MONTHLY MONITORING REPORT

Highways Department

Route 9 Between Tsing Yi and Cheung Sha Wan - Phase 1 Ngong Shuen Chau Viaduct: *Monthly Monitoring Report*

September 2002

Environmental Resources Management

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EP - 085/2000/B Route 9 Between Tsing Yi and Cheung Sha Wan Phase 1 Ngong Shuen Chau Viaduct

Monthly Monitoring Report September 2002

Certified by the Environmental Team Leader Environmental Resources Management

Signed:

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Date: 9. 9. 2002

Mr Freeman Cheung

Executive Director

Verified by the Independent Environmental Checker Hyder Consulting Ltd, Environmental Division

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EXECUTIVE SUMMARY

The construction work of the "HY/2000/21 - Route 9 Ngong Shuen Chau Viaduct Contract" commenced on 29 July 2002. This monthly Environmental Monitoring and Audit (EM&A) report presents the EM&A works that has been carried out during the month from 29 July 2002 to 28 August 2002 in accordance with the EM&A Manual specified under Appendix M of the Particular Specification (PS).

Summary of Construction Works Undertaken During the Reporting Period

The major construction works were carried out during normal working hours (i.e. Monday to Saturday exclude public holidays from 0700 to1900 hours) included site clearance, mobilization of equipment, construction of site office in Area P1-SA9, erection of hoarding, site investigation and bored piling in Area P1-SA6 and P1-SA13.

No construction works were carried out during the restricted hours (General Holiday including Sundays between 0700 to 0700 hours of next day and any day not being a general holiday between 1900 to 0700 hours of next day) in the reporting period.

Air Quality

For 1-hr. TSP monitoring, a total of 30 sets of measurement were carried out during the reporting period and all measurement results were lower than the corresponding Action/Limit Levels. No Notification of Exceedance was issued during the reporting period.

For 24-hr. TSP monitoring, a total of 10 sets of measurement were carried out during the reporting period and all measurement results were lower than the corresponding Action/Limit Levels. No Notification of Exceedance was issued during the reporting period.

<u>Noise</u>

For $L_{eq}(30\text{min})$ measurement, a total of 10 sets of measurement at Daytime (i.e. 0700 to1900 hours on normal weekdays) were carried out during the reporting period and all measurement results were below the Action/Limit Level. No Notification of Exceedance was issued during the reporting period.

Waste Management

For Excavated Materials, approximate $2,120 \text{ m}^3$ were produced at the site during the reporting period. About 1,260 m³ of the inert excavated materials were reused on-site and about 860 m³ were delivered to the government approved public filling area in Tuen Mun Area 38.

For C&D Waste, approximate 242 tones were produced at the site during the reporting period and they have been delivered to WENT and SENT landfills. At the reporting month, about 372 kg paper was collected by a licensed recycle collector.

For Chemical Waste, about 600 liters of spent oil were produced at the site during the reporting period and they were collected by a licensed chemical waste collector.

Site Inspection

Weekly site inspections were conducted by the ET and the major findings are summarized as follows:

Item	Findings	Proposed Mitigation	Environmental Outcome
		Measures	
1	Muddy/silty water from	Divert effluent for proper	Temporary measures were
	wheel washing bay	treatment before final	employed. De-silting facilities
	discharged to gullies at P1-	discharge to public drains.	being arranged by CHEC.
	SA6 (Lai Po Road).		
2	Stockpiles excavated	Cover the stockpiles.	CHEC covered the stockpiles
	material were not covered		by tarpaulin accordingly.
	properly at Area P1-SA15.		
3	Surface water contaminated	Contaminated water	The collected waste was
	with oil/petrol was observed	collected and disposed of	disposed of as chemical waste.
	at Area P1-SA6.	properly.	

IEC Audit was carried out on 27th August 2002 and the major observations are as follows:

Item	Findings	Proposed Mitigation	Environmental Outcome
		Measures	
1	Site hoarding at Area P1-	Seal the bottom of the	The bottom of the hoarding
	SA6, Lai Po Road was not	hoarding properly.	was sealed properly to prevent
	tightly sealed at the bottom.		seepage of surface runoff from
			the site.
2	Muddy/silty water from	Divert the effluent for	Temporary measures were
	wheel washing activities	proper treatment before	employed. De-silting facilities
	discharged to gullies at P1-	final discharge.	being arranged by CHEC.
	SA6 (Lai Po Road).		

No site inspection was conducted by EPD during the reporting month.

Complaint Log

One environmental complaint was received during the reporting period.

Notification of Summons and Successful Prosecutions

No notification of summons and prosecutions regarding non-compliance of environmental performance of the construction site was received during the reporting period.

Future Key Issues

The tentative program of major site activities as well as the impact prediction and control measures for the coming three months, i.e. September to November 2002 are summarized as follows:

Construction	Major Impact	Control Measures	
Works	Predication		
Bore Pilling, pre-	Generation of	• The wastewater produced will be collected and recycled	
drilling and	silty water	for cooling on-site.	
excavation		• The footing of hoardings shall be sealed to avoid untreated	
		wastewater drained into the existing drainage system.	
		• Divert the collected effluent to de-silting facilities	
		treatment before discharge to public drains.	
	Noise Impact	• Schedule of works if necessary to avoid persistent noisy	
	i tonse impuet	operation.	
		• Control the number of plant use on site.	

1. INTRODUCTION

Environmental Resource Management Hong Kong Limited (ERM) was appointed by the Highways Department to undertake the role of the Environmental Team Leader for "Route 9 between Tsing Yi and Cheung Sha Wan Phase 1 – Ngong Shuen Chau Viaduct" to carry out baseline and impact monitoring.

1.1 Purpose of the Report

The propose of this report is to present the results and findings of all EM&A works which have been carried out during the reporting period from 29th July 2002 to 28th August 2002 in accordance with the EM&A Manual specified under the Appendix M of the PS.

1.2 Structure of the Report

The structure of the report is as follows:

- Section 1: **INTRODUCTION** details the scope and structure of the report.
- Section 2: **PROJECT INFORMATION** summarizes the background and scope of the project, project organization, construction programme and the construction works undertaken during the reporting period.
- Section 3: <u>ENVIRONMENTAL MONITORING REQUIREMENTS</u> summarizes the monitoring programmes, Action and Limit Levels, Event Action Plans, environmental mitigation measures as recommended in the EIA Report and relevant environmental requirements.
- Section 4: <u>IMPLEMENTATION STATUS ON ENVIRONMENTAL</u> <u>PROTECTION REQUIREMENTS</u> – summarizes the implementation of environmental protection measures during the reporting period.
- Section 5: ENVIRONMENTAL LICENCE AND PERMITTING <u>REQUIREMENTS</u> – summarizes the environmental licences and permits obtained or being applied during the reporting period.
- Section 6: <u>MONITORING RESULTS</u> reports the monitoring results obtained in the reporting period.
- Section 7: <u>AUDIT RESULTS</u> summarizes the audit findings in the reporting period.
- Section 8: <u>COMPLAINTS, NOTIFICATIONS OF SUMMONS AND</u> <u>SUCCESSFUL PROSECUTIONS DURING THE REPORTING</u> <u>PERIOD</u> – summarizes the complaints, notifications of summons and successful prosecutions recorded during the reporting period.
- Section 9: <u>FUTURE KEY ISSUES</u> summarizes the future key issues as reviewed from the works programme and work method statements.
- Section 10: **<u>RECOMMENDATIONS AND CONCLUSIONS</u>**

2. **PROJECT INFORMATION**

2.1 Background

Ove Arup and Partners Hong Kong Ltd (Arup) has been awarded the Design and Construction Consultancy Assignment "Agreement No. CE72/98 R9T between Tsing Yi and Cheung Sha Wan".

Phase 1 of the Route 9 Project comprises of the Ngong Shuen Chau Viaduct and its link with CT8, R9T Cheung Sha Wan – Shatin, and West Kowloon Highway, has been awarded to China Harbour Engineering Company (Group) (CHEC) on 10 April 2002. The Phase 1 construction works was commenced on 29th July 2002 and is scheduled to be completed by December 2006.

2.2 Site Description

Phase 1 works area is located in urban area; the sensitive receivers are mainly residential buildings and schools at Mei Foo Sun Chuen and the dwellings at Stonecutters Military Base. The works area is illustrated in *Appendix A*.

2.3 **Project Organisation**

The project organization chart and contact details are shown in Appendix B.

2.4 **Project Work Programme**

The project works programme for the coming three months is presented in *Appendix C*. The major site activities undertaken during the reporting month are summaries in *Table 2.1*.

Table 2.1Site Activities undertaken from 29 July 2002 to 28 August 2002

Area	Details of Site Activities	
P1-SA6	Bore Piling, Site Investigation and Hoarding Erection.	
P1-SA9	Erection of site office.	
P1-SA13 and 14	Mobilization of Equipment and Site Investigation.	
P1-SA15	Stockpile of excavated material to be reused on site.	

3. ENVIRONMENTAL MONITORING REQUIREMENTS

3.1 Air Quality

Monitoring Requirements

Monitoring of 1-hour and 24-hour TSP was conducted to monitor the construction dust impact. *Appendix D1* shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Frequency and Schedule

The monitoring parameters and frequency are summarized in *Table 3.1*. The monitoring schedule for the reporting period is shown in *Appendix E*.

Table 3.1 TSP Monitoring Parameter and Frequency

Parameters	Duration / hour	Frequency
24-hour TSP	24	Once Every Six Days
1-hour TSP	1	Three Times Every Six Days

Monitoring Locations

In accordance with the EM&A Manual and project specifications, two air quality monitoring locations were selected. Both 1 hour and 24-hour TSP monitoring were performed in the reporting month. The locations of the two monitoring stations are listed in *Table 3.2* and are shown in *Appendix F*.

Table 3.2 TSP Monitoring Locations

Location I.D.	Description	
ASR1	Lai Chi Kok Park at Mei Foo Sun Chuen (at the roof of the toilet block)	
ASR2	DSD Pumping Station (in the proximity of Stonecutters Military Base)	

Wind data monitoring was carried out at a conspicuous location for logging wind speed and wind direction near the dust monitoring locations. Weather station has been established at the Area P1-SA10 and the wind data was monitored since June 2002.

Monitoring Equipment

Continuous 24-hour and 1- hour TSP air quality monitoring were performed using a TE-5170 Tisch Environmental Inc. High Volume Sampler (HVS) installed at each of the monitoring stations. The sampler is composed of a motor, filter holder, flow controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

Wind data in terms of wind speed and direction was measured using wind data monitor. Details of the monitoring equipment are given in *Table 3.3*. A copy of the calibration certificate for the HVS and wind data monitor are attached in *Appendix G1* and *Appendix G2* respectively.

Table 3.3 Air Quality Monitoring Equipment

Equipment	Model	Qty.
HVS Sampler	TE-5170 Tisch Environmental Inc.	2
Calibrator	TE-5028A Tisch Environmental Inc.	1

Monitoring Procedures and Calibration Details

Calibration Procedures

Calibration procedures of HVS were as follows:

- A certified orifice transfer standard with a calibration curve was used for the calibration.
- The transfer standard was connected to the inlet of the sampler. The orifice manometer was then connected to the orifice pressure port. The manometer's connecting tubing was inspected to make sure that there are no leaks between the orifice unit and the sampler.
- The motor was then disconnected from the flow controller and plugged directly to an AC power source.
- A weather station has been setup at the CRE Temporary Accommodation to measure and record the ambient temperature, Ta (K) and the barometer pressure Pa (mmHg) during calculation.
- The sampler was allowed to run for at least 2 minutes to re-establish the run temperature conditions. The pressure drop across the orifice and the well-type manometer reading was recorded during calibration. The variable resistance was adjusted to repeat recording for four different flow rates.

• The best fit straight line was determined by linear regression and find the slope (m1), intercept (b1) and correlation coefficient (r).

Certificates for calibration is attached in Appendix G3.

Operating/Analytical Procedures

- The flow rate of the high volume sampler was set to about $1.1 \text{ m}^3/\text{min} 1.7 \text{ m}^3/\text{min}$ prior to commencement of the dust sampling in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- The samplers was located such that:
 - the filter was about 1.3 meters above ground.
 - it was greater than 20 meters away from trees.
 - it was separated from any obstacle by at least twice the height of the obstacle protruding above the sampler.
 - it has unrestricted airflow 270° around the sampler.
- Fibreglass filters were used for TSP sampling (G810) [Note: these filters have a collection efficiency of > 99% for particles of 0.3 mm diameter].
- All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was between 25°C and 30°C and not vary by more than ± 3 °C; the relative humidity was < 50% and not vary by more than $\pm 5\%$.
- A new filter was placed with stamped number upward on a supporting screen.
- The filter was properly aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter.
- Shelter lid closed and catch secured with the aluminium strip.
- The samplers was then allowed to run for at least 5 minutes to establish runtemperature conditions.
- The flow indicator reading was recorded and the sampler flow rate was determined.
- The programmable timer was set and the starting sampling time, weather condition and the filter number was recorded.
- At the end of sampling, the filter was transferred from the filter holder of the HVS to a sealable plastic bag and sent to the laboratory for weighing. The elapsed time was also recorded.

• Before weighing, all filters were equilibrated in a desiccator for 24 hours with temperature of $25^{\circ}C\pm 3^{\circ}C$ and the relative humidity (RH) $50\%\pm 5\%$, preferably 40%.

Maintenance

- The volume sampler and their accessories were maintained in good working condition, include replacing motor brushes routinely and checking electrical wiring to ensure continuous power supply.
- The high volume samplers was calibrated at bi-monthly intervals using TE-5028A Tisch Environmental Inc. Calibration Kit throughout all stages of the air quality monitoring.

Event/Action Plan

The Event/Action Plan for Air Quality is shown in Appendix H1.

3.2 Noise Quality

Monitoring Requirements

Noise monitoring was conducted at two monitoring stations to monitoring the construction noise impact. *Appendix D2* shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Frequency and Schedule

Noise monitoring was conducted during the period 07:00 to 19:00. The monitoring schedule is shown in *Appendix E*. The frequency and parameters of noise measurement are presented in Table 3.4.

Table 3.4 Noise Monitoring Frequency and Parameters

Time Period	Duration / min.	Parameters	Frequency
Daytime (0700 to 1900)	30 (6 consecutive L _{eq} (5min) in average)	$L_{eq}, L_{90} \& L_{10}$	Once per week

Monitoring Locations

In accordance with the EM&A Manual and project specifications, two noise monitoring stations (as detailed in *Table 3.5* and shown in *Appendix F*) were selected for noise measurement.

 Table 3.5
 Location of the Noise Monitoring Stations

Location I.D.	Description	Type of measurement
NSR1	Lai Chi Kok Park at Mei Foo Sun Chuen (at the roof of the toilet block)	Free Field
NSR2	DSD Pumping Station (in the proximity of Stonecutters Military Base)	Free Field

Monitoring Equipment

Integrating Sound Level Meters were used for noise monitoring which were Type 1 sound level meters capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x). They comply with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). Also, a portable electronic wind speed indicator capable of measuring wind speed in m/s was used to monitor the wind speed. *Table 3.6* summarises the noise monitoring equipment used.

Table 3.6 Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	SC-30, CESVA
Calibrator	CB-5, CESVA
Portable Wind Speed Indicator	PWM1, Dwyer

Monitoring Procedures and Calibration Details

Field Monitoring

- The microphone of the Sound Level Meter (with weatherproof kit) was mounted on a tripod at a height of 2m above ground level.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces.
- AC power supply was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - frequency weighting : A
 - time weighting : Fast
 - time measurement : 30 minutes / 5 minutes
- Prior to and after each noise measurement, the meter was calibrated using the Calibrator for 94 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB (A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L_{eq} , L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

Maintenance and Calibration

- The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- The meter was sent to the supplier to check and calibrate at yearly intervals.

Calibration certificates are presented in Appendix G3.

Event/Action Plan

The Event/Action Plan for Noise impact is shown in Appendix H2.

4. IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status during the reporting period is summarized in *Appendix I*.

5. ENVIRONMENTAL LICENCE AND PERMITTING REQUIREMENTS

The status of the permits, licenses and EPD notifications for all relevant environmental issues for this project is summarized in *Table 5.1* of the reporting period.

Decorintion	Permit	Valid	Period	Section	Status / Domanka
Description	No.	From	То	Section	Status / Kemarks
Environmental	EP-	15/04/02	-	Whole work	Valid
Permit	085/2000			site	
	В				
Chemical	WPN –	15/04/02	-	Whole	Valid
Waste	5213-			construction	(for disposal of
Producer	269-			site	empty
Registration	C3215-01				fuel/lubricant
					drums, scrap
					batteries, spent
					lubricating oil,
					diesel, mineral oil
					and solvent)
Waste Water	EP482/26	15/04/02	30/06/07	Whole	Valid
Discharge	9/0038/I			construction	(carry out analyses
License				site	on a quarterly
					basis)
Construction	GW-	09/05/02	24/10/02	Lai Wan	Valid
Noise Permit	UE0138-			Interchange	(Any day from
	02				0700h - 2300h)
Construction	GW-	09/05/02	24/10/02	Hing Wah St.	Valid
Noise Permit	UE0139-			West between	(Any day from
	02			Container Port	0700h - 2300h)
				Rd. South	
				Roundabout	
				No.7 and La Po	
				Rd.	

 Table 5.1 Summary of Environmental Licensing, Notification and Permit Status

Description	Permit	Valid	Period	Section	Status / Domanka
Description	No.	From	То	Section	Status / Kemarks
Construction	GW-	09/05/02	24/10/02	West Kln.	Valid
Noise Permit	UE0140-			Highway near	(Any day from
	02			Hing Wah St.	0700h - 2300h)
				West	
Construction	PP-	13/07/02	08/01/03	West Kowloon	Valid
Noise Permit	UE0051-			Highway	(Any day not being
	02			Flyover near	a general holiday
				Hing Wah St.	from 0700h-
				West	1900h)
Construction	PP-	13/07/02	08/01/03	Hing Wah St.	Valid
Noise Permit	UE0055-			West off Kln.	(Any day not being
	02			Refuse Transfer	a general holiday
				Station	from 0800h-
					0930h, 1230h-
					1400h, 1700h-
					1900h)
Construction	PP-	10/08/02	30/01/03	Lai Po Rd off	Valid
Noise Permit	UE0063-			KMB Depot	(Any day not being
	02				a general holiday
					from 0700h-
					1900h)

6. MONITORING RESULTS

6.1 Air Quality

1-hour TSP

1-hour TSP monitoring was carried out at 2 monitoring stations between 29 July 2002 and 28 August 2002. All monitoring data is presented in *Appendix J*. A summary of the measured 1-hour TSP levels is given in *Table 6.1*. Graphical presentation of the 1-hour TSP monitoring results for the reporting month is shown in *Appendix K*.

No exceedance of the Action/Limit Levels of 1-hour TSP was recorded during the reporting period.

Location	1-hour TS	SP(µg/m ³)	Action Level	Limit Level
I.D.	Mean	Range	(μg/m ³)	(μg/m ³)
ASR1	107.4	17.5-177.6	318	500
ASR2	123.2	40.4-237.0	324	500

Table 6.1Summary of 1-hour TSP Impact Monitoring Results

24-hour TSP

24-hour TSP monitoring was carried out at 2 monitoring stations between 29 July 2002 and 28 August 2002. All monitoring data is presented in *Appendix J*. A summary of the measured results is given in *Table 6.2*. Graphical presentation of the results is shown in *Appendix K*.

 Table 6.2 Summary of 24-hour TSP Impact Monitoring Results

Location	24-hour T	ΓSP (µg/m ³)	Action Level	Limit Level
I.D.	Mean	Range	(μg/m ³)	(μg/m³)
ASR1	64.2	36.8-132.7	163	260
ASR2	79.1	27.9-161.4	178	260

The wind data monitoring results recorded during the reporting period are summarised in *Appendix L*.

Observations

There are several significant dust sources identified during the reporting period and they are mainly contributed by the following activities:

- Site clearance;
- Excavation;
- Other construction activities nearby; and
- Traffic.

6.2 Noise

Normal Hour Monitoring

Noise monitoring was carried out at all the noise monitoring stations between 29 July 2002 and 28 August 2002. A 3 dB(A) façade correction was made to the free field measurements at the monitoring stations. All corrected noise levels are presented in *Appendix M*. A summary of the results is given in *Table 6.3*. Graphical presentation of the monitoring results for the reporting month is shown in *Appendix N*.

Table 6.3 Summary of Corrected Impact Noise Levels

Daytime 0700-1900 hrs on	Noise Level, dB(A) Mean (Range)				
normal weekdays	Leq	L ₁₀	L ₉₀		
NSR1*	71.1	73.0	68.9		
	(67.9-72.8)	(69.5-74.6)	(65.6-70.6)		
NCD2*	74.5	77.3	69.9		
NSR2*	(74.0-74.9)	(76.9-77.8)	(68.1-71.9)		

* Free-field measurement

Restricted Hour Monitoring

No construction works was carried out during restricted hours (General Holiday including Sundays between 0700-2300 hours and any day not being a general holiday between 1900-2300 hours) during the reporting month.

Observations

The major noise sources during the reporting period were dominated by the following activities:

- Bored piling;
- Excavation;
- Traffic noise; and
- Other construction works nearby.

7. AUDIT RESULTS

7.1 Air Quality

The 1-hour and 24-hour TSP measurements at the air monitoring locations were all below the corresponding Action/Limit Levels.

