





# Maeda-CREC-SELI Joint Venture

Contract NO. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel

Quarterly EM&A Report (October to December 2010)

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## **Executive Summary**

- This quarterly EM&A summary report under the Main Contract for the Design and Construction of Tsuen Wan Drainage Tunnel (hereafter referred to as the "Project") to Maeda-CREC-SELI Joint Venture (MCSJV), which summarises the findings of environmental impact monitoring works during the period from October to December 2010.
- 2 Noise monitoring was performed at five monitoring stations (NSR1, NSR3, NSR6, NSR8 and NSR9). Air quality monitoring was carried out at four monitoring stations (ASR1, ASR3, ASR8 and ASR9). Water quality monitoring was carried out at four monitoring stations (Intake I-1, Intake I-2, Intake I-3 and Outfall O-1). Noise level was measured in terms of Leq, L10 and L90 (30min). Air quality was measured in terms of 1-hour Total Suspended Particulates (TSP). Water quality was measured in terms of Temperature, pH, Dissolved Oxygen (DO), Turbidity (Tby) and Suspended Solid (SS).
- 3 Details of all monitoring stations are summarized in the below table.

Type of Monitoring	Monitoring Station ID	Name of Premises	Status of Monitoring Works during the Reporting Period
Air Quality Monitoring	ASR1	Sik Sik Yuen Ho Fung College	Ongoing
	ASR3	Hong Hoi Chee Hong Temple	Ongoing
	ASR8	Beach Tower (Long Beach Gardens)	Ongoing
	ASR9	Greenview Terrace (Block 1)	Ongoing
Noise Monitoring	NSR1	Sik Sik Yuen Ho Fung College	Ongoing
	NSR3	Hong Hoi Chee Hong Temple	Ongoing
	NSR6	Squatters	Ongoing
	NSR8	Beach Tower (Long Beach Gardens)	Ongoing
	NSR9	Greenview Terrace (Block 1)	Ongoing
Water Quality	I-1	Intake I-1	Ongoing
Monitoring	I-2	Intake I-2	Ongoing
	I-3	Intake I-3	Ongoing
	O-1	Outfall O-1	Ongoing

4 The major construction activities undertaken by the Contractor during the period from October to December 2010 include site cleaning and tidying at I-1, I-2, I-3 and outfall; drilling, excavation and rock splitting of spiral ramp at outfall; pre-bored H-pile drilling and soil nailing for Castle Peak Road (CPR) open excavation at outfall; tunnel boring machine (TBM) drilling of the tunnel and mucking out of tunnel spoil at outfall; marine dredging works for basin scheme at Portion E; drilling and excavation of vortex shaft at I-3; temporary rock dowel drilling and installation at I-3; construction of skin wall at I-3; excavation of man access shaft and vortex drop shaft at I-2; pipe jacking at Portion G at I-2; pile caps construction for temporary platform at Portion G at I-2; cascade and channel modification concrete structure works at I-1; horizontal drilling at I-1; removal of sea wall and amour rock for basin scheme at



Portion E; construction of pre-bored H-Pile for PB wall at I-3; preparation work for retaining wall at I-2; construction of footing for erecting the tower crane at I-3; drilling, excavation and rock splitting of man access shaft and vortex drop shaft at I-2; construction of approach channel structure at I-2; erection of temporary steel platform for H-pile wall at Portion G at I-2; and backfilling of spiral ramp centre void at I-1.

- 5 No open construction activities were carried out during restricted hours in the reporting period. Only mining works and probe drilling were conducted during restricted hours in this reporting period.
- 6 No project related exceedances of air quality and water quality monitoring was recorded. No exceedance of noise limit level was recorded, but EPD receives two complaints on construction noise which trigger the exceedance of noise action level. The below table summarizes the exceedances of air quality, noise and water quality in the reporting period.

Parameter	Action Level Exceedance	Limit Level Exceedance
Air	Nil	Nil
Noise	Two complaints received on 17 Nov 2010 at NSR 9	Nil
DO	One record on 1 Nov 2010 at O-1(FT)(Surface)	Two records on 27 Oct and 3 Nov 2010 at O-1(FT)(Surface)
		Three records on 27 Oct, 1 Nov and 3 Nov 2010 at O-1(FT)(Middle)
		Four records on 25 Oct, 27 Oct, 1 Nov and 3 Nov 2010 at O-1(FT)(Bottom)
		Two records on 27 Oct and 29 Oct 2010 at O-1(ET)(Surface)
		Two records on 25 Oct and 27 Oct 2010 at O-1(ET)(Middle)
		One records on 27 Oct 2010 at O-1(ET)(Bottom)
Turbidity	One record on 5 Nov 2010 at I-1	Two records on 15 Oct and 5 Nov 2010 at I-2
		One record on 15 Oct 2010 at I-3
		One record on 25 Oct 2010 at O-1(FT)
		One record on 8 Nov 2010 at O-1(ET)
SS	Three records on 20 Oct, 5 Nov and 1 Dec 2010 at I-1	Four records on 13 Oct, 22 Oct, 27 Oct and 8 Nov 2010 at I-1
	Two records on 15 Oct and 31 Dec 2010 at I-2	Six records on 13 Oct, 3 Nov, 5 Nov, 17 Nov, 6 Dec and 24 Dec 2010 at I-2
	Three records on 27 Oct, 3 Dec and 22 Dec	One record on 24 Dec 2010 at I-3
	2010 at O-1(FT)	Nine records on 25 Oct, 5 Nov, 19 Nov, 22 Nov, 24
	Three records on 29 Oct, 10 Nov and 24 Dec 2010 at O-1(ET)	Nov, 26 Nov, 1 Dec, 15 Dec and 29 Dec 2010 at O-1(FT)
		Nine records on 25 Oct, 27 Oct, 5 Nov, 8 Nov, 12 Nov, 15 Nov, 13 Dec, 15 Dec and 29 Dec 2010 at O-1(ET)

7 Waste figures during the reporting period are summarized in the table below.



#### **Status of Waste Management**

Inert C&D Material Disposed of to Public Fill at Tuen Mun (m <sup>3</sup> )	24,652.4
Inert C&D Material Reused in this Contract (m³)	675.0
Inert C&D Material Reused in other Contract* (m³)	16,085.0
Metals Generated (kg)	18.0
Paper / Cardboard Packaging (kg)	400.0
Plastics (kg)	20.0
Chemical Waste (kg)	10,762.2
General Waste Disposed of to NENT Landfill (m <sup>3</sup> )	131.8

<sup>\*</sup> Other Contracts include DC/2007/08, DC/2008/12, YL/2009/01, HY/2007/10, DC/2007/17 and Wo Shang Wai.

- 8 During the reporting period, two environmental complaints were received. EPD received two public complaints regarding daytime construction noise from outfall construction site on 17 November 2010. The complaints were about barge squeaking and rock breaking. The ET have conducted site inspection at the Outfall construction site and the Greenview Terrace (NSR 9) on 2 and 17 December 2010 to review and audit the site setting, noise mitigation measures implemented on-site and the environmental performance of the contractor. Enhanced on-site noise mitigation measures have been implemented by the contractor. A noise investigation report was submitted to the EPD on 24 December 2010. The issue of noise complaints was considered closed.
- 9 No Notification of Summons was received since the commencement of the Project.



### 1 Introduction

- 1.1.1 The Drainage Services Department (DSD) proposes to construct a tunnel of an internal diameter of 6.5m and length 5.13km, with the purpose to alleviate the flooding risk in Tsuen Wan and Kwai Chung.
- 1.1.2 This project is a Designated Project under Schedule 2 Part I Category Q, of the Environmental Impact Assessment Ordinance (EIAO) as part of the proposed Tsuen Wan Drainage Tunnel (TWDT) passes underneath the existing Tai Mo Shan Country Park. An Environmental Impact Assessment (EIA) Study has therefore been undertaken to provide information on the nature and extent of environmental impacts arising from the construction and operation of the proposed designed project and related activities taking place concurrently. From the EIA the recommendations for monitoring contained herein, are made.
- 1.1.3 The Maeda-CREC-SELI Joint Venture (MCSJV) was awarded by DSD with the Contract Design and Construction of Tsuen Wan Drainage Tunnel.
- 1.1.4 Hyder was commissioned by the MCSJV as the ET to implement an EM&A program in accordance with the EM&A Manual. The proposed tunnel section flows from the junction of Shing Mun Road and Wo Yi Hop Road and discharges to south of Yau Kom Tau underneath Castle Peak Road as shown in Appendix A.
- 1.1.5 The construction works of the Project commenced in January 2008. This is the eleventh quarterly EM&A report summarising the impact monitoring results and audit findings of the EM&A program during the reporting period between October and December 2010.

# 2 Project Information

# 2.1 Project Organization and Management Structure

2.1.1 The organization chart and lines of communication with respect to the on-site environmental management are shown in Appendix B.

### 2.2 Construction Progress

- 2.2.1 It is anticipated that the overall project programme from the detail design to completion of all civil works shall take approximately 54 months. The construction programme is presented in Appendix C.
- 2.2.2 The major construction activities undertaken in the reporting quarter are:
  - Site cleaning and tidying at I-1, I-2, I-3 and outfall;
  - Drilling, excavation and rock splitting of spiral ramp at outfall;
  - Pre-bored H-pile drilling and soil nailing for CPR open excavation at outfall;
  - Tunnel boring machine (TBM) drilling of the tunnel and mucking out of tunnel spoil at outfall;
  - Marine dredging works for basin scheme at Portion E;



- Drilling and excavation of vortex shaft at I-3;
- Temporary rock dowel drilling and installation at I-3;
- Construction of skin wall at I-3;
- Excavation of man access shaft and vortex drop shaft at I-2;
- Pipe jacking at Portion G at I-2;
- Pile caps construction for temporary platform at Portion G at I-2;
- Cascade and channel modification concrete structure works at I-1;
- Horizontal drilling at I-1;
- Removal of sea wall and amour rock for basin scheme at Portion E;
- Construction of pre-bored H-Pile for PB wall at I-3;
- Preparation work for retaining wall at I-2;
- Construction of footing for erecting the tower crane at I-3;
- Drilling, excavation and rock splitting of man access shaft and vortex drop shaft at I-2;
- Construction of approach channel structure at I-2;
- Erection of temporary steel platform for H-pile wall at Portion G at I-2; and
- Backfilling of spiral ramp centre void at I-1.

### 2.3 Mitigation Measures

2.3.1 The environmental mitigation measures that were implemented and their statuses are given in Appendix D.

### 3 EM&A Requirement

### 3.1 General

3.1.1 The EM&A requirements are stipulated in the EM&A Manual. The principal purposes of the EM&A program are to assess the compliance with applicable environmental legislation and associated regulations; to ensure the implementation of mitigation measures specified in the EM&A Manual; and to identify any remedial works necessary for redressing any unacceptable or unanticipated environmental impacts.

### 3.2 EM&A on Air Quality; Noise and Water Quality

### Monitoring Parameters

3.2.1 The air quality, noise and water quality monitoring frequencies and parameters are shown in Table 3-1.



Type of Monitoring	<b>Monitoring Station ID</b>	Parameter	Frequency
Air Quality Monitoring	ASR1; ASR3; ASR8 and ASR9	1-hour TSP	Once every 6 days
Noise Monitoring	NSR1; NSR3; NSR6; NSR8 and NSR9	Leq (30 min.)	Once every week
Water Quality Monitoring	I-1; I-1-C; I-2; I-2-C; I-3; I-3-C	, DO (mg/l)	Three days per week
	O-1(FT), O-1-C(FT), O-1(ET)	SS (mg/l)	_
	and O-1-C(ET)	Turbidity (NTU)	
		рН	
		Temperature (°C)	

Table 3-1 Frequency of Air Quality, Noise and Water Quality Monitoring

# 3.3 Monitoring Locations

3.3.1 The monitoring locations for air quality, noise and water quality are shown in Tables 3-2, 3-3, 3-4 and Appendix E.

Monitoring Station ID	Name of Premises	Floor Level
ASR1	Sik Sik Yuen Ho Fung College	G/F
ASR3	Hong Hoi Chee Hong Temple	Podium
ASR8	Beach Tower (Long Beach Gardens)	G/F
ASR9	Greenview Terrace (Block 1)	G/F

Table 3-2 Air Quality Monitoring Locations

Monitoring Station ID	Name of Premises	Floor Level
NSR1	Sik Sik Yuen Ho Fung College	G/F
NSR3	Hong Hoi Chee Hong Temple	Podium
NSR6	Squatters	G/F
NSR8	Beach Tower (Long Beach Gardens)	G/F
NSR9	Craspidous Torrage (Pleak 1)	Podium (up to 6 July 2009)
	Greenview Terrace (Block 1)	Roof* (from 16 July 2009)

<sup>\*</sup> The noise monitoring location of NSR9 had been adjusted at rooftop from 16 July 2009.

Table 3-3 Noise Monitoring Locations



Monitoring	Station	חו	Name	of	Premises
MOHILOHIIA	Jianon	ı	Hallic	VΙ	FICIIII3C3

<u>l-1</u>	Intake I-1
I-1-C	Control of Intake I-1
I-2	Intake I-2
I-2-C	Control of Intake I-2
I-3	Intake I-3
I-3-C^	Control of Intake I-3
O-1 (FT) & (ET)*	Outfall 1During Flood Tide and Ebb Tide
O-1-C (FT)*#	Control of Outfall O-1 During Flood Tide
O-1-C (ET)*#	Control of Outfall O-1 During Ebb Tide

**Note:** \*Water quality monitoring will be undertaken when the construction of the outfall basin at the seashore is started.

#Note that there are two control stations for Outfall O-1; one for sampling during flood tide and one for sampling during ebb tide. Only one of those control stations for Outfall O-1 shall be sampled during each sampling. Control station to be sampled will be determined according to the tidal information provided by the Hong Kong Observatory.

^ The upper stream location (I-3-C^) had been relocated from the end of February 2009 due to coarse stone blockage.

Table 3-4 Water Quality Monitoring Locations

### 3.4 Performance Limits (AL Levels)

3.4.1 In accordance with the EM&A Manual; the appropriate Action and Limit Levels for air quality, noise and water quality were established and are presented in Table 3-5, Table 3-6 and Table 3-7. Should non-compliance of the air quality, noise and water quality criteria occur, actions in accordance with the Event / Action Plan stipulated in contract specific EM&A Manual should be carried out.

Station	1-hr TSP Level in μg/m <sup>3</sup>			
	Action Level	Limit Level		
ASR1	307	500		
ASR3	327	500		
ASR8	337	500		
ASR9	329	500		

Table 3-5 Action & Limit Levels for Air Quality



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

For educational establishments the limit level shall be 70dB(A) and reduced to 65dB(A) during examination periods between 0700-1900 hrs on normal weekdays.

Table 3-6 Action & Limit Levels for Noise

Parameters	Action	Limit
DO in mg/L	Surface & Middle	Surface & Middle
(Surface; Middle & Bottom)	5%-ile of baseline data for surface and middle layer.	4mg/l except 5mg/l for Fish Culture Zone (FCZ) or
	<u>Bottom</u>	1%-ile of baseline data for surface and middle layer
	5%-ile of baseline data for bottom	<u>Bottom</u>
	layer.	2mg/l or 1%-ile of baseline data for bottom layer
SS in mg/L	95%-ile of baseline data or 120% of	99%-ile of baseline or 130% of
(Depth-averaged)	upstream control station's SS at the same tide of the same day	upstream control station's SS at the same tide of the same day and specific sensitive receiver water quality requirements (e.g. required suspended solids levels for concerned sea water intakes)
Turbidity (Tby) in NTU (Depth-averaged)	95%-ile of baseline data or 120% of upstream control station's Tby at the same tide of the same day	99%-ile of baseline or 130% of upstream control station's Tby at the same tide of the same day

#### Notes:

- For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- For SS and Tby, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
- All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.

Table 3-7 Action & Limit Levels for Water Quality



### 3.5 Monitoring Result

3.5.1 All measured air quality monitoring levels were complying with the Action and Limit Levels in the reporting period. A summary of air quality monitoring results is presented in Table 3-103-8 and Appendix F.

Monitoring	1	I-hour TSP (μg/m³	)	<b>Action Level</b>	Limit Level
Station		Range		(μg/m <sup>3</sup> )	(μg/m³)
ASR1	35.5	-	253.8	307	500
ASR3	24.1	-	277.0	327	500
ASR8	30.4	-	257.5	337	500
ASR9	28.5	-	312.6	329	500

Italic indicates the exceedances of Action Levels

Bold indicates the exceedances of Limit Levels

Table 3-8 Summary of Air Quality Monitoring Results

- 3.5.2 All measured noise monitoring levels were complying with Limit Levels in the reporting period. However, EPD received two noise complaints on 17 November 2010 that triggered the exceedances of action level during the reporting period. Investigation including site inspection, review and audit of noise mitigation measures implemented on-site and the Contractor's environmental performance has been undertaken. Reports, including the nature of the complaints, observation of site inspections, proposed action taken and any further mitigation measures necessary to alleviate the impact, were submitted to EPD.
- 3.5.3 A summary of noise monitoring results is presented in Table 3-9 and Appendix F.

Monitoring Station	Lec	q (30mins) d	B(A)	Limit Level
		Range		dB(A)
NSR1	63	-	69	65/70
NSR3	59	-	71	75
NSR6	55	-	71	75
NSR8	60	-	70	75
NSR9	63	-	72	75

**Bold** indicates the exceedances of Limit Levels

Table 3-9 Summary of Impact Noise Monitoring Results

- 3.5.4 A summary of water quality monitoring results is presented in Table 3-10 and Appendix F.
- 3.5.5 None of exceedance related to project construction activities was recorded during reporting quarter but a total of <u>61</u> non project related exceedances were recorded.

### River Water Quality Monitoring

3.5.7 A total of **7** non project related exceedances were recorded in October 2010 including:



- Two exceedances of turbidity (baseline) Limit Level were recorded at I-2 and I-3 on 15 October 2010. The measured turbidity levels on both cases were above the baseline Limit Level. Higher turbidity levels were recorded at the upstream control stations (I-2-C and I-3-C). On site mitigation measures had been implemented during the construction and direct disturbance of construction works was not observed from the sites. As such, the exceedances were considered to be contributed by natural variation and no further action was required.
- Four exceedances of SS Limit Level were recorded on 13, 22 and 27 at I-1 and I-2 and one exceedance of SS Action Level was recorded on 20 October 2010 at I-2. The measured SS levels at the impact monitoring stations were either 20% (Action Level) or 30% (Limit Level) more than the corresponding measurement results of the upstream control stations (I-1-C and I-2-C), where low SS levels were measured (between 2 mg/L and 2.9 mg/L). The SS results on these days were within the range of baseline SS concentration (1 8.5 mg/L). Since direct disturbance of construction works was not observed from the construction sites at I-1 and I-2 and suitable mitigation measures had been implemented, the exceedances were considered to be contributed by natural variation. No further action was required.
- Another exceedance of SS Action Level was recorded on 15 October 2010 at I-2. The measured SS level at the impact monitoring station was higher than 95 percentile of the baseline data. Higher SS level was measured at the upstream control station I-2-C. Since direct disturbance of construction works was not observed from the construction site at I-2 and suitable mitigation measures had been implemented, the exceedances were considered to be contributed by natural variation and the wet weather on that day (about 3.9 mm of rainfall were recorded at the Hong Kong Observatory on 15 October 2010). No further action was required.
- 3.5.7 A total of **7** non project related exceedances were recorded in November 2010 including:
  - An exceedance of turbidity Action Level was recorded at I-1 on 5 November 2010. The measured turbidity level (10.45 NTU) was above baseline Action Level, but it was lower than the turbidity level measured at the upstream control station I-1-C (10.89 NTU). General site cleaning and housekeeping, dismantle formwork for Bay 19 spiral ramp, erection of formwork for Bay 22 and 23 spiral ramp, and horizontal drilling were undertaken during measurement. No direct disturbance was observed from the site and the turbidity result at monitoring station was below the level of control station. Thus, the exceedance was considered to be contributed by natural variation and no action was required.
  - An exceedance of turbidity Limit Level was recorded at I-2 on 5 November 2010. The measured turbidity level (13.61 NTU) was above the Baseline Limit level. However, it was lower than the turbidity level measured at the upstream control station I-2-C (14.33 NTU). Construction activities including general site cleaning and housekeeping, excavation (hole drilling) at vortex drop shaft, excavation (rock splitting and mucking) at man access shaft, preparation work for skin wall, pipe jacking (rock breaking for 13th jacking pipe) at Portion G, and dismantling formwork for pile caps were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be due to natural variation and no action was required.
  - An exceedance of SS Limit Level was recorded at I-2 on 3 November 2010. The measured SS level (2.90 mg/L) was below the baseline Action / Limit Level and was within the range of baseline SS concentration (1 8.5 mg/L). It was higher than the SS level measured at upstream control station I-2-C (2.0 mg/L). General site cleaning and housekeeping, install wire mesh and shotcreting at vortex drop shaft, excavation (hole drilling) at man access



shaft, preparation work for skin wall, erect steel frame for ventilation system at 20T gantry, pipe jacking (rock breaking for 12th jacking pipe) at Portion G, and erect formwork and rebar fixing of pile caps at Portion G were undertaken during the measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.

- An exceedance of SS Action Level was recorded at I-1 on 5 November 2010. The measured SS level (4.10 mg/L) was below the baseline Action Level. It was also within the range of baseline SS concentration (1 10.5 mg/L), but was higher than the SS level measured at upstream control station I-2-C (3.35 mg/L). General site cleaning and housekeeping, dismantle formwork for Bay 19 spiral ramp, erection of formwork for Bay 22 and 23 spiral ramp and horizontal drilling were undertaken during measurement. No direct disturbance was observed from the site. As such, the exceedance was considered to be contributed by natural variation and no action was required.
- An exceedance of SS Limit Level was recorded at I-2 on 5 November 2010. The measured SS level (11.80 mg/L) was above the baseline Action / Limit Level. However, the measured SS level was below 120% of the control station's (I-2-C) SS level (10.80 mg/L). General site cleaning and housekeeping, excavation (drilling holes and mucking) at vortex drop shaft, excavation (rock splitting and mucking) at man access shaft, preparation for skin wall, erect platform for air compressor, pipe jacking (rock breaking for 13<sup>th</sup> jacking pipe) at Portion G, dismantle formwork for pile caps at Portion G were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.
- An exceedance of SS Limit Level was recorded at I-1 on 8 November 2010. The measured SS level (3.35 mg/L) was below the baseline Action Level. It was also within the range of baseline SS concentration (1 10.5 mg/L), but was higher than the SS level measured at the upstream control station I-1-C (2.40 mg/L). General site cleaning and housekeeping, general cleaning at Bay 21 spiral ramp, dismantle formwork for Bay 22 spiral ramp, rebar fixing for Bay 23 spiral ramp, and horizontal drilling were undertaken during measurement. No direct disturbance was observed from the site. Hence, the exceedance was considered to be contributed by natural variation and no action was required.
- An exceedance of SS Limit Level was recorded at I-2 on 17 November 2010. The measured SS level (4.05 mg/L) was below the baseline Action / Limit Level and within the range of baseline SS concentration (1 8.5 mg/L). However, it was more than 130% of the SS level measured at the upstream control station I-2-C (2.00 mg/L). General site cleaning and housekeeping, excavation (drilling holes and rock splitting) at vortex drop shaft, excavation (drilling holes) at man access shaft, preparation for skin wall, erection of the noise enclosure for ventilation fan, pipe jacking (rock breaking for the 14th jacking pipe) at Portion G, pipe jacking (jacking for the 13th concrete pipe) at Portion G, and erection of the 60-tonne temporary steel platform at Portion G were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.
- 3.5.8 A total of **5** non project related exceedances were recorded in December 2010 including:
  - An exceedance of SS Action Level was recorded at I-1 on 1 December 2010. The
    measured SS level (2.70 mg/L) was below the baseline Action / Limit Level and was within
    the range of baseline SS concentration (1 10.5 mg/L). It was higher than the SS level
    measured at upstream control station I-1-C (2.20 mg/L). General site cleaning and
    housekeeping, rebar fixing at Bay 23, formwork at Bay 23, horizontal drilling and GI



monitoring were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.

- An exceedance of SS Limit Level was recorded at I-2 on 6 December 2010. The measured SS level (3.20 mg/L) was below baseline Action / Limit Level and within the range of baseline SS concentration (1 8.5 mg/L), but was more than 130% of the SS level measured at the upstream control station (I-2-C)(2.00 mg/L). General site cleaning and housekeeping, excavation (drilling holes) at vortex drop shaft, excavation (drilling holes) at man access shaft, rock breaking for jacking pipe at Portion G and erection of 60 ton temporary steel platform at Portion G were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.
- An exceedance of SS Limit Level was recorded at I-2 on 24 December 2010. The measured SS level (3.05 mg/L) was below baseline Action / Limit Level and within the range of baseline SS concentration (1 8.5 mg/L) but was more than 130% of the SS level measured at the upstream control station (I-2-C) (2.10 mg/L). General site cleaning and housekeeping, excavation (drilling holes) at vortex drop shaft and excavation (drilling holes) at man access shaft, rock breaking for 16<sup>th</sup> jacking pipe at Portion G, erection of 60 ton temporary steel platform at Portion G and excavation for 750 step channel (SC) and catchpit were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.
- An exceedance of SS Limit Level was recorded at I-3 on 24 December 2010. The measured SS level (4.15 mg/L) was below baseline Action / Limit Level and within the range of baseline SS concentration (1 7.5 mg/L) but was more than 130% of the SS level measured at the upstream control station (I-3-C) (2.00 mg/L). General site cleaning and housekeeping, PB wall H-pile extension, approach channel extension, and shaft excavation were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.
- An exceedance of SS Action Level was recorded at I-2 on 31 December 2010. The measured SS level (2.45 mg/L) was below baseline Action / Limit Level and within the range of baseline SS concentration (1 8.5 mg/L) but was more than 120% of the SS level measured at the upstream control station (I-2-C) (2.00 mg/L). General site cleaning, housekeeping and temporary traffic arrangement (TTA), excavation (drilling holes) at vortex drop shaft, excavation (drilling holes and rock spilling) at man access shaft, closed formwork for dry flow channel, rock breaking for 16<sup>th</sup> jacking pipe at Portion G, erection of 60 ton temporary steel platform at Portion G and excavation for 750 step channel (SC) and catchpit were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.

### Marine Water Quality Monitoring

- 3.5.9 A total of <u>16</u> non project related exceedances were recorded in October 2010 including:
  - Four exceedances at O-1(FT) and five exceedances at O-1(ET) of DO baseline Limit Level were recorded on 25, 27 and 29 October 2010.



- Marine buoys and silt curtains were set up on 25 and 27 October 2010 and there was no dredging on these two days. As such, the eight exceedances of DO baseline limit on 25 and 27 October 2010 were considered due to natural variation.
- An exceedance of surface DO limit level was recorded at O-1(ET) (6.75 mg/L) during the ebb tide on 29 October 2010 (in contrast to the DO level of 7.44 mg/L measured at the upstream control station O-1-C(ET) during the same tide). During monitoring, silt curtains were deployed at the construction site and marine dredging was conducted within these curtains. Thus, any impact upon DO level associated with pollutants released from the marine sediment during dredging would only be confined within the construction site. As such, the surface DO exceedance at O-1(ET) was considered to be contributed by natural variation. No further action was required.
- An exceedance of turbidity baseline Limit Level was recorded on 25 October 2010 at O-1(FT) (14.13 NTU). High turbidity level was also recorded at the upstream control station O-1-C(FT) on the same tide of 25 October 2010 (13.77 NTU). As no marine dredging was conducted on that day, the exceedance was considered to be contributed by natural variation. No action was required.
- Three exceedances of SS Limit Level were recorded on 25 October 2010 at O-1(FT) and O-1(ET), and on 27 October 2010 at O-1(ET). Another exceedance of SS Action Level was recorded on 27 October 2010 at O-1(FT). As there were no dredging works undertaken in these two days, the exceedances were considered to be contributed by natural variation.
- An exceedance of SS Action Level was recorded on 29 October 2010 at O-1(ET). The SS level measured at O-1(ET) was 13.33 mg/L, which was more than 95 percentile of the baseline data. In contrast, higher SS level (17.15 mg/L) was recorded at the upstream control station at O-1-C(ET) on 29 October 2010. While marine dredging was undertaken at the outfall basin on the same day, mitigation measures had been adopted, including:
  - Silt curtains deployed along the dredging boundary line and extended from the seawater level to the bottom of seabed;
  - Frame-type silt curtain deployed for the marine mud dredging at the derrick barge;
  - · Closed grab dredging confined within the frame type silt curtain;
  - Daily dredging rate limited to a maximum 960 m<sup>3</sup>;
  - Silt curtain with sufficient slack to ensure the curtain rested on the seabed to cope with waves and tides.
  - The condition of the silt curtains was checked by the supervisor on-broad per working day to ensure proper implementation and functioning prior to any marine works activities.
- Having considered the good forms of silt curtains and measures to limit SS generation, any SS dispersion was localised and limited within the construction site. Thus, the exceedance was considered to be contributed by natural variation. No further action was required.
- 3.5.10 A total of **17** non project related exceedances were recorded in November 2010 including:
  - An exceedance of DO Action Level was recorded at the surface layer of O-1(FT) on 1
    November 2010. The measured DO level (6.83 mg/L) was just below the baseline Action
    Level (6.84 mg/L). Dredging was conducted at the Outfall basin (portion E) on 1 November
    2010. During monitoring, silt curtains were deployed along the dredging boundary line and



extended from the seawater level to the seabed. Frame-type silt curtain had also been employed at the derrick barge and all dredging operation was confined in the frame-type silt curtain. Thus, any impact upon DO level associated with pollutants released from the marine sediment during dredging would only be confined within the construction site. As such, the exceedance was considered to be contributed by natural variation. No further action was required.

- Five exceedances of DO Limit Level were recorded at middle and bottom layers on 1 November and at surface, middle and bottom layers on 3 November 2010 respectively at O-1(FT). The measured DO levels (that varied from 6.51 to 6.70 mg/L) were below the baseline Action / Limit Level of the corresponding layer. (In contrast, the corresponding DO levels measured at the upstream control station O-1-C(FT) varied from 6.74 to 7.18 mg/L). Dredging was conducted at the Outfall basin (portion E) on both 1 and 3 November 2010. During monitoring, silt curtains were deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had also been employed at the derrick barge and all dredging operation was confined in the frame-type silt curtain. Thus, any impact upon DO level associated with pollutants released from the marine sediment during dredging would only be confined within the construction site. As such, the exceedances were considered to be contributed by natural variation. No further action was required.
- An exceedance of Turbidity Limit Level was recorded at O-1(ET) on 8 November 2010. The measured SS level (depth-averaged) (14.28 NTU) at O-1(ET) was above the baseline Action/Limit Level but below the control station's SS level (O-1-C(ET)) (14.41 NTU) at the same tide of the same day. Dredging was undertaken at Portion E on 8 November 2010. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed at the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance was considered to be contributed by natural variation (high background level of SS) and no further action was required.
- Five exceedances of SS Limit Level were recorded on 5, 19, 22, 24 and 26 November 2010 at O-1(FT). The measured SS levels (varied from 8.83 to 12.42 mg/L) were below the baseline Action/Limit Level but was higher than 130% of the control station's SS level (O-1-C(FT)) (varied from 6.67 to 9.28 mg/L) at the same tide of the same day. No marine dredging activity was undertaken on 5 and 19 November 2010 and only rock removal at Portion E was undertaken on 22 and 24 November 2010. For 26 November 2010, rock removal at Portion E and installation of noise insulation blanket next to wire drums were undertaken. Silt curtains had been provided along Portion E boundary line and extended from seawater level to the bottom of seabed during the marine works. Frame / floating type silt curtains had also been employed at the derrick barge, and rock removal operation was confined in the inner (frame / floating type) silt curtain. As such, the exceedances were considered to be contributed by natural variation and no further action was required.
- Four exceedances of SS Limit Level were records on 5, 8, 12 and 15 November 2010 at O-1(ET). The measured SS levels (depth-averaged) (varied from 14.42 to 23.20 mg/L) were above the baseline Action / Limit Level. However, the measured SS levels were below the control station's SS level on 12 November 2010 (19.35 mg/L), below 120% of the control station's SS level on 5 and 8 November 2010 (13.23 and 22.00 mg/L respectively) and below 130% of the control station's SS level on 15 November 2010 (11.72 mg/L). Since there was no dredging activity undertaken on 5 and 15 November 2010, the exceedances were considered not related to the construction activities. During the marine works on 8 November 2010 (dredging at Portion E) and 12 November 2010 (rock removal), mitigation



measures had been implemented on-site. These included silt curtains provided along Portion E boundary line and extended from seawater level to the bottom of seabed, and frame / floating type silt curtains employed at the derrick barge. Dredging and rock removal operation were confined in the inner (frame / floating type) silt curtain. As such, the exceedances were considered to be contributed by natural variation and no further action was required.

- An exceedance of SS Action Level was recorded on 10 November 2010. The measured SS level (depth-averaged) (13.72 mg/L) at O-1(ET) was between the baseline Action Level and the Limit Level, and was below the control station's SS level (at O-1-C(ET)) (15.78 mg/L) at the same tide of the same day. Marine dredging was undertaken at the Outfall basin (Portion E) on 10 November 2010. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed at the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance was considered to be contributed by natural variation (high background level of suspended solids) and no further action was required.
- 3.5.11 A total of  $\underline{9}$  non project related exceedances were recorded in December 2010 including:
  - Two exceedances of SS Action Level were recorded on 3 and 22 December 2010 at O-1(FT). The measured SS levels (7.38 and 12.95 mg/L respectively) were below the baseline Action/Limit Level but was higher than 120% of the control station's SS level (O-1-C(FT)) (6.13 and 10.40 mg/L respectively) at the same tide of the same day. Only rock removal at Portion E on 3 December 2010 and armour rock removal from the sea wall to the derrick barge at Portion E on 22 December 2010 were undertaken during measurement. Silt curtains had been provided along Portion E boundary line and extended from seawater level to the bottom of seabed during the marine works. Frame / floating type silt curtains had also been employed at the derrick barge, and rock removal operation was confined in the inner (frame / floating type) silt curtain. As such, the exceedances were considered to be contributed by natural variation and no further action was required.
  - Three exceedances of SS Limit Level were recorded on 1, 15 and 29 December 2010 at O-1(FT). The measured SS levels (varied from 3.20 to 7.83 mg/L) were below the baseline Action / Limit Level but higher than 130% of the control station's SS level (O-1-C(FT)) (varied from 2.37 to 5.28 mg/L) at the same tide of the same day. Only rock-fill removal from sea bed was undertaken on 1 December 2010 and no marine dredging activities were undertaken on 15 and 29 December 2010. As silt curtains were provided along Portion E boundary line and extended from seawater level to the bottom of seabed, frame / floating type silt curtains were deployed at the derrick barge, and dredging / rock removal operation were confined in the inner (frame / floating type) silt curtain. As such, the exceedances were considered to be contributed by natural variation and no further action was required.
  - An exceedance of SS Action Level was recorded on 24 December 2010. The measured SS level (depth-averaged) (9.82 mg/L) at O-1(ET) was below the baseline Action/Limit Level but higher than 120% of the control station's SS level (O-1-C(ET)) (7.87 mg/L) at the same tide of the same day. No marine works was undertaken during measurement. As silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed and floating type silt curtain had been employed at the inner side, the exceedance was considered to be contributed by natural variation and no further action was required.



- Three exceedances of SS Limit Level were recorded on 13, 15 and 29 December 2010. The measured SS levels (depth-averaged) (9.20, 5.53 and 9.07 mg/L respectively) were below the baseline Action and Limit Level but higher than 130% of the control station's SS level (O-1-C(ET)) (5.18, 3.97 and 6.03 mg/L respectively) at the same tide of the same day. No marine works were undertaken on 13, 15 and 29 December 2010. As such, the exceedances were considered to be contributed by natural variation and no further action was required.
- 3.5.12 The above mentioned exceedances were considered not project related. However, proper mitigation measures had been implemented during measurements. Details of the above mentioned investigations could be referred to the Interim Notifications of Environmental Quality Limits Exceedances as enclosed in Appendix G.



Monitoring	Temperature	DO (mg/L)		рН	Turbidity (NTU)		Suspended Solid	d (mg/L)
Station	Range	Range	Action / Limit Level	Range	Range	Action / Limit Level	Range	Action / Limit Level
<u>l-1</u>	17.20 - 29.70	5.05 - 8.06	3.42 / 3.34	7.50 - 8.91	2.39 - 10.45	9.75 / 12.4	7 2.00 - 7.45	8.85 / 10.17
I-1C	17.40 - 29.80	5.08 - 8.50	-	7.52 - 8.90	2.48 - 10.89	-	2.00 - 6.25	
<u>l-2</u>	17.00 - 29.50	4.92 - 7.90	3.66 / 3.63	7.62 - 8.87	1.20 - <b>13.61</b>	6.63 / 6.99	2.00 - <b>11.80</b>	7.68 / 8.34
I-2C	17.10 - 29.50	5.11 - 8.27	-	7.61 - 8.88	1.25 - 14.33	-	2.00 - 11.20	-
<u>l-3</u>	17.00 - 29.35	5.02 - 7.90	3.65 / 3.51	7.60 - 8.90	1.23 - <b>7.80</b>	3.99 / 4.18	3 2.00 - 6.05	6.13 / 7.23
I-3C	16.90 - 29.60	5.09 - 8.26	-	7.56 - 8.91	1.30 - 7.88	-	2.00 - 6.20	

**Note:** *Italic* indicates the exceedances of Action Levels **Bold** indicates the exceedances of **Limit Levels** 

Table 3-10 Summary of Impact Water Quality Monitoring Results



Monitori	na	Temperature	DO (mg/L)		рН	Turbidity (NTU)		Suspended Sol	id (mg/L)
Station	9	Range	Range	Action / Limit Level	Range	Range	Action / Limit Level	Range	Action / Limit Level
	Surface		<b>5.50</b> - 7.63	<del></del> 6.84 / 6.81					
O-1(FT)	Middle	 17.67 - 27.10	<b>5.88</b> - 7.65		7.93 - 8.32	2.82 - 14.13	10.35 / 13.15	2.67 - <b>21.65</b>	14.10 / 18.08
	Bottom	<del></del>	<b>5.87</b> - 7.89	6.99 / 6.96					
	Surface		5.62 - 7.67						_
O-1-C(FT)	) Middle	 17.58 - 26.83	5.76 - 7.62	- / -	7.87 - 8.33	3.01 - 13.77	- / -	2.33 - 24.32	- / -
	Bottom	<del>_</del>	5.93 - 7.66						
	Surface		<b>6.01</b> - 7.72	<del></del> 7.02 / 6.94					
O-1(ET)	Middle	17.45 - 26.53	<b>6.26</b> - 7.71	<del></del>	7.93 - 8.35	2.92 - 14.28	11.87 / 13.44	5.07 - <b>23.20</b>	13.25 / 14.39
	Bottom		<b>6.24</b> - 7.70	6.70 / 6.48					
_	Surface	<u></u>	5.96 - 7.79						
O-1-C(ET)	) Middle	16.92 - 26.67	6.05 - 7.76	- / -	7.97 - 8.40	2.90 - 14.41	- / -	3.97 - 22.00	- / -
	Bottom		5.46 - 7.72						

**Note:** *Italic* indicates the exceedances of Action Levels

**Bold** indicates the exceedances of **Limit Levels** 

Table 3-11 Summary of Impact Marine Water Quality Monitoring Results



# 3.6 DO, Temperature and pH Data Monitored on 29 November 2010 and 1 December 2010

The previous calibration certificate for the multimeter (for pH, temperature and DO 3.6.1 measurements) was expired on 27 November 2010 and the multimeter was recalibrated on 3 December 2010. Therefore, the water quality data (pH, temperature and DO) collected on 29 November 2010 and 1 Dec 2010 were not covered under a valid calibration certificate of the multimeter. Although the recalibration of the multimeter on 3 December 2010 indicated that the multimeter was functioning normally within acceptable deviations, it is considered that the water quality data (pH, temperature and DO) measured on 29 November 2010 and 1 December 2010 shall be considered for reference only. Nevertheless, it is noted that the pH, temperature and DO data monitored at various stations on 29 November 2010 are similar to the values measured on 26 November 2010 and on 1 December 2010 are similar to the values measured on 3 December 2010. Effluent discharges from the construction sites at I-1, I-2 and I-3 have been controlled under the wastewater discharge licenses. Mitigation measures were deployed at various construction sites during monitoring. These included: (1) silt curtains for marine works (rock removal) at the marine basin of Outfall; (2) wastewater treatment plants at I-1, I-2 and I-3; (3) diversion of existing streams that were bunded by sealed concrete block walls at I-1, I-2 and I-3; and (4) bunded off the existing stream by sand bag to prevent washing out of excavated material from the working area at I-2. Thus, adverse water quality impact on DO at various stations due to the Project on 29 November 2010 and 1 December 2010 was not anticipated.

### 3.7 Turbidity Data Monitored on 24 December 2010

- 3.7.1 The previous calibration certificate for the turbidimeter (serial no. 215619) was expired on 24 December 2010 and the turbidimeter was recalibrated on 28 December 2010. Therefore, the turbidity data collected on 24 December were not covered under a valid calibration certificate of the turbidimeter. The recalibration of the turbidimeter on 28 December 2010 indicated that the turbidimeter was functioning normally within acceptable deviations. However, the turbidity data measured on 24 December 2010 should be considered for reference only.
- 3.7.2 The turbidity levels measured at various control stations were higher than the turbidity level of the corresponding impact stations on 24 December 2010. Four-point on-site calibration of the turbidimeter was conducted before subsequent measurements and, thus, all measurements on 24 December 2010 were based on same calibration curve. The higher turbidity levels at control stations (where the water qualities were not affected by the project) and the relatively lower turbidity levels of the impact stations (where water qualities were or were not affected by the Project) showed that the Project did not contribute any significant adverse impact on the turbidity levels at the various impact monitoring stations.
- 3.7.3 In addition, effluent discharges from the construction sites at I-1, I-2 and I-3 have been controlled under the wastewater discharge licenses and mitigation measures were deployed at various construction sites during monitoring, including: (1) silt curtains for marine works (rock removal) at the marine basin of Outfall; (2) wastewater treatment plants at I-1, I-2 and I-3; and (3) diversion of existing streams that were bunded by sealed concrete block walls at I-1, I-2 and I-3, so the water quality of various locations are under sufficient protection. Therefore, adverse water quality impact on turbidity at various monitoring stations due to the Project on 24 December 2010 was not anticipated.



# 4 Quarterly Summary; Environmental Condition and Non-Compliance Records

# 4.1 Summary of Waste Disposal Records

4.1.1 According to the information provided by the Contractor; the quantities of C&D materials in the reporting period are summarized in Table 4-1

Status of Waste Management	October 10	November 10	December 10
Inert C&D Material Disposed of to Public Fill at Tuen Mun (m³)	5,386	6,581.8	12,684.6
Inert C&D Material Reused in this Contract (m3)	65	15.0	595.0
Inert C&D Material Reused in other Contract* (m3)	6,700	4430.0	4,955.0
Metals Generated (kg)	Nil	Nil	18.0
Paper / Cardboard Packaging (kg)	Nil	Nil	400.0
Plastics (kg)	Nil	Nil	20.0
Chemical Waste (kg)	2,392.0	920.0	7,450.2
General Waste Disposed of to NENT Landfill (m3)	34.6	41.2	56.0

<sup>\*</sup> Other Contracts include DC/2007/08, DC/2008/12, YL/2009/01, HY/2007/10, DC/2007/17 and Wo Shang Wai.

Table 4-1 Waste Generated from October to December 2010

### 4.2 Weather Conditions

4.2.1 The weather conditions during the period from October to December 2010 were mainly sunny, fine, cloudy and rainy.

# 4.3 Summary of Project-Related Exceedances

4.3.1 Summary of exceedance results are summarized in Table 4-2. Appendix G shows the Interim Notifications of Environmental Quality Limits Exceedances issued in the reporting period.



Environmental Monitoring	Total No. of Measurement	Action Level Exceedance	% of Action Level Exceedance	Limit Level Exceedance	% of Limit Level Exceedance
Air Quality	192	0	0	0	0
Noise	67	2 (complaints)	2.99	0	0
Water	350	0	0	0	0

Table 4-2 Summary of Project- related Exceedances

# 5 Complaint

- 5.1.1 A complaint hotline at 9850 3241 of the Contractor has been established for the Project.
- During the reporting period, two environmental complaints were received. EPD received two public complaints regarding daytime construction noise from outfall construction site on 17 November 2010. The complaints were about barge squeaking and rock breaking. The ET have conducted site inspection at the Outfall construction site and the Greenview Terrace (NSR 9) on 2 and 17 December 2010 to review and audit the site setting, noise mitigation measures implemented on-site and the environmental performance of the contractor. Enhanced on-site noise mitigation measures were implemented by the contractor. A noise investigation report was submitted to the EPD on 24 December 2010. The issue of noise complaints was considered closed. Details of the complaint investigation and observations can be referred to Appendix H.
- 5.1.3 Cumulative statistics of environmental complaints are shown in Table 5-1.

Complaints Received in the Reporting Period	Cumulative Number of Complaints
2	20

Table 5-1 Cumulative Statistics of Environmental Complaints

# 6 Summary of Notification of Summons, Successful Prosecutions and Corrective Actions

- 6.1.1 No summons and successful prosecution was received during the reporting period.
- 6.1.2 Cumulative statistics of Notification of Summon; Successful Prosecutions and Convictions are shown in Table 6-1.

Notification of Summo	ns	Successful Prosecution	1
October – December 10	Cumulative	October – December 10	Cumulative
0	0	0	0

Table 6-1 Cumulative Statistics of Notification of Summons and Successful Prosecutions



### 7 Comments, Recommendations and Conclusion

- 7.1.1 During the reporting period, no project related exceedance of air quality monitoring was recorded. No exceedance of noise limit level was recorded, but EPD received two noise complaints on 17 November 2010 that triggered the exceedances of action level. Finally, Exceedances of water quality monitoring were recorded but none of these exceedances were related to Project's construction activities.
- 7.1.2 EPD received two public complaints regarding daytime construction noise from outfall construction site on 17 November 2010. The complaints were about barge squeaking and rock breaking. The ET have conducted site inspection at the Outfall construction site and the Greenview Terrace (NSR 9) on 2 and 17 December 2010 to review and audit the site setting, noise mitigation measures implemented on-site and the environmental performance of the contractor. Enhanced on-site noise mitigation measures have been implemented by the contractor. A noise investigation report was submitted to the EPD on 24 December 2010. The issue of noise complaints was considered closed.
- 7.1.3 No Notification of Summons has been received since the commencement of the Project.
- 7.1.4 Waste management mitigation measures have been implemented by the Contractor within the reporting period. Waste figures during the reporting period are summarized in Table 7-1.

