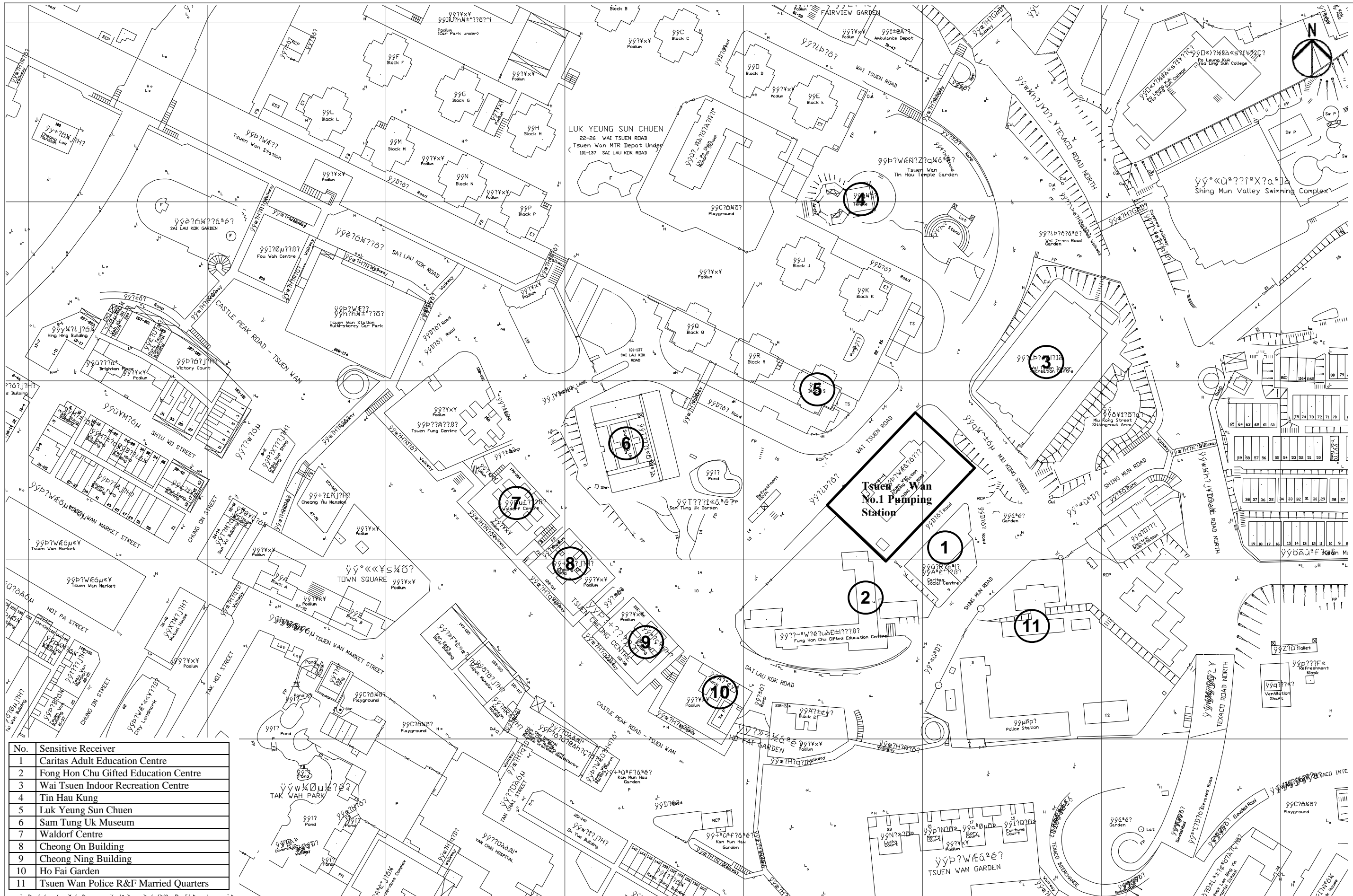


APPENDIX 1 - Figures



No.	Sensitive Receiver
1	Caritas Adult Education Centre
2	Fong Hon Chu Gifted Education Centre
3	Wai Tsuen Indoor Recreation Centre
4	Tin Hau Kung
5	Luk Yeung Sun Chuen
6	Sam Tung Uk Museum
7	Waldorf Centre
8	Cheong On Building
9	Cheong Ning Building
10	Ho Fai Garden
11	Tsuen Wan Police R&F Married Quarters

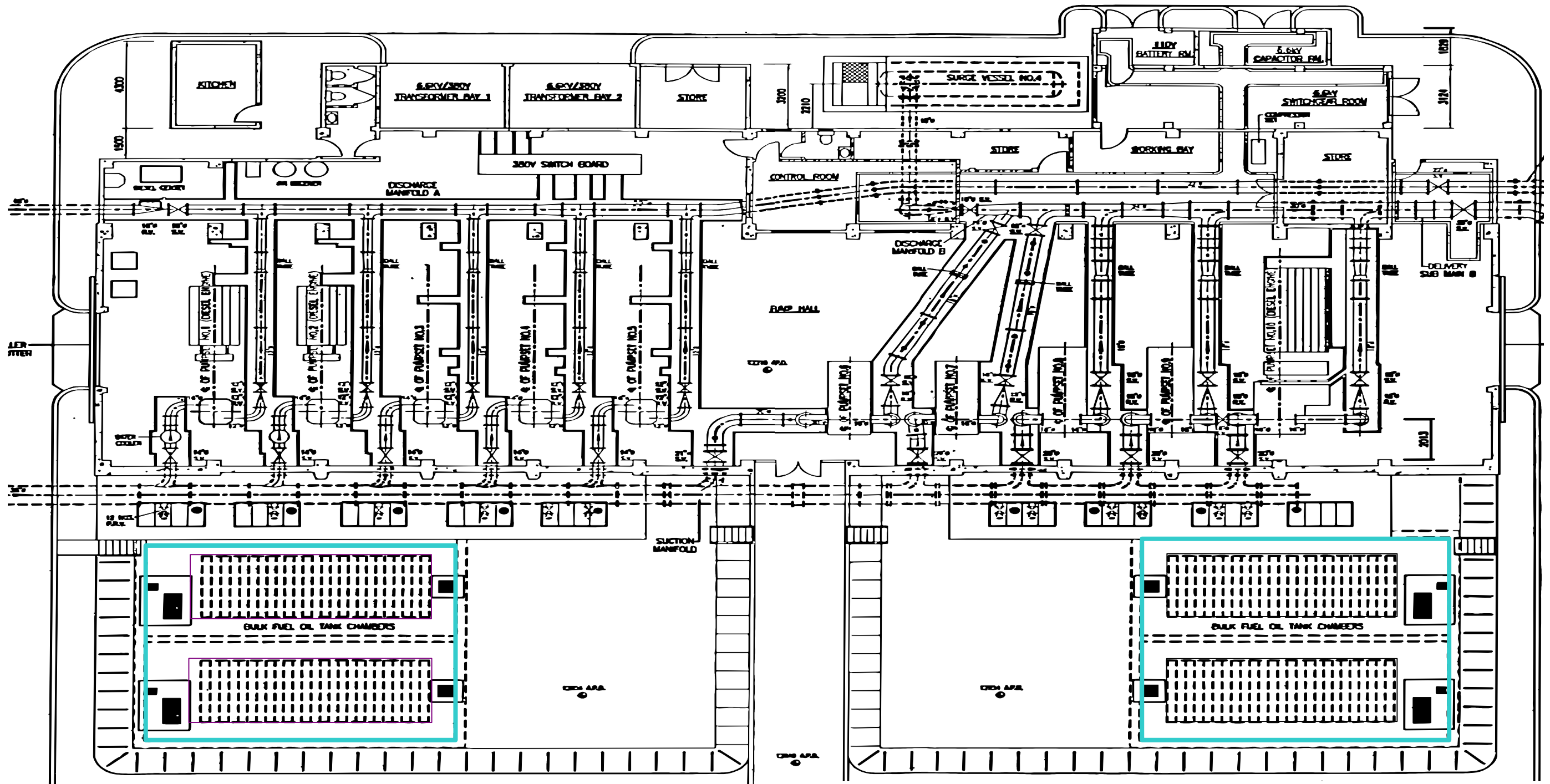
REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY	AY
DRAWN BY	AY
CHECKED BY	FC
IN CHARGE	ST
DATE	

DRAWING TITLE
Locations of Site and Sensitive Receivers

ARUP Ove Arup & Partners
 Hong Kong Limited
 JOB TITLE
 The Decommissioning of Underground Fuel Tanks at
 Tsuen Wan No.1 Pumping Station
 Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	1 : 2000
FIGURE NUMBER	Figure 1.1
SHEET NO	STAGE CODE/REV
	P 0



Legend

- Underground diesel storage tanks not used for at least 15 years
- Extent of study area

- Underground diesel storage tanks currently in use

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION

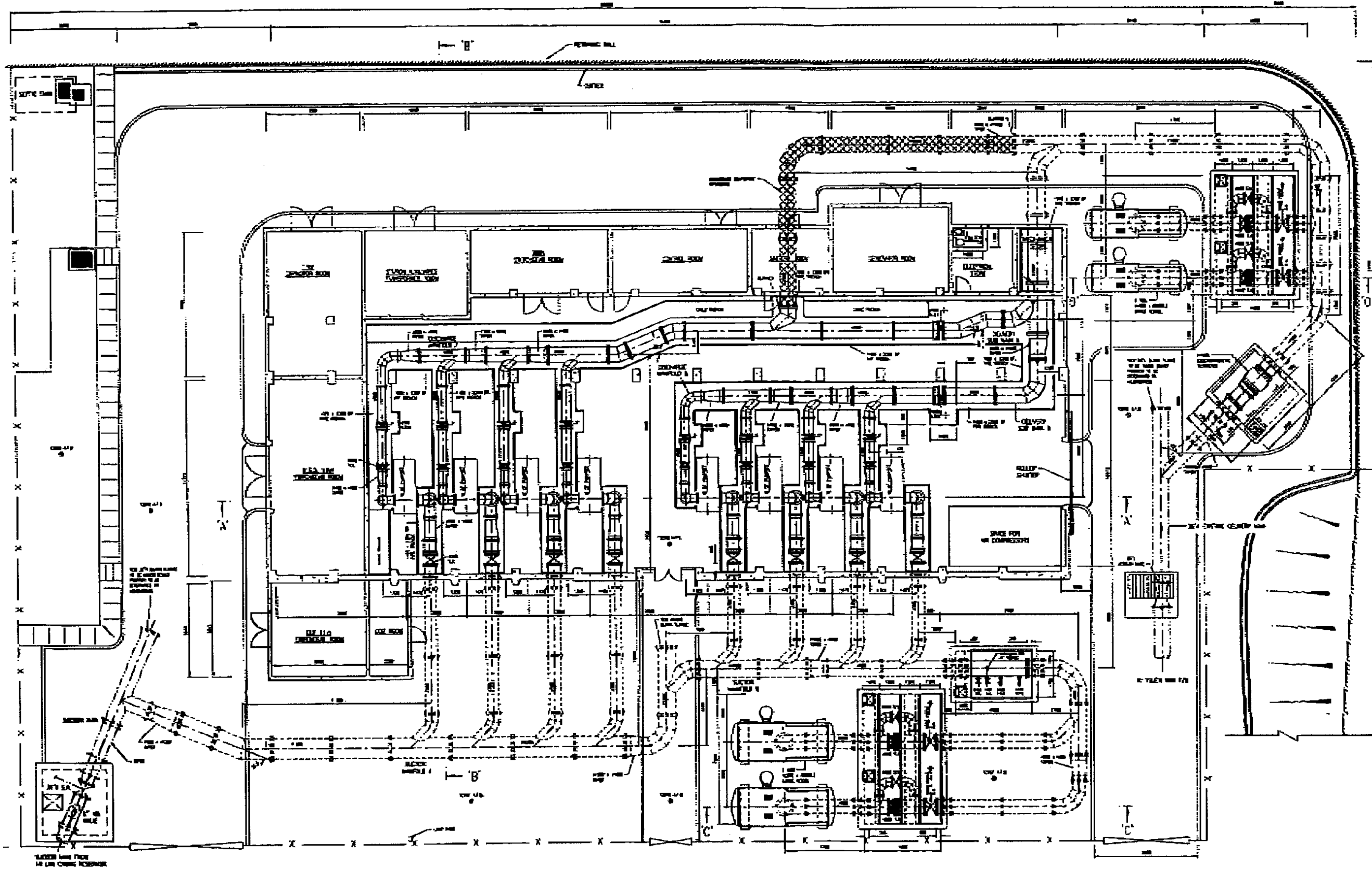
DESIGNED BY	AY
DRAWN BY	AY
CHECKED BY	FC
IN CHARGE	ST
DATE	