7.2 Noise

For $L_{eq(30min)}$ measurement, a total of 10 sets of readings measured during daytime (i.e. 0700 to 1900 from Monday to Saturday) were carried out during the reporting period and all measurement results were below the Limit Level.

7.3 Waste Management

Wastes from this Project include construction and demolition (C&D) waste, excavated materials, chemical waste and general refuse. The EIA Study has stated that with the implementation of appropriate mitigation measures, impact from wastes would be unacceptable. The Waste Management Plan has recommended procedures for handling of C&D waste, excavated materials, chemical waste and general refuse.

Based on the information provided by CHEC with respect to relevant handling records and trip tickets of this project, the quantities of different wastes and their handling are summarized in *Table 7.1*.

Material	Туре	Quantity Produced in Aug 02	Handling Method	Handling Quantities in Aug 02	Storage Locations (if applicable)
C&D material	(inert waste)	2121 m ³	Deliver to Public Fill (Tuen Mun Area 38)	861 m ³	N/A
			Reuse on site for filing	1260 m ³	P1-SA15
	(non- inert	372 kg	To be recycled (paper)	372 kg	N/A
	waste)	N/A	To be reused	N/A	N/A
		N/A	To be returned to supplier	N/A	N/A
		242.62	Collected by licensed	242.62	N/A
		tones	collector for disposal	tones	
Chemical	l waste	600 liters	To be collected by	600 liters	Chemical Waste
			licenced chemical		Storage Area in P1-
			waste collector for		SA10
			disposal		

Table 7.1	Summarv o	f Different	Categories	of Waste	during th	e Reporting	Period
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	$j = i j j \in i \in I$	0	~j		• p • · · · · · · · a	,

#### 7.4 Site Inspection by Environmental Team (ET)

- Unsatisfactory discharge of effluent produced from wheel-washing activities in Area P1-SA6 (Lai Po Road) was observed (31st July, 7th, 14th and 21st August). CHEC had made arrangements to divert the effluent for proper treatment before final discharge.
- Stockpiles of excavated material were not covered properly at Area P1-SA15 (14th and 21st August). CHEC had made arrangements to cover the stockpiles using tarpaulin accordingly.
- Surface water, contaminated with oil or petrol was observed at Area P1-SA6, Lai Po Road (21st August). Subsequently the contaminated water was colleted and disposed of as chemical waste.
- CHEC was advised to provide sedimentation tanks with adequate capacity for settling site surface water runoff.
- CHEC has agreed that areas such as wheel washing bay shall be connected to storm drains via a petrol interceptor.

#### 7.5 Site Inspection by Independent Environmental Checker (IEC)

- Site hoarding at Area P1-SA6, Lai Po Road was not tightly sealed at the bottom. For this CHEC had made arrangement to seal the bottom of the hoarding properly to prevent seepage of surface runoff from the site.
- Water from surface runoff and wheel washing activities was not collected in a sedimentation tank for treatment prior to discharge at Area P1-SA6, Lai Po Road. With respect to this situation, CHEC had made arrangement to collect wastewater to de-silting facilities for treatment before final discharge to public drains.
- The wheel washing facilities at the site entrance/exit were not satisfactory and surface runoff was discharged directly into storm drain outside the site entrance at Area P1-SA6, Lai Po Road. With respect to this situation, the wheel washing facilities and temporary drainage system are currently being reviewed by CHEC. Temporary sandbags barriers are employed and a concrete ramp across the site entrance are provided as temporary measures in order to prevent surface runoff entering the public drain directly.

#### 7.6 Site Inspection by Environmental Protection Department (EPD)

No site inspection was conducted by EPD during the reporting period.

# 8. COMPLAINTS, NOTIFICATIONS OF SUMMONS AND PROSECUTIONS

#### 8.1 Summary of Complaints

One complaint was received during this reporting periods. The details of the complaints and the follow up actions are presented in *Table 8.1*.

Table 8.1	Summary of	^c Complaints	Received between	29 July and	28 August 2002
-----------	------------	-------------------------	------------------	-------------	----------------

Case No. Received Date	<i>EC2002/01</i> Telephone complaint received on 19 August 2002 referred by
(Complaint Mode)	HyD subsequently.
Parameters	Illegal Dumping (Soil and mud/C&D waste)
Description	A substantial amount of building debris / waste material was found along side of Lai Po Road near the site entrance of KMB Depot.
Follow-up Action	• After investigation, it was confirmed that the debris was within the Project site boundary. However, they were illegally dumped by others.
	• The illegal dumping was cleared by CHEC in the afternoon on 19 August 2002.
	• Follow-up phone call was made to the complainant on 20 August 2002. The complainant was satisfied of our prompt action.
Recommended Mitigation Measures	CHEC was asked to look after their site more closely to avoid illegal dumping within the Project area in future.
Status/ Remarks	Closed (Investigations were undertaken by ET on 20 and 21 August 2002. The waste was cleaned up and no illegal dumping was found)

The summary for all the complaints received since the commencement of the Contract is presented in *Table 8.2*. The details of previous complaints and statistics are attached in *Appendices in O1* and *O2* respectively.

#### Table 8.2Summary of Total Complaint Cases

Total No. of	No. of complaint received	No. of Active	No. of Inactive/Closed
Complaint	within reporting period	Complaint	Complaint
1	1	0	1

#### 8.2 Summary of Notification of Summon and Prosecution

No notification of summons or prosecutions was received regarding the non-compliance of the environmental performance of the construction site since the commencement of works.

## 9. FUTURE KEY ISSUES

#### 9.1 Key Issues for the Coming Month

Works taken for the coming monitoring period will be similar to the previous month as follows:

- Utilities detection and trial pit excavation;
- Hoarding Erection
- Pre-drilling
- Equipment mobilization for piling works
- Bored piling

Potential environmental impacts arising from the above construction activities are mainly associated with dust, noise and site runoff. However, with the implementation of the following mitigation measures, potential impacts to the surrounding sensitive receivers could be minimised:

#### Construction Dust

- Regularly watering of haul road and unpaved areas;
- Prohibit any open burning on site;
- Investigate other dust sources near air sensitive receivers;
- Regularly watering or covering the open area/stock piles with tarpaulin;
- Hydroseed or covering the inactive sandfill area with impervious sheeting if necessary;
- Maintain onsite machinery and vehicles regularly;
- Follow up any exceedance of TSP levels caused by the construction works.

#### Construction Noise

- Identify noise sources arising within or outside worksite;
- To follow up any exceedance caused by the construction works.

#### Construction Runoff

- Identify sources of wastewater generate from the site;
- Provide sandbags/bunds to direct site surface run-off to silt/sand removal facilities;
- Treat wastewater and surface run-off prior to disposal.

#### Construction Waste Management

- Avoid accumulation of waste materials or rubbish on site;
- Chemical waste or oil will be corrected and disposed of as chemical waste.
- Remove waste materials on site regularly.

#### 9.2 Monitoring Schedule for the Coming Three Months

The tentative schedules for dust and noise monitoring from 29 August to 28 November 2002 are attached in *Appendix P*.

## **10. RECOMMENDATIONS AND CONCLUSIONS**

#### 10.1 Conclusion

This Environmental Monitoring and Audit (EM&A) report presents the EM&A works undertaken during the month from 29 July 2002 to 28 August 2002 in accordance with the EM&A Manual specified under Appendix M of the Particular Specification (PS).

All 1-hour and 24-hour TSP monitoring were carried out at 2 monitoring stations and their results were well below the Action/Limit Levels.

Noise monitoring of  $L_{eq(30min)}$  was carried out at 2 monitoring stations and their results were well below the Action/Limit Levels.

One complaint was received during the reporting period. In total, one complaint was received since the commencement of construction works.

No prosecution or summons was received for this Contract since the commencement of construction works.

The environmental monitoring results indicated that the site activities undertaken by the Contractor during the reporting period were in general comply with the relevant environmental requirements, except for deficiencies found during site audits as stated in Section 7.4 and 7.5 of this report.

#### **10.2** Recommendations

According to the environmental audits undertaken during the reporting month, the following recommendations are made:

#### Construction Dust

- Site access road and bare soil should be watered regularly to ensure the soil surface is wet;
- Frequent watering of dusty areas during hot/dry weather;
- Stockpiles of excavated material should be covered properly by tarpaulin;
- All onsite plant and vehicles should be maintained regularly to avoid emission of black smoke.

#### Construction Noise

- The number of plant operating should not exceed the allowable plant number for each construction activity stated in the Construction Noise Permit;
- Noisy equipment should be located away from nearby NSRs.

#### Water Quality

- All surface runoff/wastewater should be diverted to appropriate water treatment facility before disposal;
- Sedimentation tanks/basins should have adequate capacity for settling surface runoff;
- Wheel washing bay shall be connected to storm drains via a petrol interceptor;
- Site hoarding should be tightly sealed at the bottom to prevent seepage of surface runoff from the site.

#### Waste Management

- Surface water which contaminated with oil or petrol should be colleted and disposed of as chemical waste;
- All type of wastes should be collected by licensed waste collectors;
- Good housekeeping should be implemented.

Appendix A Site Layout Plan



Appendix B

**Project Organization Chart and Contact Detail** 



## Appendix C

Project Work Programme

Antivity	Activity	N Comp	Orig	Early	Early	Total Float	2002 J JUL AUG SEP OCT NOV 0 1 6 5 22 26 5 12 12 26 2 8 15 23 30 7 14 21 28 4 11 18
PELIMINARIES,	DESIGN & PROCUREMENT	- Down	built	SVI ACT		18.11.2	
SITE ACCOMMO	DATION & TEMPORARY FACILITIES	101-1-1-10	STAL	144	Winster Track	1.5.445	
Contructor's Sile	Accommodation	1 100	10/10	0/07/026	loginzmoa	-	- Minimum Sanitary fitting
0010-00150	Sonitary Integ	100	4 2	2:07/02A	05/08/02A		E&M and retwork system final fixing
0010-00180	Plumbino & drainage installation	100	7 1	9/07/02A	31/07/02A		Plumbing & dramage installation
0010-00200	Flooring the	100	4 1	7/07/02A	31/07/02A		Real Plooring the
0010-00210	Door panel installation	100	4 2	9/07/02A	31/07/02A		Door panel installation
0010-00220	Furniture Installation	100	4 0	3/06/02A	04/08/02A		Furniture Installation
0010-00230	Server & Computer Installation	100	7 0	3/08/02/4	04/08/024		Berver & computer installation (PEand compartice in DSD matheme
0010-00240	Final connection to DSD manhole	0	0		20/09/02*	1,880	Vie Chester & Coo Harris
Engineer's Skel	Accommodation	100	10 1	5/07/02A	07/08/02A		Munnamental Structure Tame
0015-00110	External panel & roof panel installation	100	7 1	8/07/02A	08/08/02A		External ganel & roof panel installation
0015-00120	Windows installation	100	3 2	6/07/02A	10/08/02A		Windows installation
0015-00130	Door frame & internal parition wall installation	100	3 2	6/07/02A	10/08/02A		Door frame & internal parition wall installation
0015-00140	Ceiling grid installation	100	33	6/07/02A	10/08/02A	-	Sector Street
0015-00150	Sanitary fitting	100	43	11/07/02A	11/08/02A	-	ESM wing
0015-00150	E&M wiring	100	2 0	7/08/024	11/08/024		Hetwort system wiring
0015-00170	EAM and network system final fixing	100	1 0	1/08/02A	11/08/02A		E&M and network system final fixing
0015-00190	Plumbing & drainage installation	100	20	13/08/02A	11/08/02A		Plumbing & drainage installation
0015-00200	Flooring tile	100	20	AS0/80/1	09/08/02A		Flooring Be
0015-00210	Door panel installation	100	50	13/0B/02A	10/08/02A	-	Docr pakel installation
0015-00220	Furniture installation	100	10	12/08/02A	10/06/02A	-	Server & Computer Installation
0015-00230	Server & Computer Installation	100	10	13/08/02A	20/09/02*	1.88	OFinal connection to DSD manhole
0015-00240	Final connection to DSD mannicle	SUPERIOR.	0		2010000		
Submissions: M	lethod Statements & EDOC's	1-2021-2	10.00	-21-11-11	0.35.75	13.307	
0050-00120	MTRC EDOC: Approval by MTRC	0	0		22/08/02	-3	BUCRO EDOC: Approval by MIRC
0058-00140	KCRC EDOC: Approval by Engineer	0	0		22/08/02	-	KCRC EDOC: Approval by KCRC
0050-00150	KCRC EDOC. Approval by KCRC	STATISTICS.	Letter L	000405767	2000002	C.S.A.MA	
TMLG MEETING	2 A DESCRIPTION OF A DE		0.626	10.5		120.54	
0052-00130	TMLG Meeting No.4	100	0		06/08/02A	-	OTMLG Reading No.4
0052-00140	TMLG Meeting No.5		0		30/08/02*	29	©TMLG Mosting No.6
0052-00150	TMLG Meeting No.5		0		25/10/02*	4	TMLG Meeting No.7
DESIGN & SUB	ARSSION	CALCULATE STATE	1 Street	10000	AND STORE AND	CONTRACTOR OF	
Permits & Subr	missions. Traffic Related	00010000	1		1		But of the Management Plan
0053-00190	Interlace Management Plan	90	100	29/06/02A	25/08/02	-	An internet of Management Plan
0060-00300	TTA outline Proposals	90	100	10/04/02A	25/08/02	-	Traffic Mgt Contingency Plan
Submissions' E	Interest Continue Belated	1	1	Maksar		15,000	
0053-00120	Detail Works Programme	100	60	17/06/02A	31/07/02A		Petal Works Pogramme
0053-00130	Summary Programme	100	50	17/06/02A	31/07/02A	-	Summary Programme
0053-00280	Revised Quality Forms		0 0		30/08/02*	-	General Independent Testing Lates
0053-00310	General Independent Testing Labs	10	5 50	03/05/024	01/08/024		But the statement for piling works
0060-00450	Georgentrycal Monitoring Page	71	50	13/05/02A	02/09/02	-	Geotechnical Monitoring Plan
Submission: P	reliminaries		61218		10.455.251	1.1.23	
0053-00150	Engineer's Accommondation & Equipment	71	8 60	31/05/02A	04/09/02	-	and the approximation a Equipment
0053-00180	Inital Record Photos	8	9 100	10/04/02A	02/09/02	-	ONECV Model
0053-00200	NSCV Model	10			06/08/024	-	Operails of sheet washing facilities
0053-00260	Details of severage treatment facilities	10	0 0		30/08/02*	-	Datails of severage treatment facilities
0060-00370	Method of pipeline and associated works		0 0		2308/02*		Method of pipeline and associated works
0060-00380	Method of drains, outfails or servers		0 0		23/08/02*		Method of drains, outfails or sewers
0060-00390	Method of retaining wall		0 0		02/10/02*	1	
Design: Segm	ent Launching Gantry	1	0 0		Isounainz*	1	Safety measures for erection of deck segments
0000-00165	Annert of events to concrete segments		0 0	-	30/08/02*		Aspect of precast concrete segment erection
0060-00170	Erection equipment		0 0		30/08/02*		
0060-00180	Temporary platform		0 0		30/06/02*		P Temporary platform
0060-00240	Launching girder design	4	0 272	04/04/02A	31/01/03		
0060-00260	Fabrication girder		0 140	03/10/02	22/03/03	-	6 Fabrication girder to an
Design: Segm	ent Yard & Storage	-	0 0		30/08/02*	1	thethod of storage of segment
0060-00130	Curino system for segment	-	0 0		30/08/02*	-	0 Curing system for segment
0060-00150	Geometry control	_	0 0	-	30/08/02*		D Geometry control
0050-00190	Streage mixing & application of epoxy bonding		0 0		30/08/02*		p Stroage mixing & application of spoxy bonding
Design: Public	Works Regional Laboratory		-		0	6 10	
TPWRL-0060	Submit structural calculation		0 0	23/08/02*	-	-	Biscomi depende continue
TPWRL-0070	Submit dangerous good store/chemical		0 0	31/08/02*	-	-	a Submit Guard booth
TPWRL-0080	Submit Guard booth		4 0	Perindense.	_	-1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Start Date	54/04/02 I	Early Ber	0902				Stead 1 of 12
Finish Date Data Date	230802	Progress like	CHI	NA MARBO	ROUTE 9	NSCV	
Fun Date	63-69-62 10-52			C	ONTRACT NO 3MR	P 197/2001	2)

Activity	Activity	%	Orig	Early	Early	Total	2002 J JUL AUG SEP OCT NOW
ID	Description	Comp	Dur	Start	Finish	Float	24 1 8 15 22 29 5 12 19 26 2 9 16 23 30 7 14 21 28 4 11 18
TPWRL-0090	Submit flood light	0		31/08/02*		29	CS-dwall 0004 transformer boulde
TPWRL-0100	Submit 900A transformer house	0		23/08/02*		67	Of itemit relation material
TPWRL-0110	Submit painting material	0	6	31/08/02*	-	28	dirs whit finishing & titles material
TPWRL-0120	Submit finishing & titles material	0		31/08/02*		28	O Submit simplicant detail
TPWRL-0130	Submit signboard detail	0		31/08/02.		57	
Design: Tempor	ary Pre-stressing	1 0		1	21/08/02	1 0	Method of prestressing
0060-00120	Method of prestressing	0		1	anourez.		
Design: Moulds.	Formwork & Shutters	0	1	1	30/08/02*	11	Segment mould design
0060-00200	Teameran werks for Dis can exclusion	0	10	20/05/02A	05/09/02	13	Temporary works for Pile cap excavation
0060-00400	Descends for columns	0	1		05/09/02*	47	@Flasework for columns
0060-00480	Crossbead & notal flasmontk	0	1		05/09/02*	47	Crosshead & portal flasework
Design D4 CAG	Marine Access	-	-	-			
0060-00100	Marine Access Proposal	0	0		05/09/02*	0	
Street Lighting 8	High Mast Lighting						
0060-00320	High Mast Lighting	87	100	05/06/02A	04/09/02	195	Pigh Mast Ughting
PROCUREMENT		1000	0.03		中国和中国	(sahas)	
Pre-cast Segme	nts Manufacture	1	-	l		1 44	Fabrication segment movids & setup production
0060-00210	Fabrication segment moulds & setup production	0		14/04/02	30/11/02	1 11	
CONSTRUCT BU	LDINGS	turonia.	13.5	C.F.Wilder			
I OUCH HIMLY	EDG HORRING OF CHECKING OF THE		111	2110020	the second second	1.0	
TPWRL-0040	Completion of works	0	1		12/11/02*	0	Completion of works
TPWRL-0170	Water supply connection	58	4	06/06/02A	11/09/02	24	Water supply connection
TPWRL-0180	Sewer & surface water connection	29	4	5 15/07/02A	30/09/02	5	2.2. Sower & surface water connection
TPWRL-0200	Construct transformer house	43	- 3	0 15/07/02A	11/09/02	0	Construct transformer house
TPWRL-0210	Install switch board & transformer	0	3	5 12/09/02	25/10/02	0	install switch board & transformer and the advance of the
TPWRL-0220	CLP cable laying	.0	2	5 15/10/02	12/11/02	0	CLP cable laying
TPWRL-0230	Transformer testing & commissioning	0		7 05/11/02	12/11/02	0	Tensioner inter a commission game
TPWRL-0235	Existing CLP works	100	.9	8 04/04/02A	27/07/02A		Existing CLP work
TPWRL-0240	Ecavation & drainage installation	6		4 23/08/02	27/08/02	1	cavation & dramage installation
TPWRL-0250	Footing construction	0		7 23/08/02	30/08/02	1	Construction of structure from the structure of the struc
TPWRL-0260	Construction of structure frame & panel		3	0 31/08/02	07/10/02	1	Construction of southand market a
TPWRL-0270	Wall finishes	1	1	5 05/10/02	10/10/02	1	The second se
TPWRL-0280	Floor finishes	(	-	9 11/10/02	22/10/02		English and the figure
TPWRL-0290	E&M 1st fixing	(		9 11/10/02	22/10/02		Plumbing & drainage installation
TPWRL-0300	Plumbing & drainage installation			9 11/10/02	22/10/02		Lighting & E&M final foregame
TPWRL-0310	Lighting & E&M final fixing	-		6 23/10/02	29/10/02		Colling finishes mult
TPWRL-0320	Ceiling finishes	-	-	5 30/10/02	04/11/02	-	E&M testing & commissioning
TPWRL-0330	E&M testing & commissioning	-		0 30/10/02	07/11/02	-	Furniture installation
TPWRL-0340	Furniture installation	+	-	3 06/14/02	07/13/02		Installation New Lesting facilities
TPWHL-0350	Installation New testing facetoes		1	3 05/11/02	07/11/02		Moving equipment form old lab to new lab
1PWPL-0380	Noving equipment som do sau to new sto	1	1	1 08/11/02	08/11/02		Signboards installation
TPWHL-0370	Signocards instatation		1	5 28/08/02	02/09/02	34	EmgConstruction of vehicle washing bay
TEMPI-0300	Construction or vehicle warring ony	1	2 2	0 03/09/02	26/09/02	3	Construction ground state & surface drainage
TPWRL0400	Installation of rhemical waste storage room			2 09/11/02	11/11/02	1	Installation of chemical waste storage room
CONSTRUCT BR	IDGE G1 - STAGE 1A WORKS		2157				
BRIDGE G1 PIE	R G2 - STAGE 1A	Switte	1		A.110年3月1日	- Units	
G1: Pier G2 TT.	A Implementation	1	1.	100000000	Incorecta	10000	Anniv for traffic achievipazette notice from TD
3000-00120	Apply for traffic advice/gazette notice from TD	10	1	4 29/05/024	20/07/02/5	-	Moreting with RMD
3000-00130	Meeting with MMO	10	1-	0 0007000	20100000	-	Receive mad works advice
3000-00140	Receive road works advice	10	1	2 30/07/024	05/08/024	-	Preparation for commencement
3000-00150	Preparation for commencement	10	1	2 02/08/024	13/06/02/4	-	Implementation of TTA
000-00160	Des Delles	1 10	1	- Personal	Lawrence	1	
3010-00100	Site investigation	T	1	0 29/08/02	09/09/02	-5	BUILDER Site investigation
3010-00110	Prepare & submit the SI report	1		4 10/09/02	13/09/02	-5	INEPrepare & submit the SI report
3010-00120	Approval Si report	1	0	6 14/09/02	20/08/02	-5	Approval Si report
G1: Pier G2 Bc	red Piling	-	-	200	1.1.1.1		• 1
3015-00100	1st: Bored Pile		0	5 27/09/02	03/10/02	-5	Billit Bored Pile
3015-00110	1st: Interface core test	1 2	0	1 22/10/02	22/10/02	-3	1st: Interlace core test
3015-00120	2nd: Bored Pile	1	0	5 10/10/02	16/10/02	-5	Bored Pile
3015-00130	2nd Interface core test		0	1 02/11/02	02/11/02	-3	2nd: leterface core test
3015-00140	3rd: Bored Pile		0	5 23/10/02	28/10/02	-5	Build Bored Pile
3015-00150	3rd: Interface core test		0	1 14/11/02	14/11/02	-4	3rd: Interface core test
3015-00160	4th: Bored Pile		0	5 04/11/02	08/11/02	-5	4th: Bored Phenan
BRIDGE G1: PI	ER G3 - STAGE 1A					0.11.11	
G1: Pier G3 St	Pre-Onling	1	-	- laurener	Inner	1	The manifestory
3045-00100	Site investigation	2	5	5101/08/02A	27/08/02	- 3	Presses & submit the Si report
3045-00110	Prepare & submit the SI report	-	0	2 28/08/02	29/08/02	3	Banamad Strengt
3046-00120	Approval SI report	1	0	2 30/08/02	31/08/02	-3	mutproval or report
G1: Pier G3 Ba	ved Plang	1	0	6 1200002	17/00/02	1 4	and tat Bored Pile
3050-00100	15t. Dored Pile		0	1 07/10/02	07/10/02		A Ist interface core test
3050-00110	1st. Internacé COFE Mist	-	0	6 25/09/02	30/09/02		Bored Pie
3050-00120	210 Durou 196	-	~	1 10/10/02	19/10/02	-	A Rond: Interface core test
3050-00130	2nd: Internace core test	-	0	6.08/10/02	12/10/02		and and a start and a start a
3050-00140	Jid. barden rite	-	-	1 31/10/02	31/10/02	1 .	3rd Interface core test
3050-00150	Jrd. Intertace core test	-	-	6 21/10/02	25/10/02	1	Rend 4th: Bored Pio
3050-00160	All bandara tere test	-	1	1 12/11/02	12/11/02		4th: Interface core test
	and the second sec		-12	- 1 - Mr 175781	a case of firmer		

