Cheung Hing Construction Co. Ltd.

Contract No. SSW327

Reprovisioning of Cape Collinson Crematorium

Monthly Environmental and Audit Report (Version 2.0)

March 2011

Approved By

Environmental Team Leader

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

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EXECUTIVE SUMMARY

1. This is the 7th monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Ltd. for the Project "Phased Reprovisioning of Cape Collinson Crematorium". This report presents the findings of environmental auditing works conducted for Reprovision Cape Collinson Crematorium on March 2011.

2. The site activities undertaken in the reporting month was:
   - Excavation and lateral support works for Section 1C; and
   - Excavation & re-compaction works on Un-registered Slope Feature No.2 under Section 1A.

Environmental Monitoring and Audit Works

3. Environmental monitoring and audit works for the Project is stipulated in the approved EM&A Manual. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

4. Summary of the events and action taken in the reporting month is tabulated in **Table I**.

Table I Summary Table for Events Recorded in the Reporting Month

Parameter	No. of Events		No. of Events Due to the Project		Action Taken
	Action Level	Limit Level	Action Level	Limit Level	
Noise	0	0	0	0	0
1-hr TSP	0	0	0	0	0
24-hr TSP	0	0	0	0	0

Construction Noise

5. All construction noise monitoring was conducted as scheduled in reporting month. No Action/Limit Level exceedance was recorded.

Air Quality

1-hour TSP Monitoring

6. All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

7. All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Visual

8. The monthly monitoring of visual was conducted in March 2011. The purpose is to ensure the design of implementation and maintenance of visual mitigation measures that are fully required in according to EIA report.

Environmental Licenses and Permits

9. Licenses/Permits granted to the Project include the Environmental Permit (EP); Registered as Waste Producer under Waste Disposal (Chemical Waste) General) Regulation and Water Discharge Licence.

Key Information in the Reporting Month

10. Summary of key information in the reporting month is tabulated in **Table II.**

Key Information in the EIA Report

11. According to the EIA Report, air quality, noise and visual would be the key environmental issues during the construction phase of the project. Details of the implementation of mitigation measures are provided in the **Appendix M**.

Table II Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Status of submissions under EP	1	EM&A Monthly Report February 2011	Submitted to EPD on 14 March 2011	N/A	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---
Future Key Issues: Major site activities for the coming two months include: • Excavation and lateral support works; • Construction of r.c. works for substructure and superstructure at Section 1C; and • Excavation and re-compaction works, including hydroseeding works, on Un-registered Slope Feature No.2.					

1 INTRODUCTION

Background

1.1 Food and Environmental Hygiene Department (FEHD) is the Project Proponent and is responsible for the operation of the project "Phased Reprovisioning of Cape Collinson Crematorium" (hereinafter called the Project) after completion of construction works, while Architectural Services Department (ArchSD) is the works agent for the project management and implementation of the project. The project was commissioned to Cheung Hing Construction Co. Ltd. (hereinafter called the "CH"). The scope of the Project includes the following works:

(i) Construct and operate 4 new cremators with ancillary facilities under Phase 1;

(ii) Demolition of the existing crematorium and the existing underground fuel tank under Phase 2; and

(iii) Construct and operate 6 new cremators with ancillary facilities under Phase 2.

1.2 An environmental impact assessment (EIA) report of the Phased Reprovisioning of Cape Collinson Crematorium (Register No. AEIAR-137/2009) has been prepared in March 2009 and the Environmental Monitoring and Audit Manual (Project's EM&A Manual) was also included as part of the EIA report in the register. An Environmental Permit No. EP-335/2009 was issued on 19 June 2009 for this Project to the Food and Environmental Hygiene Department as the Permit Holder. The site location is shown in **Figure 1**.

1.3 Cinotech Consultants Ltd. was designated as the Environmental Team (ET) to undertake the EM&A works for the Project. This is the 7th monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech for the Project on March 2011 in accordance with the approved EM&A Manual.

Project Organizations

1.4 Different parties with different levels of involvement in the project organization include:

- Project Proponent – Food and Environmental Hygiene Department (FEHD).
- Works Agent –Architectural Services Department (ArchSD).
- Architect Representative (AR) – Andrew Lee King Fun & Associates Architects Limited (ALKF).
- Environmental Team (ET) – Cinotech Consultants Limited (Cinotech).
- Independent Environmental Checker (IEC) – EDMS Consulting Limited (EDMS).
- Main Contractor – Cheung Hing Construction Co. Ltd. (CH).

1.5 The responsibilities of respective parties are detailed in Sections 1.15 to 1.20 of the EM&A Manual of the Project.

1.6 The key contacts of the Project are shown in **Table 1.1** and the organization chart of ET is shown in **Figure 5**.

Table 1.1 Key Project Contacts

Party	Role	Name	Position	Phone No.	Fax No.
ASD	Works Agent	Mr. LS Tam	Senior Project Manager	28674120	21239024
		Miss Denise Lo	Project Manager	28673723	25239622
		Mr. Yiu Hak Hung	ER/COW	25974408	29114706
ALKF	Architect	Mr. Andrew Lee	Managing Director	25250008	28685371
	Architect's Representative	Mr.Franklin Yu	Project Architect	29010915	
		Mr. Leung Pak Kuen	Resident Clerk of Works	25057210	25051586
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089	3107 1388
		Mr. Felix Kwan	Project Coordinator & Audit Team Leader	2151 2077	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
EDMS	Independent Environmental Checker	Mr. James Choi	Director	22307168	30078556
CH	Main Contractor	Mr. Daniel Pong	General Manager	25722384	25722972
		Mr. Parker Pang	Director	25722384	
		Mr. Dennis Ho	Project Project/Site Agent	25055269	25055130
		Mr. Kelvin Ip	Environmental Supervisor		

Construction Programme

1.7 The site activities undertaken in the reporting month included:

- Excavation and lateral support works in Section 1C site;
- Re-compaction works on Un-registered Slope Feature No. 2; and
- Backfilling with no-fine concrete under EVA.

Summary of EM&A Requirements

1.8 The EM&A programme requires construction phase monitoring for air quality, construction noise, visual and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.9 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 5 of this report.

1.10 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely dust, noise levels, visual and audit works conducted for the Project in March 2011.

2 AIR QUALITY

Monitoring Requirements

2.1 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Equipment

2.2 Both 1-hour TSP monitoring and continuous 24-hour TSP impact air quality monitoring were performed using High Volume Sampler (HVS) associated with equipment and shelter complied with the specifications stipulated in the approved EM&A Manual. **Table 2.1** summarizes the equipment used in the impact air quality monitoring programme. Copies of the calibration certificates for the equipment are presented in **Appendix B**.

Table 2.1 Air Quality Monitoring Equipment

HVS Samplers	GMWS 2310 HVS, Model GS-2310105-1	2
	Tisch Environmental, Inc.; Model no. TE-5170	2
Laser Dust Meter	Sibata, LD-3B	1
RS232 Integral Vane Digital Anemometer	AZ Instrument (Model No. 451104)	1
Calibrator	Thermo Andersen; Model no. G25A	1

Monitoring Locations

2.3 Impact air quality monitoring was conducted at the 2 designated monitoring stations, as shown in **Figure 2**. **Table 2.2** describes the locations of the air quality monitoring stations.

Table 2.2 Air Quality Monitoring Locations

Monitoring Station	Description	Location of Measurement
AM1	Staff Quarters of Cape Collinson Crematorium	Ground
*AM2	King Tsui Court	Roof

Remarks: * with wind logger

Monitoring Parameters, Frequency and Duration

2.4 **Table 2.3** summarizes the monitoring parameters, monitoring period and frequencies of impact air quality monitoring.

Table 2.3 Frequency and Parameters of Impact Air Quality Monitoring

Monitoring Station	Location for Measurement	Parameter	Period	Frequency
AM1	Staff Quarters of Cape Collinson Crematorium	1-hour TSP	0700-1900	3 times/6 days
		24-hour TSP	24 hours	once/6 days
AM2	King Tsui Court	1-hour TSP	0700-1900	3 times/6 days
		24-hour TSP	24 hours	once/6 days

Monitoring Methodology and QA/QC Procedure

2.5 Weather data was recorded during the monitoring period and is shown in **Appendix H**. The data was obtained from the Meteorological Observations for King's Park Automatic Weather Station. The general weather conditions (i.e. sunny, cloudy or rainy) were recorded by the field staff's observation on the monitoring day.

Monitoring Methodology and QA/QC Procedure

1-hour TSP Monitoring

Measuring Procedures

2.6 The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows:

- Pull up the air sampling inlet cover
- Change the Mode 0 to BG with once
- Push Start/Stop switch once
- Turn the knob to SENSI.ADJ and press it
- Push Start/Stop switch once
- Return the knob to the position MEASURE slowly
- Push the timer set switch to set measuring time
- Remove the cap and make a measurement

Maintenance/Calibration

2.7 The following maintenance/calibration was required for the direct dust meters:

- Check the meter at a 3-month interval and calibrate the meter at a 1-year interval throughout all stages of the air quality monitoring.

24-hour TSP Monitoring
Instrumentation

2.8 High volume (HVS) samplers (Model no. TE-5170 and GS-2310105-1) completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

Operating/Analytical Procedures

2.9 Operating/analytical procedures for the operation of HVS were as follows:

- A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
- No two samplers were placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
- No furnaces or incineration flues were nearby.
- Airflow around the sampler was unrestricted.
- The sampler was more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

2.10 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m^3/min. and 1.4 m^3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

2.11 Fiberglass filters were used which have a collection efficiency of larger than 99% for particles of 0.3 μm diameter.

2.12 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

2.13 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.

2.14 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

2.15 The shelter lid was closed and secured with the aluminum strip.

2.16 The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).

2.17 After sampling, the filter was removed and sent to the laboratory for weighing. The elapsed time was also recorded.

2.18 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.19 The following maintenance/calibration was required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated at bi-monthly intervals using Calibration Kit (Thermo Andersen; Model no. G25A) throughout all stages of the air quality monitoring.

Results and Observations

2.20 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix I**.

2.21 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix I**.

2.22 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices D** and **E** respectively.

2.23 According to our field observations, the identified dust sources at the monitoring stations were mainly the road dust.

3 NOISE

Monitoring Requirements

3.1 A noise monitoring station, namely M1 was designated in the EM&A Manual for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

3.2 **Table 3.1** gives the location of the monitoring station, which is also shown in **Figure 3.**

Table 3.1 Location of Noise Monitoring Station

Monitoring Station	Description	Location of Measurement
M1	Staff Quarters of Cape Collinson Crematorium	Rooftop, facing Cape Collinson Crematorium

Monitoring Equipment

3.3 Integrating Sound Level Meter was used for noise monitoring. The meter is a Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x) and also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Table 3.2 summarizes the noise monitoring equipment being used. Copies of the calibration certificates for the sound level meter and calibrator are attached in **Appendix B**.

Table 3.2 Noise Monitoring Equipment

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	SVAN 955	2
Calibrator	B&K4231	1

Monitoring Parameters, Frequency and Duration

3.4 **Table 3.3** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix C**.

Table 3.3 Frequency and Parameters of Noise Monitoring

Monitoring Stations	Parameter	Period	Frequency	Measurement
M1	L_{10}(30 min.) dB(A) L_{90}(30 min.) dB(A) L_{eq}(30 min.) dB(A)	0700-1900 hrs. on weekdays	Once per week	Façade measurement

Monitoring Methodology and QA/QC Procedures

3.5 **Table 3.4** summarizes the types of measurement undertaken in the monitoring station.

Table 3.4 Type of Measurement

Monitoring Station	Measurement
M1	Façade measurement

3.6 Weather data was recorded during the Impact period and is presented in **Appendix H**.

Field Monitoring

3.7 The monitoring procedures are as follows:

- The microphone head of the head level meter was positioned 1m exterior of the noise sensitive facade and lowered sufficiently so that the building's external wall acts as a reflecting surface.
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:

  - frequency weighting : A
  - time weighting : Fast
  - measurement time : 5 minutes (Leq (30-min) would be determined for daytime noise by calculating the logarithmic average of six Leq (5min) data.)

- Prior to and after noise measurement, the meter was calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement was considered invalid and repeat of noise measurement was required after re-calibration or repair of the equipment.
- The wind speed at the monitoring station was checked with the portable wind meter.
- Monitoring data was recorded and stored automatically within the sound level meter system. At the end of the monitoring period, noise levels in term of L_{eq}, L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded when the equipment were checked and inspected every two days.
- All the monitoring data within the sound level meter system was downloaded through the computer software, and all these data was checked and reviewed within the computer.

Maintenance and Calibration

3.8 Maintenance and Calibration procedures were as follows:

- The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator were checked and calibrated at yearly intervals.
- Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

Results and Observations

3.9 All construction noise monitoring at designated location was conducted as scheduled in the reporting month.

3.10 No Action/Limit Level exceedance was recorded in the reporting month. Summary of exceedance is presented in **Appendix I**.

3.11 All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured Leq – Baseline Leq = Measured CNL), in order to facilitate the interpretation of the noise exceedance. The baseline noise level and the allowed CNL (Limit Level) at each designated noise monitoring station are presented at Table 3.5.

3.12 All noise monitoring results and graphical presentations of the data are provided in **Appendix F**.

Table 3.5 Baseline Noise Level and Allowed Construction Noise Level for Monitoring Stations

Station	Baseline Noise Level, dB (A)	Limit Level, dB (A)
M1	54.4	75

4 VISUAL MONITORING

Monitoring Requirements

4.1 In accordance with the EM&A Manual, Visual Monitoring is required to be conducted monthly in construction phase for ensuring the design of implementation and maintenance of visual mitigation measures that are fully required in according to EIA report.

Construction Phase Audit Summary

4.2 The proposed and implementation status of visual mitigation measures in construction phase were shown in Table 4.1.

4.3 The reference photo for visual mitigation measures are shown in **Appendix G**.

Table 4.1 Proposed and Implementation Status of Visual Mitigation Measures in Construction Phase

ID No.	Visual Mitigation Measures	Implementation Status	Reference Photo
CM1	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	The topsoil was watered and covered with tarpaulin to avoid dust emission.	1 & 2
CM2	Existing trees to be retained on site should be carefully protected during construction.	Tree protection zone and protective fence was set up for retaining trees.	3 & 4
CM3	Trees unavoidably affected by the works should be transplanted where practical.	No transplantation work was conducted in reporting month.	N/A
CM4	Compensatory tree planting should be provided to compensate for felled trees.	No tree felling work was conducted in reporting month.	N/A
CM5	Control of night-time lighting.	Minimum lighting was provided for public and security.	5 & 6
CM6	Erection of decorative screen hoarding compatible with the surrounding setting.	Hoardings in light colour were used as screening.	7 & 8

5 ENVIRONMENTAL AUDIT

Environmental Site Audits

5.1 Environmental site audits were carried out on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

5.2 Site audits for the Project in the reporting month were conducted on 4, 11, 17 and 25 March 2011. No non-compliance was observed during the site audits.

5.3 Site inspections were undertaken to ensure and check the compliance with the FEP and that the implementation and maintenance of air quality, noise and visual mitigation measures are being properly carried out in the reporting month in accordance to section 2.4, 5.7 and 6.16 of the EM&A Manual respectively. No non-compliance was observed during the site inspections.

5.4 The summaries of site audits are attached in **Appendix J**.

5.5 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations are summarized in **Table 5.1**.

Table 5.1 Observations and Recommendations of Site Audits

Parameters	Date	Observations	Remediation/ Follow up
Water Quality	25/03/2011	The stagnant water within the drip tray should be cleared.	The stagnant water within the drip tray was cleared by the Contractor.
Waste/Chemical Management	04/03/2011	Drip tray should be provided at underneath the oil tank at any time.	Drip tray was provided at underneath the oil tank during the site inspection.
	11/03/2011	The discarded leaves should be cleared at u-channel.	The discarded leaves were cleared at u-channel.
Air Quality	11/03/2011	The exposed area should be watered regularly, to avoid dust generation.	The exposed area was being watered during the site inspection.
	17/03/2011	The Contractor was reminded to keep watering during breaking work, to avoid dust generation.	Watering continuously was observed during the site inspection.
	17/03/2011	The exposed slope should be covered with impervious material. The Contractor was reminded to prepare tarpaulin for further use over night and during holidays.	Tarpaulin was prepared for covering the exposed slope over night and during holidays.
Landscape and Visual	-	-	-
Permits/Licences	-	-	-

Status of Environmental Licensing and Permitting

5.6 Environmental license or permit obtained in the reporting month is shown in **Table 5.2.**

Table 5.2 Environmental License or Permit Obtained in Reporting Month

Type of License/ Permit	Number	Valid Period		Details	Status
		From	To		
Water Discharge License	WT00007 200-2010	5/8/2010	31/8/2015	Discharge Premises: 9 Cape Collinson Road, Chai Wan, Hong Kong	Vaild
Registration as Chemical Waste Producer	WPN: 5213-165-C3110-19	03-08-2010	N/A	Location: 9 Cape Collinson Road, Chai Wan, Hong Kong ii)Major Chemical Waste: Spend Lubrucating oil, Spend Solvent and Soil Containing Lubricating Oil/Diesel	Vaild
Environmental Permit	EP-335/2009	19/06/2009	N/A	Location: Existing Cape Collinson Crematorium, Cape Collinson Road, Eastern District	Vaild

Status of Waste Management

5.7 The amount of waste generated by the construction activities of the Project in the reporting month is attached in **Appendix K**. 4.388 tons of Inert C&D waste was disposed of to Chai Wan Public Fill Barging Point and 1.9345 tons C&D waste were sent to recyclers in March 2011.

Implementation Status of Environmental Mitigation Measures

5.8 According to the Environmental Permit and the EM&A Manual, the mitigation measures detailed in the documents are required to be implemented. Details of implementation Status of Environmental Mitigation Measures are provided in **Appendix M**.

Implementation Status of Event Action Plans

5.9 The Event Action Plans for construction noise are presented in **Appendix L**.

Construction Noise

5.10 No Action/Limit Level exceedance was reported in the reporting month.

Summary of Complaints and Prosecutions

5.11 No environmental complaint and prosecution related to the Project works was received in the reporting month.

6 FUTURE KEY ISSUES

Key Issues for the Coming Month

6.1 Key issues to be considered in the coming month include:

- Surface runoff generated from the construction activities (e.g. soldier piling work) and rain;
- Dust emission from loading and unloading excavated materials, excavation works and exposed stockpiles;
- Noise nuisance from operation of equipments/ machineries;
- Maintenance of de-silting facilities and drainage system such as U-channels;
- Blockage of wheel washing facility by accumulated silt;
- Mosquito breeding due to the ponding water and stagnant water around the site areas;
- Accumulation of C&D waste and general waste on site; and
- Oil spillage/ leakage from the equipment on site.

Construction Program for the Next Month

6.2 The tentative construction program for the Project is provided in **Appendix O**.

Monitoring Schedule for the Next Month

6.3 The tentative environmental monitoring schedule in April 2011 for the Project is provided in **Appendix C**.

7 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

7.1 Environmental monitoring and audit works were performed in the reporting month and all monitoring results were checked and reviewed.

1-hour TSP Monitoring

7.2 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

7.3 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

7.4 All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Environmental Audit

7.5 Environmental site audits were conducted as weekly basis in the reporting month. No non-compliance was recorded.

Complaint and Prosecution

7.6 No environmental complaint and prosecution was received in the reporting month.

Recommendations

7.7 According to the environmental audits performed in the reporting month, the following recommendations are recommended:
Dust Impact

- To ensure water spray is applied for the dust emissive works, such as breaking, loading and unloading of soil materials;
- To implement dust suppression measures on haul road, stockpiles and dry surfaces.

Noise Impact

- To space out noisy equipment and position as far away as possible from sensitive receivers.
- To review the works sequence of site activities so as to reduce the number of noisy equipment in concurrent operation.
- To provide temporary noise barriers for noisy activities, such as breaking works and drilling works.
- To employ quiet powered mechanical equipment if possible.

- To ensure compliance of CNP conditions during restricted-hour works.

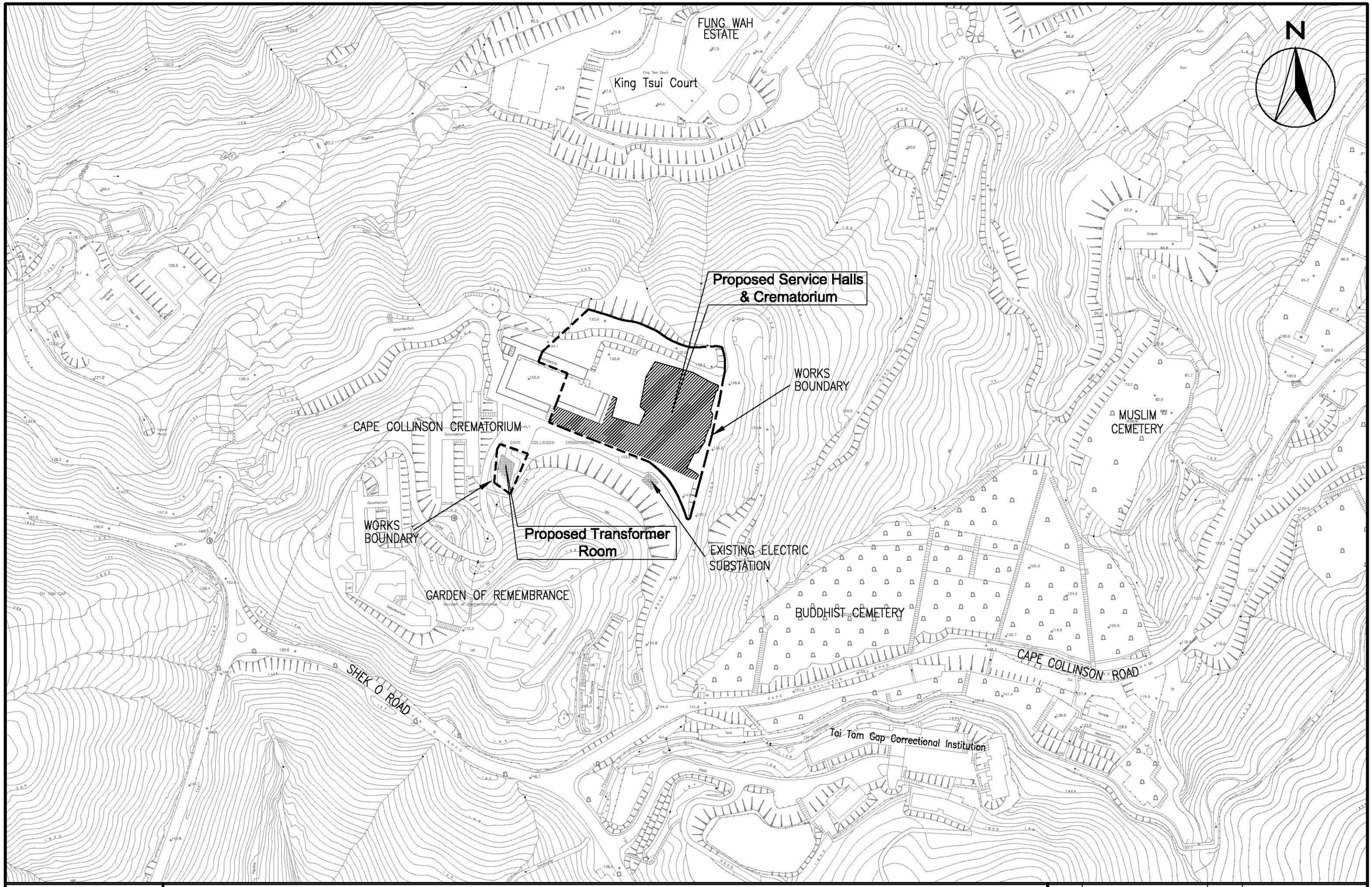
Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site;
- To avoid any discharge of chemical waste or oil directly from the site;
- To well maintain the equipments and drip trays to avoid oil leakage;
- To avoid improper handling or storage of oil and paint drum on site.

Landscape and Visual

- To re-install the hoarding to reduce visual impacts;
- To well maintain the tree protection barriers and tree protection zone to avoid damage to trees.

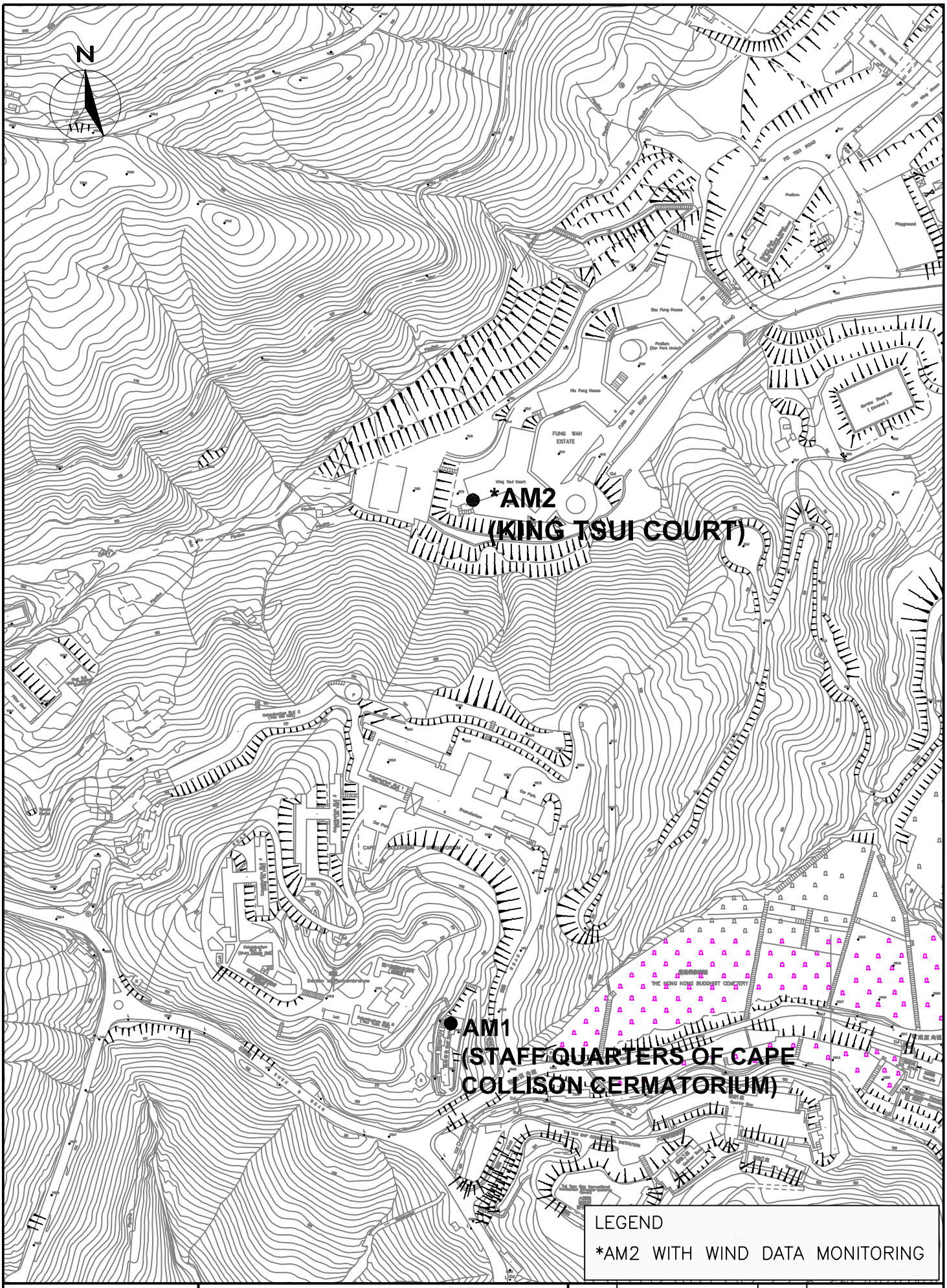
FIGURES



CINOTECH

Contract No. SSW 327
Repeovisioning of Cape Collinson Crematorium
Layout Plan of the Project

Scale	A3 1: 2000	Date	June - 2010
Check	GL	Drawn	GL
Project No.	MA 0031	Figure No. Figure 1	REV –



