

Appendix 3.12 Calculation of Odour Emission Source at San Tin Barracks STW

San Tin Barracks Sewerage Treatment Works

Odour Emission Source

Source ID	Description	Source Type	X	Y	Height (mAG)	No. of Vertices ¹	Radius (m) ¹	Assumed SOER, OU/m ² .s	SOER Reference ^{2,3}
STBSTW_01	Inlet works	AREAPOLY	826166.08	838818.23	0.50	4	-	3.26	S1 Inlet pumping station of SWHSTW
STBSTW_02	Sedimentation Tank	AREAPOLY	826163.52	838806.11	0.50	4	-	4.03	S6 Primary Sedimentation Tank of SWHSTW
STBSTW_03	Bioreactor	AREACIRC	826150.61	838819.39	0.50	-	5.50	1.65	S7 Bioreactor of SWHSTW
STBSTW_04	Bioreactor	AREACIRC	826149.50	838805.32	0.50	-	5.50	1.65	S7 Bioreactor of SWHSTW
STBSTW_05	Sludge Treatment Tank	AREAPOLY	826151.92	838842.56	0.50	4	-	26.42	Sludge Mixing Tank of YLEPP

Remark:

- The vertices, radius and dimensions of the facilities are determined with Geoinfo Map Hong Kong.
- SOERs of SWHSTW refer to Appendix 3.8 of NENT Development EIA (AEIAR-175/2013)
- SOERs of YLEPP refer to Appendix 3.9 of YLEPP EIA (AEIAR-220/2019)

Conversion of 1-hour Average to 5-second Average Concentration

Source ID	Emission Rate (OU/m ² .s)	Stability Class	Conversion Multiplier	Emission Rate with 5-second Peak Factor (OU/m ² .s)	Reference
STBSTW_01	3.26	A, B, C, D, E, F	2.5	8.15	- Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales. - Katestone Scientific 1995, The Evaluation of Peak-to-Mean Ratios for Odour Assessments, volumes I and II, Katestone Scientific Pty Ltd, Brisbane. - Katestone Scientific 1998, Peak-to-Mean Concentration Ratios for Odour Assessments, Katestone Scientific Pty Ltd, Brisbane.
STBSTW_02	4.03	A, B, C, D, E, F	2.5	10.08	
STBSTW_03	1.65	A, B, C, D, E, F	2.5	4.13	
STBSTW_04	1.65	A, B, C, D, E, F	2.5	4.13	
STBSTW_05	26.42	A, B, C, D, E, F	2.5	66.05	

Emission Source Listing in AERMOD

Source ID	Source Type	X	Y	Height (mAG)	No. of Vertices ¹	Radius (m) ¹	Emission Rate with 5-second Peak Factor (OU/m ² .s)
STBSTW_01	AREAPOLY	826166.08	838818.23	0.50	4	-	8.15
STBSTW_02	AREAPOLY	826163.52	838806.11	0.50	4	-	10.08
STBSTW_03	AREACIRC	826150.61	838819.39	0.50	-	5.50	4.13
STBSTW_04	AREACIRC	826149.50	838805.32	0.50	-	5.50	4.13
STBSTW_05	AREAPOLY	826151.92	838842.56	0.50	4	-	66.05

Remark:

- The vertices, radius and dimensions of the facilities are determined with Geoinfo Map Hong Kong.

