

### 3. AIR QUALITY

#### 3.1 Introduction

This *Section* presents the potential air quality impacts associated with the demolition/ construction and operation phases of the Project.

#### 3.2 Legislative Requirements and Evaluation Criteria

The principal legislation for the management of air quality in Hong Kong is the *Air Pollution Control Ordinance (APCO) (Cap. 311)*. As the new set of AQOs will be implemented on 1 January 2022, the new AQOs have been adopted as the assessment criteria as shown in **Table 3.1**.

**Table 3.1 Hong Kong Air Quality Objectives**

Air Pollutant	Averaging Time	New AQOs	
		Concentration ( $\mu\text{g m}^{-3}$ ) (a)	No. of Exceedances Allowed per Year
Nitrogen Dioxide (NO <sub>2</sub> )	1-hour	200	18
	Annual	40	-
Sulphur Dioxide (SO <sub>2</sub> )	10-minute	500	3
	24-hour	50	3
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
Respirable Suspended Particulates (RSP) <sup>(b)</sup>	24-hour	100	9
	Annual	50	-
Fine Suspended Particulates (FSP) <sup>(c)</sup>	24-hour	50	35
	Annual	25	-
Ozone	8-hour	160	9
Lead	Annual	0.5	-

**Notes:**

- (a) Concentrations of gaseous air pollutants (i.e. NO<sub>2</sub>, SO<sub>2</sub>, CO and O<sub>3</sub>) are measured at 293K and 101.325kPa.
- (b) Suspended particles in air with a nominal aerodynamic diameter of 10  $\mu\text{m}$  or less.
- (c) Suspended particles in air with a nominal aerodynamic diameter of 2.5  $\mu\text{m}$  or less.

In addition to the APCO, a maximum hourly average Total Suspended Particulates (TSP) concentration of 500 $\mu\text{g m}^{-3}$  at Air Sensitive Receivers (ASRs) is stipulated in Annex 4 of the *Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM)* to address potential construction dust impacts. The measures stipulated in the *Air Pollution Control (Construction Dust) Regulation* will be followed to ensure that potential dust impacts are properly controlled. Requirements stipulated in the *Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation* and *Air Pollution Control (Fuel Restriction) Regulation* will also be followed to control potential emissions from non-road mobile machinery during decommissioning /demolition and construction phases. Furthermore, *Air Pollution Control (Marine Light Diesel) Regulation* and *Air Pollution Control (Fuel for Vessels) Regulation* will be followed to control potential emissions from marine vessels arising from the Project.

#### 3.3 Assessment Area and Air Sensitive Receivers

The Assessment Area is defined as an area within 15km from the boundary of the Project site. The Project site and the Assessment Area are shown in **Figure 3.1**.

The representative ASRs have been identified in various districts within the Assessment Area, including:

- The Islands (Lamma Island, Cheung Chau, Peng Chau, Hei Ling Chau, Northern and Eastern part of Lantau Island);
- Southern District of Hong Kong Island;
- Central and Western District of Hong Kong Island;
- Eastern District of Hong Kong Island;
- Kowloon; and
- Tsing Yi.

The identification of representative ASRs within each of the abovementioned 6 districts have considered a number of factors, including:

- Proximity of ASRs from the Project site:

Distance between the ASRs and the Project site has been considered as ASRs closer to the Project site would potentially experience higher impact from the stack emissions of the Project. As far as distance is concerned, ASRs may be considered more representative if they are located closer to the Project site within a specific district.

- Base elevation and building height of ASRs:

Base elevation and building height of the ASRs have been considered as ASRs with higher building height or situated at a higher base elevation has the potential to be more impacted by the stack emissions of the Project than those with lower building height or situated at a lower base elevation. As far as base elevation and building height of ASRs are concerned, ASRs may be considered more representative if they are high-rise buildings or situated at a higher base elevation within a specific district.

- Nature of ASRs:

Type of use of the ASRs (e.g. residential, commercial, industrial, GIC <sup>(1)</sup>) has been considered in the identification of representative ASRs within each district. ASRs that are of higher sensitivity to air quality impact (e.g. residential buildings, hospitals, schools) may be considered more representative relative to those of lower sensitivity to air quality impact (e.g. commercial and industrial buildings) within a specific district.

- Representativeness of ASRs within a specific district:

ASRs that are prominent, large-scale, and/or landmark developments (e.g. large residential complexes) which can reasonably represent a specific district may be considered more representative.

- Geography of the district:

The locations and number of representative ASRs within a specific district have been considered such that they can reasonably cover different areas within that specific district. For example, Islands District consists of a number of islands including Lamma Island, Cheung Chau, Hei Ling Chau and Peng Chau.

- Presence of natural terrain and physical barriers:

Presence of natural terrain and physical barriers has been considered in the identification of representative ASRs within each district. ASRs that have direct line of sight to the stacks of the Project may be considered more representative than those ASRs with natural terrain or physical barriers blocking their views to the stacks of the Project.

---

(1) GIC – Government, institution or community



In general, more representative ASRs have been identified within a district that is relatively close to the Project site (e.g. Islands District, Southern District of Hong Kong Island) compared with a district that is at a greater distance from the Project site (e.g. Tsing Yi, Eastern District of Hong Kong Island). More representative ASRs have also been identified within a district with scattered areas (e.g. Islands District, Southern District of Hong Kong Island) to provide a comprehensive coverage of the district.

Apart from the review of relevant Outline Zoning Plans (OZPs), Development Permission Area Plans, Outline Development Plans and Layout Plans and other relevant published land use plans from the Lands Department and development applications approved by the Town Planning Board, the identification of these representative ASRs has also made reference to the approved EIA report for the 1,800MW Gas-Fired Power Station at Lamma Extension (LMX) Project (AEIAR-010/1999), the Air Quality Impact Assessment (AQIA) study for Variation of Environmental Permit (VEP) for the LMX project in 2020, and the Air Pollution Control Plan (APCP) for the operation of unit L10 at Lamma Power Station (LPS) in 2019.

Locations of the identified representative ASRs are shown in **Figure 3.1**. Details of these representative ASRs, including the ASR descriptions, uses, base elevation, approximate building height and approximate distance from the Project site are presented in **Table 3.2**.

**Table 3.2 Identified Representative ASRs**

ASR	District	Description	Type of Use	PATH Grid	Approx. Base Elevation (mPD)	Approx. Maximum Height (m above ground)	Approx. Separation Distance from the Project Site Boundary (km)
A1	Islands (Lamma Island)	Village House at Po Wah Yuen	Residential	3423	33.7	10	1.32
A2	Islands (Lamma Island)	Pak Kok San Tsuen House 40	Residential	3424	21.3	10	2.32
A3	Islands (Lamma Island)	Village house at Tai Shan Central	Residential	3423	30.5	10	0.81
A4	Central & Western HK Island	Cape Mansions Block B	Residential	3528	76.0	70	6.37
A5	Southern HK Island	Pine Court Block 2	Residential	3527	35.6	50	5.75
A6	Central & Western HK Island	Queen Mary Hospital Block S	Hospital	3628	146.2	55	6.43
A7	Central & Western HK Island	Smithfield Court Block 1	Residential	3529	7.0	70	7.54
A8	Southern HK Island	Residence Bel-Air Phase 1 Tower 8	Residential	3626	8.7	170	5.23
A9	Southern HK Island	Baguio Villa Block 22	Residential	3627	92.6	95	5.78
A10	Central & Western HK Island	The University of Hong Kong Main Building	GIC	3629	60.8	15	8.09
A11	Southern HK Island	Pokfulam Gardens Block 1	Residential	3627	131.5	105	5.56
A12	Central & Western HK Island	Overthorpe Block A	Residential	3728	478.7	10	7.70
A13	Southern HK Island	Wah Fu (II) Estate Wah Tai House	Residential	3626	61.0	80	5.00
A14	Southern HK Island	Sherwood's Bluff Block A2	Residential	3827	429.7	10	7.49
A15	Central & Western HK Island	Regent On The Park Tower 1	Residential	3928	59.8	115	8.84
A16	Southern HK Island	Wah Kwai Estate Wah Hau House	Residential	3726	10.6	120	5.11
A17	Southern HK Island	Matilda International Hospital	Hospital	3827	410.9	15	6.44
A18	Southern HK Island	Aberdeen Centre Kwun Chiu Court	Residential	3825	4.0	90	6.05
A19	Southern HK Island	San Wui Commercial Society Chan Pak Sha School	School	3925	23.1	20	7.04
A20	Southern HK Island	Ocean Park Maritime Point	Theme Park	4024	120.0	10	6.85
A21	Southern HK Island	Hong Kong Ocean Park Marriott Hotel	Hotel	4025	14.0	20	8.02
A22	Southern HK Island	South Horizons Block 13 Yee Lok Court	Residential	3725	6.0	115	5.07
A23	Southern HK Island	Lei Tung Estate Tung Mau House	Residential	3825	59.8	115	5.84

ASR	District	Description	Type of Use	PATH Grid	Approx. Base Elevation (mPD)	Approx. Maximum Height (m above ground)	Approx. Separation Distance from the Project Site Boundary (km)
A24	Islands (Cheung Chau)	Seaview Garden	Residential	2621	60.0	10	6.84
A25	Islands (Lamma Island)	Concerto Inn	Hotel	3522	7.1	15	1.42
A26	Islands (Lamma Island)	South Lamma Public Library	GIC	3621	4.8	10	2.94
A27	Southern HK Island	Ma Hang Estate Block 4 Leung Ma House	Residential	4323	42.5	40	10.35
A28	Southern HK Island	34-38 Chung Hom Kok Road House B	Residential	4322	79.3	15	10.06
A29	Southern HK Island	The Repulse Bay Tower III Harston	Residential	4224	45.5	90	9.62
A30	Eastern HK Island	Taikoo Shing Yiu Sing Mansion	Residential	4530	5.0	90	13.93
A31	Eastern HK Island	Wah Shun Gardens	Residential	4430	30.8	120	13.25
A32	Eastern HK Island	Chan's Creative School (H.K. Island)	School	4330	7.5	20	12.97
A33	Eastern HK Island	Braemar Hill Mansions Block 7	Residential	4329	140.2	85	12.45
A34	Eastern HK Island	City Garden Hotel	Hotel	4230	3.8	85	12.19
A35	Central & Western HK Island	Hay Wah Building Block B	Residential	4029	3.8	75	9.54
A36	Kowloon	Harbour Pinnacle	Residential	4031	4.8	120	11.28
A37	Kowloon	Sorrento Tower 1	Residential	3932	10.9	260	11.45
A38	Kowloon	On Lee Building	Residential	4033	4.9	50	12.60
A39	Kowloon	The Open University of Hong Kong	School	4133	35.5	50	13.39
A40	Kowloon	King's Court	Residential	4134	12.4	60	14.18
A41	Kowloon	Cheung Sha Wan Government Offices	GIC	3935	4.9	100	13.86
A42	Kowloon	Caritas Medical Centre	Medical Centre	3836	36.4	45	14.59
A43	Tsing Yi	Cheung Hong Estate Hong On House	Residential	3337	40.0	100	14.68
A44	Tsing Yi	Hong Kong Institute of Vocational Education (Tsing Yi Campus)	School	3336	39.4	45	13.74
A45	Islands (Lantau Island)	Hong Kong Disneyland Hotel	Hotel	2732	3.0	25	11.72
A46	Islands (Lantau Island)	Hong Kong Disneyland	Theme Park	2733	7.4	10	12.17
A47	Islands (Lantau Island)	Inspiration Lake Recreation Centre	Water Recreation Centre	2633	8.8	10	13.18
A48	Islands (Lantau Island)	Graceful Mansion	Residential	2432	32.0	90	13.81
A49	Islands (Lantau Island)	Cherish Court	Residential	2531	10.5	60	11.83

ASR	District	Description	Type of Use	PATH Grid	Approx. Base Elevation (mPD)	Approx. Maximum Height (m above ground)	Approx. Separation Distance from the Project Site Boundary (km)
A50	Islands (Peng Chau)	Tung Wan Villa House 8	Residential	2630	6.6	10	10.11
A51	Islands (Peng Chau)	Holy Family School	School	2629	24.0	25	9.69
A52	Islands (Lantau Island)	Silvermine Beach Resort	Hotel	2228	2.0	20	12.21
A53	Islands (Lantau Island)	Bui O Public School	School	2025	7.4	15	13.40
A54	Islands (Hei Ling Chau)	Hei Ling Chau Correctional Institution	GIC	2726	89.0	25	7.48
A55	Islands (Hei Ling Chau)	Hei Ling Chau Addiction Treatment Centre	GIC	2626	44.5	25	8.47
A56	Islands (Cheung Chau)	Buddish Wai Yan Memorial College	School	2521	1.5	15	8.06
A57	Islands (Cheung Chau)	Cheung Chau Kwok Man School	School	2521	2.8	15	7.67
A58	Islands (Cheung Chau)	Scenic Garden Block 29	Residential	2522	17.5	10	7.81
A59	Southern HK Island	Eredine	Residential	3827	455.5	30	6.54
A60	Tsing Yi	Ching Wah Court Wah Yan House	Residential	3336	76.4	100	14.55
A61	Islands (Lantau Island)	Bijou Drive 32	Residential	2330	221.1	10	12.81

### 3.4 Baseline Conditions

The Project is located at the GT Compound within the existing LPS. The local air quality is primarily influenced by the emissions from the existing operation of LPS.

#### 3.4.1 Measured Background Air Quality from Air Quality Monitoring Stations

Eight EPD's air quality monitoring stations (AQMSs) in Kwai Chung, Sham Shui Po, Mongkok, Central/Western, Central, Causeway Bay, Eastern and Southern are located within the Assessment Area.

**Table 3.3** presents the relevant time averaging concentrations of air pollutants measured at the above AQMS in the most recent five years (i.e. 2016 to 2020) for comparison with the prevailing AQOs.

**Table 3.3 Concentrations of Air pollutants Measured at EPD's AQMS within the Assessment Area in the Recent Five Years (2016 to 2020)**

Station	Year	Concentration of Pollutants ( $\mu\text{g m}^{-3}$ ) <sup>(a)</sup>										
		19 <sup>th</sup> Year highest 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	4 <sup>th</sup> highest 24- hour SO <sub>2</sub>	4 <sup>th</sup> highest 10-min SO <sub>2</sub>	10 <sup>th</sup> highest 24- hour RSP	Annual RSP	10 <sup>th</sup> highest 24- hour FSP	Annual FSP	10 <sup>th</sup> highest daily max. 8- hour O <sub>3</sub>	Daily max. 1-hour CO <sup>(d)</sup>	Daily max. 8-hour CO <sup>(d)</sup>
Kwai Chung	2016	185	<u>59</u>	36	147	71	33	50	22	107	-	-
	2017	<u>204</u>	<u>57</u>	24	93	74	35	49	23	129	-	-
	2018	196	<u>55</u>	27	134	62	32	38	20	133	-	-
	2019	184	<u>54</u>	18	53	59	29	39	18	143	-	-
	2020	184	<u>48</u>	12	43	46	23	29	14	124	-	-
Sham Shui Po	2016	161	<u>58</u>	26	126	77	35	48	23	106	-	-
	2017	194	<u>54</u>	25	76	72	33	46	21	130	-	-
	2018	152	<u>49</u>	21	98	59	33	41	21	147	-	-
	2019	176	<u>48</u>	14	41	65	33	36	18	<u>164</u>	-	-
	2020	151	<u>45</u>	12	40	59	28	30	14	134	-	-
Mongkok <sup>(b)</sup>	2016	<u>218</u>	<u>78</u>	21	83	80	37	57	26	71	2,570	1,911
	2017	<u>257</u>	<u>81</u>	20	83	84	38	57	27	91	2,390	2,156
	2018	<u>240</u>	<u>79</u>	19	88	73	36	51	24	97	2,340	2,041
	2019	<u>248</u>	<u>78</u>	10	39	74	35	55	24	125	2,280	2,103
	2020	<u>214</u>	<u>74</u>	10	45	63	29	42	18	96	1,810	1,580
Central / Western	2016	152	<u>43</u>	27	103	80	32	50	22	138	-	-
	2017	164	<u>40</u>	29	125	84	35	59	23	159	-	-
	2018	159	39	22	135	70	34	46	21	<u>164</u>	-	-
	2019	153	37	12	62	69	30	49	20	<u>191</u>	-	-
	2020	128	32	9	31	60	25	37	16	140	-	-
Central <sup>(b)</sup>	2016	<u>258</u>	<u>78</u>	24	75	82	31	50	20	96	2,000	1,739
	2017	<u>267</u>	<u>80</u>	24	91	84	33	56	21	103	2,050	1,879
	2018	<u>257</u>	<u>80</u>	20	101	74	34	50	21	96	2,330	1,685
	2019	<u>252</u>	<u>80</u>	15	42	74	37	53	24	133	2,440	2,205
	2020	<u>223</u>	<u>68</u>	10	26	63	29	39	17	107	1,980	1,620
Causeway Bay <sup>(b)</sup>	2016	<u>274</u>	<u>89</u>	15	89	89	45	59	32	69	3,130	2,215
	2017	<u>325</u>	<u>97</u>	25	95	90	46	65	31	78	2,420	2,090
	2018	<u>277</u>	<u>87</u>	19	82	82	46	55	30	78	2,610	2,047
	2019	<u>287</u>	<u>81</u>	11	51	80	43	54	27	108	2,620	2,309
	2020	<u>216</u>	<u>68</u>	11	35	70	36	44	22	91	2,850	1,685

Station	Year	Concentration of Pollutants ( $\mu\text{g m}^{-3}$ ) <sup>(a)</sup>										
		19 <sup>th</sup> highest 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	4 <sup>th</sup> highest 24- hour SO <sub>2</sub>	4 <sup>th</sup> highest 10-min SO <sub>2</sub>	10 <sup>th</sup> highest 24- hour RSP	Annual RSP	10 <sup>th</sup> highest 24- hour FSP	Annual FSP	10 <sup>th</sup> highest daily max. 8- hour O <sub>3</sub>	Daily max. 1-hour CO <sup>(d)</sup>	Daily max. 8-hour CO <sup>(d)</sup>
Eastern	2016	134	<u>46</u>	16	82	71	30	45	20	132	-	-
	2017	139	<u>42</u>	14	54	74	33	49	20	<u>160</u>	-	-
	2018	128	39	12	123	68	33	39	19	<u>161</u>	-	-
	2019	136	38	7	41	66	31	40	18	<u>169</u>	-	-
	2020	113	34	6	16	60	27	31	14	140	-	-
Southern <sup>(c)</sup>	2020	101	-	6	27	51	-	27	-	151	1,250	1,150
<b>Prevailing AQOs</b>		<b>200</b>	<b>40</b>	<b>125</b>	<b>500</b>	<b>100</b>	<b>50</b>	<b>75</b>	<b>35</b>	<b>160</b>	<b>30,000</b>	<b>10,000</b>

**Notes:**

- (a) Data underlined indicate exceedance of the AQO.
- (b) Roadside AQMS.
- (c) As southern AQMS commissioned since 10 July 2020, monitoring results are only available in 2020. Concentration of pollutants in annual average are also not available as annual averages calculated from less than eight representative months will not be published in any form of air quality reports.
- (d) CO concentrations were not monitored for AQMSs in Kwai Chung, Sham Shui Po, Central/ Western and Eastern.

HK Electric operates a number of AQMSs in accordance with the requirements of its Lamma Power Station Specified Process (SP) licence, and the air quality monitoring data (i.e. NO<sub>2</sub> and SO<sub>2</sub>) from these AQMSs are available for the most recent three years on HK Electric's website<sup>(2)</sup>. All AQMSs fall within the assessment area of the Project. The relevant time-averaging concentrations of the measured NO<sub>2</sub> and SO<sub>2</sub> data from these AQMSs in the most recent three years (i.e. 2018 to 2020) are presented in **Table 3.4** for comparison with the prevailing AQOs.

**Table 3.4 Concentrations of Air pollutants Measured at HK Electric's AQMS within the Assessment Area in the Recent Three Years (2018 to 2020)**

Station	Year	Concentration of Pollutants ( $\mu\text{g m}^{-3}$ ) <sup>(a)</sup>			
		19 <sup>th</sup> highest 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	4 <sup>th</sup> highest 24-hour SO <sub>2</sub>	4 <sup>th</sup> highest 10-min SO <sub>2</sub>
Chung Hum Kok	2018	97	12	17	107
	2019	115	10	8	23
	2020	80	12	9	24
Victoria Road	2018	63	11	16	69
	2019	76	14	12	17
	2020	60	12	4	16
Ap Lei Chau	2018	127	18	35	183
	2019	123	13	12	32
	2020	92	14	6	28
Cheung Chau	2018	160	27	20	67
	2019	154	27	12	47
	2020	123	22	14	34
Victoria Peak <sup>(a)</sup>	2018	113	14	14	177
	2019	89	13	11	42
	2020	79	12	7	29
Pok Fu Lam	2018	126	26	37	152

(2) Air Quality Monitoring Statistics, HK Electric

Station	Year	Concentration of Pollutants ( $\mu\text{g m}^{-3}$ ) <sup>(a)</sup>			
		19 <sup>th</sup> highest 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	4 <sup>th</sup> highest 24-hour SO <sub>2</sub>	4 <sup>th</sup> highest 10-min SO <sub>2</sub>
	2019	141	25	14	79
	2020	114	23	15	33
<b>Prevailing AQOs</b>		<b>200</b>	<b>40</b>	<b>125</b>	<b>500</b>

**Note:**

(a) Ambient air monitoring at Victoria Peak Station was temporarily suspended from 1 Sep 2018 to 14 Jul 2019 due to renovation works.

■ NO<sub>2</sub>

No exceedance of 19<sup>th</sup> highest 1-hour NO<sub>2</sub> was recorded at all EPD's general AQMSs for the past five years except in Kwai Chung in 2017. Exceedances of 19<sup>th</sup> highest 1-hour NO<sub>2</sub> were recorded at EPD's roadside AQMSs in Mongkok, Central and Causeway Bay in all recent five years. No exceedances of 19<sup>th</sup> highest 1-hour NO<sub>2</sub> were recorded at all HK Electric's AQMSs from 2018 to 2020.

Exceedances of annual NO<sub>2</sub> were recorded in all recent five years at the EPD's general AQMSs in Kwai Chung and Sham Shui Po, as well as roadside AQMSs in Mongkok, Central and Causeway Bay. EPD's AQMSs in Central/Western had exceedances of annual NO<sub>2</sub> from 2016 to 2017 but no exceedance from 2018 to 2020. No exceedances were recorded at all HK Electric's AQMSs for the past three years.

■ SO<sub>2</sub>

No exceedances of 4<sup>th</sup> highest 24-hour SO<sub>2</sub> and 4<sup>th</sup> highest 10-min SO<sub>2</sub> were recorded at all EPD's AQMSs for the past five years (2016-2020) and all HK Electric's AQMSs for the past three years (2018-2020).

■ RSP

No exceedances of 10<sup>th</sup> highest 24-hour RSP and annual RSP were recorded at all EPD's AQMSs for the past five years (2016-2020).

■ FSP

No exceedances of 10<sup>th</sup> highest 24-hour FSP and annual FSP were recorded at all EPD's AQMSs for the past five years (2016-2020).

■ CO

No exceedances of maximum 1-hour CO and 8-hour CO were recorded at all EPD's AQMSs for the past five years (2016-2020).

■ O<sub>3</sub>

Exceedances of 10<sup>th</sup> highest 8-hour O<sub>3</sub> were recorded at EPD's AQMSs in Sham Shui Po in 2019, in Central/Western in 2018 and 2019, and in Eastern from 2017 to 2019 over the past five years (2016-2020). O<sub>3</sub> exceedances were not recorded at the other EPD's AQMSs in the past five years.

### 3.4.2 Predicted Future Background Air Quality

The background air pollutant concentrations predicted by the PATH v2.1 model (i.e. Pollutants in the Atmosphere and their Transport over Hong Kong) in different PATH grids where the identified ASRs are located in within the Assessment Area in Year 2025 (i.e. the year of tentative commencement of operation of Project) are presented in **Table 3.5**.



**Table 3.5 Background Air Pollutant Concentrations Predicted by the PATH v2.1 Model in 2025**

PATH Grid	Concentration of Pollutants ( $\mu\text{g m}^{-3}$ )										
	19 <sup>th</sup> highest 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	4 <sup>th</sup> highest 24-hour SO <sub>2</sub>	4 <sup>th</sup> highest 10-min SO <sub>2</sub> <sup>(a)</sup>	10 <sup>th</sup> highest 24-hour RSP	Annual RSP	36 <sup>th</sup> highest 24-hour FSP	Annual FSP	10 <sup>th</sup> highest Daily Max. 8-hour O <sub>3</sub>	Daily Max. 1-hour CO	Daily Max. 8-hour CO
2025	91.6	17.3	11.6	81.4	66.4	27.9	25.2	15.2	<u>227.9</u>	882	773
2228	107.8	19.8	11.5	78.1	65.4	27.4	23.2	14.7	<u>229.4</u>	917	838
2330	113.0	19.7	11.9	89.5	66.0	27.5	24.1	14.8	<u>234.6</u>	911	825
2432	113.4	22.5	11.6	90.5	64.4	26.5	22.6	14.4	<u>227.3</u>	897	810
2521	121.4	24.0	11.5	83.6	60.7	26.7	21.3	13.6	<u>222.8</u>	905	799
2522	120.7	26.2	11.1	82.0	62.5	27.4	21.7	13.9	<u>219.8</u>	909	810
2531	112.8	29.9	11.4	69.9	63.9	27.5	22.1	14.5	<u>216.7</u>	890	801
2621	119.2	24.8	11.4	78.2	62.6	27.6	21.9	13.9	<u>222.7</u>	902	799
2626	121.0	27.4	11.3	67.3	62.1	27.2	22.0	14.0	<u>217.5</u>	891	794
2629	114.8	29.4	11.3	62.1	63.9	27.9	22.1	14.4	<u>215.9</u>	881	791
2630	112.4	28.7	11.2	61.7	63.8	27.9	22.1	14.4	<u>215.9</u>	870	781
2633	115.0	23.9	11.5	86.6	62.0	26.1	22.0	14.2	<u>228.1</u>	870	776
2726	117.9	27.3	10.8	66.7	62.9	27.6	21.8	14.1	<u>215.0</u>	874	782
2732	119.6	32.2	11.3	67.3	63.6	27.6	22.7	14.6	<u>211.2</u>	852	761
2733	118.0	28.7	11.5	67.5	61.7	26.7	22.4	14.4	<u>219.5</u>	863	768
3336	137.7	34.8	11.2	66.6	62.5	27.1	23.0	15.0	<u>210.0</u>	790	716
3337	143.3	30.4	10.9	61.8	62.1	27.1	22.9	14.9	<u>203.5</u>	799	718
3423	125.4	21.4	11.3	70.3	63.6	27.4	21.8	14.0	<u>213.2</u>	834	743
3424	130.5	23.6	11.9	74.1	64.5	28.3	23.4	14.8	<u>211.3</u>	839	749
3522	114.9	17.4	11.6	59.1	61.7	26.5	20.6	13.3	<u>218.9</u>	817	733
3527	126.1	24.9	11.6	73.8	60.5	26.7	21.9	13.9	<u>198.6</u>	839	744
3528	125.2	20.7	10.9	61.5	59.8	26.0	22.1	13.8	<u>204.5</u>	840	730
3529	134.7	21.8	11.2	65.6	61.5	26.2	22.6	14.1	<u>214.6</u>	835	731
3621	108.3	17.6	10.8	53.4	63.1	26.6	21.0	13.4	<u>212.6</u>	794	732
3626	114.4	19.7	10.5	57.1	60.8	26.3	21.8	13.7	<u>205.9</u>	845	739
3627	112.5	17.3	10.0	55.5	60.8	26.3	22.5	13.8	<u>209.7</u>	845	741
3628	112.9	16.8	9.9	57.7	62.7	26.7	23.6	14.2	<u>215.0</u>	861	740
3629	123.6	20.2	10.1	57.9	64.1	27.3	24.3	14.8	<u>218.9</u>	870	748
3725	111.0	22.5	10.9	55.9	62.4	27.2	21.7	14.0	<u>200.1</u>	842	753
3726	99.8	17.1	10.0	51.2	62.1	26.4	22.4	13.9	<u>208.6</u>	861	739
3728	103.6	15.5	9.8	49.4	64.6	27.4	25.2	14.8	<u>209.7</u>	864	743
3825	104.4	17.9	10.3	57.3	62.2	26.8	22.0	13.9	<u>208.4</u>	856	753
3827	97.9	14.1	9.8	44.7	64.4	27.2	23.9	14.5	<u>206.3</u>	871	744
3836	108.9	19.9	9.8	49.5	62.5	26.6	23.5	14.7	<u>187.7</u>	828	733
3925	94.4	14.7	10.2	48.7	61.2	26.1	20.8	13.4	<u>209.5</u>	856	739
3928	97.1	15.2	9.8	45.4	64.9	27.3	23.3	14.7	<u>211.0</u>	870	737
3932	132.1	26.8	9.9	58.5	64.0	27.7	24.1	15.2	<u>205.9</u>	950	770
3935	119.5	20.0	9.8	49.9	62.2	27.0	23.7	14.7	<u>187.2</u>	843	740
4024	98.8	15.1	9.9	44.1	63.0	26.9	20.3	13.4	<u>200.6</u>	839	745
4025	87.3	13.4	10.0	42.3	62.0	26.0	20.7	13.3	<u>210.1</u>	846	736
4029	128.9	20.9	9.9	48.1	66.2	28.8	24.8	15.5	<u>208.1</u>	899	770
4031	139.8	26.5	10.1	51.5	64.4	28.5	24.0	15.3	<u>202.8</u>	938	760
4033	130.6	23.9	9.8	59.4	63.8	28.4	24.7	15.5	<u>191.5</u>	1,016	777

PATH Grid	Concentration of Pollutants ( $\mu\text{g m}^{-3}$ )										
	19 <sup>th</sup> highest 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	4 <sup>th</sup> highest 24-hour SO <sub>2</sub>	4 <sup>th</sup> highest 10-min SO <sub>2</sub> <sup>(a)</sup>	10 <sup>th</sup> highest 24-hour RSP	Annual RSP	36 <sup>th</sup> highest 24-hour FSP	Annual FSP	10 <sup>th</sup> highest Daily Max. 8-hour O <sub>3</sub>	Daily Max. 1-hour CO	Daily Max. 8-hour CO
4133	123.3	22.1	9.7	55.1	62.7	27.5	23.9	14.9	<u>189.3</u>	1,008	759
4134	121.0	21.3	9.7	54.6	62.9	27.6	24.2	15.0	<u>190.6</u>	972	771
4224	84.9	12.9	9.5	40.4	64.3	27.3	21.2	13.6	<u>207.3</u>	821	739
4230	124.6	19.3	9.9	48.2	63.7	27.7	24.0	14.9	<u>195.9</u>	964	757
4322	87.4	13.2	9.6	41.2	63.4	26.6	20.9	13.3	<u>206.8</u>	827	735
4323	83.7	12.6	9.5	40.3	65.3	27.3	21.8	13.7	<u>204.6</u>	830	734
4329	105.2	12.4	9.7	52.8	64.7	26.9	22.4	14.2	<u>202.4</u>	854	741
4330	116.4	17.7	9.9	53.7	64.4	27.7	24.0	14.9	<u>196.4</u>	862	758
4430	109.2	17.8	9.9	52.7	64.5	27.7	23.6	14.7	<u>195.9</u>	870	770
4530	111.8	18.9	9.9	50.2	63.7	27.4	22.4	14.4	<u>195.4</u>	892	786
<b>AQOs<sup>(e)</sup></b>	<b>200</b>	<b>40</b>	<b>50</b>	<b>500</b>	<b>100</b>	<b>50</b>	<b>50</b>	<b>25</b>	<b>160</b>	<b>30,000</b>	<b>10,000</b>

**Notes:**

- (a) The multiplicative factor for the stability class calculated for each hour was applied to the 1-hour SO<sub>2</sub> concentrations to estimate the 10-minute SO<sub>2</sub> concentrations.
- (b) Underlined values mean AQO exceedance.
- (c) An adjustment of 11.0 $\mu\text{g}/\text{m}^3$  and 10.3 $\mu\text{g}/\text{m}^3$  were added to the RSP background for calculation of 24-hour RSP and annual RSP, respectively.
- (d) An adjustment of 3.5 $\mu\text{g}/\text{m}^3$  was added to the FSP background for calculation of annual FSP.
- (e) New AQOs to be implemented on 1 January 2022.

As shown in **Table 3.5**, predicted background concentrations of NO<sub>2</sub>, SO<sub>2</sub>, RSP, FSP and CO in all PATH grids in 2025 are below the relevant new AQO criteria. The predicted background concentrations of O<sub>3</sub> in 2025 show exceedances of the relevant AQO criterion in all PATH grids.

### 3.5 Potential Sources of Impact

#### 3.5.1 Decommissioning/ Demolition and Construction Phases

All activities associated with decommissioning/ demolition and construction of the Project will be located within the GT Compound of the LPS. No major earthworks or site formation works will be required.

The decommissioning/ demolition and construction of the Project will include the following key activities (see **Section 2** for details):

- Decommissioning and demolition of existing units GT2, GT3, GT4, GT57<sup>(3)</sup>, GT6 and their auxiliaries (e.g. generator coolers, transformers), existing lube oil tank near GT5, existing BSGT and the miscellaneous shed, as well as equipment inside the existing GTAB;
- Construction of new OCGTs (i.e. GT8, GT9, GT10 and GT11), new BSGT and BESS;
- Construction of new cable trenches and new staircase and lift at the immediate east of GTAB; and
- Installation of new equipment inside the GTAB for conversion to a new 132kV switching station.

Demolition of existing units and equipment associated with the Project have the potential generate dust emissions. Soil excavation, material handling and wind erosion from open stockpiling of dusty materials during the construction of the new cable trenches and new staircase and lift are also considered potential dust generating activities. The key air pollutants of concern from these dust

(3) GT57 is a CCGT consisting of two separate gas turbines GT5 and GT7 with two separate stacks.

generating activities are TSP, RSP and FSP. In addition, the demolition and construction works will involve the use of powered mechanical equipment (PME) and marine vessels for equipment delivery, which will produce emissions from fuel combustion. The key air pollutants of concern from fuel combustion emissions include RSP, FSP, NO<sub>2</sub> and SO<sub>2</sub>.

### 3.5.2 Operation Phase

#### 3.5.2.1 Emissions from New OCGTs

The stack emissions from the operation of the new OCGTs (i.e. GT8, GT9, GT10 and GT11) are the major air emission sources of the Project during the operation phase. The stack locations of these new OCGTs are shown in **Figure 3.2**.

The new OCGTs will only be operated intermittently during peak-logging and emergency operation. ULSD will be used for the new OCGTs. The key air pollutants of concern arising from the operation of the new OCGTs include NO<sub>2</sub>, SO<sub>2</sub>, RSP and FSP.

#### 3.5.2.2 Emissions from Other Air Emission Sources within LPS

There are a number of key existing and planned stack emission sources associated with the LPS operation that will be operated concurrently during the operation phase of the Project. These emission sources include:

- Planned L11, L12 and L13 (gas-fired) and their gas heaters;
- Existing L10 (gas-fired) and its gas heater;
- Existing L9 (gas-fired) and its gas heater;
- Existing coal-fired units (i.e. L6 to L8) and
- Existing GT1.

The abovementioned stack emission sources associated with the LPS operation are considered major emission point sources that have the potential to contribute to the cumulative air quality impacts at the identified ASRs, in particular those in Lamma Island, Cheung Chau, Hei Ling Chau and Southern District of HK Island that are of relatively close distance from LPS.

The key air pollutant of concern associated with these stack emission sources are NO<sub>2</sub>, SO<sub>2</sub>, RSP and FSP.

#### 3.5.2.3 Vehicular Emissions from Open Roads

Vehicular emissions from open roads in the vicinity of the identified ASRs (i.e. a distance of 500m from the ASRs) may contribute to the cumulative air quality impact to the identified ASRs, except for those on Lamma Island, Cheung Chau, Hei Ling Chau and Peng Chau (i.e. A1, A2, A3, A24, A25, A26, A50, A51, A54, A55, A56, A57 and A58) where there are no open roads and thus no vehicular emissions. The key air pollutants from vehicular emissions include NO<sub>2</sub>, RSP and FSP. It should be noted that additional road traffic will not be generated as a result of the operation of the Project.

#### 3.5.2.4 Emissions from Marine Vessels

Emissions from marine vessels in the vicinity of the identified ASRs (i.e. a distance of 500m from the ASRs) have the potential to give rise to cumulative air quality impact to the identified ASRs. The key air pollutants from marine emissions include NO<sub>2</sub>, SO<sub>2</sub>, RSP and FSP. A number of marine vessel travel routes and typhoon shelters are located within 500m from the identified ASRs (e.g. A2, A18, A22, A26, A37, A45, A50, A51). It should be noted that additional marine traffic will not be generated as a result of the operation of the Project.

### 3.5.2.5 Emissions from Industrial Premises

Emissions from industrial premises (e.g. chimneys) in the vicinity of the identified ASRs (i.e. a distance of 500m from the ASRs) may contribute to the cumulative air quality impact to the identified ASRs. In addition, major emission point sources, such as crematorium, power plant and asphalt plant, may pose air quality impact if they are located within 4km from the identified ASRs. The key air pollutants from industrial emissions are NO<sub>2</sub>, SO<sub>2</sub>, RSP and FSP.

## 3.6 Assessment Methodology for Decommissioning/ Demolition and Construction Phases

As discussed in **Section 3.5.1**, fugitive dust emissions may arise from the decommissioning/ demolition and construction activities of the Project.

The demolition works will mainly involve typical construction equipment such as electric breakers, flame cutting and other hand-held power mechanical equipment. Blasting or excavation works will not be required for the demolition. During the construction phase, foundation works will not be required as the existing foundation piles and reinforced concrete structure will be reused to support the new units as far as practicable. Only minor excavation works will be required for the construction of the new cable trenches and the new staircase and lift. In addition, all major equipment and piping associated with the new units will also be fully assembled off-site as far as practicable for subsequent installation on site, and thus associated civil works are minimised. Generation of fugitive dust emissions during the decommissioning/ demolition and construction phases is expected to be limited and localised within the LPS. There are also no ASRs within 500m from the Project site (except for the Administration and Control Building within LPS), with the nearest ASR (i.e. A3) about 800m away.

In view of the nature of the decommissioning/ demolition and construction works associated with the Project and sufficient separation distance between the Project site and the ASRs, no adverse fugitive dust impact during the decommissioning/ demolition and construction phases of the Project is anticipated. A quantitative assessment of the decommissioning/ demolition and construction air quality impacts arising from the Project is considered not necessary and hence these impacts are addressed qualitatively in **Section 3.8.1**.

## 3.7 Assessment Methodology for Operation Phase

### 3.7.1 Overview

As per Clause 3.4.3 of the EIA Study Brief, a comparative assessment has been carried out to evaluate the air quality impacts arising from the concerned units before and after the Project. The purpose of the comparative assessment is to demonstrate that the air quality impacts from the operation of new OCGTs (i.e. the proposed GT8, GT9, GT10 and GT11) are lower than those from the operation of existing OCGTs/CCGT (i.e. GT2, GT3, GT4, GT57 and GT6) at the identified representative ASRs within the Assessment Area.

If the result of the comparative assessment shows increased air quality impacts at ASRs due to operation of the new OCGTs, cumulative assessment would be carried out to evaluate the cumulative impacts at these ASRs against the new AQOs as shown in **Table 3.1**. Based on the results of the comparative assessment presented in **Section 3.8.2** below, reduction of air quality impacts has been predicted at all relevant assessment heights of all identified ASRs within the Assessment Area. As such, cumulative assessment for the operation of the Project is not required.

The following sub-sections in **Section 3.7** detail the assessment methodology for the comparative assessment.

### 3.7.2 Modelling Scenarios

The stack locations of the proposed GT8, GT9, GT10 and GT11 are shown in **Figure 3.2**, while the stack locations of the existing GT2, GT3, GT4, GT57 and GT6 are shown in **Figure 3.3**. The existing stacks serving the existing GT2, GT57 and GT6 will be retained for the proposed new GT8, GT9, GT10 and GT11 in the following arrangement:

- GT8 to replace GT5 and use the existing stack of GT5;
- GT9 to replace GT6 and use the existing stack of GT6;
- GT10 to replace GT7 and use the existing stack of GT7; and
- GT11 to replace GT2 and use the existing stack of GT2.

GT3 and GT4 will be decommissioned and demolished with no replacement units under this Project. The stacks of GT3 and GT4 will be retained but there will be no emissions during the operation of the Project.

One modelling scenario assuming the operation of the existing OCGTs and CCGT was assessed and represents the “Without Project” scenario. As the new OCGTs will be commissioned and put into operation in four phases (i.e. Phase 1 to Phase 4), a modelling scenario for each phase of the Project operation was assessed to consider the air quality impacts throughout all phases of the operation of the Project.

For the comparative assessment, the air quality impacts (i.e. NO<sub>2</sub>, SO<sub>2</sub>, RSP and FSP) at the representative ASRs under each of the four phases of “With Project” scenario (i.e. Phase 1 to Phase 4) were compared with those under the “Without Project” scenario.

Details of the modelling scenarios and the assessment parameters modelled are presented in **Table 3.6**. The stack parameters and emission information adopted in the modelling assessment under the “Without Project” and “With Project” scenarios are presented in **Table 3.7** and **Table 3.8**, respectively. The stack locations of the existing and/or new units considered under the four phases of “With Project” scenario are shown in **Figures 3.4a** to **3.4d**.

**Table 3.6 Modelling Scenarios and Assessment Parameters**

Modelling Scenario	Emission Sources Considered	Assessment Parameters in the Modelling Assessment <sup>(a)(b)</sup>
"Without Project"	<ul style="list-style-type: none"> <li>■ Existing GT2, GT3, GT4, GT57, GT6</li> </ul>	<ul style="list-style-type: none"> <li>■ Maximum 1-hour NO<sub>2</sub> and annual NO<sub>2</sub></li> </ul>
"With Project" – Phase 1	<ul style="list-style-type: none"> <li>■ Existing GT2, GT3, GT4</li> <li>■ New GT10</li> </ul>	<ul style="list-style-type: none"> <li>■ Maximum 10-minute SO<sub>2</sub> and maximum 24-hour SO<sub>2</sub></li> <li>■ Maximum 24-hour RSP and annual RSP</li> </ul>
"With Project" – Phase 2	<ul style="list-style-type: none"> <li>■ Existing GT3, GT4</li> <li>■ New GT8, GT10</li> </ul>	<ul style="list-style-type: none"> <li>■ Maximum 24-hour FSP and annual FSP</li> </ul>
"With Project" – Phase 3	<ul style="list-style-type: none"> <li>■ Existing GT4</li> <li>■ New GT8, GT9, GT10</li> </ul>	
"With Project" – Phase 4	<ul style="list-style-type: none"> <li>■ New GT8, GT9, GT10, GT11</li> </ul>	

**Notes:**

- (a) The new OCGTs will only be operated during peak-opping and emergency situation, and thus the operation is expected to be short-term and infrequent. However, considering that the operation of the new OCGTs may last for more than 24 hours, annual assessment for both "Without Project" and "With Project" scenarios has been conducted as a conservative and consistent approach.
- (b) For the purpose of this comparative assessment, all units under the "Without Project" scenario and "With Project" scenario (Phase 1 to Phase 4) were assumed to be operating continuously under normal operating condition as a consistent modelling assumption.
- (c) The black start gas turbine within the Project site will also be replaced under this Project. However, as the operation of the black start gas turbine within the Project site is highly unlikely (during black out situations) and short-term (i.e. duration of a few hours), potential emissions from its operation have not been considered under all modelling scenarios. Also, as confirmed by HK Electric, the emission and stack parameter information for the operation of the black start gas turbine remain unchanged after replacement, and thus consideration of the emissions from the black start gas turbine is deemed not necessary in this comparative assessment.

**Table 3.7 Stack Parameters and Emission Information under "Without Project" Scenario**

Parameters	GT2	GT3	GT4	GT6	GT5 <sup>(f)</sup>	GT7 <sup>(f)</sup>
Stack Locations (X, Y)	828711, 808699	828718, 808703	828711, 808707	828892, 808705	828899, 808702	828899, 808709
Stack Diameter (m)	5.6	5.6	5.6	5.6	5.6	5.6
Stack Height (mPD)	86	86	86	86	86	86
Exit Velocity (m/s)	32	32	32	32	20	20
Exit Temperature (°K)	663	663	663	663	423	423
Emission Rate of NO <sub>x</sub> (g/s) <sup>(b)</sup>	74.31	74.31	74.31	74.31	34.72	34.72
Emission Rate of SO <sub>2</sub> (g/s) <sup>(c)</sup>	0.83	0.83	0.83	0.83	2.78	2.78
Emission Rate of PM (g/s) <sup>(d)(e)</sup>	4.86	4.86	4.86	4.86	2.78	2.78

**Notes:**

- a) The stack parameters and emission information were made reference to the current LPS SP licence. The stack input parameters presented represent the normal operating condition with reference to the LPS SP licence (i.e. at "74% base load condition" as specified in the LPS SP licence). Emission rates of GT2 to GT7 were calculated with reference to Schedule A2 of the LPS SP licence. According to Clause A.2.1 of the LPS SP licence, the total NO<sub>x</sub>, SO<sub>2</sub> and PM emissions from GT2 to GT7 are limited to 1,320 kg/hour, 32 kg/hour and 90 kg/hour, respectively.
- b) NO<sub>x</sub> of GT5 / GT7 = 125kg/hr x 1000 / 3600 = 34.72g/s  
NO<sub>x</sub> of GT2 / GT3 / GT4 / GT6 = (1320kg/hr – 125kg/hr x 2) / 4 x 1000 / 3600 = 74.31g/s
- c) SO<sub>2</sub> of GT5 / GT7 = 10kg/hr x 1000 / 3600 = 2.78g/s  
SO<sub>2</sub> of GT2 / GT3 / GT4 / GT6 = (32kg/hr – 10kg/hr x 2) / 4 x 1000 / 3600 = 0.83g/s
- d) PM of GT5 / GT7 = 10kg/hr x 1000 / 3600 = 2.78g/s  
PM of GT2 / GT3 / GT4 / GT6 = (90kg/hr – 10kg/hr x 2) / 4 x 1000 / 3600 = 4.86g/s



Parameters	GT2	GT3	GT4	GT6	GT5 <sup>(f)</sup>	GT7 <sup>(f)</sup>
e) PM refers to particulate matter. The emission rate for PM applies to both RSP and FSP.						
f) GT57 is a CCGT unit converted from 2 OCGTs (i.e. GT5 and GT7) with two separate stacks. GT57 will be modelled as 2 separate emission sources GT5 and GT7 under “Without Project” scenario.						
g) Existing GT2, GT3, GT4, GT6 are oil-fired with generation capacity of 125MW each, while the existing GT57 is gas-fired with generation capacity of 345MW. The total power generation capacity from these existing units is 845MW.						

**Table 3.8 Stack Parameters and Emission Information under “With Project” Scenario**

Parameters	GT8	GT9	GT10	GT11
Stack Locations (X, Y)	828899, 808702	828892, 808705	828899, 808709	828711, 808699
Stack Diameter (m)	5.6	5.6	5.6	5.6
Stack Height (mPD)	86	86	86	86
Exit Velocity (m/s)	32	32	32	32
Exit Temperature (°K)	663	663	663	663
Emission Rate of NO <sub>x</sub> (g/s) <sup>(b)</sup>	51.67	51.67	51.67	51.67
Emission Rate of SO <sub>2</sub> (g/s) <sup>(b)</sup>	1.03	1.03	1.03	1.03
Emission Rate of PM (g/s) <sup>(b)(c)</sup>	3.44	3.44	3.44	3.44

**Notes:**

- a) The stack parameters and emission information of the proposed new OCGTs are based on design specifications provided by HK Electric. The stack input parameters presented represent the normal operating condition of the proposed new OCGTs.
- b) Emission rates of each new unit were calculated based on the NO<sub>x</sub>, SO<sub>2</sub> and PM emission concentrations of 150mg/Nm<sup>3</sup>, 3mg/Nm<sup>3</sup> and 10mg/Nm<sup>3</sup>, respectively, and the stack volumetric flow rate of 1,240,000Nm<sup>3</sup>/hour (at 15% O<sub>2</sub>, 0 degree C, 1 atm) for each unit. The NO<sub>x</sub> and PM emission concentrations adopted were made reference to those stipulated in *Guidance Note on the Best Practicable Means for Electricity Works (BPM7/1(2018))*. SO<sub>2</sub> emission concentration was provided by HK Electric and is based on fuel oil with sulphur content of not more than 0.005% by weight as required in *BPM7/1(2018)*.
- c) PM refers to particulate matter. The emission rate for PM applies to both RSP and FSP.
- d) The new GT8, GT9, GT10 and GT11 are oil-fired and have generation capacity of up to 130MW each, with a total power generation capacity of up to 520MW.

### 3.7.3 Air Dispersion Model and Meteorological Data

An EPD recommended air dispersion model, AERMOD, was used to assess the potential air quality impact at the representative ASRs under the “Without Project” and “With Project” scenarios. The quantitative assessment was 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 the PATH v2.1 model obtained from EPD’s website <sup>(4)</sup> were used for model input. The relevant PATH grids for the representative ASRs are shown in **Table 3.2**.

AERMET has been 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. Eleven 10km x 10km regions 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 representative ASRs that have been identified to correspond to that specific region. Detailed calculations of albedo, bowen

(4) PATH v2.1 Data Dissemination System (Data last updated in July 2021).



ratio and surface roughness are presented in **Appendix 3A**. Land use maps illustrating the determination of the land use parameters are also shown in **Appendix 3A**.

The AERMET/ AERMOD model input parameters and assumptions for the assessment are summarised in **Table 3.9**.

**Table 3.9 AERMET/ AERMOD Model Input Parameters and Assumptions**

Input Parameters & Assumptions	Descriptions
Air dispersion model	■ AERMOD
Type of source	■ Point sources
Assessment parameter	<ul style="list-style-type: none"> <li>■ Maximum 1-hour NO<sub>2</sub> and annual NO<sub>2</sub></li> <li>■ Maximum 10-minute SO<sub>2</sub> and maximum 24-hour SO<sub>2</sub></li> <li>■ Maximum 24-hour RSP and annual RSP</li> <li>■ Maximum 24-hour FSP and annual FSP</li> </ul>
Assessment Heights	<ul style="list-style-type: none"> <li>■ 1.5m, 5m, 10m, 15m, 20m, 25m, 30m above ground level</li> <li>■ 40m to 260m (at interval of 10m) above ground level</li> </ul>
Meteorological data	<ul style="list-style-type: none"> <li>■ Weather Research and Forecasting Model (WRF) data in 2015 from the PATH v2.1 model to be used to input into AERMET to produce AERMOD-ready meteorological data</li> <li>■ 52 PATH Grids (See <b>Appendix 3A</b>)</li> <li>■ Actual mixing heights recorded by the HKO in 2015 were in the range of 131m to 1,941m. Mixing heights from WRF data which are lower than 131m or higher than 1,941m were adjusted to 131m and 1,941m, respectively</li> <li>■ Wind direction of 0° was adjusted to 360°</li> <li>■ Wind speed smaller than 1m s<sup>-1</sup> was adjusted to 1m s<sup>-1</sup></li> <li>■ Anemometer height of WRF data = 9m</li> </ul>

### 3.7.4 Post-processing of Modelling Results

The hourly concentrations of NO<sub>x</sub> were predicted at the relevant assessment heights of the representative ASRs. Ozone Limiting Method (OLM) was adopted for the conversion of NO<sub>x</sub> to NO<sub>2</sub>. The initial NO<sub>2</sub>/NO<sub>x</sub> ratio for stack emissions of the Project was assumed to be 0.1<sup>(5)</sup>, with NO and NO<sub>2</sub> comprising 90% and 10% of NO<sub>x</sub>, respectively. The conversion of NO<sub>x</sub> to NO<sub>2</sub> for stack emissions was calculated as follows:

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

where

$[NO_2]_{pred}$  = the predicted NO<sub>2</sub> concentration

$[NO_x]_{pred}$  = is the predicted NO<sub>x</sub> concentration

MIN means the minimum of the two values within the brackets

$[O_3]_{bkgd}$  = the representative O<sub>3</sub> background concentration; (46/48) is the molecular weight of NO<sub>2</sub> divided by the molecular weight of O<sub>3</sub>

As the proposed new OCGTs will tentatively commence operation starting 2025, the predicted ozone concentrations in 2025 in the relevant PATH grids obtained from the PATH v2.1 model were used for the conversion of NO<sub>x</sub> to NO<sub>2</sub> in OLM.