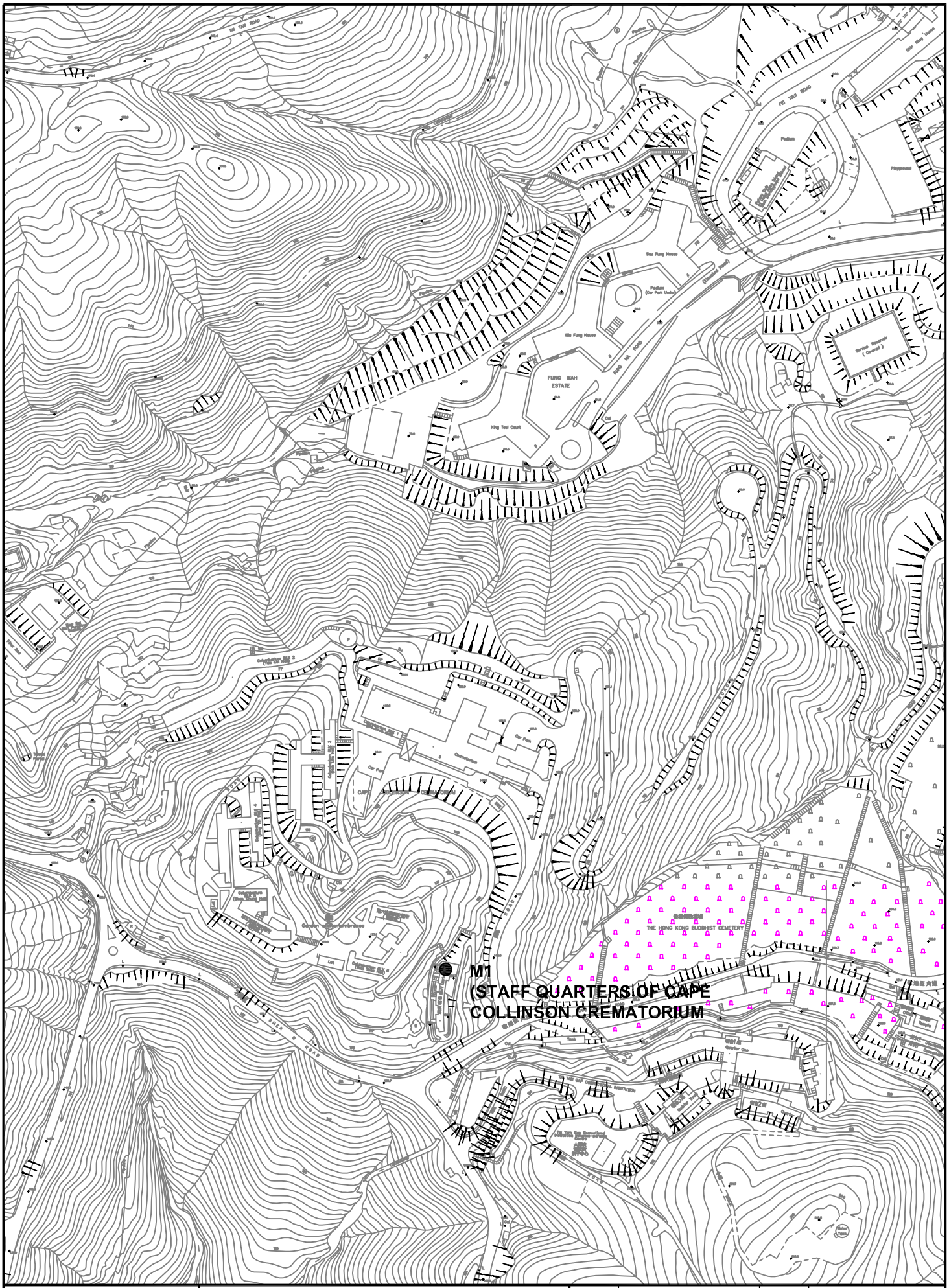
CINOTECH
Cinotech Consultants Limited

Contract No. SSW 327
Reprovisioning of Cape Collinson Crematorium

LOCATIONS OF AIR QUALITY MONITORING STATIONS

SCALE	1:3000 (A4)	DATE	JUL 2010
CHECK	PC	DRAWN	SL
JOB No.	MA0031	FIGURE NO. 2	REV -

F:/Project_drawings



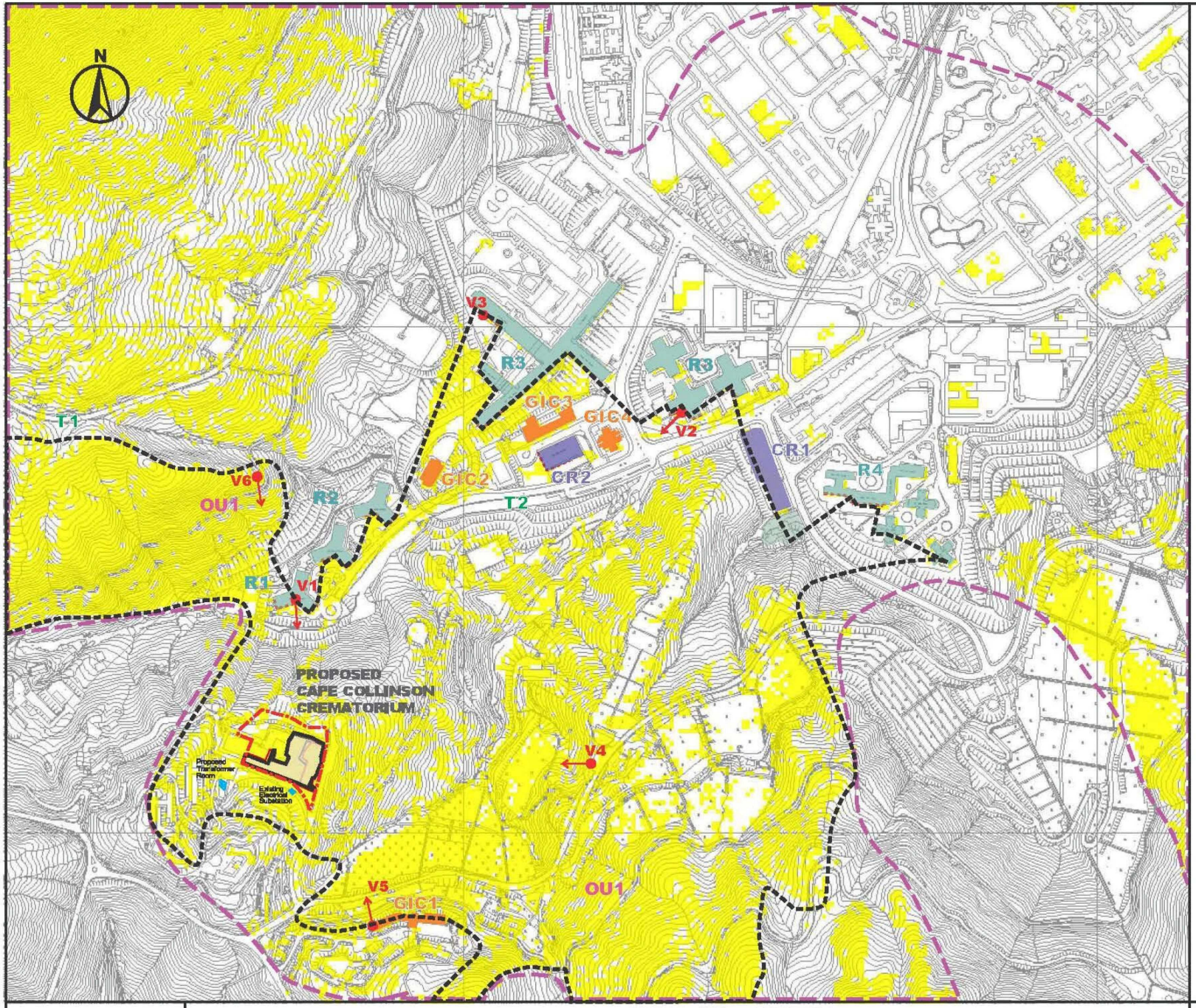
CINOTECH
Cinotech Consultants Limited

Contract No. SSW 327
Reprovisioning of Cape Collinson Crematorium

LOCATIONS OF NOISE MONITORING STATIONS

SCALE	1:3000 (A4)	DATE	JUL 2010
CHECK	PC	DRAWN	SL
JOB No.	MA0031	FIGURE NO. 3	REV -

F:/Project_drawings



LEGEND:

- WORKS AREA
- PROPOSED CREMATOURIUM
- PRIMARY ZONE OF VISUAL INFLUENCE
- SECONDARY ZONE OF VISUAL INFLUENCE
- COMMERCIAL RESIDENTIAL (**CR**)
- RESIDENTIAL (**R**)
- GOVERNMENT, INSTITUTION/ COMMUNITY (**GIC**)
- TRAVELLERS (**T**)
- OTHERS SPECIFIED USE (**OU**)
- V2 PHOTO TAKEN VIEW POINT

VISUAL SENSITIVE RECEIVERS:

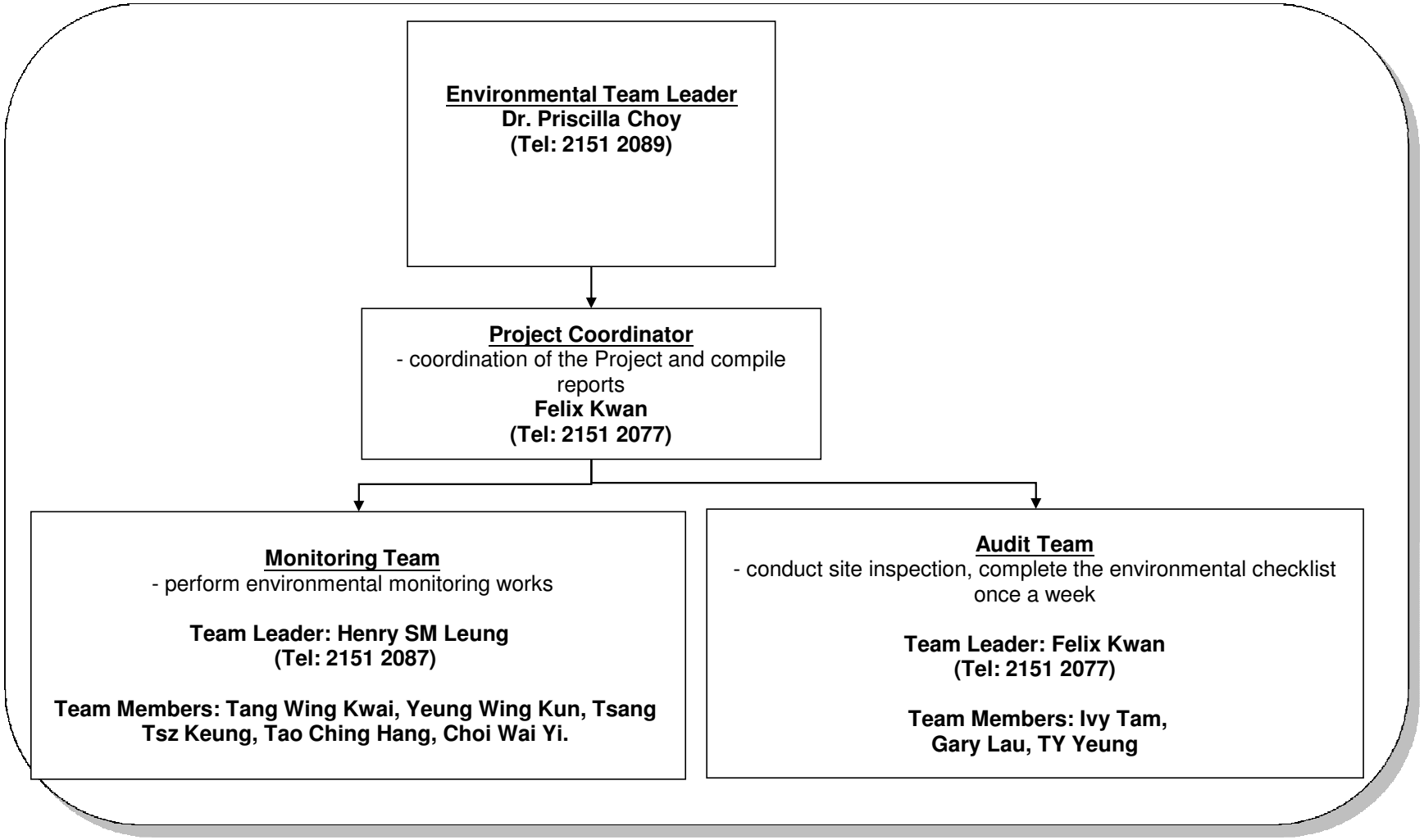
R1	King Tsui Court
R2	Fung Wah Estate
R3	Hing Wah Estate
R4	Yan Tsui Court, Yuet Chui Court and Housing Dept. Chai Wan Staff Quarters
CR1	Yen Lok & Kin Yip Building
CR2	Moon Wah & Man Wah Building
GIC1	Tai Tam Gap Correctional Institution
GIC2	Morninghope School
GIC3	Cognitio College (Hong Kong)
GIC4	Fire Service Department Quarters
T1	Tai Tam Road
T2	Fei Tsui Road
OU1	Hikers/ Cemetery visitors

Zone of visual influence is generated base on Visual Contour Map; provided in Figure 6.3; where's proposed work will be seen mainly in areas of yellow shaded.

CINOTECH

Contract No. SSW 327
Repeovisioning of Cape Collinson Crematorium
ZVI and Location of VSR

Scale	NTS	Date	June - 2010
Check	GL	Drwan	GL
Project No.	MA 0031	DRAWING No.	Figure 4
		REV	–



Title: Contract No. SSW 327 - Reprovisioning of Cape Collinson Crematorium Organization Chart	Scale: N.T.S Date: Apr-11	Project No.: MA0031 Figure: 5	CINOTECH

APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR QUALITYAND NOISE QUALITY

Appendix A Action and Limit Levels

Table A-1 Action and Limit Levels for 1-Hour TSP

Location	Action Level, µg/m^3	Limit Level, µg/m^3
AM1	394	500
AM2	283	500

Table A-2 Action and Limit Levels for 24-Hour TSP

Location	Action Level, µg/m^3	Limit Level, µg/m^3
AM1	164	260
AM2	151	260

Table A-3 Action and Limit Level for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75* dB(A)

* reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

APPENDIX B
COPIES OF CALIBRATION CERTIFICATES

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0031/13/0004

Station: AM1 - Staff Quarters of Cape Collinson Crematorium Operator: WK

Date: 11-Jan-11 Next Due Date: 10-Mar-11

Equipment No.: A-01-13 Serial No. 1352

Ambient Condition			
Temperature, Ta (K)	283.2	Pressure, Pa (mmHg)	768.4

Orifice Transfer Standard Information					
Equipment No.:	A-04-01	Slope, mc	0.0462	Intercept, bc	-0.0163
Last Calibration Date:	11-Oct-10	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	9-Oct-11	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	11.8	3.54	77.04	8.3	2.97
2	9.7	3.21	69.89	6.7	2.67
3	7.5	2.82	61.49	5.2	2.35
4	5.1	2.33	50.77	3.2	1.85
5	3.1	1.82	39.66	2.0	1.46

By Linear Regression of Y on X

Slope , mw = 0.0410 **Intercept, bw =** -0.1907

Correlation coefficient* = 0.9990

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 2.32

Remarks:

Conducted by: Isk Tang Signature: Kwan Date: 11/1/11

Checked by: [illegible] Signature: Date: 11 January 2011

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0031/13/0005

Station: AM1 - Staff Quarters of Cape Collinson Crematorium Operator: WK

Date: 9-Mar-11 Next Due Date: 8-May-11

Equipment No.: A-01-13 Serial No. 1352

Ambient Condition			
Temperature, Ta (K)	286.8	Pressure, Pa (mmHg)	769.4

Orifice Transfer Standard Information					
Equipment No.:	A-04-01	Slope, mc	0.0462	Intercept, bc	-0.0163
Last Calibration Date:	11-Oct-10	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	9-Oct-11	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	11.6	3.49	75.96	8.4	2.97
2	9.8	3.21	69.85	6.9	2.69
3	7.6	2.83	61.55	5.3	2.36
4	5.2	2.34	50.98	3.4	1.89
5	3.3	1.86	40.68	2.2	1.52

By Linear Regression of Y on X

Slope , mw = 0.0413 **Intercept, bw =** -0.1845

Correlation coefficient* = 0.9993

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **2.41**

Remarks:

Conducted by: WK. Tang Signature: Kwai Date: 9/3/11

Checked by: [illegible] Signature: Date: 9 March 2011

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0031/45/0004

Station: AM2 - King Tsui Court Operator: WK

Date: 1-Feb-11 Next Due Date: 31-Mar-11

Equipment No.: A-01-45 Serial No. 1309

Ambient Condition			
Temperature, Ta (K)	285.5	Pressure, Pa (mmHg)	771.6

Orifice Transfer Standard Information					
Equipment No.:	A-04-01	Slope, mc	0.0462	Intercept, bc	-0.0163
Last Calibration Date:	11-Oct-10	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	9-Oct-11	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	11.6	3.51	76.24	8.3	2.97
2	9.6	3.19	69.39	6.4	2.60
3	7.5	2.82	61.37	5.1	2.32
4	5.1	2.32	50.67	3.4	1.90
5	3.0	1.78	38.95	2.0	1.46

By Linear Regression of Y on X

Slope , mw = 0.0398 **Intercept, bw =** -0.1085

Correlation coefficient* = 0.9984

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 2.42

Remarks:

Conducted by: WK Tang Signature: Kwan Date: 1/2/11

Checked by: [illegible] Signature: Date: 1 February 2011

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0031/45/0005

Station: AM2 - King Tsui Court Operator: WK

Date: 29-Mar-11 Next Due Date: 28-May-11

Equipment No.: A-01-45 Serial No. 1309

Ambient Condition			
Temperature, Ta (K)	290.8	Pressure, Pa (mmHg)	770.9

Orifice Transfer Standard Information					
Equipment No.:	A-04-01	Slope, mc	0.0462	Intercept, bc	-0.0163
Last Calibration Date:	11-Oct-10	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	9-Oct-11	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	11.5	3.46	75.19	8.1	2.90
2	9.5	3.14	68.37	6.5	2.60
3	7.5	2.79	60.79	5.0	2.28
4	5.3	2.35	51.16	3.2	1.82
5	3.2	1.82	39.83	2.1	1.48

By Linear Regression of Y on X

Slope , mw = 0.0410 **Intercept, bw =** -0.2034

Correlation coefficient* = 0.9970

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **2.34**

Remarks:

Conducted by: Wk Tang Signature: [signature] Date: 29/3/11

Checked by: [signature] Signature: [signature] Date: 29 March 2011

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Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. Henry Leung**

Test Report No.:	C/A/100504
Date of Issue:	2010-05-04
Date Received:	2010-04-30
Date Tested:	2010-04-30
Date Completed:	2010-04-30
Next Due Date:	2011-05-03
Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: RS232 Integral Vane Digital Anemometer
Manufacturer	: AZ Instrument
Model No.	: 451104
Serial No.	: 9020746
Equipment No.	: A-03-01

Test conditions:

Room Temperature	: 22 degree Celsius
Relative Humidity	: 68%
Pressure	: 101.3 kPa

Methodology:

The anemometer has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

	Reference Set Point	Instrument Readings
Measuring Air Velocity, m/s	2.00	2.00
Temperature, °C	21.0	21.0

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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TEST REPORT

Description	Calibration Orifice	**Manufacturer**	Thermo Andersen
Serial No.	1536	**Temperature,Ta (K)**	295
Model No.	G25A	**Pressure, Pa (mmHg)**	751.5
Date	11 October 2010		

Plate	Diff.Vol (m^3)	Diff.Time (min)	Diff.Hg (mm)	Diff.H_2O (in.)
1	1.00	1.3050	3.8	1.50
2	1.00	0.9250	7.6	3.00
3	1.00	0.8540	8.9	3.50
4	1.00	0.7530	11.4	4.50
5	1.00	0.6210	16.5	6.50

DATA TABULATION

Vstd	(X axis) Qstd	(Y axis)
0.9938	0.7615	1.2240
0.9888	1.0689	1.7311
0.9870	1.1558	1.8698
0.9837	1.3064	2.1201
0.9769	1.5732	2.5481

Y axis= SQRT[H_2O(Pa/760)(298/Ta)]

Qstd Slope (m) = 1.63228
Intercept (b) = -0.01631
Coefficient (r) = 0.99998

Va	(X axis) Qa	(Y axis)
0.9949	0.7624	0.7674
0.9899	1.0701	1.0852
0.9882	1.1571	1.1722
0.9848	1.3079	1.3291
0.9780	1.5749	1.5974

Y axis= SQRT[H_2O(Ta/Pa)]

Qa Slope (m) = 1.02211
Intercept (b) = -0.01022
Coefficient (r) = 0.99998

CALCULATIONS

Vstd=Diff. Vol[(Pa-Diff.Hg)/760](298/Ta)
Qstd=Vstd/Time
Va=Diff.Vol[(Pa-Diff.Hg)/Pa]
Qa=Va/Time

For subsequent flow rate calculations:
Qstd=I/m{[SQRT(H_2O(Pa/760)(298/Ta))]-b}
Qa=I/m{[SQRT H_2O(Ta/Pa)]-b}

PREPARED AND CHECKED BY:
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PATRICK TSE
Laboratory Manager

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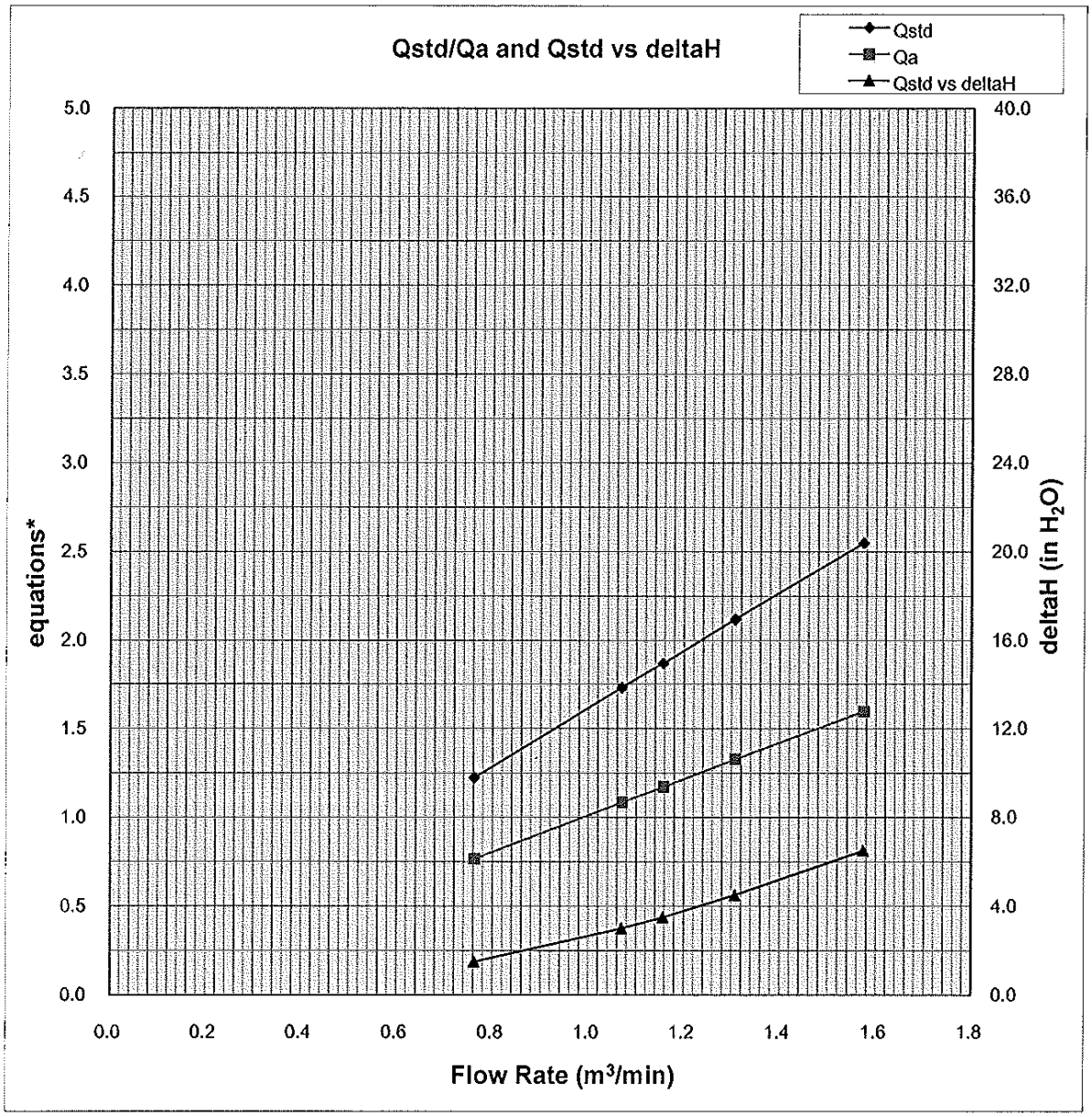
TEST REPORT



Y-axis equations:

Qstd series: SQRT[ΔH(Pa/Pstd)(Tstd/Ta)]

Qa series: SQRT[ΔH(Ta/Pa)]

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TEST REPORT

APPLICANT:	**Cinotech Consultants Limited** **Room 1710, Technology Park,** **18 On Lai Street,** **Shatin, NT, Hong Kong**	Test Report No.: Date of Issue: Date Received: Date Tested: Date Completed: Next Due Date:	C/110131/1 2011-01-31 2011-01-28 2011-01-28 2011-01-31 2011-03-30
ATTN:	**Mr. Henry Leung**	Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 541146
Sensitivity (K) 1 CPM	: 0.001 mg/m^3
Sen. Adjustment Scale Setting	: 619 CPM
Equipment No.	: A-02-07

Test Conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 68%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0031

****

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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TEST REPORT

APPLICANT:	**Cinotech Consultants Limited** **Room 1710, Technology Park,** **18 On Lai Street,** **Shatin, NT, Hong Kong**	Test Report No.: Date of Issue: Date Received: Date Tested: Date Completed: Next Due Date:	C/N/110117/1 2011-01-17 2011-01-14 2011-01-14 2011-01-17 2012-01-16
ATTN:	**Mr. Henry Leung**	Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 14302
Microphone No.	: 17204
Equipment No.	: N-08-04

Test conditions:

Room Temperatre	: 22 degree Celsius
Relative Humidity	: 58%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:
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PATRICK TSE
Laboratory Manager

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. Henry Leung**

Test Report No.:	C/N/100904/1
Date of Issue:	2010-09-04
Date Received:	2010-09-03
Date Tested:	2010-09-03
Date Completed:	2010-09-04
Next Due Date:	2011-09-03
Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 21139
Microphone No.	: 43690
Equipment No.	: N-08-06

Test conditions:

Room Temperatre	: 23 degree Celsius
Relative Humidity	: 65%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

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Patrick Tse
PATRICK TSE
Laboratory Manager

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/100902-3
Date of Issue:	2010-09-02
Date Received:	2010-09-01
Date Tested:	2010-09-01
Date Completed:	2010-09-02
Next Due Date:	2011-09-01

ATTN: **Mr. Henry Leung**

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2412367
Equipment No.	: N-02-03

Test conditions:

Room Temperatre	: 23 degree Celsius
Relative Humidity	: 65%

Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:
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PATRICK TSE
Laboratory Manager

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APPENDIX C
ENVIRONMENTAL MONITORING SCHEDULES

Contract No. SSW 327 - Reprovisioning of Cape Collinson Crematorium
Impact Air Quality and Noise Monitoring for March 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
		1 hr TSP	24 hr TSP	1 hr TSP	1 hr TSP Noise	
6-Mar	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar
	1 hr TSP	24 hr TSP	1 hr TSP Noise	1 hr TSP		
13-Mar	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
	1 hr TSP Noise 24 hr TSP	1 hr TSP			1 hr TSP	24 hr TSP
20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar
	1 hr TSP Noise	1 hr TSP		1 hr TSP	24 hr TSP	
27-Mar	28-Mar	29-Mar	30-Mar	31-Mar		
	1 hr TSP	1 hr TSP		24 hr TSP		

Air Quality Monitoring Station (1 hr TSP & 24 hr TSP)
AM1- Staff Quarters of Cape Collinson Crematorium
AM2 - King Tsui Court

Noise Monitoring Station
M1 - Staff Quarters of Cape Collinson Crematorium

Contract No. SSW 327 - Reprovisioning of Cape Collinson Crematorium
Tentative Impact Air Quality and Noise Monitoring for April 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Apr	2-Apr
					1 hr TSP Noise	
3-Apr	4-Apr	**5-Apr**	6-Apr	7-Apr	8-Apr	9-Apr
	1 hr TSP		1 hr TSP Noise 24 hr TSP	1 hr TSP		
10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr
	1 hr TSP	1 hr TSP 24 hr TSP	1 hr TSP Noise			
17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	**22-Apr**	**23-Apr**
	1 hr TSP 24 hr TSP	1 hr TSP Noise	1 hr TSP			24 hr TSP
24-Apr	**25-Apr**	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr
			1 hr TSP	1 hr TSP	1 hr TSP Noise 24 hr TSP	

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station (1 hr TSP & 24 hr TSP)
AM1- Staff Quarters of Cape Collinson Crematorium
AM2 - King Tsui Court

Noise Monitoring Station
M1 - Staff Quarters of Cape Collinson Crematorium

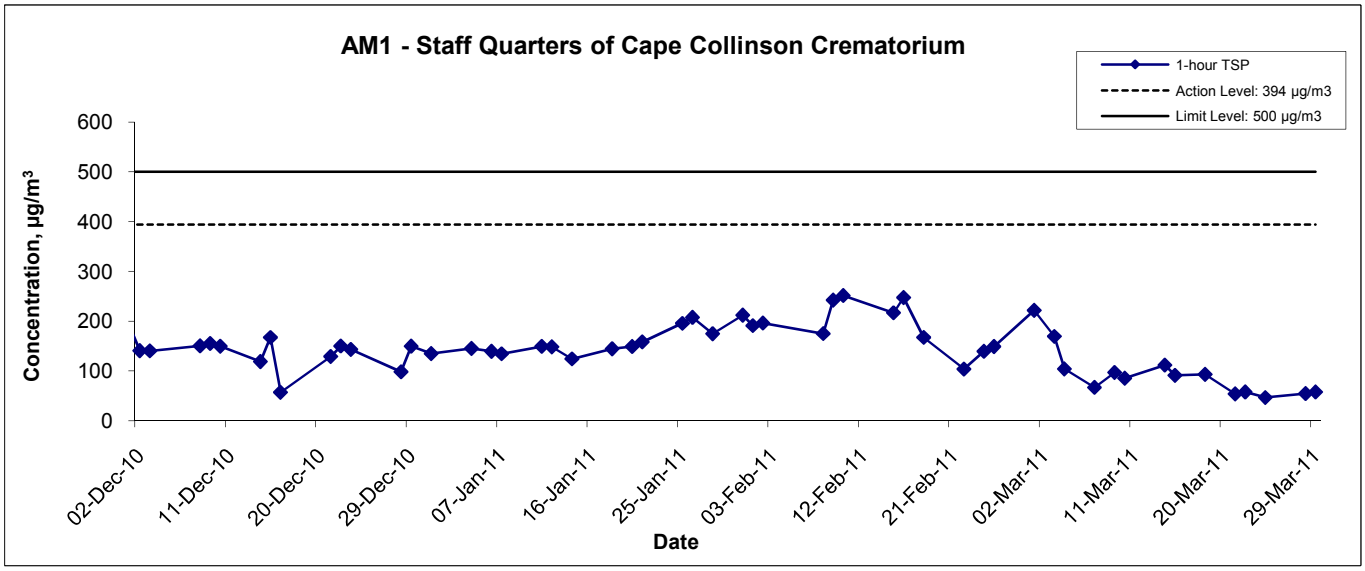
APPENDIX D
1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