Appendix 3.12 Calculation of Odour Emission Source at San Tin Barracks STW

San Tin Barracks Sewerage Treatment Works

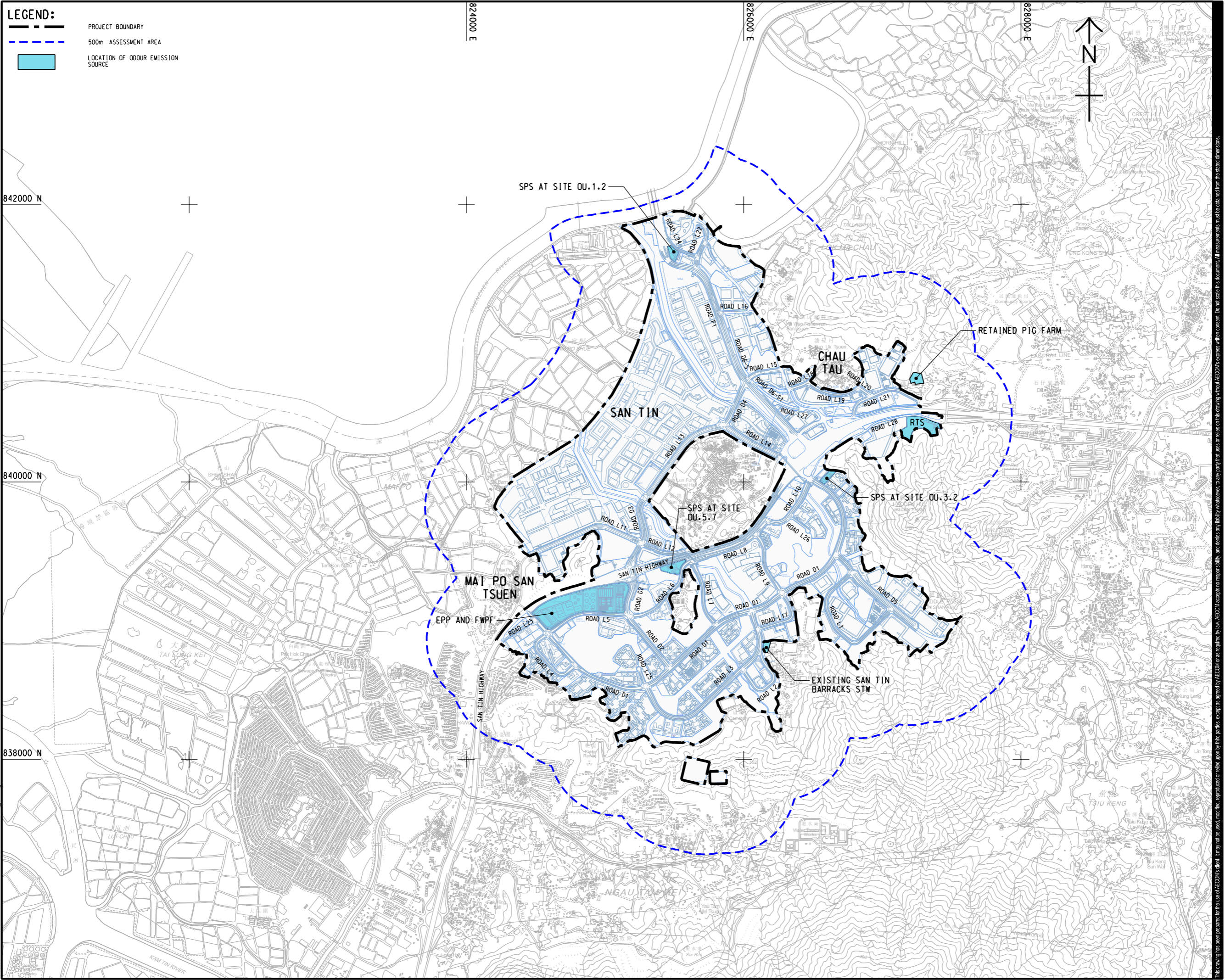
Vertices of Area Source

Source ID	Vertex 1		Vertex 2		Vertex 3		Vertex 4	
	X	Y	X	Y	X	Y	X	Y
STBSTW_01	826166.08	838818.23	826166.76	838828.81	826172.34	838828.45	826171.67	838817.87
STBSTW_02	826163.52	838806.11	826163.61	838816.71	826169.21	838816.66	826169.12	838806.06
STBSTW_05	826151.92	838842.56	826161.31	838842.18	826160.85	838830.59	826151.45	838830.97