#### **Status of Waste Management**

Inert C&D Material Disposed of to Public Fill at Tuen Mun (m³)	24,652.4
Inert C&D Material Reused in this Contract (m³)	675.0
Inert C&D Material Reused in other Contract* (m³)	16,085.0
Metals Generated (kg)	18.0
Paper / Cardboard Packaging (kg)	400.0
Plastics (kg)	20.0
Chemical Waste (kg)	10,762.2
General Waste Disposed of to NENT Landfill (m³)	131.8

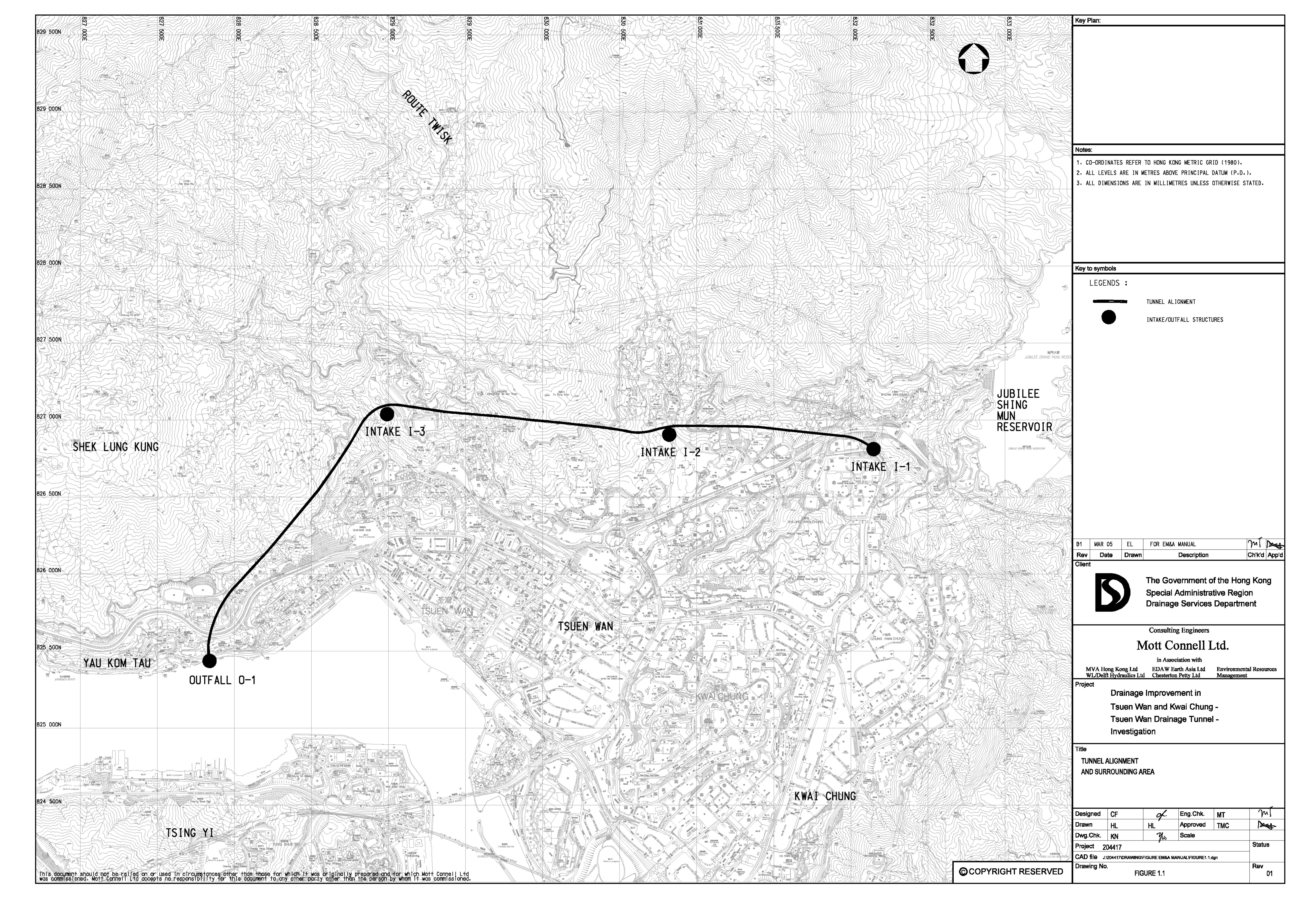
<sup>\*</sup> Other Contracts include DC/2007/08, DC/2008/12, YL/2009/01, HY/2007/10, DC/2007/17 and Wo Shang Wai.

Table 7-1 Total Wastes Generated From October to December 2010



Appendix A

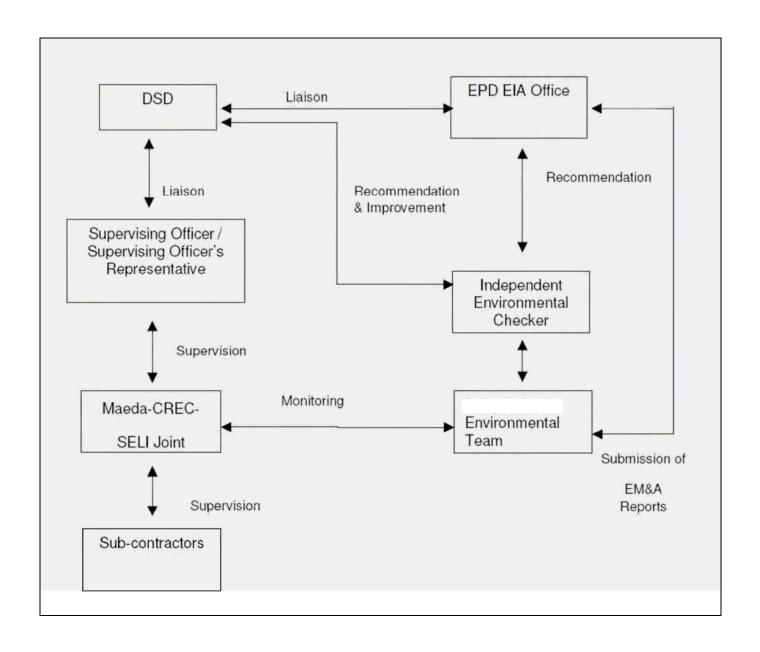
# Site Map and Works Area





Appendix B

# **Organization Chart**



document2 1:1



Appendix C

# Work Programme

Project Dates  Project Dates  O1R00000002 Tender Issue Date  O1R0000004 Tender Closing Da	and the same of th			Dur Start	Finish	Start	Finish	)	Float			
100												
												- 1
	sue Date		0	D 26JUN07A		26JUN07A		2	1			177
	Tender Closing Date		0	0 050CT07A	J	050CT07A		2	•			
01R0000006 Letter of A	Letter of Acceptance Issued Date		0	0 14DEC07A		14DEC07A		2	•			
01R0000008 Contract (	Contract Commencement Date		0	0 28DEC07A		28DEC07A		2	•	4 days after LC	er LØA	
01R0000010 Completio	Completion of Section 1 of the Works		0	0	07DEC12		18JAN13	2	-462		Contract completion date on 02/09/11	19/11
01R0000012 Completio	Completion of Section 2 of the Works		0	0	22MAR12		22MAR12	2	-239		Con ract completion date on 27/07/11	
01R0000014 Completio	Completion of Section 3 of the Works		0	0	23MAR12		23MAR12	2	-240	U	Concract completion date on 27/07/11◆	
01R0000016 Completio	Completion of Section 4 of the Works		0	0	04FEB12		04FEB12	2	-192	O	Contract completion date on 27/07/11	
01R0000018 Completio	Completion of Section 5 of the Works		0	0	07DEC12		18JAN13		-485		Contract completion date on 10/08/11	18/11
01R0000020 Completio	Completion of Section 6 of the Works		0	0	27JUL11		27JUL11	2	0	Contract	ct completion date on 27/07/111	
01R0000022 Completio	Completion of Section 7 of the Works		0	0	07DEC13		18JAN14	2	-462		Contract completion date on 01/09/12-	date on 01/09/12
Possession of Area												1
01R00A0102   Possessio	Possession Portion A - 90d of DOC		0	0 27FEB08A	.,	27FEB08A		2	Ť	Permaner	Permanent land allocation area was possessed on 19/03/08	9/03/08
	Handover of Section 1 of Works at Portion A		0	0	22MAR12		22MAR12		-239			
01R00B0102 Possessio	Possession of Portion B - 90d of DOC		0	0 07MAR08A	_	07MAR08A		0				
01R00B0104 Handover	Handover of Portion B		0	0	23MAR12		23MAR12	2	-240		•	
01R00C0102 Possessic	Possession of Portion C - 90d of DOC		0	O 26MAR08A	. 4	26MAR08A		2				
01R00C0104 Handover	Handover of Portion C		0	0	04FEB12		04FEB12	2	-192		•	ġ.
01R00D0102 Possessic	Possession of Portion D on DOC			0 28DEC07A		28DEC07A		2	•			
01R00D0104 Handover	Handover of Portion D		0	0	07DEC12		18JAN13	2	-485			•
01R00E0102 Possessic	Possession of Portion E - 650d of DOC		0	0 07OCT09	J	07OCT09		2	0		•	
01R00E0104 Handover	Handover of Portion E		0	0	07DEC12		18JAN13	2	-462			•
01R00F0102 Possessic	Possession of Portion F on DOC		0	0 28DEC07A	-14	28DEC07A		2	•			
01R00F0104 Handover	Handover of Portion F		0	0	07DEC12		18JAN13	7	-462			•
	Possession of Portion G - 700d of DOC		0	0 26NOV09		26NOV09		2	0		*	
01R00G0104 Handover	Handover of Portion G		0	0	11MAR11		11MAR11	2	175		•	~
01R00I0102 Possessio	Possession of Portion I on DOC		0	0 28DEC07A	.7	28DEC07A		2	•			
01R00l0104 Handover	Handover of Portion I		0	0	07DEC12		18JAN13	2	-462			•
01R00J0102 Possessic	Possession of Portion J		0	0: 15MAR10		15MAR10		2 -:	-268		•	
01R00J0104 Handover	Handover of Portion J		0	0	03SEP10		03SEP10	7	0		•	
01R0H10102 Possessio	Possession of Portion H1 on DOC		0	0 28DEC07A	25	28DEC07A		2	•			
01R0H10104 Handover	Handover of Portion H1		0	0	30DEC13		10FEB14	2	0			
01R0H20102 Possessio	Possession of Portion H2 - 300d of DOC		0	0 04NOV08A		04NOV08A		2		•		
Start Date	29JUN07		AD04	Mae	Maeda-CREC-SELI JV	ELI JV	Sheet 1 of 58	58			Addendum to Works Programme "WP04"	
a	30DEC13	Early Bar		CONT	CONTRACT NO. DC/2007/12	C/2007/12					-	Checked Approved
		Target Bar		Design	Design and Construction of	ruction of		10AUG09		irks Program	Works Program Revision "WP30"  Works Program Revision "WP30"	
220C		Progress Bar		Tsuen Wan Drainage Tunnel Addendum to Works Programme "WP04"	Tsuen Wan Drainage Tunnel dum to Works Programme "	ge Tunnel	/P04"	04SEP09		3D-TBM Hal	WPSD-TBM Halft Speed at WSD Turnel#3	
O Primavera Systems		Critical Activity				,		220CT09		WP04		

Page 68 of 125

Handrove of Potion R2   Works - DOP to Completion   Dor Dor State   Frince   Start   Frince   Do Dor Dor State   Handrove of Potion R2   Works - DOP to Completion   State				-				Einieh		- Jacob		
Particle			Dur	Dist	Start	ı	ŀ	FIRMOSI				
Perion R. S.2.7 1,306 1,306 26DECOTA O'DEC12 26DECOTA 18,14N13 2 462  1	01R0H20104	Handover of Portion H2	0	0		30DEC13	10	FEB14	0	0		
pt works in S2-7 1,306 1,306 20DEC07A 07DEC12 38DEC07A 18JAN13 2 462  1	Section of V	Works - DOP to Completion										
Percept works in S2-7         1,308												
See See See See See See See See See Se	01R1000202	S1-Works in Portions A to F except works in S2-7	1,308	1,308	28DEC07A			JAN13		162		
se within Portion A         1,247         2,247         2,244         2,244         2,244         2,247         2,247         2,247         2,247         2,247         2,247         2,247         2,247         2,248         2,244         2,248         2,448         2,448         2,448         2,448         2,448         2,448         2,448         2,448         2,448         2,448         2,448         2,448         2,448         2,448         2,448         2,448 <td>01R1000204</td> <td>S1-Maintenance Period (365 days)</td> <td>365</td> <td>365</td> <td>08DEC12</td> <td>07DEC13   19JAN</td> <td></td> <td>JAN14</td> <td></td> <td>162</td> <td></td> <td>١</td>	01R1000204	S1-Maintenance Period (365 days)	365	365	08DEC12	07DEC13   19JAN		JAN14		162		١
See days   See   See   See   SankART   SankA	01R20A0206	S2-Slope Stabilization works within Portion A	1,247	7	27FEB08A	-		MAR12	5	339		
ke within Portion B         1,238         1,238         1,238         1,238         1,238         1,238         1,238         1,238         1,238         2,340         230	01R20A0208	S2-Maintenance Period (365 days)	365	365	23MAR12			MAR13		202		
956 days)         365 365 24MART12         24MART12         24MART12         24MART13         24MART13 <td>01R30B0210</td> <td>S3-Slope Stabilization works within Portion B</td> <td>1,238</td> <td>1,238</td> <td>07MAR08A</td> <td></td> <td></td> <td>MAR12</td> <td></td> <td>540</td> <td></td> <td></td>	01R30B0210	S3-Slope Stabilization works within Portion B	1,238	1,238	07MAR08A			MAR12		540		
ks within Pertion C         1,219         20NAROBA         OHEBIZ         25NAROBA         OHEBIZ         2-195           356 days)         356 366         05EB1Z	01R30B0212	S3-Maintenance Period (365 days)	365	365	24MAR12			MAR13		503		
356 days    365   365   05FEB12   05FEB13   05FEB13   2 - 155   255 days    365 days	01R40C0214	S4-Slope Stabilization works within Portion C	1,219	1,219	26MAR08A			FEB12		192		
kes within Portion D         1,308   1,308   1,308   2,80ECOTA         OTDEC12         28DECOTA         18JAN143         2         488           3965   386   385   385   385   385   24UU.11         28DECOTA         1,80MU.12         2         37           setabolishment works         1,673   1,673   28DECOTA         23UU.11         28DECOTA         1,14NN14         2         455           300	01R40C0216	S4-Maintenance Period (365 days)	365	365	05FEB12			FEB13		155		
365 days    365   365   365   365   360 ECC12   13JAN13   13JAN14   2 482   365 days    360   560   560   560   560   560   560   57JUL11   26JUL11   2 455   365 days    361   362   362   37JUL11   26JUL11   2 455   361   37JUL11   2 435   361   37JUL11   2 435   37JUL11   3 43JUL09   2 435   37JUL11   3 43JUL09   3 43JUL11   3 43JUL09   3 43JUL11   3 43JUL09   3 43JUL11	01R50D0218	S5-Slope Stabilization works within Portion D	1,308	1,308	28DEC07A			JAN13		185		
See days    See   See   SeuUt11   ZeuUv0s   Z7JUL11   ZeuUt12   ZeuUt12   ZeuUt13   ZeuUt13   ZeuUt14   ZeuUt12   ZeuUt14   ZeuUt14   ZeuUt14   ZeuUt14   ZeuUt14   ZeuUt14   ZeuUt14   ZeuUt15   ZeuUt14   ZeuUt14   ZeuZeuZeuZeuZeuZeuZeuZeuZeuZeuZeuZeuZeuZ	01R50D0220	S5-Maintenance Period (365 days)	365	365	08DEC12			JAN14		162		
Sest days    365   28 Jul. 11   26 Jul. 12   2 BJul. 11   2 BJul. 11   2 BJul. 11   2 BJul. 12   4 SE	01R60G0222	S6-Works within Portion G	609	609	26NOV09			JUL11	2	0		
1,673   1,673   29DEC07A   20DEC13   12JAN14   10FEB14   2 455   130 days    30   30   01DEC13   30DEC13   12JAN14   10FEB14   2 455   130 days    30   30   30 DEC13   12JAN14   10FEB14   2 455   130 days    35   28DEC07A   23JAN1608   2   23DEC07A   23JAN1608   2   23DEC07B   23JAN1608   2   23DEC07B   23JAN1608   2   23JAN1608	01R60G0224	S6-Maintenance Period (365 days)	365	365	28JUL11			JUL12	2	37		
30 days   30   30   01DEC13   30DEC13   12JAN14   10FEB14   2   455   10   10   10   10   15JAN08A   22BDEC07A   15JAN08A   22BJEC07A   15JAN08A   22BJEC07A   22BJEC07A   22BJEC07A   22BJEC07A   22BJEC07A   15JAN08A   15JAN08A   1   10   10   100   1	01R7000226	S7-Ladscape softworks & establishment works	1,673	1,673	28DEC07A			JAN14	1	155		
Management	01R7000228	S7-Maintenance Period (30 days)	30	30	01DEC13			FEB14		155		
modation         7         7         28DECO7A         15JAN08A         28DECO7A         15JAN08A         2         36 SBECO7A         28AUG08A         28AUG08A         2         28AUG08A         2         28AUG08A         2         26AUG08A         2	Facilities fo	or the SO as per ER 12										
Provide temporary accommodation   7   7   28DEC07A   15JAN08A   22   23DEC07A   28AUG08A   2												
Erect Hoarding/Signboard/Gate/Fencing   35   59   28DECO7A   28AUG08A   24AUG08A   28AUG08A   24AUG08A   24A	01R0000302	Provide temporary accommodation	7	7	28DEC07A	15JAN08A 28DE		JANOSA	2	<i>H</i> .		
100	01R0000304	Design the SO's principle office	92	95	28DEC07A	28AUG08A 28DE		AUG08A	2			
SO	01R0000305	Erect Hoarding/Signboard/Gate/Fencing	35	35	28MAR08A	16MAR09A 28MA	-	MAROSA	-			
SO 64 64 14SEP08A 13JUNO9 14SEP08A 13JUNO9 2 276  P. ER,M 90 90 28DEC07A 02MAY08A 28DEC07A 02MAY08A 2 CERT 12.4; 3 n	01R0000306	Erect SO's principle office in Portion H1/H2	100	100	19MAY08A	13SEP08A 19MA	100	SEP08A	,-		-	
P. ER,M 30 90 28DEC07A 02MAY08A 28DEC07A 02MAY08A 2 CER 12.4, 3 n 2.8DEC07A 19AUG08A 2 2 CER 12.4, 3 n 2.8DEC07A 19AUG08A 2 2 CER 12.4, 3 n 2.8DEC07A 19AUG08A 11JAN14 2 0 CEER 12.4, 3 n 2.8DEC07A 19AUG08A 11JAN14 2 0 CEER 12.4, 3 n 2.8DEC07B 11JAN14 2 0 CEER 12.4, 3 n 2.8DEC07B 12JAN08A 11JAN14 2 0 CEER 12.4 n 2 CEER 12.4	01R0000308	Provide secondary offices, directed by SO	64	8	14SEP08A	13JUN09 14SE		60NDC		576	1	
ce 1,495 1,539 1,539 14SEP08A 30NOV13 14SEP08A 11JAN14 2 0  ce 1,495 1,495 28OCT08A 30NOV13 14SEP08A 11JAN14 2 0  1,785 1,785 1,2495 28OCT08A 30NOV13 12JAN08A 11JAN14 2 0  ents 1,748 1,748 18FEB08A 30NOV13 18FEB08A 11JAN14 2 0  30 30 01DEC13 30DEC13 12JAN14 10FEB14 2 0  ain office 30 30 01PEC13 30DEC13 12JAN14 10FEB14 2 0  1,587 1,597 1,597 18JUL08A 19MAY08A 17JUL08A 1 1  10 10 19MAY08A 17JUL08A 19MAY08A 11JUN08A 1 1  12 12 31MAY08A 21JUN08A 30MAY08A 2 1JUN08A 1 1  6 6 23JUN08A 22JUN08A 23JUN08A 11JUN08A 1 1	01R0000310	Provide transport for the SO as per App. ER,M	90	90	28DEC07A	02MAY08A 28DE		MAYOBA	2	3	C	
ce 1,539 1,539 14SEP08A 30NOV13 14SEP08A 11JAN14 2 0 0 1,495 1,495 12JAN08A 30NOV13 28OCT08A 11JAN14 2 0 0 1,785 1,785 12JAN08A 30NOV13 12JAN08A 11JAN14 2 0 0 1,748 1,7	01R0000311	Provide survey equipments as per App. ER,M	30	30	28DEC07A	19AUG08A 28DE	100	AUGD8A	2		within 1 month of DOC temporary equipment provied on 18/02/08	8/02/08
ce 1,495 1,495 28OCT08A 30NOV13 28OCT08A 11JAN14 2 0 0 ents 1,785 1,785 12JAN08A 30NOV13 12JAN08A 11JAN14 2 0 0 1 1,748	01R0000314	Maintain & Service the Principle Office	1,539	1,539	14SEP08A	30NOV13 14SE		JAN14	2	0		
ents 1,785 1,785 12JAN08A 30NOV13 12JAN08A 11JAN14 2 0 0  1,748 1,748 18FEB08A 30NOV13 18FEB08A 11JAN14 2 0 0  30 30 01DEC13 30DEC13 12JAN14 10FEB14 2 0 0  1,597 1,597 18JUL08A 30NOV13 18JUL08A 11JAN14 2 0 0  ain office 30 30 01DEC13 30DEC13 12JAN14 10FEB14 2 0 0  n H1 50° 50° 19MAY08A 17JUL08A 19MAY08A 17JUL08A 1 1  12 12 31MAY08A 21JUN08A 30MAY08A 11 0 6 6 23JUN08A 30JUN08A 1 1  8 8 02JUL08A 12JUL08A 12JUL08A 12JUL08A 1 1	01R0000316	Maintain & Service the Secondary Office	1,495	1,495	280CT08A	-		JAN14	2	0		
ents 1,748 1,748 18FEB08A 30NOV13 18FEB08A 11JAN14 2 0 0 30 30 01DEC13 30DEC13 12JAN14 10FEB14 2 0 0 1,597 1,597 14JUL08A 30NOV13 18JUL08A 11JAN14 2 0 0 1,597 1,597 14JUL08A 30NOV13 18JUL08A 17JUL08A 1 10 10 19MAY08A 17JUL08A 19MAY08A 1 12 12 31MAY08A 21JUN08A 31MAY08A 1 12 12 31MAY08A 30JUN08A 31MAY08A 1 15 6 6 23JUN08A 30JUN08A 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	01R0000318	Maintain & Service the transportation	1,785	1,785	12JAN08A			JAN14	2	0		
30 30 01DEC13 30DEC13 12JAN14 10FEB14 2 0 0 15 10 10 10 10 10 10 10 10 10 10 10 10 10	01R0000319	Maintain & Service the survey equipments	1,748	1,748	18FEB08A	30NOV13 18FE		JAN14	2	0		
30 30 01FEB08A 19MAY08A 01FEB08A 19MAY08A 2  ain office 30 30 01DEC13 30DEC13 12JAN14 10FEB14 2 0  an H1 50" 50" 19MAY08A 17JUL08A 19MAY08A 17JUL08A 1  10 10 19MAY08A 30MAY08A 19MAY08A 30MAY08A 1  12 12 31MAY08A 21JUN08A 31MAY08A 1  6 6 23JUN08A 30JUN08A 30JUN08A 1  8 8 02JUL08A 12JUL08A 17JUL08A 1  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	01R0000372	Demolish & removal of Principle Office	30	30	01DEC13	11.7		FEB14	2	0		
Design Contractor's main office         30         30         01FEB08A         19MAY08A         01FEB08A         19MAY08A         2           Maintain & service Contractor's main office         30         30         01DEC13         30DEC13         18JUL08A         11JAN14         2         0           Demolish & removal of Contractor's main office in Portion H1         50         50         19MAY08A         17JUL08A         17JUL08A         17JUL08A         1           Construct base slab         10         10         19MAY08A         30MAY08A         30MAY08A         1           Install steel frames         12         12         12         31MAY08A         21JUN08A         1           Install & E& Miceiling/floor panels         8         02JUL08A         12JUL08A         1	Contractor	's Accommodation as per ER.B		١	ı	i	1		I			
Design Contractor's main office         30         30         01FEB08A         19MAY08A         01FEB08A         19MAY08A         2           Maintain & service Contractor's office         1,597         1,597         1,597         18JUL08A         30NOV13         18JUL08A         11JAN14         2         0           Demolish & removal of Contractor's main office in Portion H1         50         10DEC13         30DEC13         12JAN14         1         0         0           Construct base slab         10         19MAY08A         17JUL08A         17JUL08A         1         1           Install steel frames         12         12         31MAY08A         21JUN08A         1         1           Install wall/roof panels, windows etc         6         8         23JUN08A         30JUN08A         1           Install & E& M/ceiling/floor panels         8         8         22JUL08A         12JUL08A         1										Ī		
Maintain & service Contractor's office         1,597	01R0001402	Design Contractor's main office	30	30	01FEB08A	19MAY08A 01FE		MAY08A	2	7	to the satisfaction of SO	
Demolish & removal of Contractor's main office in Portion H1         30         30 IDEC13         30DEC13         12JAN14         10FEB14         2         0           Erect Contractor's main office in Portion H1         50°         19MAY08A         17JUL08A         17JUL08A         17JUL08A         17JUL08A         1           Construct base slab         10         10         19MAY08A         21JUN08A         1         1           Install steel frames         12         12         31MAY08A         21JUN08A         1         1           Install wall/roof panels, windows etc         6         6         22JUL08A         30JUN08A         1         1           Install & E& M/ceiling/floor panels         8         8         02JUL08A         12JUL08A         1	01R0001406	Maintain & service Contractor's office	1,597	1,597	18JUL08A	30NOV13 18JU		JAN14	2	0		
Erect Contractor's main office in Portion H1         50°         50°         19MAY08A         17JUL08A         17JUL08A         17JUL08A         17JUL08A         17JUL08A         17JUL08A         17JUL08A         1           Construct base slab         10         10         19MAY08A         20MAY08A         19MAY08A         1           Install steel frames         12         12         12         13 1MAY08A         21JUN08A         21JUN08A         1           Install wall/roof panels, windows etc         6         6         23JUN08A         30JUN08A         1           Install & E& M/roiling/floor panels         8         8         02JUL08A         12JUL08A         12JUL08A	01R0001408	Demolish & removal of Contractor's main office	30	30	01DEC13	30DEC13 12JA		FEB14	2	0		
Construct base slab         10         19 IshAY08A         30MAY08A         19MAY08A         19MAY08A         11 Ishan Is	01R000141	Erect Contractor's main office in Portion H1	-09	20.	19MAY08A	17JUL08A 19MA		JULOSA			to the satisfaction of the SO	
Install steel frames         12         12         31MAY08A         21JUN08A         31JUN08A         21JUN08A           Install wall/roof panels, windows etc         6         6         23JUN08A         30JUN08A         30JUN08A           Install & E& M/ceiling/floor panels         8         8         02JUL08A         12JUL08A         12JUL08A	01R0001412	Construct base slab	10	10	19MAY08A	30MAY08A 19MA	-	MAY08A	-			
Install wall/roof panels, windows etc         6         6         23JUN08A         33JUN08A         30JUN08A           Install & E& M/ceiling/floor panels         8         8         02JUL08A         12JUL08A         12JUL08A	01R0001413	Install steel frames	12	12	31MAY08A			JUNOBA	•		•	
Install & E& M/ceiling/floor panels 8 8 02JUL08A 12JUL08A 02JUL08A 12JUL08A	01R0001414	Install wall/roof panels, windows etc	G	9	23JUN08A	30JUN08A 23JU		NONDE	-			
A00 111 th A00 111 th A00 111 th	01R0001415	Install & E& M/ceiling/floor panels	00	80	02JUL08A	12JUL08A 02JU		SJUL08A	-			
Site clearance 17JUL08A 17JUL08A 17JUL08A 17JUL08A	01R0001416	Site clearance	*		1 14JUL08A	17JUL08A 14JUL08A		17JUL08A	-			

all furnitur  R Mo  are/Subr  bare/Subr  bare/Subr  bare/Subr  are/Subr	Describing:		L		i manual	ı	E IIIII	)	Float				
are/Subrare/Su	Install furnitures/internet & move in	7	N	14JUL08A	17JUL08A 14JUL08A		17JUL08A	τ-					55
are/Subr review/c are/Subr approva approva Approva	Works Programme & Monthly Report as per SCC 27		Ť	0	ļ								19-00
review/c are/Subr are/Subr approva approva Approva	Prepare/Submit draft Works Programme	7	7	4DEC07A	21DEC07A 14DEC07A		21DEC07A	7	**				-
ire/Subrapprova	SO's review/comment on draft Works Programme	41	4	22DEC07A	23JAN08A 2	22DEC07A	23.JAN08A	2	13				
approva	Prepare/Submit draft Works Programme Rev. 1	28	28	24JAN08A	15FEB08A 24JAN08A	4JAN08A	15FEB08A	2	0				EOC.
approva nit Revis Approva	Prepare/Submit 1st 3-Month Rolling Programme	14	4	14DEC07A	03JAN08A 14DEC07A	4DEC07A	03JAN08A	2	111				
hit Revis Approva	SO's approval on draft Works Programme	14	4	16FEB08A	28MAR08A 16FEB08A	6FEB08A	28MAR08A	2	i i	**			=>0
Approva	Submit Revised Works Programme	4	44	28AUG08A	30SEP08A 28AUG08A	8AUG08A	30SEP08A	2		0			
	SO's Approval of Revised Works Programme	41	14 (	020CT08A	28FEB09A 02OCT08A		28FEB09A	2		1			
hly Upda	Monthly Update for all Programme	1,779 1	1,779	18JAN08A	31DEC12 1	18JAN08A	18JAN13	2	364				e included
ractor's !	Contractor's Monthly Progress Report	1,775 1,775		22JAN08A	31DEC12 2	22JAN08A	18JAN13	2	364				İ
Safety Plan as per SCC 35	9												
nit draft	Submit draft Safety Plan	14	4	14DEC07A	29DEC07A 14DEC07A	4DEC07A	29DEC07A	2	N. S.	within 14 days of LC	LOA		0.00
an ad ho	Hold an ad hoc meeting with RE on Safety Plan	7	2	31DEC07A	09JAN08A 31DEC07A	1DEC07A	09JAN08A	2	3	ithin 7 days from t	within 7 days from the submission of DSP	SP	
mit 6 cop	Submit 6 copies of the Safety Plan	35	35	14DEC07A	26FEB08A 14DEC07A	4DEC07A	26FEB08A	2	!!	within 35 days of	of LOA	-10	
mit updat	Submit updated safety orgainiza. chart monthly	1,747 1	1,747	20MAR08A	31DEC12 2	20MAR08A	18JAN13	2	364				Ì
l all relev	Fulfill all relevant safety obligation	1,830 1,830		28DEC07A	31DEC12 2	28DEC07A	18JAN13	2	364			i	ı
Contractor's All Insurances	es.		j	1		i						<u> </u>	
mit docur	Submit documents for all insurances are effected	21	21	14DEC07A	02SEP08A   14DEC07A		02SEP08A	2	-11	as per SDC	as per SDC9, SCC10 & SCC45	10	
Quality System as per ER 9.3	89.3												
			۱				l		ī				
int a Qu	Appoint a Quality Manager	14	4	28DEC07A	02JAN08A 28DEC07A	8DEC07A	02JAN08A	27	ä	per SCC 74 with	as per SCC 74 within 14 days of DOC		
nit propo	Submit proposed Quality System for SO's consent	28	78	14DEC07A	22JAN08A 14DEC07A	4DEC07A	22JAN08A	2	ń	=within 28 days of LOA	OA		
nit QSSF	Submit QSSP for approval of the SO	28	28	28DEC07A	14MAR08A 28DEC07A		14MAR08A	2	11	within 28 days of DOC	2000		
tain & up	Maintain & update Quality System	1,802 1	1,802	25JAN08A	31DEC12 25JAN08A		18JAN13	2	364				
ħ.				ij									
inate En	Nominate Environmental Officer	14	4	14DEC07A	21DEC07A 14DEC07A	4DEC07A	21DEC07A	2	as	per ER B.1 CI	use 1.74A1(2)		
ablish a b	Establish a billing account for disposal	21	21	14DEC07A	02JAN08A 14DEC07A	4DEC07A	02JAN08A	2	ğ	per Notes to Tende	terer (AA)		
Submit draft EMP	EMP	21	21	14DEC07A	02JAN08A 14DEC07A	4DEC07A	02JAN08A	7	S	SCC69, within 21 da	days of LOA		
ise draft l	Revise draft EMP within 7 days of SO's notice	4	4	04JAN08A	21FEB08A 04JAN08A	4JAN08A	21FEB08A	2	B	as per SCC69			
mit final \	Submit final version of EMP	45	45	14DEC07A	21FEB08A 14DEC07A	4DEC07A	21FEB08A	2	<u>U</u>	as per SCC69, with	within 45 days of LOA		
iew/upda	Review/update/submit EMP monthly	1,769 1	1,769	28JAN08A	31DEC12 2	28JAN08A	18JAN13	7	364				ı
Employ IET		21	21.	14DEC07A	02JAN08A 14DEC07A	4DEC07A	02JAN08A	2	ţ	to the approval of the SO	ne SO		
mit Basel	Submit Baseline Monitoring Plan	21	21	28DEC07A	18JAN08A 28DEC07A	8DEC07A	18JAN08A	7	-	for approval of the	e SO & EPD		
k for EPC	Seek for EPD's Agreement on WQML & schedule	21	21:	18JAN08A	31JAN08A 18JAN08A	8JAN08A	31JAN08A	7	**				
y out bas	Carry out baseline monitoring	37	37	11FEB08A	20MAR08A 11FEB08A	1FEB08A	20MAR08A	2					
pare/subr	Prepare/submit reports for baseline monitoring	20	20 3	21MAR08A	28MAR08A 21MAR08A		28MAR08A	7		for approval of the	the SO		
act monit	Impact monitoring & reporting	1,705 1	1,705 (	01APR08A	31DEC12 01APR08A	11APR08A	18JAN13	2	364			l	

	TIME OF THE PROPERTY OF THE PR	Dur		2000	LIMISH	SIEIT	Limisii	3	Float		
17R0000902	Fulfill all relevant environmental obligation	1,800	1,800 1,800	28DEC07A	31DEC12 28	28DEC07A	18JAN13	2 3	364	-	1
Excavation	Excavation Permit/Utilities ner SCC 54 & SCC 83										
			ŀ								
01R0001002	Nominate IIUMS co-ordinator	7	7	14DEC07A	15JAN08A 14DEC07A		15JAN08A	2	nas per SCC83;	3; within 7 days of LOA	
01R0001004	SO approve IIUMS co-ordinator	41	4	16JAN08A	29FEB08A 16JAN08A		29FEB08A	2	Н		
01R0001006	Submit brand name of UGS detection equipment	7	7	28DEC07A	18FEB08A   28DEC07A		18FEB08A	2	as per ER.B1	rt 1,59; within 7 days of DOC	
01R0001008	Utilities detection & report to the SO	21	21	29FEB08A	05APR08A 29FEB08A	-	05APR08A	2	11		
0180001010	Liaison with UUs	21	21	04JAN08A	29FEB08A 04JAN08A		29FEB08A	2	D		
01R0001012	Apply XP for site entrance construction	7	7	21JAN08A	08MAR08A 21JAN08A		08MAR08A	2	0		1-1
01R0001014	HyD process XP for site entrance construction	20	20	10MAR08A	28MAY08A 10MAR08A		28MAY08A	8	noes ER.B1 1.	ER.B1 1.18A3(1), not less than 17 working days	
01R0001016	HyD issue XP for site entrance construction	0	0		28MAY08A		28MAY08A	2	•		
01R0001018	Apply XP for GI works at I-1 & I-2	-	٠	22APR08A	20MAY08A 22APR08A		20MAY08A	2	11		
01R0001020	HyD process XP for GI works at I-1 & I-2	30	30	23APR08A	26SEP08A 23APR08A	00	26SEP08A	2			
01R0001022	HyD issue XP for GI works at I-1 & I-2	0	0		26SEP08A		26SEP08A		•		131
01R0001024	Apply XP for trial grout at Fault F1	+	٠	22APR08A	20MAY08A 22APR08A		20MAY08A	2	53		
01R0001026	HyD process XP for trial grout at Fault F1	30	30	23APR08A	22JUL08A 23APR08A	1	22JUL08A	2	11		
01R0001028	HyD issue XP for trial grout at Fault F1	0	0		22JUL08A		22JUL08A	+	•		
Pre-constru	Pre-construction Condition Survey										
Preliminaries											
01R0001102	Appoint a Qualified Structural Engineer	30	30	28DEC07A	19MAR08A 28DEC07A		19MAR08A	2	as per ER.		
01R0001104	Submit nos. & extent of the affected EBS	30	93	28DEC07A	30 28DEC07A 19MAR08A 28DEC07A	3DEC07A	19MAR08A	7	as per ER.	B1 1.61; within 30 days of DOC	823
PCS Stage 1	PCS Stage 1 between I-1 & I-2										
01R0001118	Carry out stg 1 PCS between I-1 & I-2	9	ဖ	22APR08A	23APR08A   22APR08A		23APR08A	2			×
01R0001120	Prepare/submit reports for stg 1 PCS bet I-1&I-2	9	09	24APR08A	22SEP08A 24APR08A	1	22SEP08A	2			
01R0001122	Review/accept reports for stg 1 PCS bet I-1&I-2	9	9	31MAY08A	20JAN09A 31MAY08A 20JAN09A	1MAY08A	Z0JAN09A	2			
PCS Stage 1	between F2 & F3										80
	Carry out stg 1 PCS between I-2 & I-3	22	5	25MAR08A	5 25MAR08A 30APR08A 25MAR08A 30APR08A	5MAR08A	30APR08A	2	11		
01R0001132	Prepare/submit reports for stg 1 PCS bet I-2&I-3	9	09	24APR08A	22SEP08A 24APR08A		22SEP08A	2			
01R0001134	Review/accept reports for stg 1 PCS bet I-2&I-3	. 60	09	24MAY08A	04FEB09A 24MAY08A		04FEB09A	2			
PCS Stage 1	PCS Stage 1 between I-3 & O-1										
01R0001142	Carry out stg 1 PCS between I-3 & O-1	S	2	25MAR08A	25MAR08A 26MAR08A 25MAR08A		26MAR08A	2			
01R0001144	Prepare/submit reports for stg 1 PCS bet I-3&O-1	9	9	60 26MAR08A	11SEP08A 26MAR08A		11SEP08A	2			
01R0001146	Review/accept reports for stg 1 PCS bet I-3&O-1	9	9	31MAY08A	04FEB09A 31MAY08A	-	04FEB09A	2			
PCS Stage 1	at vicinity of O-1										
01R0001106	Carry out stg 1 PCS at vicinity of 0-1	ιn	5	5 25MAR08A	29MAR08A 25MAR08A	5MAR08A	29MAR08A	2			
01R0001108	Prepare/submit reports for stg 1 PCS at 0-1	90	9	31MAR08A	60 31MAR08A 10SEP08A 31MAR08A	1MAR08A	10SEP08A	2			
01R0001110	Review/accept reports for stg 1 PCS at 0-1	90	9	27MAY08A	27MAY08A 09FEB09A 27MAY08A 09FEB09A	7MAY08A	09FEB09A	2			
PCS Stage 2	PCS Stage 2 between I-1 & I-2										
01R0001124	Carry out stg 2 PCS between I-1 & I-2	ഹ	2	22APR08A	02JUN08A 22APR08A	2APR08A	02JUN08A	2	10		
01R0001126	Prepare/submit reports for stg 2 PCS bet I-1&I-2	09	09	24APR08A	24APR08A 10JUN08A 24APR08A		10JUN08A	2	n		9)
01R0001128	Review/accept reports for stg 2 PCS bet I-1&I-2	09	9	11JUN08A	09FEB09A 11JUN08A		OBFEBOSA	2			87

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2006		8.3	11	1		a		1		11	en.	II		U		De .	Ш			u			11						- 11	П	EN.	1nd TMLG sc	HyD	HyD		ewithin 30	II			•	
Toral						2	2	2		2	2	2		2	2		2	2		2	2		2	2		2	2 -16		2	2	2	2	2	2		2	2 364			-	
WP3D Finish		07JUN08A 2	12JUN08A 2	09FEB09A 2		13JUN08A 2	18JUN08A 2	09FEB09A 2		06JUN08A 2	16JUN08A 2	09FEB09A		10JAN09A	24MAR09A 2		10JAN09A	24MAR09A		10JAN09A	24MAR09A			24MAR09A 2		ď	10JUN09		03JAN08A	28FEB08A	31JAN08A			19APR08A			18JAN13			16AUG08A	
WP3D			2MAY08A																					-												4DEC07A 12JAN08A 14DEC07A 12JAN08A					
AD04 Fluish		30APR08A 07JUN08A 30APR08A	02MAY08A 12JUN08A 02MAY08A	09FEB09A 13JUN08A		13JUN08A 09MAY08A	18JUN08A 04JUN08A	19JUN08A   09FEB09A   19JUN08A		01APR08A 06JUN08A 01APR08A	16JUN08A 02JUN08A	09FEB09A 17JUN08A		10JAN09A 28AUG08A	24MAR09A 12JAN09A		10JAN09A 28AUG08A	24MAR09A 12JAN09A		10JAN09A 28AUG08A	2JAN09A 24MAR09A 12JAN09A		10JAN09A 28AUG08A	24MAR09A 12JAN09A		15JAN09A 28AUG08A	10JUN09 16JAN09A		03JAN08A 14DEC07A	28FEB08A 28DEC07A	31JAN08A 04JAN08A	01FEB08A 01APR08A 01FEB08A	19APR08A 02APR08A	19APR08A 02APR08A	ł	12JAN08A	31DEC12 03JUL08A			16AUG08A	
AD04 Start		30APR08A	02MAY08A	13JUN08A		09MAY08A	04JUN08A	19JUN08A		01APR08A	02JUN08A	17JUN08A		28AUG08A	12JAN09A		28AUG08A	16JAN09A		14DEC07A	28DEC07A	04JAN08A	01FEB08A	02APR08A	02APR08A	1	14DEC07A	03JUL08A													
Do4 WP3D		ω	09	09		w	09	09		12	9	09		28	28		28	28		28	28		28	28		28	28		4	7	14	21	14	14	ı	30	1,642 1,642			0	
Dog		ស	9	90		5	9	9		12	9	90		28	28		28	28		28	28		28	28		28	28	1	4	7	14	21	14	14	1	90	1,64	ı		0	
Activity Description	PCS Stage 2 between H2 & H3	Carry out stg 2 PCS between I-2 & I-3	Prepare/submit reports for stg 2 PCS bet I-2&I-3	Review/accept reports for stg 2 PCS bet I-2&I-3	PCS Stage 2 between I-3 & O-1	Carry out stg 2 PCS between I-3 & Q-1	Prepare/submit reports for stg 2 PCS bet I-3&O-1	Review/accept reports for stg 2 PCS bet I-3&O-1	at Vicinity of 0-1	Carry out stg 2 PCS at vicinity of 0-1	Prepare/submit reports for stg 2 PCS at 0-1	Review/accept reports for stg 2 PCS at 0-1	Pre-const. condition structural survey; I-1	Prepare/submit reports for EBS at I-1	Review/accept reports for EBS at I-1	Pre-const. condition structural survey; I-2	Prepare/submit reports for EBS at I-2	Review/accept reports for EBS at I-2	Pre-const. condition structural survey; I-3	Prepare/submit reports for EBS at I-3	Review/accept reports for EBS at I-3	Pre-const. condition structural survey; 0-1	Prepare/submit reports for EBS at 0-1	Review/accept reports for EBS at O-1	Pre-const. condition structural survey; Tunnel	Prepare/submit reports for EBS along Tunnel alig	Review/accept reports for EBS along Tunnel align		Appoint Traffic Consultant/Traffic Engineer	Eng's Approval of Traffic Consultant	Prepare/submit TTA Schemes (ingress & egress)	Obtain endorsement of TTA schemes from TMLG	Approval of TTA schemes by the Authorities	Approval of TTA schemes by the Authorities	Management of Sub-contractors as per SCC 44	Submit a Sub-contractor Management Plan	Submit Quarterly the Updated SMP		Siu Ho Wan as a New Tree Transplanting Area	Receive VO28 for new tree transplanting area	CARL THE RESIDENCE OF THE PARTY
Q.	PCS Stage 2 b	01R0001136	01R0001138	01R0001140	PCS Stage 2 b	01R0001148	01R0001150	01R0001152	PCS Stage 2 a	01R0001112	01R0001114	01R0001116	Pre-const. col	01R0001154	01R0001156	Pre-const. cor	01R0001158	01R0001160	Pre-const. col	01R0001162	01R0001164	Pre-const. col	01R0001166	01R0001168	Pre-const. col	01R0001170	01R0001172	Traffic	01R0001202	01R0001204	01R0001206	01R0001216	01R0001234	01R0001236	Managemer	01R0001302	01R0001304	Trees	Siu Ho Wan a	VO028-02	

The state of the s				45 dyas of LOA	3 mths from DOC	◆ER 1.53(2) within 3 months from DOC								As per ER.B30 30.06(2)SOR.s approval obtained on 13/02/08					Vin Lee	SC Steel Co. Ltd by PR		in Wing			ong Faith		Soldata						ad ad	3	ig Kee	t Electronic		on on	
arios dens				=ERB 26.02A; within 45 dyas of LOA	=ER 1.5.3 (2); within 3 mths from DOC	<b>♦ER 1.53(2</b>					11			As per ER.B30 30.0	-				awarded to Kin		Geotech Eng Ltd	awarded to Kin		King Shing	awarded to Long		awarded to S			awaded to Seli			awarded to Intelibuild	=awarded to Ch Yau	awarded to Ming K	awarded to Pilot E	Anderson	awarded to So data	=awarded to Lam
Float												0	1			0		I								356		356	501			-10							
<u> </u>	Н	7	4 2	7	A 2	2			2	A 2	A 4	2		2	2	2		A 2	2	-	A 2	A 2	4	A 2					2	A 2	4 2	4 2	4 2	A 2	A 2	A 2	2	A 2	A 2
Finish	07SEP08	14JAN08A	28FEB08A	29JAN08A	DEMAROSA				10JAN08A	16APR08A	10MAR08A	18JAN13	ı	15JAN08A	23FEB08A	11JAN14		27MAR09A	05JUN08A	30MAY08A	02APR08A	09MAY08A	05JAN09A	03NOV08A	25APR08A	26JUN09	01AUG08A	03JUN10	07FEB10	21DEC07A	02JAN08A	22JAN08A	14FEB08A	03MAR08A	03MAR08A	03MAR08A	11MAR08A	14MAR08A	15MAR08A
Start	AUG08A		JANDSA	DEC07A	DEC07A	08SEP08A			DEC07A	JANOSA	JANOSA	-EB08A	1		DEC07A	-EB08A		AUG08A	DEC07A	DEC07A	DEC07A	DEC07A	JUNDSA	AUG08A	DEC07A	JUNOSA	JULOBA	DEC09	ОСТОВ	DEC07A	DEC07A	DEC07A	DEC07A	JANOSA	DEC07A	JANOSA	DEC07A	JAN08A	JANOSA
Finish	18AUG08A   07SEP08A   18AUG08A   07SEP08A	14DEC07A   14JAN08A 14DEC07A	28FEB08A 15JAN08A	29JAN08A 14DEC07A	06MAR08A 28DEC07A	080			10JAN08A 28DEC07A	16APR08A 11JAN08A	10MAR08A 18JAN08A	07DEC12 23FEB08A		8DEC07A 15JAN08A 28DEC07A	28DEC07A 23FEB08A 28DEC07A	30NOV13 25FEB08A		27MAR09A 28AUG08A	05JUN08A 14DEC07A	30MAY08A 14DEC07A	02APR08A 28DEC07A	09MAY08A 14DEC07A	05JAN09A 02JUN08A	03NOV08A 08AUG08A	25APR08A 14DEC07A	26JUN09 28JUN08A	01AUG08A 14JUL08A	03JUN10 06DEC09	07FEB10 11OCT09	21DEC07A 14DEC07A	02JAN08A 17DEC07A	22JAN08A 29DEC07A	14FEB08A 14DEC07A	03MAR08A 04JAN08A	03MAR08A 28DEC07A	03MAR08A 04JAN08A	11MAR08A 14DEC07A	14MAR08A 15JAN08A	15MAR08A 16JAN08A
Start	3AUG08A 0	4DEC07A 1	5JAN08A   2	14DEC07A 2	28DEC07A 06	08SEP08A			28DEC07A 1	11JAN08A 16	18JAN08A 10	23FEB08A C		8DEC07A 1	8DEC07A 2	25FEB08A 3	ĺ	28AUG08A 2	-	_	28DEC07A 03	4DEC07A 09	0 A80NULZO	OBAUGO8A 00	4DEC07A 2	28JUN08A		06DEC09		14DEC07A 2	17DEC07A 0	29DEC07A 2	14DEC07A 1	04JAN08A 03	28DEC07A 00	04JAN08A 03	4DEC07A 1	15JAN08A 14	6JAN08A 1
Dur		14 1	7:1	45: 14	90 2	0		ŀ	14 2	7 1	28 1	1,378 2		7 2	60 2		1	60 2	60 1	4.	60 2	90 1	80 0	0 09	90 1	344 2	78 1	180	120	7 1	17 1	25 2	48	0 09	67 2	0 09	45 1	60 1	60 1
Dur Dur	н	14	7	45	06	0			14	7	28	1,378 1		7	09	1,771 1,771		09	09	90	09	90	80	90	80	344	78	180	120	2	17	25	84	90	29	09	45	90	09
Activity Description	Preparation works for new T.T. area	Appoint Landscape Specialist Contractor	SO's Approval of Landscape Contractor	Nominate competent person to oversee tree works	Obtain Tree Removal Permit by Others	Remove / Transplant Trees start			Appoint Surveyors	SO's Approval of Surveyor	Initial Survey	Maintain & carry out survey works	System as per ER B.30	Submit Smart Card Sys for SO's Approval	Install & start Operating Smart-Card System	Operate & Maintain Smart-Card System	Procurement of Sub-contractor	Spoil Disposal	Earthwork for Outfall O-1	Re-bar Supply	Soil Nailing	H-piling Works	Fabrication of Pre-cast Lining	Drainage/Road Works for Access Road at I-3	Temp. steel decking over Shing Mun Nullah at I-1	Design/Install Communication System	Design/install Flow Monitoring Devices	Procurement & delivery of Communication System	Procurement/delivery of Flow Measurement Devices	Supply TBM/Main Tunnel Construction	Security	Progress Photo/Vedio	Webpage/Physical Model/3D Animation	Hoarding/Fencing Erection	Erection of Contractor's Office	Remote Control CCTV	Concrete Supply	Geotechnical Instrumentation	Drilling/Grouting for Geotchnical Instrumentat.
9	VO028-04	01R0001502	01R0001504	01R0001506	01R0001510	01R0001512	Survey		01R0001602	01R0001604	.01R0001608	01R0001610	Smart Card	01R0001802	01R0001804	01R0001806	Procuremen	01R0001904	01R0001906	01R0001910	01R0001912	01R0001914	01R0001916	01R0001920	01R0001922	01R0001924	01R0001925	01R0001936	01R0001938	01R0018A02	01R0018A04	01R0018A06	01R0018A08	01R0018A10	01R0018A12	01R0018A14	01R0018A16	01R0018A18	01R0018A20