The predicted hourly SO<sub>2</sub> concentrations at the representative ASRs were converted into 10-minute SO<sub>2</sub> concentrations as per the relevant AQO criterion. According to the EPD's "Guidelines on the

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

*Estimation of 10-minute Average SO<sub>2</sub> Concentration for Air Quality Assessment in Hong Kong*, it is recommended that the stability-dependent multiplicative factors from Duffee *et al.*, 1991<sup>(6)</sup> be used. The conversion factors adopted in this assessment for the different stability classes are shown in **Table 3.10**.

**Table 3.10 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

**Notes:**

- (a) Reference to the EPD's "Guidelines on the Estimation of 10-minute Average SO<sub>2</sub> Concentration for Air Quality Assessment in Hong Kong".

### 3.7.5 Assessment of Impacts

Hourly NO<sub>2</sub>, SO<sub>2</sub>, RSP and FSP concentrations at the relevant assessment heights of the representative ASRs under the "Without Project" and "With Project" scenarios were predicted. Based on the predicted hourly results, the relevant time period averages of each air pollutant assessed were calculated at the relevant assessment heights of the ASRs. The relevant time period averages assessed under the "Without Project" and "With Project" scenarios are as follows:

- Maximum 1-hour NO<sub>2</sub> and annual NO<sub>2</sub>;
- Maximum 10-minute SO<sub>2</sub> and maximum 24-hour SO<sub>2</sub>;
- Maximum 24-hour RSP and annual RSP; and
- Maximum 24-hour FSP and annual FSP

The predicted concentrations of the relevant time period averages at the relevant assessment heights of the representative ASRs under each of the four phases of "With Project" scenario were presented and compared against those under the "Without Project" scenario to evaluate the difference in air quality impacts (see **Section 3.8.2** below).

## 3.8 Evaluation of Impacts

### 3.8.1 Decommissioning/ Demolition and Construction Phases

During decommissioning and demolition works, typical construction equipment such as electric breaker, flame cutting and other hand-held power mechanical equipment will be used. No blasting or excavation works will be required. Potential fugitive dust emissions arising from the decommissioning and demolition works are expected to be minor and localised.

Major equipment and piping associated with the new units will be fully assembled off-site as far as practicable for subsequent installation on site, and thus associated civil works are expected to be minimal. Also, foundation work is expected not required as the existing foundation piles and reinforced concrete structure will be reused to support the new units as far as practicable. Therefore,

(6) 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.

potential fugitive dust emissions due to the construction of the new units and installation of equipment (e.g. inside GTAB) are expected to be minimal, if any.

Excavation works for the construction of new cable trenches of about 1.5m in width and 1,240m in length down to about 1.8m below ground and for the construction of the new staircase and lift down to about 5m below ground (footprint of about 10m x 5m) are required during the construction phase. In addition, reconstruction works inside GTAB also requires minor excavation down to about 2.6m below ground over an area of about 200m<sup>2</sup>. As the scale of excavation is relatively small and the quantity of excavated materials will be low, fugitive dust emissions arising from excavation works are expected to be minor. The excavated materials will be temporarily stockpiled on site and covered with tarpaulin sheets to reduce potential fugitive dust emissions.

Considering that potential dust emissions are limited and that the nearest ASR (outside of LPS) is at least 800m away from the Project site, adverse fugitive dust impact on ASRs outside of LPS due to the decommissioning/ demolition and construction works is not anticipated. The Administration and Control Building within LPS is located about 110m to the east of the Project site. With about 110m apart, there is sufficient separation distance between the Administration and Control Building and the Project site given that potential dust impacts would be limited and highly localised. Adverse fugitive dust impact on HK Electric staff in the Administration and Control Building due to decommissioning/ demolition and construction works of the Project is not anticipated with the implementation of good construction site practices and relevant mitigation measures recommended in the *Air Pollution Control (Construction Dust) Regulation*.

Mobile cranes and other typical construction equipment such as excavator, welding machine, electric breaker, grinder, flame cutting and other hand-held power mechanical equipment would be used during the decommissioning/ demolition and construction of the Project. Given the demolition and construction works are relatively small scale and that the units are to be demolished and installed in phases, the number of construction plants deployed on site will be limited and the associated emissions from the operation of these construction plants are expected to be minor. Requirements in the *Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation* and *Air Pollution Control (Fuel Restriction) Regulation* will be followed to control the emissions from the construction plants. Adverse air quality impact associated with the operation of the construction plants is not anticipated.

Construction plants and major equipment of the new units will be delivered via marine vessels to the LPS jetty, and then by construction vehicles to the Project site via existing roads within LPS. Demolished equipment will also be transported off-site via marine vessels. As the demolition and construction works associated with the Project are small scale, additional marine traffic for equipment transport during the decommissioning/ demolition and construction phases of the Project is expected to be limited (no more than 1 to 2 vessel trips within every 2 days). With such limited number of vessel trips and requirements in *Air Pollution Control (Marine Light Diesel) Regulation* and *Air Pollution Control (Fuel for Vessels) Regulation* properly followed, adverse air quality impact with respect to marine vessel emissions associated with the Project is not anticipated.

### 3.8.2 Operation Phase

The predicted concentrations of maximum 1-hour NO<sub>2</sub> and annual NO<sub>2</sub>, maximum 10-minute SO<sub>2</sub> and maximum 24-hour SO<sub>2</sub>, maximum 24-hour RSP and annual RSP, as well as maximum 24-hour FSP and annual FSP under the "Without Project" scenario and "With Project" scenario under each of the four phases (i.e. Phase 1 to Phase 4) at the relevant assessment heights of each identified ASR are provided in **Appendix 3B**. The difference in predicted impacts between the "Without Project" scenario and "With Project" scenario under each of the four phases (i.e. Phase 1 to Phase 4) at the relevant assessment heights of each identified ASR are also detailed in **Appendix 3B**. The difference in predicted impacts between the "Without Project" scenario and "With Project" scenario (Phase 1 to Phase 4) at all identified ASRs are summarised in **Tables 3.11 to 3.14**.

**Table 3.11 Difference in Predicted Impacts between “Without Project” Scenario and “With Project” Scenario (Phase 1) at the Identified ASRs**

ASR	Difference in Predicted Concentration ( $\mu\text{g m}^{-3}$ )							
	Max. 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	Max. 10-min SO <sub>2</sub>	Max. 24-hour SO <sub>2</sub>	Max. 24-hour RSP	Annual RSP	Max. 24-hour FSP	Annual FSP
A1	-22.71 to -22.67	-1.41 to -1.40	-3.64 to -3.63	-1.17 to -1.14	-1.32 to -1.29	-0.11	-1.32 to -1.29	-0.11
A2	-17.17 to -17.09	-0.81	-2.00 to -1.99	-0.59	-0.67	-0.06	-0.67	-0.06
A3	-20.20 to -19.71	-0.83 to -0.81	-4.59 to -4.47	-0.62 to -0.57	-0.68 to -0.63	-0.07 to -0.06	-0.68 to -0.63	-0.07 to -0.06
A4	-80.78 to -17.48	-1.00 to -0.59	-16.21 to -2.40	-1.33 to -0.19	-1.45 to -0.23	-0.11 to -0.05	-1.45 to -0.23	-0.11 to -0.05
A5	-17.26 to -17.24	-0.71	-2.64	-0.29	-0.35 to -0.34	-0.06	-0.35 to -0.34	-0.06
A6	-95.08 to -7.74	-0.66 to -0.61	-12.44 to -7.34	-1.39 to -0.73	-1.55 to -0.78	-0.07 to -0.05	-1.55 to -0.78	-0.07 to -0.05
A7	-12.76 to -12.45	-0.49 to -0.47	-1.48 to -1.44	-0.26	-0.30	-0.04	-0.30	-0.04
A8	-65.97 to -11.71	-0.72 to -0.42	-39.21 to -2.62	-2.17 to -0.20	-2.40 to -0.25	-0.14 to -0.03	-2.40 to -0.25	-0.14 to -0.03
A9	-107.26 to -11.03	-0.60 to -0.42	-16.47 to -1.94	-0.93 to -0.15	-1.05 to -0.18	-0.08 to -0.03	-1.05 to -0.18	-0.08 to -0.03
A10	-6.72 to -6.47	-0.40 to -0.39	-1.10	-0.27	-0.30	-0.03	-0.30	-0.03
A11	-138.55 to -10.37	-0.62 to -0.49	-16.79 to -7.91	-0.87 to -0.37	-0.90 to -0.40	-0.08 to -0.04	-0.90 to -0.40	-0.08 to -0.04
A12	-14.03 to -13.00	-0.21	-1.27 to -1.25	-0.12	-0.12 to -0.11	-0.02	-0.12 to -0.11	-0.02
A13	-51.82 to -13.99	-0.57 to -0.40	-10.68 to -2.62	-0.71 to -0.21	-0.77 to -0.25	-0.05 to -0.03	-0.77 to -0.25	-0.05 to -0.03
A14	-8.67 to -5.83	-0.20	-1.51 to -1.47	-0.07	-0.10 to -0.09	-0.02	-0.10 to -0.09	-0.02
A15	-73.87 to -9.84	-0.30 to -0.16	-9.77 to -1.36	-0.36 to -0.16	-0.30 to -0.18	-0.03 to -0.01	-0.30 to -0.18	-0.03 to -0.01
A16	-33.50 to -16.22	-0.71 to -0.45	-16.23 to -2.85	-1.50 to -0.25	-1.60 to -0.30	-0.07 to -0.04	-1.60 to -0.30	-0.07 to -0.04
A17	-7.19 to -6.08	-0.24 to -0.23	-1.56 to -1.47	-0.08 to -0.07	-0.10 to -0.09	-0.02	-0.10 to -0.09	-0.02
A18	-16.81 to -16.74	-0.33 to -0.31	-2.00 to -1.99	-0.17 to -0.16	-0.20	-0.03 to -0.02	-0.20	-0.03 to -0.02
A19	-19.37 to -19.22	-0.27	-3.13 to -3.12	-0.15	-0.18	-0.02	-0.18	-0.02
A20	-67.83 to -37.95	-0.34 to -0.28	-7.52 to -4.05	-0.45 to -0.24	-0.44 to -0.18	-0.03 to -0.02	-0.44 to -0.18	-0.03 to -0.02
A21	-13.37 to -13.23	-0.14	-1.51 to -1.50	-0.11	-0.13	-0.01	-0.13	-0.01
A22	-51.47 to -22.88	-0.89 to -0.55	-15.89 to -3.00	-0.99 to -0.28	-1.05 to -0.34	-0.09 to -0.04	-1.05 to -0.34	-0.09 to -0.04
A23	-66.44 to -19.69	-0.58 to -0.29	-17.46 to -2.35	-1.01 to -0.15	-1.06 to -0.17	-0.08 to -0.02	-1.06 to -0.17	-0.08 to -0.02
A24	-21.13 to -21.11	-0.25 to -0.24	-2.66	-0.13	-0.16	-0.02	-0.16	-0.02
A25	-15.80 to -15.67	-0.14	-2.09 to -2.03	-0.16	-0.18 to -0.17	-0.01	-0.18 to -0.17	-0.01
A26	-23.53 to -23.44	-0.12	-3.34 to -3.33	-0.18	-0.21	-0.01	-0.21	-0.01
A27	-13.41 to -13.39	-0.09 to -0.08	-1.60	-0.08 to -0.07	-0.09 to -0.08	-0.01	-0.09 to -0.08	-0.01
A28	-18.82 to -18.80	-0.10 to -0.09	-1.86	-0.10 to -0.09	-0.12	-0.01	-0.12	-0.01
A29	-25.25 to -12.29	-0.13 to -0.09	-2.35 to -1.47	-0.12 to -0.05	-0.10 to -0.06	-0.01	-0.10 to -0.06	-0.01
A30	-7.24 to -7.11	-0.13 to -0.11	-0.83 to -0.81	-0.08 to -0.07	-0.10 to -0.07	-0.01	-0.10 to -0.07	-0.01
A31	-36.76 to -9.05	-0.34 to -0.12	-4.82 to -1.05	-0.32 to -0.06	-0.36 to -0.07	-0.03 to -0.01	-0.36 to -0.07	-0.03 to -0.01
A32	-5.67 to -5.63	-0.14	-0.73 to -0.72	-0.06	-0.07	-0.01	-0.07	-0.01

ASR	Difference in Predicted Concentration ( $\mu\text{g m}^{-3}$ )								
	Max. 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	Max. 10-min SO <sub>2</sub>	Max. 24-hour SO <sub>2</sub>	Max. 24-hour RSP	Annual RSP	Max. 24-hour FSP	Annual FSP	
A33	-42.30 to -14.10	-0.21 to -0.16	-6.23 to -2.07	-0.28 to -0.14	-0.33 to -0.12	-0.02 to -0.01	-0.33 to -0.12	-0.02 to -0.01	
A34	-14.58 to -13.03	-0.22 to -0.18	-1.43 to -1.28	-0.11 to -0.10	-0.13 to -0.12	-0.02 to -0.01	-0.13 to -0.12	-0.02 to -0.01	
A35	-9.44 to -9.31	-0.15 to -0.14	-1.14 to -1.12		-0.07	-0.08	-0.01	-0.08	-0.01
A36	-36.56 to -12.85	-0.36 to -0.17	-7.56 to -1.33	-0.87 to -0.11	-0.93 to -0.13	-0.03 to -0.01	-0.93 to -0.13	-0.03 to -0.01	
A37	-70.63 to -2.58	-0.30 to -0.12	-11.56 to -1.17	-0.92 to -0.09	-1.05 to -0.11	-0.04 to -0.01	-1.05 to -0.11	-0.04 to -0.01	
A38	-8.72 to -8.37	-0.10	-1.05	-0.07	-0.09 to -0.08	-0.01	-0.09 to -0.08	-0.01	
A39	-7.80 to -7.71	-0.10	-0.91 to -0.90	-0.07 to -0.06	-0.08	-0.01	-0.08	-0.01	
A40	-8.44 to -8.13	-0.09	-0.78 to -0.76	-0.06	-0.08	-0.01	-0.08	-0.01	
A41	-8.43 to -8.01	-0.13 to -0.10	-0.81 to -0.80	-0.09 to -0.06	-0.09 to -0.07	-0.01	-0.09 to -0.07	-0.01	
A42	-6.59 to -6.56	-0.12	-0.75	-0.09	-0.09	-0.01	-0.09	-0.01	
A43	-23.72 to -10.46	-0.47 to -0.29	-2.60 to -0.90	-0.22 to -0.09	-0.24 to -0.11	-0.04 to -0.02	-0.24 to -0.11	-0.04 to -0.02	
A44	-10.59 to -10.47	-0.27 to -0.26	-1.24 to -1.23	-0.11 to -0.09	-0.13 to -0.11	-0.02	-0.13 to -0.11	-0.02	
A45	-13.23 to -13.22	-0.30 to -0.29	-2.18	-0.16 to -0.15	-0.19	-0.02	-0.19	-0.02	
A46	-9.09 to -9.04	-0.22 to -0.21	-1.26	-0.11	-0.14 to -0.13	-0.02	-0.14 to -0.13	-0.02	
A47	-8.97 to -8.91	-0.20	-1.04 to -1.03	-0.13	-0.15	-0.02	-0.15	-0.02	
A48	-10.16 to -8.74	-0.26 to -0.22	-1.20 to -1.12	-0.10 to -0.08	-0.11 to -0.09	-0.02	-0.11 to -0.09	-0.02	
A49	-13.57 to -13.17	-0.35 to -0.34	-2.16 to -2.02	-0.20	-0.25 to -0.24	-0.03	-0.25 to -0.24	-0.03	
A50	-14.42	-0.23	-1.71	-0.11	-0.13	-0.02	-0.13	-0.02	
A51	-16.65 to -16.58	-0.31	-2.25 to -2.19	-0.16	-0.18	-0.02	-0.18	-0.02	
A52	-12.52 to -12.49	-0.22	-1.97	-0.13	-0.16	-0.02	-0.16	-0.02	
A53	-9.78 to -9.66	-0.11	-1.16 to -1.15	-0.07	-0.08	-0.01	-0.08	-0.01	
A54	-23.13 to -23.10	-0.36 to -0.29	-2.66	-0.20 to -0.14	-0.21 to -0.17	-0.03 to -0.02	-0.21 to -0.17	-0.03 to -0.02	
A55	-13.67 to -13.57	-0.22	-1.58 to -1.56	-0.11	-0.12	-0.02	-0.12	-0.02	
A56	-20.76	-0.22	-2.43	-0.12	-0.15	-0.02	-0.15	-0.02	
A57	-20.04	-0.29 to -0.28	-2.35	-0.16	-0.19	-0.02	-0.19	-0.02	
A58	-14.28 to -14.27	-0.31	-2.11	-0.15	-0.18	-0.02	-0.18	-0.02	
A59	-11.61 to -10.52	-0.22	-1.84 to -1.78	-0.12 to -0.10	-0.11 to -0.08	-0.02	-0.11 to -0.08	-0.02	
A60	-39.05 to -10.74	-0.41 to -0.24	-5.49 to -1.26	-0.41 to -0.08	-0.46 to -0.10	-0.04 to -0.02	-0.46 to -0.10	-0.04 to -0.02	
A61	-5.23 to -5.00	-0.26 to -0.25	-5.60 to -5.05	-0.23 to -0.19	-0.31 to -0.27	-0.02	-0.31 to -0.27	-0.02	

**Notes:**

- (a) Figures shown are the range of difference in predicted pollutant concentrations among all relevant assessment heights of each ASR between "With Project" scenario and "Without Project" scenario.
- (b) Negative values represent a reduction of predicted pollutant concentrations due to the new OCGTs (i.e. "With Project" scenario) compared with the existing units (i.e. "Without Project" scenario).

**Table 3.12 Difference in Predicted Impacts between “Without Project” Scenario and “With Project” Scenario (Phase 2) at the Identified ASRs**

ASR	Difference in Predicted Concentration ( $\mu\text{g m}^{-3}$ )							
	Max. 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	Max. 10-min SO <sub>2</sub>	Max. 24-hour SO <sub>2</sub>	Max. 24-hour RSP	Annual RSP	Max. 24-hour FSP	Annual FSP
A1	-26.67 to -26.63	-1.51 to -1.50	-3.55 to -3.54	-1.13 to -1.11	-1.34 to -1.32	-0.12	-1.34 to -1.32	-0.12
A2	-19.84 to -19.67	-0.88	-1.97	-0.58	-0.74	-0.07	-0.74	-0.07
A3	-26.87 to -26.31	-0.80 to -0.78	-4.56 to -4.44	-0.61 to -0.56	-0.72 to -0.67	-0.06	-0.72 to -0.67	-0.06
A4	-82.54 to -20.58	-1.14 to -0.70	-16.15 to -2.33	-1.33 to -0.18	-1.61 to -0.27	-0.12 to -0.05	-1.61 to -0.27	-0.12 to -0.05
A5	-20.87 to -20.84	-0.83 to -0.82	-2.57	-0.28	-0.40 to -0.39	-0.06	-0.40 to -0.39	-0.06
A6	-106.35 to -10.39	-0.74 to -0.69	-12.30 to -7.30	-1.36 to -0.72	-1.68 to -0.82	-0.08 to -0.05	-1.68 to -0.82	-0.08 to -0.05
A7	-14.66 to -14.33	-0.57 to -0.54	-1.44 to -1.39	-0.25	-0.34 to -0.33	-0.04	-0.34 to -0.33	-0.04
A8	-70.98 to -18.12	-0.82 to -0.49	-38.67 to -2.57	-2.11 to -0.20	-2.54 to -0.29	-0.15 to -0.04	-2.54 to -0.29	-0.15 to -0.04
A9	-127.25 to -15.66	-0.69 to -0.50	-16.26 to -1.90	-0.91 to -0.14	-1.12 to -0.21	-0.09 to -0.04	-1.12 to -0.21	-0.09 to -0.04
A10	-8.13 to -7.94	-0.45 to -0.44	-1.07	-0.26	-0.33	-0.03	-0.33	-0.03
A11	-138.09 to -12.87	-0.70 to -0.58	-16.50 to -7.69	-0.84 to -0.35	-1.01 to -0.44	-0.09 to -0.05	-1.01 to -0.44	-0.09 to -0.05
A12	-18.82 to -17.90	-0.25	-1.26 to -1.24	-0.12	-0.14 to -0.13	-0.02	-0.14 to -0.13	-0.02
A13	-62.22 to -17.14	-0.65 to -0.46	-10.70 to -2.55	-0.71 to -0.20	-0.84 to -0.28	-0.06 to -0.03	-0.84 to -0.28	-0.06 to -0.03
A14	-13.57 to -10.47	-0.25	-1.46 to -1.42	-0.06	-0.13 to -0.12	-0.02	-0.13 to -0.12	-0.02
A15	-81.08 to -11.74	-0.34 to -0.18	-9.70 to -1.32	-0.35 to -0.15	-0.33 to -0.20	-0.03 to -0.01	-0.33 to -0.20	-0.03 to -0.01
A16	-40.78 to -17.76	-0.80 to -0.53	-16.17 to -2.78	-1.48 to -0.24	-1.67 to -0.34	-0.08 to -0.04	-1.67 to -0.34	-0.08 to -0.04
A17	-13.20 to -11.75	-0.29	-1.46 to -1.41	-0.08 to -0.07	-0.16 to -0.15	-0.02	-0.16 to -0.15	-0.02
A18	-19.74 to -19.69	-0.39 to -0.37	-1.96 to -1.95	-0.16	-0.23	-0.03	-0.23	-0.03
A19	-23.94 to -23.80	-0.32	-3.07 to -3.06	-0.14	-0.21	-0.02	-0.21	-0.02
A20	-73.75 to -41.70	-0.38 to -0.32	-7.47 to -4.00	-0.44 to -0.24	-0.47 to -0.21	-0.03	-0.47 to -0.21	-0.03
A21	-15.95 to -15.81	-0.17	-1.48 to -1.46	-0.10	-0.15	-0.01	-0.15	-0.01
A22	-56.98 to -27.62	-1.01 to -0.63	-15.83 to -2.92	-0.98 to -0.28	-1.11 to -0.39	-0.10 to -0.05	-1.11 to -0.39	-0.10 to -0.05
A23	-75.18 to -22.82	-0.66 to -0.34	-17.03 to -2.29	-0.99 to -0.14	-1.11 to -0.19	-0.09 to -0.03	-1.11 to -0.19	-0.09 to -0.03
A24	-25.04 to -25.03	-0.29 to -0.28	-2.59	-0.13	-0.19	-0.02	-0.19	-0.02
A25	-18.69 to -18.55	-0.16	-2.07 to -2.01	-0.16	-0.19	-0.01	-0.19	-0.01
A26	-27.59 to -27.49	-0.14	-3.28 to -3.27	-0.18 to -0.17	-0.24	-0.01	-0.24	-0.01
A27	-15.77 to -15.75	-0.10	-1.56 to -1.55	-0.08 to -0.07	-0.10 to -0.09	-0.01	-0.10 to -0.09	-0.01
A28	-21.84 to -21.82	-0.12 to -0.11	-1.82	-0.10 to -0.09	-0.14 to -0.13	-0.01	-0.14 to -0.13	-0.01
A29	-27.21 to -14.25	-0.15 to -0.10	-2.31 to -1.43	-0.12 to -0.05	-0.11 to -0.07	-0.01	-0.11 to -0.07	-0.01
A30	-8.68 to -8.55	-0.15 to -0.13	-0.80 to -0.79	-0.08 to -0.07	-0.12 to -0.09	-0.01	-0.12 to -0.09	-0.01
A31	-41.39 to -10.59	-0.38 to -0.15	-4.78 to -1.02	-0.32 to -0.06	-0.39 to -0.09	-0.03 to -0.01	-0.39 to -0.09	-0.03 to -0.01
A32	-6.87 to -6.80	-0.17	-0.70	-0.06	-0.09 to -0.08	-0.01	-0.09 to -0.08	-0.01

ASR	Difference in Predicted Concentration ( $\mu\text{g m}^{-3}$ )							
	Max. 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	Max. 10-min SO <sub>2</sub>	Max. 24-hour SO <sub>2</sub>	Max. 24-hour RSP	Annual RSP	Max. 24-hour FSP	Annual FSP
A33	-49.80 to -15.63	-0.24 to -0.18	-6.07 to -2.04	-0.28 to -0.14	-0.35 to -0.13	-0.02 to -0.01	-0.35 to -0.13	-0.02 to -0.01
A34	-16.89 to -15.74	-0.26 to -0.22	-1.38 to -1.23	-0.10 to -0.09	-0.15 to -0.14	-0.02	-0.15 to -0.14	-0.02
A35	-11.00 to -10.88	-0.18 to -0.17	-1.12 to -1.10	-0.07 to -0.06	-0.09	-0.01	-0.09	-0.01
A36	-38.88 to -16.36	-0.41 to -0.20	-7.49 to -1.30	-0.86 to -0.10	-0.98 to -0.15	-0.04 to -0.02	-0.98 to -0.15	-0.04 to -0.02
A37	-71.34 to -3.37	-0.35 to -0.15	-11.29 to -1.14	-0.91 to -0.09	-1.21 to -0.12	-0.05 to -0.01	-1.21 to -0.12	-0.05 to -0.01
A38	-10.11 to -9.71	-0.12	-1.03	-0.07	-0.10	-0.01	-0.10	-0.01
A39	-9.20 to -9.10	-0.12	-0.88 to -0.87	-0.07 to -0.06	-0.10 to -0.09	-0.01	-0.10 to -0.09	-0.01
A40	-10.05 to -9.70	-0.11	-0.76 to -0.74	-0.06	-0.09	-0.01	-0.09	-0.01
A41	-10.04 to -9.56	-0.15 to -0.12	-0.79 to -0.78	-0.08 to -0.05	-0.10 to -0.08	-0.01	-0.10 to -0.08	-0.01
A42	-7.96 to -7.94	-0.14	-0.73	-0.08	-0.10	-0.01	-0.10	-0.01
A43	-24.71 to -12.33	-0.54 to -0.35	-2.58 to -0.87	-0.22 to -0.09	-0.26 to -0.13	-0.04 to -0.03	-0.26 to -0.13	-0.04 to -0.03
A44	-12.28 to -12.13	-0.33 to -0.31	-1.20 to -1.19	-0.11 to -0.08	-0.15 to -0.12	-0.02	-0.15 to -0.12	-0.02
A45	-16.23 to -16.22	-0.36	-2.13	-0.15	-0.22 to -0.21	-0.03	-0.22 to -0.21	-0.03
A46	-11.54 to -11.50	-0.26	-1.24 to -1.23	-0.11	-0.16	-0.02	-0.16	-0.02
A47	-10.76 to -10.69	-0.24 to -0.23	-1.01 to -1.00	-0.13	-0.17	-0.02	-0.17	-0.02
A48	-11.94 to -10.40	-0.30 to -0.26	-1.18 to -1.09	-0.10 to -0.08	-0.13 to -0.10	-0.02	-0.13 to -0.10	-0.02
A49	-16.28 to -15.87	-0.42	-2.11 to -1.98	-0.20	-0.29	-0.03	-0.29	-0.03
A50	-17.12 to -17.11	-0.27	-1.67	-0.11	-0.16	-0.02	-0.16	-0.02
A51	-19.41 to -19.31	-0.37	-2.20 to -2.15	-0.16 to -0.15	-0.22 to -0.21	-0.03	-0.22 to -0.21	-0.03
A52	-15.71 to -15.69	-0.27	-1.93	-0.13	-0.19	-0.02	-0.19	-0.02
A53	-11.40 to -11.25	-0.13	-1.14 to -1.13	-0.06	-0.09	-0.01	-0.09	-0.01
A54	-27.80 to -27.79	-0.42 to -0.34	-2.60 to -2.59	-0.20 to -0.14	-0.23 to -0.19	-0.03	-0.23 to -0.19	-0.03
A55	-16.28 to -16.18	-0.26	-1.54 to -1.53	-0.11	-0.14	-0.02	-0.14	-0.02
A56	-24.61	-0.26	-2.38	-0.12	-0.17	-0.02	-0.17	-0.02
A57	-23.72	-0.34 to -0.33	-2.29	-0.15	-0.22	-0.03	-0.22	-0.03
A58	-17.29 to -17.28	-0.37	-2.05	-0.15	-0.21	-0.03	-0.21	-0.03
A59	-16.64 to -15.79	-0.27 to -0.26	-1.75 to -1.69	-0.11 to -0.09	-0.14 to -0.11	-0.02	-0.14 to -0.11	-0.02
A60	-44.00 to -12.53	-0.48 to -0.29	-5.39 to -1.23	-0.40 to -0.08	-0.51 to -0.11	-0.05 to -0.02	-0.51 to -0.11	-0.05 to -0.02
A61	-7.10 to -6.82	-0.31	-5.53 to -4.98	-0.21 to -0.18	-0.36 to -0.33	-0.03	-0.36 to -0.33	-0.03

**Notes:**

- (a) Figures shown are the range of difference in predicted pollutant concentrations among all relevant assessment heights of each ASR between “With Project” scenario and “Without Project” scenario.
- (b) Negative values represent a reduction of predicted pollutant concentrations due to the new OCGTs (i.e. “With Project” scenario) compared with the existing units (i.e. “Without Project” scenario).



**Table 3.13 Difference in Predicted Impacts between “Without Project” Scenario and “With Project” Scenario (Phase 3) at the Identified ASRs**

ASR	Difference in Predicted Concentration ( $\mu\text{g m}^{-3}$ )							
	Max. 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	Max. 10-min SO <sub>2</sub>	Max. 24-hour SO <sub>2</sub>	Max. 24-hour RSP	Annual RSP	Max. 24-hour FSP	Annual FSP
A1	-30.62 to -30.58	-1.62 to -1.61	-3.46 to -3.45	-1.09 to -1.07	-1.37 to -1.34	-0.12	-1.37 to -1.34	-0.12
A2	-22.05 to -21.89	-0.96	-1.94	-0.57	-0.81	-0.07	-0.81	-0.07
A3	-31.51 to -30.72	-0.78 to -0.76	-4.43 to -4.33	-0.59 to -0.55	-0.75 to -0.70	-0.06	-0.75 to -0.70	-0.06
A4	-84.28 to -23.71	-1.27 to -0.81	-16.07 to -2.26	-1.32 to -0.18	-1.77 to -0.31	-0.13 to -0.06	-1.77 to -0.31	-0.13 to -0.06
A5	-24.48 to -24.44	-0.94	-2.51 to -2.50	-0.27	-0.45	-0.07	-0.45	-0.07
A6	-115.74 to -19.80	-0.83 to -0.77	-11.79 to -7.26	-1.34 to -0.71	-1.82 to -0.85	-0.09 to -0.06	-1.82 to -0.85	-0.09 to -0.06
A7	-16.60 to -16.24	-0.64 to -0.62	-1.39 to -1.35	-0.25	-0.37	-0.05	-0.37	-0.05
A8	-90.16 to -22.61	-0.92 to -0.56	-37.77 to -2.51	-2.06 to -0.19	-2.63 to -0.33	-0.16 to -0.04	-2.63 to -0.33	-0.16 to -0.04
A9	-146.61 to -24.09	-0.80 to -0.58	-16.03 to -1.87	-0.89 to -0.14	-1.19 to -0.24	-0.10 to -0.04	-1.19 to -0.24	-0.10 to -0.04
A10	-10.74 to -10.54	-0.51 to -0.50	-1.04	-0.26	-0.37 to -0.36	-0.04	-0.37 to -0.36	-0.04
A11	-136.06 to -15.40	-0.79 to -0.66	-16.26 to -7.03	-0.82 to -0.32	-1.16 to -0.48	-0.10 to -0.05	-1.16 to -0.48	-0.10 to -0.05
A12	-23.49 to -22.71	-0.30 to -0.29	-1.21	-0.12 to -0.11	-0.16 to -0.15	-0.02	-0.16 to -0.15	-0.02
A13	-72.33 to -20.32	-0.73 to -0.53	-10.57 to -2.49	-0.70 to -0.20	-0.91 to -0.32	-0.06 to -0.04	-0.91 to -0.32	-0.06 to -0.04
A14	-18.42 to -15.06	-0.30	-1.42 to -1.37	-0.06 to -0.05	-0.16 to -0.15	-0.02	-0.16 to -0.15	-0.02
A15	-88.10 to -13.65	-0.38 to -0.20	-9.58 to -1.28	-0.34 to -0.15	-0.36 to -0.21	-0.03 to -0.01	-0.36 to -0.21	-0.03 to -0.01
A16	-47.90 to -19.26	-0.90 to -0.61	-16.10 to -2.71	-1.47 to -0.24	-1.74 to -0.38	-0.09 to -0.04	-1.74 to -0.38	-0.09 to -0.04
A17	-17.90 to -15.85	-0.35 to -0.34	-1.36 to -1.31	-0.07 to -0.06	-0.23 to -0.21	-0.03	-0.23 to -0.21	-0.03
A18	-22.66 to -22.63	-0.45 to -0.42	-1.92 to -1.91	-0.16	-0.26 to -0.25	-0.03	-0.26 to -0.25	-0.03
A19	-28.50 to -28.37	-0.37	-3.01 to -3.00	-0.14	-0.24	-0.03	-0.24	-0.03
A20	-79.66 to -45.44	-0.43 to -0.36	-7.41 to -3.94	-0.44 to -0.23	-0.49 to -0.23	-0.04 to -0.03	-0.49 to -0.23	-0.04 to -0.03
A21	-18.52 to -18.39	-0.20 to -0.19	-1.44 to -1.43	-0.10	-0.18 to -0.17	-0.01	-0.18 to -0.17	-0.01
A22	-60.14 to -32.32	-1.12 to -0.72	-15.76 to -2.84	-0.96 to -0.27	-1.18 to -0.44	-0.11 to -0.05	-1.18 to -0.44	-0.11 to -0.05
A23	-83.90 to -25.96	-0.73 to -0.39	-16.61 to -2.24	-0.97 to -0.14	-1.17 to -0.21	-0.09 to -0.03	-1.17 to -0.21	-0.09 to -0.03
A24	-28.95 to -28.94	-0.33 to -0.32	-2.52	-0.13	-0.22	-0.02	-0.22	-0.02
A25	-21.52 to -21.37	-0.17	-2.05 to -1.99	-0.16	-0.20	-0.01	-0.20	-0.01
A26	-31.64 to -31.54	-0.16	-3.21	-0.17	-0.27	-0.01	-0.27	-0.01
A27	-18.15 to -18.12	-0.12	-1.51	-0.07 to -0.06	-0.11 to -0.10	-0.01	-0.11 to -0.10	-0.01
A28	-24.86 to -24.84	-0.13	-1.78 to -1.77	-0.09	-0.16 to -0.15	-0.01	-0.16 to -0.15	-0.01
A29	-29.17 to -16.21	-0.17 to -0.12	-2.27 to -1.39	-0.12 to -0.05	-0.12 to -0.08	-0.01	-0.12 to -0.08	-0.01
A30	-10.13 to -9.99	-0.18 to -0.15	-0.78 to -0.77	-0.08 to -0.07	-0.13 to -0.10	-0.01	-0.13 to -0.10	-0.01
A31	-45.99 to -12.13	-0.43 to -0.17	-4.73 to -0.99	-0.32 to -0.06	-0.42 to -0.10	-0.04 to -0.01	-0.42 to -0.10	-0.04 to -0.01
A32	-8.06 to -7.98	-0.20	-0.68 to -0.67	-0.06	-0.10	-0.01	-0.10	-0.01

ASR	Difference in Predicted Concentration ( $\mu\text{g m}^{-3}$ )							
	Max. 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	Max. 10-min SO <sub>2</sub>	Max. 24-hour SO <sub>2</sub>	Max. 24-hour RSP	Annual RSP	Max. 24-hour FSP	Annual FSP
A33	-51.87 to -17.17	-0.28 to -0.20	-5.94 to -2.01	-0.27 to -0.14	-0.36 to -0.15	-0.02	-0.36 to -0.15	-0.02
A34	-19.21 to -18.45	-0.30 to -0.26	-1.34 to -1.19	-0.10 to -0.09	-0.17 to -0.16	-0.02	-0.17 to -0.16	-0.02
A35	-12.55 to -12.45	-0.21 to -0.20	-1.10 to -1.08	-0.07 to -0.06	-0.11 to -0.10	-0.02 to -0.01	-0.11 to -0.10	-0.02 to -0.01
A36	-41.21 to -18.65	-0.46 to -0.24	-7.43 to -1.26	-0.85 to -0.10	-1.04 to -0.17	-0.04 to -0.02	-1.04 to -0.17	-0.04 to -0.02
A37	-72.07 to -4.21	-0.41 to -0.17	-11.02 to -1.11	-0.90 to -0.08	-1.39 to -0.13	-0.06 to -0.01	-1.39 to -0.13	-0.06 to -0.01
A38	-11.52 to -11.06	-0.14	-1.01	-0.07 to -0.06	-0.12 to -0.11	-0.01	-0.12 to -0.11	-0.01
A39	-10.61 to -10.49	-0.14	-0.86 to -0.85	-0.06	-0.11	-0.01	-0.11	-0.01
A40	-11.67 to -11.27	-0.13 to -0.12	-0.74 to -0.72	-0.06	-0.11 to -0.10	-0.01	-0.11 to -0.10	-0.01
A41	-11.65 to -11.10	-0.18 to -0.14	-0.76 to -0.75	-0.08 to -0.05	-0.11 to -0.09	-0.01	-0.11 to -0.09	-0.01
A42	-9.33 to -9.31	-0.16	-0.71	-0.08	-0.11	-0.01	-0.11	-0.01
A43	-27.17 to -14.21	-0.62 to -0.42	-2.56 to -0.85	-0.21 to -0.08	-0.28 to -0.15	-0.05 to -0.03	-0.28 to -0.15	-0.05 to -0.03
A44	-13.98 to -13.79	-0.39 to -0.37	-1.17 to -1.16	-0.10 to -0.08	-0.17 to -0.14	-0.03	-0.17 to -0.14	-0.03
A45	-19.21 to -19.20	-0.42	-2.08	-0.15	-0.24	-0.03	-0.24	-0.03
A46	-13.98 to -13.94	-0.31	-1.21	-0.10	-0.19	-0.02	-0.19	-0.02
A47	-12.54 to -12.46	-0.27	-0.98 to -0.97	-0.13	-0.19	-0.02	-0.19	-0.02
A48	-13.71 to -12.05	-0.34 to -0.30	-1.15 to -1.07	-0.09 to -0.08	-0.14 to -0.12	-0.03 to -0.02	-0.14 to -0.12	-0.03 to -0.02
A49	-18.98 to -18.57	-0.49	-2.06 to -1.94	-0.19	-0.33	-0.04	-0.33	-0.04
A50	-19.81	-0.31	-1.63	-0.11	-0.18	-0.02	-0.18	-0.02
A51	-22.18 to -22.06	-0.43	-2.16 to -2.10	-0.15	-0.25 to -0.24	-0.03	-0.25 to -0.24	-0.03
A52	-18.90 to -18.88	-0.32	-1.89 to -1.88	-0.12	-0.21	-0.02	-0.21	-0.02
A53	-13.02 to -12.83	-0.16 to -0.15	-1.11 to -1.10	-0.06	-0.10	-0.01	-0.10	-0.01
A54	-32.47 to -32.44	-0.48 to -0.40	-2.53	-0.19 to -0.14	-0.25 to -0.22	-0.04 to -0.03	-0.25 to -0.22	-0.04 to -0.03
A55	-18.89 to -18.80	-0.30	-1.50 to -1.49	-0.11	-0.16	-0.02	-0.16	-0.02
A56	-28.46 to -28.45	-0.30	-2.32	-0.12	-0.20	-0.02	-0.20	-0.02
A57	-27.39	-0.39 to -0.38	-2.24	-0.15	-0.25	-0.03	-0.25	-0.03
A58	-20.29	-0.43	-2.00	-0.15	-0.24	-0.03	-0.24	-0.03
A59	-21.62 to -20.99	-0.33 to -0.31	-1.67 to -1.61	-0.10 to -0.08	-0.16 to -0.13	-0.02	-0.16 to -0.13	-0.02
A60	-51.30 to -14.34	-0.55 to -0.34	-5.30 to -1.20	-0.40 to -0.08	-0.56 to -0.13	-0.05 to -0.02	-0.56 to -0.13	-0.05 to -0.02
A61	-8.92 to -8.60	-0.37 to -0.36	-5.45 to -4.90	-0.20 to -0.17	-0.41 to -0.38	-0.03	-0.41 to -0.38	-0.03

**Notes:**

- (a) Figures shown are the range of difference in predicted pollutant concentrations among all relevant assessment heights of each ASR between “With Project” scenario and “Without Project” scenario.
- (b) Negative values represent a reduction of predicted pollutant concentrations due to the new OCGTs (i.e. “With Project” scenario) compared with the existing units (i.e. “Without Project” scenario).

**Table 3.14 Difference in Predicted Impacts between “Without Project” Scenario and “With Project” Scenario (Phase 4) at the Identified ASRs**

ASR	Difference in Predicted Concentration ( $\mu\text{g m}^{-3}$ )							
	Max. 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	Max. 10-min SO <sub>2</sub>	Max. 24-hour SO <sub>2</sub>	Max. 24-hour RSP	Annual RSP	Max. 24-hour FSP	Annual FSP
A1	-34.55 to -34.48	-1.76 to -1.75	-3.40 to -3.39	-1.08 to -1.06	-1.47 to -1.44	-0.13	-1.47 to -1.44	-0.13
A2	-24.41 to -24.25	-1.05	-1.90 to -1.89	-0.56	-0.88	-0.08	-0.88	-0.08
A3	-35.62 to -34.84	-0.82 to -0.80	-4.37 to -4.26	-0.59 to -0.54	-0.80 to -0.74	-0.06	-0.80 to -0.74	-0.06
A4	-85.67 to -27.22	-1.42 to -0.93	-15.90 to -2.20	-1.31 to -0.17	-1.89 to -0.34	-0.14 to -0.07	-1.89 to -0.34	-0.14 to -0.07
A5	-27.96 to -27.91	-1.06	-2.44	-0.27 to -0.26	-0.50	-0.08	-0.50	-0.08
A6	-121.71 to -41.45	-0.93 to -0.85	-11.57 to -7.19	-1.32 to -0.71	-1.99 to -0.89	-0.10 to -0.06	-1.99 to -0.89	-0.10 to -0.06
A7	-18.79 to -18.43	-0.72 to -0.69	-1.36 to -1.31	-0.24	-0.41 to -0.40	-0.05	-0.41 to -0.40	-0.05
A8	-103.04 to -25.94	-1.03 to -0.64	-37.26 to -2.46	-2.03 to -0.19	-2.82 to -0.36	-0.18 to -0.05	-2.82 to -0.36	-0.18 to -0.05
A9	-155.65 to -27.29	-0.90 to -0.66	-15.76 to -1.81	-0.87 to -0.14	-1.29 to -0.27	-0.11 to -0.05	-1.29 to -0.27	-0.11 to -0.05
A10	-13.25 to -13.04	-0.56 to -0.55	-1.01	-0.25	-0.40	-0.04	-0.40	-0.04
A11	-142.24 to -18.35	-0.88 to -0.76	-16.03 to -6.62	-0.80 to -0.30	-1.31 to -0.52	-0.11 to -0.06	-1.31 to -0.52	-0.11 to -0.06
A12	-26.63 to -26.48	-0.35 to -0.34	-1.17	-0.11	-0.19 to -0.18	-0.02	-0.19 to -0.18	-0.02
A13	-74.81 to -23.69	-0.82 to -0.60	-10.48 to -2.43	-0.69 to -0.19	-0.96 to -0.35	-0.07 to -0.04	-0.96 to -0.35	-0.07 to -0.04
A14	-22.95 to -19.35	-0.36 to -0.35	-1.36 to -1.31	-0.05 to -0.04	-0.20 to -0.18	-0.03	-0.20 to -0.18	-0.03
A15	-93.40 to -15.69	-0.42 to -0.23	-9.49 to -1.25	-0.33 to -0.15	-0.40 to -0.23	-0.04 to -0.02	-0.40 to -0.23	-0.04 to -0.02
A16	-53.66 to -20.48	-1.01 to -0.69	-15.96 to -2.65	-1.46 to -0.23	-1.82 to -0.42	-0.10 to -0.05	-1.82 to -0.42	-0.10 to -0.05
A17	-23.11 to -20.74	-0.42 to -0.41	-1.29 to -1.24	-0.06 to -0.05	-0.28 to -0.25	-0.03	-0.28 to -0.25	-0.03
A18	-25.49 to -25.46	-0.51 to -0.48	-1.88 to -1.86	-0.16 to -0.15	-0.29 to -0.28	-0.04 to -0.03	-0.29 to -0.28	-0.04 to -0.03
A19	-32.96 to -32.85	-0.42	-2.94 to -2.93	-0.14 to -0.13	-0.27	-0.03	-0.27	-0.03
A20	-85.33 to -49.10	-0.48 to -0.41	-7.34 to -3.89	-0.43 to -0.23	-0.52 to -0.26	-0.04 to -0.03	-0.52 to -0.26	-0.04 to -0.03
A21	-21.01 to -20.88	-0.22	-1.41 to -1.39	-0.10	-0.20	-0.02	-0.20	-0.02
A22	-61.15 to -36.44	-1.25 to -0.82	-15.64 to -2.77	-0.95 to -0.26	-1.26 to -0.49	-0.12 to -0.06	-1.26 to -0.49	-0.12 to -0.06
A23	-92.34 to -29.14	-0.82 to -0.45	-16.40 to -2.19	-0.96 to -0.14	-1.24 to -0.24	-0.10 to -0.03	-1.24 to -0.24	-0.10 to -0.03
A24	-32.75 to -32.74	-0.37 to -0.36	-2.45	-0.12	-0.24	-0.03	-0.24	-0.03
A25	-23.82 to -23.66	-0.19 to -0.18	-2.01 to -1.95	-0.16 to -0.15	-0.21	-0.01	-0.21	-0.01
A26	-35.68 to -35.57	-0.18 to -0.17	-3.15 to -3.14	-0.17	-0.30	-0.01	-0.30	-0.01
A27	-19.37 to -19.14	-0.13	-1.48 to -1.47	-0.07 to -0.06	-0.12 to -0.11	-0.01	-0.12 to -0.11	-0.01
A28	-27.90 to -27.89	-0.15	-1.73	-0.09	-0.18 to -0.17	-0.01	-0.18 to -0.17	-0.01
A29	-31.18 to -18.23	-0.19 to -0.13	-2.23 to -1.35	-0.12 to -0.05	-0.13 to -0.09	-0.01	-0.13 to -0.09	-0.01
A30	-11.56 to -11.40	-0.20 to -0.18	-0.76 to -0.74	-0.08 to -0.07	-0.14 to -0.11	-0.01	-0.14 to -0.11	-0.01
A31	-50.30 to -13.76	-0.48 to -0.20	-4.68 to -0.96	-0.31 to -0.06	-0.45 to -0.11	-0.04 to -0.01	-0.45 to -0.11	-0.04 to -0.01
A32	-9.28 to -9.17	-0.23 to -0.22	-0.66 to -0.65	-0.05	-0.11	-0.02	-0.11	-0.02

ASR	Difference in Predicted Concentration ( $\mu\text{g m}^{-3}$ )							
	Max. 1-hour NO <sub>2</sub>	Annual NO <sub>2</sub>	Max. 10-min SO <sub>2</sub>	Max. 24-hour SO <sub>2</sub>	Max. 24-hour RSP	Annual RSP	Max. 24-hour FSP	Annual FSP
A33	-55.70 to -18.94	-0.32 to -0.23	-5.84 to -1.99	-0.26 to -0.13	-0.40 to -0.17	-0.03 to -0.02	-0.40 to -0.17	-0.03 to -0.02
A34	-21.69 to -21.09	-0.34 to -0.30	-1.30 to -1.15	-0.10 to -0.09	-0.19 to -0.18	-0.02	-0.19 to -0.18	-0.02
A35	-14.02 to -13.94	-0.24 to -0.23	-1.08 to -1.06	-0.07 to -0.06	-0.12	-0.02	-0.12	-0.02
A36	-43.62 to -21.03	-0.52 to -0.28	-7.37 to -1.23	-0.84 to -0.10	-1.09 to -0.20	-0.05 to -0.02	-1.09 to -0.20	-0.05 to -0.02
A37	-76.22 to -6.84	-0.46 to -0.20	-10.82 to -1.08	-0.89 to -0.05	-1.54 to -0.15	-0.06 to -0.01	-1.54 to -0.15	-0.06 to -0.01
A38	-13.05 to -12.54	-0.16	-0.99 to -0.98	-0.07 to -0.06	-0.13	-0.01	-0.13	-0.01
A39	-12.08 to -11.95	-0.16	-0.84 to -0.83	-0.06	-0.13 to -0.12	-0.01	-0.13 to -0.12	-0.01
A40	-13.29 to -12.84	-0.15 to -0.14	-0.72 to -0.70	-0.06	-0.12	-0.01	-0.12	-0.01
A41	-13.20 to -12.59	-0.20 to -0.16	-0.74 to -0.73	-0.08 to -0.05	-0.12 to -0.10	-0.01	-0.12 to -0.10	-0.01
A42	-10.66 to -10.63	-0.18	-0.69	-0.08	-0.12	-0.01	-0.12	-0.01
A43	-29.47 to -16.08	-0.69 to -0.48	-2.53 to -0.82	-0.21 to -0.08	-0.31 to -0.17	-0.05 to -0.03	-0.31 to -0.17	-0.05 to -0.03
A44	-15.81 to -15.60	-0.44 to -0.42	-1.14 to -1.13	-0.10 to -0.08	-0.19 to -0.16	-0.03	-0.19 to -0.16	-0.03
A45	-21.97 to -21.96	-0.48	-2.02	-0.14	-0.27	-0.04	-0.27	-0.04
A46	-16.28 to -16.23	-0.35	-1.18 to -1.17	-0.10	-0.21	-0.03	-0.21	-0.03
A47	-14.15 to -14.06	-0.31	-0.95 to -0.94	-0.13	-0.21	-0.02	-0.21	-0.02
A48	-15.44 to -13.70	-0.38 to -0.34	-1.12 to -1.04	-0.09 to -0.08	-0.16 to -0.13	-0.03 to -0.02	-0.16 to -0.13	-0.03 to -0.02
A49	-21.64 to -21.23	-0.56	-2.01 to -1.89	-0.19	-0.37 to -0.36	-0.04	-0.37 to -0.36	-0.04
A50	-22.51	-0.35	-1.59 to -1.58	-0.10	-0.20	-0.03	-0.20	-0.03
A51	-25.12 to -24.97	-0.48	-2.10 to -2.05	-0.15	-0.27	-0.04	-0.27	-0.04
A52	-21.95 to -21.93	-0.36	-1.84 to -1.83	-0.12	-0.24	-0.03	-0.24	-0.03
A53	-14.65 to -14.42	-0.18	-1.09 to -1.08	-0.06	-0.11	-0.01	-0.11	-0.01
A54	-36.94 to -36.89	-0.54 to -0.45	-2.46	-0.19 to -0.13	-0.28 to -0.24	-0.04 to -0.03	-0.28 to -0.24	-0.04 to -0.03
A55	-21.45 to -21.36	-0.34	-1.46 to -1.44	-0.11 to -0.10	-0.18	-0.02	-0.18	-0.02
A56	-32.19	-0.34	-2.26	-0.11	-0.22	-0.02	-0.22	-0.02
A57	-30.97	-0.44 to -0.43	-2.18	-0.15	-0.28	-0.03	-0.28	-0.03
A58	-23.26 to -23.25	-0.48	-1.95 to -1.94	-0.14	-0.26	-0.04	-0.26	-0.04
A59	-25.99 to -25.43	-0.38 to -0.36	-1.61 to -1.55	-0.10 to -0.07	-0.19 to -0.16	-0.03	-0.19 to -0.16	-0.03
A60	-55.93 to -16.20	-0.62 to -0.39	-5.23 to -1.17	-0.39 to -0.08	-0.60 to -0.15	-0.06 to -0.03	-0.60 to -0.15	-0.06 to -0.03
A61	-10.37 to -10.01	-0.42	-5.28 to -4.72	-0.19 to -0.16	-0.48 to -0.45	-0.04	-0.48 to -0.45	-0.04

**Notes:**

- (a) Figures shown are the range of difference in predicted pollutant concentrations among all relevant assessment heights of each ASR between “With Project” scenario and “Without Project” scenario.
- (b) Negative values represent a reduction of predicted pollutant concentrations due to the new OCGTs (i.e. “With Project” scenario) compared with the existing units (i.e. “Without Project” scenario).

It can be seen from the assessment results that the predicted NO<sub>2</sub>, SO<sub>2</sub>, RSP and FSP concentrations at all relevant assessment heights for all identified ASRs under all four phases of the “With Project” scenario are lower than those under the “Without Project” scenario. Therefore, it can be concluded that the air quality impact during the operation of the Project would be lower than that during the existing operation.