DRAWING TITLE	Locations of the Underground Diesel Fuel Storage Tanks

ARUP Ove Arup & Partners
Hong Kong Limited

The Decommissioning of Underground Fuel Tanks at Tsuen Wan No.1 Pumping Station
Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	N.T.S.
FIGURE NUMBER	Figure 1.2
SHEET NO	STAGE CODE REV
	P 0



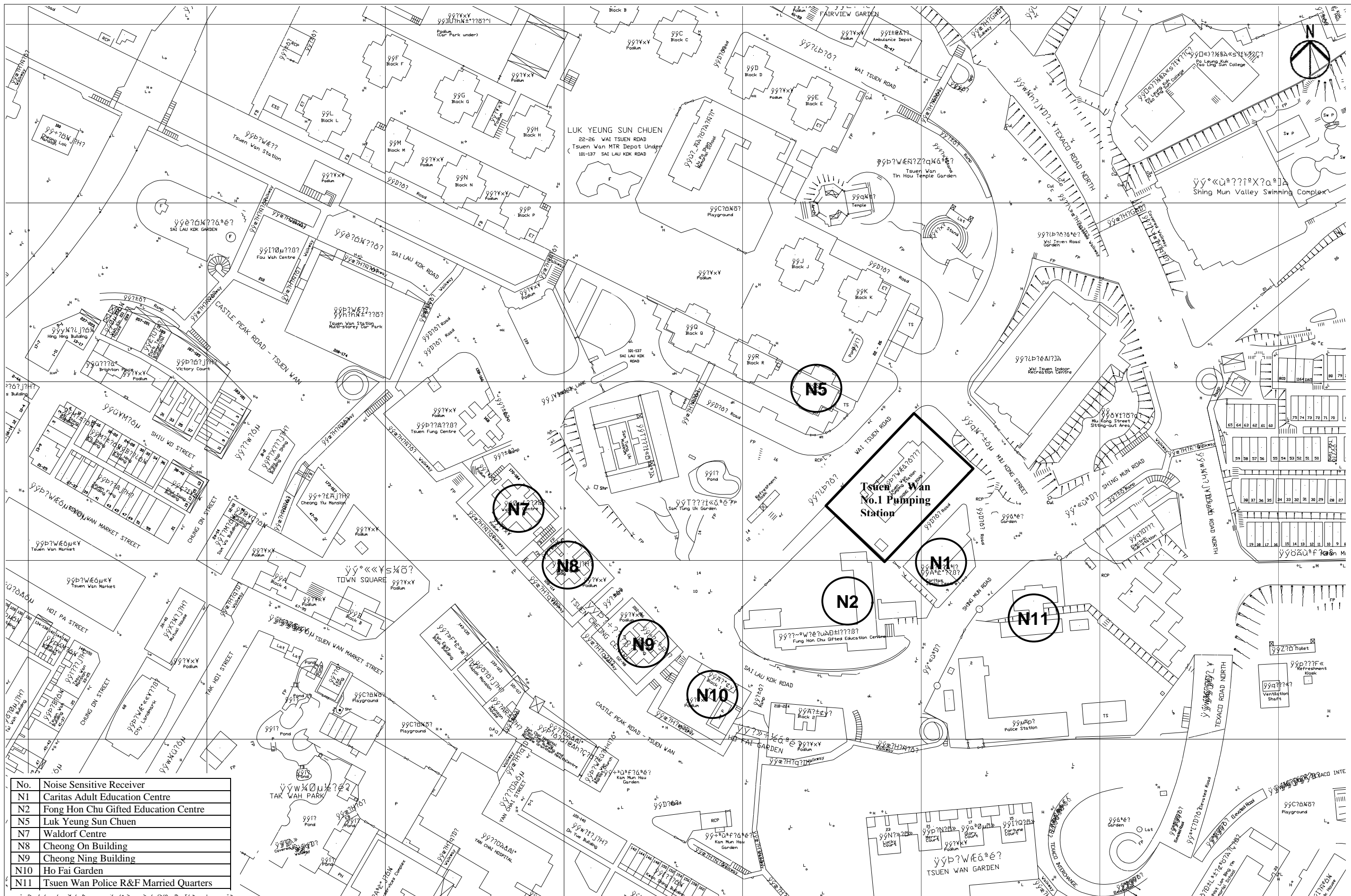
REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY AY
 DRAWN BY AY
 CHECKED BY FC
 IN CHARGE ST
 DATE

DRAWING TITLE
**Layout Plan showing the Rehabilitated
 Tsuen Wan No.1 Pumping Station**

ARUP Ove Arup & Partners
 Hong Kong Limited
JOB TITLE
 The Decommissioning of Underground Fuel Tanks at
 Tsuen Wan No.1 Pumping Station
 Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	N.T.S.
FIGURE NUMBER	Figure 1.4
SHEET NO	STAGE CODE REV
P	0



No.	Noise Sensitive Receiver
N1	Caritas Adult Education Centre
N2	Fong Hon Chu Gifted Education Centre
N5	Luk Yeung Sun Chuen
N7	Waldorf Centre
N8	Cheong On Building
N9	Cheong Ning Building
N10	Ho Fai Garden
N11	Tsuen Wan Police R&F Married Quarters

REV	DATE	BY	SUB	APP	DESCRIPTION

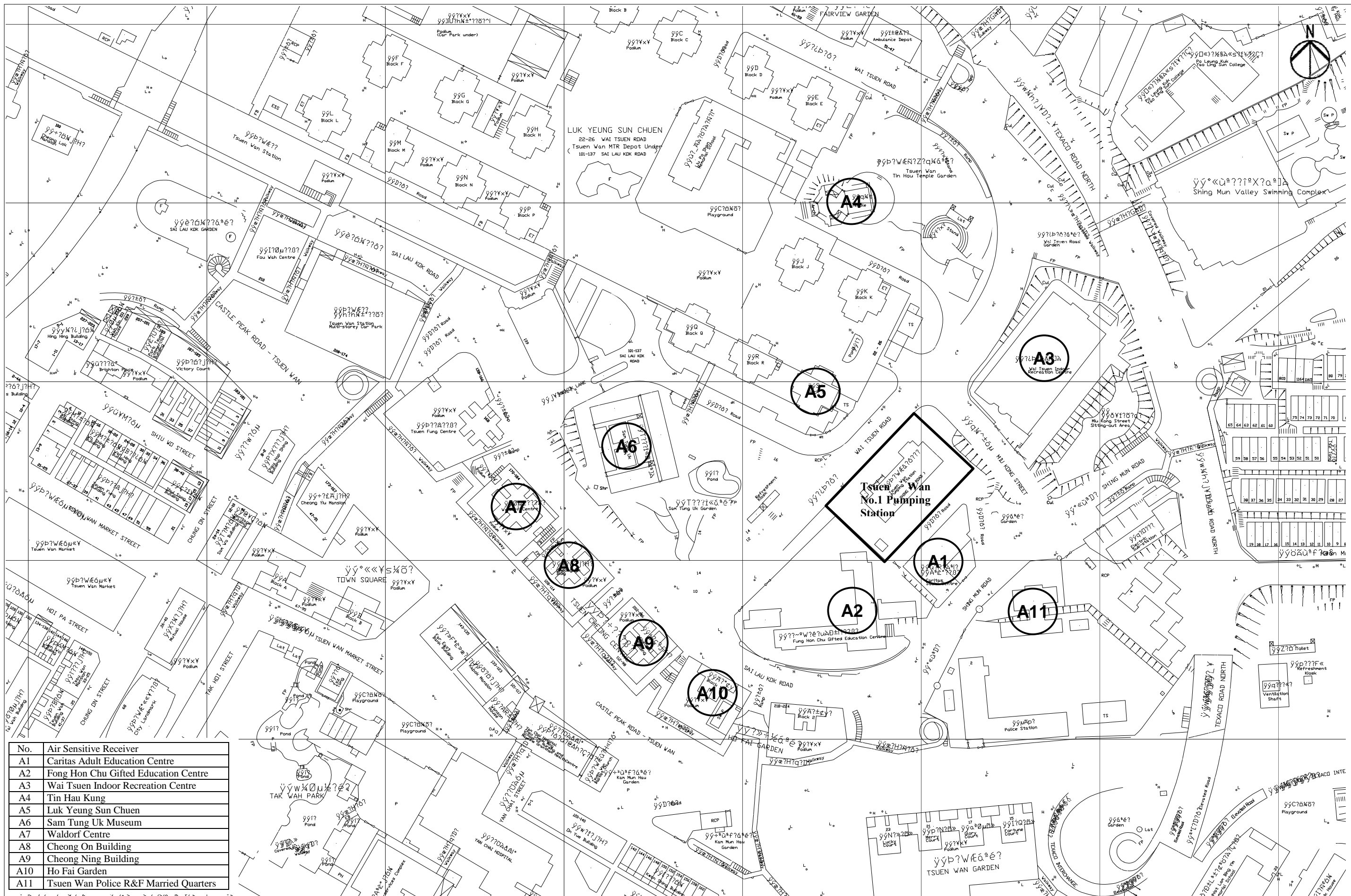
DESIGNED BY	AY
DRAWN BY	AY
CHECKED BY	FC
IN CHARGE	ST
DATE	

Locations of Noise Sensitive Receivers

ARUP Ove Arup & Partners
Hong Kong Limited

JOB TITLE
The Decommissioning of Underground Fuel Tanks at
Tsuen Wan No.1 Pumping Station
Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	1 : 2000
FIGURE NUMBER	Figure 4.1
SHEET NO	STAGE CODE/REV
	P 0



No.	Air Sensitive Receiver
A1	Caritas Adult Education Centre
A2	Fong Hon Chu Gifted Education Centre
A3	Wai Tsuen Indoor Recreation Centre
A4	Tin Hau Kung
A5	Luk Yeung Sun Chuen
A6	Sam Tung Uk Museum
A7	Waldorf Centre
A8	Cheong On Building
A9	Cheong Ning Building
A10	Ho Fai Garden
A11	Tsuen Wan Police R&F Married Quarters

REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY	AY
DRAWN BY	AY
CHECKED BY	FC
IN CHARGE	ST
DATE	

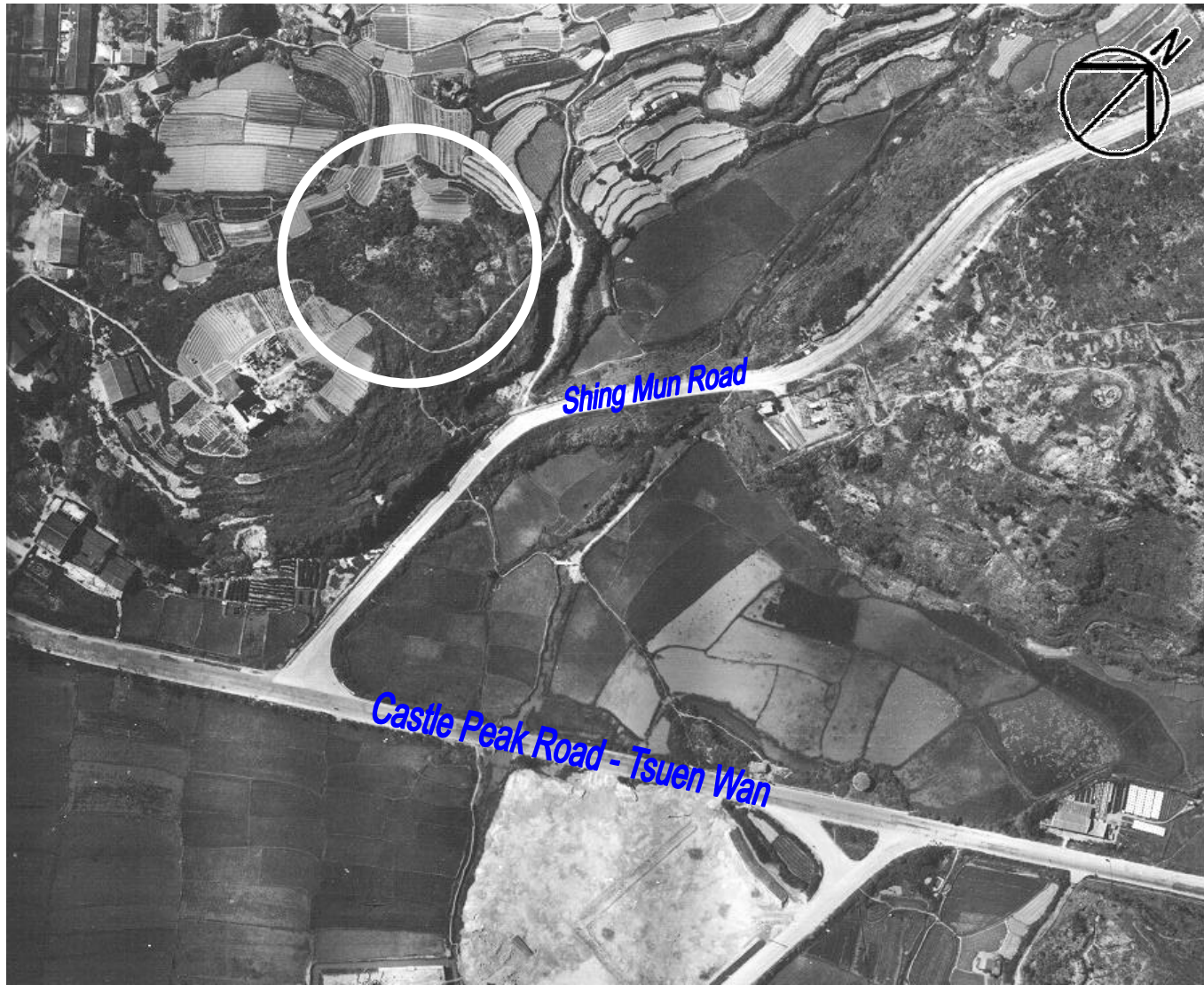
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Locations of Air Sensitive Receivers

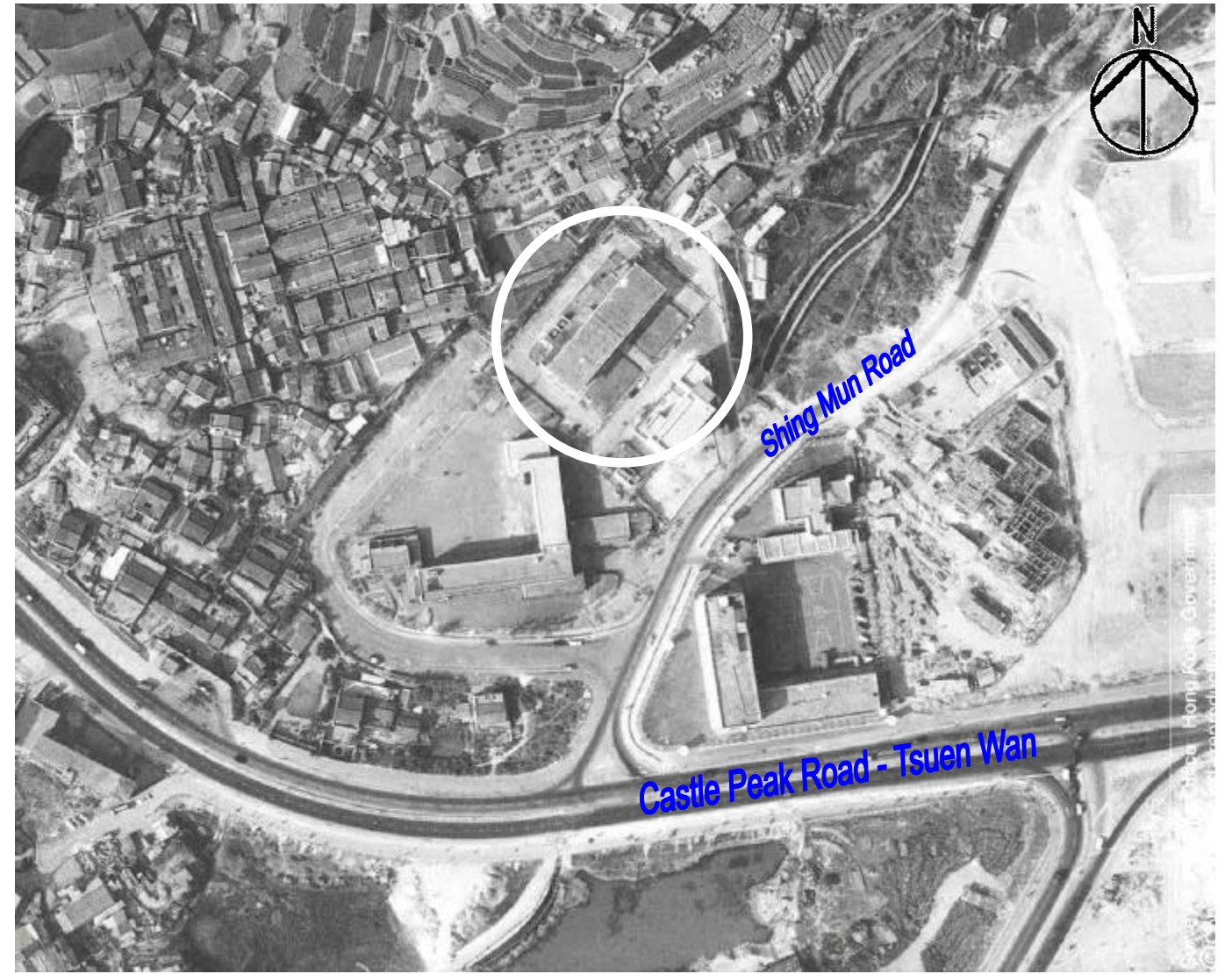
ARUP Ove Arup & Partners
Hong Kong Limited

JOB TITLE
The Decommissioning of Underground Fuel Tanks at
Tsuen Wan No.1 Pumping Station
Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	1 : 2000
FIGURE NUMBER	Figure 5.1
SHEET NO	STAGE CODE/REV
	P 0



1949



1963

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION

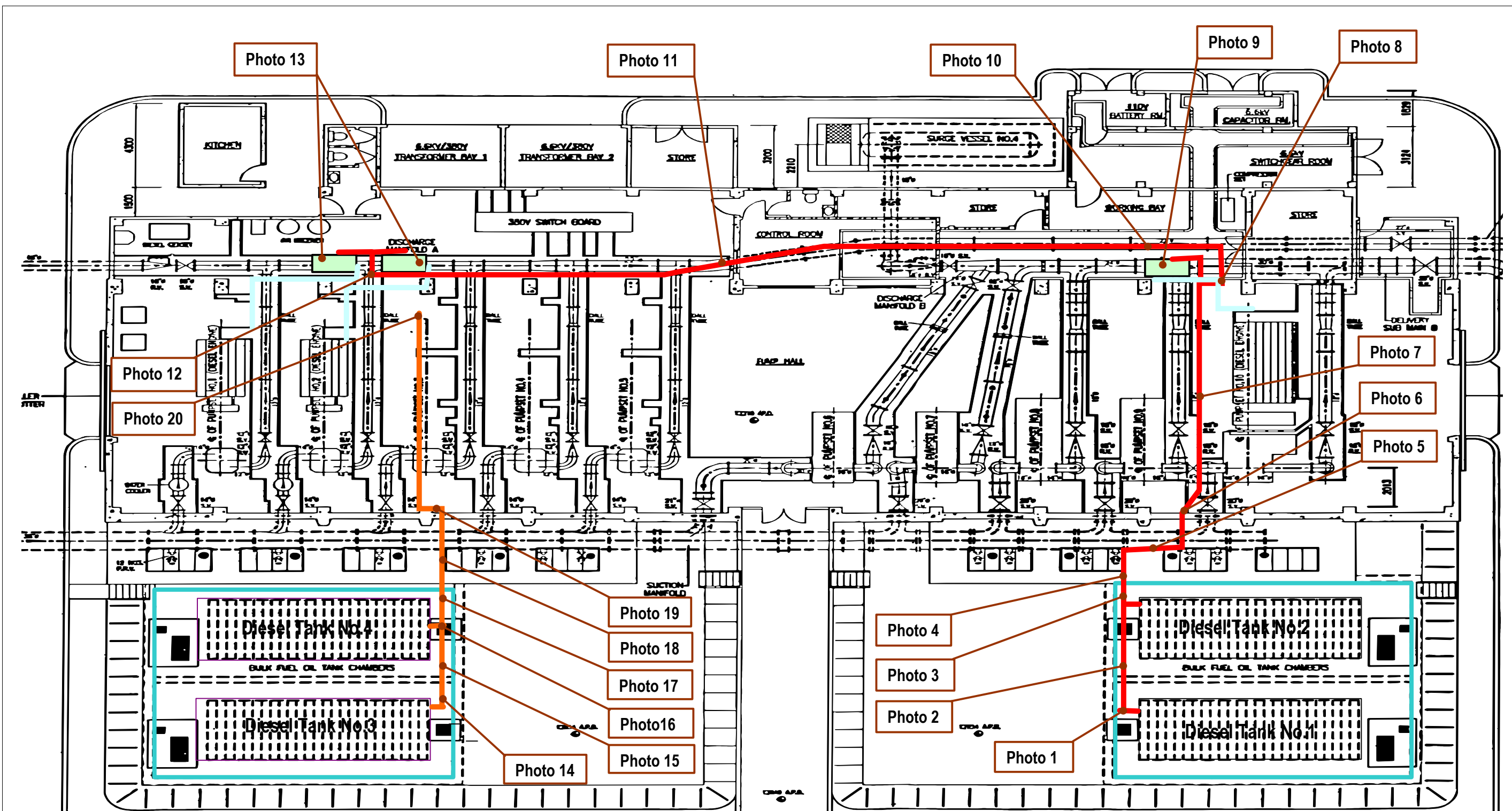
DESIGNED BY	AY
DRAWN BY	AY
CHECKED BY	FC
IN CHARGE	ST
DATE	

DRAWING TITLE
Aerial Photograph of the Site Area

ARUP Ove Arup & Partners
Hong Kong Limited

JOB TITLE
The Decommissioning of Underground Fuel Tanks at
Tsuen Wan No.1 Pumping Station
Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	N.T.S.
FIGURE NUMBER	Figure 6.1
SHEET NO	STAGE CODE REV
	P 0