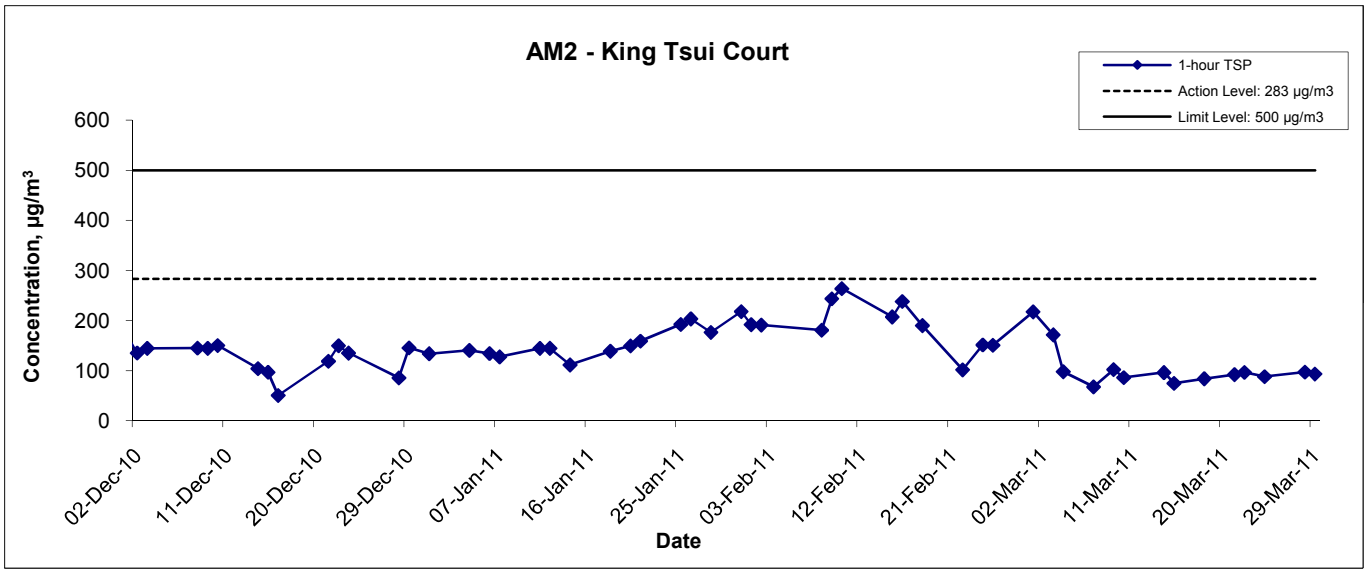
Appendix D - 1-hour TSP Monitoring Results

Location AM1 - Staff Quarters of Cape Collinson Crematorium			
Date	Time	Weather	Particulate Concentration (μg/m^3)
1-Mar-11	15:25	Sunny	221.7
3-Mar-11	15:20	Fine	169.5
4-Mar-11	15:20	Sunny	104.2
7-Mar-11	15:30	Sunny	67.1
9-Mar-11	15:20	Fine	97.1
10-Mar-11	15:30	Cloudy	85.6
14-Mar-11	15:50	Sunny	111.7
15-Mar-11	8:05	Cloudy	91.3
18-Mar-11	17:15	Cloudy	93.3
21-Mar-11	10:15	Sunny	54.1
22-Mar-11	10:30	Sunny	58.0
24-Mar-11	10:15	Sunny	46.7
28-Mar-11	10:15	Sunny	54.6
29-Mar-11	10:15	Sunny	58.0
		Average	93.8
		Maximum	221.7
		Minimum	46.7

Location AM2 - King Tsui Court			
Date	Time	Weather	Particulate Concentration (μg/m^3)
1-Mar-11	14:10	Sunny	217.5
3-Mar-11	14:00	Fine	171.4
4-Mar-11	14:00	Sunny	98.1
7-Mar-11	14:00	Sunny	67.7
9-Mar-11	14:00	Fine	102.3
10-Mar-11	14:10	Fine	86.3
14-Mar-11	17:25	Cloudy	96.3
15-Mar-11	9:30	Cloudy	74.7
18-Mar-11	15:50	Cloudy	83.9
21-Mar-11	9:00	Sunny	92.2
22-Mar-11	9:15	Sunny	96.6
24-Mar-11	9:00	Sunny	88.2
28-Mar-11	9:00	Sunny	97.1
29-Mar-11	9:00	Sunny	93.4
		Average	104.7
		Maximum	217.5
		Minimum	67.7

1-hr TSP Concentration Levels





Title: Contract No. SSW 327 Reprovisioning of Cape Collinson Crematorium Graphical Presentation of 1-hour TSP Monitoring Results	Scale: N.T.S Date: Mar 11	Project No.: MA0031 Appendix: D	CINOTECH

APPENDIX E
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix E - 24-hour TSP Monitoring Results

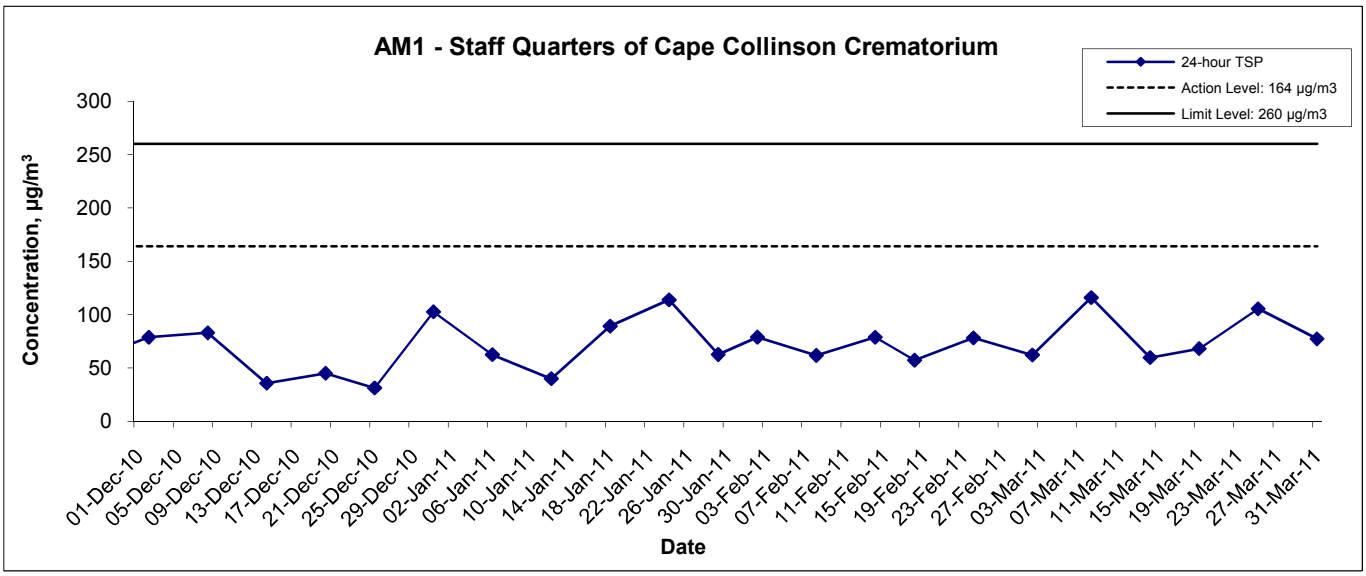
Location AM1 - Staff Quarters of Cape Collinson Crematorium

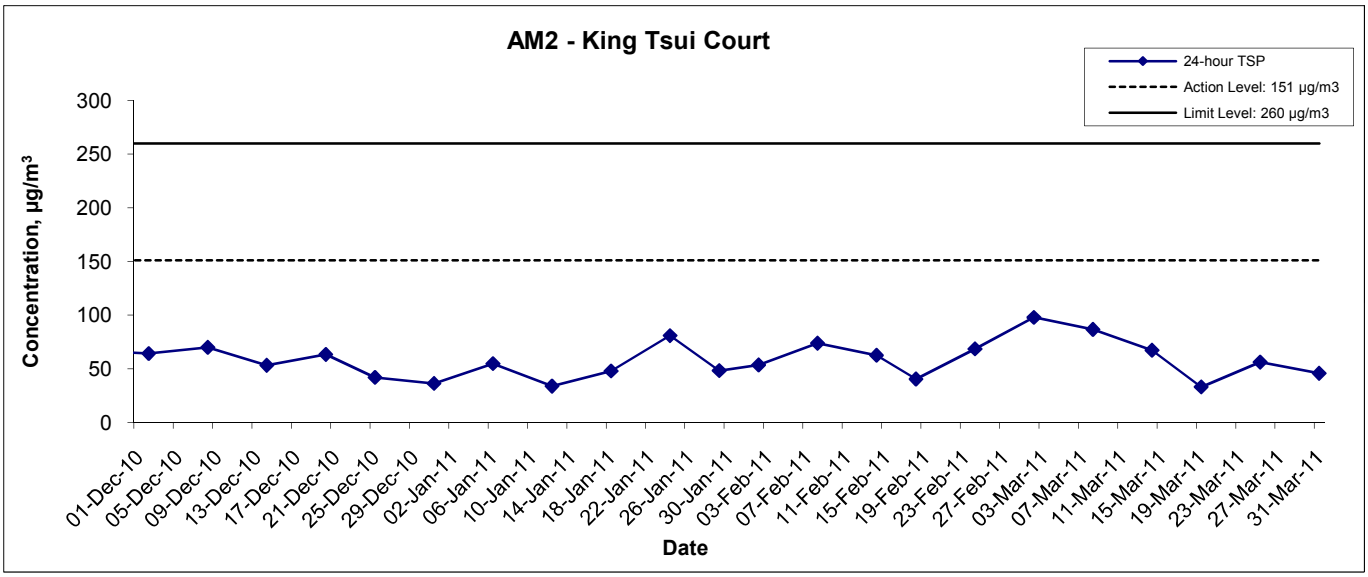
Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m^3/min.)		Av. flow (m^3/min)	Total vol. (m^3)	Conc. (μg/m^3)
				Initial	Final		Initial	Final		Initial	Final			
2-Mar-11	Sunny	288.9	767.6	3.1457	3.2530	0.1073	8824.3	8848.3	24.0	1.20	1.20	1.20	1728.1	62.1
8-Mar-11	Sunny	287.0	769.4	3.1725	3.3735	0.2010	8848.3	8872.3	24.0	1.21	1.20	1.20	1735.0	115.8
14-Mar-11	Cloudy	298.7	762.2	3.3560	3.4580	0.1020	8872.3	8896.3	24.0	1.19	1.19	1.19	1711.1	59.6
19-Mar-11	Sunny	288.4	763.7	3.3928	3.5111	0.1183	8896.3	8920.3	24.0	1.21	1.21	1.21	1739.7	68.0
25-Mar-11	Sunny	289.0	771.6	3.3948	3.5789	0.1841	8920.3	8944.3	24.0	1.21	1.21	1.21	1746.1	105.4
31-Mar-11	Sunny	290.7	767.8	3.4148	3.5489	0.1341	8944.3	8968.3	24.0	1.21	1.21	1.21	1737.6	77.2
													Min	59.6
													Max	115.8
													Average	81.4

Location AM2 - King Tsui Court

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m^3/min.)		Av. flow (m^3/min)	Total vol. (m^3)	Conc. (μg/m^3)
				Initial	Final		Initial	Final		Initial	Final			
2-Mar-11	Sunny	288.9	767.6	3.1579	3.3272	0.1693	5534.5	5558.5	24.0	1.20	1.20	1.20	1730.2	97.9
8-Mar-11	Sunny	287.0	769.4	3.1804	3.3311	0.1507	5558.5	5582.5	24.0	1.21	1.21	1.21	1737.4	86.7
14-Mar-11	Cloudy	298.7	762.2	3.3453	3.4596	0.1143	5582.5	5606.5	24.0	1.18	1.18	1.18	1697.8	67.3
19-Mar-11	Sunny	288.4	763.7	3.3870	3.4442	0.0572	5606.5	5630.5	24.0	1.20	1.20	1.20	1727.4	33.1
25-Mar-11	Sunny	289.5	771.6	3.3756	3.4729	0.0973	5630.5	5654.5	24.0	1.20	1.20	1.20	1732.7	56.2
31-Mar-11	Sunny	290.7	767.8	3.3949	3.4756	0.0807	5654.5	5678.5	24.0	1.22	1.22	1.22	1763.0	45.8
													Min	33.1
													Max	97.9
													Average	64.5

24-hr TSP Concentration Levels





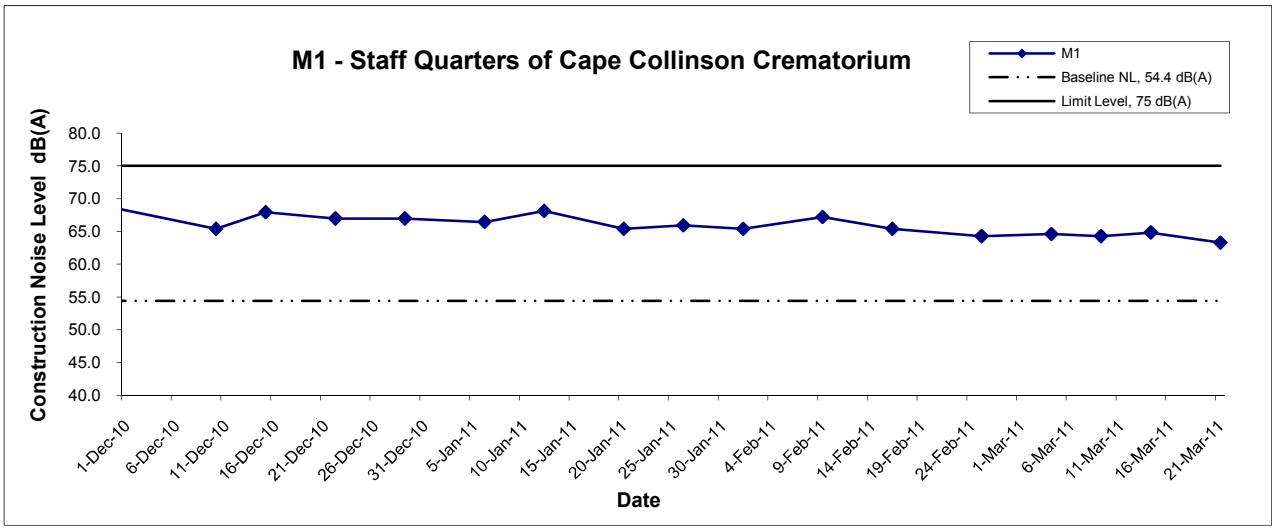
Title: Contract No. SSW 327 Reprovisioning of Cape Collinson Crematorium Graphical Presentation of 24-hour TSP Monitoring Results	Scale: N.T.S	Project No.: MA0031	CINOTECH
	Date: Mar 11	Appendix: E	

APPENDIX F
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix F - Noise Monitoring Results

Location M1 - Staff Quarters of Cape Collinson Crematorium							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
4-Mar-11	15:20	Sunny	65.0	67.1	6.1	54.4	64.6
9-Mar-11	15:20	Fine	64.7	66.9	58.0		64.3
14-Mar-11	15:50	Sunny	65.2	66.9	59.1		64.8
21-Mar-11	9:00	Sunny	63.8	64.2	61.7		63.3

Noise Levels



Title	Contract No. SSW 327 Reprovisioning of Cape Collinson Crematorium Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA0031	CINOTECH
		Date Mar 11	Appendix F	

APPENDIX G
VISUAL MITIGATION MEASURES
PHOTOGRAPHIC RECORD

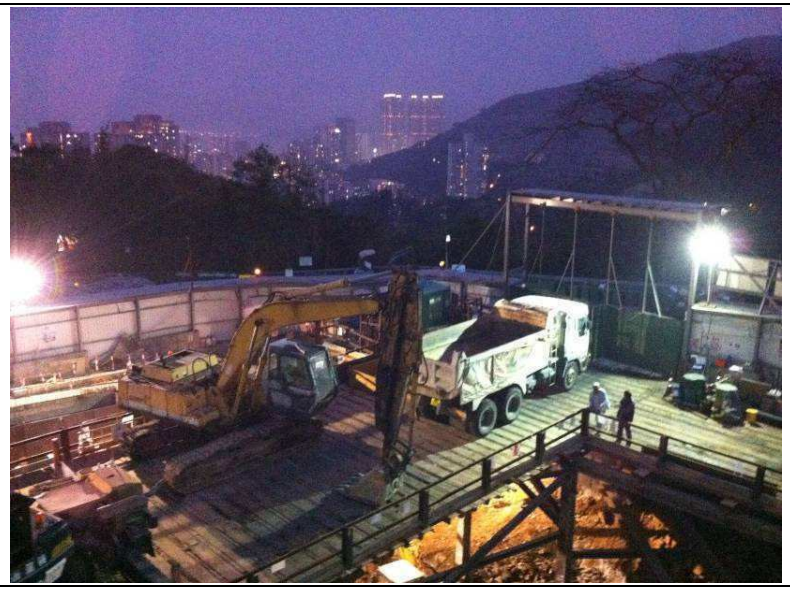
Appendix G – Visual Mitigation Measures Photographic Record

Photo 1

Photo 2

Photo 3

Photo 4

	
Photo 5	Photo 6
Photo 7	Photo 8

APPENDIX H
WEATHER CONDITION ON MONITORING DATE

Appendix H Weather Conditions on Monitoring Date

Date	Air Temperature (°C)	Mean Relative Humidity (%)
1-Mar-2011	19.1 – 24.9	70 – 89
2-Mar-2011	17.1 – 21.1	56 – 89
3-Mar-2011	15.3 – 21.9	63 – 90
4-Mar-2011	15.0 – 20.1	59 – 75
7-Mar-2011	15.8 – 23.9	45 – 94
8-Mar-2011	13.1 – 17.9	61 – 94
9-Mar-2011	12.5 – 17.4	52 – 94
10-Mar-2011	15.0 – 19.0	51 – 78
14-Mar-2011	19.8 – 26.5	59 – 90
15-Mar-2011	14.9 – 22.5	58 – 94
18-Mar-2011	14.2 – 16.6	59 – 96
19-Mar-2011	14.9 – 17.9	91 – 98
21-Mar-2011	20.5 – 27.4	74 – 99
22-Mar-2011	16.1 – 23.3	66 – 94
24-Mar-2011	14.9 – 19.7	59 – 82
25-Mar-2011	14.6 – 21.6	45 – 68
28-Mar-2011	14.1 – 21.0	42 – 70
29-Mar-2011	15.2 – 20.8	42 – 64

Date	Air Temperature (°C)	Mean Relative Humidity (%)
31-Mar-2011	16.4 – 22.4	25 – 79

* The above information was extracted from the daily weather summary by Hong Kong Observatory.

APPENDIX I
SUMMARY OF EXCEEDANCE

APPENIDX I – SUMMARY OF EXCEEDANCE

Reporting Month: March 2011

a) Exceedance Report for 1-hr TSP (NIL)

b) Exceedance Report for 24-hr TSP (NIL)

c) Exceedance Report for Construction Noise (NIL)

APPENDIX J
SITE AUDIT SUMMARY

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	110304
Date	4 March 2011 (Friday)
Time	10:00-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
110304-R01	*Part A - Water Quality* • No environmental deficiency was identified during the site inspection. *Part B – Landscape and Visual* • No environmental deficiency was identified during the site inspection. *Part C - Air Quality* • No environmental deficiency was identified during the site inspection. *Part D – Noise* • No environmental deficiency was identified during the site inspection. *Part E - Waste / Chemical Management* • Drip tray should be provided at underneath the oil tank at any time. *Part F - Permit / Licenses* • No environmental deficiency was identified during the site inspection. *Others* • Follow-up on previous audit session (Ref. No.110225), all environmental deficiencies were improved/ rectified by the Contractor.	E7ii.

	Name	Signature	Date
Recorded by	TY Yeung		4 March 2011
Checked by	Dr. Priscilla Choy		4 March 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	110311
Date	11 March 2011 (Friday)
Time	10:00-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality • No environmental deficiency was identified during the site inspection. *Part B – Landscape and Visual* • No environmental deficiency was identified during the site inspection.	
110311-R01	*Part C - Air Quality* • The exposed area should be watered regularly, to avoid dust generation. *Part D – Noise* • No environmental deficiency was identified during the site inspection.	C5
110311-R02	*Part E - Waste / Chemical Management* • The discarded leaves should be cleared at u-channel. *Part F - Permit / Licenses* • No environmental deficiency was identified during the site inspection. *Others* • Follow-up on previous audit session (Ref. No.110304), all environmental deficiencies were improved/ rectified by the Contractor.	E1i.

	Name	Signature	Date
Recorded by	TY Yeung		11 March 2011
Checked by	Dr. Priscilla Choy		11 March 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	110317
Date	17 March 2011 (Thursday)
Time	13:30-15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality • No environmental deficiency was identified during the site inspection. *Part B – Landscape and Visual* • No environmental deficiency was identified during the site inspection. *Part C - Air Quality*	
110317-R01	• The Contractor was reminded to keep watering during breaking work, to avoid dust generation.	C10
110317-R02	• The exposed slope should be covered with impervious material. The Contractor was reminded to prepare tarpaulin for further use over night and during holidays.	C6
	Part D – Noise • No environmental deficiency was identified during the site inspection. *Part E - Waste / Chemical Management* • No environmental deficiency was identified during the site inspection. *Part F - Permit / Licenses* • No environmental deficiency was identified during the site inspection. *Others* • Follow-up on previous audit session (Ref. No.110311), all environmental deficiencies were improved/ rectified by the Contractor.	

	Name	Signature	Date
Recorded by	TY Yeung		17 March 2011
Checked by	Dr. Priscilla Choy		17 March 2011

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	110325
Date	25 March 2011 (Friday)
Time	10:00-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
110325-R01	*Part A - Water Quality* • The stagnant water within the drip tray should be cleared. *Part B – Landscape and Visual* • No environmental deficiency was identified during the site inspection. *Part C - Air Quality* • No environmental deficiency was identified during the site inspection. *Part D – Noise* • No environmental deficiency was identified during the site inspection. *Part E - Waste / Chemical Management* • No environmental deficiency was identified during the site inspection. *Part F - Permit / Licenses* • No environmental deficiency was identified during the site inspection. *Others* • Follow-up on previous audit session (Ref. No.110317), all environmental deficiencies were improved/ rectified by the Contractor.	A11

	Name	Signature	Date
Recorded by	TY Yeung		25 March 2011
Checked by	Dr. Priscilla Choy		25 March 2011

APPENDIX K
SUMMARY OF AMOUNT OF WASTE GENERATED

Name of Department: ArchSD

Contract No.: SS W327

Monthly Summary Waste Flow Table for 2011 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0.293	0	0	0	0.293	0	0	0.088	0.002	0	0.013
Feb	4.674	0	0	0	4.661	0.013	0.169	0.082	0.005	0	0.007
Mar	4.395	0	0	0	4.388	0.007	1.901	0.032	0.0015	0	0
Apr											
May											
June											
Sub-total	9.362	0	0	0	9.342	0.020	2.07	0.202	0.0085	0	0.020
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	9.362	0	0	0	9.342	0.020	2.07	0.202	0.0085	0	0.020

Notes: (1) The performance targets are given in PS Clause 6(14).
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

APPENDIX L
EVENT/ ACTION PLANS

Appendix L – Event Action Plan

Event	Action			
	ET	IEC	ER	Contractor
Action Level being exceeded	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level being exceeded	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated.

APPENDIX M
ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

EIA Ref #	Environmental Protection Measures/ Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
3.102	Construction & Demolition Phase Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation: skip hoist for material transport should be totally enclosed by impervious sheeting; every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site; the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; where a site boundary adjoins a road, streets or other accessible to the public, hording of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit; every stack of more than 20 bags of cement should be covered entirely by impervious sheeting places in an area sheltered on the top and the 3 sides; all dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet; the excavation area should be limited to as small in size as possible and backfilled with clean and/or treated soil shortly after excavation work; the height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation	Works Sites / During Construction Phase	Contractor		√			EIAO-TM	#

EIA Ref #	Environmental Protection Measures/ Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
3.91	from unloading; the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle; and implementation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of works if dusty conditions arise. Implementation of precautionary and mitigation measures for removal of Asbestos Containing Material stipulated in Air Pollution Control Ordinance: enclosure of the work area; containment and sealing for the asbestos containing waste; provision of personal decontamination facilities; use of personal decontamination facilities; use of personal respiratory/protection equipment; use of vacuum cleaner fitted with a high efficiency particulate air filter for cleaning up the works area; and carrying out air quality monitoring during the asbestos abatement works.							APCO	
S3.8 – S3.22 and	<u>Operation Phase</u> Although the final selection of cremation technology and air pollution control system would be subject to open tendering procedure, the performance and	Cremators / During Operation Phase	Contractor	√		√		APCO	N/A

EIA Ref #	Environmental Protection Measures/ Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
3.77 3.108	specifications of the new cremators and air pollution control system shall fully comply with target emission limits and the BPM12/2(06); Use of towngas as burning fuel for the new cremators; and Adoption of flue gas treatment system for joss paper burners. The monitoring of the air pollutants shall comply with the requirements of BPM and future Specified Process License of new crematorium, to be issued by EPD under the APCO.					√		APCO	

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

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
S.4.58	Construction & Demolition Phase Good Site Practice Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354) and the Land (Miscellaneous Provision) Ordinance (Cap. 28) • Prepare a Waste Management Plan approved by the Engineers / Supervising Officer of the Project based on current best practice on Construction Site • Use waste licensed collector to collect waste • Establish trip ticket system as contractual requirement with reference to ETWB(W) No. 31/2004 for monitoring of public fill and C&D waste at public filling facilities and landfills. • Provide training to site staff in terms of proper waste management and chemical waste handling procedures • Separate chemical wastes for special handling and dispose them at licensed facility for treatment • Provide sufficient waste disposal points and regular collection for disposal • Establish recording system for the amount of wastes generated, recycled and disposed of	Project site / design, construction and demolition phase	Contractor	√	√			Waste Disposal Ordinance (Cap. 354) Waste Disposal (Chemical Waste) (General) Regulation Waste Disposal (Charges for Disposal of Construction Waste) Regulation ETWBTC(W) 19/2005 ETWB(W) No. 31/2004	#
S.4.59	Environmental Management Plan • The ETWB TCW No.19/2005 “Environmental Management on Construction” includes procedures on waste management requiring contractors to reduce the C&D material to be	Project site / design, construction and	Contractor	√	√	√		ETWBTC(W) 19/2005	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	disposed of during the course of construction. Under this ETWB TCW No.19/2005, the Contractor is required to prepare and implement an Environmental Management Plan (EMP) and the Waste Management Plan (WMP) becomes part of the EMP.	demolition phase							
S.4.60	<u>Waste Reduction Measures</u> • Prior to disposal of C&D waste, wood, steel and other metals should be separated for reuse and / or recycling to minimize the quantity of waste to be disposed of to landfill • Minimize use of wood and reuse non-timber formwork to reduce the amount of C&D waste • As far as practicable, segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal • Encourage collection of aluminium cans, plastic bottles and packaging material (e.g. carton boxes) and office paper	Project site / construction and demolition phase	Contractor		√	√		WBCT No. 32/1992 WBCT No. 19/2005	^
S.4.61-S4.62	<u>Excavated Materials</u> • Rock and soil generated from excavation should be reused during site formation and landscaping as far as practicable to reduce total amount dispose off site. • Trip ticket should be implemented for surplus excavated materials	Project site / construction and demolition phase	Contractor / ArchSD		√			WBTC No. 12/2000 ETWB TC(W) No. 31/2004	^
S.4.63 – S.4.66	<u>Construction and Demolition Materials</u> • Well-planned design and good site management can minimize over-loading and generation of waste materials such as concrete and cement grouts. Wooden frame should be replaced by metals. Plastic fencing and reusable site office structure can reduce	Project site / construction and demolition phase	Contractor / ArchSD	√	√			WBTC No. 2/93 The Land (Miscellaneous Provision) Ordinance	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	C&D waste generation. • The Contractor should recycle as much C&D materials as possible. Proper segregation of waste types on site to enhance reuse and recycling of materials. Designated areas for different materials storage should be assigned for segregation. • Under the Construction Waste Disposal Charging Scheme, construction waste producers such as construction and renovation contractors and premises owners, prior using government waste disposal facilities, need to prepare a billing account with EPD and pay for construction waste disposal. • It is expected that trip-ticket system should be implemented for surplus C&D materials disposal in accordance with ETWB TC(W) No.31/2004 and the Construction Waste Disposal Charging Scheme. Waste should be delivered to a public fill reception facility. Copies or counterfoils of trip tickets will be kept for record purpose.							WBTC No. 19/2005 ETWB TC(W) No.31/2004	
S.4.68 – S.4.70	<u>Contaminated Materials – Further Contamination Investigation</u> • Building structure of cremators, flues and chimney would likely to be contaminated by DCM ash due to long term servicing. As the cremators are still in operation, it is not possible to carry out site investigation in the areas of cremators, flues and chimney in this stage. To maintain uninterrupted cremation services, further site investigation in cremation rooms and associated equipments are proposed to undertake after decommissioning and prior to demolition of existing crematorium.	Cremators, chimney and flues areas/ After decommissioning but prior to demolition of the existing crematorium.	FEHD, ArchSD, Contractor		√			ProPECC PN 2/97 ProPECC PN 3/94 APCO	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	• According to the asbestos investigation report, asbestos gasket (woven) and insulation sheet were identified with ACM. It is also not possible to inspect all potential asbestos containing material locations due to on-going operation of cremators, concealed pipeline inside wall and covered up flange connection by metal cover. Further inspection of the inaccessible locations will be undertaken prior to demolition works. • Contaminated ash and ACM potential contamination locations will be further indentified. In view of close distance between the contaminated ash and ACM, there is concern on contaminated ash wastes being embedded in ACM. Therefore, it is advisable to remove contaminated ash waste prior to any asbestos containing material on building structures.								
S.4.72 – S 4.73	<u>Asbestos Containing Materials</u> • Asbestos waste will be handled in accordance with the Code of practice on the Handling, Transportation and Disposal of Asbestos Waste issued by the Environment and Food Bureau. • Production, collection and disposal of asbestos waste will follow the "trip-ticket" system. The registered asbestos contractor will be appointed a licensed asbestos waste collector to collect the packaged asbestos waste and deliver to the designated landfill for disposal. Notification has to be given to EPD for its, Ten working days notice of the intention to dispose of asbestos waste. After processing the notification, EPD will issue specific instructions and directions for disposal.	Crematorium room in existing crematorium / before demolition	Contractor		√			COP on Handling, Transportation and Disposal of Asbestos Waste under the Waste Disposal (Chemical Waste)(General) Regulation	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
S.4.75	<u>Demolition, Handling, Treatment and Disposal of Low Contaminated DCM from Demolition of Existing Crematorium</u> • Where the ash waste contains low contamination levels of DCM (<1ppb TEQ), the Contractor should avoid ash waste becoming airborne during demolition. General dust suppression measures will be followed and ash waste would be directly disposed to landfill.	Cremator room in existing crematorium / before demolition	Contractor		√			ProPECC PN 3/94 APCO	^
S.4.76	• Demolition, Handling, Treatment and Disposal of Moderately Contaminated DCM from Demolition of Existing Crematorium • Where the ash waste contains low contamination levels of DCM (>1 and <10 ppb TEQ), the following steps should be followed: • Site Preparation • - Except the cremators / flue / chimney, all removable items should be removed as far as practicable to avoid obstructing the decontamination activities; • - Preliminary site decontamination of all debris should be carried out using High Efficiency Particulate Air (HEPA) vacuum cleaner; • - Top portion of the chimney should be enclosed by a 3-layer chamber of polyethene sheets; • - At the entrance to the cremators/ flues/chimney, a 3-chamber decontamination unit should be constructed for entry and exit from the work area. The 3-chamber decontamination unit should comprise a dirty room, a shower room and a clean room of at least 1m x 1m base with 3-layer of fire retardant polyethylene sheet; • - Workers should carry out decontamination	Cremator room in existing crematorium / before demolition	Contractor		√			ProPECC PN 3/94 APCO	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	procedure before leaving the work area; • - Workers should wear full protective equipment, nitrile gloves, robber boots and full-face positive pressure respirator; and • - Warning signs in both Chinese and English should be provided in conspicuous areas. • • Demolition and Handling • - The cremators / flue / chimney should be removed from top down. Any ash or residues attached to the cremators / flue / chimney or any other building structure should be removed by scrubbing and HEPA vacuuming; • - Waste generated from the containment or decontamination unit including the protection clothing of the workers should be disposed to landfill; and • - After removal, all surfaces should be decontaminated by HEPA vaccum. • Treatment and Disposal • - Immobilise ash waste by proper mixing with cement as determined by the pilot mixing and Toxicity Characteristic Leaching Procedure (TCLP); • - Waste material should be placed in polyethylene lined steel drums for disposal at landfill, the drums should be 16 gauge steel or thicker and fitted with double bung fixed ends adequately sealed and well labeled in new or good condition. • - Drums should be clearly marked “DANGEROUS CHEMICAL WASTE” in English and Chinese. Prior agreement of the disposal criteria must be obtain from EPD and the landfill operator.								

