The Hong Kong Jockey Club

2008 Olympic Equestrian Event

Monthly Environmental Monitoring and Audit Report - March 2007

Final

The Hong Kong Jockey Club

2008 Olympic Equestrian Event

Monthly Environmental Monitoring and Audit Report - March 2007

April 2007

Ove Arup & Partners Hong Kong Ltd
Level 5, Festival Walk, 80 Tat Chee Avenue, Kowloon Tong, Kowloon, Hong Kong
Tel +852 2528 3031 Fax +852 2268 3950
www.arup.com

Job number 24469

INDEPENDENT ENVIRONMENTAL CHECKER
CHECK CERTIFICATE

Independent Environmental Checker for
Main Arena of the 2008 Olympic Equestrian Event
Monthly EM&A Report for March 2007 (Final)

We confirm having used reasonable skill and care in the preparation of the Monthly EM&A Report and we certify that we can verify the report.

Signed: _____

Independent Environmental Checker
H. J. Cochrane
Director and IEC

Date: 12/4/07

ARUP

Document Verification

Job title	2008 Olympic Equestrian Event		Job number 24469
Document title	Monthly Environmental Monitoring and Audit Report - March 2007		File reference

Revision	Date				
Final	10/04/07	Filename	08-MAR-07.doc		
		Description	Final submission		
			Prepared by	Checked by	Approved by
		Name	Fanny Wong	Sam Tsoi	Sam Tsoi
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			

Issue Document Verification with Document ✓

Contents

Appendices

Executive Summary

This is the eighth monthly environmental monitoring and audit (EM&A) report presenting the progress of environmental monitoring and audit work for Main Arena of the 2008 Olympic Equestrian Event for the period from 1 to 31 March 2007, including noise monitoring and landscape and visual audit. Noise was measured in terms of $L_{eq(30min)}$ with L_{10} and L_{90} measurements for reference.

A total of 5 sets of daytime (0700 – 1900 hours) noise monitoring was conducted on 1, 8, 15, 22 and 29 March 2007. The highest noise level of 63.7 dB(A) was recorded at the roof of Chun Cheung Court, HKJC Staff Quarters (NM1) on 15 and 29 March 2007 respectively while the lowest noise level of 58.3 dB(A) was recorded at the podium outside Block 1 of Ravana Garden (NM3) on 29 March 2007. There was no exceedance of noise A/L Levels recorded during the reporting period.

A total of 2 landscape and visual audit was carried out bi-weekly on 7 and 21 March 2007. The Registered Landscape Architect (RLA) has the following observations:

- Most transplanted and retained trees were generally in fair condition. Retain trees in the planter between the existing tennis court and the swimming pool such as T748, and T739 were unprotected and building materials were stocked under the tree canopy. The Contractor shall remove all material under the tree canopy and install proper tree protection fencing.

A total of 4 environmental site audits were conducted weekly on 5, 12, 19 and 26 March 2007. The major environmental concerns included the following issues:

Air quality: Wheel washing facilities should be maintained properly.

Noise: Nil.

Water quality: Stagnant water should be cleared regularly.

Handling of waste and chemicals: General refuse on the site should be cleared regularly.

A total of 6.44 tonnes of Construction and Demolition (C&D) waste and a total of 0.79 tonnes of C&D material (public fill) were disposed of at Landfill and Public Filling Area respectively in March 2007. No chemical waste was disposed of during the reporting period.

No environmental complaint was received during the reporting period.

One new construction noise permit was granted during the reporting period.

No exceedance of noise monitoring action/limit levels was recorded during the reporting period.

There was neither notification of summons nor prosecution received during the reporting period.

1 Introduction

1.1 Project Background

Having considered the advantage of established international equine import and export protocols as well as the supporting facilities already in place, the International Olympic Committee (IOC) has accepted the Beijing Organising Committee for the Games of the 29th Olympiad (BOCOG)'s proposal of staging the 2008 Olympic and Paralympic Equestrian Events in Hong Kong.

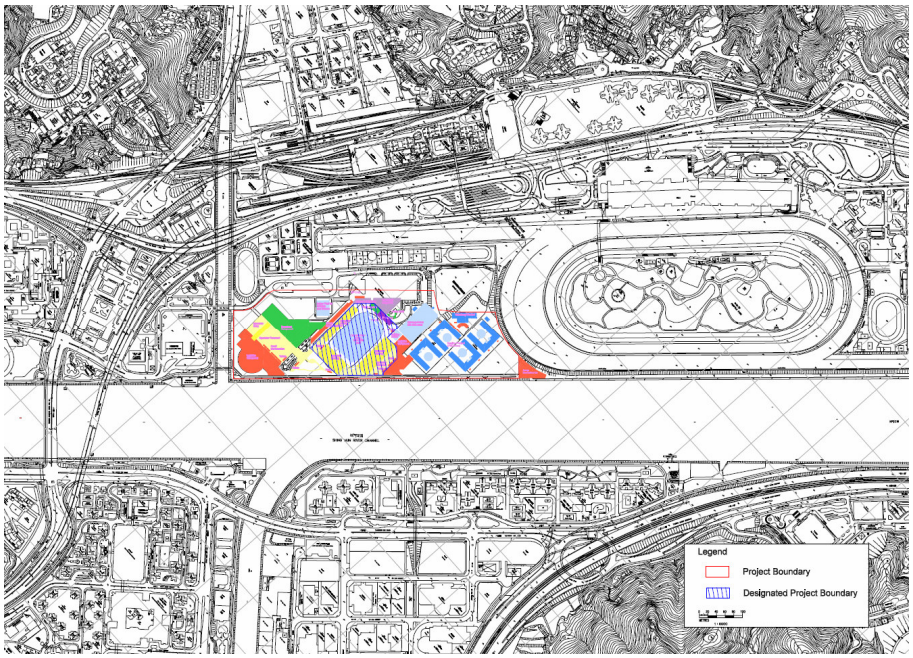
Given the very tight schedule of the project, Hong Kong Sports Institute (HKSI) in Shatin will be temporarily converted into the core competition venues for the Olympic Equestrian Event. Facilities to be provided on the core venues include:

- Main Competition Arena for 20,000 spectators
- Stable Complex
- Training Arenas
- Logistic Compound
- Spectator Entry & Broadcast Compound
- Food & Merchandise

The venues will be in operation for approximately one month during the Olympic event, with the competition expected to last from between 10 to 14 days. 14 days after the Olympic Events, the Paralympic competition will be staged, which will last for a few days.

One year before the 2008 Olympic Event, the site will be occupied for the Test Event, which is used by all divisions of the Olympic Organising Committee to test their organisational capabilities for the Games and Event Management to trail the equine facilities and the footing (riding surface) of the Main Arena, Stables and Training Facilities. These mock up events are known as the 'Test Event Mode', and limited public access will be given.

Figure 1-1: Location plan of the project



The implementation of the Project is scheduled from July 2006 to December 2008. Table 1-1 gives the tentative project timetable and phasing.

Table 1-1: Timetable and phasing for the Project

Task	Start	Finish
Pre- Test Event Construction	July 2006	June 2007
Test Event	August 2007 (2 weeks)	
Post Test Event Construction	September 2007	June 2008
Olympic Event	August 2008 (2 weeks)	
Paralympic Event	September 2008 (1 week)	
Reinstatement of HKSI	October 2008	December 2008

The Main Arena of the 2008 Olympic Equestrian Event is classified as a Designated Project (DP) under item O7, Part 1, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) – an outdoor sporting facility with a capacity to accommodate more than 10,000 persons.

In accordance with the requirements of Section 5(1) of the EIAO, a project profile (No. PP-266/2005) was submitted to Environmental Protection Department (EPD) for the application of an EIA Study Brief on 17 October 2005. Pursuant to Section 5(7)(a) of the EIAO, EPD issued to The Hong Kong Jockey Club (HKJC) a study brief (ref: EIA Study Brief No: ESB-136/2005 dated 7 November 2005) to carry out an EIA study.

The EIA Report for the Project (EIA-118/2005) was approved and an Environmental Permit (EP) (EP-236/2006) granted by EPD on 24th and 25th March 2006 respectively.

1.2 Project Organisation

The Project Proponent is the Hong Kong Jockey Club (HKJC); the Engineer's Representative (ER) is Ove Arup & Partners Hong Kong Ltd (Arup); the Contractor is China State Construction Engrg (HK) Ltd; the Independent Environmental Checker (IEC) is Meinhardt Infrastructure and Environment Ltd; the Environmental Team (ET) is Arup.

1.3 Scope of Impact EM&A

The impact environmental monitoring and audit for the Project included noise monitoring, landscape and visual audit, and environmental site audit.

1.4 Purpose of the Report

The purpose of this monthly EM&A report is to provide information on monitoring methodology, monitoring results, environmental permit status, site audit findings, recommendations and conclusions of the EM&A of the project.

This is the eighth monthly EM&A report prepared by Arup for the submission to the HKJC summarising the implementation of the EM&A programme from 1 to 31 March 2007.

2 Scope of Construction Works

2.1 Construction Programme

The construction works commenced on 15 August 2006. An up-to-date construction programme is attached in **Appendix A**.

2.2 Construction Activities of the Month

Major construction activities carried out by the Contractor in March 2007 include:

- Internal RC wall and block works partitions.

- E&M cast in conduits and building services installation.
- Roof cladding installation.
- Internal ABWF at Transformer Room in Veterinary Stables.
- External finishes installation such as granite stone and pre-cast panel.
- External drainage works and water main pipe laying.
- Preparation works for installation of holding down bolts to the 40m high mast footing in progress.
- 25m high mast installation.
- Manhole construction.
- Excavation works.
- Tree transplanting.
- External drainage works.
- U channel construction at Main Competition arenas.
- E&M/ABWF works to LV Switch Room for Overlay and Broadcast.
- CLP Cable laying works.
- External water main works.

3 Summary of EM&A Requirements

Noise monitoring shall be conducted by the ET at specified monitoring locations during the construction stage. Landscape and visual audits and environmental site audits shall also carried out. The monitoring schedule for the month of March 2007 and the tentative schedule for April 2007 are attached in **Appendix B**.

3.1 Construction Noise

3.1.1 Monitoring Parameters

Construction noise is measured in terms of A-weighted equivalent continuous sound pressure level (L_{eq}). L_{10} and L_{90} were also recorded as supplementary reference information for data auditing.

3.1.2 Monitoring Frequency

Noise monitoring was performed on a weekly basis in accordance with the EM&A Manual. The monitoring time periods, parameters and frequency are summarised in Table 3-1.

Table 3-1: Construction noise monitoring parameters and frequency

Time Period (when construction activity is found)	Parameters	Monitoring Frequency	No. of Measurements for Each Monitoring
Between 0700-1900 hours on normal weekdays	$L_{eq(30\ min)}$	Once per week	1
Between 1900-2300 hours on normal weekdays	$L_{eq(5\ min)}$*		3 (consecutive)
Between 2300-0700 hours of next day			
Between 0700-1900 hours on holidays			

*The $L_{eq(5\ min)}$ will only be measured if construction activities are conducted during holidays and between the period of 1900 and 0700 hours during normal weekdays.

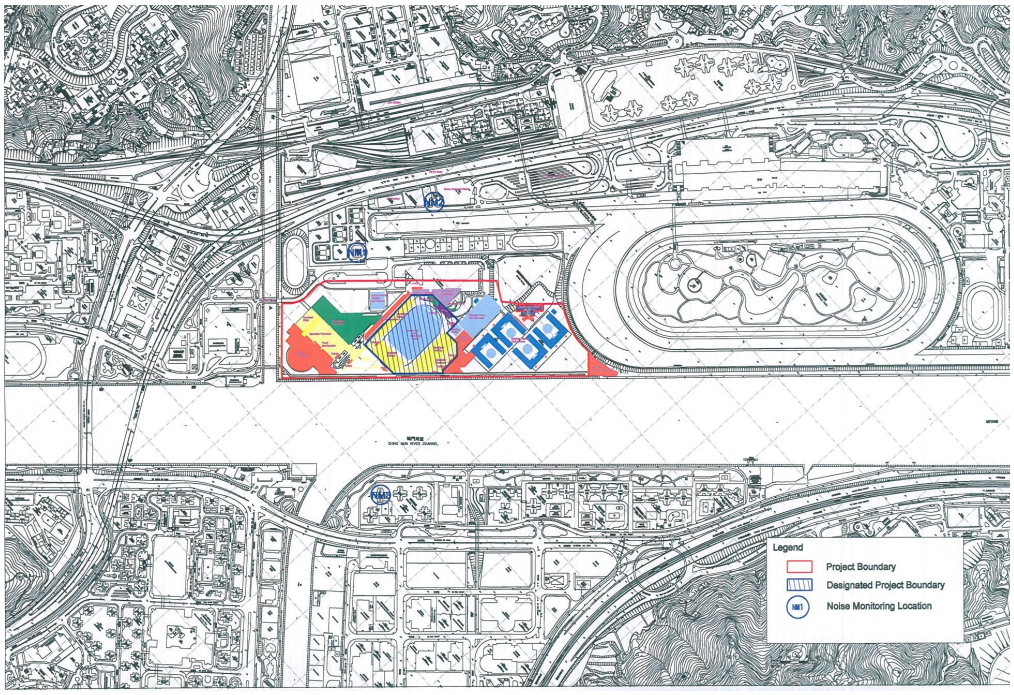
3.1.3 Monitoring Locations

A total of three locations were specified for the noise monitoring as shown in Table 3-2 and Figure 3-1. Measurements were conducted at a position 1.2m above ground and kept away from reflective surface.

Table 3-2: Construction noise monitoring locations

Monitoring Station ID	Location	Monitoring Point
NM1	Chung Cheung Court, HKJC Staff Quarters	On the roof, 1 meter from façade, facing the main works area
NM2	Racecourse Villa	On the roof, 1meter from façade, facing the main works area
NM3	Ravana Garden	On the podium outside Block 1, 1 meter from façade, facing the main works area.

Figure 3-1: Noise Monitoring Location



3.2 Landscape and Visual

3.2.1 Audit Parameters

All landscape and visual mitigation measures implemented by both the Contractor Team (CT) and the Landscape Contractor during the construction phase and the first year of the operational phase shall be audited by a landscape auditor, to ensure compliance with the aims of the mitigation measures.

3.2.2 Audit Frequency

The landscape and visual monitoring and audit shall be undertaken once every two weeks throughout the construction, operation and reinstatement phases.

3.2.3 Audit Location

The landscape and visual monitoring and audit shall be conducted throughout the entire site area.

3.3 Performance Limits and Event-Action Plans

The monitoring results will be checked against appropriate standards and requirements. A two-tier system performance limits have been established in the Project specific EM&A

Manual. The "Action Level" and the "Limit Level" (A/L) are established according to the EPD requirements. The ET, ER, IEC, and CT will take corresponding action in accordance with the Event-Action Plans if the monitoring results exceed the performance limits.

3.3.1 Construction Noise

The A/L Levels for construction noise have been established in accordance with TM-EIAO as summarised in Table 3-3.

Table 3-3: Action and Limit Levels for construction noise

Time Period	Action Level	Limit Level
0700 – 1900 hours on any day not being a Sunday or public holiday	When one documented complaint is received	75 dB(A)

The action required to be taken by different parties in the case of occurrence of exceedance of A/L Levels are summarised in the Event and Action Plan in Table 3-4.

Table 3-4: Event and Action Plan for construction noise exceedance

Event	Action			
	ET Leader	IEC	ER	Contractor
Action Level	1. Notify IEC, ER and the Contractor within 24 hours of identification of the exceedance. 2. Carry out investigation. 3. Report the results of investigation to IEC, ER and the Contractor. 4. Discuss with the Contractor and formulate remedial measures. 5. Increase monitoring frequency to check mitigation measures.	1. Review with analysed results submitted by ET. 2. Review the proposed remedial measures by the Contractor and advise ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to ER and IEC. 2. Implement noise mitigation proposals.
Limit Level	1. Identify the source. 2. Notify IEC, ER, EPD and the Contractor within 24 hours of identification of the exceedance. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Inform IEC, ER, and EPD the causes & actions taken for the exceedances. 7. Assess effectiveness of the Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 8. If exceedance stops, cease additional monitoring 9. Report the results of investigation to the IEC, EPD and ER.	1. Discuss amongst ER, ET Leader and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work 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. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.

3.4 Site Inspection and Environmental Complaint Handling

3.4.1 Site Inspection Frequency and Areas Covered

Regular site inspections will be carried out on a weekly basis. The areas of inspection cover the different environmental impacts, such as air quality, noise, water quality and waste, and their pollution controls and mitigation measures for both within and outside the site area. Site inspection for landscape and visual impact shall be carried out on a bi-weekly basis.

Ad hoc site inspection will be carried out if significant environmental non-compliance is identified. Inspections may also be carried out subsequent to receipt of any environmental complaints, or as part of the investigation work, as specified in the Event and Action Plans.

3.4.2 Site Inspection Procedures

(a) The CT and/or ER will advise the Environmental Auditor (EA) of ET for all information on any environmental related aspects.

(b) The EA will discuss with the CT and/or ER to forecast any potential environmental impact.

(c) The EA will conduct a site walk with the CT and/or ER, particularly the areas with extensive construction works.

(d) The EA will conduct inspection for the main environmental facilities and measures such as wheel washing facilities located at site exits, water spraying truck, temporary noise barrier, and internal noise-reducing measures of heavy equipment etc, to ensure that these environmental facilities operate normally and effectively.

(e) The EA will fill up a site inspection checklist during the site inspection for recording any special observations.

(f) The EA will conduct post-discussion with the CT and/or ER for the establishment of additional/special measures if any non-conformance is found. The completion date for such additional measures will be confirmed during the post-discussion.

(g) The EA will propose a reasonable timeframe together with the CT and/or ER, for preparation of the proposal for remediation of environmental non-compliance.

(h) The completed site inspection checklist will be signed by the EA, the CT and/or ER, for reference and for taking action in accordance with the agreed procedures, reporting systems and time frame.

3.4.3 Environmental Complaints

In accordance with the EM&A Manual, environmental complaints will be referred to the ET for initiation of the complaint investigation procedures. The ET will undertake the following procedures upon receipt of complaints:

a) The ET will record the details of the complaint and the date of receipt into the complaint database, and inform ER immediately.

b) The ET will perform complaint investigation to determine its validity and to assess whether the source of the problem is due to work activities.

c) The ER will instruct the CT to identify mitigation measures in consultation with the ET, if the complaint is valid and due to works.

d) The ET will liaise with the CT on their mitigation measure proposals and implementation, if required.

e) The ET will conduct review of the CT's response on the identified mitigation measures, and of the updated situation.

f) The ET will submit interim report to EPD if the complaint is received via EPD. The interim report will clearly state the status of the complaint investigation and the follow-up action within the time frame assigned by EPD.

g) The ET will undertake additional monitoring and audit to verify the situation if necessary, and ensure that any valid reason for complaint does not recur.

h) The ET will report on the investigation results and the subsequent actions to the source of complaint for responding to the complainant. If the source of complaint is via EPD, the results will be reported within the time frame assigned by EPD.

i) The ET will record the details of the complaint, investigation, subsequent actions and results in the monthly EM&A report.

During the complaint investigation work undertaken by the ET, CT and ER should cooperate with the ET on providing all the necessary information and assistance for completion of the investigation. If mitigation measures are identified as necessary after the investigation, the CT should promptly carry out the required mitigation to the satisfaction of ET. The ER should ensure that the CT has carried out such identified measures.

A flow chart of the complaint response procedures is shown in Figure 3-2 for reference.

3.5 Environmental Mitigation Measures

Environmental mitigation measures as recommended in the EIA report were stipulated in the EM&A Manual for the Contractor to adopt. A list of mitigation measures and their implementation status are given in **Appendix C**.

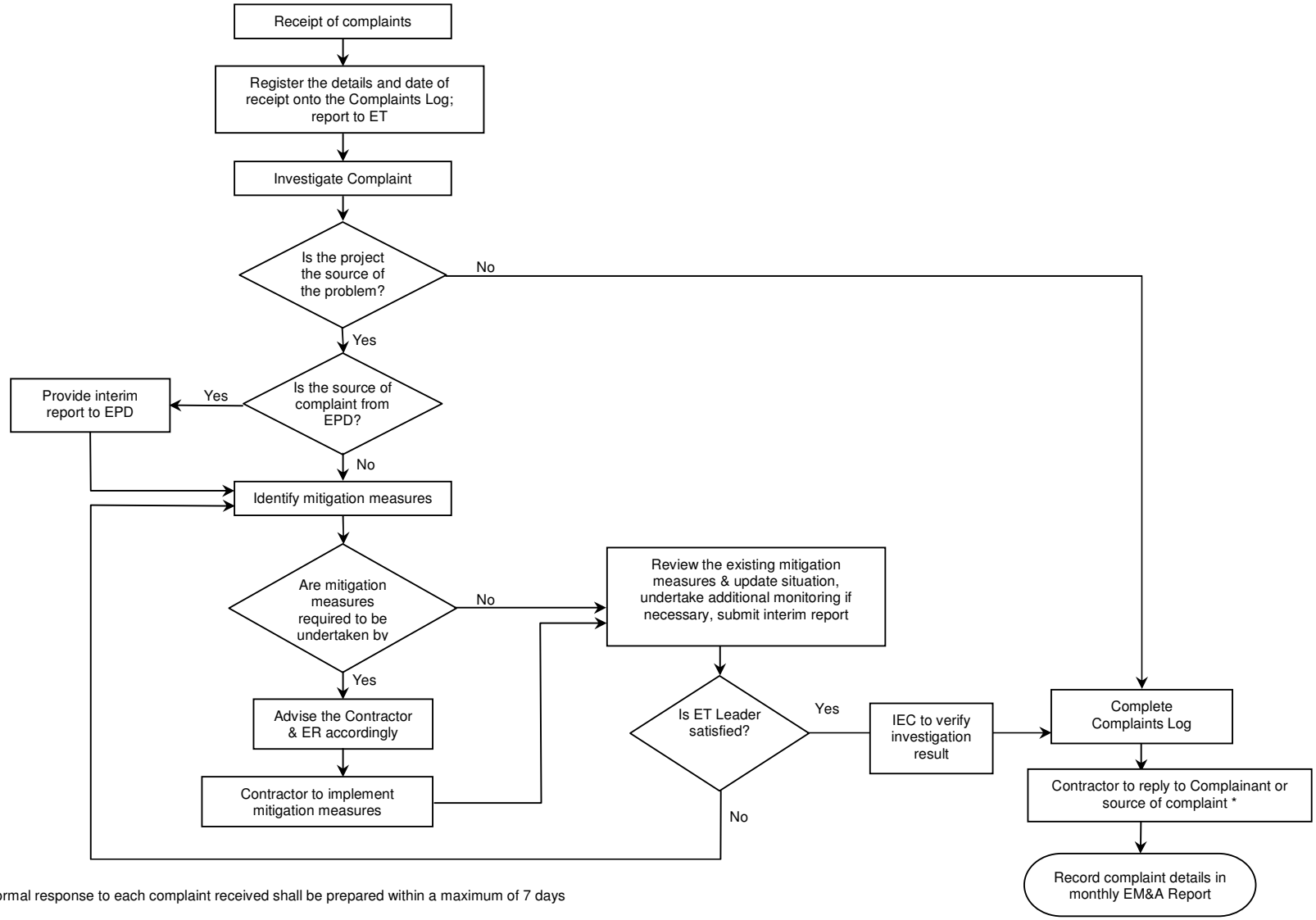


Figure 3-2: Flow chart of complaint response procedures

4 Noise Monitoring

4.1 Monitoring Equipment

Details of the integrating sound level meters used in the noise monitoring are shown in Table 5-1.