Legend

- Underground diesel storage tanks not used for at least 15 years
- Extent of study area
- Diesel pipeline not used for at least 15 years (located in trench)
- Underground diesel storage tanks currently in use
- Individual diesel storage tanks for each diesel pump
- Diesel pipeline between the underground diesel storage tanks and the temporary diesel tanks (currently in use)
- Diesel pipeline between the temporary diesel tanks and diesel pumpsets

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY AY
 DRAWN BY AY
 CHECKED BY FC
 IN CHARGE ST
 DATE

DRAWING TITLE
Locations of Underground Diesel Fuel Storage Tanks and Routing of Diesel Pipeline System

ARUP Ove Arup & Partners
 Hong Kong Limited

JOB TITLE
 The Decommissioning of Underground Fuel Tanks at Tsuen Wan No.1 Pumping Station
 Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	N.T.S.
FIGURE NUMBER	Figure 6.2
SHEET NO	STAGE CODE REV
	P 0



Photo 1



Photo 2



Photo 3

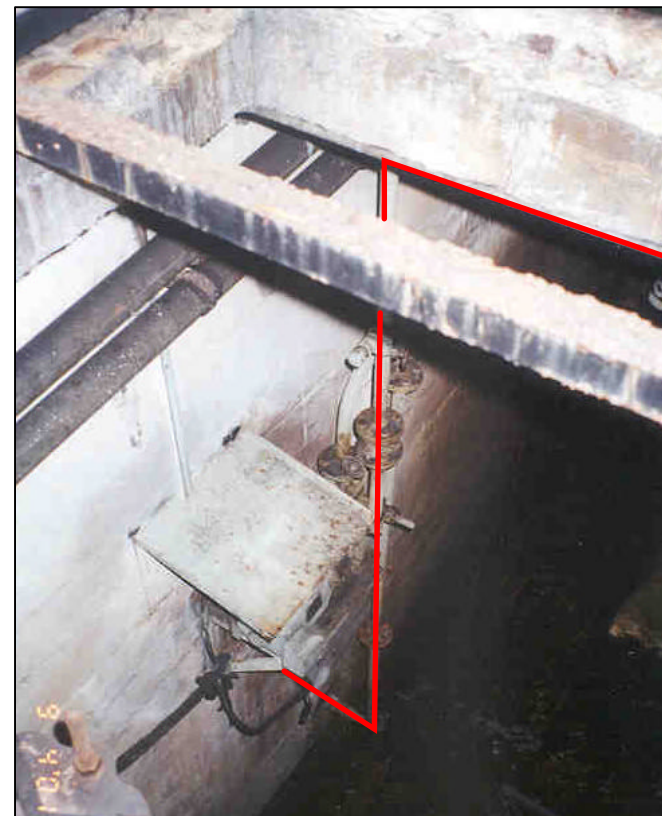


Photo 4



Photo 5



Photo 6



Diesel pipeline currently in use (From the Underground Diesel Storage Tanks No.1 and 2 to the Temporary Diesel Tank in Pumping Station)

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY	AY	DRAWING TITLE Locations of Underground Diesel Fuel Storage Tanks and Diesel Pipeline (Sheet 1 of 4)
DRAWN BY	AY	
CHECKED BY	FC	
IN CHARGE	ST	
DATE		

ARUP Ove Arup & Partners
Hong Kong Limited

JOB TITLE
The Decommissioning of Underground Fuel Tanks at Tsuen Wan No.1 Pumping Station Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	N.T.S.
FIGURE NUMBER	Figure 6.3
SHEET NO	STAGE CODE REV
P	0

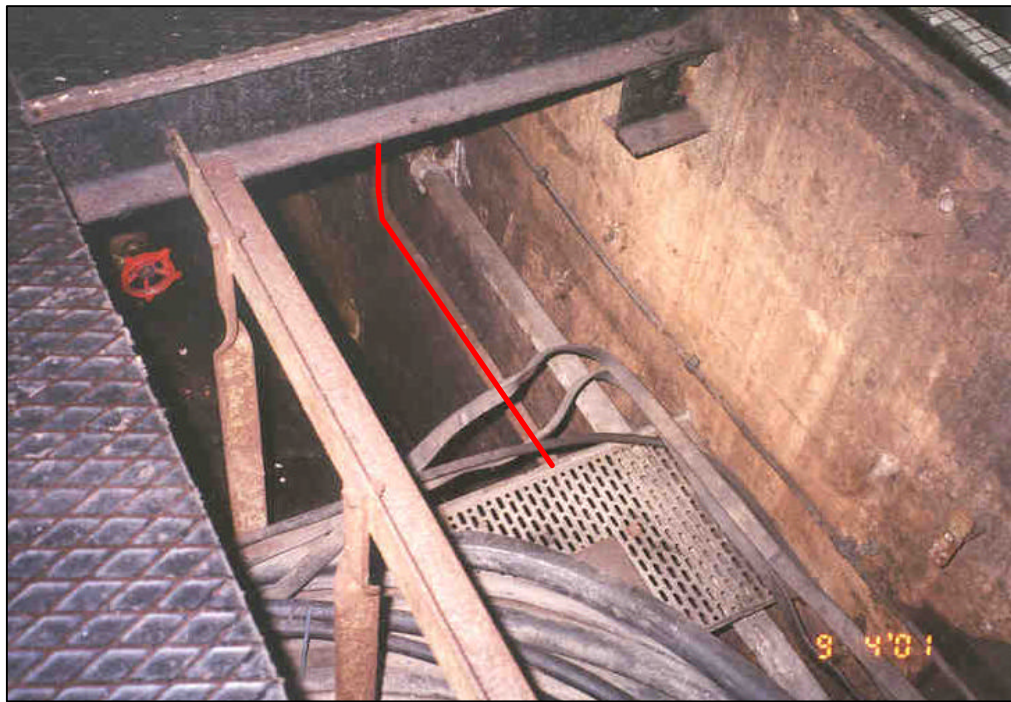


Photo 7



Photo 8

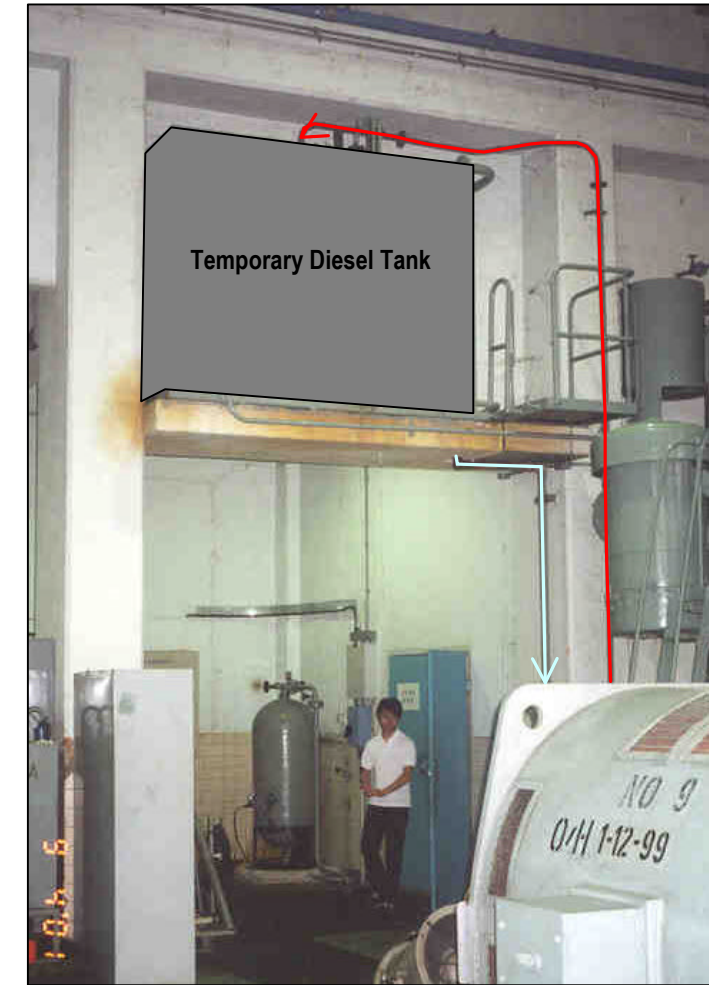


Photo 9

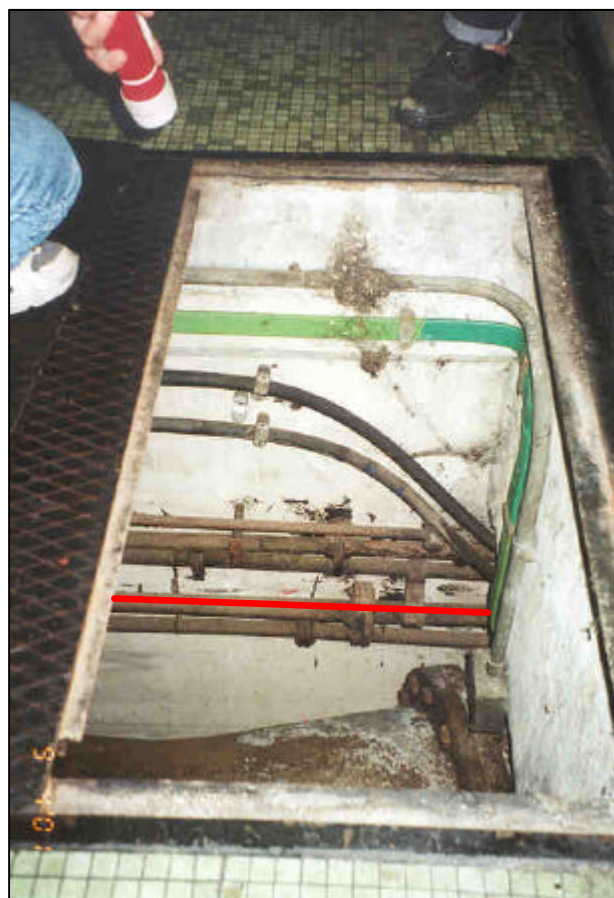


Photo 10

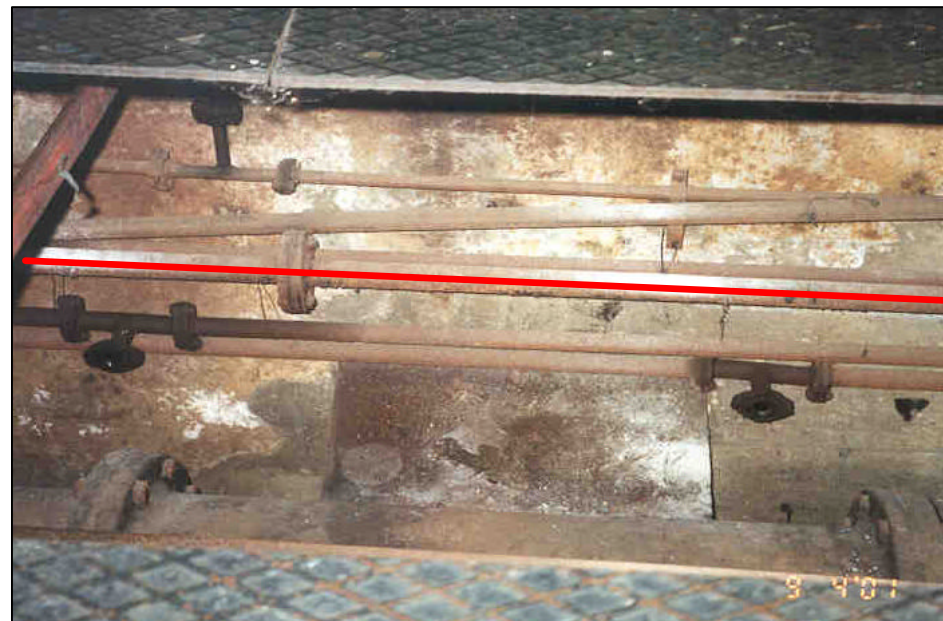


Photo 11

- Diesel pipeline currently in use (From the Underground Diesel Storage Tanks No.1 and 2 to the Temporary Diesel Tanks in Pumping Station)
- Diesel pipeline currently in use (From the temporary diesel tank in Pumping Station to the Diesel Pumpset)