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2006 2003 2010 2011 201C 2013		to the acceptance of the SO	to he acceptance of the SOas per ER's Note 4.4.9			Ewithin 1 month from DOC	within 2 months from DOC	1	Lo		• accommodation for accupation as per App. ER.M	ocare of the works insurance has been effected	• 3rd party insurance has been effected	◆P. I. Insurance has been effected.	◆land transpoert delivered for use of the SO	◆computer facilities for use of the SO	◆detailed CRA ind, pre-condition survey	♦physical model completed as per ER 4.4.8	◆3D animation model completed as per ER 4.4.9	D as per ER 4.4.10 for 3 mths of the remote CCTV intalled in	O&MM completed as per ER 4.4.11 ◆		2	◆of all obligations by this C.S. 3-mths from DOC	♦of all obligations by this CS 6 mths from DOC	of all obligations by this CS 9 mths from DOC	♦of all obligation by this CS 12 mths frm DOC	♦ of all obligations by this CS 15 mths frm DOC	•	•	•	♦of all obligations by this CS 27 mths frm DOC	•	♦of all obligations by this CS 33 mths frm	•	of all obligations by this CS 39 mth	_	of all obligations by this CS 45		of all obligations 3 mths frm DOM excl. Sec. 7◆
Figal					ı				30							61	1,602			1,657	691	298	358	61	~	01	01	01	1,163	1,072	2 980	2 889	2 798	707 2	615	2 524	2 433	342	2 360	2 297
0.5		2 A80		١		8A 2	9A 2	9A 2	4 2		2 A8	-		8A 2	38A 2	18A 2	39 2	38A 2	19A 2	9 2	12 2	3 2	3 2	08A 2	18A 2	38A 2	38A 2	09A 2	9 2	9 2				10 2	10 2			1 2		
WP3D Finish		27NOV08A				09FEB08A	19FEB0	24FEB09A	11JAN14		13SFP08A	OR IANDRA	03JAN08A	03JAN08A	02MAY08A	13SEP08A	11AUG09	27NOV08A	27FEB09A	17JUN09	21MAR12	18APR13	17FEB13	27MAR08A	27JUN08A	25SEP08A	27DEC08A	27MAR09A	26JUN09	25SEP09	26DEC09	27MAR10	26JUN10	25SEP10	26DEC10	27MAR11	26JUN11	25SEP11	15FEB13	19APR13
WP3D Start		SFEB08A	SFEB08A			8DEC07A	OMAR08A	2JUN08A	25FEB09A																															
AD04 Finish		27NOV08A 15FEB08A	27FEB09A 15FEB08A			09FEB08A 28DEC07A	19FEB09A 10MAR08A 19FEB09A	24FEB09A 02JUN08A	30NOV13		13SFD08A	OS IANORA	03JAN08A	03JAN08A	02MAY08A	13SEP08A	11AUG09	27NOV08A	27FEB09A	17JUN09	08FEB12	07MAR13	06JAN13	27MAR08A	27JUN08A	25SEP08A	27DEC08A	27MAR09A	26JUN09	25SEP09	26DEC09	27MAR10	26JUN10	25SEP10	26DEC10	27MAR11	26JUN11	25SEP11	04JAN13	08MAR13
AD04 Start		15FFB08A	15FEB08A			28DEC07A	10MAR08A	02JUN08A	25FEB09A	1																														
WP3D		255 1			۱	30 2	211 1	30 0	1,433 2	8	c	0 0	0	0	0	0	0	a	0	0	0	0	0	0	0	0	0	ò	0	0	0	0	0	0	0	0	0	0	0	0
DO4 WP3D Dur Dur		255	308			30	211	30	1,433	1	c	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Activity Description	Physical Models & Other Material Display	Dranata/timmit a physical models	Prepare/submit a 3-D animation model	The state of the s	Internet Website as per ER 4.4.7	Propose the design of web page	Produce the web page for approval of SO	SO's approval of web page	Submit updated web pages monthly	Schedule of Milestones for Cost Centre No. 1R	4D 4. On accompany of CO's Accommodation	45 S. O. Distriction descriptions of offset of Olym	1R.3. On providing documents of effected TPI	1R 4: On Poroviding documents of effected PII	1R 5; On delivery of all Land Transport for SO	1R 6; On install, of computer facilities for SO	1R 7; On accept, of detailed CRA ind. PCS	1R 8; On acceptance of Physical Model by the SO	1R 9, On acceptance of 3-D Animation Model	1R 10; On satisf. operation of CCTV for 3 mth	1R 11; On acceptance of O&MM	1R 12, On acceptance of as-built drwgs.	1R 13; On acceptance of T.R/Video/Brouchure	1R 14; On complete all wks for 3 mth frm DOC	1R 15; On complete all wks for 6 mth frm DOC	1R 15, On complete all wks for 9 mth frm DOC	1R 17; On complete all wks for 12 mth frm DOC	1R 18; On complete all wks for 15 mth fm DOC	1R 19; On complete all wks for 18 mth frm DOC	1R 20; On complete all wks for 21 mth frm DOC	1R 21; On complete all wks for 24 mth frm DOC	1R 22; On complete all wks for 27 mth frm DOC	1R 23, On complete all wks for 30 mth frm DOC	1R 24; On complete all wks for 33 mth fm DOC	1R 25; On complete all wks for 36 mth frm DOC	1R 26; On complete all wks for 39 mth frm DOC	1R 27; On complete all wks for 42 mth frm DOC	1R 28; On complete all wks for 45 mth frm DOC	1R 29; On issuance of completion certificates	1R 30; On complete all wks for 3 mth frm CMP
O)	Physical Mo	0450000300	01R0002304		Internet Wer	01R0002402	01R0002404	01R0002406	01R0002408	Schedule of	04 B0000504	0120002301	0180002503	01R0002504	01R0002505	01R0002506	01R0002507	01R0002508	01R0002509	01R0002510	01R0002511	,01R0002512	:01R0002513	01R0002514	01R0002515	01R0002516	01R0002517	01R0002518	01R0002519	01R0002520	01R0002521	01R0002522	01R0002523	01R0002524	01R0002525	01R0002526	01R0002527	01R0002528	01R0002529	01R0002530

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01R0002531	1R 31: On complete all wks for 6 mth fm CMP		L			19JUL13	2 2	206	of all obligations 6 mths frm DOM excl. Sec. 7 ◆
01R0002532	1R 32; On complete all wks for 9 mth frm CMP	0	0	06SEP13		180CT13	2	115	of all obligations 9 mths frm DOM excl. Sec. 7◆
01R0002533	1R 33; On issuance of maintenance certificate	0	0	30DEC13		10FEB14	2	0	certificate
chedule of	Schedule of Milestones for Cost Centre No. 16R								
16R7003001	16R 1; On completion of landscape wks; Portion A	0	0	01MAR12		01MAR12	2 6	699	•
16R7003002	16R 2; On completion of landscape wks; Portion B	0	0	16MAR12		16MAR12	2 6	654	*
16R7003003	16R 3; On completion of landscape wks; Portion C	0	0	28JAN12		28JAN12	2 7	702	•
16R7003004	16R 4; On completion of landscape wks; Portion D	0	0	30NOV12		11JAN13		395	*
16R7003005	16R 5; On completion of establish wks; Portion A	0	0	01MAR13		01MAR13	2	304	•
16R7003006	16R 6; On completion of establish wks; Portion B	0	0	16MAR13		16MAR13	2	289	•
16R7003007	16R 7; On completion of establish wks; Portion C	0	0	27JAN13		27JAN13	2 3	337	•
16R7003008	16R 8; On completion of establish wks; Portion D	0	0	30NOV13		11JAN14	2	30	
chedule of	Schedule of Milestones for Cost Centre No. 17R								
17R0003101	17R 1: On complet of all wks for 3 mth fm DOC	0	0	27MAR08A		27MAR08A	2	of all	of all safety & env. obligations 3 mths fm DOC
17R0003102	17R 2: On complet of all wks for 6 mth frm DOC	0	0	27JUN08A		27JUN08A	2	•	of all safey & env. obligations 6 mths frm DOC
17R0003103	17R 3, On complet of all wks for 9 mth frm DOC	0	0	26SEP08A		26SEP08A	2		♦of all safey & env. obligations 9 mths fm DOC
17R0003104	17R 4; On complet of all wks for 12 mth frm DOC	0	0	27DEC08A	1	27DEC08A	2		◆of all safety & env. obligations 12 mths frm DOC
17R0003105	17R 5; On complet of all wks for 15 mth frm DOC	0	0	27MAR09A	4	27MAR09A	2		• of all safety & env. obligations 15 mths frm DOC
17R0003106	17R 6; On complet of all wks for 18 mth frm DOC	0	0	27JUN09		15JUL09	2 1,647	47	of all safety & env. obligations 18 mths frm DOC
17R0003107	17R 7; On complet of all wks for 21 mth frm DOC	0	0	26SEP09		14OCT09	2 1,556	56	♦of all safety & env. obligations 21 mths fm DOC
17R0003108	17R 8; On complet of all wks for 24 mth frm DOC	0	0	26DEC09		13JAN10	2 1,465	65	♦of all safety & env. obligations 24 mths fm DOC
17R0003109	17R 9; On complet of all wks for 27 mth fm DOC	0	0	28MAR10		15APR10	2 1,373	73	◆of all safety & env. obligations 27 mths frm DO
17R0003110	17R 10; On complet all wks for 30 mth frm DOC	0	0	27JUN10		15JUL10	2 1,282	82	♦of all satety & env. obligations 30 mths frm
17R0003111	17R 11; On complet all wks for 33 mth frm DOC	0	0	26SEP10		140CT10		91	♦of all safety & env. obligations 33 mths fr
17R0003112	17R 12; On complet all wks for 36 mth frm DOC	0	0	26DEC10		13JAN11	2 1,100	8	♦of all safety & env. obligations 36 mtl
17R0003113	17R 13; On complet all wks for 39 mth frm DOC	0	0	28MAR11		15APR11	2 1,008	80	◆of all safety & env. obligations 39
17R0003114	17R 14; On complet all wks for 42 mth frm DOC	0	0	27JUN11		15JUL11	2 9	917	♦of all safety & env. obligations
17R0003115	17R 15; On complet all wks for 45 mth frm DOC	0	0	26SEP11		140CT11	2 8		of all safety & env. obligation
17R0003116	17R 16; On complet all wks for 48 mth frm DOC	0	0	26DEC11		13JAN12	2 7	735 of all safe	of all safety & env. obligations 48 mths frm DOC◆
17R0003117	17R 17; On complet of all wks for 3 mth frm CMP	0	0	08MAR13		19APR13	2 2	297 of all saf	
17R0003118	17R 18; On complet of all wks for 6 mth frm CMP	0	0	07JUN13		19JUL13	2	206 of all safety & env.	ety & env. obligations 6 mths frm DOMexcluding Section 7
17R0003119	17R 19; On complet of all wks for 9 mth frm CMP	0	0	07SEP13		190CT13	2	114 of all s	all safety & ehv. obligations 9 mths fm DOMexcluding Section 7
17R0003120	17R 20; On issuance of maintenance certificate	0	0	30DEC13		10FEB14	2	0	certificate
esign/Des	Design/Design Check for Permanent Works						١		
roject -wid	Project -wide Packages					1	Ì		
Project Design Plan (PDP)	n Plan (PDP)								
02L10D0102	Employ Independent Designer	7	7 14DEC07A		20DEC07A 14DEC07A	20DEC07A	2	40	
02L 10D0104	Prepare & submit Project Design Plan (PDP)	28	28 14DEC07A		26FEB08A 14DEC07A		2	T ber E	■per ER 5.4.1, within 28 days of LOA
02L10D0106	SO's review & comment on PDP	28	28 27FEB	B08A 18MAR08	18MAR08A 27FEB08A	18MAR08A	2		
	(OOO) se mile en la familie de la Constantina del Constantina de la Constantina de la Constantina de la Constantina del Constantina de la	00	AOMANA OC	-	21 ALIGNRA 19MARINSA	24ALICORA	0		

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Communication Royal Checker   14   14   200ECOVA OFFERBOAN 20PECOVA OFFERBOAN 20PECOVA   Communication Royal Checker by the SQL   Approval of Design Checker by the SQL   Design (APIC) submission for the Checker paperval   1   1314/LION 1434/LION 1434/LIO	02L10D0110	L		14 1	4MAY08A	04SEP08A 14MAY08				U						
Communication for the National September 1         29         29         COPERIONAL PARTICLE         20         COPERIONAL COPERIONAL PARTICLE         25         COLUMNIC COPERIONAL PARTICLE         25         25         COLUMNIC COPERIONAL PARTICLE         25         25         27         25         27         25         25         27         25         25         27         25         25         27         25         25         25         27         25         25         27         25         27         25         27         25         27         25         27         25         27         25         27         25         25         27         25         25         27         25         25         25         27         25         25         27         25         25         27         25         25         25         27         25         25         25         27         25         25         27         25         25         27         25	02L10D0112	Employ Independent Design Checker	41	14 2	8DEC07A	01FEB08A 28DEC074		2	n							
Communication System         1         57 LIV.00         11 LIV.00         27JUN09         11 LIV.00         2 Sec           Design (AlP) submission for the AlP submission for the DCs approval         1         1 13JUL09         13JUL09         1 286           Design (AlP) submission for the DCs approval         2         2 44JUL09         13JUL09         13JUL09         2 356           Design (AlP) review by the SO         2         3 13JUL09         13JUL09         13JUL09         2 356           Design (AlP) review by the SO         2         3 13JUL09         13JUL09         13JUL09         2 356           Design (AlP) review by the RO         3 13         3 13JUL09         13JUL09         13JUL09         2 356           Design (AlP) review by the RO         3 13         3 13JUL09         13JUL09         13JUL09         13JUL09         3 35           Design (DA) and processed for AlP Person         1         1 13JUL09         13JUL09         13JUL09         3 35           Design (DA) and processed for AlP Person         1         1 13JUL09         13JUL09         13JUL09         3 35           Design (DA) and processed for AlP Person         1         1 13JUL09         13JUL09         13JUL09         3 35           Design (DA) and processed for AlP Person         1 1 13J	02L10D0114	Approval of Design Checker by the SO	28	28 0		28FEB08A 02FEB08A		2								
Design (AlP) submission for the AlP submission         11         13 27UNN9         11 1UL09         2 366           Design (AlP) submission for the AlP submission for the AlP submission for the Sos approval         1         13 3UL09         13 JUL09         2 386           Design (AlP) submission for the Sos approval         1         1 31UL09         13 JUL09         1 33UL09         2 386           AlP submission for the Sos approval         1         1 31UL09         13 JUL09         13 JUL09         1 33UL09         2 387           AlP submission for the Sos approval for AlP         1         1 31UL09         13 JUL09         1 34UL09         1 33UL09         2 387           Obesign (AlP) review by the So         2 28         2 3UL09         1 34UL09         <	Design for Co	mmunication System														
Design (APP) submission for the DCs approval         1         13.1ULGs         13.ULLGs	02L1FE0102	Design preparation for the AIP submission	15		27JUN09	11JUL09 27JUN09	11JUL09	2	356						3	
Design (AP) certification by the Design Checker         28         29         44JUL09         13JUL09	02L1FE0103	Design (AIP) submission for the DC's approval	-	-	13JUL09	13JUL09 13JUL09	13JUL09	1	288		-					
Design (AIP) submission for the SO's approval         1         13,1UL09	02L1FE0104	Design (AIP) certification by the Design Checker	28	28	14JUL09	10AUG09 14JUL09	10AUG09	2	356		EX					
Authorities approval to Alboratin SO's consent for design (Alb) review by the SO and Chain SO's consent for design (DDA) such size of the Lauthorities' approval of the Bosign (DDA) such by the SO and Chain So's consent for design (DDA) such by the SO and Chain So's consent for design (Alb) and Chain So's consent for the SO's approval of the SO's approva	02L1FE0106	Design (AIP) submission for the SO's approval	-	٠	13JUL09		13JUL09	e	294							
Design (DDA) review by the rel. authorities' approval for the DDA submission for rel. authorities' approval for AIP   Design (AID) review by the rel. authorities' approval for AIP   Design (AID) review by the rel. authorities' approval for AIP   Design (AID) review by the rel. authorities' approval for AIP   Design (AID) review by the SO approval for AIP   Design (AID) submission for the DDA submission for the DDA submission for the DDA submission for the AIP   Design (DDA) review by the SO approval for DDA   Design (AID) submission for the DDA submission for the DDA submission for the AIP submission for the AIP submission for the AIP submission for the DDA submission for the DDA submission for the DDA submission for the DDA submission for the AIP submission for the AI	02L1FE0108	Design (AIP) review by the SO	09		21JUL09		18SEP09	2	356		11					
Design (AIP) review by the rel. authorities         28         22         21-UILO9         17AUG09	02L1FE0110	AIP submission for rel. authorities' approval	•	-	13JUL09		13JUL09		321							
Obtain rel. authorities's approval for AIP	02L1FE0112	Design (AIP) review by the rel. authorities	28		21JUL09		17AUG09	2	387		E2					
Design preparation for the DDA submission	02L1FE0114	Obtain rel. authorities's approval for AIP	-	-	18AUG09	18AUG09 18AUG09	18AUG09		315		-					
Design preparation for the DDA submission for the DCA approval	02L1FE0116	Obtain SO's consent for design (AIP)	0	0		19SEP09	19SEP09	5	356		•					
Design (DDA) submission for the DC's approval   1   28SEP09   28SEP09   28SEP09   1	02L1FE0118	Design preparation for the DDA submission	30		28AUG09	26SEP09 28AUG09	26SEP09	2	356		43					
Design (DDA) submission for the SO's approval         1         28 SSEP09         28 SEP09         28 SEP09         28 SEP09         28 SEP09         1           Design (DDA) submission for the SO's approval         1         1 28 SEP09         28 SEP09         28 SEP09         1           Design (DDA) review by the RSI authorities approval         60         60         60 CT009         28 SEP09         28 SEP09         1           Dobatin RSI consent for RSI consent for design (DDA) review by the rel. authorities approval         1         1 (3NOV09)         08 DEC09         28 SEP09         28 SEP09         1           Dobatin RSI consent for design (DDA) review by the rel. authorities approval         1         1 (3NOV09)         08 DEC09         28 SEP09         1           Design (API) submission for the AIP submission for the AIP submission for the BC's approval         1         1 (28) ANOV09         28 SUMAYOB         28 LUNO9         28 SUMAYOB         28 LUNO9         28 SUMAYOB         28 LUNO9         28 SUMAYOB         28 LUNO9	02L1FE0119	Design (DDA) submission for the DC's approval	-		28SEP09		28SEP09	÷	288							
Design (DDA) submission for the SO's approval   1   1   28SEP09   28SEP09   1	02L1FE0120	Design (DDA) certification by the Design Checker	78		29SEP09		26OCT09	2	356		13					
Docation (DDA) review by the SO   Concording the Society of the Submission for rel. authorities' approval   1   285EP09   285EP09   285EP09   1   285EP09   285EP09   285EP09   1   285EP09   285EP09   1   285EP09   285EP09   1   285EP09   285EP09   1   285EP09   28	02L1FE0122	Design (DDA) submission for the SO's approval	-		28SEP09		28SEP09	-	293		-				- 1	
Doba submission for rel. authorities' approval to Design (DDA) review by the rel. authorities         1         1         28SEP09         28SEP09         1         1         28SEP09         2         2         2         0         20NOV09         0         0         20NOV09         0	02L1FE0124	Design (DDA) review by the SO	09		06OCT09	04DEC09 06OCT09	04DEC09	2	356							Ī
Design (DDA) review by the rel. authorities s approval for DDA   1   03NOV09   03NOV09   03NOV09   1   03NOV09   03NOV09   1   03NOV09   03NOV09   03NOV09   1   03NOV09   03NOV09   03NOV09   1   03NOV09   03NOV09   03NOV09   1   03NOV09   03NOV	02L1FE0126	DDA submission for rel. authorities' approval			28SEP09	28SEP09 28SEP09	28SEP09	e	319							
Obtain rel. authorities's approval for DDA	02L1FE0128	Design (DDA) review by the rel. authorities	28		06OCT09	02NOV09 06OCT09	02NOV09	2	388		iu					
Flow Measurement System         0         0         0         C5DEC09         2           Flow Measurement System         0         0         11MAY09A         2         0         11MAY09A         2           Design (AIP) submission for the AIP submission for the DC's approval         1         1         29MAY09         29MAY09         29MAY09         29MAY09         29MAY09         29MAY09         29MAY09         20MAY09         25MAY09         25MAY0	02L1FE0130	Obtain rel. authorities's approval for DDA			03NOV09	03NOV09 03NOV09	03NON00	÷	316							
Flow Measurement System         0         11MAY09A         1         1         29MAY09         29MAY09         29MAY09         29MAY09         29MAY09         2         1         1         29MAY09         29MAY09         29MAY09         2         2         2         30MAY09         29MAY09         29MAY09         2         2         2         30MAY09         29MAY09         29MAY09         2         2         2         30MAY09         2         30MAY09         2         30MAY09         2         30MAY09         2         30MAY09         2         30MAY09         3         3         30MAY09         3         3         3         3 <td>02L1FE0132</td> <td>Obtain SO's consent for design (DDA)</td> <td>0</td> <td>0</td> <td></td> <td>05DEC09</td> <td>05DEC09</td> <td>N</td> <td>356</td> <td></td> <td></td> <td>•</td> <td></td> <td></td> <td></td> <td></td>	02L1FE0132	Obtain SO's consent for design (DDA)	0	0		05DEC09	05DEC09	N	356			•				
Design preparation for the AIP submission         0         0         11MAY09A         11MAY09A         2           Design (AIP) submission for the DCs approval         1         1         29MAY09         29MAY09         29MAY09         29MAY09         1           Design (AIP) submission for the SO's approval         2         2         30MAY09         25JUN09         25JUN09         2           Design (AIP) review by the SO         6         6         13MAY09A         12MAY09A         12MAY09A         12MAY09A         1           AIP submission for rel. authorities' approval         6         6         13MAY09A         23JUL09         2         2           AIP submission for rel. authorities' approval for AIP         1         1         29MAY09         29MAY09         29MAY09         2         2           Obtain rel. authorities' approval for AIP         1         1         29MAY09         29MAY09         23JUL09         2         2         2         0 </td <td>Design for Flo</td> <td>w Measurement System</td> <td></td>	Design for Flo	w Measurement System														
Design (AIP) submission for the DCs approval         1         29MAY09         29MAY09         29MAY09         1           Design (AIP) certification by the Design Checker         28         30MAY09         25JUN09	02L1FE0202	Design preparation for the AIP submission	0	0		11MAY09A	11MAY09A	2								
Design (AIP) certification by the Design Checker         28         28         30MAY09         26JUN09         26JUN09         2           Design (AIP) submission for the SO's approval         1         1         12MAY09A         12MAY09A         12MAY09A         12MAY09A         12MAY09A         1           AIP submission for rel. authorities' approval         60         13MAY09B         29MAY09         29MAY09         29MAY09         2           AIP submission for rel. authorities' approval for AIP         1         1         29MAY09         29MAY09         29MAY09         2           Obtain rel. authorities' approval for AIP         1         1         0.4JUL09         0.2JUL09         0.2JUL	02L1FE0203	Design (AIP) submission for the DC's approval	-		29MAY09	29MAY09 29MAY09	29MAY09	e	410							
Design (AIP) submission for the SO's approval         1         1 12MAY09A         12MAY09A         12MAY09A         12MAY09A         1 12MAY09B         1 12MAY09B         1 12MAY09B         1 12MAY09B         1 12MAY09B         1 12MAY09B         24JUL09B         24JUL09B         24JUL09B         24JUL09B         25JUL09B         25JUL09B         2 2JUL09B         2 2JUL09B         2 2JUL09B         2 2JUL09B         2 2JUL09B         2 2JUL09B         2 2JUL0B         2 2JUL0B<	02L1FE0204	Design (AIP) certification by the Design Checker	28		30MAY09	26JUN09 30MAY09		CN	502		11					
Design (AIP) review by the SO         60         60         13MAY09A         24JUL09         13MAY09A         24JUL09         2           AIP submission for rel. authorities' approval         1         1         29MAY09         29MAY09         29MAY09         29MAY09         1           Design (AIP) review by the rel. authorities's approval for AIP         1         1         1         29MAY09         29MAY09         29MAY09         29MAY09         2           Obtain rel. authorities's approval for AIP         1         1         04JUL09         04JUL09 </td <td>02L1FE0206</td> <td>Design (AIP) submission for the SO's approval</td> <td>-</td> <td></td> <td>2MAY09A</td> <td>12MAY09A 12MAY09,</td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	02L1FE0206	Design (AIP) submission for the SO's approval	-		2MAY09A	12MAY09A 12MAY09,		-								
AlP submission for rel. authorities approval         1         1         29MAY09         29MAY09         29MAY09         29MAY09         1           Design (AIP) review by the rel. authorities         28         28         06JUN09         03JUL09         03JUL09         04JUL09         04JUL09 </td <td>02L1FE0208</td> <td>Design (AIP) review by the SO</td> <td>09</td> <td>60 1</td> <td>3MAY09A</td> <td>24JUL09 13MAY09,</td> <td>100</td> <td>8</td> <td>205</td> <td></td> <td>ņ</td> <td></td> <td></td> <td></td> <td></td> <td></td>	02L1FE0208	Design (AIP) review by the SO	09	60 1	3MAY09A	24JUL09 13MAY09,	100	8	205		ņ					
Design (AIP) review by the rel. authorities         28         28         06JUN09         03JUL09         03JUL09         2           Obtain rel. authorities's approval for AIP         1         1         04JUL09         04JUL09         04JUL09         04JUL09         1           Obtain SO's consent for design (AIP)         0         0         25JUL09         25JUL09         25JUL09         25JUL09         2           Design (DDA) submission for the DC's approval         1         1         03AUG09         03AUG09         03AUG09         03AUG09         03AUG09         03AUG09         2           Design (DDA) submission for the DC's approval         1         1         03AUG09         03AUG09         03AUG09         1         1           Design (DDA) review by the SO         0         0         0         0         0         0         0         03AUG09         03AUG09         03AUG09         03AUG09         0           DDA submission for rel. authorities' approval         1         1         03AUG09         03AUG09         03AUG09         03AUG09         0         0           DDA submission for rel. authorities' approval for DDA         1         1         03AUG09         03AUG09         03AUG09         03AUG09         03AUG09         03AUG09 <td>02L1FE0210</td> <td>AIP submission for rel. authorities' approval</td> <td>-</td> <td></td> <td>29MAY09</td> <td></td> <td></td> <td></td> <td>432</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	02L1FE0210	AIP submission for rel. authorities' approval	-		29MAY09				432							
Obtain rel. authorities's approval for AIP         1         1         04JUL09         04JUL09         04JUL09         1           Obtain SO's consent for design (AIP)         0         0         25JUL09         25JUL09         2           Design preparation for the DDA submission         30         30         03JUL09         01AUG09         03JUL09         01AUG09         2           Design (DDA) submission for the DC's approval         1         1         03AUG09         03AUG09         03AUG09         1           Design (DDA) certification by the Design Checker         28         28         04AUG09         03AUG09         03AUG09         1           Design (DDA) review by the SO         60         60         11AUG09         03AUG09         03AUG09         1           DDA submission for rel. authorities' approval         1         1         03AUG09         03AUG09         03AUG09         1           Design (DDA) review by the rel. authorities' approval for DDA         1         1         03AUG09         07SEP09         1           Obtain rel. authorities's approval for DDA         1         1         08SEP09         08SEP09         08SEP09         1	02L1FE0212	Design (AIP) review by the rel. authorities	28		90NUC90		0370109	7	522		13					
Obtain SO's consent for design (AIP)         0         0         25JUL09         25JUL09         2           Design preparation for the DDA submission         30         30         03JUL09         01AUG09         03JUL09         01AUG09         2           Design (DDA) submission for the DC's approval         1         1         03AUG09         03AUG09         03AUG09         1           Design (DDA) submission for the DC's approval         1         1         03AUG09         03AUG09         31AUG09         2           Design (DDA) review by the SO         approval         1         1         03AUG09         03AUG09         03AUG09         1           DDA submission for rel. authorities' approval         1         1         03AUG09         03AUG09         03AUG09         1           Design (DDA) review by the rel. authorities' approval for DDA         1         1         03AUG09         07SEP09         1           Obtain rel. authorities's approval for DDA         1         1         08SEP09         08SEP09         08SEP09         1	02L1FE0214	Obtain rel. authorities's approval for AIP	-		04JUL09		04JUL09	-	427							
Design preparation for the DDA submission         30         30JUL09         01AUL09         03JUL09         01AUG09         2           Design (DDA) submission for the DC's approval         1         03AUG09         03AUG09         03AUG09         03AUG09         1           Design (DDA) certification by the Design Checker         28         28         04AUG09         31AUG09         03AUG09         2           Design (DDA) review by the SO         approval         1         1         03AUG09         03AUG09         1AUG09         03AUG09         1           DDA submission for rel. authorities         approval         1         1         03AUG09         03AUG09         03AUG09         1           DDA submission for rel. authorities         28         28         11AUG09         07SEP09         1         1           Dosign (DDA) review by the rel. authorities         28         28         11AUG09         07SEP09         17AUG09         07SEP09         2           Obtain rel. authorities's approval for DDA         1         1         08SEP09         08SEP09         08SEP09         1	02L1FE0216	Obtain SO's consent for design (AIP)	0	0		25JUL09	25JUL09	α	502		•					
Design (DDA) submission for the DC's approval         1         1         03AUG09         03AUG09         03AUG09         1         1           Design (DDA) certification by the Design Checker         28         28         04AUG09         31AUG09         04AUG09         31AUG09         2           Design (DDA) submission for the SO's approval         1         1         03AUG09         03AUG09         03AUG09         1           DA submission for rel. authorities' approval         1         1         03AUG09         03AUG09         03AUG09         1           Design (DDA) review by the rel. authorities         2         2         2         11AUG09         07SEP09         1           Dotain rel. authorities's approval for DDA         1         1         08SEP09         08SEP09         08SEP09         0	02L1FE0218	Design preparation for the DDA submission	30		03JUL09	01AUG09 03JUL09	01AUG09	2	502							
Design (DDA) certification by the Design Checker         28         28         04AUG09         31AUG09         21AUG09         23AUG09         23AUG09         23AUG09         23AUG09         23AUG09         23AUG09         1         1         03AUG09         03AUG09         03AUG09         1         1         03AUG09         03AUG09         03AUG09         1         1         03AUG09         03AUG09         03AUG09         03AUG09         1         1         03AUG09         03AUG09         03AUG09         03AUG09         03AUG09         1         1         03AUG09         03AUG09         03AUG09         03AUG09         1         1         03AUG09	02L1FE0219	Design (DDA) submission for the DC's approval	-		03AUG09	03AUG09 03AUG09		-	410							
Design (DDA) review by the SO         approval         1         1         03AUG09         03AUG09         03AUG09         03AUG09         1         1           Design (DDA) review by the SO         60         60         11AUG09         09OCT09         11AUG09         09OCT09         2           DDA submission for ral. authorities' approval         1         1         03AUG09         03AUG09         03AUG09         1           Design (DDA) review by the rel. authorities' approval for DDA         1         1         08SEP09         07SEP09         1	02L1FE0220	Design (DDA) certification by the Design Checker	28		04AUG09	31AUG09 04AUG09	31AUG09	8	501		11					
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DDA submission for rel. authorities' approval         1         03AUG09         03AUG09         03AUG09         03AUG09         11AUG09	02L1FE0224	Design (DDA) review by the SO	99		11AUG09	09OCT09 11AUG09		2	501		П					
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	02L1FE0230	Obtain rel. authorities's approval for DDA	-		08SEP09		08SEP09	-	431							
02L1FE0232 Obtain design (DDA) approval from the SO 0 0 10OCT09 2 501	02L1FE0232	Obtain design (DDA) approval from the SO	0	0		10OCT09	10OCT09	7	501		•					

Hath	Ω.	Activity	AD04 WP3D Dur Dur	WP3D.	AD04 Start	AD04 Finish	Start	WP3D	_ 	Float						
Design Ober STATE MAIN MAIN MILES   14   14   15   15   15   15   15   15	Design Pack															
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Design submission for the SO's approval  London Random Ra	02L1AA0102	Design preparation by the Designer	14			15MAY08A 2.		15MAY08A	2							
Design review by face of the SOV eapproved         1   28AAV/108A, 20AAV/108A, 20AAV/10AAAV/10AAAAAAAAAAAAAAAAAAAAAAAAAA	02L1AA0104	Design certification by the Design Checker	14	4	-	26MAY08A 1		26MAY08A	2							
Design relative by the SQD   2   2   2   2   2   2   2   2   2	02L1AA0106	Design submission for the SO's approval	-			26MAY08A 2	_	26MAY08A	-							
Lot Spiral Rampic Castocacie Box Curver         1         30JUNDARA         30JUNDARA         30JUNDARA         30JUNDARA         4	02L1AA0108	Design review by the SO	21		MAY08A	30JUN08A 2		30JUN08A	2		В					
Posign reference   Posign activision   188   158   CAMAYORA   TREBORA   TREBORA   1   1   1   1   1   1   1   1   1	02L1AA0110	Obtain design approval from the SO	0	0		30JUN08A		30JUN08A	2		•					
Design pregnation for the DCA submission         188         189         180 DAMAYOM, 197EBBOA         2	ELS Design fo	yr Spiral Ramp/Cascade/Box Culvert														
Design submission for the DCs approved   2 2 (1JULO06A   TFTEBORA   1	02L1AA0202	Design preparation for the DDA submission	158		12MAY08A	16FEB09A 0.		16FEB09A	2							
Design (DDA) submission for the Design Checker         30         30         17FEBBOA 17FEBBOA 17FEBBOA 2         2           Design (DDA) submission for the SO'S approval         68         68         13 10,005A 17FEBOA 17FEBOA 2         2           Design (DDA) submission for the SO'S approval         68         68         14 10,005A 17FEBOA 17FEBOA 2         2           SO submit design (DDA) submission for the SO'S approval         28         22 10,005A 17FEBOA 10,005A 2         0           Design (DDA) review/seproval by the SEGO         28         22 40,005A 17FEBOA 2         2           Design (DDA) review/seproval by the Designer         15         15         64,005A 17FEBOA 2         2           Design preparation for the DC's approval         15         15         64,005A 17FEBOA 2         2           Design certification by the Designer         15         15         14,005A 17FEBOA 2         2           Design certification by the Designer         15         14,005A 17FEBOA 2         2         230           Design certification by the Designer         15         14,005A 17FEBOA 2         2         230           Design certification by the Design Checker         24         22,004N 10         42,004A 10         42,004A 10         42,004A 10           Design certification by the Design Checker         24	02L1AA0203	Design submission for the DC's approval	2		10JUL08A	17FEB09A 1		17FEB09A	-							
Design (DDA) submission for the SO's approval 2 2 12AUACOSA 17FEBOA 17FEBOA 1 17FEB	02L1AA0204	Design (DDA) certification by the Design Checker	30			17FEB09A 1	1	17FEB09A	2							
Design (DDA) review by the SO	02L1AA0206	Design (DDA) submission for the SO's approval	2			17FEB09A 1.		17FEB09A								
Story activity design (DA) for exproved of GEO	02L1AA0208	Design (DDA) review by the SO	89	68		14MAR09A 1.		14MAR09A	2		I					05
Design (DDA) review/approval by the GEO   28 28 0 44MAR09A 31MAY09   2 4MAR09A   2 4MAR	02L1AA0216	SO submit design (DDA) for approval of GEO	-			OSMARO9A O		03MAR09A	*		4	cays after	ICE certifica	tion		
Obtain SOPs consent for design (DDA)         0         24MARDBA         24MARDBA         24MARDBA         2         4	02L1AA0218	Design (DDA) review/approval by the GEO	28		MARO9A	31MAY09 0		31MAY09	2	0						
Design for H-Piling         1         14 JAN10         14 JAN10         14 JAN10         15 JAN10         2 330           Design purposation for the DCs approval         1         1 1 SUANTO         13 JAN10         1 2 830         2 330           Design culturation by the Design Checker         28         22 AANTO         13 JAN10         15 JAN10         1 2 830           Design submission for the SO's approval         4         2 ZOJAN10         15 JAN10         15 JAN10         1 3 JAN10         2 3 JAN10         2 3 JAN10         2 3 JAN10         2 3 JAN10	02L1AA0238	Obtain SO's consent for design (DDA)	0	0		24MAR09A		24MAR09A	2		•					M
Design preparation by the Designert Edward Is also delawnro 19Javin 1	Temp. Platfon	m Design for H-Piling								Ī						
Design submission for the DC's approval         1         1 sJaN10         2 s30         9 </td <td>02L1AA0302</td> <td>Design preparation by the Designer</td> <td>15</td> <td></td> <td>04JAN10*</td> <td>18JAN10 0</td> <td></td> <td>18JAN10</td> <td>2</td> <td>330</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	02L1AA0302	Design preparation by the Designer	15		04JAN10*	18JAN10 0		18JAN10	2	330						
Design submission for the SOs approval 1 1 19JAN10 19FEB10 20JAN10 19FEB10 2 330  Design submission for the SOs approval 1 1 19JAN10 19JAN10 19JAN10 19JAN10 19JAN10 19JAN10 19JAN10 19JAN10 1 2 290  Obtain design approval from the SO approval 2 2 20JAN10 20JAN10 19JAN10	02L1AA0303	Design submission for the DC's approval	-	٠	19JAN10			19JAN10	-	269						
Design review by the SO         42         2 augusto         1 suanto         2 suanto         3 suanto </td <td>02L1AA0304</td> <td>Design certification by the Design Checker</td> <td>28</td> <td>28</td> <td>20JAN10</td> <td>16FEB10 2</td> <td></td> <td>16FEB10</td> <td>2</td> <td>330</td> <td></td> <td>13</td> <td></td> <td></td> <td></td> <td></td>	02L1AA0304	Design certification by the Design Checker	28	28	20JAN10	16FEB10 2		16FEB10	2	330		13				
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Box Culver Design for Portion A sign of color of co	02L1AA0308	Design review by the SO	42	42	20JAN10	02MAR10 2		02MAR10	2	330		11				
Box Culver Design for Portion A         Box Culver Design for Portion A         2         20 0 2 JUN08A         28FEB09A         2 FEBB09A         2         2         3         3 0 0 2 JUN08A         28FEB09A         2 FEBB09A         2         3         3         3 1 2 JUL08A         2 CAMARO9A         1         1 (2) CE ort on 17/09/092/nd (CE ort on 17/09/nd (CE	02L1AA0310	Obtain design approval from the SO	0	0		02MAR10		02MAR10	2	330			۵			
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Design (AIP) submission for the DC's approval 2 2 12JUL08A 19MAR09A 12JUL08A 18MAR09A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	02L1AA0402	Design preparation for the AIP submission	30		D2JUN08A	28FEB09A 0		28FEB09A	2							
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Design (AIP) submission for the SO's approval         2         15JUL08A         15JUL08B	02L1AA0404	Design (AIP) certification by the Design Checker	243	243	14JUL08A	18MAR09A 1		18MAR09A	2		Ī	at ICE on	17/09/092nd	ICE cert or	02/12/08	8
Design (AIP) review by the SO         66         66         16JUL08A         20MAR09A         16JUL08A         20MAR09A         2           AIP submission for rel. authorities' approval         1         1 4JUL08A         19AUG08A         15JUL08A         12NOV08A         2           Design (AIP) review by the rel. authorities' approval for AIP         0         28         28         15JUL08A         12NOV08A         12NOV08A         1           Obtain rel. authorities's approval for the DDA submission for the DDA submission for the DC's approval         1         1         13JUN09         13JUN09         13JUN09         1           Design (DDA) submission for the DC's approval         1         1         13JUN09         11JUL09         13JUN09         13JUN09         1           Design (DDA) review by the SO         66         66         61         14JUN09         13JUN09         13JUN09         13JUN09         13JUN09         1           DDA submission for the SO segin (DDA) review by the rel. authorities' approval         66         66         61         14JUN09         14JUN09         13JUN09         13JU	02L1AA0406	Design (AIP) submission for the SO's approval	2	2	15JUL08A	19MAR09A 1		19MAR09A	-		I			,		
AIP submission for rel. authorities' approval         1         1 4JUL08A         19AUG08A         14JUL08A         19AUG08A         14JUL08A         19AUG08A         1         1         14JUL08A         15JUL08A         15JUL08A         12NOV08A         1	02L1AA0408	Design (AIP) review by the SO	99		16JUL08A	20MAR09A 1		20MAR09A	2							
Design (AIP) review by the rel. authorities         28         28         15JUL08A         12NOV08A         15JUL08A         12NOV08A         12NOV08A         12NOV08A         22NOV08A         12NOV08A         12NOV08A         12NOV08A         1	02L1AA0410	AIP submission for rel. authorities' approval	•	+	14JUL08A	19AUG08A 1		19AUG08A			D					
Obtain rel. authorities's approval for AIP         1         03NOV08A         12NOV08A         12NOV08A         12NOV08A         1           Obtain SO's consent for design (AIP)         0         0         20MAR09A         20MAR09A         2           Design preparation for the DDA submission         30         21MAR09A         12JUN09         13JUN09         13JUN09         13JUN09         13JUN09         1           Design (DDA) submission for the DC's approval         1         1         13JUN09         13JUN09         13JUN09         13JUN09         1           Design (DDA) submission for the DC's approval         1         1         13JUN09         13JUN09         13JUN09         1           Design (DDA) review by the SO         66         66         14JUN09         14JUN09         18JUL09         2           Design (DDA) review by the rel. authorities         28         22         13JUN09         13JUN09         18JUL09         2           Design (DDA) review by the rel. authorities         28         22         20JUN09         20JUN09         2         2           Obtain rel. authorities's approval for DDA         1         1         20JUL09         20JUL09         20JUL09         19AUG09         2           Obtain SO's consent for design (DDA)	02L1AA0412	Design (AIP) review by the rel. authorities	28		15JUL08A	12NOV08A 1		12NOV08A	2							
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Design preparation for the DDA submission         30         21MAR09A         12JUN09         2 L2JUN09         2           Design (DDA) submission for the DC's approval         1         1 13JUN09         13JUN09         13JUN09         13JUN09         1 1JUL08         1 1JUL09         2           Design (DDA) submission for the SO's approval         1         1         1 3JUN09         13JUN09         13JUN09         1 1JUL09         2           Design (DDA) submission for the SO's approval         66         66         14JUN09         13JUN09         13JUN09         1 1JUL09         2           DDA submission for rel. authorities' approval         1         1         20JUN09         20JUN09         2         1 1JUL09         2           Design (DDA) review by the rel. authorities         28         22         23JUN09         18JUL09         1 1JUL09         2         20JUN09         1           Obtain rel. authorities's approval for DDA         1         1         20JUL09         20JUL09         20JUL09         2         20JUL09         19AUG09         2	02L1AA0420	Obtain SO's consent for design (AIP)	0	0		20MAR09A		20MAR09A	2		•					3
Design (DDA) submission for the DC's approval         1         13JUN09	02L1AA0422	Design preparation for the DDA submission	30			12JUN09 2		12JUN09	~	124		10				
Design (DDA) certification by the Design Checker         28         14JUN09         11JUL09         14JUN09         11JUL09         2           Design (DDA) submission for the SO's approval         1         1         13JUN09         13JUN09         13JUN09         13JUN09         13JUN09         1           Design (DDA) review by the SO         66         66         14JUN09         14JUN09         18JUN09         18JUN09         1           Design (DDA) review by the rel. authorities' approval         1         1         20JUN09         20JUN09         18JUN09         18JUN09         1           Obtain rel. authorities's approval for DDA         1         1         20JUL09         20JUL09         20JUL09         20JUL09         1           Obtain SO's consent for design (DDA)         0         0         19AUG09         19AUG09         2	02L1AA0423	Design (DDA) submission for the DC's approval	-	٠	13JUN09	13JUN09 1		13JUN09	٠	105						
Design (DDA) submission for the SO's approval         1         13JUN09	02L1AA0424	Design (DDA) certification by the Design Checker	28	28	14JUN09		4JUN09	11JUL09	2	126		***				
Design (DDA) review by the SO         66         66         14JUN09         18AUG09         12JUN09         14JUN09         14JUN09         14JUN09         14JUN09         20JUN09         20JUN09         20JUN09         20JUN09         20JUN09         14JUN09         14JUN09 <td>02L1AA0426</td> <td>Design (DDA) submission for the SO's approval</td> <td>-</td> <td>+</td> <td>13JUN09</td> <td>13JUN09 1</td> <td>3JUN09</td> <td>13JUN09</td> <td>-</td> <td>103</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td>	02L1AA0426	Design (DDA) submission for the SO's approval	-	+	13JUN09	13JUN09 1	3JUN09	13JUN09	-	103						-
DDA submission for rel. authorities' approval         1         20JUN09         20JUN09         20JUN09         20JUN09         1           Design (DDA) review by the rel. authorities authorities's approval for DDA         1         1         22JUN09         18JUL09         2JUN09         18JUL09         2DUL09         2DUL09         2DUL09         2DUL09         1           Obtain rel. authorities's approval for DDA         0         0         19AUG09         19AUG09         1         19AUG09         2	02L1AA0428	Design (DDA) review by the SO	99	99	14JUN09	18AUG09 1	4JUN09	18AUG09	2	124		4				
Design (DDA) review by the rel. authorities         28         28         21JUN09         18JUL09         21JUN09         18JUL09         2           Obtain rel. authorities's approval for DDA         1         1         20JUL09         20JUL09         20JUL09         1           Obtain SO's consent for design (DDA)         0         0         19AUG09         19AUG09         2	02L1AA0430	DDA submission for rel. authorities' approval	-	+	20JUN09		BONDCO	20JUN09	-	128						
Obtain rel. authorities's approval for DDA         1         1         20JUL09         20JUL09         20JUL09         19AUG09         1           Obtain SO's consent for design (DDA)         0         0         19AUG09         2         19AUG09         2	02L1AA0432	Design (DDA) review by the rel, authorities	28	28	21JUN09	1	60NUC1	18JUL09	2	155		131				- 3
Obtain SO's consent for design (DDA) 0 0 19AUG09 2	02L1AA0434	Obtain rel. authorities's approval for DDA		*	2010109	-	6070CO	20JUL09	-	129			_			
	02L1AA0440	Obtain SO's consent for design (DDA)	0	0		19AUG09		19AUG09	2	124		•				#