Table 5-1: Equipment list for construction noise monitoring

Equipment	Manufacturer & Model No.	Precision Grade	Qty.
Integrating sound level meter	Brüel & Kjær 2238	IEC 651 Type 1	3
Windshield	Brüel & Kjær UA0237	IEC 804 Type 1	3
Acoustical calibrator	Brüel & Kjær 4230	IEC 942 Type 1	1
LCD wind speed indicator	Kestrel Vane Anemometer	--	1

4.2 Methodology

4.2.1 Field Measurement

- The sound level meter and battery were checked to ensure that they were in proper condition.
- The sound level meter was set on a tripod at 1.2m above ground and at 1m from the exterior of the building façade.
- Before conducting the measurement, the sound level meter was calibrated by an acoustical calibrator.
- The measurement parameter was set to A-weighted sound pressure level. The time weighting was set in fast response and the time period of measurement at 30 minutes.
- The wind speed was checked during noise monitoring to ensure the steady wind speed did not exceed 5m/s, or wind with gusts did not exceed 10m/s.
- Any abnormal conditions that generated intrusive noise during the measurement were recorded on the field record sheet.
- After each measurement, the equivalent continuous sound pressure level (Leq), L10 and L90 were recorded on the field record sheet.
- The sound level meter was re-calibrated by the acoustical calibrator to confirm that there was no significant drift of reading.

4.2.2 Equipment Maintenance and Calibration

All sound level meters comply with the standards of IEC 651 (Fast, Slow, Impulse RMS detector tests) and IEC 804 (L_{eq} functions). The calibration certificates of the noise monitoring equipment are attached in **Appendix D**.

4.3 Results and Observations

4.3.1 Weather Conditions and Other Factors

No adverse weather conditions, in particular adverse wind speed & wind direction and fog & rain that may significantly affect or invalidate the collected noise monitoring data, were recorded during the reporting period.

Neither unusual operation of the construction site nor abnormal noise source was observed during the reporting period.

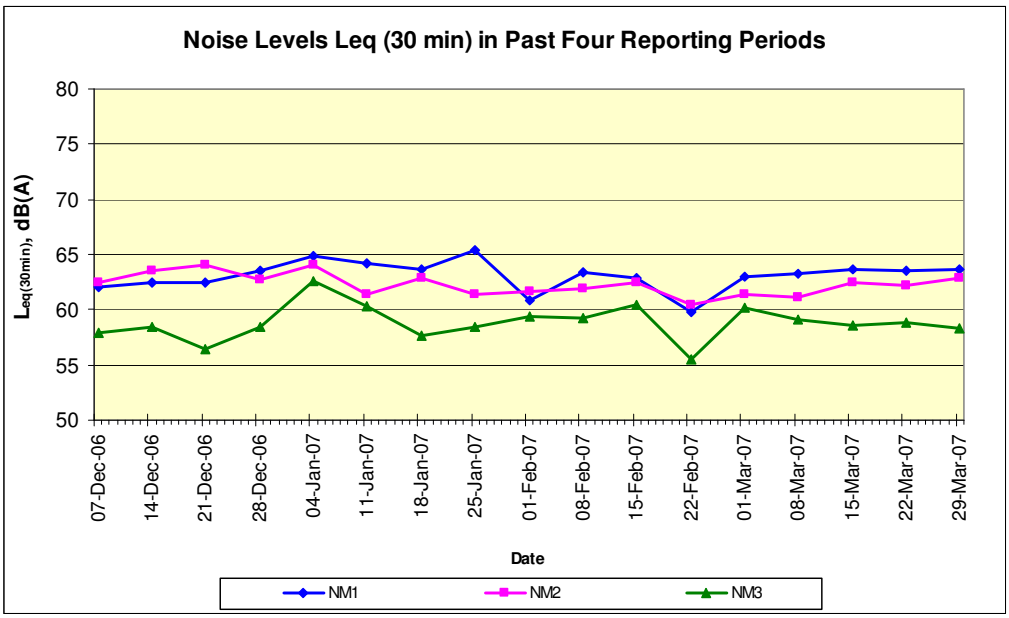
4.3.2 Summary of Results

A total of 5 sets of daytime (0700 – 1900 hours) noise monitoring was conducted on 1, 8, 15, 22 and 29 March 2007.

The highest noise level of 63.7 dB(A) was recorded at the roof of Chun Cheung Court, HKJC Staff Quarters (NM1) on 15 and 29 March 2007 respectively while the lowest noise level of 58.3 dB(A) was recorded at the podium outside Block 1 of Ravana Garden (NM3) on 29 March 2007. There was no exceedance of noise A/L Levels recorded during the reporting period.

Detailed construction noise monitoring results are attached in **Appendix E** and graphical presentation of the noise levels at each monitoring location is illustrated in Figure 5-1.

Figure 5-1: Graphical presentation of day-time noise levels



5 Landscape and Visual Monitoring and Audit

5.1 Summary of Inspection

Landscape and visual monitoring and site audits were carried on 7 and 21 March 2007. Stables are being constructed. Transplanted trees are generally in fair condition. The Contractor shall remove all material from tree protection zone and install proper tree protection fencing. The audit findings and recommendations are recorded in a detailed report in **Appendix F**.

5.2 Audit Schedule

Upcoming audits are scheduled on 11 and 25 April 2007.

6 Site Inspection, Waste Disposal, Environmental Complaints, Environmental Licenses and Non-compliance Records

6.1 Site Audit Findings

Four weekly environmental site audits were carried out in March 2007. The findings of the site audits are summarised in Table 6-1.

Table 6-1: Findings of weekly environmental site audit in March 2007

Date of Issue Raised	Observation	Advice from EA	CT's Response / Environmental Outcomes	Closing Date
5 Mar 2007	1. General refuse was found accumulated on the site.	Contractor was reminded to clear the waste regularly.	Agreed with the ET's advice.	5 Mar 2007
12 Mar 2007	1. Stagnant water was found inside the pit near racing track. 2. General refuse was found accumulated outside the rubbish bin. 3. Muddy dirt was accumulated outside manholes near the site exit parking area. 4. Muddy trails were found near wheel washing facilities.	Contractor was reminded to remove stagnant water as soon as possible. Contractor was reminded to clear the waste regularly. Contractor was reminded to clear the dirt. Contractor was reminded to keep good maintenance of the wheel washing facilities.	Agreed with the ET's advice.	12 Mar 2007
19 Mar 2007	1. Tyres of vehicles were still muddy after leaving wheel washing facilities. 2. Construction waste was found accumulated near Stable 1.	Contractor was reminded to keep good maintenance of the wheel washing facilities. Contractor was reminded to remove the construction waste regularly.	Agreed with the ET's advice.	19 Mar 2007
26 Mar 2007	1. Construction waste was found near the Stables.	Contractor was reminded to remove the waste regularly.	Agreed with the ET's advice.	26 Mar 2007

6.2 Waste Disposal

Disposal of waste material during the reporting period generally complied with the corresponding waste disposal requirements. The waste disposal quantity during the reporting period is summarised in Table 6-2.

Table 6-2: Waste disposal quantity in March 2007

Type of waste or material		Disposal at	No. of loads or quantities
C&D waste		SENT Landfill	6.44 tonnes
C&D material		Public Filling Area in TKO 137	0.79 tonnes
Chemical waste	Spent lube oil	Collected by licensed collector	0 L

6.3 Complaint Record

No environmental complaint was received during the reporting month.

A log record on the environmental complaints is given in **Appendix G** and a cumulative statistics on environmental complaints is given in Table 6-3.

Table 6-3 : Cumulative statistics on environmental complaints

No. of complaints received in the reporting month	No. of outstanding complaints	Cumulative no. of complaints received since the commencement of project
0	0	4

6.4 Exceedance

There was no exceedance of environmental monitoring data for A/L Levels during the reporting period.

6.5 Notification of Summons and Successful Prosecution

No notification of summon and prosecution was received during the reporting month.

6.6 Environmental Licenses

One new CNP was granted in the reporting period. A summary of the valid environmental licenses is given in Table 6-4.

Table 6-4: Summary of valid environmental licenses

Type of Licence	Reference No.	Valid from	Valid to	Remarks
Environmental Permit	EP-236/2006	25 March 2006	--	-
Construction Noise Permit	GW-RN0497-06	6 October 2006	5 April 2007	Bar fixing and formworking
Construction Noise Permit	GW-RN0014-07	26 January 2007	25 July 2007	Excavation works
Construction Noise Permit	GW-RN0033-07	2 February 2007	8 May 2007	Pipe laying
Construction Noise Permit	GW-RN0067-07	1 March 2007	31 August 2007	Road paving
Construction Noise Permit	GW-RN0088-07	6 March 2007	5 September 2007	Cable laying
Registration of Waste Producer	WPN: 5213-753-C3317-11	1 Nov 2006	--	-
Site Effluent Discharge Licence	Licence No: 3448	1 Nov 2006	30 Nov 2011	-

7 Future Key Issue

7.1 Forecast of Works Programme

Based on the 3-month rolling programme as shown in **Appendix A**, key construction activities to be carried out in the coming three months will include:

- Internal RC wall and block works partitions.
- E&M cast in conduits and building services installation.
- Roof cladding installation.

- Internal ABWF at Transformer Room in Veterinary Stables.
- External finishes installation such as granite stone and pre-cast panel.
- External drainage works and water main pipe laying.
- High mast installation.
- Manhole construction.
- Excavation works
- Tree transplanting.
- External drainage works.
- U channel construction at Main Competition arenas.
- E&M/ABWF works to LV Switch Room for Overlay and Broadcast.
- CLP Cable laying works.
- External water main works.

7.2 Key Issues for Coming Month

Based on the construction programme as shown in **Appendix A**, the following key issues are anticipated in the coming month:

- Site drainage management;
- Wastewater/runoff and effluent discharge management;
- Dust generation from land-based activities, such as breaking, excavation and stockpiling of dusty material;
- Noise from construction activities and mobilisation of plant and equipment;
- Tree transplant and protection; and
- General housekeeping and waste management.

8 Comments, Recommendations and Conclusion

8.1 Comments and Recommendations

According to the environmental site inspections performed during the reporting period, the following recommendations were provided:

- Water Quality
  - Stagnant water should be cleared regularly.
- Air Quality
  - Wheel washing facilities should be maintained properly.
- Construction Noise
  - Nil.
- Waste / Chemical Management
  - General refuse on the site should be cleared regularly.
- Landscape & Visual
  - The Contractor shall remove all material from tree protection zone and install proper tree protection fencing.

8.2 Conclusion

Construction phase impact monitoring and audit were conducted in the reporting month. Monitoring and audit programme included construction noise monitoring, landscape and visual monitoring and audit, and weekly site inspection.

Daytime noise levels were monitored at 3 monitoring locations during the reporting month. No exceedance of Limit Level was recorded.

Weekly site inspections were conducted in the reporting month. Remedial measures were advised for those deficiencies observed for the Contractor to follow up.

One new Construction Noise Permit was obtained in the reporting month.

No environmental complaint was received during the reporting period.

There was neither notification of summons nor prosecution received during the reporting period.

9 References

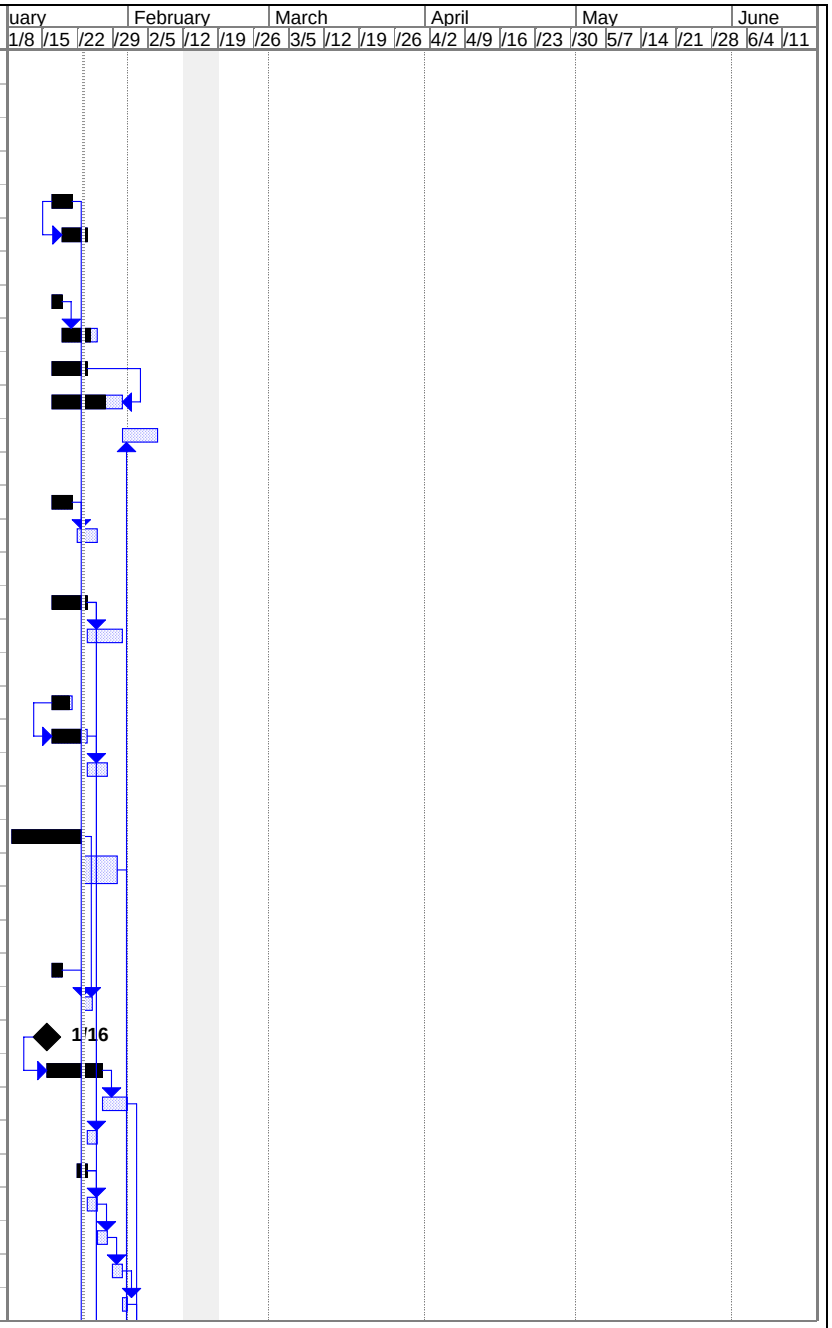
[1] Ove Arup & Partners Hong Kong Ltd. June 2006. Main Arena of the 2008 Olympic Equestrian Event – Environmental Monitoring & Audit Manual

[2] Ove Arup & Partners Hong Kong Ltd. July 2006. Main Arena of the 2008 Olympic Equestrian Event – Environmental Baseline Monitoring Report

Appendix A

Construction Programme

ID	Task Name	Duration	Early Start	Early Finish
1	**Portion HKSI-1**	**57 days**	**Jan 9 '07**	**Mar 22 '07**
2	**Works in Veterinary Stable**	**57 days**	**Jan 9 '07**	**Mar 22 '07**
3	**Building Envelope / External Finishes**	**25 days**	**Jan 9 '07**	**Feb 6 '07**
4	**Structural Steel Installation**	**6 days**	**Jan 17 '07**	**Jan 23 '07**
5	1/F area structural steel installation	4 days	Jan 17 '07	Jan 20 '07
6	Office and General examination area	4 days	Jan 19 '07	Jan 23 '07
7	**Roof Cladding and Gutter Installation**	**18 days**	**Jan 17 '07**	**Feb 6 '07**
8	Plant Rooms area - upper roof	2 days	Jan 17 '07	Jan 18 '07
9	Plant Rooms area - lower roof + gutter	6 days	Jan 19 '07	Jan 25 '07
10	Horse stalls area - upper roof	6 days	Jan 17 '07	Jan 23 '07
11	Horse stalls area - lower roof	12 days	Jan 17 '07	Jan 30 '07
12	1/F AC Plant Room	6 days	Jan 31 '07	Feb 6 '07
13	**Granite Stone Installation**	**8 days**	**Jan 17 '07**	**Jan 25 '07**
14	1/F Plant Rooms area external	4 days	Jan 17 '07	Jan 20 '07
15	Tx room external	4 days	Jan 22 '07	Jan 25 '07
16	**Stainless Steel Louver**	**12 days**	**Jan 17 '07**	**Jan 30 '07**
17	Plant Rooms area	6 days	Jan 17 '07	Jan 23 '07
18	Horse stalls area	6 days	Jan 24 '07	Jan 30 '07
19	**Precast Panel Installation**	**10 days**	**Jan 17 '07**	**Jan 27 '07**
20	Plant rooms areas	4 days	Jan 17 '07	Jan 20 '07
21	Horse stalls area	6 days	Jan 17 '07	Jan 23 '07
22	Office and general examination area	4 days	Jan 24 '07	Jan 27 '07
23	**Metal Louvers**	**18 days**	**Jan 9 '07**	**Jan 29 '07**
24	Remedial works at Tx Room	12 days	Jan 9 '07	Jan 22 '07
25	Remedial works at Gen Set Room	6 days	Jan 23 '07	Jan 29 '07
26	**Internal ABWF and E&M Installation**	**56 days**	**Jan 10 '07**	**Mar 22 '07**
27	**Transformer Room**	**14 days**	**Jan 16 '07**	**Jan 31 '07**
28	Wall tiles (RC Wall)	2 days	Jan 17 '07	Jan 18 '07
29	Promat board to metal louver/metal door	2 days	Jan 23 '07	Jan 24 '07
30	E&M Access to COMEEL	11 days	Jan 16 '07	Jan 27 '07
31	E&M Installation	10 days	Jan 16 '07	Jan 26 '07
32	E&M Final Fix + T&C	4 days	Jan 27 '07	Jan 31 '07
33	Promat board blank off to stainless steel louver	2 days	Jan 24 '07	Jan 25 '07
34	Structural steel bracing	2 days	Jan 22 '07	Jan 23 '07
35	Promat board ceiling installation	2 days	Jan 24 '07	Jan 25 '07
36	Painting works (ceiling)	2 days	Jan 26 '07	Jan 27 '07
37	Epoxy floor painting	2 days	Jan 29 '07	Jan 30 '07
38	Cable trench cover installation	1 day	Jan 31 '07	Jan 31 '07