As the air quality impacts at all identified ASRs are expected to improve as a result of the operation of the Project, cumulative assessment is not required to be carried out. Adverse air quality impact associated with the operation of the Project is not anticipated.

### 3.9 Mitigation Measures

#### 3.9.1 Decommissioning/ Demolition and Construction Phases

The following dust control measures stipulated in the *Air Pollution Control (Construction Dust) Regulation* and good site practices will be incorporated into the Contract Specifications and implemented throughout the decommissioning/ demolition and construction phases:

- Impervious sheet shall be provided for skip hoist for material transport;
- The area where demolition work or any dusty work take place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after such work as far as practicable;
- All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation;
- Dropping heights for excavated materials should be controlled to a practical height to minimise the fugitive dust arising from unloading;
- During transportation by truck, materials should not be loaded to a level higher than the side and tail boards, and should be dampened or covered before transport;
- Temporary stockpiles of dusty materials shall be either covered entirely by impervious sheets or sprayed with water to maintain the entire surface wet all the time;
- Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials shall be covered entirely by impervious sheeting sheltered on top and 3-sides;
- All exposed areas shall be kept wet to minimise dust emission;
- ULSD will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in *Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005* on Environmental Management on Construction Sites;
- The engine of the construction equipment during idling shall be switched off;
- Regular maintenance of construction equipment deployed on-site shall be conducted to prevent black smoke emission;
- All marine vessels fuelled in Hong Kong are required to operate using marine light diesel with sulphur content lower than 0.05% in accordance with the *Air Pollution Control (Marine Light Diesel) Regulation*;
- NRMMS, e.g. mobile generator and air compressor, shall comply with the prescribed emission standards with a proper label approved by EPD in accordance with the *Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation*; and
- Electric power supply for on-site machinery shall be provided as far as practicable for construction activities.

### 3.9.2 Operation Phase

Air quality impacts are expected to improve during the operation of the Project. With proper maintenance of the new OCGTs on a regular basis, specific mitigation measures during the operation phase of the Project are considered not necessary.

## 3.10 Cumulative Impact

### 3.10.1 Decommissioning/ Demolition and Construction Phases

The construction of the Hong Kong Offshore LNG Terminal is currently in progress and the associated land-based works at the Lamma Power Station Extension (LMX) may coincide with the decommissioning/ demolition and construction works of the Project. In addition, the proposed L12 and L13 at LMX are scheduled for commercial operation in 2023 and post-2023, respectively, and their construction may also take place during the decommissioning/ demolition and construction phases of the Project. As these land-based construction works, which are located entirely within the existing LPS and LMX, are relatively minor with limited excavation required, adverse cumulative air quality impact on ASRs outside of LPS (more than 800m away) during the decommissioning/ demolition and construction phases of the Project is not expected. Given that these land-based construction works would only generate limited and localised dust impacts and are of sufficient separation distance from the Administration and Control Building of LPS (more than 100m apart), adverse cumulative air quality impact on HK Electric staff in the Administration and Control Building is also not expected provided that good construction site practices and proper dust control measures are in place.

### 3.10.2 Operation Phase

Air quality impacts are expected to improve during the operation of the Project. Adverse cumulative air quality impact during the operation phase is not anticipated.

## 3.11 Residual Impact

### 3.11.1 Decommissioning/ Demolition and Construction Phases

Adverse air quality impact arising from the decommissioning/ demolition and construction works of the Project is not expected. There would be no adverse residual air quality impact during the decommissioning/ demolition and construction phases of the Project.

### 3.11.2 Operation Phase

Adverse air quality impact arising from the operation of the new units is not expected. There would be no adverse residual air quality impact during the operation phase of the Project.

## 3.12 Environmental Monitoring and Audit

### 3.12.1 Decommissioning/ Demolition and Construction Phases

With no adverse air quality impact anticipated to arise from the decommissioning/ demolition and construction works of the Project, air quality monitoring is considered not necessary. However, it is recommended to carry out regular environmental site inspections to ensure the implementation of the air quality mitigation measures and good site practices as recommended in **Section 3.9.1** throughout the decommissioning/ demolition and construction phases.

### 3.12.2 Operation Phase

Adverse air quality impact is not anticipated during the operation of the Project. Environmental monitoring and audit during the operation phase is considered not necessary.

## 3.13 Conclusion

### 3.13.1 Decommissioning/ Demolition and Construction Phases

Fugitive dust emissions or emissions from construction plants and marine vessels as a result of the decommissioning/ demolition and construction works of the Project are expected to be limited. Due to sufficient separation distance between the Project site and the identified ASRs as well as the nature of the construction works, unacceptable dust impact is not anticipated to arise during the decommissioning/ demolition and construction phases of the Project. Dust control measures, proper site management and good housekeeping shall be implemented to further minimise any potential fugitive dust emissions.

### 3.13.2 Operation Phase

A comparative assessment has been carried out to evaluate the potential impacts of NO<sub>2</sub>, SO<sub>2</sub>, RSP and FSP from the operation of the Project (“With Project” scenario) under each of the four phases (i.e. Phase 1 to Phase 4) against those from the operation of existing GT2, GT3, GT4, GT6, GT57 (“Without Project” scenario). The assessment results show that the “With Project” scenario under all four phases leads to reduced impacts at the identified ASRs. Hence, adverse air quality impact during the operation phase of the Project is not anticipated.



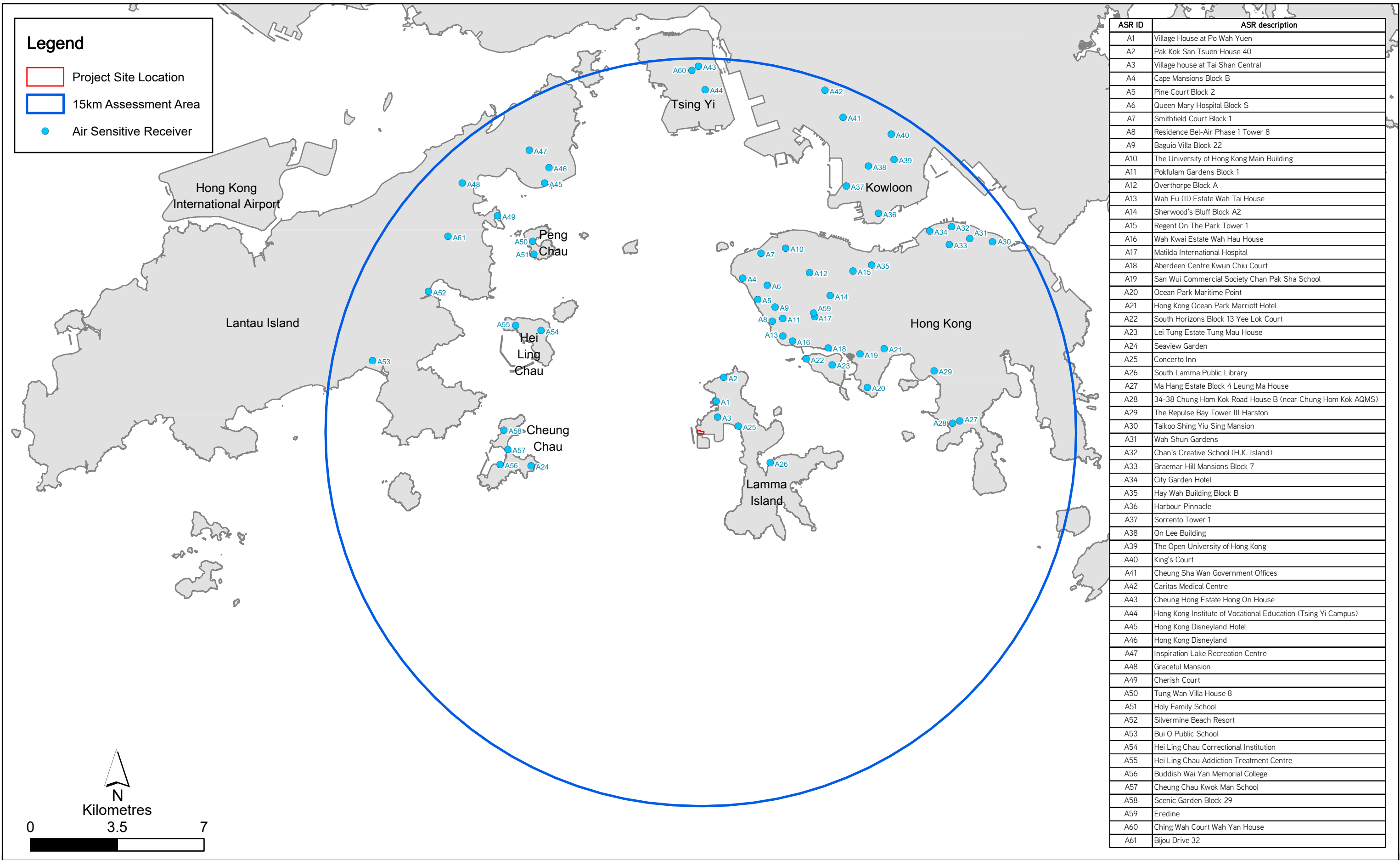


Figure 3.1

Representative Air Sensitive Receivers within the 15km Assessment Area

File: T:\GIS\CONTRACT\0576490\mxd\0576490\_15km\_Study\_Area.mxd  
Date: 2/9/2021

**Environmental  
Resources  
Management**



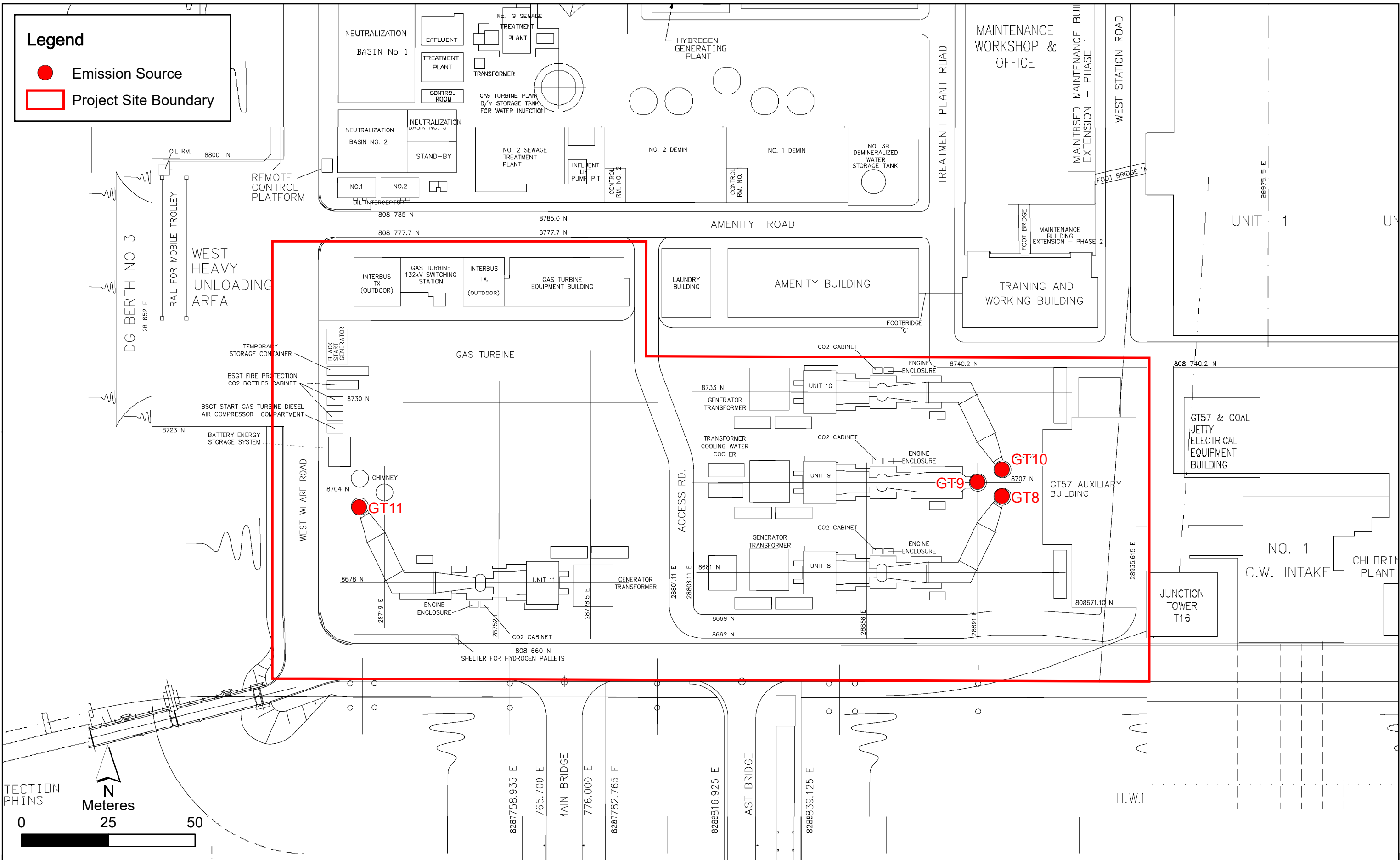


Figure 3.2

Locations of Emission Sources of Proposed New Units within the Gas Turbine Compound

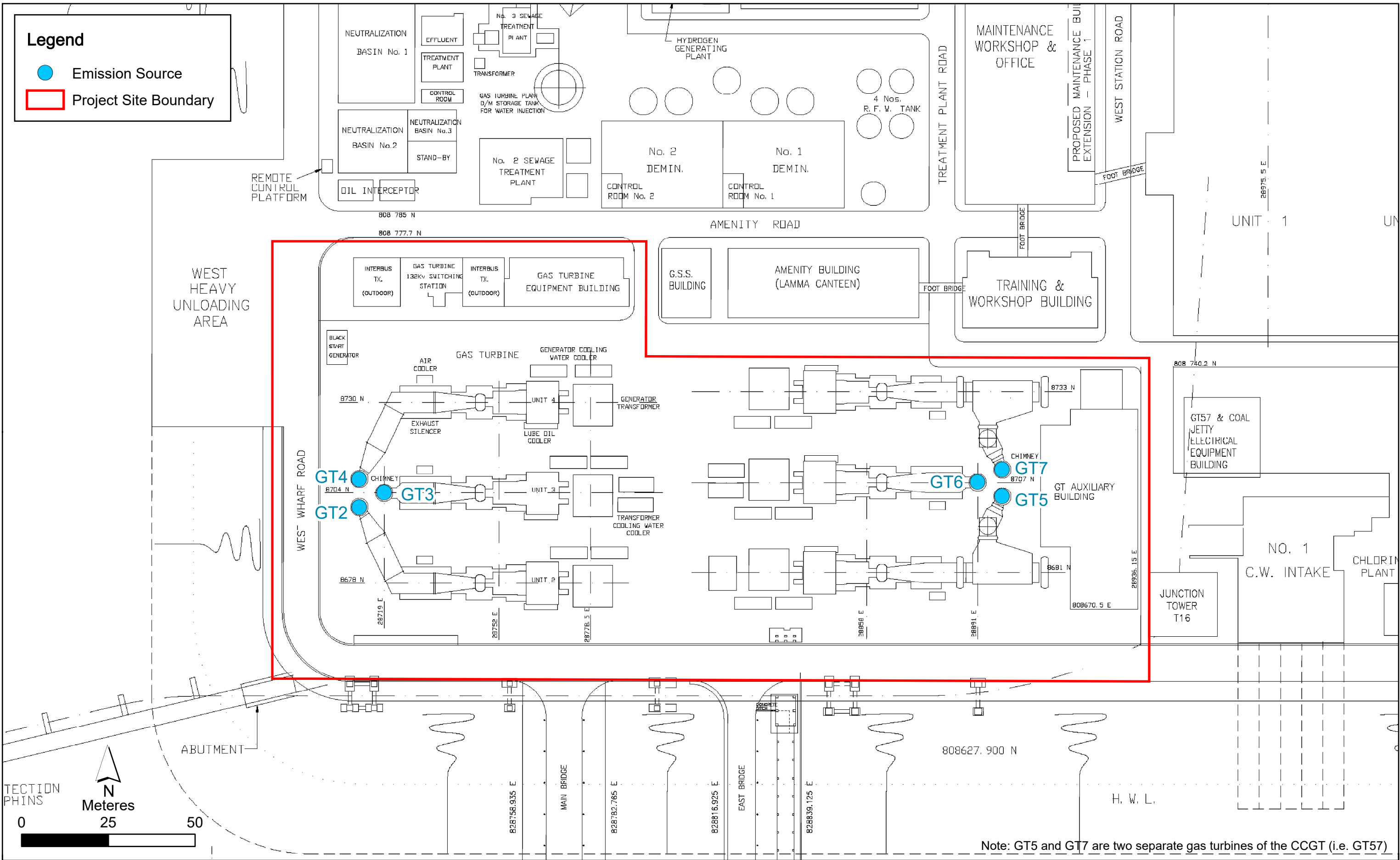


Figure 3.3

Locations of Emission Sources of Existing Units within the Gas Turbine Compound

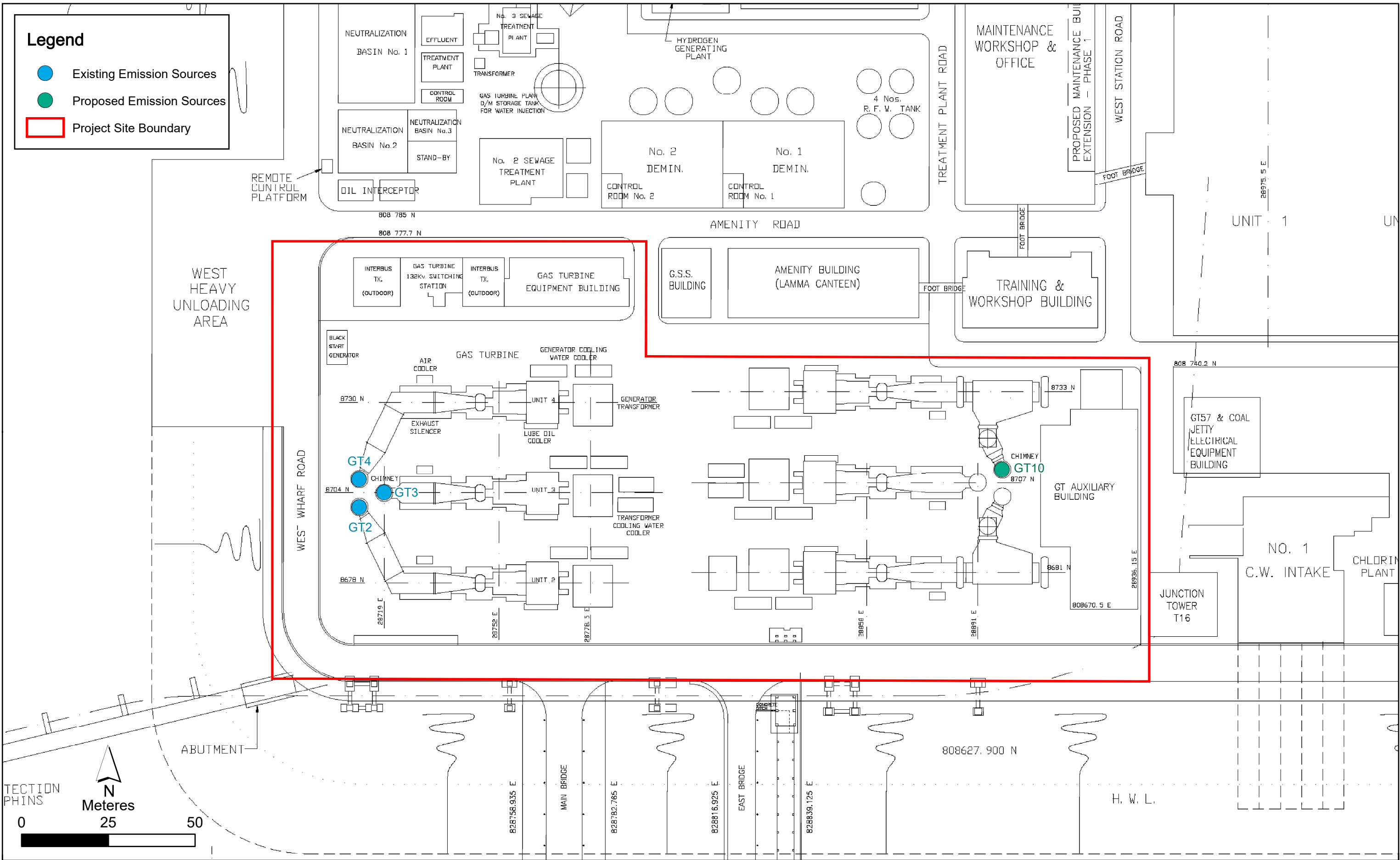


Figure 3.4a  
 Locations of Emission Sources within the Gas Turbine Compound ("With Project" Scenario - Phase 1)

File: T:\GIS\CONTRACT\0576490\mxd\0576490\_Emission\_Sources\_Phase1.mxd  
 Date: 2/9/2021

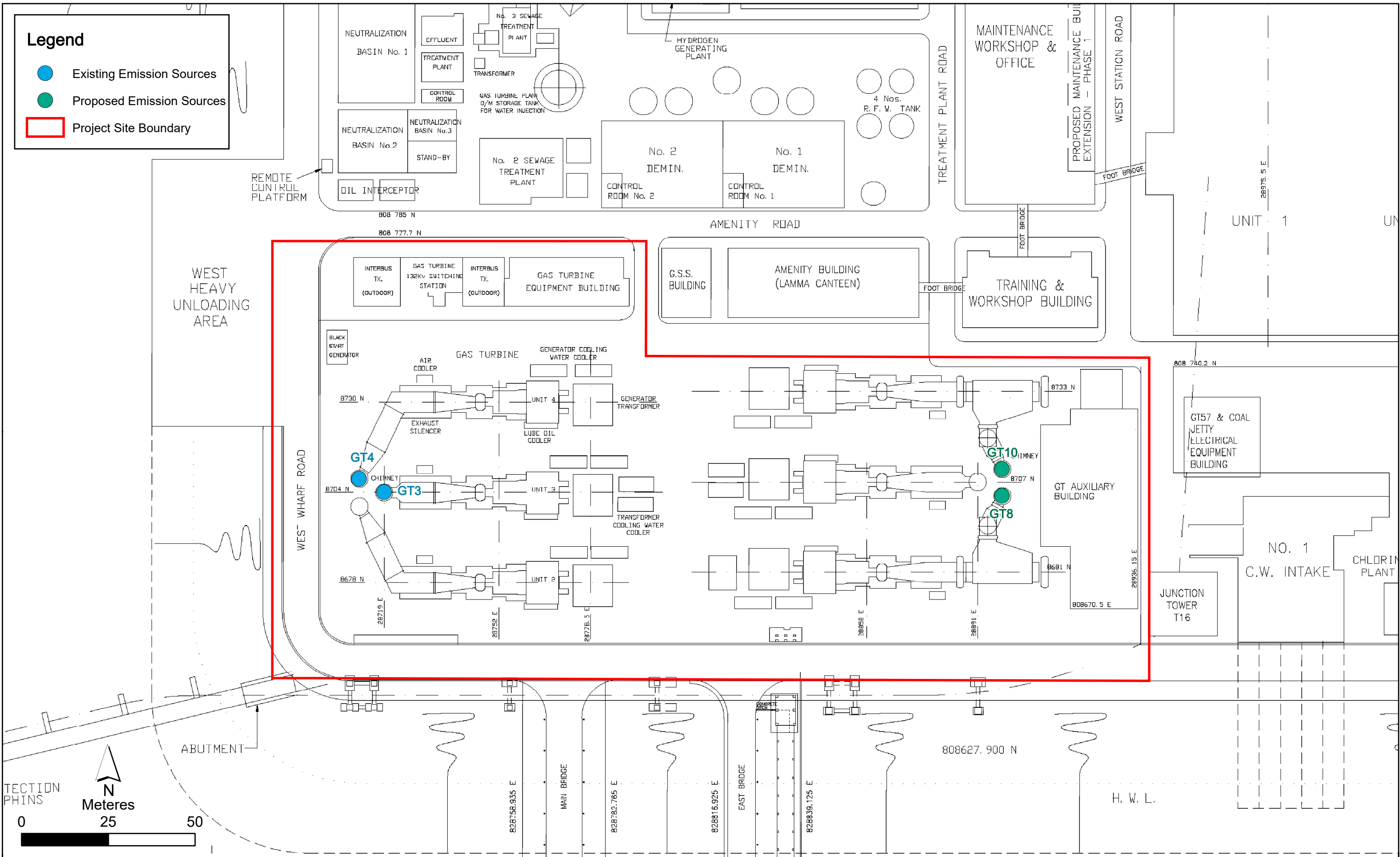


Figure 3.4b

Locations of Emission Sources within the Gas Turbine Compound ("With Project" Scenario - Phase 2)

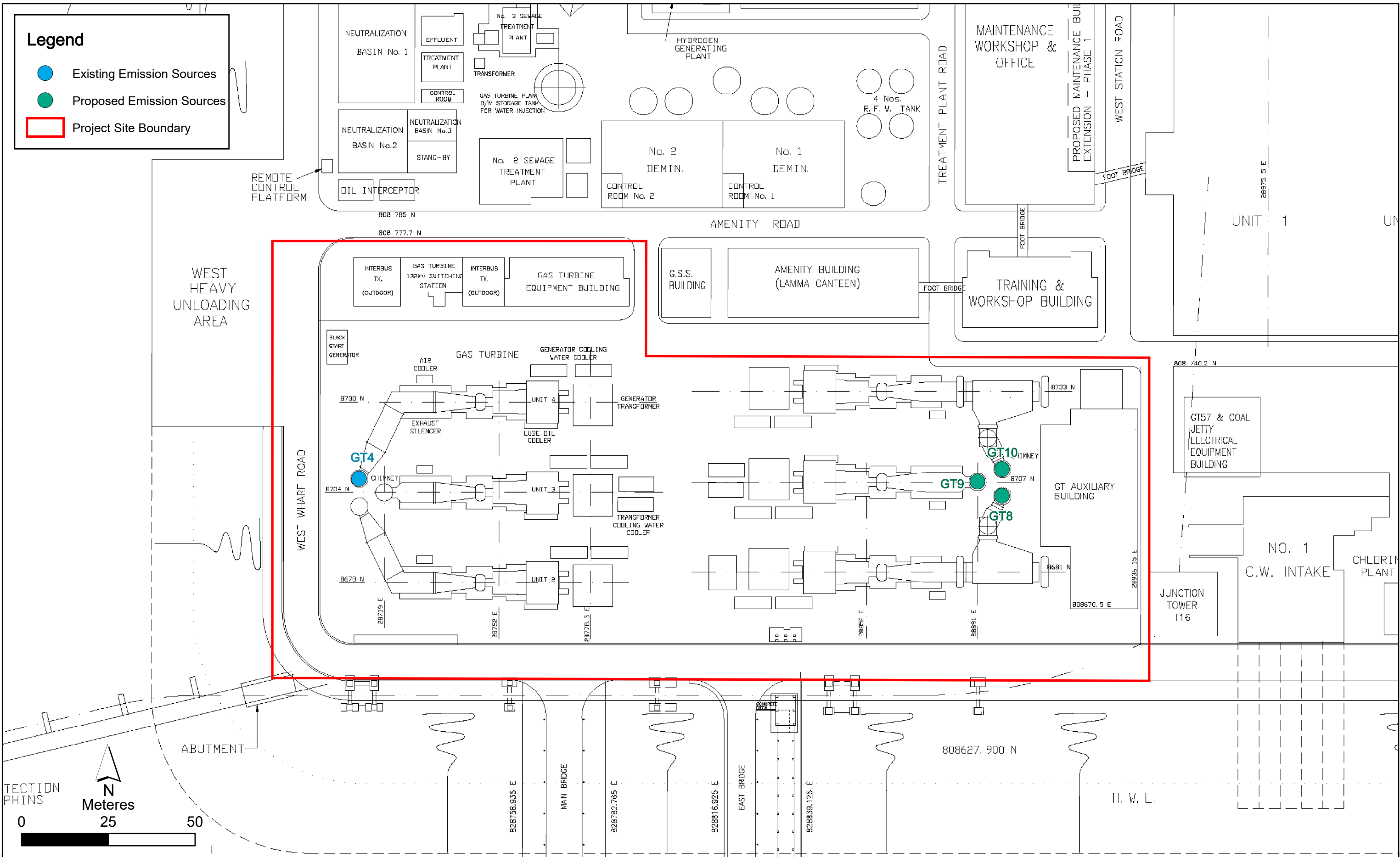
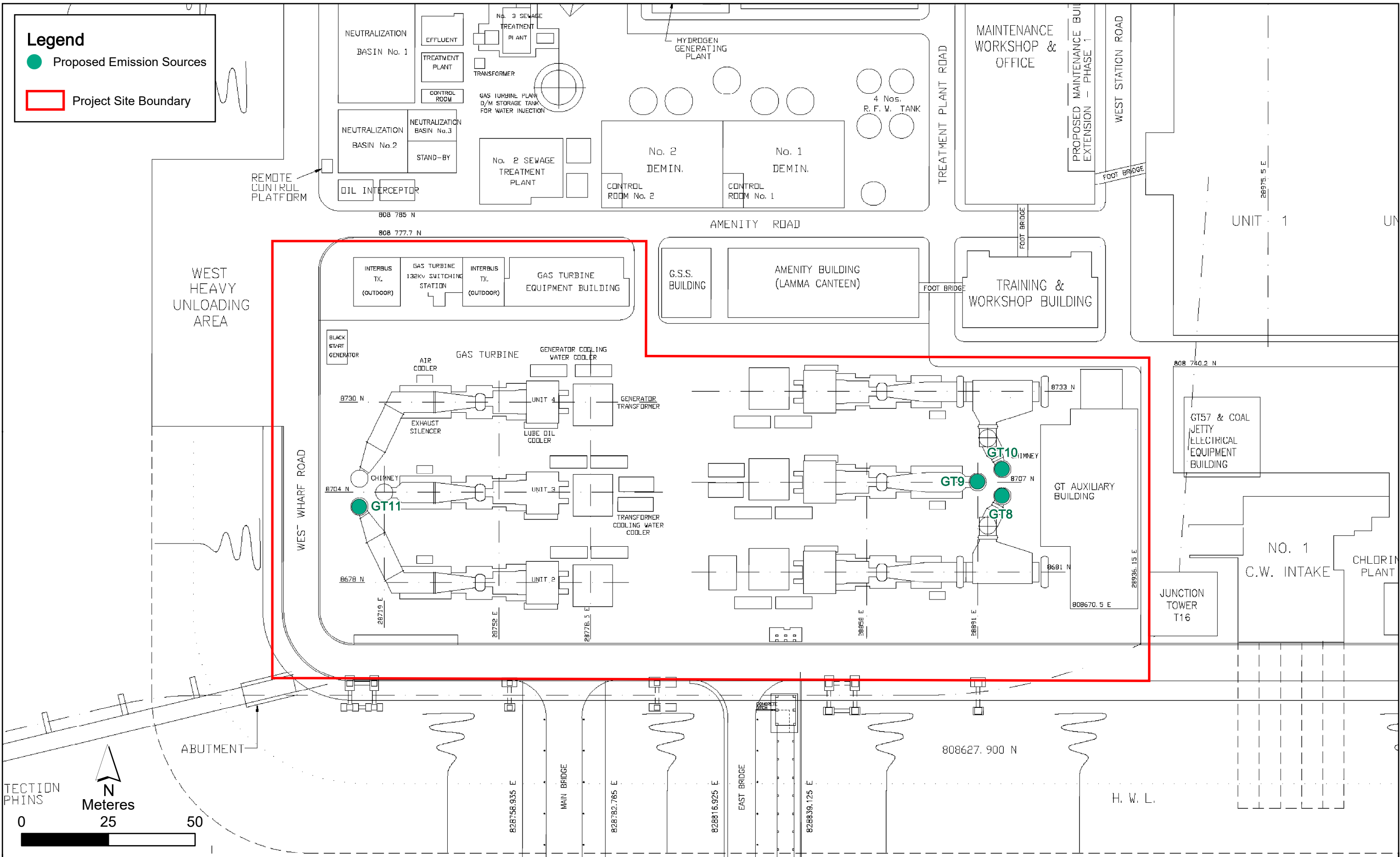


Figure 3.4c

Locations of Emission Sources within the Gas Turbine Compound ("With Project" Scenario - Phase 3)





**APPENDIX 3A      CALCULATIONS OF LAND USE PARAMETERS AND LAND  
USE FIGURES**

### Appendix 3A - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness

#### 10km x 10km Area for Lamma Island

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	12.959	0.130	0.750	0.163	A1, A2, A3, A25, A26
Urban	4.148	0.041	1.500	0.180	
Grasslands/Herbaceous	1.228	0.012	0.800	0.185	
Open Water	81.665	0.817	0.100	0.100	
<b>Average:</b>			<b>0.149</b>	<b>0.113</b>	

#### 10km x 10km Area for Cheung Chau

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	15.255	0.153	0.750	0.163	A24, A56, A57, A58
Urban	1.047	0.010	1.500	0.180	
Grasslands/Herbaceous	0.188	0.002	0.800	0.185	
Open Water	83.509	0.835	0.100	0.100	
<b>Average:</b>			<b>0.140</b>	<b>0.111</b>	

#### 10km x 10km Area for Hei Ling Chau

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	23.038	0.230	0.750	0.163	A54, A55
Urban	2.252	0.023	1.500	0.180	
Grasslands/Herbaceous	1.720	0.017	0.800	0.185	
Open Water	72.990	0.730	0.100	0.100	
<b>Average:</b>			<b>0.175</b>	<b>0.118</b>	

#### 10km x 10km Area for Southern part of Lantau Island

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	50.132	0.501	0.750	0.163	A52, A53
Urban	4.803	0.048	1.500	0.180	
Grasslands/Herbaceous	8.043	0.080	0.800	0.185	
Open Water	37.022	0.370	0.100	0.100	
<b>Average:</b>			<b>0.370</b>	<b>0.142</b>	

#### 10km x 10km Area for Northern part of Lantau Island

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	30.629	0.306	0.750	0.163	A45, A46, A47, A48, A49, A50, A51, A61
Urban	7.129	0.071	1.500	0.180	
Grasslands/Herbaceous	3.675	0.037	0.800	0.185	
Open Water	58.567	0.586	0.100	0.100	
<b>Average:</b>			<b>0.243</b>	<b>0.128</b>	

#### 10km x 10km Area for Tsing Yi Area

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	26.881	0.269	0.750	0.163	A43, A44, A60
Urban	27.692	0.277	1.500	0.180	
Grasslands/Herbaceous	0.238	0.002	0.800	0.185	
Open Water	45.189	0.452	0.100	0.100	
<b>Average:</b>			<b>0.366</b>	<b>0.139</b>	

#### 10km x 10km Area for Kowloon Area

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	23.367	0.234	0.750	0.163	A36, A37, A38, A39, A40, A41, A42
Urban	50.946	0.509	1.500	0.180	
Grasslands/Herbaceous	0.000	0.000	0.800	0.185	
Open Water	25.688	0.257	0.100	0.100	
<b>Average:</b>			<b>0.636</b>	<b>0.155</b>	

## Appendix 3A - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness

### 10km x 10km Area for Eastern part of Hong Kong Island

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	34.331	0.343	0.750	0.163	A30, A31, A32, A33, A34
Urban	43.436	0.434	1.500	0.180	
Grasslands/Herbaceous	0.000	0.000	0.800	0.185	
Open Water	22.232	0.222	0.100	0.100	
<b>Average:</b>			<b>0.648</b>	<b>0.156</b>	

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

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	20.516	0.205	0.750	0.163	A4, A6, A7, A10, A12, A15, A35
Urban	33.424	0.334	1.500	0.180	
Grasslands/Herbaceous	0.849	0.008	0.800	0.185	
Open Water	45.211	0.452	0.100	0.100	
<b>Average:</b>			<b>0.380</b>	<b>0.140</b>	

### 10km x 10km Area for Southeastern part of Hong Kong Island

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	39.435	0.394	0.750	0.163	A27, A28, A29
Urban	10.902	0.109	1.500	0.180	
Grasslands/Herbaceous	1.098	0.011	0.800	0.185	
Open Water	48.566	0.486	0.100	0.100	
<b>Average:</b>			<b>0.304</b>	<b>0.134</b>	

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

Land Cover	Area (km <sup>2</sup> )	Fraction of Total Area	Bowen Ratio (Bo)	Albedo (r)	ASR
Deciduous Forest	27.720	0.277	0.750	0.163	A5, A8, A9, A11, A13, A14, A16, A17, A18, A19, A20, A21, A22, A23, A59
Urban	20.939	0.209	1.500	0.180	
Grasslands/Herbaceous	1.758	0.018	0.800	0.185	
Open Water	49.583	0.496	0.100	0.100	
<b>Average:</b>			<b>0.320</b>	<b>0.136</b>	

#### 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 ratio for Urban Area (Class 22 Urban), Class 41 Deciduous Forest, Class 71 Grasslands/Herbaceous and Class 11 Open Water is assumed to be 1.5, 0.75, 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 albedo for Urban Area (Class 22 Urban), Class 41 Deciduous Forest, Class 71 Grasslands/Herbaceous and Class 11 Open Water is assumed to be 0.18, 0.163, 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.

**Appendix 3A - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness**

PATH Grid	Sector (degree)	Land Use Type	Area (km <sup>2</sup> )	Fraction of Section Total Area	Distance (km)	Weighting	Surface Roughness (Zo) <sup>(a)</sup>	Resultant Surface Roughness (Zo) (m) <sup>(a)</sup>	Albedo (r)	Bowen Ratio (Bo)	ASR
20,25	40 - 140	Urban	0.398	0.46	0.26	1.75	1.000	0.860	0.142	0.370	A53
		Deciduous Forest	0.475	0.54	0.74	0.74	0.600				
	140 - 235	Grasslands/Herbaceous	0.125	0.15	0.24	0.63	0.065	0.004	0.142	0.370	
	235 - 40	Open Water	0.704	0.85	0.62	1.37	0.001				
		Deciduous Forest	1.439				0.600	0.600	0.142	0.370	
22,28	40 - 80	Open Water	0.202	0.58	0.50	1.16	0.001	0.006	0.142	0.370	A52
		Deciduous Forest	0.147	0.42	0.90	0.47	0.600				
	80 - 140	Open Water	0.523				0.001	0.001	0.142	0.370	
	140 - 200	Deciduous Forest	0.523				0.600	0.600	0.142	0.370	
	200 - 265	Urban	0.128	0.23	0.32	0.71	1.000	0.189	0.142	0.370	
		Grasslands/Herbaceous	0.439	0.77	0.70	1.11	0.065				
265 - 330	Deciduous Forest	0.194	0.34	0.36	0.95	0.600	0.211	0.142	0.370		
	Grasslands/Herbaceous	0.373	0.66	0.78	0.84	0.065					
330 - 40	Deciduous Forest	0.610				0.600	0.600	0.142	0.370		
23,30	240 - 345	Deciduous Forest	0.050	0.05	0.18	0.30	0.600	0.024	0.128	0.243	A61
		Open Water	0.199	0.22	0.34	0.63	0.001				
		Grasslands/Herbaceous	0.667	0.73	0.68	1.07	0.065				
	345 - 240	Grasslands/Herbaceous	2.225				0.065	0.065	0.128	0.243	
24,32	65 - 120	Urban	0.195	0.41	0.42	0.97	1.000	0.050	0.128	0.243	A48
		Open Water	0.284	0.59	0.80	0.75	0.001				
	120 - 170	Urban	0.436				1.000	1.000	0.128	0.243	
170 - 65	Urban	0.150	0.07	0.12	0.54	1.000	0.093	0.128	0.243		
		Grasslands/Herbaceous	2.075	0.93	0.26	3.59	0.065				
25,21	15 - 95	Urban	0.110	0.16	0.24	0.65	1.000	0.011	0.111	0.140	A56, A57
		Open Water	0.588	0.84	0.68	1.23	0.001				
	95 - 130	Urban	0.096	0.31	0.37	0.85	1.000	0.772	0.111	0.140	
		Deciduous Forest	0.210	0.69	0.79	0.87	0.600				
	130 - 180	Urban	0.235	0.54	0.48	1.13	1.000	0.105	0.111	0.140	
		Open Water	0.202	0.46	0.84	0.55	0.001				
180 - 225	Open Water	0.037	0.09	0.21	0.46	0.001	0.134	0.111	0.140		
	Urban	0.075	0.19	0.45	0.42	1.000					
	Deciduous Forest	0.280	0.71	0.76	0.93	0.600					
225 - 335	Open Water	0.960				0.001	0.001	0.111	0.140		
335 - 15	Urban	0.166	0.48	0.45	1.06	1.000	0.827	0.111	0.140		
	Deciduous Forest	0.183	0.52	0.84	0.63	0.600					
25,22	45 - 110	Grasslands/Herbaceous	0.326	0.58	0.38	1.51	0.065	0.022	0.111	0.140	A58
		Open Water	0.241	0.42	0.82	0.52	0.001				
	110 - 160	Deciduous Forest	0.086	0.20	0.26	0.76	0.600	0.014	0.111	0.140	
		Open Water	0.350	0.80	0.74	1.08	0.001				
	160 - 190	Deciduous Forest	0.052	0.20	0.30	0.66	0.600	0.826	0.111	0.140	
		Urban	0.210	0.80	0.72	1.11	1.000				
190 - 220	Deciduous Forest	0.142	0.54	0.52	1.04	0.600	0.072	0.111	0.140		
	Open Water	0.120	0.46	0.88	0.52	0.001					
220 - 290	Open Water	0.611				0.001	0.001	0.111	0.140		
290 - 45	Deciduous Forest	0.179	0.18	0.28	0.64	0.600	0.009	0.111	0.140		
	Open Water	0.824	0.82	0.68	1.21	0.001					
25,31	30 - 190	Open Water	1.396				0.001	0.001	0.128	0.243	A49
	190 - 220	Urban	0.057	0.22	0.30	0.73	1.000	0.017	0.128	0.243	
		Open Water	0.205	0.78	0.74	1.06	0.001				
	220 - 275	Deciduous Forest	0.480				0.600	0.600	0.128	0.243	
275 - 30	Deciduous Forest	0.107	0.11	0.20	0.53	0.600	0.006	0.128	0.243		
		Open Water	0.897	0.89	0.66	1.35	0.001				
26,21	20 - 200	Deciduous Forest	0.082	0.05	0.06	0.87	0.600	0.009	0.111	0.140	A24
		Open Water	1.488	0.95	0.56	1.69	0.001				
	200 - 250	Deciduous Forest	0.117	0.27	0.38	0.70	0.600	0.014	0.111	0.140	
		Open Water	0.320	0.73	0.72	1.02	0.001				
250 - 300	Deciduous Forest	0.088	0.20	0.38	0.53	0.600	0.846	0.111	0.140		
	Urban	0.349	0.80	0.74	1.08	1.000					
300 - 20	Deciduous Forest	0.115	0.17	0.22	0.75	0.600	0.012	0.111	0.140		
	Open Water	0.583	0.83	0.70	1.19	0.001					

**Appendix 3A - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness**

PATH Grid	Sector (degree)	Land Use Type	Area (km <sup>2</sup> )	Fraction of Section Total Area	Distance (km)	Weighting	Surface Roughness (Zo) <sup>(a)</sup>	Resultant Surface Roughness (Zo) (m) <sup>(a)</sup>	Albedo (r)	Bowen Ratio (Bo)	ASR
26,26	45 - 75	Deciduous Forest	0.083	0.32	0.38	0.83	0.600	0.022	0.118	0.175	A55
		Open Water	0.179	0.68	0.76	0.90	0.001				
	75 - 155	Deciduous Forest	0.698				0.600	0.600	0.118	0.175	
		Deciduous Forest	0.055	0.07	0.12	0.58	0.600	0.005	0.118	0.175	
	155 - 245	Open Water	0.730	0.93	0.58	1.60	0.001				
		Deciduous Forest	0.154	0.25	0.30	0.84	0.600	0.018	0.118	0.175	
	245 - 315	Open Water	0.456	0.75	0.74	1.01	0.001				
		Deciduous Forest	0.081	0.10	0.16	0.65	0.600	0.007	0.118	0.175	
	315 - 45	Open Water	0.704	0.90	0.58	1.55	0.001				
		Deciduous Forest	0.038	0.15	0.22	0.66	0.600	0.009	0.128	0.243	
26,29	10 - 40	Open Water	0.224	0.85	0.70	1.22	0.001				
		Deciduous Forest	0.336	0.64	0.46	1.40	0.600	0.149	0.128	0.243	
	40 - 100	Open Water	0.187	0.36	0.92	0.39	0.001				
		Deciduous Forest	0.111	0.06	0.06	0.93	0.600	0.007	0.128	0.243	
	100 - 330	Open Water	1.895	0.94	0.46	2.05	0.001				
		Urban	0.130	0.37	0.38	0.98	1.000	0.797	0.128	0.243	
	330 - 10	Deciduous Forest	0.219	0.63	0.80	0.78	0.600				
		Deciduous Forest	0.087	0.33	0.36	0.92	0.600	0.028	0.128	0.243	
	26,30	0 - 30	Open Water	0.175	0.67	0.78	0.86	0.001			
			Grasslands/Herbaceous	0.019	0.07	0.16	0.46	0.065	0.096	0.128	0.243
30 - 60		Deciduous Forest	0.149	0.57	0.52	1.09	0.600				
		Open Water	0.094	0.36	0.90	0.40	0.001				
60 - 90		Open Water	0.262				0.001	0.001	0.128	0.243	
		Deciduous Forest	0.472	0.72	0.52	1.39	0.600	0.198	0.128	0.243	
90 - 165		Open Water	0.183	0.28	0.96	0.29	0.001				
		Urban	0.186	0.15	0.14	1.05	1.000	0.017	0.128	0.243	
165 - 310		Open Water	1.080	0.85	0.56	1.52	0.001				
		Deciduous Forest	0.051	0.12	0.20	0.59	0.600	0.013	0.128	0.243	
26,33	40 - 110	Grasslands/Herbaceous	0.057	0.13	0.40	0.33	0.065				
		Open Water	0.328	0.75	0.70	1.07	0.001				
	110 - 175	Grasslands/Herbaceous	0.611				0.065	0.065	0.128	0.243	
		Urban	0.567				1.000	1.000	0.128	0.243	
	175 - 335	Deciduous Forest	1.396				0.600	0.600	0.128	0.243	
		Open Water	0.120	0.21	0.26	0.81	0.001	0.011	0.128	0.243	
	335 - 40	Grasslands/Herbaceous	0.447	0.79	0.70	1.13	0.065				
		Deciduous Forest	0.046	0.18	0.24	0.73	0.600	0.050	0.118	0.175	
	27,26	35 - 65	Open Water	0.117	0.45	0.60	0.74	0.001			
			Deciduous Forest	0.099	0.38	0.88	0.43	0.600			
65 - 145		Deciduous Forest	0.076	0.11	0.18	0.60	0.600	0.007	0.118	0.175	
		Open Water	0.622	0.89	0.66	1.35	0.001				
145 - 210		Deciduous Forest	0.567				0.600	0.600	0.118	0.175	
		Deciduous Forest	0.121	0.46	0.42	1.10	0.600	0.053	0.118	0.175	
210 - 240		Open Water	0.141	0.54	0.80	0.67	0.001				
		Deciduous Forest	0.611				0.600	0.600	0.118	0.175	
240 - 310		Deciduous Forest	0.188	0.25	0.26	0.98	0.600	0.023	0.118	0.175	
		Open Water	0.553	0.75	0.74	1.01	0.001				
27,32	30 - 80	Deciduous Forest	0.129	0.30	0.32	0.93	0.600	0.195	0.128	0.243	
		Grasslands/Herbaceous	0.307	0.70	0.74	0.95	0.065				
	80 - 260	Grasslands/Herbaceous	0.161	0.10	0.06	1.71	0.065	0.007	0.128	0.243	
		Open Water	1.410	0.90	0.48	1.87	0.001				
	260 - 310	Grasslands/Herbaceous	0.134	0.31	0.38	0.81	0.065	0.211	0.128	0.243	
		Deciduous Forest	0.302	0.69	0.76	0.91	0.600				
	310 - 30	Urban	0.698				1.000	1.000	0.128	0.243	

**Appendix 3A - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness**

PATH Grid	Sector (degree)	Land Use Type	Area (km <sup>2</sup> )	Fraction of Section Total Area	Distance (km)	Weighting	Surface Roughness (Zo) <sup>(a)</sup>	Resultant Surface Roughness (Zo) (m) <sup>(a)</sup>	Albedo (r)	Bowen Ratio (Bo)	ASR
27,33	50 - 145	Urban	0.054	0.06	0.14	0.46	1.000	0.122	0.128	0.243	A46
		Grasslands/Herbaceous	0.775	0.94	0.60	1.56	0.065				
	145 - 180	Urban	0.154	0.50	0.44	1.15	1.000				
		Open Water	0.151	0.50	0.84	0.59	0.001				
	180 - 220	Urban	0.252	0.72	0.52	1.39	1.000				
		Open Water	0.097	0.28	0.94	0.30	0.001				
	220 - 300	Urban	0.398	0.57	0.42	1.36	1.000				
		Deciduous Forest	0.300	0.43	0.88	0.49	0.600				
	300 - 50	Urban	0.460	0.48	0.30	1.60	1.000				
		Grasslands/Herbaceous	0.500	0.52	0.70	0.74	0.065				
33,36	45 - 100	Deciduous Forest	0.068	0.14	0.25	0.57	0.600	0.566	0.139	0.366	A44, A60
		Urban	0.364	0.76	0.67	1.12	1.000				
		Open Water	0.048	0.10	0.95	0.11	0.001				
	100 - 160	Deciduous Forest	0.043	0.08	0.19	0.44	0.600				
		Urban	0.481	0.92	0.68	1.36	1.000				
	160 - 240	Deciduous Forest	0.698				0.600				
	240 - 270	Deciduous Forest	0.172	0.66	0.53	1.23	0.600				
		Commercial/Industrial/Transport (Not at Airport)	0.090	0.34	0.90	0.38	0.700				
	270 - 300	Deciduous Forest	0.262				0.600				
	300 - 335	Deciduous Forest	0.083	0.27	0.36	0.75	0.600				
		Urban	0.105	0.34	0.65	0.53	1.000				
		Deciduous Forest	0.117	0.38	0.87	0.44	0.600				
	335 - 45	Deciduous Forest	0.065	0.11	0.21	0.52	0.600				
		Urban	0.546	0.89	0.68	1.32	1.000				
33,37	35 - 110	Urban	0.418	0.64	0.46	1.39	1.000	0.200	0.139	0.366	A43
		Open Water	0.237	0.36	0.86	0.42	0.001				
	110 - 140	Urban	0.262				1.000				
	140 - 180	Urban	0.023	0.07	0.14	0.48	1.000				
		Deciduous Forest	0.168	0.48	0.50	0.96	0.600				
		Urban	0.157	0.45	0.88	0.51	1.000				
	180 - 245	Urban	0.046	0.08	0.16	0.51	1.000				
		Deciduous Forest	0.521	0.92	0.60	1.53	0.600				
	245 - 275	Urban	0.104	0.40	0.44	0.90	1.000				
		Deciduous Forest	0.158	0.60	0.84	0.72	0.600				
275 - 35	Urban	1.047				1.000					
34,23	130 - 160	Urban	0.022	0.08	0.18	0.46	1.000	0.123	0.113	0.149	A1, A3
		Deciduous Forest	0.127	0.49	0.53	0.92	0.600				
		Open Water	0.113	0.43	0.86	0.50	0.001				
	160 - 230	Deciduous Forest	0.143	0.23	0.26	0.89	0.600				
		Commercial/Industrial/Transport (Not at Airport)	0.468	0.77	0.66	1.16	0.700				
	230 - 340	Open Water	0.960				0.001				
	340 - 130	Urban	0.139	0.11	0.07	1.61	1.000				
Deciduous Forest		1.170	0.89	0.59	1.51	0.600					
34,24	70 - 130	Deciduous Forest	0.423	0.81	0.59	1.36	0.600	0.256	0.113	0.149	A2
		Open Water	0.101	0.19	0.92	0.21	0.001				
	130 - 205	Deciduous Forest	0.654				0.600				
	205 - 250	Deciduous Forest	0.264	0.67	0.53	1.28	0.600				
		Open Water	0.129	0.33	0.92	0.36	0.001				
250 - 70	Open Water	1.571				0.001					
35,22	45 - 95	Deciduous Forest	0.300	0.69	0.53	1.31	0.600	0.148	0.113	0.149	A25
		Open Water	0.136	0.31	0.86	0.37	0.001				
	95 - 165	Deciduous Forest	0.611				0.600				
	165 - 250	Open Water	0.742				0.001				
	250 - 285	Open Water	0.113	0.37	0.39	0.94	0.001				
		Commercial/Industrial/Transport (Not at Airport)	0.192	0.63	0.79	0.80	0.700				
	285 - 340	Deciduous Forest	0.322	0.67	0.39	1.70	0.600				
		Urban	0.158	0.33	0.79	0.42	1.000				
340 - 45	Deciduous Forest	0.567				0.600					