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY AY	DRAWING TITLE Locations of Underground Diesel Fuel Storage Tanks and Diesel Pipeline (Sheet 2 of 4)
DRAWN BY AY	
CHECKED BY FC	
IN CHARGE ST	
DATE	

ARUP Ove Arup & Partners Hong Kong Limited	
JOB TITLE The Decommissioning of Underground Fuel Tanks at Tsuen Wan No.1 Pumping Station Environmental Impact Assessment	

FILE NAME	CADD DATE
SCALE	N.T.S.
FIGURE NUMBER	Figure 6.4
SHEET NO	STAGE CODE REV
P	0



Photo 12

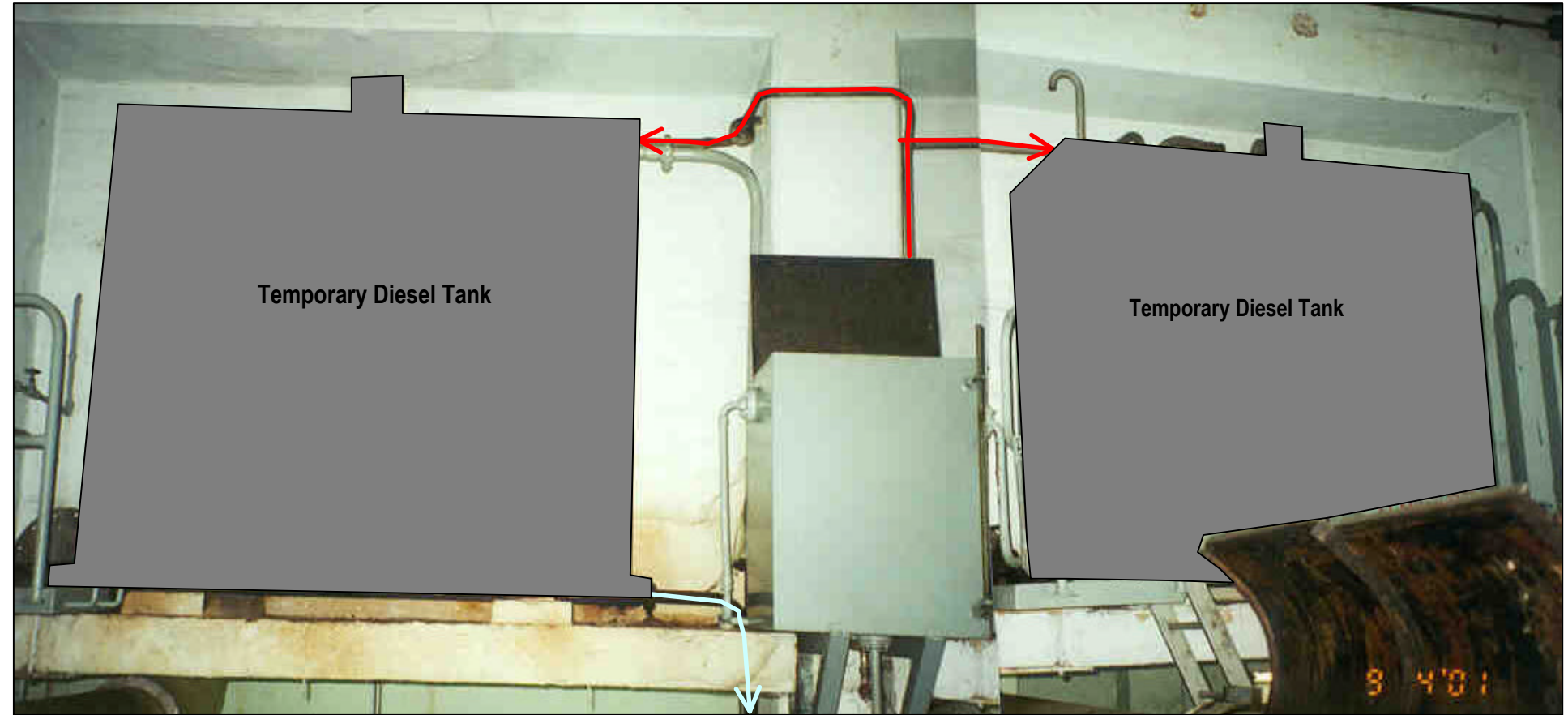


Photo 13



Diesel pipeline currently in use (From the Underground Diesel Storage Tanks No.1 and 2 to the Temporary Diesel Tanks in Pumping Station)



Diesel pipeline currently in use (From the temporary diesel tank in Pumping Station to the Diesel Pumpset)

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY	AY	DRAWING TITLE	Locations of Underground Diesel Fuel Storage Tanks and Diesel Pipeline (Sheet 3 of 4)
DRAWN BY	AY		
CHECKED BY	FC		
IN CHARGE	ST		
DATE			

ARUP Ove Arup & Partners
Hong Kong Limited

JOB TITLE
The Decommissioning of Underground Fuel Tanks at Tsuen Wan No.1 Pumping Station Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	N.T.S.
FIGURE NUMBER	Figure 6.5
SHEET NO	STAGE CODE REV
	P 0



