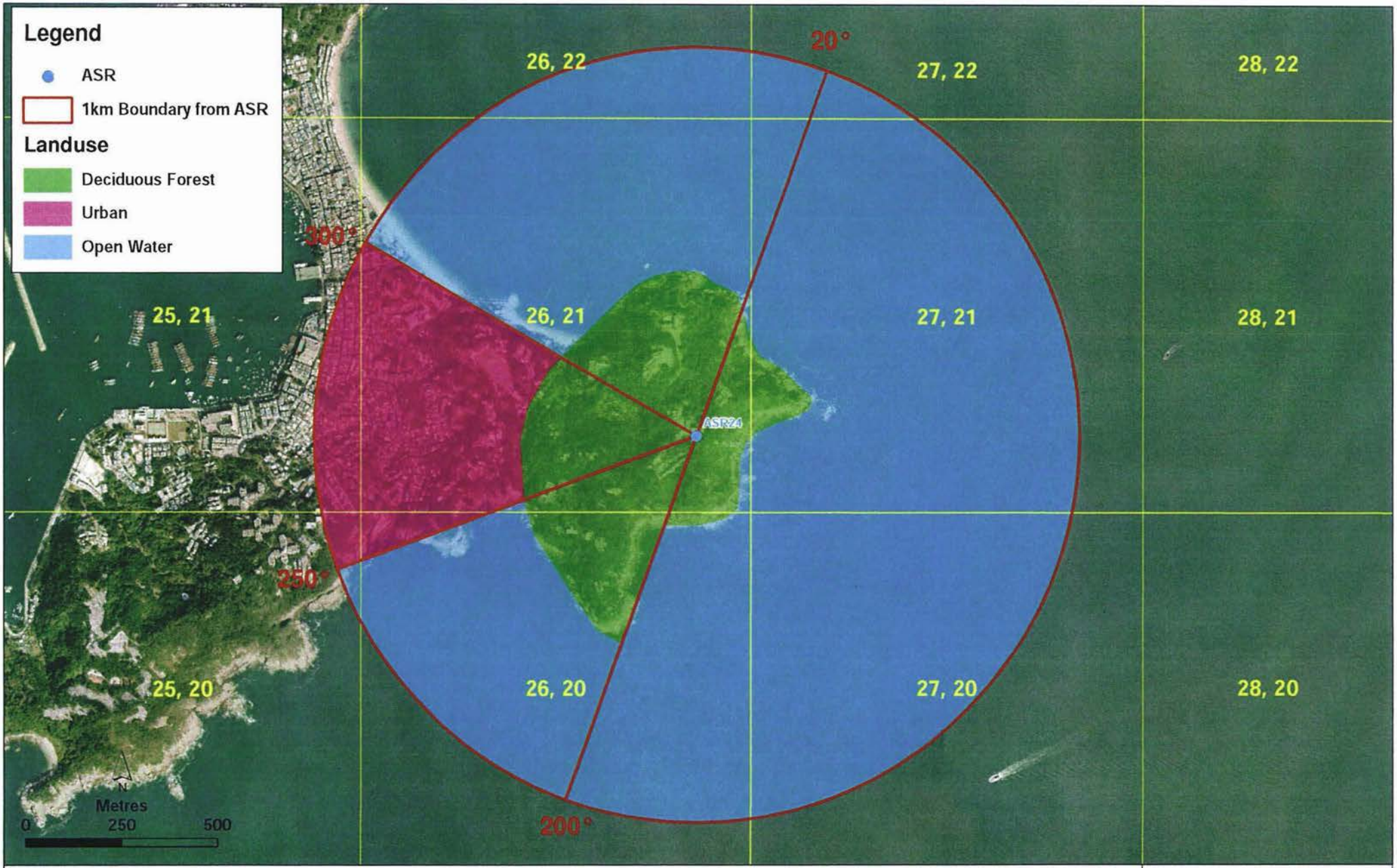

Annex C

Sectors of Land Use for PATH Grid 26,21

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Date: 5/12/2019

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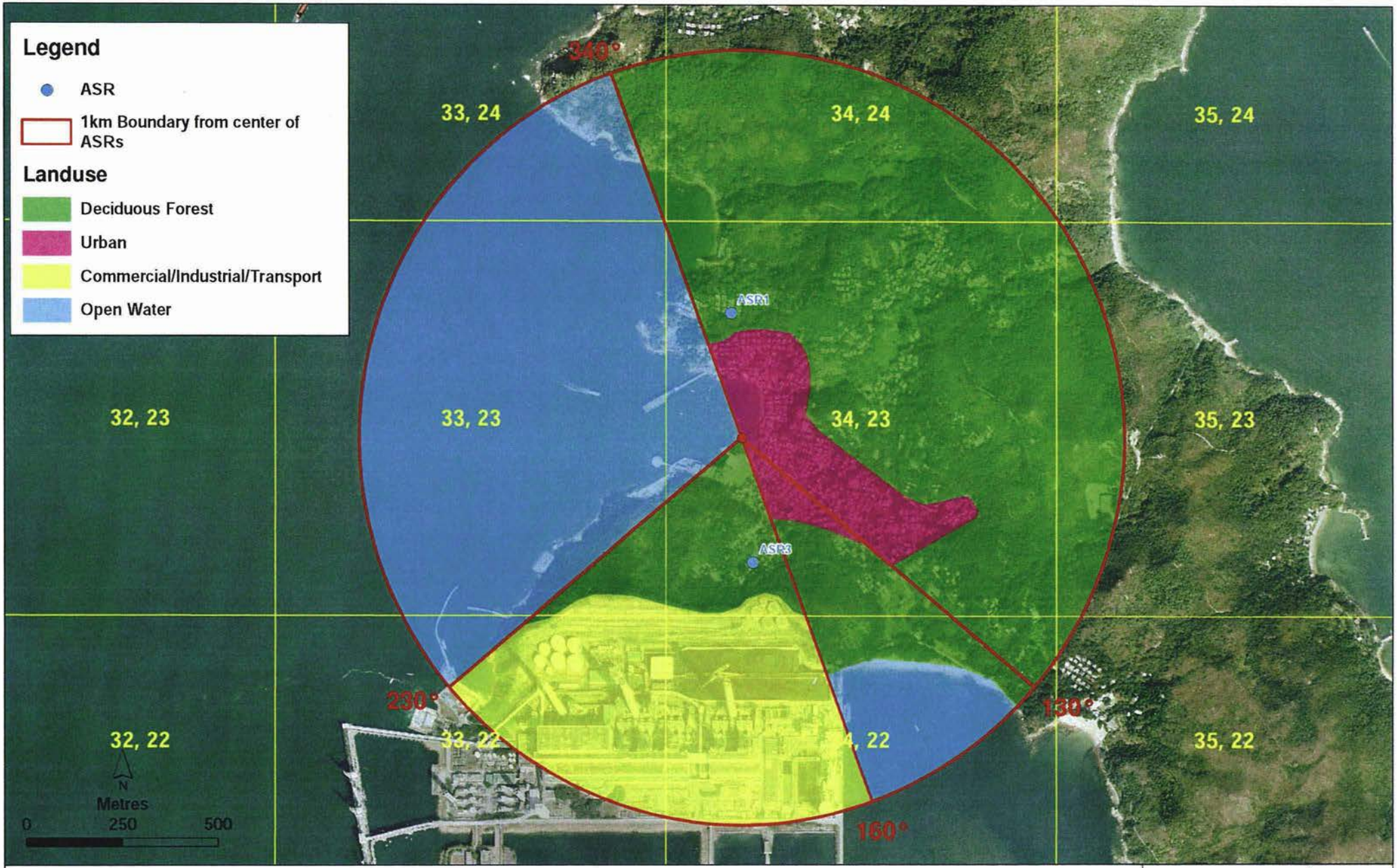

Annex C

Sectors of Land Use for PATH Grid 34,23

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Date: 11/11/2019

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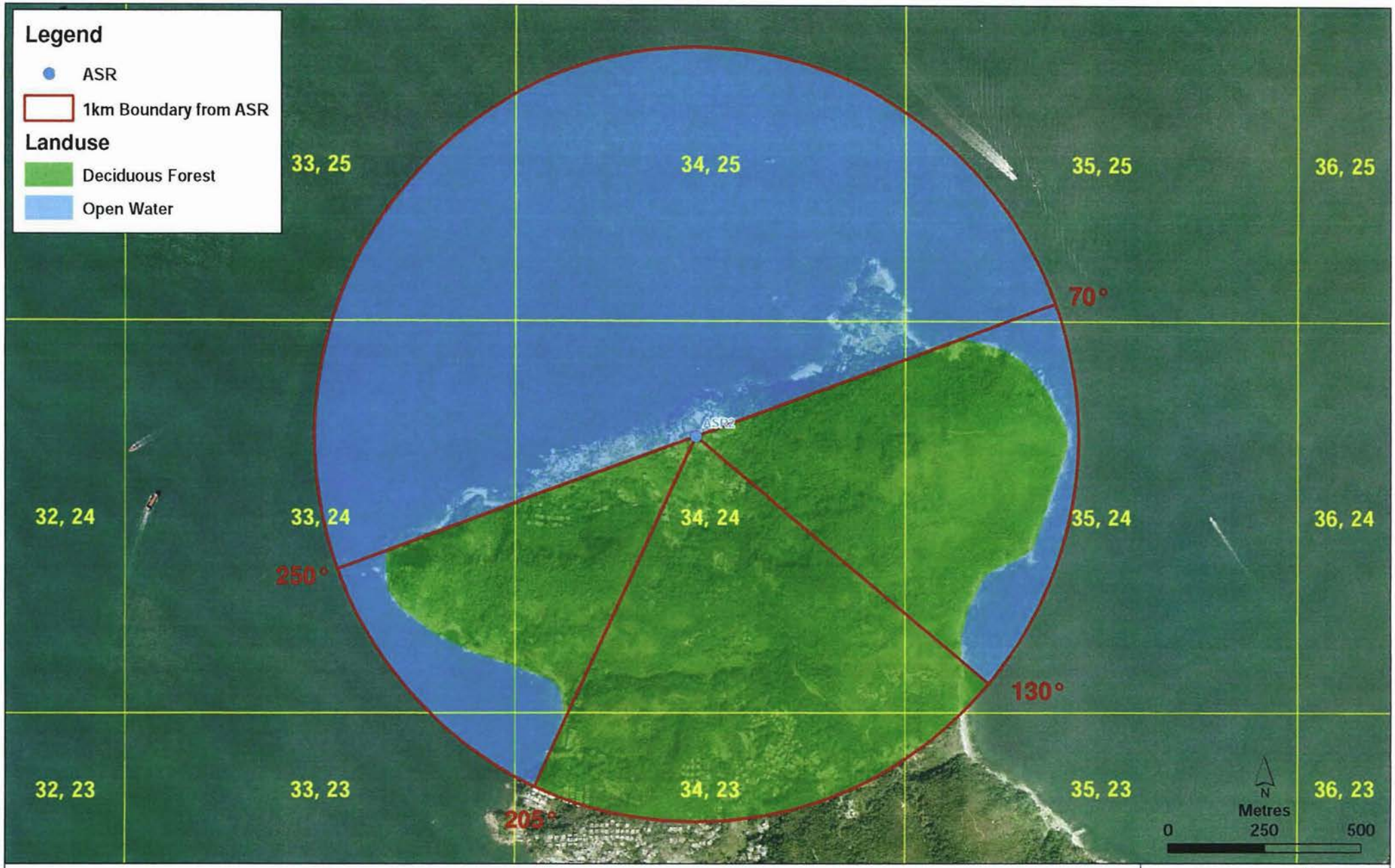

Annex C

Sectors of Land Use for PATH Grid 34,24

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Date: 11/11/2019

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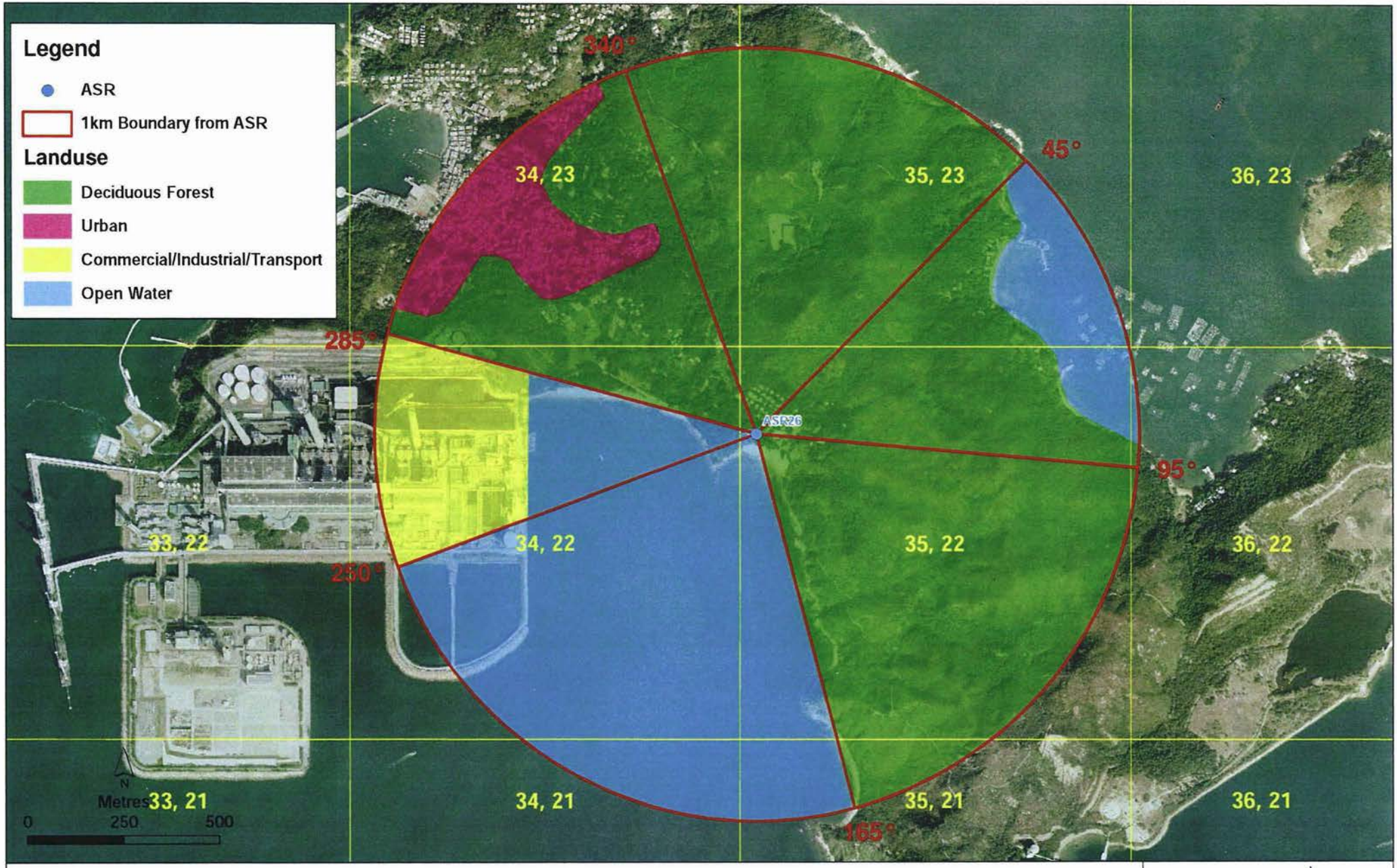

Annex C

Sectors of Land Use for PATH Grid 35,22

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Date: 5/12/2019

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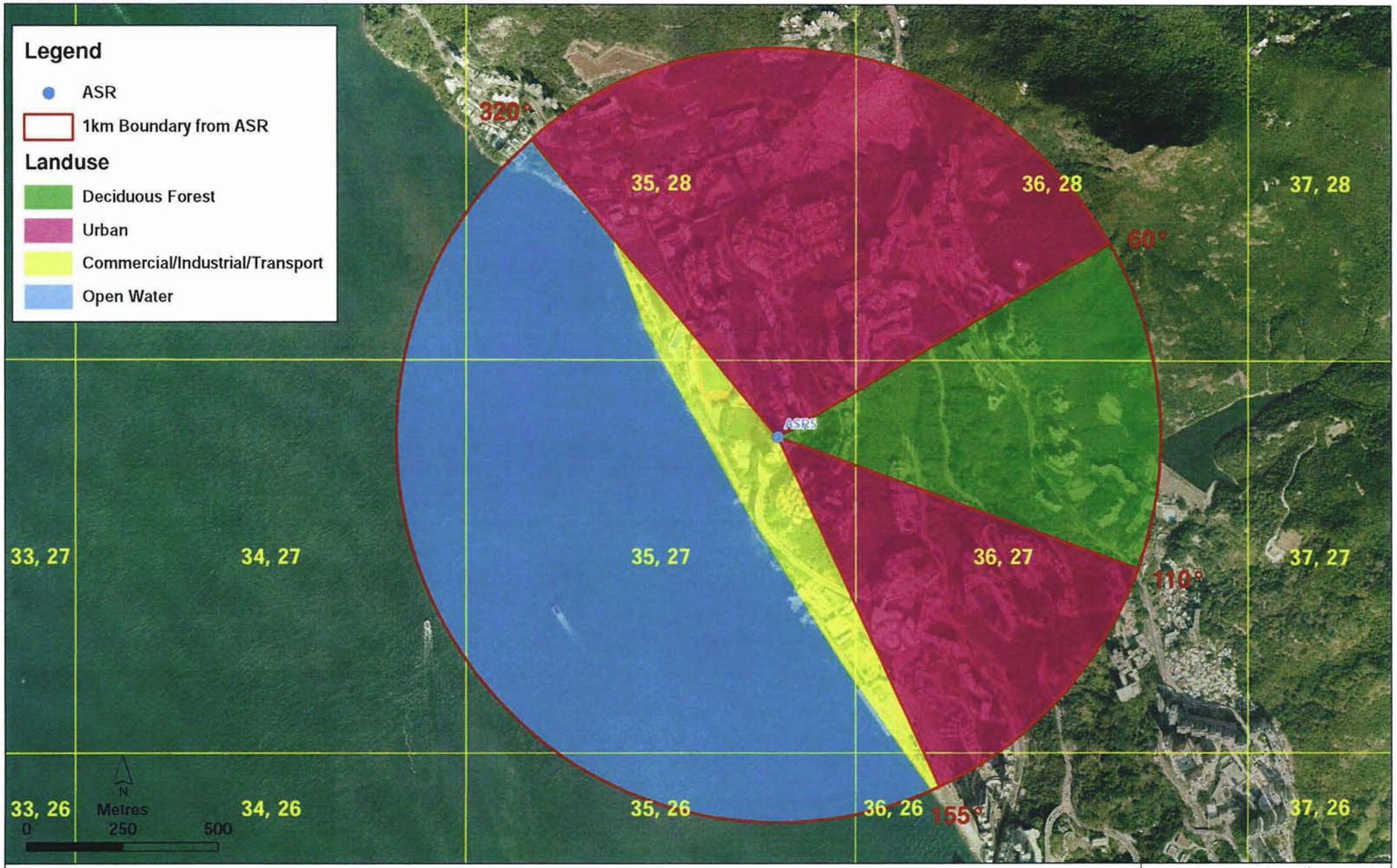