**Appendix 3A - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness**

PATH Grid	Sector (degree)	Land Use Type	Area (km <sup>2</sup> )	Fraction of Section Total Area	Distance (km)	Weighting	Surface Roughness (Z <sub>o</sub> ) <sup>(a)</sup>	Resultant Surface Roughness (Z <sub>o</sub> ) (m) <sup>(a)</sup>	Albedo (r)	Bowen Ratio (Bo)	ASR
35,27	60 - 110	Deciduous Forest	0.436				0.600	0.600	0.136	0.320	A5
	110 - 155	Urban	0.393				1.000	1.000	0.136	0.320	
	155 - 320	Commercial/Industrial/Transport (Not at Airport)	0.168	0.12	0.07	1.78	0.700	0.035	0.136	0.320	
		Open Water	1.271	0.88	0.59	1.49	0.001				
	320 - 60	Urban	0.873				1.000	1.000	0.136	0.320	
35,28	110 - 150	Urban	0.349				1.000	1.000	0.140	0.380	A4
	150 - 280	Urban	0.060	0.05	0.07	0.80	1.000	0.010	0.140	0.380	
		Open Water	1.075	0.95	0.59	1.60	0.001				
	280 - 340	Deciduous Forest	0.232	0.44	0.46	0.96	0.600	0.040	0.140	0.380	
Open Water		0.291	0.56	0.79	0.70	0.001					
	340 - 110	Deciduous Forest	1.134				0.600	0.600	0.140	0.380	
35,29	40 - 90	Urban	0.436				1.000	1.000	0.140	0.380	A7
	90 - 170	Urban	0.237	0.34	0.33	1.03	1.000	0.787	0.140	0.380	
		Deciduous Forest	0.461	0.66	0.72	0.91	0.600				
	170 - 265	Urban	0.119	0.14	0.07	2.19	1.000	0.827	0.140	0.380	
		Deciduous Forest	0.710	0.86	0.66	1.30	0.600				
	265 - 40	Urban	0.226	0.19	0.13	1.46	1.000	0.035	0.140	0.380	
		Open Water	0.952	0.81	0.59	1.36	0.001				
36,21	15 - 60	Open Water	0.393				0.001	0.001	0.113	0.149	A26
	60 - 200	Grasslands/Herbaceous	1.221				0.065	0.065	0.113	0.149	
	200 - 330	Open Water	0.275	0.24	0.26	0.93	0.001	0.028	0.113	0.149	
		Deciduous Forest	0.859	0.76	0.74	1.02	0.600				
	330 - 15	Open Water	0.143	0.36	0.38	0.96	0.001	0.007	0.113	0.149	
		Grasslands/Herbaceous	0.249	0.64	0.78	0.81	0.065				
36,26	15 - 95	Deciduous Forest	0.119	0.17	0.20	0.86	0.600	0.691	0.136	0.320	
		Urban	0.192	0.27	0.46	0.60	1.000				
		Deciduous Forest	0.388	0.56	0.79	0.70	0.600				
	95 - 125	Urban	0.086	0.33	0.39	0.83	1.000	0.772	0.136	0.320	
		Deciduous Forest	0.176	0.67	0.79	0.85	0.600				
	125 - 340	Urban	0.685	0.37	0.13	2.77	1.000	0.146	0.136	0.320	
		Open Water	1.191	0.63	0.59	1.07	0.001				
	340 - 15	Deciduous Forest	0.149	0.49	0.46	1.06	0.600	0.722	0.136	0.320	
Urban		0.157	0.51	0.86	0.60	1.000					
36,27	145 - 205	Deciduous Forest	0.195	0.37	0.39	0.94	0.600	0.758	0.136	0.320	
		Urban	0.329	0.63	0.79	0.80	1.000				
	205 - 285	Deciduous Forest	0.082	0.12	0.13	0.90	0.600	0.099	0.136	0.320	
		Urban	0.227	0.33	0.46	0.71	1.000				
		Open Water	0.389	0.56	0.79	0.71	0.001				
	285 - 335	Urban	0.099	0.23	0.26	0.87	1.000	0.754	0.136	0.320	
		Deciduous Forest	0.337	0.77	0.72	1.07	0.600				
	335 - 145	Urban	0.383	0.26	0.13	1.96	1.000	0.820	0.136	0.320	
Deciduous Forest		1.100	0.74	0.59	1.25	0.600					
36,28	140 - 195	Urban	0.028	0.06	0.13	0.44	1.000	0.719	0.140	0.380	
		Deciduous Forest	0.330	0.69	0.53	1.30	0.600				
		Urban	0.123	0.26	0.92	0.28	1.000				
	195 - 285	Urban	0.597	0.76	0.46	1.65	1.000	0.366	0.140	0.380	
		Open Water	0.189	0.24	0.86	0.28	0.001				
		285 - 140	Deciduous Forest	1.876				0.600	0.600	0.140	0.380
36,29	40 - 110	Urban	0.611				1.000	1.000	0.140	0.380	A10
	110 - 170	Urban	0.200	0.38	0.36	1.06	1.000	0.799	0.140	0.380	
		Deciduous Forest	0.323	0.62	0.74	0.83	0.600				
	170 - 245	Urban	0.039	0.06	0.14	0.42	1.000	0.668	0.140	0.380	
		Deciduous Forest	0.616	0.94	0.60	1.57	0.600				
		245 - 275	Urban	0.262				1.000	1.000	0.140	
	275 - 40	Urban	0.604	0.55	0.34	1.63	1.000	0.171	0.140	0.380	
		Open Water	0.487	0.45	0.80	0.56	0.001				



**Appendix 3A - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness**

PATH Grid	Sector (degree)	Land Use Type	Area (km <sup>2</sup> )	Fraction of Section Total Area	Distance (km)	Weighting	Surface Roughness (Zo) <sup>(a)</sup>	Resultant Surface Roughness (Zo) (m) <sup>(a)</sup>	Albedo (r)	Bowen Ratio (Bo)	ASR	
37,25	80 - 135	Urban	0.089	0.19	0.46	0.40	1.000	0.811	0.136	0.320	A22	
		Deciduous Forest	0.188	0.39	0.66	0.60	0.600					
		Urban	0.203	0.42	0.92	0.46	1.000					
	135 - 290	Open Water	1.352				0.001	0.001	0.136	0.320		
		290 - 80	Urban	0.105	0.08	0.20	0.41	1.000	0.025	0.136		0.320
			Open Water	0.563	0.43	0.33	1.31	0.001				
Commercial/Industrial/Transport (Not at Airport)	0.407		0.31	0.53	0.59	0.700						
		Deciduous Forest	0.235	0.18	0.79	0.23	0.600					
37,26	80 - 110	Deciduous Forest	0.132	0.50	0.46	1.09	0.600	0.633	0.136	0.320	A16	
		Commercial/Industrial/Transport (Not at Airport)	0.130	0.50	0.86	0.58	0.700					
	110 - 140	Commercial/Industrial/Transport (Not at Airport)	0.053	0.20	0.33	0.61	0.700	0.018	0.136	0.320		
		Open Water	0.172	0.66	0.66	1.00	0.001					
	140 - 285	Urban	0.037	0.14	0.92	0.15	1.000	0.006	0.136	0.320		
		Open Water	0.163	0.13	0.26	0.49	1.000					
		Open Water	1.102	0.87	0.66	1.32	0.001					
	285 - 355	Urban	0.611				1.000	1.000	0.136	0.320		
	355 - 80	Deciduous Forest	0.742				0.600	0.600	0.136	0.320		
37,28	110 - 305	Deciduous Forest	1.701				0.600	0.600	0.140	0.380	A12	
	305 - 345	Deciduous Forest	0.201	0.58	0.46	1.25	0.600	0.694	0.140	0.380		
		Urban	0.148	0.42	0.86	0.50	1.000					
	345 - 110	Deciduous Forest	0.296	0.27	0.26	1.03	0.600	0.772	0.140	0.380		
Urban		0.795	0.73	0.72	1.01	1.000						
38,25	95 - 130	Urban	0.017	0.06	0.13	0.43	1.000	0.025	0.136	0.320	A18, A23	
		Commercial/Industrial/Transport (Not at Airport)	0.054	0.18	0.33	0.54	0.700					
		Open Water	0.234	0.77	0.72	1.06	0.001					
	130 - 190	Urban	0.147	0.28	0.33	0.85	1.000	0.759	0.136	0.320		
		Deciduous Forest	0.377	0.72	0.72	1.00	0.600					
	190 - 245	Urban	0.032	0.07	0.13	0.51	1.000	0.230	0.136	0.320		
		Deciduous Forest	0.304	0.63	0.53	1.21	0.600					
		Open Water	0.144	0.30	0.86	0.35	0.001					
	245 - 275	Urban	0.262				1.000	1.000	0.136	0.320		
	275 - 95	Open Water	0.483	0.31	0.13	2.34	0.001	0.010	0.136	0.320		
Urban		0.673	0.43	0.46	0.93	1.000						
Deciduous Forest		0.415	0.26	0.86	0.31	0.600						
38,27	50 - 350	Deciduous Forest	2.618				0.600	0.600	0.136	0.320	A14, A17, A59	
	350 - 50	Urban	0.434	0.83	0.58	1.43	1.000	0.942	0.136	0.320		
		Deciduous Forest	0.089	0.17	0.91	0.19	0.600					
38,36	70 - 100	Urban	0.118	0.45	0.44	1.02	1.000	0.822	0.155	0.636	A42	
		Deciduous Forest	0.144	0.55	0.86	0.64	0.600					
	100 - 295	Urban	1.701				1.000	1.000	0.155	0.636		
	295 - 70	Deciduous Forest	1.178				0.600	0.600	0.155	0.636		
39,25	40 - 95	Commercial/Industrial/Transport (Not at Airport)	0.480				0.700	0.700	0.136	0.320	A19	
	95 - 190	Deciduous Forest	0.829				0.600	0.600	0.136	0.320		
	190 - 280	Deciduous Forest	0.098	0.12	0.13	0.95	0.600	0.014	0.136	0.320		
		Open Water	0.687	0.88	0.66	1.33	0.001					
	280 - 40	Commercial/Industrial/Transport (Not at Airport)	0.395	0.38	0.20	1.91	0.700	0.667	0.136	0.320		
		Deciduous Forest	0.652	0.62	0.72	0.86	0.600					
39,28	110 - 250	Deciduous Forest	1.222				0.600	0.600	0.140	0.380	A15	
	250 - 110	Urban	1.920				1.000	1.000	0.140	0.380		
39,32	140 - 190	Urban	0.232	0.53	0.46	1.16	1.000	0.114	0.155	0.636	A37	
		Open Water	0.204	0.47	0.88	0.53	0.001					
	190 - 220	Urban	0.262				1.000	1.000	0.155	0.636		
	220 - 350	Commercial/Industrial/Transport (Not at Airport)	0.243	0.21	0.10	2.14	0.700	0.049	0.155	0.636		
		Open Water	0.892	0.79	0.54	1.46	0.001					
350 - 140	Urban	1.308				1.000	1.000	0.155	0.636			
39,35	90 - 120	Urban	0.160	0.61	0.50	1.22	1.000	0.873	0.155	0.636	A41	
		Deciduous Forest	0.102	0.39	0.88	0.44	0.600					
	120 - 90	Urban	2.878				1.000	1.000	0.155	0.636		

**Appendix 3A - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness**

PATH Grid	Sector (degree)	Land Use Type	Area (km <sup>2</sup> )	Fraction of Section Total Area	Distance (km)	Weighting	Surface Roughness (Zo) <sup>(a)</sup>	Resultant Surface Roughness (Zo) (m) <sup>(a)</sup>	Albedo (r)	Bowen Ratio (Bo)	ASR				
40,24	45 - 75	Commercial/Industrial/Transport (Not at Airport)	0.030	0.11	0.20	0.58	0.700	0.042	0.136	0.320	A20				
		Deciduous Forest	0.064	0.24	0.46	0.53	0.600								
		Open Water	0.168	0.64	0.79	0.81	0.001								
	75 - 150	Commercial/Industrial/Transport (Not at Airport)	0.051	0.08	0.20	0.40	0.700								
40,25	75 - 150	Deciduous Forest	0.083	0.13	0.37	0.34	0.600	0.012	0.136	0.320	A21				
		Open Water	0.520	0.79	0.66	1.21	0.001								
		150 - 330	Deciduous Forest	0.246	0.16	0.20	0.79					0.600			
	Open Water	1.324	0.84	0.66	1.28	0.001									
330 - 45	Deciduous Forest	0.654				0.600	0.600	0.136	0.320						
40,29	100 - 185	Commercial/Industrial/Transport (Not at Airport)	0.133	0.18	0.20	0.91	0.700	0.071	0.136	0.320	A21				
		Deciduous Forest	0.186	0.25	0.42	0.60	0.600								
		Open Water	0.422	0.57	0.72	0.79	0.001								
	185 - 250	Commercial/Industrial/Transport (Not at Airport)	0.088	0.16	0.20	0.79	0.700								
40,31	185 - 250	Deciduous Forest	0.479	0.84	0.66	1.28	0.600	0.636	0.136	0.320	A21				
		250 - 280	Commercial/Industrial/Transport (Not at Airport)	0.262								0.700			
		280 - 100	Urban	0.918	0.58	0.33	1.78					1.000			
	Deciduous Forest	0.652	0.42	0.79	0.53	0.600									
40,29	50 - 140	Urban	0.785				1.000	1.000	0.140	0.380	A35				
	140 - 170	Urban	0.131	0.50	0.50	1.00	1.000	0.827	0.140	0.380	A35				
		Deciduous Forest	0.130	0.50	0.84	0.59	0.600								
	170 - 225	Urban	0.111	0.23	0.28	0.82	1.000	0.747	0.140	0.380	A35				
		Deciduous Forest	0.369	0.77	0.70	1.10	0.600								
225 - 310	Urban	0.741				1.000	1.000	0.140	0.380	A35					
310 - 50	Urban	0.405	0.46	0.28	1.66	1.000	0.113	0.140	0.380	A35					
	Open Water	0.467	0.54	0.70	0.77	0.001									
40,31	70 - 230	Urban	0.237	0.17	0.18	0.94	1.000	0.017	0.155	0.636	A36				
		Open Water	1.159	0.83	0.62	1.34	0.001								
	230 - 300	Urban	0.276	0.45	0.40	1.13	1.000								
40,33	230 - 300	Open Water	0.334	0.55	0.78	0.70	0.001	0.071	0.155	0.636	A36				
		300 - 70	Urban	1.134								1.000			
40,33	0 - 360	Urban	3.140				1.000	1.000	0.155	0.636	A38				
41,33	0 - 360	Urban	3.140				1.000	1.000	0.155	0.636	A39				
41,34	0 - 360	Urban	3.140				1.000	1.000	0.155	0.636	A40				
42,24	90 - 165	Urban	0.311	0.48	0.38	1.25	1.000	0.839	0.134	0.304	A29				
		Deciduous Forest	0.343	0.52	0.80	0.66	0.600								
	165 - 230	Urban	0.052	0.09	0.16	0.57	1.000								
		Open Water	0.516	0.91	0.62	1.47	0.001								
230 - 290	Urban	0.523				1.000	1.000	0.134	0.304	A29					
290 - 90	Deciduous Forest	1.396				0.600	0.600	0.134	0.304	A29					
42,30	65 - 155	Urban	0.785				1.000	1.000	0.156	0.648	A34				
	155 - 185	Urban	0.123	0.47	0.44	1.06	1.000	0.824	0.156	0.648	A34				
		Deciduous Forest	0.139	0.53	0.82	0.65	0.600								
	185 - 225	Urban	0.349				1.000	1.000	0.156	0.648	A34				
225 - 65	Urban	0.301	0.17	0.10	1.72	1.000	0.039	0.156	0.648	A34					
Open Water	1.444	0.83	0.54	1.53	0.001										
43,22	0 - 65	Deciduous Forest	0.180	0.32	0.32	0.99	0.600	0.206	0.134	0.304	A28				
		Grasslands/Herbaceous	0.387	0.68	0.74	0.92	0.065								
	65 - 105	Deciduous Forest	0.040	0.12	0.22	0.52	0.600								
		Urban	0.309	0.88	0.72	1.23	1.000								
	105 - 160	Urban	0.246	0.51	0.40	1.28	1.000					0.113	0.134	0.304	A28
		Open Water	0.234	0.49	0.82	0.59	0.001								
	160 - 190	Urban	0.014	0.05	0.20	0.27	1.000					0.216	0.134	0.304	A28
		Deciduous Forest	0.174	0.66	0.56	1.18	0.600								
Open Water		0.074	0.28	0.94	0.30	0.001									
190 - 220	Deciduous Forest	0.262				0.600	0.600	0.134	0.304	A28					
220 - 290	Deciduous Forest	0.029	0.05	0.14	0.34	0.600	0.003	0.134	0.304	A28					
	Open Water	0.581	0.95	0.62	1.54	0.001									
290 - 0	Deciduous Forest	0.611				0.600	0.600	0.134	0.304	A28					


**Appendix 3A - Detailed Calculations of Albedo, Bowen Ratio and Surface Roughness**

PATH Grid	Sector (degree)	Land Use Type	Area (km <sup>2</sup> )	Fraction of Section Total Area	Distance (km)	Weighting	Surface Roughness (Zo) <sup>(a)</sup>	Resultant Surface Roughness (Zo) (m) <sup>(a)</sup>	Albedo (r)	Bowen Ratio (Bo)	ASR	
43,23	0 - 60	Deciduous Forest	0.058	0.11	0.20	0.56	0.600	0.128	0.134	0.304	A27	
		Grasslands/Herbaceous	0.465	0.89	0.70	1.27	0.065					
	60 - 120	Urban	0.523				1.000	1.000	0.134	0.304		
	120 - 170	Deciduous Forest	0.132	0.30	0.32	0.94	0.600	0.025	0.134	0.304		
		Open Water	0.304	0.70	0.74	0.94	0.001					
	170 - 230	Deciduous Forest		0.020	0.04	0.10	0.39	0.600	0.697	0.134		0.304
			Urban	0.107	0.21	0.36	0.57	1.000				
Deciduous Forest		0.396	0.76	0.76	0.99	0.600						
230 - 270	Deciduous Forest	0.092	0.26	0.32	0.82	0.600	0.018	0.134	0.304			
	Open Water	0.257	0.74	0.74	1.00	0.001						
270 - 0	Deciduous Forest	0.785				0.600	0.600	0.134	0.304			
43,29	50 - 100	Deciduous Forest	0.340	0.78	0.54	1.44	0.600	0.644	0.156	0.648	A33	
		Urban	0.096	0.22	0.96	0.23	1.000					
	100 - 220	Deciduous Forest	1.047				0.600	0.600	0.156	0.648		
	220 - 260	Urban	0.078	0.22	0.30	0.74	1.000	0.742	0.156	0.648		
Deciduous Forest		0.271	0.78	0.74	1.05	0.600						
260 - 50	Urban	1.308				1.000	1.000	0.156	0.648			
43,30	90 - 125	Urban	0.305				1.000	1.000	0.156	0.648	A32	
	125 - 200	Urban	0.273	0.42	0.38	1.10	1.000	0.818	0.156	0.648		
		Deciduous Forest	0.381	0.58	0.82	0.71	0.600					
	200 - 270	Urban	0.611				1.000	1.000	0.156	0.648		
	270 - 90	Urban	0.344	0.22	0.12	1.83	1.000	0.060	0.156	0.648		
Open Water		1.226	0.78	0.62	1.26	0.001						
44,30	80 - 160	Urban	0.698				1.000	1.000	0.156	0.648	A31	
	160 - 260	Deciduous Forest	0.872				0.600	0.600	0.156	0.648		
	260 - 320	Deciduous Forest	0.107	0.20	0.16	1.27	0.600	0.763	0.156	0.648		
		Urban	0.417	0.80	0.70	1.14	1.000					
	320 - 80	Urban	0.466	0.45	0.30	1.48	1.000	0.098	0.156	0.648		
Open Water		0.581	0.55	0.74	0.75	0.001						
45,30	110 - 165	Urban	0.480				1.000	1.000	0.156	0.648	A30	
	165 - 215	Urban	0.291	0.67	0.48	1.39	1.000	0.898	0.156	0.648		
		Deciduous Forest	0.146	0.33	0.90	0.37	0.600					
	215 - 275	Urban	0.357	0.68	0.44	1.55	1.000	0.906	0.156	0.648		
		Deciduous Forest	0.167	0.32	0.86	0.37	0.600					
	275 - 310	Urban	0.305				1.000	1.000	0.156	0.648		
310 - 110	Urban	0.319	0.23	0.14	1.63	1.000	0.053	0.156	0.648			
	Open Water	1.077	0.77	0.64	1.21	0.001						

**Note:**

(a) With reference to Table A-3 of the AERSURFACE User's Guide 2008 (revised in 2013), the surface roughness value for Urban Area (Class 22 Urban), Class 23 Commercial/Industrial/Transport (Not at Airport), Class 71 Grasslands/Herbaceous, Class 11 Open Water are assumed to be 1m, 0.7m, 0.065m and 0.001m, respectively. With the height of tree assumed to be 6m on average, the surface roughness value of 0.6m has been adopted for tree 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.

**Legend**

 10km x 10km Area for Lamma Island

**Landuse**

-  Deciduous Forest
-  Grasslands/Herbaceous
-  Urban
-  Open Water



Appendix 3A

10km x 10km Area for Lamma Island


File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_LPS\_10km\_Landuse\_v2\_Lamma\_Island.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**



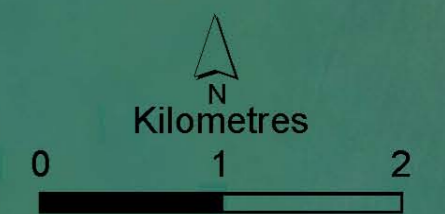


**Legend**

 10km x 10km Area for Cheung Chau


**Landuse**

-  Deciduous Forest
-  Grasslands/Herbaceous
-  Urban
-  Open Water





**Legend**

 10km x 10km Area for Hei Ling Chau

**Landuse**

-  Deciduous Forest
-  Grasslands/Herbaceous
-  Urban
-  Open Water



Appendix 3A

10km x 10km Area for Hei Ling Chau

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_LPS\_10km\_Landuse\_v2\_Hei\_Ling\_Chau.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**





**Legend**

 10km x 10km Area for Southern part of Lantau Island

**Landuse**

 Deciduous Forest

 Grasslands/Herbaceous

 Urban

 Open Water



Appendix 3A

10km x 10km Area for Southern part of Lantau Island

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_LPS\_10km\_Landuse\_v2\_Lantau\_Southern.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**



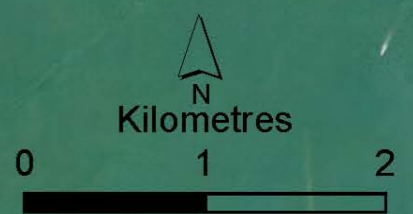
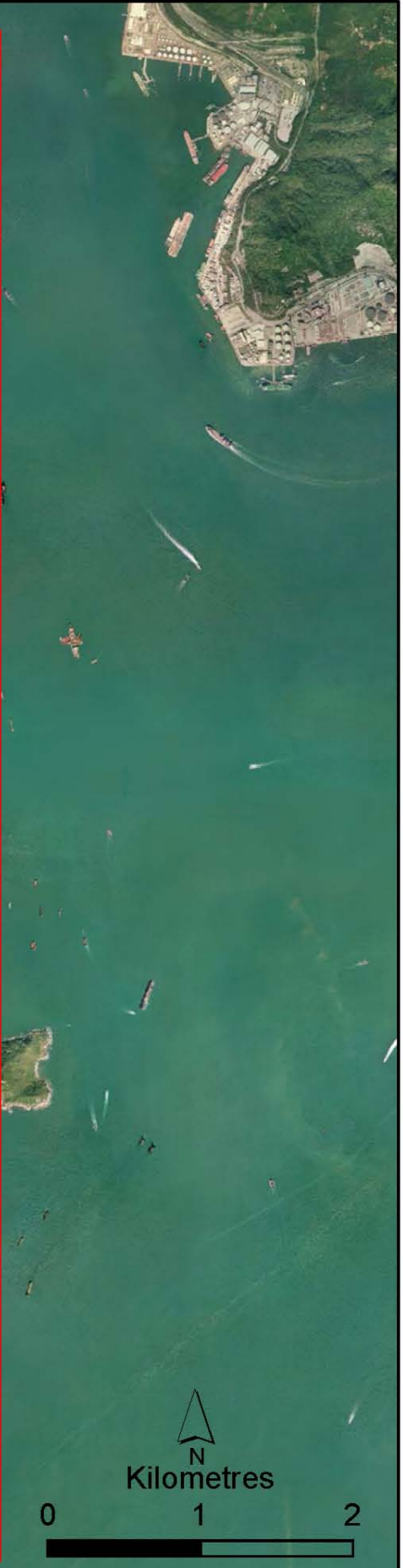


**Legend**

 10km x 10km Area for Northern part of Lantau Island


**Landuse**

-  Deciduous Forest
-  Grasslands/Herbaceous
-  Urban
-  Open Water









**Legend**

 10km x 10km Area for Tsing Yi Area


**Landuse**

-  Deciduous Forest
-  Grasslands/Herbaceous
-  Urban
-  Open Water






**Legend**

 10km x 10km Area for Kowloon Area

**Landuse**

 Deciduous Forest

 Urban

 Open Water



  
Kilometres



Appendix 3A

10km x 10km Area for Kowloon Area

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_LPS\_10km\_Landuse\_v2\_Kwoloon.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**






**Legend**

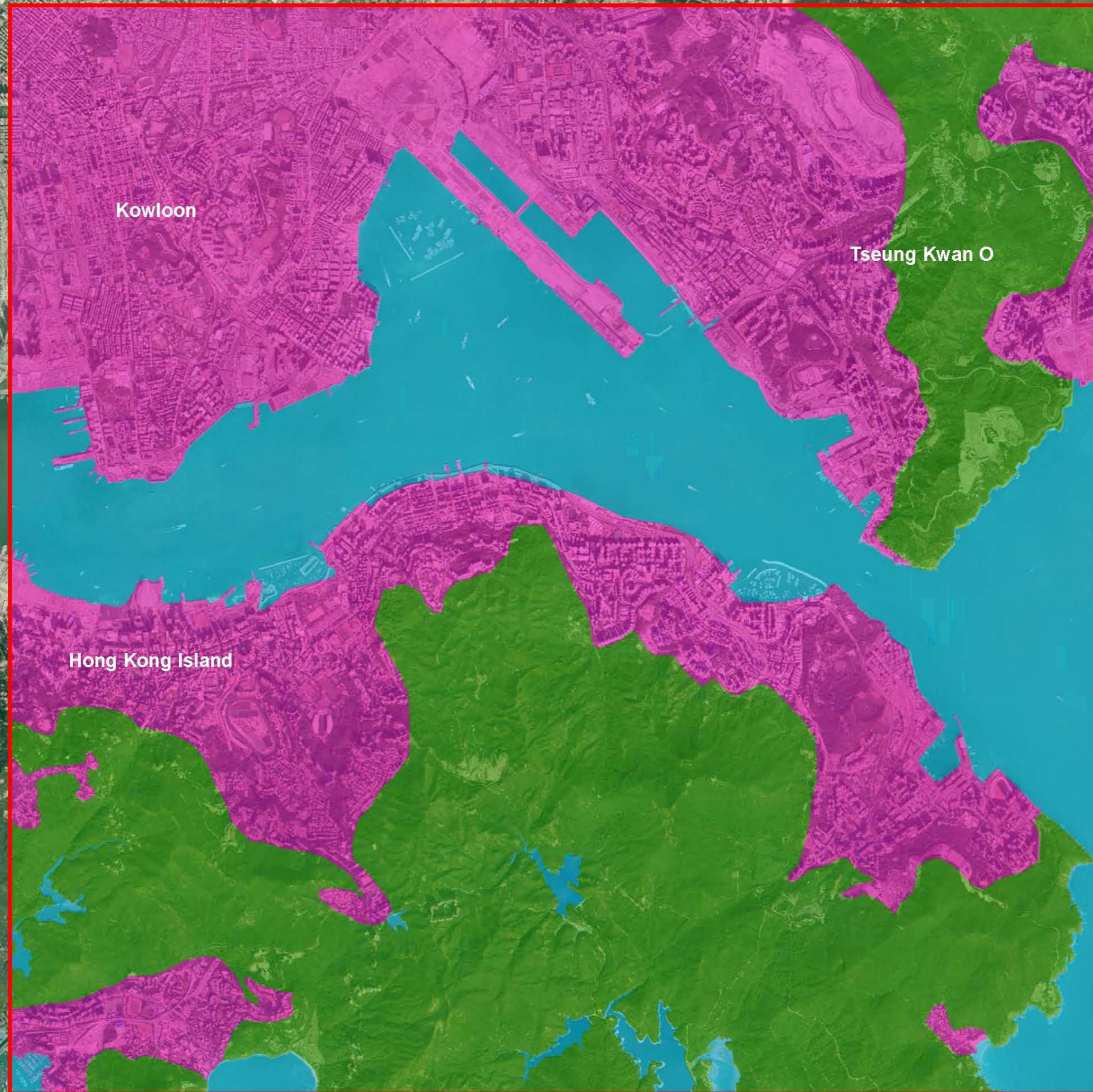
 10km x 10km Area for Eastern part of Hong Kong Island

**Landuse**

 Deciduous Forest

 Urban

 Open Water

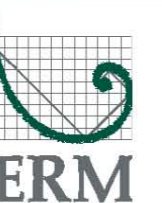


Appendix 3A

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


File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_LPS\_10km\_Landuse\_v2\_HKI\_East.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**





**Legend**

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

**Landuse**

-  Deciduous Forest
-  Grasslands/Herbaceous
-  Urban
-  Open Water



Kilometres



Appendix 3A

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

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_LPS\_10km\_Landuse\_v2\_HKI\_Central.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**



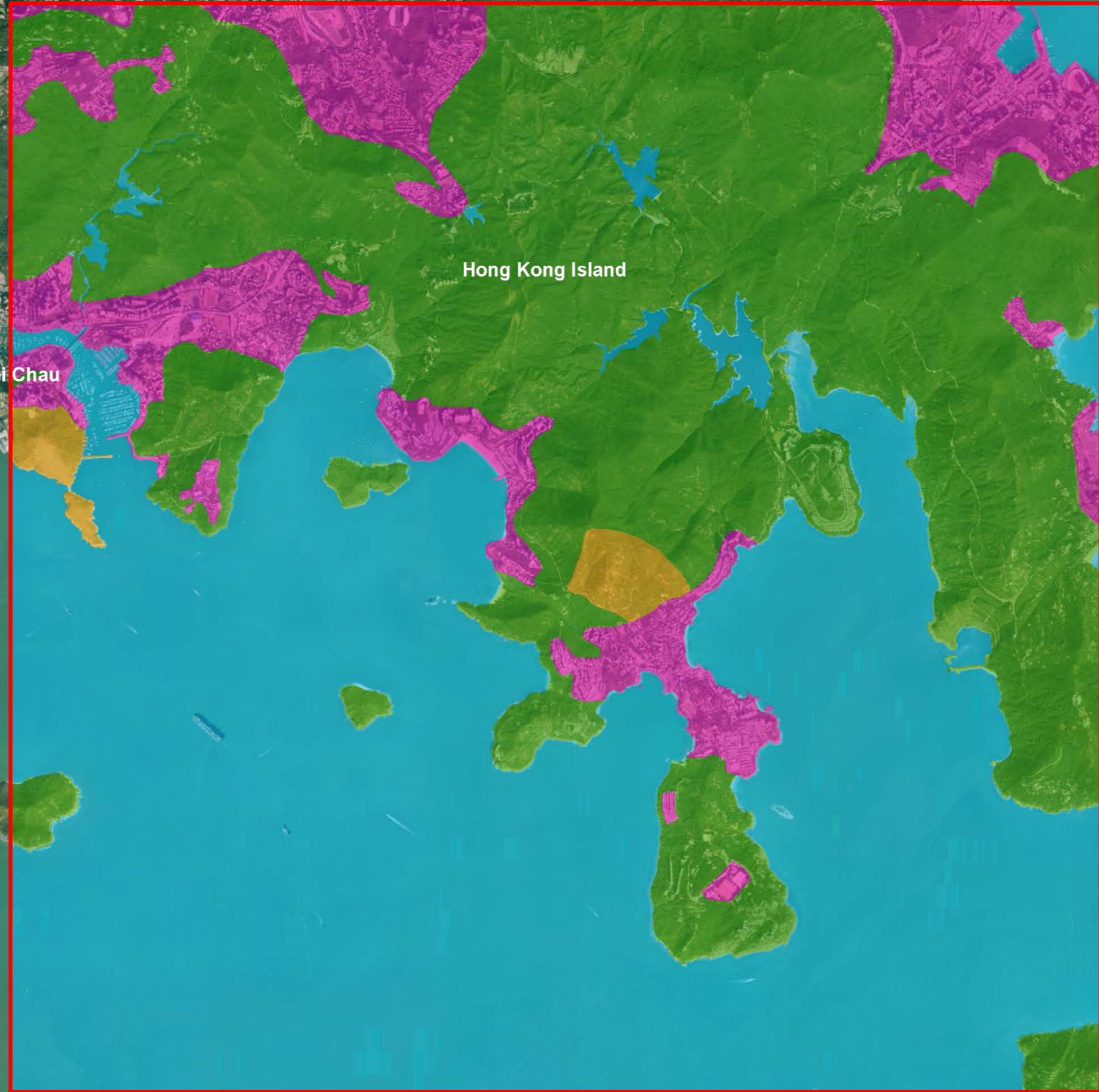


**Legend**

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

**Landuse**

-  Deciduous Forest
-  Grasslands/Herbaceous
-  Urban
-  Open Water



Appendix 3A

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

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_LPS\_10km\_Landuse\_v2\_HKI\_Southeast.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**





**Legend**

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

**Landuse**

-  Deciduous Forest
-  Grasslands/Herbaceous
-  Urban
-  Open Water



Kilometres



Appendix 3A

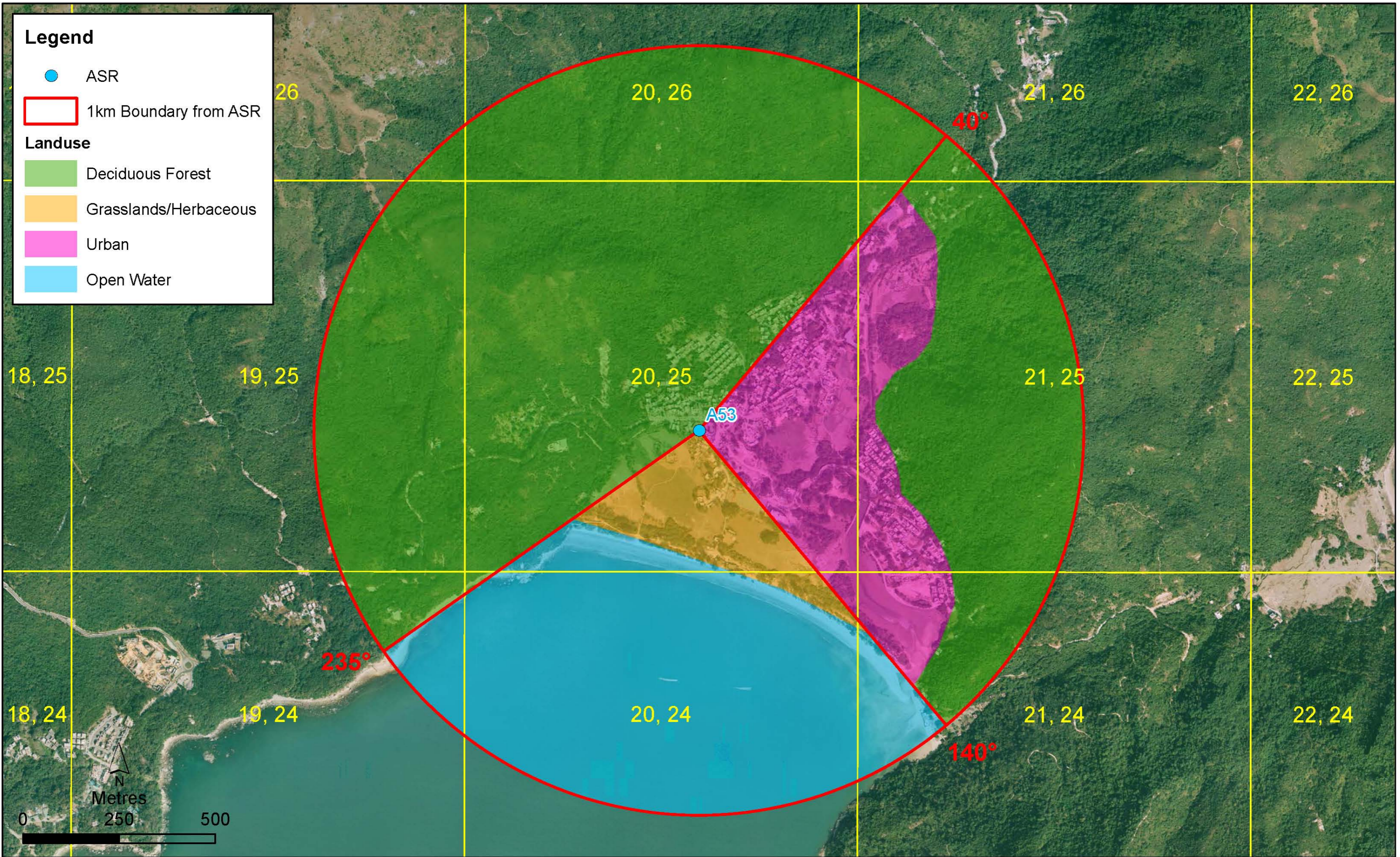
10km x 10km Area for Southwestern part of Hong Kong Island

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_LPS\_10km\_Landuse\_v2\_HKI\_Southwest.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

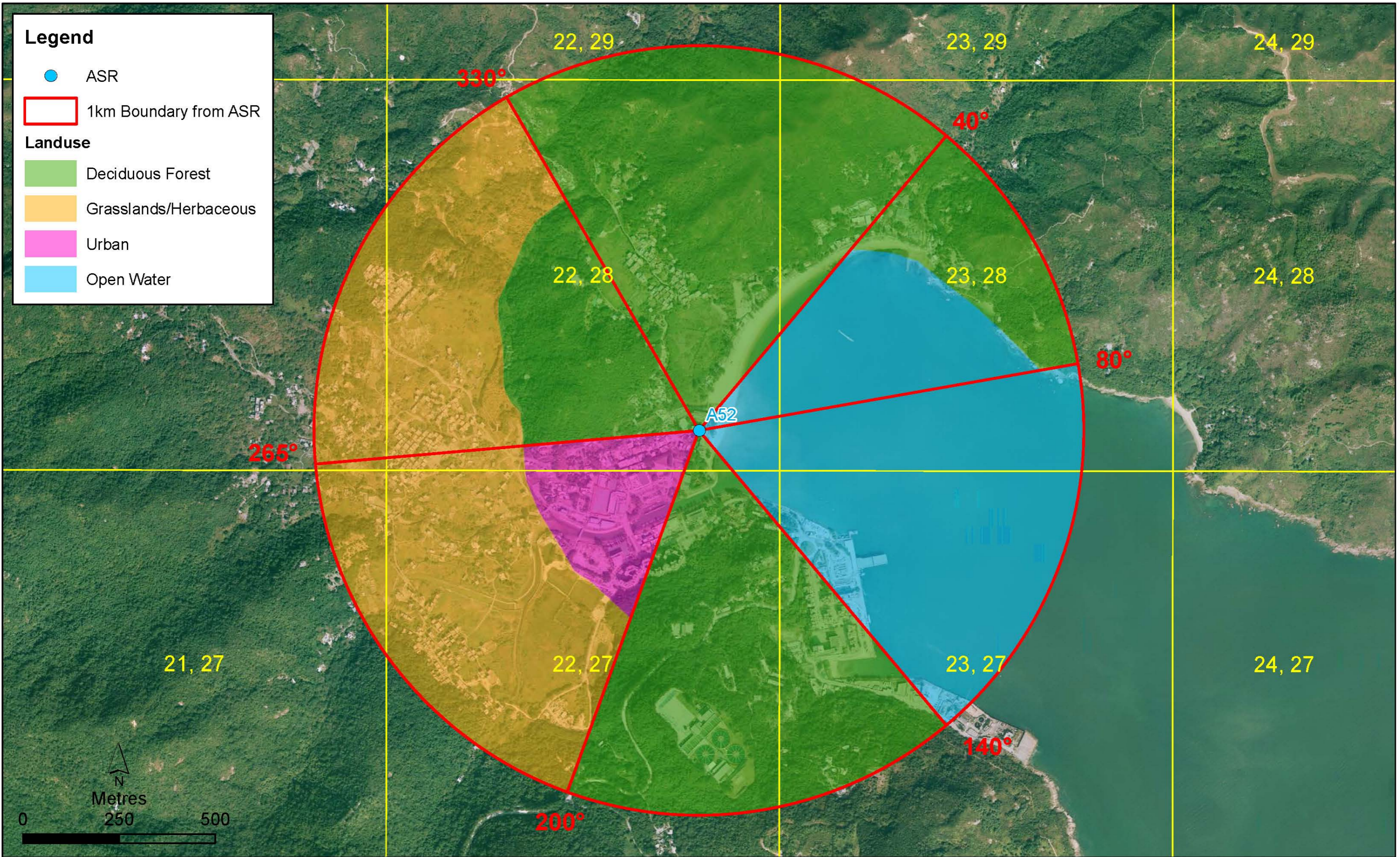
Sectors of Land Use for PATH Grid 20,25

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2025.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

Sectors of Land Use for PATH Grid 22,28

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2228.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

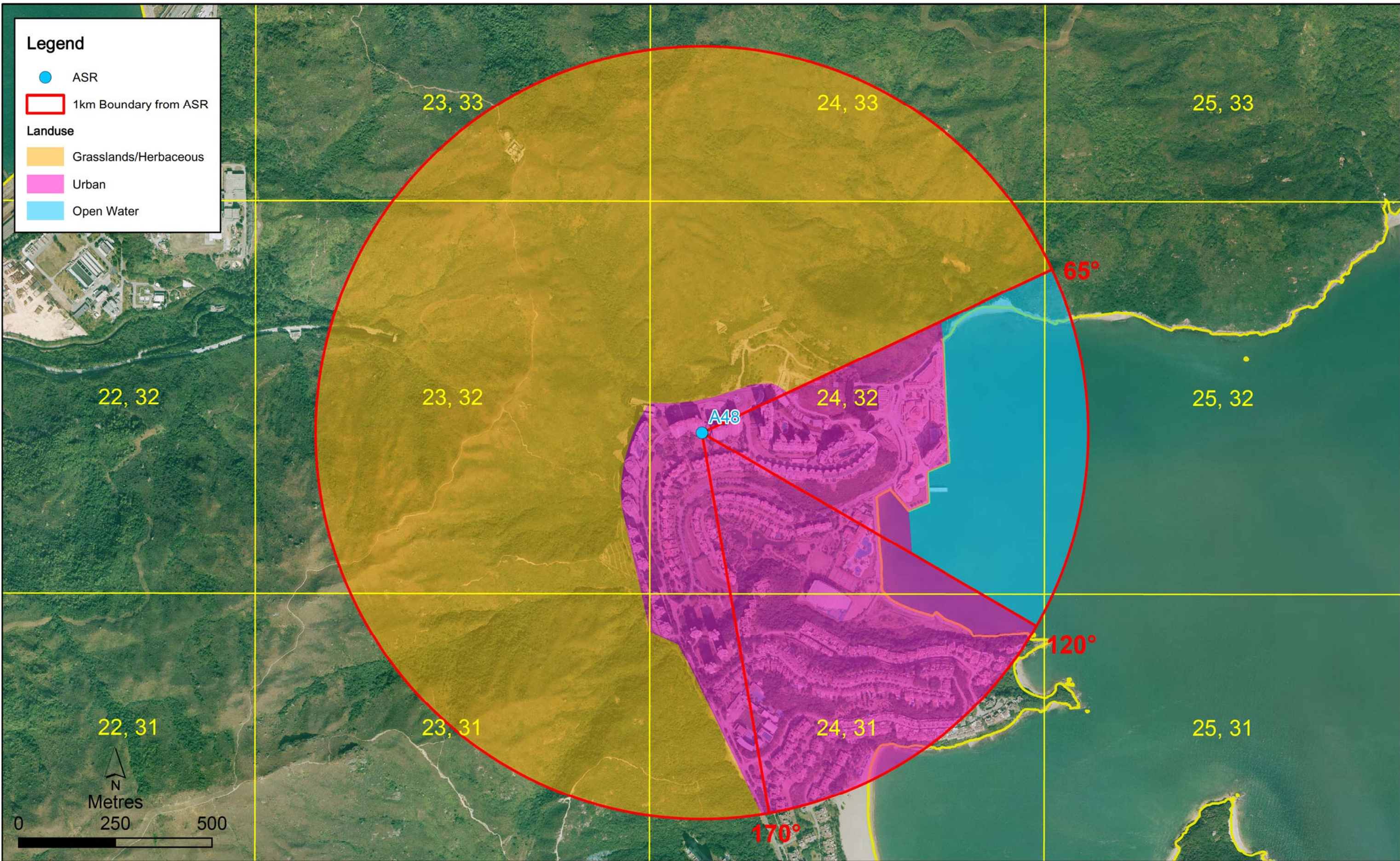
Sectors of Land Use for PATH Grid 23,30

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2330.mxd  
Date: 25/8/2021

Environmental  
Resources  
Management







Appendix 3A

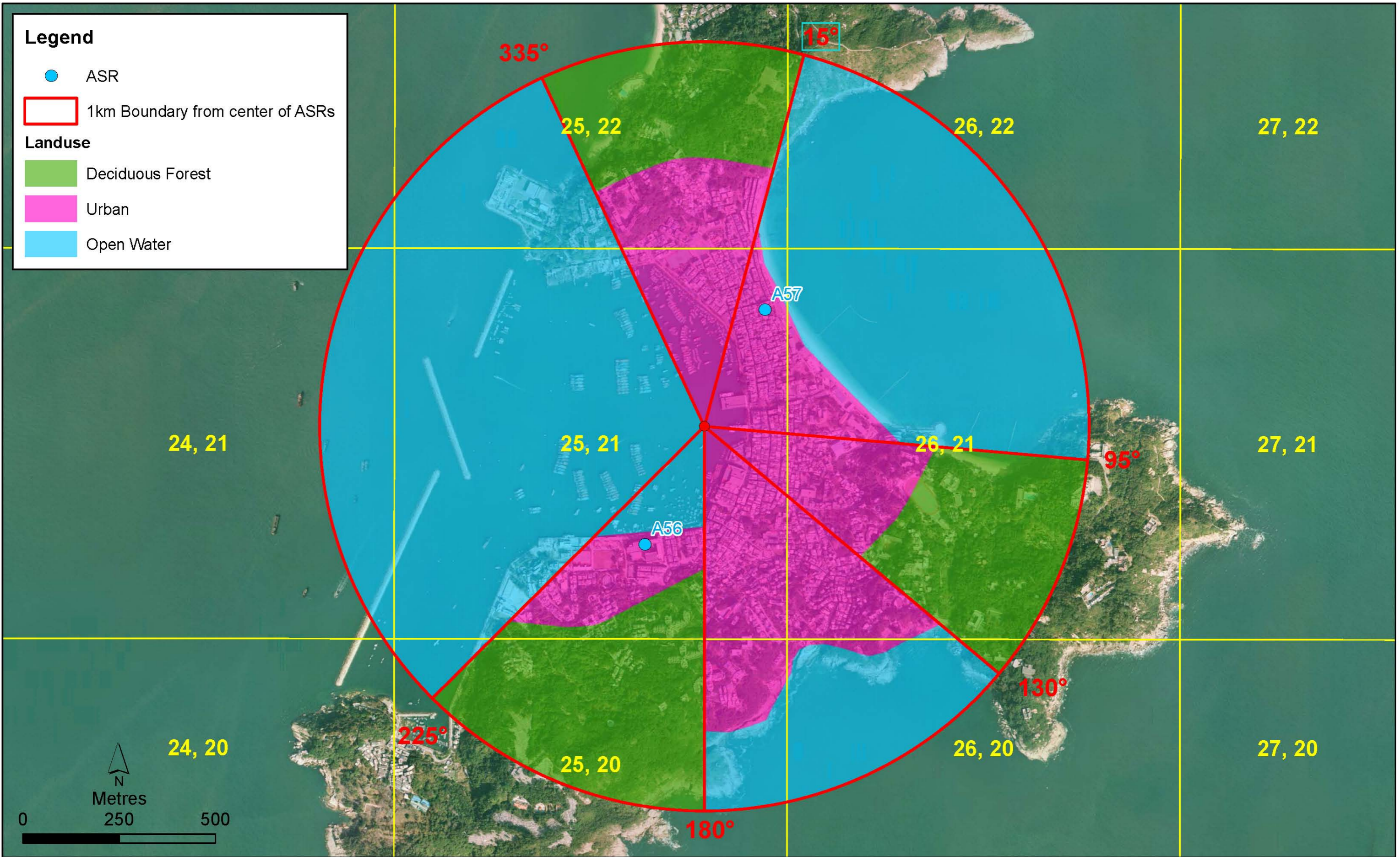
Sectors of Land Use for PATH Grid 24,32

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2432.mxd  
Date: 27/8/2021

Environmental  
Resources  
Management











Appendix 3A

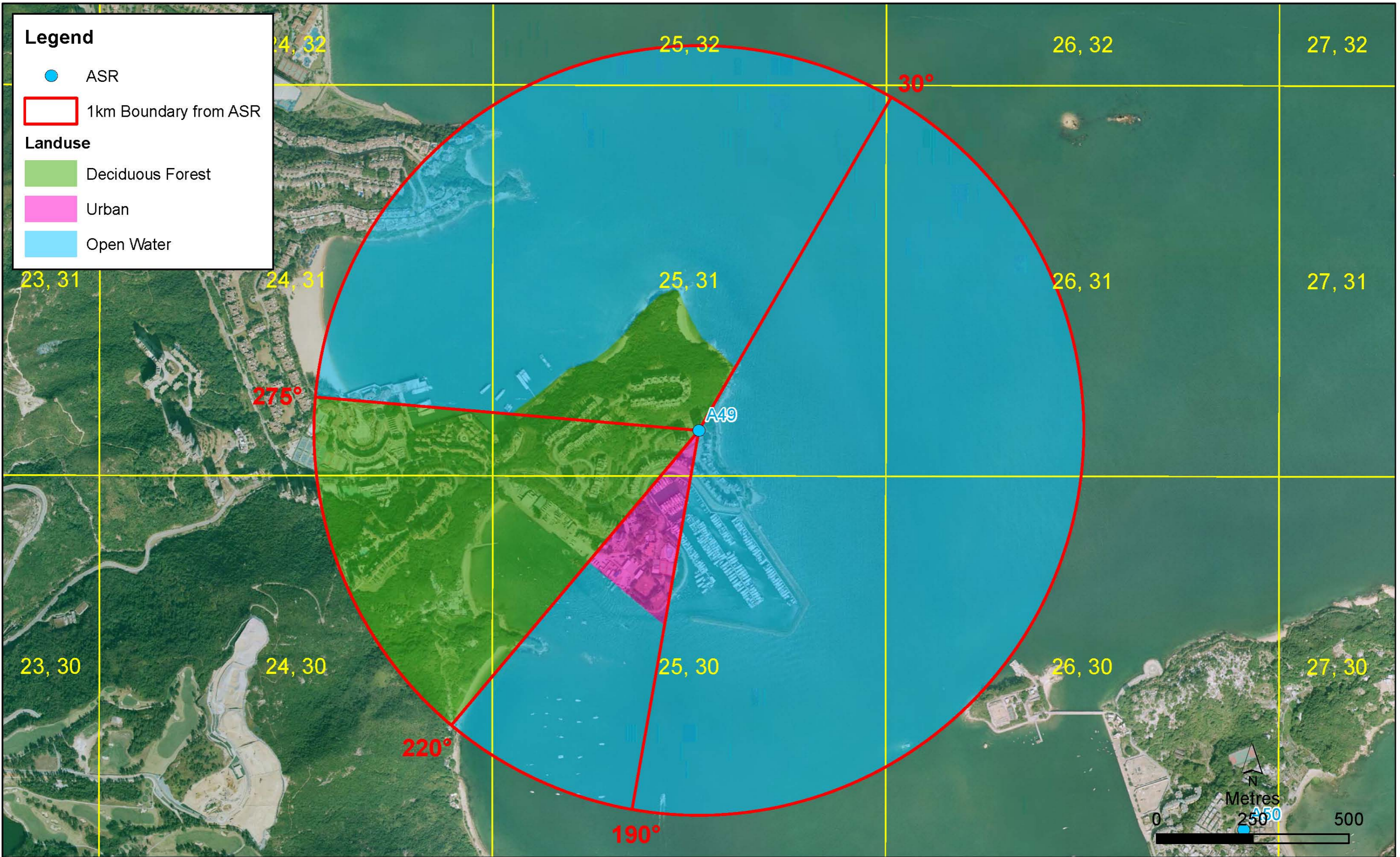
Sectors of Land Use for PATH Grid 25,22

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2522.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