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of leafurdants	Contracting Instrumentation Sta 2 for Deen Eve	a inn	Dur State	ı	Mark	nemia.						
3DL1AAG202	Design preparation by the Designer	14	14 01DEC	DECOBA 24FEB09A 01DEC08A		24FEB09A	2	0				
3DL1AAG204	Design certification by the Design Checker	7	7 15DEC08A			25FEB09A	2	U				
3DL1AAG206	Design submission for the SO's approval	***	1 07JAN09A	109A 25FEB09A 07JAN09A		25FEB09A	-	0				
3DL1AAG208	Design review by the SO	28	28 08JAN09A	109A 24MAR09A 08JAN09A		24MAR09A	2	11				
3DL1AAG210	Obtain design approval from the SO	0	0	24MAR09A	2	24MAR09A	2	•				
3DL1AAG212	Install Geotechnical Instruments	28	28 09FEB09A	04JUN09	09FEB09A 0	04JUN09	1 0	1				
3DL1AAG214	Baseline Monitoring	9	6 18FEB09A	309A 25MAR09A 18FEB09A	1.7	25MAR09A	2	11				
3DL1AAG216	Monitor/report Geotechnical Instrumentation	1,643   1,643	643 02JUN08A	108A 04FEB13 02JUN08A		04FEB13	2 0				I	
Design Pack	Design Packages for Works in Portion B											
Piling Platform	Piling Platform to Construct H-pile Wall											
02L1BB0202	Design preparation by the Designer	15	15 24MAF	24MAR08A 09MAY08A 24MAR08A 09MAY08A	24MAR08A 0	9MAY08A	2	n				
02L1BB0204	Design certification by the Design Checker	14	14 10MAY08A	708A 08AUG08A 10MAY08A		OSAUGOSA	2	1				
02L1BB0206	Design submission for the SO's approval	-	1 21MAY08A	YOSA OSAUGOSA 21MAYOSA		08AUG08A	-	1				
02L1BB0208	Design review by the SO	21	21 22MAY08A	708A 25SEP08A 22MAY08A	1	25SEP08A	2					
02L1BB0210	Obtain design approval from the SO	0	О	25SEP08A	2	25SEP08A	2	•				
Temp. Platform	Temp. Platform to Construct Drop Shafts											
02L1BB0302	Design preparation by the Designer	22	22 04AUC	IAUG08A 11DEC08A 04AUG08A		11DEC08A	2					
02L1BB0303	Design submission for the DC's approval	2	2 11DEC08A	308A 12FEB09A 11DEC08A		12FEB09A	-	n				
02L1BB0304	Design certification by the Design Checker	14	14 12DEC08A	208A 25FEB09A 12DEC08A	-	25FEB09A	2	II.				
02L1BB0306	Design submission for the SO's approval	2	2 12DEC08A	308A 25FEB09A 12DEC08A		25FEB09A	,	11				
02L1BB0308	Design review by the SO	21	21 13DEC08A	308A 11MAR09A 13DEC08A		11MAR09A	2	11				
02L1BB0310	Obtain design approval from the SO	0	0	11MAR09A		11MAR09A	2	•				
Temporary Dra	Temporary Drainage Management Plan								1			
02L1BB0402	TDMP preparation by the Designer	313	313 05MA	313 05MAY08A 21MAR09A 05MAY08A		21MAR09A	2					
02L1BB0403	TDMP submission for the DC's approval	2	2 05AUG08A	308A 23MAR09A 05AUG08A		23MAR09A	-					
02L1BB0404	TDMP certification by the Design Checker	213	213 06AUG08A	308A 13APR09A 06AUG08A		13APR09A	7					
02L1BB0406	TDMP submission for the SO's approval	2	2 24SEP08A	24SEP08A 24SEP08A		14APR09A	1	1				
02L1BB0408	TDMP review by the SO	06	90 25SEP08A	93JUN09	25SEP08A 0	60NULE0	2 -210	1				
02L1BB0410	TDMP submission for DSD's approval	-	1 23SEP08A	P08A 23SEP08A 23SEP08A		23SEP08A	•					
02L1BB0412	TDMP review by the DSD	90	90 24SEP08A	24SEP08A		04JUN09	2 -211					
02L1BB0414	Obtain DSD's approval for DDA		1 05JUN09	60NUL20 60NUL20 60N		60NUL20	1 -168					
02L1BB0416	Obtain SO's consent for TDMP	0	0	60NUL20	0	60NDC90	2 -211	•				
Temp. Support	Temp. Support Design for MAA/MAS/VDS/DC											
02L1BB0502	Design preparation for the AIP submission	272	272 02JUN	02JUN08A 19MAR09A 02JUN08A		19MAR09A	2					
02L1BB0503	Design (AIP) submission for the DC's approval	2	2 11JUI	1JUL08A ZOMAR09A 11JUL08A		20MAR09A						
02L1BB0504	Design (AIP) certification by the Design Checker	09	60 12JUL08A	.08A 04APR09A 12JUL08A		04APR09A	2					
02L1BB0506	Design (AIP) submission for the SO's approval	2	2 24JUL08A	08A 06APR09A 24JUL08A		06APR09A	-					
02L1BB0508	Design (AIP) review by the SO	99	66 25JUL08A	.08A 11MAY09A 25JUL08A		11MAY09A	2					
02L1BB0510	AIP submission for rel, authorities' approval	•	1 12JUI	2JUL08A 12JUL08A 12JUL08A		12JUL08A	<del>,</del>					
02L1BB0512	Design (AIP) review by the rel. authorities	28	28 14JUI	4JUL08A 10NOV08A 14JUL08A		10NOV08A	2	U				
02L1BB0514	Obtain rel. authorities's approval for AIP		1 11NOV08A	V08A 11NOV08A 11NOV08A		11NOV08A	-					
02L1BB0516	SO submit design (AIP) for approval of GEO		1 29MAY09	Y09 29MAY09 29MAY09		29MAY09	1 0				21	Í
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Flinish	26JUN09	11MAY09A	26JUN09	27JUN09	25JUL09	27JUN09	01SEP09	04JUL09	01AUG09	03AUG09	03AUG09	31AUG09	02SEP09		90NULZ0	29MAY09	14JUN09	BONNED	08AUG09	BONNED	01JUL09	02JUL09	22JUN09	2020109	09AUG09	16AUG09	17AUG09	14SEP09	17AUG09	220CT09	24AUG09	21SEP09	22SEP09	22SEP09	200CT09	23OCT09		02JUN09	BONNES	19JUN09	93JUN09	19JUN09	03JUL08A
Start	MAYOS		28MAY09	27JUN09	28JUN09	60NNr	28JUN09	04JUL09	JULOS	03AUG09	AUG09	AUG09			JUNOSA	18MAY09A	19MAY09A	60NULE0	60NUL	03JUN09	04JUN09	02JUL09	22JUN09	23JUN09		18JUL09	17AUG09	18AUG09	17AUG09	18AUG09	24AUG09	25AUG09	22SEP09	22SEP09	23SEP09			JUNOSA	23JUL08A	24JUL08A	04JUL08A	05JUL08A	JULOSA
Florish	26JUN09 30MAY09	11MAY09A	26JUN09 28	27JUN09 27.	25JUL09 28	27JUN09 27JUN09	01SEP09 28	04JUL09 04	01AUG09 05JUL09	03AUG09 03	03AUG09 03AUG09	31AUG09 04AUG09	02SEP09		OZJUNO9 09JUNO8A	29MAY09 18	-	BONNES 03	08AUG09 04JUN09	037UN09 03		02JUL09 02	22JUN09 22	20JUL09 23	09AUG09	16AUG09 18	17AUG09 17	14SEP09 18		22OCT09 18	24AUG09 24			22SEP09 22	200CT09 23	23OCT09		02JUN09 02JUN08A	03JUN09 23	19JUN09 24	03JUN09 04	19JUN09 05	03JUL08A 03JUL08A
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Start	30MAY09		28MAY09	27JUN09	28JUN09	27JUN09	28JUN09	04JUL09	05JUL09	03AUG09	03AUG09	04AUG09			09JUN08A	18MAY09A	19MAY09A	93JUN09	04JUN09	93JUN09	04JUN09	02JUL09	22JUN09	23JUN09		18JUL09	17AUG09	18AUG09	17AUG09	18AUG09	24AUG09	25AUG09	22SEP09	22SEP09	23SEP09			02JUN08A	23JUL08A	24JUL08A	04JUL08A	05JUL08A	03JUL08A
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Description	Design (AIP) review/approval by the GEO	Obtain SO's consent for design (AIP)	Design preparation for the DDA submission	Design (DDA) submission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)	Temp. Support Design for MA and MA/MT Connection	Design preparation for the AIP submission	Design (AIP) submission for the DC's approval	Design (AIP) certification by the Design Checker	Design (AIP) submission for the SO's approval	Design (AIP) review by the SO	AIP submission for rel. authorities' approval	Design (AIP) review by the rel. authorities	Obtain rel. authorities's approval for AIP	SO submit design (AIP) for approval of GEO	Design (AIP) review/approval by the GEO	Obtain SO's consent for design (AIP)	Design preparation for the DDA submission	Design (DDA) submission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel, authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)	Permanent Decign for MAA/MAS/VDS/DC	Design preparation for the AIP submission	Design submission for the DC's approval	Design (AIP) certification by the Design Checker	Design (AIP) submission for the SO's approval	Design (AIP) review by the SO	AIP submission for rel. authorities' approval
9	02L1BB0518	02L1BB0520	02L1BB0522	02L1BB0523	02L1BB0524	02L1BB0526	02L1BB0528	02L1BB0530	02L1BB0532	02L1BB0534	02L1BB0536	02L1BB0538	02L1BB0540	Temp. Suppor	02L1BB0602	02L1BB0603	02L1BB0604	02L1BB0606	02L 1BB0608	02L1BB0610	02L1BB0612	02L1BB0614	02L1BB0616	02L1BB0618	02L1BB0620	02L1BB0622	02L1BB0623	02L1BB0624	02L1BB0626	02L1BB0628	02L1BB0630	02L1BB0632	02L1BB0634	02L1BB0636	02L1BB0638	02L1BB0640	Permanent De	02L1BB0702	02L1BB0703	02L1BB0704	02L1BB0706	02L1BB0708	02L1BB0710

02  1BB0712	Description	מוני	DITE	Man	Pinish - Marr	Finish		Float			
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02E 1000/ 12	Design (AIP) review by the rel. authorities	28	28	04JUL08A			7	2			
02L1BB0714	Obtain rel. authorities's approval for AIP	_	-	60N0C60	60NULGO 60NULGO	60NDC60		o			
02L1BB0716	SO submit design (AIP) for approval of GEO	-	-	27JUN09	27JUN09 27JUN09	27JUN09		0			
02L1BB0718	Design (AIP) review/approval by the GEO	28	28	28JUN09	25JUL09 28JUN09	25JUL09	2	0	28		
02L1BB0720	Obtain SO's consent for design (AIP)	0	0		20JUN09	20JUN09	2	-	•		
02L1BB0722	Design preparation for the DDA submission	30	30	17NOV08A	27JUN09 17NOV08A	4 27JUN09	2	-	1		
02L1BB0723	Design submission for the DC's approval	-	-	29JUN09	29JUN09 29JUN09	29JUN09	-	0			
02L1BB0724	Design (DDA) certification by the Design Checker	28	28	30JUN09	27JUL09 30JUN09	27JUL09	63	0	286		
02L1BB0726	Design (DDA) submission for the SO's approval	·	-	29JUN09	29JUN09 29JUN09	29JUN09	+	569			
02L1BB0728	Design (DDA) review by the SO	99	99	307NN09	03SEP09 30JUN09	03SEP09	2	332	11		
02L1BB0730	DDA submission for rel. authorities' approval	-	-	29JUN09	29JUN09 29JUN09	29JUN09	-	299			
02L1BB0732	Design (DDA) review by the rel. authorities	28	28	07JUL09	03AUG09 07JUL09	03AUG09	2	363	п		
02L1BB0734	Obtain rel. authorities's approval for DDA	-	-	04AUG09	04AUG09 04AUG09	04AUG09	-	294			
02L1BB0736	SO submit design (DDA) for approval of GEO	-	-	04AUG09	04AUG09   04AUG09	04AUG09	-	0			
02L1BB0738	Design (DDA) review/approval by the GEO	28	28	05AUG09	01SEP09 05AUG09	01SEP09	2	0			
02L1BB0740	Obtain SO's consent for design (DDA)	0	0		04SEP09	04SEP09	2	332	•		
Permanent Des	Permanent Design for MA and MA/MT Connection									5	
02L1BB0802	Design preparation for AIP submission	06	06	A80NUL60	47JUN09 09JUN08A	17JUN09	2	120			
02L1BB0803	Design (AIP) submission for the DC's approval	2	2	30JUN08A	18JUN09 30JUN08A	4 18JUN09	-	100			
02L1BB0804	Design (AIP) certification by the Design Checker	28	28	24JUL08A	06JUL09 24JUL08A	06JUL09	2	120			
02L1BB0806	Design (AIP) submission for the SO's approval	2	2	25JUL08A	07JUL09 25JUL08A	0770L09	1	102			
02L1BB0808	Design (AIP) review by the SO	99	99	26JUL08A	11AUG09 26JUL08A	11AUG09	2	120			
02L1BB0810	AIP submission for rel. authorities' approval	-	+	25JUL08A	07AUG08A 25JUL08A	07AUG08A	+		•		
02L1BB0812	Design (AIP) review by the rel. authorities	28	28	26JUL08A	13JUL09 26JUL08A	1330109	2	148	I		
02L1BB0814	Obtain rel. authorities's approval for AIP		•	14JUL09	14JUL09 14JUL09	14JUL09	+	124	_		
02L1BB0816	SO submit design (AIP) for approval of GEO	-	•	14JUL09	14JUL09 14JUL09	14JUL09		100			
02L1BB0818	Design (AIP) review/approval by the GEO	28	28	15JUL09	11AUG09 15JUL09	11AUG09	,	120	£[.]		
02L1BB0820	Obtain SO's consent for design (AIP)	0	0		12AUG09	12AUG09	2	120	•		
02L1BB0822	Design preparation for the DDA submission	30	30	21JUL09	19AUG09 21JUL09	19AUG09	2	120			
02L1BB0823	Design (DDA) submission for the DC's approval	*-	*	20AUG09	20AUG09 20AUG09	20AUG09		101			
02L1BB0824	Design (DDA) certification by the Design Checker	28	28	21AUG09	17SEP09 21AUG09	17SEP09	. 2	122	n		
02L1BB0826	Design (DDA) submission for the SO's approval	*	-	20AUG09	20AUG09 20AUG09	20AUG09		100			
02L1BB0828	Design (DDA) review by the SO	99	99	21AUG09	250CT09 21AUG09		2	120			
02L1BB0830	DDA submission for rel. authorities' approval	٠	٠	20AUG09	20AUG09 20AUG09	20AUG09		129			
02L1BB0832	Design (DDA) review by the rel. authorities	28	28	28AUG09	24SEP09 28AUG09	24SEP09	5	151	D		
02L1BB0834	Obtain rel. authorities's approval for DDA	-	,	25SEP09	25SEP09 25SEP09	25SEP09	+	120			
02L1BB0836	SO submit design (DDA) for approval of GEO		-	25SEP09	25SEP09 25SEP09	25SEP09		98			
02L1BB0838	Design (DDA) review/approval by the GEO	28	28	26SEP09	23OCT09 26SEP09	23OCT09	2	122	0		
02L1BB0840	Obtain SO's consent for design (DDA)	0	0		26OCT09	26OCT09	2	120	•		
ELS for Perm.	ELS for Perm. Approach Channel Construction										
02L1BB0902	Design preparation by the Designer	4	14	01AUG09*	14AUG09 01AUG09*	14AUG09	2	86			
02L1BB0903	Design submission for the DC's approval	-	-	15AUG09	15AUG09 15AUG09	15AUG09		20			
02L1BB0904	Design certification by the Design Checker	28	28	16AUG09	12SEP09   16AUG09	12SEP09	2	98	13		

Norte For C	Design submission for the SO's approval Design review by the SO Obtain design approval from the SO  Operation (Air Vent Shaft) Prepare design/method statement Submit design/method statement to Design Checker Certify design/m.s. by Design Checker Submit design/m.s. to SO	- 27 0	1 15AUG09	Н				
Works Works	Shaft) Statement statement to Design Checker Design Checker	24 0		15AUG09 15AUG09	15AUG09	1 70		
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lesign for C	Submit design/method statement to Design Checker	-	1 17DEC08A	A 17DEC08A 17DEC08A	A 17DEC08A			
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oesign for C	proval from the SO	0	0	23MAR09A	23MAR09A		•	
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forC	Design Checker	21	21 13DEC08A			2	II	
for C	SO	-	1 17DEC08A	A 24MAR09A 17DEC08A	A 24MAR09A		11	
for C	os	42	42 18DEC08A		A 31MAY09	2 150		
for	uthorities	+	1 25MAR09A	A 25MAR09A 25MAR09A	A 25MAR09A	-		
for C	from rel. authorities	28	28 01MAR09A		-			
for C	proval from the SO	0	0	30MAY09	30MAY09	1 125	•	
	x Shaft							
	the Designer	25	25 23FEB09A	A 02JUN09 23FEB09A	4 OZJUNO9	2 -205		
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02L1BB1910 Design review by the SO	01	42	42 11JUN09		15JUL09	2 -205		
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3DL1BBG102 Design preparation by the Designer	the Designer	4	14 22FEB08A	A 05MAY08A 22FEB08A	A 05MAY08A	2	<del>U</del>	
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02L1CC0318 Design (AIP) rev	Design (AIP) review/approval by the GEO	28	28 30MAY09	709 26JUN09	99 30MAY09	26JUN09	2	0					
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Activity Description	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)	Temp. Support Design for MA and MA/MT Connection	Design preparation for the AIP submission	Design (AIP) submission for the DC's approval	Design (AIP) certification by the Design Checker	Design (AIP) submission for the SO's approval	Design (AIP) review by the SO	AIP submission for rel, authorities' approval	Design (AIP) review by the rel. authorities	Obtain rel. authorities's approval for AIP	SO submit design (AIP) for approval of GEO	Design (AIP) review/approval by the GEO	Obtain SO's consent for design (AIP)	Design preparation for the DDA submission	Design submission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)	Permanent Design for MAA/MAS/VDS/DC/AVS	Design preparation for the AIP submission	Design submission for the DC's approval	Design (AIP) certification by the Design Checker	Design (AIP) submission for the SO's approval	Design (AIP) review by the SO	AIP submission for rel. authorities' approval	Design (AIP) review by the rel. authorities	מוני / יייי לא יייי לא יייי לא ייייי אייייי איייייייי	Obtain rel. authorities's approval for AIP	Obtain rel. authorities's approval for AIP SO submit design (AIP) for approval of GEO
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Design (DDA) review by the SQ SQ SQ SQ SQ SQ SQ SQ SQ SQ SQ SQ SQ	02L1CC0526	Design (DDA) submission for the SO's approval	-		25JUN09		25JUN09		52					
Dost submission for ret authorities' approval of CED 2 ocu ULOS 02.01.010 03.01.0109 1 1777 1 10.010.01 ocu unit cauthorities' approval of CED 2 03.01.010 03.01.0109 1 1.010 05.010 05.01.0109 1 1.010 05.01.0109 1 1.010 05.01.0109 1 1.010 05.010 05.01.0109 1 1.010 05.010 05.01.0109 1 1.010 05	02L1CC0528	Design (DDA) review by the SO	99		30AUG09		30AUG09		83	11				
Design (DDA) review by the ret authorities   28 GAULLOS   31JULOS   31JULO	02L1CC0530	DDA submission for rel. authorities' approval	~		02JUL09		02JUL09		77	-				
South triangle approved for DDA	02L1CC0532	Design (DDA) review by the rel. authorities	28		3070109		30JUL09	-	4	**				
So submit design (DA) for approval of GECO	02L1CC0534	Obtain rel. authorities's approval for DDA	٠	3	31JUL09		31JUL09		74					
Design CDA) review/approval by the GEO   22 C S-01AUG06   2AAUG06   2AAUG06   2 C S-05 C S-	02L1CC0536	SO submit design (DDA) for approval of GEO	-	m	31JUL09		31JUL09	-	0					
Obtain Robe consent for design (DDA)         0         9 Alu Good         31AUG08         2 133         4           Design for INA and MIAMIT Connection         84         84         01UUL08A         77ULN0BA         77ULN0BA         2 12         75ULN0BA         77ULN0BA         7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	02L1CC0538	Design (DDA) review/approval by the GEO	28	ò	28AUG09		28AUG09	2	0	186				
Design for MA and MAMT Connection  Design for MA and MAMT Connection  Design (AP) extraction that the DCs approval  Design (AP) certification by the Design Checker  Design (AP) certification by the Cost approval  Design (AP) certification by the Cost approval  Design (AP) certification by the Cost approval  Design (AP) review by the SO  AP submission for the DCs approval  Design (AP) review by the SO  AP submission for the DCs approval  Design (AP) review by the SO  Design (DDA) submission for the DCs approval of GEO  Design (DDA) submission for the DCs approval  Design (DDA) review by the Cetter of SO supproval  Design (DDA) review by the Cetter of SO submission  Design (DDA) review by the Cetter of SO submission for the SO submission for	02L1CC0540	Obtain SO's consent for design (DDA)	0	0	31AUG09	.,,	31AUG09		83	•				3
Design preparation for the AIP submission         64         64         01JULO6A         17JUND6         17JUND6         2           Design (AIP) cartication for the AIP submission for the DCs approval         2         2 25JULO6A         15JULO6A         15JULO6A         17JUND9         1         0           Design (AIP) cartication by the DCsgn Cheeker         2         2 25JULO6A         65JULO6A         65JULO6A         07JULO9         1         0           Design (AIP) enview by the SO         0         66         65 24JULO6A         05JULO6A         05JULO6A         12JULO9         1         0           AIP submission for rela authorities*         0         1         1 24JULO9         13JULO9         14JULO9         14JULO	Permanent De	sign for MA and MA/MT Connection												10
Design (AIP) submission for the DC's approval         2         2.5.ULIORA         18.UNNO         55.ULIORA         18.UNNO         55.ULIORA         18.UNNO         55.ULIORA         18.UNNO         1         0           Design (AIP) submission for the SO's approval         2         2         2.2.ULIORA         7.0.ULIORA         7.0.U	02L1CC0602	Design preparation for the AIP submission	28			1	17JUN09	2	0	1				
Design (AIP) certification by the Design Checker   28 22 23-UL08A   05-UL08A   07-UL08A   07-UL08	02L1CC0603	Design (AIP) submission for the DC's approval	2		18JUN09		18JUN09	-	0					
Design (AIP) submission for the SO's approval         2         2 sbull L08A         07JUL08A         07JUL0BA         07JUL0BA <td>02L1CC0604</td> <td>Design (AIP) certification by the Design Checker</td> <td>28</td> <td></td> <td>607NF90</td> <td></td> <td>96JUL09</td> <td>2</td> <td>0</td> <td>l</td> <td></td> <td></td> <td></td> <td></td>	02L1CC0604	Design (AIP) certification by the Design Checker	28		607NF90		96JUL09	2	0	l				
AP submission for ret, authorities's approval or the Design (AIP) review by the SO  AP submission for ret, authorities' approval or AIP (AIP)  So submit design (AIP) review by the ret authorities approval or AIP (AIP)  So submission for ret, authorities's approval or AIP (AIP)  So submission for ret, authorities's approval or AIP (AIP)  Design (DDA) submission for the DDA submission for the DDA submission for the DDA submission for the CE approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the SO approval or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  Design (DDA) review by the Relation or AIP (AIP)  TOMP Perpancisubnit belief or AIP (AIP)  TOMP Perpancisubnit by the Design Orecker (AIP)  TOMP Perpancisubnit by the DESIGn Orecker (AIP)  TOMP	02L1CC0606	Design (AIP) submission for the SO's approval	2	1	07JUL09		07JUL09	·	0	-				
Alp submission for rel, authorities' approval or Albandesian (Albandesian for Albandesian for Albandesian (Albandesian for Albandesian for Albandesian (Albandesian for Albandesian (Albandesian for Albandesian (Albandesian for Albandesian Albandesian (Albandesian Albandesian Albandesian Albandesian (Albandesian Albandesian Albandesian Albandesian Albandesian Albandesian (Albandesian Albandesian	02L1CC0608	Design (AIP) review by the SO	99		08AUG09		08AUG09	2	0	1				
Design (AIP) review by the rel, authorities 2 28 26JUL08A 13JUL08 25JUL08A 13JUL09 2 24  Obtain rel, authorities's approval for AIP 1 14JUL08 14JUL09 14JUL09 1 14JUL0	02L1CC0610	AIP submission for rel. authorities' approval	٠		100		DBAUGDBA	+						
Solution   Continuent   Conti	02L1CC0612	Design (AIP) review by the rel. authorities	28	100	13JUL09		13JUL09	2	24					
SO submit design (AIP) for approval of GEO 1 1 14JUL09 14JUL09 14JUL09 1 14JUL09 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	02L1CC0614	Obtain rel. authorities's approval for AIP	-		14JUL09		14JUL09	-	21					
Design (AIP) review/approval by the GEO   28   15JUL09   11AUG09   15JUL09   11AUG09   2   0   0   0   0   0   0   0   0   0	02L1CC0616	SO submit design (AIP) for approval of GEO			14JUL09		14JUL09	1	0					
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Design preparation for the DDA submission for the DDA submission for the DDA submission for the DCS approval   1 17AUG99   1	02L1CC0620	Obtain SO's consent for design (AIP)	0	0	09AUG09		99AUG09	2	0	•	74			
Design (DDA) submission for the DC's approval   1   17AUG09   17AUG09   17AUG09   17AUG09   1   0	02L1CC0622	Design preparation for the DDA submission	30				16AUG09	N	0	illo)				
Design (DDA) certification by the Design Checker   28	02L1CC0623	Design (DDA) submission for the DC's approval		1			17AUG09	,-	0					
Design (DDA) submission for the SO's approval   1 17AUG09   17AUG09   17AUG09   17AUG09   17AUG09   17AUG09   17AUG09   17AUG09   22OCT09   2 515	02L1CC0624	Design (DDA) certification by the Design Checker	28		14SEP09		14SEP09	2	0					
Design (DDA) review by the SO	02L1CC0626	Design (DDA) submission for the SO's approval	,-				17AUG09		19					
DDA submission for rel. authorities' approval DDA review by the rel. authorities approval of GEO	02L1CC0628	Design (DDA) review by the SO	99		220CT09		22OCT09		15	_				
Design (DDA) review by the rel. authorities   28	02L1CC0630	DDA submission for rel. authorities' approval	-		24AUG09		24AUG09		142					
Soubmit design (DDA) review/approval of GEO         1         1         22SEP09         22SEP09         22SEP09         1         442           SO submit design (DDA) review/approval of GEO         1         1         22SEP09         22SEP09         22SEP09         1         0           Design (DDA) review/approval by the GEO         28         28         23SEP09         20OCT09         23SEP09         2         0           Obtain SO's consent for design (DDA)         0         0         23OCT09         23SEP09         2         515           Boulder Surevey         2000000         30         02JUN08A         15AUG08A         15AUG08A         1         1           SO review boulder survey report         25         25         14JUL08A         05SEP08A         1         1           SO review boulder survey report         14         14         06SEP08A         19SEP08A         19SEP08A         2         5           TDMP preparation by the Designer         14         14         06SEP08A         04SEP08A         03SEP08A         1         1           TDMP submission for the DC's approval         1         1         06SEP08A         10DEC08A         03SEP08A         1         1           TDMP certification by the Design Checke	02L1CC0632	Design (DDA) review by the rel. authorities	28		21SEP09		21SEP09		146					
SO submit design (DDA) for approval of GEO 1 1 1 22SEP09 22SEP09 22SEP09 1 0 0  Design (DDA) reviewApproval by the GEO 28 28 23SEP09 20OCT09 23SEP09 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	02L1CC0634	Obtain rel. authorities's approval for DDA		1 22SEP	22SEP09		22SEP09		142					
Sessment & Design (DDA) review/approval by the GEO         28         28         23SEP09         20OCT09         23SEP09         20OCT09         2         0           Sessment & Design for Stabili. Measure         30         30         23OCT09         23OCT09         2         515           Boulder Surevey         30         30         02JUN08A         15AUG08A         1         1           Prepare/submit boulder surevey report         25         25         14JUL08A         05SEP08A         1         1           Drainage Management Plan         30         30         02JUN08A         15SEP08A         1         2           TDMP preparation by the Designer         14         14         06SEP08A         19SEP08A         2         2           TDMP submission for the DC's approval         1         1         04AUG08A         03SEP08A         2         2           TDMP certification by the Design Checker         2         2         09SEP08A         10EC08A         2         2	02L1CC0636	SO submit design (DDA) for approval of GEO	-		22SEP09		22SEP09		0					
Sessment & Design for Stabili. Measure         30         02JUN08A         15AUG08A         1         23OCT09         2 515         215           Boulder Surevey         Boulder Surevey report         25         25         14JUL08A         15AUG08A         1         =         =           Prepare/submit boulder Surevey report         25         25         14JUL08A         05SEP08A         14JUL08A         05SEP08A         1         =           SO review boulder survey report         14         14         06SEP08A         19SEP08A         19SEP08A         2         1           TDMP preparation by the Designer         14         14         04AUG08A         03SEP08A         04AUG08A         2         2           TDMP submission for the DC's approval         1         1         08SEP08A         04SEP08A         1         =           TDMP certification by the Design Checker         28         28         09SEP08A         10DEC08A         1         =         =	02L1CC0638	Design (DDA) review/approval by the GEO	28		200CT09		200CT09		0					
Sessment & Design for Stabili. Measure         30         30         02JUN08A         15AUG08A         15AUG08A         1           Boulder Surevey         Boulder Surevey         25         25         14JUL08A         05SEP08A         15AUG08A         1           Prepare/submit boulder survey report         14         14         14         06SEP08A         19SEP08A         1           Drainage Management Plan         TDMP preparation by the Designer         14         14         04AUG08A         03SEP08A         03SEP08A         2           TDMP preparation by the Design Checker         28         28         09SEP08A         10DEC08A         03SEP08A         1	02L1CC0640	Obtain SO's consent for design (DDA)	0	0	23OCT09		23OCT09		15		•		-	9
Boulder Surevey   30   30   02JUN08A   15AUG08A   15AUG08A   15AUG08A   1	Boulder Asses	ssment & Design for Stabili. Measure												
Drainage Management Plan         25         25         14JUL08A         05SEP08A         14JUL08A         05SEP08A         17         14         14         06SEP08A         19SEP08A         19SEP08A         1	02L1CC0702	Boulder Surevey	30				15AUG08A	÷						
Drainage Management Plan         14 06SEP08A         19SEP08A         19SEP08A         19SEP08A         2           TDMP preparation by the Design of or the DC's approval         14 14 04AUG08A         03SEP08A         03SEP08A         2           TDMP certification by the Design Checker         28 28 09SEP08A         10DEC08A 09SEP08A         1         1	02L1CC0704	Prepare/submit boulder surevey report	25	25 14JUL0			05SEP08A	-		P				
Drainage Management Plan         14         14         04AUG08A         03SEP08A         04SEP08A         2           TDMP properation by the Design Checker         1         1         08SEP08A         08SEP08A         1           TDMP certification by the Design Checker         28         28         09SEP08A         10DEC08A         10DEC08A         2	02L1CC0706	SO review boulder survey report	14	90	10	15	19SEP08A	2						
TDMP preparation by the Designer         14         14         04AUG08A         03SEP08A         04AUG08A         03SEP08A         2           TDMP submission for the DC's approval         1         1         08SEP08A         08SEP08A         1         1           TDMP certification by the Design Checker         28         28         09SEP08A         10DEC08A         10DEC08A         2	Temporary Dra	sinage Management Plan												
TDMP submission for the DC's approval 1 1 08SEP08A 08SEP08A 08SEP08A 08SEP08A TODECO8A 10DECO8A 10DECO8A 10DECO8A	02L1CC0802	TDMP preparation by the Designer	41	14 04AUG			03SEP08A	2		10				
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	02L1CC0804	TDMP certification by the Design Checker	28	28 09SEP0			10DEC08A	2		11				
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AD04 Finish	08JAN09A 21OCT08A	210CT08A 210CT08A	08JAN09A 22OCT08A	DEJANOSA OBJANOSA	08JAN09A		17AUG09 03AUG09*	18AUG09 18AUG09	15SEP09	18AUG09 18AUG09	29SEP09	29SEP09		29APR08A 22FEB08A	26MAY08A 30APR08A	26MAY08A 10MAY08A	14JUL08A 12MAY08A	14JUL08A	09AUG08A 24JUN08A	16AUG08A		04NOV08A	01DEC08A	02DEC08A 04NOV08A	11JUN09 05NOV08A	11JUN09	18JUN09	02JUL09   19JUN09	31DEC12   18AUG08A			16APR08A	13SEP08A 17APR08A	24SEP08A 25APR08A	04FEB09A 26APR08A	29NOV08A 23JUN08A	04FEB09A		11APR08A	26MAY08A	16JUN08A		16APR08A 17JAN08A	Sheet 21 of 58
AD04 Start	210CT08A	210CT08A	220CT08A	A60NAL80			03AUG09*	18AUG09	19AUG09	18AUG09	19AUG09			22FEB08A	30APR08A	10MAY08A	12MAY08A		24JUN08A (	26JUL08A   16AUG08A   26JUL08A		28AUG08A 04NOV08A 28AUG08A	11NOV08A 01DEC08A 11NOV08A	04NOV08A	05NOV08A		14MAR09A	19JUN09	18AUG08A			17JAN08A 16APR08A 17JAN08A	17APR08A	25APR08A	26APR08A	Z3JUN08A			03APR08A 11APR08A 03APR08A 11APR08A	12APR08A 26MAY08A 12APR08A	27MAY08A 16JUN08A 27MAY08A 16JUN08A		17JAN08A	
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D84	90	+	90	-	0		15	+	28	-	42	0		44	7	-	4	0	19	14		09	4	2	28	0	18	14	1,566			14	150	2	90	28	0		41	25	4.		14	
Activity	TDMP review by the SO	TDMP submission for DSD's approval	TDMP review by the DSD	Obtain DSD's approval for DDA	Obtain SO's consent for TDMP	ELS for Permanent Approach Channel Construction	Design preparation by the Designer	Design submission for the DC's approval	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	Geotechnical Instrumentation Stg 1 for GL Works	Design preparation by the Designer	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	Install Geotechnical Instruments	Baseline Monitoring	Geotechnical Instrumentation Stg 2 for Deep Exc.	Design preparation by the Designer	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	Install Geotechnical Instruments	Baseline Monitoring	Monitor/report Geotechnical Instrumentation	Design Packages for Works in Portion D	Temp. Access Rd Design at P. D; +14mPD to +69mPD	Design preparation by the Designer	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Design review by GEO	Obtain design approval from the SO	Boulder Assessment & Design for Stabili. Measure	Boulder Surevey	Prepare/submit boulder surevey report	SO review boulder survey report	Site Formation Design; +69mPD to +40mPD	Design preparation by the Designer	
O	02L1CC0808	02L1CC0810	02L1CC0812	02L1CC0814	02L1CC0816	ELS for Perma	02L1CC0902	02L1CC0903	02L1CC0904	02L1CC0906	02L1CC0908	02L1CC0910	Geotechnical	3DL1CCG102	3DL1CCG104	3DL1CCG106	3DL1CCG108	3DL1CCG110	3DL1CCG112	3DL1CCG114	Geotechnical	3DL1CCG202	3DL1CCG204	3DL1CCG206	3DL1CCG210	3DL1CCG212	3DL1CCG214	3DL1CCG216	3DL1CCG218	Design Pack	Temp. Access	02L1DD0102	02L1DD0104	02L1DD0106	02L1DD0108	02L1DD0110	02L1DD0112	Boulder Asses	02L1DD0302	02L1DD0304	02L1DD0306	Site Formation	02L1DD0402	

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WP3D	4		04DEC08A	04DEC08A		OBMAYOBA	15MAY09A	16MAY09A	93JUN09	GONDESO		23APR09A	24APR09A	15MAY09A	15MAY09A	18JUN09	24JUN09	18JUN09		11MAY09A	12MAY09A	13MAY09A	13MAY09A	19MAY09A	28AUG08A	27MAR09A	19MAY09A	28FEB09A	28MAY09	19MAY09A	05JUN09	90NUL90	04JUL09	06JUN09	11AUG09	13JUN09	11JUL09	13JUL09	13JUL09	10AUG09	12AUG09		26JUN09
Start	17APR08A	25APR08A	26APR08A			14APR08A	15MAY09A 05MAY08A	16MAY09A 10MAY08A	03JUN09 12MAY08A			23APR09A 28AUG08A	16JAN09A	19JAN09A	02FEB09A	18JUN09 03FEB09A	28MAY09			11MAY09A 21APR08A	28JUL08A	13MAY09A 21AUG08A	28JUL08A	29JUL08A	28AUG08A 28AUG08A	28FEB09A		28FEB09A	28MAY09 01MAR09A		07MAR09A	60NUL80	60NUL70	90NUL30	90NUL70	13JUN09	14JUN09	13JUL09	13JUL09	14JUL09			26JUN09 28FEB09A 26JUN09
Finish	14NOV08A 17APR08A	14NOV08A 25APR08A	04DEC08A 26APR08A	04DEC08A		09MAY09A 14APR08A	15MAY09A	16MAY09A	BONNED	BONNED		23APR09A	24APR09A 16JAN09A	15MAY09A 19JAN09A	15MAY09A 02FEB09A	18JUN09	24JUN09	18JUN09			12MAY09A 28JUL08A	13MAY09A	13MAY09A 28JUL08A	19MAY09A 29JUL08A	28AUG08A	27MAR09A 28FEB09A	19MAY09A	28FEB09A	28MAY09	19MAY09A	05JUN09	60NUL30	04JUL09	90NUL90	11AUG09	13JUN09	11JUL09	13JUL09	13JUL09	10AUG09	12AUG09		
Start	88		26APR08A			14APR08A	05MAY08A	10MAY08A	12MAY08A			28AUG08A	16JAN09A	19JAN09A	02FEB09A	03FEB09A	28MAY09			21APR08A	28JUL08A	21AUG08A	28JUL08A	29JUL08A	28AUG08A	28FEB09A		28FEB09A	01MAR09A		07MAR09A	60NNC90	90NUL70	60NUL80	90NUL70	13JUN09	14JUN09	13JUL09	13JUL09	14JUL09			28FEB09A
We3D	150	1		0		120	145	2	06	0		9	2	28	2	63	28	0		381	m	37	m	280	,-	28	0	-	28	0	30	-	28	-	99	*	28	-	-	28	0		119
ADD4 WP3D	150	2	06	0		120	145	2	06	0		09	2	28	2	83	28	0		381	m	37	60	280		28	0		28	0	30		28		99	-	28	-	-	28	0		119
Activity	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	Site Formation Design: +40mPD to +24mPD	Design preparation by the Designer	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	Site Formation Design; +24mPD to 14mPD	Design preparation by the Designer	Design submission for the DC's approval	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Design review by GEO	Obtain design approval from the SO	ng Chamber Design	Design (AIP) preparation by the Designer	Design (AIP) submission for the DC's approval	Design (AIP) certification by the Design Checker	Design (AIP) submission for the SO's approval	Design (AIP) review by the SO	AIP submission for rel. authorities' approval	Design (AIP) review by the rel. authorities	Obtain rel, authorities's approval for AIP	SO submit Design (AIP) for approval of GEO	Design (AIP) review/approval by the GEO	Obtain SO's consent for design (AIP)	Design preparation for the DDA submission	Design (DDA) subraission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)		Design preparation by the Designer
Q	021 1000404	02L1DD0406	02L1DD0408	02L1DD0412	Site Formation	02L1DD0502	02L1DD0504	02L1DD0506	02L1DD0508	02L1DD0512	Site Formation	02L1DD0602	02L1DD0603	02L1DD0604	02L1DD0606	02L1DD0608	02L1DD0610	02L1DD0612	TBM Launching	02L1DD0702	02L1DD0703	02L1DD0704	02L1DD0706	02L1DD0708	02L1DD0710	02L1DD0712	02L1DD0714	02L1DD0716	02L1DD0718	02L1DD0720	02L1DD0722	02L1DD0723	02L1DD0724	02L1DD0726	02L1DD0728	02L1DD0730	02L1DD0732	02L1DD0734	02L1DD0736	02L1DD0738	02L1DD0740	Hopper Design	02L1DD0802

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WP3D	27JUN09	25JUL09	27JUN09	08AUG09	08AUG09		24MAR09A	25MAR09A	60NUL80	60NDC60	21JUL09	21JUL09		14JUN09	15JUN09	13JUL09	15JUN09	27JUL09	27JUL09		26JUN09	27JUN09	125JUL09	27JUN09	01SEP09	04JUL09	01AUG09	03AUG09	03AUG09	31AUG09	02SEP09		26JUL09	27JUL09	24AUG09	27JUL09	01OCT09	03AUG09	31AUG09	01SEP09	01SEP09	29SEP09	020CT09
ADO4 WP3D Finish Start	27JUN09 27JUN09	25JUL09 28JUN09	27JUN09 27JUN09	08AUG09 28JUN09	08AUG09		24MAR09A 02JAN09A	25MAR09A 25MAR09A	08JUN09 26MAR09A	60NUL80 60NUL80	21JUL09 10JUN09	21JUL09		14JUN09 02JAN09A	15JUN09 15JUN09	13JUL09 16JUN09	15JUN09 15JUN09	27JUL09 16JUN09	27JUL09		26JUN09 28MAY09	27JUN09 27JUN09	25JUL09 28JUN09	27JUN09 27JUN09	-	04JUL09 04JUL09	01AUG09 05JUL09	03AUG09 03AUG09		31AUG09 04AUG09	02SEP09			27JUL09 27JUL09	24AUG09 28JUL09	27JUL09 27JUL09	01OCT09 28JUL09	03AUG09 03AUG09	31AUG09 04AUG09	01SEP09 01SEP09	01SEP09 01SEP09	29SEP09 02SEP09	02OCT09
AD04 A	27JUN09 27J	28JUN09 25.	27JUN09 27J	28JUN09 08A	980		02JAN09A 24M	25MAR09A 25M	26MAR09A 08	097UN09 09.	10JUN09 21.	21,		02JAN09A 14J	15JUND9 15J	16JUN09 13.	15JUN09 15J	16JUN09 27.	27.		28MAY09 26J	27JUN09 27J	28JUN09 25,	27JUN09 27.				03AUG09 03A		04AUG09 31A	028			27JUL09 27.	28JUL09 24A	27JUL09 27.	28JUL09 010	03AUG09 03/	04AUG09 31/	01SEP09 018	01SEP09 018	02SEP09 298	020
VP3D Dur	1 2	28 2	1 2	42 2	0		82 02	1 25	28 26	1	42 1	0		82 02	1	28 1		42 1	0		30 2	1 2	28 2	1 2	66 2	-	28 0	-	1	28 0	0		30 2	1 2	28 2	1 2	66 2	-	28 0	-	1 0	28 0	0
DO4 WP3D Dur Dur	-	28	-	42	0		82	-	78	-	42	0		82	æ	28	-	42	0		30	-	28	+	99		28		-	28	0		30	÷	28	é	99	÷	28	-	-	28	0
Activity Description	Design submission for the DC's approval	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	Design	Design preparation by the Designer	Design submission for the DC's approval	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	Overhead Gantry Support & Noise Enclosure Design	Design preparation by the Designer	Design submission for the DC's approval	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	ELS Design for Spiral Ramp & Vehicular Access	Design preparation for the AIP submission	Design (DDA) submission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the ref. authorities	Obtain rel, authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)	ELS Design for Box Culvert & Open Channel	Design preparation for the AIP submission	Design (DDA) submission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)
0	02L1DD0803	02L1DD0804	02L1DD0806	02L1DD0808	02L1DD0810	Steel Platform Design	02L1DD0902	02L1DD0903	02L1DD0904	02L1DD0906	02L1DD0908	02L1DD0910	Overhead Gant	02L1DD1002	02L1DD1003	02L1DD1004	02L1DD1006	02L1DD1008	02L1DD1010	ELS Design for	02L1DD1102	02L1DD1103	02L1DD1104	02L1DD1106	02L1DD1108	02L1DD1110	02L1DD1112	02L1DD1114	02L1DD1116	02L1DD1118	02L1DD1120	ELS Design for	02L1DD1202	02L1DD1203	02L1DD1204	02L1DD1206	02L1DD1208	02L1DD1210	02L1DD1212	02L1DD1214	02L1DD1216	02L1DD1218	02L1DD1220