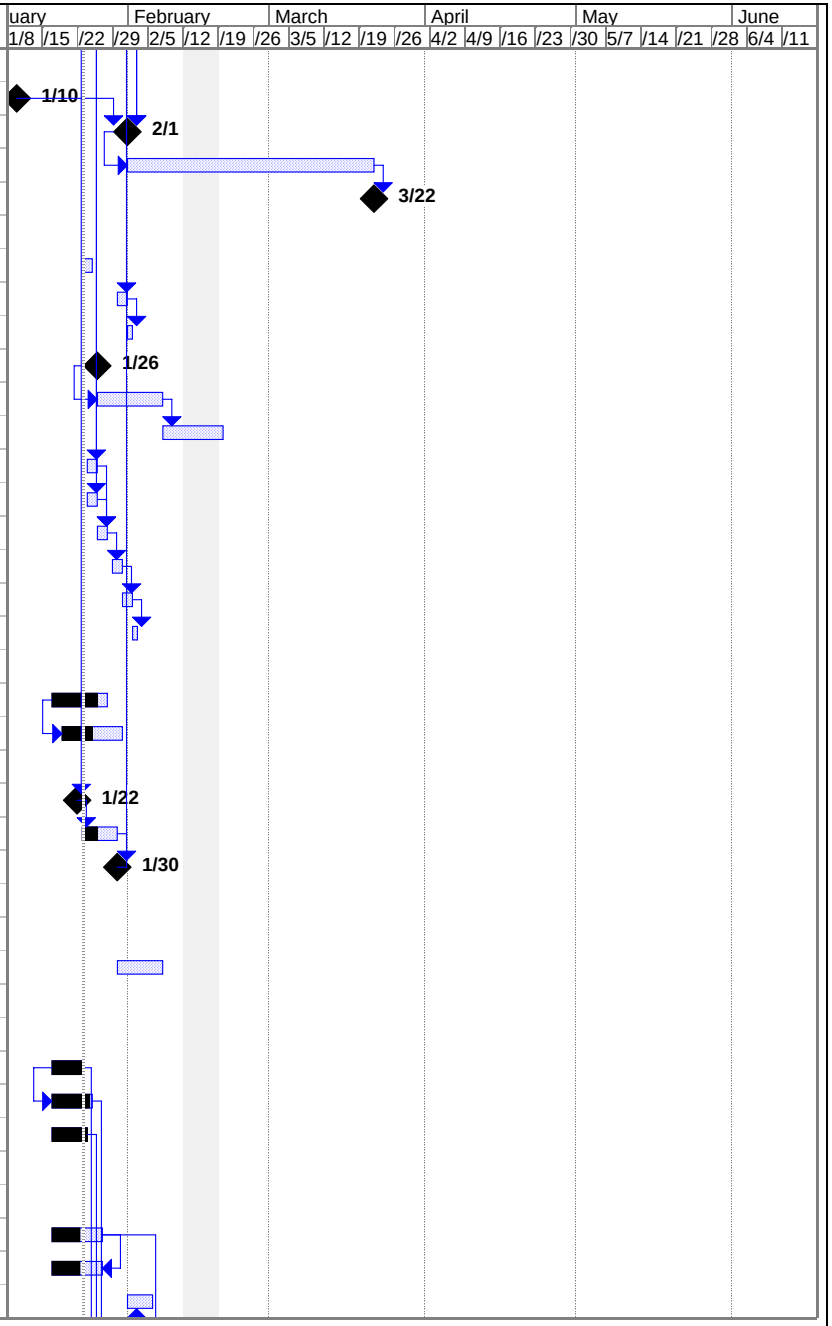


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
39	**CLP Installation at Transformer Room**	**56 days**	**Jan 10 '07**	**Mar 22 '07**
40	Pre inspection	1 day	Jan 10 '07	Jan 10 '07
41	Handover Inspection	1 day	Feb 1 '07	Feb 1 '07
42	CLP Installation	36 days	Feb 1 '07	Mar 21 '07
43	Power On	1 day	Mar 22 '07	Mar 22 '07
44	**New Switch Room/FS Tank/ Fuel Tank room**	**18 days**	**Jan 23 '07**	**Feb 19 '07**
45	Wall tiles (RC Wall)	2 days	Jan 23 '07	Jan 24 '07
46	Promat board to metal louver/metal door	2 days	Jan 30 '07	Jan 31 '07
47	Painting to wall	1 day	Feb 1 '07	Feb 1 '07
48	E&M Access to COMEEL	1 day	Jan 26 '07	Jan 26 '07
49	E&M Installation	11 days	Jan 26 '07	Feb 7 '07
50	E&M Final Fix + T&C	4 days	Feb 8 '07	Feb 19 '07
51	Promat board blank off to stainless steel louver	2 days	Jan 24 '07	Jan 25 '07
52	Structural steel bracing at roof	2 days	Jan 24 '07	Jan 25 '07
53	Promat board ceiling installation	2 days	Jan 26 '07	Jan 27 '07
54	Painting works (ceiling)	2 days	Jan 29 '07	Jan 30 '07
55	Epoxy floor painting	2 days	Jan 31 '07	Feb 1 '07
56	Cable trench cover installation	1 day	Feb 2 '07	Feb 2 '07
57	**Feed Tack, Wash Bay, Changing Rm, Lavatory Areas**	**12 days**	**Jan 17 '07**	**Jan 30 '07**
58	Internal block works	10 days	Jan 17 '07	Jan 27 '07
59	Plastering	10 days	Jan 19 '07	Jan 30 '07
60	**1/F AC Plant Room**	**8 days**	**Jan 22 '07**	**Jan 30 '07**
61	Structural steel installation complete	1 day	Jan 22 '07	Jan 22 '07
62	RC Wall and slab	6 days	Jan 23 '07	Jan 29 '07
63	AHU installation	1 day	Jan 30 '07	Jan 30 '07
64	**Works in Main Stable No.1**	**33 days**	**Jan 17 '07**	**Mar 2 '07**
65	**RC Works**	**8 days**	**Jan 30 '07**	**Feb 7 '07**
66	Sand rolls wall construction	8 days	Jan 30 '07	Feb 7 '07
67	**Building Envelope / External Finishes**	**33 days**	**Jan 17 '07**	**Mar 2 '07**
68	**Structural Steel Installation**	**7 days**	**Jan 17 '07**	**Jan 24 '07**
69	Wing 1 - 1/F AC Plant Room	5 days	Jan 17 '07	Jan 22 '07
70	Wing 2 - 1/F AC Plant Room	7 days	Jan 17 '07	Jan 24 '07
71	Center Wing (Office area)	6 days	Jan 17 '07	Jan 23 '07
72	**Roof Cladding and Gutter Installation**	**19 days**	**Jan 17 '07**	**Feb 7 '07**
73	**Wing 1 (Horse Stalls) and 1/F Plant Rooms**	**17 days**	**Jan 17 '07**	**Feb 5 '07**
74	Horse stall area - upper roof	9 days	Jan 17 '07	Jan 26 '07
75	Horse stall area - lower roof	9 days	Jan 17 '07	Jan 26 '07
76	1/F AC Plant Room	4 days	Feb 1 '07	Feb 5 '07

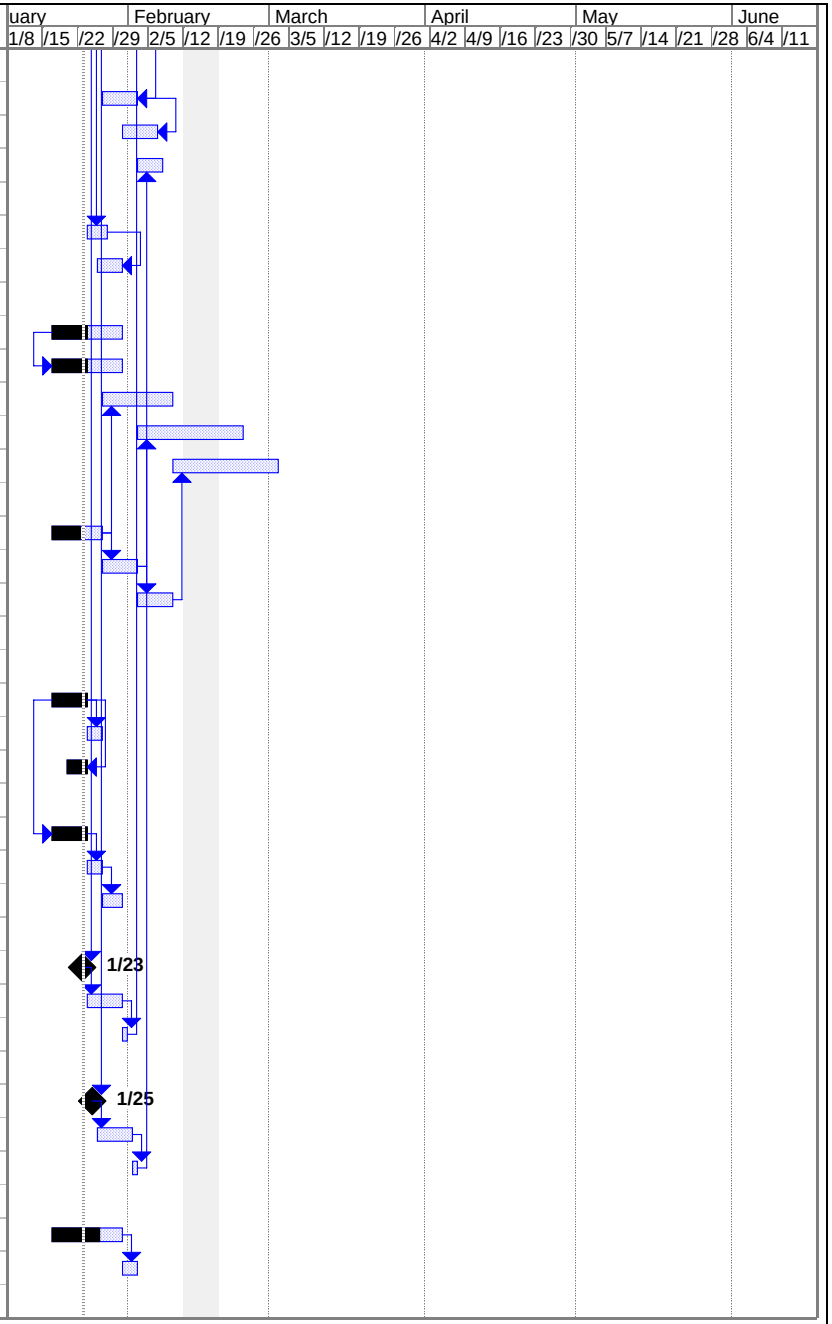


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
77	**Wing 2 (Horse Stalls) and 1/F Plant Rooms**	**10 days**	**Jan 27 '07**	**Feb 7 '07**
78	Horse stall area - upper roof	6 days	Jan 27 '07	Feb 2 '07
79	Horse stall area - lower roof	6 days	Jan 31 '07	Feb 6 '07
80	1/F AC Plant Room	4 days	Feb 3 '07	Feb 7 '07
81	**Center Wing (Office Area)**	**6 days**	**Jan 24 '07**	**Jan 30 '07**
82	Horse stall area - upper roof	4 days	Jan 24 '07	Jan 27 '07
83	Horse stall area - lower roof	4 days	Jan 26 '07	Jan 30 '07
84	**Granite Stone Installation**	**33 days**	**Jan 17 '07**	**Mar 2 '07**
85	Wing 1 - Grid 1-4 Corner	12 days	Jan 17 '07	Jan 30 '07
86	Wing 2 - Grid 13-16 Corner	12 days	Jan 17 '07	Jan 30 '07
87	Wing 1 - Horse stall areas	12 days	Jan 27 '07	Feb 9 '07
88	Wing 2 - Horse stall areas	12 days	Feb 3 '07	Feb 23 '07
89	Office areas	12 days	Feb 10 '07	Mar 2 '07
90	**Precast Panel Installation**	**21 days**	**Jan 17 '07**	**Feb 9 '07**
91	Wing 1 - Horse stall areas	9 days	Jan 17 '07	Jan 26 '07
92	Wing 2 - Horse stall areas	6 days	Jan 27 '07	Feb 2 '07
93	Office areas	6 days	Feb 3 '07	Feb 9 '07
94	**Internal ABWF and E&M Installation**	**15 days**	**Jan 17 '07**	**Feb 2 '07**
95	**Wing 1 (Horse Stall) Grid 1-4**	**9 days**	**Jan 17 '07**	**Jan 26 '07**
96	Horse stall - internal partions/blockworks	6 days	Jan 17 '07	Jan 23 '07
97	Wall Plastering	3 days	Jan 24 '07	Jan 26 '07
98	Roller shutter installation	3 days	Jan 20 '07	Jan 23 '07
99	**Wing 2 (Horse Stall), Grid 13-16**	**12 days**	**Jan 17 '07**	**Jan 30 '07**
100	Horse stall - internal partitions/block works	6 days	Jan 17 '07	Jan 23 '07
101	Wall plastering	3 days	Jan 24 '07	Jan 26 '07
102	Roller shutter installation	3 days	Jan 27 '07	Jan 30 '07
103	**1/F AC Plant Room, Grid 1-4**	**8 days**	**Jan 23 '07**	**Jan 31 '07**
104	Structural steel installation complete	1 day	Jan 23 '07	Jan 23 '07
105	RC Wall and slab	6 days	Jan 24 '07	Jan 30 '07
106	AHU installation	1 day	Jan 31 '07	Jan 31 '07
107	**1/F AC Plant Room, Grid 13-16**	**8 days**	**Jan 25 '07**	**Feb 2 '07**
108	Structural steel installation complete	1 day	Jan 25 '07	Jan 25 '07
109	RC Wall and slab	6 days	Jan 26 '07	Feb 1 '07
110	AHU installation	1 day	Feb 2 '07	Feb 2 '07
111	**Center Wing - Office Areas**	**15 days**	**Jan 17 '07**	**Feb 2 '07**
112	Internal partions/blockworks	12 days	Jan 17 '07	Jan 30 '07
113	Wall Plastering	3 days	Jan 31 '07	Feb 2 '07
114	**Works in Main Stable No.2**	**26 days**	**Jan 17 '07**	**Feb 22 '07**

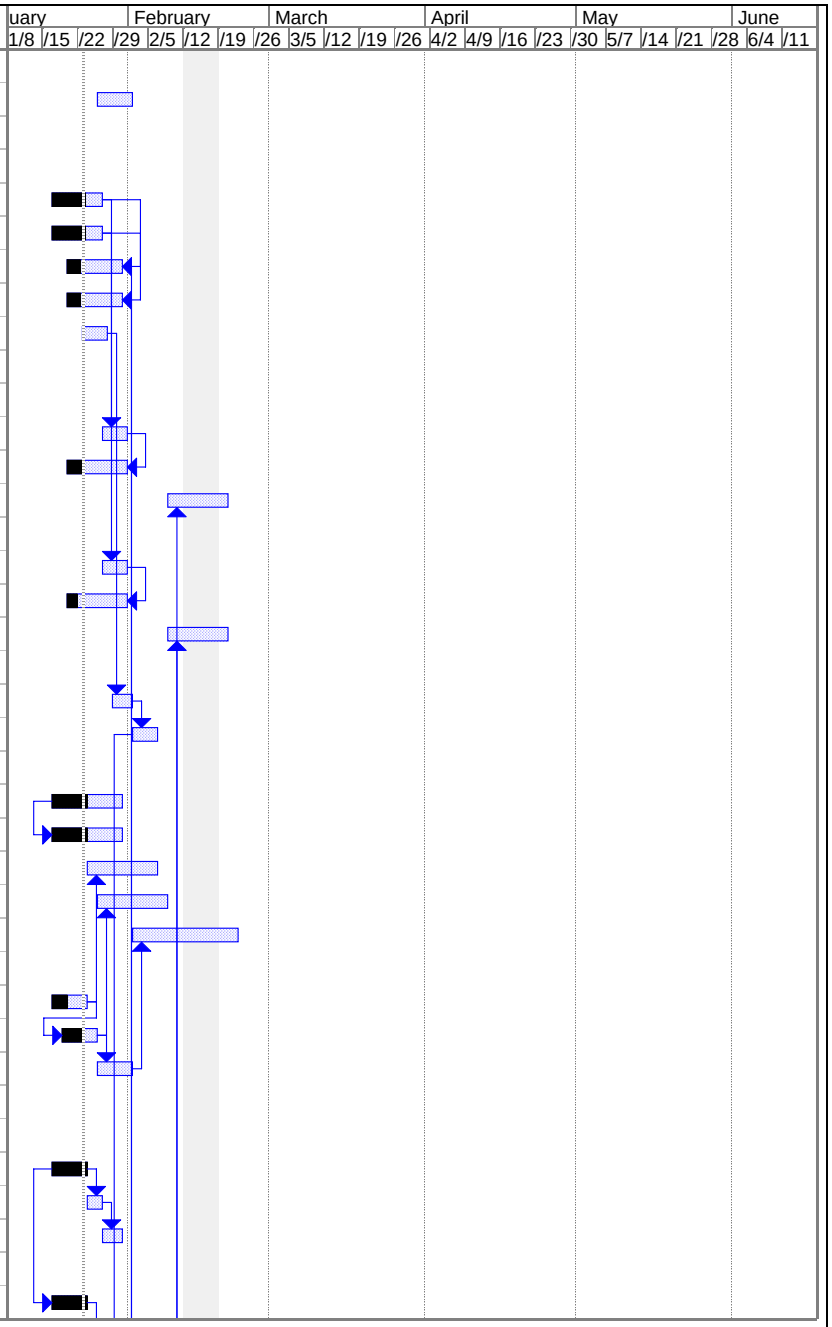


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
115	**RC Works**	**6 days**	**Jan 26 '07**	**Feb 1 '07**
116	Sand rolls wall construction	6 days	Jan 26 '07	Feb 1 '07
117	**Building Envelope / External Finishes**	**26 days**	**Jan 17 '07**	**Feb 22 '07**
118	**Structural Steel Installation**	**12 days**	**Jan 17 '07**	**Jan 30 '07**
119	Wing 1 - Horse stall areas	9 days	Jan 17 '07	Jan 26 '07
120	Wing 2 - Horse stalls areas	9 days	Jan 17 '07	Jan 26 '07
121	Wing 1 - 1/F AC Plant Room	9 days	Jan 20 '07	Jan 30 '07
122	Wing 2 - 1/F AC Plant Room	9 days	Jan 20 '07	Jan 30 '07
123	Center Wing (Office area)	5 days	Jan 23 '07	Jan 27 '07
124	**Roof Cladding and Gutter Installation**	**21 days**	**Jan 20 '07**	**Feb 20 '07**
125	**Wing 1 (Horse Stalls) and 1/F Plant Rooms**	**21 days**	**Jan 20 '07**	**Feb 20 '07**
126	Horse stall area - upper roof	4 days	Jan 27 '07	Jan 31 '07
127	Horse stall area - lower roof	10 days	Jan 20 '07	Jan 31 '07
128	1/F AC Plant Room	4 days	Feb 9 '07	Feb 20 '07
129	**Wing 2 (Horse Stalls) and 1/F Plant Rooms**	**21 days**	**Jan 20 '07**	**Feb 20 '07**
130	Horse stall area - upper roof	4 days	Jan 27 '07	Jan 31 '07
131	Horse stall area - lower roof	10 days	Jan 20 '07	Jan 31 '07
132	1/F AC Plant Room	4 days	Feb 9 '07	Feb 20 '07
133	**Center Wing (Office Area)**	**8 days**	**Jan 29 '07**	**Feb 6 '07**
134	Horse stall area - upper roof	4 days	Jan 29 '07	Feb 1 '07
135	Horse stall area - lower roof	4 days	Feb 2 '07	Feb 6 '07
136	**Granite Stone Installation**	**26 days**	**Jan 17 '07**	**Feb 22 '07**
137	Wing 1 - Grid 1-4 Corner	12 days	Jan 17 '07	Jan 30 '07
138	Wing 2 - Grid 13-16 Corner	12 days	Jan 17 '07	Jan 30 '07
139	Wing 1 - Horse stall areas	12 days	Jan 24 '07	Feb 6 '07
140	Wing 2 - Horse stall areas	12 days	Jan 26 '07	Feb 8 '07
141	Office areas	12 days	Feb 2 '07	Feb 22 '07
142	**Precast Panel Installation**	**14 days**	**Jan 17 '07**	**Feb 1 '07**
143	Wing 1 - Horse stall areas	6 days	Jan 17 '07	Jan 23 '07
144	Wing 2 - Horse stall areas	6 days	Jan 19 '07	Jan 25 '07
145	Office areas	6 days	Jan 26 '07	Feb 1 '07
146	**Internal ABWF and E&M Installation**	**23 days**	**Jan 17 '07**	**Feb 19 '07**
147	**Wing 1 (Horse Stall) Grid 1-4**	**12 days**	**Jan 17 '07**	**Jan 30 '07**
148	Horse stall - internal partions/blockworks	6 days	Jan 17 '07	Jan 23 '07
149	Wall Plastering	3 days	Jan 24 '07	Jan 26 '07
150	Roller shutter installation	3 days	Jan 27 '07	Jan 30 '07
151	**Wing 2 (Horse Stall), Grid 13-16**	**12 days**	**Jan 17 '07**	**Jan 30 '07**
152	Horse stall - internal partitions/block works	6 days	Jan 17 '07	Jan 23 '07