Photo 14



Photo 15

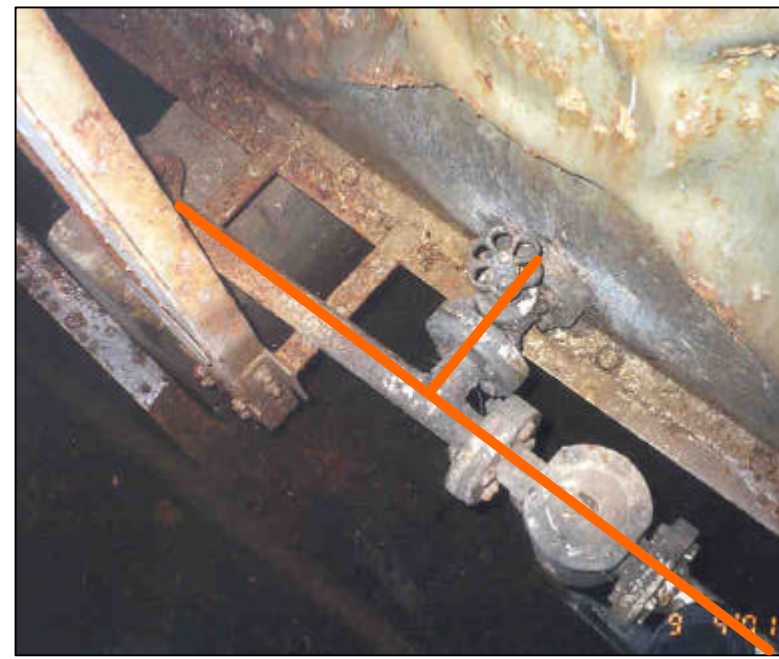


Photo 16

— Diesel pipeline not used for at least 15 years

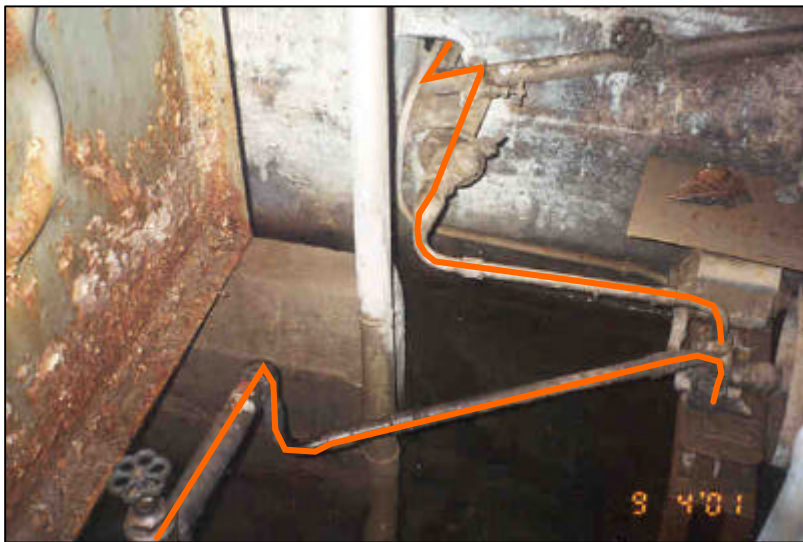


Photo 17



Photo 19

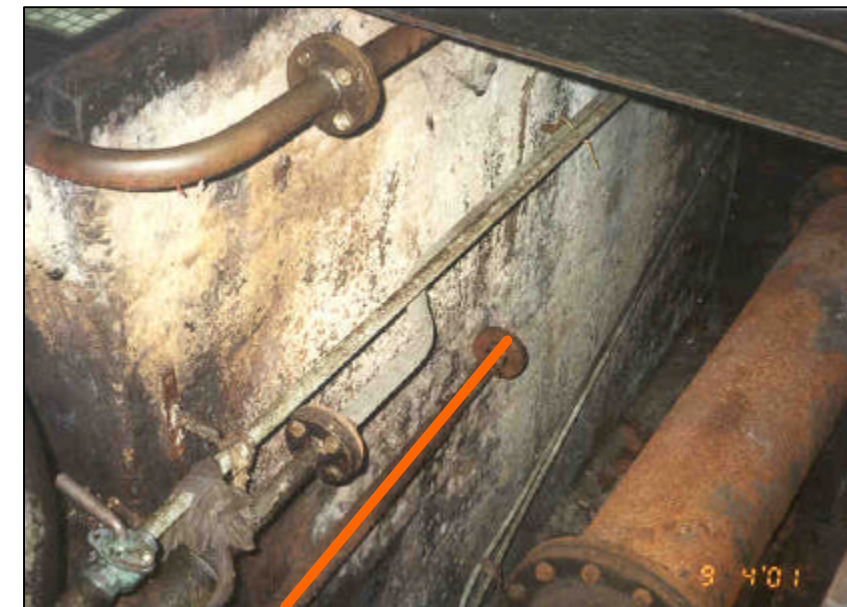


Photo 20

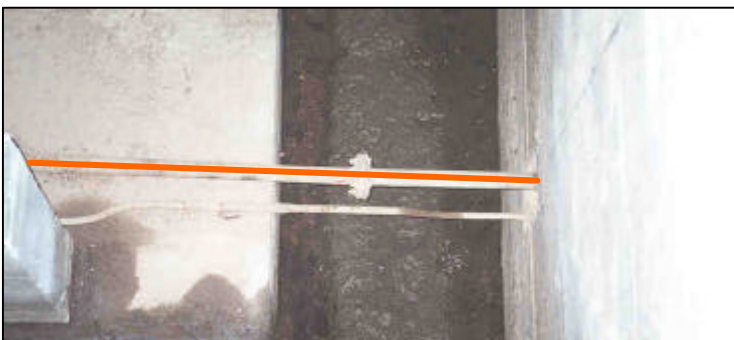


Photo 18

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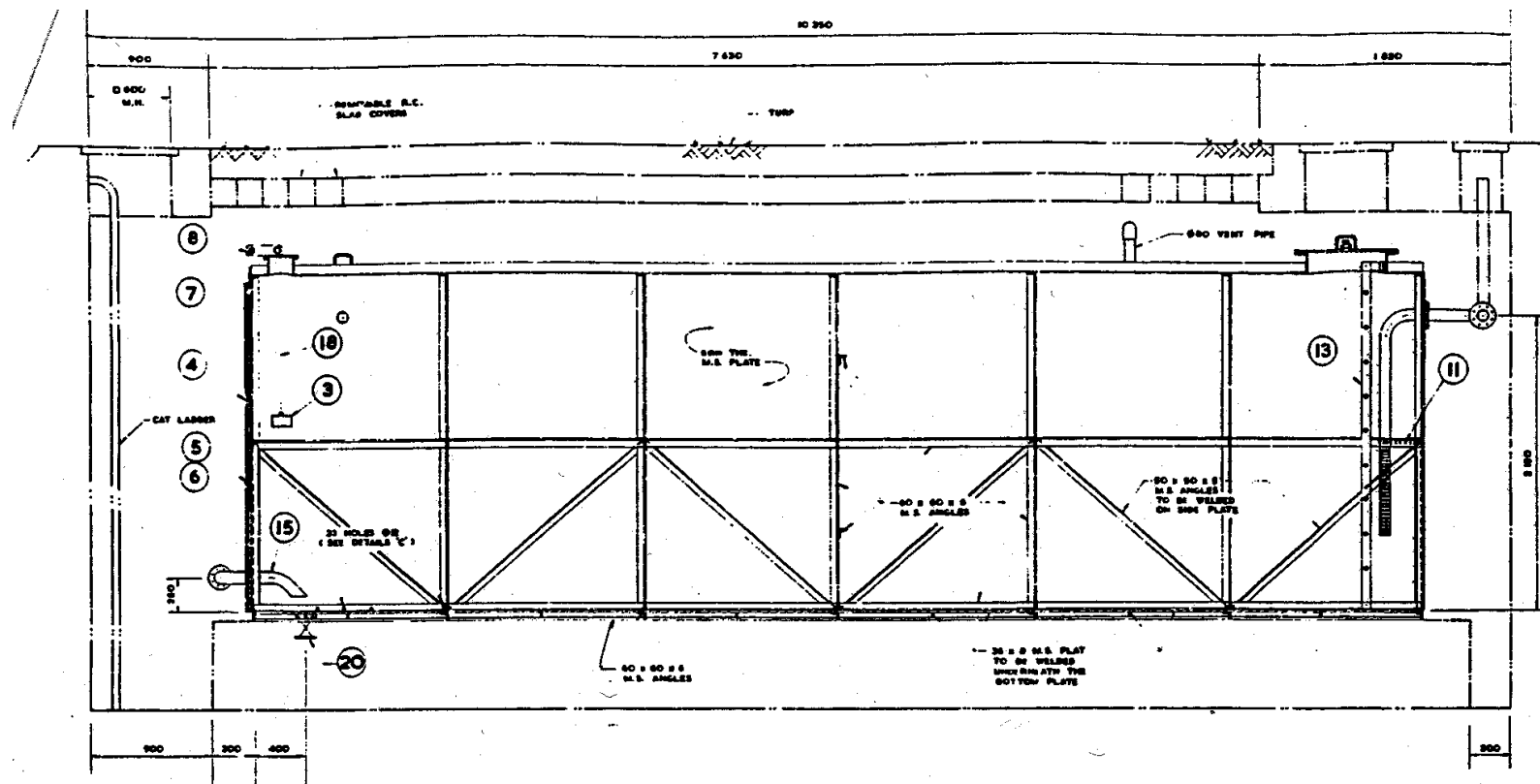
DESIGNED BY	AY
DRAWN BY	AY
CHECKED BY	FC
IN CHARGE	ST
DATE	

Locations of Underground Diesel Fuel Storage Tanks and Diesel Pipeline (Sheet 4 of 4)

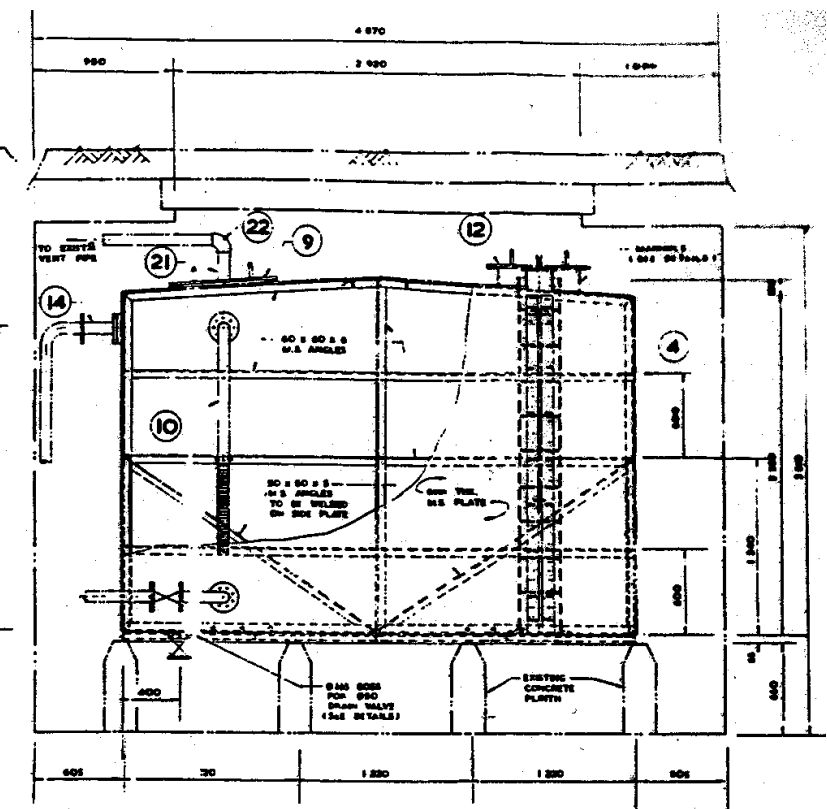
ARUP Ove Arup & Partners
Hong Kong Limited

Job Title: The Decommissioning of Underground Fuel Tanks at Tsuen Wan No.1 Pumping Station Environmental Impact Assessment

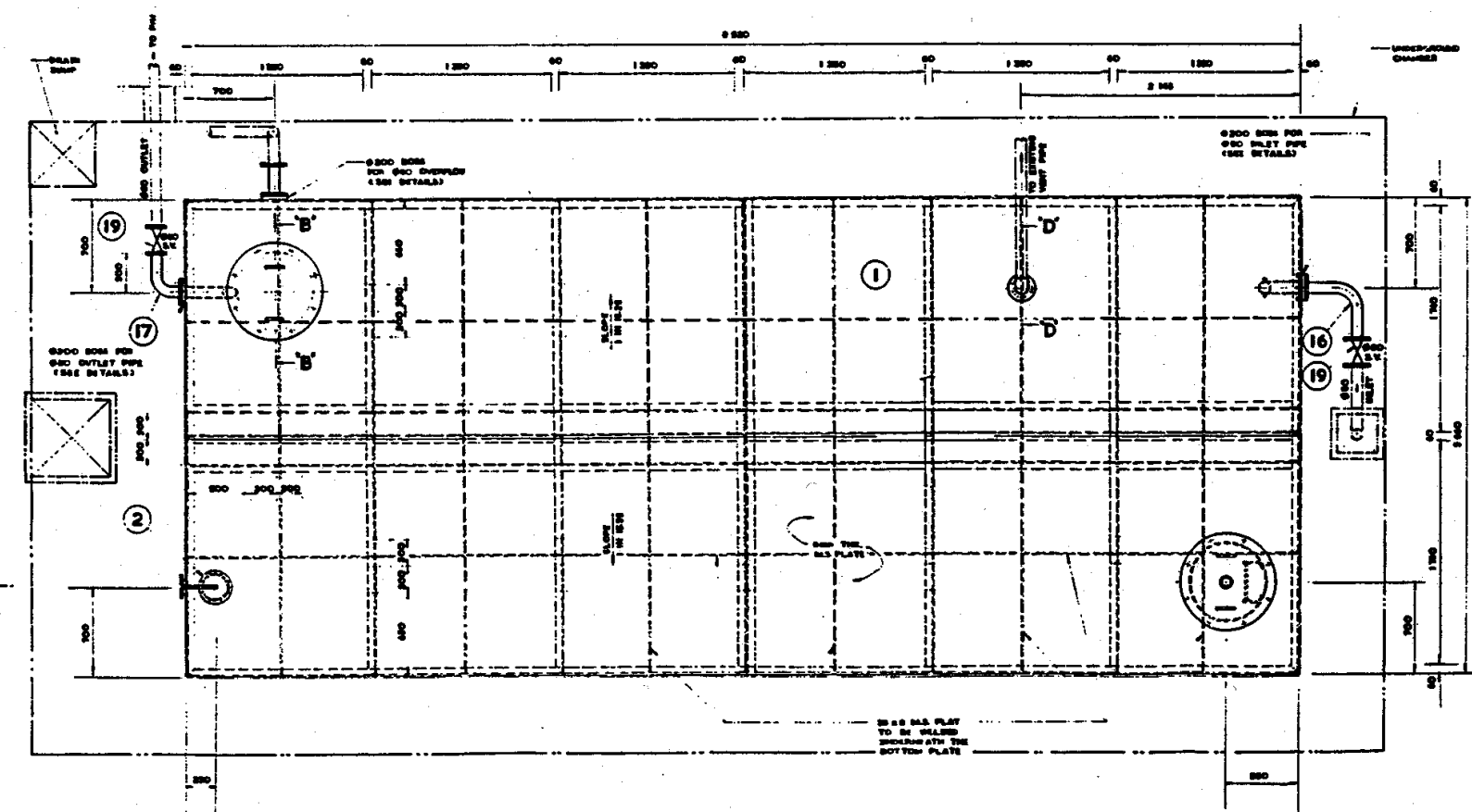
FILE NAME	CADD DATE
SCALE	N.T.S.
FIGURE NUMBER	Figure 6.6
SHEET NO	STAGE CODE REV
	P 0