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WP3D Finish		27MAR09A	29MAY09	60NUL30	90NUL80	04JUL09	17NOV08A	16JUL09	17JUL09	17JUL09		24APR08A	16JUN08A	16JUN08A	14JUL08A	14JUL08A	05JUL08A	09JUL08A		10JUN09	24JUN09	11JUN09	BOULDS	BOTOLEO	30JUL09	13AUG09	31DEC12			27MAR09A	27MAR09A	27MAR09A	27MAR09A	937UN09	08JUL08A	05MAR09A	06MAR09A	29MAY09	26JUN09	04JUN09	11JUN09	12JUN09	10JUL09	
AD04 WP3D Finish Start		27MAR09A 05MAY08A	29MAY09   08AUG08A	06JUN09 09AUG08A	08JUN09 08AUG08A	04JUL09 08AUG08A	17NOV08A 17NOV08A	16JUL09 18NOV08A	17JUL09 17JUL09	17JUL09		24APR08A 22FEB08A	16JUN08A 25APR08A	16JUN08A 25APR08A	14JUL08A 26APR08A	14JUL08A	05JUL08A 04JUN08A	09JUL08A 18JUN08A 09JUL08A		10JUN09 28MAY09*	24JUN09 11JUN09	11JUN09 11JUN09	09JUL09 12JUN09	6070160	30JUL09 10JUL09	13AUG09 31JUL09	31DEC12 10JUL08A		9	08FEB08A 27MAR09A 08FEB08A	27MAR09A 02MAY08A	27MAR09A 03MAY08A	27MAR09A 10JUL08A	03JUN09 11JUL08A	OBJULOSA OSJULOSA	05MAR09A 09JUL08A	DEMARDSA DEMARDSA	29MAY09 29MAY09	26JUN09 30MAY09	04JUN09	11JUN09 04NOV08A	12JUN09 12JUN09	10JUL09 13JUN09	Sheet 24 of 58
AD04 Start			08AUG08A	09AUG08A	08AUG08A	08AUG08A	17NOV08A 1	18NOV08A	17JUL09		-	22FEB08A 2	25APR08A 1	25APR08A 1	26APR08A 1	-	04JUN08A 0	18JUN08A 0		28MAY09*	11JUN09	11JUN09	12JUN09		10JUL09	31JUL09	10JUL08A			8FEB08A 2	2 OZMAYOSA 2	03MAY08A 2			08JUL08A 0	09JUL08A 0	1 OBMAROSA O	29MAY09 2	30MAY09		30 04NOV08A	12JUN09	13JUN09	0.
WP3D		225 0	2 0	28 0	2 0	0 06	-	90 1	-	0		14 2	7 2	1 2	14 2	0	10 0	14 1		14 2	4	-	28	0	9	4	<u> </u>	l		414 0	2 0	28 0		66 1	1	28 0	1 0		28 3	0	30 0		28	
ADD4 WP3D Dur Dur		225	2	28	7	06	-	06	-	0		4	7	-	4	0	10	41	-	41	4	-	28	0	18	41	1,605 1,605			414	2	28	-	99	-	28		1	28	0	30	1	28	l v
Activity, Description	Temporary Drainage Management Plan	TDMP preparation by the Designer	TDMP submission for the DC's approval	TDMP certification by the Design Checker	TDMP submission for the SO's approval	TDMP review by the SO	TDMP submission for DSD's approval	TDMP review by the DSD	Obtain DSD's approval for DDA	Obtain SO's consent for TDMP	Geotechnical Instrumentation Stg 1 for GL Works	Design preparation by the Designer	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	Install Geotechnical Instruments	Initial reading	Geotechnical Instrumentation Stg 2 for Deep Exc.	Design preparation by the Designer	Design certification by the Design Checker	Design submission for the SO's approval	Design review by the SO	Obtain design approval from the SO	Install Geotechnical Instruments	Baseline Monitoring	Monitor/report Geotechnical Insturmentatation	Design Packages for Works in Portion F	lesign	Design preparation for the AIP submission	Design (AIP) submission for the DC's approval	Design (AIP) certification by the Design Checker	Design (AIP) submission for the SO's approval	Design (AIP) review by the SO	AIP submission for rel. authorities' approval	Design (AIP) review by the rel. authorities	Obtain rel. authorities's approval for AIP	SO submit design (AIP) for approval of GEO	Design (AIP) review/approval by the GEO	Obtain SO's consent for design (AIP)	Design preparation for the DDA submission	Design (DDA) submission for the DC's approval	Design (DDA) certification by the Design Checker	
0	Temporary Dra	02L1DD1302	02L1DD1303	02L1DD1304	02L1DD1306	02L1DD1308	02L1DD1310	02L1DD1312	02L1DD1314	02L1DD1316	Geotechnical	3DL1DDG102	3DL1DDG104	3DL1DDG106	3DL1DDG108	3DL1DDG110	3DL1DDG112	3DL1DDG114	Geotechnical	3DL1DDG202	3DL1DDG204	3DL1DDG206	3DL1DDG208	3DL1DDG210	3DL1DDG212	3DL1DDG214	3DL1DDG216	Design Pack	Main Tunnel Design	02L1FF0102	02L1FF0103	02L1FF0104	02L1FF0106	02L1FF0108	02L1FF0110	02L1FF0112	02L1FF0114	02L1FF0116	02L1FF0118	02L1FF0120	02L1FF0122	02L1FF0123	02L1FF0124	

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Finish	12JUN09	10AUG09	19JUN09	17JUL09	18JUL09	13JUL09	10AUG09	11AUG09		30JUN08A	03JUL08A	18MAR09A	18MAR09A	31MAR09A	02APR09A	10JUN09	11JUN09	31MAR09A		27JUN08A	27JUN08A	90NUL80	15JUL08A	13JUL09	10JUL08A	15JUN09	16JUN09	16JUN09	14JUL09	14JUL09		26JUN08A	26JUN08A	02APR09A	03APR09A	60NUC80	14JUL08A	11MAR09A	11MAR09A	29MAY09	26JUN09	27JUN09
Start	12JUN09	16JUN09	19JUN09	20JUN09	18JUL09	13JUL09	14JUL09			29APR08A	03JUL08A	04JUL08A	15JUL08A	16JUL08A	10JUL08A	11JUL08A	11JUN09			14APR08A	27JUN08A	08JUN09 28JUN08A	15JUL08A	16JUL08A	10JUL08A	11JUL08A	16JUN09	16JUN09	17JUN09			26JUN08A 28APR08A	26JUN08A 26JUN08A	27JUN08A	15JUL08A	08JUN09 16JUL08A	14JUL08A 14JUL08A	15JUL08A	11MAR09A 12MAR09A	29MAY09	30MAY09	
Finish	12JUN09	10AUG09	19JUN09	17JUL09	18JUL09	13JUL09	10AUG09	11AUG09		30JUN08A 29APR08A	03JUL08A 03JUL08A	18MAR09A 04JUL08A	18MAR09A 15JUL08A	31MAR09A 16JUL08A	02APR09A 10JUL08A	10JUN09 11JUL08A	11JUN09 11JUN09	31MAR09A		27JUN08A 14APR08A	27JUND8A 27JUND8A	60NUL80	15JUL08A 15JUL08A	13JUL09	10JUL08A	15JUN09	16JUN09	16JUN09	14JUL09	14JUL09		26JUN08A	26JUN08A	02APR09A 27JUN08A	03APR09A 15JUL08A	60NUL80	14JUL08A	11MAR09A 15JUL08A	11MAR09A	29MAY09	26JUN09	27JUN09
Start	12JUN09	16JUN09	19JUN09	20JUN09	18JUL09	13JUL09	14JUL09			29APR08A	03JUL08A	04JUL08A	15JUL08A	16JUL08A	10JUL08A	11JUL08A	11JUN09			14APR08A	27JUN08A	28JUN08A	15JUL08A	16JUL08A	10JUL08A	11JUL08A	16JUN09	16JUN09	17JUN09			28APR08A	26JUN08A	27JUN08A	15JUL08A	16JUL08A	14JUL08A	15JUL08A	12MAR09A	29MAY09	30MAY09	
Dur	-	56	+	28	_	-	28	0		09	-	260		99	*	28	-	0		32	-	285	-	99	-	28	-	-	28	0		30	-	90	N	267	-	28.	-	-	28	0
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	approval		proval	ities	DA	of GEO	SEO			ssion	approval	in Checker	approval		proval	ities	AC		0.3	ssion	/al	n Checker	approval		proval	ities	DA	of GEO	3E0			ssion	/al	gn Checker	approval		proval	ities	DA	of GEO	3E0	
Description	sion for the SO's	by the SO	el. authorities' ap	by the rel. author	s approval for DE	A) for approval c	approval by the C	or design (DDA)	m Tau WTW	the DDA submis	sion for the DC's	ition by the Designation	sion for the SO's	by the SO	el, authorities' ap	by the rel. author	s approval for DE	or design (DDA)	n Chung WT No	r the DDA submit	r the DC's approv	ation by the Design	sion for the SO's	by the SO	el. authorities' ap	by the rel. author	's approval for DI	DA) for approval of	approval by the (	for design (DDA)	Rail Tunnel	r the DDA submit	r the DC's approv	ation by the Desig	sion for the SO's	by the SO	el, authorities' ap	by the rel. author	's approval for DI	DA) for approval of	approval by the (	for design (DDA)
	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)	Impact Assessment on WSD Yau Kam Tau WTW	Design preparation for the DDA submission	Design (DDA) submission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	Obtain SO's consent for design (DDA)	Impact Assessment on WSD Tai Lam Chung WT No. 3	Design preparation for the DDA submission	Design submission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)	Impact Assessment on KCRC West Rail Tunnel	Design preparation for the DDA submission	Design submission for the DC's approval	Design (DDA) certification by the Design Checker	Design (DDA) submission for the SO's approval	Design (DDA) review by the SO	DDA submission for rel. authorities' approval	Design (DDA) review by the rel. authorities	Obtain rel. authorities's approval for DDA	SO submit design (DDA) for approval of GEO	Design (DDA) review/approval by the GEO	Obtain SO's consent for design (DDA)
9	02L1FF0126   D		02L1FF0130 E	02L1FF0132 D	02L1FF0134 C	02L1FF0136 S	02L1FF0138 D	OZL 1FF 0140 C	npact Assessmen	02L1FF0202 C	02L1FF0203	02L1FF0204 D	02L1FF0206 D	02L1FF0208 D	02L1FF0210 C	02L1FF0212 C	02L1FF0214 C	02L1FF0220 C	npact Assessmen	02L1FF0302 E				02L1FF0308 D	02L1FF0310 C	02L1FF0312 D	02L1FF0314 C	02L1FF0316 S	02L1FF0318 D	02L1FF0320 C	npact Assessmen	02L1FF0402	02L1FF0403 C	02L1FF0404 E	-3		02L1FF0410 [	02L1FF0412 [		02L1FF0416	02L1FF0418	02L1FF0420

Q	Activity Description	ADDA WP3D	WP3D	ADGA	AD04 WP3B	3B WP3D	3D Cal	I Total	2005 2005	2010	2057	2002	2018
Impact Assess	Impact Assessment on WSD Tsuen Wan Reservoir G.		H										
02L1FF0502	Design preparation for the DDA submission	30	30 06	OSMAYORA	OZJULOBA OSMAYOBA	YORA OZJULOSA	38A 2		0				
02L1FF0503	Design submission for the DC's approval		1	1 03JUL08A	03JUL08A 03JUL08A	D8A 03JUL08A	1 A80						
02L1FF0504	Design (DDA) certification by the Design Checker	260	260 0	04JUL08A (	01APR09A 04JUL08A	08A 01APR09A	09A 2		ed pt	be endorsed by All Reservior Panel Engineer	eservior Pan	el Engineer	
02L1FF0506	Design (DDA) submission for the SO's approval	2	2 1	15JUL08A (	01APR09A 15JUL08A	08A 01APR09A	1 A60						
02L1FF0508	Design (DDA) review by the SO	90	60 1	16JUL08A	16JUN09 16JUL08A	38A 16JUN09	09 2	221					
02L1FF0510	DDA submission for rel. authorities' approval	-	+	10JUL08A	10JUL08A 10JUL08A	D8A 10JULOBA	1 A80						
02L1FF0512	Design (DDA) review by the rel. authorities	28	28 1	11JUL08A	10JUN09 11JUL08A	08A 10JUN09	09 2	226					
02L1FF0514	Obtain rel. authorities's approval for DDA		+	11JUN09	11JUN09 11JUN09	09 11JUN09	1 60	187					
02L1FF0520	Obtain SO's consent for design (DDA)	0	0		17JUN09	17JUN09	09 2	221	۵				
Grout Trial at Foult Zone F1	Foult Zone F1												
02L1FF0602	MS preparation for the DDA submission	12	12 02	12 02MAY08A 2	20MAY08A 02MAY08A	708A ZOMAYOSA	708A 2						
02L1FF0606	Ms (DDA) submission for the SO's approval	-	1 21	MAY08A	MAY08A 21MAY08A 21MAY08A	708A 21MAY	1 V80,						
02L1FF0608	MS (DDA) review by the SO	24	24 22	22MAY08A	17JUL08A 22MAY08A 17JUL08A	17JUL(1	2 A80		0				
02L1FF0620	Obtain SO's consent for MS (DDA)	0	0		17JUL08A	17JUL08A			•				
Geotechniuca	Geotechniucal Instrumentation												
3DL1FFGI02	Design preparation by the Designer	09	60 28	28AUG08A	23JAN09A 28AUG08A	SOBA 23JAND9A	09A 2		1				
3DL1FFG104	Design certification by the Design Checker	14	14 2	14 24JAN09A	10JUN09 24JAN09A	99A 10JUN09	09 2	-195	1				
3DL1FFG106	Design submission for the SO's approval	2	2 2	24JAN09A	26MAR09A 24JAN09A	09A 26MAR09A	1 A605		B			118	
3DL1FFG108	Design review by the SO	56	56 2	24JAN09A	20JUN09 24JAN09A	09A 20JUN09	09 2	-160	1				
3DL1FFGI10	DDA submission for rel. authorities' approval	-	1 14	1 14MAR09A	14MAR09A 14MAR09A	ROSA 14MAROSA	1 A803						
3DL1FFGI12	Design (DDA) review by the rel. authorities	56	56 15	56 15MAR09A	23JUL09 15MAR09A	809A 23JUL09	39 2	-195	1				
3DL1FFGI14	Obtain rel. authorities's approval for DDA		-	24JUL09	24JUL09 24JUL09	09 24JUL09	1 60	-156					
3DL1FFGI16	Obtain design approval from the SO	0	0		24JUL09	24JUL09	39 2	-194	•				
3DL1FFGI18	Install geotechnical instrumentsation	06	90	25JUL09	10NOV09 25JUL09	99 10NOVD9	1 60	-156		1			
3DL1FFGI20	Baseline Monitoring	14	14 1	11NOV09	24NOV09 11NOV09	709 24NOV09	709 2	-188					
3DL1FT0208	Maintain/monitor geotechnical instrumentation	1,200 1,200	-	25NOV09	08MAR13 25NOV09	709 08MAR13	213 2	-188		1			
Design Pack	Design Packages for Works in Portion G												
Drainage Impa	Drainage Impact Assessment												
02L1GG0105	Quatation and award consultant	24	24 2	22JUN09*	20JUL09 22JUN09*	09*  20JUL09	1	182					
02L1GG0115	Prepare preliminary DIA report	36	36 2	11JUL09	31AUG09 21JUL09	31AUG09	1 609	182	11				
02L1GG0125	Prepare final DIA report	12	12 0	01SEP09	14SEP09 01SEP09	09 14SEP09	1 60	182					
02L1GG0135	Submission of DIA report to SOR/DSD		٠	15SEP09	_	09 15SEP09	1 60	186					
02L1GG0145	SOR/DSD review/comment DIA report	28	28 2	22SEP09	19OCT09 22SEP09	09 19OCT09	.09 2	227		49			
02L1GG0155	Revise DIA incorporating comments	12	12 2	200CT09	03NOV09 20OCT09	03NOV09	1 60/	182					
02L1GG0165	SOR/DSD review/approve DIA report	21	21 0	04NOV09	24NOV09 04NOV09	709 24NOV09	709 2	227					
02L1GG0175	Obtain consent from SOR and DSD	0	0		24NOV09	24NOV09	709 2	227		•			
Temp. Platform	Temp. Platform Design for H-Piling at Portion G												
02L1GG0202	Design preparation for the DDA submission	30	30	21JUL09	19AUG09 21JUL09	19AUG09	2 50	261	B				
02L1GG0203	Design (DDA) submission for the DC's approval	+	1 2	20AUG09	20AUG09 20AUG09	309 20AUG09	109	211					
02L1GG0204	Design (DDA) certification by the Design Checker	28	28 21	1AUG09	17SEP09 21AUG09	17SEP09	09 2		-				
02L1GG0206	Design (DDA) submission for the SO's approval		-		20AUG09 20AUG09	309 Z0AUG09	1 608	210				2	
02L1GG0208	Design (DDA) review by the SO	28	58 2	21AUG09	170CT09 21AUG09	17OCT09	.09 2	261				-6	
		1			Shoot 26 of 50								

Sheet 26 of 58

<u>o</u>	Activity Description	Our Dur		Start	Finish Start	Finish		Float			Ē
02L1GG0210	DDA submission for rel. authorities' approval	٠	1 27	27AUG09	27AUG09 27AUG09	27AUG09	1	228			
02L1GG0212	Design (DDA) review by the rel. authorities	28	28 28	28AUG09	24SEP09 28AUG09	24SEP09	2	284		E 18	
02L1GG0214	Obtain rel. authorities's approval for DDA	-	1 25	25SEP09	25SEP09 25SEP09	25SEP09	1	226			
02L1GG0228	Obtain design (DDA) approval from the SO	0	0		18OCT09	180CT09	2	261		•	
ELS Design fo	ELS Design for Pipe Jacking at Portion G										
02L1GG0302	Design preparation for the DDA submission	15	15 20	20AUG09	03SEP09 20AUG09	03SEP09	2	284			
02L1GG0303	Design (DDA) submission for the DC's approval		40	04SEP09	04SEP09 04SEP09	04SEP09	-	229			
02L1GG0304	Design (DDA) certification by the Design Checker	28	28 05	95SEP09	02OCT09 05SEP09	02OCT09	2	286		11	
02L1GG0306	Design (DDA) submission for the SO's approval	1	1 04	04SEP09	04SEP09 04SEP09	04SEP09	1	228			
02L1GG0308	Design (DDA) review by the SO	28	58 05	05SEP09	01NOV09 05SEP09	01NOV09	2	284		П	
021.16.60310	DDA submission for rel. authorities' approval	-	11	11SEP09	11SEP09 11SEP09	11SEP09	۲	246			
021.16G0314	Design (DDA) review by the rel. authorities	28	28 12	12SEP09	09OCT09 12SEP09	09OCT09	2	307		n	
02L1GG0316	Obtain rel. authorities's approval for DDA	+	1 10	100CT09	100CT09 100CT09	10OCT09	+	248		7.	
02L1GG0318	Obtain design (DDA) approval from the SO	0	0		02NOV09	02NOV09	2	284		•	
Schedule of	Schedule of Milestones for Cost Centre No. 2L										
02L10D1002	2L 1; On submission of PDP to the SO	0	0		10JAN08A	10JAN08A	2	•			
02L10D1004	2L 2; On acception of PDP by the SO	0	0		04SEP08A	04SEP08A	2		•		
02L10D1006	2L 3, On submission of AIP to the SO; Portion A	0	0		12MAY09A	12MAY09A	N	F		•	
02L10D1008	2L 4; On acceptance of AIP by the SO, Portion A	0	0		25JUL09	25JUL09	N	1,619		•	
02L10D1010	2L 5; On subumission of DDA to the SO; Portion A	0	0		28SEP09	28SEP09	N	1,554		•	
02L10D1012	2L 6; On acceptance of DDA by the SO; Portion A	0	0		100CT09	100CT09	N	1,542		•	
02L10D1014	2L 7, On submission of AIP to the SO; Portion B	0	0		07JUL09	0710L09	N	1,637		•	
02L10D1016	2L 8; On acceptance of AIP by the SO; Portion B	0	0		12AUG09	12AUG09	2	1,601		•	
02L10D1018	2L 9; On submission of DDA to the SO; Portion B	0	0		28SEP09	28SEP09	2	1,554		•	
02L10D1020	2L 10; On acceptance of DDA by the SO; Portion B	0	0		26OCT09	26OCT09	N	1,526		•	
02L10D1022	2L 11; On submission of AIP to the SO; Portion C	0	0		25JUL09	25JUL09	2	1,619		•	
02L10D1024	2L 12; On acceptance of AIP by the SO; Portion C	0	0		10AUG09	10AUG09	2	1,603		•	
02L10D1026	2L 13; On submission of DDA to the SO; Portion C	0	0		28SEP09	28SEP09	2	1,554		<b>•</b>	
02L10D1028	2L 14; On acceptance of DDA by the SO; Portion C	0	0		23OCT09	23OCT09	2	1,529		<b>*</b>	
02L10D1030	2L 15; On acceptance of AIP by the SO; Portion D	0	0		25JUL09	25JUL09	N	1,619		•	
02L10D1032	2L 16; On acceptance of DDA by the SO; Portion D	0	0		10OCT09	100CT09	7	1,542		•	
02L10D1034	2L 17; On submission of AIP to the SO; Portion F	0	0		13JUL09	13JUL09	8	1,631		•	
02L10D1036	2L 18; On acceptance of AIP by the SO; Portion F	0	0		19SEP09	19SEP09	2	1,563		•	
02L10D1038	2L 19; On submission of DDA to the SO; Portion F	0	0		28SEP09	28SEP09	2	1,554		•	
02L10D1040	21, 20; On acceptance of DDA by the SO; Portion F	0	o		05DEC09	05DEC09	N	1,486		•	
02L10D1042	2L 21; On acceptance of AIP by the SO; Portion G	0	o		27MAY09	27MAY09	N	1,678		•	
02L10D1044	2L 22; On acceptance of DDA by the SO; Portion G	0	0		24NOV09	24NOV09	2	1,497		•	
000 400 40	21 23: On completion of all works under this CC	c	C		24NOV09	24NOV09	0	1,497		<b></b>	

2008 2009 2010 2013 2018			•			Ifor the design of pre-excavation grouting at F1		60		uting at F11ER.B27 27.73(5), within 6 months of DOC										C S								-													
Il Total		N												Control				-161	-130	-130		-130	-129	-122	-121	-122	-121		3.0	-80		-79			-75		-219	-210	-210	-210	1
SD Call			38A 2	1 A80	108A 1	1 A80	1 A80	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 A80	1 A80			08A 2	08A 2	08A 2	08A 2		309 2	1 608	1 60		1 60	1 60	1 60	1 60	1 60	09 1	1 60	1	1 60	1 60.	1 60	1 60	09 1	1 60		10 1	10 1	10 1	10 1	
WP3D Finish			23JUL08A	30JUL08A	04AUG08A	13AUG08A	15NOV08A	22NOV08A	04SEP08A	05SEP08A			12JAN	28SEP08A	08OCT08A	24DEC08A		04AUG09	07AUG09	04SEP09		12SEP09	11SEP09	18SEP09	18SEP09	24SEP09	24SEP09	30SEP09	30SEP09	080CT09	080CT09	14OCT09	14OCT09	200CT09	200CT09		02JAN10	04JAN10	05JAN10	06JAN10	12 No. of the last
WP3D				4JUL08A	1JUL08A	SAUGOSA	4AUG08A	NOVOBA	AUGOSA	SSEPORA			4DEC07A	IDEC07A	4OCT08A	9OCT08A		*8070FS	SAUG09	08AUG09		05SEP09	05SEP09	12SEP09	14SEP09	19SEP09	SEP09	25SEP09	25SEP09	020CT09	20CT09	90CT09	90CT09	150CT09	50CT09		02JAN10	04JAN10	05JAN10	06JAN10	
AD04 Finish			23JUL08A	30JUL08A 24JUL08A	04AUG08A 31JUL08A	13AUG08A 05AUG08A	14AUG08A   15NOV08A   14AUG08A	22NOV08A 17NOV08A	1AUG08A 04SEP08A 11AUG08A	5SEP08A 05SEP08A 05SEP08A			14DEC07A 12JAN08A 14DEC07A 12JAN08A	28SEP08A 21DEC07A	080CT08A 040CT08A	21 09OCT08A 24DEC08A 09OCT08A		04AUG09 06JUL09*	07AUG09 05AUG09	04SEP09 00		12SEP09 0	11SEP09 0	18SEP09 1	18SEP09 1	24SEP09 18	24SEP09 19SEP09			08OCT09 00	08OCT09 02OCT09	14OCT09 09OCT09	14OCT09 09OCT09	200CT09 18	200CT09 150CT09		02JAN10 03	04JAN10 04	05JAN10 08	06JAN10 06	
_		N	23.7		1	1	38A 15N		38A 04S	38A 05S			12J			38A 24D				-							-					-									t
AD04 Start		II.		24JUL08A	31JUL08A	05AUG08A	100	17NOV08A	7-	0				21DEC07A	7 040CT08A	09OCT			05AUG09	08AUG09		05SEP09	05SEP09	12SEP09	14SEP09	19SEP09	19SEP09	25SEP09	25SEP09	02OCT09	02OCT09	09OCT09	09OCT09	150CT09	150CT09		02JAN10	04JAN10	05JAN10	06JAN10	G04000 - 172
ADO4 WP3D Dur Dur		T	0	9	4	7	45	9	17	-			30	252: 21	7			30	es .	24		7	9	9	5	S	5	5	5	5	5	2	S	ru	5		-	-	_	_	
AD04 Dur		ı	0	9	4	2	45	9	17	*			30	252	7	21		30	m	24		7	9	9	5	5	S	ω	5	S	Ð	S	9	ហ	5		-	~	-	. —	-
Activity Description	Construction of Main Tunnel	Trial Grout at Fault Zone F1	HyD issue XP	Adavance notice to HyD/Road advice	Trial pit excavation	Scaffolding, mobilize & set up	Drill & test for 2m Arrangement Test	Backfill drilled holes, demobilization & Tidy up	Drill & test for single hole arrangement test	Backfill drilled hole, demobilization & tidy up	TBM Manufacture/Testing/Delivery	Manufacture of TBM & Back-ups	TBM & Excavation Sys Procurement	TBM design & manufacturing	TBM workshop tests	TBM dismounting & packing		TBM shipment to Hong Kong	TBM arriving Portion I	Destuffing Containers/Cleaning & lubrication	TBM Pre-assembly/Test & Commis. at Portion I	Cutterhead	Bearing	Backup # 1	Backup # 2	Backup #3	Backup #4	Baackup # 5	Backup # 6	Backup # 7	Backup # 8	Backup # 9	Backup # 10	Backup #11	Backup # 12	t from Portion I to Outfall	Cutterhead	Shield # 1	Shield # 2	Bearing	
QI .	Constructio	Trial Grout a	3AL1FT0002	3AL1FT0004	3AL1FT0006	3AL1FT0010	3AL1FT0012	3AL1FT0014	3AL1FT0016	3AL1FT0018	TBM Manufa	Manufacture o	3AL1FT0302	3AL1FT0304	3AL1FT0306	3AL1FT0308	Delivery of TBM	3AL1FT0105	3AL1FT0110	3AL1FT0115	TBM Pre-asset	3AL1FT0205	3AL1FT0210	3AL1FT0215	3AL1FT0220	3AL1FT0225	3AL1FT0230	3AL1FT0240	3AL1FT0245	3AL1FT0250	3AL1FT0255	3AL1FT0260	3AL1FT0365	3AL1FT0370	3AL1FT0375	TBM Transport	3AL1FT0405	3AL1FT0415	3AL1FT0425	3AL1FT0435	

1   08JAN10   0   0   0   0   0   0   0   0   0	O)	Activity	D04	D04 WP3D	AD04	_		0	Total	2002	2,000		
Stacking # 2		Description	ont	Jing Orit	Start			4	F102				
Backup # 1   1   1   1   1   1   1   1   1   1	3AL1FT0455	Conveyor	-	-	08JAN10					0			
1 1 11AM10 11AM10 11AM10 11AM10 1 1. 208 1 1 12AM10 12AM10 12AM10 1 1. 208 1 1 13AM10 12AM10 12AM10 1 1. 208 1 1 13AM10 12AM10 12AM10 1 1. 208 1 1 13AM10 2AM10 2AM10 12AM10 1 2AM10 1 2.08 1 1 1 2AM10 2AM10 2AM10 2AM10 1 2.08 1 1 1 2AM10 2AM10 2AM10 1 2AM10 1 2.08 1 1 1 2AM10 2AM10 2AM10 1 1. 208 1 1 1 2AM10 2AM10 2AM10 1 1. 208 1 1 1 2AM10 1 2AM10 1 1. 2AM10 1 1. 208 1 1 1 2AM10 1 2AM10 1 1. 2AM10 1 1. 208 1 1 1 3AM10 1 1. 2AM10 1 1. 2AM10 1 1. 208 1 1 1 3AM10 1 1. 2AM10 1 1. 2AM10 1 1. 208 1 1 1 3AM10 1 2AM10 1 1. 2AM10 1 1. 2AM10 1 1. 208 1 1 1 3AM10 1 2AM10 1 1.	3AL1FT0465	Backup # 1	-	-	09JAN10			H		0			
1 1 12AM10 12AM10 12AM10 12AM10 12AM10 1 2.208  1 1 1 3AMN10 2AMN10 2AMN10 1 2.24M10 1 2.208  1 1 1 3AMN10 2AMN10 2AMN10 1 2.24M10 1 2.208  1 1 1 2AMN10 2AMN10 2AMN10 1 2.24M10 1 2.208  1 1 1 2AMN10 2AMN10 2AMN10 1 2.24M10 1 2.208  1 1 1 2AMN10 1 2AMN10 1 2.24M10 1 2.208  1 1 1 2AMN10 1 2AMN10 1 2.24M10 1 2.208  1 1 1 2AMN10 1 2.24M10 1 2.24M10 1 2.208  1 1 1 2AMN10 1 2.24M10 1 2.24M10 1 2.208  1 1 1 2AMN10 1 2.24M10 1 2.24M10 1 2.208  1 1 1 2AMN10 1 2.24M10 1 2.24M10 1 2.208  1 1 1 2AMN10 1 2.24M10 1 2.24M10 1 2.208  1 1 1 3AMN10 1 2.24M10 1 2.24M10 2 2.208  1 1 1 3AMN10 1 2.24M10 2 2.24M10 2 2.208  1 1 1 3AMN10 2 2.24M10 2 2.24M10 2 2.208  1 1 1 3AMN10 2 2.24M10 2 2.24M10 2 2.208  1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3AL1FT0475	Backup # 2	-	-	11JAN10					80			
1   1   13,4AM10   1	3AL1FT0485	Backup # 3	+	<b>.</b>	12JAN10			0	-20	9	-		
1   28JAN11   29JAN11   29JAN11   1   21   21   21   21   21   21	3AL1FT0495	Backup # 4	1	-	13JAN10					9			
1   1   30,AMT0   20,AMT0   20,AMT0   20,AMT0   1   218     1   1   1   1   1   1   1   1   1	3AL1FT0505	Backup # 5	-	1	29JAN10					6			
1   1   27MAR10   27MAR10   17MAR10   1   218	3AL1FT0515	Backup # 6	•	-	30JAN10					0			
1   1   3   3   3   3   4   4   5   3   3   4   4   5   3   3   4   4   5   3   4   4   5   3   4   4   5   3   4   4   5   4   5   4   5   4   5   4   5   4   5   4   5   4   5   4   5   4   5   4   5   4   5   4   5   4   5   4   5   4   5   5	3AL1FT0525	Backup # 7	-	-	27MAR10			10 1	-21	æ			
1 1 1 0APPRIO 0APPRIO 0APPRIO 1 2288  1 1 1 19APRIO 1 12APRIO 1 12APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 1 218  1 1 1 15APRIO 1 15APRIO 1 1 218  1 2 1 15APRIO 1 15APRIO 1 1 218  1 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3AL1FT0535	Backup # 8	-	-		_		10 1	-21	80			
1   1.2APR10   12APR10	3AL1FT0545	Backup # 9	-	~	08APR10			10	-21	80	_		
1   15APR10	3AL1FT0555	: Backup # 10	-	-	12APR10	12APR10 12APR		10	-21	80			
1   19APR10   19APR10   19APR10   19APR10   19APR10   1   218	3AL1FT0565	Backup # 11	-	-	15APR10			-		80	-		
International   Color   Colo	3AL1FT0575	Backup # 12	•	-	19APR10			-		80			
ntal mould 0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	Manufacture	Pre-cast Lining/Delivery											
segmental mould         0         0         0         1         2         2         3         3         23 UJU08A         2 LJUL08A         2         4 <t< td=""><td>Segmental Lin</td><td>ing Mould</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Segmental Lin	ing Mould											
Paginemental mould   Sign	3AL1FTSM02	Procure sub-contract for segmental mould	0	0		21JUL08A	21JUL0			•			
Impould	3AL1FTSM04	Prepare shop drwgs for segmental mould	9	9		05MAR09A 02FEB0			0.1	***			
Oulds to HKG  7 7 7 21MAYO9A 27MAYO9A 12MAY11 1 22MAYO11 12MAY11 1 22MAYO11 12MAYO11 1 22MAYO11 1 22MAYO11 1 22MAYO11 1 22MAYO11 1 22MAYO11 1 22MAYO11 1 22MAYO9A 27MAYO9A 7MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYO0 27MAYOO 27	3AL1FTSM06	Fabrication of segmental mould	06	90	06MAR09A	16MAY09A 06MAR			0.1				
Oulds to HKG         7         7         7         21MAY09A         27MAY09A         27MAY09A <td>3AL1FTSM08</td> <td>Inspection in Korea</td> <td>7</td> <td>7</td> <td>18MAY09A</td> <td>20MAY09A 18MAY</td> <td></td> <td></td> <td>0.1</td> <td></td> <td></td> <td></td> <td></td>	3AL1FTSM08	Inspection in Korea	7	7	18MAY09A	20MAY09A 18MAY			0.1				
System 30 121AND9A 04MAR09A 04MAR09A 28MAY09 03JUN09 28MAY09A 04MAR09A 2 176	3AL1FTSM10	Painting & packing	7	7	21MAY09A	27MAY09A 21MAY			01				
System   30   30   12JAN0GA   04MARO9A   12JAN0GA   04MARO9A   2   38   4   4   4   4   4   4   4   4   4	3AL1FTSM12	Delivery of segmental moulds to HKG	7	7	28MAY09	03JUN09 28MAY				70			
System         30         30         12JAN09A         0aMaR09A         12JAN09A         0aJANRO9A	Pre-cast Segm	lental Lining											
tem Design	3AL1FT0404	Prepare/submit QA/QC System	30	30		04MAR09A 12JANG		_	01	11			
Design	3AL1FT0410	SO approve QA/QC system	28	28	05MAR09A	06JUN09 05MAR				80			
segment lining         330         330         12AUG09         20SEP10         12AUG09         20SEP10         1         -143 gs/day i.e. 1 pounder)           segment lining         0         0         02JAN10         12MAY11         1         -200           Tunnel Using PPE         1         400         02JAN10         12MAY11         1         -200           set         69         69         12MAR09A         26MAR09A         28MAR09A         24JUL09	3AL1FT0412	Approval of Tunnel Linig Design	0	0						9,	•		
segment lining         400         400         02JAN10         12MAY11         02JAN09A         1         -200           Tunnel Using PPE         Tunnel Using PPE         Tunnel Using PPE         Tunnel Using PPE         1         -200           set         Eg         69         69         12MAR09A         28MAR09A         28MAR09A         28MAR09B         1         -68           reament by ICE & APRE         30         30         29MAR09B         28JUL09         28JUL09         28JUL09         24JUL09         24JUL09         24JUL09         24JUL09         24JUL09         24JUL09         32JUL09	3AL1FT0416	Manufactur of segments	330	330	12AUG09					13 gs/day i.e. 1 pou	cay. Total 3	76 rings; 1 ring = 5 se	ments
Tunnel Using PPE         Segment lining         0         0 b <td>3AL1FT0418</td> <td>Delivery of Segments</td> <td>400</td> <td>400</td> <td>02JAN10</td> <td></td> <td></td> <td><math>\dashv</math></td> <td>-</td> <td>0</td> <td></td> <td>Delivery commences a</td> <td>week before</td>	3AL1FT0418	Delivery of Segments	400	400	02JAN10			$\dashv$	-	0		Delivery commences a	week before
Trunnel Using PPE           se         1 ZMAR09A         26MAR09A         12MAR09A         26MAR09A         12MAR09A         12MAR09A         26MAR09A         12MAR09A         12MAR09A         12MAR09A         12MAR10         24JUL09         24JUL09         24JUL09         24JUL09         14JUL09         14JUL09         1	3AL1FTSL02	Procure sub-contract for segment lining	0	0		05JAN09A	05JANC	Н		•			
Method statement endorsement by LD         4         25JUL09         26MAR09A         12MAR09A         26MAR09A         12MAR09A         26MAR09A         1         -68           Method statement endorsement by LD         30         29MAY09A         03JUL09         24JUL09         24JUL09         1         -68           Method statement endorsement by LD         18         18         18         04JUL09         24JUL09         24JUL09         1         -68           Method statement endorsement by VSD         24         2         25JUL09         07AUG09         1         -68           Method statement endorsement by WSD         24         2         2         24JUL09         07AUG09         1         -68           Method statement endorsement by WSD         24         2         2         2         1         -68         1         -68           Application for electrical power         45         45         22DEC09*         18FEB10         1         -188         1         -188           Air Valve House         Arrange WSD to open the valve house         1         1         1         -18MAR10         1         2         1         -18         -1         -1         -1         -1         -1         -1         -	Geotech Ins	<b>Tunnel Using</b>					H	1	۱				
Prepare method statement by ICE & APRE   30   29MAY09A   26MAR09A   12MAR09A   26MAR09A   1   -68	Method Staten	ment to Install G.I. Works						ł	1				
Method statement endorsement by ICE & APRE         30         30         29MAY09A         03JUL09         29MAY09A         03JUL09         29JUL09         1         -68         -68           Method statement endorsement by LD         18         18         18         18         18         12         25JUL09         07AUC09         25JUL09         07AUG09         1         -68         -68	3AL1FTMS02	Prepare method statement	69	69	12MAR09A		09A 26MAR						
Method statement endorsement by LD         18         18         18         18         04JUL09         24JUL09         04JUL09         24JUL09         1         -68         Image of the connection of the connection fancement by SOR         12         25JUL09         07AUG09         25JUL09         07AUG09         1         -68         Image of the connection for electrical power         12         25JUL09         07AUG09         25JUL09         07AUG09         25JUL09         07AUG09         1         -68         Image of the connection fancement by WSD         1         -68         Image of the connection fancement by WSD         1         -68         Image of the connection fancement by WSD         1         -68         Image of the connection fancement by WSD         1         -68         Image of the connection fancement by WSD         1         -68         Image of the connection fancement by WSD         1         -68         Image of the connection fancement by WSD         1         -68         Image of the connection fancement by WSD         1         -1	3AL1FTMS04	Method statement endorsement by ICE & APRE	30	30	29MAY09A					88			
Air blood statement endorsement by SOR         12         25JUL09         07AUG09         25JUL09         07AUG09         25JUL09         07AUG09         1         -68         I           Application for electrical power         45         24         04SED09         04SED09         04SED09         1         -68         I           Application for electrical power         45         24         24         08AUG09         04SED09         1         -68         I           Arrange WSD to open the valve house         1         1         19MAR10         19MAR10         19MAR10         1         -219         I           Set up exhoust fans & arrange temp. electricity         3         2 OMAR10         23MAR10         23MAR10         1         -219         I	3AL1FTMS08	Method statement endorsement by LD	18	18						88			
Air Valve House         Arrange VISD to open the valve house the air vent pipe (DN250)         45         24         04 SEP09         04 SEP09         1         -68         • 6           Air Valve House         Arrange WSD to open the valve house the air vent pipe (DN250)         1         1         1 SMAR10         19MAR10         19MAR10         19MAR10         19MAR10         1 SMAR10         1 -219         • 6         • 6           Arrange VISD to open the valve house the air vent pipe (DN250)         3         2 OMAR10         23MAR10         23MAR10         1 -219         1 -219         • 6           Arrange 2 nrs. set of water pumps         2         2 AMAR10         25MAR10         25MAR10         25MAR10         25MAR10         25MAR10         1 -219           7 -219 <td>3AL1FTMS12</td> <td>Method statement endorsement by SOR</td> <td>12</td> <td>12</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td>89</td> <td>_</td> <td></td> <td></td>	3AL1FTMS12	Method statement endorsement by SOR	12	12				-		89	_		
Air Valve House         Arrange WSD to open the valve house         1 <th< td=""><td>3AL1FTMS14</td><td>Method statement endorsement by WSD</td><td>24</td><td>24</td><td>08AUG09</td><td>04SEP09 08AUG</td><td></td><td></td><td>-</td><td>890</td><td></td><td></td><td></td></th<>	3AL1FTMS14	Method statement endorsement by WSD	24	24	08AUG09	04SEP09 08AUG			-	890			
Air Valve House         1         1 19MAR10         19MAR10         19MAR10         1 9MAR10         1 -219           Arrange WSD to open the valve house         1         1 19MAR10         23MAR10         23MAR10         1 -219           Set up exhoust fans & arrange temp. electricity         3         2 2AMAR10         23MAR10         23MAR10         1 -219           Arrange 2 nrs. set of water pumps         2         2 2AMAR10         25MAR10         25MAR10         1 -219           Remove the air vent pipe (DN250)         2         2 2AMAR10         27MAR10         27MAR10         1 -219           Remove connection flange (DN900)         1         1 29MAR10         29MAR10         29MAR10         1 -219	3AL1FTMS24	Application for electrical power	45	45	22DEC09*	18FEB10 22DEC				38	•		
Arrange WSD to open the valve house         1         1 9MAR10         19MAR10         19MAR10         1 9MAR10         1 -219           Set up exhoust fans & arrange temp. electricity         3         20MAR10         23MAR10         23MAR10         1 -219           Arrange 2 nrs. set of water pumps         2         2 24MAR10         25MAR10         25MAR10         1 -219           Remove the air vent pipe (DN250)         2         2 2 SMAR10         27MAR10         27MAR10         27MAR10         1 -219           Remove connection flange (DN900)         1         1 29MAR10         29MAR10         29MAR10         1 -219	At Ting Kau A	ir Valve House											
Set up exhoust fans & arrange temp. electricity         3         2 OMAR10         23MAR10         20MAR10         23MAR10         1 -219           Arrange 2 nrs. set of water pumps         2         2         2 MAR10         25MAR10         25MAR10         1 -219           Remove the air vent pipe (DN250)         2         2         2 SMAR10         27MAR10         27MAR10         27MAR10         27MAR10         1 -219           Remove connection flange (DN900)         1         1 29MAR10         29MAR10         29MAR10         29MAR10         1 -219	3AL1WT3B02	Arrange WSD to open the valve house	-	-	19MAR10	19MAR10 19MAR				6	-	35.1	
Arrange 2 nrs. set of water pumps         2         2         24MAR10         25MAR10         25MAR10         25MAR10         1         -219           Remove the air vent pipe (DN250)         2         2         26MAR10         27MAR10         27MAR10         27MAR10         1         -219           Remove connection flange (DN900)         1         1         29MAR10         29MAR10         29MAR10         1         -219	3AL1WT3B12	Set up exhoust fans & arrange temp. electricity	က	ო	20MAR10	23MAR10 Z0MAR				6			
Remove the air vent pipe (DN250)         2         2         26MAR10         27MAR10         25MAR10         27MAR10         1-219           Remove connection flange (DN900)         1         1         29MAR10         29MAR10         29MAR10         1-219	3AL1WT3B22	Arrange 2 nrs. set of water pumps	2	2	24MAR10	25MAR10 24MAR				9	to lower down	the water level	
Remove connection flange (DN900)	3AL1WT3B32	Remove the air vent pipe (DN250)	2	2						6	following wate	r tunnel shut down	
	3AL1WT3B42	Remove connection flange (DN900)	-	-		29MAR10 29MAR		-		19			

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1000 2014 2012 2015			200		stemp dwon transformer											WSD approval in 2 months advance				-219 betent person authorizes entryinclude 24 hrs ventilation before man entry &			7,																			
2008		-			ste	*	-						-			1				in authorizes entry in																				*	-	
1	o	o	o		0	60	o	o	o	o	o	o	o	o	o	0	o	0	o	9 retent perso	8	o		o	o l	<b>o</b> n 1	0		0	01	0							o	0	o	o	o
Cal Total ID Float	1 -219	1 -219	1 -219		1 -219	1 -219	1 -219	1 -219	1 -219	1 -219	1 -219	1 -219	1 -219	1 -219	1 -219	-	1 -219	1 -219	1 -219	1 -21	1 -219	1 -219		1   -219	1 -219	1 -219		ł	-	-	-	-	H	- ,		١		1 -219	1 -219	1 -219	1 -219	1 -219
WP3D	01APR10	08APR10	12APR10		31MAR10	13MAR10	13MAR10	31MAR10	17MAR10	19MAR10	20MAR10	25MAR10	29MAR10	31MAR10	01APR10	03SEP10	01APR10	07APR10	08APR10	13APR10	15APR10	17APR10		25JUN10	26JUN10	12JUL10	18AUG10		19AUG10	21AUG10	25AUG10	26AUG10		030570	USSEL IO			06JAN10	11JAN10	12JAN10	15JAN10	20JAN10
04 WP3D sh	0 30	08APR10 07APR10	12APR10 09APR10		31MAR10 27MAR10	13MAR10 13MAR10	13MAR10 11MAR10	31MAR10 30MAR10	17MAR10 15MAR10	19MAR10 18MAR10	20MAR10 20MAR10	25MAR10 22MAR10	29MAR10 26MAR10	31MAR10 30MAR10	01APR10 01APR10	03SEP10 26MAR10	01APR10 01APR10	07APR10 07APR10	08APR10 08APR10	13APR10 09APR10	15APR10 14APR10	17APR10 16APR10		25JUN10 19APR10		12JUL10 28JUN10	18AUG10 13JUL10		19AUG10 19AUG10	21AUG10 20AUG10	25AUG10 23AUG10	26AUG10 26AUG10		USSET 10 Z/AUG 10	USSEL IO USSEL IO			06JAN10 04JAN10	11JAN10 07JAN10	12JAN10   12JAN10	15JAN10   13JAN10	20.IAN10 16.IAN10
AD04 Finish					-																								-			-			-	١						
AD04 Start	30MAR10	07APR10	09APR10		27MAR10	13MAR10	11MAR10	30MAR10	15MAR10	18MAR10	20MAR10	22MAR10	26MAR10	30MAR10	01APR10	26MAR10	01APR10	07APR10	08APR10	09APR10	14APR10	16APR10		19APR10	26JUN10	28JUN10	13JUL 10		19AUG10	20AUG10	23AUG10	26AUG10		2120212	USSEP 10	N		04JAN10	07JAN10	12JAN10	13JAN10	18 IANIA
ADO4 WP3D Dur Dur	'n	2	ന		4	•	m	2	m	8	•	4	m	2	-	131*	۳	-	*	4	2	2		99	-	12	32		_	CA	60	-	1	1		١		60	4	-	က	4
AD04	ო	0	m		4	+	m	2	m	2	*	4	6	2	-	131	-	-	•	4	2	2		56	7	12	32		-	2	6	-						က	4	-	0	7
Activity Description	Connect exhaust fan to valve shaft	Connect new vent pipe to exhaust fan(s)	Test and commission exhaust fan(s)	Preparation Works at Chai Wan Kok Shaft	Install electricity take off, switch board &	Install waste reception/disposal area	Install toilet and shower	Set up generatior, two 2" water pumps	UU detection	Excavate to lower platform apprx, 0.5m-1m	Set out & align sheet pilling	Install sheet piles & excavate to install rails	Excavate to the bottom of DN1200 pipe	Lay conrete blinding to pit	ICE checking	WSD Tunnel Shut Down Period	WSD Tunnel #3 commences shut down	Cut & clean invert and inner face of DN1200	Plug DN1200 pipe at the face near valve house	Fabricate trolly & trial	Install longituditual tensioned wire	Temporary plug main tunnel to form air seal	uct	Install instruments	Inspection	TBM crossing affected 120m section	De-install instruments		Remove trolley system	Remove the plug at Ting Kau	Remove ventilation system, reinstate T.K. valve	Remove temporary portal at junction	Vorks	Keinstate opening at Chai wan Nok	#3 re-operates	y & Initial Driving; Day Time Work	rest & Commiss, at Outfall	Cutterhead	Shield (bottom)	Bearing	Erector & Conveyor Belt	Shield (ton)
Q	3AL1WT3B52		3AL1WT3B72	Preparation Work	3AL1FTCT02	3AL1FTCT12	3AL1FTCT22	3AL1FTCT32	3AL1FTCW02	3AL1FTCW04	3AL1FTCW06	3AL1FTCW08	3AL1FTCW10	3AL1FTCW12	3AL1FTCW14	3AL1FTCW16	3AL1FTCW18	3AL1FTCW20	3AL1FTCW22	3AL1FTCW24	3AL1FTCW26	3AL1FTCW36	Works in Aqueduct	3AL1FTAD04	3AL1FTAD06		3AL1FTAD10	tion	3AL1FTAE04			3AL1FTAE34	ent W		3ALIFIRSU4	TBM Assembly & Initial	TBM Assembly/Test & Commiss.	3AL1FT0605	3AL1FT0615	3AL1FT0625	3AL1FT0635	3AI 1FT0645