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	• - As a fall back option, if landfill disposal criteria cannot be met after immobilization of the ash waste, disposal at the Chemical Waste Treatment Center (CWTC) should be considered.								
S.4.77	• Demolition, Handling, Treatment and Disposal of Severely Contaminated DCM from Demolition of Existing Crematorium • Where the ash waste contains severely contamination levels of DCM (>10ppb TEQ), the following steps should be followed: • • Site Preparation • - Except the cremators / flue / chimney, all removable items should be removed as far as practicable to avoid obstructing the decontamination activities; • - Preliminary site decontamination of all debris should be carried out using High Efficiency Particulate Air (HEPA) vacuum cleaner; • - The walls, floor and ceiling of the cremator room where severely contaminated DCM should be lined with 3-layer chamber of fire retardant polyethene sheets. Top portion of the chimney above the roof should be enclosed by a 3-layer chamber of polyethene sheets; • - At the entrance to the cremators / flues / chimney, a 3-chamber decontamination unit should be constructed for entry and exit from the work area. The 3-chamber decontamination unit should comprise a dirty room, a shower room and a clean room of at least 1m x 1m base with 3-layer of fire retardant polyethylene sheet where all workers would carry out decontamination procedures	Cremator room in existing crematorium / before demolition	Contractor		√			ProPECC PN 3/94 APCO	N/A

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	before leaving the work area; • - Air movers should be installed at the cremator room, and at the bottom of the chimney to exhaust air from work area. A stand-by air mover should be installed with each of air movers. Sufficient air movement should be maintained to give a minimum of 6 air changes per hour to the work area; • - New pre-filters and HEPA filters should be used on the air movers. • - Before commencement of the decommissioning work, a smoke test with non-toxic smoke should be carried out to confirm the air tightness of the containment; • - Workers should wear full protective equipment, disposable protective coverall (such as Tyvek with shoe covers and hood), nitrile gloves, rubber boots and full-face positive pressure respirator equipped with a combination cartridge that filters particulate and removes organic vapour; and • - Warning signs in both Chinese and English should be provided in conspicuous areas. • Decontamination, Demolition and Handling • - The cremators / flue / chimney should be removed from top down. Any ash or residues attached to the cremators / flue / chimney or any other building structure should be removed by scrubbing and HEPA vacuuming; • - The contaminated detached sections of the building structure where severely contaminated DCM is located should be wrapped with 2 layers of fire retardant polyethene sheets. A third layershould be wrapped and secured with duct tape.								

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	Decontaminate the outer layer of the wrapped flue sections by wet wiping; and • - After completion of removal and decontamination, spary the innermost layer of the fire retardant polyethene sheet with PVA. Upon drying, peel off and dispose of at landfill site. • Treatment and Disposal • - All contaminated ash waste with severely contaminated DCM removed and the used HEPA filters should be sent to Chemical Waste Treatment Center (CWTC) at Tsing Yi; and • Other waste including the building structures and its associated panels as well as waste generated from this decommissioning works are also considered as contaminated waste and should be disposed of at designated landfill. Waste generated from this decommissioning works refer to the polyethene wrapping sheets should be placed into appropriate containers for disposal. Permit has to be obtained from the Authority. Disposal trip ticket is required to be made available as record after disposal.								
S4.78	• Further investigation and confirmatory test for ash waste in cremator, chimney and flues should be carried out on DCM prior to the demolition of the existing crematorium. The sampling and analysis plan should be prepared and submitted to EPD for approval.	Cremators, Chimneys and Flues / before demolition	Contractor		√			ProPECC PN 3/94 APCO	N/A
S4.79	• The mitigation measures stated in Section 4.75 to 4.78 of EIA report aim to address the detailed measures of avoiding cross contamination of DCM and ACM and should	Cremator room, cremators, chimney and flues areas/	Contractor		√				N/A

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	form part of the DCM Assessment Report which will be submitted to EPD for approval before the commencement of the demolition of the existing crematorium.	before demolition							
S.4.81 – S.4.83	• Chemical Waste • All the chemical waste should be handle according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. The chemical waste should store and collect by an licensed contractor for disposal at licensed facility in accordance with the Waste Disposal (Chemical Waste)(General) Regulation. Containers used for the storage of chemical waste should be: • - Suitable for substance holding, resistant to corrosion, maintained in good condition and securely closed; • - Capacity of less than 450 liters unless the specifications have been approved by the EPD; and • - Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Waste Disposal (Chemical Waste)(General) Regulation. • The storage area for chemical waste should: • - Be clearly labeled and used solely for the storage of chemical waste; • - Be enclosed on at least 3 sides; • - Have a impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; • - Have adequate ventilation; • - Be covered to prevent rainfall from entering (water collection within the bund must be	Project site / demolition	Contractor		√			Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes	#

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	tested and disposal as chemical waste if necessary); and • - Be properly arranged so that incompatible materials are adequately separated. • The chemical waste should be disposed of by: • - A licensed waste collector; • - A facility lisenced to receive chemical waste, such as CWTC at Tsing Yi, which offers chemical waste collection service and can supply the necessary storage containers; and • - A waste recycling plant as approved by EPD.								
S.4.84 – S.4.85	• General Refuse • General refuse should be stored in enclosed bins or compaction units separated from C&D and chemical wastes. Waste collector should be employed by the Contractor to minimize odour, pest and litter impacts. Open burning of refuse on construction site is prohibited by law. • The Contractor should carry out an education programe for workers in avoiding, reducing, reusing and recycling. This should include provision of three-colour recycling bins and on site and posters and leaflets advising on the use of recycling bins.	Project site / Construction and demolition stage	Contractor		√				#
S.4.86- S.4.101	• **Operation Phase** • Ash and non-combustible residues • -The disposal of bone and non-combustible residues should be properly collected and handled to avoid dust emissions. In line with the current practices, the bone ash will be stored in covered containers for collection by the deceased's relatives within 2 months upon appointment while the non-combustible residues will be collected in sealed heavy-duty	New crematorium / Operation phase	FEHD			√		Code of Practice on Packaging, Labelling and Storage of Chemical Wastes. Waste Disposal (Chemical Waste)(General)	N/A

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	polyethene bags for disposal at landfill. • Chemical Waste • - Chemical waste generated from the air pollution system as well as from machinery maintenance and servicing should be managed in accordance with the Code of Practice on the Packaging, Labelling and storage of Chemical Wastes under the provisions of the Waste Disposal (Chemical Waste)(General) Regulation. The chemical waste should be collected by drum-type containers and removed by licensed chemical waste contractor. • - Plant / equipment maintenance schedules should be planned in order to minimize the generation of chemical waste. • - Non-recyclable chemical wastes and lubricants should be disposed at an appropriate facility, such as EPD Chemical Waste Treatment Centre at Tsing Yi. Copies or counterfoils from collection receipts issued by the licensed waste collector should be kept for record purpose. • Fly Ash • - Collected and stored in sealed drums provided by the CWTC. • - Sealed drums are stored in a designated area and are periodically collected by CWTC (normally two to three weeks interval). • - Drums are taken to CWTC where they are incinerated and rendered harmless. • - Residues are then disposed of at landfill. • General Refuse • - Waste generated in offices should be reduced through segregation and collection of recyclable waste materials (such as paper). To							Regulation	

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	promote recycling of waste paper, aluminum cans and plastic bottles, it is recommended to place clearly labeled recycling bins at designated locations. The recyclable waste materials should be collected by licensed collectors: • - General refuse, other than segregated recyclable wastes, should be separated from any chemical waste and stored in coved skips. Food and Environmental Hygiene Department (FEHD) should remove general refuse from the site on daily basis to minimize odour, pest and litter impacts. Also open burning of refuse must be strictly prohibited.								
S.10.5 – S.10.6	• EM&A • To maintain uninterrupted cremation services, further site investigations are recommended. Building structures asbestos investigation and dioxins ash waste investigation are recommended around cremators, chimney, flues and surrounding areas.	Cremators, chimney, flues and surrounding areas / after decommissioning and prior to demolition	Contractor		√			ProPECC PN 2/97 and 3/94 AIR,AMP/AAP to be sumitted under APCO Further Site Investigation Plan	^

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

Table 12.3 Implementation Schedule for Land Contamination

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
5.29	Since the cremators are still in operation the proposed trial pit location, TP-1, is possessed by CEDD, it is not possible to carry out site investigation inside the cremation rooms and at TP-1 at this stage. Further site inspection of TP-1 and two cremation rooms shall be carried out after decommissioning and prior to the demolition of the existing crematorium. A supplementary CAP shall be prepared for EPD endorsement to present detailed sampling and testing plan for two cremation rooms. Further SI of TP-1 shall be conducted in accordance with the approved CAP. Findings of site investigation and appropriate remediation methods shall be presented in supplementary CAR and RAP for EPD endorsement prior to the commencement of any earthworks. The extent of contamination, if any, should be estimated	Pipeline, Cremator Rooms 1 and 2 / before demolition of the existing cremators	Contractor				√	Guidance Note for Contaminated Land Assessment and Remediation; Guidance Notes for Investigation and Remediation of Contaminated Sites of: Petrol Filling Stations, Boatyards, and Car Repair / Dismantling Workshops; Guidance Manual for Use of Risk–Based Remediation	N/A

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	based on the depth where contaminants found, the hydrogeological condition and the contaminants levels. The actual extent would be determined by confirmatory sampling and testing.							Goals for Contaminated Land Management; and	
5.40	Cement solidification / stabilization technique is considered as the most practical and cost-effective method to treat the metals contaminated soil on site.	Near underground storage tank / During soil treatment	Contractor				√	EIAO-TM	N/A
5.43 –5.44	Confirmatory soil sampling for closure assessment should be carried out to confirm the clean-up of the contaminated soil.	Near underground storage tank / During soil treatment	Contractor				√		N/A
5.46	Upon completion of cement solidification / stabilization, confirmation sampling and testing shall be undertaken to ensure the cleanup targets have been attained.	Near underground storage tank / During soil treatment	Contractor				√		N/A
5.49	If contaminated soil is found underneath the pipeline and at cremator rooms from the further SI, depending on the contamination extent, possible remediation methods for	Pipeline, Cremator Rooms 1 and 2 / before demolition of the	Contractor				√		N/A

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	organic contaminants could be excavation and biopiling as well as in-situ soil venting. If the volume of contaminated is found to be small and the aforesaid remediation methods is infeasible and impracticable, excavation and landfill disposal could be considered as last resort. Closure assessment in accordance with Sections 5.43 to 5.44 of EIA Report shall be carried out in order to confirm the clean-up of contaminated soil. The remediation method should be determined in the supplementary RAP according to the laboratory results and estimated quantity of contaminated soil.	existing cremators							
5.50	During removal of the underground storage tank, appropriate precautions should be taken to avoid contamination. All fuel tank and associated pipework should be emptied prior to any demolition work being undertaken. Any remaining sludge or sediment in the tanks or pipework should be removed and disposed of as chemical waste in accordance with the appropriate	Underground storage tank system / before demolition of the existing cremators	Contractor				√	Occupational Safety & Health Ordinance; Guidelines on Occupational Exposure	N/A

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	regulation for disposal of such material. After removal of the underground storage tank, confirmatory soil sample(s) underneath the tank should be collected and tested for TPH, VOCs and Pb using the same approach as mentioned in Sections 5.43 and 5.44 of EIA Report to ensure that no contamination due to fuel leakage.								
5.57 – 5.58	The following basic health and safety measures should be implemented as far as possible: • Set up a list of safety measures for site workers; • Provide written information and training on safety for site workers; • Keep a log-book and plan showing the contaminated zones and clean zones; • Maintain a hygienic working environment; • Avoid dust generation; • Provide face and respiratory protection gear to site workers; • Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight	At contaminated and soil treatment areas/ During soil treatment	Contractor				√	Occupational Safety & Health Ordinance; Guidelines on Occupational Exposure	N/A

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	gloves) to site workers; and • Provide first aid training and materials to site workers. The Contractor for the excavation works shall take note of the following points for excavation: • Excavation profiles must be properly designed and executed; • In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means. The discharge of groundwater, if any, should follow the requirements under the Water Pollution Control Ordinance (WPCO); • Excavation zone should be fenced off; • Quantities of soil to be excavated must be estimated; • It may be necessary to split quantities of soil according to soil type, degree and nature of contamination; • Temporary storage of soil at intermediate								

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	depot or on-site may be required. The storage site should include protection facilities for leaching into the ground e.g. a liner may be required; • Supply of suitable clean backfill material is needed after excavation; • Care must be taken of existing buildings and utilities; and • Precautions must be taken to control of ground settlement. • should be disposed of in accordance with the WPCO.								
5.60	The following mitigation measures are recommended to be implemented during CS/S processes. <u>Air Quality Impact</u> • The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system. • The loading, unloading, handling, transfer or storage of other materials which may generate airborne dust emissions such as untreated soil and oversize materials	At contaminated and soil treatment areas/ During soil treatment	Contractor				√	Occupational Safety & Health Ordinance; Guidelines on Occupational Exposure	N/A

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	sorted out from the screening plant and stabilized soil stockpiled in the designated handling area, should be carried out in such a manner to prevent or minimise dust emissions. These materials should be adequately wetted prior to and during the loading, unloading and handling operations. • All practicable measures should be taken to prevent or minimize the dust emission caused by vehicle movement. <u>Noise Impact</u> • The mixing area should be sited as far as practicable to nearby noise sensitive receivers. • Simultaneous operation of mixing plants and other equipment should be avoided. • Mixing process and other associated material handling activities should be properly scheduled to minimise potential cumulative noise impact on nearby noise sensitive receivers. • Construction Noise Permit should be								

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	applied for the operation of powered mechanical equipment, if any, during restricted hours. Water Quality Impact • Stockpile of untreated soil should be covered as far as practicable to prevent the contaminated material from leaching out. The leachate should be discharged following the requirements of Water Protection Control Ordinance. Waste • The oversize materials such as rocks and boulders should be screened out, cleaned the soil attached and used as filling material within the site. Contaminated materials (soil or rock fragments) of size smaller than 5 cm should be collected and transferred to the mixing area for decontamination treatment. • Stabilized soils should be broken into suitable size for backfilling or reuse on site.								

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	• A high standard of housekeeping should be maintained within the mixing area. • There should be clear and separated areas for stockpiling of untreated and treated materials.								

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

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Visual Impact									
Table 6.4	Construction & Demoliton Phase Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO-TM Annex 10, 18 ETWB TCW 2/2004 ETWB TCW 3/2006	^
	Existing trees to be retained on site should be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√				^
	Trees unavoidably affected by the works should be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√				^
	Compensatory tree planting should be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√				^
	Control of night-time lighting.	Work site / During Construction Phase	Contractor		√				^
	Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√				^

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Visual Impact									
Table 6.5	Operation Phase Aesthetic design of the façade/chimneys/noise barriers and associated structures to harmonize with the surrounding settings.	Work site / During Design Stage and Operation Phase	FEHD	√		√		EIAO-TM Annex 10, 18 ETWB TCW 2/2004 ETWB TCW 3/2006	N/A
	Aesthetic design of landscaped roof.	Work site / During Design Stage and Operation Phase	FEHD	√		√			N/A
	Tree and shrub planting to enhance amenity	Work site / During Design Stage and Operation Phase	FEHD	√		√			N/A
	Reinstated of disturbed area.	Work site / During Design Stage and Operation Phase	FEHD	√		√			N/A

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

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Noise									
S7.49	Construction Phase Use of quiet PME for excavator/loader, soil nailing drilling machine, rock dowel drilling machine, bulldozer, dump truck and crawler mounted rock drill.	Work site / During construction and demolition phase	Contractor		√			EIAO-TM, GW-TM, NCO	^
S7.52	Good Site Practice: • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program; • Mobile plant, if any, should be sited as far from NSRs as possible; • Machines and plant (such as trucks) 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 should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and • Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site	Work site / During construction and demolition phase	Contractor		√			EIAO-TM, GW-TM, NCO	^

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Noise									
	construction activities.								
S7.53	Operation Phase Provision of 2.5m high acoustic barriers for a total of 10 radiators. The noise barrier would be lined with sound absorbing material at the surface of the barrier facing the noise source.	Upper roof of the crematorium / During operation phase	ArchSD, FEHD	√		√		EIAO-TM, NCO	N/A

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

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Water Quality									
S8.30 to S8.52	The measures as outlined in the ProPECC PN 1/94 should be followed where applicable.	Work site / during construction and demolition phase	Contractor		√			Technical Memorandum on the Environmental Impact Assessment Process (EIAO-TM) Water Pollution Control Ordinance (WPCO) Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS)	^
S8.3 and S8.53	There is a need to apply to EPD for a discharge licence under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge licence. All the runoff, wastewater or extracted groundwater generated from the works areas should be treated as necessary so that it satisfies all the standards listed in the	Work site / during construction and demolition phase	Contractor		√			EIAO-TM, WPCO, TM-DSS	^

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Water Quality									
	TM-DSS.Monitoring of the construction site effluent quality should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD.								
S8.54	Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor would be responsible for appropriate disposal of waste matter and maintenance of these facilities.	Work site / during construction and demolition phase	Contractor		√			EIAO-TM, WPCO, TM-DSS	^
S8.55	Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis. Stockpiles of cement and other construction materials should be kept covered when not being used.	Work site / during construction and demolition phase	Contractor		√			EIAO-TM, WPCO, TM-DSS	#
S8.56	Oils and fuels should only be used and stored in	Work site / during	Contractor		√			EIAO-TM, WPCO,	#

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Water Quality									
	designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to the nearby watercourse, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event. Oil leakage or spillage should be contained and cleaned up immediately.	construction and demolition phase						TM-DSS	
S8.57	Handling and disposal of operation stage effluent should follow the practices outlined in ProPECC PN 5/93 where applicable.	Project site / during design and operation phase	FEHD	√		√		EIAO-TM, WPCO, TM-DSS	^

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

Remarks:	^ Compliance of mitigation measure;	X Non-compliance of mitigation measure;
	N/A Not Applicable;	• Non-compliance but rectified by the contractor
	# Recommendation was made during site audit but improved/rectified by the contractor.	* D = Design, C = Construction, O = Operation

APPENDIX N
COMPLAINT LOG

APPENDIX N – COMPLAINT LOG

Reporting Month: March 2011

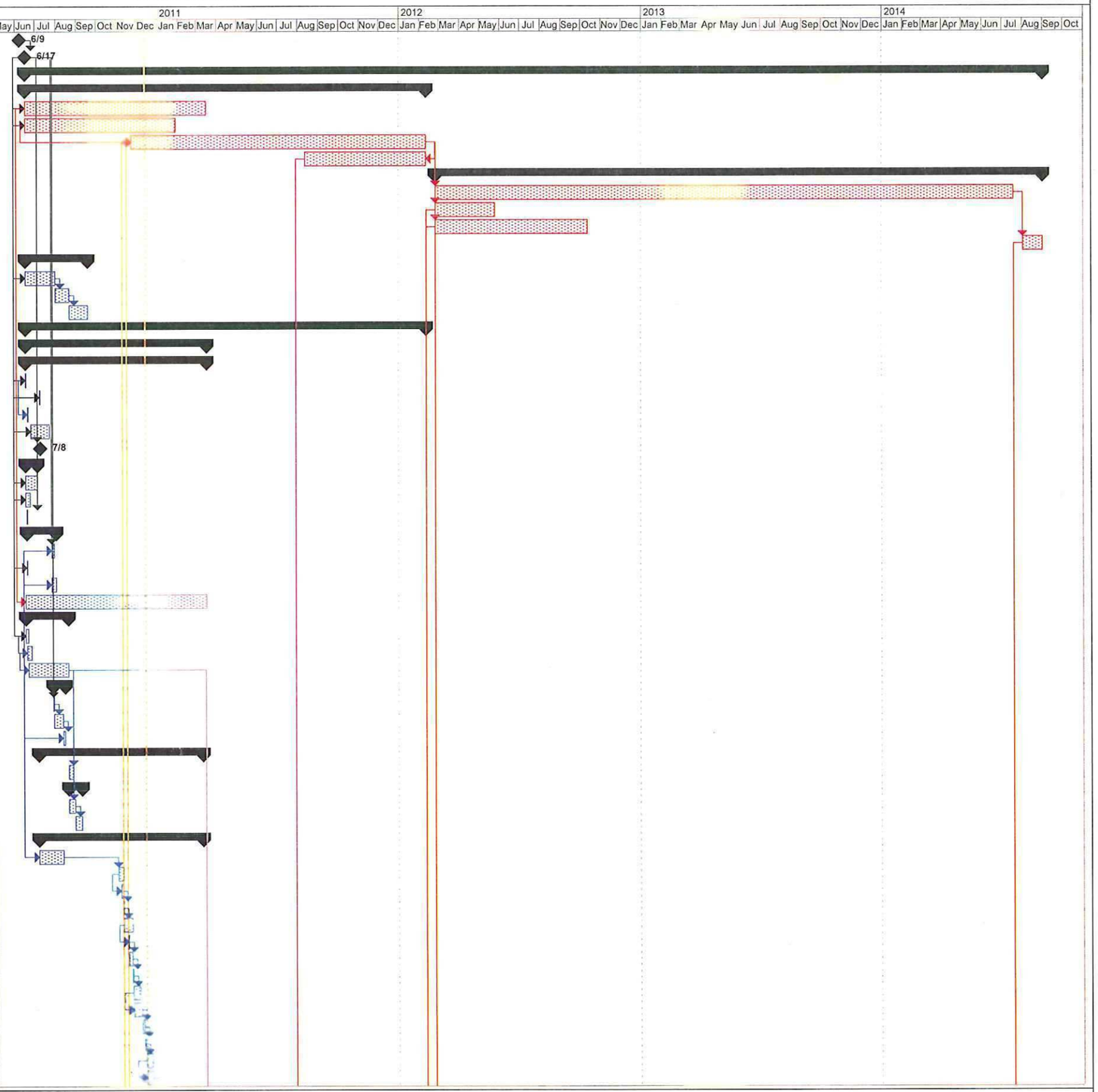
Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Remarks: No environmental complaint was received in the reporting month.

APPENDIX O
CONSTURCTION PROGRAMME

Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

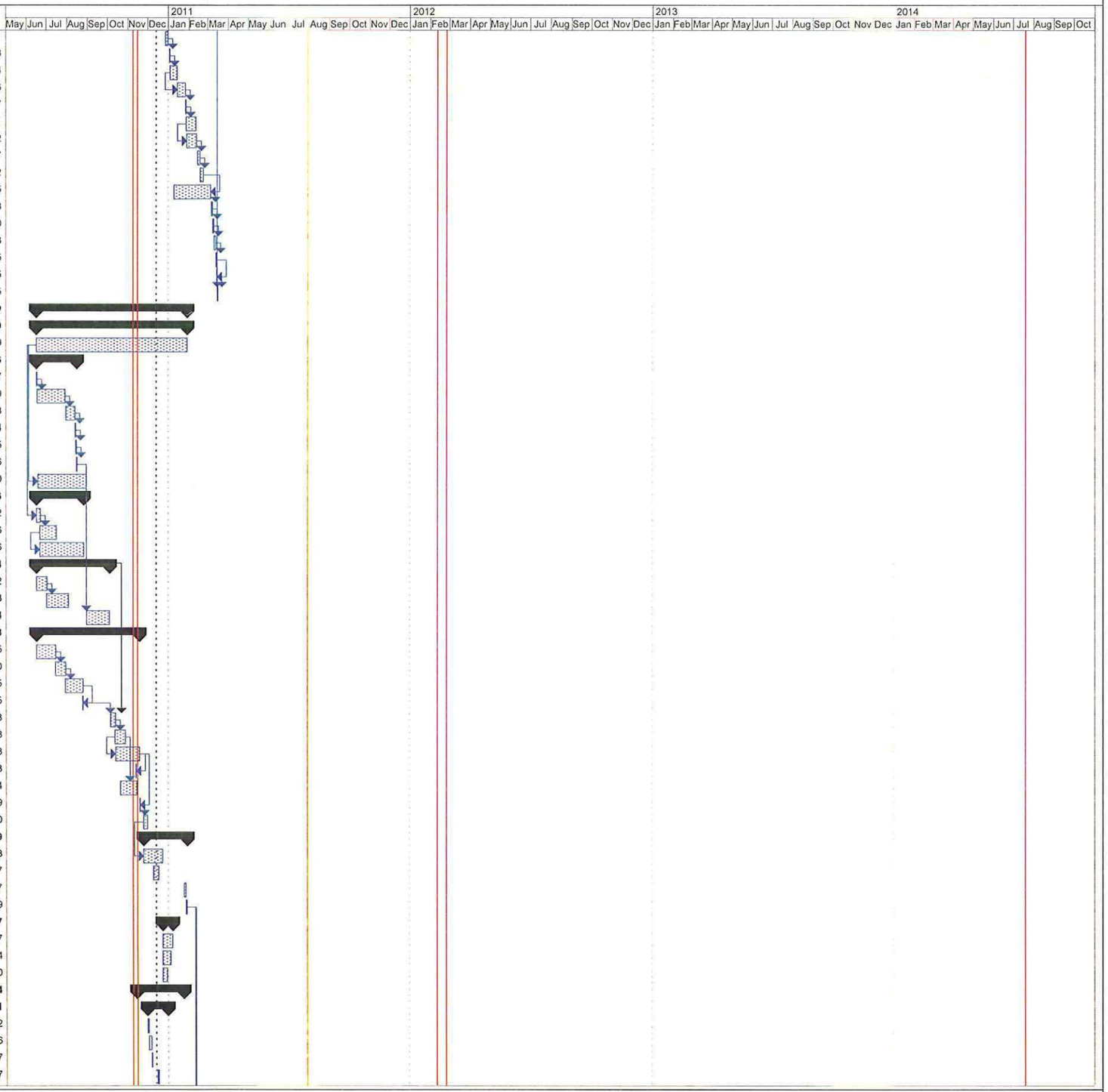
ID	Task Name	Duration	Start	Finish
1	**AWARD OF CONTRACT**	1 day	Wed 10/6/9	Wed 10/6/9
2	**COMMENCEMENT OF CONTRACT**	1 day	Thu 10/6/17	Thu 10/6/17
3	**SECTIONAL ARRANGEMENT**	**1538 days**	**Thu 10/6/17**	**Mon 14/9/1**
4	**Phase 1**	**605 days**	**Thu 10/6/17**	**Sat 12/2/11**
5	Section 1A - Slopework	273 days	Thu 10/6/17	Wed 11/3/16
6	Section 1B - Access Road	227 days	Thu 10/6/17	Sat 11/1/29
7	Section 1C - Part of New Crematorium	446 days	Tue 10/11/23	Sat 12/2/11
8	Section 1D - Temporary Offices & Lavatories	183 days	Sat 11/8/13	Sat 12/2/11
9	**Phase 2**	**919 days**	**Sun 12/2/26**	**Mon 14/9/1**
10	Phase 2A - Remaining Part of Crematorium Building and etc.	875 days	Sun 12/2/26	Sat 14/7/19
11	Phase 2B - Removal of Canopy	90 days	Sun 12/2/26	Fri 12/5/25
12	Phase 2C - Removal of Fuel Tank	230 days	Sun 12/2/26	Fri 12/10/12
13	Phase 2D - Removal of Temporary Offices and Lavatories	30 days	Sun 14/8/3	Mon 14/9/1
14	Foundation Design for Phases 1 & 2	94 days	Thu 10/6/17	Sat 10/9/18
15	Foundation design by Contractor	45 days	Thu 10/6/17	Sat 10/7/31
16	Review by Engineer	21 days	Sun 10/8/1	Sat 10/8/21
17	Submission of design to SCCU for approval	28 days	Sun 10/8/22	Sat 10/9/18
18	**PHASE 1**	**605 days**	**Thu 10/6/17**	**Sat 12/2/11**
19	**SECTION 1A - Slopework**	**273 days**	**Thu 10/6/17**	**Wed 11/3/16**
20	Environmental Pollution Control Works	**273 days**	**Thu 10/6/17**	**Wed 11/3/16**
21	Employ ET & ET Leader	1 day	Thu 10/6/17	Thu 10/6/17
22	Deposit Visual Mitigation Measures Plan to EPD (sign by ETL & IEC)	1 day	Thu 10/7/8	Thu 10/7/8
23	Submit Management Organization	1 day	Sun 10/6/20	Sun 10/6/20
24	Apply Further Environmental Permit from EPD	28 days	Fri 10/6/25	Thu 10/7/22
25	Submit Baseline Monitoring Report to EPD (4 weeks before works)	0 days	Thu 10/7/8	Thu 10/7/8
26	**PRELIMINARIES**	**18 days**	**Thu 10/6/17**	**Sun 10/7/4**
27	Site mobilization	18 days	Thu 10/6/17	Sun 10/7/4
28	Conditional survey	7 days	Thu 10/6/17	Wed 10/6/23
29	Notification to all relevant departments & utilities companies	1 day	Sat 10/6/19	Sat 10/6/19
30	Site Preparation Works	**44 days**	**Sat 10/6/19**	**Sun 10/8/1**
31	Temporary perimeter channels/ site drainage	4 days	Mon 10/7/26	Thu 10/7/29
32	Portable toilets for site workers/ staff	1 day	Sat 10/6/19	Sat 10/6/19
33	Wheel washing facilities	**7 days**	Mon 10/7/26	Sun 10/8/1
34	Works as per EM&A Programme	273 days	Thu 10/6/17	Wed 11/3/16
35	Hoarding, Chain Link Fence	**64 days**	**Thu 10/6/17**	**Thu 10/8/19**
36	Setting out	4 days	Thu 10/6/17	Sun 10/6/20
37	Delivery of materials to site	7 days	Sat 10/6/19	Fri 10/6/25
38	Erection	60 days	Mon 10/6/21	Thu 10/8/19
39	Project Signboard	**18 days**	**Wed 10/7/28**	**Sat 10/8/14**
40	Submit shop drawings for approval	1 day	Wed 10/7/28	Wed 10/7/28
41	Fabrication	14 days	Thu 10/7/29	Wed 10/8/11
42	Installation	3 days	Thu 10/8/12	Sat 10/8/14
43	Site Formation Works	**248 days**	**Tue 10/7/6**	**Thu 11/3/10**
44	Install monitoring points	7 days	Fri 10/8/20	Thu 10/8/26
45	Unregistered Slope Feature No.1	**20 days**	**Fri 10/8/20**	**Wed 10/9/8**
46	Remove vegetation on slope and slope surface	10 days	Fri 10/8/20	Sun 10/8/29
47	Trial pits and slope stripping	10 days	Mon 10/8/30	Wed 10/9/8
48	Unregistered Slope Feature No 2	**248 days**	**Tue 10/7/6**	**Thu 11/3/10**
49	Trial pits and vertical borehole	37 days	Tue 10/7/6	Wed 10/8/11
50	Shoring design (sheet piles)	8 days	Tue 10/11/2	Tue 10/11/9
51	Delivery of sheet piles materials	3 days	Sat 10/11/6	Mon 10/11/8
52	Delivery of driving plant for sheet piles	1 day	Tue 10/11/9	Tue 10/11/9
53	Driving sheet piles for Bays 1, 2, 3, 4, 5, 6, 7 & 8	14 days	Wed 10/11/10	Tue 10/11/23
54	Delivery of sheet piles (last batch)	1 day	Wed 10/11/17	Wed 10/11/17
55	Excavation at Bay 1 and Bay 8 (depending upon availablility of imported fill)	5 days	Thu 10/11/18	Mon 10/11/22
56	Laying Miradrain filter and drainage pipes for Bay 1 and Bay 8	1 day	Tue 10/11/23	Tue 10/11/23
57	Import soil filling and re-compaction for Bay 1 and Bay 8 in 200mm layers	11 days	Wed 10/11/24	Sat 10/12/4
58	Sand Replacement Tests for Bay 1 and Bay 8	12 days	Thu 10/11/25	Mon 10/12/6
59	Excavation at Bay 2 and Bay 7	4 days	Tue 10/12/7	Fri 10/12/10
60	Laying Miradrain filter and drainage pipes for Bay 2 and Bay 7	1 day	Sat 10/12/11	Sat 10/12/11
61	Import soil filling and re-compaction for Bay 2 and Bay 7 in 200mm layers	11 days	Mon 10/12/13	Thu 10/12/23
62	Sand Replacement Tests for Bay 2 and Bay 7	11 days	Tue 10/12/14	Fri 10/12/24



Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

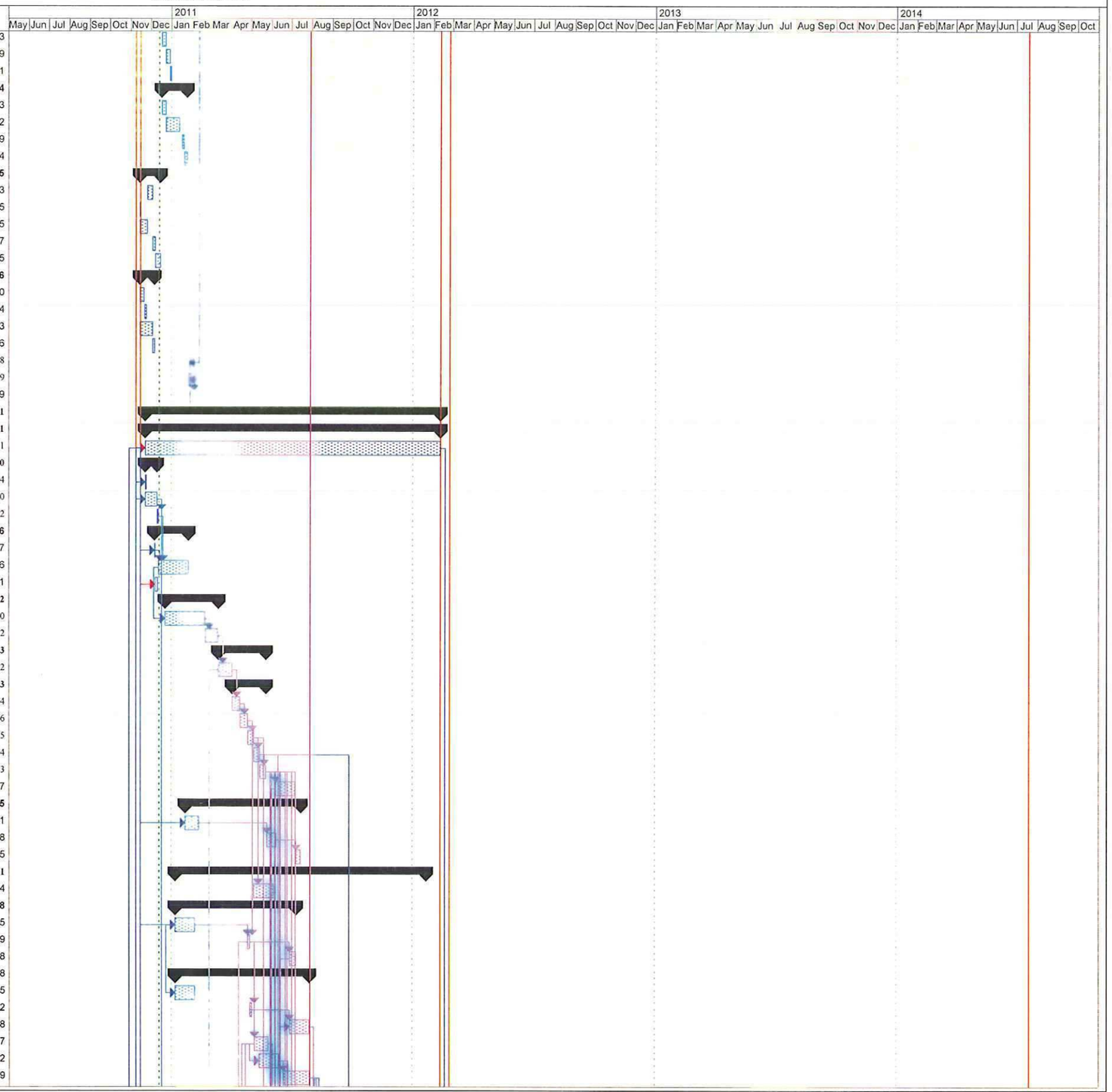
ID	Task Name	Duration	Start	Finish
63	Excavation at Bay 3 and Bay 6	4 days	Tue 10/12/28	Fri 10/12/31
64	Laying Miradrain filter and drainage pipes for Bay 3 and Bay 6	1 day	Mon 11/1/3	Mon 11/1/3
65	Import soil filling and re-compaction for Bay 3 and Bay 6 in 200mm layers	11 days	Tue 11/1/4	Fri 11/1/14
66	Sand Replacement Tests for Bay 3 and Bay 6	12 days	Sat 11/1/15	Wed 11/1/26
67	Laying Miradrain filter and drainage pipes for Bay 4 and Bay 5	1 day	Thu 11/1/27	Thu 11/1/27
68	Import soil filling and re-compaction for Bay 4 and Bay 5 in 200mm layers	15 days	Fri 11/1/28	Fri 11/2/11
69	Sand Replacement Tests for Bay 4 and Bay 5	15 days	Sat 11/1/29	Sat 11/2/12
70	Extract sheet piles at Bay 4 and Bay 5	4 days	Mon 11/2/14	Thu 11/2/17
71	Grouting to gaps left by extracting sheet piles	5 days	Fri 11/2/18	Tue 11/2/22
72	Construction of u-channels	55 days	Mon 11/1/10	Sat 11/3/5
73	Erosion control mat	2 days	Mon 11/3/7	Tue 11/3/8
74	Hydroseeding	2 days	Wed 11/3/9	Thu 11/3/10
75	Dismantle hoarding/ chain link fence	3 days	Fri 11/3/11	Sun 11/3/13
76	General cleaning	2 days	Mon 11/3/14	Tue 11/3/15
77	Handover Inspection	1 day	Tue 11/3/15	Tue 11/3/15
78	Handing over Section 1A	1 day	Wed 11/3/16	Wed 11/3/16
79	**SECTION 1B - Access Road**	**227 days**	**Thu 10/6/17**	**Sat 11/1/29**
80	**Environmental Pollution Control Works**	**227 days**	**Thu 10/6/17**	**Sat 11/1/29**
81	Works as per EM&A Programme	227 days	Thu 10/6/17	Sat 11/1/29
82	**Baseline Monitoring at King Tsui Court**	**61 days**	**Thu 10/6/17**	**Mon 10/8/16**
83	Requesting Letter submitted to King Tsui on 15/06/2010	1 day	Thu 10/6/17	Thu 10/6/17
84	Consent from King Tsui Expected	42 days	Fri 10/6/18	Thu 10/7/29
85	Baseline monitoring at King Tsui	14 days	Sat 10/7/31	Fri 10/8/13
86	Prepare Baseline Monitoring Report by ET	1 day	Sat 10/8/14	Sat 10/8/14
87	Endorse Baseline Monitoring Report by IEC	1 day	Sun 10/8/15	Sun 10/8/15
88	Submit Baseline Monitoring Report to EPD	1 day	Mon 10/8/16	Mon 10/8/16
89	Site mobilization	73 days	Sat 10/6/19	Mon 10/8/30
90	**Hoarding and Chain Link Fence**	**71 days**	**Thu 10/6/17**	**Thu 10/8/26**
91	Setting out	6 days	Thu 10/6/17	Tue 10/6/22
92	Delivery of materials to site	25 days	Tue 10/6/22	Fri 10/7/16
93	Erection	66 days	Tue 10/6/22	Thu 10/8/26
94	**Open Excavation**	**110 days**	**Thu 10/6/17**	**Mon 10/10/4**
95	ELS design by Contractor	16 days	Thu 10/6/17	Fri 10/7/2
96	Submission of ELS design for Project Team's Approval	33 days	Fri 10/7/2	Tue 10/8/3
97	Open excavation (subject to Baseline Monitoring Works at King Tsui Court)	35 days	Tue 10/8/31	Mon 10/10/4
98	**Construction of Access Road**	**155 days**	**Thu 10/6/17**	**Thu 10/11/18**
99	Footing design by Contractor	29 days	Thu 10/6/17	Thu 10/7/15
100	Submissionof footing design for Project Team's Comment/Approval	16 days	Thu 10/7/15	Fri 10/7/30
101	Submission of footing design for SCCU's Approval	27 days	Fri 10/7/30	Wed 10/8/25
102	Notification of commencement of footing works	1 day	Wed 10/8/25	Wed 10/8/25
103	Construct footings and mass concrete retaining structure	8 days	Wed 10/10/6	Wed 10/10/13
104	Construct columns	16 days	Wed 10/10/13	Thu 10/10/28
105	Construct elevated deck for Access Road (including non-metallic hardener)	36 days	Thu 10/10/14	Thu 10/11/18
106	Provisioning of 6m high pole lamp plinth (light poles to be installed later)	1 day	Sat 10/11/13	Sat 10/11/13
107	Dismantling hoardings	25 days	Thu 10/10/21	Sun 10/11/14
108	Handing over of road deck of Access Road	1 day	Fri 10/11/19	Fri 10/11/19
109	Dismantling Falsework underneath New Access Road	6 days	Thu 10/11/25	Tue 10/11/30
110	**Backfilling and Landscaping Works**	**66 days**	**Thu 10/11/25**	**Sat 11/1/29**
111	Backfilling (source of soil to be from Section 1C/ from Imported Fill)	29 days	Thu 10/11/25	Thu 10/12/23
112	Construction of u-channel under New Access Road	8 days	Fri 10/12/10	Fri 10/12/17
113	Installation of Erosion Control Mats	3 days	Tue 11/1/25	Thu 11/1/27
114	Hydroscreeding	2 days	Fri 11/1/28	Sat 11/1/29
115	**M&E Works underneath New Access Road**	**15 days**	**Fri 10/12/24**	**Fri 11/1/7**
116	Install 50mm dia FS water supply pipe and 150 & 200 street hydrant pipes	15 days	Fri 10/12/24	Fri 11/1/7
117	Install cable ducts	12 days	Fri 10/12/24	Tue 11/1/4
118	UPVC cable ducts for Security System	7 days	Fri 10/12/24	Thu 10/12/30
119	**Builder's Works**	**71 days**	**Mon 10/11/15**	**Mon 11/1/24**
120	**Construction of Suspended Manholes/ Cable Draw Pit**	**31 days**	**Wed 10/12/1**	**Fri 10/12/31**
121	Steel fixing	2 days	Wed 10/12/1	Thu 10/12/2
122	Erection of formwork	4 days	Fri 10/12/3	Mon 10/12/6
123	Concreting	1 day	Tue 10/12/7	Tue 10/12/7
124	Striking formwork	2 days	Thu 10/12/16	Fri 10/12/17



Task — Progress — Summary — External Tasks — Deadline
Split — Milestone — Project Summary — External Milestone

Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

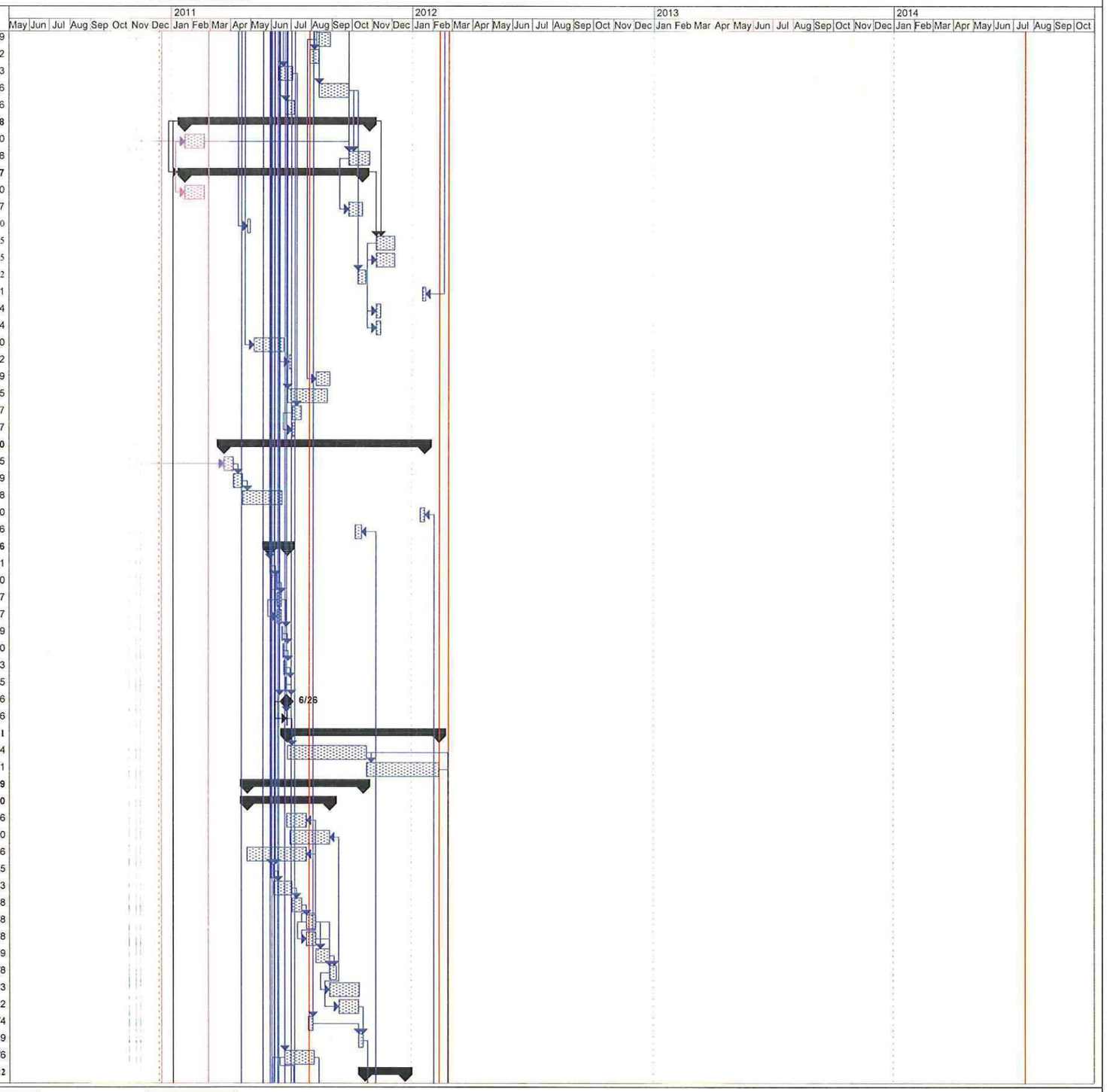
ID	Task Name	Duration	Start	Finish
125	Installation of drainage pipes	6 days	Sat 10/12/18	Thu 10/12/23
126	Screeding and plastering works	6 days	Fri 10/12/24	Wed 10/12/29
127	Installation of manhole covers on New Access Road	2 days	Thu 10/12/30	Fri 10/12/31
128	**Finishing Works underneath New Access Road**	**38 days**	**Sat 10/12/18**	**Mon 11/1/24**
129	Erection of working platform	6 days	Sat 10/12/18	Thu 10/12/23
130	Plastering for ceiling soffits and columns	20 days	Fri 10/12/24	Wed 11/1/12
131	Textured spray paint	3 days	Mon 11/1/17	Wed 11/1/19
132	Dismantle working platform	5 days	Thu 11/1/20	Mon 11/1/24
133	**Parapet Wall**	**31 days**	**Mon 10/11/15**	**Wed 10/12/15**
134	Plastering to parapet wall	8 days	Fri 10/11/26	Fri 10/12/3
135	Setting out for base supports for metal railings advised by Architect	1 day	Mon 10/11/15	Mon 10/11/15
136	Installation of metal railings	11 days	Mon 10/11/15	Thu 10/11/25
137	Painting to metail railings	4 days	Sat 10/12/4	Tue 10/12/7
138	Textured spray paint to parapet wall	8 days	Wed 10/12/8	Wed 10/12/15
139	**U-channel on New Access Road**	**22 days**	**Mon 10/11/15**	**Mon 10/12/6**
140	Install angle frames	6 days	Mon 10/11/15	Sat 10/11/20
141	Screeding to u-channel	3 days	Mon 10/11/22	Wed 10/11/24
142	Fabrication of channel covers	19 days	Mon 10/11/15	Fri 10/12/3
143	Installation of channel covers	3 days	Sat 10/12/4	Mon 10/12/6
144	General cleaning	1 day	Fri 11/1/28	Fri 11/1/28
145	Handover Inspection	3 days	Thu 11/1/27	Sat 11/1/29
146	Handing over Section 1B	1 day	Sat 11/1/29	Sat 11/1/29
147	**SECTION 1C - Part of New Crematorium**	**446 days**	**Tue 10/11/23**	**Sat 12/2/11**
148	Environmental Pollution Control Works	**446 days**	**Tue 10/11/23**	**Sat 12/2/11**
149	Works as per EM&A Programme	446 days	Tue 10/11/23	Sat 12/2/11
150	Hoarding, Chain Link Fence & Covered Walkway	**18 days**	**Tue 10/11/23**	**Fri 10/12/10**
151	Setting out	2 days	Tue 10/11/23	Wed 10/11/24
152	Erection	18 days	Tue 10/11/23	Fri 10/12/10
153	Demolish Existing Carpark	2 days	Sat 10/12/11	Sun 10/12/12
154	Soldier Piling Works	**51 days**	**Tue 10/12/7**	**Wed 11/1/26**
155	Design and approval on temporary waling and shoring system available	1 day	Tue 10/12/7	Tue 10/12/7
156	Boring and install H-piles for soldier piling system	45 days	Mon 10/12/13	Wed 11/1/26
157	Remove portion of slope feature 11SE-D/CR607	4 days	Wed 10/12/8	Sat 10/12/11
158	Raft Foundation/ Footing	**80 days**	**Thu 10/12/23**	**Sat 11/3/12**
159	Excavation and lateral support works (include steel working platform)	60 days	Thu 10/12/23	Sun 11/2/20
160	Construct raft foundation/ footing	20 days	Mon 11/2/21	Sat 11/3/12
161	Substructural and Superstructural RC Works	**72 days**	**Sun 11/3/13**	**Mon 11/5/23**
162	Construct Basement	21 days	Sun 11/3/13	Sat 11/4/2
163	Construct Portion of Crematorium Building	**51 days**	**Sun 11/4/3**	**Mon 11/5/23**
164	Level 1 to M/F	12 days	Sun 11/4/3	Thu 11/4/14
165	M/F to Level 2	12 days	Fri 11/4/15	Tue 11/4/26
166	Level 2 to Level 3	9 days	Wed 11/4/27	Thu 11/5/5
167	Level 3 to Roof	9 days	Fri 11/5/6	Sat 11/5/14
168	Roof to Upper Roof	9 days	Sun 11/5/15	Mon 11/5/23
169	U/G manholes and drainage pipes (F5 to F8)	30 days	Wed 11/6/8	Thu 11/7/7
170	Skylights at Level 2	**175 days**	**Sat 11/1/22**	**Fri 11/7/15**
171	Submit calculation and shop drawings	21 days	Sat 11/1/22	Fri 11/2/11
172	Structural steel frames	14 days	Thu 11/5/26	Wed 11/6/8
173	Tempered glass	7 days	Sat 11/7/9	Fri 11/7/15
174	Internal Finishing Works	**380 days**	**Fri 11/1/7**	**Sat 12/1/21**
175	Mock-ups	30 days	Fri 11/5/6	Sat 11/6/4
176	Doors (timber & steel)	**183 days**	**Fri 11/1/7**	**Fri 11/7/8**
177	Submission of Materials and shop drawings for approval	30 days	Fri 11/1/7	Sat 11/2/5
178	Frame installation	3 days	Wed 11/4/27	Fri 11/4/29
179	Doors installation	10 days	Wed 11/6/29	Fri 11/7/8
180	Windows and Louvres	203 days	Fri 11/1/7	Thu 11/7/28
181	Submission of Materials and shop drawings for approval	30 days	Fri 11/1/7	Sat 11/2/5
182	Frame installation	3 days	Sat 11/4/30	Mon 11/5/2
183	Windows & louvres installation	30 days	Wed 11/6/29	Thu 11/7/28
184	Concrete block walls	21 days	Sat 11/5/7	Fri 11/5/27
185	Wall plastering	30 days	Sat 11/5/14	Sun 11/6/12
186	Floor screeding with dividing strips	40 days	Mon 11/6/20	Fri 11/7/29



Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

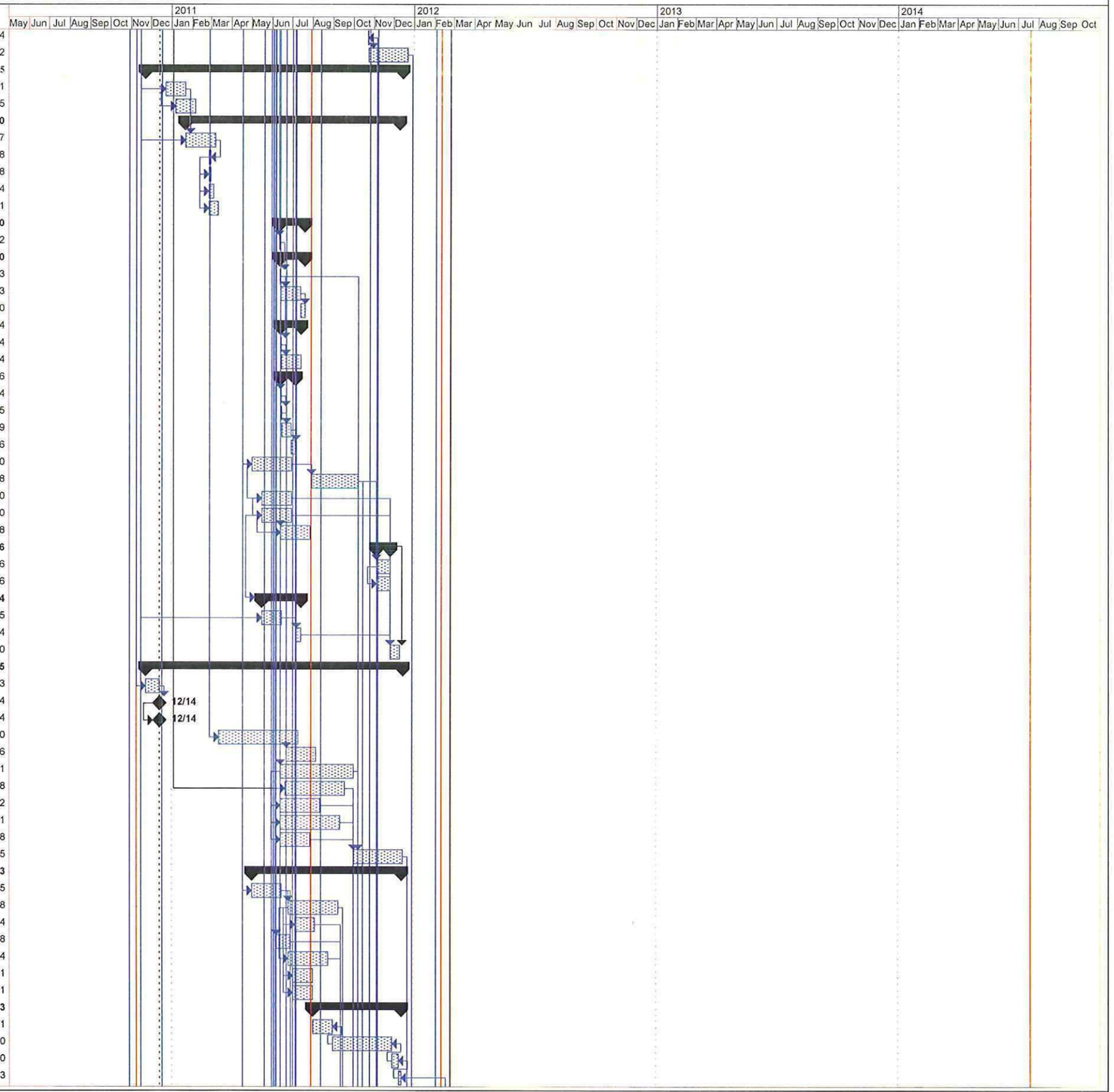
ID	Task Name	Duration	Start	Finish
187	Drywall partition	21 days	Tue 11/8/9	Mon 11/8/29
188	Skirting (hardwood, wash grano with coloured round pebbles)	14 days	Sat 11/7/30	Fri 11/8/12
189	Ceramic wall tiles	21 days	Mon 11/6/13	Sun 11/7/3
190	Floor tiling (Homogeneous tiles with marble highlights, quarry tiles etc.)	45 days	Sat 11/8/13	Mon 11/9/26
191	Marble wall panels	14 days	Thu 11/6/23	Wed 11/7/6
192	Gypsum board ceiling and light troughs	**280 days**	**Sat 11/1/22**	**Fri 11/10/28**
193	Submit materials and shop drawings for approval	30 days	Sat 11/1/22	Sun 11/2/20
194	Installation	32 days	Tue 11/9/27	Fri 11/10/28
195	Aluminium suspended ceiling	**269 days**	**Sat 11/1/22**	**Mon 11/10/17**
196	Submit materials and shop drawings for approval	30 days	Sat 11/1/22	Sun 11/2/20
197	Installation	21 days	Tue 11/9/27	Mon 11/10/17
198	4 hour FRP fire shutters	4 days	Wed 11/4/27	Sat 11/4/30
199	Wood veneered acoustic wall panels	28 days	Tue 11/11/8	Mon 11/12/5
200	Wood veneered wall panels and hardwood strips	28 days	Tue 11/11/8	Mon 11/12/5
201	Fixed seatings	12 days	Tue 11/10/11	Sat 11/10/22
202	Tactile warning strips	5 days	Tue 12/1/17	Sat 12/1/21
203	Catafalque at Services Halls by Cremator NSC	7 days	Tue 11/11/8	Mon 11/11/14
204	Altar at Services Halls	7 days	Tue 11/11/8	Mon 11/11/14
205	Steel and metal works (General)	45 days	Sat 11/5/7	Mon 11/6/20
206	Ironmongeries	4 days	Wed 11/6/29	Sat 11/7/2
207	Cubicle partition	21 days	Tue 11/8/9	Mon 11/8/29
208	Internal wall & ceiling painting	60 days	Mon 11/6/27	Thu 11/8/25
209	Countertop basin with cabinets	14 days	Mon 11/7/4	Sun 11/7/17
210	Mirrors	4 days	Mon 11/7/4	Thu 11/7/7
211	Signages	**304 days**	**Wed 11/3/23**	**Fri 12/1/20**
212	Submit materials for approval	14 days	Wed 11/3/23	Tue 11/4/5
213	Submit shop drawings for approval	14 days	Wed 11/4/6	Tue 11/4/19
214	Fabrication	60 days	Wed 11/4/20	Sat 11/6/18
215	Installation	7 days	Sat 12/1/14	Fri 12/1/20
216	Temporary concrete block walls at Grid Line D	10 days	Fri 11/10/7	Sun 11/10/16
217	Builder's Works in Chimneys and Cremator Plant Rooms	**27 days**	**Tue 11/5/31**	**Sun 11/6/26**
218	Erect bamboo scaffolding	2 days	Tue 11/5/31	Wed 11/6/1
219	Internal plastering and screeding	9 days	Thu 11/6/2	Fri 11/6/10
220	Install perforated metal platforms and metal railings	7 days	Sat 11/6/11	Fri 11/6/17
221	Install catladders	7 days	Sat 11/6/11	Fri 11/6/17
222	Install fall arrest system	2 days	Sat 11/6/18	Sun 11/6/19
223	Install trap door on R/F	1 day	Mon 11/6/20	Mon 11/6/20
224	Internal wall painting	3 days	Tue 11/6/21	Thu 11/6/23
225	Dismantle bamboo scaffolding for chimneys installation	2 days	Fri 11/6/24	Sat 11/6/25
226	Hand over Chimneys and Cremator Plant Rooms to Cremator NSC	1 day	Sun 11/6/26	Sun 11/6/26
227	Hand over Control Rm, LV Switch Rm at Level 3 & Filtration Plant Rm to Cremator	1 day	Sun 11/6/26	Sun 11/6/26
228	Install 4 Nos of Cremators by NSC	**230 days**	**Mon 11/6/27**	**Sat 12/2/11**
229	Installation of cremators	120 days	Mon 11/6/27	Mon 11/10/24
230	T&C period	110 days	Tue 11/10/25	Sat 12/2/11
231	External Wall Finishing	**176 days**	**Wed 11/4/27**	**Wed 11/10/19**
232	Submission and approval of shop drawings	**125 days**	**Wed 11/4/27**	**Tue 11/8/30**
233	Tiles Setting Out	30 days	Sun 11/6/26	Tue 11/7/26
234	Artificial wood screen	60 days	Fri 11/7/1	Tue 11/8/30
235	Granite panels outside Service Halls	90 days	Wed 11/4/27	Tue 11/7/26
236	Setting out	4 days	Thu 11/6/2	Sun 11/6/5
237	Install metal frames for Artificial Wood Screen	28 days	Mon 11/6/6	Sun 11/7/3
238	External wall rendering	15 days	Mon 11/7/4	Mon 11/7/18
239	Fixing artificial granite wall tiles	14 days	Tue 11/7/26	Mon 11/8/8
240	Fixing granite panels on Level 1	14 days	Tue 11/7/26	Mon 11/8/8
241	Aluminium cladding to external wall on Level 2	21 days	Tue 11/8/9	Mon 11/8/29
242	External wall movement joints	10 days	Tue 11/8/30	Thu 11/9/8
243	Artificial Wood Screens	45 days	Tue 11/8/30	Thu 11/10/13
244	External painting works	30 days	Tue 11/9/13	Wed 11/10/12
245	Water test to external windows	7 days	Fri 11/7/29	Thu 11/8/4
246	Dismantle bamboo scaffolding	7 days	Thu 11/10/13	Wed 11/10/19
247	Waterproofing to Flat Roofs	45 days	Thu 11/6/23	Sat 11/8/6
248	Install Lift 1 by NSC	**61 days**	**Sun 11/10/23**	**Thu 11/12/22**



Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

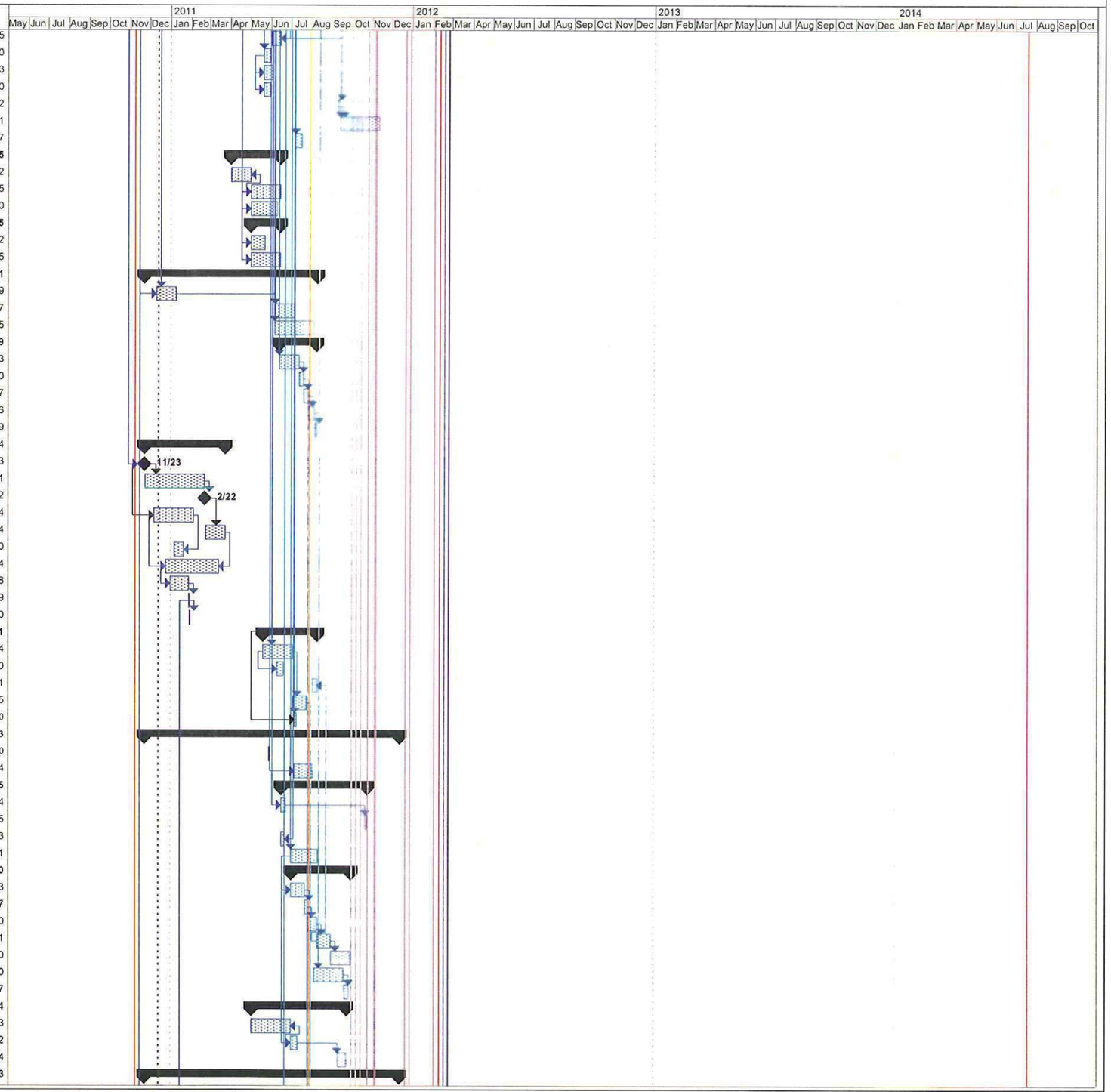
Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

ID	Task Name	Duration	Start	Finish
249	Hand over of lift shaft to Lift NSC	1 day	Sun 11/10/23	Mon 11/10/24
250	Installation (including Interior Decoration & T&C)	60 days	Mon 11/10/24	Thu 11/12/22
251	BS Installation	**388 days**	**Tue 10/11/23**	**Thu 11/12/15**
252	Submission and approval of CSD	30 days	Thu 10/12/23	Fri 11/1/21
253	Submission and approval of CBWD	30 days	Fri 11/1/7	Sat 11/2/5
254	EE Installation	**323 days**	**Sat 11/1/22**	**Sat 11/12/10**
255	Excavation for cable trench between Existing Substation and New Crematorium	45 days	Sat 11/1/22	Mon 11/3/7
256	Modify switchboard at existing remote main switch room	3 days	Sat 11/2/26	Mon 11/2/28
257	Dismantle some of existing control panels	3 days	Sat 11/2/26	Mon 11/2/28
258	Diversion of electricity supply to existing Columbarium Blocks 1 to 4	7 days	Sat 11/2/26	Fri 11/3/4
259	Migrate existing lift supervisory panel for Blk 6 from ex. Office to temp. office	14 days	Sat 11/2/26	Fri 11/3/11
260	Gensets & LV Switchboard	**39 days**	**Sun 11/6/12**	**Wed 11/7/20**
261	Handover of Genset Rooms at Level 2	1 day	Sun 11/6/12	Sun 11/6/12
262	Genset (FSI)	**38 days**	**Mon 11/6/13**	**Wed 11/7/20**
263	Delivery of Genset (FSI)	1 day	Mon 11/6/13	Mon 11/6/13
264	Installation of Genset (FSI)	30 days	Tue 11/6/14	Wed 11/7/13
265	T&C	7 days	Thu 11/7/14	Wed 11/7/20
266	Genset (Non-FSI)	31 days	Tue 11/6/14	Thu 11/7/14
267	Delivery of Genset (Non-FSI)	1 day	Tue 11/6/14	Tue 11/6/14
268	Installation of Genset (Non-FSI)	30 days	Wed 11/6/15	Thu 11/7/14
269	Switch Room at Level 3	23 days	Tue 11/6/14	Wed 11/7/6
270	Handover of switch room	1 day	Tue 11/6/14	Tue 11/6/14
271	Delivery of LV switch	1 day	Wed 11/6/15	Wed 11/6/15
272	Installation of LV switch	14 days	Thu 11/6/16	Wed 11/6/29
273	T&C	7 days	Thu 11/6/30	Wed 11/7/6
274	Conduits, cable ladders, cabling and trunking works	60 days	Mon 11/5/2	Thu 11/6/30
275	Wiring works and fixing of wiring accessories	70 days	Sun 11/7/31	Sat 11/10/8
276	Power Monitoring and Analysis System	45 days	Tue 11/5/17	Thu 11/6/30
277	Central battery system	45 days	Tue 11/5/17	Thu 11/6/30
278	Lightning protection system	45 days	Tue 11/6/14	Thu 11/7/28
279	Lighting system	**21 days**	**Sun 11/11/6**	**Sat 11/11/26**
280	Indoor lighting system	21 days	Sun 11/11/6	Sat 11/11/26
281	Exterior lighting system	21 days	Sun 11/11/6	Sat 11/11/26
282	Photovoltaic system	**59 days**	**Tue 11/5/17**	**Thu 11/7/14**
283	Submission to HEC for Photovoltaic System	30 days	Tue 11/5/17	Wed 11/6/15
284	Installation of Photovoltaic System	7 days	Fri 11/7/8	Thu 11/7/14
285	Testing & Commissioning	14 days	Sun 11/11/27	Sat 11/12/10
286	FS Installation	**388 days**	**Tue 10/11/23**	**Thu 11/12/15**
287	Survey existing FSI including Columbarium Block 1 to 4	21 days	Tue 10/11/23	Mon 10/12/13
288	Take up maintenance responsibility of FSI for ex. Crematorium	1 day	Tue 10/12/14	Tue 10/12/14
289	Take up maintenance responsibility of FSI for ex. Columbarium Blk 1 to 4	1 day	Tue 10/12/14	Tue 10/12/14
290	Conduit works and wiring	120 days	Sun 11/3/13	Sun 11/7/10
291	DG Stores at Level 2	45 days	Thu 11/6/23	Sat 11/8/6
292	Sprinkler piping system	110 days	Tue 11/6/14	Sat 11/10/1
293	Sprinklers installation	90 days	Tue 11/6/21	Sun 11/9/18
294	Hose reel system and fire hydrant system installation	60 days	Tue 11/6/14	Fri 11/8/12
295	Fire detection and alarm system	90 days	Tue 11/6/14	Sun 11/9/11
296	Street fire hydrant system (including 1 no. Street Fire Hydrant)	45 days	Tue 11/6/14	Thu 11/7/28
297	Testing & Commissioning	75 days	Sun 11/10/2	Thu 11/12/15
298	MVAC Installation	**226 days**	**Mon 11/5/2**	**Tue 11/12/13**
299	Conduits and wiring	45 days	Mon 11/5/2	Wed 11/6/15
300	Air ducts installation	75 days	Sun 11/6/26	Thu 11/9/8
301	Indoor units	30 days	Wed 11/7/6	Thu 11/8/4
302	Outdoor units on R/F	21 days	Wed 11/6/8	Tue 11/6/28
303	Ventilation fans	60 days	Sun 11/6/26	Wed 11/8/24
304	FAP units	30 days	Sun 11/7/3	Mon 11/8/1
305	Fire dampers	30 days	Sun 11/7/3	Mon 11/8/1
306	Provision of Joss Paper Burners	**134 days**	**Tue 11/8/2**	**Tue 11/12/13**
307	Submit shop drawings	30 days	Tue 11/8/2	Thu 11/9/1
308	Fabrication and delivery	90 days	Thu 11/9/1	Wed 11/11/30
309	Installation	10 days	Wed 11/11/30	Sat 11/12/10
310	T&C	4 days	Sat 11/12/10	Tue 11/12/13



Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

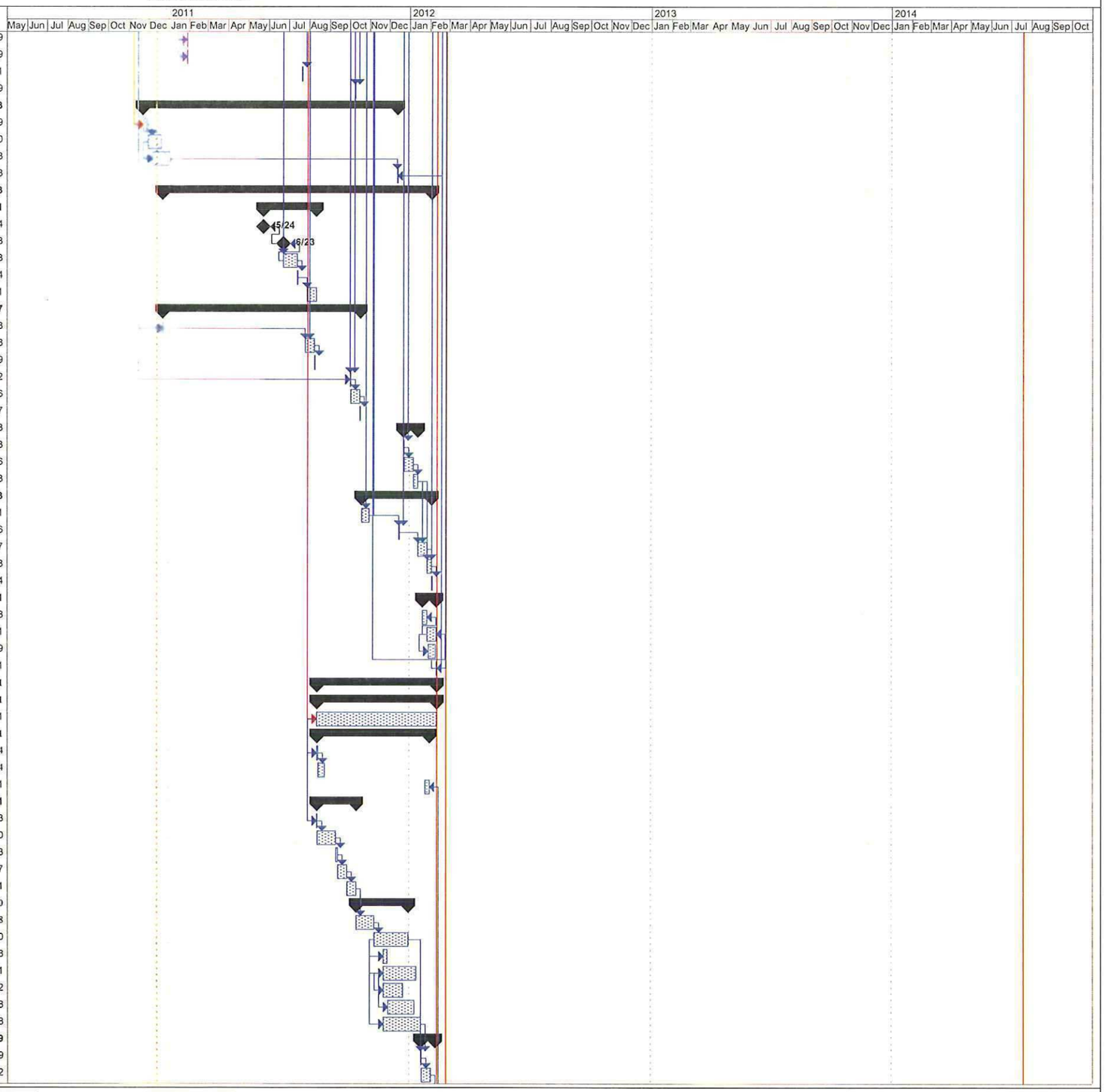
ID	Task Name	Duration	Start	Finish
311	Control panels	14 days	Thu 11/6/2	Wed 11/6/15
312	Sump pumps for Sump pits	10 days	Sat 11/5/21	Mon 11/5/30
313	Rainwater recycling system plant equipment	14 days	Sat 11/5/21	Fri 11/6/3
314	Pumps for SFH Tank and Potable & Flushing Pump Rooms	10 days	Sat 11/5/21	Mon 11/5/30
315	Air grilles	4 days	Fri 11/9/9	Mon 11/9/12
316	Testing & Commissioning	60 days	Tue 11/9/13	Fri 11/11/11
317	Noise barriers on R/F	10 days	Fri 11/7/8	Sun 11/7/17
318	Security Services Installation	**75 days**	**Sat 11/4/2**	**Wed 11/6/15**
319	Diversion of existing CCTV system	30 days	Sat 11/4/2	Mon 11/5/2
320	New CCTV poles and CCTV	45 days	Mon 11/5/2	Wed 11/6/15
321	PA system	40 days	Mon 11/5/2	Fri 11/6/10
322	ELV Installation	**45 days**	**Mon 11/5/2**	**Wed 11/6/15**
323	Emergency call bell system	21 days	Mon 11/5/2	Sun 11/5/22
324	BRI system	45 days	Mon 11/5/2	Wed 11/6/15
325	P&D Installation	**261 days**	**Tue 10/11/23**	**Thu 11/8/11**
326	Diversion for U/G plumbing works	30 days	Sat 10/12/11	Sun 11/1/9
327	Leakage collection system for U/G water pipes at Level 1	30 days	Wed 11/6/8	Thu 11/7/7
328	Above ground drainage pipe installation (foul water and storm water)	60 days	Tue 11/6/7	Fri 11/8/5
329	Drainage Connection	**57 days**	**Tue 11/6/14**	**Tue 11/8/9**
330	Excavation at existing driveway	30 days	Tue 11/6/14	Wed 11/7/13
331	Laying drainage pipes	7 days	Thu 11/7/14	Wed 11/7/20
332	Technical audit by DSD	7 days	Thu 11/7/21	Wed 11/7/27
333	Backfill to excavated trench	10 days	Thu 11/7/28	Sat 11/8/6
334	Reinstate driveway	3 days	Sun 11/8/7	Tue 11/8/9
335	Water Connection at Shek O Road	122 days	Tue 10/11/23	Thu 11/3/24
336	Application for Excavation Permit	1 day	Tue 10/11/23	Tue 10/11/23
337	Processing of Application by HyD	90 days	Wed 10/11/24	Mon 11/2/21
338	Available of Excavation Permit	1 day	Tue 11/2/22	Tue 11/2/22
339	Excavation at existing driveway & Cape Collinson Road	60 days	Tue 10/12/7	Fri 11/2/4
340	Excavation at Shek O Road	30 days	Wed 11/2/23	Thu 11/3/24
341	Construct Water Meter Cabinet	14 days	Fri 11/1/7	Thu 11/1/20
342	Laying water pipes	80 days	Sat 10/12/25	Mon 11/3/14
343	Backfill to excavated trenches and reinstate roadworks	28 days	Sat 11/1/1	Fri 11/1/28
344	Connect of water pipe to Government Water Main by WSD	1 day	Sat 11/1/29	Sat 11/1/29
345	Report to HyD on Completion of Excavation Works	1 day	Sun 11/1/30	Sun 11/1/30
346	Plumbing pipes installation	**82 days**	**Sat 11/5/21**	**Thu 11/8/11**
347	Fresh/ flushing water	45 days	Sat 11/5/21	Mon 11/7/4
348	Cleansing water	10 days	Sat 11/6/11	Mon 11/6/20
349	Irrigation	7 days	Thu 11/8/4	Thu 11/8/11
350	Sanitary fitments installation	21 days	Tue 11/7/5	Mon 11/7/25
351	Fibreglass tank on R/F	3 days	Fri 11/7/8	Sun 11/7/10
352	External Works	**386 days**	**Tue 10/11/23**	**Tue 11/12/13**
353	Take over transplanted trees on 30/05/2011	1 day	Mon 11/5/30	Mon 11/5/30
354	Construct draw pits and cable duct laying	28 days	Fri 11/7/8	Thu 11/8/4
355	PV panels on R/F	**130 days**	**Sat 11/6/18**	**Tue 11/10/25**
356	Install C-channel steel frames	7 days	Sat 11/6/18	Fri 11/6/24
357	Install PV panels	3 days	Sun 11/10/23	Tue 11/10/25
358	Concrete plinths on R/F for radiators	5 days	Sat 11/6/18	Thu 11/6/23
359	External metal railing	40 days	Sun 11/7/3	Thu 11/8/11
360	Planter Boxes	**90 days**	**Sun 11/7/3**	**Fri 11/9/30**
361	Install s.s. RHS handrail	21 days	Sun 11/7/3	Sat 11/7/23
362	Install drainage layer	4 days	Sun 11/7/24	Wed 11/7/27
363	External wall finishes on planter walls	14 days	Thu 11/7/28	Wed 11/8/10
364	Importation of soil materials to planter boxes	21 days	Thu 11/8/11	Wed 11/8/31
365	Planting works	30 days	Thu 11/9/1	Fri 11/9/30
366	External paving on Levels 1 & 2	45 days	Sun 11/8/7	Tue 11/9/20
367	s.s. tactile studs on natural granites on Levels 1 & 2	7 days	Wed 11/9/21	Tue 11/9/27
368	Trellis on Level 2	**144 days**	**Wed 11/5/4**	**Sat 11/9/24**
369	Submit and approve for shop drawings	60 days	Wed 11/5/4	Sun 11/7/3
370	Install GMS posts and frames	10 days	Sun 11/7/3	Tue 11/7/12
371	Install artificial wood battens	14 days	Sun 11/9/11	Sat 11/9/24
372	Connection for Utility Services	386 days	Tue 10/11/23	Tue 11/12/13



Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

祥興建造有限公司
CHEUNG HING CONSTRUCTION CO., LTD.

ID	Task Name	Duration	Start	Finish
373	Water mains connection	1 day	Sat 11/1/29	Sat 11/1/29
374	FS water connection	1 day	Sat 11/1/29	Sat 11/1/29
375	Drainage connection	1 day	Thu 11/7/21	Thu 11/7/21
376	Power energisation	1 day	Sun 11/10/9	Sun 11/10/9
377	Towngas gas-on	**386 days**	**Tue 10/11/23**	**Tue 11/12/13**
378	Construction of Gas Meter Kiosk	7 days	Tue 10/11/23	Mon 10/11/29
379	Excavation for gas pipes	21 days	Tue 10/11/30	Mon 10/12/20
380	Installation of gas pipes	28 days	Tue 10/12/7	Mon 11/1/3
381	Gas-on	1 day	Tue 11/12/13	Tue 11/12/13
382	Statutory Submissions	**408 days**	**Thu 10/12/23**	**Fri 12/2/3**
383	DG Store/ Fuel Tank Room	**80 days**	**Tue 11/5/24**	**Thu 11/8/11**
384	Submission of plans to FSD	0 days	Tue 11/5/24	Tue 11/5/24
385	Approval of plans by FSD	0 days	Thu 11/6/23	Thu 11/6/23
386	Installation works	21 days	Thu 11/6/23	Wed 11/7/13
387	Apply for FSD Inspection	1 day	Thu 11/7/14	Thu 11/7/14
388	FSD Inspection and issuance of Licence	14 days	Fri 11/7/29	Thu 11/8/11
389	WSD Inspection	**299 days**	**Thu 10/12/23**	**Mon 11/10/17**
390	WWO 46 Part I & II (Plumbing)	1 day	Thu 10/12/23	Thu 10/12/23
391	WWO Part IV (Plumbing)	14 days	Tue 11/7/26	Mon 11/8/8
392	WWO Part V (Plumbing)	1 day	Tue 11/8/9	Tue 11/8/9
393	WWO 46 Part I & II (FS)	1 day	Sun 11/10/2	Sun 11/10/2
394	WWO Part IV (FS)	14 days	Mon 11/10/3	Sun 11/10/16
395	WWO Part V (FS)	1 day	Mon 11/10/17	Mon 11/10/17
396	Lift Inspection	22 days	Fri 11/12/23	Fri 12/1/13
397	Submit Form 5	1 day	Fri 11/12/23	Fri 11/12/23
398	EMSD Inspection	14 days	Sat 11/12/24	Fri 12/1/6
399	Issuance of Form 6	7 days	Sat 12/1/7	Fri 12/1/13
400	FS Inspection	**107 days**	**Thu 11/10/20**	**Fri 12/2/3**
401	Dismantle hoarding/ covered walkway	12 days	Thu 11/10/20	Mon 11/10/31
402	Submit Form 501 for Phase 1C	1 day	Fri 11/12/16	Fri 11/12/16
403	FS Inspection	14 days	Sat 12/1/14	Fri 12/1/27
404	Issuance of Fire Certificate	7 days	Sat 12/1/28	Fri 12/2/3
405	General cleaning	1 day	Sat 12/2/4	Sat 12/2/4
406	SCCU Inspection	**21 days**	**Sat 12/1/21**	**Sat 12/2/11**
407	Apply for SCCU Audit	7 days	Sat 12/1/21	Sat 12/1/28
408	SCCU Audit	14 days	Sat 12/1/28	Sat 12/2/11
409	Defects Rectification	11 days	Mon 12/1/30	Thu 12/2/9
410	Handing over Section 1C	1 day	Sat 12/2/11	Sat 12/2/11
411	**SECTION 1D - Temporary Offices & Lavatories**	**183 days**	**Sat 11/8/13**	**Sat 12/2/11**
412	Environmental Pollution Control Works	**183 days**	**Sat 11/8/13**	**Sat 12/2/11**
413	Works as per EM&A Programme	183 days	Sat 11/8/13	Sat 12/2/11
414	Hoarding, Chain Link Fence & Covered Walkway	**172 days**	**Sat 11/8/13**	**Wed 12/2/1**
415	Setting out	2 days	Sat 11/8/13	Sun 11/8/14
416	Erection	10 days	Mon 11/8/15	Wed 11/8/24
417	Dismantle hoarding	7 days	Wed 12/1/25	Wed 12/2/1
418	Demolish Existing Chinese Hall	**60 days**	**Sat 11/8/13**	**Tue 11/10/11**
419	Submit Demolition Plan	1 day	Sat 11/8/13	Sat 11/8/13
420	Approval of Demolition Plan	28 days	Sun 11/8/14	Sat 11/9/10
421	Erect proppings	3 days	Sun 11/9/11	Tue 11/9/13
422	Demolition	14 days	Wed 11/9/14	Tue 11/9/27
423	Forming external paving	14 days	Wed 11/9/28	Tue 11/10/11
424	Offices, Lavatories & Changing Rooms for Public and Employer's Use	**80 days**	**Wed 11/10/12**	**Fri 11/12/30**
425	Temporary Structural Steel Lavatories	28 days	Wed 11/10/12	Tue 11/11/8
426	Interior fitting out works	52 days	Wed 11/11/9	Fri 11/12/30
427	CCTV installation	6 days	Wed 11/11/23	Mon 11/11/28
428	EE Installation	50 days	Wed 11/11/23	Wed 12/1/11
429	ACMV Installation	30 days	Wed 11/11/23	Thu 11/12/22
430	P&D Installation	40 days	Wed 11/11/30	Sun 12/1/8
431	Fire hydrant and hose reel system	57 days	Wed 11/11/23	Wed 12/1/18
432	FS Inspection (for Temporary Offices)	**22 days**	**Thu 12/1/19**	**Thu 12/2/9**
433	Submit Form 501/ FS 251	1 day	Thu 12/1/19	Thu 12/1/19
434	FS Inspection	14 days	Fri 12/1/20	Thu 12/2/2