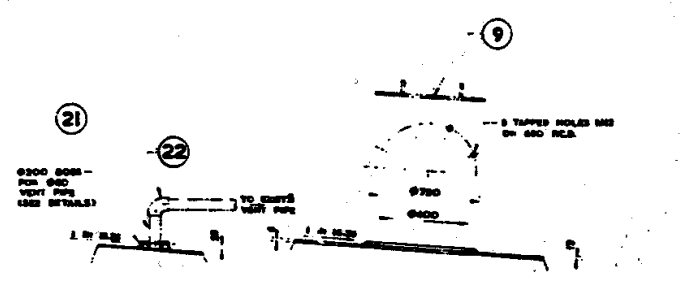
SECTION A-A



SIDE VIEW

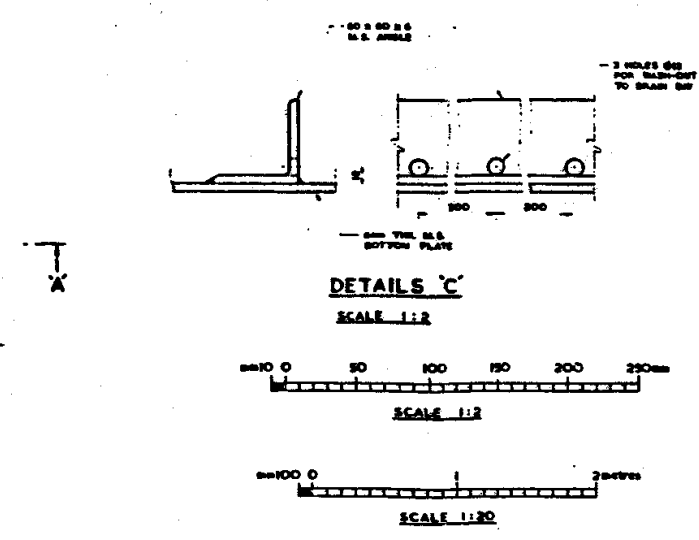


PLAN

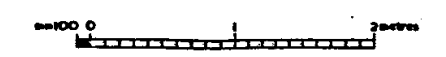
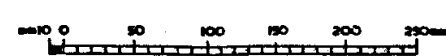


SECTION B-B
SCALE 1:20

SECTION B-B
SCALE 1:20



DETAILS C
SCALE 1:2



REV	DATE	BY	SUB	APP	DESCRIPTION

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DRAWING TITLE
Construction Details of the Diesel Fuel Storage Tank

ARUP Ove Arup & Partners
Hong Kong Limited

JOB TITLE
The Decommissioning of Underground Fuel Tanks at Tsuen Wan No.1 Pumping Station Environmental Impact Assessment

FILE NAME	CADD DATE
SCALE	N.T.S.
FIGURE NUMBER	Figure 8.1
SHEET NO	STAGE CODE REV
	P 0

APPENDIX 2 –Demolition Methodology of the Underground Diesel Fuel Tanks

電子郵遞
e-mail
電話
Telephone 2634 3750
檔號
Reference (15) in WSD/ST 469/00 Pt.2
圖文傳真
Facsimile 2634 1776

Ove Arup & Partners Hong Kong Limited
Level 5, Festival Walk,
80 Tat Chee Avenue,
Kowloon Tong,
Kowloon.
(Attn.: Mr. Sam P. S. TSOI)

23173

19 February 2001

ARUP ACOUSTICS		Doc No.	23173
Master Ref.: 011003		Project Ref.:	
Reply Ref.:	By:	Date	
Action Required:			
Received 20 FEB 2001			
Inits.	ST	FC	TC
Action			
Info.	ST	TC	ST
Copy			

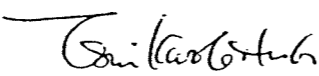
Dear Sir,

**Environmental Impact Assessment Study and
the Associated Site Investigation
for Uprating the Safety, Reliability, and Efficiency
of the Aged Mechanical and Electrical Plant at
Tsuen Wan No.1 Pumping Station**

I attach at Appendix I the methodology to be used for demolition of the underground diesel fuel storage tanks for your noise impact assessment.

In the meantime, I attach at Appendix II a copy of the Preliminary Environmental Review Report of the project which may provide relevant information for your EIA study.

Yours faithfully,


(K. H. TSUI)
for Chief Electrical & Mechanical Engineer / Projects
Water Supplies Department

Encl.

Methodology for demolition of underground fuel tanks

1. The layer of top soil over the concrete tank chamber will be excavated by manual labour.
2. The concrete covers of the tank chamber will be lifted open.
3. The following powered mechanical equipment will be used to break loose any concrete hindering dismantling of the tanks:

Sound Power Levels of Powered Mechanical Equipment
used for Demolition of Fuel Tanks

Powered Mechanical Equipment	CNP No.	Sound Power Levels	Quantity
Hand Held Breakers, mass <=10kg	023	108 dB	1
Air Compressor, air flow <=10m ³ /min	001	100 dB	1

4. The tanks will be dismantled to bulk pieces of convenient sizes by flame-cutting and lifted to ground level for disposal by crane-mounted trucks.

Ove Arup & Partners
奧雅納工程顧問

Direct Telephone 2268 3211
Direct Facsimile 2268 3950
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Web Site http://www.arup.com.hk/

Level 5, Festival Walk
80 Tat Tee Avenue
Kowloon Tong, Kowloon
Hong Kong

23173/L014/ST/FC/TC/swst
28 February 2001

Water Supplies Department
9/F Grand Central Plaza Tower 1
138 Shatin Rural Committee Road
Shatin, N.T.
HK

Attention : Mr W C Fung

Dear Sir,

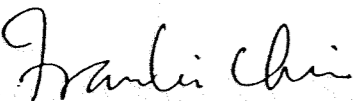
EIA Study and the Associated Site Investigation for Uprating the Safety, Reliability, Efficiency of the Aged Mechanical and Electrical Plant at Tsuen Wan No 1 Pumping Station
Powered Mechanical Equipment for Demolition of Diesel Fuel Storage Tanks

We refer to your letter Ref. (15) in WSD/ST 469/00 PL2 dated 19.2.2001 and the telephone conversation (Mr YK Kwong/ Ms Sherry Tsang) this morning regarding the methodology for demolition of underground fuel tanks. We would like to seek your confirmation on the following Power Mechanical Equipment (PME) that would be included in the construction noise assessment:


Power Mechanical Equipment	CNP No.	Sound Power Levels, dB	Quantity
Hand Held Breakers, mass <=10kg	023	108	1
Air Compressor, air flow <=10m ³ /min	001	100	1
Excavator	081	112	1
Crane-mounted Truck	048	112	1

If you require any further information, please do not hesitate to contact us.

Yours faithfully


Sam Tsoi
Associate Director

ARUP

 水務署
Water Supplies Department

電子郵遞
e-mail
電話
Telephone 2634 3750
傳真
Reference (35) in WSD/ST 469/00
圖文傳真
Facsimile 2634 1776


Ove Arup & Partners Hong Kong Limited
Level 5, Festival Walk,
80 Tat Chee Avenue,
Kowloon Tong,
Kowloon.
(Attn.: Mr. Sam P. S. TSOI)

Dear Sir,

**Environmental Impact Assessment Study and
the Associated Site Investigation
for Uprating the Safety, Reliability, and Efficiency
of the Aged Mechanical and Electrical Plant at
Tsuen Wan No.1 Pumping Station**

I refer to your letter ref.: 23173/L014/ST/FC/TC/swst dated 28 February 2001 and confirm that your provided inventory of powered mechanical equipment should be included in the construction noise assessment.

Yours faithfully,


(K. H. TSUI)
for Chief Electrical & Mechanical Engineer / Projects
Water Supplies Department

G:\env\project\23173\letters\L014.doc

W. H. Au, Peter Ayres, Andrew K. C. Chan, George Chan, Simon F. W. Chung, John Davies, Tony Fitzpatrick, K. K. Kwan, Michael K. Y. Kwok, Wilfred W. T. Lau, Charles W. H. Law, James Y. H. Liu, L. M. Liu, John MacArthur, Duncan McNeil, Jack Pappin, Grant Robertson, Michael Sargent, Mike Shears, Timothy K. C. Suen, Paul Sueti, K. O. Young

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新城市中央廣場一座十樓
10/F, Tower 1, Grand Central Plaza,
No. 138 Sha Tin Rural Committee Road.

香港供水 150 年
Years of Water Supply

ARUP ACOUSTICS		Job No. 23173	File No.
Master Ref.:	Project Ref.:		
Reply Ref.:	By	Date	
Action Required:			
Received - 5 MAR 2001			
Initis.	ST	TL	FC
Action Info.	ST	TL	FC
Copy	ST	TL	FC

5 March 2001

供水百五年 服務客為先

W. C. Fung

APPENDIX 3 – Construction Noise Calculation

Project: EIA Study at Tsuen Wan NO.1 Pumping Station
 Title: Plant inventory & Sound Power Levels - mitigated option M1

Activity No.	Activity	PME	TM Identification	Unit	SWL	Correction ^[1]	Sum SWL	Maximum SWL ^[2]
A1	Demolition of underground diesel fuel tanks	Hand Held Breakers	CNP 023	1	108	-3	105	
		Air Compressor	CNP 001	1	100	-3	97	
		Excavator	CNP 081	1	112	-2	110	
		Crane-mounted trucks/ Lorry	CNP 048	1	112	-2	110	110
		[1] - correction for limiting time						
		[2] - correction for sequencing of plant operation (any piece)						

Project: EIA Study at Tsuen Wan NO.1 Pumping Station
 Title: Plant inventory & Sound Power Levels - mitigated option M2

Activity No.	Activity	PME ^[3]	TM / BS Identification	Unit	SWL	Correction ^[1]	Sum SWL	Maximum SWL ^[2]
A1	Demolition of underground diesel fuel tanks	Hand Held Breakers	CNP 023	1	108	-3	105	
		Air Compressor	CNP 001	1	100	-3	97	
		Excavator	BS Table C3 ref 108	1	97	-2	95	
		Crane-mounted trucks/ Lorry	BS Table C3 ref 92	1	104	-2	102	105
		[1] - correction for limiting time						
		[2] - correction for sequencing of plant operation (any piece)						
		[3] - source from BSS228						

APPENDIX 4 – Borehole Results

REPORT ON DRILLHOLE/BOREHOLE No. EF20/1129 Sheet 1 of 2

Client/Consultant H.T.R. Orientation VERTICAL
 Job No./Tender No. 817/5143 Method ROTARY
 Location SECTION II (TAL HO MAU TO TSUEN WAN) Machine D35
 Ex. Ground Level/Sea-Bed Level +11.883 M.P.D. Core Barrel TAN Flushing Medium WATER
 Coordinates N 25825.518 E 30688.446 Date From 19-4-77 To 22-4-77