Activity	Activity	% Comp	Orig	Early Start	Early Finish	Total Ficat	J         JUL         AUG         2007         SEP         OCT         NOV           24         1         8         15         22         29         5         12         15         23         30         7         14         21         28         4         11         15
3050-00160	Sonic test	0	1	12/11/02	12/11/02	-48	A A AA Sonic test
G1: Pier G3 Pile (	Cap			1	1		Sheet Pile driving
3055-00100	Sheet Pile driving	0	2	13/11/02	14/11/02	-48	Excavate & shoring support
3055-00110	Excavate & shoring support	0	3	15/11/02	18/11/02	-48	Cut Pile head 30
3055-00120	Cut Pile head	1	1 3	19/11/02	23/11/02	140	
ONSTRUCT BRID RIDGE G2: PIER	IGE G2 - STAGE 1A WORKS	1.1	派的		DESCRIPTION	Walker	
G2: Pier G12S U	Enert Tamovran Plins Ris Platform	90	1 6	24/07/02A	23/06/02	0	Erect Temporary Pling Rig Platform
3470-00103	Electrompolary migrog racion	90	1	31/07/02A	22/08/02	-2	mutanetControl Hoarding erection
G2: Pier G12S SI	Pre-Drilling						
3475-00110	Prepare & submit the SI report	100	1	04/07/02A	07/08/02A	-	Prepare & Bucher of Streport
3475-00120	Approval SI report		6	08/08/02A	29/08/02	-8	
G2: Pier G12S B	ored Piling	1		30/08/02	03/09/02	-8	IIII 1st: Bored Pile
3480-00100	1st. Bored Pile			20/09/02	20/09/02	-1	Itst: Interface core test
3480-00120	2nd Bored Pile	1	>	09/09/02	12/09/02	-8	Maznd: Bored Pile
3480-00130	2nd: Interface core test	1		02/10/02	02/10/02	-8	2nd: Interface core test
3480-00180	Sonic lest		0	1 02/10/02	02/10/02	-8	Risonic 1881
G2: Pier G12S P	Vie Cap			1	1		V IIISheet Pile driving
2485-00100	Sheet Pile driving		D	2 03/10/02	04/10/02	-	GREExcavate & shoring support
2485-00110	Excavate & shoring support		0	6 09/10/02	15/10/02	1	Cut Pile head
2485-00120	Cut Pile head		0	1 15/10/02	15/10/02	4	E.ay binding layer
2485-00130	Lay bindery siyer		0	1 16/10/02	16/10/02	4	Formwork erection
2485-00150	Reinforcement fixing	1	0	3 16/10/02	18/10/02	4	Reinforcement fixing
2485-00160	Final fix of formwork/cleaning & concreting		0	1 19/10/02	19/10/02	4	Final flx of formwork/cleaning & concreting
2485-00170	Remove formwork & bituminous print		0	2 21/10/02	22/10/02	4	Formove formisons & discriminities prime
2485-00180	Backfill		0	2 23/10/02	24/10/02	4	Barrow he sheet Please
2485-00190	Remove the sheet Piles		0	2 25/10/02	25/10/02	1 4	
G2: Pier G12S C	Column (Type C5)	1	0	5000145 a	02/11/02	1 1	1st Column Lift
3490-00100	1st Column Lift	-	0	6 04/11/02	09/11/02	1	2nd Column Life
3490-00110	2nd Column Life	-	0	6 11/11/02	16/11/02	1:	3rd Column Lth
BRIDGE G2: PIE	R G135	1200	12.12	CTON MOTO	18-18-18-18-18-18-18-18-18-18-18-18-18-1	Carbon To	
G2: Pier G13S L	Alties, Services & Roadworks	1	al.	e 2407024	23.08.02	1	Erect Temporary Piling Rig Platform
3535-00103	Erect Temporary Piling Rig Platform	-	0	4 31/07/02A	22/08/02		2 Issues and the loarding erection
3535-00110	Hoarding erection	1	~			1	
3540-00110	Prepare & submit the SI report	10	00	4 05/07/02A	07/08/02A		Prepare & submit the SI report
3540-00120	Approval Si Report		0	6 06/08/02A	29/08/02	-	4 Approval SI Heport
G2: Pier G13S I	Bored Piling	Cash.	1000	Janaana	lazanan	1	Billist; Bored Pjie
3545-00100	1st: Bored Pile	-	0	4 04/09/02	24/09/02	3	Dist: Interface core test
3545-00110	1st: Interface core lest	-	0	4 13/09/02	17/09/02	2	6 Ellight Bored Pile
3545-00120	2nd, bored Pile	-	0	1 07/10/02	07/10/02	2	6 Bind: Interface core test
3545-00180	Sonic test	-	0	1 07/10/02	07/10/02	2	6 Bonic test
G2: Pier G13S	Pile Cap	10	-	1000	A CONTRACT		The driving
3550-00100	Sheet Pile driving	-	0	2 08/10/02	09/10/02		ElExcavate & shoring support
3550-00110	Excavate & shoring support	-	0	5 16/10/02	10/10/02	-	E Cut Pile head
3550-00120	Cut Pile head	-	0	1 19/10/02	19/10/02		B ay blinding layer
3550-00130	Lay benong layer	+	0	1 21/10/02	21/10/02	3	6 Formwork erection
3550-00140	Reinforcement faito	-	0	3 21/10/02	23/10/02	1	8 Reinforcement fixing
3550-00160	Final fix of formwork/cleaning & concreting		0	1 24/10/02	24/10/02		Einal fix of formwork/cleaning & concreting
3550-00170	Remove formwork & bituminous print		0	2 25/10/02	26/10/02		8 Remove tomwork a bituminous print,
3550-00180	Backfill		0	2 28/10/02	29/10/02		8 Remove the sheet Pless
3550-00190	Remove the sheet Piles		0	2 30/10/02	31/10/02	1	8
G2: Pier G13S	Column (Type C5)	T	0	6 18/11/02	23/11/02	1	12 1st Column Life
CONSTABLICT I	BRIDGE H2 - STAGE 1A WORKS					1 2435	
BRIDGE H2! PI	ER H9N - STAGE 1A	1022	2019		di China anna	CALENSON	
H2: Pier HSN 1	St Pre-Drilling	T	0	10 29/08/02	09/09/02	-	54 Batting Site investigation
4335-00100	Ordenance & submit the SI report	-	0	4 10/09/02	13/09/02		54 BillPrepare & submit the SI report
4335-00110	Accornal Stream	-	0	6 14/09/02	20/09/02		54 Standard Streport
H2- Pier H9N I	Bored Pling			1			
4340-00100	1st: Bored Pile		0	4 27/09/02	02/10/02		58 1st Interface cov heath
4340-00110	1st: Interface core test		0	1 21/10/02	21/10/02	-	D 2nd Bored Pile
4340-00120	2nd: Bored Pile	-	0	4 09/10/02	12/10/02	-	2nd. Interface core test
4340-00130	2nd: Interface core test	-	0	1 31/10/02	24/10/02	-	At Bared File
4340-00140	3rd: Bored Pile	-	0	1 11/11/02	11/11/02	-	3rd: Interface core tests
4340-00150	3rd: Intertace core test	-	0	1 11/11/02	11/11/02	-	11 Sonic tests
4340-00180	Pie Can	-	T				T
4345-00100	Sheet Pile driving		0	2 12/11/02	13/11/02		11 Sheet Pile driving
4345-00110	Excavate & shoring support		0	3 14/11/02	16/11/02	-	11 Excevere & shoring supporting
4345-00120	Cut Pile head		0	5 18/11/02	22/11/02	-	Law binding law
4345-00130	Lay blinding layer		0	1 22/11/02	22/11/02		

Activity	Activity	%	Orig	Early	Early	Total	2002 J JUL AUG SEP OCT NOV
CONSTRUCT BR	IDGE ML15 - STAGE 1A WORKS	Comp	Uur	Start	Finish	Pioat	24 .1 .8 .15 .22 .29 .5 .12 .19 .26 .2 .9 .16 .23 .30 .7 .14 .21 .28 .4 .11 .18
BRIDGE ML15	PIER SB42						
ML15: Pier SB4	2 TTA Implementation	-	1			1000	
6882-00120	Apply for traffic advice/gazette notice from TD	100	14	29/05/02A	26/07/02A		Apply for traffic addice/gazette notice from TD
0882-00130	Moeting with RMO	100		27707702A	29/07/02A		Resting wat find
6882-00150	Preneration for commancement	100		02/06/024	01106/024	-	Presaration for commancement
6882-00160	Implementation of TTA	100	7	02/08/02A	13/08/024		Implementation of TTA
ML15: Pier S84	2 SI Pre-Drilling	100		Carole and	13001023		
6886-00100	Site investigation	0	5	31/08/02	05/09/02	-56	Site investigation
6888-00110	Prepare & submit the SI report	0	4	06/09/02	10/09/02	-56	Prepare & submit the SI report
6888-00120	Approval SI report	0	6	11/09/02	17/09/02	-56	Billing Approval SI report
ML15: Pier SB4	2 Bored Plang					-	•
6891-00100	1st. Bored Pile	0	5	20/00/02	26/09/02	-58	Plant 1st. Bored Pae
6891-00110	1st interface core test	0	1	18/10/02	16/10/02	-34	Tist. Interface core test
6891-00120	2nd: Interface core test	0	1	25/10/02	26/10/02	-00	2nd: Interface core tests
6891-00140	3rd: Bored Pile	0	5	15/10/02	19/10/02	-58	Williard: Bored Pile
6891-00150	3rd: Interface core test	0	1	05/11/02	06/11/02	-50	3rd: Interface core test@
6891-00160	4th: Bored Pile	0	5	25/10/02	30/10/02	-58	Sored Pile
6891-00170	4th: Interface core test	0	1	16/11/02	16/11/02	-58	4th: interlace core test
6891-00180	Sonic test	0	1	16/11/02	16/11/02	-58	Sonic test
ML15: Pier SB4	2 Pile Cap					-	i i i i i i i i i i i i i i i i i i i
6894-00100	Sheet Pile driving	0	2	18/11/02	19/11/02	-58	Excession Excession Excession
6894-00110	Excavate & shoring support	.0	3	20/11/02	22/11/02	-58	Excavate & shoring supports
DRIDGE ML16:1	TER NB42					Conceptor in the	
ML16 Pier NB4	2 TTA Implementation		1.1	(1.0) b (1.1)	51 - 1. C. C. C.	1241-1	and the second se
6996-00120	Apply for traffic advice/gazette notice from TD	100	14	29/06/02A	26/07/02A		Apply for traffic advoe/gazette notice from TD
8996-00130	Meeting with RMO	100	3	27/07/02A	29/07/02A		Meeting with RMD
6996-00140	Proceive road works advice	100	2	30/07/02A	01/05/02A	-	Prevention on a source
8996-00150	Preparation for commencement	100	3	02/05/024	13/08/028		implementation of TTA
ML 16: Pier NB4	2 Si Pre-Drilling	100	-		13/00/02/9		
7002-00100	Site investigation	0	10	29/08/02	09/09/02	-58	Site investigation
7002-00110	Prepare & submit the SI report	0	4	10/09/02	13/09/02	-58	Prepare & submit the SI report
7002-00120	Approval SI report	0	5	14/09/02	19/09/02	-58	Approval Si report
ML16: Pier NB4	2 Bored Piling			Inning	[an month		The Development
7005-00100	1st bored Pile	0	0	20/09/02	26/09/02	-00	Final St. Doved Pile
7005-00110	2nd Bored Pile	0	5	04/10/02	09/10/02	-4	The Human of Human
7005-00130	2nd Interface core test	0	1	28/10/02	28/10/02	-11	2nd: Interface core test3
7005-00140	3rd: Bored Pile	0	5	17/10/02	22/10/02	-57	William Bored Pile
7005-00150	3rd: Interface core test	0	1	08/11/02	08/11/02	-20	3rd: Interface core test
7005-00160	4th: Bored Pile	0	5	29/10/02	02/11/02	-57	4th: Bored Pile
7005-00170	4th: Interface core test	0	1	20/11/02	20/11/02	-29	4th: Interface core test
7005-00180	Sonic test	0	1	20/11/02	20/11/02	-29	Sonic test
ML16: Pier NB4	2 Pile Cap	1		1	(	1	
008-00100	Sheet Pile driving	0	2	21/11/02	22/11/02	-29	Sneet Pile drivings
BRIDGE G2: PIE	R G11						
G2: Pier G11 SI	Pre-Drilling	2.200		100	1991 B. C. F.	1251	
3410-00100	Site investigation	0	20	16/09/02*	10/10/02	106	Site investigation
3410-00110	Prepare & submit the SI report	0	4	11/10/02	16/10/02	106	Prepare & submit the SI report X
3410-00120	Approval SI report	0	6	17/10/02	23/10/02	106	Approval Si report
3415-00100	1st: Bored Pile	p	4	24/10/02	28/10/02	105	That Bored Pie
3415-00110	1st: Interface core test	0	1	14/11/02	14/11/02	171	1st. Interface core test]
3415-00120	2nd: Bored Pile	0	4	07/11/02	11/11/02	106	2nd: Bored Pile
3415-00140	3rd: Bored Pile	0	4	21/11/02	25/11/02	105	3rd: Bored Pile
BRIDGE G2 PIE	R G12N	制花合品	med.	2 Billing	a shirth the	per la	
G2: Pier G12N 3	St Pre-Drilling	1 100		22021024	Inninging	-	The investments
3445-00110	Precise & submit the SI report	0	10	30/07/024	27/06/02	150	Prenare & scient the Si report
3445-00120	Approval Si report	0	6	28/08/02	03/09/02	150	Accroval SI report
G2: Pier G12N E	ored Piling					100	
3450-00100	1st: Bored Pile	0	4	29/10/02	01/11/02	106	1st: Bored Pile
3450-00110	1st: Interface core test	0	1	19/11/02	19/11/02	128	1st: Interface core tests
3450-00120	2nd: Bared Pile	0	- 4	12/11/02	15/11/02	106	2nd: Bored Pike
BRIDGE G2: PIE	R G13N	and the	No.	1.12	Section 2	ALC: NO.	
3510-00100	Site investigation	100	14	22/07/026	01000024		Rest Site Investigation
3510-00110	Prepare & submit the SI report	0	10	04/08/02A	27/08/02	154	Prepare & submit the SI report
3510-00120	Approval SI report	0	6	28/08/02	03/09/02	154	Accroval SI report
G2: Pier G13N 8	Sored Piling	0	-				
2515-00100	1st: Bored Pile	0	- 4	02/11/02	06/11/02	106	1st: Bored Pite
3515-00120	2nd: Bored Pile	0	4	16/11/02	20/11/02	106	2nd: Bored Pite
CONSTRUCT BR	DGE ML15 - STAGE 2 WORKS			VIEWSELS	al contra		
ML15 Per SB4	ETTA Implementation	1000	0726	- Charles	A REAL PROPERTY.	and the second	
6924-00100	Prepare TTA drawings (S844E Cap)	0	21	05/10/02*	25/10/02	43	Prepare TTA drawings (SB44E Cap)
6924-00110	Endorse TTA drawings by the Eng.	0	7	26/10/02	01/11/02	43	Endorse TTA drawings by the Eng.