Task | Progress | Summary | External Tasks | Deadline
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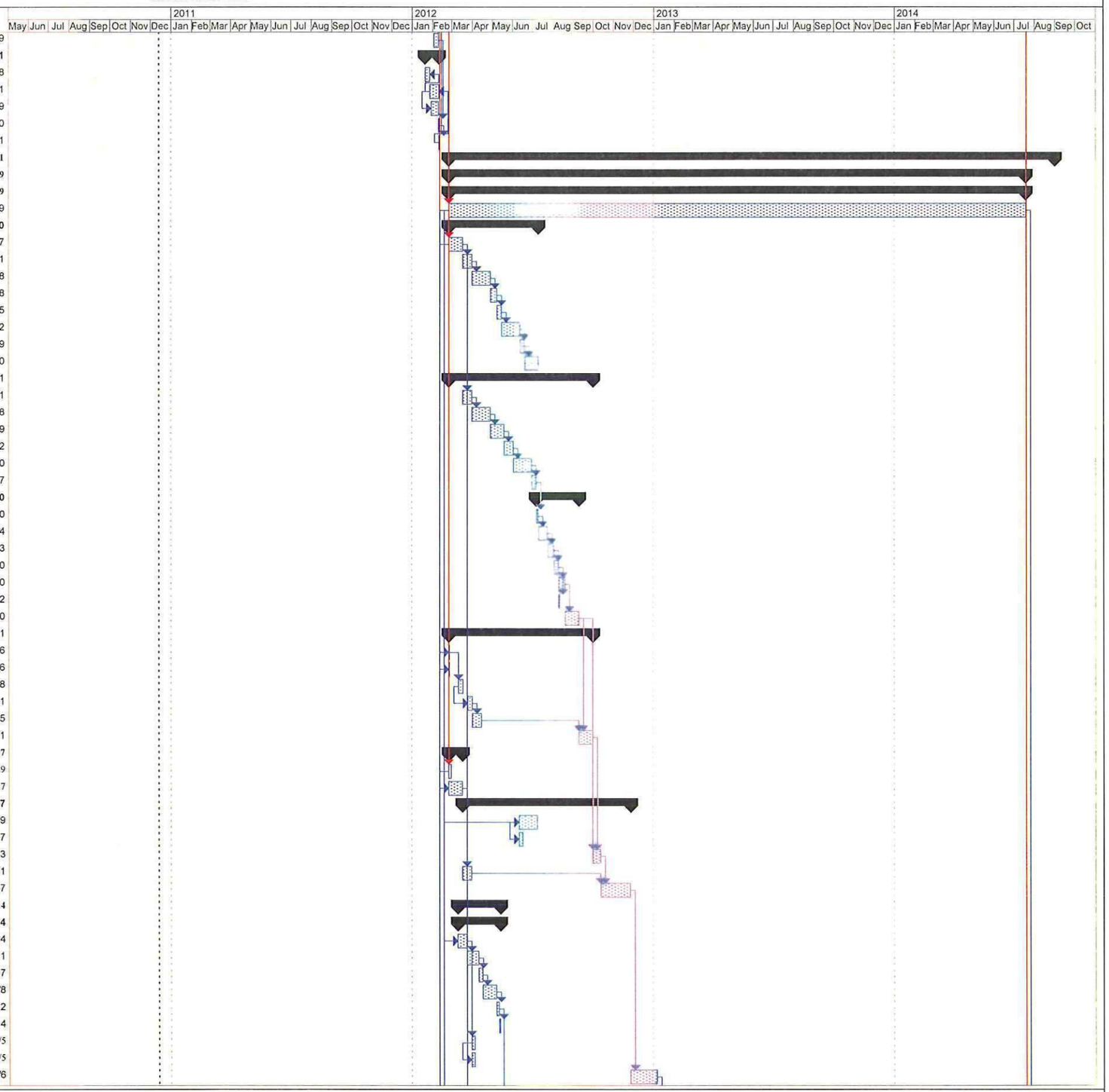
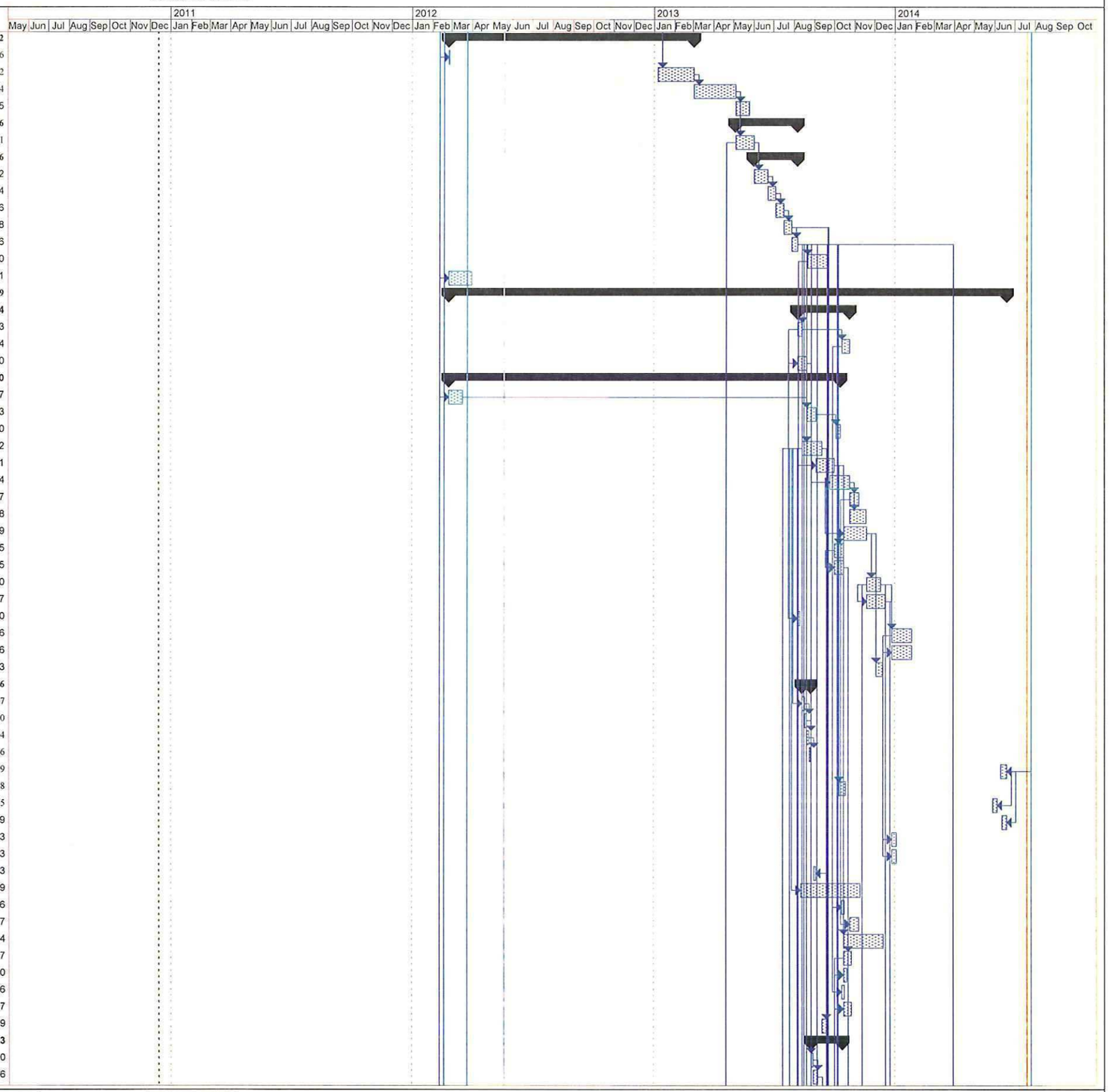
ID	Task Name	Duration	Start	Finish
435	Issuance of Fire Certificate	7 days	Fri 12/2/3	Thu 12/2/9
436	SCCU Inspection	**21 days**	**Sat 12/1/21**	**Sat 12/2/11**
437	Apply for SCCU Audit	7 days	Sat 12/1/21	Sat 12/1/28
438	SCCU Audit	14 days	Sat 12/1/28	Sat 12/2/11
439	Defects Rectification	11 days	Mon 12/1/30	Thu 12/2/9
440	General cleaning	1 day	Fri 12/2/10	Fri 12/2/10
441	Handing over Section 1D	1 day	Sat 12/2/11	Sat 12/2/11
442	**PHASE 2**	**919 days**	**Sun 12/2/26**	**Mon 14/9/1**
443	**SECTION 2A - Remaining Part of Crematorium Building and etc.**	**875 days**	**Sun 12/2/26**	**Sat 14/7/19**
444	Environmental Pollution Control Works	**875 days**	**Sun 12/2/26**	**Sat 14/7/19**
445	Works as per EM&A Programme	875 days	Sun 12/2/26	Sat 14/7/19
446	Land Contamination Works in Cremators 1 & 2 and TP-1	**136 days**	**Sun 12/2/26**	**Tue 12/7/10**
447	Decommissioning of existing cremation building	21 days	Sun 12/2/26	Sat 12/3/17
448	Submit Supplementary Contamination Assessment Plan to EPD	14 days	Sun 12/3/18	Sat 12/3/31
449	Approval from EPD for SCAP	28 days	Sun 12/4/1	Sat 12/4/28
450	Land contamination investigation works	10 days	Sun 12/4/29	Tue 12/5/8
451	Submit Supplementary Contamination Assessment Report to EPD	7 days	Wed 12/5/9	Tue 12/5/15
452	Approval from EPD for SCAR	28 days	Wed 12/5/16	Tue 12/6/12
453	Submit Remediation Report to EPD	7 days	Wed 12/6/13	Tue 12/6/19
454	Remediation for contaminated soil	21 days	Wed 12/6/20	Tue 12/7/10
455	Demolish, Handling, Treatment and Disposal of DCM and ACM	219 days	Sun 12/2/26	Mon 12/10/1
456	Submit DCM Investigation Plan to EPD for approval	14 days	Sun 12/3/18	Sat 12/3/31
457	Approval from EPD	28 days	Sun 12/4/1	Sat 12/4/28
458	DCM investigation works	21 days	Sun 12/4/29	Sat 12/5/19
459	Submit DCM Assessment Report (incl demolition plan) to EPD	14 days	Sun 12/5/20	Sat 12/6/2
460	Approval from EPD	28 days	Sun 12/6/3	Sat 12/6/30
461	Deposit Confirmatory Report to EPD	7 days	Sun 12/7/1	Sat 12/7/7
462	Removal of Dioxin Contaminated Materials (DCM)	**65 days**	**Sun 12/7/8**	**Mon 12/9/10**
463	Smoke test with non-toxic smoke	3 days	Sun 12/7/8	Tue 12/7/10
464	Remove removable DCM contaminated items	14 days	Wed 12/7/11	Tue 12/7/24
465	Decontamination of all debris using HEPA vacuum cleaners	10 days	Wed 12/7/25	Fri 12/8/3
466	Lining to walls & ceiling with 3-layer polyethene sheets	7 days	Sat 12/8/4	Fri 12/8/10
467	Install 3-chamber decontamination units at cremator entrances	10 days	Sat 12/8/11	Mon 12/8/20
468	Install air movers	2 days	Sat 12/8/11	Sun 12/8/12
469	Remove DCM	21 days	Tue 12/8/21	Mon 12/9/10
470	Removal of Asbestos Contaminated Materials (ACM)	219 days	Sun 12/2/26	Mon 12/10/1
471	Hire Registered Asbestos Consultant	1 day	Sun 12/2/26	Sun 12/2/26
472	Employ a Registered Asbestos Contractor	1 day	Sun 12/2/26	Sun 12/2/26
473	Submit Asbestos Investigation Report (AIR) to EPD	7 days	Mon 12/3/12	Sun 12/3/18
474	Submit Asbestos Abatement Plan (AAP) to EPD	7 days	Mon 12/3/26	Sun 12/4/1
475	Notify EPD to dispose of ACM	14 days	Mon 12/4/2	Sun 12/4/15
476	Removal of ACM	21 days	Tue 12/9/11	Mon 12/10/1
477	Hoarding, Chain Link Fence & Covered Walkway	**21 days**	**Sun 12/2/26**	**Sat 12/3/17**
478	Setting out	4 days	Sun 12/2/26	Wed 12/2/29
479	Erection	21 days	Sun 12/2/26	Sat 12/3/17
480	Demolish Existing Cremator Plant Room & Cremators etc.	**255 days**	**Sun 12/3/18**	**Tue 12/11/27**
481	Submit Demolition Plan for approval and re-submission	28 days	Tue 12/6/12	Mon 12/7/9
482	Detailed method and sequence of demolition propping proposed	6 days	Tue 12/6/12	Sun 12/6/17
483	Erect proppings and safety measures	12 days	Tue 12/10/2	Sat 12/10/13
484	Disconnect existing services by relevant departments/ utility companies	14 days	Sun 12/3/18	Sat 12/3/31
485	Demolition works	45 days	Sun 12/10/14	Tue 12/11/27
486	Site Formation Works	**65 days**	**Sun 12/3/11**	**Mon 12/5/14**
487	Unregistered Slope Feature No.1	**65 days**	**Sun 12/3/11**	**Mon 12/5/14**
488	Install and pull-out test for trial nails	14 days	Sun 12/3/11	Sat 12/3/24
489	Install and test for working nails	18 days	Sun 12/3/25	Wed 12/4/11
490	Repair/ reinstate existing surface channels on slope	6 days	Thu 12/4/12	Tue 12/4/17
491	Filling soil, compaction and soil tests	21 days	Wed 12/4/18	Tue 12/5/8
492	Erosion control matt and hydroseeding	4 days	Wed 12/5/9	Sat 12/5/12
493	Dismantle hoarding/ chain link fence	2 days	Sun 12/5/13	Mon 12/5/14
494	Remove emaining portion of 11SE-D/CR607	5 days	Sun 12/4/1	Thu 12/4/5
495	Remove remaining portion of Slope Feature 11SE-D/R2	5 days	Sun 12/4/1	Thu 12/4/5
496	Boring and install H-piles for soldier piling system	40 days	Wed 12/11/28	Sun 13/1/6



Task — Progress — Summary — External Tasks — Deadline
Split — Milestone — Project Summary — External Milestone

Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

ID	Task Name	Duration	Start	Finish
497	**Piling Works**	**371 days**	**Sun 12/2/26**	**Sat 13/3/2**
498	Approval from SCU received (assumed)	1 day	Sun 12/2/26	Sun 12/2/26
499	Piling works	55 days	Mon 13/1/7	Sat 13/3/2
500	Excavation and lateral support works	63 days	Sun 13/3/3	Sat 13/5/4
501	Construct raft foundation/ footing	21 days	Sun 13/5/5	Sat 13/5/25
502	**Substructural and Superstructural RC Works**	**94 days**	**Sun 13/5/5**	**Tue 13/8/6**
503	Construct Basement	28 days	Sun 13/5/5	Sat 13/6/1
504	**Construct Remaining Portion of Crematorium Building**	**66 days**	**Sun 13/6/2**	**Tue 13/8/6**
505	Level 1 to M/F	21 days	Sun 13/6/2	Sat 13/6/22
506	M/F to Level 2	12 days	Sun 13/6/23	Thu 13/7/4
507	Level 2 to Level 3	12 days	Fri 13/7/5	Tue 13/7/16
508	Level 3 to Roof	12 days	Wed 13/7/17	Sun 13/7/28
509	Roof to Upper Roof	9 days	Mon 13/7/29	Tue 13/8/6
510	U/G manholes and drainage pipes (F1 to F4)	30 days	Thu 13/8/22	Fri 13/9/20
511	Excavation for cable trench between New Tx Room and New Crematorium	35 days	Sun 12/2/26	Sat 12/3/31
512	**Internal Finishing Works**	**845 days**	**Sun 12/2/26**	**Thu 14/6/19**
513	**Doors (timber & steel)**	**79 days**	**Wed 13/8/7**	**Thu 13/10/24**
514	Frame installation	7 days	Wed 13/8/7	Tue 13/8/13
515	Doors installation	12 days	Sun 13/10/13	Thu 13/10/24
516	Windows and Louvres	14 days	Wed 13/8/7	Tue 13/8/20
517	**Skylights at Level 2**	**593 days**	**Sun 12/2/26**	**Thu 13/10/10**
518	Submit calculation and shop drawings	21 days	Sun 12/2/26	Sat 12/3/17
519	Structural steel frames	14 days	Wed 13/8/21	Tue 13/9/3
520	Tempered glass	7 days	Fri 13/10/4	Thu 13/10/10
521	Concrete block walls	30 days	Wed 13/8/14	Thu 13/9/12
522	Wall plastering	28 days	Wed 13/9/4	Tue 13/10/1
523	Floor screeding with dividing strips	30 days	Wed 13/9/25	Thu 13/10/24
524	Drywall partition	14 days	Fri 13/10/25	Thu 13/11/7
525	Skirting (hardwood, wash grano with coloured round pebbles)	25 days	Fri 13/10/25	Mon 13/11/18
526	Floor tiling (Homogeneous tiles with marble highlights, quarry tiles etc.)	35 days	Wed 13/10/16	Tue 13/11/19
527	Marble wall panels	14 days	Wed 13/10/2	Tue 13/10/15
528	Ceramic wall tiles	14 days	Wed 13/10/2	Tue 13/10/15
529	Gypsum board ceiling and light troughs	21 days	Wed 13/11/20	Tue 13/12/10
530	Aluminium suspended ceiling	28 days	Wed 13/11/20	Tue 13/12/17
531	4 hour FRP fire shutters	4 days	Wed 13/8/7	Sat 13/8/10
532	Wood veneered acoustic wall panels	30 days	Sat 13/12/28	Sun 14/1/26
533	Wood veneered wall panels and hardwood strips	30 days	Sat 13/12/28	Sun 14/1/26
534	Fixed seatings	10 days	Wed 13/12/4	Fri 13/12/13
535	**Reception counter**	**13 days**	**Wed 13/8/14**	**Mon 13/8/26**
536	Concreting works	4 days	Wed 13/8/14	Sat 13/8/17
537	s s panel on counter	3 days	Sun 13/8/18	Tue 13/8/20
538	Acrylic based solid surface material	4 days	Wed 13/8/21	Sat 13/8/24
539	Pomegranate wood venner	2 days	Sun 13/8/25	Mon 13/8/26
540	Carpet tiles	9 days	Wed 14/6/11	Thu 14/6/19
541	Vinyl wall covering	10 days	Wed 13/10/9	Fri 13/10/18
542	CCTV monitors cabinet	7 days	Fri 14/5/30	Thu 14/6/5
543	Tactile warning strips	7 days	Fri 14/6/13	Thu 14/6/19
544	Catafalque at Services Halls by Cremator NSC	7 days	Sat 13/12/28	Fri 14/1/3
545	Altar at Services Halls	7 days	Sat 13/12/28	Fri 14/1/3
546	Roller shutter on M/F	3 days	Sun 13/9/1	Tue 13/9/3
547	Steel and metal works (General)	90 days	Mon 13/8/12	Sat 13/11/9
548	Ironmongeries	4 days	Sun 13/10/13	Wed 13/10/16
549	Cubicle partition	14 days	Fri 13/10/25	Thu 13/11/7
550	Internal wall & ceiling painting	60 days	Wed 13/10/16	Sat 13/12/14
551	Countertop basin with cabinets	12 days	Wed 13/10/16	Sun 13/10/27
552	Mirrors	5 days	Wed 13/10/16	Sun 13/10/20
553	Signages	4 days	Sun 13/10/13	Wed 13/10/16
554	Lockers on Level 1	12 days	Wed 13/10/16	Sun 13/10/27
555	Demolish temporary concrete block walls at Grid D (to agree with FEHD on site)	7 days	Fri 13/9/13	Thu 13/9/19
556	**Builder's Works in Chimneys**	**47 days**	**Wed 13/8/28**	**Sun 13/10/13**
557	Erect bamboo scaffolding	3 days	Wed 13/8/28	Fri 13/8/30
558	Internal plastering and screeding	7 days	Sat 13/8/31	Fri 13/9/6



Task | Progress | Summary | External Tasks | Deadline
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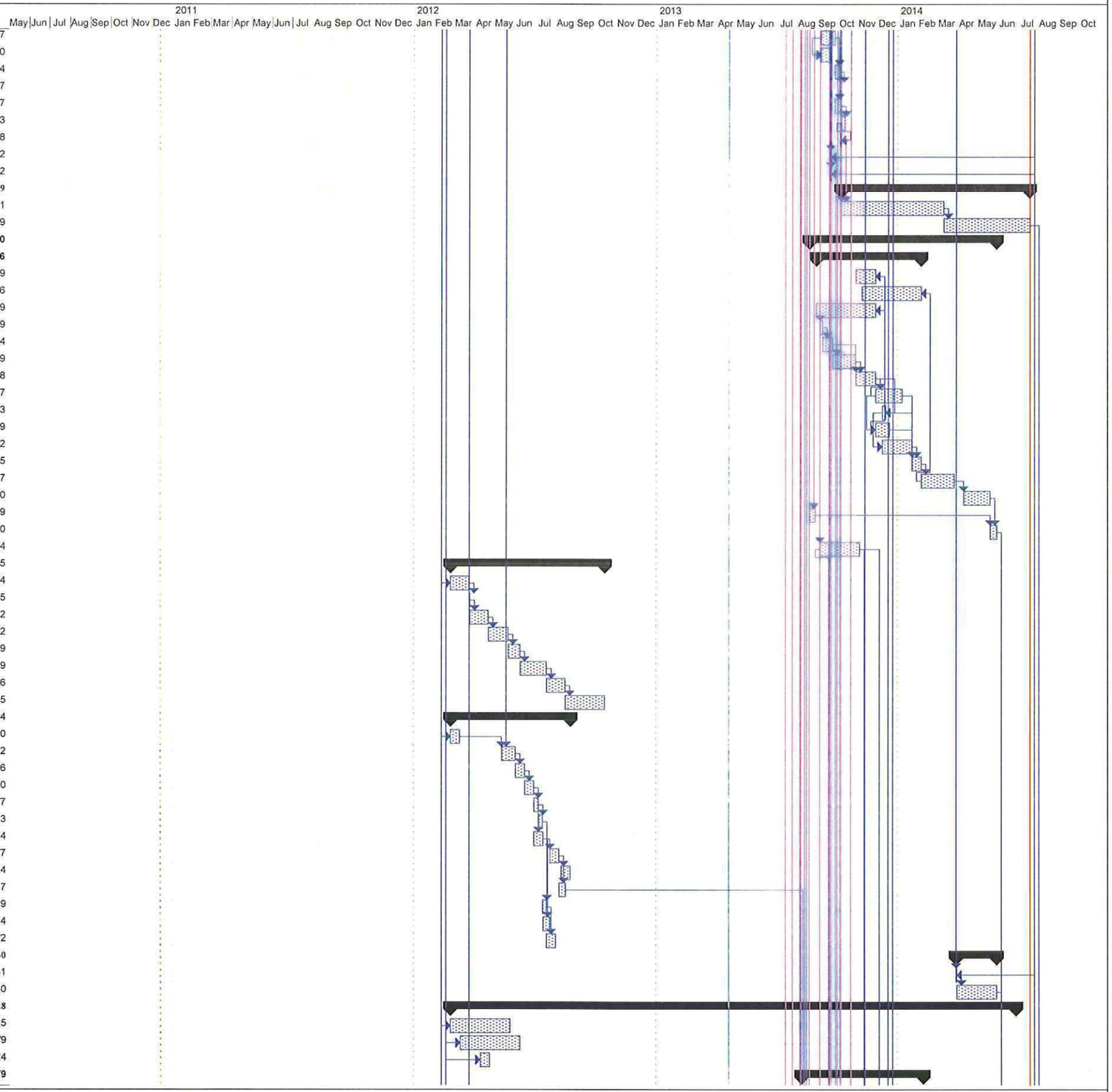
Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

ID	Task Name	Duration	Start	Finish
559	Install perforated metal platforms and metal railings	21 days	Sat 13/9/7	Fri 13/9/27
560	Install catladders	14 days	Sat 13/9/7	Fri 13/9/20
561	Install fall arrest system	7 days	Sat 13/9/28	Fri 13/10/4
562	Install trap door on R/F	3 days	Sat 13/10/5	Mon 13/10/7
563	Internal wall painting	10 days	Sat 13/9/28	Mon 13/10/7
564	Modify bamboo scaffolding for chimneys installation	6 days	Tue 13/10/8	Sun 13/10/13
565	Handing over of Chimneys to Cremator NSC	1 day	Mon 13/10/7	Tue 13/10/8
566	Handing over Control Room and LV Switch Room on M/F	1 day	Sun 13/9/22	Sun 13/9/22
567	Handover Filtration Plant Room on Level 2	1 day	Sun 13/9/22	Sun 13/9/22
568	Install 6 Nos of Cremators by NSC	**285 days**	**Tue 13/10/8**	**Sat 14/7/19**
569	Installation of cremators	155 days	Tue 13/10/8	Tue 14/3/11
570	T&C period	130 days	Wed 14/3/12	Sat 14/7/19
571	External Wall Finishing	**283 days**	**Wed 13/8/21**	**Fri 14/5/30**
572	Submission and approval of shop drawings	**159 days**	**Sat 13/8/31**	**Thu 14/2/6**
573	Tiles Setting Out	30 days	Wed 13/10/30	Fri 13/11/29
574	Artificial wood screen	90 days	Fri 13/11/8	Thu 14/2/6
575	Granite panels outside Service Halls	90 days	Sat 13/8/31	Fri 13/11/29
576	Setting out	4 days	Fri 13/9/6	Mon 13/9/9
577	Install external windows/ louvres	15 days	Tue 13/9/10	Tue 13/9/24
578	Install metal frames for Artificial Wood Screen	35 days	Wed 13/9/25	Tue 13/10/29
579	External wall rendering	30 days	Wed 13/10/30	Thu 13/11/28
580	Fixing artificial granite wall tiles	40 days	Fri 13/11/29	Tue 14/1/7
581	External spray paint at Towngas governor kiosk	5 days	Mon 13/12/9	Fri 13/12/13
582	Fixing granite panels on Level 1	21 days	Fri 13/11/29	Thu 13/12/19
583	Aluminium cladding to external wall on Level 2	45 days	Mon 13/12/9	Wed 14/1/22
584	External wall movement joints	14 days	Thu 14/1/23	Wed 14/2/5
585	Artificial Wood Screens	50 days	Thu 14/2/6	Thu 14/3/27
586	External painting works	40 days	Fri 14/4/11	Tue 14/5/20
587	Water test to external windows	9 days	Wed 13/8/21	Thu 13/8/29
588	Dismantle bamboo scaffolding	10 days	Wed 14/5/21	Fri 14/5/30
589	Waterproofing to Flat Roofs	60 days	Fri 13/9/6	Mon 13/11/4
590	Demolish Top Storey of Western Hall	233 days	Sun 12/2/26	Mon 12/10/15
591	Submit Demolition Plan for approval by Project Team, including re-submission	28 days	Sun 12/2/26	Sat 12/3/24
592	Submit demolition plan to SCCU for approval	1 day	Sun 12/3/25	Sun 12/3/25
593	Approval of demolition plan by SCCU	28 days	Mon 12/3/26	Sun 12/4/22
594	Install steel beams	30 days	Mon 12/4/23	Tue 12/5/22
595	Erect proppings	18 days	Wed 12/5/23	Sat 12/6/9
596	Demolish top storey including slab at level 144.63	40 days	Sun 12/6/10	Thu 12/7/19
597	Construct a new slab	28 days	Fri 12/7/20	Thu 12/8/16
598	Alteration works (tentative, scope to be advised by Architect)	60 days	Fri 12/8/17	Mon 12/10/15
599	Construct a New Transformer Room	181 days	Sun 12/2/26	Fri 12/8/24
600	Hoarding erection	14 days	Sun 12/2/26	Sat 12/3/10
601	Pad Foundation	21 days	Sun 12/5/13	Sat 12/6/2
602	Columns and walls (rc structure)	14 days	Sun 12/6/3	Sat 12/6/16
603	Double slab on roof	14 days	Sun 12/6/17	Sat 12/6/30
604	General cleaning and screeding on roof	7 days	Sun 12/7/1	Sat 12/7/7
605	Waterproofing works	6 days	Sun 12/7/8	Fri 12/7/13
606	Install metal doors and louvres	14 days	Sun 12/7/1	Sat 12/7/14
607	Wall plastering and screeding to Tx Room & cable trench	14 days	Wed 12/7/25	Tue 12/8/7
608	Wall painting	14 days	Sat 12/8/11	Fri 12/8/24
609	Construction of cable trench and chequer plates	10 days	Wed 12/8/8	Fri 12/8/17
610	Importation of soil to roof	6 days	Sat 12/7/14	Thu 12/7/19
611	External concrete paving block	10 days	Sun 12/7/15	Tue 12/7/24
612	Landscaping works on roof	14 days	Fri 12/7/20	Thu 12/8/2
613	Install Lift 2 by NSC	**61 days**	**Mon 14/3/31**	**Fri 14/5/30**
614	Hand over of lift shaft to Lift NSC	1 day	Mon 14/3/31	Mon 14/3/31
615	Installation (including T&C and interior decoration)	60 days	Tue 14/4/1	Fri 14/5/30
616	BS Installation	**854 days**	**Sun 12/2/26**	**Sat 14/6/28**
617	Submission and approval of CSD	90 days	Sun 12/2/26	Fri 12/5/25
618	Submission and approval of CBWD	90 days	Mon 12/3/12	Sat 12/6/9
619	Migrate existing lift supervisory panel for Blk 6 from ex. Office to temp. office	14 days	Wed 12/4/11	Tue 12/4/24
620	EE Installation	**185 days**	**Fri 13/8/9**	**Sun 14/2/9**