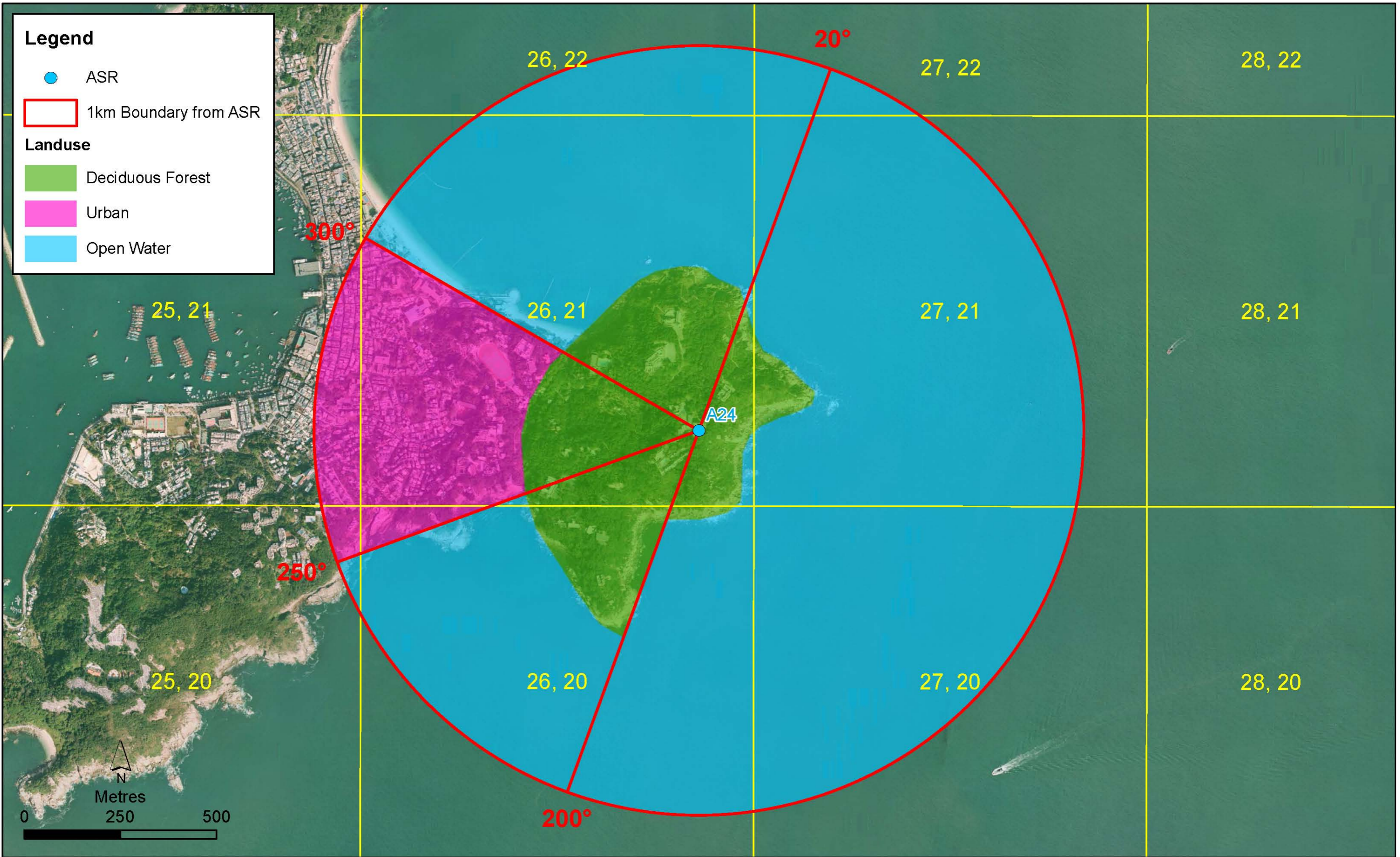
Sectors of Land Use for PATH Grid 25,31

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2531.mxd  
Date: 13/1/2021

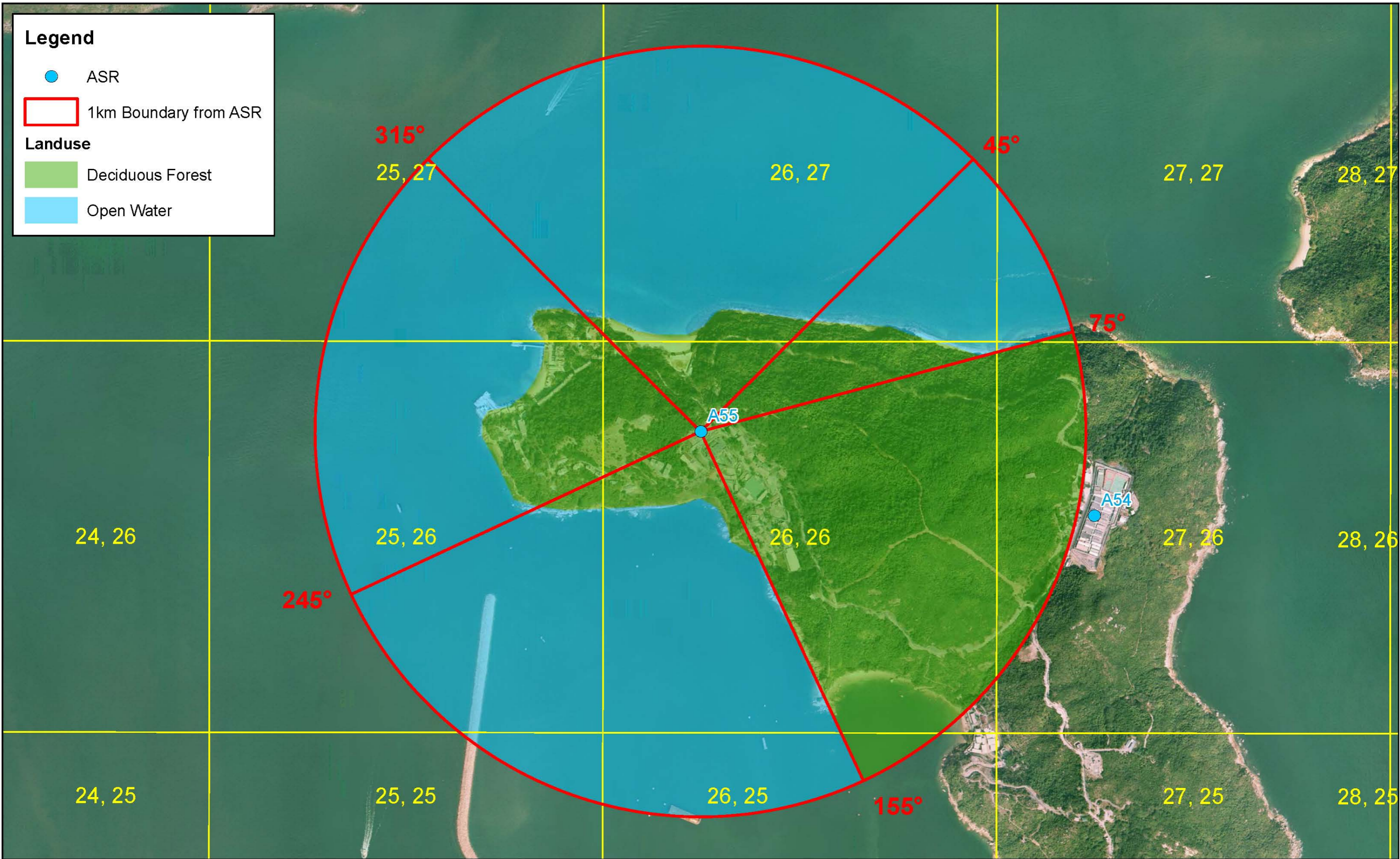
**Environmental  
Resources  
Management**



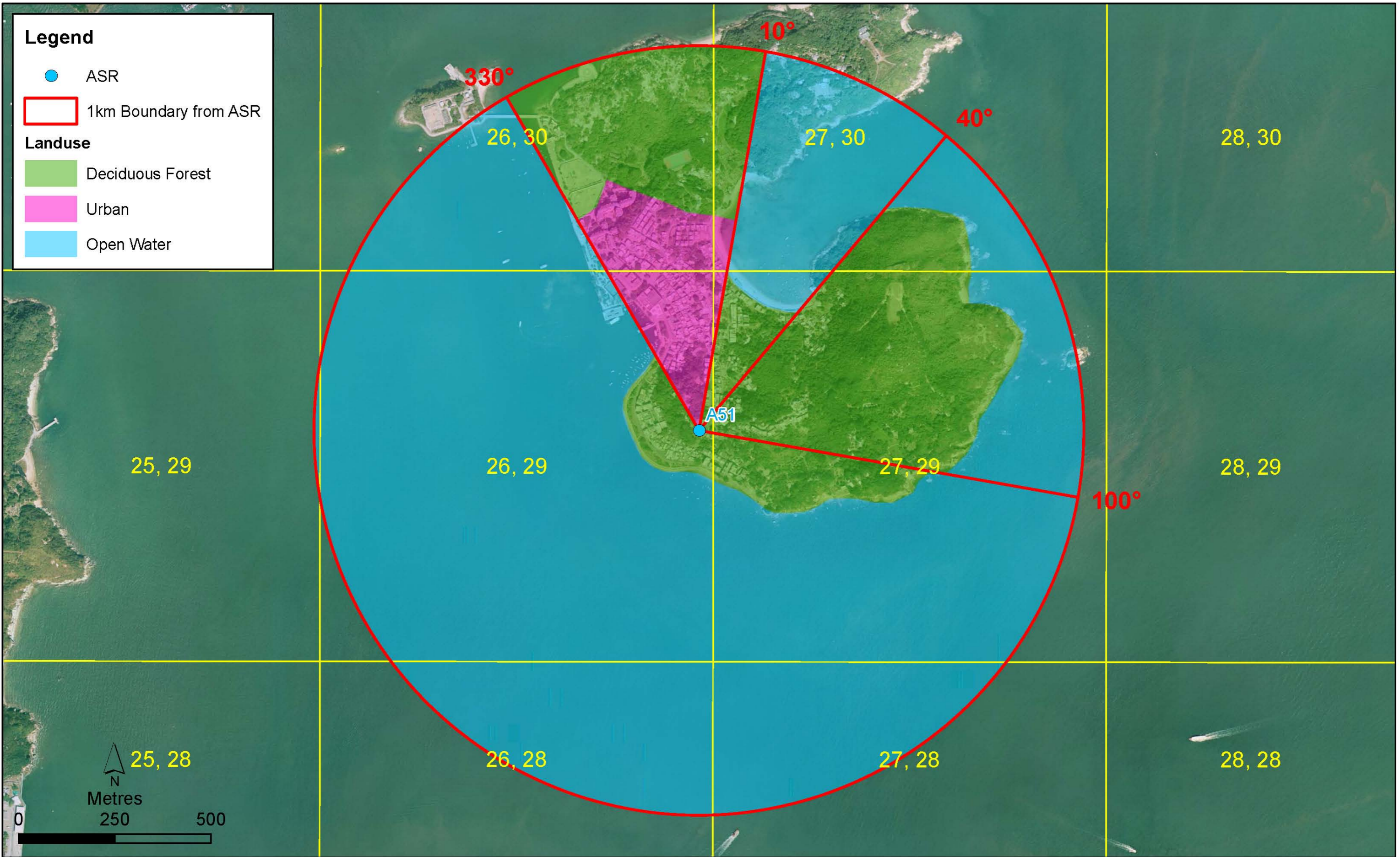




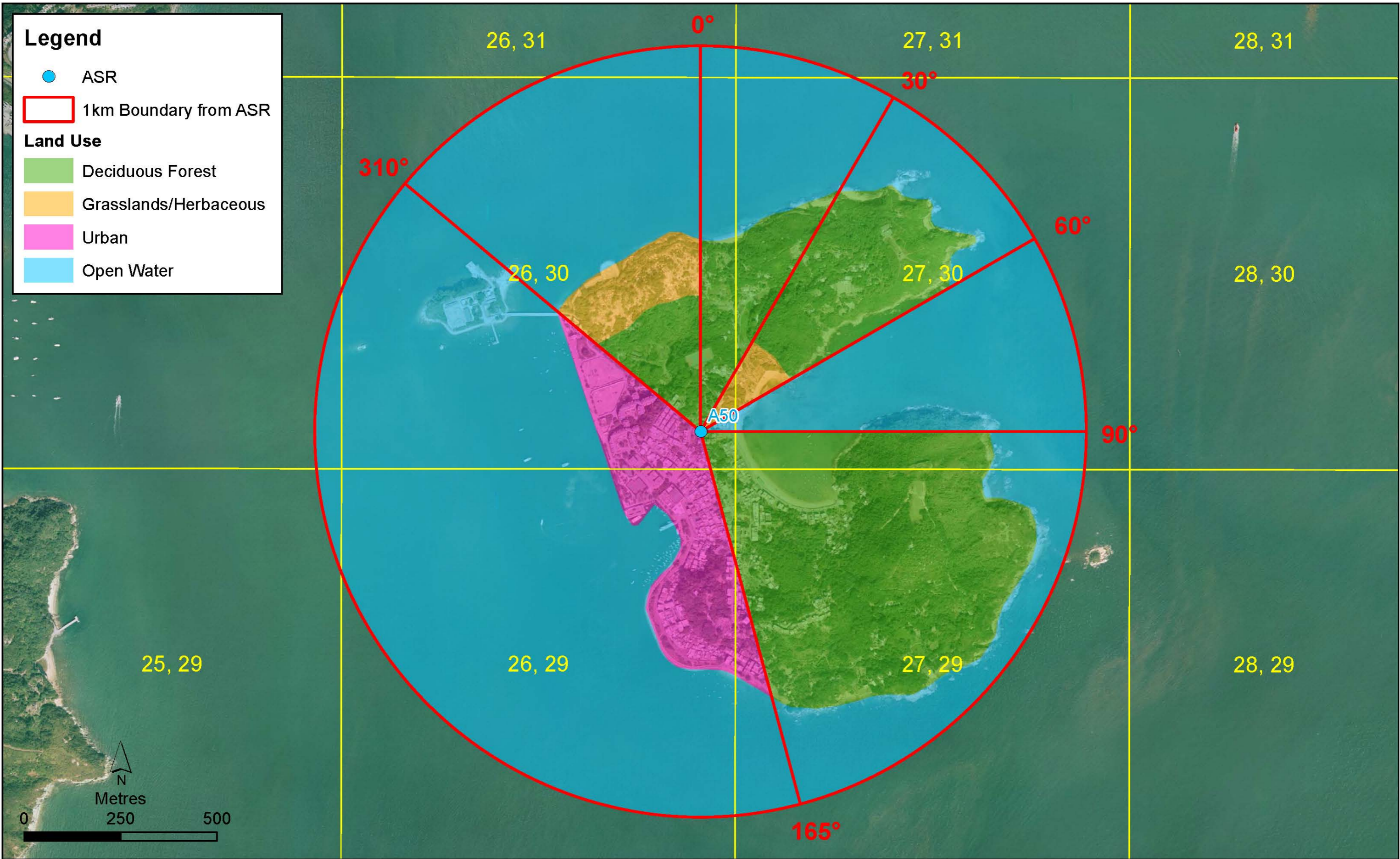












Appendix 3A

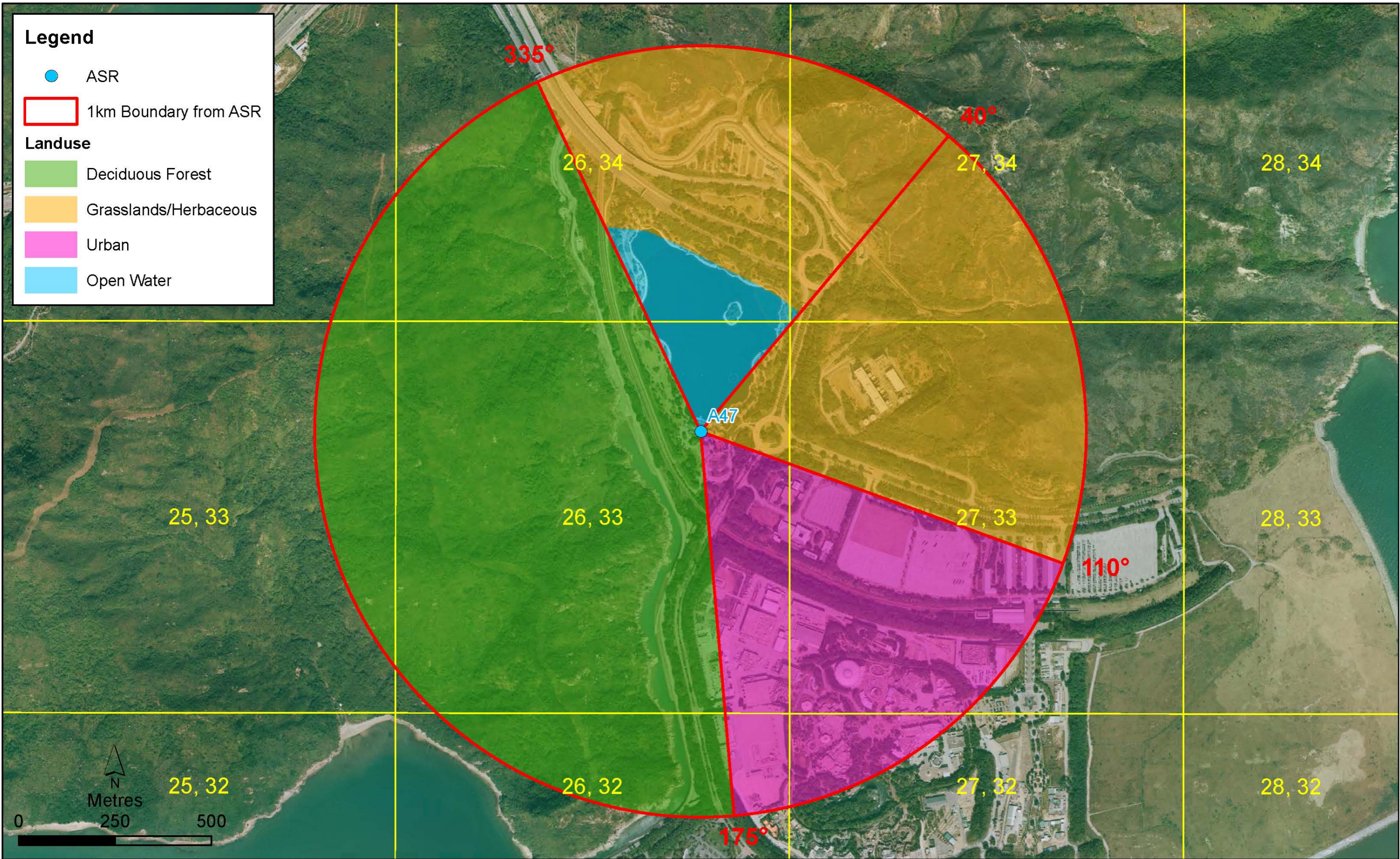
Sectors of Land Use for PATH Grid 26,30

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2630.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

Sectors of Land Use for PATH Grid 26,33

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2633.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management





**Legend**

● ASR

□ 1km Boundary from ASR

**Landuse**

■ Deciduous Forest

■ Open Water



Appendix 3A

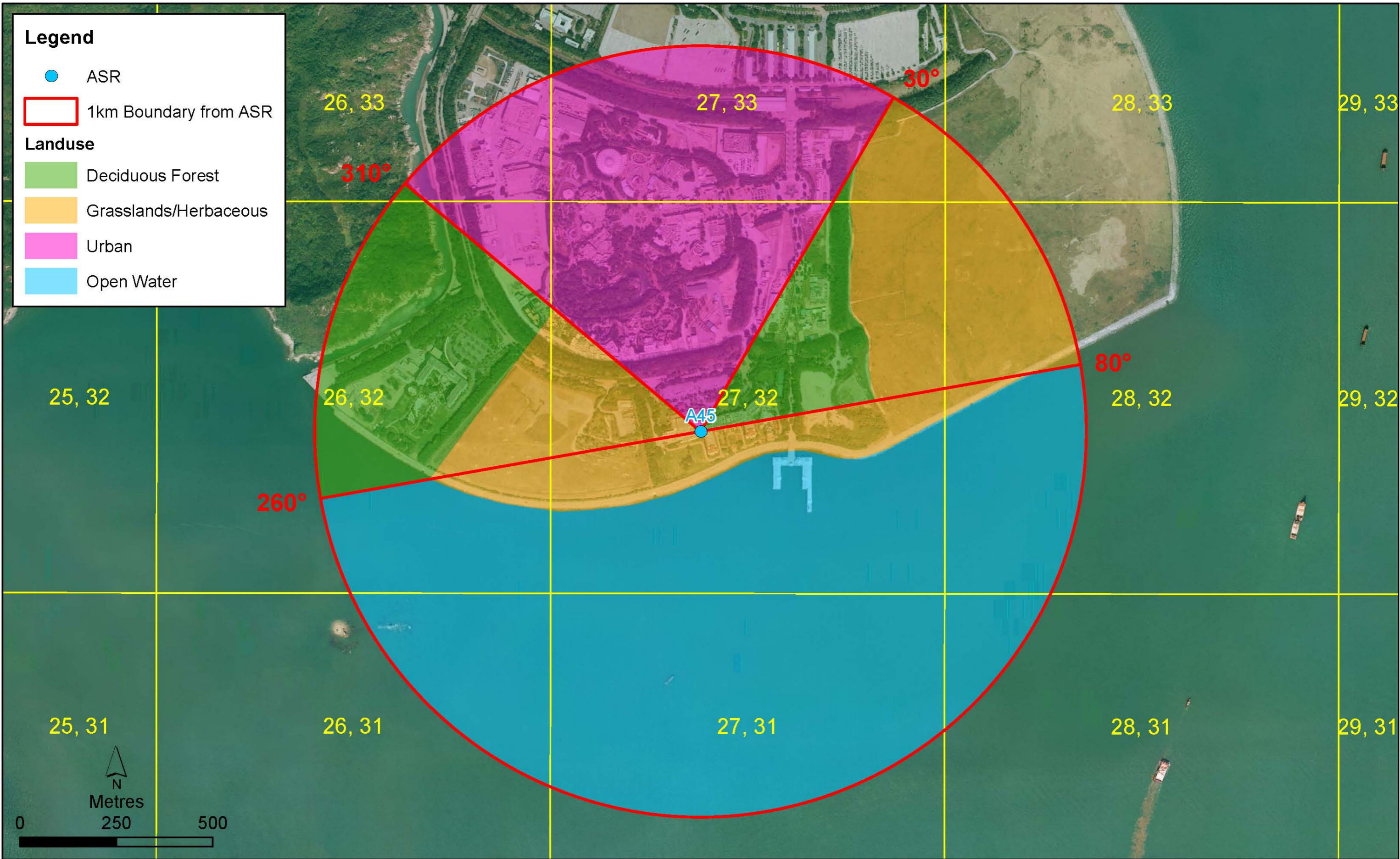
Sectors of Land Use for PATH Grid 27,26

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2726.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

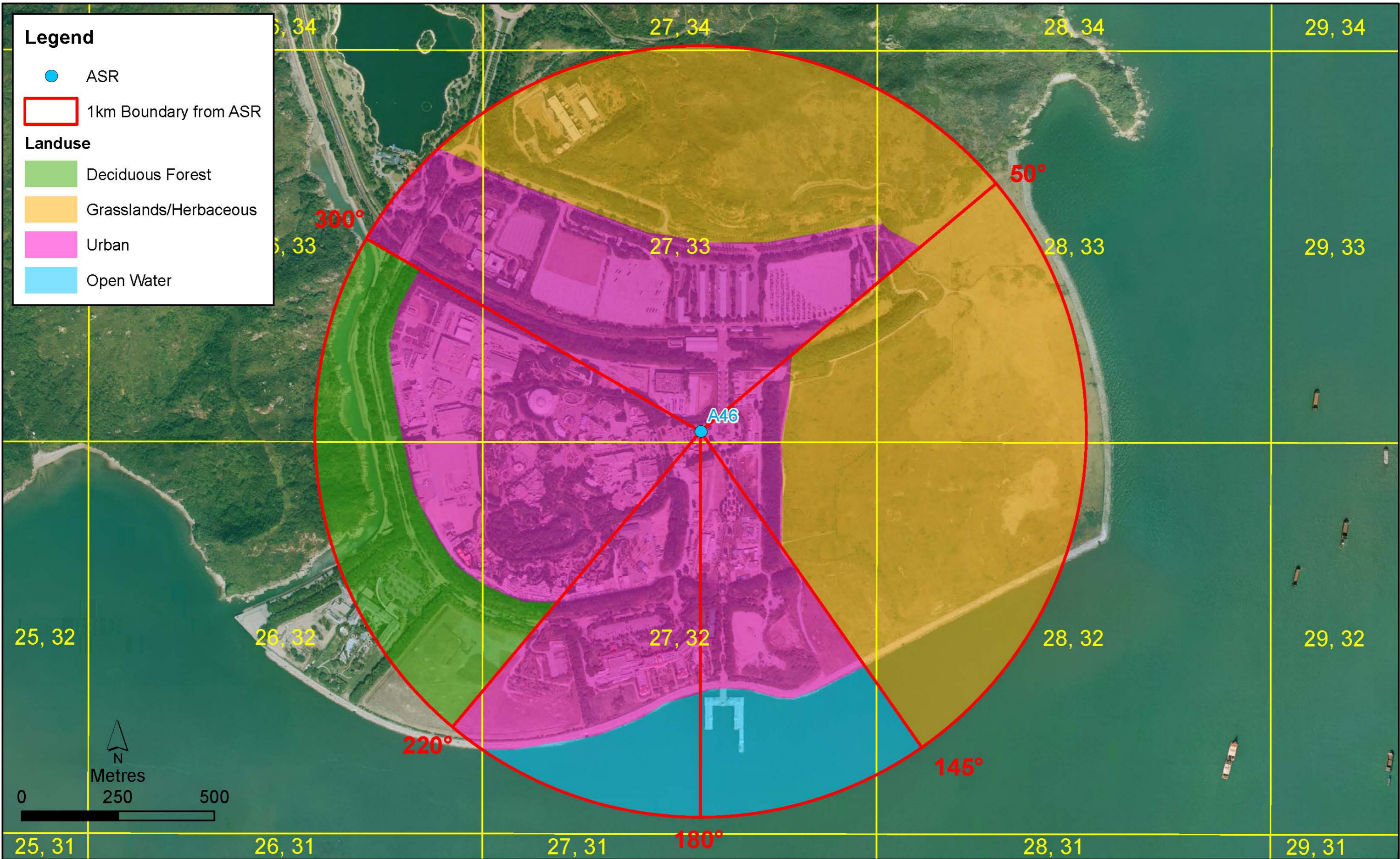
Sectors of Land Use for PATH Grid 27,32

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2732.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

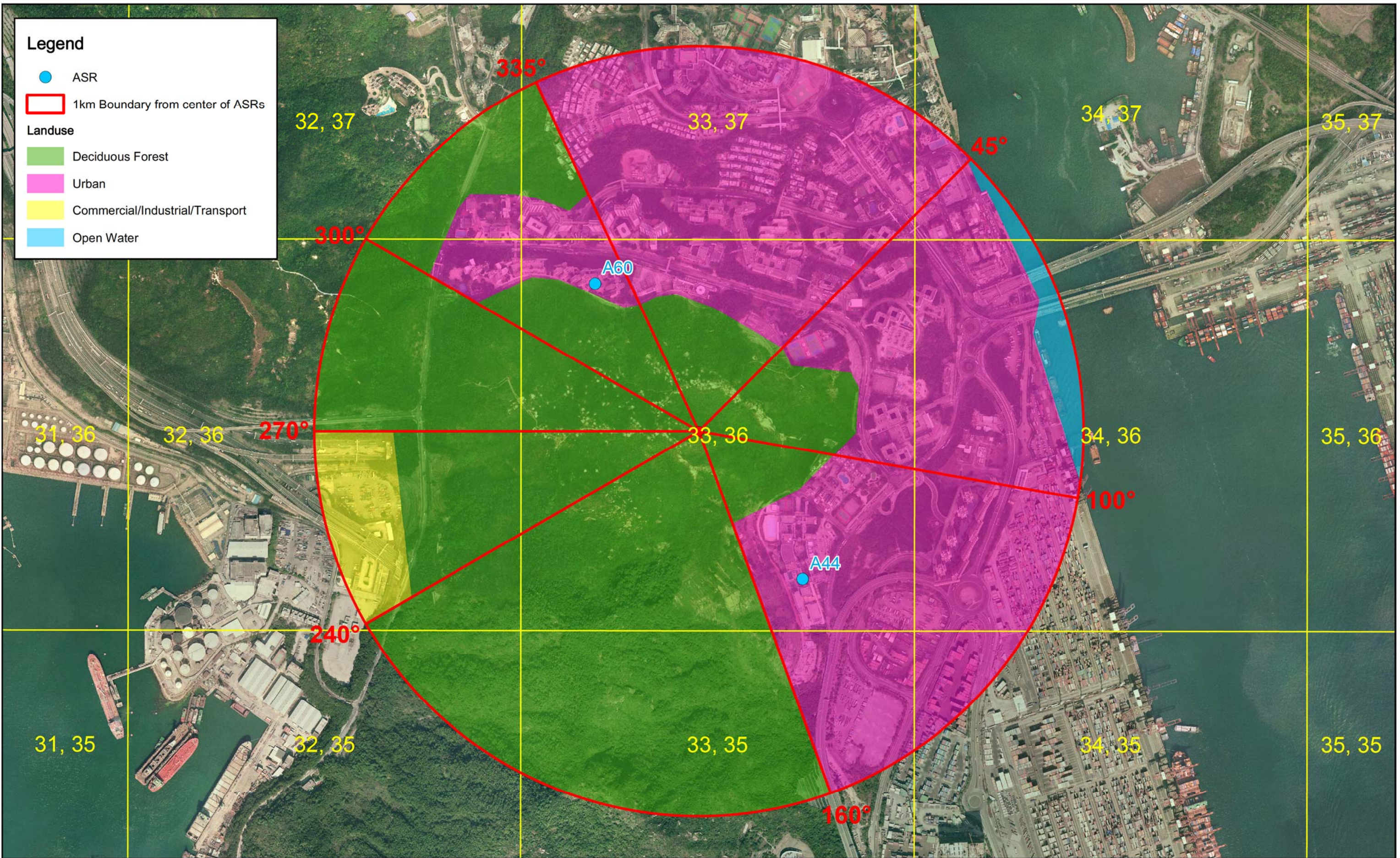
Sectors of Land Use for PATH Grid 27,33

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_2733.mxd  
Date: 13/1/2021

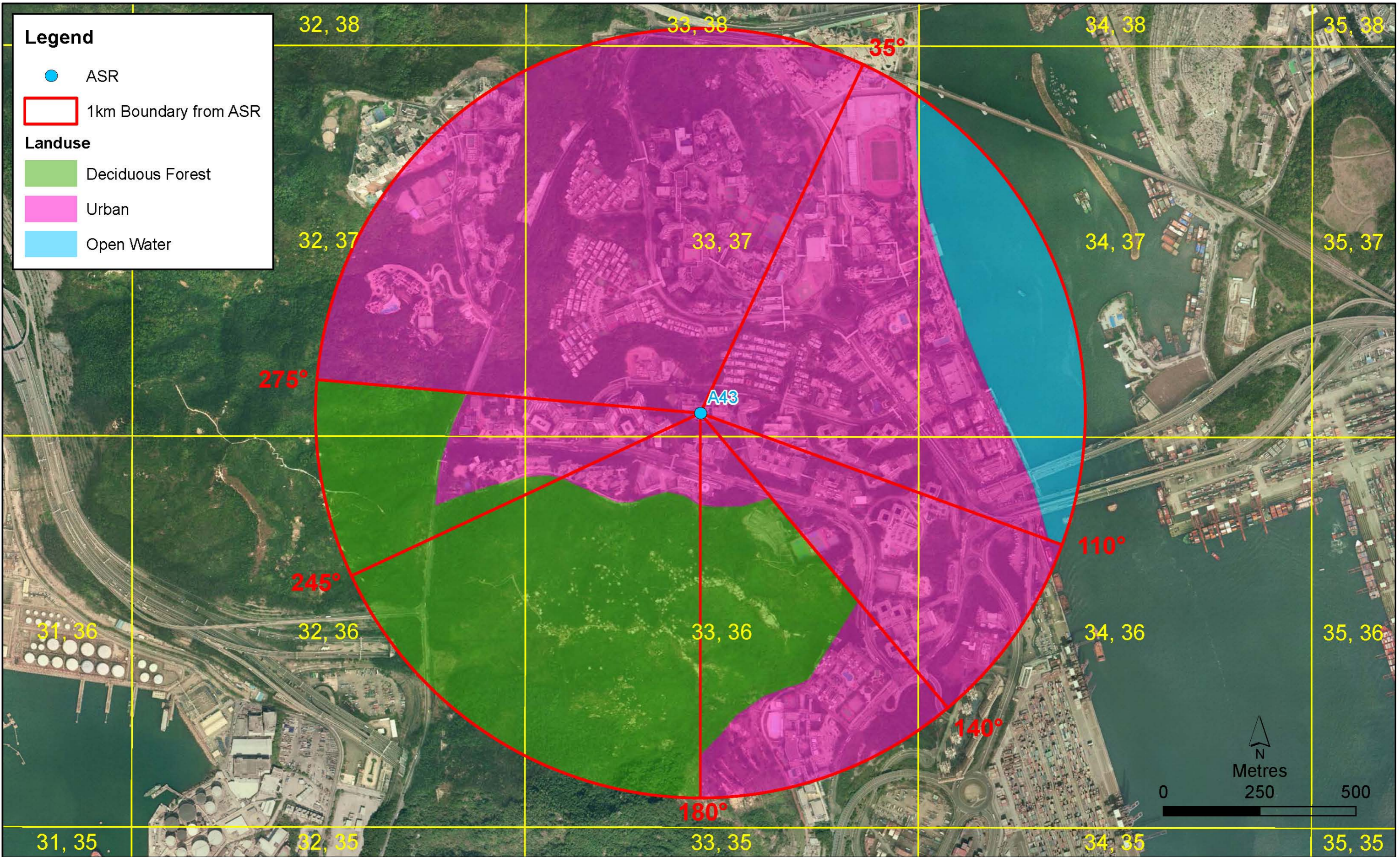
**Environmental  
Resources  
Management**













**Legend**

● ASR

□ 1km Boundary from center of ASRs

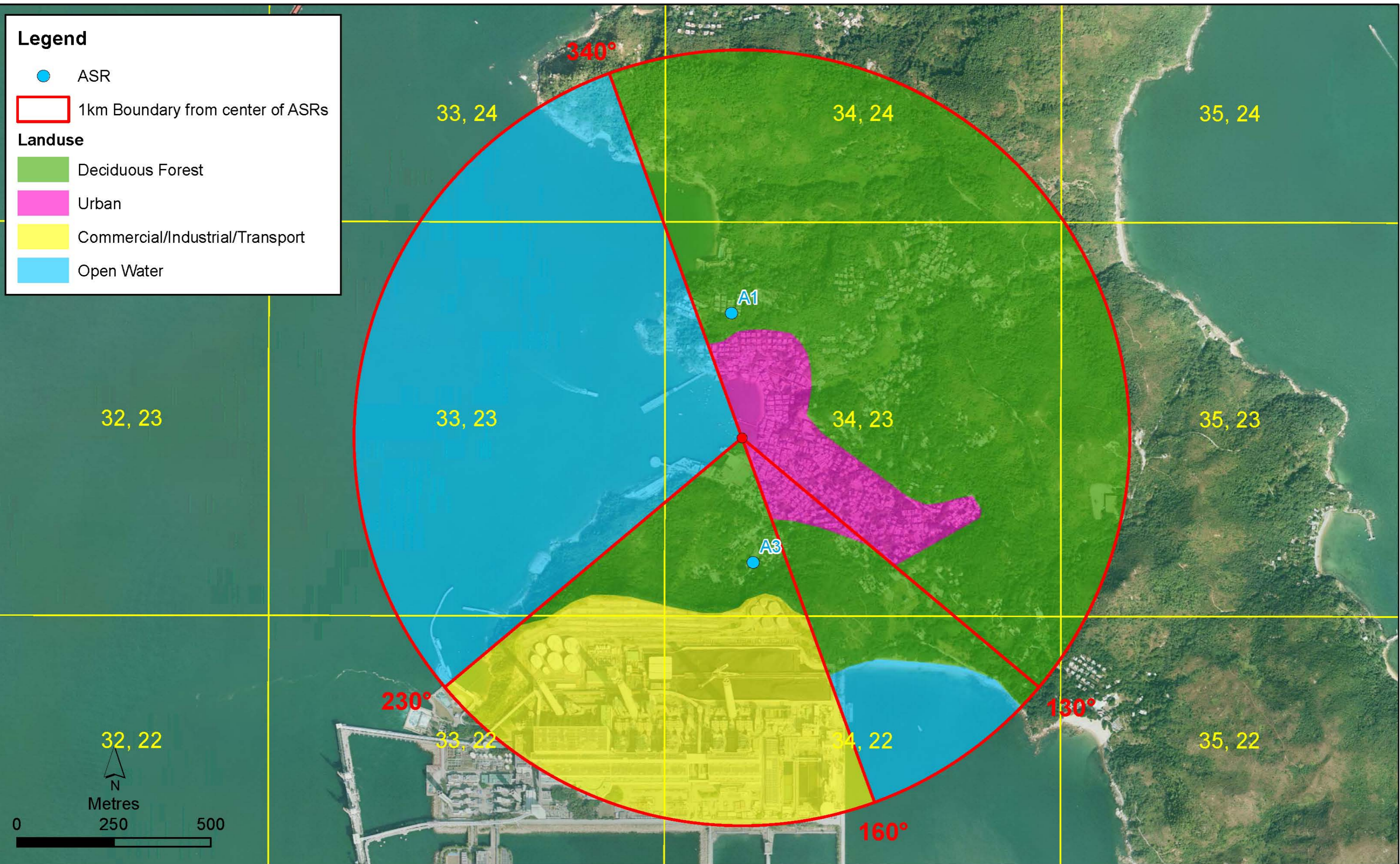
**Landuse**

■ Deciduous Forest

■ Urban

■ Commercial/Industrial/Transport

■ Open Water



Appendix 3A

Sectors of Land Use for PATH Grid 34,23

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3423.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**





**Legend**

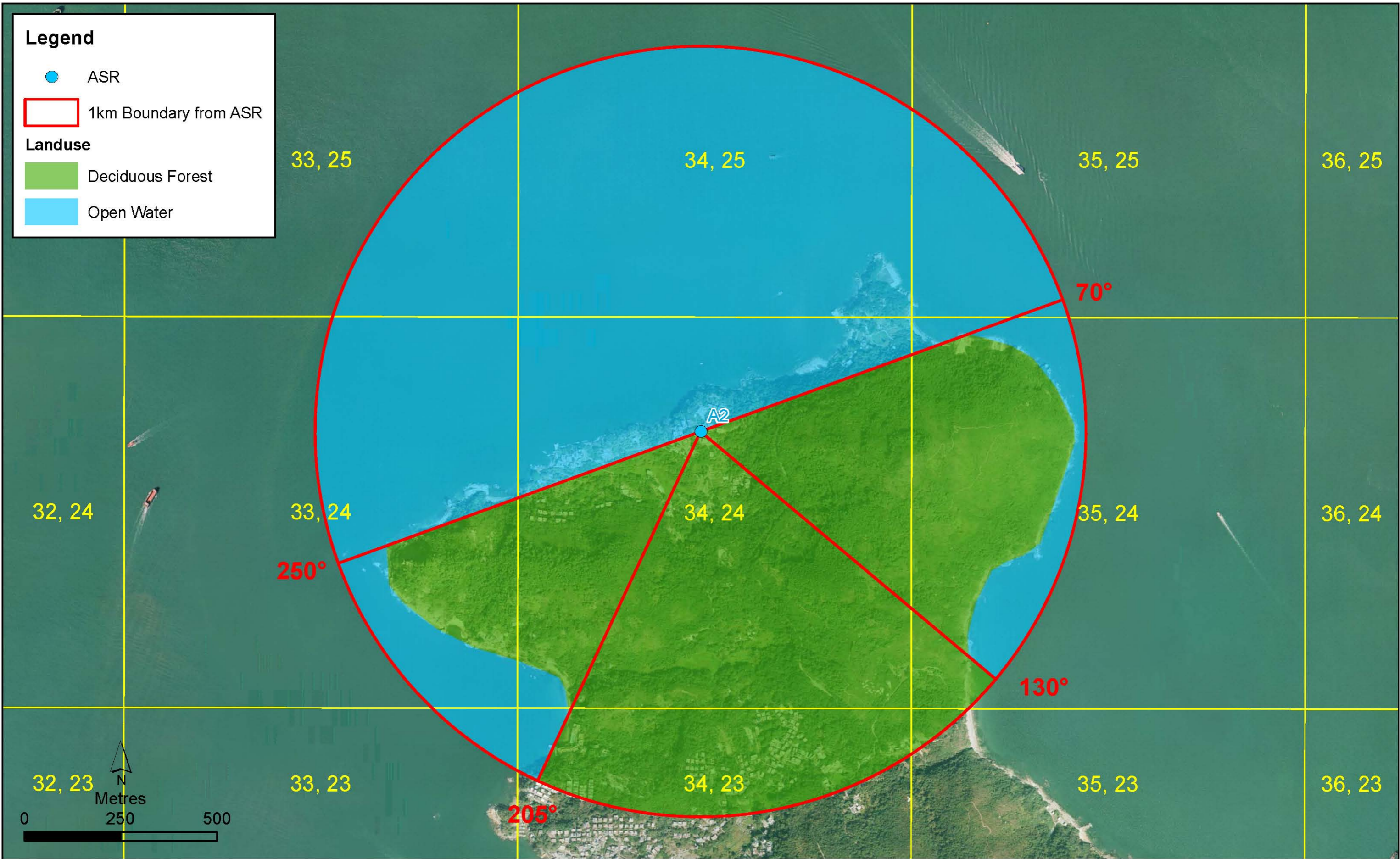
● ASR

□ 1km Boundary from ASR

**Landuse**

■ Deciduous Forest

■ Open Water



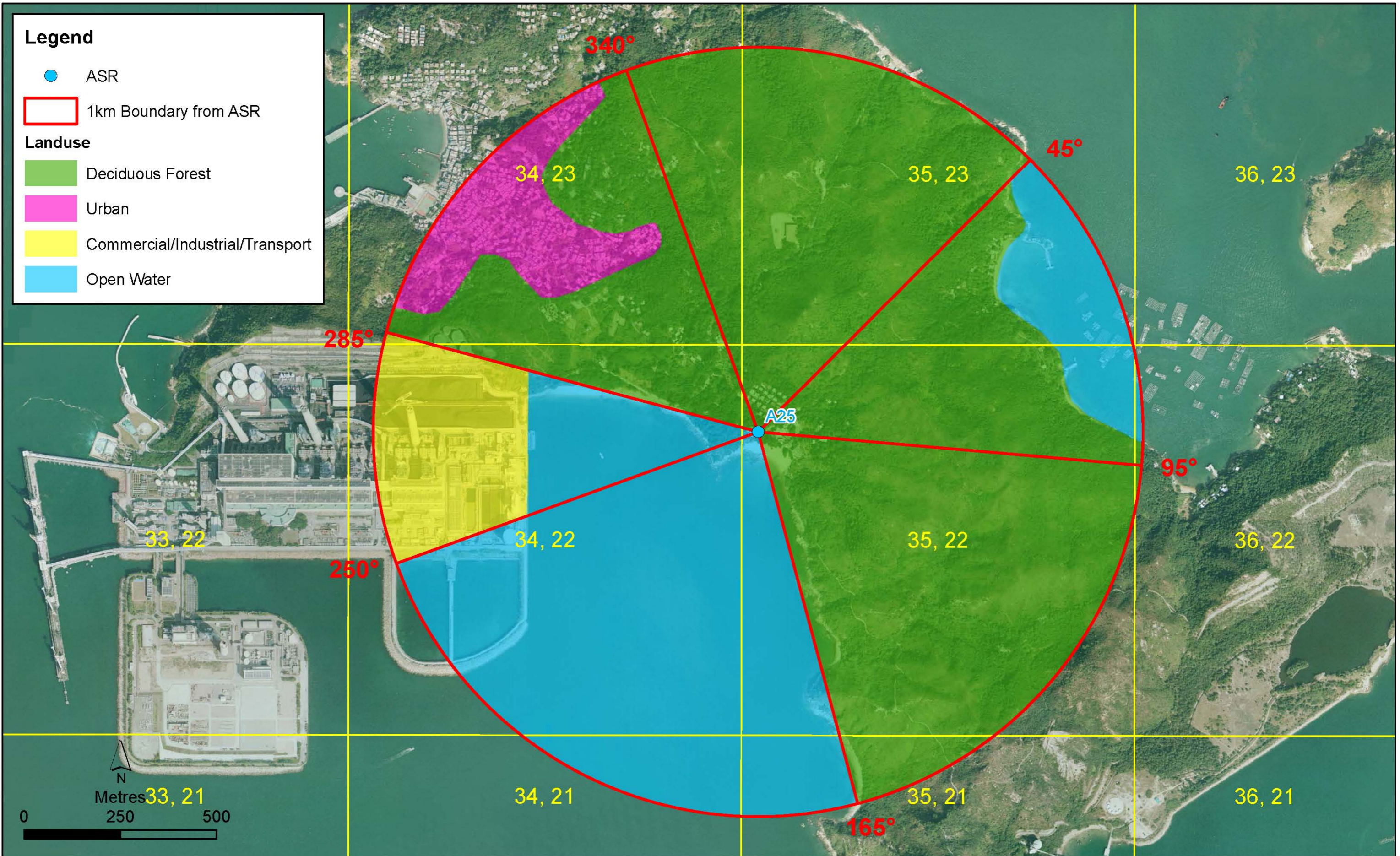


**Legend**

- ASR
- 1km Boundary from ASR

**Landuse**

- Deciduous Forest
- Urban
- Commercial/Industrial/Transport
- Open Water



Appendix 3A

Sectors of Land Use for PATH Grid 35,22

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3522.mxd  
Date: 14/1/2021

**Environmental  
Resources  
Management**



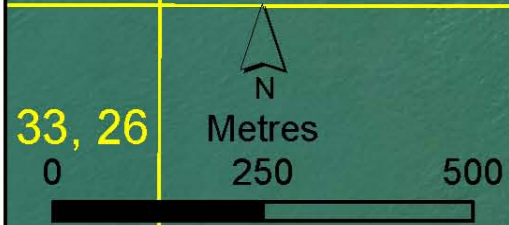
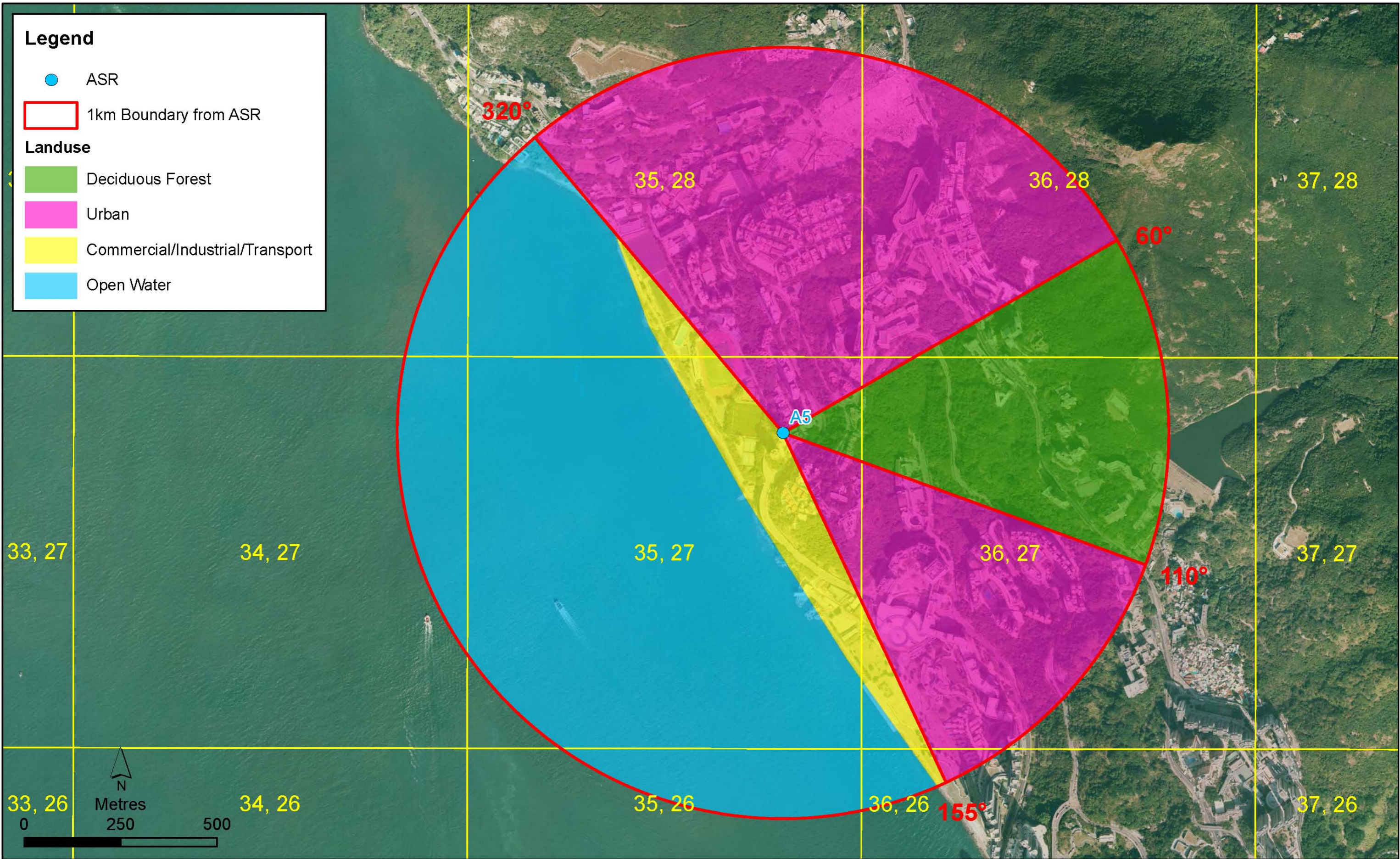