Activity	Activity	*	Orig	Early	Early	Total	2002
ID	Description	Comp	Dur	Start	Finish	Float	24 1 8 15 22 29 5 12 19 26 2 9 16 23 30 7 14 21 28 4 11 18
6924-00120	Apply for traffic advice/gazette notice from TD	0	14	02/11/02	15/11/02	43	Apply for traffic advice/gazette notice from TD
6924-00130	Meeting with HMO	0	3	16/11/02	18/11/02	43	Meeting with HMOG
6924-00140	Receive road works advice	0	2	19/11/02	20/11/02	43	Receive road works advice
6924-00150	Preparation for commencement	0	3	21/11/02	23/11/02	45	Preparation for commencement
8924-00160	Implementation of TTA	0	1	19/11/02	25/11/02	43	Implementation of TTAL
DRIDGE MI 12-8	DGE ML12		E MAR			1	
ML12 Parr NB3	1 TTA Implementation	0.0277000	anc.	N.C. 71002-2014	1000000000000	002000000	
6405-00106	implementation of TTA	100	7	10/06/02A	01/08/02A		A TTA
ML12: Pier NB3	1 Utilities & Services Diversions					1000	
6408-00110	Watermain diversion (400D.1)	0	28	23/08/02	25/09/02	25	Watermain diversion (400D.I)
ML12: Pier NB3	1 SI Pre-Drilling				1		
5411-00110	Prepare & submit the SI report	50	4	01/06/02A	24/08/02	54	Prepare & submit the SI report
6411-00120	Approval SI report	0	6	26/08/02	31/08/02	54	ElissApproval Si report
ML12: Pier NB3	1 Bored Piling	1 0			Incuration	1	The second se
6414-00100	TSC Bored Pile	0		24/10/02	24110/02	30	Latital bored Pae
6414-00120	2nd Broad Pile	0	4	17/10/02	21/10/02	30	TTON'T Board Die
6414-00130	2nd: interface core test	0	1	07/11/02	07/11/02	45	2nd: Interface core testi
5414-00140	3rd Browd Pile	0		31/10/02	04/11/02	30	3rd: Bornd Placing
5414-00150	3rd Interface core test	0	1	21/11/02	21/11/02	34	and interface core test
6414-00180	Sonic test	0	1	21/11/02	21/11/02	34	Scoir test
ML12 Pier ND3	1 Pie Can	-				-	
6417-00100	Sheet Pile driving	0	2	22/11/02	23/11/02	34	Sheet Pile driving
BRIDGE ML12: F	ER NB32						
ML12: Pier NB3	2 TTA Implementation	01937	0		1.00	10-2-2	
6426-00106	Implementation of TTA	100	7	10/06/02A	01/08/02A		ATTA To approximate implementation of TTA
ML12: Pier NB3	2 Utilities & Services Diversions				Incomente		
6429-00100	Onlines detection & that pit excavation	00	4	20104/024	24/06/02	30	Annot objection a that pri excavation
6429-00110	Cramage diversion (soc)	0	20	20100/02	25/08/02	30	Chanage diversion (soo)
6429-00130	Tagenerity almost the cable	0	20	20/06/02	25/00/02	30	Tanta (34) Han dvolson (315/E)
MI 12: Disc MB3	S Pre-Dellino		2.0	20100102	Tradinos		
6432-00100	Site investigation	0	19	23/08/02	13/09/02	30	Ste investigation
6432-00110	Prepare & submit the SI report	0	3	14/09/02	17/09/02	30	Prepare & submit the SI report
6432-00120	Approval SI report	0	6	18/09/02	25/09/02	30	CAE Approval SI report
ML12: Pier NB3	2 Bored Piling	1	1.1		1999	201	
6435-00100	1st: Bored Pile	0	4	26/09/02	30/09/02	30	Eltst: Bored Pile
6435-00110	1st: Interface core test	0	1	19/10/02	19/10/02	65	Utst: Interface core test
6435-00120	2nd: Bored Pile	0	4	11/10/02	16/10/02	30	EXIZerd: Bored Pile
6435-00130	2nd: Interface core test	0	1	02/11/02	02/11/02	54	2nd: Interface core test]
6435-00140	3rd: Bored Pile	0	4	26/10/02	30/10/02	30	IIII3rd: Bored Pile
6435-00150	3rd: Interface core test	0	1	16/11/02	16/11/02	43	3rd: interface core test)
6435-00160	4th: Bored Pile	0	4	09/11/02	13/11/02	32	48: Bored Pile
BRUGE ML12: F	TA mentalman	1.10.00		Constant of Constant of Constant	NUT OF STREET	CALCUMPTION OF THE	
6447-00108	Implementation of TTA	100	7	10/06/02A	01/08/02A		TTA
ML12: Pier NB3	SI Pre-Drilling		-				
6453-00100	Site investigation	30	20	21/08/02A	07/09/02	87	Site investigation
6453-00110	Prepare & submit the SI report	0	- 4	09/09/02	12/09/02	87	Prepare & submit the SI report
6453-00120	Approval SI report	0	6	13/09/02	19/09/02	87	EBApproval SI report
ML12 Pier NB33	Bored Piling				1		
6456-00100	1st Bored Pile	0	5	14/11/02	19/11/02	43	1st Bored Pile
6456-00120	2nd: Bored Pile	0	6	20/11/02	25/11/02	43	2nd Bored Pited
ML12 Par NBW	ER NB34			and the second	CONTRACTORY	Sectors.	
6474-00110	Prepare & submit the SI report	0	4	21/06/02A	27/08/02	120	Prepare & submit the SI report
6474-00120	Approval SI report	0	6	28/08/02	03/09/02	120	Approval SI report
ML12: Pier NB34	Bored Pling						
6477-00100	1st: Bored Pile	0	5	24/09/02	28/09/02	104	IIII]1st: Bored Pile
6477-00110	1st: Interface core test	0	1	18/10/02	18/10/02	122	Dist interface core test
6477-00120	2nd: Bored Pile	0	5	07/10/02	11/10/02	104	2nd: Bored Pile
6477-00130	2nd: Interface core test	0	1	30/10/02	30/10/02	113	2nd: Interface core test)
6477-00140	3rd: Bored Pile	0	5	19/10/02	24/10/02	104	Elizard Bored Pile
6477-00150	3rd: Interface core test	0	1	11/11/02	11/11/02	104	3rd: Interface core test]
6477-00180	Sonic test	0	1	11/11/02	11/11/02	104	Sonic test]
BRIDGE ML12 P	VER NB35(M)	99 (GH	1960		C BORRESSEN	1920126	
6456-00110	Prepare & submit the Si record	p	4	25/00/024	27/06/92	400	Proper & scheme in a scheme in the Strength
6495,00120	Anneroval SI report	0	-	28/08/02	03/06/02	125	Contraction of the second second
MI 12 Pier NILS	Bored Plina	0	4	10-30/UZ	Ina care	125	estimation and or upon
6498-00100	1st: Bored Pile	0	5	30/09/02	05/10/02	104	WEDtst: Borned Pile
6498-00110	1st: Interface core test	0	1	24/10/02	24/10/02	159	1st: Interface core test
6498-00120	2nd: Bored Pile	0	5	12/10/02	18/10/02	104	DUTDed Read Dia
6498-00130	2nd: Interface core test	0	1	05/11/02	05/11/02	150	2nd: Interface core test
6498-00140	3rd: Bored Pile	0	5	25/10/02	30/10/02	141	Elliptet: Royal Pile
6498-00150	3rd: Interface core test	0	1	16/11/02	16/11/02	141	3rd: interface core test
6498-00180	Sonic test	0	1	16/11/02	16/11/02	141	Sovic test
BRIDGE ML12: P	ER NE36(M)	State:	235	N. COLUM	1-30-30	NA ANT	
ML12: Pier NB30	SI Pre-Drilling				1	-	
6516-00110	Prepare & submit the SI report	100	4	16/07/02A	07/08/02A		Prepare & submit the SI report
6516-00120	Approval SI report	100	6	06/08/02A	08/08/02A		Approval Bi reporter Y Y Y Y Y Y Y Y Y
Activity	Activity	16	Orig	Early	Early	Total	2002 J. J.B. AUG SEP OCT NOV
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ID	Description	Comp	Dur	Start	Finish	Float	24 1 8 15 22 29 5 12 19 26 2 9 16 23 30 7 14 21 28 4 11 18
ML12: Pier NB30	5 Bared Piling	100		Internet	1.5000003.5	1	tet Dond Dia
6519-00100	Tet beedres are bet	100	-	31/08/02	31/08/02	67	Itat interface over test
6519-00110	Tack Deeped Dills	100		00/08/014	10/00/02		Report Revert Plan
6519-00120	2nd, boreu rite	100	-	05/00/02	05/00/02	64	A Don't interface core test
6519-00130	2nd, Internation care and		-	0000002	12/00/02	20	Elibirat Rored Pile
6519-00140	Set Interface case text	0	-	02/10/02	02/10/02		Brd interface core test
6519-00180	Source and the second reserves	0	-	02/10/02	02/10/02	34	Borric test
ME 12 Par NR%	5 Pie Can		-	DEPTOTOL	DE TOTOL	1	
6522-00100	Sheet Pile driving	0	1	03/10/02	04/10/02	34	OSheet Pile driving
6522-00110	Excavate & shoring support	0	1	05/10/02	08/10/02	34	Excavate & shoring support
6522-00120	Cut Pile head	0	1	09/10/02	15/10/02	34	Cut Pile head
6522-00130	Lay blinding layer	0	1	15/10/02	15/10/02	34	Lay blinding layer
6522-00140	Formwork erection	0	1	16/10/02	16/10/02	34	JFormwork erection
6522-00150	Reinforcement fixing	0	3	16/10/02	18/10/02	34	Reinforcement fixing
6522-00180	Final fix of formwork/cleaning & concreting	0	1	19/10/02	19/10/02	34	Final fix of formwork/cleaning & concretings
6522-00170	Remove formwork & bituminous print	0	;	21/10/02	22/10/02	34	Remove formwork & bituminous print[]
6522-00180	Back/III	0	3	23/10/02	24/10/02	34	EBack9
6522-00190	Remove the sheet Piles	0	- 2	25/10/02	26/10/02	34	Remove the sheet PilesD
ML12 Pier NB3	5 Column (Type C3/T3M hollow)		_		-	_	The second se
6525-00100	1st Column Lift	0	6	28/10/02	02/11/02	34	The Column Linguist
6525-00110	2nd Column Lift	0	1	04/11/02	09/11/02	34	2nd Column Linguister
6525-00120	3rd Column Lift	0	1	11/11/02	16/11/02	34	and Column Creation
6525-00125	4th Column Lift	0	1	18/11/02	23/11/02	34	
CONSTRUCT BRI	DGE ML11						
ML11: Per SR3	1 Si Pre-Driling	LINEYAL	and a second	CONTRACTOR .	* artista	ID CLARENCE	
6264-00110	Prepare & submit the SI report	0	1	27/05/02A	27/08/02	38	Prepare & submit the SI report
6264-00120	Approval SI report	0	1	21/06/02A	03/09/02	38	CIIIIApproval SI report
ML11: Pier SB3	1 Bored Piling			30			
6267-00100	1st: Bored Pile	0	-	11/09/02	14/09/02	32	EDiat: Bored Pie
6267-00110	1st. Interface core test	0	1	04/10/02	04/10/02	54	Ust: Interface core test
6267-00120	2nd: Bored Pile	0		05/10/02	09/10/02	25	
6267-00130	2nd: Interface core test	0	,	28/10/02	28/10/02	30	
6267-00140	3rd: Bored Pile	0	-	21/10/02	24/10/02	25	EILLAG. Bored Pile
6267-00150	3rd: Interface core test	0	-	11/11/02	11/11/02	25	Control of the set
6267-00180	Sonic test	0	1	11/11/02	11/11/02	25	00%, 050
ML11: Pier S83	1 Pile Cap	1		1-2/11/02	112/11/02	1 36	Sheet Pile driving]
6270-00100	Excernite & shorten support		+	14/11/02	16/11/02	25	Excavate & shoring support
6270-00170	Cut Die hand	1		18/11/02	22/11/02	25	Cut Pile head
6270-00120	Law blocker heat	1		22/11/02	22/11/02	25	Lay blinding layer
BRIDGE MI 11 F	NER NR32	1047-250	010	ALLAN COLOR	WYER COLD IN	CEN/VON	
ML11 Pier S83	2 SI Pre-Drilling		1	No. Aller a	a state of the		
6282-00110	Prepare & submit the Si report	(		30/05/02A	27/08/02	34	Prepare & submit the SI report
6262-00120	Approval SI report	0		21/06/02A	03/09/02	34	- Land Approval Si report
ML11 Fier SB3	2 Bored Piling		-	las mouras	Lange	1	Tit Bread Pile
6285-00100	1st: Bored Pile	-	-	05/09/02	10/08/02	34	Bist leadars rose test
6285-00110	1st: Interface core test			28/04/02	28/0//02	81	Bill Part Roted Pile
6285-00120	2nd bored Pile		-	30109102	23/10/02		2nd: Interface core test0
6285-00130	2nd: Internace core test			16/10/72	10/10/02	26	EDrd: Bored Pile
6285-00140	Sid. Bores File			06/14/02	08/11/07	63	3rd: Interface core test[)
6205-00150	and, internation core and			30/10/02	02/11/02	41	4th: Bored Pite
6285-00150	dit: Interfane over test	1		20/11/02	20/11/02	41	4th: Interface core test
6285-00180	Sonic test	1	-	20/11/02	20/11/02	41	Sonic test
BRIDGE ML 11-F	TER \$833	Colore .	(TRU	Col Martin	A DOLLAR DALLA	No. Sector	
M.11 Pier SB3	3 TTA implementation						
6294-00106	Implementation of TTA	100		7 10/06/02A	01/08/02A		ATT to editmentation of TTA
ML11: Pier S83	3 SI Pre-Drilling	-	-		Income	-	
6300-00100	Site investigation	70	2	14/08/02A	29/08/02	98	Site investigation
6300-00110	Prepare & submit the SI report		1	30/08/02	03/09/02	95	s
6300-00120	Approval St report		_	5104/09/02	10/09/02	95	
ML11: Pier SB3	3 Bored Pling	1 3		COL11107	110/11/02	1 45	1st Bored Pitemin
6303-00100	Tail Bored Pile			0011/02	25/11/02	43	2nd: Bored Piel
BRIDGE MIAN	PER SRM	(Calified	- Auto	BE Stronger	CARGE CONSERVE	ALLONT	
ML11: Pier SB3	4 TTA Implementation				Contract Con		
6312-00100	Prepare TTA drawings (Drainage & SB34 Cap)	63	2	1 06/07/02A	30/08/02	1	Prepare TTA drawings (Drainage & SB34 Cap)
6312-00110	Endorse TTA drawings by the Eng.	1		7 31/08/02	05/09/02	7	Endorse TTA drawings by the Eng.
6312-00120	Apply for traffic advice/gazette notice from TD		1	4 07/06/02	20/09/02	7	Apply for traffic advice/gazette notice from TDL
6312-00130	Meeting with RMO	1		3 21/09/02	23/09/02	1	C Meeting with RMO
6312-00140	Receive road works advice	1		2 24/09/02	25/09/02	7	Paceive road works advice
6312-00150	Preparation for commencement	1		3 26/09/02	26/09/02	1	Preparation for commencement
6312-00160	Implementation of TTA	1		7 24/09/02	30/09/02	7	r until Implementation of TTA
ML11: Pier S83	4 Utilities & Services Diversions					1	
6315-00100	Utilities detection & trial pit excavation	1	1	4 25/04/02A	27/08/02	33	MIN Concernent Accession and Concernent Dutitities detection & trial pit excavation
6315-00110	Drainage Diversion (300)		2	0 02/10/02	25/10/02		Drainage Diversion (300)
ML11 Pier SB3	14 SI Pre-Dritting	-			Laura	-	
6318-00100	Sile investigation	1.4	1	0 02/10/02	12/10/02	11	Discours & undersit the Si amout
6318-00110	Prepare & submit the SI report	1 1	1	2 15/10/02	16/10/02	11	

Activity	Activity	1 %	Orig	Early	Early	Total	2002
ID III III III III	Description	Comp	Our	Start	Finish	Float	24 1 8 15 22 29 6 12 19 26 2 9 16 23 30 7 14 21 28 4 11 19
MI 11: Dies CD	Approval of report	0	1 2	17/10/02	18/10/02	11	A AA AA AA AA AGApproval SI report
6321-00100	1st Bored Pile	0	1 6	26/10/02	31/10/02	1 1	
6321-00110	1st: Interface core test	0	1	18/11/02	18/11/02	21	Tat Interface over least
6321-00120	2nd: Bored Pile	0	5	07/11/02	12/11/02		2nd Bored Planton
6321-00140	3rd: Bored Pile	0	5	19/11/02	23/11/02	1	3rd: Bored Pilet
BRIDGE ML11:	PIER SB35(M)	1 Jack		2 Martin	TREAL STREAM	ColdsUS	1
ML11: Pier SB3	35 SI Pre-Drilling		111	STO ON S		1000	
6336-00110	Prepare & submit the Si report	90	- 4	18/06/02A	27/08/02	52	Prepare & submit the SI report
6336-00120	Approval SP report	0	6	28/08/02	03/09/02	52	Approval SI report
ML11: Pier 583	tet Bread Pile	1 6		04/14/02	Income	1 4	the second se
6339-00120	2nd: Bored Pile	0	5	13/11/02	18/11/02	5	Tat. Bored Preture
BRIDGE MLT1	PIER S806(M)	3.6.1.0	(Steps	CODUC-10	THE PARTY OF	of the Number	
ML11: Pier SB3	36 St Pre-Drilling						
6354-00110	Prepare & submit the SI report	100	- 4	13/07/02A	07/08/02A		Prepare & submit the SI report
6354-00120	Approval SI report	100	6	08/08/02A	08/08/02A		Approval Bi report
ML11: Pier SB3	6 Bored Piling	1 400			Linesets	-	
6357-00110	Tet Interface core test	100		0908/02A	15/08/02A	420	1st. Fored the
6357-00120	2nd Broad Die	100	-	17408/024	22/08/02	120	Visc Interface core test
6357-00130	2nd Interface core test	0	1	09/09/02	09/09/02/12	121	Prof. Interface over text
6357-00140	3rd: Bored Pile	0	4	04/09/02	07/09/02	29	EDDrof Broad Pile
6357-00150	3rd: Interface core test	0	1	26/09/02	26/09/02	108	A Bird Interface core test
6357-00180	Sonic test	0	1	26/09/02	26/09/02	108	Bonic test
CONSTRUCT BR	IDGE ML14		NSR.	120.000	COLSED TO	8014(05)	
BRIDGE ML14: F	PIER NB37	82.307	14-3	to have select		取べした	
ML14: Pier NB3	Voltes & Services Diversions	1	0.4	22424422	Lenenma	1	
MI 14 Dier MD2	2 SI Das Dadios	0	24	23/08/02	1909/02	0	(FW40)
6687-00100	Site investigation	100	10	16/07/02A	29/07/02A		Site investigation
6687-00110	Prepare & submit the SI report	50	4	30/07/02A	24/08/02	16	Prepare & submit the SI report
6687-00120	Approval SI report	0	6	26/08/02	31/08/02	16	EmilApproval SI report
ML14: Pier NB3	7 Bored Piling				1.1.1.1.1.1.1	24.3.0	
6690-00100	1st: Bored Pile	0	- 4	20/09/02	25/09/02	0	Hill 1a: Bored Pile
8690-00110	1st: Interface core test	0	1	15/10/02	15/10/02	6	B1st: Interface core test
6690-00120	2nd: Bared Pile	0	4	26/09/02	30/09/02	0	2nd: Bored Pile
6690-00130	2nd: Intertace core test	0	-1	19/10/02	19/10/02	3	y R2nd: Interface core test
6690-00140	2rd: Interface core text	0	- 4	02/10/02	05/10/02	0	Milli 3nd: Bored Pile
6690,00180	Sonic test	0	-1	24/10/02	24/10/02	0	ard: interface core test
ML14: Pier NB3	7 Pile Cap			en loruz.	124/10/02		Risonic test
6693-00100	Sheet Pile driving	0	2	25/10/02	25/10/02	0	Sheet Pile driving
6693-00110	Excavate & shoring support	0	3	28/10/02	30/10/02	0	Excevate & shoring support
6693-00120	Cut Pile head	0	5	31/10/02	05/11/02	0	Cut Pile head
6693-00130	Lay blinding layer	0	1	05/11/02	05/11/02	0	Lay blinding layer
6693-00140	Formwork erection	0	10	06/11/02	06/11/02	0	Formaork erection
6693-00150	Reinforcement fixing	0	30	06/11/02	08/11/02	0	Reinforcement fixing
6693-00160	Final fix of formwork/cleaning & concreting	0	10	99/11/02	09/11/02	0	Final fix of formwork/cleaning & concretingt
6693-00170	Ptermove formwork & bituminous print	0	2	1/11/02	12/11/02	0	Remove formwork & bituminous print
6603-00160	Departure that shared Dillar	0	2	5/11/02	14/11/02	0	Backling
MI 14: Disc NETT	Colume (Tune C3 balloud	0	- 41	15/11/02	16/11/02	0	Remove the sheet Piles 8
6696-00100	1st Column Lift	0	6 1	8/11/02	23/11/02	0	1st Column Litter
BRIDGE ML14: P	SER NB38	Sal and	CUNC.	all series	STATISTICS.	1240,03	
ML14: Pier NB38	Utilities & Services Diversions						
6705-00120	Drainage diversion (750)	0	20]2	3/08/02	14/09/02	0	Contraction (250)
6708-00100	Site investigation	100	201	807/024	26/07/024	-	Ette investigation
6708-00110	Prepare & submit the Si report	0	4 2	6/07/024	27/08/02	10	Contraction of the second second second
6708-00120	Approval SI report	0	6 2	5/06/02	03/09/02	10	Annual Strengt
ML14: Pier NB38	8 Bored Piling	-	-		1		
6711-00100	1st: Bored Pile	0	4 1	6/09/02*	19/09/02	0	mitst: Bored Päg
6711-00110	1st: Interface core test	0	1 0	9/10/02	09/10/02	33	Bitst: Interface core test
6711-00120	2nd: Bored Pile	0	4 2	0/09/02	25/09/02	0	Milli2nd: Bored Pile
6711-00130	2nd: Interface core test	0	11	5/10/02 .	15/10/02	30	R2nd: Interface core test
6711-00140	3rd: Bored Pile	0	4 2	6/09/02	30/09/02	0	Bored Pie
6711-00150	3rd: Interface core test	0	11	9/10/02	19/10/02	27	Il3rd: Interface core test
6/11-00150	40% stored the	0	4 0	2/10/02	05/10/02	15	ED4th: Bored Pile
6711.00170	nn, menace core test	0	12	4/10/02	24/10/02	24	4th: Interface core test
ME 14 (P MP	Sonic test	0	12	4/10/02	24/10/02	24	ISonic test
6714-00100	Sheet Pile driving	0	2 1	8/11/02	19/11/02	-	Y
6714-00110	Excavate & shoring support	0	30	0/11/02	22/11/02	-	Sheet His drivingo
BRIDGE ML14: P	ER NB39	100000	1	SOLGS IN	CONTRACTOR OF	1020-2510	Excavate & shoring support_
ML14: Pier NB39	Utilities & Services Diversions		-	and a second sec	and the second de		
6726-00120	U-channel diversion (300)	0	36 2	3/08/02	05/10/02	1,526	Killy-channel diversion (300)
ML14: Pier NB39	SI Pre-Drilling						
6729-00100	one invesegación	100	15 0	2/08/02A	16/08/02A		Sitoinvestigation
6729-00110	Annotated Statement	0	41	108/02A	27/08/02	41	Prepare & submit the SI report
0149900120	upprove or report	0	0 2	Br08/02	03/09/02	41	Y Y Approval SI report W Y Y Y Y Y Y