Annex C

Sectors of Land Use for PATH Grid 35,27

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Date: 5/12/2019

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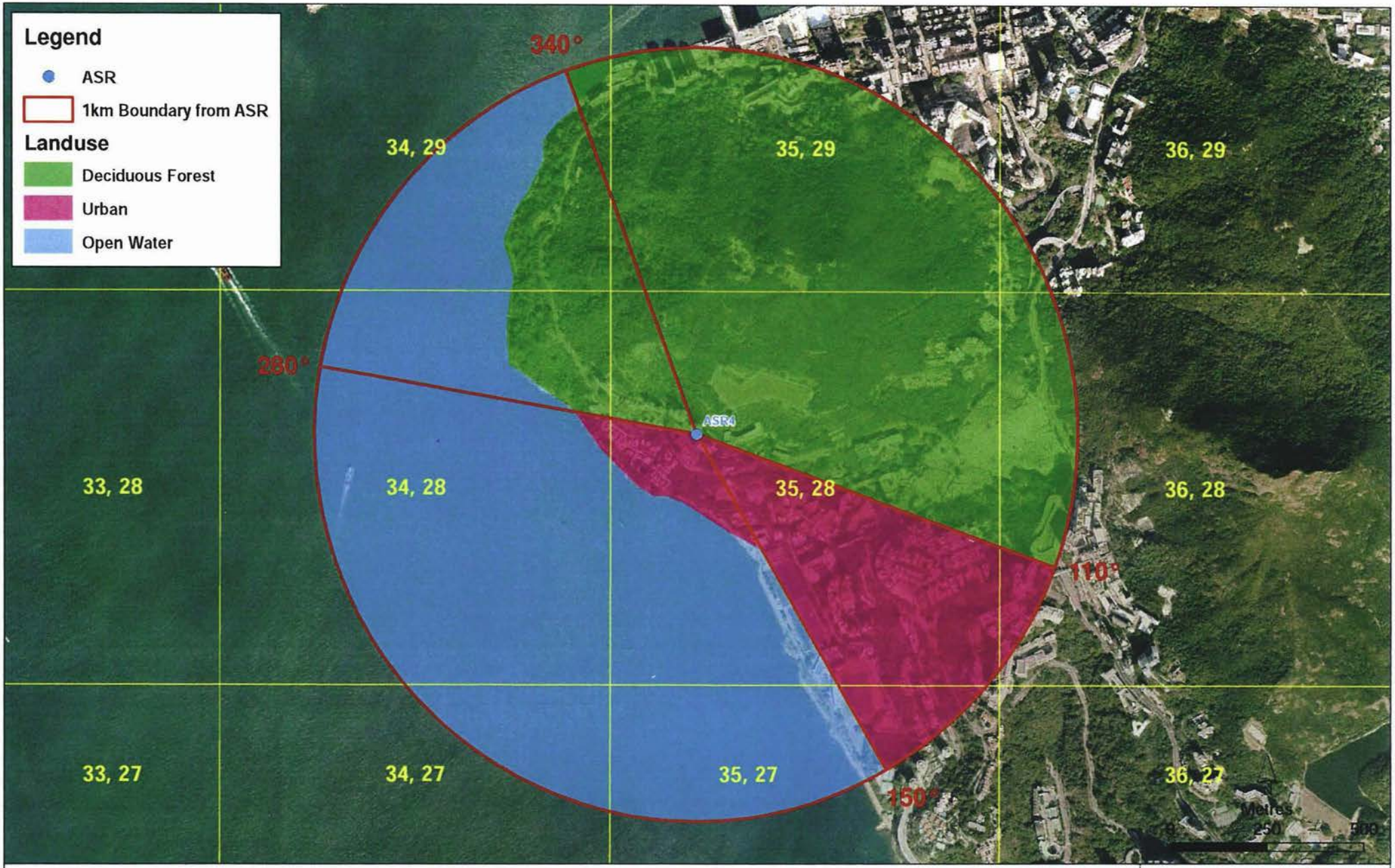

Annex C

Sectors of Land Use for PATH Grid 35,28

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Date: 5/12/2019

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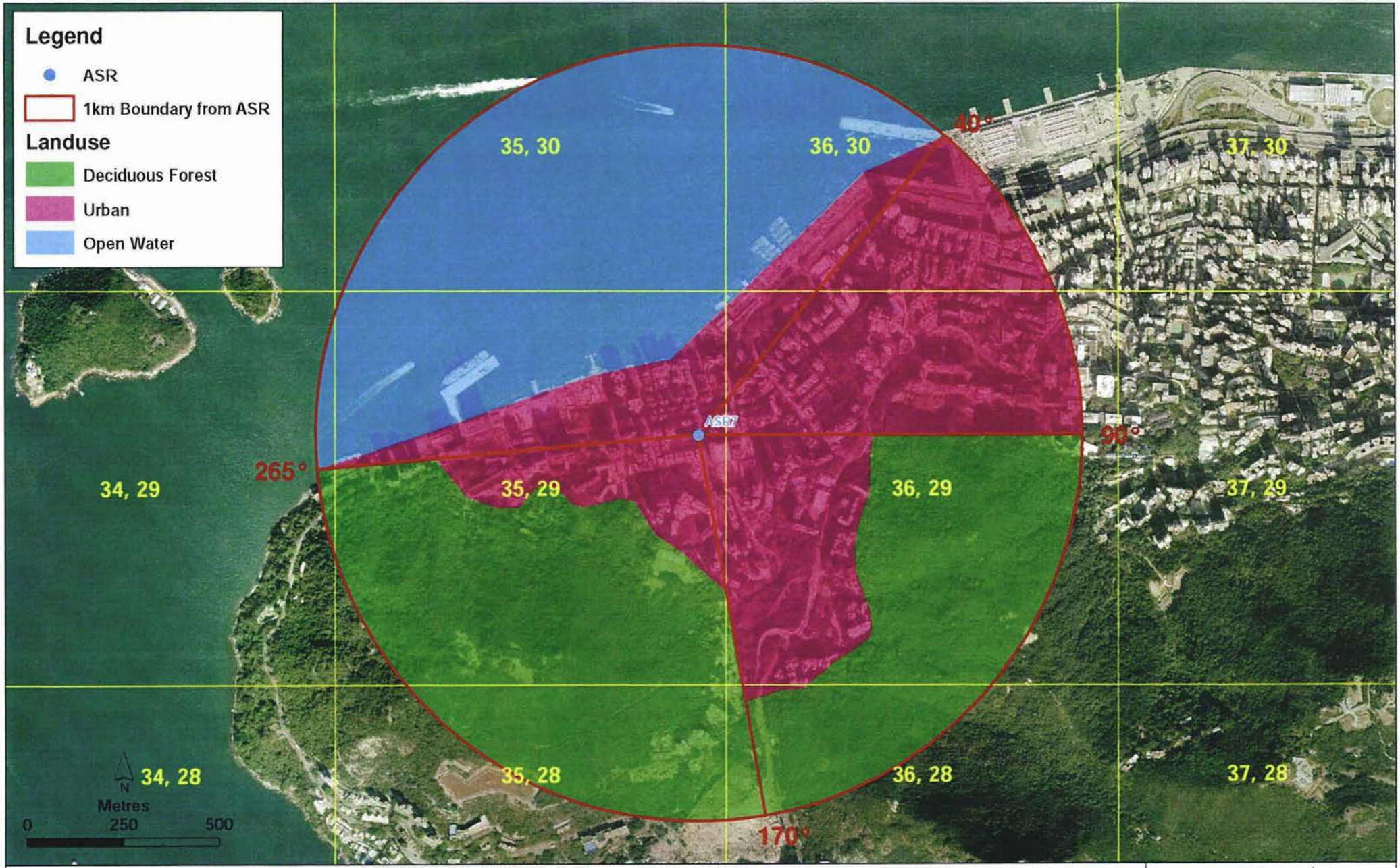

Annex C

Sectors of Land Use for PATH Grid 35,29

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Date: 5/12/2019

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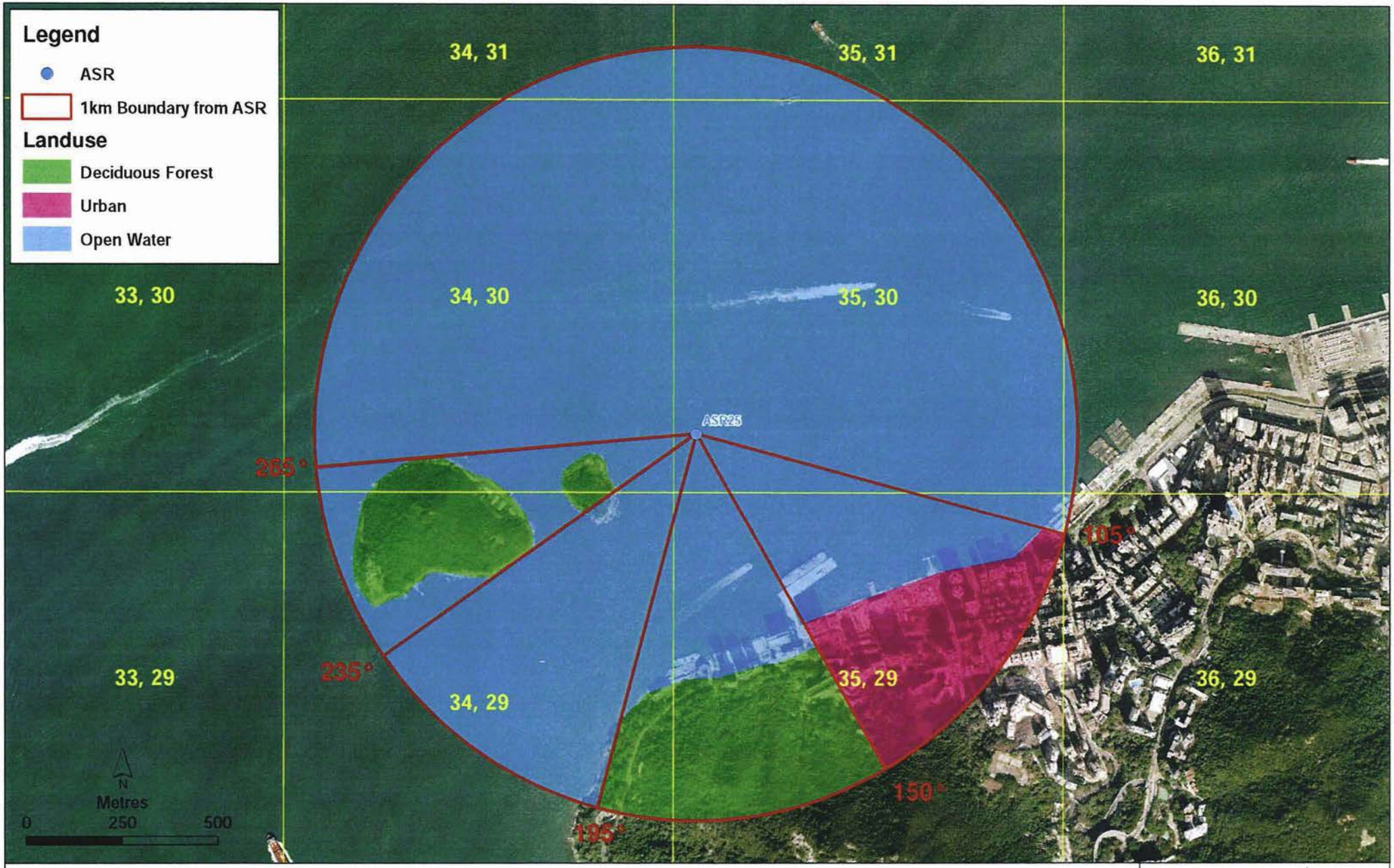

Annex C

Sectors of Land Use for PATH Grid 35,30

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Date: 5/12/2019

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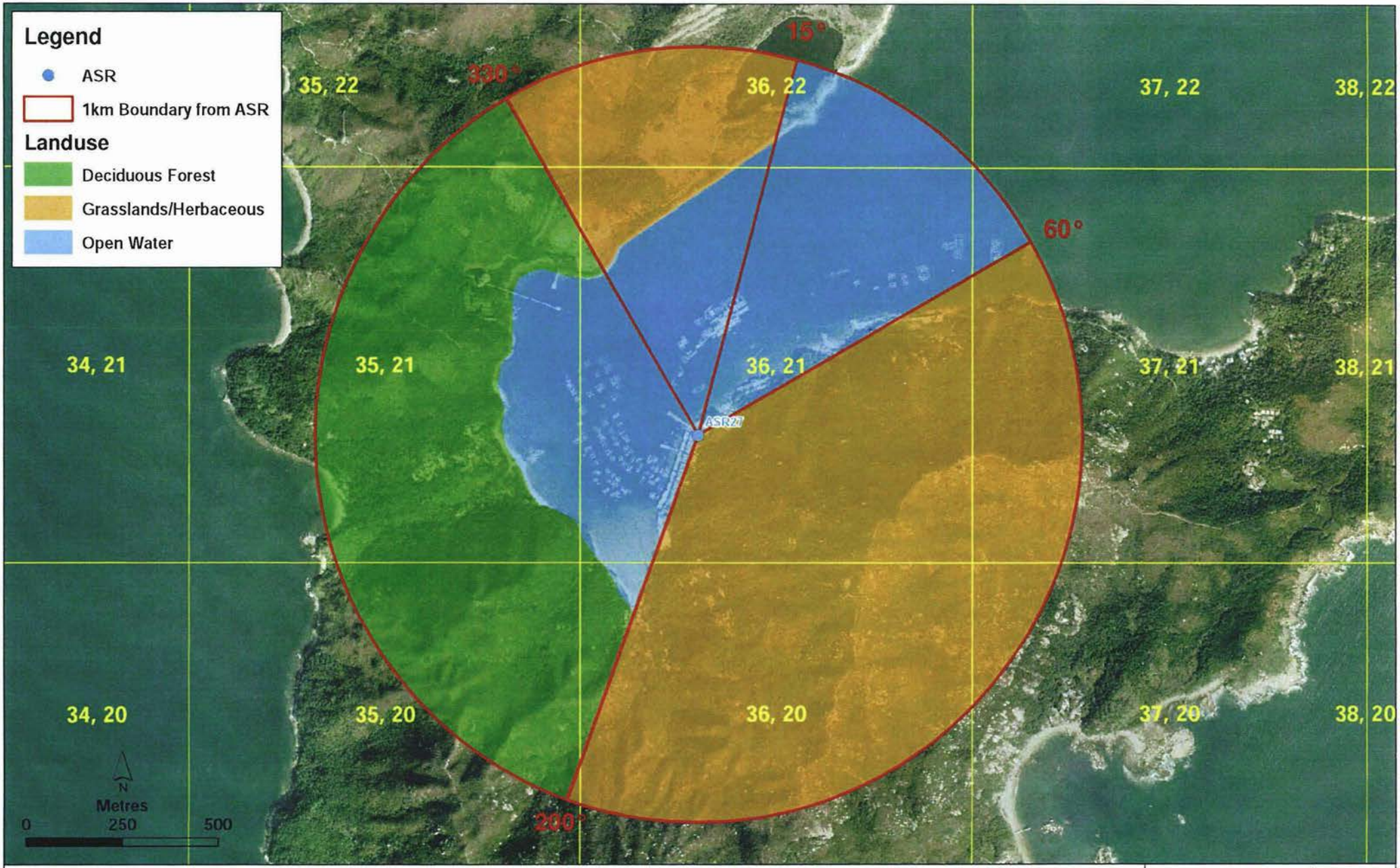

Annex C

Sectors of Land Use for PATH Grid 36,21

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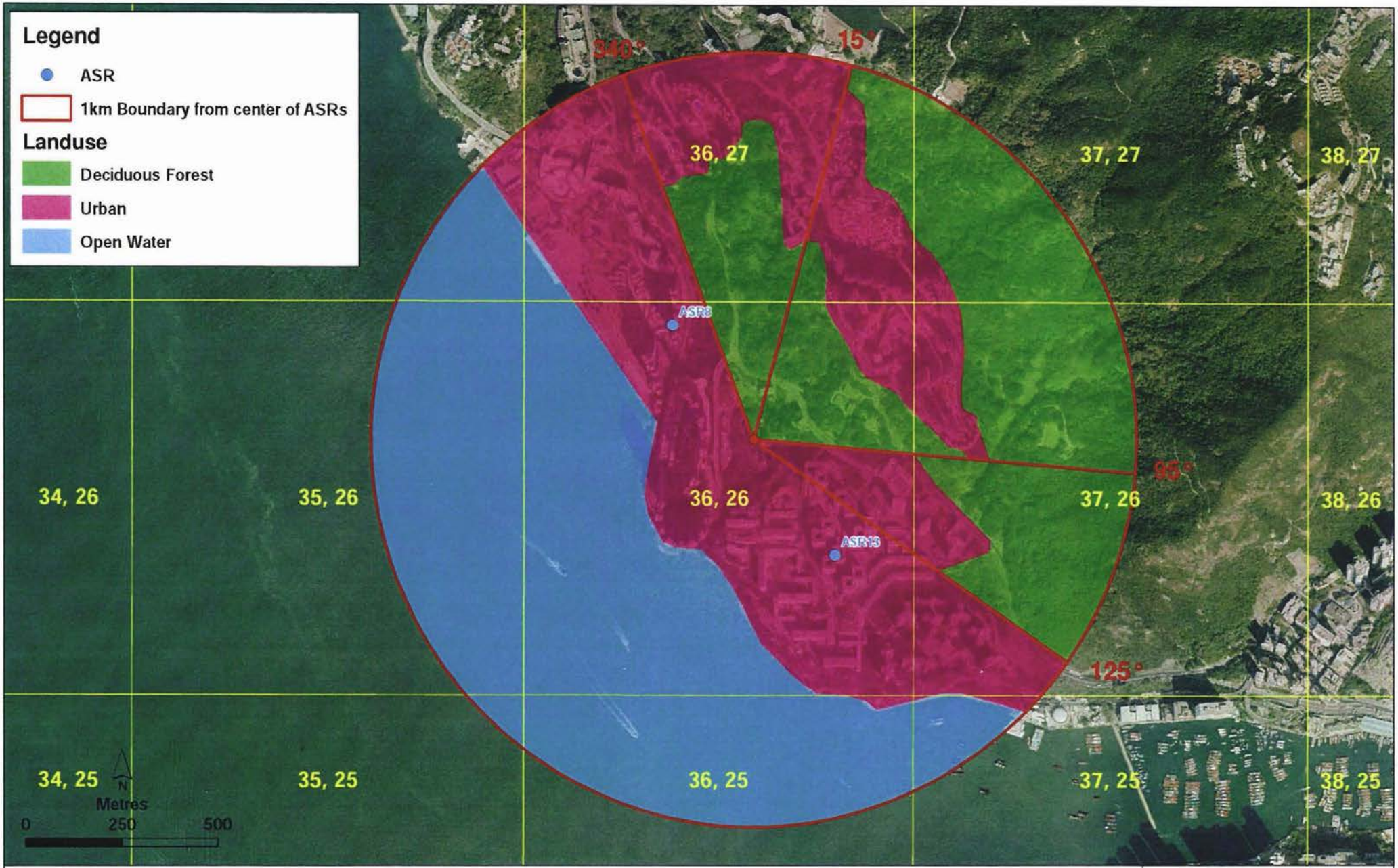