**Legend**

- ASR
- 1km Boundary from ASR

**Landuse**

- Deciduous Forest
- Urban
- Commercial/Industrial/Transport
- Open Water



Appendix 3A

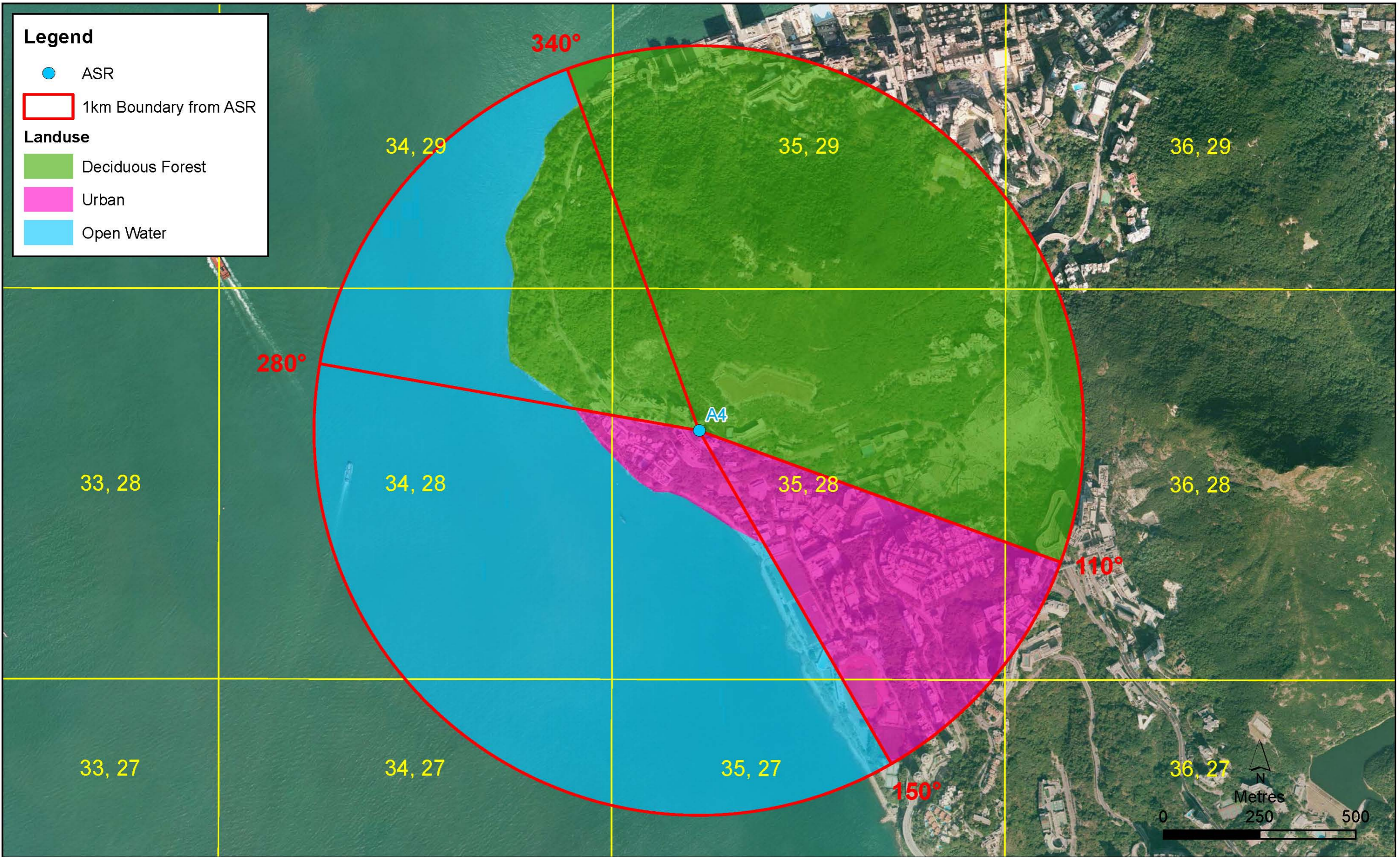
Sectors of Land Use for PATH Grid 35,27

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3527.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

Sectors of Land Use for PATH Grid 35,28

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3528.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**



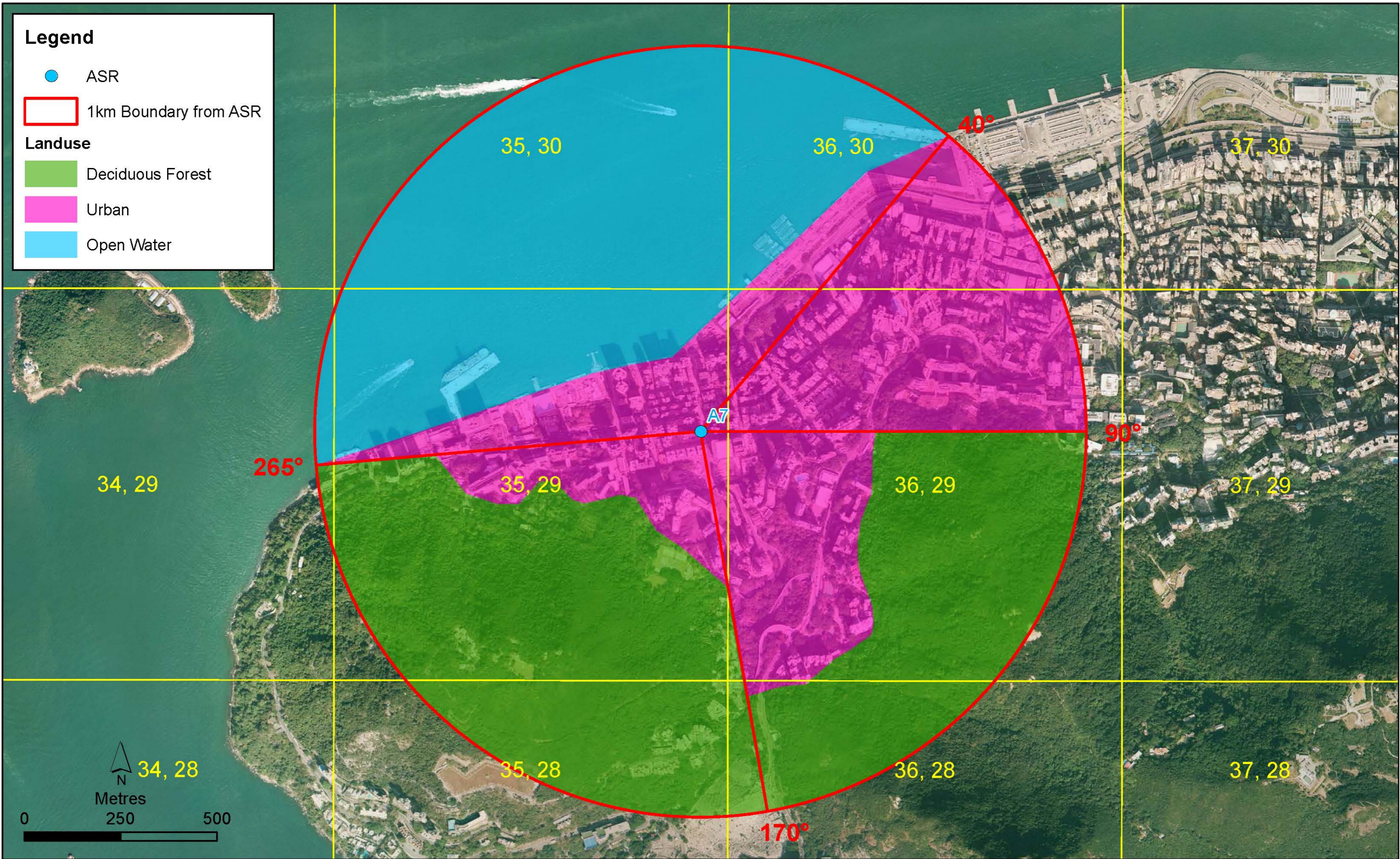


**Legend**

- ASR
- 1km Boundary from ASR

**Landuse**

- Deciduous Forest
- Urban
- Open Water



Appendix 3A

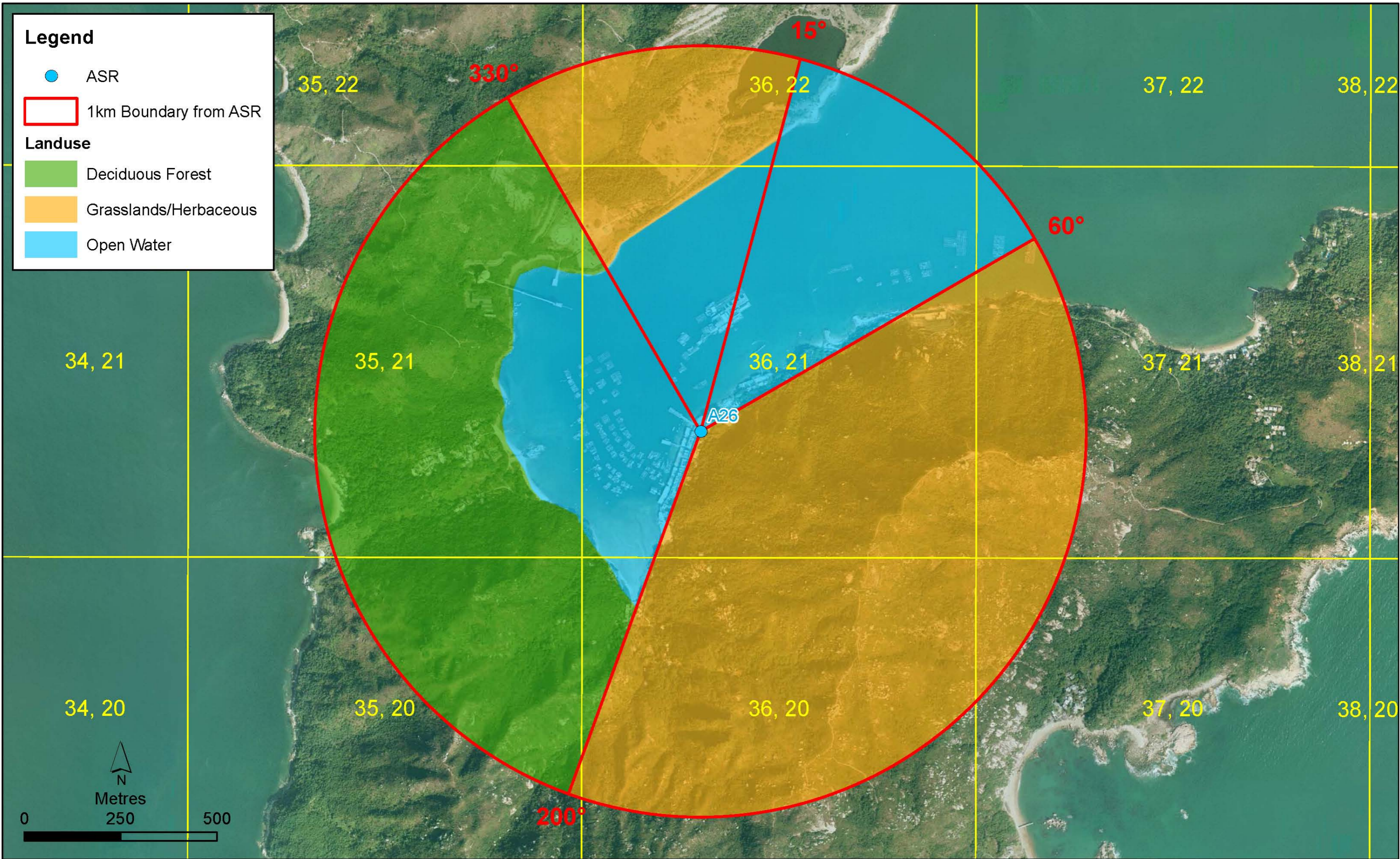
Sectors of Land Use for PATH Grid 35,29

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3529.mxd  
Date: 13/1/2021

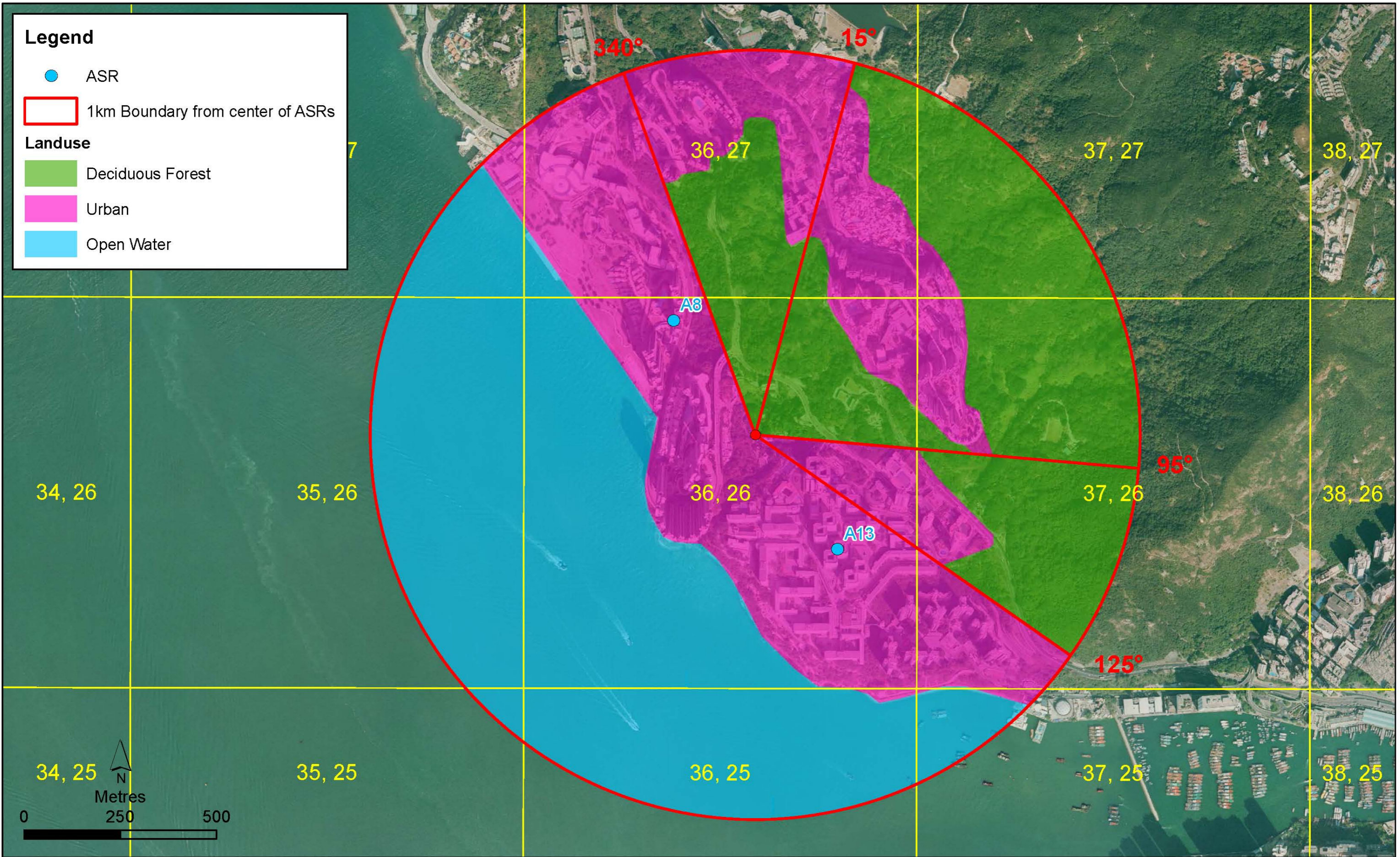
**Environmental  
Resources  
Management**











Appendix 3A

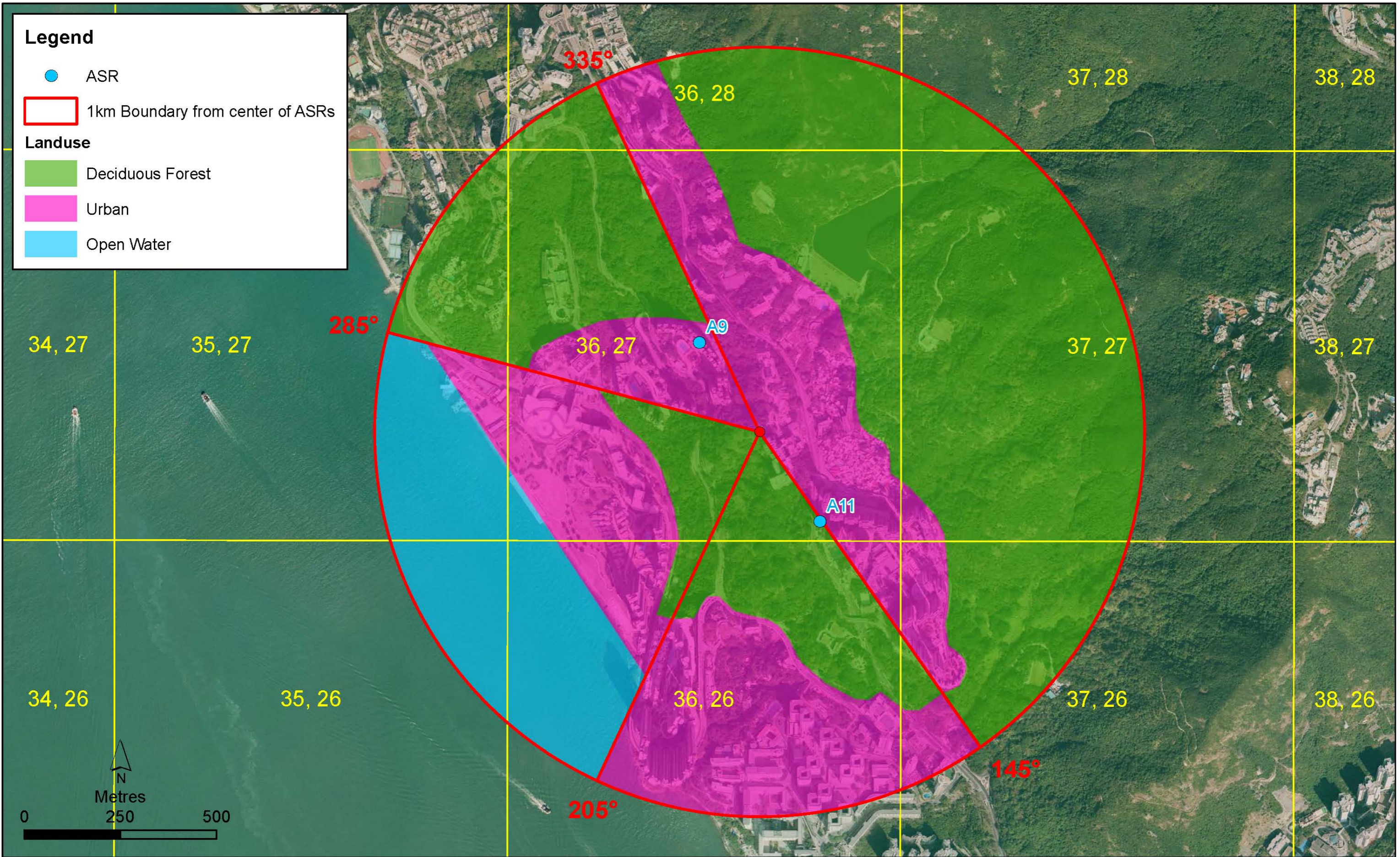
Sectors of Land Use for PATH Grid 36,26

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3626.mxd  
Date: 14/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

Sectors of Land Use for PATH Grid 36,27

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3627.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management



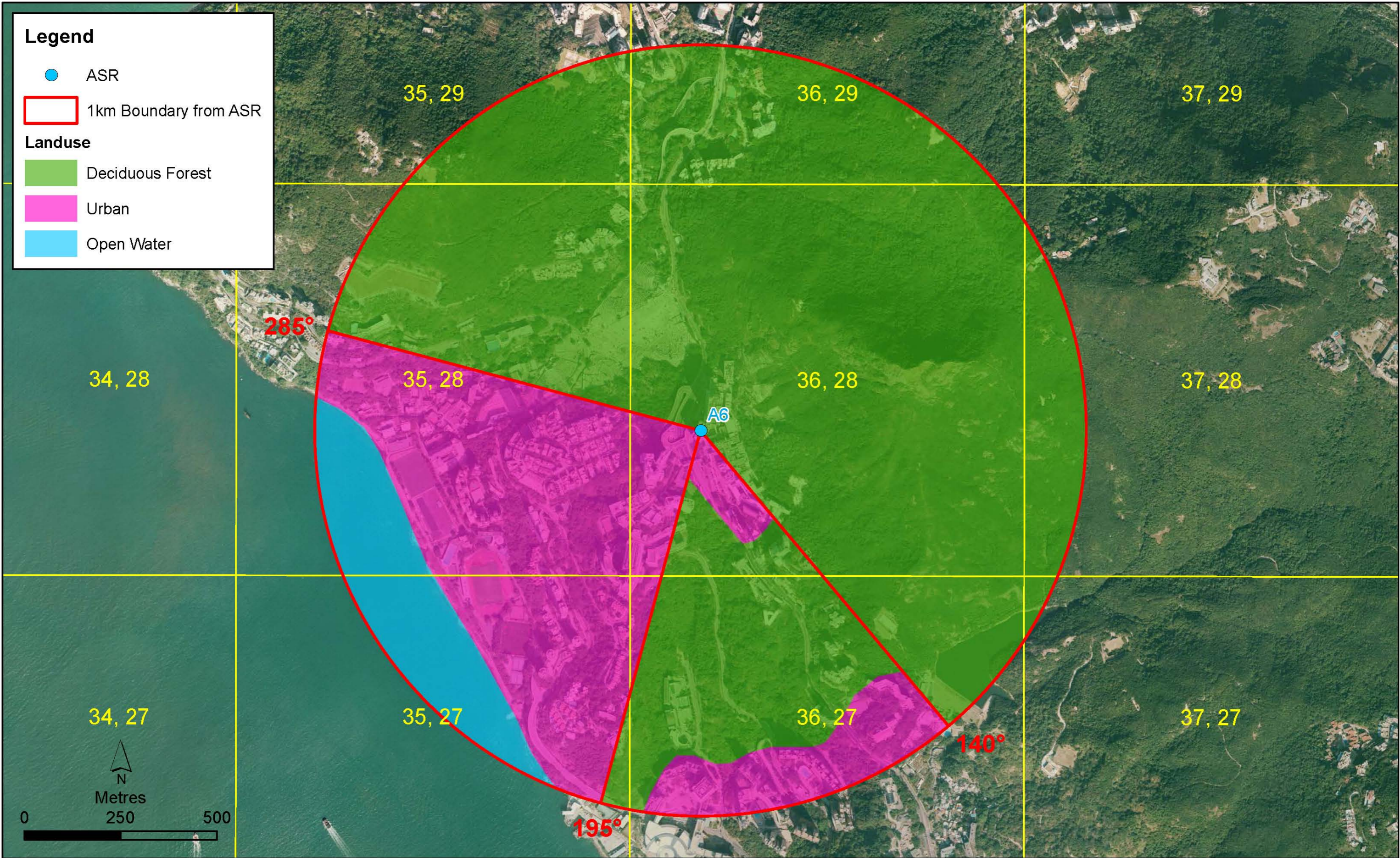


**Legend**

- ASR
- 1km Boundary from ASR

**Landuse**

- Deciduous Forest
- Urban
- Open Water



Appendix 3A

Sectors of Land Use for PATH Grid 36,28

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3628.mxd  
Date: 13/1/2021

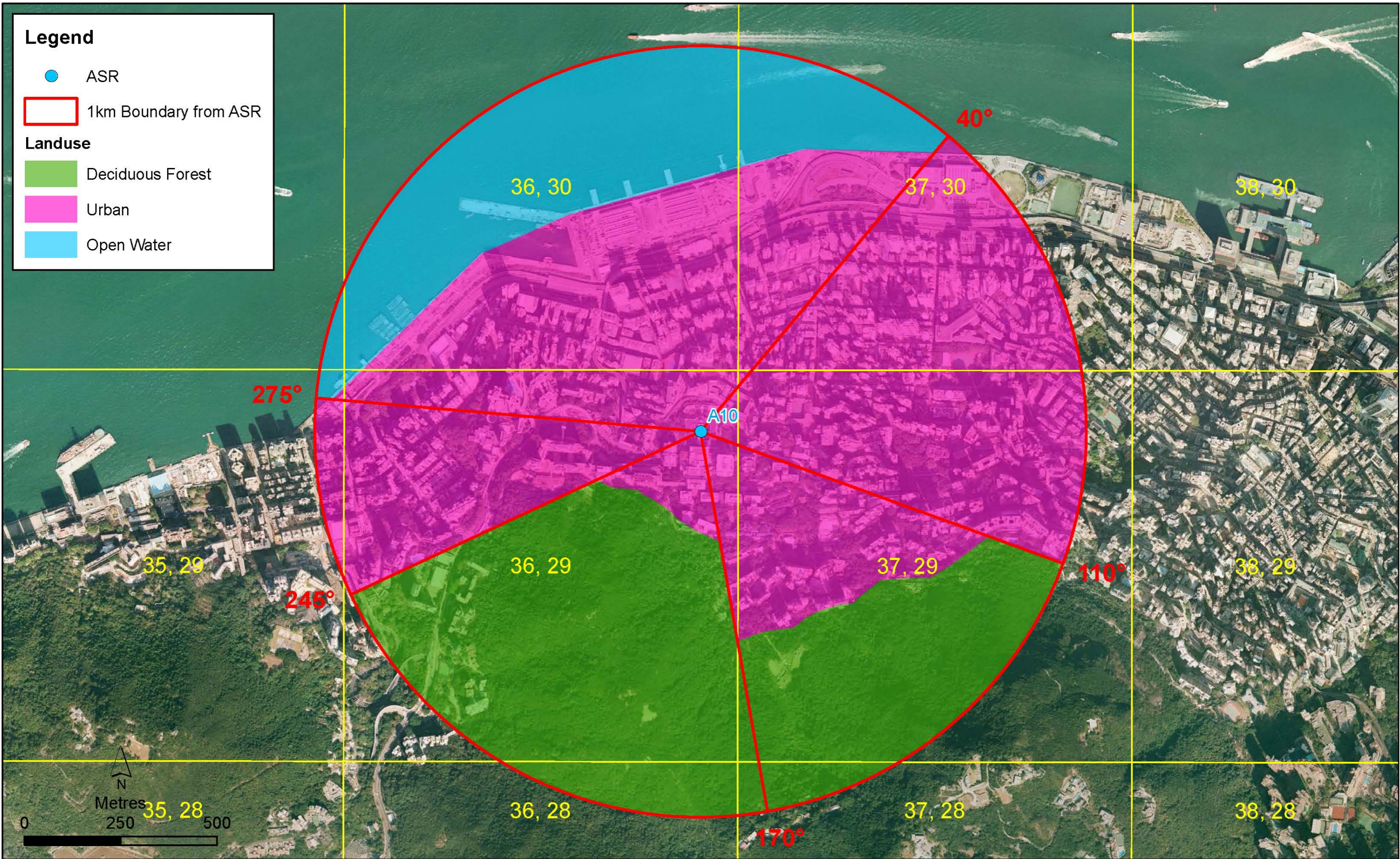
**Environmental  
Resources  
Management**





**Legend**

- ASR
- 1km Boundary from ASR
- Landuse**
  - Deciduous Forest
  - Urban
  - Open Water



Appendix 3A

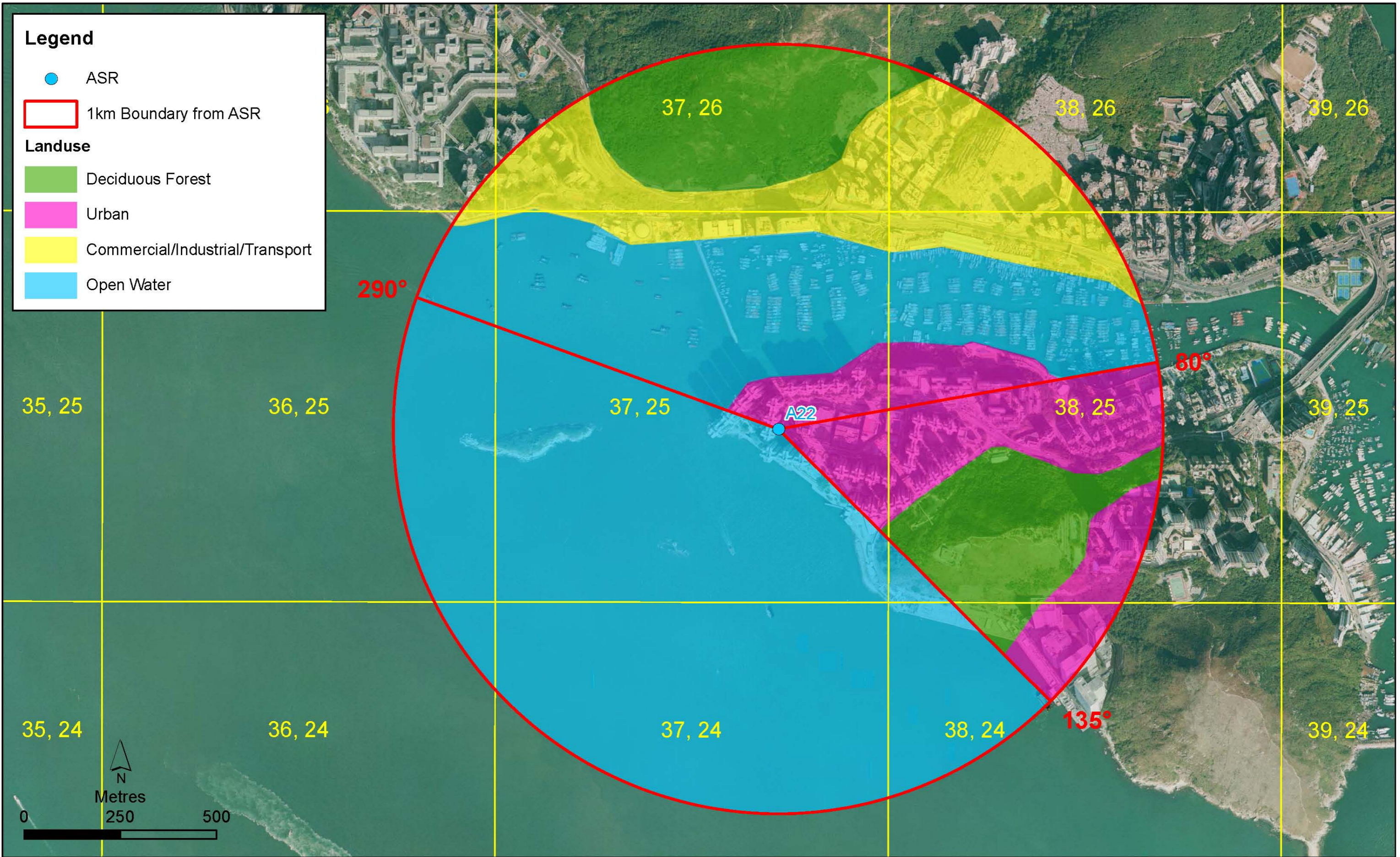
Sectors of Land Use for PATH Grid 36,29

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3629.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

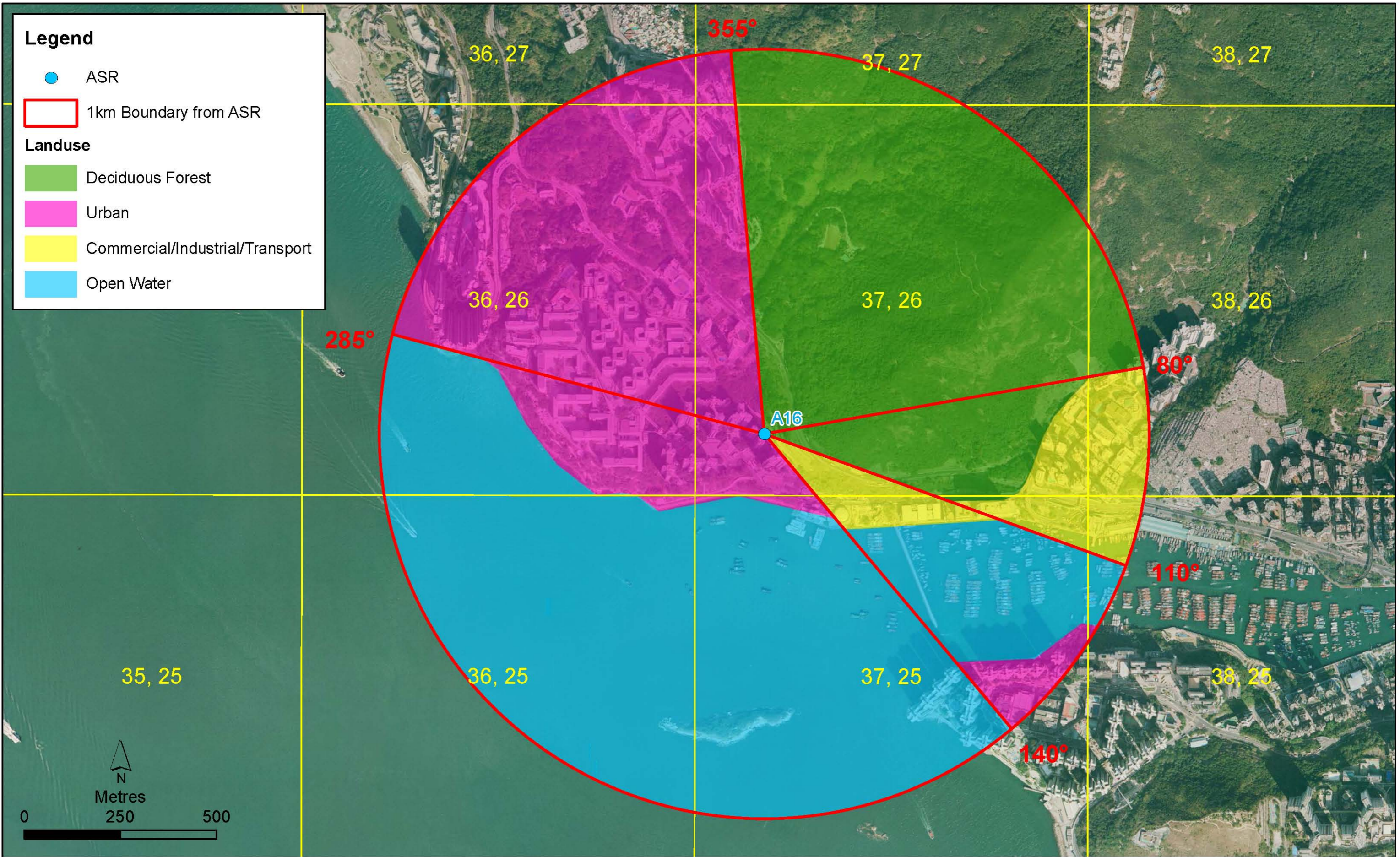
Sectors of Land Use for PATH Grid 37,25

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3725.mxd  
Date: 14/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

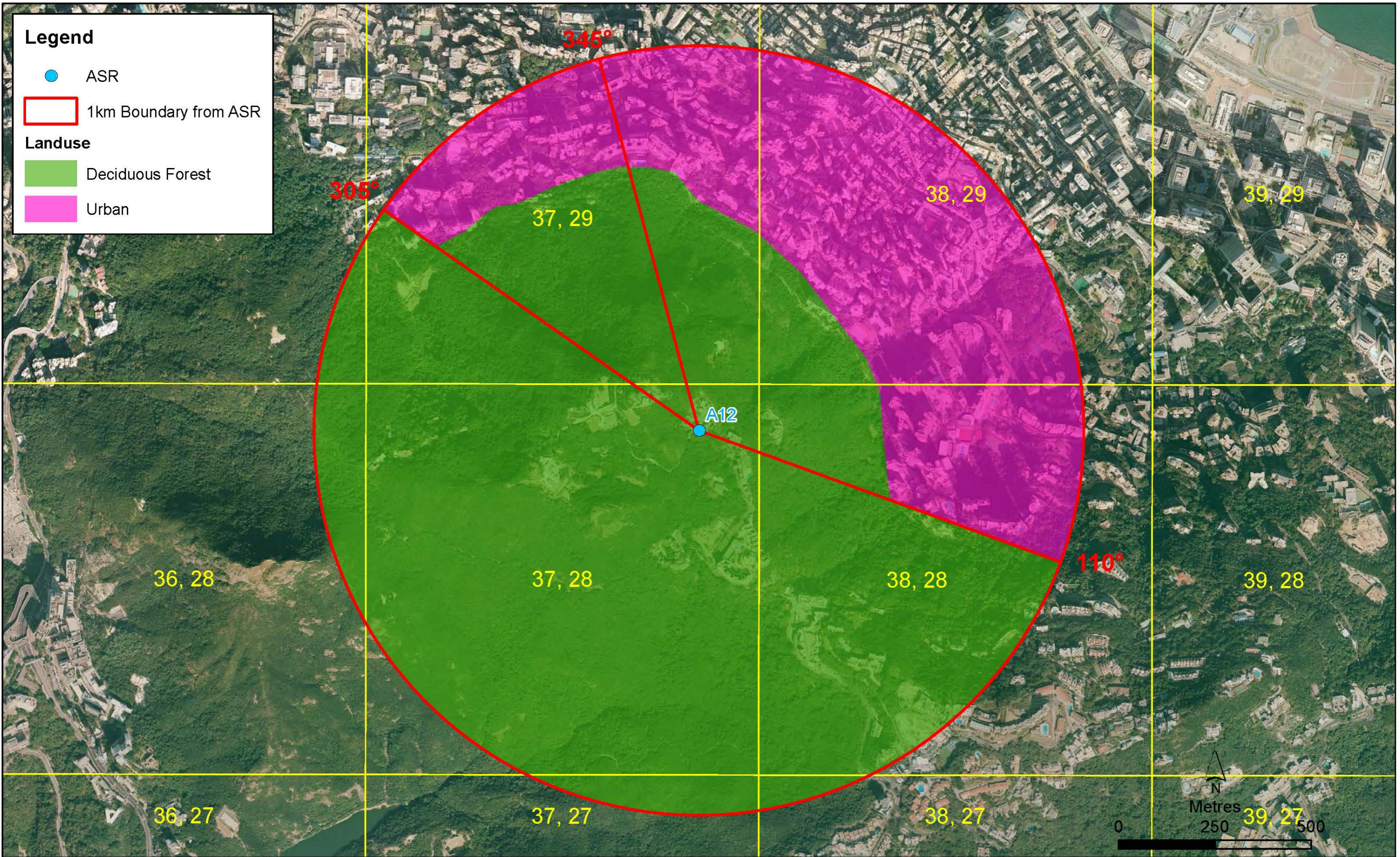
Sectors of Land Use for PATH Grid 37,26

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3726.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

Sectors of Land Use for PATH Grid 37,28

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3728.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management



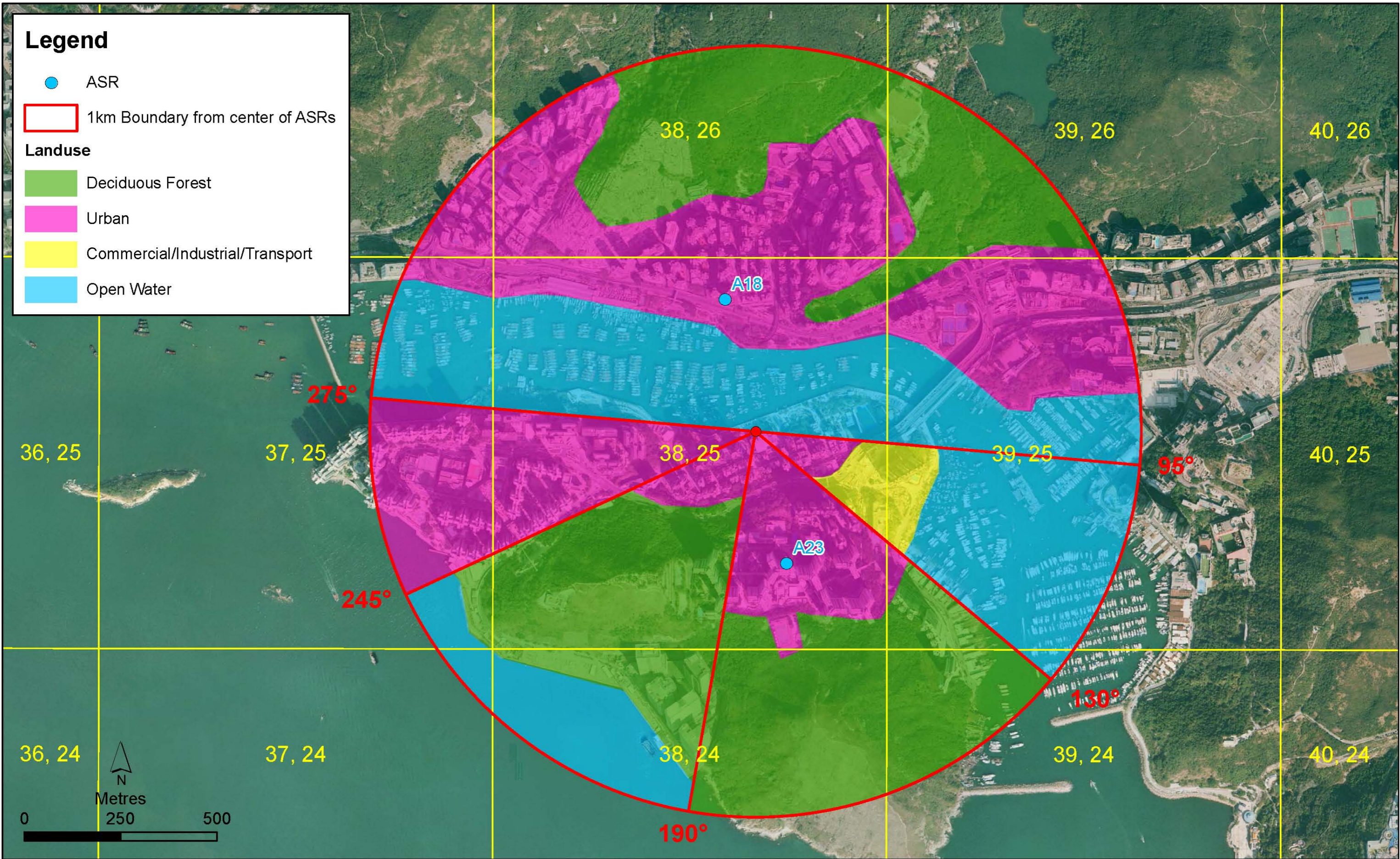


# Legend

- ASR
- 1km Boundary from center of ASRs

## Landuse

- Deciduous Forest
- Urban
- Commercial/Industrial/Transport
- Open Water



Appendix 3A

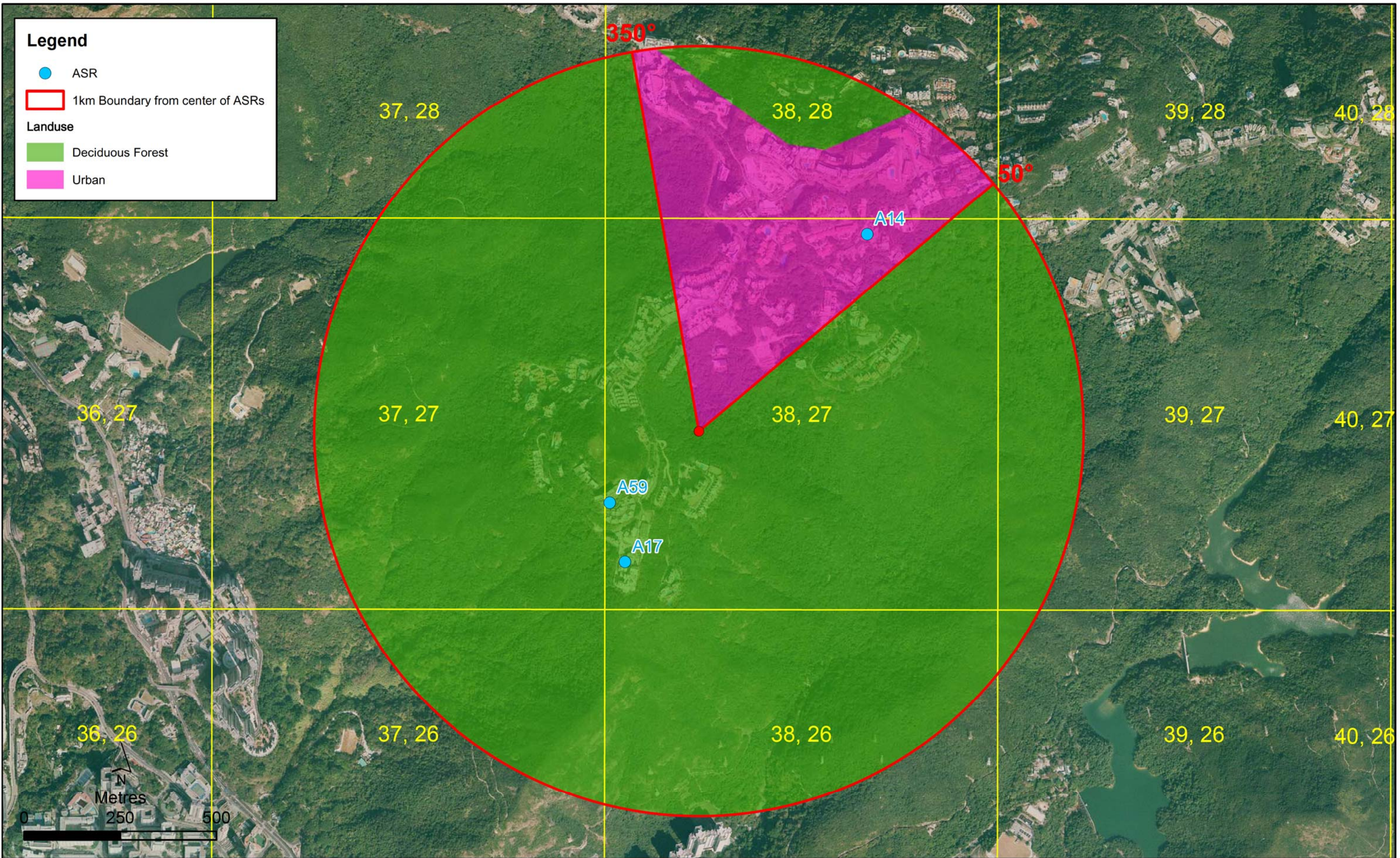
### Sectors of Land Use for PATH Grid 38,25

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3825.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

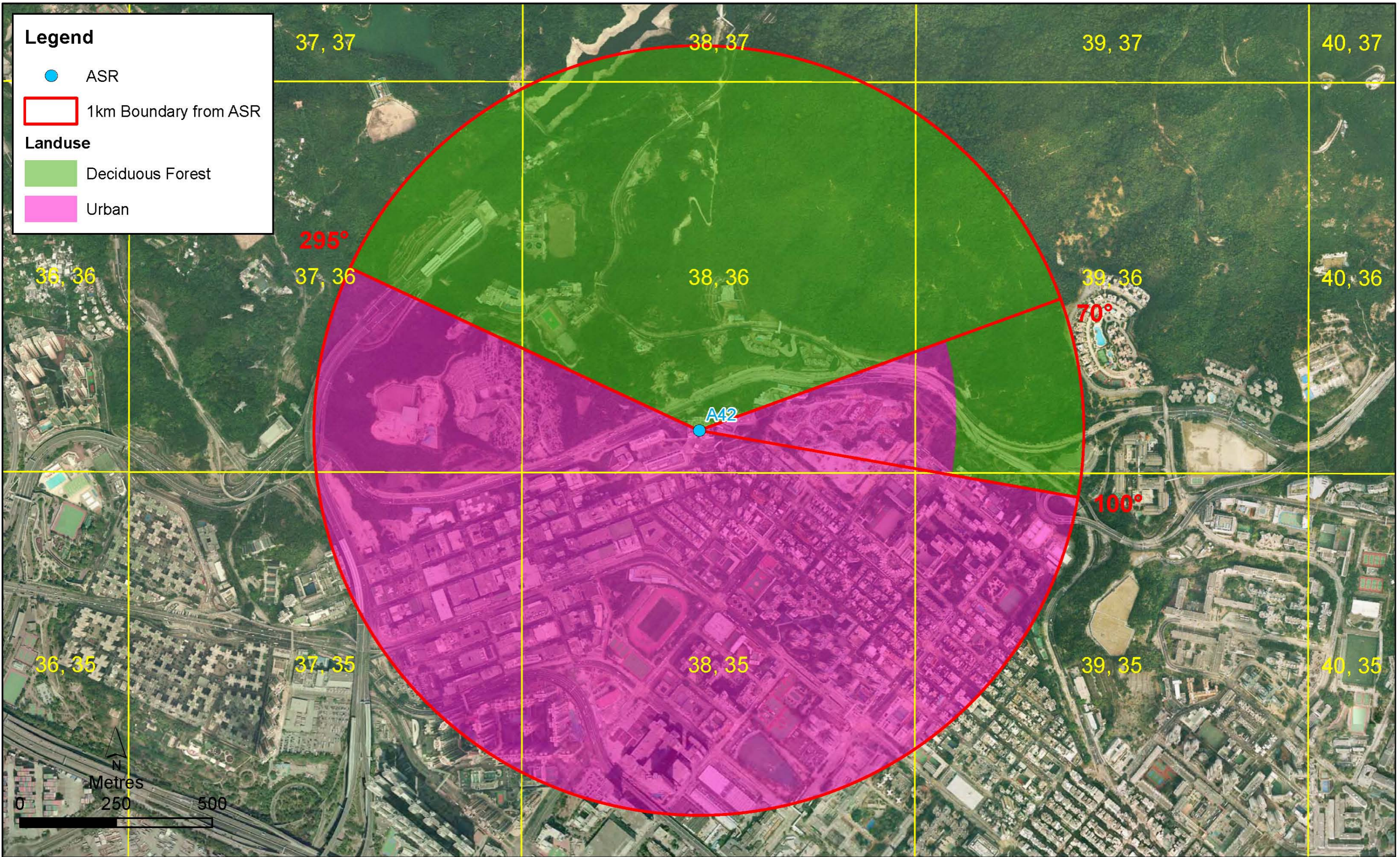
Sectors of Land Use for PATH Grid 38,27

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3827.mxd  
Date: 25/8/2021

Environmental  
Resources  
Management







Appendix 3A

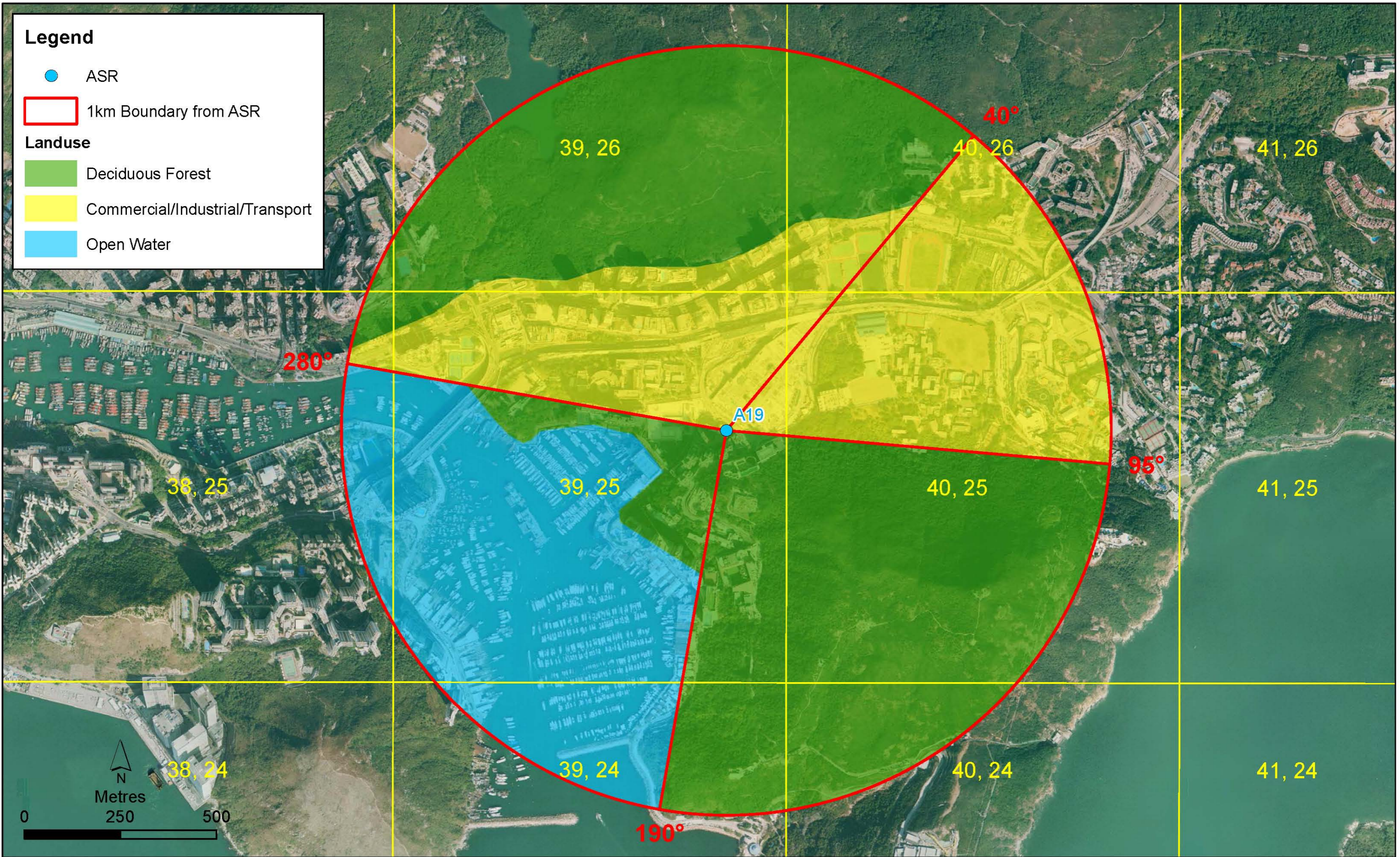
Sectors of Land Use for PATH Grid 38,36

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3836.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