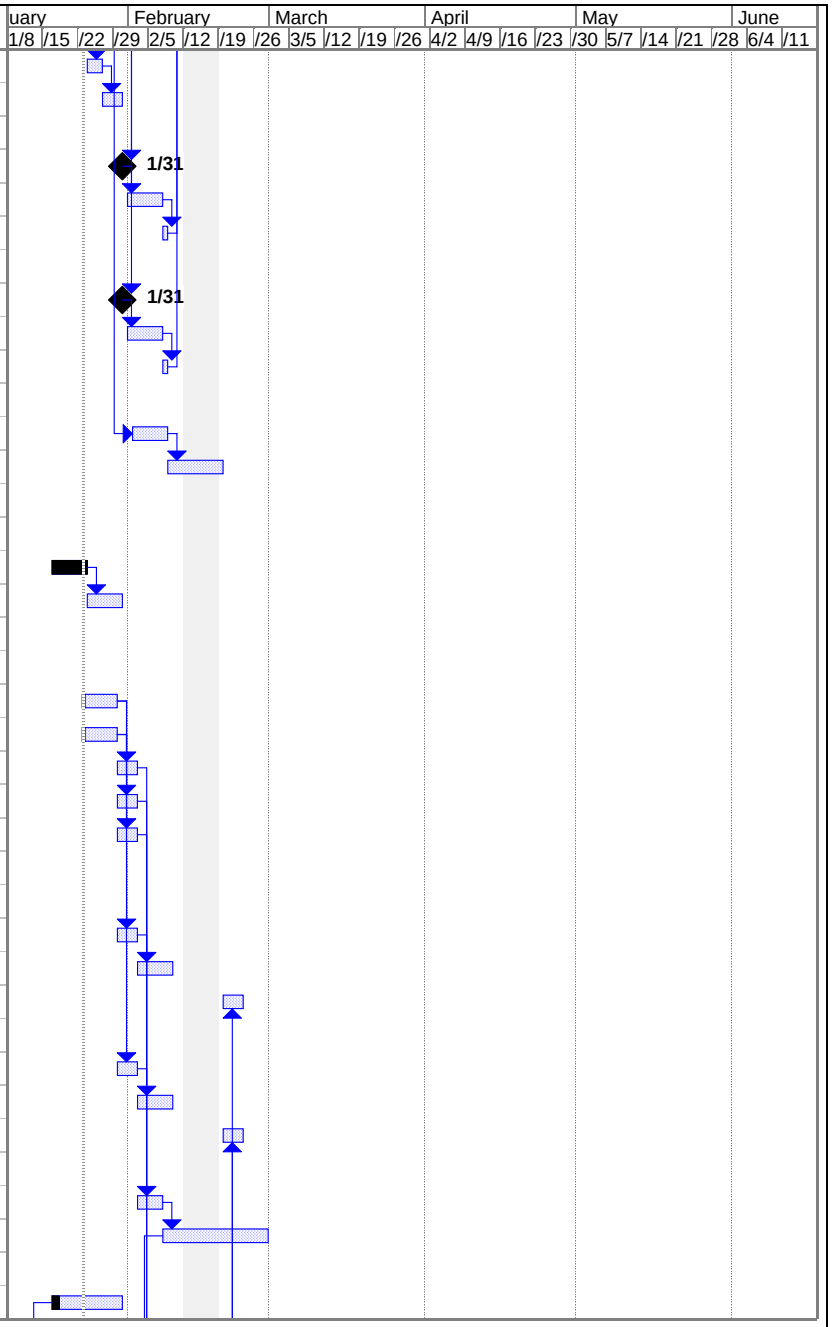


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
153	Wall plastering	3 days	Jan 24 '07	Jan 26 '07
154	Roller shutter installation	3 days	Jan 27 '07	Jan 30 '07
155	**1/F AC Plant Room, Grid 1-4**	**8 days**	**Jan 31 '07**	**Feb 8 '07**
156	Structural steel installation complete	1 day	Jan 31 '07	Jan 31 '07
157	RC Wall and slab	6 days	Feb 1 '07	Feb 7 '07
158	AHU installation	1 day	Feb 8 '07	Feb 8 '07
159	**1/F AC Plant Room, Grid 13-16**	**8 days**	**Jan 31 '07**	**Feb 8 '07**
160	Structural steel installation complete	1 day	Jan 31 '07	Jan 31 '07
161	RC Wall and slab	6 days	Feb 1 '07	Feb 7 '07
162	AHU installation	1 day	Feb 8 '07	Feb 8 '07
163	**Center Wing - Office Areas**	**9 days**	**Feb 2 '07**	**Feb 19 '07**
164	Internal partions/blockworks	6 days	Feb 2 '07	Feb 8 '07
165	Wall Plastering	3 days	Feb 9 '07	Feb 19 '07
166	**Works in Main Stable No.3**	**32 days**	**Jan 17 '07**	**Mar 1 '07**
167	**RC Works**	**12 days**	**Jan 17 '07**	**Jan 30 '07**
168	Remaining grade slab and sand rolls slab construction	6 days	Jan 17 '07	Jan 23 '07
169	Sand rolls wall construction	6 days	Jan 24 '07	Jan 30 '07
170	**Building Envelope / External Finishes**	**32 days**	**Jan 17 '07**	**Mar 1 '07**
171	**Structural Steel Installation**	**10 days**	**Jan 23 '07**	**Feb 2 '07**
172	Wing 1 - Horse stall areas	6 days	Jan 23 '07	Jan 29 '07
173	Wing 2 - Horse stalls areas	6 days	Jan 23 '07	Jan 29 '07
174	Wing 1 - 1/F AC Plant Room	4 days	Jan 30 '07	Feb 2 '07
175	Wing 2 - 1/F AC Plant Room	4 days	Jan 30 '07	Feb 2 '07
176	Center Wing (Office area)	4 days	Jan 30 '07	Feb 2 '07
177	**Roof Cladding and Gutter Installation**	**20 days**	**Jan 30 '07**	**Feb 28 '07**
178	**Wing 1 (Horse Stalls) and 1/F Plant Rooms**	**16 days**	**Jan 30 '07**	**Feb 23 '07**
179	Horse stall area - upper roof	4 days	Jan 30 '07	Feb 2 '07
180	Horse stall area - lower roof	6 days	Feb 3 '07	Feb 9 '07
181	1/F AC Plant Room	4 days	Feb 20 '07	Feb 23 '07
182	**Wing 2 (Horse Stalls) and 1/F Plant Rooms**	**16 days**	**Jan 30 '07**	**Feb 23 '07**
183	Horse stall area - upper roof	4 days	Jan 30 '07	Feb 2 '07
184	Horse stall area - lower roof	6 days	Feb 3 '07	Feb 9 '07
185	1/F AC Plant Room	4 days	Feb 20 '07	Feb 23 '07
186	**Center Wing (Office Area)**	**16 days**	**Feb 3 '07**	**Feb 28 '07**
187	Horse stall area - upper roof	4 days	Feb 3 '07	Feb 7 '07
188	Horse stall area - lower roof	12 days	Feb 8 '07	Feb 28 '07
189	**Granite Stone Installation**	**32 days**	**Jan 17 '07**	**Mar 1 '07**
190	Wing 1 - Grid 1-4 Corner	12 days	Jan 17 '07	Jan 30 '07

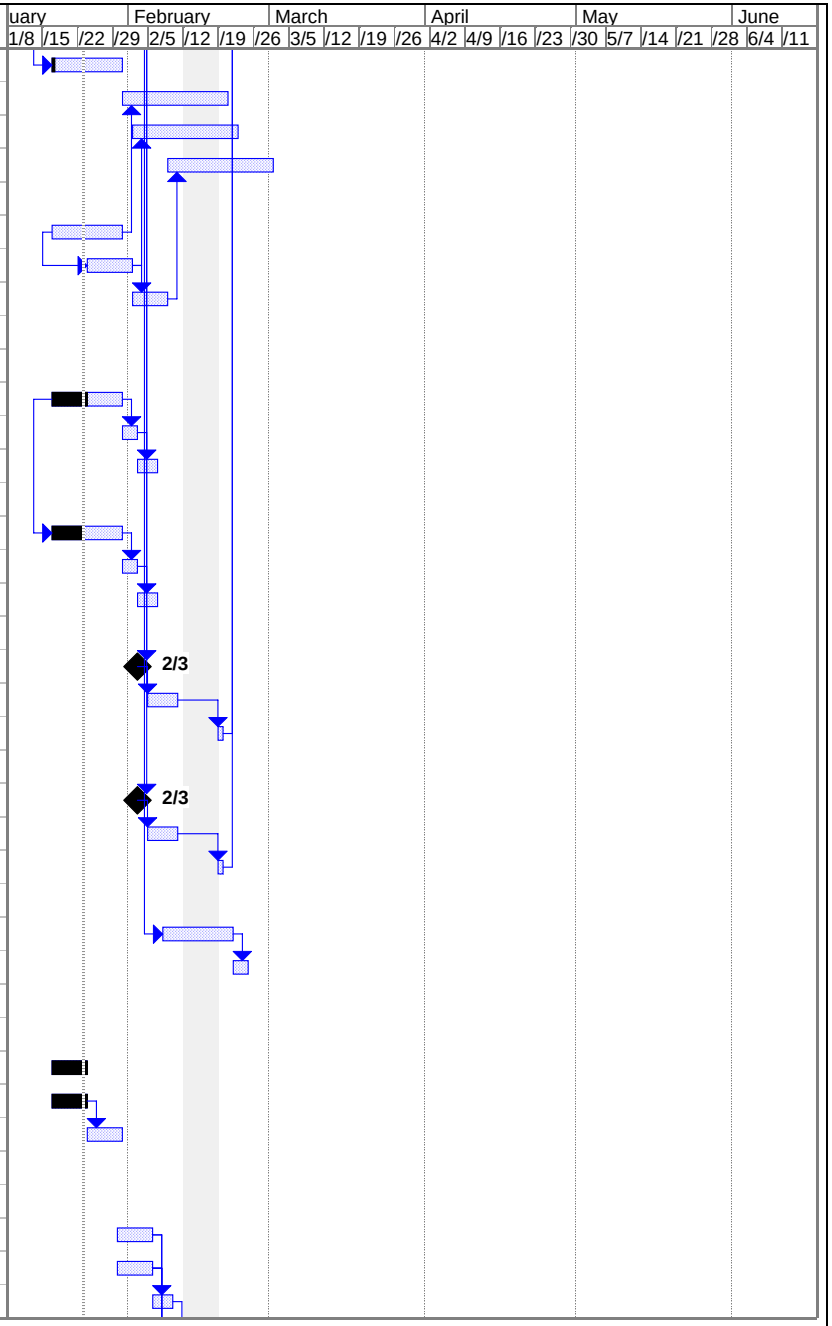


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
191	Wing 2 - Grid 13-16 Corner	12 days	Jan 17 '07	Jan 30 '07
192	Wing 1 - Horse stall areas	12 days	Jan 31 '07	Feb 20 '07
193	Wing 2 - Horse stall areas	12 days	Feb 2 '07	Feb 22 '07
194	Office areas	12 days	Feb 9 '07	Mar 1 '07
195	**Precast Panel Installation**	**20 days**	**Jan 17 '07**	**Feb 8 '07**
196	Wing 1 - Horse stall areas	12 days	Jan 17 '07	Jan 30 '07
197	Wing 2 - Horse stall areas	8 days	Jan 24 '07	Feb 1 '07
198	Office areas	6 days	Feb 2 '07	Feb 8 '07
199	**Internal ABWF and E&M Installation**	**28 days**	**Jan 17 '07**	**Feb 24 '07**
200	**Wing 1 (Horse Stall) Grid 1-4**	**18 days**	**Jan 17 '07**	**Feb 6 '07**
201	Horse stall - internal partions/blockworks	12 days	Jan 17 '07	Jan 30 '07
202	Wall Plastering	3 days	Jan 31 '07	Feb 2 '07
203	Roller shutter installation	3 days	Feb 3 '07	Feb 6 '07
204	**Wing 2 (Horse Stall), Grid 13-16**	**18 days**	**Jan 17 '07**	**Feb 6 '07**
205	Horse stall - internal partitions/block works	12 days	Jan 17 '07	Jan 30 '07
206	Wall plastering	3 days	Jan 31 '07	Feb 2 '07
207	Roller shutter installation	3 days	Feb 3 '07	Feb 6 '07
208	**1/F AC Plant Room, Grid 1-4**	**8 days**	**Feb 3 '07**	**Feb 19 '07**
209	Structural steel installation complete	1 day	Feb 3 '07	Feb 3 '07
210	RC Wall and slab	6 days	Feb 5 '07	Feb 10 '07
211	AHU installation	1 day	Feb 19 '07	Feb 19 '07
212	**1/F AC Plant Room, Grid 13-16**	**8 days**	**Feb 3 '07**	**Feb 19 '07**
213	Structural steel installation complete	1 day	Feb 3 '07	Feb 3 '07
214	RC Wall and slab	6 days	Feb 5 '07	Feb 10 '07
215	AHU installation	1 day	Feb 19 '07	Feb 19 '07
216	**Center Wing - Office Areas**	**9 days**	**Feb 8 '07**	**Feb 24 '07**
217	Internal partions/blockworks	6 days	Feb 8 '07	Feb 21 '07
218	Wall Plastering	3 days	Feb 22 '07	Feb 24 '07
219	**Works in Main Stable No.4**	**46 days**	**Jan 17 '07**	**Mar 17 '07**
220	**RC Works**	**12 days**	**Jan 17 '07**	**Jan 30 '07**
221	Internal RC Wall partition	6 days	Jan 17 '07	Jan 23 '07
222	Remaining grade slab and sand rolls slab construction	6 days	Jan 17 '07	Jan 23 '07
223	Sand rolls wall construction	6 days	Jan 24 '07	Jan 30 '07
224	**Building Envelope / External Finishes**	**46 days**	**Jan 17 '07**	**Mar 17 '07**
225	**Structural Steel Installation**	**10 days**	**Jan 30 '07**	**Feb 9 '07**
226	Wing 1 - Horse stall areas	6 days	Jan 30 '07	Feb 5 '07
227	Wing 2 - Horse stalls areas	6 days	Jan 30 '07	Feb 5 '07
228	Wing 1 - 1/F AC Plant Room	4 days	Feb 6 '07	Feb 9 '07

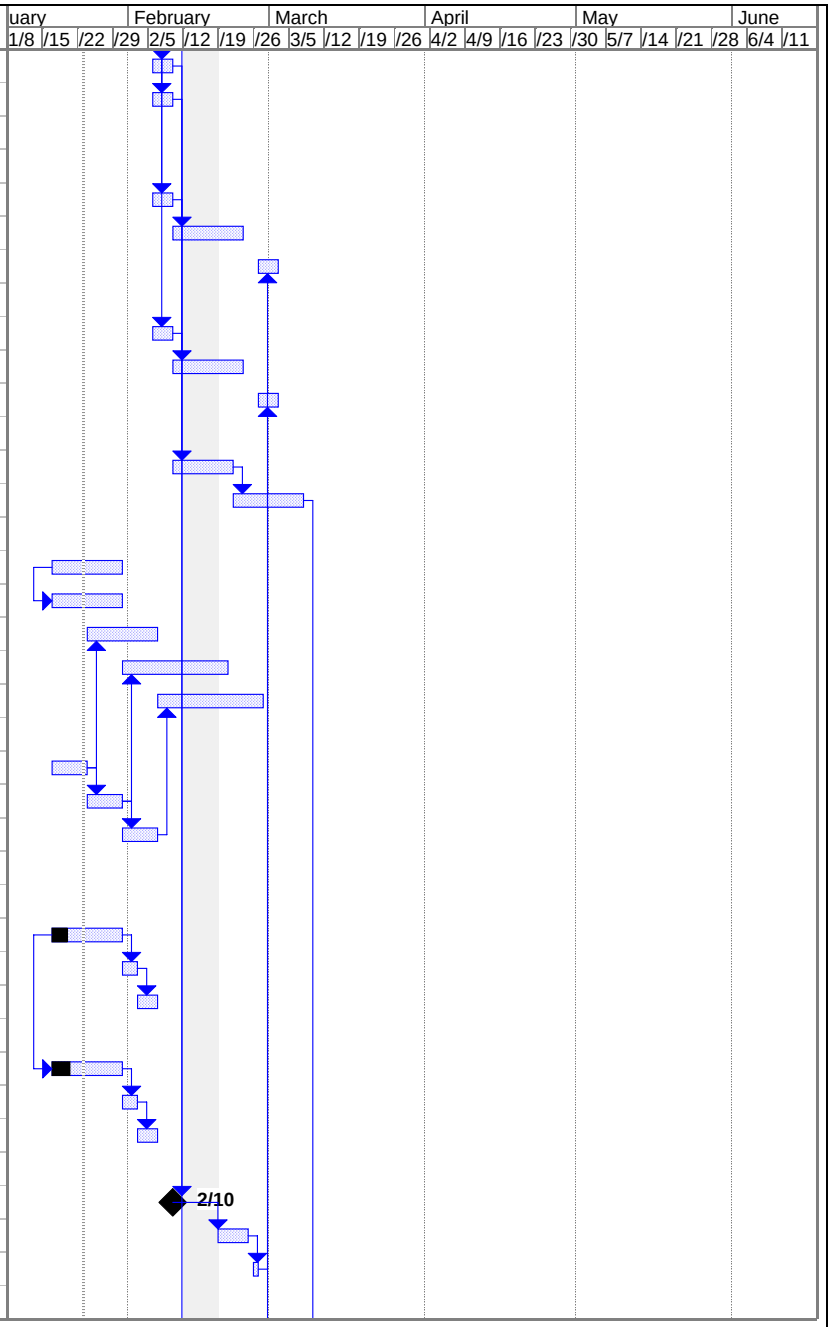


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
229	Wing 2 - 1/F AC Plant Room	4 days	Feb 6 '07	Feb 9 '07
230	Center Wing (Office area)	4 days	Feb 6 '07	Feb 9 '07
231	**Roof Cladding and Gutter Installation**	**20 days**	**Feb 6 '07**	**Mar 7 '07**
232	**Wing 1 (Horse Stalls) and 1/F Plant Rooms**	**16 days**	**Feb 6 '07**	**Mar 2 '07**
233	Horse stall area - upper roof	4 days	Feb 6 '07	Feb 9 '07
234	Horse stall area - lower roof	6 days	Feb 10 '07	Feb 23 '07
235	1/F AC Plant Room	4 days	Feb 27 '07	Mar 2 '07
236	**Wing 2 (Horse Stalls) and 1/F Plant Rooms**	**16 days**	**Feb 6 '07**	**Mar 2 '07**
237	Horse stall area - upper roof	4 days	Feb 6 '07	Feb 9 '07
238	Horse stall area - lower roof	6 days	Feb 10 '07	Feb 23 '07
239	1/F AC Plant Room	4 days	Feb 27 '07	Mar 2 '07
240	**Center Wing (Office Area)**	**16 days**	**Feb 10 '07**	**Mar 7 '07**
241	Horse stall area - upper roof	4 days	Feb 10 '07	Feb 21 '07
242	Horse stall area - lower roof	12 days	Feb 22 '07	Mar 7 '07
243	**Granite Stone Installation**	**30 days**	**Jan 17 '07**	**Feb 27 '07**
244	Wing 1 - Grid 1-4 Corner	12 days	Jan 17 '07	Jan 30 '07
245	Wing 2 - Grid 13-16 Corner	12 days	Jan 17 '07	Jan 30 '07
246	Wing 1 - Horse stall areas	12 days	Jan 24 '07	Feb 6 '07
247	Wing 2 - Horse stall areas	12 days	Jan 31 '07	Feb 20 '07
248	Office areas	12 days	Feb 7 '07	Feb 27 '07
249	**Precast Panel Installation**	**18 days**	**Jan 17 '07**	**Feb 6 '07**
250	Wing 1 - Horse stall areas	6 days	Jan 17 '07	Jan 23 '07
251	Wing 2 - Horse stall areas	6 days	Jan 24 '07	Jan 30 '07
252	Office areas	6 days	Jan 31 '07	Feb 6 '07
253	**Internal ABWF and E&M Installation**	**46 days**	**Jan 17 '07**	**Mar 17 '07**
254	**Wing 1 (Horse Stall) Grid 1-4**	**18 days**	**Jan 17 '07**	**Feb 6 '07**
255	Horse stall - internal partions/blockworks	12 days	Jan 17 '07	Jan 30 '07
256	Wall Plastering	3 days	Jan 31 '07	Feb 2 '07
257	Roller shutter installation	3 days	Feb 3 '07	Feb 6 '07
258	**Wing 2 (Horse Stall), Grid 13-16**	**18 days**	**Jan 17 '07**	**Feb 6 '07**
259	Horse stall - internal partitions/block works	12 days	Jan 17 '07	Jan 30 '07
260	Wall plastering	3 days	Jan 31 '07	Feb 2 '07
261	Roller shutter installation	3 days	Feb 3 '07	Feb 6 '07
262	**1/F AC Plant Room, Grid 1-4**	**8 days**	**Feb 10 '07**	**Feb 26 '07**
263	Structural steel installation complete	1 day	Feb 10 '07	Feb 10 '07
264	RC Wall and slab	6 days	Feb 19 '07	Feb 24 '07
265	AHU installation	1 day	Feb 26 '07	Feb 26 '07
266	**1/F AC Plant Room, Grid 13-16**	**8 days**	**Feb 10 '07**	**Feb 26 '07**