Task | Progress | Summary | External Tasks | Deadline
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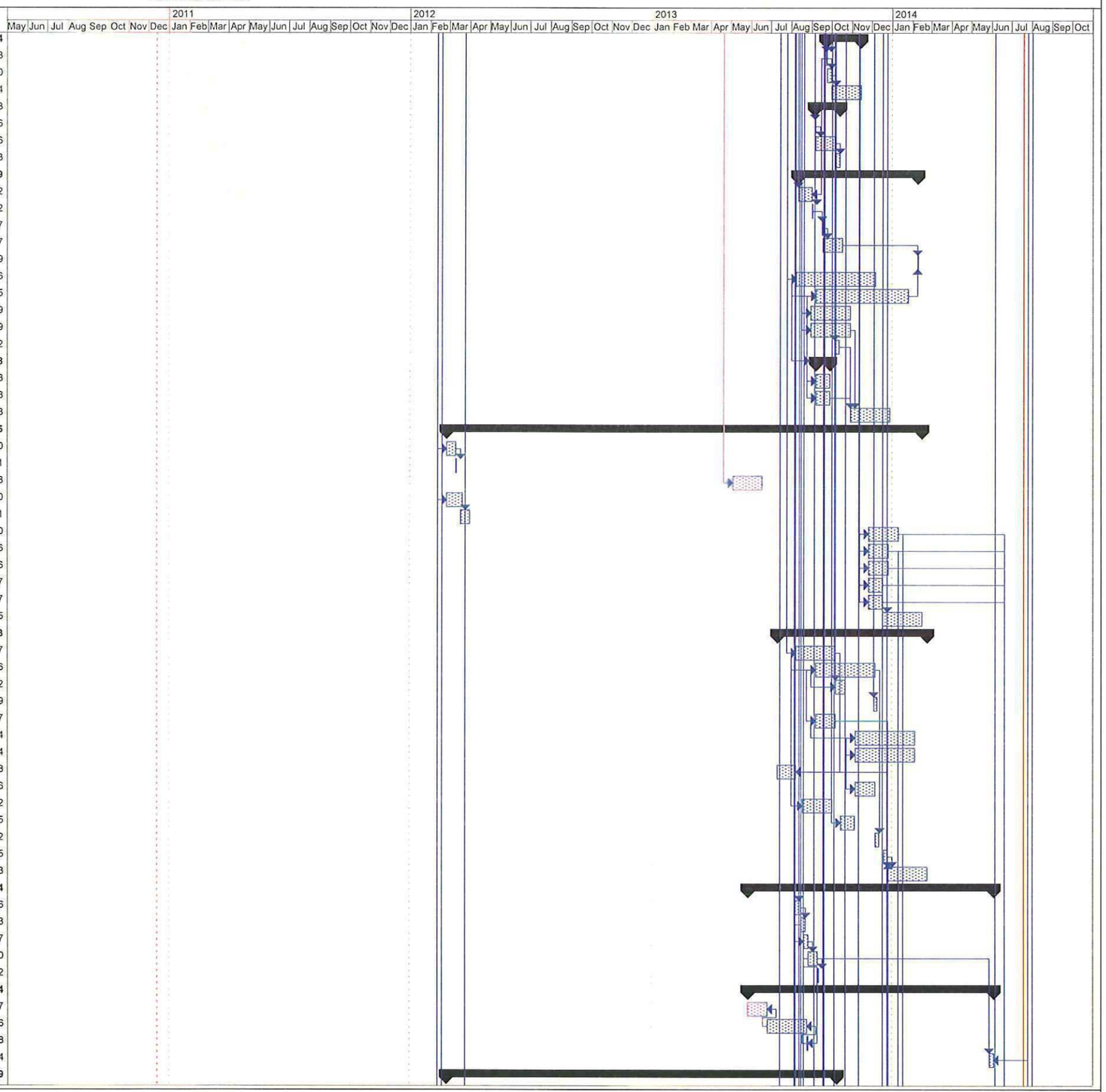
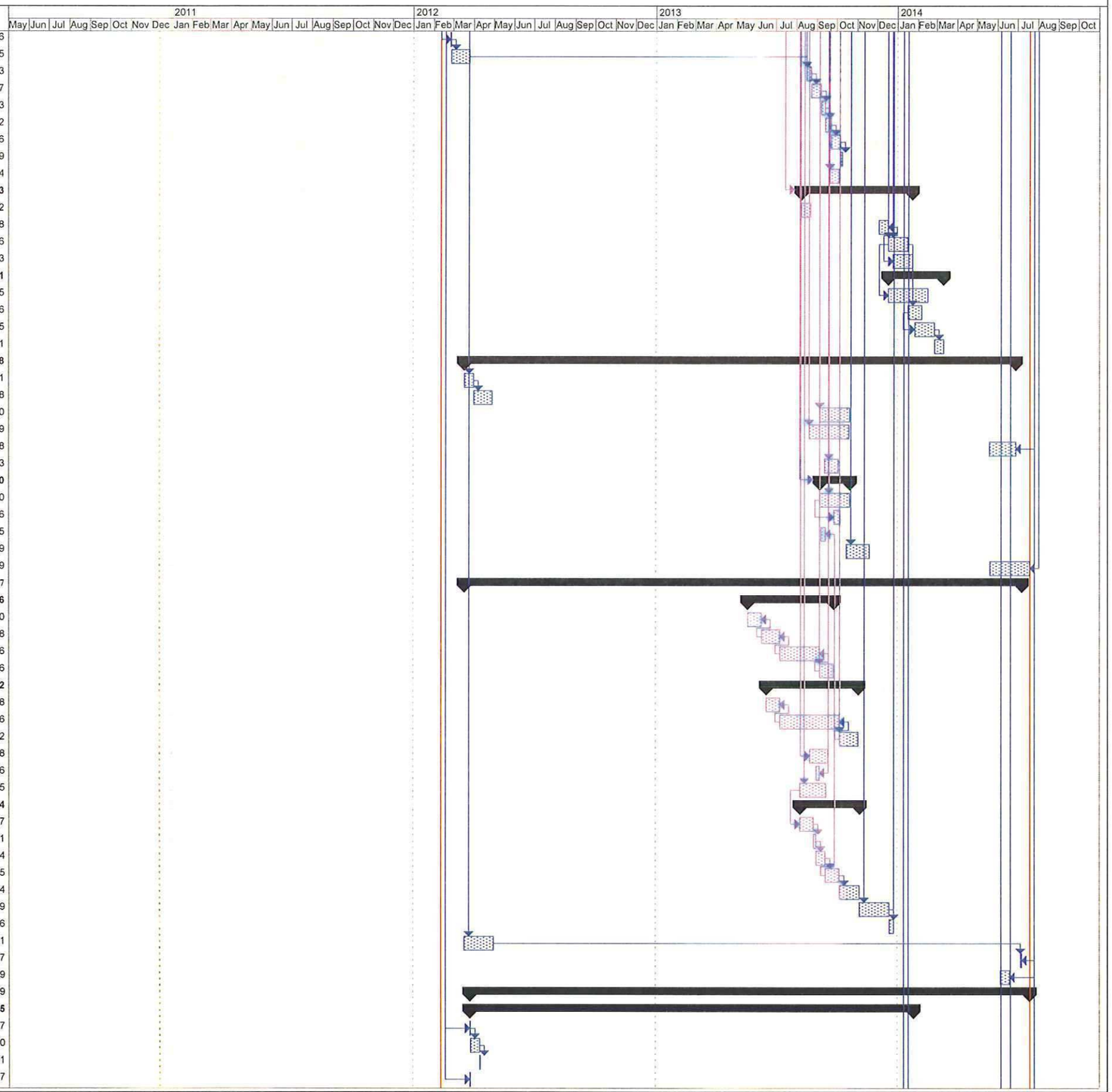
ID	Task Name	Duration	Start	Finish
621	LV Switchboard	**53 days**	**Mon 13/9/23**	**Thu 13/11/14**
622	Handover of LV Switch Room at Level M/F	1 day	Mon 13/9/23	Mon 13/9/23
623	Delivery of LV Switchboard	7 days	Tue 13/9/24	Mon 13/9/30
624	Installation of LV switchboard	45 days	Tue 13/10/1	Thu 13/11/14
625	Genset (Non-FSI)	38 days	Fri 13/9/6	Sun 13/10/13
626	Delivery of Genset (non-FSI)	1 day	Fri 13/9/6	Fri 13/9/6
627	Installation of Genset (non-FSI)	30 days	Sat 13/9/7	Sun 13/10/6
628	T&C	7 days	Mon 13/10/7	Sun 13/10/13
629	New Transformer Room	**182 days**	**Mon 13/8/12**	**Sun 14/2/9**
630	Inspection by HEC and making good defects	21 days	Mon 13/8/12	Mon 13/9/2
631	Handover of Tx Room	1 day	Mon 13/9/2	Mon 13/9/2
632	Delivery of transformer	1 day	Tue 13/9/17	Tue 13/9/17
633	Installation by HEC	30 days	Wed 13/9/18	Thu 13/10/17
634	Power energization	1 day	Sun 14/2/9	Sun 14/2/9
635	Conduits, cable ladders, cabling works and trunking works	120 days	Fri 13/8/9	Fri 13/12/6
636	Wiring works and fixing of wiring accessories	140 days	Sun 13/9/8	Sat 14/1/25
637	Power Monitoring and Analysis System	60 days	Sat 13/8/31	Tue 13/10/29
638	Central battery system	60 days	Sat 13/8/31	Tue 13/10/29
639	Lightning protection system	7 days	Sun 13/10/6	Sat 13/10/12
640	Lighting system	**21 days**	**Sun 13/9/8**	**Sat 13/9/28**
641	Indoor lighting system	21 days	Sun 13/9/8	Sat 13/9/28
642	Exterior lighting system	21 days	Sun 13/9/8	Sat 13/9/28
643	Testing & Commissioning	60 days	Wed 13/10/30	Sat 13/12/28
644	FS Installation	**721 days**	**Sun 12/2/26**	**Sat 14/2/15**
645	Survey existing FSI including Columbarium Block 1 to 4	14 days	Sun 12/2/26	Sat 12/3/10
646	Take up maintenance responsibility of FSI for Columbarium Block 1 to 4	1 day	Sun 12/3/11	Sun 12/3/11
647	Conduits and wiring	45 days	Sun 13/5/5	Tue 13/6/18
648	Dismantle existing down feed pipe	24 days	Sun 12/2/26	Tue 12/3/20
649	Diversion of existing manual call point, visual alarm units etc.	14 days	Sun 12/3/18	Sat 12/3/31
650	Sprinkler piping system	45 days	Wed 13/11/27	Fri 14/1/10
651	Sprinklers installation	30 days	Wed 13/11/27	Thu 13/12/26
652	Hose reel and fire hydrant system installation	30 days	Wed 13/11/27	Thu 13/12/26
653	Fire detection and alarm system	21 days	Wed 13/11/27	Tue 13/12/17
654	Street fire hydrant system (including 1 no. Street Fire Hydrant)	21 days	Wed 13/11/27	Tue 13/12/17
655	Testing & Commissioning	60 days	Wed 13/12/18	Sat 14/2/15
656	MVAC Installation	**227 days**	**Fri 13/7/12**	**Sun 14/2/23**
657	Conduits and wiring	60 days	Fri 13/8/9	Mon 13/10/7
658	Air ducts installation	90 days	Sun 13/9/8	Fri 13/12/6
659	Indoor unit on Level 2	15 days	Tue 13/10/8	Tue 13/10/22
660	Outdoor units on R/F	5 days	Thu 13/12/5	Mon 13/12/9
661	Ventilation fans	30 days	Sun 13/9/8	Mon 13/10/7
662	FAP units	90 days	Thu 13/11/7	Tue 14/2/4
663	Fire dampers	90 days	Thu 13/11/7	Tue 14/2/4
664	Control panels	28 days	Fri 13/7/12	Thu 13/8/8
665	Sump pumps for Sump pits	30 days	Thu 13/11/7	Fri 13/12/6
666	Refrigerant piping system for FCUs in Mortuary	45 days	Mon 13/8/19	Wed 13/10/2
667	A/C curtain for Office on Level 1	21 days	Wed 13/10/16	Tue 13/11/5
668	Air grilles	6 days	Sat 13/12/7	Thu 13/12/12
669	Installation and T&C for Joss Paper Burner	6 days	Fri 13/12/20	Wed 13/12/25
670	Testing & Commissioning	60 days	Thu 13/12/26	Sun 14/2/23
671	Mortuary Installation	**373 days**	**Tue 13/5/28**	**Wed 14/6/4**
672	Construction of recessed concrete slab with Injected PU Coating	10 days	Wed 13/8/7	Fri 13/8/16
673	Install refrigerant pipes	7 days	Sat 13/8/17	Fri 13/8/23
674	Install sprinkler pipes	7 days	Wed 13/8/21	Tue 13/8/27
675	Install thermal break partitions and ceiling panels	14 days	Wed 13/8/28	Tue 13/9/10
676	Install orbital/ rotatry fan & wall mounted fans	2 days	Wed 13/9/11	Thu 13/9/12
677	Proprietary sliding doors	**373 days**	**Tue 13/5/28**	**Wed 14/6/4**
678	Shop drawings submissions and approval	30 days	Tue 13/5/28	Thu 13/6/27
679	Delivery of materials	60 days	Thu 13/6/27	Mon 13/8/26
680	Door frames installation	2 days	Mon 13/8/26	Wed 13/8/28
681	Sliding doors installation	7 days	Thu 14/5/29	Wed 14/6/4
682	Water Fountain Installation (Level 1 & Level 2)	**592 days**	**Sun 12/2/26**	**Wed 13/10/9**



Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

ID	Task Name	Duration	Start	Finish
683	Design of water fountain systems	1 day	Sun 12/2/26	Sun 12/2/26
684	Submission of shop drawings & calculations	28 days	Mon 12/2/27	Sun 12/3/25
685	Concreting (both Level 1 & 2)	7 days	Sat 13/8/17	Fri 13/8/23
686	Screeding and waterproofing	15 days	Sat 13/8/24	Sat 13/9/7
687	Plumbing works	6 days	Sun 13/9/8	Fri 13/9/13
688	GMS frames	9 days	Sat 13/9/14	Sun 13/9/22
689	Stone cladding and glass installation	14 days	Mon 13/9/23	Sun 13/10/6
690	Testing & Commissioning	3 days	Mon 13/10/7	Wed 13/10/9
691	Noise Barriers on R/F	14 days	Sat 13/9/21	Fri 13/10/4
692	Security Services Installation	**168 days**	**Fri 13/8/9**	**Thu 14/1/23**
693	Migrate CCTV central equipment from Temporary Office to General Office	14 days	Fri 13/8/9	Thu 13/8/22
694	Diversion of existing CCTV system	14 days	Wed 13/12/4	Wed 13/12/18
695	New CCTV poles and CCTV	30 days	Wed 13/12/18	Thu 14/1/16
696	PA system	30 days	Wed 13/12/25	Thu 14/1/23
697	ELV Installation	**84 days**	**Wed 13/12/18**	**Tue 14/3/11**
698	BRI system	60 days	Wed 13/12/18	Sat 14/2/15
699	Emergency call bell system	21 days	Fri 14/1/17	Thu 14/2/6
700	Intercom system	30 days	Mon 14/1/27	Tue 14/2/25
701	Testing & Commissioning	14 days	Wed 14/2/26	Tue 14/3/11
702	P&D Installation	**833 days**	**Sun 12/3/18**	**Sat 14/6/28**
703	Diversion of 3 nos. existing flush water tanks	14 days	Sun 12/3/18	Sat 12/3/31
704	Dismantle existing U/G plumbing pipes	28 days	Sun 12/4/1	Sat 12/4/28
705	Leakage collection system for U/G water pipes at Level 1	45 days	Fri 13/9/6	Sun 13/10/20
706	Above ground drainage pipe installation (foul water and storm water)	60 days	Wed 13/8/21	Sat 13/10/19
707	U-channels with matching covers	40 days	Tue 14/5/20	Sat 14/6/28
708	Gutters installation	21 days	Fri 13/9/13	Thu 13/10/3
709	Plumbing pipes installation	**45 days**	**Fri 13/9/6**	**Sun 13/10/20**
710	Fresh/ flushing water	45 days	Fri 13/9/6	Sun 13/10/20
711	Cleansing water	10 days	Fri 13/9/27	Sun 13/10/6
712	Irrigation	7 days	Sun 13/9/8	Sun 13/9/15
713	Sanitary fitments installation	35 days	Wed 13/10/16	Tue 13/11/19
714	Full Commissioning of the Project	60 days	Wed 14/5/21	Sat 14/7/19
715	External Works	**842 days**	**Sun 12/3/18**	**Mon 14/7/7**
716	Glass balustrades	**130 days**	**Mon 13/5/20**	**Thu 13/9/26**
717	Submission of shop drawings and calculation for Project Team's approval	21 days	Mon 13/5/20	Mon 13/6/10
718	Submission to SCCU for approval	28 days	Mon 13/6/10	Mon 13/7/8
719	Delivery of materials	60 days	Mon 13/7/8	Fri 13/9/6
720	Installation	21 days	Fri 13/9/6	Thu 13/9/26
721	External Canopy and Covered Walkway	**139 days**	**Mon 13/6/17**	**Sat 13/11/2**
722	Submission of shop drawings and calculation for Project Team's approval	21 days	Mon 13/6/17	Mon 13/7/8
723	Delivery of materials	90 days	Mon 13/7/8	Sun 13/10/6
724	Installation	28 days	Sun 13/10/6	Sat 13/11/2
725	Construct draw pits and cable duct laying	28 days	Thu 13/8/22	Wed 13/9/18
726	Concrete plinths on R/F for radiators	5 days	Sun 13/9/1	Fri 13/9/6
727	External metal railing	40 days	Wed 13/8/7	Sun 13/9/15
728	Planter Boxes	**90 days**	**Wed 13/8/7**	**Mon 13/11/4**
729	Install s.s. RHS handrail	21 days	Wed 13/8/7	Tue 13/8/27
730	Install drainage layer	4 days	Wed 13/8/28	Sat 13/8/31
731	External wall finishes on planter walls	14 days	Sun 13/9/1	Sat 13/9/14
732	Importation of soil materials to planter boxes	21 days	Sun 13/9/15	Sat 13/10/5
733	Planting works	30 days	Sun 13/10/6	Mon 13/11/4
734	External paving on Levels 1 & 2	45 days	Tue 13/11/5	Thu 13/12/19
735	s.s. tactile studs on natural granites on Levels 1 & 2	7 days	Fri 13/12/20	Thu 13/12/26
736	600 screen wall next to existing retaining wall	45 days	Sun 12/3/18	Tue 12/5/1
737	Road signs and corner guards	2 days	Sun 14/7/6	Mon 14/7/7
738	Re-painting to existing substation	14 days	Fri 14/6/6	Thu 14/6/19
739	Statutory Submissions	845 days	Tue 12/3/27	Sat 14/7/19
740	WSD Inspection	**670 days**	**Tue 12/3/27**	**Sat 14/1/25**
741	WWO 46 Part I & II (Plumbing)	1 day	Tue 12/3/27	Tue 12/3/27
742	WWO Part IV (Plumbing)	14 days	Wed 12/3/28	Tue 12/4/10
743	WWO Part V (Plumbing)	1 day	Wed 12/4/11	Wed 12/4/11
744	WWO 46 Part I & II (FS)	1 day	Tue 12/3/27	Tue 12/3/27



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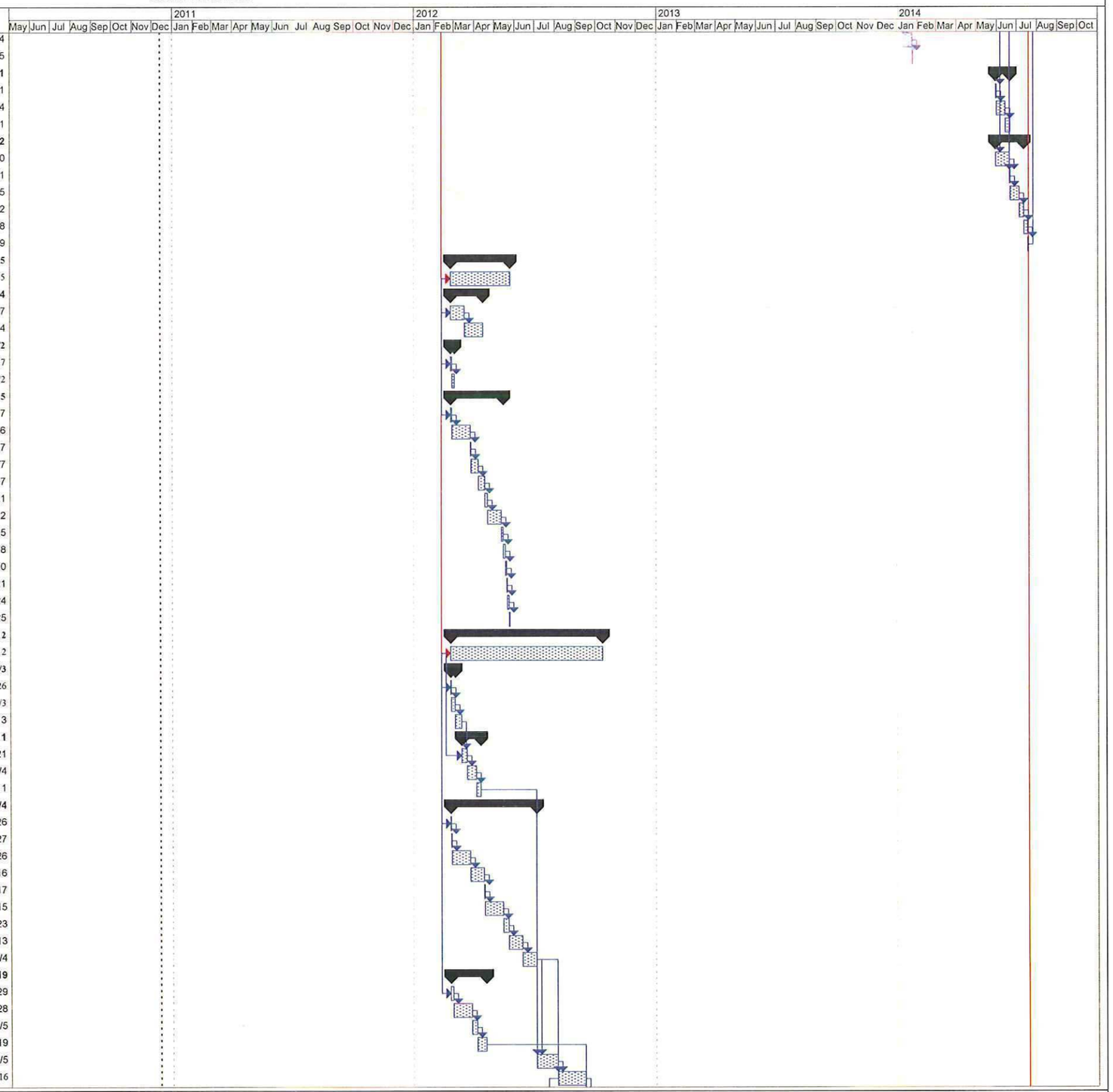
ID	Task Name	Duration	Start	Finish
745	WWO Part IV (FS)	14 days	Sat 14/1/11	Fri 14/1/24
746	WWO Part V (FS)	1 day	Sat 14/1/25	Sat 14/1/25
747	Lift Inspection	**22 days**	**Sat 14/5/31**	**Sat 14/6/21**
748	Submit Form 5	1 day	Sat 14/5/31	Sat 14/5/31
749	EMSD Inspection	14 days	Sun 14/6/1	Sat 14/6/14
750	Issuance of Form 6	7 days	Sun 14/6/15	Sat 14/6/21
751	FS Inspection	**43 days**	**Sat 14/5/31**	**Sat 14/7/12**
752	Dismantle hoarding/ covered walkway	21 days	Sat 14/5/31	Fri 14/6/20
753	Submit Form 501 for Phase 2A	1 day	Sat 14/6/21	Sat 14/6/21
754	FS Inspection	14 days	Sun 14/6/22	Sat 14/7/5
755	Issuance of Fire Certificate	7 days	Sun 14/7/6	Sat 14/7/12
756	General cleaning	6 days	Sun 14/7/13	Fri 14/7/18
757	Handing over Section 2A	1 day	Sat 14/7/19	Sat 14/7/19
758	**SECTION 2B - Removal of Canopy**	**90 days**	**Sun 12/2/26**	**Fri 12/5/25**
759	Works as per EM&A Programme	90 days	Sun 12/2/26	Fri 12/5/25
760	Demolition proposal	**49 days**	**Sun 12/2/26**	**Sat 12/4/14**
761	Submission to Project Team for approval	21 days	Sun 12/2/26	Sat 12/3/17
762	Submission to SCCU for approval	28 days	Sun 12/3/18	Sat 12/4/14
763	Hoarding erection	**6 days**	**Sun 12/2/26**	**Fri 12/3/2**
764	Setting out	2 days	Sun 12/2/26	Mon 12/2/27
765	Erection	4 days	Tue 12/2/28	Fri 12/3/2
766	Demolish Canopy at Western Hall	**80 days**	**Sun 12/2/26**	**Tue 12/5/15**
767	Design for temporary propping system	2 days	Sun 12/2/26	Mon 12/2/27
768	Approval on design for temporary propping system	28 days	Tue 12/2/28	Mon 12/3/26
769	Mobilization on propping materials	1 day	Tue 12/3/27	Tue 12/3/27
770	Erect proppings	11 days	Wed 12/3/28	Sat 12/4/7
771	Dismantle roofing glass panels	10 days	Sun 12/4/8	Tue 12/4/17
772	Dismantle ceiling panels	4 days	Wed 12/4/18	Sat 12/4/21
773	Cutting existing steel beams	21 days	Sun 12/4/22	Sat 12/5/12
774	Removal of existing stone support	3 days	Sun 12/5/13	Tue 12/5/15
775	Reinstate the works area	3 days	Wed 12/5/16	Fri 12/5/18
776	Dismantle the hoarding	2 days	Sat 12/5/19	Sun 12/5/20
777	General cleaning	1 day	Mon 12/5/21	Mon 12/5/21
778	Handover Inspection	3 days	Tue 12/5/22	Thu 12/5/24
779	Handing over Section 2B	1 day	Fri 12/5/25	Fri 12/5/25
780	**SECTION 2C - Removal of Fuel Tank**	**230 days**	**Sun 12/2/26**	**Fri 12/10/12**
781	Works as per EM&A Programme	230 days	Sun 12/2/26	Fri 12/10/12
782	Hoarding Erection	**7 days**	**Sun 12/2/26**	**Sat 12/3/3**
783	Setting out	1 day	Sun 12/2/26	Sun 12/2/26
784	Erection	6 days	Mon 12/2/27	Sat 12/3/3
785	Demolish the existing carpark to expose the fuel tank	10 days	Sun 12/3/4	Tue 12/3/13
786	Temporary retaining works design	**29 days**	**Wed 12/3/14**	**Wed 12/4/11**
787	Design for temporary shoring for approval	8 days	Wed 12/3/14	Wed 12/3/21
788	Approval on temporary shoring design	14 days	Thu 12/3/22	Wed 12/4/4
789	Mobilize for temporary shoring materials	7 days	Thu 12/4/5	Wed 12/4/11
790	Further Site Investigation for U/G Fuel Tank	**130 days**	**Sun 12/2/26**	**Wed 12/7/4**
791	Decommissioning of U/G fuel tank (double confirmation)	1 day	Sun 12/2/26	Sun 12/2/26
792	Submit Supplementary Contamination Assessment Plan to EPD	1 day	Mon 12/2/27	Mon 12/2/27
793	Approval from EPD for SCAP	28 days	Tue 12/2/28	Mon 12/3/26
794	Land contamination investigation works (including soil underneath the Tank)	21 days	Tue 12/3/27	Mon 12/4/16
795	Submit Supplementary Contamination Assessment Report to EPD	1 day	Tue 12/4/17	Tue 12/4/17
796	Approval from EPD for SCAR	28 days	Wed 12/4/18	Tue 12/5/15
797	Submit Remediation Report to EPD	8 days	Wed 12/5/16	Wed 12/5/23
798	Remediation for contaminated soil	21 days	Thu 12/5/24	Wed 12/6/13
799	Disposal of contaminated soil	21 days	Thu 12/6/14	Wed 12/7/4
800	Soil Remediation Works at Borehole BH-1 at U/G Fuel Tank	**54 days**	**Sun 12/2/26**	**Thu 12/4/19**
801	Submit Remediation Report to EPD	4 days	Sun 12/2/26	Wed 12/2/29
802	Approval from EPD	28 days	Thu 12/3/1	Wed 12/3/28
803	Excavation for the lead contaminated soil	8 days	Thu 12/3/29	Thu 12/4/5
804	Treat contaminated soil by cement solidification/ stabilization	14 days	Fri 12/4/6	Thu 12/4/19
805	Install temporary shoring works	32 days	Thu 12/7/5	Sun 12/8/5
806	Demolish Existing U/G Fuel Tank	42 days	Mon 12/8/6	Sun 12/9/16



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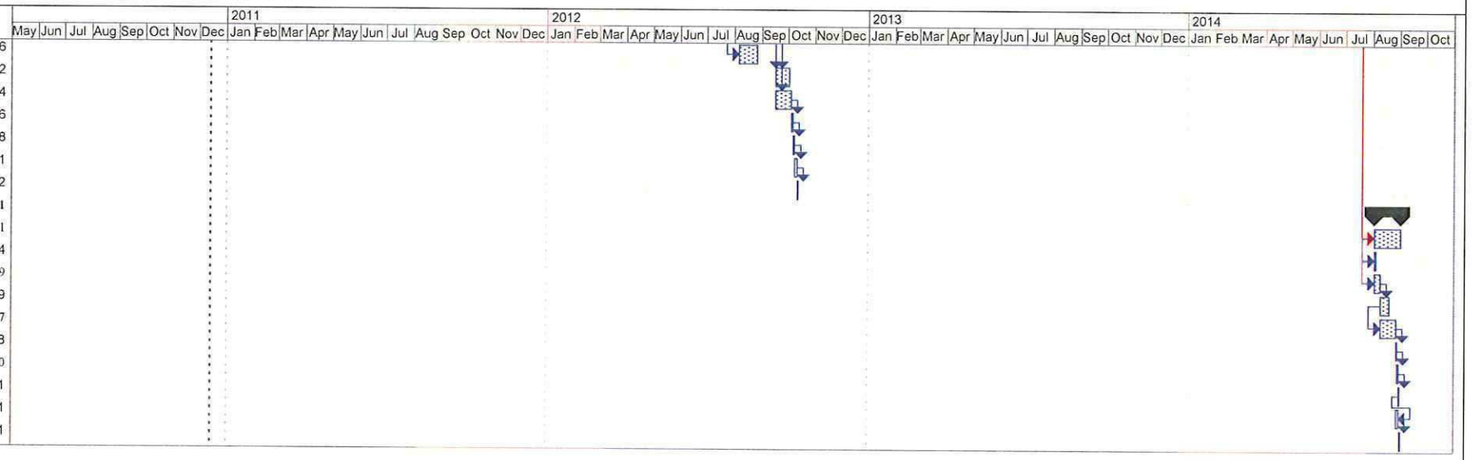
ID	Task Name	Duration	Start	Finish
807	Demolish existing Pipeworks	21 days	Mon 12/8/6	Sun 12/8/26
808	Backfill of soil	16 days	Mon 12/9/17	Tue 12/10/2
809	Reinstate the carpark	18 days	Mon 12/9/17	Thu 12/10/4
810	Dismantle the hoarding	2 days	Fri 12/10/5	Sat 12/10/6
811	General cleaning	2 days	Sun 12/10/7	Mon 12/10/8
812	Handover inspection	3 days	Tue 12/10/9	Thu 12/10/11
813	Handing over Section 2C	1 day	Fri 12/10/12	Fri 12/10/12
814	**SECTION 2D - Removal of Temporary Offices & Lavatories**	**30 days**	**Sun 14/8/3**	**Mon 14/9/1**
815	Works as per EM&A Programme	30 days	Sun 14/8/3	Mon 14/9/1
816	Modification of hoarding	2 days	Sun 14/8/3	Mon 14/8/4
817	Demolish Temporary Offices, Changing Rooms & Lavatories	7 days	Sun 14/8/3	Sat 14/8/9
818	External paving works	10 days	Sun 14/8/10	Tue 14/8/19
819	Landscaping Works	18 days	Sun 14/8/10	Wed 14/8/27
820	SCCU Inspection	1 day	Thu 14/8/28	Thu 14/8/28
821	Dismantle hoarding	2 days	Fri 14/8/29	Sat 14/8/30
822	General cleaning	1 day	Sun 14/8/31	Sun 14/8/31
823	Handover inspection	3 days	Thu 14/8/28	Sun 14/8/31
824	Handing over Section 2D	1 day	Mon 14/9/1	Mon 14/9/1



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