Activity	Activity	%	Orig	Earty	Early	Total	J JUL AUG SEP OCT NOV
ID	Description	Comp	Dur	Start	Finish	Float	14 1 4 15 22 29 5 12 19 26 2 9 16 21 30 7 14 21 28 4 11 18
ML14: Pier NB38 6732-00100	tst Bored Plang	0	5	07/10/02	11/10/02	15	Elitst: Bored Pile
6732-00110	tst interface core test	0	1	30/10/02	30/10/02	43	tst: Interface core [est]
6732-00120	2nd: Bored Pile	0	5	25/10/02	30/10/02	15	Internet Page
6732-00130	2nd: Interface core test	0	1	16/11/02	16/11/02	29	2nd: Interface core test]
6732-00140	3rd. Bored Pile	0	6	12/11/02	16/11/02	15	3rd: Bored Pietinity
BRIDGE ML14: P	ER NB40						
ML14: Pier NB40	SI Pre-Drilling			1	Laura		
6750-00100	Site investigation	33	15	10/08/02A	03/09/02	36	site investigation
6750-00110	Prepare & submit the SI report	0	-	04/09/02	07/09/02	36	Internet a submit the or report
6750-00120	Approval SI report	0		09/09/02	14/09/02	36	L
6753-00100	Ist: Bored Pile	0	5	12/10/02	18/10/02	15	Dimitst: Borad Pile
6753-00110	1st: Interface core lest	0	1	05/11/02	05/11/02	142	1st: interface core test[}
6753-00120	2nd: Bored Pile	0	5	31/10/02	05/11/02	15	2nd: Bored Pile
6753-00130	2nd: Interface core test	0	1	22/11/02	22/11/02	128	2nd: Interface core test
6753-00140	3rd: Bored Pile	0	5	18/11/02	22/11/02	114	3rd: Bored Pite
BRIDGE ML14: P	IER NB41						
ML14 Pier NB4	Utilities & Services Diversions			I.C. Martinez	Income	1	
6768-00100	Utilities detection & trial pit excavation	89	-	31/07/02A	22/08/02	0	Autoes delection & that ps excervation
ML14: Pier NB4	Si Pre-Onling	0	15	04/09/02	20/09/02	161	Site investigation
6771-00110	Prepare & submit the SI report	0	4	23/09/02	26/09/02	161	EllPrepare & submit the SI report
6771-00120	Approval SI report	0	6	27/09/02	04/10/02	161	EKEApproval SI report
BRIDGE ML14: P	TER GO	10,00	10.20	23678093775	1000000000	AND MARKE	
ML14 Pier G0 S	a Pre-Drilling			1000	514	100	
6792-00100	Site investigation	100	15	07/08/02A	13/08/02A		Site investigation
6792-00110	Prepare & submit the SI report	0	4	14/08/02A	27/08/02	51	Prepare & submit the SI report
6792-00120	Approval SI report	0		28/08/02	03/09/02	51	Liu: Mpproval Si report
ML14: Pier G0 8	lored Piling	0		10/10/02	24/10/22	16	EEII1st Bored Pie
8795-00100	Tet: Interface core feet	0		11/11/07	11/11/02	161	1st: Interface core test
6705-00120	2nd Broad Pile	0	-	06/11/02	11/11/02	15	2nd: Bored Pilo
BRIDGE ML14: F	TER G1(M)	N. H.	1913	CLOSEP'S	PERSONAL PROPERTY	MASSING!	
ML14: Pier G1(8	I) Utilities & Services Diversions	252.0	1	1.201	1.144/0.101	10.283	
6810-00100	Utilities detection & trial pit excavation	99	4	31/07/02A	22/08/02	0	Utilities detection & trial pit excavation
ML14: Pier G1(8	() SI Pre-Drilling	0	- 10	counter	losoona	470	Site investigation
6813-00100	Site investigation	0		1000002	1300402	170	EPrecare & submit the SI report
6813-00110	Approval Of sport	0		14/09/02	20/09/02	176	International Streport
CONSTRUCT BR	DGE HI	and a		C. I. S. LEVIL	STATISTICS NO	100000	
BRIDGE HI: PIE	R H0						
H1: Pier H0 SI F	he-Driting			lanera a	Internet	Strate.	The second second second
4010-00110	Prepare & submit the SI report	100	-	10/07/02A	07/08/02A		Associated Strategy
4010-00120	Approval SI report	100		JOBYOBYUZA	1		
4015-00100	1st. Bored Pile	50	1	08/08/02A	24/08/02	29	Dist Bored Pile
4015-00110	1st: Interface core test	0	1	11/09/02	11/09/02	67	Dtst: Interface core test
4015-00120	2nd: Bored Pile	0		26/08/02	29/08/02	29	Ellignd: Bored Pile
4015-00130	2nd Interface core test	0		16/09/02	16/09/02	64	El2nd: Interface core test
4015-00140	3rd: Bored Pile	0		13/09/02	17/09/02	49	EII3rd: Bored Pile
4015-00150	3rd: Interface core test	0	1	07/10/02	07/10/02	49	Und: Interface cove test
4015-00180	Sonic test	0	1	07/10/02	07/10/02	49	Sonic Test
H1: Pier H0 Pile	Cap		-	Darson2	00/10/02	40	Esheet Pile driving
4020-00100	Excession & shoring	0		10/10/02	12/10/02	40	ElExcavate & shoring support
4020-00120	Cid Pile head	0		15/10/02	19/10/02	49	Cut Pie head
4020-00130	Law blinding lawer	0		19/10/02	19/10/02	49	Lay blinding layer
4020-00140	Formwork erection	0	1	21/10/02	21/10/02	49	Formeonk erection
4020-00150	Reinforcement fixing	0		21/10/02	23/10/02	49	Reinforcement fixing
4020-00160	Final fix of formwork/cleaning & concreting	0	1	24/10/02	24/10/02	49	Final fix of formwork/cleaning & concreting
4020-00170	Remove formsork & bituminous print	0	1	25/10/02	26/10/02	49	Remove formwork & bituminous print
4020-00180	Back5II	0	1	28/10/02	29/10/02	49	QBackfil
4020-00190	Remove the sheet Piles	0	3	2 30/10/02	31/10/02	49	Remove the sheet Piles
H1: Pier H0 Col	umin (Type C3/T3M holiow)		_	1		-	
4025-00100	1st Column Lift	0	1	5 01/11/02	07/11/02	49	1st Column Linguist
4025-00110	2nd Column Lift	0		06/11/02	14/11/02	49	and Column Life
4925-00120	and Column Life	0		201101102	20/11/02	49	All Column Lift
025-00122		0	intern of	122111/02	20/11/02	49	
H1: Pier H1 S I	Pre-Orilling	A 4 1 1 1	-	and read	S STATUTORS	and an other	
4040-00110	Prepare & submit the SI report	100	-	10/07/02A	07/08/02A		International Prepare & submit the SI report
4040-00120	Approval SI report	50	1	08/08/02A	26/08/02	1,559	Approval SI report
H1: Pier H1 Bor	ed Piling						
4045-00100	1st: Bored Pile	100	1	15/08/02A	21/08/02A		st Bored Pile
4045-00110	1st: Interface core test	0		1 07/09/02	07/09/02	100	Tist: Interface core test
4045-00120	2nd: Bored Pile	0	1	4 30/08/02	03/09/02	29	LingInd. Bored Pile
4045-00130	2nd Interface core test	0		1 20/09/02	20/09/02	90	U27d Interface core test
4045-00140	3rd: Bored Plie	0		4 18/09/02	23/09/02	75	turculare, boreg pile
4045-00150	ard: interface core test	0	-	110/10/02	1/10/02	75	Aved: Interface core test
1045-00180	Some was	0		11002	in nuruz	75	YIY YY Y YYYWY WY YYY

Activity	Activity	56	Orig	Early	Early	Total	2002
H1: Plac H1 Pla	Description	Comp	Dur	Start	Finish	Float	24 .1 8 .15 .22 .29 .5 .12 .19 .26 .2 .8 .16 .23 .30 .7 .14 .21 .28 .4 .11
4050-00100	Sheet Pile driving	1		lauren	Inninainn	1	AL A AAAAAAA A
4050-00110	Excavate & shoring support		0 1	64/15/02	06/11/02	59	Sheet Pile driving
4050-00120	Cut Pile head	-		07/11/002	40/11/02	59	Excavate & shoring support
4050-00130	Lay blinding laver			13/11/072	12/11/02	59	Cut Pile head
4050-00140	Formwork erection			13/11/02	12/11/02	59	Lay binding layer
4050-00150	Reinforcement fixing			13/11/02	10/11/02	04	Formwork erection
4050-00160	Final fix of formwork/cleaning & concreting			18/11/02	10/11/02	09	Reinforcement fixing
4050-00170	Remove formwork & bituminous print		1	10/11/02	10/11/02	59	Final fix of formwork/cleaning & concreting
4050-00180	Backfill	-		10/11/02	19/11/02	59	Remove formwork & biturninous pr
4050-00190	Remove the sheet Piles	-	1 2	20/11/02	21/11/02	59	Bac
RIDGE HT PIE	RH2	TRACTOR OF	4	22/11/02	23/11/02	59	Remove the sheet
H1: Pier H2 Utili	ttes & Services Diversions	02000000	11.1.2.0	Till Barls	Colorado a colorado	and the second sec	
4065-00120	Drainage diversion (750)	0	40	23/08/02	10/10/02	15	
H1: Pier H2 SI P	Pre-Dritting		-		-	1	Uranage diversion (750)
4070-00110	Prepare & submit the SI report	0	4	24/07/02A	16/10/02	35	The second se
4070-00120	Approval St report	0	6	17/10/02	23/10/02	35	and the store of t
H1: Pier H2 Bon	sd Piling					-	Emmepproval SI rep
4075-00100	1st. Bored Pile	0	4	09/11/02	13/11/02	21	1st Boyet Pitelin
RIDGE H1. PIEL	RH3					S State	
H1: Pier H3 SI P	Te-Drilling	-	1			0.000	
4100-00100	Site investigation	100	15	02/08/02A	09/08/02A		Site investigation
100-00110	Prepare & submit the SI report	0	- 4	10/08/02A	27/06/02	79	Prepare & submit the SI report
100-00120	Approval SI report	0	6	28/08/02	03/09/02	79	Approval SI report
11: Pier HJ Bore	ed Pilling	-	1		_		
005-00100	Tac bored Pale	0	5	14/11/02	19/11/02	21	1st: Bored Pied
11: Play Hd. PLD	In the second	Contraction of the	100	any and	1933 APRO 0	VE ME VE	
130-00100	Site investigation	1			Lange State	-	*
4130-00110	Dransm & exhand the St council	00	10	07/08/02A	28/08/02	79	Site investigation
130-00120	anomal Blanced	0	4	29/06/02	02/09/02	79	Prepare & submit the SI report
HI Dier HA Been	representation report	0	6	03/09/02	09/09/02	79	Approval SI report
135-00100	1st Bornd Pile		-	Selicit a state	Incurates	-	
INSTRUCT OR	DGF H2	0	P	20/11/02	25/11/02	21	1st. Bored P
RIDGE H2: PIER	RH5 WEIGHT BEREICHT STATUTE			MACHINEN		COLUMN TWO IS NOT	
H2: Pier H5 Utiliti	ies & Services Diversions	1.1		Service of	Thomas and	20 Tapping	
1210-00100	Remove existing U-channel (225)	0	15	2/10/02	07/11/02	118	Bemove existing Lischangel (225)/Internet
12: Pier H5 SI Pr	re-Drilling					-	
215-00100	Site investigation	0	15 0	8/11/02	25/11/02	118	Site investigation
RIDGE H7: PIER	RH7	10/16/1				Yatalar	
12: Pier H7 St Pr	e-Oriting		14017	- 11-11		19-22-22	
275-00100	over enversagebon	0	15 2	9/08/02	14/09/02	149	Site investigation
275-00110	Prepare & submit the Sil report	0	4 1	6/09/02	19/09/02	169	Prepare & submit the SI report
275-00120	Approval 51 report	0	6 2	0/09/02	27/09/02	169	DCIII:DApproval St report
C Disc ME CI Do	C NB	200125-8	12.12	A RELEASE	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	100	
305-00100	Site investigation	1 0	10	£100/02	Terrene		*
305-00110	Prepare & submit the SI report	0	40	6/10/02	06/10/02	149	X Site investigation
305-00120	Approval SI report	0	6 1	0/10/02	17/10/02	159	repare 6 submit the Si report
IDGE H2: PIER	HIN - STACE 1A	1	CTURNER OF	o Torta	17710402	159	EDCBApproval SI report
2: Pier H9N TTA	A Implementation		CALCULAR OF COLUMN	Constant of the local of	6220013391306513	0004520.02	
325-00120	Apply for traffic advice/gazette notice from TD	100	14 2	9/06/02A	26/07/02A		Apply for traffic achievabazette notice from TD
325-00130	Meeting with RMO	100	3 2	7/07/02A	29/07/02A		Meeting with BND
325-00140 F	Receive road works advice	100	2 3	0/07/CI2A	01/08/02A		Receive mad under achieve
125-00150 F	Preparation for commencement	100	3 0	2/08/02A	05/08/02A		Protostalization
125-00160	implementation of TTA	100	7 0	2/08/024	13/08/024		- reparation por commencement
DOE H2 PIER	H9S	100225	Theory of	TORNAL PROPERTY.	130000234	1000000	Improversation of TTA
2: Pier H9S TTA	Implementation	1000	100	1212	and the second second	and the second s	
960-00100 F	Prepare TTA drawings	0	39 2	3/08/02	30/09/02	139	Propers TTA developer
60-00110 E	Endorse TTA drawings by the Eng.	0	7 0	1/10/02	07/10/02	139	Endorse TTA drawings by the Eng.
60-00120	Apply for traffic advice/gazette notice from TD	0	14 08	5/10/02	21/10/02	139	Apply for traffic advice/gazette notice from TDI
60-00130 A	Meeting with RMO	0	3 22	6/10/02	24/10/02	139	
60-00140 F	Receive road works advice	0	2 2	/10/02	26/10/02	139	E-Meeting with PMC
160-00150 F	Preparation for commencement	0	3 27	/10/02	29/10/02	141	Percent of the second s
160-00160	implementation of TTA	0	7 25	210/02	31/10/02	190	Preparation for commancement[]
2 Pier HSS SI Pr	re-Oriting	-			0010104	1,019	Implementation of TTACIES
170-00100 S	Site investigation	0	15 18	/11/02	04/12/02	113	
STRUCT BRIDE	GE G1 - STAGE 4 WORKS	122200	Charles .		Den Fallog	0.000	Site investigation
DGE G1 PIER	G4S (04/176)					5000-272	
Pier G4S Ubit	tes & Services Diversions		0.05	1991 - A.		100	
05-00100 U	Mittles detection & trial pit excavation	100	4 19	/08/02A			Utilities detection & trial pit excavation
05-00110 V	Natermain diversion (75)	0	21 23	/08/02	16/09/02	-47	Guide and Stateman diversion (75)
Pier G4S SI Pi	re-Drilling						and a result (ray
10-00100 S	Site Investigation	0	12 23	108/02	05/09/02	-47	Sector Rest Steel Investigation
	repare & submit the SI report	0	4 05	/09/02	10/09/02	-47	Prepare & submit the St errort
10-00110 P	ipproval SI report	0	5 11	09/02	16/09/02	-47	A Company Street
0-00110 P							- Shrower on reduced
10-00110 P 10-00120 A Pier G4S Bore	nd Piling				accession I	100	
10-00110 P 10-00120 A Pier G4S Bore 15-00100 1:	id Piling ist: Bored Pile	0	5 18	109/02	24/08/02		English Bornd Dir
10-00110 P 10-00120 A Pier G4S Bore 15-00100 11 15-00110 11	id Piling st. Bored Pile st. Interface core test	0	5 18	109/02	12/10/02	218	E Bornd Pie
10-00110 P 10-00120 A Pier G4S Bore 15-00100 1: 15-00110 1: 15-00120 2:	id Piling st. Bored Pile st. Interface core test Ind: Bored Pile	0 0 0	5 18 1 12 5 02	109/02 110/02 110/02	12/10/02 07/10/02	218	WHIT tas: Bored Pile
10-00110 P 10-00120 A 1- Pier G4S Bore 15-00100 1: 15-00110 1: 15-00120 2: 15-00130 2:	d Piking sit: Bored Pile sit: Interface core test mid: Bored Pile htd: Interface core test	0 0 0 0 0	5 18 1 12 5 02 1 25	109/02 110/02 110/02	24/04/02 12/10/02 07/10/02 25/10/02	218	BRETst Interface core test
10-00110 P 10-00120 A 1 Pier G4S Bore 15-00100 1 15-00110 1 15-00120 2 15-00130 2 15-00140 3	d Piling st: Borce Pile st: Interface core test nd: Borce Pile nd: Interface core test of: Borce Pile	0 0 0 0 0	5 18 1 12 5 02 1 25 5 15	109/02 110/02 110/02 110/02	24/08/02 12/10/02 07/10/02 25/10/02 19/10/02	218 -48 209	Unit interface core test

Activity	Activity	1 %	Orig	Early	Early	Total	2002
10	Description	Comp	Dur	Start	Finish	Float	24 1 8 15 22 29 5 12 19 26 2 9 16 21 30 7 14 21 28 4 41
3115-00170	4th loterfore rore test	0	5	26/10/02	31/10/02	191	AA A AA 4th: Bored Pite
3115-00180	Ropic bart	0		18/11/02	18/11/02	191	4th: Interface core test
CONSTRUCT BR	NDGE ML 13	0	1 1	18/11/02	18/11/02	191	Sonic test
BRIDGE ML13	PIER 5837						
ML13: Pier SB3	37 TTA Implementation	and products			STRATING REG	1003350	
6564-00100	Prepare TTA drawings (SB37 Cap)	0	13	23/08/02*	04/09/02	1 1	Problem TTA drawloos (\$837 Can)
6564-00101	Endorse TTA drawings by the Eng.	0	7	05/09/02	11/09/02	1	William Endorse TTA drawnos by the Free
6564-00102	Apply for traffic advice/gazette notice from TD	0	14	12/09/02	25/09/02	1	Apply for traffic advice/gazette entice from TD downward
6564-00103	Meeting with RMO	0	3	26/09/02	28/09/02	1	Meeting with BMO
6564-00104	Receive road works advice	0	2	29/09/02	30/09/02	1	Beceive road works advice
6564-00105	Preparation for commencement	0	3	01/10/02	03/10/02	3	- MPreparation for commencement
6564-00106	Implementation of TTA	0	7	29/09/02	05/10/02	1	Eliter reference and a TTA
ML13: Pier SB3	17 SI Pre-Dritting	_					
6570-00100	Site investigation	100	20	27/07/02A	01/08/02A		Ste investigation
6570-00110	Prepare & submit the SI report	0	- 4	02/08/02A	27/08/02	90	Prepare & submit the SI report
6570-00120	Approval SI report	0	6	28/08/02	03/09/02	90	Approval SI report
MI 13 Dier 503	PIER SB38	12 SHIP	1944			第三人 是自	
6585-00100	Prepare TTA drawings (Drainage & SB38 Card)	1 0	40	25100.000	launona	1	
6585-00101	Enderse TTA drawings by the Eng	0	10	23/00/02	04/09/02	1	Prepare TTA drawings (Drainage & SB38 Cap)
6585-00102	Acoly for traffic adviceinazetta notice from TD	0		1200002	1100002	,	Endorse TTA drawings by the Eng.
6585-00103	Meeting with RMO	0	14	36/06/02	25/08/02	1	Active the static advice/pazette ecitice from TDesazace
6585-00104	Receive road works advice	0	2	20/09/02	20100102	1	Meeting with RMO
6585-00105	Preparation for commencement	0	-	01/10/02	03/10/02	1	Receive road works advice
6585-00106	Implementation of TTA	0	7	20/00/02	05/10/02	3	Teporation for commencement
ML13: Pier 5838	8 Utilities & Services Diversions	1 1		E.M. DIS-DE	1000 TUTUE	1	Implementation of TTA
6588-00110	Utilities detection & trial pit excavation	50	4	07/05/02A	08/10/02	0	Hilles detection & tele air and
6588-00120	Drainage diversion (750)	0	36	09/10/02	20/11/02	0	Drainage diversion (750)
ML13: Pier S838	8 SI Pre-Drilling					-	
6591-00100	Site investigation	0	20	21/11/02	13/12/02	0	Site investigation
BROGE ML13; P	MER SB39	14-10-05	5100	DAME DES	自己的政治和		
6606-00100	Prepare TTA drawings (5839 Card)		12	22/06/02	launana	1	•
6606-00101	Endorse TTA drawings by the Eng.	0	7 4	05/00/02	14/09/02	27	Prepare TTA drawings (S839 Cap)
6606-00102	Apply for traffic advice/parate online from TD	0		12000105	25100002	21	Endly Endorse TTA drawings by the Eng.
6606-00103	Meeting with RMO	0	3	200802	28/09/02	27	Adday on manic advice/gazene noece from TDC
6606-00104	Receive road works advice	0	2	25/09/02	30/00/02	27	LaMeeting with RMO
6606-00105	Preparation for commencement	0	3 0	01/10/02	03/10/02	20	Lifective road works advice
6608-00105	Implementation of TTA	0	7 3	29/09/02	05/10/02	29	EPreparation for commencement
ML13: Pier SB39	Utilities & Services Diversions	1	.1.		los roise	**	Limprementation of TTA
6609-00120	Remove existing LV cable	0	20 0	09/10/02	01/11/02	20	Remove existing LV cable To Norman
ML13: Pier S839	SI Pre-Drilling		1525			Sec.	
6612-00100	Site investigation	0	20 0	02/11/02	25/11/02	20	Site investigation
ME 13: Dier SD.40	1ER SB40	THE FRE	615211	E-MARTIN	常是有心情	<b>NERAS</b>	
6633-00100	Site investigation	0	20.0	201000	Incident		
6633-00110	Prepare & submit the St report	0	4 0	10F10P02	01/11/02	20	Site investigation
6633-00120	Approval SI report	0	6.0	2/11/02	13/11/02	40	Prepare & submit the Si report
ONSTRUCT BRID	DGE ML15 - STAGE 3 WORKS	2845742		Cand L. K. K.	1011102	43	Approval SI reporting
ROGE ML15: P	ER SB41					<b>在</b> 1460年	
ML15: Pier S841	TTA Implementation		10	M			
0861-00100	Prepare TTA drawings (S841CAP)	0	21 0	7/09/02*	27/09/02	144	Prepare TTA drawings (SB41CAP)
0001-00110	Endorse TTA drawings by the Eng.	0	72	8/09/02	04/10/02	144	Endorse TA drawings by the Eng.
001100120	Henry we tranc advice/gazette notice from TD	0	14 0	ev10/02	18/10/02	144	Apply for traffic advice/gazette notice from TDU
0001-00140	Reeding with HMO	0	31	9/10/02	21/10/02	144	Endeeling with RMO
5861-00150	Preparation for commercement	0	22	2/10/02	23/10/02	144	Receive road works advice
5551-00160	Implementation of TTA	0	32	4/10/02	25/10/02	146	Preparation for commencement
ME 16: Dier CD.11	Initial & Sources Discourses	0	72	2/10/02	28/10/02	144	Implementation of TTA
3864-00100	Remove existing U-channel (225)	0	20/2	2/10/02	26/11/02		*
5864-00110	Utilities detection & Irial pit excavation	99	4 5	4/08/024	23/08/02	244	Pomove existing U-channel (225) 2010 Truther and
INSTRUCT BRID	GE ML10	Saltin a	Constant of	- OG OLY	22.000 02	211	Unities detection & that pit excavation
RIDGE ML 10; PI	ER NB29(M)	SEM 1		CONTRACTOR OF	1-0-100-012	NE TRUGE	
AL10: Pier NB29	Utilities & Services Diversions				and the second second		
150-00100	Utilities detection & trial pill excevation	0	4 23	3/06/02	27/08/02	302	Utilities detection & trial pit excavation
150-00110	Water main diversion (150S.V)	0	51 28	5/08/02	29/10/02	302	Water main diversion (1500 V)
RIDGE ML10; PI	ER NB30(M)	1000	3.7%		2 million A	A.C. 25	
168-00150	Implementation of TTA	100	7	NOLID2A	Internet I		
AL10 Pier NB30	Utilities & Services Diversions	100	11	manu2A	ASTUBBULS	_	implementation of TTA
171-00110	Watermain diversion (400D.1)	0	27 25	108/02	24/09/02	25	
AL10: Pier NB30	Si Pre-Drilling		162		- PORVE	10	A. Watermain diversion (4000.1)
174-00110	Prepare & submit the SI report	0	4 22	006/02A	27/08/02	42	Prenare & submit to Strengt
174-00120	Approval SI report	0	6 28	108/02	03/09/02	42	Anormal Strengt
AL10: Pier NB30	Bored Piling					-	Amount gar over an region
177-00100	1st: Bored Pile	0	4 25	109/02	28/09/02	25	Dist. Bored Pile
177-00110	1st Interface core test	0	1 18	10/02	18/10/02	61	Dist interface over test
177-00120	2nd: Bored Pile	0	4 10	10/02	15/10/02	25	Elight Road Pie
177-00130	2nd: Interface core test	0	1 01	/11/02	01/11/02	50	2nd: Interface core test
177-00140	3rd: Bored Pile	0	4 25	10/02	29/10/02	39	Ellard: Bored Pile
177-00150	3rd: Interface core test	0	1 15	/11/02	15/11/02	30	3rd: interface core test)