Sheet 30 of 58

10001	DESCRIPTION	,	0	DE LANIAO	27 IANI40 25 IANI40	27 IAN10	240	210				
3AL1F10665	Backup # 2	2	ים	OLNACC	-	OI NIND /Z	Ť	ו מ				-
3AL1FT0675	Backup # 3	ო	ო	28JAN10		30JAN10	-	-219				
3AL1FT0685	Test & commission stage 1	9	9	01FEB10	06FEB10 01FEB10	06FEB10	1 -2	-219		-		
3AL1FT0695	Backup # 4	8	က	24FEB10	26FEB10 24FEB10	26FEB10	-	-199				
3AL1FT0705	Backup # 5	က	m	27FEB10	02MAR10 27FEB10	02MAR10	1	-199		_		
3AL1FT0715	Backup # 6	ო	ო	03MAR10	05MAR10 03MAR10	05MAR10	-	-199				
3AL1FT0725	Backup # 7	က	ო	29MAR10	31MAR10 29MAR10	31MAR10	1 -2	-218				03
3AL1FT0735	Backup # 8	က	m	01APR10	08APR10 01APR10	08APR10	1 -2	-218		-		3240
3AL1FT0745	Backup # 9	ю	m	09APR10	12APR10 09APR10	12APR10	1 -2	-218	-			
3AL1FT0755	Backup # 10	m	ო	13APR10	15APR10 13APR10	15APR10	1 -2	-218		-		
3AL1FT0765	Backup # 11	ო	ო	16APR10	19APR10 16APR10	19APR10	1 -2	-218				
3AL1FT0775	Backup # 12	ო	ო	20APR10	22APR10 20APR10	22APR10	1 -2	-218				
3AL1FT0785	Test & commission stage 2	12	12	23APR10	07MAY10 23APR10	07MAY10	-	-218		-		
TBM Initial Ac	TBM Initial Advacing; Day Time Work											
3AL1FT0704	TBM advancing; Ch. 5098 to Ch. 5084	9	Θ	08FEB10	17FEB10 08FEB10	17FEB10	1 -2	-219				
3AL1FT0708	TBM advances; CH5084-4963	22	25	18FEB10	26APR10 18FEB10	26APR10	1 -2	-219				201
3AL1FT0720	TBM stop to install rem, items	10	10	27APR10	08MAY10 27APR10	08MAY10	1 -2	-219				
Main Tunne	Main Tunnel Works; Day & Night Work			ì								
TBM Advanci	TBM Advancing upto Crossing WSD Tunnel # 3		h									
3AI 1FT0816	TBM advances: CH4963-4415 (to WSD Tunnel # 3)	40	40	10MAY10	26JUN10 10MAY10	26JUN10	1	-219		-		
3AL1FT0818	TBM crossing WSD Tunnel # 3; CH4415- 4295	12	12	28JUN10	12JUL10 28JUN10	12JUL10	1 -2	-219		-		
TBM Advancing	ng upto Breakthrough											353
3AL1FT0819	TBM advances; CH4295-4250	w	£	13JUL10	17JUL10 13JUL10	17JUL10	1-	-219	-	-		
3AL1FT0820	TBM advances; P6 CH4250-4220	2	2	19JUL10	20JUL10 19JUL10	20JUL10	1 -2	-219		-		68.0
3AL1FT0822	TBM advances; CH4220-3940	4	4	21JUL10	05AUG10 21JUL10	05AUG10	1 -2	-219		Criterion 1		N.53
3AL1FT0824	TBM advances; CH3940-3560	24	24	06AUG10	02SEP10 06AUG10	02SEP10	1 -2	-219		P5 (5m) KCRC WRTL Tunnel Protection Area ch39	L Tunnel Protect	on Area ch3
3AL1FT0826	TBM advances CH3560-2970	40	40	03SEP10	22OCT10 03SEP10	220CT10	1-2	-219	Intake I-2 (Ch31	Intake I-2 (Ch3160-3100) PP4 (10m) & P3 (50m)	& P3 (50m)	180
3AL1FT0828	TBM advances; WSD WS Reservior CH2970-2860	13	13	230CT10	06NOV10 23OCT10	06NOV10	1 -2	-219		•		
3AL1FT0830	TBM advances; CH2860-1250	83	83	08NOV10	18FEB11 08NOV10	18FEB11	1 -2	-219	Intake I-3 (CH1370-1250)	15	F5 (20m), F4(50m), F3(20m)	20m)
3AL1FT0832	TBM advances; CH1250-0	91	91	19FEB11	11JUN11 19FEB11	11JUN11	1 -2	-219		F2	F2(20m), P2(25m), P1(10m) & F	P1(10m) & F
3AL1FT0890	Desembly & demobilization of TBM	20	50	13JUN11	10AUG11 13JUN11	10AUG11	1	-114				
3AL1FT0892	Back grouting (daytime); CH5100-00	382	382	04MAR10	18JUN11 04MAR10	18JUN11	1	-20			1.79m3/m, W/C=44%, W=590kg	%, W=590kg
3AL 1FT0894	Complete maintennce access & dry weather channel	09	09	11AUG11	220CT11 11AUG11	220CT11	1	-64				-5.77
3AL1FT0896	Installation of communication system (Daytime)	09	09	11AUG11	220CT11 11AUG11	220CT11	-	-64		_		
3AL1FT0898	Testing & Commissioning; daytime	28	28	10NOV12	07DEC12 22DEC12	18JAN13	2 7	-462				**
3AL1FT0902	Contractor serve notice for Works completion	7	7	08DEC12	14DEC12 19JAN13	25JAN13	2	0			****	
3AL1FT0904	Handover of Portion F	0	0		07DEC12	18JAN13	-	-375			•	71
3AL1FT0906	SO issues completion certificate	21	21	15DEC12	04JAN13 26JAN13	15FEB13	2	0			en.	
Schedule of	Schedule of Milestones for Cost Centre No. 6aR	1		1								
6AR1FT0902	6aR 1; On completion of grouting at P7	0	0		31MAR10	31MAR10		1,370		<b>*</b>		-3.7
6AR1FT0904	6aR 2; On completion of grouting at F6c	0	0		19MAY10	19MAY10	2 1321	124		•		

2	Description	100	Daile .	Start	Finish Start	Strate Emish	III Elos	Elevat	į	The state of the s	
6AR1FT0906	6aR 3: On completion of arouting at F6b	o			0	27	2	1.313		•	
6AR1FT0908	6aR 4; On completion of grouting at F6a	0	0		15JUN10	15JUN10	7	1,294		•	
6AR1FT0910	6aR 5; On completion of grouting at WSD T. 3	0	0		17JUL10	17JUL10	2 1.	1,262		•	
6AR1FT0912	6aR 6; On completion of 20% grout by Ith at P6	0	0		17JUL10	17JUL10	2 1,	1,262		•	
6AR1FT0914	6aR 7; On completion of 40% grout by Ith at P6	0	0		23JUL10	23JUL10	2 1,	1,256		•	
6AR1FT0916	6aR 8; On completion of 60% grout by Ith at P6	0	0		29JUL10	29JUL10	2 1,	1,250		•	
6AR1FT0918	6aR 9; On completion of 80% grout by Ith at P6	o	0		17JUL10	17JUL10	2 1,	1,262		•	
6AR1FT0920	6aR 10; On completion of grouting works at P6	0	0		20JUL10	20JUL10	2 1,	1,259		•	
6AR1FT0922	6aR 11; On completion of grouting wks at P5	0	0		06AUG10	06AUG10	2	1,242		•	
6AR1FT0924	6aR 12; On completion of grouting wks at P4	0	0		04SEP10	04SEP10	2	1,213		•	
6AR1FT0926	6aR 13; On completion of grouting wks at P3	0	0		07OCT10	07OCT10	2	1,180		•	
6AR1FT0928	6aR 14; On completion of grouting wks at WSD's	0	0		06NOV10	06NOV10	7	1,150		CH 2865-2970 ◆Tsuen Wan West Service Reservior G	t Service Reservior G
6AR1FT0930	6aR 15; On completion of grouting wks at F5	0	0		13NOV10	13NOV10	2	1,143		4	
6AR1FT0932	6aR 16; On completion of grouting wks at F4	0	0		26NOV10	26NOV10	2	1,130		•	10)
6AR1FT0934	5aR 17; On completion of grouting wks at F3	0	0		22DEC10	22DEC10	2	1,104		•	
6AR1FT0936	6aR 18; On completion of grouting wks at F2	0	0		21FEB11	21FEB11	2	1,043		<b>\$</b>	
6AR1FT0938	6aR 19, On completion of grouting wks at P2	0	0		31MAR11	31MAR11	2	1,005		•	
6AR1FT0940	6aR 20; On completion of grouting wks at P1	0	0		27APR11	27APR11	2	978		•	
6AR1FT0942	6aR 21; On completion of 10% grout by Ith at F1	0	0		21MAY11	21MAY11	2	954		•	
6AR1FT0944	6aR 22; On completion of 20% grout by Ith at F1	0	0		23MAY11	23MAY11	2	952		<b>•</b>	
6AR1FT0946	6aR 23; On completion of 30% grout by Ith at F1	0	01		24MAY11	24MAY11	2	951		<b>•</b>	
6AR1FT0948	6aR 24; On completion of 40% grout by Ith at F1	0	0		25MAY11	25MAY11	2	950		<b>•</b>	
6AR1FT0950	6aR 25; On completion of 50% grout by Ith at F1	0	0		26MAY11	26MAY11	2	949		•	
6AR1FT0952	6aR 26; On completion of 60% grout by Ith at F1	0	0		27MAY11	27MAY11	2	948		<b>•</b>	
6AR1FT0954	6aR 27; On completion of 70% grout by Ith at F1	0	0		28MAY11	28MAY11	2	947		•	1
6AR1FT0956	6aR 28; On completion of 80% grout by Ith at F1	0	0		30MAY11	30MAY11	2	945		<b>•</b>	
6AR1FT0958	6aR 29; On completion of 90% grout by Ith at F1	0	0		31MAY11	31MAY11	2	944		<b>•</b>	
6AR1FT0960	6aR 30; On completion of grouting works at F1	0	0		01JUN11	01JUN11		943		•	
GAR1FT0970	6aR 31; On completion of all works under this CC	0	0		18JUN11	18JUN11		926		♦under thi	Under this Cost Centre
chedule of	Schedule of Milestones for Cost Centre No. 3al.			ı							
3AL1FT1002	3aL 1; On providing evidence of procuring TBM	0	0		19JAN08A	19JAN08A	A 2	•			
3AL1FT1004	3aL 2; On providing evidence of TBM Factory Test	0	0		080CT08A	080CT08A	A 2		•		
3AL1FT1006	3aL 3; On delivery of all parts of TBM to the Si	0	0		07AUG09	07AUG09	2	1,606		•	
3AL1FT1008	3aL 4; On completion of site comm. & test. of TB	0	0		07MAY10	07MAY10	2	1,333		•	
3AL1FT1010	3aL 5; On completion of 5% perm. tunnel lining	0	0		18MAY10	18MAY10	2	1,322		•	
3AL1FT1012	3aL 6; On completion of 10% perm. tunnel lining	0	0		01NUL60	01NUL60	2	1,300		•	
3AL1FT1014	3aL 7; On completion of 15% perm. tunnel lining	0	0		02JUL10	02JUL10	2 1,	1,277		*	
3AL1FT1016	3aL 8; On completion of 20% perm. tunnel lining	0	0		28JUL10	28JUL10	2 1,	1,251		•	
3AL1FT1018	3aL 9; On completion of 25% perm. tunnel lining	0	0		13AUG10	13AUG10	2	1,235		•	
3AL1FT1020	3aL 10; On completion of 30% perm. tunnel lining	0	0		02SEP10	02SEP10	7	1,215		•	
3AL1FT1022	3al. 11; On completion of 35% perm. tunnel lining	0	0		22SEP10	22SEP10	2	1,195		•	
3AI 1FT1024	3at 12. On completion of 40% norm trinnal lining	c	c			0740000	•	100			

Sheet 32 of 58

•	and the second						ı		
13; C	3al. 13; On completion of 45% perm. tunnel lining	0	0		10NOV10	10NOV10		1,146	•
4	3aL 14; On completion of 50% perm. tunnel lining	0	0		25NOV10	25NOV10	2 1,	1,131	•
15,	3aL 15; On completion of 55% perm. tunnel lining	0	0		10DEC10	10DEC10	2 1,	1,116	•
16.	3aL 16; On completion of 60% perm, tunnel lining	0	0		29DEC10	29DEC10	2 1,	1,097	•
17	3aL 17; On completion of 65% perm. tunnel lining	0	0		14JAN11	14JAN11	2 1,	1,081	•
6	3aL 18; On completion of 70% perm. tunnel lining	0	0		29JAN11	29JAN11	2 1,	1,066	•
19	3aL 19; On completion of 75% perm. tunnel lining	0	0		17FEB11	17FEB11	2 1,	1,047	•
20	3aL 20; On completion of 80% perm. tunnel lining	0	0		10MAR11	10MAR11	2 1,	1,026	•
21	3aL 21; On completion of 85% perm. tunnel lining	0	0		01APR11	01APR11	2 1,	1,004	•
22	3aL 22; On completion of 90% perm. tunnel lining	0	0		28APR11	28APR11	2	977	•
23	3aL 23; On completion of 95% perm. tunnel lining	0	0		21MAY11	21MAY11	2	954	•
24	3aL 24; On completion of perm. tunnel lining	0	0		11JUN11	11JUN11	2	933	•
25	3aL 25; On completion of maint. access/flow chan	0	0		220CT11	220CT11	2	800	odry weather flow channel
26;	3aL 26; On completion of provision of communic.	0	0		220CT11	220CT11	2	800	•
27,	3aL 27; On completion of all works under this CC	0	٥		07DEC12	18JAN13	-	388	within this cost centre.
St.	Schedule of Milestones for Cost Centre No. 3dL	P				Ī	1		
<del>-</del>	3dL 1; On complet. of install geo instrrument.	0	0		10NOV09	10NOV09		1,511	• geotechnical instruments
άį	3dL 2; Maint./monit, geo, inst. for 12 mth	0	0		27DEC08A	27DEC08A		-	
က်	3dL 3; Maint./monitor geo. inst. for 24	0	0		26DEC09	26DEC09	2 1,	1,465	♦installed instruments for 24 months from DOC
4	3dL 4; Maint./monitor geo. inst. for 36	0	0		26DEC10	26DEC10		1,100	♦installed instruments for 36 months free
ij	3dL 5; Maint./monitor geo. inst. for 48	0	0		26DEC11	26DEC11	2	735 ii	installed instruments for 48 months from DOC◆
9	3dL 6; On completion of maint. & monit. of geo.	0	0		08MAR13	08MAR13	5	297	monitoring for installed instruments
7	3dL 7; On installation of FMD at Portion A	0	0		29DEC11	29DEC11		732	flow measurement devices at Portion A.
œ.	3dL 8; On installation of FMD at Portion B	0	0		20FEB12	20FEB12	-	629	flow measurement devices for Portion B
თ	3dL 9; On installation of FMD at Portion C	0	0		28JAN12	28JAN12	2	702	flow measurement devices for Portion C.
19	3dL 10; On installation of FMD at Portion D	0	0		17APR12	17APR12	-	622	flow measurement devices for Portion D◆
Ŧ	3dL 11; On completion of maint. & monit. of FMD	0	0		07DEC13	18JAN14	7	23	flow monitoring to issue of Maint. Certificate
12	3dL 12; On completion of all works under this CC	0	0		07DEC13	18JAN14	2	23	under this Cost Centre
In	Construction of Intake I-1								
Preliminary Works								i	
울	VO#07; Transperant Hoarding at I-1							Ĥ	
Seiv	Receive VO7 for transparent hoarding	0			19MAY08A	19MAY08A	-		•
CUL	Procure/prepare/install transparent hoarding	02	70	20MAY08A	20MAY08A 11AUG08A 20MAY08A 11AUG08A	11AUG08A	-		8
		c	c	A DOMA A DOMA	10MADD8		+		
20 .	TOSSESSION OF SITE	0 0		ASADDASA	10ADD08A				
[a] -	Obtain 11A (ingress & egress) approva	5 6	0 6	V 00000 V 0000 V	ASOCIATION ASSOCIATION ASSOCIA	VOUVORA	1 4	i	
Š	Site clearance	S .		LAPRUSA	ZOINIAT UOA ZIAFRUOA		- ,	15	
tain	Obtain tree	ω		13MAY08A	31JUL08A 13MAY08A		-	Ī	
ardii	Hoarding erection enclosing the Site	6	-	23MAY08A	11AUG08A 23MAY08A	_	-	1	
en en	Site entrance construction	9		23JUN08A	25JUL08A 23JUN08A		-	1	
<u></u>	Install wheel wahing facilities	7	2	Agolal II So	APPLIATION APPLIATION	A TINIOA	,		

	Description	Dar	Dur Start		Finish Start	Finish	ID Float				
.01R1AI1116	Erect SOR's secondary site office	9	6 28AUG08A		03SEP08A 28AUG08A	03SEP08A	-	-			100
01R1AI1118	Footing for temp. bridge span over Shing M. Nul.	26	26 10JUN08A		16JUL08A 10JUN08A	16JUL08A	-	8			33
01R1AI1120	Decking for temp. bridge span over Shing M. Nul.	13	13 17JUL08A		01AUG08A 17JUL08A	01AUG08A	-	0			
01R1AI1122	Install remote control CCTV as per ER 4.4.10	12	12 04SEP08A		18SEP08A 04SEP08A	18SEP08A	۳	a			
16R1AI1101	Tree Identification & Report	14	14 14MAR08A		01APR08A 14MAR08A	01APR08A	2	,			837
16R7Al1102	1st tree pruning for small 3 nos. trees	-	1 03JUN08A		OSJUNOBA OSJUNOBA	03JUN08A	-				
16R7AI1104	2nd tree pruning for small 3 nos. trees	-	1 04JUL08A		04JUL08A 04JUL08A	04JUL08A					
16R7Al1106	Final pruning & uplifting of 3 nos. small trees	2	2 08SEP08A		09SEP08A 08SEP08A	09SEP08A	÷	-			
16R7AI1108	Confirm location for trees to be transplanted	51	51 02APR08A		27AUG08A 02APR08A	27AUG08A	-				
16R7AI1114	One stg transplant for big 4 nos. big trees	o	9 11FEB09A		19FEB09A 11FEB09A	19FEB09A		23			
Permanent	Permanent Soil Nailing Works										150
11R2AI1302	Erect working platform & mobilization	00	8 17MAY08A	-	24MAY08A 17MAY08A	24MAY08A	+				331
11R2AI1304	Install test nails & proof loading test; 2 nos.	œ	8 24JUN08A		08JUL08A 24JUN08A	OSJULOBA		23			
11R2AI1306	Soil nailing for A to C rows; 69 nos.	9	16 02JUL08A	100	14JUL08A 02JUL08A	14JUL08A		n			
11R2AI1308	Soil nailing for D to F rows, 71 nos.	29	29 15JUL08A		05SEP08A 15JUL08A	05SEP08A	-	D			
11R2AI1310	Constrcut soil nail heads; 140 nos.	22	22 19JUL08A		06SEP08A 19JUL08A	06SEP08A	-	8			
11R2Al1312	Demobilization	m	3 08SEP08A		10SEP08A 08SEP08A	10SEP08A	-				
Constructio	Construction of Spiral Ramp & Cascade										400
Additional GI	Additional GI Woks to Fnalize Design										303
AGIA-02	Drill for 5 nos, additional GI works	21	21 09SEF	208A 04OC	09SEP08A 04OCT08A 09SEP08A 04OCT08A	04OCT08A	¥	0			32
Temp. Pipe-pile cofferdam	lle cofferdam										300
04L1AI1202	Erect piling platform	43	43 22OCT08A		24DEC08A 22OCT08A		+	II			38
04L1AI1203	Mobilization & set up piling rig	ო	3 3000	TOBA 01NC	300CT08A 01NOV08A 300CT08A	01NOV08A	+				150
04L1AI1204	Install 273 mm dia. temp. pipe piles; 144 nos.	43	43 08NO	VOSA 05JA	08NOV08A 05JAN09A 08NOV08A	OSJAN09A	-	11		2	2.8
04L1AI1226	Demobilize all plant and materials	9	6 06JAN09A		13JAN09A 06JAN09A	13JAN09A	*				
Excavate +10	Excavate +104.0 to +100.5mPD; Row 7							T N			
04L1AI1402	Mobilization	-	1 23FEB09A		23FEB09A 23FEB09A	23FEB09A	1				
04L1AI1404	Bulk excavation; soil (155m3)	4	4 24FEB09A		27FEB09A 24FEB09A	27FEB09A	1				33
04L1AI1406	Install test tie-back & proof load test	4	4 28FEB09A		04MAR09A 28FEB09A	04MAR09A	1				
04L1AI1408	Install tie backs/wailing & shortcrete	4	4 03MA	309A 06MA	03MAR09A 06MAR09A 03MAR09A 06MAR09A	OSMAROSA	+				
Excavate +10	Excavate +100.5 to +99.0mPD; Rows 1 & 8										
04L1AI1410	Bulk excavation; soil (219m3)	2	2 07MA	R09A 09MA	MAR09A 09MAR09A 07MAR09A 09MAR09A	OSMAROSA	1				***
04L1AI1412	Install tie backs/wailing & shorcrete	9		R09A 16MA	10MAR09A 16MAR09A 10MAR09A 16MAR09A	16MAR09A	1				
Excavate +99.	Excavate +99.0 to +96.5mPD; Rows 2, 9 & 18										155
04L1AI1414	Bulk excavation; soil (710m3)	ო	3 17MA	R09A 19MA	MAR09A 19MAR09A 17MAR09A 19MAR09A	19MAR09A	-				503
04L1AI1416	Install test tie-back & proof load test	4	4 26MA	R09A 01AP	26MAR09A 01APR09A 26MAR09A	01APR09A	-				
04L1Al1418	Install tie backs/wailing & shortcrete	9	6 23MA	R09A 28MA	23MAR09A 28MAR09A 23MAR09A	28MAR09A	-				100
Excavate +96.	Excavate +96.5 to +95.0mPD; Rows3, 10 & 19										
04L1AI1420	Bulk excavation; soil (721m3)	m	3 30MA	R09A 04AP	30MAR09A 04APR09A 30MAR09A 04APR09A	04APR09A	-				
04144100	14-11 43 - L1- 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4		DOVCO	danc Application	ACCOUNT ACCOUNTS	AGODDANC	7		5		

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Page 102 of 125	PS			Sheet 35 of 58				
		-22	09OCT10 1	09OCT10 17SEP10	18 17SEP10	. 2	Cast roof slabs	04L1AI1478
		-22	16SEP10 1	16SEP10 27AUG10	18 27AUG10	81	Cast walls 2nd lift, 200mm down from soffit	04L1AI1476
				26AUG10 06AUG10		60	Cast walls 1st lift	04L1AI1474
		200	05011640	05A11C40 03 II II 40	42 22    1 40	Ç	of Cascade Structure	Construction
		103	24AUG10 1	24AUG10 07AUG10	15 07AUG10	15	Construct RC spiral ramp top	07R1AI1420
	@ 5m3/5minutes	+		06AUG10 23JUL10	_	13	Backfill spiral ramp; 2496m3 @ 200m3/day	07R1AI1418
		+	22JUL10 1	22JUL10 06JUL10	15 06JUL10	15	Cast ramp up to +102,31mPD	07R1AI1416
			05JUL10 1	05JUL10 17JUN10	15 17JUN10	15	Cast ramp up to 98.01mPD	07R1AI1414
		-22	15JUN10 1	15JUN10   29MAY10	15 29MAY10	15	Cast ramp up to 93.71mPD	07R1AI1412
	100	-22	28MAY10 1	28MAY10 11MAY10	15 11MAY10	15	Cast ramp up to 89.41mPD	07R1AI1410
	•	-52	10MAY10 1	10MAY10 22APR10	15: 22APR10	15	Cast ramp up to +85.10mPD	07R1AI1408
	*	-22	21APR10 1	21APR10 31MAR10	15 31MAR10	15	Cast ramp up to +80.81mPD	07R1AI1406
	18	-22	30MAR10 1	30MAR10 13MAR10	15 13MAR10	15	Cast ramp up to +76.51mPD	07R1AI1404
	-	-52	12MAR10 1	12MAR10 27FEB10	12 27FEB10	12	Cast base slab	07R1AI1402
							of Spiral Ramp Structure	Construction of
2	•	-22	26FEB10 1	26FEB10 10FEB10	12 10FEB10	12	Cast roof slab	04L1AI1456
	-		09FEB10 1	09FEB10 27JAN10	12 27JAN10	12	Cast walls	04L1AI1454
		-22	26JAN10 1	26JAN10 20JAN10	6 20JAN10	9	Cast base slab	04L1AI1452
							of Vehiucular Access	Construcion of
#15,089m3 rock@90m3/day with 2 work fronts	371m3 sal ====15,089m3 rock@9	-22	19JAN10 1	19JAN10 30JUN09	168 30JUN09	168 1	Rock excavation/mucking out/temp. support	07R1AI1444
	4	-22	29JUN09 1	29JUN09 20JUN09	8 20JUN09	ω	Set up for dewatering	07R1AI1442
							Excavate +88.5 to 71.5mPD: Rows 27 to 31	Excavate +88.5
		-22	19JUN09 1	19JUN09 17JUN09	3 17JUN09	m	Install tie backs/wailing & shorcrete	04L1Al1450
		-22	16JUN09 1	16JUN09 06JUN09	60NUL30 6	<b>o</b>	Bulk excavation; soil (269m3) & rock (690m3)	04L1AI1448
							5 to 88.5mPD; Rows 15 & 26	Excavate +89.5
		-22	1 60NUC30	05JUN09 02JUN09	4 02JUN09	4	Install tie backs/wailing & shorcrete	04L1AI1446
		-22		4	ار	12	Bulk excavation; soil (724m3) & rock (811m3)	04L1AI1444
							1 to 89.5mPD; Rows 14, 17 & 25	Excavate +91.1
			27MAY09A 1	27MAY09A 18MAY09A	4 18MAY09A	4	Install tie backs/wailing & shorcrete	04L1AI1442
			25MAY09A 1	25MAY09A 08MAY09A	4 08MAY09A 2	4	Install test tie-back & proof load test	04L1AI1440
			23MAY09A 1	06MAY09A 23MAY09A 06MAY09A	8 OGMAYO9A	80	Bulk excavation; soil (1002m3) & rock (342m3)	04L1AI1438
30,00							5 to 91.1mPD; Rows 6,13,16,17823	Excavate +92.5
			27MAY09A 1	19MAY09A   27MAY09A   19MAY09A   27MAY09A	2 19MAY09A	2	Install tie backs/wailing & shorcrete	04L1AI1436
			18MAY09A 1	04MAY09A   18MAY09A   04MAY09A   18MAY09A	3 04MAY09A	က	Bulk excavation; soil (423m3) & rock (52m3)	04L1AI1434
						8	Excavate +93.0 to +92.5mPD; Row 22	Excavate +93.0
	EA	7	16MAY09A 1	16MAY09A 21APR09A	5 21APR09A	Ω.	Install tie backs/wailing & shorcrete	04L1AI1432
			16MAY09A 1	16MAY09A 21APR09A	4 21APR09A	4	Install test tie-back & proof load test	04L1AI1430
			27APR09A 1		4 20APR09A	4	Bulk excavation; soil (818m3)	04L1AI1428
			3				Excavate +94.0 to + 93.0mPD; Rows 5,12,16,21&24	Excavate +94.0
	32		30APR09A 1	03APR09A  30APR09A  03APR09A  30APR09A	5 03APR09A (	ĸ	Install tie backs/wailing & shorcrete	04L1AI1426
	***		18APR09A 1	6APR09A 18APR09A 06APR09A		m	Bulk excavation; soil (701m3)	04L1AI1424
							Excavate +95.0 to +94.0 mPD; Rows 4, 11 & 20	Excavate +95.0
		Float	Finish			Dur Dur	Description	3
3 2012 2013	2006 2009 2010	Total	WP3D	AD04 WP3D	3D AD04	D04 WP3D	Activity	(III)

								14																			36														- 1	
		**	•	•	before TBM retrieval			after retrieval of TBM & gantry crane!	in	30					***		40		•		-		•							-		10					±@ 1no/day			53		•
Float		-22	-195	-195	-19		-195	-195	-195	-195	-195			20	70	70	70	70	70	70	70	70	7.0	70	02	70	70	02	2	70		-143	١		103	103	103	103		103	103	103
9		-	-	-	-		-	1	•	-	-	3		-	-	-	•		÷		•	٠	۳	-	-	-	-	+	-	+		-	1		-	•	-	+		٠		-
Finish		08NOV10	11JUN11*	10AUG11	19JUL10		17AUG11	07SEP11	29SEP11	220CT11	17NOV11			10NOV09	13NOV09	25NOV09	30NOV09	02DEC09	OSDECOS	10DEC09	17DEC09	11JAN10	18JAN10	22JAN10	01FEB10	12FEB10	27FEB10	20MAR10	24MAR10	27MAR10		12DEC11	I		07OCT10	14OCT10	26NOV10	03DEC10		13DEC10	29DEC10	08JAN11
Start		110CT10						18AUG11		30SEP11		ı		02NOV09*			26NOV09	01DEC09	03DEC09	04DEC09		18DEC09	12JAN10		23.JAN10	02FEB10	17FEB10	MAR10	22MAR10	25MAR10	- 1					OCT10	15OCT10	27NOV10		DEC10	DEC10	30DEC10
		7	N11*	10AUG11 13JUN11	19JUL10 06JUL10		17AUG11 11AUG11	07SEP11 18A	29SEP11 08S	220CT11 30S	17NOV11 24OCT11			10NOV09 02N	13NOV09 11NOV09	25NOV09 14NOV09	30NOV09 26N	02DEC09 01E	03DEC09 03E	10DEC09 04E	17DEC09 11E	11JAN10 18E	18JAN10 12J			12FEB10 02F	27FEB10 17F	20MAR10 01MAR10	24MAR10 22N	27MAR10 25N		01NOV11*   12DEC11   01NOV11*	1		07OCT10 22SEP10	14OCT10 08OCT10	26NOV10 150	03DEC10 271		13DEC10 04DEC10		08.JAN11 30
Finish			11JUN11*	-										_			-		-													*   12DE										
Start		110CT10		13JUN11	06JUL10		11AUG11	18AUG11	08SEP11	30SEP11	240CT11			*60\ONZ0	11NOV09	14NOV09	26NOV09	01DEC09	03DEC09	04DEC09	11DEC09	18DEC09	12JAN10	19JAN10	23JAN10	02FEB10	17FEB10	01MAR10	22MAR10	25MAR10		01NOV11			22SEP10	080CT10	150CT10	27NOV10		04DEC10	14DEC10	30DEC10
Dur		24	0	50	12		ဖ	18	19	18	22			00	6	10	4	2	*-	9	9	18	0	4	60	10	10	18	m	m		36			12	9	36	9		œ	12	00
Dur		24	0	20	12		9	18	18	48	22				m	10	4	2	•-	9	9	18	9	4	00	10	10	18	ო	ო		36			12	9	36	ω		æ	12	∞
Description	emoval of TBM	Backfill & form cranage platform	TBM break through	Dissembly & demobilization of TBM	Cast lower base slab	Construction of Box Culvert Structure	Cast upper base	Cast walls 1st lift	Cast walls 2nd lift, 200mm down from soffit	Cast roof slabs	Backfill & compaction above box culvert; ~13m	of Existing Channel in Dry Season	Channel Modification (Varied)Works (Civil Works)	Break wall & slab at pipe pile location	Set up pipe pile rig	Install pipe piles (30n*12m)	Break existing masonry wall	PC blcok/sand back bund wall for water diversion	Cut existing slab	Demolish Wo Yi Hop Nullah wall & slab	Construct WYH Nullah wall below slab	Backfill & SRT behind wall below slab	Demolish Shing Mun Nullah wall with struts	Demolish Shing Mun Nullah slab	Construct slab	Construct wall for WYH Nullah	Construct wall for SM Nullah	Assoc. RC works for trash grill & stop slogs	Mass concrete infill	PC block & san bag bund wall	Channel Modification Works (Steel Works)	Install steelworks; Phase 3	v	Piing Works Along Crest Plarform	Erect piling platform for upper piles	Mobilize piling rig & set up	350mm dia, pre-bored H-piles (upper); 36 nos.	Demobilize piling rig	Crest Platform	Excavate & hack off grout	Construct skin wall	Construct capping beam
	Dismantle & Removal of TBM	04L1AI1458	04L1AI1460	04L1AI1461	04L1AI1462	Construction	04L1AI1463	04L1AI1464	04L1AI1466	04L1AI1468	04L1AI1470	Modification	Channel Modifi	07R1AI1502	07R1AI1504	07R1AI1506	07R1AI1508	07R1AI1510	07R1AI1512	07R1AI1514	07R1AI1518	07R1AI1520	07R1AI1522	07R1AI1524	07R1AI1626	07R1AI1628	07R1AI1630	07R1AI1632	07R1AI1634	07R1AI1636	Channel Modifi	07R1AI150T	Piling Works	Piing Works Al	11R2AI1202	11R2A11204	11R2AI1206	11R2AI1208	- 10		11R2AI1212	11R2AI1214

2008 2009 2510 2011 2012 2013					(1no/day										201			150nos, climber, 200nos, woodland#63nos, trees, 2072nos;					◆for Cascade at Intake I-1	♦for Cascade at Intake I-1	◆ for Cascade at Intake I-1	◆for Cascade at Intake I-1	◆for Cascade at Intake I-1	◆at Intake I-1	◆box culvert at Intake I-1	within this Cost Centre				spiral allip at make I-I	◆spiral ramp at Intake I-1	♦spiral ramp at Intake I-1	♦for spiral ramp at Intake I-1	♦spiral ramp at Intake I-1	♦ spiral ramp at Intake I-1	♦spiral ramp at Intake I-1
Total 2	103	103		195	-195	-195		-195	-195	-195	-195	-195	i	-195	-195	0	0	-183	-181	-143	-118	1	1,645	1,441	1,403	1,222	1,178	800	800	648	9	740	, ()	C40,L	1,557	1,489	1,441	1,349	1,307	1,266
0 5	<u>-</u> چ	1		_ _	2	2 1		2 1	2 1	2 1	2 1	12 1		12 1	12 1	12 2	2 2	12 1	13 2	-	12 2		19 2	-	0 2	10 2	10 2	11 2		12 2	Ţ	, c	+	+	+	+		10 2	10 2	0 2
WP3D Finish	13JAN11	27 JAN11		24NOV11	02JAN12	09JAN12		16JAN12	02FEB12	11FEB12	16FEB12	01MAR12	À	15MAR12	22MAR12	29MAR12	19APR12	01MAR12	01MAR13	29DEC11	28DEC12	i	29JUN09	19JAN10	26FEB10	26AUG10	09OCT10	220CT11	220CT11	22MAR12		420EC44	ואווייס	SONOFES	25SEP09	02DEC09	19JAN10	21APR10	02JUN10	13JUL10
WP3D	10JAN11	4JAN11		18NOV11	25NOV11	03JAN12		10JAN12	17JAN12	03FEB12	13FEB12	7FEB12		03FEB12	17FEB12	23MAR12	30MAR12	27JAN12	02MAR12	13DEC11	30DEC11										Ì									
AD04 Finish	13JAN11 1	27JAN11 14JAN11		24NOV11	02JAN12 2	09JAN12 C		16JAN12	02FEB12 1	11FEB12 (	16FEB12 '	01MAR12 17FEB12		15MAR12 (	22MAR12	29MAR12 2	19APR12	_	01MAR13 (		28DEC12	i	29JUN09	19JAN10	26FEB10	26AUG10	090CT10	220CT11	220CT11	22MAR12	j	40000	IZDECIII	29JUN09	25SEP09	02DEC09	19JAN10	21APR10	02JUN10	13JUL10
AD04 Start	10JAN11	14JAN11		1BNOV11 2	25NOV11 (	03JAN12 (		10JAN12	17JAN12 (	03FEB12 ·	13FEB12	17FEB12 (		03FEB12 1	17FEB12 2	23MAR12 2	30MAR12	27JAN12 (	02MAR12 (		30DEC11	j									ı						×_			
WP3D Dur	4 10	12 14		6 18	29 25	6 03		6 10	12 17	8 03	4 13	12 17		36 03	30 17	7 23	21 30	30 27	365 02		365 30		0	0	0	0	0	0	0	0	ì	C	o (	0	0	0	0	0	0	0
DO4 W	4	12		9	29	9		9	12	ω	4	12		36	30	7	21	30	365	12	365		0	0	0	0	0	0	0	0	1		0	0	0	0	0	0	0	0
Activity	Backfill & construct U-channel	Fix rebar/ erect fwk/concrete ramp	Piling Works Above Inclined Access Ramp	Mobilize piling rig & set up	350mm dia. pre-bored H-piles (lower); 29 nos.	Demobilize piling rig	Inclined Access Ramp	Excavate & hack off grout	Construct skin wall	Construct capping beam	Backfill & construct U-channel	Fix rebar/erect fwk/concrete ramp	Remaining Works Prior to Handover	Finishing & reinstatement works; Portion A	Pre-handover inspections and remedial works	Contractor serve notice for Works completion	SO issues completion certificate	Landscaping works at Portion A	Establishment Works at Portion A	Install flow measurement devices at Intake I-1	Maintain & monitor flow monitoring	Schedule of Milestones for Cost Center No. 4L	4L 1; On completion of 50% excavation	4L 2; On completion of excavation	4L 3; On completion of 25% concreting	4L 4; On completion of 50% concreting	4L 5; On completion of 75% concreting	4L 6; On completion of Cascade	4L 7; On completion of connecting BC	4L 8; On completion of all works under this CC	of Milestones for Cost Centre No. 7R	: :	/R 1; On completion of trash grills	7R 2; On completion of 25% excavation	7R 3; On completion of 50% excavation	7R 4; On completion of 75% excavation	7R 5; On completion of all excavation	7R 6; On completion of spiral ramp to +80mPD	7R 7; On completion of spiral ramp to +90mPD	7R 8; On completion of spiral ramp to +100mPD
9	11R2AI1216	11R2AI1218	Piling Works A	11R2AI1220	11R2Al1222	11R2AI1224	Skin Wall & Inc	11R2AI1226	11R2AI1228	11R2AI1230	11R2AI1232	11R2AI1234	Remaining V	07R1AI1606	07R1AI1608	07R1AI1610	07R1AI1612	16R7AI1602	16R7AI1604	3DL1AI1602	3DL1AI1604	Schedule of	04L1AI1802	04L1AI1804	04L1AI1806	04L1AI1808	04L1AI1B10	04L1AI1812	04L1AI1814	04L1AI1816	Schedule of		07R1AI1902	07R1AI1904	07R1AI1906	07R1AI1908	07R1AI1910	07R1AI1912	07R1AI1914	07R1AI1916

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				♦at Intake I-1		wal						10	E3		n		0	4	D		E3	•		-	ica i		•	0		•	n	•	•	0		77.	1			•
ID Float	1,224	648			1,130	728	1,123		Ì																								-40.							
Finish ID	24AUG10 2	22MAR12 2		06SEP08A 2	26NOV10 2	02JAN12 2	03DEC10 2				16SEP08A 1	03NOV08A 1	24NOV08A 1		17OCT08A 2		05DEC08A 2	03OCT08A 1	04NOV08A 1	07NOV08A 1	18NOV08A 1	19NOV08A	21NOV08A 1	25NOV08A 1	05DEC08A 2	1	14JUL08A 1	13SEP08A 1		16SEP08A 1	17NOV08A 1	2	19APR08A 2	05SEP08A 1	16MAR09A 1	13MAR09A 1	23APR09A 1			10JUL08A 1
Start											16SEP08A 12SEP08A		24NOV08A 11NOV08A		02SEP08A 17OCT08A 02SEP08A 17OCT08A		03OCT08A 05DEC08A 03OCT08A 05DEC08A	03OCT08A 03OCT08A	04OCT08A 04NOV08A 04OCT08A 04NOV08A	07NOV08A 05NOV08A	08NOV08A 18NOV08A 08NOV08A		-	25NOV08A 22NOV08A	26NOV08A 05DEC08A 26NOV08A			13SEP08A 15JUL08A			17SEP08A 17NOV08A 17SEP08A	26MAR08A		05SEP08A 02MAY08A	05JUN08A 16MAR09A 05JUN08A		23APR09A 10DEC08A			
Finish	24AUG10	22MAR12		06SEP08A	26NOV10	02JAN12	03DEC10						A 24NOVO		A 170CT0		A 05DEC0		A 04NOV0	A 07NOV0	A 18NOV0	19NOV08A	A 21NOVD	A 25NOV0	A 05DEC0		-			16SEP08A	A 17NOV0	Ą	19APR08A		A 16MARO	A 13MAR0				10JUL08A
Dur Dur Start	0	0		0	0	0	0				3 12SEP08A	22 17SEP08A	12 11NOV08A		30 02SEP08		64* 03OCT08	1 03OCT08A	26 04OCT08	3 05NOV08A	2 08NOV08	0	2 20NOV08A	3 22NOV08A	10 Z6NOV08		0	51 15JUL08A		0	51 17SEP08	0 Z6MAR08A	0	30 02MAY08A	30 05JUN08		72 10DEC08A			0
Dur Dur	0	0		0	0	0	0				m		12 1		30 3		.49	-	26 2	ю	2	0	2	3	10		0	51		0	51 6	0	0	30	30		-			0
Description	7R 9; On completion of spiral access ramp	7R 10; On completion of all works under this CC	Schedule of Milestones for Cost Centre No. 11R	11R 1; On completion of soil nailing works	11R 2; On completion of piling at platform	11R 3; On completion of piling at branch access	11R 4; On completion of all works under this CC	Construction of Intake I-2	Works	Additional Gl Works to Finalize Design	Erect platform/mibilization & set up GI rig	Drill 3 nos. Gl holes for Intake Structures	Drill 1 hale for Intersection with Main Tunnel	Diversion of CLP Overhead Cable	Temporary diversion of CLP overhead cable	Dievrsion of 100mm Watermain	Temporary Diversion of 100mm dia. Watermain	Issue VO35 for temp, diversion	Preparation works	Install steel support	Lay new watermain	Obtain ICE certificate for temp. support	Pressure test	Sterilise new pipe & take water sample	Watermain connection by WSD	VO #11; Transperant Hoarding at I-2	Receive VO11 for transparent hoarding	Procure/prepare/install transparent hoarding	VO#32; Replace Hoarding by Chain Link Fence	Receive VO-32 for replacing hoarding by CLF	Procure/prepare/install transparent hoarding	Possession of Portion B -90d of DOC	Obtain TTA (ingress & egress) approval	Site clearance	Erect hoarding	Install remote contorl CCTV as per ER 4.4.10	Tree transplanting; 1 no.	Stream Diversion/Approach Channel/H-Pile Wall	Revised Layout of Pile Wall at I-2	Received VO22 for revised layout of pile wall
Y	07R1AI1918	07R1AI1920	Schedule of	11R2AI1R02	11R2AI1R04	11R2AI1R06	11R2AI1R08	Constructio	Preliminary Works	Additional GI	AGIB-02	AGIB-04	AGIB-06	Diversion of C	01R1BU0102	Dievrsion of 1	01R1BU0202	01R1BU0204	01R1BU0206	01R1BU0208	01R1BU0210	01R1BU0212	01R1BU0214	01R1BU0216	01R1BU0218	VO #11; Trans	VO011-02	VO011-04	VO#32; Replac	VO032-I202	V0032-1204	01R1Bl2102	01R1Bl2104	01R1BI2108	01R1BI2112	01R1BI2116	16R7BI2002	Stream Dive	Revised Layor	VO022-02

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VO022-04	SOR confirmed to demolish exit. ret. wall	38	38	11JUL08A	21AUG08A 11JUL08A	21AUG08A	1	<b>13</b>			
VO022-06	Demolish existing retaining wall	,	1 13	SEP08A	13SEP08A 13SEP08A	13SEP08A	-				
VO022-16	Reinstate piling platform	2	2 16	16SEP08A	17SEP08A 16SEP08A	17SEP08A		-			
Phase 1; Cons	Phase 1; Construct 550 dia, H-pile Wall										
12R3BI2202	Form temp, access ramp along west side of stream	44	44	10JUN08A	31JUL08A   10JUN08A	31JUL08A	-	n			
12R3BI2204	Additional SI & engineering works	56	26 25	25AUG08A	24SEP08A 25AUG08A	24SEP08A		0			
12R3BI2206	Mobilize piling rig & set up	ro	5	25SEP08A	30SEP08A 25SEP08A	30SEP08A	·				
12R3BI2208	Construct piles 1 to 18	13	13 02	020CT08A	170CT08A 020CT08A	17OCT08A		n			
12R3BI2210	Piling works stopped by the SOR	œ	8 18	180CT08A	270CT08A 180CT08A	27OCT08A	+	6			
12R3BI2212	Construct piles 19-58	28	28 28	280CT08A	26NOV08A 28OCT08A	26NOV08A		n			
12R3Bl2214	SOR's instruction to delet pile 59	0	0		02DEC08A;	02DEC08A	-	•			
12R3BI2216	Demobilize piling rig	4	4	03DEC08A	06DEC08A 03DEC08A	06DEC08A	-				
12R3BI2218	Construct skin wall/caping beam/u-channel	,0Z	70*	25JUN09	15SEP09   25JUN09	15SEP09	1 80		■58 nos; @ 750mm c/c	750mm c/c	201
12R3BI2220	Excavate for skin wall; 4 bays	60	18	25JUN09	16JUL09 25JUN09	16JUL09	1 80		п		
12R3BI2222	Construct for skin wall; 4 bays	24	24	17JUL09	13AUG09 17JUL09	13AUG09	1 80		n		
12R3BI2224	Construct capping beam; 4 bays	16	16 1	14AUG09	01SEP09 14AUG09	01SEP09	1 80		•		
12R3BI2226	Construct drainage; 4 bays	12	12 0	02SEP09	15SEP09 02SEP09	15SEP09	1 80		a		
Phase 1; Cons	Phase 1; Construct Dry Weather Flow Channel										
08R1BI2202	Excavate for new low flow channel	9	6 27	MAR09A	03APR09A 27MAR09A	03APR09A	-				
08R1BI2204	Construct new low flow channel	9	9	11JUN09	17JUN09 11JUN09	17JUN09	1 -196		-		
08R3BI2208	Remove blcock wall/excavate for gantry footing	12	12 1	8JUN09	02JUL09 18JUN09	02JUL09	1 -196				
08R3BI2212	Construct PC bund wall to protect gantry footing	9	9	03JUL09	09JUL09 03JUL09	6070L60	1 -196		-		33
Phase 2; Cons	Phase 2; Construct Approach Channel West										
08R1B12218	Construct temp. concrete block bund	12	12 0	02NOV09*	14NOV09 02NOV09*	14NOV09	1 43		provision	provision of water pump	
08R1BI2220	Excavate for western portion guide wall & slab	12	12	16NOV09	28NOV09 16NOV09	28NOV09	1 43		£3		
08R1BI2222	Construct western portion of guide wall & slab	20	20	30NOV09	29JAN10 30NOV09	29JAN10	1 43		n		
08R1BI2224	Remove concrete block bund	9	9	30JAN10	05FEB10 30JAN10	05FEB10	1 43				
Phase 3; Cons	Phase 3; Construct Approach Channel North										
08R1BI2226	Construct temp. concrete block bund	9	0 9	01NOV10"	DENOV10 01NOV10*	06NOV10	1 22	av.		provision of water pump	dwnc
08R1BI2228	Excavate for L-shaped retaining wall	12	12 0	08NOV10	20NOV10 08NOV10	20NOV10	1 22			-	3
08R1BI2230	Construct L-shaped retaining wall	18	18 2	2NOV10	11DEC10 22NOV10	11DEC10	1 22				
08R1BI2232	Excavate eastern portion of guide wall & slab	12	12	13DEC10	28DEC10 13DEC10	28DEC10	1 22				
08R1BI2234	Construction of boulder traps; 7nos.	24	24 2	29DEC10	26JAN11 29DEC10	26JAN11	1 22				100
08R1BI2236	Construct eastern portion of guide wall & slab	24	24	27JAN11	26FEB11 27JAN11	26FEB11	1 22	-		n	
08R1BI2240	Remove temp. concrete blook bund	9	9	28FEB11	05MAR11 28FEB11	05MAR11	1 22			+	
Phase 4 - Con	Phase 4 - Construct Remaining Appr. Channel										
08R1BI2242	Remove gantry crane & steel deck	18	18	6DEC11	10JAN12 16DEC11	10JAN12	1 -196				
08R1BI2244	Excavation for remaining approach channel	12	12	11JAN12	27JAN12 11JAN12	27JAN12	1 -196	-			===
08R1BI2246	Construct remaining approach channel	24	24	28JAN12	24FEB12 28JAN12	24FEB12	1 -196	-			
08R1BI2248	Close out last section of guide wall	12	12	25FEB12	09MAR12 25FEB12	09MAR12	1 -196	10		•	ý
08R1B12250	Construct trash arill	43	Ç	25FFR12	CHARACT SEEERS	CLADMOO	401-			•	