Annex C

Sectors of Land Use for PATH Grid 36,26

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Date: 11/11/2019

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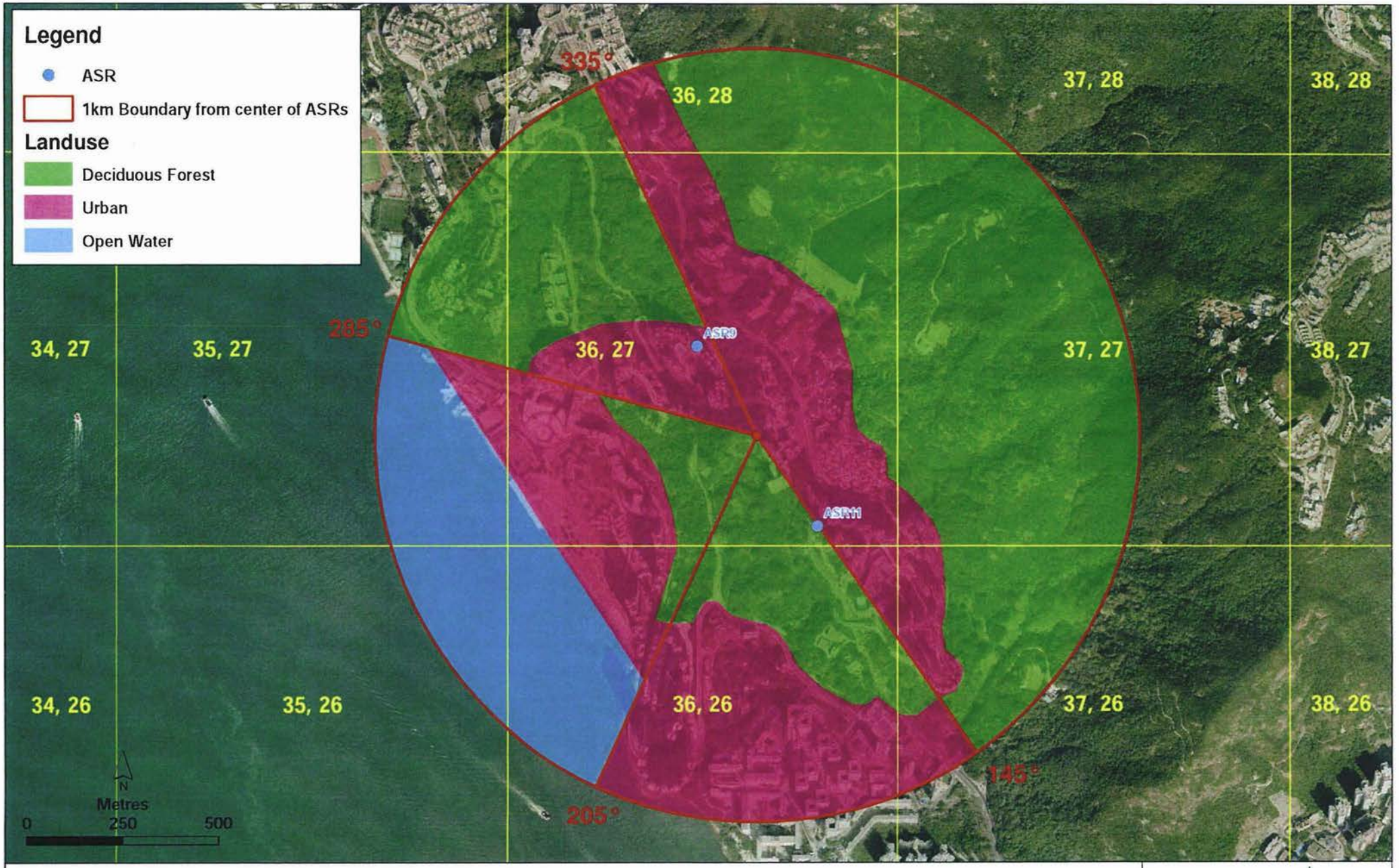

Annex C

Sectors of Land Use for PATH Grid 36,27

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Date: 11/11/2019

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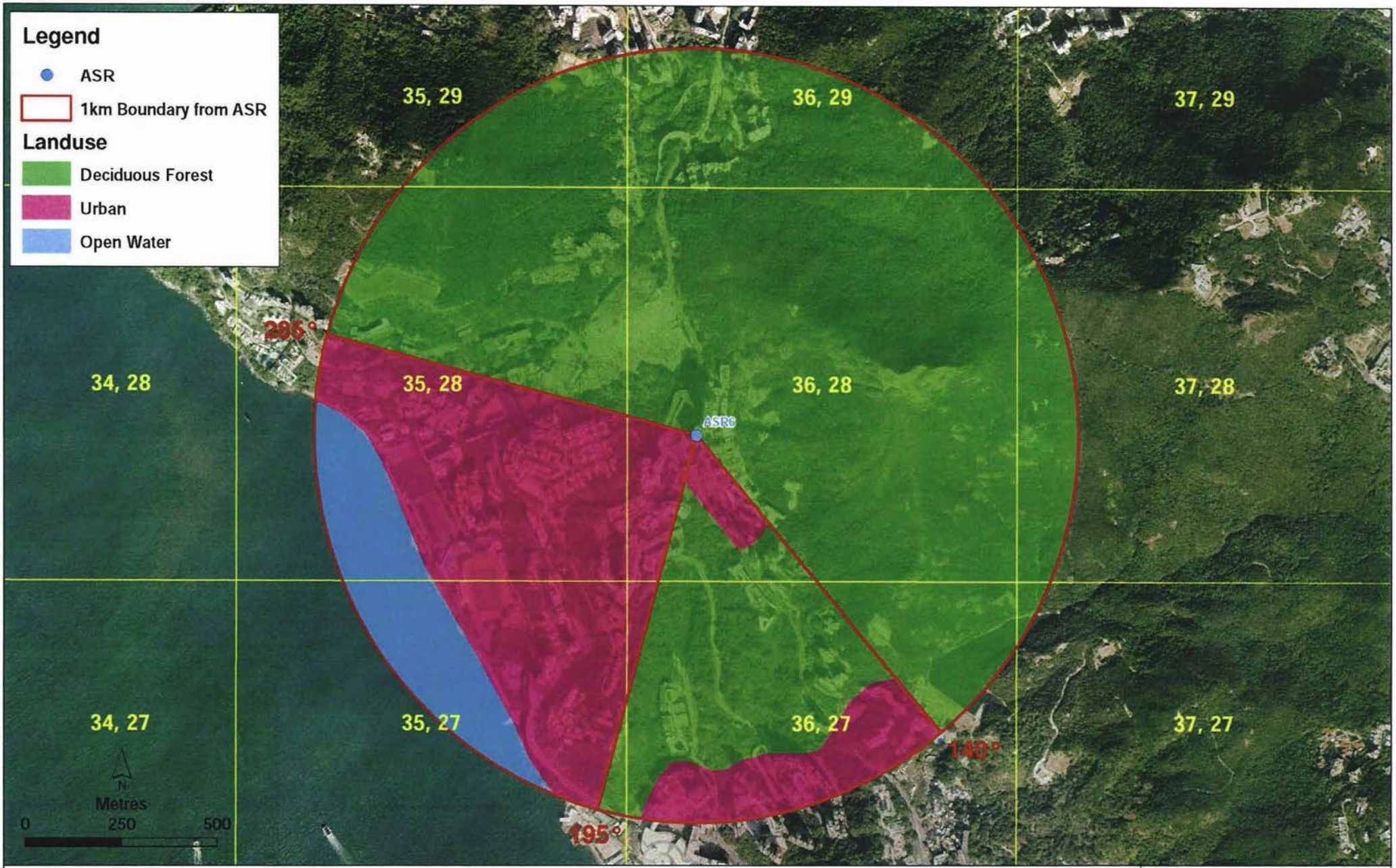

Annex C

Sectors of Land Use for PATH Grid 36,28

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Date: 11/11/2019

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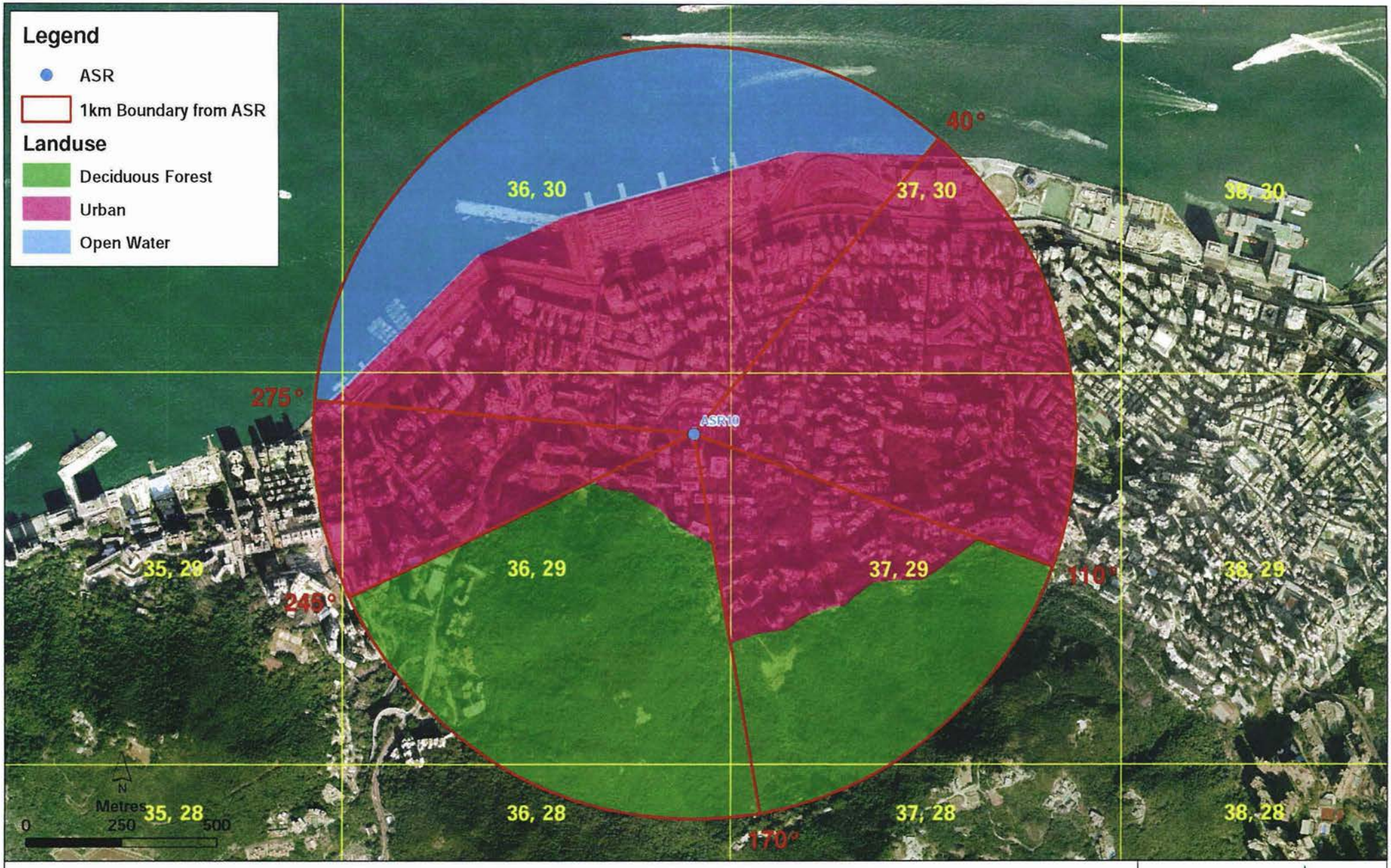

Annex C

Sectors of Land Use for PATH Grid 36,29

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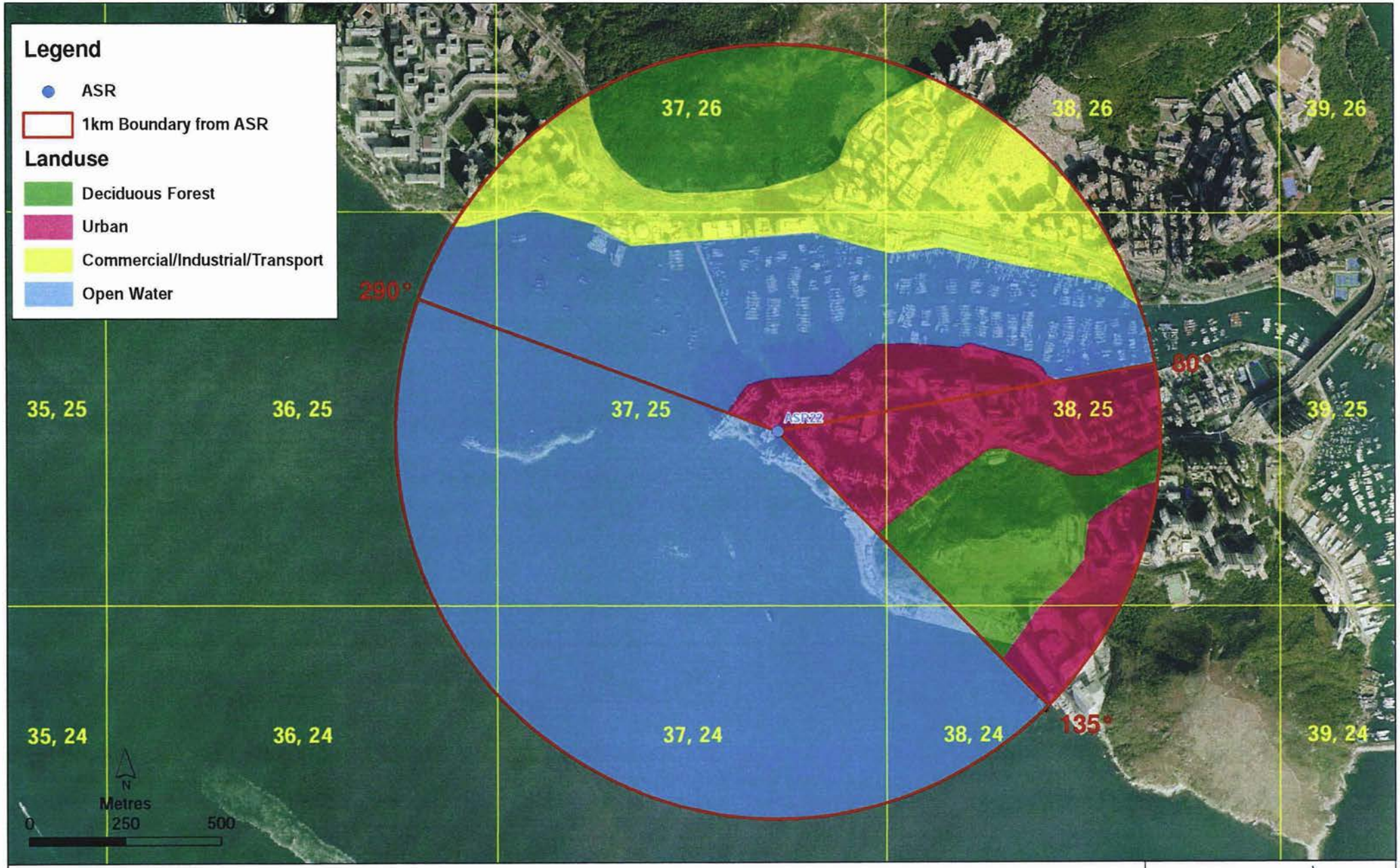

Annex C

Sectors of Land Use for PATH Grid 37,25

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Environmental Resources Management

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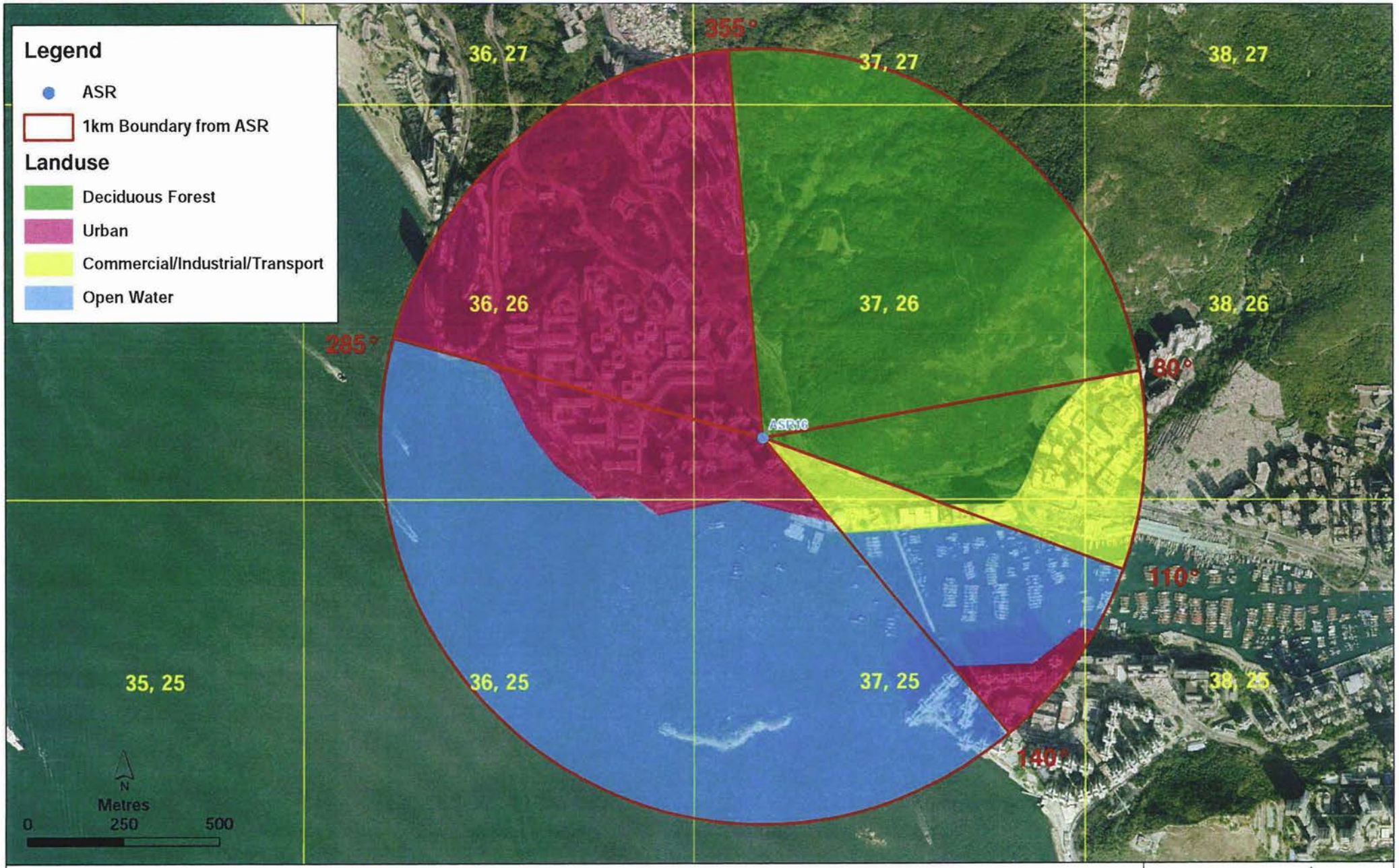