Activity	Activity	14	Orig	Early	Early	Total	JUL ALIG	2002 SEP OCT NOV
ID 6177.00180	Description	Comp	Dur	Start	Finish	Float	24 1 8 15 22 29 5 12 1	9 26 2 9 16 23 30 7 14 21 28 4 11 18
M 10 Diss 502	D Dia Cas	0	1	15/11/02	15/11/02	29		An A A A Sovic testi A
6180-00100	Sheet Pile driving	1 0	2	1011102	18/11/02	90		Sheet Pla device
6180-00110	Excavate & shoring support	0	3	19/11/02	21/11/02	39		Excevate & shoring support
6180-00120	Cut Pile head	0	8	22/11/02	27/11/02	39		Cut Pile head
BRIDGE ML10: F	HER NEDRIN	Welling	NON I	ENTER DE	AND THE PARTY	NUMBER		
ML10: Pier NB2	8N TTA Implementation							
6108-00100	Prepare TTA drawings (Drainage & NB28N Cap)	0	13	23/08/02*	04/09/02	290		Prepare TTA drawings (Drainage & NB28N Cap)
6108-00110	Endorse TTA drawings by the Eng.	0	7	05/09/02	11/09/02	290		Endorse TTA drawings by the Eng.
6108-00120	Apply for traffic advice/gazette notice from TD	0	14	12/09/02	25/09/02	290	Apply for traffic advice/gazette	notice from TDL
6108-00130	Meeting with RMO	0	3	25/09/02	28/09/02	290		Meeting with RMO
6108-00140	Receive road works advice	0	2	29/09/02	30/09/02	290		Receive road works advice
6108-00150	Preparation for commencement	0	3	01/10/02	03/10/02	292		EPreparation for commencement
6108-00160	Implementation of TTA	0	7	29/09/02	05/10/02	290		Emplementation of TTA
ML10: Pier NB2	IN Utilities & Services Diversions	1 4		Lawrence .	Lanuara	1	1989	the second se
6111-00110	Drainana diserting (450)	0	12	11/10/02	10/10/02	233		Drainage diversion (450)
6111-00120	Water main diversion (1900) II	0	32	11/10/02	18/11/02	200		Water main diversion (2000) INTE
BRIDGE M. 10. E	NED MICHAELAN		34	11/10/02	10/10/02	600		
ML10: Pier NB2	IS Utilities & Services Diversions	001202102		and a state	1150LSAUGUSS	A AND THE REAL		
6129-00100	Utilities detection & trial pit excavation	0	4	11/10/02	16/10/02	233	UI	lies detection & trial pit excavation
ML10: Pier NB2	IS SI Pre-Drilling							
6132-00100	Site investigation	0	20	17/10/02	08/11/02	233		Site investigation
6132-00110	Prepare & submit the SI report	0	4	09/11/02	13/11/02	394		Prepare & submit the St report
6132-00120	Approval SI report	0	6	14/11/02	20/11/02	394		Approval SI report
CONSTRUCT BRI	DGE ML9			C 14571	1005-025-02	0.00		
MI & Pier SR29	Utilies & Services Diversions	12020.00	1000	26% 27 70%	11: - Mar. 2014	20120104010		
5916-00100	Utilities detection & trial pit excavation	0	4	17/10/02	21/10/02	249		Utilities detection & trial pit excavation
ML9: Pier S828	SI Pre-Drilling				100000	-		
5919-00100	Site investigation	0	20	09/11/02	02/12/02	233		Site investigation
BRIDGE ML9: PI	ER SB29	ALL BE						
ML9: Pier SB29	Utilities & Services Diversions	1			The second second	1		*
5634-00100	Utilities detection & trial pit excavation	0	4	22/10/02	25/10/02	265		Ubities detection & triar pit excavatione()
M 9: Par SR30	Si Pre-Drilling	South and a second	12112	all concerning	Contraction of	194000004		
5955-00120	Approval SI report	100	6	21/06/02A	01/08/02A		Approval St re	ont
ML9: Pier SB30	Bored Piling		(					
5958-00100	1st: Bored Pile	0	- 4	07/10/02	10/10/02	30		Elitst: Bored Pile
5958-00110	1st. Interface core test	0	1	29/10/02	29/10/02	52		1st: Interface core test)
5958-00120	2nd: Bored Pile	0	- 4	22/10/02	25/10/02	30		E2nd: Bored Pie
5958-00130	2nd: Interface core test	0	1	12/11/02	12/11/02	41		2nd: Interface core test)
5958-00140	3rd: Bored Pile	0	- 4	05/11/02	08/11/02	30		3rd: Bored Pile
GROUND LEVEL	ROAD WORKS	22112	100	1080.06.0		40.306		
HEALIGNMENTS	OF HING WAH STREET WEST E/B (HWW E/B	122226	CTAL C	Substrations	PROGENTER PRO	NUT STORE		
8400-00160	Implementation of TTA	100	7	10/06/02A	01/08/02A		Implementatio	of TTA
8400-00170	Prepare TTA drawing (for gully pipe)	0	44	23/08/02*	05/10/02	1,120	Prepare TTA drawing (for guily pipe	Constant of Consta
8400-00180	Endorse TTA drawings by the Eng.	0	7	05/10/02	12/10/02	1,120	Enc	orse TTA drawings by the Eng.
8400-00190	Apply for traffic advice/gazette notice from TD	0	14	13/10/02	25/10/02	1,120	Apply for	raffic advice/gazette notice from TDC
8400-00200	Meeting with RMO	0	3	27/10/02	29/10/02	1,120		Meeting with RMO
8400-00210	Receive road works advice	0	2	30/10/02	31/10/02	1,120		Receive road works advice
8400-00220	Preparation for commencement	0	3	01/11/02	03/11/02	1,122		Preparation for commencement
8400-00230	Implementation of TTA	0	7	30/10/02	05/11/02	1,120		Implementation of TTA
8400-00240	Prepare TTA drawing (for cross road cable)	0	43	23/08/02*	04/10/02	1,042		Prepare TTA drawing (for cross ro
8400-00250	Endorse TTA drawings by the Eng.	0	7	05/10/02	11/10/02	1,042	End	ree TTA drawings by the Eng.
8400-00260	Apply for traffic advice/gazette notice from TD	0	14	12/10/02	25/10/02	1,042	Apply for t	affic advice/gazette notice from TDEcontents
8400-00270	Meeting with RMO	0	3	26/10/02	28/10/02	1,042		Meeting with RMOET
8400-00280	Receive road works advice	0	2	29/10/02	30/10/02	1,042		Receive road works advice[]
8400-00290	Preparation for commencement	0	3	31/10/02	02/11/02	1,044		Preparation for commencement() -
8400-00300	Implementation of TTA	0	7	29/10/02	D4/11/02	1,042		implementation of TTA
HWW E/B: Site C	Deprance Site depression			22/04/22	4400000	1 894		
LININ ER- I HER	ar & Senirer Duersion	0	20	23/06/02	14/09/02	0.34		Dote dearance
6410-00110	Utilities detection	0	10	16/09/02	27/09/02	016		Billion detection
HWW E/B. HV P	ower Supply Civil Provision	-		10.00.01		0.0		
8420-00100	4x11kV cable installation	0	35	16/11/02	28/12/02	834		4x11kV cable installation[200
8420-00110	4xLV cable installation	0	35	16/11/02	28/12/02	1,457		4xLV cable installation
HWW E/B: Wate	r Mains		_					
8430-00100	Installation of proposed 250DI WM	0	50	15/09/02	15/11/02	834	Installation of prop	osed 2500I WMC Hard All Company
8430-00110	Pressure & sample test	0	14	16/11/02	02/12/02	947		Pressure & sample test
HWW E/B: Telec	ommunications Civil Provision							
8440-00100	Construction of NTTC ducting/drawpit	0	14	09/11/02	25/11/02	915		Construction of NTTC ducting/drawpit
HWW E/B. TCSS	Cove Provision	1	arl	-	Inniarion	1		Company of Street & Street & Street
6400-00100	Construction of TCSS ducting-drawpe	0	20	1//10/02	08/11/02	915		Construction or 1CSS ducting/drawpit
8450-00100	Construction of street light durificultrainit	C C	14	28/06/02	146210422	014	Construction of a	reet lack doction in the second with
HWW ER Pour	Signs, Markings & Bollants	0	14	NA CONCE	ist turue	812	Some Schot of a	and a second proceeding of the second s
8465-00100	Sign board foundation construction	0	30	28/09/02	04/11/02	968	Sign bear	foundation construction
8465-00110	Sign board steel frame erection	0	7	05/11/02	12/11/02	968		Sign board steel frame erection
REALIGNMENT	F HING WAH STREET WEST W/B (HWW W/B	1000	Cience in	Visione	Contractory	N S Sugar		
HWW W/B: TTA	5		and a second				and the second states and	
8500-00160	Implementation of TTA	100	7	10/06/02A	01/08/02A		implementation	of TTA

Activity	Activity	%	Orig	Early	Early	Total	J JUL AUG	SEP OCT NOV
ID	Description	Comp	Dur	Start	Finish	Ploat	<u>1 8 15 22 29 5 12 19</u>	26 2 9 16 23 30 7 14 21 28 4 11 18
HWW W/B: Utas	es & Services Leversions	0	8	23/08/02	31/08/02	895		Utilies detection
USEDAL MURT: Durale	Comps devision		-	Lavorer	0.040.0E			
R515,00115	Manhole construction	0	30	21/11/02	27/12/02	895		Manhole construction
HWW WR HV P	Inwar Supply Civil Provision	-			1.00			
8520-00140	4x11kV cable installation	0	35	21/11/02	03/01/03	926		4x11kV cable installation
8520-00150	4xt,V cable installation	0	35	21/11/02	03/01/03	926		4xLV cable installation
HWW W/B: Wate	er Mains							*
8530-00160	Installation of proposed 300DI	0	66	02/09/02	20/11/02	895	Installation of proposed	X X X
8530-00162	Installation of proposed 400DI	0	66	02/09/02	20/11/02	895	Installation of proposed	40001 X X X X X X X X X X X X X X X X X X
8530-00164	Installation of proposed 450DI	0	66	02/09/02	20/11/02	895	Installation of proposod	4500 X X X
8530-00170	Pressure & sample test	0	14	21/11/02	05/12/02	943		Pressure & sample test
HWW W/B: Gas	Mains				10 10 10			•
8535-00190	Laying 315PE gas main	0	26	26/08/02	25/09/02	30		X Laying 315PE gas main
8535-00192	Laying 400 steel gas main	0	26	25/08/02	25/09/02	941		King 400 steel gas main
8535-00200	Connection work for 315PE & 400 steel gas main	0	12	26/09/02	10/10/02	995	Connection work for 3158	E & 400 steel gas main
HWW W/B: Tele	communications Civil Provision			5	10-10-10-10-10-10-10-10-10-10-10-10-10-1			
8540-00220	Construction of NTTC ducting/drawpit	.0	.14	19/11/02	04/12/02	907		Construction of NTTC ducting/drawpit
HWW W/B: Stre	et Lighting			1				1
8550-00260	Construction of street light ducting/drawpit	0	14	02/11/02	18/11/02	907		Construction of seleet tions ducting/drawpat
HIGH-00110	Relocation of switch room LW/2	0	30	07/10/02	11/11/02	1,475		resocation of switch room LW/2
HIGH-00120	Remove KHM-330 at Lai Po Rd Slip 2	0	21	12/11/02	05/12/02	1,475		Remove KHM-330 at Lai Po Ho Silo Zummin
HWW W/B: Roa	d Signs, Markings & Bollards				1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.			See Local Local Contraction
8565-00350	Sign board foundation construction	0	30	02/11/02	05/12/02	940		
CP3/D16 ROUND	MBOUT (CP3/D16)	2577	29-99	and the second	Contractory.	CO.S. S. M.		
CP3/D16: TTA's		100	-	1 somerne	Intinginga	1	adementation	of TTA
8600-00160	Incrementation of TTA	100	1.00	Linanovica A	In monton	Contraction of	- periorato	
HEALIGNMENT (	OF HING WAR SLIP2 (HWSZ)	and a	No. of Lot of Lo	and the second	Contractor or Aller	COLORINA		
8800-00100	Prenare TTA drawing	0	12	23/08/02*	04/09/02	924		Prepare TTA drawing
8800-00101	Endorse TTA drawings by the End	0		05/09/02	11/09/02	928		Endorse TTA drawings by the Eng.
8800-00107	Andu for traffic advice/satetice notice from TD		14	12/09/02	25/09/82	928	Apply for traffic advice/gazette r	otice from TD all has and
8800.00102	Meeting with BMO			26/09/02	28/09/02	928		EMeeting with RMO
8800.00104	Paralus and anks shire	1		29/09/02	50/09/02	928		Receive road works advice
8800-00105	Perparation for commonorment			01/10/02	03/10/02	830		EPreparation for commencement
8800-00100	Implementation of TTA	-		29/09/02	05/10/02	928		Emplementation of TTA
LANC'S Terrors	imperientation of the	-	-		1			
8802-00100	Temporary road construction	0	2	05/09/02	07/10/02	748		Temporary road construction
HWS2 Water M	lans	-		1		102532		
8830-00100	installation of proposed 150DI	(	5	08/10/02	05/12/02	748		Installation of proposed 150DI
REALIGNED SLI	P 3 (53)	1923	Billy	Red Charles				
Pier G2 Utilities.	Services & Roadworks	1.1	121	No.	(1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.			
HIGH-00130	Remove KHM-331 at Hing Wah Slip 3	0	2	1 05/11/02	29/11/02	1,120		Hemove KHM-331 at Hing Wah Sep 31 minutes
S3: TTA's		-	-		Lauren an	1		Pressent TA drawlog
8900-00100	Prepare TTA drawing	0	4	4 23/08/02*	05/10/02	1,132	End	TTA drawtow by the Eng
8900-00110	Endorse TTA drawings by the Eng.		2	7 06/10/02	12/10/02	1,132	Aught for	affer aching in a pairs from TD
8900-00120	Apply for traffic advice/gazette notice from TD		1	6 13/10/02	26/10/02	1,132		Meeting with BMOR
8900-00130	Meeting with RMO			3 27/10/02	29/10/02	1,132		Receive mat works advice
8900-00140	Receive road works advice	3		2 30/10/02	31/10/02	1,132		Descention for commercement()
8900-00150	Preparation for commencement		2	3 01/11/02	03/11/02	1,134		inclementation of TTAILING
8900-00160	Implementation of TTA		1	7 30/10/02	05/11/02	1,132		
S3: HV Power S	upply Civil Provision	1	1 0	lorisem	latine en	0.00		4xLV cable installation
8920-00100	4xLV cable installation	10.000	1 0	0 000 T 1702	1770 000	No. of Lot.		
STACE IA REA	Services I Bostworks				Contraction of the second	10.100 m		
3005-00100	Utilities detection & trial pit excavation	1	0	4 23/08/02	27/08/02	-63		Utilities detection & trial pit excavation
3005-00110	Hoarding erection	1		5 14/08/02A	28/08/02	-53		Hoarding erection
3005-00120	Remove existing mad paying & road barrier			5 23/06/02	28/08/02	-53		Remove existing road paving & road barrier
Pier G3 Utilities	Services & Roadworks			111			Y	
3040-00100	Utilities detection & trial pit excavation	5		4 09/07/02A	29/08/02	-48	Manual State Sta	Utilities detection & trial pit excavation
3040-00110	Hoarding erection	10		5 01/08/02A	16/08/02A		Hos	ding erection
3040-00115	Ramove existing road paving	1		5 30/08/02	04/09/02	-48		MULTIFlemove existing road paving
3040-00120	Utilities detection & trial pit excavation	1	0	4 02/09/02	05/09/02	-48		Dilities detection & trial pit excavation
3040-00130	Exception & diversion underground drainable		0	5 06/09/02	11/09/02	-48		BADExcavation & diversion underground drainage
Plan HON LINE	s Services & Roadworks	-	-	-		-		
4332-00100	Litities detection & trial pit excavation	5	o i	4 21/08/02A	24/08/02	-54		BUtilities detection & trial pit excavation
4332-00110	Hoarding erection		0	5 14/08/02A	28/08/02	-54	-	Hoarding erection
4332-00120	Remove existing road paying & road barrier		0	5 23/08/02	28/06/02	-54		Remove existing road paving & road barrier
Pier SB42 1 alla	lies. Services & Roadworks		-	1	1			
6885-00050	Utilities detection & trial pit excavation	3	0	4 23/08/02	27/08/02	-56		Utilities detection & trial pit excavation
6885-00060	Hoarding erection		0	3 14/08/02A	27/08/02	-56		(iii)-loarding erection
6885-00070	Remove existing road paving & road barrier		0	3 24/08/02	27/08/02	-56		Remove existing road paving & road barrier
6885-00110	Excavation & diversion underground drainage	1	0	3 28/08/02	30/08/02	-56		Receivation & diversion underground drainage
Dier NRd 2 1 Hills	ies Services & Roadworks	-	1	T	-	-	Y	
6999-00100	Utilities detection & trial pit excavation	5	0	4 20/08/02A	24/08/02	-58		DUtilities detection & trial pit excavation
6999-00110	Hoarding erection		0	5 14/08/02A	28/08/02	-58		Hoarding erection
6999-00120	Remove existing road paying & road barrier	1 2	0	5 23/08/02	28/08/02	-58		Remove existing road paving & road barrier
LCR TTAY		-	-	-				
9100-00120	Apply for traffic advice/gazette notice from TD	10	0 1	4 29/05/02A	26/07/02A		Manufacture Apply for traffic ad	ce/gazette notice from TD
9100-00130	Meeting with RMO	10	0	3 27/07/02A	29/07/02A		Abeting with RM	P
9100-00140	Receive road works advice	10	0	2 30/07/02A	01/08/02A		Receive road	orks advice
9100-00150	Preparation for commencement	10	0	3 02/08/02A	05/06/02A		Preparation	for commencement.