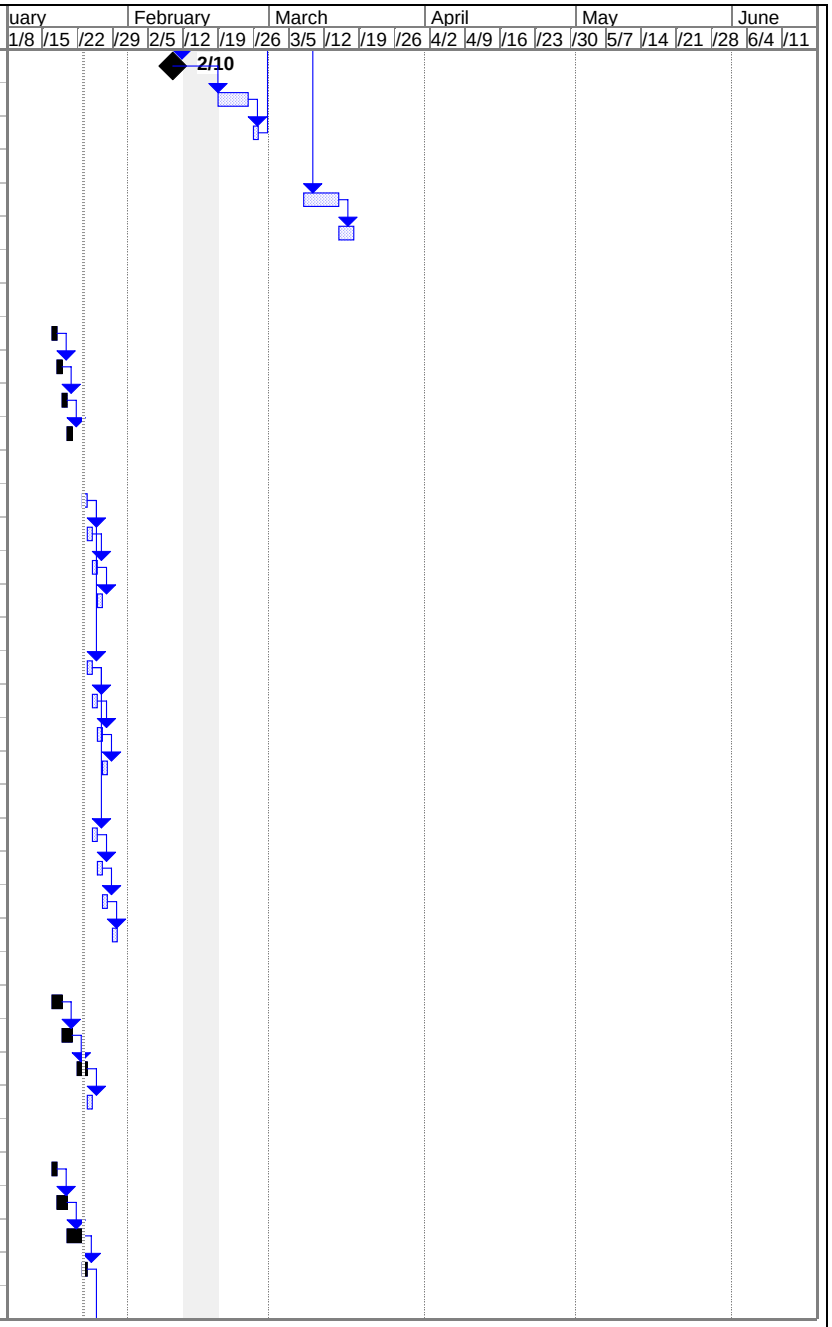


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
267	Structural steel installation complete	1 day	Feb 10 '07	Feb 10 '07
268	RC Wall and slab	6 days	Feb 19 '07	Feb 24 '07
269	AHU installation	1 day	Feb 26 '07	Feb 26 '07
270	**Center Wing - Office Areas**	**9 days**	**Mar 8 '07**	**Mar 17 '07**
271	Internal partions/blockworks	6 days	Mar 8 '07	Mar 14 '07
272	Wall Plastering	3 days	Mar 15 '07	Mar 17 '07
273	**External Drainage Works**	**20 days**	**Jan 17 '07**	**Feb 8 '07**
274	**Drainage MHS13.6 to MHS13.7, DN450**	**4 days**	**Jan 17 '07**	**Jan 20 '07**
275	Excavation	1 day	Jan 17 '07	Jan 17 '07
276	Pipelaying	1 day	Jan 18 '07	Jan 18 '07
277	Manhole construction	1 day	Jan 19 '07	Jan 19 '07
278	Backfilling	1 day	Jan 20 '07	Jan 20 '07
279	**Drainage MHS13.7 to MHS13.7A, DN225**	**4 days**	**Jan 23 '07**	**Jan 26 '07**
280	Excavation	1 day	Jan 23 '07	Jan 23 '07
281	Pipelaying	1 day	Jan 24 '07	Jan 24 '07
282	Manhole construction	1 day	Jan 25 '07	Jan 25 '07
283	Backfilling	1 day	Jan 26 '07	Jan 26 '07
284	**Drainage MHS13.7A to MHS13.8, DN225**	**4 days**	**Jan 24 '07**	**Jan 27 '07**
285	Excavation	1 day	Jan 24 '07	Jan 24 '07
286	Pipelaying	1 day	Jan 25 '07	Jan 25 '07
287	Manhole construction	1 day	Jan 26 '07	Jan 26 '07
288	Backfilling	1 day	Jan 27 '07	Jan 27 '07
289	**Drainage MHS13.8 to MHS13.9, DN225**	**4 days**	**Jan 25 '07**	**Jan 29 '07**
290	Excavation	1 day	Jan 25 '07	Jan 25 '07
291	Pipelaying	1 day	Jan 26 '07	Jan 26 '07
292	Manhole construction	1 day	Jan 27 '07	Jan 27 '07
293	Backfilling	1 day	Jan 29 '07	Jan 29 '07
294	**Drainage MHSVS40 to MHSVS38, DN300**	**7 days**	**Jan 17 '07**	**Jan 24 '07**
295	Excavation	2 days	Jan 17 '07	Jan 18 '07
296	Pipelaying	2 days	Jan 19 '07	Jan 20 '07
297	Manhole construction	2 days	Jan 22 '07	Jan 23 '07
298	Backfilling	1 day	Jan 24 '07	Jan 24 '07
299	**Drainage MHS13.11 to MHS13.12, DN225**	**6 days**	**Jan 17 '07**	**Jan 23 '07**
300	Excavation	1 day	Jan 17 '07	Jan 17 '07
301	Pipelaying	2 days	Jan 18 '07	Jan 19 '07
302	Manhole construction	2 days	Jan 20 '07	Jan 22 '07
303	Backfilling	1 day	Jan 23 '07	Jan 23 '07
304	**Drainage MHS13.11 to MHS13.10, DN225**	**7 days**	**Jan 24 '07**	**Jan 31 '07**

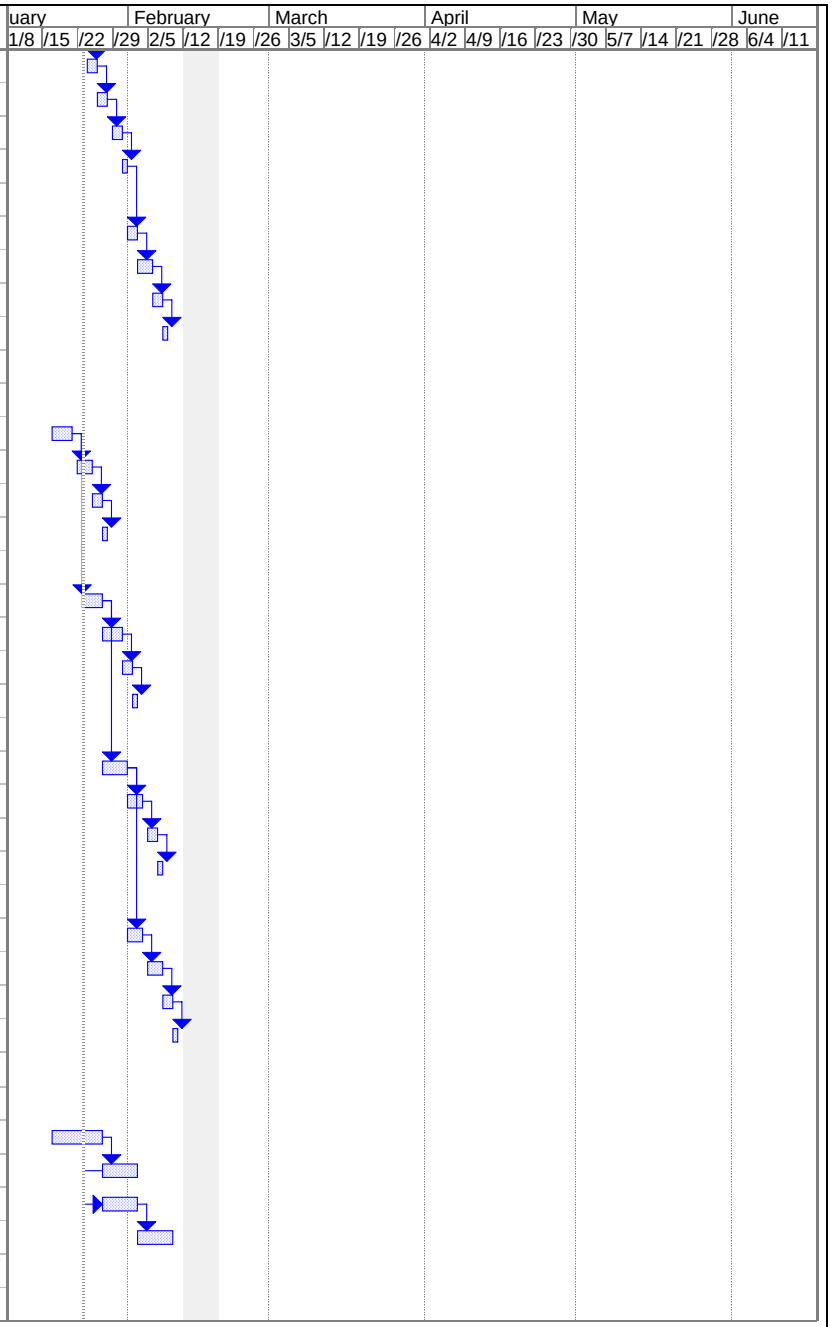


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
305	Excavation	2 days	Jan 24 '07	Jan 25 '07
306	Pipelaying	2 days	Jan 26 '07	Jan 27 '07
307	Manhole construction	2 days	Jan 29 '07	Jan 30 '07
308	Backfilling	1 day	Jan 31 '07	Jan 31 '07
309	**Drainage MHS18.4 to MHS18.3, DN150**	**7 days**	**Feb 1 '07**	**Feb 8 '07**
310	Excavation	2 days	Feb 1 '07	Feb 2 '07
311	Pipelaying	2 days	Feb 3 '07	Feb 5 '07
312	Manhole construction	2 days	Feb 6 '07	Feb 7 '07
313	Backfilling	1 day	Feb 8 '07	Feb 8 '07
314	**External Watermain Works (Chilled Water, FS/Plumbing)**	**22 days**	**Jan 17 '07**	**Feb 10 '07**
315	**Area 8 (Between Main Stable 1&2/ Vet Stable & Main Stable 3)**	**10 days**	**Jan 17 '07**	**Jan 27 '07**
316	Chilled watermain pipelaying	4 days	Jan 17 '07	Jan 20 '07
317	FS/Plumbing pipelaying	3 days	Jan 22 '07	Jan 24 '07
318	Irrigation pipelaying	2 days	Jan 25 '07	Jan 26 '07
319	WSD inspection	1 day	Jan 27 '07	Jan 27 '07
320	**Area 9 (Along Road ST6)**	**10 days**	**Jan 23 '07**	**Feb 2 '07**
321	Chilled watermain pipelaying	4 days	Jan 23 '07	Jan 26 '07
322	FS/Plumbing pipelaying	3 days	Jan 27 '07	Jan 30 '07
323	Irrigation pipelaying	2 days	Jan 31 '07	Feb 1 '07
324	WSD inspection	1 day	Feb 2 '07	Feb 2 '07
325	**Area 9 (Along Road ST7)**	**10 days**	**Jan 27 '07**	**Feb 7 '07**
326	Chilled watermain pipelaying	4 days	Jan 27 '07	Jan 31 '07
327	FS/Plumbing pipelaying	3 days	Feb 1 '07	Feb 3 '07
328	Irrigation pipelaying	2 days	Feb 5 '07	Feb 6 '07
329	WSD inspection	1 day	Feb 7 '07	Feb 7 '07
330	**Area 9 (between Main Stable 3 and 4)**	**9 days**	**Feb 1 '07**	**Feb 10 '07**
331	Chilled watermain pipelaying	3 days	Feb 1 '07	Feb 3 '07
332	FS/Plumbing pipelaying	3 days	Feb 5 '07	Feb 7 '07
333	Irrigation pipelaying	2 days	Feb 8 '07	Feb 9 '07
334	WSD inspection	1 day	Feb 10 '07	Feb 10 '07
335	**Portion HKSI-2**	**70 days**	**Jan 17 '07**	**Apr 14 '07**
336	**Footing for Light Mast**	**21 days**	**Jan 17 '07**	**Feb 9 '07**
337	Footing 1- Install holding down bolt and cast	9 days	Jan 17 '07	Jan 26 '07
338	Footing 2- Install holding down bolt and cast	6 days	Jan 27 '07	Feb 2 '07
339	Footing 3- Install holding down bolt and cast	6 days	Jan 27 '07	Feb 2 '07
340	Footing 4- Install holding down bolt and cast	6 days	Feb 3 '07	Feb 9 '07
341	**External Drainage/Watermain Works**	**70 days**	**Jan 17 '07**	**Apr 14 '07**
342	**Drainage MHS18.5 to MHS18.6, DN300**	**10 days**	**Jan 17 '07**	**Jan 27 '07**

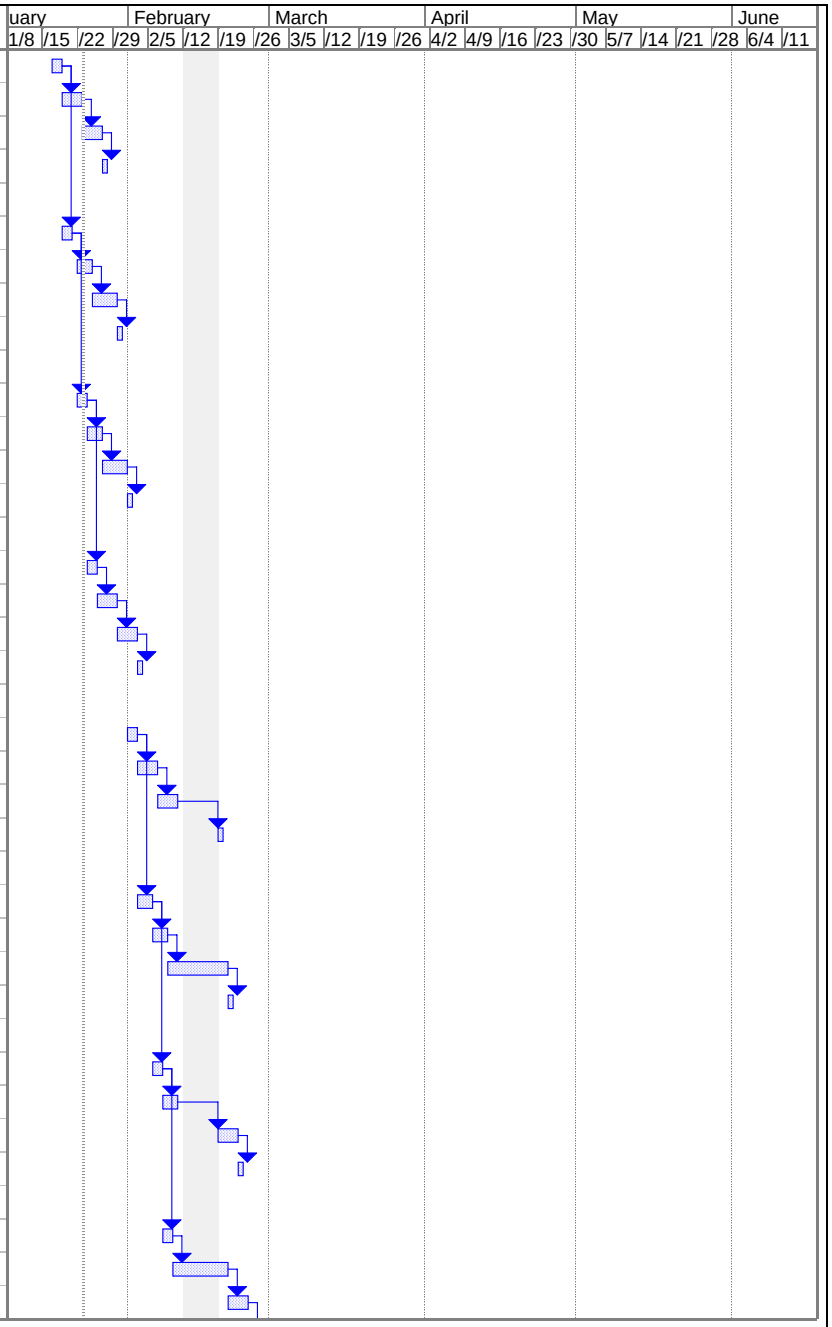


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
343	Excavation	2 days	Jan 17 '07	Jan 18 '07
344	Pipelaying	3 days	Jan 19 '07	Jan 22 '07
345	Manhole construction	4 days	Jan 23 '07	Jan 26 '07
346	Backfilling	1 day	Jan 27 '07	Jan 27 '07
347	**Drainage MHS18.6 to MHS18.7, DN300**	**10 days**	**Jan 19 '07**	**Jan 30 '07**
348	Excavation	2 days	Jan 19 '07	Jan 20 '07
349	Pipelaying	3 days	Jan 22 '07	Jan 24 '07
350	Manhole construction	4 days	Jan 25 '07	Jan 29 '07
351	Backfilling	1 day	Jan 30 '07	Jan 30 '07
352	**Drainage MHS18.7 to MHS17.2, DN225**	**10 days**	**Jan 22 '07**	**Feb 1 '07**
353	Excavation	2 days	Jan 22 '07	Jan 23 '07
354	Pipelaying	3 days	Jan 24 '07	Jan 26 '07
355	Manhole construction	4 days	Jan 27 '07	Jan 31 '07
356	Backfilling	1 day	Feb 1 '07	Feb 1 '07
357	**Drainage MHS17.2 to MHS17.3, DN225**	**10 days**	**Jan 24 '07**	**Feb 3 '07**
358	Excavation	2 days	Jan 24 '07	Jan 25 '07
359	Pipelaying	3 days	Jan 26 '07	Jan 29 '07
360	Manhole construction	4 days	Jan 30 '07	Feb 2 '07
361	Backfilling	1 day	Feb 3 '07	Feb 3 '07
362	**Drainage MHS18.5 to MHS18.2, DN300**	**10 days**	**Feb 1 '07**	**Feb 19 '07**
363	Excavation	2 days	Feb 1 '07	Feb 2 '07
364	Pipelaying	3 days	Feb 3 '07	Feb 6 '07
365	Manhole construction	4 days	Feb 7 '07	Feb 10 '07
366	Backfilling	1 day	Feb 19 '07	Feb 19 '07
367	**Drainage MHS18.2 to MHS18.1, DN375**	**10 days**	**Feb 3 '07**	**Feb 21 '07**
368	Excavation	2 days	Feb 3 '07	Feb 5 '07
369	Pipelaying	3 days	Feb 6 '07	Feb 8 '07
370	Manhole construction	4 days	Feb 9 '07	Feb 20 '07
371	Backfilling	1 day	Feb 21 '07	Feb 21 '07
372	**Drainage MHS18.1 to CP (Ex), DN225**	**10 days**	**Feb 6 '07**	**Feb 23 '07**
373	Excavation	2 days	Feb 6 '07	Feb 7 '07
374	Pipelaying	3 days	Feb 8 '07	Feb 10 '07
375	Manhole construction	4 days	Feb 19 '07	Feb 22 '07
376	Backfilling	1 day	Feb 23 '07	Feb 23 '07
377	**Drainage MHS18.1 to MHS18.11, DN150**	**10 days**	**Feb 8 '07**	**Feb 26 '07**
378	Excavation	2 days	Feb 8 '07	Feb 9 '07
379	Pipelaying	3 days	Feb 10 '07	Feb 20 '07
380	Manhole construction	4 days	Feb 21 '07	Feb 24 '07

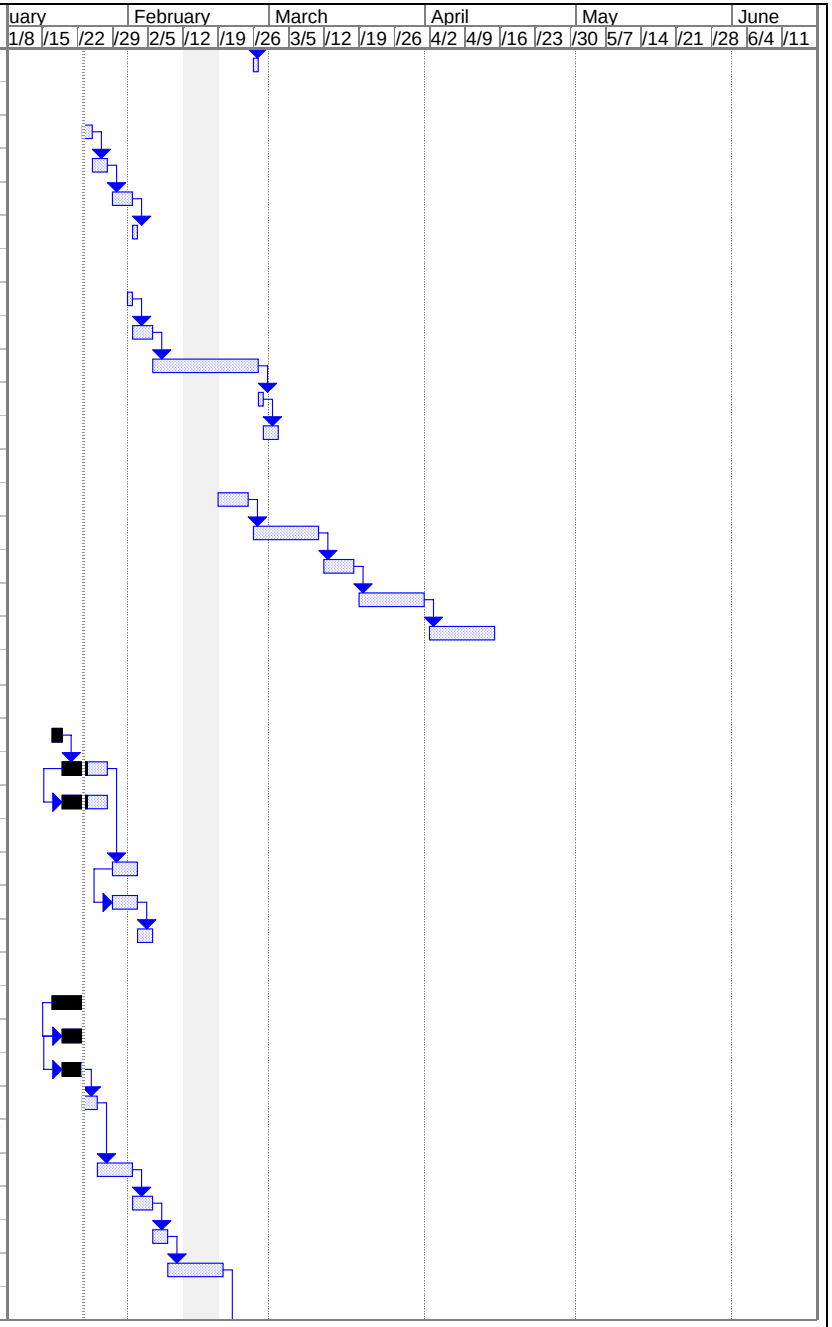


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
381	Backfilling	1 day	Feb 26 '07	Feb 26 '07
382	**Watermain Works at Area 7**	**10 days**	**Jan 23 '07**	**Feb 2 '07**
383	Excavation	2 days	Jan 23 '07	Jan 24 '07
384	Pipelaying	3 days	Jan 25 '07	Jan 27 '07
385	Manhole construction	4 days	Jan 29 '07	Feb 1 '07
386	Backfilling	1 day	Feb 2 '07	Feb 2 '07
387	**Watermain Works at Area 6**	**20 days**	**Feb 1 '07**	**Mar 2 '07**
388	Divert existing site access	1 day	Feb 1 '07	Feb 1 '07
389	Excavation works	3 days	Feb 2 '07	Feb 5 '07
390	Watermain connection works (pipelaying, thrustblocks etc)	12 days	Feb 6 '07	Feb 26 '07
391	WSD Inspection	1 day	Feb 27 '07	Feb 27 '07
392	Backfilling & make good ex. road	3 days	Feb 28 '07	Mar 2 '07
393	**Grass Training Arena**	**48 days**	**Feb 19 '07**	**Apr 14 '07**
394	Site clearance on existing log compound	6 days	Feb 19 '07	Feb 24 '07
395	Sub soil drain installation	12 days	Feb 26 '07	Mar 10 '07
396	Geotextile + subbase	6 days	Mar 12 '07	Mar 17 '07
397	20mm aggregate + bituminous layer	12 days	Mar 19 '07	Mar 31 '07
398	Compacted sand mixture	12 days	Apr 2 '07	Apr 14 '07
399	**Portion HKSI-3**	**78 days**	**Jan 17 '07**	**Apr 24 '07**
400	**Storm Drainage STM1 to S.12.21A to S12.21 (exist) DN850**	**10 days**	**Jan 17 '07**	**Jan 27 '07**
401	Excavation	2 days	Jan 17 '07	Jan 18 '07
402	Pipelaying	8 days	Jan 19 '07	Jan 27 '07
403	Manhole construction	8 days	Jan 19 '07	Jan 27 '07
404	**Foul Drainage FTM1 to F12.24, DN750**	**7 days**	**Jan 29 '07**	**Feb 5 '07**
405	Pipelaying	5 days	Jan 29 '07	Feb 2 '07
406	Manhole construction	5 days	Jan 29 '07	Feb 2 '07
407	Backfilling	2 days	Feb 3 '07	Feb 5 '07
408	**Foul Drainage F12.21A to F12.22, DN300**	**8 days**	**Jan 17 '07**	**Jan 25 '07**
409	Excavation	5 days	Jan 17 '07	Jan 22 '07
410	Pipelaying	3 days	Jan 19 '07	Jan 22 '07
411	Manhole construction	3 days	Jan 19 '07	Jan 22 '07
412	Backfilling	3 days	Jan 23 '07	Jan 25 '07
413	**Foul Drainage F12.21A to F12.21, DN300**	**54 days**	**Jan 26 '07**	**Apr 5 '07**
414	Excavation	6 days	Jan 26 '07	Feb 1 '07
415	Pipelaying	3 days	Feb 2 '07	Feb 5 '07
416	Manhole construction	3 days	Feb 6 '07	Feb 8 '07
417	Backfilling	3 days	Feb 9 '07	Feb 19 '07
418	**Foul Drainage F12.21 to F12.20, DN300**	**15 days**	**Feb 20 '07**	**Mar 8 '07**