Remark:

1. The vertices are determined with Geoinfo Map Hong Kong.

ISO A1 594mm x 841mm
 Approved:
 Checked:
 Designer:
 Project Management Initials:
 Plot File by: haquan.zhao 11/09/2023
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LEGEND:

- PROJECT BOUNDARY
- 500m ASSESSMENT AREA
- LOCATION OF ODOUR EMISSION SOURCE



PROJECT
 項目
FIRST PHASE DEVELOPMENT OF THE NEW TERRITORIES NORTH – SAN TIN / LOK MA CHAU DEVELOPMENT NODE – INVESTIGATION

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ISSUE/REVISION
 修訂

IR	DATE	DESCRIPTION	CHK.
修訂	日期	內容描述	核對

STATUS
 階段

SCALE
 比例
 A3 1 : 25000

DIMENSION UNIT
 尺寸單位
 METRES

KEY PLAN
 索引圖

PROJECT NO.
 項目編號
 60670882

AGREEMENT NO.
 協議編號
 CE 20/2021

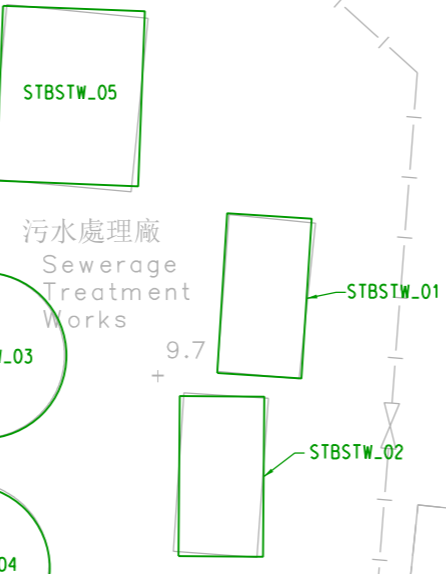
SHEET TITLE
 圖紙名稱
 LOCATION OF ODOUR EMISSION SOURCES (OVERVIEW)

SHEET NUMBER
 圖紙編號
 60670882/A34/Appendix 3.10

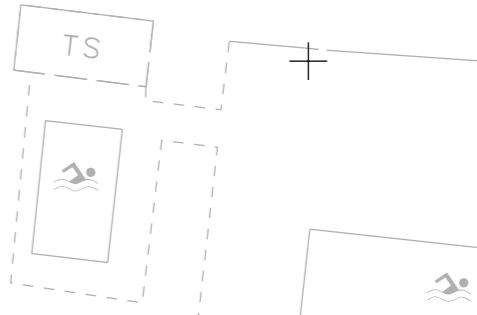
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OU.5.9