Annex C

Sectors of Land Use for PATH Grid 37,26

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Date: 5/12/2019

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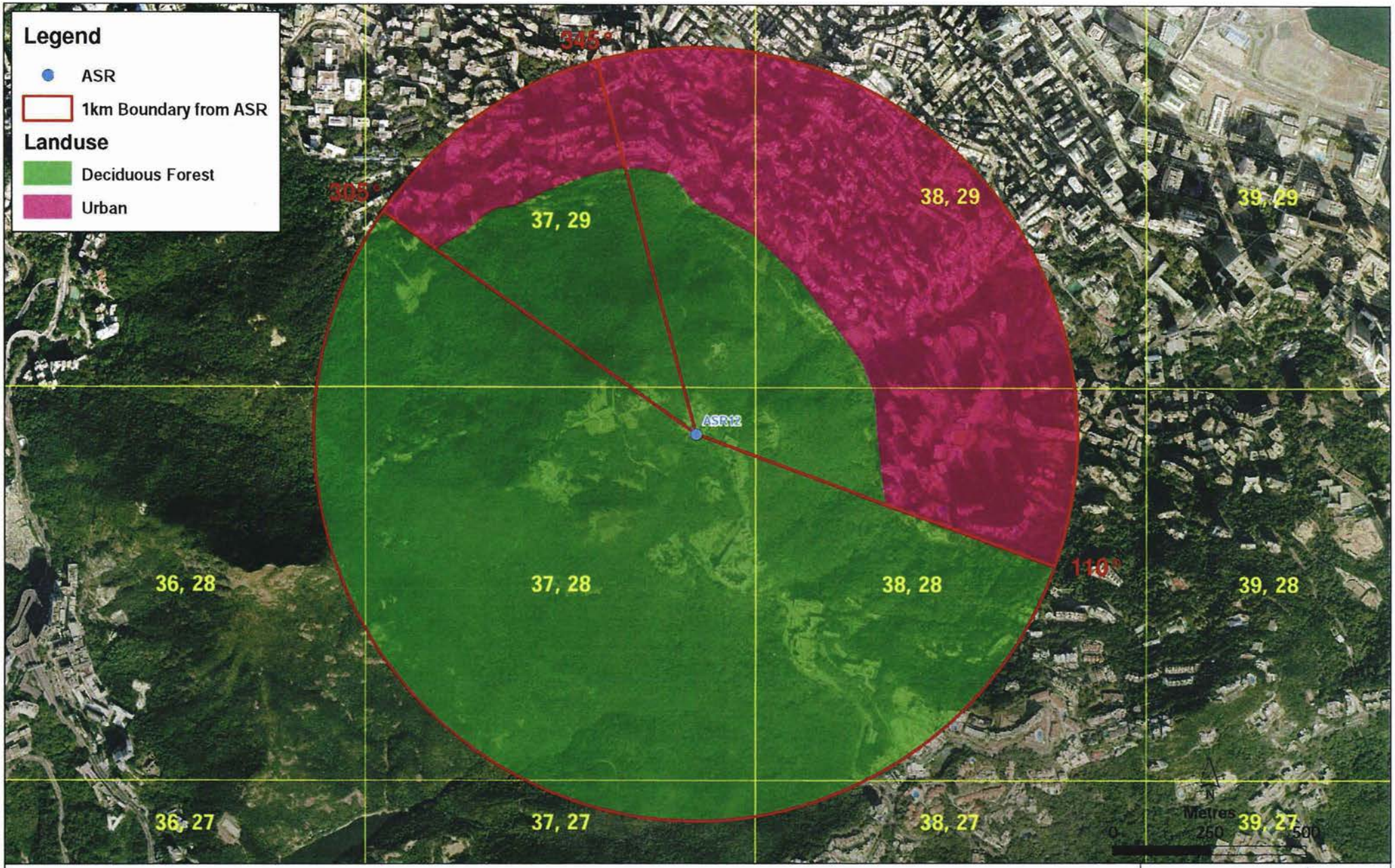

Annex C

Sectors of Land Use for PATH Grid 37,28

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Environmental Resources Management

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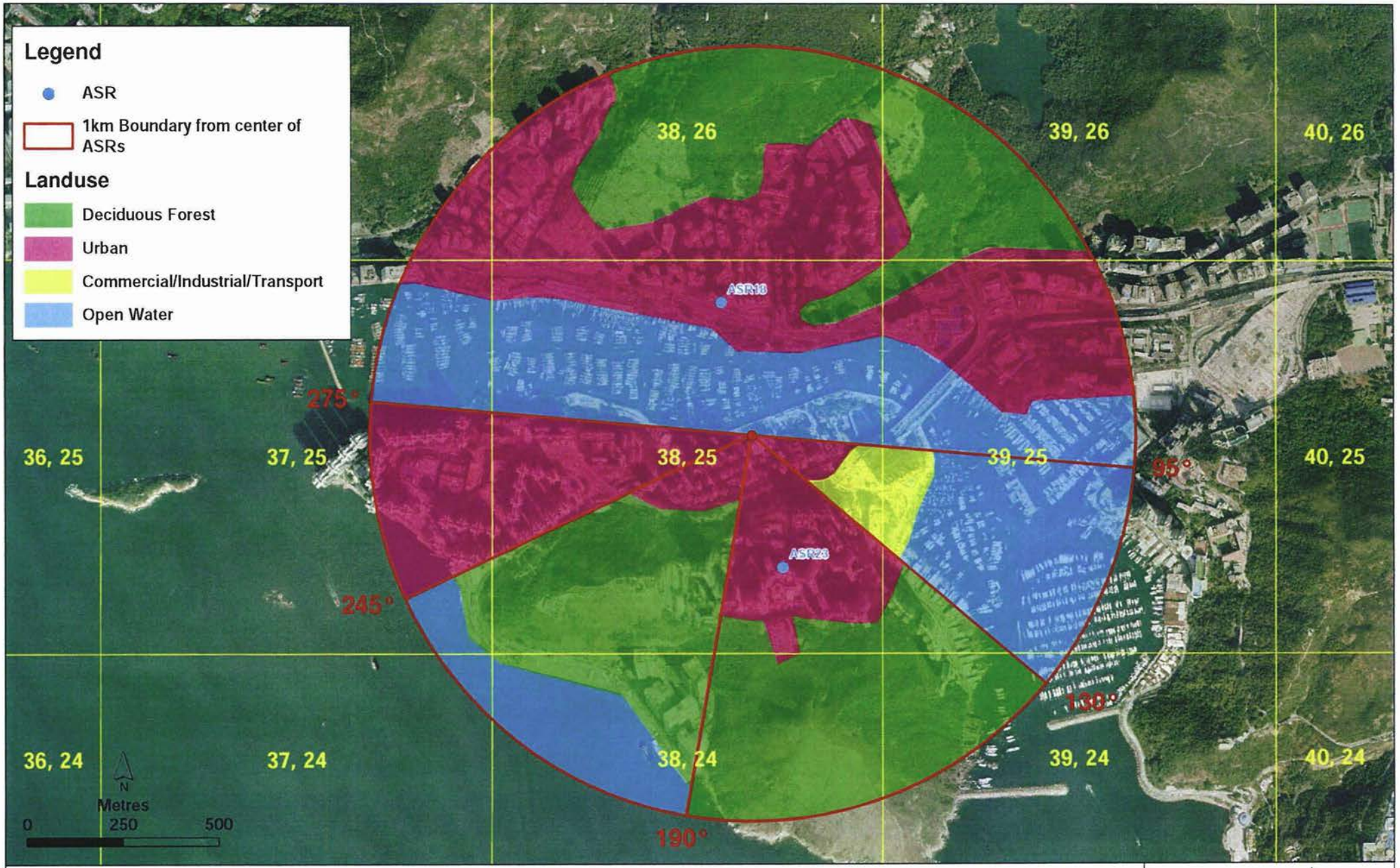

Annex C

Sectors of Land Use for PATH Grid 38,25

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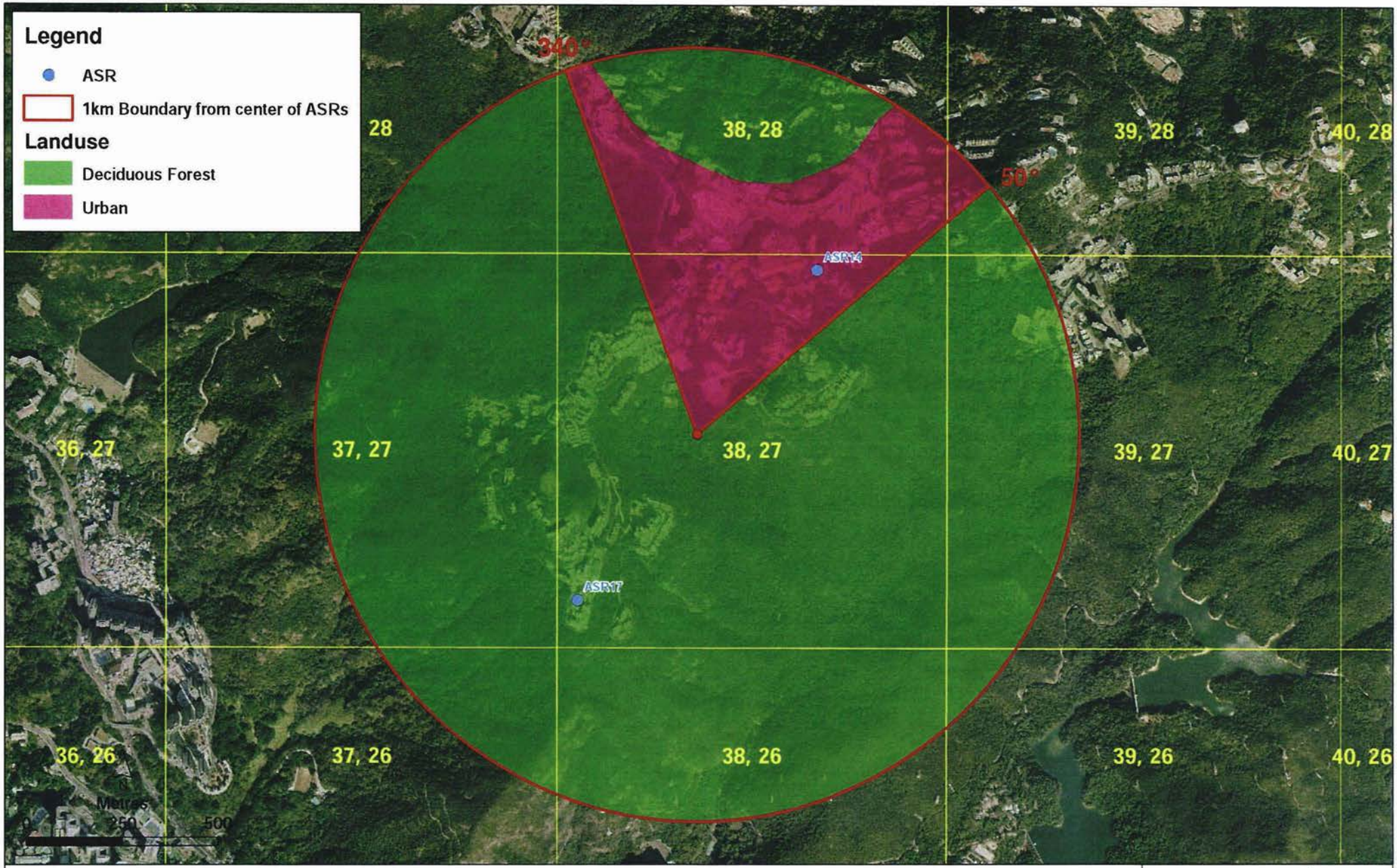
Environmental Resources Management