Activity ID	Activity Description	% Camp	Orig Dur	Early Start	Early Finish	Total Float	24	1 A	_JU	22	.29	5	ALN 12	19	26	200	SEP 3 .19	23	30	3	OCT.	21 2	4	NON	18
9100-00160	Implementation of TTA.	100	1	02/08/02A	13/08/02A		-					_		7	er narr,	00.04	110						÷		-T-I
LCR: LCR: Drail	nage				111	-	1							1	-			-	3				11		
9115-00100	Manhole construction	0	30	23/08/02	27/09/02	(	2							.1	and the second	underen	Y	(HOL	Man	sole c	onstri	ction	1		
9115-00110	Excavation & gully pipe installation	0	40	16/09/02	04/11/02	0	2				Exc	avabi	n & g	-7	obe it	water	nong	eren .		7	onaria.	and the second second	T		3
9115-00120	Gully pit installation	0	- 30	11/10/02	15/11/02		2										Gul	y př. ie	sstall4	lion	H	Laure .	TT		1
9155-00100	Backfill	0	5	16/11/02	21/11/02	0	2																	Backs	1
9155-00110	Road kerb laying	0	12	22/11/02	05/12/02		ð												_	_	_	_	000	Kents	wying
LCR: Street Lig	hting						4							- 1						1.2			13		_
HIGH-00140	Install KHM-325R	0	- 30	05/11/02	05/12/02	1,091	1							1							stall I	pred-3	1 P	100	and a second
HIGH-00190	Remove KHM-322 at Pile cap H9S	0	14	01/11/02	16/11/02	113	8		_	_	_	_	_		_	_	Ren	ave ?	0404-2	22 at	Pile	ар нэ	SCE	-	asP .

Appendix D1

Action/Limit Levels for Air Quality

## Appendix D1: Action /Limit Levels for Air Quality

Location	Action Level (µg/m ³ )	Limit Level (µg/m ³ )
ASR1	163	260
ASR2	178	260

### ACTION AND LIMIT LEVELS FOR 24-HOUR TSP

#### ACTION AND LIMIT LEVELS FOR 1-HOUR TSP

Location	Action Level ( $\mu g/m^3$ )	Limit Level (µg/m ³ )
ASR1	318	500
ASR2	324	500

Appendix D2

Action/Limit Levels for Noise

## Appendix D2: Action/Limit Levels for Noise

Time Period	Action	Limit
0700-1900 hrs on normal weekdays	When one documented complaint is received	75dB(A)*
0700-2300 hrs on holidays; and 1900-2300 hrs on all other days	When one documented complaint is received	70 dB(A)
2300-0700 hrs of next day	When one documented complaint is received	55 dB(A)

Action and Limit Lev	els for Constructio	n Noise
----------------------	---------------------	---------

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

## Appendix E

## Environmental Monitoring Schedule from 29 July to 28 August 2002

Sunc	tav	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Guit	July	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug 1hr-TSP Noise	3-Aug 24hrs-TSP
	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug
Noise _{PH}					Noise	24nrs-15r	
Noiseph	11-Aug	12-Aug	13-Aug	14-Aug 1hr-TSP Noise	15-Aug 24hrs-TSP	16-Aug	17-Aug
Noiseph	18-Aug	19-Aug	20-Aug 1hr-TSP Noise	21-Aug 24hrs-TSP	22-Aug	23-Aug	24-Aug
Noise _{PH}	25-Aug	26-Aug 1hr-TSP Noise	27-Aug 24hrs-TSP	28-Aug			

#### Environmental Monitoring Schedule between 29-July and 28-August 2002

1hr-TSP 1 hour TSP monitoring at ASR1 and ASR2 during 09:00~10:00, 13:00~14:00 and 17:00~18:00.

24hrs-TSP 24 hours TSP monitoring at ASR1 and ASR2 during 00:00~00:00 of next day

Noise Leq₃₀ measurement at NSR1 and NSR2 during 07:00–19:00. 6 x Leq₅ and 4 x Leq₅ will be measured during 19:00–23:00 and 23:00–07:00 of next day (if construction activities are undertaken)

Noise_{PH} 6 x leq₅ will be measured during 07:00~19:00 (if construction activities are undertaken)

# Appendix F

# Locations of Monitoring Locations



Appendix G1

**Calibration Certificates for HVS** 

#### TSP - Total Suspended Particulates High Volume Sampler In-situ Calibration Report

Calibration Date	31-Jul-02		Next Calibration Date	30-Sep-02
Station	ation ASR2		Equipment no.	E.HVS.02
The second second	an a	Ambient Condition		Service Contraction
Temperature, Ta (K)	300.9		Pressure, Pa (mmHg)	752.7
AND THE WARD AND THE	Orifice	Transfer Standard Info	ormation	Charles and a second second
Equipment no.	E.CAL.01			
Slope, mo	1.5507		Intercept, co	-0.00514
Last Calibration Date	7-May-02		Next Calibration Date	7-May-03
	mo x Q	_{std} + co = [∆O x (Pa/760) x (	298/Ta)] ^{1/2}	
	Q _{std} = {	[∆O x (Pa/760) x (298/Ta)] ^{1/}	² - co} / mo	
	Orifice Manometer	Orifice Q _{std} (CMM)	HVS Manometer	[ΔH x (Pa/760) x (298/Ta)] ¹
Calibration Point	Reading, ∆O (inch)	x-axis	Reading, ∆H (inch)	y-axis
1	7.1	1.71	7.1	2.64
2	6.1	1.58	6.1	2.45
3	5.0	1.43	5.0	2.21
4	4.0	1.28	4.0	1.98
5	3.1	1.13	3.0	1.72
By Liner Hegression of y on x	1 5005	Internet als	0.0075	
Slope, mn =	1.5905	Intercept, cn =	-0.0675	
*Correction Coefficient, R =	0.9997			
Calibration Result:	ACCEPT			
* If the Correlation Coefficient, H is	< 0.9900. Checking and Recalibration are	e require.		
Remark:				
Calibrated By:	1 Wing	Date: 31-7-7	1002	
Checked By:	10.0	Date: 0//c	8/02	

ARUP



## ARUP

#### TSP - Total Suspended Particulates High Volume Sampler In-situ Calibration Report

Calibration Date	31-Jul-02	Next Calibration Date	30-Sep-02	
Station	ASR1	Equipment no.	E.HVS.01	
Contraction (Section 2)	Amb	ient Condition		
Temperature, Ta (K)	300.3	Pressure, Pa (mmHg)	753.5	
	Orifice Transfe	er Standard Information	NEWS CONSIDER	
Equipment no.	Orifice Transfe E.CAL.01	er Standard Information		
Equipment no. Slope, mo	Orifice Transfe E.CAL.01 1.5507	er Standard Information	-0.00514	

Calibration Point	Orifice Manometer Reading, ∆O (inch)	Orifice Q _{std} (CMM) x-axis	HVS Manometer Reading, ∆H (inch)	[∆H x (Pa/760) x (298/Ta)] ^{1/2} y-axis
1	6.8	1.67	7.0	2.62
2	5.7	1.53	6.0	2.43
3	4.7	1.39	5.0	2.22
4	3.7	1.23	3.9	1.96
5	2.9	1.09	3.1	1.75

By Liner Regression of y on x

Slope, mh =	1.5319	Intercept, ch =	0.0758
*Correction Coefficient, R =	0.9996		
	ter fan Ten ren in ter		

Calibration Result: ACCEPT

* If the Correlation Coefficient, R is < 0.9900. Checking and Recalibration are require.

Remark:

Calibrated By:

Date: 31-7-2002 Date: 01/08/02



Appendix G2

## **Calibration Certificates for Weather Station**

Werkszeugnis nach DIN EN 10204/2.2 Test report according to DIN EN 10204/2.2

CERTIFIED



Geräte-Typ Model type Type d'instrument	8160.TF
Modell Model Modèle	Temperature sensor
Anzahl number nombre	1
Genauigkeit Accuracy Précision	± 0,2 °C (-30°C+70°C)

Hiermit bescheinigen wir, daß dieses LUFFT-Erzeugnis in Übereinstimmung mit dem QM-Handbuch der LUFFT Mess-und Regeltechnik GmbH nach DIN EN ISO 9001 gefertigt wurde. Die Bestellvorgaben wurden eingehalten. Die Ausführung und Anzeigegenauigkeit der Geräte / Systeme wurde im Rahmen der LUFFT-Qualitätssicherungsmaßnahmen überwacht. Die Qualitätsprüfung ergab keine Beanstandung.

This is to certify, that this Lufft product has been tested according to the TQM of the LUFFT Mess- und Regeltechnik GmbH manual in accordance with DIN EN ISO 9001. Ordering specifications are complied with. Execution of instruments / systems as well as testing of accuracy was carried out following LUFFT quality assurance procedures. Quality inspection was successfully passed.

Par ce document, nous certifions que le produit correspondant a bien été testé suivant les normes TQM de Lufft Mess- und Regeltechnik GmbH en accord avec la norme DIN EN ISO 9001. Les conditions stipulées dans la commande ont été remplies. La réalisation des appareils / systèmes ainsi que les tests de précision ont été fait en concordance avec les procédés de qualité Lufft.

Stempel Datum Seal L D Pater - Nacional Augustation Au	n Prüfer Li Checked L	Quali y quality	itätsmanagement [,] management
5735 FeiD6.05 Cattech 43	02 5 %	Lufft	GmbH
LUFFT Mess- und Regeltechnik GmbH Gutenbergstraße 20 70736 Fellbach Tel.: 0711-51822-0	Geschäftsführer DiplWirtschIng. Klaus Hirzel DiplIng. Axel Schmitz-Hübsch	Postbank Stuttgart Konto 857-702 BLZ 600 100 70	Deutsche Bank AG, Stuttgart S.W.I.F.T.Code: DEUT DE SS Konto 1325 794
Fax: 0711-51822-41 email: info@luff.de Internet: www.lufft.de		Südwestbank AG, Stuttgar Konto 21839 BLZ 600 602 01	t

Werkszeugnis nach DIN EN 10204/2.2 Test report according to DIN EN 10204/2.2



Geräte-Typ Model type Type d'instrument	8355.03
Modell Model Modèle	Air pressure sensor
Anzahl number nombre	1
Genauigkeit Accuracy Précision	± 0,2 % of final value optimal accuracy at 1010 hPa

Hiermit bescheinigen wir, daß dieses LUFFT-Erzeugnis in Übereinstimmung mit dem QM-Handbuch der LUFFT Mess-und Regeltechnik GmbH nach DIN EN ISO 9001 gefertigt wurde. Die Bestellvorgaben wurden eingehalten. Die Ausführung und Anzeigegenauigkeit der Geräte / Systeme wurde im Rahmen der LUFFT-Qualitätssicherungsmaßnahmen überwacht. Die Qualitätsprüfung ergab keine Beanstandung.

This is to certify, that this Lufft product has been tested according to the TQM of the LUFFT Mess- und Regeltechnik GmbH manual in accordance with DIN EN ISO 9001. Ordering specifications are complied with. Execution of instruments / systems as well as testing of accuracy was carried out following LUFFT quality assurance procedures. Quality inspection was successfully passed.

Par ce document, nous certifions que le produit correspondant a bien été testé suivant les normes TQM de Lufft Mess- und Regeltechnik GmbH en accord avec la norme DIN EN ISO 9001. Les conditions stipulées dans la commande ont été remplies. La réalisation des appareils / systèmes ainsi que les tests de précision ont été fait en concordance avec les procédés de qualité Lufft.

Stempel Di Seal	atum Prüfer Lex Checked I	Quality quality	lätsmanagement management
Rod- u. Ragstechnik Gr Gutenbergstraße 70736 Fellb@ Gostiech & 2	曲桥 20 205.02 5.2	Lufft (	GmbH
LUFET Mess- und Regeltechnik Gm Gutenbergstraße 20 70736 Fellbach Tel: 0711 51822.0	H Geschäftsführer DiplWirtschIng, Klaus Hirzel DiplIng, Axel Schmitz-Hübsch	Postbank Stuttgart Konto 857-702 BLZ 600 100 70	Deutsche Bank AG, Stuttgart S.W.I.F.T.Code: DEUT DE SS Konto 1325 794
ax: 0711-51822-41 mail: info@lufft.de nternet: www.lufft.de		Südwestbank AG, Stuttgart Konto 21839 BLZ 600 602 01	

Werkszeugnis nach DIN EN 10204/2.2 Test report according to DIN EN 10204/2.2



Geräte-Typ Model type Type d'instrument	8352.00		
Modell Model Modèle	Wind sensor for speed and direction		
Anzahl number nombre	1		
Genauigkeit Accuracy Précision	Speed: ± 0, 5 m/s or 3% Direction ± 5°		

Hiermit bescheinigen wir, daß dieses LUFFT-Erzeugnis in Übereinstimmung mit dem QM-Handbuch der LUFFT Mess-und Regeltechnik GmbH nach DIN EN ISO 9001 gefertigt wurde. Die Bestellvorgaben wurden eingehalten. Die Ausführung und Anzeigegenauigkeit der Geräte / Systeme wurde im Rahmen der LUFFT-Qualitätssicherungsmaßnahmen überwacht. Die Qualitätsprüfung ergab keine Beanstandung.

This is to certify, that this Lufft product has been tested according to the TQM of the LUFFT Mess- und Regeltechnik GmbH manual in accordance with DIN EN ISO 9001. Ordering specifications are complied with. Execution of instruments / systems as well as testing of accuracy was carried out following LUFFT quality assurance procedures. Quality inspection was successfully passed.

Par ce document, nous certifions que le produit correspondant a bien été testé suivant les normes TQM de Lufft Mess- und Regeltechnik GmbH en accord avec la norme DIN EN ISO 9001. Les conditions stipulées dans la commande ont été remplies. La réalisation des appareils / systèmes ainsi que les tests de précision ont été fait en concordance avec les procédés de qualité Lufft.

Stempel Datu Seal Date	m Prüfer Checked b	Quali by quality	tätsmanagement management
G. LUFFT			
Gutenbergstraß	5.02	Lufft	GmbH
LUFF Mess- und Regelectrick Gribit Gutenbe/gshafe 25 0 1 D a C h 70736 Fellbach Tel: 0711-51822-0	Geschäftsführer Dipl - Wirtsch - Ing. Klaus Hirzel Dipl - Ing. Axel Schmitz-Hübsch	Postbank Stuttgart Konto 857-702 BLZ 600 100 70	Deutsche Bank AG, Stuttgart S.W.I.F.T.Code: DEUT DE SS Konto 1325 794
Fax: 0711-51822-41 email: info@ufft.de		Südwestbank AG, Stuttgar Konto 21839 RL 7 800 602 01	t

# Appendix G3

## Calibration Certificates for High Volume Orifice Calibrator



TISCH ENVIRONMENTAL, INC. 145 SOUTH MIAMI AVE. VILLAGE OF CLEVES, OH 45002 513.467.9000 877.263.7610 toll free 513.467.9009 frax www.tisch-env.com

#### AIR POLLUTION MONITORING EQUIPMENT

#### ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5028A

Date - Ma	ay 07, 200	2 Rootsmeter	S/N 9	833620	Ta (K) -	293
operator	Tisch	Orifice I.I	D	0491	Pa (mm)	- 751.84
					METER	ORFICE
PLATE	VOLUME	VOLUME	DIFF	DIFF	DIFF	DIFF
OR	START	STOP	VOLUME	TIME	Ha	H20
VDC #	(m3)	(m3)	(m3)	(min)	(mm)	(in.)
1	NA	NA	1.00	1.2640	4.2	1 50
2	NA	NA	1.00	0.9660	7.0	2 50
3	NA	NA	1.00	0.8830	8.4	3 00
4	NA	NA	1.00	0.8210	9.7	3 50
5	NA	NA	1.00	0.6200	16.7	6.00
		a las as an			And a second second second second second	

#### DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0005 0.9967 0.9948 0.9931 0.9837	0.7915 1.0318 1.1267 1.2096 1.5867	1.2285 1.5860 1.7374 1.8766 2.4570	 0.9944 0.9906 0.9888 0.9870 0.9777	0.7867 1.0255 1.1198 1.2022 1.5770	0.7646 0.9871 1.0813 1.1679 1.5291
Qstd slop intercept coefficie v axis =	pe (m) = (b) = ent (r) =	1.55070 -0.00514 0.99978 Pa/760)(298/	 Qa slope intercept coefficie	e (m) = t (b) = ent (r) =	0.97102 -0.00320 0.99978

#### CALCULATIONS

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

Va = Diff Vol [(Pa-Diff Hg)/Pa] Qa = Va/Time

For subsequent flow rate calculations:

Qstd =  $1/m\{[SQRT(H20(Pa/760)(298/Ta))] - b\}$ Qa =  $1/m\{[SQRT H20(Ta/Pa)] - b\}$ 

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AIR POLLUTION MONITORING EQUIPMENT

* y-axis equations: Qstd series:

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SC

NGH I

 $\sqrt{\Delta H \left(\frac{P a}{P s t d}\right) \left(\frac{T s t d}{T a}\right)}$  $\sqrt{(\Delta H (T a / P a))}$ 

#0491

Qa series:

# Appendix G4

Calibration Certificates for Sound Level Meter and Calibrator

## **CERTIFICATE OF VERIFICATION**

NUMBER: 02/00379

DICESVA S.L. Calibration laboratory

Villar, 20 08041 BARCELONA SPAIN Phone number 934 335 240 / Fax 933 479 310

The calibration has been performed following calibration procedure P015 (Revision 01) for acoustic tests and P016 (Revision 01) for electrical tests, based on standards IEC60651:1979/A1:1993 and IEC60804:1985/ A1:1989/A2:1993.

INSTRUMENT: MANUFACTURER: MODEL: SERIAL NUMBER: MICROPHONE: TYPE:

DATE OF CALIBRATION: DATE OF ISSUE: Integrating-averaging sound level meter CESVA SC-30 T215638 C-130, serial number 6154 1

2002-05-24 2002-05-27

CALIBRATION RESULT:

Within the specifications in the values measured

alista

Xavier Solà Gimeno

## **CERTIFICATE OF VERIFICATION**

NUMBER: 02/00381

DICESVA S.L. Calibration laboratory

Villar, 20 08041 BARCELONA SPAIN Phone number 934 335 240 / Fax 933 479 310

The calibration has been performed following calibration procedure P015 (Revision 01) for acoustic tests and P016 (Revision 01) for electrical tests, based on standards IEC60651:1979/A1:1993 and IEC60804:1985/ A1:1989/A2:1993.

INSTRUMENT: MANUFACTURER: MODEL: SERIAL NUMBER: MICROPHONE: TYPE:

DATE OF CALIBRATION: DATE OF ISSUE:

CALIBRATION RESULT:

Integrating-averaging sound level meter CESVA SC-30 T215622 C-130, serial number 6147 1

2002-05-24 2002-05-27

Within the specifications in the values measured

mital

Xavier Solà Gimeno

## **CERTIFICATE OF VERIFICATION**

NUMBER: 02/00382

DICESVA S.L. Calibration laboratory

Villar, 20 08041 BARCELONA SPAIN Phone number 934 335 240 / Fax 933 479 310

The calibration has been performed following calibration procedure P017 (Revision 02), based on standard IEC942:1988.

INSTRUMENT: MANUFACTURER: MODEL: SERIAL NUMBER: TYPE:

DATE OF CALIBRATION: DATE OF ISSUE: Sound calibrator CESVA CB-5 0032450 1L 2002-05-09 2002-05-27

CALIBRATION RESULT:

Within the specifications in the values measured

averal

Xavier Solà Gimeno

## **CERTIFICATE OF VERIFICATION**

NUMBER: 02/00380

DICESVA S.L. Calibration laboratory

Villar, 20 08041 BARCELONA SPAIN Phone number 934 335 240 / Fax 933 479 310

The calibration has been performed following calibration procedure P017 (Revision 02), based on standard IEC942:1988.