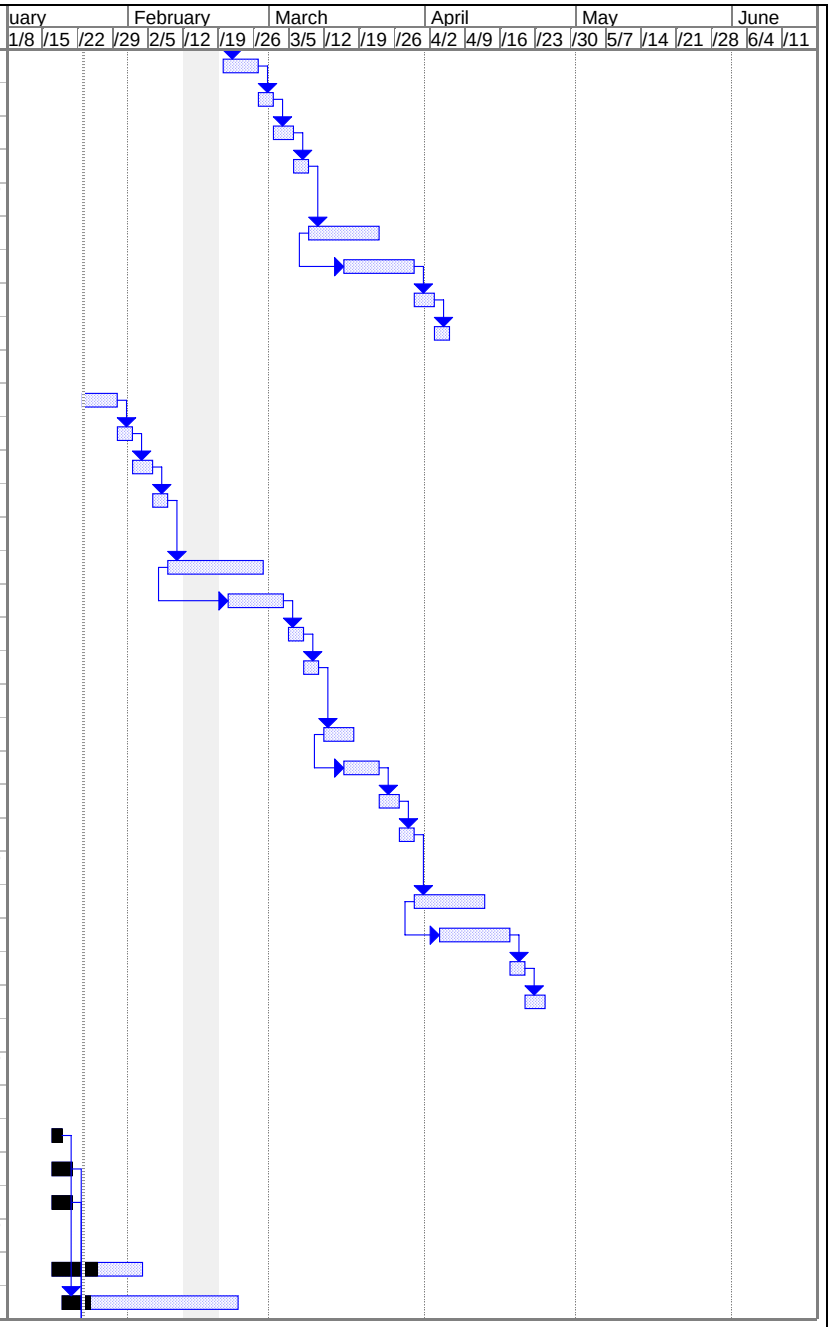


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
419	Excavation	6 days	Feb 20 '07	Feb 26 '07
420	Pipelaying	3 days	Feb 27 '07	Mar 1 '07
421	Manhole construction	3 days	Mar 2 '07	Mar 5 '07
422	Backfilling	3 days	Mar 6 '07	Mar 8 '07
423	**Foul Drainage F12.20 to F11.6, DN300**	**24 days**	**Mar 9 '07**	**Apr 5 '07**
424	Excavation	12 days	Mar 9 '07	Mar 22 '07
425	Pipelaying	12 days	Mar 16 '07	Mar 29 '07
426	Manhole construction	3 days	Mar 30 '07	Apr 2 '07
427	Backfilling	3 days	Apr 3 '07	Apr 5 '07
428	**Foul Drainage F11.5 to F11.6, DN300**	**15 days**	**Jan 23 '07**	**Feb 8 '07**
429	Excavation	6 days	Jan 23 '07	Jan 29 '07
430	Pipelaying	3 days	Jan 30 '07	Feb 1 '07
431	Manhole construction	3 days	Feb 2 '07	Feb 5 '07
432	Backfilling	3 days	Feb 6 '07	Feb 8 '07
433	**Foul Drainage F11.5 to F11.4, DN300**	**20 days**	**Feb 9 '07**	**Mar 10 '07**
434	Excavation	10 days	Feb 9 '07	Feb 27 '07
435	Pipelaying	10 days	Feb 21 '07	Mar 3 '07
436	Manhole construction	3 days	Mar 5 '07	Mar 7 '07
437	Backfilling	3 days	Mar 8 '07	Mar 10 '07
438	**Foul Drainage F11.4 to F11.3, DN300**	**16 days**	**Mar 12 '07**	**Mar 29 '07**
439	Excavation	6 days	Mar 12 '07	Mar 17 '07
440	Pipelaying	6 days	Mar 16 '07	Mar 22 '07
441	Manhole construction	3 days	Mar 23 '07	Mar 26 '07
442	Backfilling	3 days	Mar 27 '07	Mar 29 '07
443	**Foul Drainage F11.3 to F11.2, DN300**	**22 days**	**Mar 30 '07**	**Apr 24 '07**
444	Excavation	12 days	Mar 30 '07	Apr 12 '07
445	Pipelaying	12 days	Apr 4 '07	Apr 17 '07
446	Manhole construction	3 days	Apr 18 '07	Apr 20 '07
447	Backfilling	3 days	Apr 21 '07	Apr 24 '07
448	**Portion HKSI-4**	**118 days**	**Jan 17 '07**	**Jun 11 '07**
449	**Foundation Works- 40m Light Mast**	**70 days**	**Jan 17 '07**	**Apr 14 '07**
450	**Soil Investigation**	**4 days**	**Jan 17 '07**	**Jan 20 '07**
451	Soil Investigation Pile Cap B	2 days	Jan 17 '07	Jan 18 '07
452	Soil Investigation Pile Cap A	4 days	Jan 17 '07	Jan 20 '07
453	Soil Investigation Pile Cap D	4 days	Jan 17 '07	Jan 20 '07
454	**Minipiles Drilling**	**70 days**	**Jan 17 '07**	**Apr 14 '07**
455	Pile Cap C - minipile drilling	16 days	Jan 17 '07	Feb 3 '07
456	Pile Cap B - minipile drilling	24 days	Jan 19 '07	Feb 22 '07

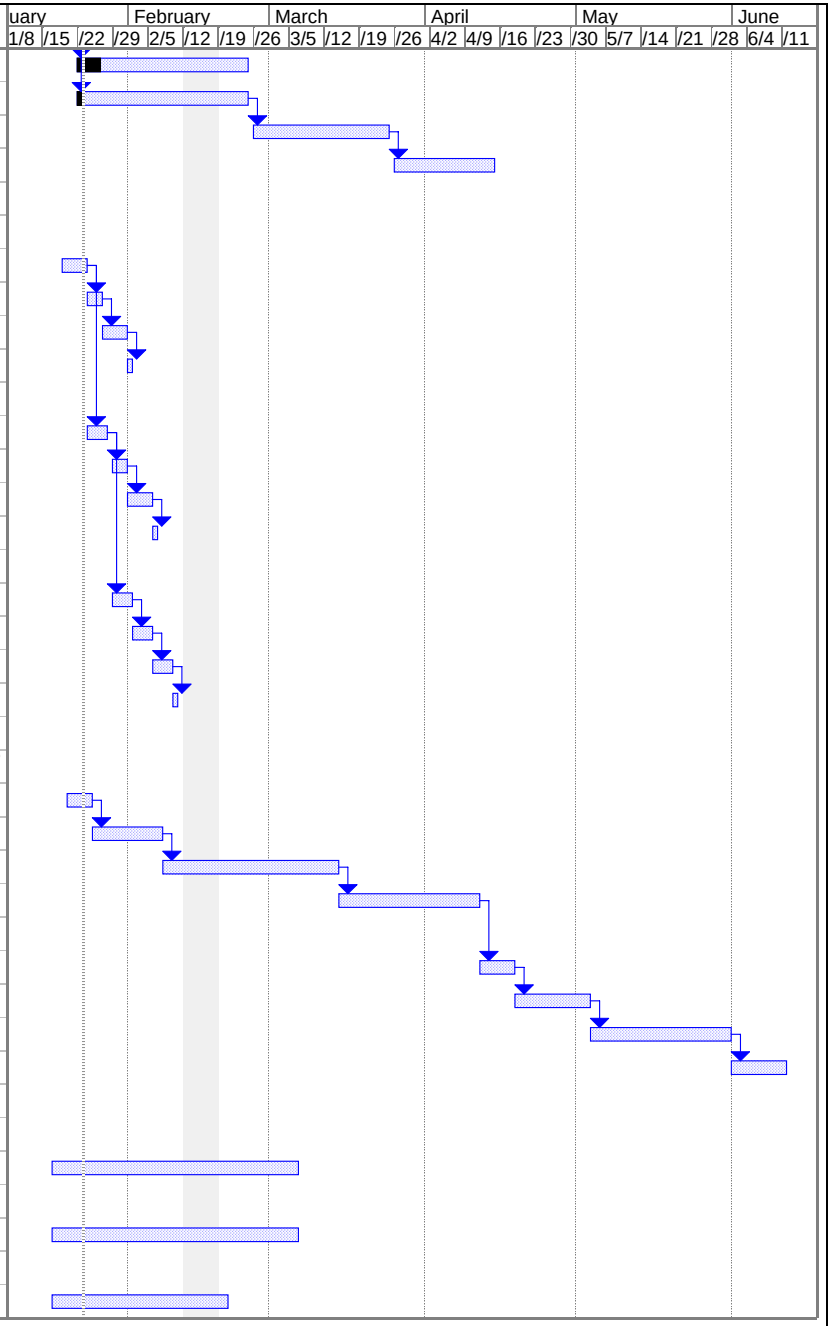


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
457	Pile Cap A - minipile drilling	24 days	Jan 22 '07	Feb 24 '07
458	Pile Cap D - minipile drilling	24 days	Jan 22 '07	Feb 24 '07
459	Minipile load test	24 days	Feb 26 '07	Mar 24 '07
460	Pile Cap Construction	18 days	Mar 26 '07	Apr 14 '07
461	**External Drainage Works**	**20 days**	**Jan 19 '07**	**Feb 10 '07**
462	**Drainage MHS12.2 to MHS12.3, DN750**	**12 days**	**Jan 19 '07**	**Feb 1 '07**
463	Excavation	4 days	Jan 19 '07	Jan 23 '07
464	Pipelaying	3 days	Jan 24 '07	Jan 26 '07
465	Manhole construction	4 days	Jan 27 '07	Jan 31 '07
466	Backfilling	1 day	Feb 1 '07	Feb 1 '07
467	**Drainage MHS12.6 to MHS12.5, DN675**	**12 days**	**Jan 24 '07**	**Feb 6 '07**
468	Excavation	4 days	Jan 24 '07	Jan 27 '07
469	Pipelaying	3 days	Jan 29 '07	Jan 31 '07
470	Manhole construction	4 days	Feb 1 '07	Feb 5 '07
471	Backfilling	1 day	Feb 6 '07	Feb 6 '07
472	**Drainage MHS12.2 to MHS12.6, DN300**	**12 days**	**Jan 29 '07**	**Feb 10 '07**
473	Excavation	4 days	Jan 29 '07	Feb 1 '07
474	Pipelaying	3 days	Feb 2 '07	Feb 5 '07
475	Manhole construction	4 days	Feb 6 '07	Feb 9 '07
476	Backfilling	1 day	Feb 10 '07	Feb 10 '07
477	**Main Competition Arena**	**115 days**	**Jan 20 '07**	**Jun 11 '07**
478	**Drainage Works**	**64 days**	**Jan 20 '07**	**Apr 11 '07**
479	Excavation	4 days	Jan 20 '07	Jan 24 '07
480	U channels	12 days	Jan 25 '07	Feb 7 '07
481	Toe wall + backfill	24 days	Feb 8 '07	Mar 14 '07
482	Sub soil drain	24 days	Mar 15 '07	Apr 11 '07
483	**Sub soil drain**	**51 days**	**Apr 12 '07**	**Jun 11 '07**
484	Subbase laying + geotextile	6 days	Apr 12 '07	Apr 18 '07
485	Laser filled 20mm gravel + 4-8mm grvel	12 days	Apr 19 '07	May 3 '07
486	Compacted sand	24 days	May 4 '07	May 31 '07
487	Arena egdes+ turf	9 days	Jun 1 '07	Jun 11 '07
488	**Portion HKSI-6**	**37 days**	**Jan 16 '07**	**Mar 6 '07**
489	**CLP Outdoor Transformer**	**36 days**	**Jan 17 '07**	**Mar 6 '07**
490	CLP Installation	36 days	Jan 17 '07	Mar 6 '07
491	**CLP HV Switch Room**	**36 days**	**Jan 17 '07**	**Mar 6 '07**
492	CLP Installation	36 days	Jan 17 '07	Mar 6 '07
493	**LV Switch Rm for Broadcast**	**24 days**	**Jan 17 '07**	**Feb 20 '07**
494	ABWF.E&M Installation works	24 days	Jan 17 '07	Feb 20 '07

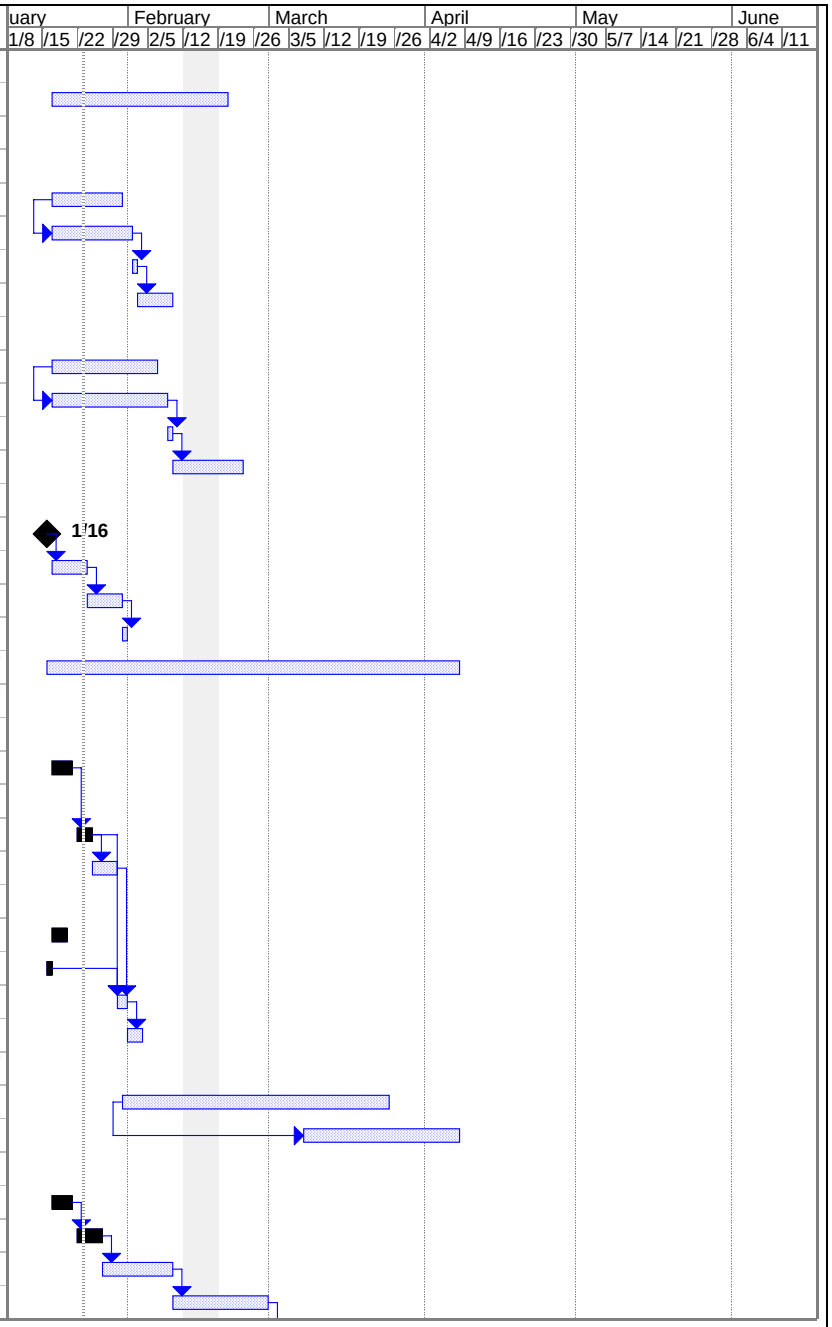


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
495	**LV Switch Rm for Overlay**	**24 days**	**Jan 17 '07**	**Feb 20 '07**
496	ABWF.E&M Installation works	24 days	Jan 17 '07	Feb 20 '07
497	**External Watermain Works**	**28 days**	**Jan 16 '07**	**Feb 23 '07**
498	**AREA 3 - Watermain Works**	**21 days**	**Jan 17 '07**	**Feb 9 '07**
499	Trench excavation	12 days	Jan 17 '07	Jan 30 '07
500	Pipelaying	14 days	Jan 17 '07	Feb 1 '07
501	WSD Inspection	1 day	Feb 2 '07	Feb 2 '07
502	Backfilling & make good ex. road	6 days	Feb 3 '07	Feb 9 '07
503	**AREA 4 - Watermain Works**	**27 days**	**Jan 17 '07**	**Feb 23 '07**
504	Trench excavation	18 days	Jan 17 '07	Feb 6 '07
505	Pipelaying	20 days	Jan 17 '07	Feb 8 '07
506	WSD Inspection	1 day	Feb 9 '07	Feb 9 '07
507	Backfilling & make good ex. road	6 days	Feb 10 '07	Feb 23 '07
508	**AREA 5 - Watermain Works from Tee Area (near Quarantine Stable) to 90**	**14 days**	**Jan 16 '07**	**Jan 31 '07**
509	Access to Quarantine Stables	1 day	Jan 16 '07	Jan 16 '07
510	Install pipe supports	6 days	Jan 17 '07	Jan 23 '07
511	Pipe installation	6 days	Jan 24 '07	Jan 30 '07
512	WSD Inspection	1 day	Jan 31 '07	Jan 31 '07
513	**Portion PP-1/PP-2: Works in Penfold Park: Bridal Path and Cross**	**65 days**	**Jan 16 '07**	**Apr 7 '07**
514	**BRIDLE PATH 1**	**65 days**	**Jan 16 '07**	**Apr 7 '07**
515	**Bridle Path 1 - Subbase Trimming**	**4 days**	**Jan 17 '07**	**Jan 20 '07**
516	Ch 800 to 1030	4 days	Jan 17 '07	Jan 20 '07
517	**Bridle Path 1 - 40mm Aggregate Laying**	**7 days**	**Jan 22 '07**	**Jan 29 '07**
518	Ch 700 to 830	3 days	Jan 22 '07	Jan 24 '07
519	Ch 830 to 1190	4 days	Jan 25 '07	Jan 29 '07
520	**Bridle Path 1 - 50mm thk Bituminous Layer**	**17 days**	**Jan 16 '07**	**Feb 3 '07**
521	Ch 500 to 700	3 days	Jan 17 '07	Jan 19 '07
522	Ch 000 to 150	1 day	Jan 16 '07	Jan 16 '07
523	Ch 700 to 950	2 days	Jan 30 '07	Jan 31 '07
524	Ch 950 to 1190	3 days	Feb 1 '07	Feb 3 '07
525	**Bridle Path 1 - Polytrack Sand Installation and Fence**	**52 days**	**Jan 31 '07**	**Apr 7 '07**
526	Place 125mm thk synthetic sand	40 days	Jan 31 '07	Mar 24 '07
527	Bridle Fence installation	27 days	Mar 8 '07	Apr 7 '07
528	**DRESSAGE ARENA 1 AND 2**	**39 days**	**Jan 17 '07**	**Mar 9 '07**
529	Arena 1 - 20mm aggregate	4 days	Jan 17 '07	Jan 20 '07
530	Arena 2 - 20mm aggregate	5 days	Jan 22 '07	Jan 26 '07
531	Arena 1 and 2 - bituminous layer	12 days	Jan 27 '07	Feb 9 '07
532	Arena 1 and 2 - Place compacted sand mixture (supplied by HKJC)	10 days	Feb 10 '07	Feb 28 '07