Progress	Sample				Water Rec'y (%)	Depth Metre Casing Size	Depth (m)	Description of Strata	Symbolic Log	Core Rec'y (%)	R.Q.D.	Fracture Frequency	
	Depth (m)	No.	Blows/305 mm	Type									
19-4-77	2.29	044		D	50	NK	YELLOWISH BROWN SILTY SANDY GRAVELS. (FILL).	X . O					
	4.00		(57)	S	0		YELLOWISH BROWN SILTY SANDY GRAVELS & BROKEN BRICKS. (FILL). REDDISH BROWN SANDY SILTY CLAY. (RESIDUAL SOIL)	X . X					
	6.00	045	(17)	S.D.L.									
	8.00	046	(12)	S.D.L.									
	10.00	047	(57)	S.D.L.	711			YELLOWISH BROWN SILTY SANDY CLAY. (COMPLETELY WEATHERED PORPHYRITIC GRANITE).	X . X				
					744								
					50	11.20							
						12		LIGHT GREY, LIGHT GREYISH BROWN COARSE-GRAINED, FRACTURED, VERY CLOSELY SPACED, HIGHLY TO MODERATELY WEATHERED PORPHYRITIC GRANITE.	X . X	15	0	12	PIECES
						12.12		DARK GREY, LIGHT GREY, COARSE-GRAINED, FRACTURED, VERY CLOSELY SPACED, MODERATELY WEATHERED PORPHYRITIC GRANITE.	X . X	20	0	12	PIECES
						13.49		LIGHT GREY, LIGHT GREYISH BROWN, COARSE-GRAINED, FRACTURED, VERY CLOSELY SPACED, HIGHLY TO MODERATELY WEATHERED PORPHYRITIC GRANITE.	X . X	35	8	7	PIECES
					14.71		DARK GREY, LIGHT GREY, COARSE-GRAINED, FRACTURED, VERY CLOSELY SPACED, HIGHLY TO MODERATELY WEATHERED PORPHYRITIC GRANITE.	X . X	10	0	16	PIECES	
					16.00		DARK GREY, LIGHT GREY, & LIGHT PINK, COARSE-GRAINED, FRACTURED, VERY CLOSELY SPACED, MODERATELY WEATHERED PORPHYRITIC GRANITE.	X . X	15	63	4	PIECES	
					17.19		DARK GREY, LIGHT GREY, & LIGHT PINK, COARSE-GRAINED, FRACTURED, VERY CLOSELY SPACED, MODERATELY WEATHERED PORPHYRITIC GRANITE.	X . X	100	0	7	PIECES	
					17.57		DARK GREY, LIGHT GREY & LIGHT PINK, COARSE-GRAINED, HIGHLY FRACTURED, VERY CLOSELY SPACED, MODERATELY WEATHERED PORPHYRITIC GRANITE.	X . X	100	0	12	PIECES	
					18.44		DARK GREY, LIGHT GREY & LIGHT PINK, COARSE-GRAINED, HIGHLY FRACTURED, VERY CLOSELY SPACED, MODERATELY WEATHERED PORPHYRITIC GRANITE.	X . X	100	0	12	PIECES	
					19.20		SURELY WEATHERED PORPHYRITIC GRANITE.	X . X	75	0	1	PIECES	
					20				80	15	12	PIECES	

S : S.P.T. G.W.L.
 D : Disturbed Sample () : N Value/305 mm.
 U : Undisturbed Sample — : Hole Depth in metre
 W : Water Sample Ws : Washed Sample

Remarks : -
 L : LITH SAMPLE.

No. EF 30/1129 Sheet 2 of 2

Job No./Tender No. 817/5143 Method ROTARY
 Location SECTION II (TAL HO MAU TO TSUEN WAN) Machine D35
 Ex. Ground Level/Sea-Bed Level +11.883 M.P.D. Core Barrel TAN Flushing Medium WATER
 Coordinates N 25825.518 E 30688.446 Date From 19-4-77 To 22-4-77

Progress	Sample				Water Rec'y (%)	Depth Metre Casing Size	Depth (m)	Description of Strata	Symbolic Log	Core Rec'y (%)	R.Q.D.	Fracture Frequency	
	Depth (m)	No.	Blows/305 mm	Type									
21-4-77					80		20.29	DITTO	X . X	100	15	12	
							21.18	DARK GREY, LIGHT GREY, LIGHT PINK, COARSE-GRAINED, FRACTURED, VERY CLOSELY TO EXTREMELY CLOSELY SPACED, SLIGHTLY WEATHERED PORPHYRITIC GRANITE.	X . X	100	29	4	
							22		X . X	100	27	12	
							22.17		X . X	100	12	11	
							22.32		X . X	100	21	12	
							24		X . X	100	0	9	
							24.59		X . X	100	0	9	
							25.22		X . X	100	0	9	
							26	OPERATION STOPPED AT 25.22 M AS INSTRUCTED.					
							28						
						30							
						32							
						34							
						36							
						38							
						40							

S : S.P.T. G.W.L.
 D : Disturbed Sample () : N Value/305 mm.
 U : Undisturbed Sample — : Hole Depth in metre
 W : Water Sample Ws : Washed Sample

Remarks : -

APPENDIX 6 – Environmental Mitigation Implementation Schedule

Implementation Schedule

EIA* Ref.	EM&A Log Ref.	Environmental Protection Measures*	Location/ Duration of measures/ Timing of completion of measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
Section 4.3.5	A1	<p><u>Construction Noise Impact</u></p> <p>1) use of good site practices to limit noise emissions by considering the following:</p> <ul style="list-style-type: none"> - Scheduling of construction works outside school examination period/ during summer holidays - Sequencing of Plant Operation - Limiting the operating time of construction equipment on site. Excavator and crane, mounted trucks to be operated for 20minutes in every 30-minute period and hand held breakers for 15 minutes. - Selection of quiet plants which complied with the BS 5228 Part 1 or TM Standards - Use of 3.5m high hoarding along the site boundary, or movable noise barrier to screen noise at ground level zone. For high-rise Noise Sensitive Receivers, cantilevered top cover should be considered. The surface density of these barriers and hoarding need to be not less than 13kg/m². - Well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme - Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum - Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs - Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works 	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	Noise Control Ordinance and EIAO TM
Section 5.4	B1	<p><u>Air Quality</u></p> <p>1) The contractor is obliged to follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation</p> <ul style="list-style-type: none"> - Spray the area at which demolition work takes place with water or a dust suppression chemical immediately prior to, during and immediately after the demolition activities so as to maintain the entire surface wet. - Cover all demolished items (including trees, shrubs, vegetation, boulders, poles, pillars, structures, debris, rubbish and other items arising from site clearance) entirely by impervious sheeting or place them in an area sheltered on the top and the 3 sides within a day of demolition. - Open stockpiles should be avoided or covered - Use of wind shield or dust extractor at the loading and unloading areas - Use of tarpaulin to cover all dusty material on the transport vehicle - Side enclosure and covering of any aggregate or dusty material storage piles - Provision of temporary or movable barriers between the site and sensitive receivers - Position of all plant at the maximum separation distance from receiver if possible 	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	Air Pollution Control (Construction Dust) Regulation Schedule
Section 6.6	C1	<p><u>Land Contamination</u></p> <p>Personal Protective Equipment (PPE) such as safety hat, chemical protective gloves, masks (for both dust and vapour) eye goggles, protective clothing and protective footwear etc. shall be provided to staff who would be involved in the decommissioning works. No works should be allowed without the suitable PPE.</p> <p>Workers shall inspect and check their PPE before, during and after use. In cases where any of the PPE is impaired, the worker shall stop work immediately and inform the site agent. The worker shall not be allowed to re-start his work until the impaired PPE is replaced.</p> <p>Workers shall always maintain basic hygiene standard (e.g. hand wash before leaving the contaminated work zone). Workers shall also be responsible for cleaning and storing their own PPE in a secure place before leaving the site.</p> <p>Eating, drinking and smoking must be strictly prohibited within the site area.</p>	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	

EIA* Ref.	EM&A Log Ref.	Environmental Protection Measures*	Location/ Duration of measures/ Timing of completion of measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<p>The decommissioning works, particularly the breaking of the concrete chamber of the diesel storage tank and removal of the broken concrete, shall be carried out in dry weather condition to prevent any surface run-off. The decommissioning works shall be stopped immediately once surface water run-off caused by rainfall or otherwise is observed.</p> <p>Stockpiling of excavated material (i.e. broken concrete and the associated soils) shall be avoided. Where this cannot be avoided, temporary cover such as tarpaulin shall be provided for the stockpile material (if any).</p> <p>The site agent or other site management representatives must be informed if any worker feel uncomfortable physically or mentally during decommissioning works. All workers shall leave the work areas and the work shall be temporarily suspended until the reason for the uncomfortable has been identified.</p> <p>The decommissioning works shall be stopped or discontinued when any typhoon signals yellow, red or black storm signals are hoisted. All stockpile materials (if any) shall be covered immediately by tarpaulin or other similar protective and waterproof materials.</p> <p>In the event that any suspended contaminated soils (e.g. discoloured soil or visual/olfactory signs of contamination) was observed, the site agent shall inform the relevant party (e.g. EPD Local Control Office). Samples of the suspended contaminated soils shall be collected for the analysis of Total Petroleum Hydrocarbon (TPH) to confirm whether the soil is contaminated.</p>					✓		
Section 7.3	D1	<p><u>Cultural Heritage</u></p> <p>1) Only agreed number of PME shall be used</p>	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	EIAO TM and Antiquities and Monuments Ordinance
Section 8.4	E1	<p><u>Waste Management</u></p> <p>1) The following waste management hierarchy should be considered in general:</p> <ul style="list-style-type: none"> - Avoidance and minimisation (not generating waste through changing or improving practices and design); - Reuse of materials, thus avoiding disposal (generally with only limited reprocessing); - Recovery and recycling, thus avoiding disposal (although reprocessing may be required); and - Treatment and disposal, according to relevant regulations, guidelines and good practice. - Consult the Waste Disposal Authority on the final disposal locations of waste 	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	Waste Disposal Ordinance
	E2	<p>2) Excavated Inert Material</p> <ul style="list-style-type: none"> - Proper segregation to avoid possible contaminated materials being allowed for reused on site 	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	Waste Disposal Ordinance
	E3	<p>3) Demolition Waste</p> <ul style="list-style-type: none"> - Proper segregation of demolition waste on site to increase the feasibility that certain components of waste can be recycled. - Consult specialist collectors for recycling of dismantled diesel storage tanks and associated pipeline - Disposal of at a specifies landfill, or at a public dump site (preferable) such as Pak Shek Kok Reclamation Public Filling Area and Tuen Mun Reclamation Public Filing Area 	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	New Disposal Arrangements for Construction Waste
	E4	<p>4) Chemical Waste</p> <ul style="list-style-type: none"> - Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers. 	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	Code of Practice on the Packaging, Handling and Storage of Chemical Waste and Waste Disposal (Chemical Waste) (General) Regulation

EIA* Ref.	EM&A Log Ref.	Environmental Protection Measures*	Location/ Duration of measures/ Timing of completion of measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<ul style="list-style-type: none"> - Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. For mitigation measures, the guidelines covered under the construction phase mitigation of chemical wastes should be referred. - Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. - The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is 					✓		
	E5	5) General Refuse <ul style="list-style-type: none"> - Remove general refuse from the site, separately from construction and chemical waste, on a daily or every second day basis to minimise odour, pest and litter impacts. - Burning of refuse on site is prohibited 	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	Waste Disposal Ordinance
Section 9.4	F1	<u>Water Quality</u> <p>1) Construction Runoff</p> <ul style="list-style-type: none"> - Follow the site practices outlined in ProPECC PN 1/94 as far as practicable in order to minimise surface runoff and the chance of erosion, and to reduce any suspended solids prior to discharge - Minimise the exposed soil areas to reduce the contamination of runoff and erosion. - Provide a designated area far from the nearby storm drain and fowl sewers for temporary stockpiling of topsoil. - Provide temporary cover (I.e. tarpaulin) to minimise the generation of high SS runoff. - Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers. 	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	ProPECC PN 1/94 and Water Pollution Control Ordinance
	F2	<p>2) Sewage Effluents</p> <ul style="list-style-type: none"> - Existing toilet will be provided for the decommissioning workforce. 	Throughout the construction phase within the site areas	To be implemented by Contractor(s)				✓	ProPECC PN 1/94 and Water Pollution Control Ordinance

Note:

* All recommendations and requirements resulted during the course of EIA/EA Process, including ACE and/or accepted public comment to the proposed project

** Des = Design, C = Construction, O = Operation, Dec = Decommissioning

Reassessment are necessary when there are changes in PME.

Alternative measures which are proven to have equivalent or higher performance are acceptable.