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12   21 ZAMARON   2FEBORA   2FEBORA   2 SAMARON   2	Excavate &	Construct Vortex/Drop Shaft										
2 2 2 100,000 274,000	Steel Deck & C	Santry Crane/Noise Enclosure										
Execution for some pine and a construction of the construction of teaching because   2 2 77 ETBORA ATTENDAR A	05L1BI2300	Construct 8 nos, mini piles	24	24	Z0JAN09A	21FEB09A 20JAN09A		-		Wan Kei		
Construct formity for each plane   12   12   12   12   12   12   12   1	05L1BI2301	Erect timber platform for mini piling	4	4	23FEB09A	26FEB09A 23FEB09A		-				
Construction of Peringples agrees   2   2   2   2   2   2   2   2   2	05L1BI2302	Construct 6 nos. mini piles	12	12		12MAR09A 27FEB09/				k n **		
Construction of real-rightie agrees	05L1BI2303	Excavation for footing/pile caps	12	12	13MAR09A	26MAR09A 13MAR09		٠		408		
Freeding growth closes for the control of the con	,05L1BI2304	Construction of footing/pile caps	12	12	27MAR09A	18APR09A 27MAR09		-		H.		
Construct Council of garding about of garding and solutions of solutions of council of garding and solutions of garding and solutions of garding and solutions of garding and garding an	05L1BI2305	Install steel deck	25	25	04MAY09A				75	1		
Install garry care & force and countries   42   42   005EPO   200CT09   1   195   195   1   19	05L1BI2316	Construct footing for gantry crane	12	12	25AUG09	07SEP09 25AUG09			96			
	05L1BI2318	Install gantry crane & noise enclosure	42	42	08SEP09	29OCT09 08SEP09	29OCT09		96	m		
Proteing actually control shart    2   2   10,00,000   11,00,000   11,000	Ground Treatr	ment Works for Vortex Shaft										
Probing a cuttain gouing around shaft   37   37   33,010.08   24AUG08   1316.08   1-156	05L1BI2306	Setting up	2	2	10JUL09	11JUL09 10JUL09	11JUL09		98	following	chanell diversion to we	ty.
Set up for limited and some times   148   300CT09   23MAR10   300CT09   23MAR10   1-198	05L1BI2308	Probing & curtain grouting around shaft	37	37	13JUL09	24AUG09 13JUL09	24AUG09		96			
Set upto fining construction of size as shelf vegener by the construction of set upto fining construction of size as shelf vegener by the construction of size as set up ROD for excavation   118	Excavation an	nd Construction of Vortex Shaft										
Set up for lining going construction   6   6   11NOV11   13DEC11   11NOV11   13DEC11   1   -1566	05L1BI2320	Excavate shaft; +99mPD to +65mPD (30m)	118	118	30OCT09	23MAR10 300CT09	23MAR10		96	i		
Construct Air Vents Shaft         Construct Air Vent Shaft         30         11NOV11         15DEC11         11NOV11         15DEC11         1 10V01         15DEC11         1 10DC11	05L1BI2321	Set up for lining construction	9	9	11NOV11	17NOV11 11NOV11	17NOV11		96		-	
Ferlagoge the platform for RCD operation   15   15   080ECCGRA   270ECCGRA   1   2   200ECCGRA   1   2   200ECCGRA   1   2   2   200ECCGRA   1   2   2   2   2   2   2   2   2   2	05L1BI2322	Construct permanent lining; 30m @ 4m/ 4days	30	30	11NOV11		15DEC11	F	96			
15   15   15   15   15   15   15   15		Construct Air Vent Shaft						l			-1	
13   10   10   10   10   10   10   10			7.4	7		22DEC08 A 08DEC08		7				
## 5 54 54 07JAN08A 13MAR08A 1	05L1B12418	Enlarge the platform for RCD operation	0	0 0		STUECUON CODECCO		-   -	T		4	
## 54 54 07JANUS9A 13MAROSA 13MAROSA 1 13MAROSA 1 19MAROSA 1 1 1 21MAROSA 13MAROSA 11 1 21MAROSA 13MAROSA 1 1 1 21MAROSA 23MAROSA 23MAROSA 1 1 1 21MAROSA 23MAROSA 23MAROSA 23MAROSA 1 1 1 21MAROSA 23MAROSA 1 1-156	05L1BI2420	Mobilize & set up RCD for excavation	a	0	ZBUECUSA	UBJANUSA ZSDECUS		1	Ī		•	
5 5 14MARROSA 19MARROSA 19MARROSA 19MARROSA 1 19MARROSA 19MARROSA 1 19MARROSA 19MARROSA 19MARROSA 1 19MARROSA 23MARROSA 1 1 1 21MARROSA 23MARROSA 21MARROSA 1 1 19S	05L1BI2422	Bore shaft with RCD; 37.5m @1m/day	72	54	07JAN09A	13MAR09A 07JAN09A		-				
## 1 21MAR09A 23MAR09A 23MAR09A 1	05L1BI2424	Demobilize RCD rig	22	2	14MAR09A	19MAR09A 14MAR09			1	provision of	TA	
## 1 1 21MAR08A 25APR08A 1	05L1BI2426	Install permanent steel liner	ო	60	20MAR09A	23MAR09A 20MAR09						
1	05L1BI2427	Preparation works for casting concrete	-	-	21MAR09A	25APR09A 21MAR09		-				
31   31   27APR09A   04JUN09   27APR09A   04JUN09   1   196   1	05L1BI2428	Damage found on installed steel liner	0	0			-	-		•		
17   17   05JUNO9   24JUNO9   24JUNO9   1-196   1-19	05L1BI2429	Removal of steel liner	31	31	27APR09A				96			
12 12 25JUN09 09JUL09 1 -196  0 0 0 0 0 09JUL09 25JUN09 1 -196  12 12 02NOV09* 14NOV09 02NOV09* 14NOV09 1 -96  36 36 16NOV09 29DEC09 16NOV09 29DEC09 1 -96  6 6 8 30DEC09 06JAN10 20FEB10 1 -96  3 3 22FEB10 24FEB10 27FEB10 1 -96  3 3 25FEB10 27FEB10 27FEB10 1 -96  3 3 25FEB10 27FEB10 27FEB10 1 -96  14AUG09 10JUL09 14AUG09 1 -50  15 1 10JUL09 14AUG09 15AUG09 1 -50  16 1 -96  17 -96  18 1 31 10JUL09 14AUG09 15AUG09 1 -50  18 1 1 15AUG09 28AUG09 1 -50  18 1 1 15AUG09 1 15AUG09 1 1 -50  18 1 1 15AUG09 1 15AUG09 1 15AUG09 1 1 -50  18 1 1 15AUG09 1 15AUG09 1 15AUG09 1 1 -50  18 1 1 15AUG09 1 15AUG09 1 15AUG09 1 1 -50  18 1 1 1 15AUG09 1 15AUG09 1 15AUG09 1 1 -50  18 1 1 1 15AUG09 1 15AUG09 1 1 -50  18 1 1 1 15AUG09 1 15AUG09 1 1 -50  18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	05L1BI2430	Remove RCD platform	11	17			24JUN09		96			
12   12   12   12   14   14   14   15   15   15   15   15	05L1BI2432	Construct PC bund wall	12	12	25JUN09		607/UL09		96			
12   12   02NOV09*   14NOV09   29DEC09   1   -96     -96     -96     -96     -96     -96       -96       -96       -96       -96       -96       -96       -96       -96       -96       -96       -96       -96     -96         -96         -96         -96         -96	05L1BI2434	Divert channel to West	0	0		607NF60	607INF60		96	•		
36   36   16NOV09   29DEC09   16NOV09   29DEC09   1 - 36	05L1BI2436	Footing for gantry crane	12	12		14NOV09 02NOV09		-	96			
6 6 6 30DEC09 06JAN10 20FEB10 1 -96 36 36 07JAN10 20FEB10 22FEB10 1 -96 3 3 22FEB10 27FEB10 27FEB10 1 -96 3 3 22FEB10 27FEB10 27FEB10 1 -96 4 24 04MAR10 27MAR10 01MAR10 27MAR10 1 -96 4 34 35 10JUL09 14AUG09 10JUL09 14AUG09 1 -50  12 12 15AUG09 28AUG09 18AUG09 1 -50  12 12 15AUG09 28AUG09 28AUG09 1 -50  13 30DEC09 06JAN10 20FEB10 1 -96  14 -96  15 15 15AUG09 15AUG09 28AUG09 1 -50  16 1 -96  17 -96  18 1 10JUL09 14AUG09 15AUG09 1 -50  18 1 10JUL09 15AUG09 1 -50  18 1 10JUL09 15AUG09 1 -50  18 1 10JUL09 15AUG09 1 -50  18 1 10JUL09 1 -50  18 1	05L1BI2438	Erection of gantry crane	36	36		29DEC09 16NOV09			96	18		
36 36 07JAN10 20FEB10 1 -96 3 3 22FEB10 24FEB10 1 -96 3 22FEB10 24FEB10 1 -96 4 24 24 01MAR10 27FEB10 27FEB10 1 -96 4 24 24 01MAR10 27MAR10 01MAR10 27MAR10 1 -96  1aft 31 31 10JUL09 14AUG09 10JUL09 14AUG09 1 -50  12 15AUG09 28AUG09 15AUG09 1 -50  Including 1 wk concrete strength	05L1BI2440	Set up sliding system	ဖ	9	30DEC09	-			96			
3 3 22FEB10 24FEB10 24FEB10 1 -96   fipallowing consent from the SOR   fipallowing con	05L1BI2446	Install steel casing	36	36	_	-	20FEB10		96	0		
3 3 25FEB10 27FEB10 17FEB10 1 -96 Hindlowing consent from the SOR 24 24 01MAR10* 27MAR10* 1 496   Hindlowing consent from the SOR 35 24 24 01MAR10* 27MAR10* 14AUG09 10JUL09 14AUG09 1 -50   Hindloding 1 wk concrete strength 10JUL09 15AUG09 1 -50   Hindloding 1 wk concrete strength	05L1BI2448	Survey checking & capping concrete	က	8		24FEB10 22FEB10		-	96			
24         24<	05L1BI2450	Preparation & concreting	e	m		27FEB10 25FEB10			96		following consent from the	ne SOR
naft 31 31 10JUL09 14AUG09 10JUL09 14AUG09 1 -50 10JUL09 15AUG	05L1BI2452	Construct upstand wall	24	24	01MAR10"	27MAR10 01MAR10			96			
naft         31         31         10JUL09         14AUG09         10JUL09         14AUG09         15AUG09         15AUG09         28AUG09         15AUG09         15AUG09 <td>Excavate &amp;</td> <td>Construct Man Access Shaft</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>No.</td>	Excavate &	Construct Man Access Shaft										No.
Probing & curtain ground shaft         31         31         10JUL09         14AUG09         14AUG09         1         -50           Ine & Noise Enclosure at M. A. Shaft         Excavate & construct 4 nos. gantry footings         12         12         15AUG09         28AUG09         28AUG09         1         -50	Ground Treat	ment for Man Access Shaft										
ne & Noise Enclosure at M. A. Shaft  Excavate & construct 4 nos. gantry footings 12 12 15AUG09 28AUG09 15AUG09 28AUG09 1 50	05L1BI2502	Probing & curtain grouting around shaft	31	31		14AUG09 10JUL09	14AUG09		20	11		
Excavate & construct 4 nos. gantry footings 12 12 15AUG09 28AUG09 15AUG09 28AUG09 1 -50	Gantry Crane	& Noise Enclosure at M. A. Shaft	-					1				80
	05L1BI2504	Excavate & construct 4 nos. gantry footings	12	12	-	28AUG09 15AUG09			20	Pinclud	ng 1 wk concrete streng	s

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	Description	and	om	Slari	Finish Start			Float	
05L1BI2505	Install gantry crane & noise enclosure	36	36	29AUG09	120CT09 29AUG09	9  120CT09	÷	-20	■provision of TTA
LS and Exca	ELS and Excavation upto Rock Head Level at M.A.								
05L1BI2503	Install sheet piles	9	9	15AUG09	21AUG09 15AUG09	3 21AUG09	-	44	
05L1BI2506	Excavation to rock head level	48	18	130CT09	03NOV09 13OCT09	9 03NOV09	+	-50	124
xcavation &	Excavation & Construction of Man Access Shaft								
05L1BI2508	Excavation/muck out/temporoary support	127	127	04NOV09	12APR10 04NOV09	3 12APR10		-50	1
05L1BI2522	Construct base	4	4	15MAR11	18MAR11 15MAR11	1 18MAR11		-50	after construction of man access adit
05L1BI2524	Set up for 37m shaft construction (wall only)	9	9	19MAR11	25MAR11 19MAR11	1 25MAR11		-50	-
05L1BI2526	Construct wall/stair, 25 landings @ 3 days/land	75	75	26MAR11	28JUN11 26MAR11	1 28JUN11	+	-50	11
05L1BI2528	Removal of gantry crane	12	12	29JUN11	13JUL11 29JUN11	13JUL11	٠	-50	
05L1BI2530	Construct wall above ground level	00	60	14JUL11	22JUL11   14JUL11	22JUL11		-50	
05L1BI2532	Construct shaft roof	12	12	23JUL11	05AUG11   23JUL11	05AUG11	٠	-50	-
Excavate &	Construct Deseration Chamber	4							
05L1B12602	Probing/grout/excavate/muckout/temp.support	72	72	24MAR10	23JUN10 24MAR10	0 23JUN10	-	-196	top heading 4m deep 17m, @0.2m/day = 72
05L1BI2604	Drill/excavate/muckout/temp. support for bench	20	50	24JUN10	21AUG10 24JUN10	21AUG10	-	-196	4.5m deep=22'4.5'9=891m3, 17.8m3/day
05L1BI2607	Drill/excavate/muckout/temp. support for bottom	20	20	23AUG10	220CT10 23AUG10	0 22OCT10	-	-196	4.5m deep=22*4.5*9=891m3, 17.8m3/day
05L1BI2608	Set up for lining construction	12	12	26AUG11	08SEP11 26AUG11	1 08SEP11	-	-196	-
05L1BI2610	Construct base; 3 bays	თ	တ	09SEP11	20SEP11 09SEP11	1 20SEP11	-	-196	
05L1BI2612	Construct walls 2 lifts; 3 bays	24	24	21SEP11	200CT11 21SEP11	200CT11	-	-196	
05L1BI2614	Const. crown/underpin. of air vent & drop shafts	18	18	210CT11	10NOV11 210CT11	1 10NOV11	-	-196	
cavate &	Excavate & Construct Main Adit Tunnel	4	N						
3BL1BI2102	Probing/grout/temp, support/excavation/muck out	200	200	230CT10	27JUN11 23OCT10	127JUN11	+	-196	56m @ 4m/11 days
3BL1BI2104	Construct permanent lining	20	20	28JUN11	25AUG11 28JUN11	25AUG11	-	-196	including 5 days for setup of mould
cavate &	Excavate & Construct Man Access Adit								
pper Horizo	Upper Horizontal Section								
05L1B12806	Probing/gorut/excavate/muckout/temporary support	90	90	13APR10	30JUL10 13APR10	3030110	1	-50	■26m, @ 4 m/9 day
05L1Bl2830	Set up for 23m upper adit construction	9	ω	26JAN11	01FEB11   26JAN11			-50	
05L1BI2834	Construction of permanent lining	32	32	02FEB11	14MAR11 02FEB11	14MAR11	-	-50	ZM.
Vertical Section	ou								
05L1BI2807	Probing & curtain grouting around shaft	24	24	31JUL10	27AUG10 31JUL10		-	-50	
05L1B12808	Set up for 7.2m raise (shaft) excavation	2	2	28AUG10	30AUG10 28AUG10		,-	-50	
05L1BI2810	Excavate/removal of rock/temporary support	24	24	31AUG10	28SEP10 31AUG10			-50	■@ 0.3m/day & night
05L1BI2822	Construct base of raise shaft	4	4	09DEC10	13DEC10 09DEC10	0 13DEC10	-	-50	
05L1BI2824	Set up for 9m raise stairway const. (wall only)	9	ő	14DEC10	20DEC10 14DEC10	0 20DEC10	-	-50	
05L1BI2826	Construct wall & stair, 7 landings @4days/landin	28	28	21DEC10	25JAN11 21DEC10	0 25JAN11	-	-50	
ower Horizo	Lower Horizontal Section								
05L1BI2812	Set up for 9.3m lower adit excavation	2	2	29SEP10	30SEP10 29SEP10	30SEP10	,	-50	
05L1BI2814	Excavate/removal of rock/temporary support	31	31	02OCT10	08NOV10 02OCT10			-50	■@0.3m/day & night
05L1BI2816	Set up for 7m lower adit construction	9	ω	09NOV10	15NOV10 09NOV10	0 15NOV10		-50	
	tille a married and a mind demand to the married of the second	CC	00	16NOV10	ORDEC10 16NOV10	OF DEDECTO	*	50	

Junction Between Main Tunnel & Adit Tunnel								
			Ì.			1		
Temp. support & excavation breakthrough	48	48 2	26AUG11	240CT11 26AUG11	240CT11	-	-127	
Construct collar between MT & AT	48	48 2	250CT11	19DEC11 250CT11	19DEC11	-	-127	
Remaining Works Prior to Handover		ā	į					
Finishing & reinstatement works; Portion B	98	36 0	04FEB12	16MAR12 04FEB12	16MAR12	-	-196	100
Pre-handover inspections and remedial works	30	30	18FEB12	23MAR12 18FEB12	23MAR12	, ·	-196	
Contractor serve notice for Works completion	2	7 2	24MAR12	30MAR12 24MAR12	30MAR12	2	0	
SO issues completion certificate	21	21 3	31MAR12	20APR12 31MAR12	20APR12	2	0	•
Landscaping works at Portion B	72	72 1	16DEC11	16MAR12 16DEC11	16MAR12	-	-158	
Establishment Works at Portion B	-	365 1	7MAR12	16MAR13 17MAR12	16MAR13	2 -	-196	
Install flow measurement devices at Intake I-2	12	12 0	07FEB12	20FEB12 07FEB12	20FEB12	1	-184	
Maintain & monitor flow monitoring	365	365 2	21FEB12	19FEB13 21FEB12	19FEB13	2	0	
Schedule of Milestones for Cost Centre No. 3bL								
3bL 1; On establishing tunnelling equipments	0	0		220CT10	220CT10	2 1,	1,165	equipment for tunnelling at Intake I-2
3bL 2; On completion of 12,5% perm. tunnel linin	0	0		18NOV10	18NOV10	2 1,	1,138	◆for Adit Tunnel at Intake I-2
3bL 3; On completion of 25% perm. tunnel lining	0	0		16DEC10	16DEC10	2 1.	1,110	♦for Adit Tunnel at Intake I-2
3bL 4; On completion of 37.5% perm. tunnel linin	0	0		15JAN11	15JAN11	2 1,0	1,080	◆for Adit Tunnel at Intake I-2
3bL 5; On completion of 50% perm. tunnel lining	0	0		15FEB11	15FEB11	2 1,0	1,049	◆for Adit Tunnel at Intake I-2
3bL 6; On completion of 62.5% perm. tunnel linin	0	0		15MAR11	15MAR11	2 1,0	1,021	offor Adit Tunnel at Intake I-2
3bL 7; On completion of 75% perm. tunnel lining	0	0		12APR11	12APR11	N	993	♦for Adit Tunnel at Intake I-2
3bL 8; On completion of 87.5% perm. tunnel linin	0	0		09JUL11	09JUL11	2	905	◆for Adit Tunnel at Intake I-2
3bL 9; On completion of perm. tunnel lining	0	0		25AUG11	25AUG11	2	858	♦for Adit Tunnel at Intake I-2
3bL 10; On completion of all works under this CC	0	0		19DEC11	19DEC11	2	742	◆under this Cost Centre
Schedule of Milestones for Cost Centre No. 5L						4		
5L 1: On completion of 25% of excavation	0	0		08DEC09	08DEC09	2 1,4	1,483	♦ below G.L except for Adit at Intake I-2
5L 2; On completion of 50% of excavation	0	0		12APR10	12APR10	2 1,	1,358	Delow G.L. except for Adit at Intake I-2
5L 3; On completion of 75% of excavation	0	0		23JUN10	23JUN10	2 1,	1,286	♦belowe G.L. except for Adit at Intake I-2
5L 4; On completion of all excavation	0	0		220CT10	220CT10	2 1.	1,165	◆below G.L. except for Adit Intake I-2
5L 5; On completion of drop shaft & vortex shaft	0	0		15DEC11	15DEC11	5	746	◆vortex shaft at Intake I-2
5L 6; On completion of de-aeration chamber	0	0		10NOV11	10NOV11	. 2	781	◆chamber at Intake I-2
5L 7; On completion of air vent shaft	0	0		27MAR10	27MAR10	2 1,	1,374	♦shaft at Intake I-2
5L 8; On completion of man access shaft	0	0		05AUG11	05AUG11	2	878	◆shaft at Intake I-2
5L 9; On completion of man access adit	0	0		14MAR11	14MAR11	2 1,	1,022	adit at Intake I-2
5L 10; On completion of all works under this CC	0	0		23MAR12	23MAR12	2	647	under this Cost Centre
Schedule of Milestones for Cost Centre No. 8R		ı				ŧ		
		ł				H		
8R 1; On completion of approach channel	0	0		09MAR12	09MAR12	-		channel and assiciated decking at Intake I-2
8R 2; On completion of trash grill	0	c		0000000	0.40 0.40	c		クー 0 c n + n + n + n + n + n + n + n + n + n

al zoos 2010 2011 2012 2013 at	47 under this Cost Centre.◆		◆wall at Intake I-2	◆wall at Intake I-2	0.	underthi							•	1								153	J						0		17	17	14	12					B	
Total	2 647	ķ	2	2	2 1,069	2 647	1			-	-		-	_		7 ,	- ,	- ,		ı	ı	2	-	4-	-	-	-	-	<b>-</b>	-	-	_	-	-			-	_	-	-
WP3D Finish	23MAR12		06NOV08A	26NOV08A	26JAN11	23MAR12				05NOV08A	19NOV08A		16SEP08A	06MAR09A			20SEP08A	SUJULUSA	USJULUBA 10NOVOBA	ABOVONO		26APR08A	13SEP08A	21JUN08A	04JUL08A	13SEP08A	OSMAROSA	15JUL08A	12SEP08A	09MAR09A	30JAN10	16NOV09	18DEC09	30JAN10			16AUG08A	28AUG08A		26NOV08A
AD04 WP3D Finish : Start	23MAR12		06NOV08A	26NOV08A	26JAN11	23MAR12				03NOV08A 05NOV08A 03NOV08A 05NOV08A	06NOV08A 19NOV08A 06NOV08A 19NOV08A		16SEP08A	06MAR09A 17SEP08A		ZOWARUGA	20SEP08A 22APR08A	SUJULUSA USJUNUSA	JONOVORA SUJUNUSA	10140V08A 2000108A		26APR08A 01APR08A	13SEP08A 04JUN08A	21JUN08A 04JUN08A	04JUL08A 04JUL08A	13SEP08A 08SEP08A	09MAR09A 21JUN08A	15JUL08A 21JUN08A	12SEP08A 15JUL08A	09MAR09A 28FEB09A	30JAN10 12NOV09	16NOV09 12NOV09	18DEC09 15DEC09	30JAN10 20JAN10			AUG08A 16AUG08A 11AUG08A	28AUG08A 18AUG08A		26NOVO8A 26NOVO8A
5 AD64 Start	0	i	0	0	0	0				3 03NOV08A			0	0: 17SEP08A		U ZBIVIARUOA			SUSUINUSA SUSUINUSA	_		7 01APR08A	6	2 04JUN08A	2 04JUL08A	6 08SEP08A	* 21JUN08A	3 21JUN08A	3 15JUL08A	8: 28FEB09A	_	4 12NOV09	4 15DEC09	20JAN10			6 11AUG08A	1 18AUG08A	1 29AUG08A	1 26NOV08A
Dur Dur	L		L				ŀ				12			80		+	+	4	-	ı		H	*86*				1* 214*				* 66*			10			v			ľ
Dow	0	Ĭ	0	0	0	0	ŀ			က	12		0	80		<b>D</b>   9	04	5	2 0	7		7	*98	2	2	9	214*	ю	ю	00	*99	4	4	10			9	-	-	-
Activity Description	8R 3; On completion of all works under this CC	Schedule of Milestones for Cost Centre No. 12R	12R 1; On completion of 50% pile retain. wall	12R 2; On completion of pile retain. wall	12R 3; On completion of boulder traps	12R 4; On completion of all works under this CC	Construction of Intake I-3	Works	Additional GI Works To Finalize Design	Erect platform/mibilization & set up GI rig	Drill 3 nos. GI holes for Intake Structures	VO#32; Replace Hoarding by Chain ∐nk Fence	Received VO-32 for replacing hoarding by CLF	Procure/prepare/install transparent hoarding		Possession of Potton C-900 of DOC	Site clearance	naording at slope crest	bet-up wheel washing lacintes	install remote control oct v as per EN 4:4:10	Tree Transplanting Works	Tree inspection & report	Tree transplant for upper parts; 8 nos.	1st stg tree pruning	2nd stg tree pruning	Final stg. tree pruning & tree uplifting	Tree transplanting at Ch250-Ch200); 20 nos.	1st stg tree pruning	2nd stg tree pruning	Final stg tree pruning & tree uplifting	Tree transplanting at Ch100-Ch0	1st stg tree pruning	2nd stg tree pruning	Final stg tree pruning & tree uplifting	H-Pile Retaining Wall for Wall A		Mobilize & set up piling rig	Drill 28 nos. grout (partially) 11 nos. piles	Piling stopped due to accessive grout loss	Piling resumed date
Ω	08R1BI2R06	Schedule of	12R3BI2S02	12R3BI2S04	12R3BI2S06	12R3BI2S08	Constructio	Preliminary Works	Additional GIV	AGIC-02	AGIC-04	VO#32; Replac	VO032-I302	V0032-I304	0000	0181013102	01R1CI3104	0181013100	01R1CI3110	BILICINIO	Tree Transp	16R7CI3202	16R7CI3204	16R7CI3206	16R7CI3208	16R7CI3210	16R7Cl3212	16R7CI3214	16R7Cl3216	16R7Cl3218	16R7Cl3220	16R7CI3222	16R7CI3224	16R7CI3226	H-Pile Retair	Piling Works	13R4Cl3400	13R4Cl3401	13R4CI3402	13R4CI3403

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10	Q	Activity Description	AD04 WP3D Dur Dur		AD04 Start	AD04 WP3D Finish Start	WP3D Finish	Cal Total			No.		CHIS CHIS
Comparison of the control of the c	13R4CI3405	Complete all H-piles, Wall A; 347nos.	02	_		1JAN09A 18AUG08A			I.				
Control of the cont	Skin Wall												
If you can be supposed to the benchmark of the benchmark	13R4CI3406	Excavate for skin wall construction; 2130m3	09			2MAR09A 14JAN09A		-					2.3
Truct Control of Jeanneys	13R4CI3408	Hack off piles; piles 1 to 347	48			2APR09A 04FEB09A		-	- 1		2001		103
Variation Area   Vari	13R4Cl3410	Construct skin wall;	09	CA.		9MAY09A 28FEB09A		-		11			233
Second Particle   Comparison	13R4CI3414	Construct for capping beams;	24		-	04JUN09 14APR09A			14	U.			
Second   Augustion Augustion Augustion Augustion Augustion Augustion Augustion Augustion Augustion Augustion Augustion Augustion Caroling & grouting plants   4   125EP08A   175EP08A   1	13R4Cl3416	Construct U-channels	37	37 06		18JUN09 06MAY09A		-		0			NEC.
Abea         Tile         GASEPOBA         280CTOBA         178         18         18         085EPOBA         178EPOBA	Soil Nailing	Works											S <sup>*</sup>
minor soil nailing thinks the factorial plants the	Soil Nailing Oc	utside Excavation Area											90
Charles   Colore   Colored   Color	13R1CI3502	Scaffolding platform for soil nailing	18			SOCTORA 08SEPOBA		-		110			
Color   Colo	13R1Cl3504	Mobilize & set up drilling & grouting plants	4			7SEP08A 12SEP08A		-	-			72.0	
Ch. 270-210 In mails Ch. 130-210 In mails Ch. 140-210 3R1Cl3506	Install & grout soil nails; 193 nos. + 8 Test N.	69			9DEC08A 18SEP08A		· -				200		
Chicago	Soil Nailing M	Vithin Excavation; Ch. 270-210											
Ch. 210-130         1177         1178         1177         1178         1177         1178	13R1Cl3508	Install & grout soil nails	58*			DEOCTO9 29JUL09	06OCT09						
Inails   Cir.130-0	Soil Nailing W	Ithin Excavation: Ch. 210-130											(10)
Inteligence	13R1CI3510	Install & grout soil nails	117*		JEC08A 1	1MAY09A 12DEC08A		-		1		-2	£
ation         267 267 267 27 200 200 225EP10         300 CT09         225EP10         300 CT09         225EP10         4 7 235           mit for soil nailing         mit for soil nailing         267 267EB10         230 CT09         230 CT09         1 235           Inalis; 261 no.s + 3 Test N, 100         100         240 CT09         25FEB10         240 CT09         25FEB10         1 235           Aluded VO#043         200 CT09         25FEB10         240 CT09         25FEB10         240 CT09         25FEB10         1 235           and into concrete         12 CTB 00 CT09         25FEB10         240 CT09         25FEB10         1 235         25FEB10		Vithin Excavation; Ch.130-0											
### Figure 10	13R1Cl3512	Install & grout soil nails	267*			22SEP10 30OCT09	22SEP10						(8)
Inalis, 261 no.s + 3 Test N,   100   100   240CT09   230CT09   100CT09   1	Rem. Soil Nail	ing Outside Excavation											N.
Inalis, 261 no.s + 3 Test N,   100   100   24OCT09   25FEB10   24OCT09   25FEB10   1   235	13R1Cl3522	Scoffolding platform for soil nailing	12	_		23OCT09 10OCT09	23OCT09	_70		**			
Second   Charles   Charl	13R1Cl3532	Install & grout soil nails; 261 no.s + 3 Test N.	100			25FEB10 24OCT09	25FEB10						
y Works for Works included VO#643         Q2FEB09A         Q2FEB0BA	Access Roa	d Construction											
Receive VO for revising design	Preliminary W	orks for Works included VO#043											701
Procurement of lean mix concrete   12   12   06MAY09A   14MAY09A   14MAY09A   14MAY09A   1   1566	VO043-010	Receive VO for revising design	0	0	0	2FEB09A	02FEB09A	-		•			
to Procurement of lean mix concrete         12         12         06MAY09A         14MAY09A         14MAY09A         14MAY09A         1         156         Posting & approval of lean mix concrete         18         15 I 5MAY09A         06JUN09         15MAY09A         156         Posting         1         1         156         Posting         1         1         156         Posting         1 </td <td>VO043-020</td> <td>Recieve amendment to VO#043</td> <td>0</td> <td>0</td> <td>0</td> <td>5MAY09A</td> <td>05MAY09A</td> <td>2</td> <td></td> <td>•</td> <td></td> <td></td> <td></td>	VO043-020	Recieve amendment to VO#043	0	0	0	5MAY09A	05MAY09A	2		•			
to Protect Retained Trees; VO #043         18         15 I5MAY09A         06JUN09         156 <td>VO043-030</td> <td>Procurement of lean mix concrete</td> <td>12</td> <td></td> <td></td> <td>4MAY09A 06MAY09A</td> <td></td> <td>÷</td> <td>&lt;0.</td> <td>-</td> <td></td> <td></td> <td></td>	VO043-030	Procurement of lean mix concrete	12			4MAY09A 06MAY09A		÷	<0.	-			
to Protect Retained Trees; VO #043  Setting out at site  Excavate & muck out manually, 50m @ 4m/day	V0043-040	Testing & approval of lean mix concrete	18			OGJUNO9 15MAY09A				•			143
Setting out at site	Mass Wall to F	Protect Retained Trees; VO #043											
Erect formwork; 70m2 @ 14m2/day   5   5 04MaY09A   30APR09A   29APR09A   30APR09A   1	VO043-120	Setting out at site	69		- 3	8APR09A 03FEB09A		•		H			
Set up for connetting   Set up for connecting   Set	VO043-130	Excavate & muck out manually, 50m @ 4m/day	2			10APR09A 29APR09A		•	0	-			80
S70; VC# 043         Pour concete & removal of formwork         2         2         0 8MAY09A         0 8MAY09A         1 MAY09A         1         1         1         1         370; VC# 043         370; VC# 043         1 MAY09A         <	VO043-140	Erect formwork; 70m2 @ 14m2/day	2			BMAY09A 04MAY09A		-	-5				
370; VO# 043         Pour concrete & removal of formwork         2         2         0 9MAY09A         11MAY09A         11M	VO043-150	Set up for conreting	2	1		9MAY09A 08MAY09A		-	000				
370; VO# 043         Bulk excavation for benching; 1061 @ 45m3/day         12         12         29MAY09         11JUN09         29MAY09         11JUN09         28JUL09         1 - 160           Ch. 270; VO #043         Fill & compaction; 39 layers @ 1 day/layer         39         39         12JUN09         28JUL09         12JUN09         28JUL09         1 - 160           Excavation for access road Ch. 370 to 310         4         4         29JUL09         01AUG09         29JUL09         01AUG09         1 - 160           Bulk excavation for benching; Ch. 310 to 270         5         5         03AUG09         07AUG09         07AUG09         1 - 160           Fill & compaction lean mix concerete; 15 layers         15         15         08AUG09         25AUG09         1 - 160           Above Access Road; Ch. 460-270         16         16         26AUG09         12SEP09         1 - 150	VO043-160	Pour concrete & removal of formwork	2			1MAY09A 09MAY09A		-					300
Bulk excavation for benching;1061 @ 45m3/day   12 29MaY09   11JUN09 29MaY09   11JUN09   1 -160     Fill & compaction; 39 layers @ 1 day/layer   39   12JUN09   28JUL09   12JUN09   12JUN09   1 -160     Excavation for access road Ch. 370 to 310   4   4   23JUL09   01AUG09   23JUL09   01AUG09   1 -160     Bulk excavation for benching; Ch. 310 to 270   5   5   03AUG09   03AUG09   03AUG09   01AUG09   1   -160     Fill & compaction lear mix concerete; 15 layers   15   15   08AUG09   25AUG09   25AUG09   1   -160     & Above Access Road; Ch. 460-270   16   16   26AUG09   12SEP09   12SEP09   1   -139	Ch.460 to 370;	VO# 043										20	
h. 270; VO #043         A. 270; VO #043         A. 29JUL09         28JUL09         12JUN09         28JUL09         12JUN09         28JUL09         1 -160           Excavation for access road Ch. 370 to 310         4         4 29JUL09         07AUG09         23JUL09         01AUG09         1 -160           Bulk excavation for benching; Ch. 310 to 270         5         5 03AUG09         07AUG09         07AUG09         1 -160           Fill & compaction lear mix concertet; 15 layers         15         15         08AUG09         25AUG09         07AUG09         1 -160           Above Access Road; Ch. 460-270         16         16         16         25AUG09         12SEP09         1 -139	VO043-060	Bulk excavation for benching; 1061 @ 45m3/day	12		- 1	11JUN09 29MAY09	11JUN09						
h. 270; VO #043         h. 270; VO #043         4         4         29JUL09         01AUG09         1         1         1         25JUL09         01AUG09         1         1         1         1         25JUL09         07AUG09         1         1         1         1         25JUL09         07AUG09         1         1         1         25JUL09         07AUG09         07AUG09         1         1         1         25JUL09         07AUG09         1         1         1         25JUL09         07AUG09         1         1         1         25AUG09         1         25AUG09         1         1         1         25AUG09         1         1         1         25AUG09         1         25AUG09         1         1         1         25AUG09         1         25AUG09         1         25AUG09         1         25AUG09         1         25AUG09         1         25AUG09	VO043-070	Fill & compaction; 39 layers @ 1 day/layer	39			28JUL09 12JUN09	28JUL09				540		
Excavation for access road Ch. 370 to 310         4         4         29JUL09         01AUG09         1           Bulk excavation for benching. Ch. 310 to 270         5         03AUG09         07AUG09         07AUG09         1           Fill & compaction lean mix concerete; 15 layers         15         15         08AUG09         25AUG09         25AUG09         1           Above Access Road; Ch. 460-270         16         16         26AUG09         12SEP09         12SEP09         1	Ch. 370 to Ch.	. 270; VO #043											
Bulk excavation for benching; Ch. 310 to 270         5         63AUG09         07AUG09         07AUG09         1           Fill & compaction lean mix concerete; 15 layers         15         15         08AUG09         25AUG09         25AUG09         1    Above Access Road; Ch. 460-270  Temporary concrete paving & curing  16  16  16  16  16  26  17  26AUG09  12SEP09  12SEP09  17  17  18  18  19  10  10  10  10  10  10  10  10  10	VO043-090	Excavation for access road Ch. 370 to 310	4			01AUG09 29JUL09	01AUG09			-	N I	1	
Fill & compaction lean mix concerete; 15 layers         15 n8AUG09         25AUG09         08AUG09         25AUG09         1           Above Access Road; Ch. 460-270         16 n8 26AUG09         15 seaugner         15 seaugner <t< td=""><td>VO043-100</td><td>Bulk excavation for benching; Ch. 310 to 270</td><td>ις</td><td></td><td></td><td>07AUG09 03AUG09</td><td>07AUG09</td><td></td><td></td><td></td><td></td><td></td><td>725</td></t<>	VO043-100	Bulk excavation for benching; Ch. 310 to 270	ις			07AUG09 03AUG09	07AUG09						725
Above Access Road; Ch. 460-270         16         26AUG09         12SEP09         12SEP09         1	VO043-110	Fill & compaction lean mix concerete; 15 layers	15			25AUG09 08AUG09	25AUG09						
Temporary concrete paving & curing 16 16 26AUG09 12SEP09 26AUG09 12SEP09 1	Works On & A	bove Access Road; Ch. 460-270											
	09R1CI3610	Temporary concrete paving & curing	16		AUG09	12SEP09 26AUG09	12SEP09		1002	-			86

	=10,513m3 @ 225m3/day							II3	•	•		•				11			11	11						•					150mm thick	-					-			atil .		and a pilering
TEN .	321		-160	-160	-160			55			-79	55	-160	-160		17	17		17	17	17		-160	-157	-157	-157	-157		-160	-137	-125	-125		-160	-160	-160	-160			17	17	17
Total	.83		1-1	1	7			-				<del>-</del>	1 -1	1			-		-	-	-		7	-	7	7	7		-	7	1	7		1-1	۲ -		7			+	-	-
WP3D	10NOV09		29SEP09	09OCT09	21OCT09		11MAY09A	26NOV09			25JUN09	12NOV09	06OCT09	17MAY11		13JAN10	30JAN10		22SEP10	11NOV10	19NOV10		05AUG11	29AUG11	17SEP11	080CT11	05AUG11		28JUN11	13JUL11	27JUL11	10AUG11		14SEP11	27SEP11	120CT11	250CT11			17FEB10	24FEB10	03MAY10
4 WP3D	10NOV09 14SEP09		29SEP09 29JUL09	09OCT09 07OCT09	21OCT09 10OCT09		12DEC08A 11MAY09A 12DEC08A	26NOV09 13NOV09	12MAY09A	16MAY09A	409 16MAY09A	12NOV09 22OCT09	T09 30SEP09	17MAY11 26APR11		13JAN10   30OCT09	30JAN10   14JAN10		22SEP10 06AUG10	11NOV10 24SEP10	19NOV10 12NOV10		311 29JUN11	29AUG11 06AUG11	P11 30AUG11	08OCT11 19SEP11	311 09JUL11		N11 18MAY11			G11 28JUL11		P11 06AUG11	27SEP11 15SEP11	T11 28SEP11	T11 130CT11			17FEB10 01FEB10		Y10 25FEB10
AD04 Finish	10NO		29SE	09OC	210C		11MAY	26NO			25JUN09	12NO	06OCT09	17MA		13JAI	30JA		22SE	11NO	19NO		05AUG11	29AU	17SEP11	0800	05AUG11		28JUN11	13JUL11	27JUL11	10AUG11		14SEP11	27SE	120CT11	250CT11			17FE	24FE	D3MAY10
AD04 Start	14SEP09		29JUL09	07OCT09	100CT09			13NOV09	12MAY09A	16MAY09A	16MAY09A	22OCT09	30SEP09	26APR11		300CT09	14JAN10			24SEP10	12NOV10		29JUN11	06AUG11	30AUG11	19SEP11	09JUL11		18MAY11		14JUL11	28JUL11		06AUG11	15SEP11	28SEP11	130CT11			01FEB10	18FEB10	25FEB10
D04 WP3D Jur Dur	47		54	3	10		48	12	0	0	34	18	4	9		62	15		41	40	7		32	20	16	16	24		35	12	12	12		33	11	11	11			12	9	53
Post Post	47		54	က	10		48	12	0	0	34	18	4	60		62	15		41	40	7		32	20	16	16	24		35	12	12	12		33	11	7	11		ŀ	12	9	53
Activity	Excavation of slope batter above access road	210	Excavation & soil nailing	Backfill (grade 200) & compaction	Temporary concrete paving & curing	130	Excavation as per conforming design	Temporary concrete paving & curing	VO#084 revising the design received	Works resumed as per VO #084	Excavate slope profile as per VO#084	Remove excavated material off site; 6000m3	Soil nailing at Ch. 198 to 210	Excavate to access road formation	Ch. 130 to Ch. 0; up to +74.5mPD	Excavation & soil nailing	Temporary concrete paving & curing	Ch. 130 to Ch. 0; below +74.5mPD	Excavate & soil nailing (+74.5 to 88.5mPD)	Excavate rock (88.5 to 63mPD; 3239m3 @ 80m3/day	Backfill (grade 200) & compaction	Drainage & Road Paving; Ch. 460 to Ch. 270	Construct drainage as per VO#090; 190m @ 5m/day	Road formation; 190m @ 12m/day	Lay sub-bse and kerb; 190m @ 12m/day	Concrete paving; 190m @ 12m/day	Green slope arrangement as per VO# 095	Drainage & Road Paving; Ch. 270 to Ch. 130	Construct drainage; 140m @ 4m/day	Backfill trench & road formation; 140m @ 12m/day	Lay sub-base and kerb; 140m @12m/day	Concrete paving; 140m @ 12m/day	Drainage & Road paving: Ch. 130 to Ch. 0	Construct drainage; 130m @ 4m/day	Backfill trench & road formation; 130m @ 12m/day	Lay sub-base & kerb; 130m @12m/day	Concrete paving; 130m @ 12m/day	H-Pile Retaining Wall for Wall B		Form piling platform for Wall B	Mobilize & set up piling rig	350mm dia. pre-bored H-piles, Wall B; 98 nos.
<u>Q</u>	09R1CI3620	Ch. 270 to Ch. 210	09R1CI3624	09R1CI3626	09R1CI3628	Ch. 210 to Ch. 130	09R1CI3630	09R1CI3632	VO-084-02	VO-084-12	VO-084-22	VO-084-26	VO-084-32	VO-084-42	Ch. 130 to Ch.	09R1CI3634	09R1Cl3636	Ch. 130 to Ch.	09R1CI3638	09R1CI3640	09R1CI3642	Drainage & Ro	09R1Cl3664	09R1CI3674	09R1CI3684	09R1CI3694	VO-095-02	Drainage & Ro	09R1Cl3644	09R1CI3646	09R1CI3648	09R1CI3654	Drainage & Ro	09R1Cl3704	09R1Cl3714	09R1Cl3724	09R1CI3734	H-Pile Retair	Piling Works	13R4CI3701	13R4Cl3702	13R4Cl3704