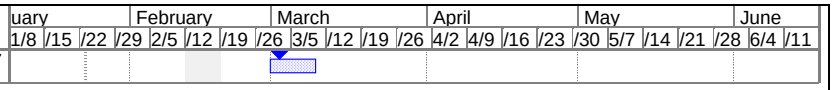


3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

ID	Task Name	Duration	Early Start	Early Finish
533	Arena fence and gate installation	8 days	Mar 1 '07	Mar 9 '07



3 Months Rolling Programme_MP06

Date Prepared: Jan 23 '07

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

Appendix B

Monitoring Schedule for March and April 2007

Monitoring Schedule - March 2007

March 2007						
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
				1 Noise Monitoring	2	3
4	5 Site Inspection	6	7 Landscape Audit	8 Noise Monitoring	9	10
11	12 Site Inspection	13	14	15 Noise Monitoring	16	17
18	19 Site Inspection	20	21 Landscape Audit	22 Noise Monitoring	23	24
25	26 Site Inspection	27	28	29 Noise Monitoring	30	31

Tentative Monitoring Schedule - April 2007

April 2007						
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
1	2 Site Inspection	3 Noise Monitoring	4	5	6	7
8	9	10	11 Landscape Audit	12 Noise Monitoring	13 Site Inspection	14
15	16 Site Inspection	17	18	19 Noise Monitoring	20	21
22	23 Site Inspection	24	25 Landscape Audit	26 Noise Monitoring	27	28
29	30 Site Inspection					

Appendix C

Environmental Mitigation Implementation Schedule

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S3.8	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation • Any excavated of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads or streets; • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting;	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	Entire construction site	Construction stage	✓ ✓ ✓ O ✓ ✓ ✓ N/A ✓	• To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1-hr and 24hr TSP levels are 500 μgm^{-3} and 260 μgm^{-3}, respectively)

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S3.8.2	The Contract shall adopt adequate measures to mitigate the odour impact to acceptable level: • A sanitary environment will always be maintained in the stable area. The current waste management practices will be extended to cover the new stable area at HKSI. Detailed design of stable will cater for the health, safety and environmental protection considerations in accordance with the HKJC policy and practice; • Regular maintenance of the odour removal system, such as carbon filter system will be carried out to maintain the odour removal efficiency; and • Enclosed containers, similar to those at the existing stables near HKSI, will be provided for the stockpiling of waste.	minimize the potential odour impact to nearby sensitive receivers	Contractor	Stables	Operational Phase	N/A	• TM-EIA, Annex 4 • 5 odour units based on averaging time of 5 seconds
S4.8.1.1	1) Use of good site practices to limit noise emissions by considering the following: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	Control construction airborne noise by means of good site practices	Contractor	Entire construction site	Construction stage	✓ ✓ ✓ ✓ ✓ ✓	• Noise Control Ordinance

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S4.8.1.2	2) Install temporary hoarding of 2.4m high located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	Entire construction site	Construction stage	✓	• Noise Control Ordinance • Annex 5, TM-EIA • Hoarding should have no openings and a superficial surface density of at least 14kg/m^2.
S4.8.1.3	3) Install movable noise barriers (typically density @14kg/m^2), acoustic mat close to noisy plants including air compressor, water pump, hand-held breaker and pipe pile rigs.	Screen the noisy plant items to be used at all construction sites	Contractor	Entire construction site	Construction stage	✓	• Noise Control Ordinance • Annex 5, TM-EIA • 75dB(A) for residential premises and 70dB(A) for schools during daytime • The movable barrier should achieve at least 5dB(A) and the full enclosure should be designed to achieve 10dB(A)

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S4.8.1.4	4) Liaise with the school representative(s) including, but not limited to Hong Kong Institute of Vocational Education (Shatin), Jockey Club Ti-1 College, International Christian School – Elementary and Leung Kui Kau Primary School to obtain the examination schedule and avoid noisy construction activities during school examination period.	Schedule the construction works outside school examination periods to less intrusive periods	Contractor	Construction sites near the schools such as Hong Kong Institute of Vocational Education (Shatin), Jockey Club Ti-1 College, International Christian School – Elementary and Leung Kui Kau Primary School	Construction stage	N/A	• Noise Control Ordinance • Annex 5, TM-EIA • To comply with the daytime construction noise criterion of 65dB(A) at school during the examination periods,
S4.8.1.5	5) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	Reduce the noise levels of plant items	Contractor	Entire construction site	Construction stage	✓	• Noise Control Ordinance & its TM • Annex 5, TM-EIA
S4.8.1.6	6) Sequencing operation of construction plant equipment.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	Entire construction site where practicable	Construction stage	✓	• Noise Control Ordinance • Annex 5, TM-EIA
S4.8.4.1	1) The Louvres should be orientated away from adjacent NSRs where possible, preferably onto Sha Tin Racecourse which are less sensitive.	Control operational noise from fixed sources	Designers	E&M plant items	Design stage	✓	• HKPSG
S4.8.4.1	2) Adequate direct noise mitigation measures including silencers, acoustic louvers, acoustic enclosures should be allowed for in the design.	Control operational noise from fixed sources	Designers	E&M plant items	Design stage	✓	• HKPSG
S4.8.4.2	3) A cluster of small power rated loudspeakers should be used instead of a few large power rated loudspeakers	Control operational noise from fixed sources	Designers	PA system	Design stage	✓	• HKPSG

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S4.8.4.2	4) Directional loudspeakers should be used and orientated them to point towards the audience and away from the nearby noise sensitive receivers	Control operational noise from fixed sources	Designers	PA system	Design stage	✓	• HKPSG
S5.6.1	1) Follow the site practices outlined in ProPECC PN 1/94 as far as practicable in order to minimise surface runoff and the chance of erosion, and to reduce any suspended solids prior to discharge.	Good site practice to control construction water quality	Contractor	Entire construction site	Construction stage	✓	• Requirements laid down in ProPECC PN 1/94
S5.6.1	*Sewage Effluent* 1) Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	Control sewage effluent arising from the sanitary facilities provided for the on-site construction workforce	Contractor	On-site sanitary facilities	Construction stage	✓	• ProPECC PN 1/94 • Water Pollution Control Ordinance • Waste Disposal Ordinance

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S5.6.1	*Construction Runoff and Site Drainage* • At the start of site establishment (including the barging facility), perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. • The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates. • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. • Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. • The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all trafficked areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows. • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.	Control construction runoff and erosion from site surface, drainage channel, stockpiles, barging facility, wheel washing facilities, etc to minimize water quality during construction stage	Contractor	Entire construction site	Construction stage	✓ ✓ ✓ ✓ ✓ ✓	• ProPECC PN 1/94 • Water Pollution Control Ordinance

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
	• Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.					✓	
	• Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50 m3 should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.					✓	
	• Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.					✓	
	• Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.					✓	
	• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing bay should be provided at every construction site exit. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.					O	
	• Oil interceptors should be provided in the site drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain.					N/A	

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
	• Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. Requirements for solid waste management are detailed in Section 6 of the EIA Report. • All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.					✓ ✓	
S5.6.2.1	A low flow interceptor drainage system should be constructed to intercept the first foul flush and convey it to a storage tank from where it is pumped to the foul drainage system. The catchment area of the low flow interceptor drainage covers the area of Main Stable Complex. Sand traps will also be provided at the stable to prevent sand from being conveyed into the pipe system.	Control surface runoff	Scheme designers and/or Operator	Drainage system	Design and/or operational stage	B	• TM-water • Water Pollution Control Ordinance
S5.6.2.2	A new 450mm public gravity sewer should be constructed along the pathway of the Shing Mun River and be connected to the existing 450mm public sewer at the southeastern corner of HKSI to collect the sewage from the new Stable Complex and the low flow interceptor system.	Control sewage collection	Scheme designers	Sewage System	Design stage	B	• Water Pollution Control Ordinance • TM-water
S6.5.1.1	1) The requirements as recommended in ETWB TC 15/2003 Waste Management on Construction Sites and its latest version, and other relevant guidelines, should be included in the Particular Specification as appropriate.	Develop waste management strategies and minimize construction waste disposal	Scheme Designer	Entire construction site	Design stage	✓	• Waste Disposal Ordinance • ETWB TC 15/2003
S6.5.1.1	2) Prior to the commencement of construction work, the Contractor should prepare a WMP to provide an overall framework for waste management and reduction.	Develop waste management and reduction strategies	Contractor	Entire construction site	Construction stage	✓	• Waste Disposal Ordinance • ETWB TC 15/2003 • Wste Disposal (Chemical Waste) (General) Regulation • ETWBTC 34/2002

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S6.5.1.2 & S6.5.1.3	*Construction and Demolition Material* • Opportunity for re-using of fill material for back filling should be optimized. • Excavated materials that cannot be recycled should be transported to public filling areas. • Careful design, planning and good site management can minimise over-ordering and waste materials such as concrete, mortars and cement grouts. The design of formwork should maximise the use of standard wooden panels so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic fencing should be considered to increase the potential for reuse. • The contractor should recycle as much as possible of the construction waste on-site. Proper segregation of wastes on site will increase the feasibility of recycling certain components of the waste stream by recycling contractors. Concrete and masonry can be used as general fill and steel reinforcement bars can be used by scrap steel mills. Different areas should be designated for such segregation and storage wherever site conditions permit. • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement. • Surplus artificial hard materials should be delivered to Tuen Mun Area 38 recycling plant or its successor for recycling into subsequent useful products. • On-site sorting and segregation facility of all type of wastes is considered as one of the best practice in waste management and hence, should be implemented in all projects generating construction waste. The sorted public fill and construction & demolition (C&D) waste should be disposed to public filling areas and landfills, respectively.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	Entire construction site	Construction stage	✓ ✓ ✓ ✓ ✓ ✓ ✓	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETWB TC 15/2003

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
	• Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate. • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified. • Implement an enhanced Waste Management Plan similar to ETWB TC(W) No. 15/2003 – "Waste Management on Construction Sites" to encourage on-sitting sorting of C&D materials and to minimize their generation during the course of construction.					✓ ✓ ✓	
S6.5.1.4	*Chemical Waste* • Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. • Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	Entire construction site	Construction stage	N/A ✓ ✓ N/A	• Waste Disposal (Chemical Waste) General) Regulation • Code of Practice on the Packaging, Labelling and Storage of Chemical Waste

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S6.5.1.6	*Sewage* • Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.	Proper handling of sewage from worker to avoid odour, pest and litter impacts	Contractor	Entire construction site	Construction stage	✓	• Waste Disposal Ordinance
S6.5.1.5	*General Refuse* • General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. • Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminium cans, plastic bottles etc., should be provided.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	Entire construction site	Construction stage	✓ ✓ ✓ ✓	• Waste Disposal Ordinance

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S6.5.2.1	*Municipal Waste* • Recycling bins will be provided at shops and food service locations to collect cardboard containers. Personnel in office will be provided with bins to recycle office paper. • Aluminium can recycling bins will be placed at prominent locations for collection • Recycling bins for plastic bottle recovery should be set up at prominent places to facilitate visitors' participation in material recovery activities. • The landscaping works will generate a certain amount of grass clippings, leaves, bush and tree trimmings. However, the handling capacity of the existing Sha Ling composting facility is limited and is currently composting livestock wastes. The facility is unlikely to be able to handle the green waste generated from the Project site. Should there be a market or facility which could process the green waste arising from the Project site, the establishment of a recycling programme for green waste should be considered. • The venue operator should make arrangements with the laser printer toner cartridge suppliers to collect and recycle used toner cartridges for laser printers to avoid disposal of the cartridge at landfills as far as practicable.	Storage and handing of waste	Operator	Entire project site	Operational stage	B B B N/A B	• Waste Disposal Ordinance
S6.5.2.2	*Waste from Stables* • Waste from horse stables (mainly the horse manure) would be collected on a regular basis following HKJC's sanitary practices.	Storage and handing of waste	Operator	Entire project site	Operational stage	B	• Waste Disposal Ordinance

Environmental Mitigation Implementation Schedule
Main Arena of 2008 Olympic Equestrian Events

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	Implementation	What requirements or standards for the measures to achieve?
S9.3 & S9.7	1) An Independent Environmental Checker needs to be employed as per the EM&A Manual. 2) Establish a telephone hotline which enables the public to raise any matters of concern regarding the project such as complaints, comments, suggestions or requests for information.	Control EM&A Performance	Project Proponent	All construction sites	Construction stage	✓ ✓	• EIAO Guidance Note No.4/2002 • TM-EIAO
S9.5	1) An Environmental Team needs to be employed as per the EM&A Manual. 2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 3) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with. 4) Real-time reporting of monitoring data for the Project through a dedicated internet website need to be provided and maintained by the Environmental Team	Perform environmental monitoring & auditing	Contractor	All construction sites	Construction stage	✓ ✓ ✓ ✓	• EIAO Guidance Note No.4/2002 • TM-EIAO

Note: ✓ - Implemented
○ - Partially implemented
B - To be implemented
N/A - Not applicable

Appendix D

Calibration certificates of noise monitoring equipment

Summary of Equipment Calibration Details

Equipment Type	Model	Serial No.	Last Calibration Date	Next Calibration Date
Integrating sound level meter with microphone	Brüel & Kjær 2238 Brüel & Kjær 4188	2320694 2274284	11 Sep 2006	10 Sep 2007
		2320696 2274286	11 Sep 2006	10 Sep 2007
		2320707 2179479	11 Sep 2006	10 Sep 2007
Acoustical calibrator	Brüel & Kjær 4230	1233887	11 Sep 2006	10 Sep 2007

CERTIFICATE OF CALIBRATION

Issued by: **Brüel & Kjær UK Ltd.**

Date of Issue: 21 SEP 2005 Certificate Number: 14260

UKAS CALIBRATION

0174

Brüel & Kjær

Bedford House, Rutherford Close, Stevenage.
Hertfordshire. SG1 2ND
Telephone: 01438 739100 Fax.: 01438 739199
E-Mail : ukservice@bksv.com

Approved signatory

Name: A. M. HAMM

Signature:

CALIBRATION OF MULTI FREQUENCY CALIBRATOR TYPE 4226

("Free Field and Random" version)

Client: ARUP ACOUSTICS
PARKIN HOUSE
8 ST THOMAS STREET
WINCHESTER. SO23 9HE

Calibrator Type 4226, S/No: 1531372

With Coupler UA0915, S/No: 1531372

Client Inventory Number: -

Manufacturer: Brüel & Kjær

Equipment Received on: 16 SEP 2005

Calibration Date: 21 SEP 2005

Brüel & Kjær Reference No: 1-65783810

Measurement Method

The Calibration was performed to Laboratory Procedure TWI-103.

Sound pressure level in the 1/2 inch coupler of the calibrator was measured with a laboratory grade condenser microphone Type 4180, used as a working standard, calibrated by the National Physical Laboratory.

CERTIFICATE OF CALIBRATION

UKAS Accredited Calibration Laboratory No. 0174

Certificate Number

14260

The measured sound pressure was compared with that generated in the coupler of a working standard pistonphone calibrated by the National Physical Laboratory whose output was cross checked against a reference standard pistonphone, also calibrated by the National Physical Laboratory, using the same microphone and at the same ambient conditions. Appropriate corrections for atmospheric pressure conditions during calibration and for the measurement frequency and level response were taken into account.

Sound pressure level results are the mean of 5 measurements.

Results apply directly to the following settings on the calibrator, pressure, linear, calibration, 94dB, microphone group a, b, c.

Results for frequency and distortion are the result of a single measurement.

Results for 104 and 114dB are only at 125Hz, 1kHz and 8kHz, compared with the output at 94dB.

Calibration results apply at ambient conditions during the process of calibration.

Calibrations marked (Not UKAS Accredited) in this certificate have been included for completeness.

CALIBRATION RESULTS

4226 Settings: Linear, Pressure, 94dB, Microphone Group c.

Frequency Setting Hz	Sound Pressure Level in dB re 20µPa	Frequency Hz (Not UKAS Accredited)	Distortion % (Not UKAS Accredited)
31.5	94·12	31·63	0·5
63	94·02	63·13	0·2
125	94·01	125·9	0·1
250	94·01	251·3	0·1
500	94·00	502·5	0·2
1k	94·05	1·005 k	0·2
2k	94·04	1·979 k	0·3
4k	94·04	3·957 k	0·5
8k	94·11	7·915 k	0·3
12.5k	94·08	12·66 k	0·2

CERTIFICATE OF CALIBRATION

UKAS Accredited Calibration Laboratory No. 0174

Certificate Number 14260

Expanded uncertainty of calibration:

Sound Pressure Level:	±0.15dB from 31.5Hz to 2kHz, ±0.20dB at 4kHz and 8kHz, ±0.25dB at 12.5kHz
Frequency:	±1 last significant digit reported.
Distortion:	±0.3% distortion.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor *k*=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

ADDITIONAL TESTS

Sound Pressure Levels at Settings of 94, 104 and 114 dB

Frequency	Difference 104-94dB	Difference 114-94dB
125 Hz	9.99	19.97
1kHz	10.00	19.98
8kHz	9.96	19.93

Result of a single measurement, expanded uncertainty ±0.15dB

Inverted "A" Weighting, Readings Relative to 1kHz in dB

Frequency Hz	31.5	63	125	250	500	1 k	2 k	4 k	8 k	12.5 k
Target Value	+ 39.4	+ 26.2	+ 16.1	+ 8.6	+ 3.2	0	- 1.2	- 1.0	+ 1.1	+ 4.3
Reading	39.5	26.2	16.1	8.6	3.2	0.0	-1.2	-0.9	1.2	4.3

Target values according to BS EN 60651 - 1994 - results of a single measurement, values rounded to 0.1 dB, expanded uncertainty ±0.3dB.

CERTIFICATE OF CALIBRATION

UKAS Accredited Calibration Laboratory No. 0174

Certificate Number 14260

Free Field and Random settings

	Free Field Setting						Random	
	Microphone Group a		Microphone Group b		Microphone Group c		Microphone Group b	
Freq. Hz	Target Value dB	Reading dB	Target Value dB	Reading dB	Target Value dB	Reading dB	Target Value dB	Reading dB
250	0	0.00	0	0.00	0	0.00	0	0.00
500	0	0.00	0	0.00	0	0.00	0	0.00
1k	+0.15	0.14	+0.20	0.19	+0.10	0.09	+0.05	0.03
2k	+0.50	0.49	+0.45	0.44	+0.35	0.34	+0.10	0.08
4k	+1.35	1.34	+1.05	1.04	+0.95	0.92	+0.15	0.14
8k	+4.50	4.46	+2.80	2.77	+2.60	2.58	+0.40	0.38
12.5k	+7.35	7.28	+5.60	5.54	+5.05	5.00	+1.50	1.48

Target values as specified in the manufacturer's manual, result of a single measurement, expanded uncertainty ±0.2dB.

Ambient conditions during calibration were:

Atmospheric Pressure ..... 101.3 ..... kPa

Temperature ..... 23 ..... ° C

Relative Humidity ..... 46 ..... %

Checked by: MA Mitch

ArupAcoustics

ARUP

Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong, Kowloon
HONG KONG

Tel: +852 2268 3216

Fax: +852 2268 3950

AAc Certificate No. 2006006

CERTIFICATE OF CONFORMITY

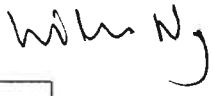
Description of Test Instrument	Type No	Serial No
Brüel & Kjær Sound Level Meter Kit	2238	2320694
Brüel & Kjær ½ " Microphone Kit	4188	2274284

Date of Test: 11 September 2006

Carried out by: Cissy Chan

Signature: 

Approved by: William Ng

Signature: 

Ambient Conditions During Test	
Atmospheric Pressure:	1KPa
Air Temperature:	21°C
Relative Humidity:	58%

This document is to certify that the above Test Instrumentation did conform to the manufacturer's original specification on the date of the test. Any adjustments that were required to bring the instrumentation back into specification are duly noted in this document. The tests were carried out using the reference calibrator described below.