ERM



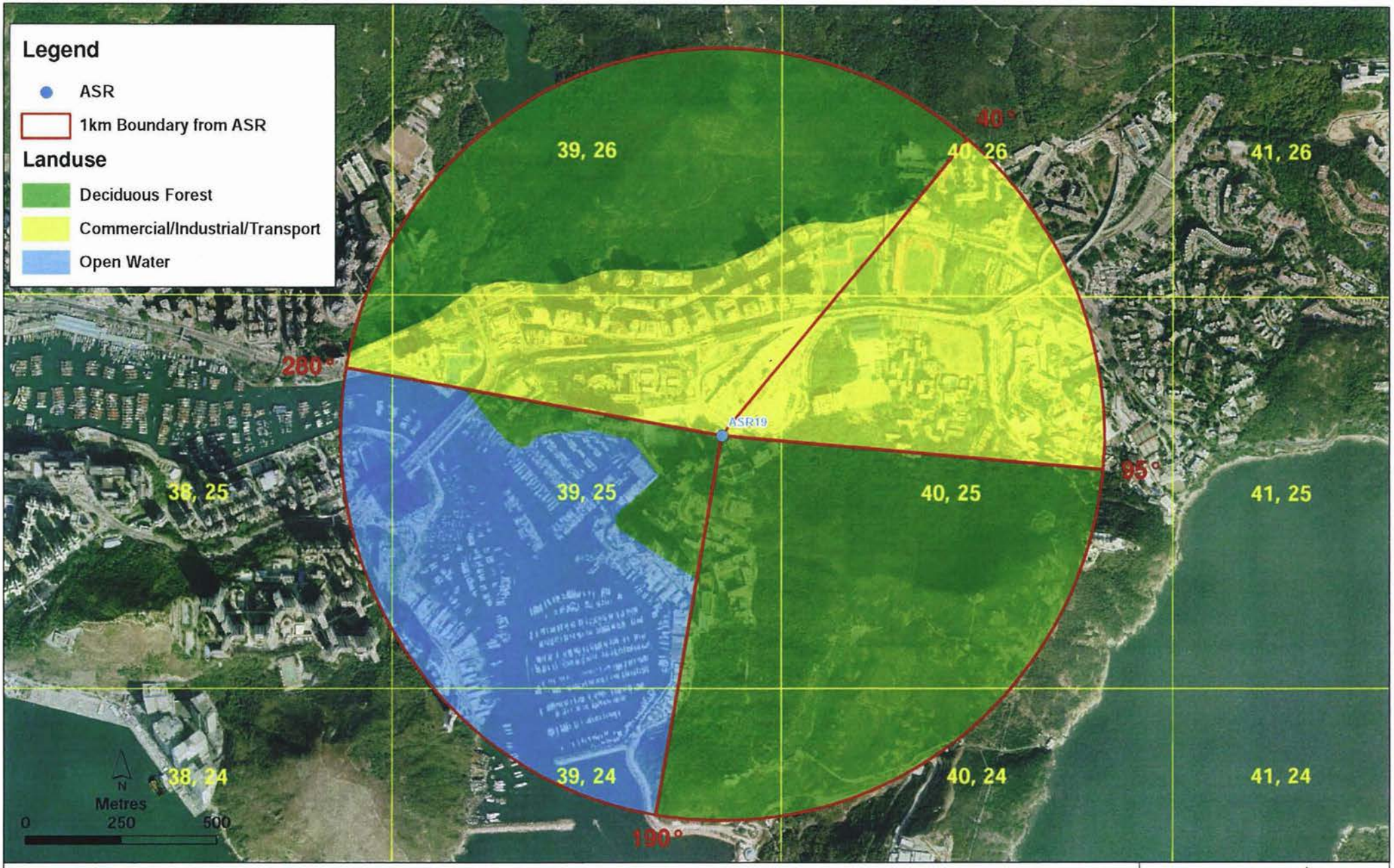
Annex C

Sectors of Land Use for PATH Grid 38,27

File: T:\GIS\CONTRACT\0526414\mxd\Landuse\0526414_3827.mxd
Date: 11/11/2019

Environmental Resources Management

ERM



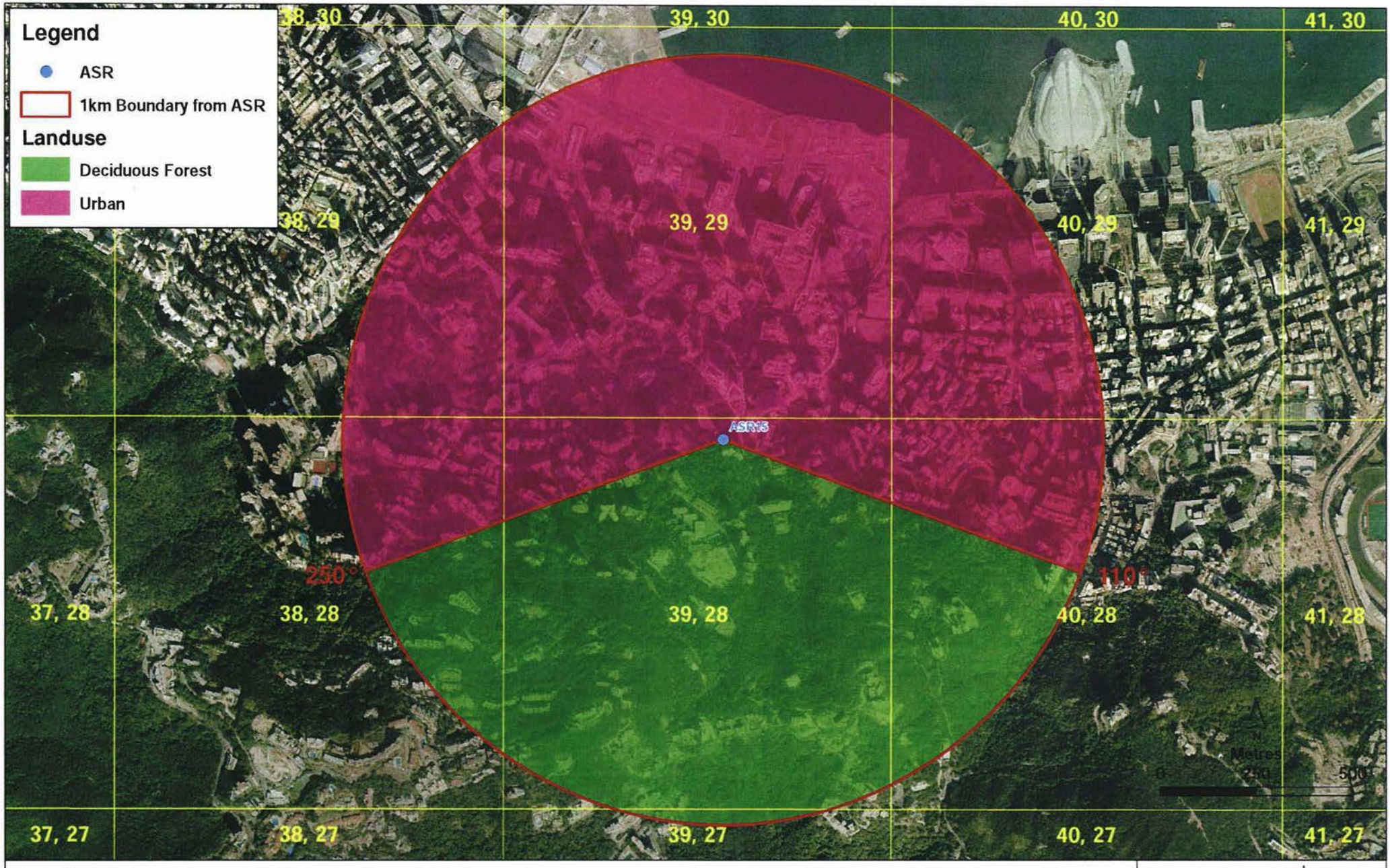
Annex C

Sectors of Land Use for PATH Grid 39,25

File: T:\GIS\CONTRACT\0526414\mxd\Landuse\0526414_3925.mxd
Date: 5/12/2019

Environmental Resources Management

ERM



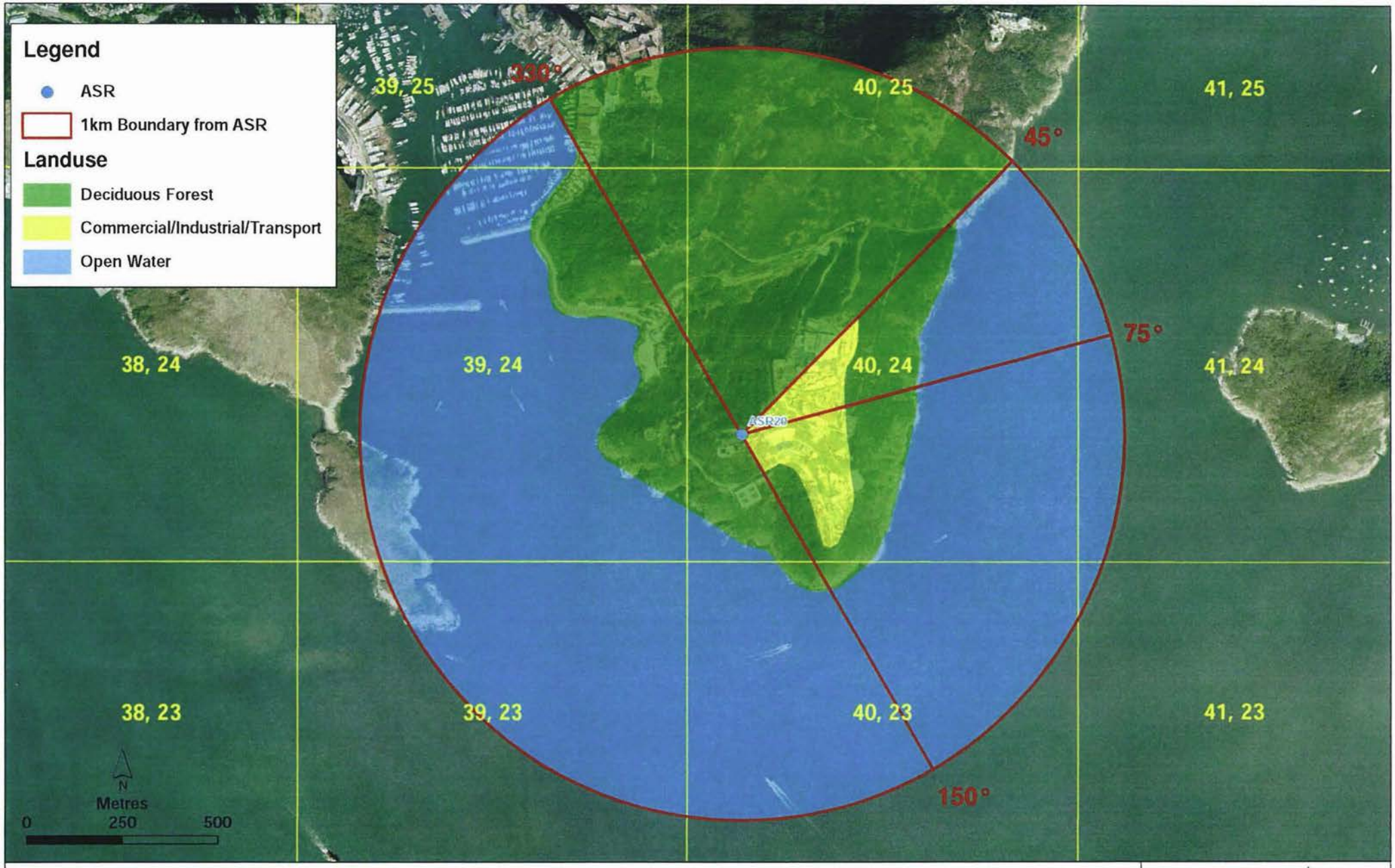
Annex C

Sectors of Land Use for PATH Grid 39,28

File: T:\GIS\CONTRACT\0526414\mxd\Landuse\0526414_3928.mxd
Date: 5/12/2019

Environmental Resources Management

ERM



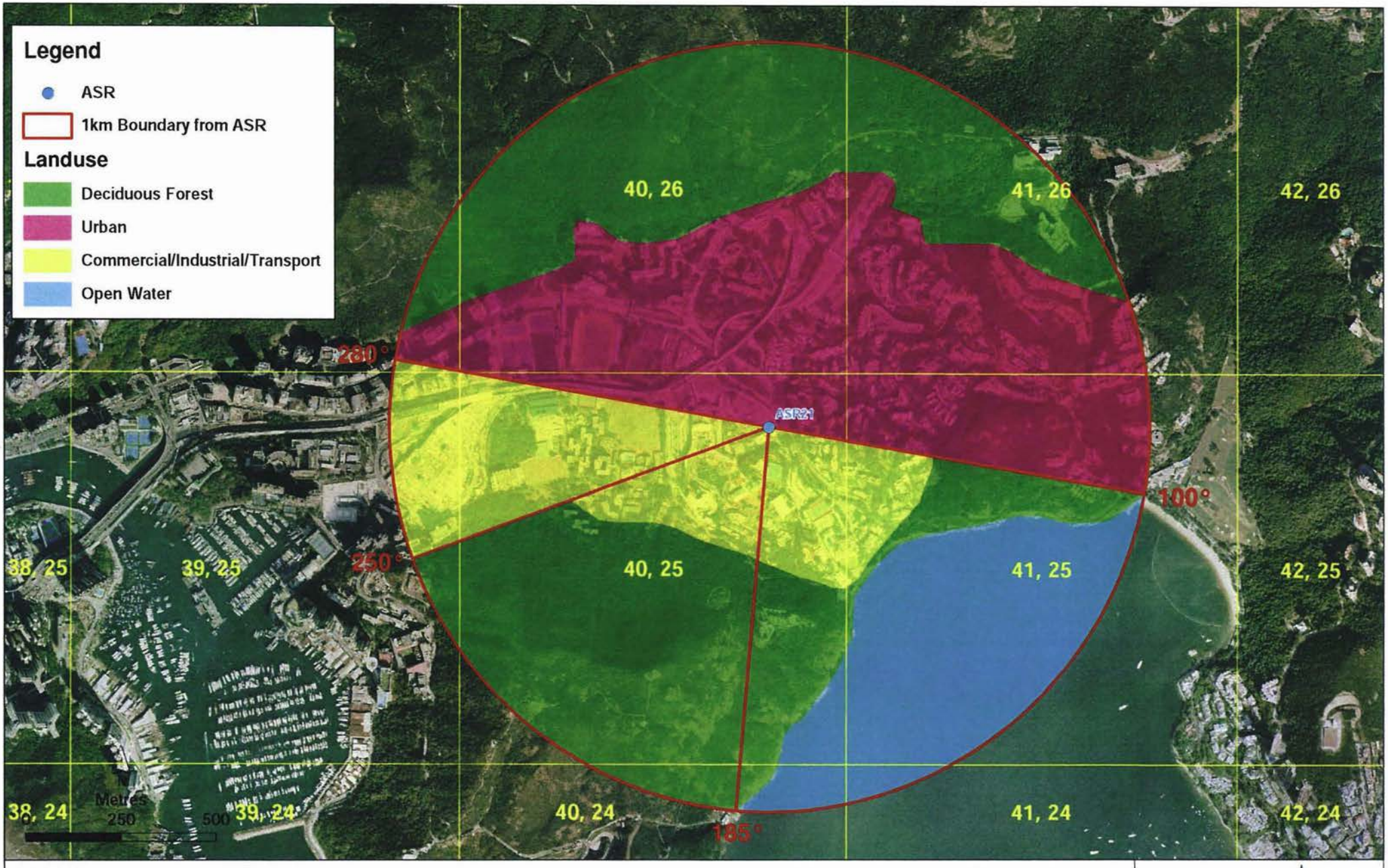
Annex C

Sectors of Land Use for PATH Grid 40,24

File: T:\GIS\CONTRACT\0526414\mxd\Landuse\0526414_4024.mxd
Date: 5/12/2019

Environmental Resources Management

ERM



Annex C

Sectors of Land Use for PATH Grid 40,25

File: T:\GIS\CONTRACT\0526414\mxd\Landuse\0526414_4025.mxd
Date: 5/12/2019

Environmental Resources Management

ERM

Annex D

Predicted Pollutant Concentrations at Air Sensitive Receivers

Annex D - Predicted Pollutant Concentrations at ASRs

Approved EIA Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	NO_2 Maximum 1-Hour Average NO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	55.7	55.7	55.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	59.0	59.0	59.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	77.5	77.4	77.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	45.7	73.2	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	57.5	57.5	57.4	57.4	57.3	57.2	57.2	57.1	57.0	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	58.0	64.0	85.4	111.4	114.5	118.0	121.8	129.9	137.5	142.8	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	27.9	28.0	28.1	28.2	28.4	28.5	28.6	29.0	29.3	29.7	30.2	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	47.0	47.0	47.0	47.0	47.0	47.0	46.9	46.9	46.8	46.7	46.6	46.6	46.5	46.5	46.5	46.5	47.6
ASR9	Baguio Villa Block 22	831812	813758	92.6	64.5	64.6	64.7	64.8	64.9	65.0	65.2	65.5	65.6	72.7	78.2	84.8	96.2	107.0	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	34.3	34.5	35.1	35.9	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	55.3	55.4	61.0	80.5	106.5	110.4	115.1	126.1	137.5	146.1	149.2	145.8	137.2	126.3	116.4	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	34.1	34.2	34.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	44.5	44.5	44.5	44.6	44.6	44.6	44.6	44.7	44.7	44.8	44.8	53.2	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	37.6	37.4	37.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	38.0	38.4	39.0	39.6	40.4	41.4	42.5	45.6	50.3	55.3	60.4	67.2	75.0	83.9	89.4	91.7	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	--
ASR17	Matilda International Hospital	833410	813363	410.9	48.4	46.3	43.4	40.5	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	47.1	47.1	47.1	47.1	47.1	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	44.6	44.6	44.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	35.5	35.5	35.5	35.5	35.5	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	64.2	64.2	64.2	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.4	64.4	64.5	64.5	64.6	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	43.1	43.1	43.1	43.1	43.1	43.1	43.1	43.0	43.0	43.0	43.0	50.9	97.7	121.2	129.8	138.9	--
ASR24	Seaview Garden	821972	807359	60.0	53.6	53.6	53.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.4	43.4	43.4	43.4	43.4	43.4	43.4	69.0
ASR26	Concerto Inn	830329	808956	7.1	73.1	73.1	73.1	73.2	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	51.6	51.6	51.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Approved EIA Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	NO_2 Annual Average NO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	2.3	2.3	2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	1.6	1.6	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	2.6	2.6	2.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.6	1.7	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.5	1.6	1.6	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2
ASR9	Baguio Villa Block 22	831812	813758	92.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	1.0	1.0	1.0	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.5	0.5	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.5	0.5	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.4	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.6	0.6	0.6	0.6	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	0.8	0.8	0.8	0.8	0.8	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.6	0.6	0.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.5	0.5	0.5	0.5	0.5	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.2	1.3	1.4	--
ASR24	Seaview Garden	821972	807359	60.0	0.7	0.7	0.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.4	1.5
ASR26	Concerto Inn	830329	808956	7.1	0.5	0.5	0.5	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.3	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Latest Scheme (LMX Only)

					NO_2															
					Maximum 1-Hour Average NO_2 (μgm^{-3})															
					Receptor height (m above ground)															
ASR	ASR Description	x	y	Base Elevation (m)	1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	13.2	13.3	13.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	13.3	13.3	13.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	16.9	16.9	17.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	12.7	12.7	12.7	12.7	12.6	12.6	12.6	12.6	12.6	12.6	19.7	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	12.4	13.9	18.6	24.2	30.8	38.3	46.5	63.8	79.6	90.6	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	13.4	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.2	13.2	13.2	13.2	13.2	13.2	13.1	13.1	19.0
ASR9	Baguio Villa Block 22	831812	813758	92.6	13.4	13.4	13.4	13.4	13.5	13.5	13.5	13.5	19.1	36.5	47.7	55.6	59.1	66.7	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	10.1	10.1	10.1	10.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	11.3	11.3	14.8	21.4	29.8	40.1	44.3	68.6	93.3	106.4	107.0	106.3	91.7	71.1	70.8	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	7.5	7.5	7.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.5	12.5	12.5	12.5	13.6	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	10.1	10.1	10.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	7.7	7.8	7.9	8.1	8.2	8.4	8.6	9.2	10.0	11.0	12.0	13.3	14.9	16.6	20.2	29.5	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	--
ASR17	Matilda International Hospital	833410	813363	410.9	14.9	14.6	14.0	13.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	10.8	10.8	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	13.3	13.3	13.3	13.2	13.2	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	11.5	11.5	11.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	8.0	8.0	8.0	8.0	8.0	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	19.8	19.8	19.8	19.8	19.9	19.9	19.9	19.9	20.0	20.0	20.1	20.1	20.2	20.3	20.3	20.3	--
ASR23	Lei Tung Estate 1 ung Mau House	834115	811431	59.8	13.1	13.1	13.0	13.0	13.0	13.0	13.0	12.9	12.9	12.9	12.9	12.9	24.6	38.9	59.7	75.4	--
ASR24	Seaview Garden	821972	807359	60.0	13.2	13.2	13.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	9.9	9.8	9.8	9.8	9.8	9.8	9.8	9.7	9.7	9.7	9.7	9.6	9.6	9.6	9.6	9.6	18.1
ASR26	Concerto Inn	830329	808956	7.1	15.3	15.3	15.4	15.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	12.3	12.3	12.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Latest Scheme (LMX Only)

					NO_2															
					Annual Average NO_2 (μgm^{-3})															
					Receptor height (m above ground)															
ASR	ASR Description	x	y	Base Elevation (m)	1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	0.5	0.5	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	0.3	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	0.6	0.6	0.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
ASR9	Baguio Villa Block 22	831812	813758	92.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	0.2	0.2	0.2	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.1	0.1	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.1	0.1	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.1	0.1	0.1	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	0.2	0.2	0.2	0.2	0.2	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.1	0.1	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.1	0.1	0.1	0.1	0.1	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	--
ASR23	Lei Tung Estate 1 ung Mau House	834115	811431	59.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	--
ASR24	Seaview Garden	821972	807359	60.0	0.2	0.2	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4
ASR26	Concerto Inn	830329	808956	7.1	0.1	0.1	0.1	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.1	0.1	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Difference between Approved EIA Scheme and Latest Scheme (LMX Only)

					NO_2																
					Maximum 1-Hour Average NO_2 (μgm^{-3})																
					Receptor height (m above ground)																
ASR	ASR Description	x	y	Base Elevation (m)	1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-42.5	-42.3	-42.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-45.7	-45.7	-45.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-60.6	-60.5	-60.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-33.0	-33.0	-33.0	-33.0	-33.1	-33.1	-33.1	-33.1	-33.1	-33.0	-53.5	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-44.3	-44.2	-44.2	-44.1	-44.0	-44.0	-43.9	-43.8	-43.7	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-45.6	-50.0	-66.8	-87.1	-83.7	-79.7	-75.3	-66.1	-57.9	-52.2	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-21.1	-21.2	-21.3	-21.4	-21.6	-21.7	-21.9	-22.2	-22.6	-23.0	-23.4	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-33.6	-33.6	-33.7	-33.7	-33.7	-33.7	-33.7	-33.6	-33.5	-33.5	-33.4	-33.4	-33.4	-33.4	-33.3	-33.3	-28.5
ASR9	Baguio Villa Block 22	831812	813758	92.6	-51.1	-51.2	-51.3	-51.4	-51.5	-51.6	-51.7	-51.9	-46.6	-36.2	-30.5	-29.2	-37.1	-40.2	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-24.2	-24.5	-25.0	-25.8	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-43.9	-44.0	-46.2	-59.1	-76.6	-70.3	-70.8	-57.5	-44.2	-39.6	-42.1	-39.5	-45.5	-55.2	-45.6	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-26.6	-26.6	-26.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-31.9	-31.9	-32.0	-32.0	-32.0	-32.0	-32.1	-32.1	-32.2	-32.3	-32.3	-39.6	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-27.5	-27.4	-27.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-30.3	-30.6	-31.0	-31.6	-32.2	-33.0	-33.9	-36.5	-40.2	-44.3	-48.4	-53.8	-60.1	-67.3	-69.2	-62.2	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	-46.6	--
ASR17	Matilda International Hospital	833410	813363	410.9	-33.4	-31.8	-29.4	-27.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-32.6	-32.6	-32.6	-32.6	-32.6	-32.6	-32.6	-32.6	-32.6	-32.6	-32.6	-32.6	-32.6	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-33.8	-33.8	-33.8	-33.8	-33.8	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-33.1	-33.1	-33.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-27.5	-27.5	-27.5	-27.5	-27.5	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-44.3	-44.4	-44.4	-44.4	-44.4	-44.4	-44.4	-44.4	-44.3	-44.3	-44.3	-44.2	-44.2	-44.2	-44.2	-44.2	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-30.0	-30.0	-30.0	-30.0	-30.1	-30.1	-30.1	-30.1	-30.1	-30.2	-30.2	-38.1	-73.1	-82.3	-70.1	-63.5	--
ASR24	Seaview Garden	821972	807359	60.0	-40.3	-40.3	-40.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-33.6	-33.6	-33.6	-33.6	-33.7	-33.7	-33.7	-33.7	-33.8	-33.8	-33.8	-33.8	-33.8	-33.8	-33.8	-33.8	-50.9
ASR26	Concerto Inn	830329	808956	7.1	-57.8	-57.8	-57.8	-57.8	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-39.3	-39.3	-39.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Difference between Approved EIA Scheme and Latest Scheme (LMX Only)