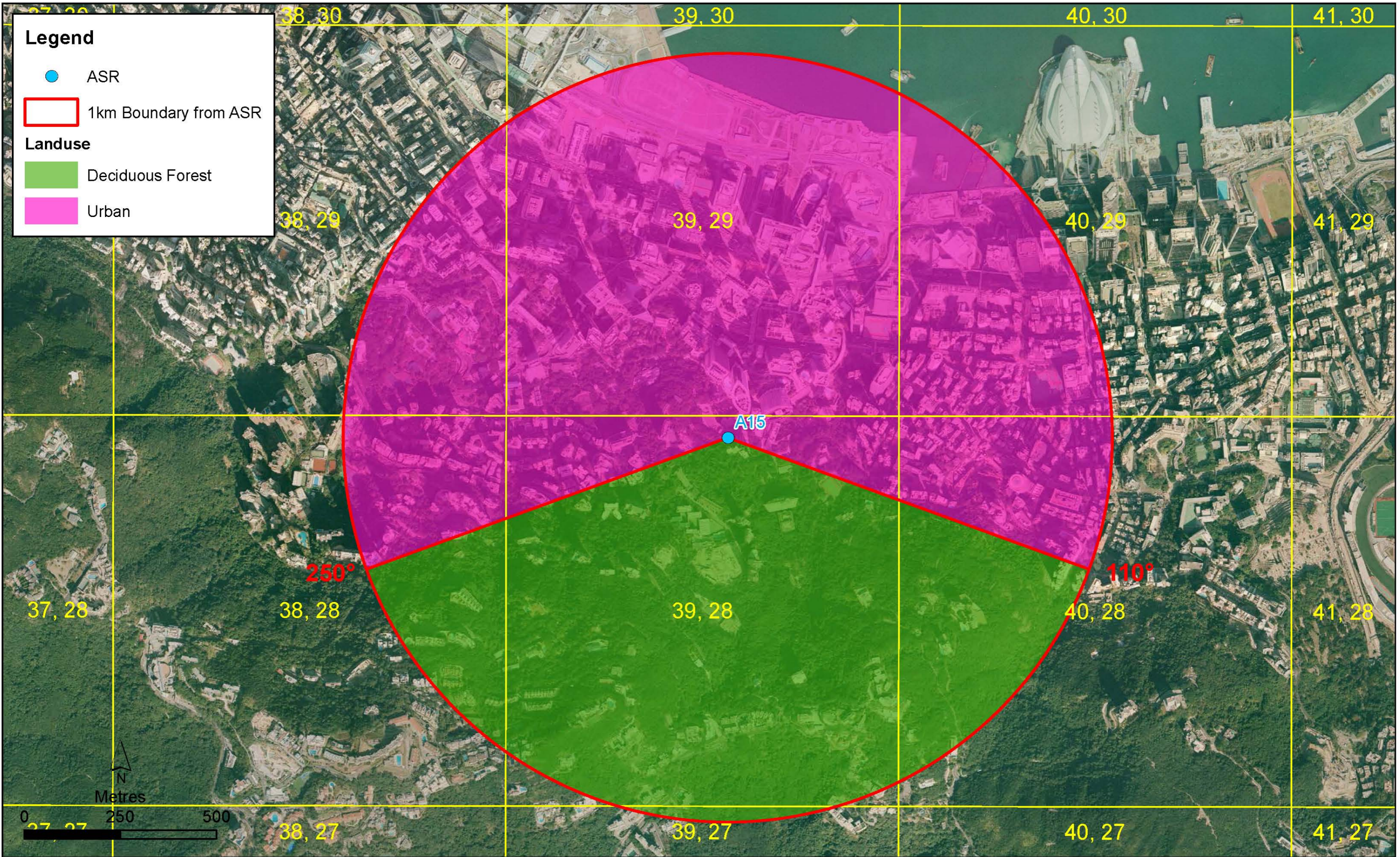
Sectors of Land Use for PATH Grid 39,25

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3925.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

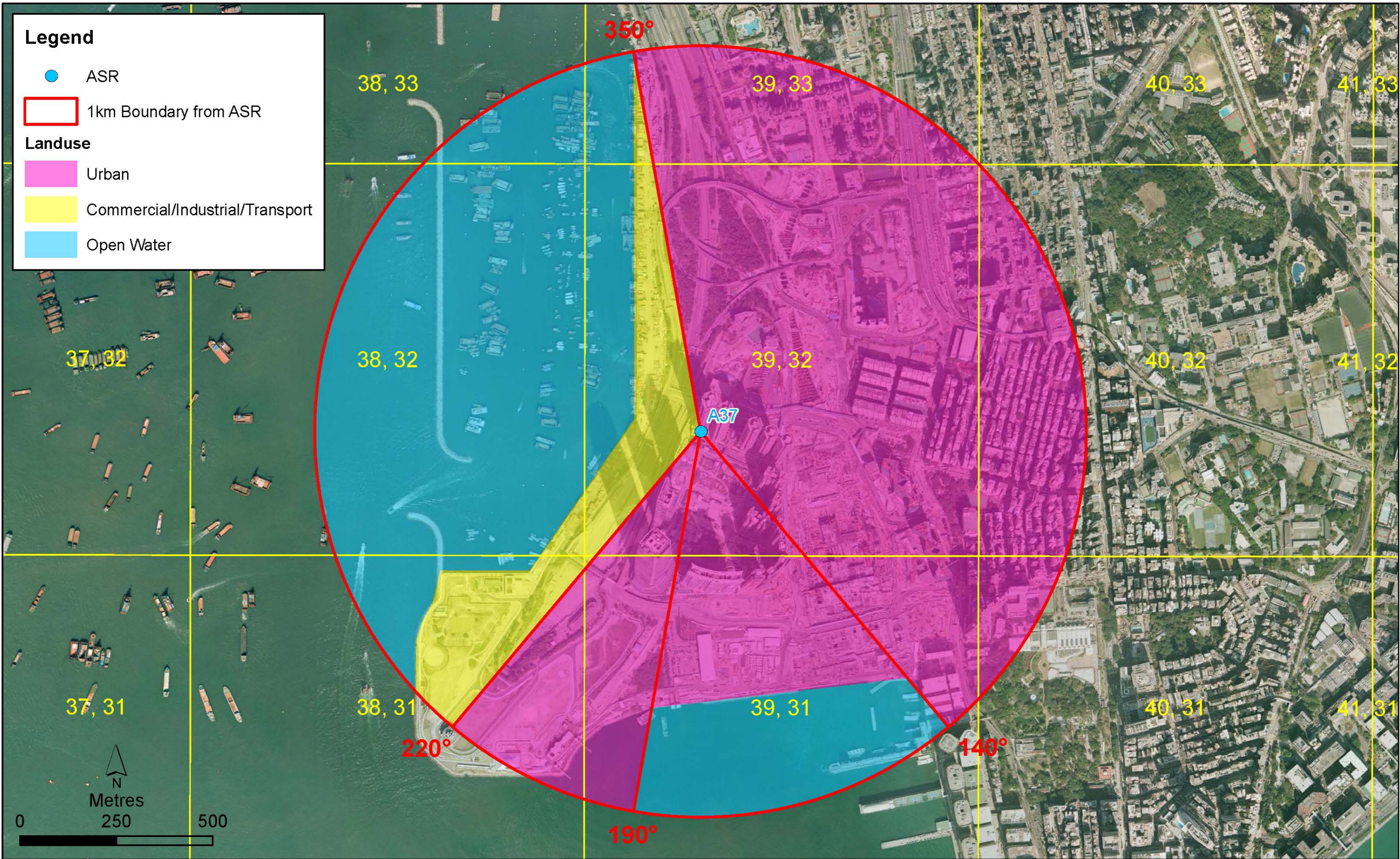
Sectors of Land Use for PATH Grid 39,28

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3928.mxd  
Date: 13/1/2021

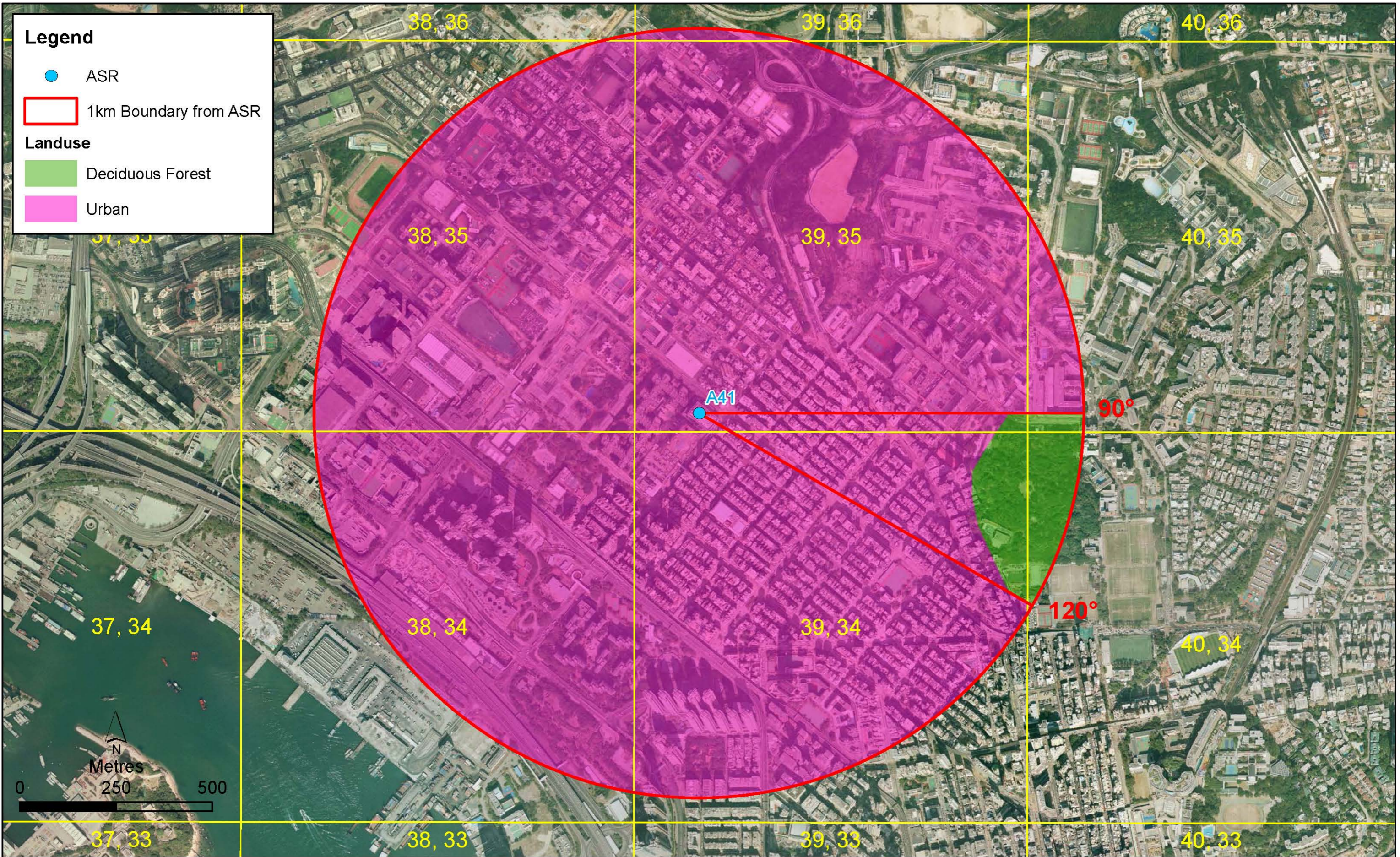
**Environmental  
Resources  
Management**











Appendix 3A

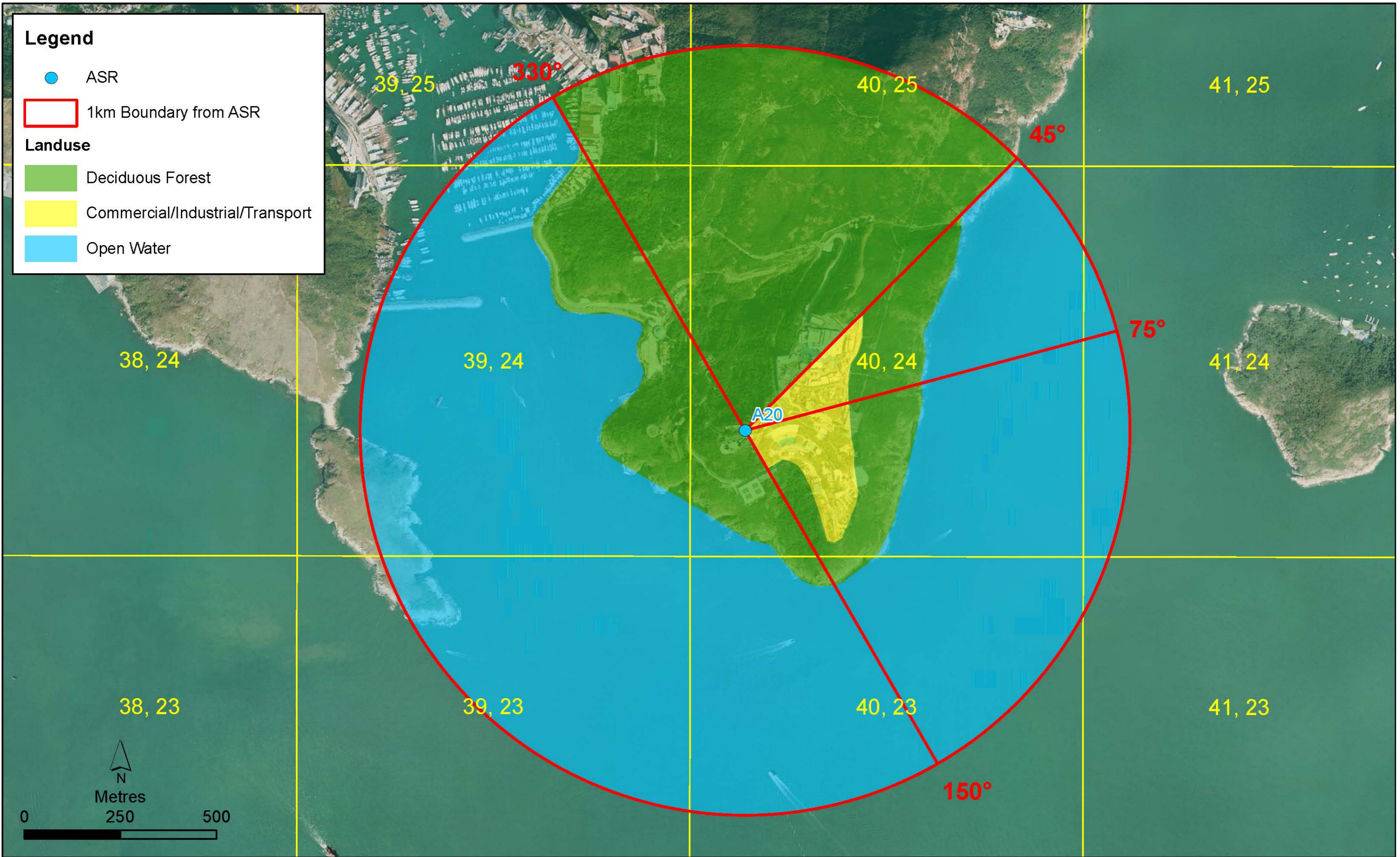
Sectors of Land Use for PATH Grid 39,35

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_3935.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







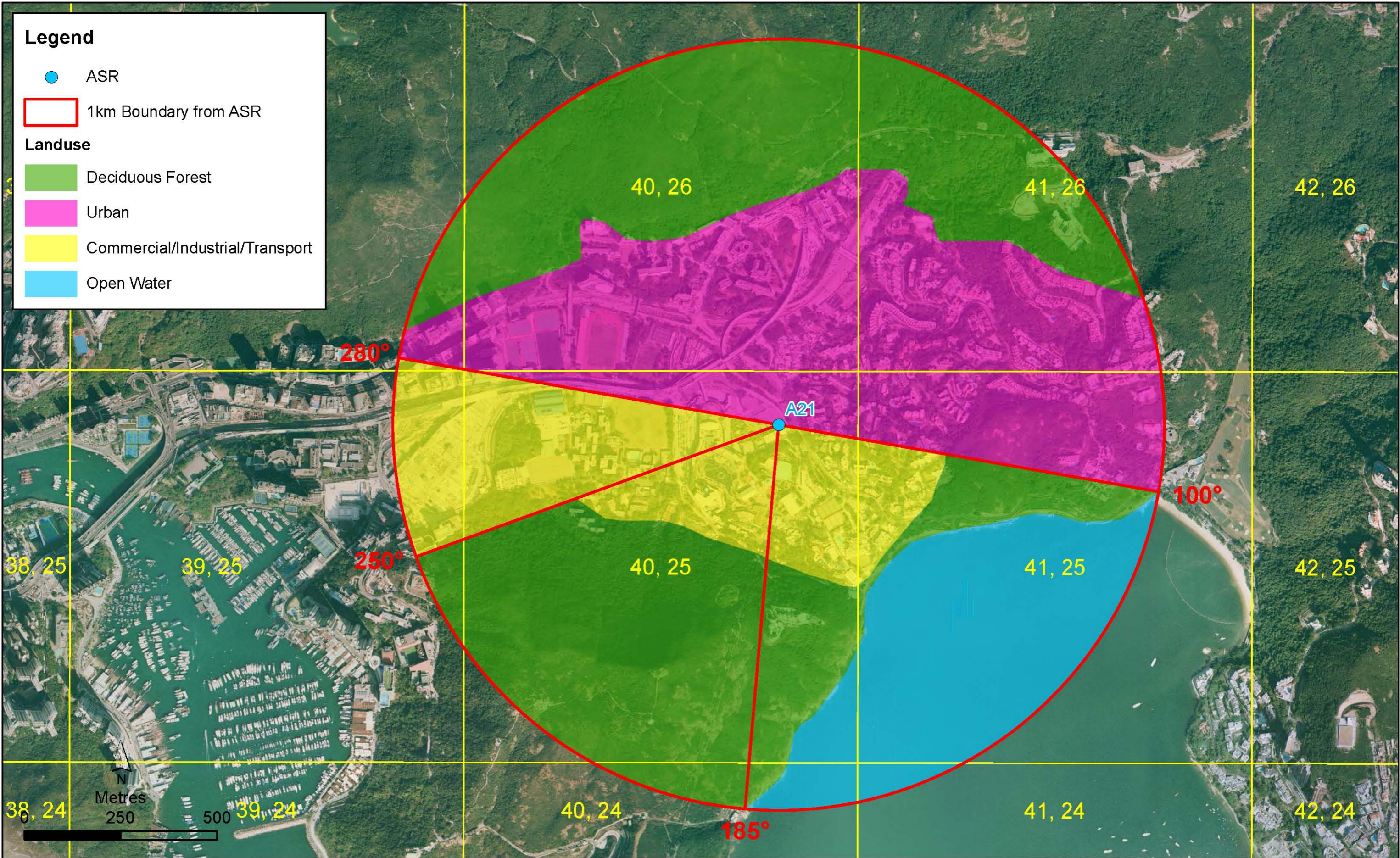


**Legend**

- ASR
- 1km Boundary from ASR

**Landuse**

- Deciduous Forest
- Urban
- Commercial/Industrial/Transport
- Open Water



Appendix 3A

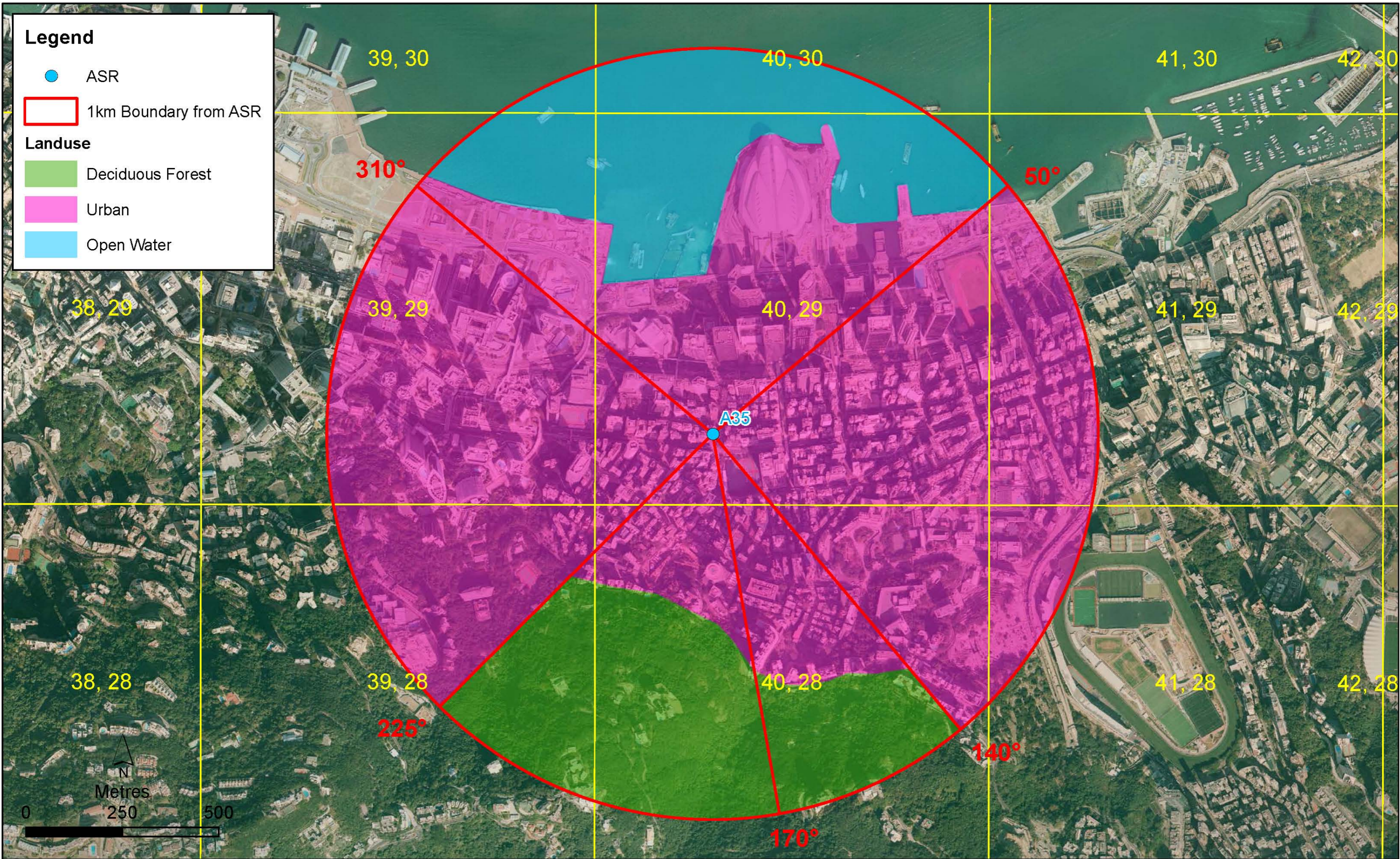
Sectors of Land Use for PATH Grid 40,25

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4025.mxd  
Date: 5/12/2019

**Environmental  
Resources  
Management**







Appendix 3A

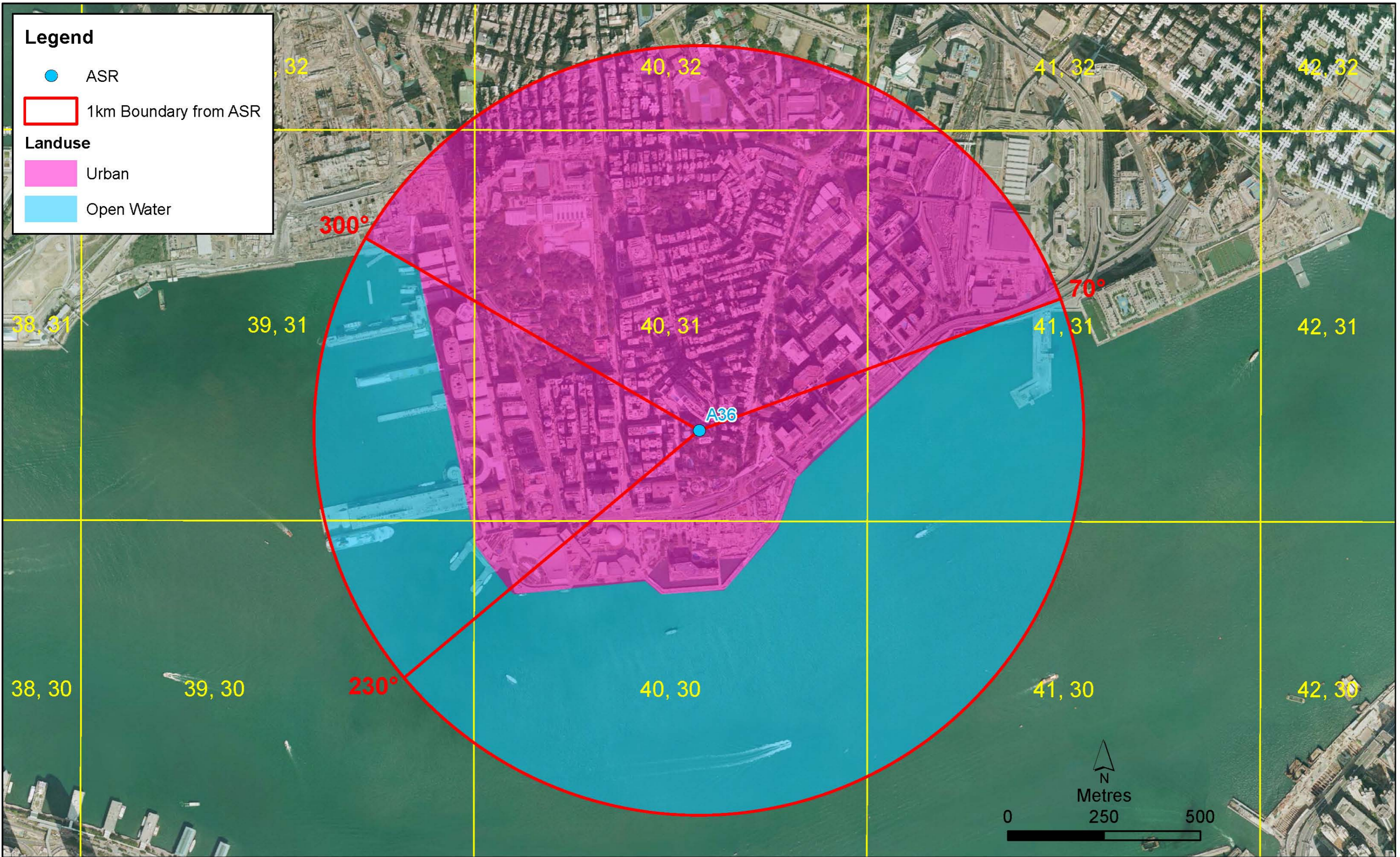
Sectors of Land Use for PATH Grid 40,29

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4029.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

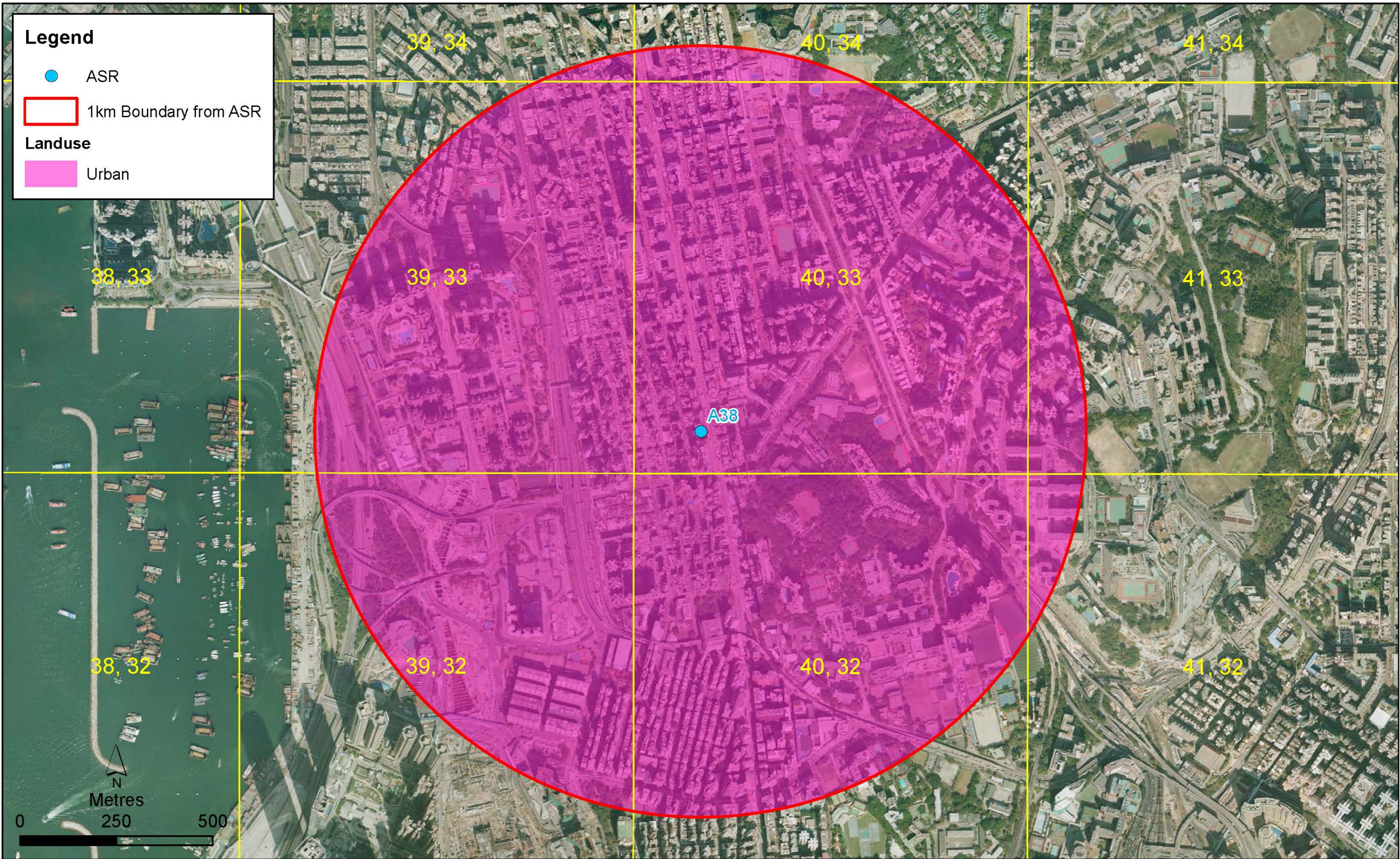
Sectors of Land Use for PATH Grid 40,31

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4031.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

Sectors of Land Use for PATH Grid 40,33

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4033.mxd  
Date: 13/1/2021

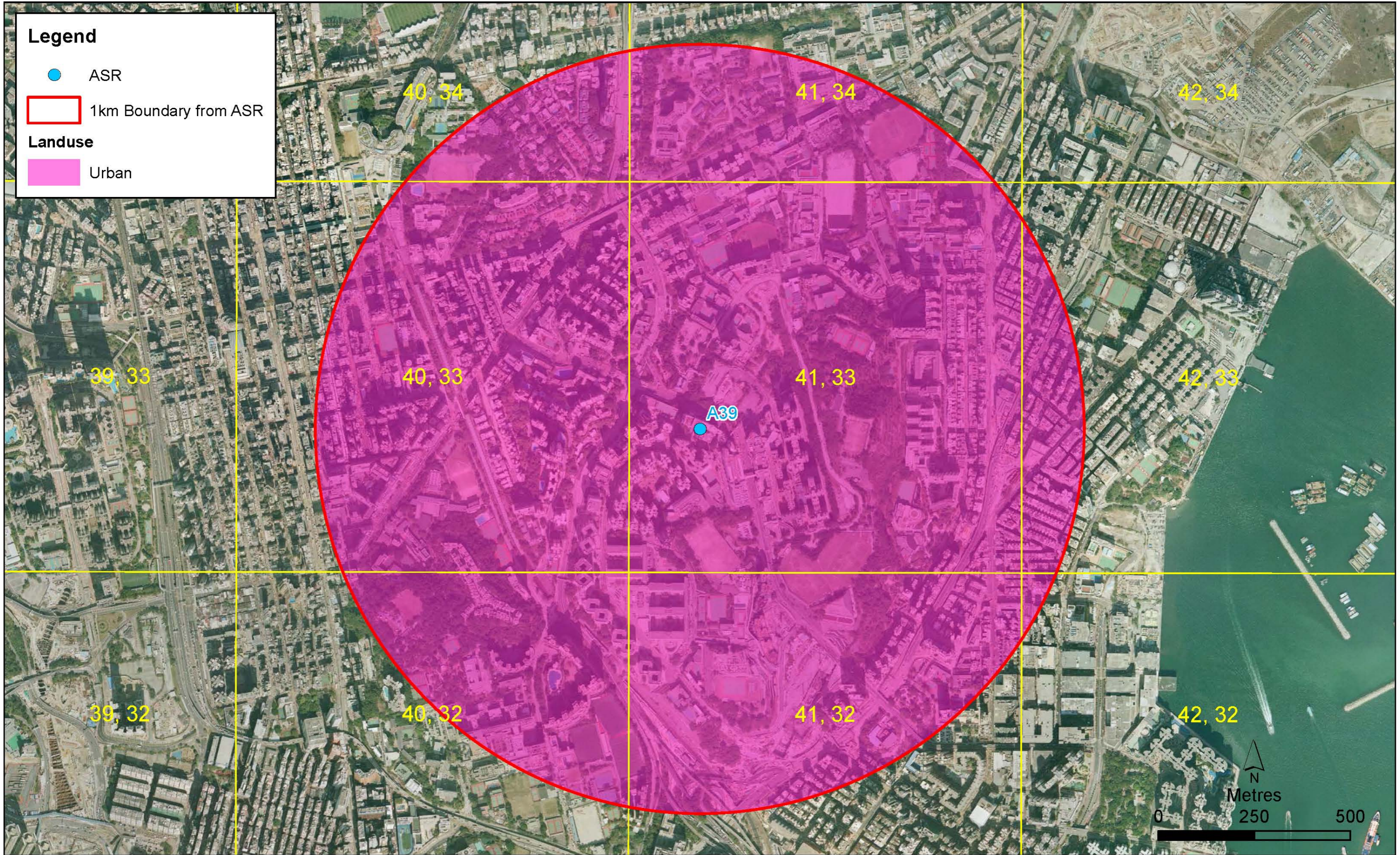
**Environmental  
Resources  
Management**



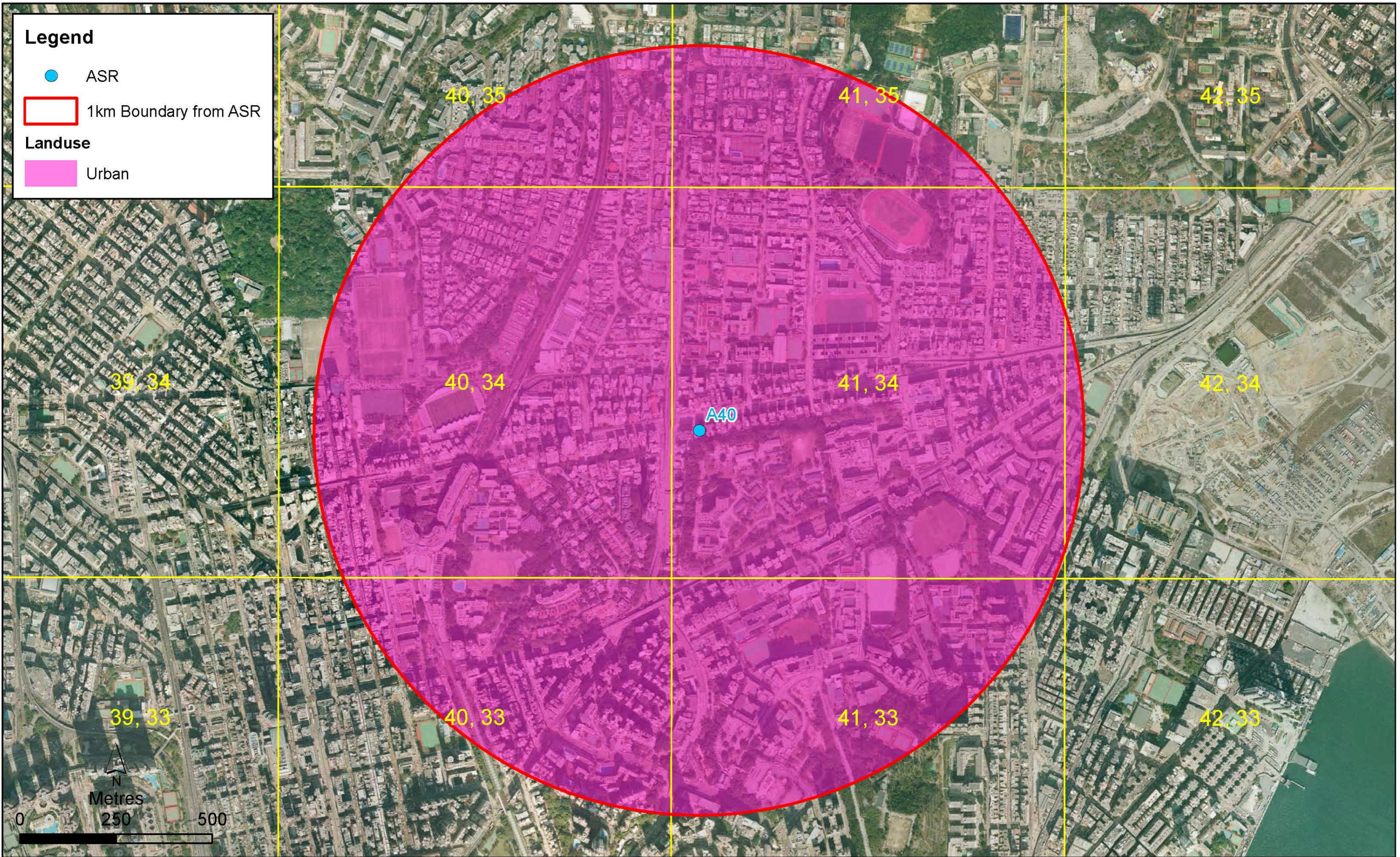


**Legend**

- ASR
- 1km Boundary from ASR
- Landuse**
- Urban







Appendix 3A

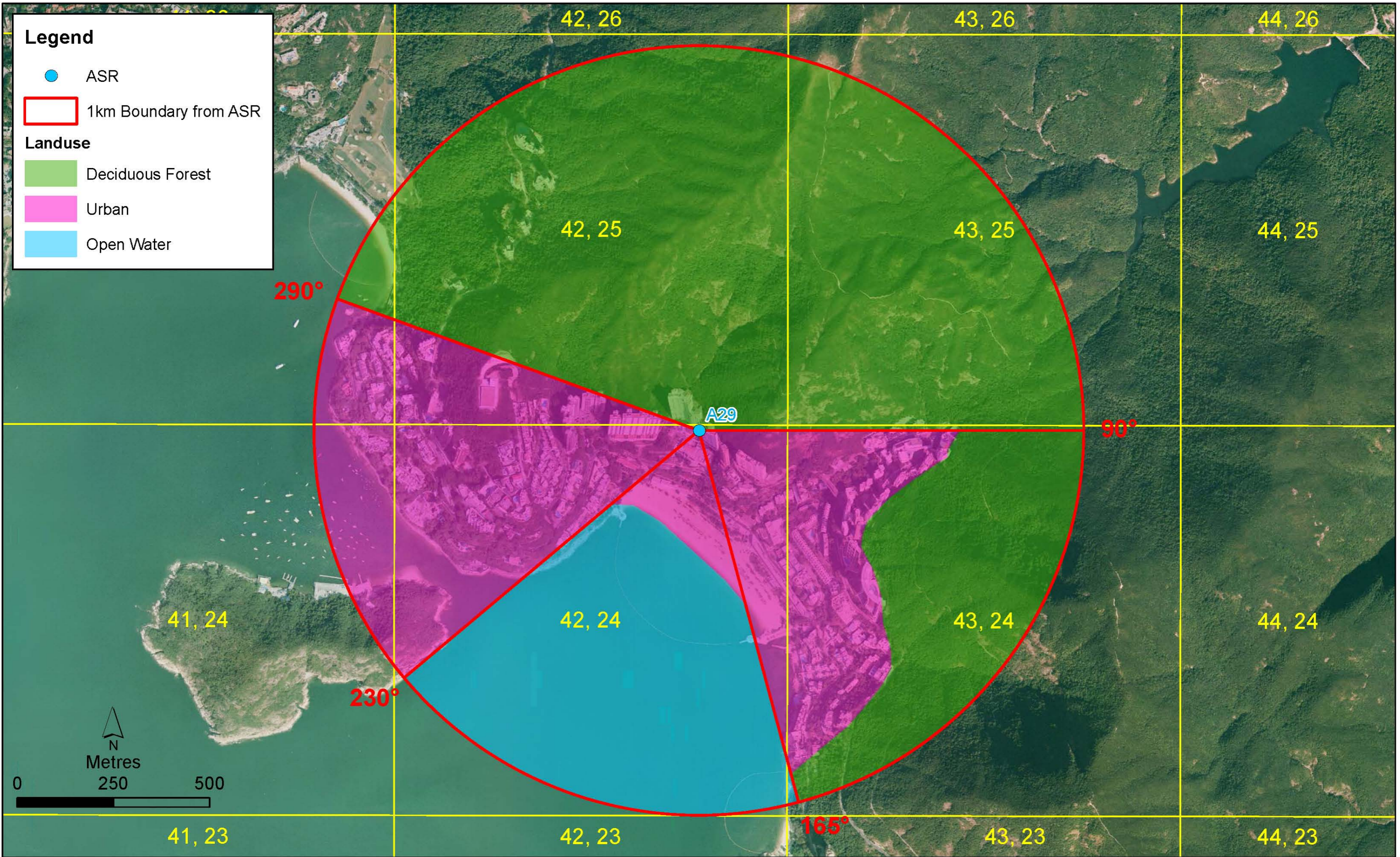
Sectors of Land Use for PATH Grid 41,34

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4134.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

Sectors of Land Use for PATH Grid 42,24

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4224.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

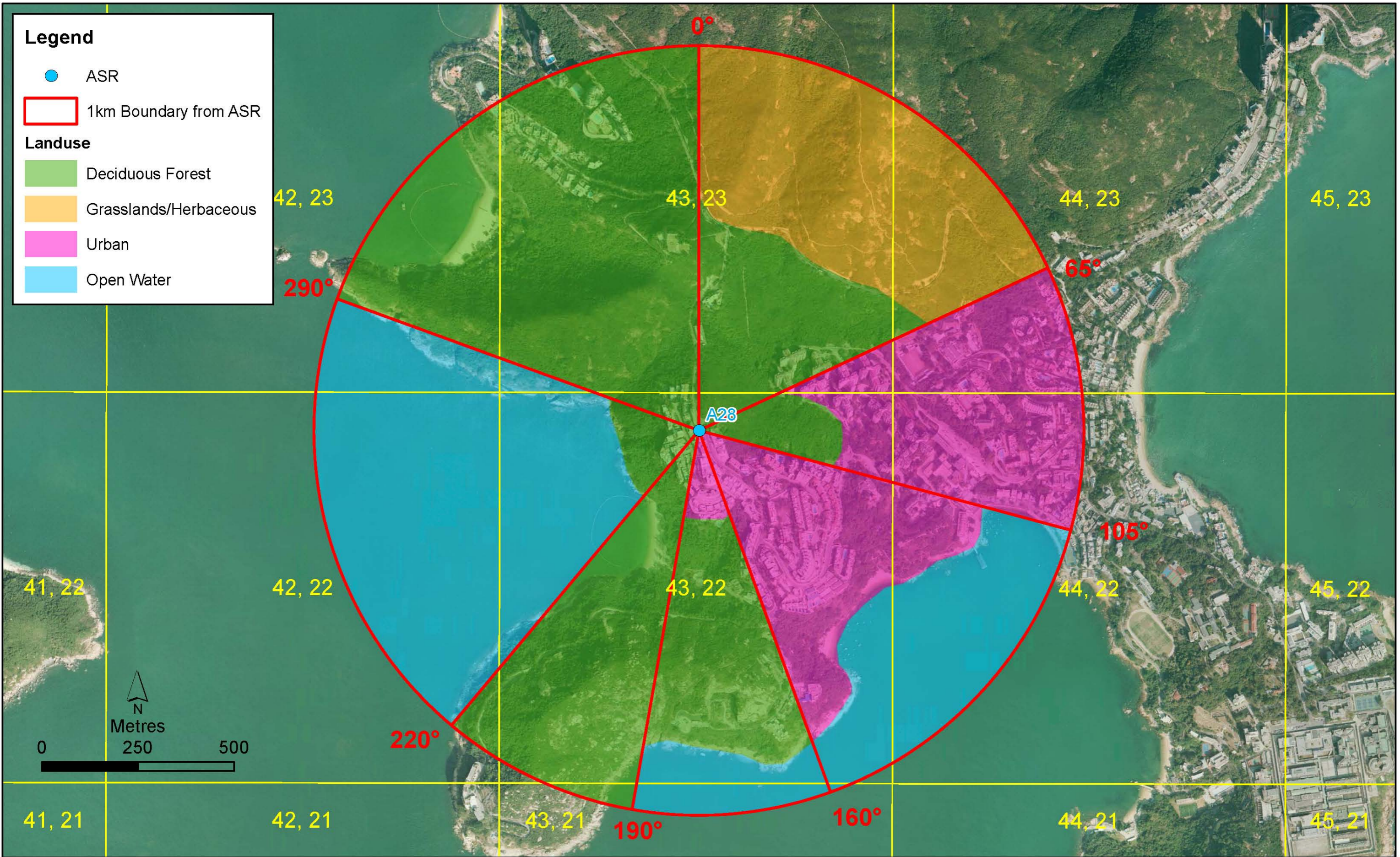
Sectors of Land Use for PATH Grid 42,30

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4230.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

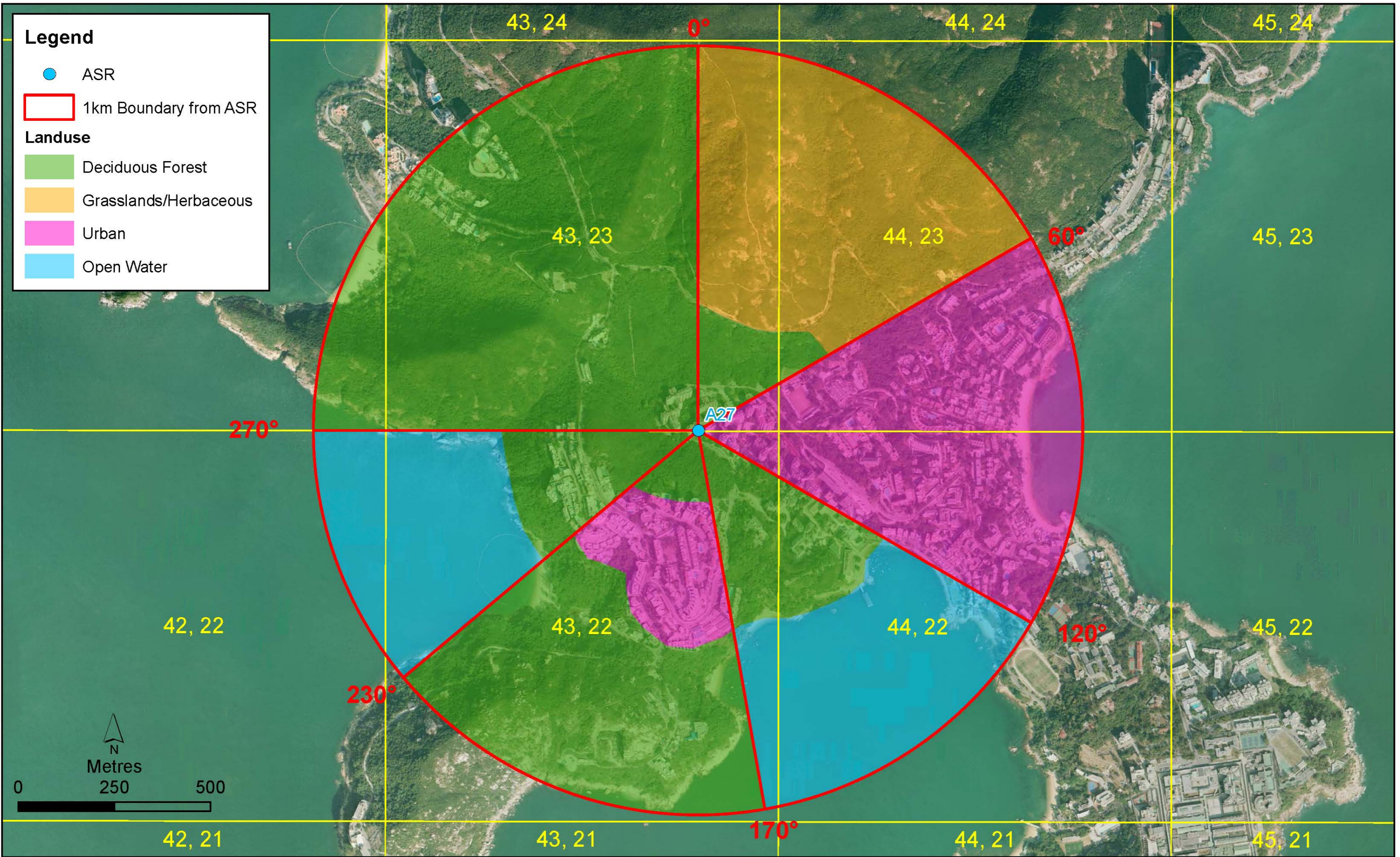
Sectors of Land Use for PATH Grid 43,22

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4322.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**





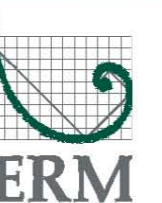


Appendix 3A

Sectors of Land Use for PATH Grid 43,23

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4323.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

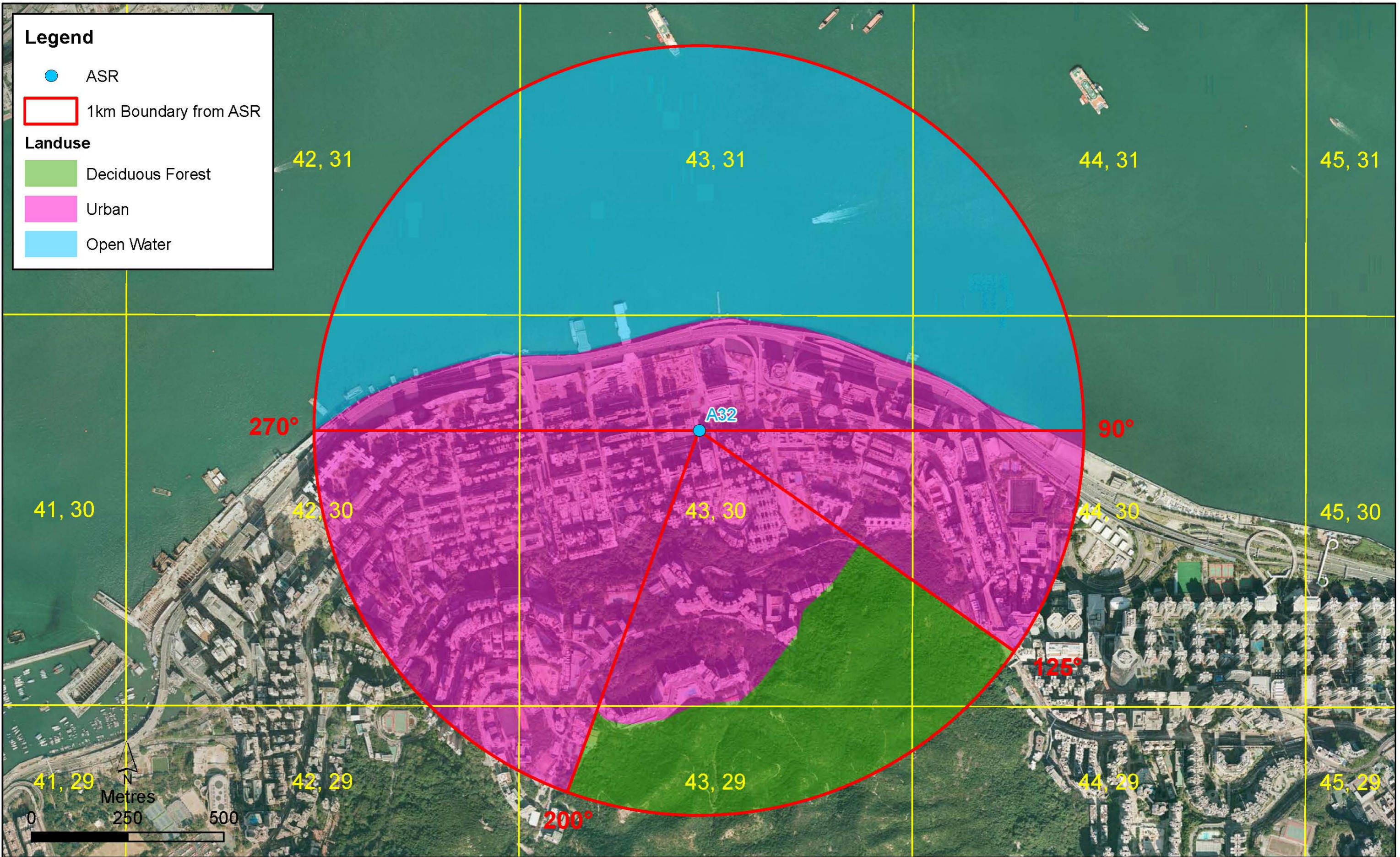
Sectors of Land Use for PATH Grid 43,29

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4329.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