Description of Reference Calibrator	Type No	Serial No
Brüel & Kjær Multi Frequency Calibrator	4226	1531372
Brüel & Kjær Coupler	UA0915	1531372

Certificate of Calibration Serial No.	14260
By Brüel & Kjær (UK) Ltd Calibration Date:	21 September 2005
NAMAS Accredited Calibration Laboratory No.	0174

The reference calibrator, Type 4226, has traceable calibration back to National Measurement Standards. As such it is used as Arup Acoustics own 'Primary Standard' and is used only for controlled laboratory calibration tests on all sound measuring equipment owned by Arup Acoustics.

Footnote:

Arup Acoustics is not a registered NAMAS accredited calibration laboratory. This certificate is for internal use only (unless otherwise authorised) and is part of Arup Acoustics development and commitment to QC and QA procedures.

ArupAcoustics

ARUP

Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong, Kowloon
HONG KONG

Tel: +852 2268 3216

Fax: +852 2268 3950

AAc Certificate No. 2006007

CERTIFICATE OF CONFORMITY

Description of Test Instrument	Type No	Serial No
Brüel & Kjær Sound Level Meter Kit	2238	2320696
Brüel & Kjær ½ " Microphone Kit	4188	2274286

Date of Test: 11 September 2006

Carried out by: Cissy Chan

Signature:

Approved by: William Ng

Signature:

Ambient Conditions During Test	
Atmospheric Pressure:	1KPa
Air Temperature:	21°C
Relative Humidity:	58%

This document is to certify that the above Test Instrumentation did conform to the manufacturer's original specification on the date of the test. Any adjustments that were required to bring the instrumentation back into specification are duly noted in this document. The tests were carried out using the reference calibrator described below.

Description of Reference Calibrator	Type No	Serial No
Brüel & Kjær Multi Frequency Calibrator	4226	1531372
Brüel & Kjær Coupler	UA0915	1531372

Certificate of Calibration Serial No.	14260
By Brüel & Kjær (UK) Ltd Calibration Date:	21 September 2005
NAMAS Accredited Calibration Laboratory No.	0174

The reference calibrator, Type 4226, has traceable calibration back to National Measurement Standards. As such it is used as Arup Acoustics own 'Primary Standard' and is used only for controlled laboratory calibration tests on all sound measuring equipment owned by Arup Acoustics.

Footnote:

Arup Acoustics is not a registered NAMAS accredited calibration laboratory. This certificate is for internal use only (unless otherwise authorised) and is part of Arup Acoustics development and commitment to QC and QA procedures.

ArupAcoustics

ARUP

Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong, Kowloon
HONG KONG

Tel: +852 2268 3216

Fax: +852 2268 3950

AAc Certificate No. 2006005

CERTIFICATE OF CONFORMITY

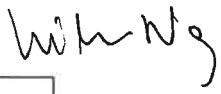
Description of Test Instrument	Type No	Serial No
Brüel & Kjær Sound Level Meter Kit	2238	2320707
Brüel & Kjær ½ " Microphone Kit	4188	2179479

Date of Test: 11 September 2006

Carried out by: Cissy Chan

Signature: 

Approved by: William Ng

Signature: 

Ambient Conditions During Test	
Atmospheric Pressure:	1KPa
Air Temperature:	21°C
Relative Humidity:	58%

This document is to certify that the above Test Instrumentation did conform to the manufacturer's original specification on the date of the test. Any adjustments that were required to bring the instrumentation back into specification are duly noted in this document. The tests were carried out using the reference calibrator described below.

Description of Reference Calibrator	Type No	Serial No
Brüel & Kjær Multi Frequency Calibrator	4226	1531372
Brüel & Kjær Coupler	UA0915	1531372

Certificate of Calibration Serial No.	14260
By Brüel & Kjær (UK) Ltd Calibration Date:	21 September 2005
NAMAS Accredited Calibration Laboratory No.	0174

The reference calibrator, Type 4226, has traceable calibration back to National Measurement Standards. As such it is used as Arup Acoustics own 'Primary Standard' and is used only for controlled laboratory calibration tests on all sound measuring equipment owned by Arup Acoustics.

Footnote:

Arup Acoustics is not a registered NAMAS accredited calibration laboratory. This certificate is for internal use only (unless otherwise authorised) and is part of Arup Acoustics development and commitment to QC and QA procedures.

ArupAcoustics

ARUP

Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong, Kowloon
HONG KONG

Tel: +852 2268 3216

Fax: +852 2268 3950

AAc Certificate No. 2006001

CERTIFICATE OF CONFORMITY

Description of Test Instrument	Type No	Serial No
Bruel & Kjaer 4230 Acoustic Calibrator	4230	1233887

Date of Test: 11 September 2006

Carried out by: Cissy Chan

Signature:

Approved by: William Ng

Signature:

Ambient Conditions During Test	
Atmospheric Pressure:	1KPa
Air Temperature:	21°C
Relative Humidity:	58%

This document is to certify that the above Test Instrumentation did conform to the manufacturer's original specification on the date of the test. Any adjustments that were required to bring the instrumentation back into specification are duly noted in this document. The tests were carried out using the reference calibrator described below.

Description of Reference Calibrator	Type No	Serial No
Brüel & Kjær Multi Frequency Calibrator	4226	1531372
Brüel & Kjær Coupler	UA0915	1531372

Certificate of Calibration Serial No.	14260
By Brüel & Kjær (UK) Ltd Calibration Date:	21 September 2005
NAMAS Accredited Calibration Laboratory No.	0174

The reference calibrator, Type 4226, has traceable calibration back to National Measurement Standards. As such it is used as Arup Acoustics own 'Primary Standard' and is used only for controlled laboratory calibration tests on all sound measuring equipment owned by Arup Acoustics.

Footnote:

Arup Acoustics is not a registered NAMAS accredited calibration laboratory. This certificate is for internal use only (unless otherwise authorised) and is part of Arup Acoustics development and commitment to QC and QA procedures.

Appendix E

Detailed noise monitoring results

Details of Noise Impact Monitoring

Month	Date	NSR No.	Time periods		Weather condition	Avg. wind speed (m/s)	Noise Level dB(A)			Influencing factors/ Site condition
			Start	Finish			L_{eq}	L_{10}	L_{90}	
Dec-06	07-Dec-06	NM1	10:25	10:55	Fine	1.6	62.0	63.2	59.5	Normal Operation
Dec-06	07-Dec-06	NM2	11:10	11:40	Fine	1.6	62.5	63.5	61.0	Normal Operation
Dec-06	07-Dec-06	NM3	09:30	10:00	Fine	1.4	57.9	58.5	56.0	Normal Operation
Dec-06	14-Dec-06	NM1	10:15	10:45	Cloudy	1.9	62.5	63.5	59.5	Normal Operation
Dec-06	14-Dec-06	NM2	09:30	10:00	Cloudy	2.1	63.5	64.0	62.0	Normal Operation
Dec-06	14-Dec-06	NM3	11:45	12:15	Cloudy	2.6	58.5	59.0	57.5	Normal Operation
Dec-06	21-Dec-06	NM1	10:50	11:20	Fine	1.8	62.5	63.0	59.0	Normal Operation
Dec-06	21-Dec-06	NM2	11:30	12:00	Fine	1.7	64.0	65.2	59.5	Normal Operation
Dec-06	21-Dec-06	NM3	10:00	10:30	Fine	1.9	56.4	57.0	55.0	Normal Operation
Dec-06	28-Dec-06	NM1	10:00	10:30	Sunny	3.1	63.5	65.5	60.0	Normal Operation
Dec-06	28-Dec-06	NM2	09:15	09:45	Sunny	2.6	62.7	64.5	60.0	Normal Operation
Dec-06	28-Dec-06	NM3	11:08	11:38	Sunny	1.9	58.5	57.5	53.5	Normal Operation
Jan-07	04-Jan-07	NM1	10:05	10:35	Fine	1.8	64.9	67.0	61.0	Normal Operation
Jan-07	04-Jan-07	NM2	09:10	09:40	Fine	1.6	64.1	66.5	60.5	Normal Operation
Jan-07	04-Jan-07	NM3	11:15	11:45	Fine	1.5	62.6	64.0	60.0	Normal Operation
Jan-07	11-Jan-07	NM1	09:30	10:00	Fine	1.6	64.2	65.5	62.0	Normal Operation
Jan-07	11-Jan-07	NM2	08:45	09:15	Fine	2.1	61.4	62.5	59.5	Normal Operation
Jan-07	11-Jan-07	NM3	10:38	11:08	Fine	1.8	60.3	61.0	59.5	Normal Operation
Jan-07	18-Jan-07	NM1	15:05	15:35	Fine	1.8	63.6	64.5	62.0	Normal Operation
Jan-07	18-Jan-07	NM2	14:20	14:50	Fine	1.9	62.9	65.0	60.5	Normal Operation
Jan-07	18-Jan-07	NM3	16:12	16:42	Fine	1.2	57.6	58.5	56.5	Normal Operation
Jan-07	25-Jan-07	NM1	15:10	15:40	Sunny	1.7	65.4	67.0	62.5	Normal Operation
Jan-07	25-Jan-07	NM2	14:30	15:00	Sunny	1.8	61.4	62.5	59.5	Normal Operation
Jan-07	25-Jan-07	NM3	16:13	16:43	Sunny	1.5	58.5	59.5	57.5	Normal Operation

Details of Noise Impact Monitoring

Month	Date	NSR No.	Time periods		Weather condition	Avg. wind speed (m/s)	Noise Level dB(A)			Influencing factors/ Site condition
			Start	Finish			L_{eq}	L_{10}	L_{90}	
Feb-07	01-Feb-07	NM1	14:43	15:13	Sunny	3.2	60.8	62.5	59.0	Normal Operation
Feb-07	01-Feb-07	NM2	14:00	14:30	Sunny	1.9	61.6	63.0	59.5	Normal Operation
Feb-07	01-Feb-07	NM3	15:50	16:20	Sunny	2.1	59.4	60.5	58.0	Normal Operation
Feb-07	08-Feb-07	NM1	14:20	14:50	Sunny	1.1	63.4	65.5	60.5	Normal Operation
Feb-07	08-Feb-07	NM2	15:00	15:30	Sunny	0.8	61.9	63.5	60.0	Normal Operation
Feb-07	08-Feb-07	NM3	16:08	16:38	Sunny	1.5	59.2	61.0	56.0	Normal Operation
Feb-07	15-Feb-07	NM1	10:10	10:40	cloudy	2.6	62.9	65.0	61.0	Normal Operation
Feb-07	15-Feb-07	NM2	09:30	10:00	cloudy	3.1	62.5	64.5	60.0	Normal Operation
Feb-07	15-Feb-07	NM3	11:15	11:45	cloudy	2.8	60.4	61.5	56.5	Normal Operation
Feb-07	22-Feb-07	NM1	10:10	10:40	cloudy	1.5	59.8	60.5	58.5	Normal Operation
Feb-07	22-Feb-07	NM2	09:30	10:00	cloudy	1.8	60.5	62.5	57.0	Normal Operation
Feb-07	22-Feb-07	NM3	11:05	11:35	cloudy	0.9	55.5	56.0	54.0	Normal Operation
Mar-07	01-Mar-07	NM1	14:42	15:12	cloudy	1.1	63.0	64.5	61.0	Normal Operation
Mar-07	01-Mar-07	NM2	14:00	14:30	cloudy	1.3	61.4	62.5	60.0	Normal Operation
Mar-07	01-Mar-07	NM3	15:39	16:09	cloudy	0.8	60.2	60.5	59.0	Normal Operation
Mar-07	08-Mar-07	NM1	15:45	16:15	cloudy	1.8	63.3	64.5	60.5	Normal Operation
Mar-07	08-Mar-07	NM2	16:40	17:10	cloudy	1.6	61.1	63.0	58.5	Normal Operation
Mar-07	08-Mar-07	NM3	14:35	15:05	cloudy	1.2	59.1	60.5	55.5	Normal Operation
Mar-07	15-Mar-07	NM1	10:00	10:30	Fine	2.1	63.7	65.0	61.0	Normal Operation
Mar-07	15-Mar-07	NM2	09:15	09:45	Fine	1.8	62.4	64.5	59.0	Normal Operation
Mar-07	15-Mar-07	NM3	10:55	11:25	Fine	1.7	58.6	61.0	56.0	Normal Operation
Mar-07	22-Mar-07	NM1	10:10	10:40	Fine	1.3	63.5	65.5	60.9	Normal Operation
Mar-07	22-Mar-07	NM2	09:30	10:00	Fine	1.5	62.2	63.7	60.4	Normal Operation
Mar-07	22-Mar-07	NM3	11:08	11:38	Fine	1.8	58.8	61.5	56.5	Normal Operation
Mar-07	29-Mar-07	NM1	15:40	16:10	Fine	1.6	63.7	65.0	61.1	Normal Operation
Mar-07	29-Mar-07	NM2	15:00	15:30	Fine	1.8	62.8	63.5	60.8	Normal Operation
Mar-07	29-Mar-07	NM3	16:30	17:00	Fine	1.4	58.3	61.0	56.1	Normal Operation

Appendix F

Landscape and visual monitoring and audit report

1. Monitoring results

1.1 Landscape and Visual

Landscape resource changes related to the site clearance work comprise of the loss of turf and trees. Main arena construction is undergoing and all turf inside the main arena has been removed for construction. Visual impacts arising from the concrete walls of the stables surrounding construction activities are apparent. This impact is expected to be greatly mitigated and reduced when the stable walls are finished.

1.2 Environmental Site Auditing

Landscape and visual monitoring and site audits were carried out on 7th and 21st March 2007. Main arena and stable construction works were undergoing.

Most transplanted and retained trees were generally in fair condition. Retain trees in the planter between the existing tennis court and the swimming pool such as T748, and T739 were unprotected and building materials were stocked under the tree canopy. The Contractor shall remove all material under the tree canopy and install proper tree protection fencing.

1.3 Implementation Statuses of Landscape and Visual Impact Measures

The implementation statuses of environmental protection requirements are summarized in the following table.

Table 1.1 Implementation Statuses of Landscape and Visual Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Implementation Status	Relevant Legislation & Guidelines
					C	O	R		
Landscape and Visual Impact - Construction Phase									
Table 7.31	MC1	Site offices, construction yard and holding nursery: • Site offices and the construction yard shall be decommissioned after construction. • Construction roads shall be decommissioned and landscape areas be restored to its original or newly proposed state. • The holding nursery for decorative plants at show jumps shall be decommissioned after the Olympic events.	At concealed location	HKJC's Contractor	x		x	Construction: To commence. Reinstatement: To commence	Nil.
Table 7.31	MC 2	Height of site offices: ▪ The height of site offices shall be controlled in order to avoid visual impacts.	At concealed location	HKJC's Contractor	x		x	Construction: Complied. Reinstatement: To commence.	Nil.
Table 7.31	MC 3	Hoarding and screening: ▪ Where practical the site offices areas, construction yards and storage areas shall be screened with decorative hoarding or vegetation around the peripheries until the completion of relevant construction phases.	Site offices, construction yards and storage areas.	HKJC's Contractor	x		x	Construction: Complied. Reinstatement: To commence	Nil.

Table 7.31	MC 4	Construction plant and building material: ▪ Shall be orderly and carefully stored in order to appear neat and avoid visibility from outside where practical; ▪ Excess materials shall be removed from site as soon as practical; and ▪ All construction plant shall be removed from site upon completion of construction works.	All areas with construction plant and building material	HKJC's Contractor	x		x	Construction: Complied. Reinstatement: To commence	Nil.
Table 7.31	MC 5	Construction light: ▪ To be oriented away from the viewing location of VSRs; and ▪ All construction lights shall have frosted diffusers and reflective covers.	All construction lights	HKJC's Contractor	x		x	No construction lights at present.	Nil.

Table 7.31	MC 6	Vegetation: ▪ Temporary construction sites shall be restored to standards as good as, or better than, the original condition; ▪ The potential for soil erosion shall be reduced at the construction stage by minimizing the extent of vegetation disturbance on site and by providing a protective cover over exposed ground; and ▪ No construction equipment or building materials shall be stored under the dripline of retained trees and no vehicle movement or other construction activities like washing, concrete mixing etc shall be carried out under the dripline of trees.	Affected vegetation areas	HKJC's Contractor	x		x	Construction: Retain and transplant trees have been fenced off. No material or equivalent are stored under the dripline of tree. Complied. Reinstatement: To commence.	Nil.
Table 7.31	MT 1	Compensation for losses: ▪ The tree compensation to tree loss ratio shall be 1:2; and ▪ At least 82 new trees of light standard or larger size shall be planted.	At available areas suitable for healthy tree growth	HKJC's Contractor	x		x	Construction: To commence. Reinstatement: To commence.	Nil.
Table 7.31	MT 2	The majority of compensation species shall comprise of species that already occurs within the LIA boundaries.	General	HKJC's Contractor	x		x	Construction: To commence. Reinstatment: To commence.	Nil.
Table 7.31	MT 3	Where practical, trees that require removal shall be transplanted on Site.	At available areas suitable for healthy tree growth	HKJC's Contractor	x		x	Construction: Some trees have been transplanted. Reinstatement: To commence.	ETWB TCW N0. 2/2004, WBTC No. 3/2006 BD PNAP No. 267

Table 7.31	MT 4	Planting Works: ▪ New trees, bamboos and shrubs shall be planted in groups in order to screen visual impacts and to provide additional shade.	At available areas suitable for healthy tree growth and along approach footpath	HKJC's Contractor	x		x	Construction: To commence. Reinstatement: To commence.	Nil.
Table 7.31	MT 5	Tree Planting on Slopes: ▪ New slopes with a gradient larger than 30^{o} shall have shrub, groundcover or grass planting.	On affected slopes	HKJC's Contractor	x		x	Construction: To commence. Reinstatement: To commence	WBTC No. 17/2000 WBTC No. 25/93 BD PNAP No. 270
Table 7.31	MT 6	Tree Preservation: ▪ No tree shall be transplanted or felled without prior approval by relevant Government departments; ▪ All trees that are marked for retention shall be fenced off with a 1.2m high fence; and ▪ Transplant preparation works shall be carried as soon as possible after commencement of construction. Rootball and crown pruning shall be carried out over a period of at least 1 month.	At existing locations of retained trees and transplantation areas, which should be suitable for healthy tree growth.	HKJC's Contractor	x		x	Construction: Tree protection has been recorded. Reinstatement: To commence.	Nil
Table 7.31	MT 7	Existing shrub and ground cover planting areas that will not be removed shall be maintained in good condition and enhanced where practical.	All retained planting areas	HKJC's Contractor HKJC's Contractor HKJC's Contractor	x		x	Construction: Complied. Reinstatement: To commence.	Nil

	MS 8	Site formation works at slopes shall be followed with hydroseeding as soon as practical or be covered with shrubs and groundcovers.	Slope areas	Event Operator HKJC's Contractor	x		x	Construction: To commence. Reinstatement: To commence	Nil
Table 7.31	MS 9	Grassing shall be carried out as soon as practical after construction of footing stratum at one of the General Training Arenas.	General Training Arena	Event Operator	x			Construction: To commence. Reinstatement: To commence	Nil.
Table 7.31	MF 1	All floodlight units on the floodlight poles shall be properly aimed at the competition and practice areas of the Main and Warm-up arenas. In this regards, the central light focus of each floodlight unit shall always be aimed on the arena areas and not on any other adjacent area.	Main Arena and Warm-up Arena	HKJC's Contractor		x	x	Operation: To commence. Reinstatement: To commence.	Nil.

Table 7.31	MF 2	Each floodlight unit shall have a built-in anti-glare baffle and visor shield to limit the glare.	Main Arena and Warm-up Arena	HKJC's Contractor	x			Construction: To commence.	Nil.
Table 7.31	MF 3	Operational hours of the floodlights shall be restricted to competition hours only. Floodlights shall be turned off when spectators have left the seating area.	Main Arena and Warm-up Arena	Event Operator		x	x	Operation: To commence. Reinstatement: To commence.	Nil.

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.
** C=Construction, O=Operation R=Reinstatement
N/A Not applicable

2. Recommendations and Conclusion

Removal all materials from the tree protection zone and install tree protection fencing to unprotected trees.

Appendix G

Log records and details of environmental complaints

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Investigation Result and Proposed Actions	Completion Date	Remarks
001	28 Aug 2006	Discharge of muddy water into Shing Mun River	No evidence had shown the source of the muddy water discharge from subjected site. In fact, there were three main contractors working inside the HKSI area and all share the same discharge outlet. However, contractor had carried out the following measures to prevent any further discharge of muddy water from the subject site areas: 1. Keep closely checking on the performance of the wastewater treatment system; 2. Closely monitoring of the discharge outlet at Shing Mun River and tracing of the source origin immediately if muddy water was observed; 3. Made use of the shallow ground areas on site to temporary trap stormwater inside the site to prevent any direct discharge; 4. Construction of temporary drainage channel and use of water pump to properly divert the trapped stormwater to the temporary sump pit; 5. Control pumping of all muddy water collected from the sump pit to the wastewater treatment plant within its treatment capacity before discharging.	1 Sept 2006	EPD inspected the site drainage system on 1 Sept 2006 and was satisfied.

No.	Date of Complaint Received	Description	Investigation Result and Proposed Actions	Completion Date	Remarks
002	8 Nov 2006	Construction Noise generated from area at HKSI on 5 Nov 2006 (Sunday)	Rectification action: 1. Introduction of the Permit to Work system for works to be carried out during restricted hours. 2. Consider to apply for a more realistic CNP for the construction works.	12 Nov 2006	
003	9 Nov 2006	Dust nuisance from construction site of HKSI	Rectification action: 1. Avoid stockpile of dusty materials on site. 2. Compact the exposed areas when watering on these areas is not effective.	9 Nov 2006	
004	15 Nov 2006	Dump trucks not covering their load were found at the dumping sites	Rectification action: 1. Enhancement of the current checking system at vehicular entrance by security personnel. 2. Give warning to subcontractors and establish penalty measures. 3. Give warning to the security company for the site and request them to enhance the checking system for every dump truck leaving the site.	17 Nov 2006	