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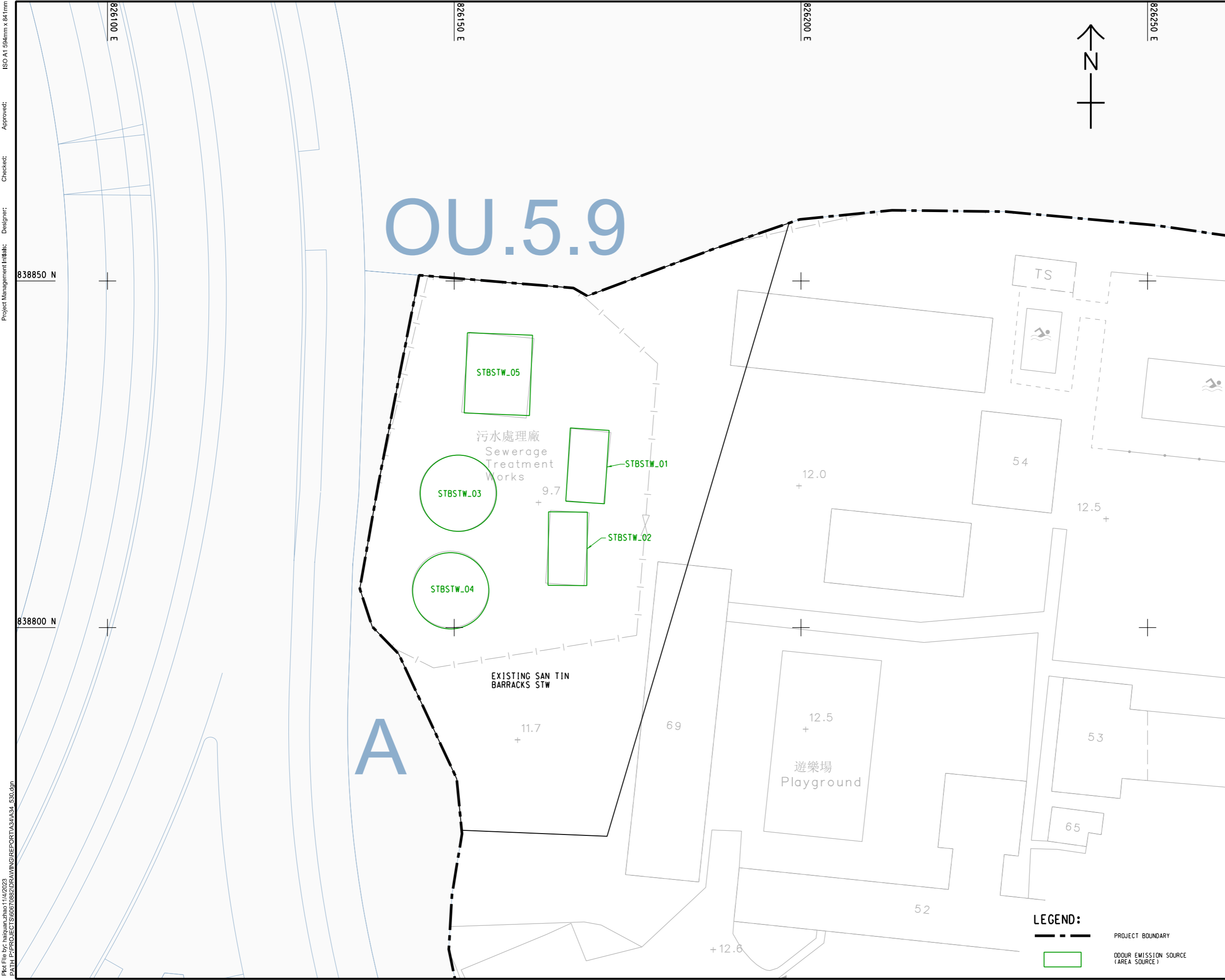


EXISTING SAN TIN BARRACKS STW



LEGEND:

-  PROJECT BOUNDARY
-  ODOUR EMISSION SOURCE (AREA SOURCE)



ISO A1 594mm x 841mm
 Approved:
 Checked:
 Designer:
 Project Management Initials:
 838850 N
 838800 N
 Plot File by: haiquan.zhao 11/14/2023
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PROJECT
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 FIRST PHASE DEVELOPMENT OF THE NEW TERRITORIES NORTH – SAN TIN / LOK MA CHAU DEVELOPMENT NODE – INVESTIGATION

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ISSUE/REVISION
 修訂

I/R	DATE	DESCRIPTION	CHK.

STATUS
 階段

SCALE
 比例
 A3 1 : 500

DIMENSION UNIT
 尺寸單位
 METRES

KEY PLAN
 索引圖

PROJECT NO.
 項目編號
 60670882

AGREEMENT NO.
 協議編號
 CE 20/2021

SHEET TITLE
 圖紙名稱

LOCATION OF ODOUR EMISSION SOURCES (EXISTING SAN TIN BARRACKS STW)

SHEET NUMBER
 圖紙編號
 60670882/A34/Appendix 3.12

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