					NO_2																
					Annual Average NO_2 (μgm^{-3})																
					Receptor height (m above ground)																
ASR	ASR Description	x	y	Base Elevation (m)	1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-1.8	-1.8	-1.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-1.2	-1.2	-1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-2.0	-2.0	-2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.3	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-0.9	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.2	-1.2	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.9	-0.9	-0.9	-1.0
ASR9	Baguio Villa Block 22	831812	813758	92.6	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-0.8	-0.8	-0.8	-0.8	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-0.8	-0.9	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.1	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-0.4	-0.4	-0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.9	-0.9	-0.9	-0.9	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-0.4	-0.4	-0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.6	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	--
ASR17	Matilda International Hospital	833410	813363	410.9	-0.5	-0.5	-0.5	-0.5	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-0.6	-0.6	-0.6	-0.6	-0.6	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-0.5	-0.5	-0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-0.4	-0.4	-0.4	-0.4	-0.4	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.3	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.8	-0.8	-0.9	-0.9	-0.9	-1.0	--
ASR24	Seaview Garden	821972	807359	60.0	-0.6	-0.6	-0.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.0	-1.1	-1.2
ASR26	Concerto Inn	830329	808956	7.1	-0.4	-0.4	-0.4	-0.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-0.2	-0.2	-0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Approved EIA Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 10-Minute Average SO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	14.1	14.1	14.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	15.4	15.4	15.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	17.0	17.1	17.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	10.7	10.7	10.7	10.7	10.8	10.8	10.8	10.9	10.9	11.0	19.8	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	13.4	13.4	13.4	13.4	13.4	13.3	13.3	13.3	13.3	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	9.3	9.8	12.9	16.8	21.4	26.6	32.4	44.7	56.1	64.1	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	6.6	6.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.4	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.0	13.0	13.0	13.0	13.0	13.0	12.9	13.7
ASR9	Baguio Villa Block 22	831812	813758	92.6	13.1	13.1	13.2	13.2	13.2	13.2	13.3	13.3	13.3	25.7	42.9	60.7	73.0	88.7	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	8.1	8.1	8.1	8.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	11.2	11.3	11.3	14.4	20.1	27.1	35.2	53.4	70.2	80.1	81.4	76.3	71.7	79.2	83.5	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	8.1	8.1	8.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.7	13.7	13.6	13.6	13.6	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	7.4	7.5	7.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.8	9.6	10.7	12.0	13.4	14.8	21.7	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	--
ASR17	Matilda International Hospital	833410	813363	410.9	10.7	10.4	10.0	9.6	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	10.5	10.5	10.6	10.6	10.6	10.6	10.6	10.6	10.7	10.7	10.7	10.7	10.7	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	13.3	13.3	13.3	13.3	13.3	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	11.2	11.1	11.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	8.0	8.1	8.1	8.1	8.1	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.7	17.7	--
ASR23	Lei Tung Estate 1 ung Mau House	834115	811431	59.8	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	17.4	30.6	47.3	64.3	--
ASR24	Seaview Garden	821972	807359	60.0	10.4	10.4	10.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.6	11.6	11.6	11.6	12.7
ASR26	Concerto Inn	830329	808956	7.1	15.1	15.1	15.1	15.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	11.9	11.9	11.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Approved EIA Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 24-Hour Average SO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	2.9	2.9	2.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	2.2	2.2	2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	3.0	3.1	3.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.4	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.7	2.9	3.0	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.3
ASR9	Baguio Villa Block 22	831812	813758	92.6	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.4	2.2	2.9	3.5	3.7	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	1.5	1.5	1.6	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	1.1	1.1	1.1	1.2	1.5	1.9	2.4	3.6	4.8	5.7	6.3	6.3	5.9	5.2	4.6	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.9	0.9	0.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.6	0.6	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.1	1.2	1.3	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.7	0.7	0.7	0.7	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.1	1.1	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	1.0	1.0	1.0	1.0	1.0	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.6	0.7	0.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.6	0.6	0.6	0.6	0.6	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	--
ASR23	Lei Tung Estate 1 ung Mau House	834115	811431	59.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.3	2.0	2.9	3.8	--
ASR24	Seaview Garden	821972	807359	60.0	0.7	0.8	0.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.6	1.9
ASR26	Concerto Inn	830329	808956	7.1	0.8	0.8	0.9	0.9	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.5	0.5	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Latest Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 10-Minute Average SO_2 (μgm^{-3}) Receptor height (m above ground)																
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	6.8	6.8	6.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	7.2	7.2	7.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	8.4	8.4	8.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	5.4	5.4	5.4	5.4	5.4	5.4	5.5	5.5	5.5	5.5	11.0	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	4.7	5.4	7.2	9.3	11.7	14.4	17.3	23.1	27.9	30.4	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	7.6
ASR9	Baguio Villa Block 22	831812	813758	92.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	7.2	13.9	22.5	30.4	37.0	42.9	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	3.8	3.8	3.8	3.8	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	5.5	5.5	5.5	8.0	11.1	14.8	19.0	27.8	34.8	37.6	37.1	32.9	35.6	38.2	38.6	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	3.8	3.8	3.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.5	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	3.5	3.5	3.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.9	4.3	4.7	5.2	5.7	8.2	11.7	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	--
ASR17	Matilda International Hospital	833410	813363	410.9	4.2	4.2	4.3	4.3	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	4.9	4.9	4.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	6.2	6.2	6.2	6.2	6.1	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	5.4	5.4	5.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	3.8	3.8	3.8	3.8	3.8	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	9.6	16.6	24.7	32.7	--
ASR24	Seaview Garden	821972	807359	60.0	4.9	4.9	4.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	7.0
ASR26	Concerto Inn	830329	808956	7.1	7.8	7.9	7.9	7.9	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	5.5	5.5	5.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Latest Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 24-Hour Average SO_2 (μgm^{-3}) Receptor height (m above ground)																
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	1.4	1.5	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	1.1	1.1	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	1.5	1.5	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.7	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.4	1.4	--	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.7
ASR9	Baguio Villa Block 22	831812	813758	92.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7	1.1	1.5	1.7	1.8	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	0.7	0.7	0.7	0.7	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	0.5	0.5	0.5	0.6	0.8	1.0	1.3	1.9	2.4	2.8	3.0	2.9	2.6	2.3	2.0	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.4	0.4	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.3	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.3	0.3	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	0.5	0.5	0.5	0.5	0.5	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.3	0.3	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.3	0.3	0.3	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.7	1.1	1.5	1.9	--
ASR24	Seaview Garden	821972	807359	60.0	0.4	0.4	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	1.0
ASR26	Concerto Inn	830329	808956	7.1	0.4	0.4	0.4	0.4	0.4	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.3	0.3	0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Difference between Approved EIA Scheme and Latest Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 10-Minute Average SO_2 (μgm^{-3}) Receptor height (m above ground) 1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-7.3	-7.3	-7.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-8.2	-8.2	-8.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-8.7	-8.7	-8.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3	-5.4	-5.4	-5.4	-5.5	-8.9	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-4.6	-4.4	-5.7	-7.5	-9.7	-12.2	-15.1	-21.6	-28.2	-33.7	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.4	-3.4	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.8	-6.8	-6.8	-6.8	-6.8	-6.8	-6.8	-6.8	-6.1
ASR9	Baguio Villa Block 22	831812	813758	92.6	-6.7	-6.7	-6.7	-6.7	-6.7	-6.8	-6.8	-6.9	-6.1	-11.7	-20.4	-30.3	-36.0	-45.8	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-4.3	-4.3	-4.3	-4.3	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-5.8	-5.8	-5.7	-6.4	-9.0	-12.3	-16.2	-25.7	-35.4	-42.6	-44.2	-43.4	-36.1	-41.1	-44.9	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-4.3	-4.3	-4.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.1	-7.1	-7.1	-7.1	-7.0	-7.0	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-3.9	-4.0	-4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.9	-5.3	-6.0	-6.8	-7.7	-6.7	-10.0	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	--
ASR17	Matilda International Hospital	833410	813363	410.9	-6.5	-6.2	-5.8	-5.3	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-7.2	-7.2	-7.1	-7.1	-7.1	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-5.8	-5.8	-5.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-4.3	-4.3	-4.3	-4.3	-4.3	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-7.8	-14.1	-22.6	-31.6	--
ASR24	Seaview Garden	821972	807359	60.0	-5.5	-5.5	-5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-6.2	-6.2	-6.2	-6.2	-6.2	-6.2	-6.2	-6.2	-6.2	-6.2	-6.2	-6.2	-6.1	-6.1	-6.1	-6.1	-5.7
ASR26	Concerto Inn	830329	808956	7.1	-7.2	-7.2	-7.2	-7.3	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-6.3	-6.4	-6.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Difference between Approved EIA Scheme and Latest Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 24-Hour Average SO_2 (μgm^{-3}) Receptor height (m above ground) 1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-1.5	-1.5	-1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-1.1	-1.1	-1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-1.5	-1.5	-1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.7	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-1.0	-1.0	-1.0	-1.1	-1.1	-1.2	-1.3	-1.4	-1.5	-1.6	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.8	-0.8	-0.8	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.7
ASR9	Baguio Villa Block 22	831812	813758	92.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.6	-0.7	-1.0	-1.5	-1.8	-1.9	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-0.8	-0.8	-0.8	-0.8	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-0.6	-0.6	-0.6	-0.6	-0.7	-0.9	-1.1	-1.7	-2.3	-2.9	-3.3	-3.4	-3.2	-2.9	-2.6	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-0.5	-0.5	-0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-0.3	-0.3	-0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.6	-0.7	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	--
ASR17	Matilda International Hospital	833410	813363	410.9	-0.4	-0.4	-0.4	-0.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-0.5	-0.5	-0.5	-0.5	-0.5	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-0.3	-0.3	-0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-0.3	-0.3	-0.3	-0.3	-0.3	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.6	-1.0	-1.4	-1.9	--
ASR24	Seaview Garden	821972	807359	60.0	-0.4	-0.4	-0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-0.7	-0.7	-0.7	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.7	-0.8	-1.0
ASR26	Concerto Inn	830329	808956	7.1	-0.4	-0.4	-0.4	-0.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-0.3	-0.3	-0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Approved EIA Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	PM Maximum 24-Hour Average PM (μgm^{-3}) Receptor height (m above ground)																
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	1.59	1.59	1.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	1.19	1.19	1.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	1.65	1.67	1.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.63	0.63	0.67	0.77	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	1.05	1.09	1.14	1.19	1.24	1.30	1.35	1.46	1.56	1.65	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	0.75	0.75	0.75	0.75	0.75	0.75	0.76	0.76	0.77	0.78	0.80	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.61	0.62	0.63	0.66	0.72
ASR9	Baguio Villa Block 22	831812	813758	92.6	0.56	0.56	0.57	0.57	0.58	0.59	0.60	0.62	0.64	0.77	1.17	1.59	1.91	2.00	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	0.84	0.84	0.84	0.85	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	0.61	0.61	0.61	0.65	0.83	1.05	1.31	1.93	2.58	3.11	3.40	3.41	3.19	2.84	2.46	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.48	0.48	0.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.67	0.68	0.69	0.70	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.31	0.31	0.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.50	0.50	0.52	0.57	0.62	0.68	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.98	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.39	0.38	0.37	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.46	0.46	0.46	0.46	0.46	0.46	0.47	0.48	0.49	0.51	0.54	0.57	0.61	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	0.55	0.55	0.55	0.55	0.55	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.34	0.35	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.32	0.32	0.32	0.32	0.32	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.10	1.10	1.10	1.11	1.11	1.12	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	0.42	0.42	0.42	0.43	0.43	0.44	0.44	0.46	0.47	0.49	0.52	0.55	0.73	1.09	1.56	2.05	--
ASR24	Seaview Garden	821972	807359	60.0	0.40	0.41	0.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.67	0.69	0.74	0.84	1.04
ASR26	Concerto Inn	830329	808956	7.1	0.46	0.46	0.46	0.46	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.30	0.30	0.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Approved EIA Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	PM Annual Average PM (μgm^{-3}) Receptor height (m above ground)																
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	0.14	0.14	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	0.10	0.10	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	0.17	0.17	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.12	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.10	0.11	0.12	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08
ASR9	Baguio Villa Block 22	831812	813758	92.6	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.09	0.10	0.11	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	0.06	0.06	0.06	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.09	0.10	0.11	0.12	0.13	0.13	0.13	0.13	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.05	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	0.05	0.05	0.05	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.03	0.03	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.11	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.08	0.10	0.11	--
ASR24	Seaview Garden	821972	807359	60.0	0.04	0.04	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.09	0.10
ASR26	Concerto Inn	830329	808956	7.1	0.03	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note:
(a) PM assessment results apply to both RSP and FSP.

Annex D - Predicted Pollutant Concentrations at ASRs

Latest Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	PM Maximum 24-Hour Average PM (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	1.44	1.45	1.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	1.12	1.12	1.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	1.52	1.53	1.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.55	0.57	0.63	0.72	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	0.99	1.02	1.06	1.11	1.15	1.20	1.24	1.32	1.38	1.43	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	0.65	0.65	0.65	0.65	0.66	0.66	0.66	0.67	0.68	0.68	0.70	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.54	0.55	0.56	0.60	0.66
ASR9	Baguio Villa Block 22	831812	813758	92.6	0.52	0.53	0.53	0.54	0.54	0.55	0.56	0.57	0.60	0.75	1.12	1.47	1.68	1.75	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	0.73	0.73	0.74	0.74	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	0.54	0.54	0.54	0.64	0.82	1.04	1.30	1.87	2.43	2.83	2.98	2.90	2.64	2.31	1.99	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.41	0.41	0.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.59	0.59	0.60	0.61	0.64	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.26	0.26	0.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.43	0.43	0.46	0.50	0.54	0.59	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.30	0.30	0.30	0.30	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.41	0.41	0.41	0.41	0.41	0.42	0.42	0.43	0.45	0.47	0.49	0.52	0.56	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	0.47	0.47	0.47	0.47	0.47	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.31	0.32	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.28	0.28	0.28	0.28	0.28	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.96	0.96	0.96	0.96	0.97	0.97	0.98	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	0.37	0.37	0.38	0.38	0.39	0.39	0.40	0.41	0.43	0.45	0.47	0.50	0.71	1.07	1.49	1.89	--
ASR24	Seaview Garden	821972	807359	60.0	0.37	0.38	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.58	0.61	0.66	0.75	0.96
ASR26	Concerto Inn	830329	808956	7.1	0.42	0.43	0.43	0.43	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.27	0.27	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Latest Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	PM Annual Average PM (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	0.13	0.13	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	0.09	0.09	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	0.16	0.16	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.10	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	0.07	0.07	0.07	0.07	0.08	0.08	0.09	0.09	0.10	0.11	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07
ASR9	Baguio Villa Block 22	831812	813758	92.6	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.08	0.09	0.10	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	0.05	0.05	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.09	0.10	0.11	0.11	0.11	0.11	0.11	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.03	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	0.04	0.04	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.03	0.03	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.10	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.07	0.09	0.11	--
ASR24	Seaview Garden	821972	807359	60.0	0.04	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.08	0.10
ASR26	Concerto Inn	830329	808956	7.1	0.03	0.03	0.03	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.02	0.02	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note:
(a) PM assessment results apply to both RSP and FSP.

Annex D - Predicted Pollutant Concentrations at ASRs

Difference between Approved EIA Scheme and Latest Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	PM Maximum 24-Hour Average PM (μgm^{-3}) Receptor height (m above ground) 1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-0.152	-0.137	-0.111	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-0.066	-0.068	-0.072	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-0.134	-0.134	-0.133	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-0.081	-0.081	-0.081	-0.081	-0.081	-0.081	-0.080	-0.080	-0.060	-0.047	-0.050	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-0.101	-0.101	-0.101	-0.101	-0.101	-0.101	-0.101	-0.102	-0.102	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-0.066	-0.069	-0.074	-0.081	-0.089	-0.100	-0.113	-0.143	-0.179	-0.218	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-0.095	-0.095	-0.095	-0.095	-0.095	-0.095	-0.095	-0.096	-0.098	-0.100	-0.104	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-0.072	-0.072	-0.072	-0.071	-0.071	-0.071	-0.071	-0.072	-0.072	-0.072	-0.072	-0.072	-0.072	-0.073	-0.069	-0.062	-0.060
ASR9	Baguio Villa Block 22	831812	813758	92.6	-0.037	-0.037	-0.037	-0.038	-0.038	-0.039	-0.040	-0.042	-0.045	-0.021	-0.050	-0.120	-0.224	-0.249	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-0.105	-0.104	-0.105	-0.105	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-0.074	-0.075	-0.074	-0.014	-0.011	-0.011	-0.017	-0.058	-0.150	-0.282	-0.418	-0.512	-0.545	-0.525	-0.478	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-0.065	-0.065	-0.066	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-0.079	-0.079	-0.079	-0.079	-0.078	-0.078	-0.078	-0.078	-0.078	-0.078	-0.078	-0.069	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-0.055	-0.052	-0.037	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-0.065	-0.065	-0.065	-0.065	-0.065	-0.065	-0.066	-0.067	-0.068	-0.069	-0.070	-0.072	-0.063	-0.072	-0.083	-0.097	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.134	-0.135	-0.135	-0.135	-0.135	--
ASR17	Matilda International Hospital	833410	813363	410.9	-0.092	-0.084	-0.073	-0.063	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-0.054	-0.053	-0.051	-0.048	-0.048	-0.047	-0.047	-0.047	-0.047	-0.046	-0.046	-0.046	-0.047	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-0.081	-0.081	-0.081	-0.081	-0.081	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-0.030	-0.030	-0.038	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-0.039	-0.039	-0.039	-0.039	-0.039	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-0.135	-0.135	-0.135	-0.136	-0.136	-0.136	-0.136	-0.136	-0.137	-0.137	-0.137	-0.138	-0.139	-0.140	-0.141	-0.143	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-0.047	-0.047	-0.047	-0.047	-0.047	-0.047	-0.047	-0.047	-0.048	-0.048	-0.050	-0.051	-0.015	-0.027	-0.071	-0.160	--
ASR24	Seaview Garden	821972	807359	60.0	-0.031	-0.031	-0.031	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-0.090	-0.090	-0.090	-0.090	-0.090	-0.090	-0.090	-0.090	-0.090	-0.090	-0.090	-0.090	-0.089	-0.085	-0.085	-0.087	-0.085
ASR26	Concerto Inn	830329	808956	7.1	-0.034	-0.034	-0.034	-0.034	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-0.025	-0.025	-0.025	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Difference between Approved EIA Scheme and Latest Scheme (LMX Only)

ASR	ASR Description	x	y	Base Elevation (m)	PM Annual Average PM (μgm^{-3}) Receptor height (m above ground) 1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-0.009	-0.009	-0.009	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-0.008	-0.008	-0.008	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-0.010	-0.010	-0.010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.012	-0.012	-0.012	-0.012	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-0.007	-0.007	-0.007	-0.007	-0.008	-0.008	-0.008	-0.009	-0.011	-0.013	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009
ASR9	Baguio Villa Block 22	831812	813758	92.6	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.009	-0.010	-0.011	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-0.007	-0.007	-0.007	-0.007	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.010	-0.011	-0.014	-0.016	-0.018	-0.019	-0.020	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-0.005	-0.005	-0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-0.006	-0.006	-0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.005	-0.005	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	--
ASR17	Matilda International Hospital	833410	813363	410.9	-0.007	-0.007	-0.007	-0.007	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-0.007	-0.007	-0.007	-0.007	-0.007	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-0.005	-0.005	-0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-0.004	-0.004	-0.004	-0.004	-0.004	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.012	-0.013	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.008	-0.009	--
ASR24	Seaview Garden	821972	807359	60.0	-0.005	-0.005	-0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009
ASR26	Concerto Inn	830329	808956	7.1	-0.001	-0.001	-0.001	-0.001	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-0.002	-0.002	-0.002	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note:
(a) PM assessment results apply to both RSP and FSP.