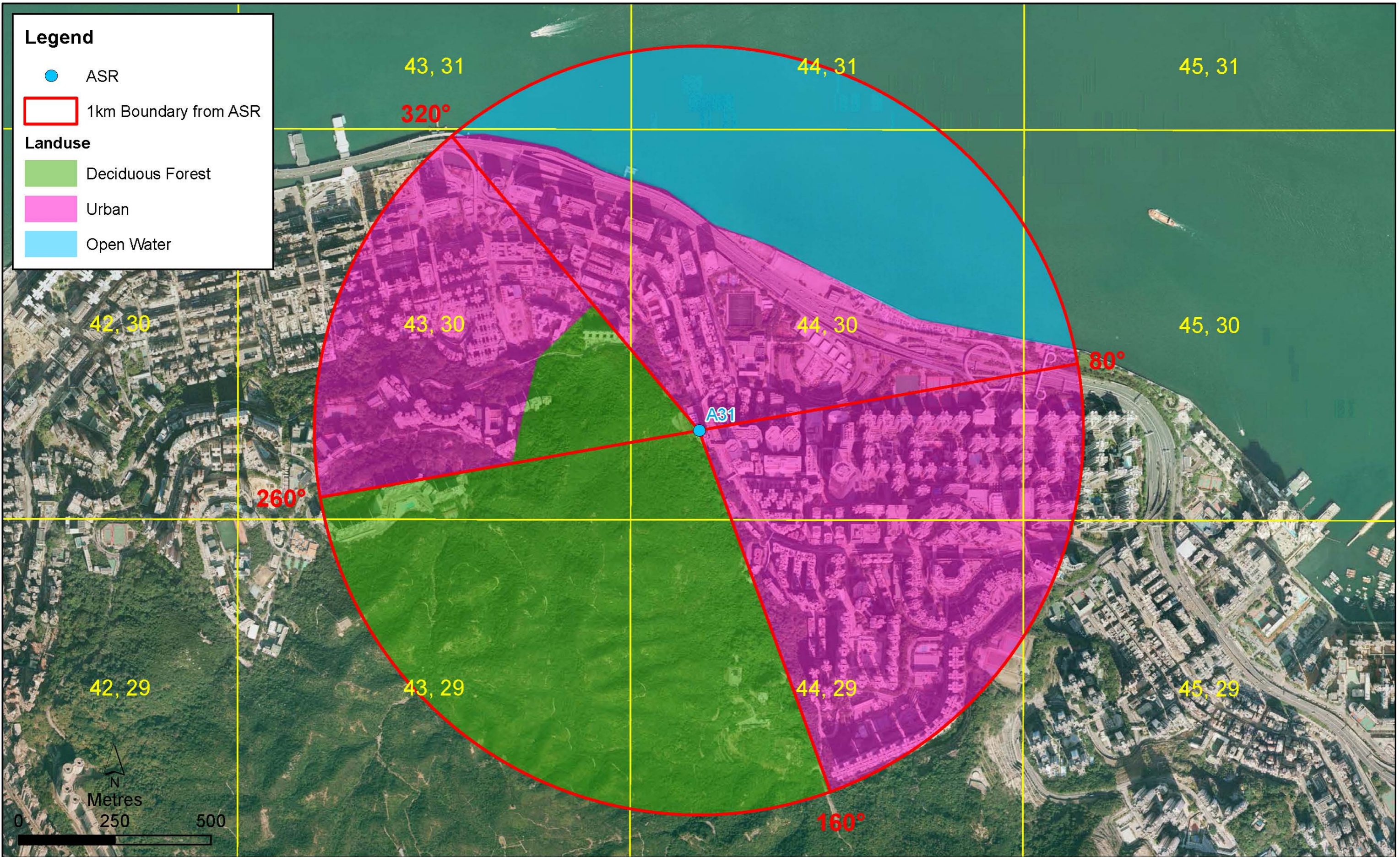
Sectors of Land Use for PATH Grid 43,30

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4330.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**







Appendix 3A

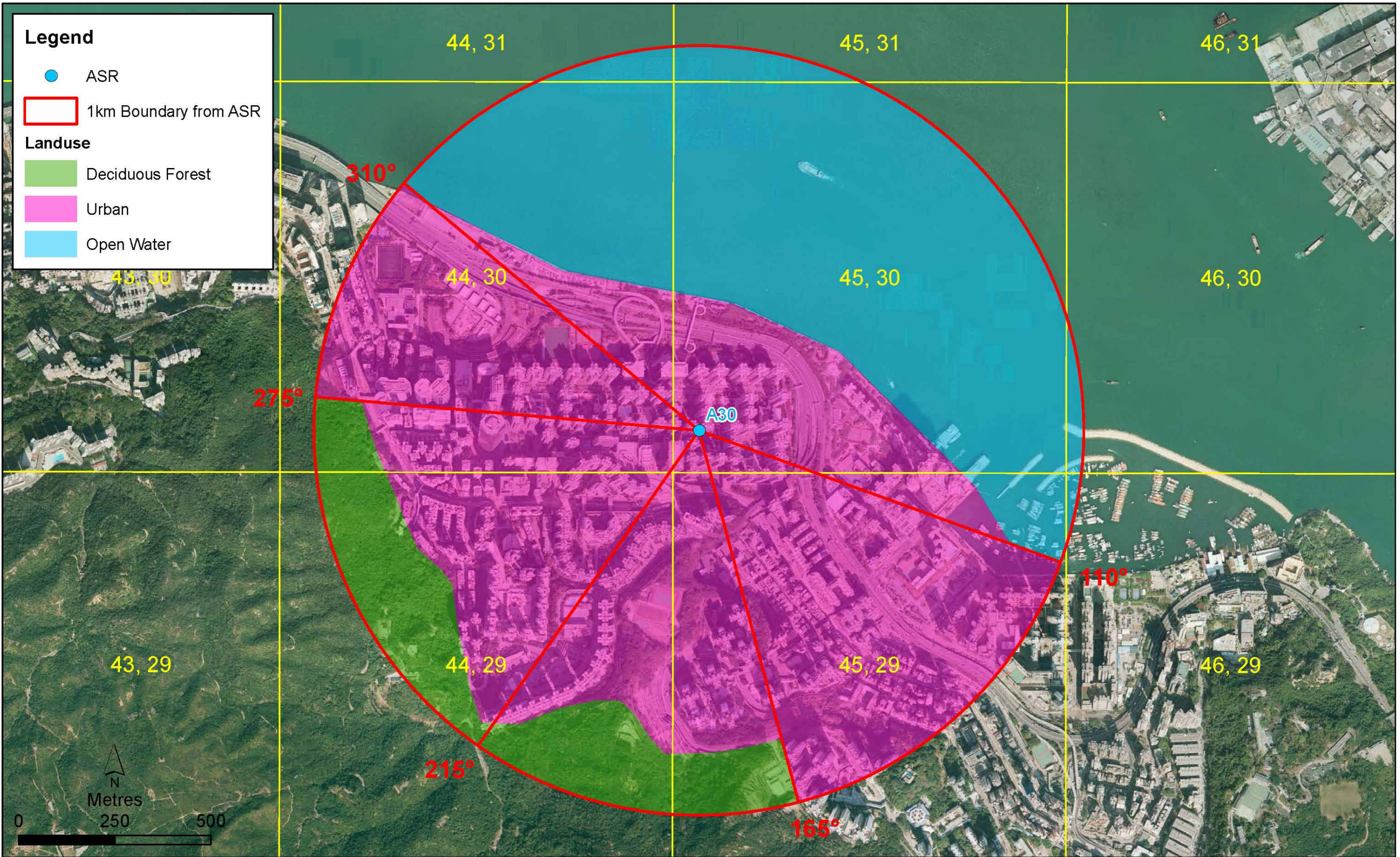
Sectors of Land Use for PATH Grid 44,30

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4430.mxd  
Date: 13/1/2021

Environmental  
Resources  
Management







Appendix 3A

Sectors of Land Use for PATH Grid 45,30

File: T:\GIS\CONTRACT\0576490\mxd\Landuse\0576490\_4530.mxd  
Date: 13/1/2021

**Environmental  
Resources  
Management**





**APPENDIX 3B      PREDICTED POLLUTANT CONCENTRATIONS AT AIR  
SENSITIVE RECEIVERS (COMPARATIVE ASSESSMENT)**



Appendix 3B - Predicted Pollutant Concentrations at ASRs (Comparative Assessment)

\*Without Project Scenario

ASR	ASR Description	X	Y	Base Elevation	NO <sub>x</sub>																											
					Maximum 1-hour Average NO <sub>x</sub> (µg/m <sup>3</sup> )																											
					Receptor height (m above ground)																											
1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260			
A1	Village House at Po Yau Yuen	829427	809964	34	71.15	71.08	71.07																									
A2	Pak Kok San Tsuen House 60	829426	810617	21	82.80	82.84	82.90																									
A3	Village house at Tai Shan Central	829494	809022	31	82.80	82.84	82.90																									
A4	Clara Mansions Block 4	830513	814918	76	65.65	65.62	65.68	65.65	65.52	65.49	65.47	65.43	61.14	121.63	176.80																	
A5	Pine Court Block 2	831111	814962	36	113.70	129.03	153.52	178.97	204.59	214.64	216.89	220.90	223.70	226.11																		
A6	Queen Mary Hospital Block S	831468	814635	146	65.28	65.24	65.30	65.28	65.24	65.20	65.16	65.12	65.08	65.04	65.00	64.96	64.92	64.88	64.84	64.80	64.76	64.72	64.68	64.64	64.60	64.56	64.52	64.48	64.44	64.40	64.36	
A7	Smithfield Court Block 1	831748	815023	7	130.15	130.16	130.17	130.18	130.19	130.20	130.21	130.22	130.23	130.24	130.25	130.26	130.27	130.28	130.29	130.30	130.31	130.32	130.33	130.34	130.35	130.36	130.37	130.38	130.39	130.40	130.41	
A8	Residence Bel Air Phase 1 Tower 8	831702	815183	5	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	56.48	
A9	Basato Villa Block 22	831812	813798	93	58.10	58.14	58.21	58.29	58.37	58.46	58.57	58.65	113.40	173.63	242.42	251.87	258.04	263.01														
A10	The University of Hong Kong Main Building	832424	816128	1	66.68	66.61	66.61	66.64																								
A11	Pokfulam Gardens Block 1	832126	813293	132	73.62	87.31	109.18	136.80	166.80	198.07	229.30	248.33	263.57	268.47	263.68	267.83	270.78	272.63	273.54													
A12	Overseas Block A	833203	815161	479	65.07	65.08	65.03																									
A13	Wah Fu (ii) Estate Wah Tai House	832127	815286	61	65.27	65.27	65.27	65.28	65.28	65.28	65.29	65.31	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	65.34	
A14	Sheppard's Buff Block A2	834038	814214	430	63.17	63.08	62.90																									
A15	Regent On The Park Tower 1	834957	815017	69	64.78	64.78	64.78	64.79	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	64.81	
A16	Wah Keat Estate Wah Hai House	832514	813288	11	70.57	70.57	70.58	70.60	70.61	70.63	70.64	70.65	70.74	70.81	70.89	70.98	71.08	71.20	101.65	117.87												
A17	Medica International Hospital	834310	815363	411	75.73	73.87	71.80	69.62																								
A18	Abertoe Centre Kwun Chau Court	833956	815114	4	50.72	50.72	50.72	50.72	50.72	50.72	50.74	50.78	50.78	50.83	50.88	50.93																
A19	Sau Wan Commercial Society Chan Pak Sha School	832641	811862	23	73.30	73.30	73.32	73.32																								
A20	Ocean Park Maritime Point	833561	816618	120	61.73	62.84	63.88																									
A21	Houa Koon Ocean Park Marriott Hotel	836213	812062	14	43.30	43.33	43.30	43.28	43.26																							
A22	South Horizons Block 13 Yee Lok Court	833068	811660	6	71.81	71.84	71.89	71.95	72.02	72.10	72.20	72.46	72.76	73.17	73.66	74.23	74.88	75.60	83.18	127.62												
A23	Lei Tung Estate Tung Mau House	834115	814131	60	58.20	58.30	58.31	58.33	58.35	58.37	58.39	58.44	58.51	58.58	58.66	58.78	102.29	137.58	167.64	174.24												
A24	Greenway Garden	831972	807399	69	66.90	66.91	66.93																									
A25	Concrete Inn	833051	808894	7	63.47	63.48	63.49	63.50																								
A26	Sauw Lamma Public Library	831613	807477	5	72.22	72.20	72.38																									
A27	Ma Hang Estate Block 4 Leung Ma House	833920	809172	43	63.14	63.13	63.13	63.11	63.10	63.09	63.08	63.07	63.06	63.05	63.04	63.03	63.02	63.01	63.00	62.99	62.98	62.97	62.96	62.95	62.94	62.93	62.92	62.91	62.90	62.89	62.88	
A28	34-38 Chung Hom Kok Road House B	838975	809072	79	56.11	56.12	56.14	56.14																								
A29	The Regency Bay Tower B1 Harston	832620	811188	45	37.20	37.28	37.25	37.23	37.20	37.18	37.13	37.07	37.00	36.94	36.87	36.79	36.69	36.59	36.49	36.39	36.29	36.19	36.09	35.99	35.89	35.79	35.69	35.59	35.49	35.39	35.29	
A30	Talking Spring Yau Ding Marston	834951	816388	5	68.96	68.61	68.47	68.44	68.46	68.60	68.74	68.87	68.96	69.02	69.06	69.09	69.11	69.12	69.13	69.14	69.15	69.16	69.17	69.18	69.19	69.20	69.21	69.22	69.23	69.24	69.25	
A31	Wah Shan Gardens	833967	815410	31	29.01	29.01	29.00	29.00	28.99	28.99	28.98	28.97	28.96	28.95	28.94	28.93	28.92	45.14	67.79	88.32												
A32	Chan's Creative School (HK Island)	838901	816995	7	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68	64.68
A33	Bramar Hill Mansions Block 7	838830	816176	149	66.07	67.78	64.72	61.13	58.80	57.74	56.84	56.05	54.88	54.08	53.84	53.68	53.58	53.52	53.48	53.44	53.40	53.36	53.32	53.28	53.24	53.20	53.16	53.12	53.08	53.04	53.00	52.96
A34	City Garden Hotel	832922	818921	4	45.00	45.00	44.92	44.88	44.84	44.80	44.77	44.74	44.70	44.66	44.62	44.58	44.54	44.50	44.46	44.42	44.38	44.34	44.30	44.26	44.22	44.18	44.14	44.10	44.06	44.02	43.98	43.94
A35	Hai Yau Building Block B	832071	815492	5	62.62	62.61	62.62	62.63	62.64	62.65	62.66	62.67	62.68	62.69	62.70	62.71	62.72	62.73	62.74	62.75	62.76	62.77	62.78	62.79	62.80	62.81	62.82	62.83	62.84	62.85	62.86	62.87
A36	Harbour Pinnacle	832980	817534	5	43.62	43.61	43.69	43.67	43.54	43.51	43.48	43.42	43.36	43.30	43.23	43.17	43.10	43.04	42.97	42.90	42.83	42.76	42.69	42.62	42.55	42.48	42.41	42.34	42.27	42.20	42.13	42.06
A37	Harbour Pinnacle	832980	817534	5	43.62	43.61	43.69	43.67	43.54	43.51	43.48	43.42	43.36	43.30	43.23	43.17	43.10	43.04	42.97	42.90	42.83	42.76	42.69	42.62	42.55	42.48	42.41	42.34	42.27	42.20	42.13	42.06
A38	On Lee Building	835681	818438	11	67.46	67.38	67.24	67.11	67.00	66.90	66.80	66.71	66.63																			
A39	The Open University of Hong Kong	836614	819792	35	35.72	35.70	35.67	35.64	35.61	35.59	35.56	35.52	35.47																			
A40	King's Court	836502	820728	12	63.98	63.94	63.92	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91	63.91
A41	Chung Sha Wan Government Offices	834557	821411	5	27.18	27.11	27.02	26.94	26.86	26.79	26.72	26.66	26.60	26.54	26.48	26.42	26.36	26.30	26.24	26.18	26.13	26.07	26.01	25.95	25.89	25.83	25.77	25.71	25.65	25.59	25.53	25.47
A42	Caritas Medical Centre	833																														



























### Appendix 3B - Predicted Pollutant Concentrations at ASRs (Comparative Assessment)

Difference between "Without Project" Scenario and "With Project" Scenario (Phase 3)

ASR	ASR Description	X	Y	Base Elevation (m)	NO <sub>x</sub>																												
					Maximum 1-hour Average NO <sub>x</sub> (µg/m <sup>3</sup> )																												
					Receptor height (m above ground)																												
1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260				
A1	Village House at Po Yuen Yuen	829427	809964	34	-30.62	-30.59	-30.58																										
A2	Pak Kok San Tsuen House 60	829742	810917	21	-1.81	-1.81	-1.82																										
A3	Village house at Tai Shan Central	829494	809292	31	-31.51	-31.30	-30.72																										
A4	Clara Mansions Block B	810513	814018	76	-23.77	-23.77	-23.76	-23.75	-23.74	-23.73	-23.72	-23.71	-23.70	-23.69	-23.68	-23.67	-23.66	-23.65	-23.64	-23.63	-23.62	-23.61	-23.60	-23.59	-23.58	-23.57	-23.56	-23.55	-23.54	-23.53			
A5	Pine Court Block 2	811111	814062	36	-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	-0.84	-0.84	-0.84	-0.84	-0.84	-0.84	-0.84	-0.84	-0.84	-0.84			
A6	Queen Mary Hospital Block S	811468	814635	146	-52.99	-54.59	-57.54	-60.30	-61.74	-62.07	-62.80	-63.16	-63.46	-63.72	-63.95	-64.15	-64.32	-64.47	-64.60	-64.71	-64.80	-64.88	-64.95	-65.01	-65.06	-65.11	-65.16	-65.20	-65.24	-65.28			
A7	Smithfield Court Block 1	812348	815623	13	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62			
A8	Residence Bel Air Phase 1 Tower 8	811702	815183	8	-23.21	-23.20	-23.20	-23.19	-23.18	-23.17	-23.16	-23.15	-23.14	-23.13	-23.12	-23.11	-23.10	-23.09	-23.08	-23.07	-23.06	-23.05	-23.04	-23.03	-23.02	-23.01	-23.00	-22.99	-22.98	-22.97			
A9	Basilio Villa Block 22	810182	813798	93	-28.09	-28.11	-28.14	-28.17	-28.21	-28.26	-28.31	-28.36	-28.41	-28.46	-28.51	-28.56	-28.61	-28.66	-28.71	-28.76	-28.81	-28.86	-28.91	-28.96	-29.01	-29.06	-29.11	-29.16	-29.21	-29.26			
A10	The University of Hong Kong Main Building	812522	811629	132	-21.40	-21.41	-21.43	-21.45	-21.47	-21.49	-21.51	-21.53	-21.55	-21.57	-21.59	-21.61	-21.63	-21.65	-21.67	-21.69	-21.71	-21.73	-21.75	-21.77	-21.79	-21.81	-21.83	-21.85	-21.87	-21.89			
A11	Pokfulam Gardens Block 1	812126	813293	152	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48		
A12	Overseas Block A	813203	815151	479	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48	-30.48		
A13	Wah Fu (H) Estate Wah Tai House	821972	812489	61	-20.87	-20.88	-20.88	-20.79	-20.78	-20.71	-20.67	-20.66	-20.65	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64	-20.64		
A14	Sheppard's Buff Block A2	814038	814214	430	-18.42	-18.41	-18.40	-18.39	-18.38	-18.37	-18.36	-18.35	-18.34	-18.33	-18.32	-18.31	-18.30	-18.29	-18.28	-18.27	-18.26	-18.25	-18.24	-18.23	-18.22	-18.21	-18.20	-18.19	-18.18	-18.17	-18.16		
A15	Resident On The Park Tower 1	814997	815617	69	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68	-23.68		
A16	Wah Keat Estate Wah Hai House	812514	812398	11	-30.96	-30.94	-30.90	-30.84	-30.76	-30.66	-30.54	-30.25	-29.90	-29.47	-28.98	-28.43	-27.81	-27.13	-26.40	-25.63	-24.83	-24.01	-23.18	-22.35	-21.52	-20.69	-19.86	-19.03	-18.20	-17.37	-16.54		
A17	Maudslayi International Hospital	813410	815363	411	-17.90	-17.86	-17.80	-17.85	-17.96	-18.11	-18.28	-18.47	-18.68	-18.90	-19.13	-19.37	-19.62	-19.87	-20.13	-20.39	-20.65	-20.91	-21.17	-21.43	-21.69	-21.95	-22.21	-22.47	-22.73	-22.99	-23.25		
A18	Abode Centre Kwun Chau Court	813956	815114	4	-22.65	-22.66	-22.66	-22.65	-22.65	-22.65	-22.64	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63	-22.63		
A19	San Wai Commercial Society Chan Pak Sha School	812641	811862	23	-28.50	-28.48	-28.45	-28.41	-28.37																								
A20	Ocean Park Maritime Point	813553	811618	120	-26.48	-26.47	-26.46	-26.45	-26.44	-26.43	-26.42	-26.41	-26.40	-26.39	-26.38	-26.37	-26.36	-26.35	-26.34	-26.33	-26.32	-26.31	-26.30	-26.29	-26.28	-26.27	-26.26	-26.25	-26.24	-26.23	-26.22		
A21	Hong Kong Ocean Park Maritime Point	813613	812062	14	-18.52	-18.49	-18.45	-18.42	-18.39	-18.35	-18.31	-18.26	-18.21	-18.16	-18.11	-18.06	-18.01	-17.96	-17.91	-17.86	-17.81	-17.76	-17.71	-17.66	-17.61	-17.56	-17.51	-17.46	-17.41	-17.36	-17.31	-17.26	
A22	South Horizons Block 13 Ye Lok Court	813308	811660	6	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32	-27.32		
A23	Lei Tung Estate Tung Mau House	811415	811431	60	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96	-25.96		
A24	Greenway Garden	821972	807299	69	-28.90	-28.89	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	-28.84	
A25	Concrete Inn	813303	808956	7	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17		
A26	San Lamma Public Library	811613	807477	5	-31.54	-31.59	-31.64																										
A27	Mt Heng Estate Block 4 Leung Ma House	813603	809172	43	-18.16	-18.14	-18.14	-18.14	-18.14	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	-18.13	
A28	34-38 Chung Hom Kok Road House B	818975	809072	79	-24.86	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	-24.84	
A29	The Recipite Bay Tower B1 Barton	812620	811188	45	-16.30	-16.28	-16.34	-16.33	-16.32	-16.31	-16.31	-16.29	-16.27	-16.25	-16.23	-16.21	-16.19	-16.17	-16.15	-16.13	-16.11	-16.09	-16.07	-16.05	-16.03	-16.01	-15.99	-15.97	-15.95	-15.93	-15.91		
A30	Sheppard's Buff Block A2	814038	814214	430	-18.42	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	-18.41	
A31	Wah Shan Gardens	813967	815610	31	-12.18	-12.18	-12.18	-12.17	-12.17	-12.17	-12.16	-12.16	-12.15	-12.15	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	-12.14	
A32	Chan's Creative School (H.K. Island)	818935	816998	7	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	
A33	Braman Hill Mansions Block B	818838	816276	149	-17.17	-18.48	-22.88	-26.04	-28.08	-29.02	-29.37	-29.65	-29.81	-29.94	-30.05	-30.15	-30.24	-30.32	-30.39	-30.46	-30.52	-30.58	-30.64	-30.69	-30.74	-30.79	-30.84	-30.89	-30.94	-30.99	-31.04		
A34	City Garden Hotel	818922	816821	4	-18.45	-18.43	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42	-18.42
A35	Hai Wah Building Block B	813707	815462	4	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	-20.20	
A36	Harbour Pinnacle	813688	817834	5	-18.82	-18.81	-18.81	-18.80	-18.79	-18.78	-18.77	-18.76	-18.75	-18.74	-18.73																		



































Appendix 3B - Predicted Pollutant Concentrations at ASRs (Comparative Assessment)

Difference between "Without Project" Scenario and "With Project" Scenario (Phase 3)

ASR	ASR Description	X	Y	Base Elevation (m)	RSP																													
					Maximum 24-hour Average RSP (µg/m³)																													
					Receptor Height (m above ground)																													
1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260					
A1	Village House at Po Wah Yuen	829427	809964	34	-1.34	-1.35	-1.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
A2	Fai Kok San Tsuen House 40	829242	810017	21	-0.01	-0.01	-0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
A3	Village House at Tai Shan Central	829484	809222	31	-0.70	-0.72	-0.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
A4	Capa Marston Block B	830013	814918	76	0.06	0.08	0.08	0.08	0.06	0.08	0.07	0.07	0.08	0.10	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A5	Pine Court Block 4	831111	814902	36	-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	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07		
A6	Queen Mary Hospital Block S	831498	814635	146	0.80	0.86	1.12	1.29	1.42	1.55	1.66	1.80	1.82	1.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
A7	Senshiel Court Block 1	831246	815003	70	-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	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07		
A8	Residence Bel Air Phase 1 Tower 8	831702	813183	8	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33		
A9	Baplan Villa Block 22	831812	813758	93	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.07	0.08	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	0.10	0.10	0.10	0.10	
A10	The University of Hong Kong Main Building	832262	814128	61	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
A11	Pokfulam Gardens Block 1	832123	813293	132	-0.48	-0.55	-0.68	-0.76	-0.85	-0.94	-1.01	-1.09	-1.09	-1.03	-0.95	-1.02	-1.16	-1.06	-0.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A12	Overtonne Block A	833003	815101	479	0.15	0.14	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A13	Wah Fu (II) Estate Wah Tai House	832127	812691	61	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.34	0.38	0.52	0.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A14	Shawston's Buft Block A2	834004	814214	450	0.36	0.34	0.34	-0.21	-0.22	-0.22	-0.22	-0.24	-0.25	-0.26	-0.28	-0.29	-0.31	-0.33	-0.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A15	Report On The Park Tower 1	834977	815212	60	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
A16	Wah Keat Estate Wah Hui House	832514	812386	11	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.39	0.41	0.44	0.52	0.84	1.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A17	Medica International Hospital	834410	813363	411	-0.23	-0.22	-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	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	
A18	Aberdeen Centre Kowloon Chau Court	833955	812115	4	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	
A19	San Wu Commemorial Society Chan Pak Sha School	832641	811884	23	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	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
A20	Open Park Abstrine Point	832638	812618	170	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
A21	Hong Kong Ocean Park Marriott Hotel	832613	812092	14	-0.18	-0.18	-0.17	-0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A22	South Horizons Block 13 Yee Lok Court	833006	811660	6	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	0.06	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
A23	Lei Tung Estate Tung Mau House	834115	814131	69	-0.21	-0.22	-0.22	-0.22	-0.22	-0.23	-0.23	-0.23	-0.24	-0.25	-0.28	-0.42	-0.60	-0.79	-0.99	-1.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A24	Sinara Garden	831927	807259	69	0.50	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
A25	Concrete Inn	832029	809966	70	0.02	0.02	0.02	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A26	South Lamma Public Library	831613	807477	5	0.27	0.27	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A27	Mai Heng Estate Block 4 Leng Ma House	832604	809172	43	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
A28	34-38 Chung Hom Kok Road House B	838975	809072	79	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	0.10	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	0.10	
A29	The Regency Bay Lower H Island	838236	811186	45	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
A30	Talbot Street Yiu Ding Mansion	838977	816101	31	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
A31	Wah Sun Gardens	838977	816101	31	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
A32	Chau's Creative School (J.K. Island)	838830	816276	140	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	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	0.05	0.05	0.05	0.05
A33	City Garden Hotel	838902	814941	4	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
A34	Harbour Parade	832688	817542	4	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
A35	Hwy Wah Building Block B	832688	817542	4	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
A36	On Lee Building	832688	817542	4	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
A37	Senshiel Tower 1	834888	813638	11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
A38	On Lee Building																																	







































Appendix 3B - Predicted Pollutant Concentrations at ASRs (Comparative Assessment)

Difference between "Without Project" Scenario and "With Project" Scenario (Phase 4)

ASR	ASR Description	X	Y	Base Elevation (m)	FSP																											
					Maximum 24-hour Average FSP (µg/m <sup>3</sup> )																											
					Receptor height (m above ground)																											
1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260			
A1	Village House at Po Wah Yuen	829427	809964	34	-1.44	-1.45	-1.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A2	Fai Kok San Tsuen House 40	829242	810017	21	-0.08	-0.08	-0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A3	Village House at Tai Shan Centre	829494	809522	31	-0.74	-0.76	-0.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A4	Capa Marston Block B	830013	814918	78	-0.07	-0.07	-0.07	-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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A5	Pine Court Block 5	831111	814962	36	-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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A6	Queen Mary Hospital Block 8	831498	814636	146	-0.89	-1.01	-1.18	-1.34	-1.50	-1.65	-1.77	-1.84	-1.89	-1.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A7	Sanfai Court Block 1	831246	815900	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	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	
A8	Residence Bel Air Phase 1 Tower 8	831702	813183	8	-0.37	-0.37	-0.37	-0.37	-0.37	-0.37	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	
A9	Bapin Villa Block 22	831812	813758	93	-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	-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	-0.05	
A10	The University of Hong Kong Main Building	832125	814128	132	-0.52	-0.59	-0.70	-0.81	-0.91	-1.00	-1.08	-1.18	-1.20	-1.18	-1.09	-1.17	-1.31	-1.22	-1.11	-	-	-	-	-	-	-	-	-	-	-	-	-
A11	Pokfulam Gardens Block 1	832003	815101	479	-0.18	-0.18	-0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A12	Wah Fu (II) Estate Wah Tai House	832121	812589	61	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36	
A13	Shaukei's Buil Block 42	834004	814214	450	-0.34	-0.34	-0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A14	Report On The Park Tower 1	834979	815912	60	-0.23	-0.23	-0.23	-0.23	-0.24	-0.24	-0.24	-0.25	-0.26	-0.27	-0.29	-0.31	-0.33	-0.36	-0.37	-0.40	-	-	-	-	-	-	-	-	-	-	-	-
A15	Wah Kwei Estate Wah Hui House	832014	812386	11	-0.42	-0.42	-0.42	-0.42	-0.42	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	
A16	Medica International Hospital	833410	813363	411	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	
A17	Aberdeen Centre Kowloon Court	833950	812115	4	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	-0.28	
A18	San Wu Commercial Society Chan Pak Sha School	835241	811884	23	-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	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	
A19	Open Park Abertoe Point	835248	810518	120	-0.26	-0.24	-0.22	-0.22	-0.22	-0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A20	Open Park Abertoe Point	835248	810518	120	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	-0.20	
A21	South Horizons Block 13 Yee Lok Court	833006	811860	6	-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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A22	Lei Tung Estate Tung Mau House	834115	814331	69	-0.24	-0.24	-0.24	-0.24	-0.25	-0.25	-0.25	-0.26	-0.26	-0.27	-0.30	-0.35	-0.63	-0.84	-1.05	-1.24	-	-	-	-	-	-	-	-	-	-	-	-
A23	Sinagau Garden	834192	807259	69	-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	-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	-0.24	
A24	Concrete Inn	833293	809966	60	-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	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	-0.21	
A25	South Lamma Public Library	831613	807477	5	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	-0.30	
A26	Ma Hang Estate Block 4 Leung Ma House	833908	809172	43	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	
A27	34-38 Chung Hom Kok Road House B	838976	809072	79	-0.17	-0.17	-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	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	
A28	The Regency Bay Tower B Harston	838236	811186	45	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
A29	Taloo Street Via Ding Marston	838972	816398	31	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	
A30	Wah Sun Gardens	838972	816398	31	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	
A31	Chau's Creative School (HK Island)	838830	816276	140	-0.17	-0.18	-0.22	-0.27	-0.30	-0.32	-0.35	-0.38	-0.40	-0.40	-0.38	-0.36	-0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A32	Hei Ling Chau Correctional Institution	822274	812804	89	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	-0.43	
A33	Hei Ling Chau Addiction Treatment Centre	821363	813062	44	-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	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	
A34	Buckfish Wan Yan Memorial College	820723	807410	1	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	-0.22	
A35	Chung Chau Kowloon Men School	821000	808000	17	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	
A36	Scenic Garden Block 29	820873	808000	17	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	
A37	Scenic Garden Block 29	820873	808000	17	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	
A38	Scenic Garden Block 29	820873	808000	17	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	
A39	Scenic Garden Block 29	820873	808000	17	-0.26	-0.26	-0.26	-0.26																								























Appendix 3B - Predicted Pollutant Concentrations at ASRs (Comparative Assessment)

Difference between 'Without Project' Scenario and 'With Project' Scenario (Phase 1)

ASR	ASR Description	X	Y	Base Elevation (m)	SO <sub>2</sub>																													
					Maximum 10-minute Average SO <sub>2</sub> (µg/m <sup>3</sup> )																													
					Receptor height (m above ground)																													
1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260					
A1	Village House at Po Wan Yuen	829427	809964	34	-3.63	-3.63	-3.64																											
A2	Pak Kok San Tsuen House 60	829742	810917	21	-0.57	-0.59	-0.60																											
A3	Village house at Tai Shan Central	829484	809292	31	-4.47	-4.52	-4.59																											
A4	Clara Mansions Block B	830513	814078	76	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40			
A5	Pine Court Block 2	831111	814062	36	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29			
A6	Queen Mary Hospital Block S	831486	814635	146	-7.34	-8.02	-8.83	-9.62	-10.58	-11.32	-11.78	-11.75	-11.82	-12.44																				
A7	Smithfield Court Block 1	831748	815023	19	-2.48	-2.48	-2.48	-2.47	-2.47	-2.47	-2.46	-2.46	-2.46	-2.44	-1.44																			
A8	Residence Bel Air Phase 1 Tower 8	831702	815183	6	-2.62	-2.62	-2.62	-2.62	-2.63	-2.64	-2.64	-2.66	-2.69	-2.72	-2.76	-2.80	-2.84	-2.88	-3.08	-3.07	-15.51	-15.45	-15.74	-15.71	-15.91									
A9	Basato Villa Block 22	831812	813798	93	-1.95	-1.95	-1.94	-1.94	-1.94	-2.20	-3.82	-7.12	-10.34	-13.42	-16.02	-16.47	-16.23	-14.02																
A10	The University of Hong Kong Main Building	832424	816198	91	-1.09	-1.01	-1.01	-1.01																										
A11	Pokfulam Gardens Block 1	832126	813293	132	-7.91	-8.38	-11.61	-13.51	-15.17	-16.28	-16.71	-16.79	-16.10	-16.71	-14.39	-12.52	-11.16	-9.48	-8.18															
A12	Overseas Block A	833203	815151	479	-1.27	-1.27	-1.26																											
A13	Wah Fu (II) Estate Wah Tai House	832127	812486	61	-2.62	-2.63	-2.64	-2.65	-2.67	-2.69	-2.71	-2.75	-2.78	-2.84	-3.04	-3.08																		
A14	Sheppard's Buff Block A2	834038	814214	430	-1.47	-1.48	-1.51																											
A15	Report On The Park Tower 1	834957	815012	69	-1.58	-1.61	-1.64	-1.64	-1.43	-1.41	-1.43	-1.42	-1.41	-1.38	-1.38	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81	-2.81		
A16	Wah Keat Estate Wah Hai House	832514	813298	11	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85	-2.85		
A17	Malinda International Hospital	833410	815363	411	-1.47	-1.48	-1.53	-1.56																										
A18	Abode Centre Kwun Chau Court	833954	812114	4	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99	-1.99		
A19	San Wai Commercial Society Chan Pak Sha School	832641	811862	23	-3.12	-3.12	-3.12	-3.12	-3.13																									
A20	Ocean Park Maritime Point	835534	811618	120	-0.99	-0.91	-0.92																											
A21	Hong Kong Ocean Park Maritime Hotel	832613	812062	14	-1.51	-1.51	-1.51	-1.50	-1.50																									
A22	South Horizons Block 13 Yee Lok Court	833008	811690	6	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28	-2.28		
A23	Lei Tung Estate Tung Mau House	834115	814341	60	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30		
A24	Greenway Garden	831972	807399	69	-2.66	-2.68	-2.68																											
A25	Concrete Inn	833051	808964	7	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	-0.72	
A26	Sau Lam Public Library	831613	807477	5	-3.33	-3.34	-3.34																											
A27	Mu Hing Estate Block 4 Lung Ma House	832603	809172	43	-0.98	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.18	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17	-1.17		
A28	34-38 Chung Hom Kok Road House B	838974	809072	79	-1.88	-1.88	-1.88	-1.88																										
A29	The Republic Bay Tower B1 Horizon	832620	811188	45	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47	-1.47		
A30	Sheppard's Buff Block A2	834038	814214	430	-1.47	-1.48	-1.51																											
A31	Wah Shan Gardens	832667	815610	31	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05	-1.05		
A32	Chan's Creative School (H.K. Island)	838934	816968	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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A33	Braman Hill Mansions Block B	838938	816976	149	-2.07	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	-2.06	
A34	City Garden Hotel	838922	816921	4	-1.43	-1.42	-1.41	-1.40	-1.39	-1.38	-1.37	-1.35	-1.33	-1.31	-1.30	-1.29	-1.28																	
A35	Hay Wah Building Block B	837077	815462	4	-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	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	
A36	Harbour Pinnacle	835989	817534	5	-1.44	-1.44	-1.44	-1.44	-1.44	-1.43	-1.43	-1.43	-1.42	-1.42	-1.41	-1.39	-1.36	-1.33	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	-1.35	
A37	Sorrento Tower 1	834688	816838	11	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	-0.91	
A38	On Lee Building	835561	815498	5	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	-1.06	
A39	The Open University of Hong Kong	836614	819752	35	-0.91	-0.91	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	
A40	King's Court	836502	820728	12	-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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A41	Cheung Sha Wan Government Offices	834557	824111	5	-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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A42	Caritas Medical Centre	833829	822489																															



Appendix 3B - Predicted Pollutant Concentrations at ASRs (Comparative Assessment)

Difference between 'Without Project' Scenario and 'With Project' Scenario (Phase 2)

ASR	ASR Description	X	Y	Base Elevation (m)	SO <sub>2</sub>																											
					Maximum 10-minute Average SO <sub>2</sub> (µg/m <sup>3</sup> )																											
					Receptor height (m above ground)																											
1.5	5.0	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260			
A1	Village House at Po Yau Yuen	829427	809964	34	-3.54	-3.62	-3.52																									
A2	Pak Kok San Tsuen House 40	829742	810917	21	-0.58	-0.68	-0.58																									
A3	Village house at Tai Shan Central	829494	809292	31	-4.44	-4.48	-4.46																									
A4	Capa Mansions Block B	810513	814078	76	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33	-2.33		
A5	Pine Cove Block 2	811111	814062	36	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29	-2.29		
A6	Queen Mary Hospital Block S	811498	814635	146	-7.30	-7.88	-8.78	-9.65	-10.51	-11.24	-11.69	-11.83	-11.69	-12.30																		
A7	Smithfield Court Block 1	812348	815923	13	-2.48	-2.42	-2.43	-2.43	-2.42	-2.42	-2.42	-2.41	-2.41	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40		
A8	Residence Bel Air Phase 1 Tower 8	813120	815184	6	-2.57	-2.57	-2.57	-2.57	-2.58	-2.58	-2.58	-2.61	-2.64	-2.67	-2.71	-2.75	-2.78	-2.81	-3.03	-3.88	-15.30	-30.19	-36.80	-38.67								
A9	Basato Villa Block 22	813192	813798	95	-1.91	-1.91	-1.91	-1.91	-1.90	-2.21	-3.58	-7.08	-10.26	-13.20	-15.85	-18.36	-20.00	-14.07														
A10	The University of Hong Kong Main Building	813216	812393	132	-7.86	-8.30	-11.42	-13.39	-15.02	-16.10	-16.49	-16.50	-16.74	-18.31	-13.98	-12.08	-10.70	-9.01	-7.69													
A11	Pokfulam Gardens Block 1	813203	815161	479	-2.98	-1.24	-1.24																									
A12	Overseas Block A	813203	815161	479	-2.50	-2.46	-2.47	-2.49	-2.60	-2.62	-2.64	-2.68	-2.72	-2.88	-6.38	-10.70																
A13	Shewood's Bluff Block A2	813408	814214	430	-1.42	-1.42	-1.46																									
A14	Resident On The Park Tower 1	813497	815121	69	-1.00	-1.07	-1.07	-1.07	-1.42	-1.41	-1.41	-1.40	-1.38	-1.32	-1.30	-2.56	-4.20	-6.17	-7.93	-9.70												
A15	Wah Keai Estate Wah Yau House	813514	812398	11	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.79	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78	-2.78		
A16	Medica International Hospital	813410	813363	41	-1.41	-1.42	-1.44	-1.46																								
A17	AbodeCare Centre Kwun Chau Court	813395	812114	4	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96	-1.96		
A18	San Wai Commercial Society Chan Pak Sha School	813241	811862	23	-3.08	-3.08	-3.08	-3.08	-3.07																							
A19	Ocean Park Adventure Point	813553	811618	120	-0.99	-0.97	-0.97																									
A20	Hong Kong Ocean Park Mantis Hotel	813613	812062	14	-1.48	-1.47	-1.47	-1.47	-1.46																							
A21	South Horizons Block 13 Yee Lok Court	813308	811690	6	-2.92	-2.92	-2.92	-2.92	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94	-2.94		
A22	Lei Tung Estate Tung Mau House	814115	811431	60	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.30	-2.29	-3.20	-6.17	-9.56	-12.88	-15.54	-17.03												
A23	Greenview Garden	821972	807399	69	-2.58	-2.58	-2.59																									
A24	Concrete Inn	813351	808964	69	-2.62	-2.62	-2.62	-2.67																								
A25	Sauw Lamma Public Library	811613	807477	5	-3.27	-3.27	-3.28																									
A26	Ma Hang Estate Block 4 Lung Ma House	813203	809172	43	-0.98	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	-1.04	
A27	34-38 Chung Hom Kok Road House B	813875	809072	79	-1.80	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	-1.82	
A28	The Residence Bay Tower B1 Horizon	813820	811188	45	-1.44	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	-1.43	
A29	Talbot Square Via Sing Mansion	813952	811698	36	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	
A30	Wah Shan Gardens	813967	815610	31	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	-1.02	
A31	Chan's Creative School (HK Island)	813935	811698	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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A32	Braman Hill Mansions Block B	813830	811676	149	-2.04	-2.02	-2.02	-2.04	-3.34	-3.54	-3.76	-4.52	-5.24	-5.77	-6.07	-6.04	-6.62															
A33	City Garden Hotel	813802	811692	4	-1.38	-1.38	-1.37	-1.35	-1.34	-1.33	-1.32	-1.30	-1.28	-1.27	-1.25	-1.24	-1.23															
A34	Hai Wah Building Block B	813707	815462	19	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	-0.98	
A35	Harbour Pinnacle	813598	817534	5	-1.41	-1.41	-1.41	-1.41	-1.41	-1.40	-1.40	-1.40	-1.39	-1.39	-1.38	-1.35	-1.33	-1.30	-3.62	-7.49												
A36	Sorrento Tower 1	813468	811638	11	-0.98	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	
A37	On Lee Building	813551	811439	5	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	-1.03	
A38	The Open University of Hong Kong	813614	811932	35	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.87	-0.74																	
A39	King's Court	813552	807078	9	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	
A40	Queen Sha Yuen Government Offices	813457	821411	5	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	-0.78	
A41	Caritas Medical Centre	813320	822489	36	-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	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	
A42	Cheung Hong Estate Hong On House	828718	823461	39	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	-0.88	
A43	Hong Kong Institute of Vocational Education (Tsing Yi Campus)	813994	812520	39	-1.20	-1.20	-1.20	-1.20	-1.20	-1.20	-1.20	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	
A44	Hong Kong Science Museum	813994	812520	39	-1.20	-1.20	-1.20	-1.20	-1.20	-1.20	-1.20	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	-1.19	
A45	Hong Kong Disneyland	812217	811762	3	-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	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	
A46	Hong Kong Disneyland	812217	811762	3	-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	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	
A47	Inspiration Lake Recreation Centre	811990																														



Appendix 3B - Predicted Pollutant Concentrations at ASRs (Comparative Assessment)

Difference between 'Without Project' Scenario and 'With Project' Scenario (Phase 3)

ASR	ASR Description	X	Y	Base Elevation (m)	SO <sub>2</sub>																												
					Maximum 10-minute Average SO <sub>2</sub> (µg/m <sup>3</sup> )																												
					Receptor height (m above ground)																												
1.5	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260				
A1	Village House at Po Wan Yuen	829427	809964	34	-3.45	-3.45	-3.46																										
A2	Pak Kok San Tsuen House 40	829742	810917	21	-0.57	-0.67	-0.67																										
A3	Village house at Tai Shan Central	829494	809292	31	-4.33	-4.36	-4.43																										
A4	Clara Mansions Block B	810513	814078	76	-2.26	-2.28	-2.28	-2.26	-2.26	-2.28	-2.28	-2.31	-6.28	-11.35	-16.07																		
A5	Pine Cove Block 2	811111	814062	36	-2.27	-2.27	-2.27	-2.27	-2.27	-2.27	-2.27	-2.27																					
A6	Queen Mary Hospital Block S	811468	814635	146	-2.26	-2.27	-2.27	-2.26	-2.26	-2.27	-2.27	-2.27	-11.54	-11.59	-11.50	-11.54	-11.79																
A7	Smithfield Court Block 1	812345	815023	7	-2.51	-2.51	-2.51	-2.51	-2.51	-2.51	-2.51	-2.51	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36	-3.36		
A8	Residence Bel Air Phase 1 Tower 8	811702	813183	8	-2.51	-2.51	-2.51	-2.52	-2.52	-2.52	-2.54	-2.54	-2.58	-2.61	-2.64	-2.68	-2.73	-2.78	-2.77	-2.73	-2.78	-2.73	-2.84	-2.84	-2.77	-2.73	-2.78	-2.73	-2.78	-2.73	-2.78		
A9	Basato Villa Block 22	810192	813798	95	-1.87	-1.87	-1.87	-1.87	-1.87	-2.17	-3.55	-7.03	-10.18	-13.17	-15.67	-16.03	-16.68	-13.40															
A10	The University of Hong Kong Main Building	812424	816198	1	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98		
A11	Pokfulam Gardens Block 1	812125	813293	132	-2.79	-2.23	-1.32	-13.27	-14.87	-15.81	-16.28	-16.19	-16.37	-14.90	-13.66	-11.37	-10.23	-8.54	-7.03														
A12	Overseas Block A	813203	815151	479	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21		
A13	Wah Fu (II) Estate Wah Tai House	812177	812498	61	-2.49	-2.49	-2.41	-2.52	-2.54	-2.56	-2.56	-2.62	-2.65	-2.61	-6.24	-10.47																	
A14	Sheppard's Bluff Block A2	814038	814214	430	-1.37	-1.38	-1.42																										
A15	Resident On The Park Tower 1	814957	815012	69	-1.59	-1.60	-1.60	-1.59	-1.39	-1.39	-1.38	-1.38	-1.34	-1.28	-2.51	-4.44	-6.10	-7.83	-5.58														
A16	Wah Keat Estate Wah Hai House	812514	812368	11	-2.72	-2.72	-2.72	-2.72	-2.72	-2.72	-2.72	-2.72	-2.72	-2.72	-2.72	-2.72	-2.71	-2.71	-2.71	-16.10													
A17	Matilda International Hospital	813410	813363	41	-1.57	-1.52	-1.34	-1.36																									
A18	Aberdeen Centre Kwun Chi Court	813355	812114	4	-1.90	-1.92	-1.92	-1.92	-1.90	-1.91	-1.91	-1.91	-1.91	-1.91	-1.91	-1.91	-1.91	-1.91	-1.91														
A19	San Wai Commercial Society Chan Pak Sha School	812641	811862	23	-3.00	-3.00	-3.00	-3.00	-3.01																								
A20	Ocean Park Maritime Point	812551	811618	120	-3.98	-3.92	-4.41																										
A21	Hong Kong Ocean Park Maritime Point	812613	812062	14	-1.44	-1.44	-1.43	-1.43																									
A22	South Horizons Block 13 Ye Lok Court	813308	811660	6	-2.24	-2.24	-2.24	-2.24	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26	-2.26		
A23	Lei Tung Estate Tung Mau House	814115	814131	60	-2.25	-2.25	-2.25	-2.25	-2.25	-2.25	-2.25	-2.24	-2.24	-2.24	-3.14	-6.12	-8.42	-12.68	-15.24	-16.61													
A24	Greenway Garden	811972	807399	69	-2.52	-2.52	-2.52																										
A25	Concrete Inn	813351	808964	69	-1.99	-2.02	-2.02	-2.02																									
A26	Sauw Lamma Public Library	811613	807477	5	-3.21	-3.21	-3.21																										
A27	Mi Hing Estate Block 4 Leung Ma House	812603	809172	43	-0.98	-1.01	-1.01	-1.01	-1.51	-1.51	-1.51	-1.51																					
A28	34-38 Chung Hom Kok Road House B	818975	809072	79	-1.78	-1.78	-1.78	-1.77																									
A29	The Regency Bay Tower B1 Horizon	812620	811188	45	-1.40	-1.28	-1.28	-1.28	-1.39	-1.28	-1.28	-1.28	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-1.39	-2.27													
A30	Sheppard's Bluff Block A2	814038	814214	430	-1.37	-1.38	-1.42																										
A31	Wah Shan Gardens	813967	815410	31	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-0.99	-1.17	-2.12	-3.36	-4.73										
A32	Chan's Creative School (H.K. Island)	818935	816998	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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A33	Braman Hill Mansions Block (H.K. Island)	818839	816776	149	-2.01	-2.28	-2.48	-2.40	-3.28	-3.41	-3.68	-4.41	-5.12	-5.63	-5.81	-5.84	-5.50																
A34	City Garden Hotel	818922	816821	4	-1.34	-1.33	-1.32	-1.31	-1.30	-1.29	-1.28	-1.28	-1.24	-1.22	-1.21	-1.20	-1.19																
A35	Hay Wah Building Block B	813707	815452	4	-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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A36	Harbour Pinnacle	813588	817534	5	-1.38	-1.38	-1.38	-1.38	-1.37	-1.37	-1.37	-1.37	-1.36	-1.36	-1.35	-1.32	-1.30	-1.28	-3.79	-7.43													
A37	Sorrento Tower 1	814688	816838	11	-0.98	-0.99	-0.99	-0.98	-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	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	-0.97	
A38	On Lee Building	815551	811439	5	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	
A39	The Open University of Hong Kong	818614	811972	35	-0.96	-0.98	-0.98	-0.96	-0.96	-0.98	-0.98	-0.96	-0.96	-0.96	-0.96	-0.96	-0.96																
A40	King's Court	818502	807278	12	-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	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	
A41	Cheng Shek Wai Government Offices	814557	821411	5	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	-0.75	
A42	Caritas Medical Centre	813323	822489	36	-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	-0.08	-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	
A43	Chung Hong Estate Hong On House	828718	823461	49	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	-0.85	
A44	Hong Kong Institute of Vocational Education (Tsing Yi Campus)	818994	812520	39	-1.17	-1.17	-1.17																										