INSTRUMENT: Sound calibrator MANUFACTURER: MODEL: SERIAL NUMBER: TYPE: DATE OF CALIBRATION: DATE OF ISSUE:

CESVA CB-5 0032456 1L 2002-05-09 2002-05-27

CALIBRATION RESULT:

Within the specifications in the values measured

anvals

Xavier Solà Gimeno

Appendix H1

**Event/Action Plan for Air Quality** 

Event		Action					
Level	ET	ER	CONTRACTOR				
Action Level							
Exceedance for one sample	<ul> <li>Identify source</li> <li>Inform ER</li> <li>Repeat Measurement to confirm finding</li> <li>Increase monitoring frequency to daily</li> </ul>	<ul> <li>Notify Contractor</li> <li>Check mortaring data and Contractor's working methods</li> </ul>	<ul> <li>Rectify any unacceptable practice</li> <li>Amend working methods if appropriate</li> </ul>				
Exceedance for two or more consecutive samples	<ol> <li>Identify source</li> <li>Inform ER</li> <li>Repeat measurements to confirm findings</li> <li>Increase monitoring frequency to daily</li> <li>Discuss with ER for remedial actions required</li> <li>If exceedance continues arrange meeting with ER</li> <li>If exceedance stops, cease additional monitoring</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing</li> <li>Notify Contractor</li> <li>Check monitoring data and Contractor's working methods</li> <li>Discuss with Environmental Team and Contractor on potential remedial actions</li> <li>Ensure remedial actions properly implemented</li> </ol>	<ol> <li>Submit proposals for remedial actions to ER within 3 working days of notification</li> <li>Implement the agreed proposals</li> <li>Amend proposal if appropriate</li> </ol>				
Limit Level							
Exceedance for one sample	<ol> <li>Identify source</li> <li>Inform ER and EPD</li> <li>Repeat measurement to confirm finding</li> <li>Increase monitoring frequency to daily</li> <li>Assess effectiveness of Contractor's remedial actions and keep EPD and ER informed of the results</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing</li> <li>Notify Contractor</li> <li>Check monitoring data and Contractor's working methods</li> <li>Discuss with Environmental Team Leader and Contractor potential remedial actions</li> <li>Ensure remedial actions properly implemented</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance</li> <li>Submit proposals for remedial actions to ER within 3 working days of notification</li> <li>Implements the agreed proposals</li> <li>Amend proposal if appropriate</li> </ol>				

Appendix H1: Event/Action Plan for Air Quality

Event	Action					
Level	ET	ER	CONTRACTOR			
<b>Action Level</b>						
Exceedance for two or more consecutive samples	<ol> <li>Identify source</li> <li>Inform ER and EPD the causes &amp; actions taken for the exceedances</li> <li>Repeat measurement to confirm findings</li> <li>Increase monitoring frequency to daily</li> <li>Investigate the causes of exceedance</li> <li>Arrange meeting with EPD and ER to discuss the remedial actions to be taken</li> <li>Assess effectiveness of Contractor's remedial actions and keep EPD and ER informed of the results &amp; if exceedance stops, cease additional monitoring</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing</li> <li>Notify Contractor</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>Discuss amongst Environmental Team Leader and the Contractor potential remedial actions</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness</li> <li>If exceedance continues consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated</li> </ol>	<ol> <li>Take immediate action avoid further exceedance</li> <li>Submit proposals for remedial actions to ER within 3 working days of notification</li> <li>Implements the agreed proposals</li> <li>Resubmit proposals if problem still not under control</li> <li>Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol>			
Appendix H2

**Event/Action Plan for Noise** 

Event	Action					
	ET Leader	ER	Contractor			
Action Level	<ol> <li>Notify ER</li> <li>Analyse investigation</li> <li>Increase monitoring frequency to check mitigation effectiveness</li> </ol>	<ol> <li>Notify Contractor</li> <li>Require Contractor to propose measures' for the analysed noise problem</li> </ol>	<ol> <li>Submit noise mitigation proposals to Environmental Team</li> <li>Implement noise mitigation proposals[*]</li> </ol>			
Limit Level	<ol> <li>Notify ER</li> <li>Notify EPD</li> </ol>	<ol> <li>Notify Contractor</li> <li>Require contractor to implement mitigation measures' Increase monitoring frequency to check mitigation effectiveness</li> </ol>	<ol> <li>Implement mitigation measures</li> <li>Prove to Environmental Team Leader ER effectiveness of measures applied</li> </ol>			
*	Mitigation Measures may include: • Relocation of noise emitting µ • Use of silenced or super-siler • Use of acoustic sheds or scre • Limit quantity of plant operatir • Change working technique	olant aced equipment eens ng				

Appendix H2: Event/Action Plan for Construction Noise

## Appendix I

## Implementation Status of Environmental Protection Requirements

	Environmental Protection Measures	Timing	Implementation Stages*
Activities			29/7/02 to 28/8/02
Landscape and visual	Erection, painting and maintenance of site hoardings around works and storage areas.	Throughout the construction period	(not all)
	Restrictions on the height of material/spoil stockpiles.		
	Prompt hydro-seeding of disturbed areas and cut/fill slopes prior to the permanent landscaping works.		N/A
	Avoidance of chunam or shotcreting slope treatments.		
	Conservation of topsoil where practical.		$\checkmark$
	Site litter patrols and regular site waste collection.		$\checkmark$
	Maintenance of planting.		$\checkmark$
Ecological Impact	Minimise damage outside works areas	Throughout the construction period	N
Construction:	•		
Material Storage	Covers for dusty stockpiles	Throughout the construction period	(not all)
Vehicle movement	Haul road watering, vehicle wheel wash prior to exit. Where practical, access roads should be protected with crushed gravel.		√ (not all)
Plant maintenance	All plant shall be maintained to prevent any undue air emissions.	]	√
All plant activity	Reference should be made the EM&A Manual Action Plan for measures for consideration when Noise Limit Levels are not met.		N/A
Plant maintenance	All plant shall be maintained to prevent any undue noise nuisance.	]	

### Appendix I: Implementation Status of Environmental Protection Requirement

N/A = Not Applicable  $\checkmark$  = Implemented *

	Environmental Protection Measures	Timing	Implementation Stages*
Wheel wash	All wheel wash water shall be diverted to a sediment pit.	Throughout the construction period	√ (Not all)
Concrete Truck Washout	All concrete trucks shall wash out into a lined pit.		√ (Not all)
Surface water diversion	All clean surface water shall be diverted around the site.		√ (Not all)
Sediment control	Sediment removal facilities shall be provided and be maintained and excavated as necessary to prevent sedimentation of the channel. Perimeter channels shall be provided. Works shall be programmed for the dry season where feasible.		√ (Not all, in progress)
Fuel can storage	All fuel cans shall be placed within a bundled area. Any fuel spills shall be mopped up as necessary.		
Slope covers	Finished slopes and other slopes near drainage areas shall be covered prior to rains to reduce sedimentation of runoff. Slopes should be hydroseeded or shotcreted as early as possible to prevent erosion.		
Excavation works	Excavation works shall avoid sensitive areas.	Throughout the excavation work period	
Material, plant movement and fuel can refilling.	Any fuel or oil spills shall be excavated and disposed of.	Throughout the construction period	V
Generators	All generators shall be placed within a bundled area. Any fuel spills shall be mopped up as necessary.		(not all)
Material containers	All empty bags and containers shall be collected for disposal.		$\checkmark$
Worker generated litter and Waste	Litter receptacles shall be placed around the site. Litter shall be taken regularly to the refuse collection points. Chemical toilets (or suitable equivalent) should be provided for workers. Any canteens should have grease-traps.		V
Neighborhood nuisance	All complaints regarding construction works shall be relayed to the Environmental Team.		

N/A = Not Applicable  $\checkmark$  = Implemented *

	Environmental Protection Measures	Timing	Implementation Stages*
Legal requirements	Different types of waste should be segregated, stored, transported and disposed of in accordance with the relevant legislative requirements and guidelines	Throughout the construction period	$\checkmark$
On-site separation	On-site separation of municipal solid waste and construction/demolition wastes should be conducted as far as possible in order to minimize the amount of solid waste to be disposed to landfill.		$\checkmark$
Temporary storage area	Separated wastes should be stored in different containers, skips, or stockpiles to enhance reuse or recycling of materials and encourage their proper disposal.		
Record of wastes	Records of quantities of wastes generated, recycled and disposed (with locations) should be properly kept.		(in progress)
Trip-ticket system	To monitor the disposal of waste at landfills and control fly-tipping, a "trip-ticket" system for all solid waste transfer/disposal operations should be implemented. The system should be included as a contractual requirement, and monitored by the Environmental Team and audited by the Independent Environmental Checker.		

* N/A = Not Applicable $\checkmark = Implemented$  Appendix J

1-hour and 24-hour TSP Monitoring Result

			Initial Standard Flow	Final Standard Flow	Averaged Standard	Total Standard			
Date	Sampling Time	Elapsed Time	Rate	Rate	Flow Rate	Volume	Initial Filter Weight	Final Filter Weight	<b>TSP</b> Concentration
		(min)	(m ³ /min)	(m ³ /min)	(m ³ /min)	(m ³ )	(g)	(g)	µg/m³
2-Aug-02	9:36	56.40	1.35	1.35	1.35	76.02	2.7481	2.7550	90.8
2-Aug-02	10:35	63.00	1.33	1.33	1.33	83.96	2.7386	2.7469	98.9
2-Aug-02	11:38	55.20	1.35	1.34	1.35	74.26	2.7651	2.7664	17.5
8-Aug-02	14:13	61.80	1.38	1.38	1.38	85.06	2.8192	2.8276	98.8
8-Aug-02	15:18	69.00	1.42	1.42	1.42	97.88	2.8204	2.8303	101.1
8-Aug-02	16:44	66.00	1.38	1.38	1.38	90.93	2.8271	2.8361	99.0
14-Aug-02	9:32	56.40	1.29	1.30	1.29	73.01	2.8166	2.8259	127.4
14-Aug-02	10:30	55.20	1.35	1.34	1.35	74.31	2.8131	2.8263	177.6
14-Aug-02	11:24	70.20	1.35	1.34	1.34	94.39	2.8223	2.8355	139.9
20-Aug-02	13:38	58.20	1.35	1.35	1.35	78.59	2.8133	2.8221	112.0
20-Aug-02	14:37	78.60	1.40	1.40	1.40	109.72	2.8508	2.8574	60.2
20-Aug-02	15:40	75.60	1.40	1.40	1.40	105.54	2.8376	2.8463	82.4
26-Aug-02	8:54	60.00	1.32	1.32	1.32	79.23	2.8278	2.8397	150.2
26-Aug-02	9:55	54.00	1.32	1.32	1.32	71.31	2.8193	2.8283	126.2
26-Aug-02	10:55	59.40	1.32	1.32	1.32	78.44	2.8232	2.8333	128.8

### The Summary of 1-hr TSP Concentration (µg/m³) at Mei Foo Sun Chuen (ASR 1)

#### The Summary of 24-hrs TSP Concentration (µg/m³) at Mei Foo Sun Chuen (ASR 1)

			Initial Standard Flow	Final Standard Flow	Averaged Standard	Total Standard			
Date	Sampling Time	Elapsed Time	Rate	Rate	Flow Rate	Volume	Initial Filter Weight	Final Filter Weight	TSP Concentration
		(min)	(m ³ /min)	(m ³ /min)	(m ³ /min)	(m ³ )	(g)	(g)	µg/m³
3-Aug-02	0:00	1429.80	1.33	1.33	1.33	1899.51	2.8221	2.8995	40.7
9-Aug-02	9:44	1411.80	1.39	1.39	1.39	1962.23	2.8217	2.8940	36.8
15-Aug-02	10:46	1437.00	1.37	1.37	1.37	1971.66	2.8240	2.9425	60.1
21-Aug-02	11:32	1474.20	1.40	1.40	1.40	2057.95	2.8260	2.9306	50.8
27-Aug-02	11:08	1449.00	1.32	1.31	1.32	1907.77	2.8225	3.0756	132.7

			Initial Standard Flow	Final Standard Flow	Averaged Standard	Total Standard			
Date	Sampling Time	Elapsed Time	Rate	Rate	Flow Rate	Volume	Initial Filter Weight	Final Filter Weight	TSP Concentration
		(min)	(m ³ /min)	(m ³ /min)	(m ³ /min)	(m ³ )	(g)	(g)	µg/m³
2-Aug-02	9:15	60.00	1.48	1.48	1.48	89.06	2.7425	2.7461	40.4
2-Aug-02	10:19	64.20	1.48	1.49	1.48	95.31	2.7318	2.7383	68.2
2-Aug-02	11:26	55.20	1.47	1.47	1.47	81.17	2.7672	2.7755	102.3
8-Aug-02	14:00	58.80	1.50	1.50	1.50	88.50	2.8258	2.8346	99.9
8-Aug-02	15:01	62.40	1.42	1.42	1.42	88.34	2.8207	2.8299	104.1
8-Aug-02	16:28	56.40	1.42	1.42	1.42	79.87	2.8208	2.8295	108.9
14-Aug-02	9:18	54.00	1.34	1.34	1.34	72.58	2.8383	2.8460	106.1
14-Aug-02	10:12	54.60	1.34	1.34	1.34	73.35	2.8272	2.8349	105.0
14-Aug-02	11:06	63.00	1.34	1.34	1.34	84.55	2.8221	2.8377	184.5
20-Aug-02	13:51	64.80	1.35	1.35	1.35	87.30	2.8265	2.8378	129.4
20-Aug-02	14:57	61.20	1.35	1.36	1.36	82.97	2.8407	2.8500	112.1
20-Aug-02	15:59	54.60	1.35	1.35	1.35	73.68	2.8250	2.8299	66.5
26-Aug-02	8:43	59.40	1.36	1.36	1.36	80.93	2.8187	2.8370	226.1
26-Aug-02	9:43	57.00	1.36	1.36	1.36	77.62	2.8231	2.8415	237.0
26-Aug-02	10:32	54.60	1.36	1.36	1.36	74.39	2.8138	2.8255	157.3

### The Summary of 1-hr TSP Concentration (µg/m³) at Stonecutters Base (ASR 2)

#### The Summary of 24-hrs TSP Concentration (µg/m³) at Stonecutters Base (ASR 2)

			Initial Standard Flow	Final Standard Flow	Averaged Standard	Total Standard			
Date	Sampling Time	Elapsed Time	Rate	Rate	Flow Rate	Volume	Initial Filter Weight	Final Filter Weight	TSP Concentration
		(min)	(m ³ /min)	(m ³ /min)	(m ³ /min)	(m ³ )	(g)	(g)	µg/m³
3-Aug-02	0:00	1447.20	1.48	1.48	1.48	2142.51	2.7368	2.8609	57.9
9-Aug-02	9:15	1444.80	1.43	1.43	1.43	2064.12	2.8284	2.9662	66.8
15-Aug-02	10:29	1460.40	1.34	1.34	1.34	1956.29	2.8288	2.8834	27.9
21-Aug-02	11:02	1450.20	1.33	1.33	1.33	1934.54	2.8193	2.9766	81.3
27-Aug-02	10:52	1482.00	1.36	1.36	1.36	2013.81	2.8250	3.1500	161.4

## Appendix K

### Graphical Presentation of 1-hour and 24-hour TSP Monitoring Result

### 24 hrs TSP Concentration (µg/m³) at Mei Foo Sun Chuen (ASR1)



Action Level – Limit Level

Date



### 1 hr TSP Concentration ( $\mu$ g/m³) at Mei Foo Sun Chuen (ASR1)

Date



1 hr TSP Concentration ( $\mu$ g/m³) at Stonecutters Base (ASR2)

### 24 hrs TSP Concentration (µg/m³) at Stonecutters Base (ASR2)

300.0 250.0 200.0 150.0 100.0 × 50.0 0.0 29,111,02 8 AUGOS 10 AUGO2 N2-AUG102 14-24002 31, JHOL 2, AUGOL KAUGOL 6, AUGOL repugit repugit 20,000 22,000 24,0002 28,0002 28,0002

TSP Concentration  $(\mu g/m^3)$ 

Action Level - Limit Level

Date

Appendix L

Wind Data Monitoring Results

### Appendix L: Wind Data Monitoring Result

Wind Speed during Impact Noise Monitoring

		Wind Sp	beed m/s
Date	Time	Mean	Max
2-Aug-02	10:00~10:30	0.0	0.0
2-Aug-02	11:00~11:30	0.0	0.0
8-Aug-02	10:00~10:30	0.0	0.0
8-Aug-02	11:04~11:34	0.0	0.0
14-Aug-02	08:33~09:03	0.0	0.0
14-Aug-02	09:31~10:01	0.0	0.0
20-Aug-02	14:02~14:32	2.7	3.3
20-Aug-02	16:31~17:01	3.0	3.6
26-Aug-02	09:01~09:31	1.8	2.2
26-Aug-02	10:03~10:33	2.0	2.4

### Appendix L: Wind Data Monitoring Result

Wind Direction during Impact Air Monitoring - Frequency of Wind Direction at 5 minute Interval

Date		Wind Direction (Degree)														
	0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	202.5	225.0	247.5	270.0	292.5	315.0	337.5
2-Aug-02	0	0	0	0	1	0	3	2	9	49	27	43	4	1	0	0
3-Aug-02	1	6	10	4	0	1	0	0	0	1	1	15	3	9	4	2
8-Aug-02	0	0	0	0	0	0	0	19	81	99	12	3	2	0	0	0
9-Aug-02	0	0	0	1	2	16	5	0	9	7	11	8	6	1	0	0
14-Aug-02	0	0	10	65	75	7	0	0	0	0	0	0	0	0	0	0
15-Aug-02	0	1	18	88	62	0	0	0	0	0	0	1	0	0	0	0
20-Aug-02	0	0	0	18	264	5	0	0	0	0	0	0	0	0	0	0
21-Aug-02	0	0	0	12	200	14	0	0	0	0	0	0	0	0	0	0
26-Aug-02	0	0	0	0	0	0	0	1	91	124	18	2	0	0	0	0
27-Aug-02	0	0	0	0	0	0	0	13	105	71	17	6	6	0	0	0

# Appendix M

# Noise Monitoring Results

Date	Monitoring Time	Duration	Leq	L10	L90	Limit Level
		min	dB(A)	dB(A)	dB(A)	dB(A)
2-Aug-02	10:00	30	72.8	74.6	70.6	75.0
8-Aug-02	11:04	30	67.9	70.1	65.6	75.0
14-Aug-02	09:31	30	72.6	74.6	70.2	75.0
20-Aug-02	14:02	30	68.7	69.5	66.4	75.0
26-Aug-02	10:03	30	71.5	73.7	69.6	75.0

### The Summary of Day-time $Leq_{30}$ Level at Mei Foo Sun Chuen (NSR 1)

### The Summary of Day-time Leq₃₀ Level at Stonecutters Base (NSR 2)

Date	Monitoring Time	Duration	Leq	L10	L90	Limit Level
		min	dB(A)	dB(A)	dB(A)	dB(A)
2-Aug-02	11:00	30	74.4	77.8	69.4	75.0
8-Aug-02	10:00	30	74.7	77.0	71.9	75.0
14-Aug-02	08:33	30	74.0	77.6	70.6	75.0
20-Aug-02	16:31	30	74.9	77.0	68.3	75.0
26-Aug-02	09:01	30	74.3	76.9	68.1	75.0

## Appendix N

# Graphical Presentation of Noise Monitoring Results

Day-time Leq₃₀ Level at Mei Foo Sun Chuen (NSR1)



Day-time Leq₃₀ Level at Stonecutter Base (NSR2)



Leq dB(A)

-X-Leq ---- Limit Level

# Appendix O1

# Environmental Complaint Log Book

#### Appendix O1-Summary of Previous Complaints Details

Case No	Date of Received	Date of Complaint	Complainant's information	Detail's of complaint	Recommeded Mitigation Measures	Follow-up Action	Status/Remarks
Aug02-01	19-Aug-02	19-Aug-02	Complaint was referred by HyD on 19-Aug-02	Illegal Dumping (Soil and mud/C&D waste) on Lai Po Road; near the site entrance of KMB Depot on 19-Aug- 02. Suspect not due to the Project's work.	Clear up the illegal dumping on site.	CHEC and RSS report that the illegal dumping were found within the site bourdary in a.m. on 19-Aug-02. CHEC cleared up the soil and waste in p.m. on 19-Aug-02. Investigations were undertaken by ET on 20 and 21 Aug 02. The waste was cleared up and no futher illegal dumping was found at the same location.	Closed. Follow-up phone call to complainant on 20-Aug-02. The complainant was satisfied to our prompt action.

## Appendix O2

# **Cumulative Statistics for Environmental Complaint**

#### **Appendix O2 - Cumulative Statistics of Complaints**

#### Route 9 Ngong Shuen Chau Viaduct

Appendix O2 - Cumulative Statictis On Complaints For The Past Reporting Periods



### **Appendix P**

Tentative Environmental Monitoring Schedule from 29 August to 28 November 2002

#### Environmental Monitoring Schedule between 29-August and 28-September 2002

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

1hr-TSP 3 x 1 hour TSP monitoring at ASR1 and ASR2 during 09:00~18:00.

24hrs-TSP 24 hours TSP monitoring at ASR1 and ASR2

Noise Leq₃₀ measurement at NSR1 and NSR2 during 07:00~19:00.  $6 \times Leq_5$  and  $4 \times Leq_5$  will be measured during 19:00~23:00 and 23:00~07:00 of next day (if construction activities are undertaken)

Noise_{PH} 6 x leq₅ will be measured during 07:00~19:00 (if construction activities are undertaken)

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

#### Tentative Environmental Monitoring Schedule between 29-September and 28-October 2002

1hr-TSP 3 x 1 hour TSP monitoring at ASR1 and ASR2 during 09:00~18:00.

24hrs-TSP 24 hours TSP monitoring at ASR1 and ASR2

Noise Leq₃₀ measurement at NSR1 and NSR2 during 07:00~19:00.  $6 \times Leq_5$  and  $4 \times Leq_5$  will be measured during 19:00~23:00 and 23:00~07:00 of next day (if construction activities are undertaken)

Noise_{PH} 6 x leq₅ will be measured during 07:00~19:00 (if construction activities are undertaken)

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

#### Tentative Environmental Monitoring Schedule between 29-October and 28-November 2002

1hr-TSP 3 x 1 hour TSP monitoring at ASR1 and ASR2 during 09:00~18:00.

24hrs-TSP 24 hours TSP monitoring at ASR1 and ASR2

Noise Leq₃₀ measurement at NSR1 and NSR2 during 07:00~19:00.  $6 \times Leq_5$  and  $4 \times Leq_5$  will be measured during 19:00~23:00 and 23:00~07:00 of next day (if construction activities are undertaken)

Noise_{PH} 6 x leq₅ will be measured during 07:00~19:00 (if construction activities are undertaken)