Annex D - Predicted Pollutant Concentrations at ASRs

Approved EIA Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	NO_2 Maximum 1-Hour Average NO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	138.8	139.7	141.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	212.9	212.7	212.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	77.5	77.4	77.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	162.0	161.9	161.9	161.8	161.8	161.7	161.7	161.6	161.6	161.5	161.5	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	213.0	213.0	213.0	213.0	213.0	213.0	213.1	213.1	213.2	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	132.7	132.6	132.5	132.4	132.3	132.3	132.2	132.0	137.7	143.4	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.2	98.2	98.2	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	163.2	163.4	163.7	163.9	164.1	164.3	164.5	164.7	164.8	164.8	164.7	164.6	164.5	164.5	164.4	164.4	164.4
ASR9	Baguio Villa Block 22	831812	813758	92.6	157.8	157.7	157.6	157.6	157.5	157.5	157.4	157.4	157.3	157.3	157.3	157.3	157.3	157.4	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	105.1	105.1	105.1	105.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	150.2	150.2	150.2	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	186.3	184.2	181.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	146.0	145.9	145.9	145.9	145.9	145.9	145.9	145.9	145.8	145.8	145.8	145.8	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	238.4	234.9	229.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	123.0	123.0	123.0	123.0	123.0	123.0	123.0	123.0	123.0	122.9	122.9	122.9	122.9	122.9	122.9	123.2	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	171.3	171.6	172.0	172.4	172.7	173.0	173.2	173.5	173.7	173.7	173.6	173.5	173.5	173.6	173.7	173.8	--
ASR17	Matilda International Hospital	833410	813363	410.9	260.7	258.3	254.3	249.9	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	177.8	177.6	177.4	177.2	177.0	176.9	176.9	176.8	176.9	177.1	177.2	177.4	177.7	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	216.2	216.2	216.2	216.2	216.2	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	148.7	148.8	148.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	114.3	114.3	114.3	114.3	114.3	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	222.1	222.1	222.1	222.1	222.1	222.1	222.1	222.1	222.0	222.0	222.0	222.0	221.9	221.9	221.9	221.9	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	211.4	211.4	211.4	211.4	211.4	211.4	211.4	211.5	211.5	211.6	211.7	211.7	211.8	211.9	212.0	212.1	--
ASR24	Seaview Garden	821972	807359	60.0	144.7	144.7	144.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.1	148.2	148.4	148.5	148.7	148.9	149.0	149.2	149.3	149.4
ASR26	Concerto Inn	830329	808956	7.1	153.6	154.1	155.2	156.7	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	183.1	183.3	183.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Approved EIA Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	NO_2 Annual Average NO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	4.4	4.5	4.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	5.1	5.1	5.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	2.8	2.9	2.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	6.0	6.1	6.2	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	4.9	5.0	5.0	5.1	5.1	5.2	5.2	5.3	5.5	5.6	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	5.4	5.4	5.4	5.4	5.4	5.3	5.3	5.3	5.3	5.3	5.3	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.6	4.6	4.6	4.6	4.6	4.7	4.7	4.8
ASR9	Baguio Villa Block 22	831812	813758	92.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.7	4.7	4.8	4.8	4.9	5.0	5.1	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	4.4	4.4	4.4	4.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	4.5	4.5	4.5	4.6	4.6	4.6	4.7	4.7	4.8	4.8	4.9	4.9	5.0	5.0	5.1	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	3.2	3.2	3.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.7	4.8	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	3.3	3.3	3.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.8	2.8	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0	--
ASR17	Matilda International Hospital	833410	813363	410.9	3.7	3.7	3.7	3.7	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	3.8	3.8	3.8	3.8	3.8	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	2.6	2.6	2.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	2.7	2.6	2.6	2.6	2.6	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.0	4.1	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.3	4.3	4.4	4.5	4.6	4.6	4.7	--
ASR24	Seaview Garden	821972	807359	60.0	3.5	3.5	3.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.8	3.9	4.1
ASR26	Concerto Inn	830329	808956	7.1	1.3	1.3	1.3	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	1.9	1.9	1.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	NO_2 Maximum 1-Hour Average NO_2 (μgm^{-3}) Receptor height (m above ground)																
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	69.0	69.3	69.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	105.5	105.6	105.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	25.3	25.8	26.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	117.0	116.9	116.9	116.9	116.9	116.9	117.0	117.1	117.2	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	61.5	61.5	61.5	61.5	61.5	61.5	61.5	63.9	80.2	92.6	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.3	59.3	59.3	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	65.3	65.3	65.4	65.4	65.5	65.5	65.5	65.4	65.3	65.2	65.1	65.0	64.9	64.8	64.8	64.7	64.7
ASR9	Baguio Villa Block 22	831812	813758	92.6	101.1	101.1	101.1	101.1	101.1	101.4	101.4	101.6	101.8	101.9	102.1	102.3	102.5	102.6	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	64.0	64.0	64.0	64.0	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	102.0	102.0	101.9	101.9	101.9	101.9	101.9	101.9	102.0	106.5	107.2	106.9	106.2	106.8	110.8	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	109.4	108.5	107.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	77.8	77.7	77.6	77.5	77.4	77.4	77.3	77.2	77.1	77.1	77.1	77.1	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	147.2	145.6	143.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	63.6	63.6	63.5	63.5	63.5	63.4	63.4	63.4	63.3	63.3	63.2	63.2	63.1	63.1	64.4	71.3	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	92.4	92.6	92.8	93.0	93.1	93.1	93.2	93.1	93.1	93.2	93.3	93.5	93.9	94.2	94.6	94.6	--
ASR17	Matilda International Hospital	833410	813363	410.9	162.6	160.7	158.0	155.3	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	67.3	67.3	67.3	67.3	67.3	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.3	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	91.0	91.1	91.1	91.1	91.1	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	90.2	90.1	89.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	57.8	57.8	57.9	58.0	58.1	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	111.5	111.5	111.5	111.6	111.6	111.6	111.6	111.7	111.8	111.9	112.0	112.2	112.4	112.6	112.8	113.0	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	86.6	86.6	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.6	86.7	86.8	86.9	86.7	86.5	86.3	--
ASR24	Seaview Garden	821972	807359	60.0	86.8	86.7	86.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4
ASR26	Concerto Inn	830329	808956	7.1	74.7	74.9	75.3	75.7	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	72.2	72.3	72.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	NO_2 Annual Average NO_2 (μgm^{-3}) Receptor height (m above ground)																
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	1.6	1.7	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	2.6	2.6	2.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	0.6	0.7	0.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.5	2.5	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3
ASR9	Baguio Villa Block 22	831812	813758	92.6	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	1.6	1.6	1.6	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.6	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	1.1	1.1	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	1.3	1.3	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.1	1.1	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	--
ASR17	Matilda International Hospital	833410	813363	410.9	1.6	1.6	1.6	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	1.6	1.6	1.6	1.6	1.6	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	1.1	1.1	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	1.0	1.0	1.0	1.0	0.9	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	--
ASR24	Seaview Garden	821972	807359	60.0	1.3	1.3	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2.0
ASR26	Concerto Inn	830329	808956	7.1	0.4	0.4	0.4	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.7	0.7	0.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Difference between Approved EIA Scheme and Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	NO_2 Maximum 1-Hour Average NO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-69.8	-70.5	-71.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-107.4	-107.1	-106.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-52.1	-51.7	-51.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-82.0	-82.0	-81.9	-81.8	-81.8	-81.7	-81.7	-81.6	-81.6	-81.5	-81.4	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-96.0	-96.0	-96.1	-96.1	-96.1	-96.1	-96.1	-96.1	-96.1	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-71.2	-71.1	-71.0	-70.9	-70.8	-70.8	-70.7	-68.2	-57.5	-50.8	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-38.9	-38.9	-38.9	-38.9	-38.9	-38.9	-38.9	-38.9	-38.9	-38.9	-39.0	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-97.9	-98.1	-98.3	-98.5	-98.7	-98.8	-99.0	-99.3	-99.5	-99.6	-99.7	-99.7	-99.7	-99.7	-99.7	-99.7	-99.7
ASR9	Baguio Villa Block 22	831812	813758	92.6	-56.7	-56.6	-56.6	-56.5	-56.5	-56.1	-56.0	-55.8	-55.5	-55.3	-55.1	-54.9	-54.8	-54.7	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-41.1	-41.1	-41.1	-41.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-48.2	-48.2	-48.2	-48.2	-48.2	-48.2	-48.2	-48.2	-48.1	-43.6	-42.9	-43.2	-43.9	-43.3	-39.3	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-76.8	-75.7	-73.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-68.2	-68.2	-68.3	-68.4	-68.5	-68.5	-68.6	-68.7	-68.7	-68.7	-68.7	-68.7	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-91.2	-89.3	-86.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-59.5	-59.5	-59.5	-59.5	-59.5	-59.6	-59.6	-59.6	-59.7	-59.7	-59.7	-59.7	-59.8	-59.8	-58.5	-51.9	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-78.9	-79.0	-79.2	-79.4	-79.6	-79.8	-80.0	-80.4	-80.6	-80.5	-80.3	-80.0	-79.7	-79.3	-79.1	-79.2	--
ASR17	Matilda International Hospital	833410	813363	410.9	-98.1	-97.5	-96.3	-94.6	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-110.5	-110.3	-110.1	-109.9	-109.8	-109.7	-109.6	-109.6	-109.7	-109.9	-110.0	-110.2	-110.4	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-125.2	-125.2	-125.1	-125.1	-125.1	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-58.5	-58.7	-58.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-56.6	-56.5	-56.3	-56.3	-56.2	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-110.6	-110.6	-110.6	-110.5	-110.5	-110.5	-110.4	-110.3	-110.2	-110.1	-109.9	-109.8	-109.6	-109.4	-109.2	-109.0	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-124.8	-124.8	-124.9	-124.9	-124.9	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0	-124.9	-125.2	-125.5	-125.8	--
ASR24	Seaview Garden	821972	807359	60.0	-57.9	-58.0	-58.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-71.6	-71.6	-71.6	-71.6	-71.6	-71.6	-71.6	-71.7	-71.8	-72.0	-72.1	-72.3	-72.5	-72.6	-72.8	-72.9	-73.0
ASR26	Concerto Inn	830329	808956	7.1	-78.9	-79.2	-79.9	-81.0	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-110.9	-111.0	-111.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Difference between Approved EIA Scheme and Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	NO_2 Annual Average NO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-2.8	-2.8	-2.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-2.5	-2.5	-2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-2.2	-2.2	-2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.2	-3.2	-3.3	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-2.8	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-3.0	-3.0	-3.0	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-3.3	-3.3	-3.3	-3.3	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-2.5	-2.5	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.5	-2.5	-2.5
ASR9	Baguio Villa Block 22	831812	813758	92.6	-2.4	-2.4	-2.4	-2.4	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.6	-2.6	-2.6	-2.7	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-2.7	-2.7	-2.7	-2.7	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-2.3	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-2.1	-2.1	-2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.5	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-2.0	-2.0	-2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.5	--
ASR17	Matilda International Hospital	833410	813363	410.9	-2.1	-2.1	-2.1	-2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-2.2	-2.2	-2.2	-2.2	-2.2	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-1.5	-1.6	-1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-1.7	-1.7	-1.7	-1.7	-1.7	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.9	-2.0	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.6	-2.6	-2.7	-2.7	-2.7	--
ASR24	Seaview Garden	821972	807359	60.0	-2.1	-2.1	-2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.9	-2.0	-2.1
ASR26	Concerto Inn	830329	808956	7.1	-0.9	-0.9	-0.9	-0.9	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-1.2	-1.2	-1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Approved EIA Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 10-Minute Average SO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	466.0	468.1	471.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	1059.1	1059.9	1061.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	165.6	168.3	173.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	656.8	656.9	657.1	657.3	657.5	657.6	657.8	658.2	658.5	658.9	659.2	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	888.6	888.4	888.0	887.6	887.2	886.9	886.6	886.1	885.7	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	519.0	519.8	521.0	522.4	523.9	525.5	527.2	531.2	534.1	533.9	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	459.5	459.3	459.0	458.7	458.3	458.0	457.6	456.7	455.6	454.7	453.9	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	738.1	738.1	738.1	738.2	738.3	738.6	738.9	740.0	741.5	743.5	746.0	749.0	752.5	756.2	760.3	764.8	769.8
ASR9	Baguio Villa Block 22	831812	813758	92.6	644.5	644.2	644.0	643.9	643.7	643.6	643.6	643.4	643.3	643.3	643.3	643.6	644.1	644.8	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	536.6	536.6	536.6	536.6	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	712.6	712.3	712.0	711.8	711.5	711.2	711.0	710.5	710.1	709.7	709.4	709.1	708.8	708.6	708.5	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	1866.2	1835.8	1788.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	798.2	798.5	798.8	799.2	799.6	799.9	800.3	800.9	801.5	802.1	802.7	803.3	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	2131.3	2084.1	2011.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	534.8	534.7	534.6	534.5	534.4	534.3	534.3	534.2	534.1	534.0	534.0	534.0	534.0	534.1	534.2	534.3	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	958.3	958.4	958.6	958.7	958.9	959.0	959.2	959.7	960.3	961.2	962.3	963.6	965.0	966.7	967.1	967.2	--
ASR17	Matilda International Hospital	833410	813363	410.9	2365.1	2344.6	2305.6	2267.8	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	691.4	691.6	691.9	692.1	692.1	692.1	692.1	691.6	691.0	690.5	690.0	689.6	689.2	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	675.2	675.5	675.7	675.8	675.8	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	637.7	637.8	637.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	487.5	487.8	488.1	488.4	488.6	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	995.3	995.5	995.8	996.1	996.5	996.9	997.4	998.7	1000.3	1002.3	1004.6	1007.3	1010.4	1013.7	1017.3	1021.2	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	724.5	724.7	725.1	725.6	726.2	726.9	727.6	729.3	731.5	734.1	737.2	740.8	744.8	749.3	751.2	752.9	--
ASR24	Seaview Garden	821972	807359	60.0	698.4	698.2	697.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	609.0	609.0	609.1	609.3	609.6	610.0	610.4	611.5	613.0	614.7	616.8	619.2	621.8	624.8	628.0	631.4	635.1
ASR26	Concerto Inn	830329	808956	7.1	555.6	557.0	559.2	561.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	845.4	847.1	849.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Approved EIA Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 24-Hour Average SO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	32.4	33.0	34.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	75.3	75.1	74.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	4.9	5.0	5.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	79.0	79.0	79.0	79.1	79.1	79.1	79.2	79.4	79.7	80.1	80.5	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	80.8	80.8	80.9	80.9	81.0	81.2	81.3	81.7	82.2	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	61.4	62.2	63.6	65.1	66.8	68.8	71.0	76.2	82.7	90.7	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	55.8	55.7	55.5	55.4	55.3	55.2	55.2	55.2	55.5	55.9	56.4	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	75.1	75.1	75.0	74.9	74.9	74.8	74.8	74.7	74.6	74.5	74.5	74.6	74.7	74.9	75.2	75.5	75.9
ASR9	Baguio Villa Block 22	831812	813758	92.6	64.1	64.1	64.1	64.2	64.2	64.2	64.2	64.3	64.5	64.7	65.0	65.4	65.9	66.7	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	41.8	41.9	42.0	42.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	74.2	74.3	74.5	74.7	74.9	75.1	75.3	75.8	76.3	76.7	77.2	84.0	97.2	113.5	132.9	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	86.9	86.2	84.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	77.2	77.2	77.2	77.1	77.1	77.0	77.0	77.0	77.0	77.0	77.1	77.2	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	83.9	83.3	82.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	40.0	40.1	40.2	40.3	40.4	40.6	40.8	41.3	41.8	42.5	43.3	44.1	45.0	46.0	47.0	48.2	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	112.0	112.1	112.2	112.3	112.3	112.4	112.4	112.4	112.5	112.5	112.6	112.7	112.9	113.0	113.2	113.5	--
ASR17	Matilda International Hospital	833410	813363	410.9	113.6	112.4	109.8	107.5	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	54.7	54.6	54.5	54.4	54.3	54.2	54.2	54.1	54.0	54.0	54.0	54.0	54.0	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	59.7	59.7	59.7	59.7	59.6	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	37.8	37.8	37.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	33.4	33.3	33.3	33.2	33.2	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	91.6	91.7	91.8	91.9	92.0	92.1	92.2	92.4	92.7	93.1	93.6	94.2	94.9	95.8	96.9	98.2	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	49.3	49.3	49.2	49.1	49.1	49.0	48.9	48.8	48.8	48.7	48.6	48.6	49.1	50.3	51.7	53.6	--
ASR24	Seaview Garden	821972	807359	60.0	36.7	36.7	36.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.7	74.6	74.6	74.6	74.6	74.7	74.8	75.0	75.4
ASR26	Concerto Inn	830329	808956	7.1	34.1	34.2	34.4	34.6	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	46.2	46.2	46.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 10-Minute Average SO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	64.3	64.5	64.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	105.0	105.1	105.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	18.2	18.6	19.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	81.0	80.9	80.8	80.8	80.7	80.6	80.6	80.5	80.4	80.3	80.3	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	101.9	101.8	101.8	101.8	101.7	101.7	101.7	101.6	101.6	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	72.3	72.2	72.1	72.0	71.9	71.8	71.7	71.6	71.6	71.6	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	51.6	51.5	51.5	51.5	51.4	51.4	51.4	51.3	51.1	51.0	50.9	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	94.9	94.9	94.9	94.9	94.9	94.9	95.0	95.0	95.1	95.3	95.5	95.7	96.0	96.1	96.1	96.2	96.3
ASR9	Baguio Villa Block 22	831812	813758	92.6	71.7	71.7	71.7	71.7	71.6	71.6	71.6	71.6	71.6	71.6	71.6	72.2	73.9	74.9	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	60.4	60.4	60.4	60.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	78.1	78.1	78.1	78.0	78.0	78.0	78.1	78.1	78.1	78.2	78.3	78.3	78.5	78.6	78.7	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	146.6	140.6	132.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	90.9	91.0	91.0	91.1	91.1	91.2	91.2	91.3	91.4	91.5	91.6	91.7	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	232.0	230.5	227.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	59.7	59.7	59.6	59.6	59.6	59.6	59.6	59.6	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	115.0	115.0	115.1	115.1	115.0	115.0	115.0	114.9	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.9	--
ASR17	Matilda International Hospital	833410	813363	410.9	276.3	267.3	253.8	251.5	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	79.5	79.5	79.6	79.6	79.7	79.7	79.7	79.6	79.6	79.5	79.5	79.4	79.4	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	84.0	84.0	84.0	83.9	83.9	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	75.1	75.1	75.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	61.2	61.1	61.0	61.0	60.9	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	124.6	124.6	124.6	124.7	124.7	124.7	124.8	124.8	125.0	125.1	125.3	125.5	125.7	125.9	125.9	126.1	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	89.4	89.4	89.5	89.5	89.5	89.5	89.5	89.3	89.2	89.1	89.1	89.2	89.3	89.4	89.6	89.9	--
ASR24	Seaview Garden	821972	807359	60.0	77.1	77.1	77.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.9	78.0	78.1	78.2	78.4	78.5	78.7	78.9	79.0	79.1
ASR26	Concerto Inn	830329	808956	7.1	52.4	52.6	52.8	53.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	104.7	104.8	104.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 24-Hour Average SO_2 (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	4.4	4.5	4.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	8.6	8.6	8.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	1.5	1.5	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.1	9.1	9.2	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.7	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	7.4	7.6	7.8	8.1	8.3	8.7	9.0	9.9	11.0	12.3	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	6.5	6.5	6.5	6.5	6.5	6.4	6.4	6.4	6.5	6.6	6.7	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.2	9.2	9.3	9.3	9.3	9.3	9.4	9.4	9.5
ASR9	Baguio Villa Block 22	831812	813758	92.6	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.3	7.5	7.7	7.9	8.2	8.6	9.1	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	5.5	5.5	5.5	5.6	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	8.3	8.3	8.3	8.3	8.3	8.3	8.4	8.4	8.5	8.5	9.1	10.5	12.4	14.6	17.1	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	8.1	7.9	7.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	8.9	8.9	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	8.8	8.8	8.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	4.8	4.8	4.8	4.8	4.8	4.9	4.9	4.9	5.0	5.0	5.1	5.2	5.2	5.3	5.4	5.5	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.6	13.6	13.6	--
ASR17	Matilda International Hospital	833410	813363	410.9	11.5	11.3	11.0	10.7	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	6.6	6.6	6.6	6.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	6.6	6.6	6.6	6.6	6.6	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	4.5	4.5	4.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	3.9	3.9	3.9	3.9	3.9	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.4	11.4	11.5	11.6	11.7	11.8	11.9	12.0	12.1	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8	5.8	5.9	6.1	6.2	6.5	6.7	7.1	--
ASR24	Seaview Garden	821972	807359	60.0	4.1	4.1	4.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.9	8.0
ASR26	Concerto Inn	830329	808956	7.1	3.2	3.2	3.2	3.2	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	5.4	5.4	5.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Difference between Approved EIA Scheme and Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 10-Minute Average SO_2 (μgm^{-3}) Receptor height (m above ground) 1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-401.7	-403.6	-407.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-954.0	-954.8	-955.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-147.4	-149.8	-154.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-575.8	-576.0	-576.3	-576.5	-576.8	-577.0	-577.2	-577.7	-578.1	-578.5	-578.9	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-786.7	-786.5	-786.2	-785.8	-785.5	-785.2	-784.9	-784.5	-784.1	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-446.7	-447.6	-448.9	-450.4	-452.0	-453.7	-455.5	-459.5	-462.5	-462.2	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-407.9	-407.7	-407.4	-407.2	-406.9	-406.6	-406.2	-405.4	-404.5	-403.7	-402.9	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-643.2	-643.1	-643.1	-643.2	-643.4	-643.6	-644.0	-644.9	-646.4	-648.3	-650.6	-653.3	-656.5	-660.2	-664.2	-668.7	-673.5
ASR9	Baguio Villa Block 22	831812	813758	92.6	-572.8	-572.5	-572.3	-572.2	-572.1	-572.0	-571.9	-571.8	-571.7	-571.7	-571.7	-571.4	-570.3	-569.9	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-476.2	-476.1	-476.1	-476.1	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-634.5	-634.3	-634.0	-633.7	-633.5	-633.2	-632.9	-632.4	-632.0	-631.5	-631.1	-630.7	-630.4	-630.1	-629.8	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-1719.7	-1695.2	-1656.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-707.2	-707.5	-707.8	-708.1	-708.4	-708.7	-709.0	-709.6	-710.1	-710.6	-711.1	-711.6	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-1899.3	-1853.6	-1783.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-475.1	-475.0	-474.9	-474.9	-474.8	-474.8	-474.7	-474.6	-474.6	-474.5	-474.5	-474.5	-474.5	-474.6	-474.7	-474.8	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-843.3	-843.4	-843.5	-843.7	-843.8	-844.0	-844.2	-844.8	-845.5	-846.4	-847.5	-848.8	-850.3	-851.9	-852.3	-852.3	--
ASR17	Matilda International Hospital	833410	813363	410.9	-2088.8	-2077.3	-2051.8	-2016.3	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-611.9	-612.1	-612.3	-612.4	-612.5	-612.5	-612.4	-612.0	-611.4	-610.9	-610.5	-610.1	-609.8	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-591.2	-591.5	-591.7	-591.9	-591.9	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-562.6	-562.7	-562.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-426.3	-426.7	-427.1	-427.4	-427.7	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-870.7	-870.9	-871.2	-871.5	-871.8	-872.2	-872.6	-873.8	-875.3	-877.1	-879.3	-881.8	-884.7	-887.8	-891.3	-895.2	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-635.1	-635.3	-635.6	-636.1	-636.7	-637.3	-638.1	-640.0	-642.3	-645.0	-648.1	-651.6	-655.5	-659.9	-661.6	-663.0	--
ASR24	Seaview Garden	821972	807359	60.0	-621.3	-621.1	-620.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-531.2	-531.2	-531.3	-531.5	-531.8	-532.1	-532.6	-533.6	-535.0	-536.6	-538.6	-540.8	-543.3	-546.1	-549.1	-552.5	-556.0
ASR26	Concerto Inn	830329	808956	7.1	-503.2	-504.5	-506.3	-508.3	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-740.6	-742.3	-744.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Difference between Approved EIA Scheme and Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	SO_2 Maximum 24-Hour Average SO_2 (μgm^{-3}) Receptor height (m above ground) 1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-28.0	-28.6	-29.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-66.7	-66.5	-66.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-3.4	-3.5	-3.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-70.0	-70.0	-70.0	-70.1	-70.1	-70.1	-70.2	-70.4	-70.6	-70.9	-71.3	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-70.2	-70.3	-70.3	-70.4	-70.5	-70.6	-70.7	-71.1	-71.6	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-53.9	-54.7	-55.8	-57.0	-58.5	-60.1	-61.9	-66.3	-71.7	-78.4	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-49.3	-49.2	-49.0	-48.9	-48.8	-48.7	-48.7	-48.8	-49.0	-49.3	-49.7	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-65.8	-65.8	-65.7	-65.6	-65.6	-65.5	-65.5	-65.4	-65.3	-65.3	-65.3	-65.3	-65.4	-65.6	-65.8	-66.1	-66.4
ASR9	Baguio Villa Block 22	831812	813758	92.6	-56.9	-56.9	-57.0	-57.0	-57.0	-57.0	-57.0	-57.0	-57.0	-57.0	-57.1	-57.2	-57.3	-57.5	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-36.3	-36.4	-36.5	-36.6	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-66.0	-66.1	-66.2	-66.4	-66.5	-66.7	-66.9	-67.4	-67.8	-68.2	-68.1	-73.5	-84.9	-99.0	-115.8	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-78.8	-78.3	-77.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-68.4	-68.4	-68.3	-68.3	-68.2	-68.2	-68.2	-68.2	-68.2	-68.2	-68.3	-68.3	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-75.1	-74.5	-73.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-35.2	-35.3	-35.4	-35.5	-35.6	-35.8	-35.9	-36.4	-36.9	-37.5	-38.2	-39.0	-39.8	-40.7	-41.6	-42.7	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-98.5	-98.6	-98.7	-98.8	-98.8	-98.9	-98.9	-98.9	-99.0	-99.0	-99.1	-99.2	-99.3	-99.5	-99.7	-99.9	--
ASR17	Matilda International Hospital	833410	813363	410.9	-102.1	-101.1	-98.8	-96.8	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-48.1	-48.0	-47.9	-47.8	-47.8	-47.7	-47.7	-47.6	-47.5	-47.5	-47.5	-47.5	-47.5	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-53.1	-53.1	-53.1	-53.1	-53.0	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-33.3	-33.3	-33.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-29.5	-29.4	-29.4	-29.3	-29.3	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-80.3	-80.4	-80.5	-80.6	-80.7	-80.8	-80.8	-81.0	-81.2	-81.6	-82.0	-82.5	-83.2	-83.9	-84.9	-86.0	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-43.6	-43.6	-43.5	-43.4	-43.4	-43.3	-43.3	-43.2	-43.0	-42.9	-42.7	-42.6	-42.9	-43.8	-45.0	-46.5	--
ASR24	Seaview Garden	821972	807359	60.0	-32.6	-32.6	-32.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-67.0	-67.0	-67.0	-67.0	-67.0	-67.0	-67.0	-67.0	-66.9	-66.9	-66.8	-66.8	-66.9	-66.9	-67.0	-67.2	-67.4
ASR26	Concerto Inn	830329	808956	7.1	-31.0	-31.0	-31.2	-31.4	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-40.8	-40.8	-40.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Annex D - Predicted Pollutant Concentrations at ASRs

Approved EIA Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	PM Maximum 24-Hour Average PM (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	2.61	2.65	2.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	4.21	4.20	4.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	1.65	1.67	1.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	4.49	4.49	4.49	4.49	4.50	4.50	4.50	4.52	4.54	4.56	4.59	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	5.04	5.04	5.04	5.04	5.04	5.05	5.06	5.07	5.10	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	4.01	4.09	4.21	4.35	4.50	4.67	4.85	5.27	5.76	6.33	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	3.36	3.36	3.35	3.34	3.34	3.33	3.33	3.33	3.36	3.42	3.50	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	4.44	4.44	4.43	4.43	4.43	4.42	4.42	4.42	4.41	4.41	4.41	4.42	4.43	4.44	4.46	4.48	4.50
ASR9	Baguio Villa Block 22	831812	813758	92.6	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.65	3.66	3.68	3.75	3.90	4.22	4.52	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	2.88	2.89	2.90	2.91	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	4.22	4.22	4.23	4.24	4.25	4.25	4.27	4.30	4.32	4.36	4.93	5.65	6.51	7.51	8.65	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	4.11	4.05	3.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	4.44	4.43	4.43	4.43	4.43	4.43	4.43	4.43	4.43	4.44	4.44	4.45	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	4.04	3.96	3.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	2.39	2.39	2.39	2.40	2.40	2.41	2.42	2.44	2.47	2.50	2.54	2.57	2.62	2.66	2.71	2.77	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	6.59	6.60	6.60	6.61	6.61	6.61	6.62	6.62	6.62	6.62	6.62	6.63	6.63	6.64	6.65	6.67	--
ASR17	Matilda International Hospital	833410	813363	410.9	4.99	4.90	4.85	4.77	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	3.21	3.21	3.20	3.20	3.19	3.18	3.18	3.17	3.17	3.17	3.17	3.17	3.18	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	3.32	3.31	3.31	3.31	3.31	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	2.20	2.21	2.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	1.97	1.96	1.96	1.96	1.96	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	5.54	5.55	5.55	5.56	5.56	5.57	5.58	5.60	5.62	5.65	5.68	5.72	5.77	5.83	5.88	5.95	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	2.82	2.82	2.81	2.81	2.81	2.80	2.80	2.79	2.83	2.87	2.92	2.99	3.08	3.19	3.32	3.48	--
ASR24	Seaview Garden	821972	807359	60.0	2.07	2.07	2.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	4.12	4.12	4.11	4.11	4.11	4.11	4.11	4.11	4.10	4.10	4.10	4.10	4.11	4.13	4.17	4.23	4.32
ASR26	Concerto Inn	830329	808956	7.1	1.95	1.96	1.97	1.98	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	2.52	2.52	2.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Approved EIA Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	PM Annual Average PM (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	0.33	0.34	0.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	0.53	0.53	0.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	0.18	0.18	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.66	0.68	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	0.54	0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.53	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	0.43	0.43	0.44	0.44	0.45	0.46	0.47	0.49	0.51	0.54	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	0.51	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	0.51
ASR9	Baguio Villa Block 22	831812	813758	92.6	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.46	0.47	0.48	0.49	0.50	0.52	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	0.33	0.33	0.33	0.33	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	0.45	0.46	0.46	0.46	0.46	0.47	0.47	0.48	0.50	0.51	0.53	0.54	0.56	0.58	0.60	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.26	0.26	0.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.34	0.33	0.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.21	0.21	0.22	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.59	0.60	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.42	0.42	0.41	0.40	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.41	0.41	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	0.35	0.35	0.35	0.35	0.35	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.23	0.23	0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.20	0.20	0.20	0.20	0.20	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.55	0.55	0.55	0.55	0.56	0.56	0.58	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.38	0.39	0.40	0.42	0.44	--
ASR24	Seaview Garden	821972	807359	60.0	0.27	0.27	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.44	0.44	0.44	0.45	0.47
ASR26	Concerto Inn	830329	808956	7.1	0.09	0.09	0.09	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.14	0.14	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note:
(a) PM assessment results apply to both RSP and FSP.

Annex D - Predicted Pollutant Concentrations at ASRs

Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	PM Maximum 24-Hour Average PM (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	1.84	1.85	1.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	2.66	2.65	2.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	1.52	1.53	1.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.65	2.67	2.68	2.71	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.17	3.19	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	2.59	2.65	2.74	2.84	2.95	3.06	3.19	3.46	3.78	4.15	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	2.03	2.03	2.03	2.04	2.04	2.05	2.06	2.08	2.11	2.14	2.19	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	2.70	2.69	2.69	2.69	2.69	2.69	2.68	2.68	2.68	2.68	2.68	2.68	2.69	2.70	2.71	2.72	2.74
ASR9	Baguio Villa Block 22	831812	813758	92.6	2.14	2.14	2.15	2.16	2.18	2.19	2.21	2.25	2.31	2.38	2.47	2.62	2.90	3.14	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	1.87	1.87	1.88	1.90	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	2.47	2.47	2.48	2.48	2.48	2.48	2.50	2.54	3.10	3.50	3.67	3.67	4.21	4.82	5.50	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	2.08	2.03	1.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.64	2.64	2.65	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	2.21	2.19	2.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	1.45	1.45	1.45	1.46	1.46	1.46	1.47	1.48	1.49	1.50	1.52	1.54	1.56	1.58	1.61	1.64	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	3.97	3.97	3.97	3.98	3.98	3.98	3.98	3.98	3.98	3.98	3.98	3.98	3.99	3.99	4.00	4.01	--
ASR17	Matilda International Hospital	833410	813363	410.9	2.83	2.79	2.71	2.67	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	1.94	1.93	1.93	1.92	1.92	1.92	1.91	1.91	1.91	1.91	1.91	1.94	1.99	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	1.91	1.91	1.91	1.91	1.91	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	1.32	1.32	1.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	1.18	1.18	1.18	1.18	1.18	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	3.51	3.52	3.52	3.52	3.53	3.53	3.53	3.54	3.56	3.57	3.59	3.61	3.64	3.67	3.70	3.74	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	1.66	1.66	1.66	1.67	1.68	1.68	1.69	1.71	1.74	1.78	1.82	1.88	1.94	2.03	2.19	2.59	--
ASR24	Seaview Garden	821972	807359	60.0	1.21	1.21	1.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.32	2.32	2.32	2.33	2.34	2.36	2.39	2.45	2.65
ASR26	Concerto Inn	830329	808956	7.1	1.11	1.12	1.12	1.13	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	1.47	1.47	1.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	PM Annual Average PM (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	0.24	0.24	0.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	0.33	0.33	0.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	0.16	0.16	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.39	0.41	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	0.26	0.26	0.27	0.27	0.28	0.28	0.29	0.31	0.32	0.34	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	0.30	0.30	0.30	0.30	0.30	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.30	0.30	0.31
ASR9	Baguio Villa Block 22	831812	813758	92.6	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.28	0.29	0.30	0.31	0.32	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	0.20	0.20	0.20	0.20	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	0.27	0.27	0.27	0.28	0.28	0.28	0.29	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.38	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	0.14	0.14	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	0.30	0.30	0.30	0.30	0.30	0.29	0.29	0.30	0.30	0.30	0.30	0.30	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	0.18	0.18	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.13	0.13	0.14	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.35	0.35	0.35	0.35	0.36	--
ASR17	Matilda International Hospital	833410	813363	410.9	0.23	0.23	0.22	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	0.21	0.21	0.20	0.20	0.20	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	0.14	0.14	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	0.12	0.12	0.12	0.12	0.12	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.35	0.35	0.36	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.23	0.24	0.25	0.27	0.28	--
ASR24	Seaview Garden	821972	807359	60.0	0.16	0.16	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.27	0.29
ASR26	Concerto Inn	830329	808956	7.1	0.06	0.06	0.06	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	0.09	0.09	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note:
(a) PM assessment results apply to both RSP and FSP.

Annex D - Predicted Pollutant Concentrations at ASRs

Difference between Approved EIA Scheme and Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	PM Maximum 24-Hour Average PM (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-0.77	-0.79	-0.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-1.55	-1.55	-1.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-0.13	-0.13	-0.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-1.86	-1.86	-1.86	-1.86	-1.86	-1.86	-1.86	-1.86	-1.87	-1.88	-1.89	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-1.88	-1.88	-1.88	-1.88	-1.88	-1.89	-1.89	-1.90	-1.91	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-1.42	-1.44	-1.47	-1.51	-1.56	-1.61	-1.66	-1.80	-1.98	-2.18	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-1.33	-1.33	-1.31	-1.30	-1.29	-1.28	-1.27	-1.25	-1.26	-1.28	-1.31	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-1.75	-1.75	-1.74	-1.74	-1.74	-1.74	-1.74	-1.74	-1.73	-1.73	-1.73	-1.73	-1.74	-1.74	-1.75	-1.75	-1.76
ASR9	Baguio Villa Block 22	831812	813758	92.6	-1.50	-1.50	-1.49	-1.47	-1.46	-1.45	-1.43	-1.39	-1.35	-1.29	-1.28	-1.28	-1.32	-1.39	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-1.01	-1.01	-1.02	-1.02	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-1.75	-1.75	-1.75	-1.76	-1.76	-1.77	-1.77	-1.76	-1.23	-0.85	-1.26	-1.97	-2.30	-2.69	-3.15	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-2.03	-2.01	-1.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-1.80	-1.80	-1.80	-1.80	-1.80	-1.80	-1.80	-1.80	-1.80	-1.80	-1.80	-1.80	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-1.83	-1.77	-1.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-0.94	-0.94	-0.94	-0.94	-0.95	-0.95	-0.95	-0.97	-0.98	-1.00	-1.01	-1.03	-1.06	-1.08	-1.11	-1.12	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-2.63	-2.63	-2.63	-2.63	-2.64	-2.64	-2.64	-2.64	-2.64	-2.64	-2.64	-2.64	-2.65	-2.65	-2.66	-2.66	--
ASR17	Matilda International Hospital	833410	813363	410.9	-2.16	-2.11	-2.13	-2.11	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-1.28	-1.28	-1.27	-1.27	-1.27	-1.27	-1.27	-1.26	-1.26	-1.26	-1.26	-1.23	-1.19	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-1.40	-1.40	-1.40	-1.40	-1.40	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-0.89	-0.89	-0.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-0.78	-0.78	-0.78	-0.78	-0.78	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-2.03	-2.03	-2.03	-2.04	-2.04	-2.04	-2.04	-2.05	-2.06	-2.08	-2.09	-2.11	-2.13	-2.15	-2.18	-2.21	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-1.16	-1.16	-1.15	-1.14	-1.13	-1.12	-1.11	-1.08	-1.08	-1.09	-1.10	-1.12	-1.13	-1.16	-1.13	-0.89	--
ASR24	Seaview Garden	821972	807359	60.0	-0.86	-0.86	-0.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.78	-1.68
ASR26	Concerto Inn	830329	808956	7.1	-0.84	-0.84	-0.84	-0.85	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-1.05	-1.05	-1.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Difference between Approved EIA Scheme and Latest Scheme (LMX and LPS)

ASR	ASR Description	x	y	Base Elevation (m)	PM Annual Average PM (μgm^{-3}) Receptor height (m above ground)															
					1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
ASR1	Village House at Po Wah Yuen	829437	809964	33.7	-0.10	-0.10	-0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR2	Pak Kok San Tsuen House 40	829742	810917	21.3	-0.20	-0.20	-0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR3	Village house at Tai Shan Central	829494	809322	30.5	-0.02	-0.02	-0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR4	Cape Mansions Block B	830513	814918	76.0	-0.27	-0.27	-0.27	-0.27	-0.27	-0.27	-0.27	-0.27	-0.27	-0.27	-0.27	--	--	--	--	--	--
ASR5	Pine Court Block 2	831111	814062	35.6	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.20	-0.21	--	--	--	--	--	--	--	--
ASR6	Queen Mary Hospital Block S	831498	814635	146.2	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.18	-0.18	-0.19	-0.20	--	--	--	--	--	--	--
ASR7	Smithfield Court Block 1	831246	815920	7.0	-0.18	-0.18	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.18	--	--	--	--	--	--
ASR8	Residence Bel-Air Phase 1 Tower 8	831702	813183	8.7	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21
ASR9	Baguio Villa Block 22	831812	813758	92.6	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	-0.19	--	--	--
ASR10	The University of Hong Kong Main Building	832242	816129	60.8	-0.13	-0.13	-0.13	-0.13	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR11	Pokfulam Gardens Block 1	832125	813293	131.5	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.19	-0.19	-0.19	-0.20	-0.20	-0.21	-0.22	-0.23	--	--
ASR12	Overthorpe Block A	833203	815151	478.7	-0.12	-0.12	-0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR13	Wah Fu (II) Estate Wah Tai House	832127	812589	61.0	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	--	--	--	--	--
ASR14	Sherwood's Bluff Block A2	834038	814214	429.7	-0.16	-0.15	-0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR15	Regent On The Park Tower 1	834957	815212	59.8	-0.07	-0.07	-0.07	-0.07	-0.07	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	--
ASR16	Wah Kwai Estate Wah Hau House	832514	812386	10.6	-0.23	-0.23	-0.23	-0.23	-0.23	-0.23	-0.23	-0.23	-0.23	-0.23	-0.23	-0.23	-0.24	-0.24	-0.24	-0.24	--
ASR17	Matilda International Hospital	833410	813363	410.9	-0.19	-0.19	-0.19	-0.18	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR18	Aberdeen Centre Kwun Chiu Court	833955	812115	4.0	-0.17	-0.17	-0.17	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	-0.16	--	--	--	--
ASR19	San Wui Commercial Society Chan Pak Sha School	835241	811862	23.1	-0.14	-0.14	-0.14	-0.14	-0.14	--	--	--	--	--	--	--	--	--	--	--	--
ASR20	Ocean Park Maritime Point	835538	810518	120.0	-0.09	-0.09	-0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR21	Hong Kong Ocean Park Marriott Hotel	836213	812082	14.0	-0.08	-0.08	-0.08	-0.08	-0.08	--	--	--	--	--	--	--	--	--	--	--	--
ASR22	South Horizons Block 13 Yee Lok Court	833068	811660	6.0	-0.20	-0.20	-0.20	-0.20	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.22	--
ASR23	Lei Tung Estate Tung Mau House	834115	811431	59.8	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	--
ASR24	Seaview Garden	821972	807359	60.0	-0.11	-0.11	-0.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR25	Planned development area (Green Island	830355	816443	0.0	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18
ASR26	Concerto Inn	830329	808956	7.1	-0.03	-0.03	-0.03	-0.03	--	--	--	--	--	--	--	--	--	--	--	--	--
ASR27	South Lamma Public Library	831613	807477	4.8	-0.06	-0.06	-0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note:
(a) PM assessment results apply to both RSP and FSP.

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