13R4Cl3705 De Skin Wall 13R4Cl3706 Es 13R4Cl3708 Ha 13R4Cl3710 Co 13R4Cl3714 Co 13R4Cl3714 Co 13R4Cl3716 Co Channel Modific River Diversion for 19R1Cl3802 Fe 19R1Cl3806 Co	Description Demobilize piling rig Excavate for skin wall; 48m3	Pur e	Dur Start 6 04MAY10	Finish Start	Start 04MAY10	Finish	1D Float				
13R4Cl3705   De   Skin Wall     13R4Cl3706   Hz   13R4Cl3710   Co   13R4Cl3712   E   13R4Cl3714   Co   13R4Cl3716   Co   Channel Modific   River Diversion for   OPR1Cl3802   F   OPR1Cl3806   Co   Co   OPR1Cl3806   Co   OPR1Cl3806   OPR1Cl3806   OPR1Cl3806   OPR1Cl3806   OPR1Cl3806   OPR1Cl3806   OPR1	emobilize piling rig xcavate for skin wall; 48m3	9			04MAY10	A ORAN VAO					
Skin Wall           13R4Cl3706         Extra Cl3708           13R4Cl3710         Cx           13R4Cl3710         Cx           13R4Cl3714         Cx           13R4Cl3714         Cx           13R4Cl3716         Cx           13R4Cl3802         Fx           13R4Cl3806         Cx           13R4Cl3806         Cx	xcavate for skin wall; 48m3					I DIVIAT 10					
13R4Cl3706 E9 13R4Cl3710 C0 13R4Cl3712 E9 13R4Cl3714 C0 13R4Cl3714 C0 13R4Cl3714 C0 13R4Cl3716 C0 Channel Modific River Diversion for 09R1Cl3802 F1 09R1Cl3806 C	xcavate for skin wall; 48m3										
13R4Cl3710 Co 13R4Cl3712 E 13R4Cl3714 Co 13R4Cl3714 Co 13R4Cl3714 Co 13R4Cl3716 Co Channel Modific River Diversion for 09R1Cl3802 F 09R1Cl3806 C	ock off piles: piles 1 to 08	18	18 11MAY10	01JUN10	11MAY10	01JUN10	1 17	-0			
13R4Cl3710 Co 13R4Cl3714 Co 13R4Cl3714 Co 13R4Cl3716 Co Channel Modific River Diversion for 09R1Cl3802 Fi 09R1Cl3806 C	ack of piece, piece 1 to 50	54	24 26MAY10	23JUN10	26MAY10	23JUN10	1 17				
13R4Cl3712 E9 13R4Cl3714 C0 13R4Cl3716 C0 Channel Modific River Diversion for 09R1Cl3802 F1 09R1Cl3806 C	Construct skin wall; 6 bays	24	24 09JUN10	08JUL10	09JUN10	08JUL10	1 17		4.9		
13R4Cl3714 Control	Excavate for capping beams;	12	12 02JUL10	15JUL10	02JUL10	15JUL10	1 17		**		
13R4Cl3716   Control   C	Construct for capping beams;	8	18 09JUL10	29JUL10	09JUL10	29JUL10	1 17		••		
Channel Modification for 109R1Cl3802 Fr 109R1Cl3804 B 109R1Cl3806 C	Construct U-channels	82	18 16JUL10	05AUG10	16JUL10	05AUG10	1 17		1.2		
River Diversion for           09R1CI3802         Fr           09R1CI3804         B           09R1CI3806         C	Channel Modification Works (Dry Season)										
09R1Cl3802 Fr 09R1Cl3804 Bi	River Diversion for Underground Works										
	Form a temporay plant access to stream	09	60 12DEC08A	8A 04FEB09A 12DEC08A	12DEC08A	04FEB09A		U			
	Break boulders	32	32 05FEB09A	9A 24FEB09A 05FEB09A	05FEB09A	24FEB09A					
	Concrete bedding for bund wall (gabion)	Ε	11 25FEB09A	9A 09MAR09A 25FEB09A	25FEB09A	09MAR09A	•	***			
	Construct bund wall (gabion)	22	22 10MAR09A	9A 30APR09A 10MAR09A	10MAR09A	30APR09A	-	U	П		
09R1Cl3810 Di	Divert channel to south west	0	0	30APR09A		30APR09A	-		•		
Channel Modification Works	on Works							C			
09R1Cl3812 Br	Breaking of large boulders	30	30 02NOV09*	19* 05DEC09 02NOV09*	*60VONZ0	05DEC09	1 21		n		
09R1Cl3814 E	Excavation of the stream bed & make good	24	24 07DEC09	06JAN10	07DEC09	06JAN10	1 21		13		
09R1Cl3816 La	Laying of rock armour	24	24 07JAN10	03FEB10	07JAN10	03FEB10	1 21		n		
09R1CI3818 C	Construct bund wall for approach channel const.	24	24 04FEB10	0 06MAR10 04FEB10	04FEB10	06MAR10	1 21		20 (8)		
09R1Cl3820 Di	Divert channel to south west	0	0	06MAR10		06MAR10	1 21		<b>*</b>		
Excavation for	Excavation for AVS/VS/DC/MAS/MAA	I									73
Open Excavation for	Open Excavation for Underground Structures										450
06L1Cl3906 M	Mobilize drilling rig, backhoes	-	1 300CT09	300CT09 300CT09	300CT09	300CT09	1 -160			V	
06L1Cl3908 E	Excavate/mucking out/temporary support	200	200 31OCT09	07JUL10	31OCT09	07JUL10	1 -160		m0009	■6000m3, 30m3/day = 200	
Excavation & Co	Excavation & Construction of Main Adit										107
		3									51X
3CL1Cl3102 E	Excavation/mucking out/temporary support	40	40 08JUL10	0 23AUG10 08JUL10	08JUL10	23AUG10	1 -134		■10m,	■10m, @0.3m/day	
3CL1Cl3104 C	Construction of permanent lining	24	24 24AUG10	10 20SEP10 24AUG10	24AUG10	20SEP10	1 -134				
Construction of	Construction of Man Access Adit (MAA)				Ī	1					
				-							
	Cast invert; 1 bay	7		-1	15SEP10	22SEP10					
06L1Cl3114 C	Cast walls	12			24SEP10	080CT10					
06L1Cl3116 C	Cast crown	12	12 09OCT10	230CT10	09OCT10	230CT10	1 -160				300
Construction of	Construction of Man Access Shaft (MAS)	1			į		4				
								28			
06L1Cl3122 C	Cast base	m	3 08JUL10	10JUL10	08JUL10	10JUL10					7
	Set up formworks	ဖ	6 12JUL10	17JUL10	12JUL 10	17JUL10	1 -160				
	Construct wall/stair, 14 landings @ 6 days/land.	8	84 19JUL10	27OCT10	19JUL10	270CT10	1 -160	0	g 4 days/ landing -22m & 14 landings	m & 14 landings	
06L1Cl3128 C	Construct wall above ground level	ω	6 31MAR11	07APR11	31MAR11	07APR11	-9				2.22
06L1Cl3129 C	Construct shaft roof	12	12 08APR11	21APR11	08APR11	21APR11	1 -9				

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O)	Activity Description	D04 WP3D Dur Dur	MP3D Dur	AD04 Start	AD04 WP3D. Finish Start	iD WP3D rt Finish		Total 2008 Float	2010 2011 2012 2013
Construction	Construction of Deaeration Chamber (DC)								
06L1Cl3132	Construct base	თ	တ	250CT10	03NOV10 25OCT10	10 03NOV10	_	-160	
06L1Cl3134	Construct walls 2 lifts	12	12	04NOV10	17NOV10 04NOV10	10 17NOV10	7	-160	
06L1Cl3136	Const. crown/underpin of air vent & drop shafts	18	18	18NOV10	08DEC10 18NOV10	10 08DEC10	-	-160	\$0.8.E
Construction	Construction of Vortex Shaft (VS)								
06L1Cl3142	Set up formworks	ဖ	ဖ	17DEC10	23DEC10 17DEC10	10 23DEC10	-	-160	
06L1Cl3144	Construction of drop shaft; 4m high	9	9	24DEC10			τ-	-160	@4m/4days
06L1CI3146	Construction of vortex structure	24	54	04JAN11	31JAN11 04JAN11		+	-160	
06L1Cl3148	Construct remaining of the vortex	18	49	31MAR11	21APR11 31MAR11	11 21APR11	۲۰	-160	
Construction	Construction of Air Vent Shaft Shaft (AVS)	į							
06L1Cl3152	Set up formworks	9	φ	01FEB11	10FEB11 01FEB11	11 10FEB11	7	-160	
06L1Cl3514	Cast 15m high circular wall	15	15	11FEB11	28FEB11 11FEB11	11 28FEB11	F	-160	_
06L1Cl3516	Construct upstand wall	12	12	01MAR11	14MAR11 01MAR11	11 14MAR11	-	-160	
Backfill Arou	Backfill Around Structure								
06L1Cl3162	Granular fill up to +54mPD; 623m3	7	7	09DEC10	16DEC10 09DEC10	10 16DEC10	-	1-160	
06L1Cl3164	Granular fill above +54mPD; 1400m3	41	4	15MAR11	30MAR11 15MAR11	11 30MAR11	-	-160	
Construction									
09R1Cl3172	Excavation for Approach Channel	09	9	01NOV10*	12JAN11 01NOV10*	10* 12JAN11	-	<b>0</b> 0	1
09R1CI3174	Construction of Approach Channel; upstream	82	82	20DEC10	31MAR11 20DEC10		4	œ	1
09R1Cl3176	Construction of boulder trap; 7 nos.	24	24	01NOV11*	28NOV11 01NOV11*	'11* 28NOV11	-	-165	
09R1Cl3177	Construction of Approach Channel; downstream	40	40	01NOV11	16DEC11 01NOV11	11 16DEC11	-	-165	
09R1Cl3178	Construction of trash grill	12	12	17DEC11	04JAN12 17DEC11	11 04JAN12	-	-165	
09R1Cl3179	Removal of concrete bolck bund	9	9	05JAN12	11JAN12 05JAN12	11 11 JAN 12	-	-165	
Junction Be	Junction Between Main Tunnel & Adit Tunnel								
3CL1Cl3106	Temp. support & excavation breakthrough	48	48	19JUL11	12SEP11 19JUL11	11 12SEP11	-	-94	•
3CL1Cl3108	Construct collar between MT & AT	48	48	14SEP11	10NOV11 14SEP11	11 10NOV11	Υ-	-94	
Remaining V	Works Prior to Handover to Client								
09R1CI3142	Finishing & reinstatement works; Portion C	36	36	10DEC11	28JAN12 10DEC11	11 28JAN12	τ-	-155	
09R1CI3143	Pre-handover inspections and remedial works	30	30	28DEC11	04FEB12 28DEC11	11 04FEB12	-	-155	
09R1CI3144	Contractor serve notice for Works completion	7	7	05FEB12	11FEB12 05FEB12	12 11FEB12	7	299	
09R1Cl3146	SO issues completion certificate	21	21	12FEB12	03MAR12 12FEB12	12 03MAR12	7	299	
16R7CI3142	Landscaping works at Portion C	120	120	31AUG11	28JAN12 31AUG11		-	-117	
16R7CI3144	Establishment Works at Portion C	365	365	29JAN12	27JAN13 29JAN12	12 27JAN13	2	-148	
3DL1Cl3141	Install flow measurement devices at Intake I-3	12	12	12JAN12	28JAN12 12JAN12	12 28JAN12	T-	-165	•
					Sheet 47 of 58				

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		1		Sheet 48 of 58			Ţ		
◆at Intake I-3		2	18DEC08A	18DEC08A		0	0	13R 6; On completion of 30% piles by number	13R4Cl3S06
♦at Irrake I-3	I	7	13DEC08A	13DEC08A		0	0	13R 5; On completion of 20% piles by number	13R4CI3S05
♦atinake I-3		2	05DEC08A	05DEC08A		0	0	13R 4; On completion of 10% piles by number	13R4CI3S04
◆at Intake I-3	1,195	4 (4	22SEP10	22SEP10		0	0	13R 2; On completion of all soil nating	13R4CI3S02
♦at intake I-3	1,553	1	29SEP09	29SEP09		0	0	13R 1; On completion of 30% soil nailing	13R4Cl3S01
		ı				8	1	of Milestones for Cost Centre No. 13R	Schedule of
•under this Cost Centre	695	2	04FEB12	04FEB12		0	0	9R 9; On completion of all works under this CC	09R1CI3R18
• at Intake II-3	726	2	04JAN12	04JAN12		0	0	9R 8; On completion of trash grill	09R1CI3R16
◆channel and associated decking at	1,005	- 1	31MAR11	31MAR11		0	0	9R 7; On completion of approach channel	09R1CI3R14
◆channel at Intake I-3	1,042		22FEB11	22FEB11		0	0	9R 6; On completion of 50% of approach channel	09R1CI3R12
◆at G.L. at Intake I-3	1,083	. 1	12JAN11	12JAN11		0	0	9R 5; On completion of excavation at G.L.	09R1CI3R10
◆at intake I-3	1,447		13JAN10	13JAN10		0	0	9R 4; On completion of 75% of excavation at G.L.	09R1CI3R08
◆at Intake I-3	1,612	2	01AUG09	01AUG09		0	0	9R 3; On completion of 50% of excavation at G.L.	09R1CI3R06
♦at Intake I-3	1,663	2	11JUN09	11JUN09		0	0	9R 2; On completion of 25% of excavation at G.L.	09R1CI3R04
◆at Intake I-3	797	2	250CT11	250CT11		o	o	9R 1; On completion of access road	09R1CI3R02
	Ī	1				Į.		Schedule of Milestone for Cost Centre No. 9K	Schedule of
◆under this Cost Centre	984	2	21APR11	21APR11		0	0	6L 8; On completion of all works under this CC	06L1CI3M18
◆adit at Intake I-3	1,164		23OCT10	230CT10		0	0	6L 7; On completion of man access adit	06L1CI3M16
♦shaft at Intake I-3	984	-	21APR11	21APR11		0	0	6L 6; On completion of man access shaft	06L1CI3M14
◆at Intake I-3	1,022	2	14MAR11	14MAR11		0	0	6L 5; On completion of vent shaft	06L1CI3M12
Ochamber at Intake I-3	1,118		08DEC10	08DEC10		0	0	6L 4; On completion of de-aeration chamber	06L1CI3M10
♦at Intake I-3	984	7	21APR11	21APR11		0	0	6L 3; On completion of vortex shaft	06L1CI3M08
Obelowe G.L. escept for Adit Tunnel at Intake	1,272	7	07JUL10	07JUL10		0	0	6L 2; On completion of excavation works	06L1CI3M04
◆below G.L. except for Adit Tunnel at Intake I-3	1,403	2	26FEB10	26FEB10		0	o	6L 1; On completion of 50% of excavation	06L1CI3M02
		1				8		Schedule of Milestones for Cost Centre No. 6L	Schedule of
♦under this Cost Centre	781	2	10NOV11	10NOV11		0	0	3cL 10; On completion of all works under this CC	3CL1CI3A20
◆Adit Tunnel at Intake I-3	781	2	10NOV11	10NOV11		0	0	3cL 9; On completion of perm. tunnel lining	3CL1CI3A18
◆Adit Tunnel at Intake I-3	1,197	2	20SEP10	20SEP10		0	0	3cL 8; On completion of 87.5% perm. tunnel linin	3CL1Cl3A16
◆Adit Tunnel at Intake I-3	1,209	2	08SEP10	08SEP10		0	0	3cL 7; On completion of 75% perm, tunnel lining	3CL1CI3A14
♦ Adit Tunnel at Intake I-3	1,218		30AUG10	30AUG10		0	0	3cL 6; On completion of 62,5% perm. tunnel linin	3CL1Cl3A12
♦ Adit Tunnel at Intake I-3	1,228	2	20AUG10	20AUG10		0	0	3cL 5; On completion of 50% perm. tunnel lining	3CL1Cl3A10
◆Adit Tunnel at Intake I-3	1,237	2	11AUG10	11AUG10		0	0	3cL 4; On completion of 37.5 perm. tunnel lining	3CL1CI3A08
◆Adit Tunnel at Intake I-3	1,246	2	02AUG10	02AUG10		0	0	3cL 3; On completion of 25% perm. tunnel lining	3CL1Cl3A06
◆Adit Tunnel at Intake I-3	1,256	1	23JUL10	23JUL10		0	0	3cL 2; On completion of 12.5% perm. tunnel linin	3CL1Cl3A04
♦euipment for tunnelling at Intake I-3	1,265	2	14JUL10	14JUL10		0	0	3cL 1; On establishing tunnelling equipments	3CL1Cl3A02
, ,		ı	١		ı	Н			Schedule
								Schodillo of Milastones for Cost Centre No. 3cl	Schodilloof
	-148	2	27JAN13	27JAN13 129JAN12	29JAN12	365	365	Maintain & monitor flow monitoring	3DL1Cl3143
	Float		Finish	Finish Start	Start		Dur	Description	<u>a</u>
2006 2009 2010 2011 2012 2018	Total	Cal	WP3D	ADD4 WP3D	AD04	VP3D	ADD4 WP3D	Activity	(g)

9	Activity Description	Our	Dur	Start	Finish St	Start	Finish	9	Float				
13R4CI3S07	13R 7; On completion of 40% piles by number	0	0		23DEC08A	CV	23DEC08A	2		•	oat Intake I-3		
13R4Cl3S08	13R 8; On completion of 50% piles by number	0	0		O2JAN09A	0	02JAN09A	2		♦at I	it Intake I-3		
13R4Cl3S09	13R 9; On completion of 60% piles by number	0	0		DEJANOSA	0	09JAN09A	2		₩ ◆	at Intake I-3		
13R4Cl3S10	13R 10; On completion of 70% piles by number	0	0		16JAN09A	1	16JAN09A	2		•	♦at Intake I-3		
13R4Cl3S11	13R 11; On completion of 80% piles by number	0	0		21JAN09A	N	21JAN09A	N		•	♦at ntake I-3		
13R4CI3S12	13R 12; On completion of 90% piles by number	0	0		17MAR10		17MAR10	2	1,384		♦at Intake I-3	65	=0,
13R4Cl3S13	13R 13; On completion of all piling works	0	0		03MAY10	0	03MAY10	2	1,337		♦at Intake I-3		
13R4CI3S14	13R 14; On completion of boulder traps	0	0		28NOV11	N	28NOV11		763			•trap	traps at Intake I-3
13R4Cl3S15	13R 15; On completion of all work under this CC	0	0		28NOV11	64	28NOV11	2	763			oun o	under this Cost Centre
Constructio	Construction of Outfall 0-1							I					
Preliminary Works	Works												
VO # 06: Trans	VO # 06: Transperant Hoarding at Outfall												
01R1D00106	Receive VO6 for transperant hoarding	0	ō		16APR08A	-	16APR08A	-		•			
01R1DO0108	Procurement for transperent hoarding	21	21 1	21 17APR08A	20MAY08A 17APR08A		20MAY08A	-		11			
01R1D00110	Erect hoarding	8	18 21	APR08A	02JUL08A 21APR08A		02JUL08A	-		n			
VO #16; Chain	VO #16; Chain Link Fence at 0-1												
V01602	Issue VO16 for chain link fence	0	0		OZJULOSA	Ö	02JUL08A	-		-			
V01612	Preparation works for chain link fence	1	0	03JUL08A	18AUG08A 03JUL08A		18AUG08A	÷		n			
V01622	Erect chain link fence; 460m	38	38 18	19AUG08A	19SEP08A 19AUG08A 19SEP08A	G08A 1	9SEP08A	-		n			
Temporary CL	Temporary CLP Power Supply for TBM Operation								1				
01R1DCLP02	Application/approval for temp. CLP Power Supply	200	200 07	7MAR08A	O7MAR08A 01AUG08A 07MAR08A 01AUG08A	ROBA C	14UG08A	2					
01R1DCLP14	Appoint sub-contractor for design & build TX Rm	29	67 1	14JUL08A	07NOV08A 14JUL08A		07NOV08A	-		1			
01R1DCLP24	Design for transformer room	24	24 06	08NOV08A	11MAR09A 08NOV08A		11MAR09A	-		H			
01R1DCLP34	Constuct transformer room	9	60 1	60 12MAR09A	14MAY09A 12MAR09A		14MAY09A	•			11		
01R1DCLP44	CLP inspection & defect rectification	14	14 18	15MAY09A	10JUN09 15MAY09A		10JUN09	÷:	-181				
01R1DCLP54	CLP cabling to TX room & commissioning	32	32	11JUN09	18JUL09 11JUN09		18JUL09	Æ.	-181				
01R1DCLP74	CLPE cabling from TX room to 24mPD platform	18	18	19SEP09	12OCT09 19SEP09		12OCT09	-	-165		128		
VO#25; Revised	ed Fencig Details at O-1 Next to GVT												
V025-02	Receive VO16 for revised details next to GVT	0	0		17SEP08A	2	17SEP08A	•					
V025-12	Preparation works	24	24 2	22JAN09A	07FEB09A 22JAN09A	1.4	07FEB09A	÷		**			
V025-22	Erect proposed transparent hoarding	4	4 0	09FEB09A	02MAR09A 09FEB09A	100	02MAR09A	e			following transplanting of T160/T293/T140	r T160/T293/T	140
V055-02	Receive VO#55 in lieu of VO#25	0	0		21JAN09A	.,	21JAN09A			•			,
01R1D00102	Obtain TTA (ingress & egress) approval	0	0		18APR08A	72	18APR08A	2	ì	•			
01R1D00103	Implment TTA for diverting footpath	-	1 1	19APR08A	19APR08A 19APR08A		19APR08A	-					
01R1D00104	Obtain excavation permit	0	0		29MAY08A	.,,	29MAY08A	2		•			
01R1D00112	Erect catch fencing	10	10 2	26MAY08A	02JUL08A 26MAY08A	-	02JUL08A			0			
01R1D00114	Site establishment	30	30 2	30 21APR08A	15JUL08A 21APR08A		15JUL08A	-	g	faci Re-alig	Re-align footpath, erect hoardi	erect hoarding/catchfence	
01R1D00116	Site clearance	30	30 2	30 21APR08A	05SEP08A 21APR08A		05SEP08A	÷					
01R1D00118	Install remote contorl CCTV as per ER 4.4.10	12	12 2	280CT08A	10NOV08A 28OCT08A		10NOV08A						
1621000110	Tree inspection & report	7	7 1	3MAR08A	13MAR08A 28MAR08A 13MAR08A 28MAR08A	RO8A	28MAR08A	-		25			

n Tempo	Form Temporary Access/Tree Felling										
ks Susper	Works Suspension Due to Obstruct, from Villagers										
WS002	Works suspension due to obstruct. frm villagers	24	24 19	JULOSA	19JUL08A 10AUG08A 19JUL08A 10AUG08A	10AUG08A	2	<b>13</b>			
10R1DO0202	Form temp, access road from +14mPD to +69mPD	158*	158* 19	19JUN08A	24DEC08A 19JUN08A	24DEC08A	+	1			
10R1DOAR04	Const. temp. steel decking over exist Outfall W	11	11 26	26AUG08A	06SEP08A 26AUG08A	06SEP08A	-	o			
10R1DOAR08	Form temp, access road from 14mPD to 28mPD	12	12 19	19JUN08A	18JUL08A 19JUN08A	18JUL08A	-	12			
10R1DOAR12	Preparation works for transplanting T160	53	53 11		250CT08A 11AUG08A	250CT08A	+	11			
10R1DOAR42	Mobilze & set up crane for tree transplant	-	1 27	1 27OCT08A	270CT08A 270CT08A	27OCT08A		-			
10R1DOAR44	Crown pruning for T160	2	2 28		290CT08A 280CT08A	29OCT08A	-	+			
10R1DOAR46	Cut root & uplift 7160	-	1 30		300CT08A 300CT08A	300CT08A	-				
10R1DOAR54	Crown pruning/Cut root & uplift T142	10	10 21	FEB09A	21FEB09A 21FEB09A	21FEB09A					
10R1DOAR56	Construct access road from +43 to +55mPD	30	30 31	310CT08A	24DEC08A 310CT08A	24DEC08A	-	0			
16R7D00202	Tree transplant at Outfall O-1	105	105 02	02JUN08A	06MAR09A 02JUN08A	06MAR09A					
16R7D00204	Tree transplant above +62mPD	11	11 31	OCT08A	12NOV08A 31OCT08A	12NOV08A	1				
n Tempt	Form Temporary Launching Platform										
e Cut & S	Slope Cut & Soil Nailing: +71mPD to +40mPD										
10R1D0030	+71 to +40mPD (rows to A to P)	229*	229* 13	229* 13NOV08A	22AUG09 13NOV08A	22AUG09	1 -184	1	1		
10R1D0031	Remove boulder/Cut slope for rows A to D	o	9 13	13NOV08A	06DEC08A 13NOV08A	06DEC08A		0			
10R1D0032	Erect scaffold & Drill/Install/grout/P1at row C	12	12 02	12 02DEC08A	16DEC08A 02DEC08A	16DEC08A		10)			
10R1D0033	Drill/install/grout rows B to C; 18 nos.	4	14 17	17DEC08A	06JAN09A 17DEC08A	DEJANOSA		0			
10R1D0034	Drill/install/grout/testing for P2 at row D	00	8 30	30DEC08A	06JAN09A 30DEC08A	D6JAN09A	2				
10R1D0035	Drill/install/grout D1 to D11	7	7 07	7 07JAN09A	16JAN09A 07JAN09A	16JAN09A	·	SCM			
10R1D0036	Cut slope for E1 to G20; soil 620m3	2	2 15	15JAN09A	20JAN09A 15JAN09A	20JAN09A					
10R1D0037	Drill/install/grout E1 to G20: 51 nos.	19	19 20	20JAN09A	11FEB09A 20JAN09A	11FEB09A					
10R1D0038	Construct nail heads/remove platform; rows B-G	10	10 02	02FEB09A	17FEB09A 02FEB09A	17FEB09A		13			
10R1D0039	Erosion mat, wire mesh & hydroseed; rows B-G	10	10 21	FEB09A	24FEB09A 21FEB09A	24FEB09A		1			
10R1D0040	Cut slope for H1 to 125; soil 1819m3	12	12 02	02FEB09A	17FEB09A 02FEB09A	17FEB09A					
10R1D0041	Drill/install/grout H1 to 125; 47 nos.	13	13 18	18FEB09A	04MAR09A 18FEB09A	04MAR09A					
10R1D0042	Cut slope for J1 to M37; soil 5834m3	20	20 18	20 19FEB09A	13MAR09A 19FEB09A	13MAR09A	-	u			
10R1D0043	Erect working platform for rows J to M	14	14 28	28FEB09A	16MAR09A 28FEB09A	16MAR09A	1	**			
10R1D0044	Test nails for P3, P4, P5 & P10	12	12 05	05MAR09A	07APR09A 05MAR09A	07APR09A	+			-	
10R1D0045	: Drill/install/grout J1 to M37; 134 nos.	29	20 12	20 12MAR09A	07APR09A 12MAR09A						
10R1DO047	Construct nail heads/remove platform; rows H-M	20	20 14	20 14MAR09A	18APR09A 14MAR09A	18APR09A					
10R1D0048	Erosion mat, wire mesh & hydroseed, rows H-M	9	6 2	29MAY09	04JUN09 29MAY09	04JUN09	1 -184				
10R1D0049	Excavate soil 5600m3 & boulde 229m3; Rows N to P	22	22 14	22 14MAR09A	18APR09A 14MAR09A	18APR09A		0			
10R1DO050	Erect working platform for rows N to P	10	10 20	10 20APR09A	24APR09A 20APR09A	24APR09A					
10R1DO051	Drill/install/grout N1 to P31; 111 nos.	20	20 23	20 23APR09A	13MAY09A 23APR09A	13MAY09A	-	+ i no, test nail	2		
10R1DO053	Construct nail heads/remove platform; row N to P	41	14 14	14 14MAY09A	02JUN09 14MAY09A	02JUN09	1 -161				
10R1DO054	Erosion mat, wire mesh & hydroseed; rows N to P	9	9	BONNE	60NULEO 60NULEO	60NUL80	1 -161				
De Cut & S	Slope Cut & Soil Nailing: +40mPD to +24mPD										
				4 0 0 Table	The state of the s		The state of the s		The state of the s		

O.	Activity	DO4 WP3D	WP3D	ADOM	ADDA WP3D	WP3D		Total	2002 2010	2013
400400434	Excervation: 40 to 30mDD: soil 8091m3/rack 0778m3	•		SOAPROGA	700	4	,	2319	1	
10P1D0132	Dainetate farm across	3.05			27MAY09A 21APR09A	-	_			
100100133	Front undeling alettrom for rouse O to 1	200			17ALIG09 11MAY09A 17ALIG09		-	210	_1	
10R1DO134	Test nails for D6 D7 D8 & D11	1 5		21MAY09A	24AUG09 21MAY09A	24AUG09		-219	1	
10R1D0135	Dell'install/grout O1 to 1110 99 pos	6		12MAY09A			-	-219	J	
10R1DO136	Excavation: 30 to 24mPD: soil 4197m3/rock 7592m3	98		27MAY09A	08OCT09 27MAY09A		-	-219	Soil 450m3/day, & rock 185m3/day	
10R1DO137	Drill/Install/grout V1 to X14: 37 nos.	10	9	05SEP09	16SEP09 05SEP09	16SEP09	-	-219	-	
10R1DO138	Construct nail heads/remove platform; row V to X	11	17	02SEP09	21SEP09 02SEP09	21SEP09	-	-219		
10R1DO139	Erosion mat, wire mesh & hydroseed, rows V to X	10	10	22SEP09	05OCT09 22SEP09	05OCT09	-	-219	•	
TBM Launching	-									
10R1DO1305	Pipe pile roof support	o	თ	18SEP09	28SEP09 18SEP09	28SEP09	-	-212	•	
10R1DO1310	Excavate/construct TBM launching chamber	63	63	09OCT09	22DEC09 09OCT09	22DEC09	-	-219	1	
10R1DO1315	Form launching chamber cradle	12	12	09DEC09	22DEC09 09DEC09	22DEC09	+	-219	•	
10R1DO1325	Ground treatment prior to TBM commence boring	4	4	23DEC09	29DEC09 23DEC09	29DEC09		-217		
Slope Cut & TE	TBM Access Road; +24 to +14mPD									
10R1D0230	+24 to +14mPD	£9 *	63*	60NUL80	20AUG09 08JUN09	20AUG09	-	-181	1	
10R1DO240	Relocate sedimentation tank	0	0		*80NUC90	*80NUL90		-172	*	
10R1DO250	Form access for big breaker	12	12	08JUN09	20JUN09 08JUN09	20JUN09	-	-172	•	
10R1D0260	Mobilization of big breaker	0	0		20JUN09	20JUN09	-	-172	•	
10R1D0270	Form new TBM access +14mPD to +24mPD	14	4	22JUN09	08JUL09 22JUN09	08JUL09	-	-172		
10R1DO280	Divert access to new TBM access	0	0		08JUL09	08JUL09	- -	-172	•	
10R1DO290	Demolish masonry & ret. wall at +14mPD	28	28	20JUL09	20AUG09 20JUL09	20AUG09	1	-181	100	
TBM Assembly	Area at +24mPD									
10R1DO185	Construct temporary draiange	9	9	16DEC09	22DEC09 16DEC09	22DEC09	-	-219	-	
10R1DO195	Concrete slab	12	12	16DEC09	31DEC09   16DEC09	31DEC09	-	-219	•	
3AL1D00314	Commence TBM initial assembly	0	0	02JAN10	02JAN10		-	-219	•	
Tower Crane										1100
3AL1D02005	Foundation	œ	00	21AUG09	29AUG09 21AUG09	29AUG09	+	-181	-	
3AL1DO2010	Erection	6	m	08SEP09	10SEP09 08SEP09	10SEP09	+	-157		
3AL1DO2015	Test & commissioning	-	*	11SEP09	11SEP09 11SEP09	11SEP09	-	-157		
3AL1D02025	Removal of tower crane & reinstatement	12	12	11APR12	24APR12 11APR12	24APR12	-	-207		
TBM Platform										
3AL1DO2505	Pre-fabrication	40	40	18JUN09*	04AUG09 18JUN09*	04AUG09	-	-159	11	
3AL1D02515	Foundation	12	12	31AUG09	12SEP09 31AUG09	12SEP09	-	-181	•	
3AL1D02525	Erect steel framework	36	36	14SEP09	28OCT09 14SEP09	280CT09		-181	18	
3AL1D02535	Install platform	12	12	290CT09	11NOV09 29OCT09	11NOV09		-181	•	
3AL1D02545	ICE certification	က	n	12NOV09	14NOV09 12NOV09	14NOV09	-	-181		
Noise Enclosure	-									
3AL1D03005	Pre-fabrication	42	42	22JUN09*	10AUG09 22JUN09*	10AUG09	-	-120	11	
3AL1DO3015	Foundation	12	12	23SEP09	08OCT09 23SEP09	08OCT09		-169	•	
3AL1DO3025	Erect steel framework	18	18	09OCT09	30OCT09 09OCT09	300CT09	-	-169	ia	
3AL1D03035	Cladding	22	22	27JAN10	24FEB10 27JAN10	24FEB10	-	-195	is.	
3AL1DO3045	ICE certification	3	m	25FEB10	27FEB10 25FEB10	27FEB10	-	-195		

CI)	Activity	ADD4 WP3D	D30	AD04	Ĩ			Total 2005	2002	2010	2011	2012	20:13	THE PERSON NAMED IN
	Description			Start			E G	Float						
3AL1FT0802	Apply to EPD for CNP for 24 hrs. tunnel work	12		11FEB10	27FEB10 11FEB10			-195		• 1				
3AL1FT0804	EPD process/approve CNP application	36	36 2	28FEB10	04APR10 28FEB10	04APR10	2 -	-237		1				
105 Ton Gantry	/ Crane													
3AL1D03505	Manufacture	66	99 26	9MAY09	22SEP09 29MAY09		1	-159	_					
3AL1D03515	Shipping to Hong Kong	9	6 2	23SEP09	29SEP09   23SEP09	29SEP09	1	-159						
3AL1D03525	Assembly	80	8	30SEP09	10OCT09 30SEP09	10OCT09	-	-159						
3AL1D03535	Install rails	4	4 2	230CT09	28OCT09 23OCT09	28OCT09	-	-169						
3AL1D03545	Test & commission	က	3	29OCT09	31OCT09 29OCT09	31OCT09	-	-169						
3AL1DO3555	Receive initial segments and stock	G	9	02JAN10	08JAN10 02JAN10	08JAN10		-209		-				
Muck Hopper														
3AL1DO4005	Pre-fabrication	75	75 23	2JUN09*	17SEP09 22JUN09*	• 17SEP09	-	-83	1					
3AL1DO4015	Foundation	18	18 1	4SEP09	06OCT09 14SEP09	06OCT09	,	-97						
3AL1DO4025	Erect steelwork	18	18 1	2NOV09	02DEC09 12NOV09	02DEC09	-	-127		M				
3AL1DO4035	Erect hopper	18	18 0	03DEC09	23DEC09 03DEC09	23DEC09	-	-127		ai				
3AL1D04045	Install transfer conveyor	4	4	24DEC09	30DEC09 24DEC09	30DEC09	-	-127		-				
3AL1DO4055	M&E works	9	6 3	31DEC09	07JAN10 31DEC09	07JAN10	-	-127		-				
3AL1D04065	Test & commissioning	က	3 0	08JAN10	11JAN10 08JAN10	11JAN10	-	-127						
Marti Conveyor	-													
3AL1DO4505	Engineering	20	50 2	29MAY09	27JUL09 29MAY09	37JUL09	+	-105	1					
3AL1DO4515	Pre-fabrication	9	60 2	28JUL09	07OCT09 28JUL09	07OCT09		-105		188				
3AL1D04525	Delivery to Hong Kong	25	25 2	23SEP09	23OCT09 23SEP09	23OCT09		-105		200				
3AL1D04535	Pre-assembly at Portion I	9	6 2	24OCT09	310CT09 240CT09		-	-105		-				
3AL1D04545	Foundation	က	3 0	02JAN10	05JAN10 02JAN10	05JAN10	1	-155						
3AL1D04555	Install belt conveyor stage 1	24	24 0	06JAN10	02FEB10 06JAN10	02FEB10		-155		•				
3AL1D04565	Install transfer conveyor		1 0	03FEB10	03FEB10 03FEB10	03FEB10	-	-155		-			39	
3AL1D04575	Install belt conveyor stage 2	9	6 2	27APR10	04MAY10 27APR10	04MAY10	-	-218		-				
3AL1D04585	M&E works	2	2 0	05MAY10	DEMAY10 DEMAY10	06MAY10	-	-218		-				
3AL1DO4595	Test & commission		1 0	07MAY10	07MAY10 07MAY10	07MAY10	-	-218		-				
LV Station														
3AL1DO5005	Delivery & install containers 1/2/3	4	4	12SEP09	16SEP09 12SEP09	16SEP09	-	-157						
3AL1DO5015	M&E works	12	12 1	17SEP09	30SEP09 17SEP09	30SEP09	-	-157						
3AL1DO5025	Test & commission	12	12 1	130CT09	270CT09 130CT09	27OCT09	-	-165						
Cooling Water System	System													
3AL1D05505	Pre-fabrication	53	53 0	607NF60	08SEP09 09JUL09		-	-129	1					
3AL1D05515	Foundation	01			19SEP09 09SEP09		+	-129					- 1	
3AL1D05525	Erect coaling system	12	12 2	21SEP09	06OCT09 21SEP09	06OCT09	-	-129		-				
3AL1D05535	M&E works	4	4 0	07OCT09	10OCT09 07OCT09	100CT09	-	-129		_			3	
3AL1D05545	Test & commission	2	2 1	120CT09	13OCT09 12OCT09	13OCT09	1	-129						
Grout System														
3AL1DO6005	Pre-fabrication	06	90 2		070CT09 22JUN09*		÷	-134						
3AL1D06015	Erect system	9			21NOV09 16NOV09		-	-166					3	
3AL1D06025	M&E works	60	3		25NOV09 23NOV09		-	-166		= 1				
3AL1D06035	Test & commission	•	1 28	26NOV09	26NOV09 26NOV09	26NOV09	-	-166					3	
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	Description	inc inc		- Alle	THE PARTY OF THE P		The second secon						
Pre-fabrication		36	36	22JUN09	03AUG09 22JUN09	09 03AUG09	309 1	-82		m			
Install hopper		4	4	96OCT09	09OCT09 06OCT09	60TOOE0 60	1 60	-134					
Erect conveyor		2	2	100CT09	12OCT09 10OCT09	09 12OCT09	1 601	-134		_			
M&E works		4	4	13OCT09	16OCT09 13OCT09	09 16OCT09	1 601	-134		-			
Test & commission		2	. 2	17OCT09	19OCT09 17OCT09	09 19OCT09	T09 1	-134		-			
Install conveyor connecting to TBM	ting to TBM	4	4	27APR10	30APR10 27APR10	.10 30APR10	310 1	-213					
Ventilation System													
Pre-fabrication		72	72 2	29MAY09	21AUG09 29MAY09	709 21AUG09	309	-14		1			
Erect system		2	N	27APR10	28APR10 27APR10	10 28APR10	310 1	-213					
M&E works		-	*	29APR10	29APR10 29APR10	10 29APR10	310 1	-213					
Test & commission		+	*	30APR10	30APR10 30APR10	10 30APR10	310 1	-213					
			H										
Install transformer & hormonic filter	monic filter	2	C/I	27APR10	28APR10 27APR10	10 28APR10	310 1	-218			_		
Remove invert segments; 19 nos.	s; 19 nos.	2		27APR10	28APR10 27APR10	10 28APR10	310 1	-218					
Make good slab		ю		28APR10	30APR10 28APR10	10 30APR10	210	-218					
Install rail switch		7-	-	03MAY10	03MAY10 03MAY10	10 03MAY10	Y10 1	-214					
VO # 49 & 53; Additional Drainage & Stairway	tairway												
Received Variation orders	rs.	0	o		26FEB09A	26FEB09A	1 A608		_	•			
Preparation works for varied works	nied works	4	14 2	27FEB09A	14MAR09A 27FEB09A	09A 14MAR09A	409A 1						
Construct u-channel & s	Construct u-channel & stairway; +71mPD to +55mPD	09	60 1	6MAR09A	29MAY09 16MAR09A	tosa 29MAY09	r09 1	-179		1			
Construct u-channel & s	Construct u-channel & stairway;+55mPD to +47mPD	27	27	60NUL20	07JUL09 05JUN09	60 07JUL09	09 1	-184		,			
Construct u-channel & s	Construct u-channel & stainway, +47mPD to +41mPD	40	40	08JUL09	22AUG09 08JUL09	39 22AUG09	309	-184				-	
Construct u-channel & s	Construct u-channel & stairway; +41 to +24 mPD	9	09	06OCT09	15DEC09 06OCT09	09 15DEC09	209 1	-219					
VO #88; Revised Slope Profile with Add. Supports	d. Supports												
Received VO #088		0	Ō		27MAY09A	27MAY09A	Y09A 1			•			
Excavate from 38.5mPD to 36.5mPD	) to 36.5mPD	9	9	29MAY09	04JUN09 29MAY09	00 04JUN09	109	-218					
Procure and prepare materials	iterials	0	0	29MAY09	08JUN09 29MAY09	60NUL80 60'	109	-219		_			
SOR confirm soil nails location	ocation	2	2	60NUL20	BONULSO BONULSO	60 06JUN09	109 1	-218					
Drill/install/grout soil nails; rows AA-AB	ls; rows AA-AB	1 2	2	60NNC60	16JUN09 09JUN09	90 16JUN09	1 601	-219		_			
Install wire mesh & shorcrete 150mm	crete 150mm	8	ŀΩ	17JUN09	19JUNDS 17JUNDS	ออ ารมบังจร	109	-219		-			
Excavate from +36.5 mPD to 34.5mPD	PD to 34.5mPD	9	· · · · · · · · · · · · · · · · · · ·	20JUN09	26JUN09 20JUN09	09 26JUN09	109	-219		_			
SOR confirm soil nails location	ocation	2	2	27JUN09	29JUN09 27JUN09	09 29JUN09	109 1	-219					
Drill/install/grout soil nails; rows AC-AD	ls; rows AC-AD	7	2	30JUN09	08JUL09  30JUN09	60 08JUL09	09 1	-219		_			
Install wire mesh & shorcrete 150mm	crete 150mm	თ	m	607NF60	11JUL09 09JUL09	39 11JUL09	09	-219		-			
Excavate from +34.5 mPD to 32.5mPD	PD to 32.5mPD	9	ø	13JUL09	18JUL09 13JUL09	18JUL09	109	-219		-			
SOR confirm soil nails location	ocation	2	2	20JUL09	21JUL09 20JUL09	39 21JUL09	09 1	-219					
Drill/install/grout soil nails; rows AE-AF	ls; rows AE-AF	7	_	22JUL09	29JUL09 22JUL09	39   29JUL09	1 00	-219		_			
Install wire mesh & shorcrete 150mm	crete 150mm	m	m	3070109	01AUG09 30JUL09	19   01AUG09	309 1	-219					
Excavate from +34.5 mPD to 32.5mPD	PD to 32.5mPD	9	9	03AUG09	08AUG09 03AUG09	909 08AUG09	309 1	-219		_			
SOR confirm soil nails location	ocation	2	2	10AUG09	11AUG09 10AUG09	11AUG09	309 1	-219		-			
Drill/install/grout soil nails; row AG	ls; row AG	c	rv.	12AUG09	17AUG09 12AUG09	17AUG09	309 1	-219					
Install wire mesh & shororete 150mm	150mm												

						-938M starts operating day & nightl40 nos."13m long	432m3 soil including temp, supports mesures	4000m3 rock—including temp, supports mesures					100		@ 5m3/5minutes/480m3/day			-		th	sheet pile roofing & lagging ~180m2=soil 450m3 + rock 50m3	4	all		•		■940m3	cells; 210 nos.	■soil 2900m3	Concete 160m3	echcrete 390m3	Soil 2900m3	Concete 160m3	Econcrete 390m3							
Float		-219	-219			-93 8M starts	-93	-93	-93	-93	-93	-93	-93	-63	-83	-93	5	-93		-128	-128 sheet p	-128	-128		453	-395	-395	-395	-395	-395	-395	-395	-395	-395	-395	-395	-395			-219	-131
0		1	-			-	-		-	-	-	-	-	-		-	-	-			,	-		4	7	-	-	-		÷.			-				-				-
Finish		20JUN09	24JUN09			22MAY10	21JUN10	11SEP10	27SEP10	15OCT10	03NOV10	20NOV10	08DEC10	28DEC10	03JAN11	26JAN11	22JUL11	02FEB11		29NOV10	25FEB11	11MAR11	09APR11			13JAN10	27FEB10	28JUN10	19AUG10	11SEP10	01NOV10	22DEC10	18JAN11	09MAR11	07APR11	09MAY11	09MAY11			08AUG11	060CT11
merc - co		109 20JUN09*	24JUN09 22JUN09			Y10 08MAY10		P10 22JUN10	_	T10 28SEP10	V10 18OCT10	V10 04NOV10	C10 22NOV10	C10 09DEC10	V11 29DEC10	V11 04JAN11	L11 12JUL11	02FEB11 27JAN11		08NOV10 02NOV10	01FEB11 30NOV10	B11 26FEB11	R11 12MAR11		08OCT09			N10 01MAR10	L10 29JUN10				C10 23DEC10	B11 19JAN11	R11 10MAR11	R11 08APR11	R11 03MAY11			08AUG11 12JUL11	06OCT11 09AUG11
Finish		20JUN09	24JUI		ı	22MAY10	21JUN10	11SEP10	27SEP10	150CT10	03NOV10	20NOV10	08DEC10	28DEC10	03JAN11	26JAN11	22JUL11	02FE		ONSO	O1FE	18FEB11	18MAR11			19DEC09	03FEB10	05JUN10	29JUL10	21AUG10	09OCT10	01DEC10	24DEC10	16FEB11	16MAR11	14APR11	14APR11			DSAU	090
simile.		20JUN09*	22JUN09	I		08MAY10	24MAY10	22JUN10	13SEP10	28SEP10	18OCT10	04NOV10	22NOV10	09DEC10	29DEC10	04JAN11	12JUL11	27JAN11		110CT10	09NOV10	02FEB11	19FEB11		080CT09	-		04FEB10	07JUN10	30JUL10		110CT10	02DEC10	28DEC10	17FEB11	17MAR11	08APR11				09AUG11
3		-	60		ı	12	24	70	4	15	15	15	15	15	4	20	10	Ø		24	70	12	24	1	0	36	36	96	44	20	40	44	20	40	24	24	9			24	48
mo		•	e	١		12	24	70	12	15	15	15	15	15	4	20	10	9		24	70	12	24		0	36	36	98	44	20	40	44	20	40	24	24	9		ŀ	24	48
Description	m SOR	Suspension of rock drilling & breaking	Erection of noise bearriers	Construct Spiral Ramp & Associ. Vehicular Access		Install 273mm dia temp nipe niles: 40 nos	Soil expandation & install walling & tie backs	Rock excavation for spiral ramp: 4629m3	Construct base of spiral ramp, Outfall 0-1	Cast sprial ramp up to +6.73mPD	Cast sprial ramp up to +11.58mPD	Cast sprial ramp up to +16.00mPD	Cast sprial ramp up to +20.00mPD	Cast sprial ramp up to +24.23mPD	Backfill spiral ramp; 1700m3	Construct spiral ramp top; Outfall O-1	Construct vehicular access bet, tunnel & s. ramp	Commission of Spiral Ramp	SSS	Install 40 nos. roof piles # 375mm c/c	Excavation for vehicular access underneath CPR	Construct base for vehicular access	Construct wall & roof for vehicular access	ower Part Box Culvert/Open Channel By Mining	Site possession of Portion E-650d of DOC	Divert exist, outfall "W" under CPR arch bridge	Remove rock armour & form platform @+2.3mPD	Install temp, pile for pipe roofing	Excavate for box-culvert, 2 cells	Construct base slabs of box culvert, 2 cells	Construt wall & roof of box culvert, 2 cells	Excavate for box-culvert, 2 cells	Construct base slabs of box culvert; 2 cells	Construt wall & roof of box culvert; 2 cells	Excavate for open channel	Construct open channel at 2.3 mPD	Reinstate existing outfall "W"	Construct Portal Head & Associated Strutures		Excavate tapered open channel/ upper cascade	Construct tapered open channel & upper cascade
	Instruction from SOR	SORI-10	SORI-20	Construct Sp	Cniral Pamn	10R1DO0402	10R1DO0404	10R1DO0406	10R1D00414	10R1D00416	10R1D00418	10R1D00420	10R1D00422	10R1D00424	10R1D00425	10R1D00426	10R1D00428	10R1D00430	Vehicular Access	10R1D00407	10R1D00408	10R1DO0410	10R1D00412	Lower Part B	10R1D00502	10R1DO0504	10R1D00506	10R1DO0508	10R1DO0510	10R1DO0512	10R1DO0514	10R1D00516	10R1DO0518	10R1DO0520	10R1D00522	10R1D00526	10R1DO0528	Construct Pa		10R1DO0602	10R1D00604

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l.	Description	)	a di c	No.	TIMES - NEWS	Finish			
10R1DO0606	Dismantle & removal of tower crane	12	12	17NOV12	2 28E	÷	-	-395	100
3AL1D00602	Dismantle/remove TBM backup system	24	24	13JUN11	11JUL11 13JUN11		-	-219	including gantry crane
3AL1D00606	Construct portal head wall	24	24	09AUG11	05SEP11 09AUG11	11 05SEP11	-	-131	
Cascade &	Cascade & Upper Part Box Culvert by Mining								
Upper Cascade	de								
10R1D00704	Drive sheet piles	18	18	12JUL11	01AUG11 12JUL11	1 01AUG11	-	-219	Following removal of TBM & TBM facilities
10R1DO0706	Excavate & temp. support to services	09	09	02AUG11	130CT11 02AUG11	11 130CT11	*	-219	
10R1DO0708	Construct base slab	24	24	140CT11	10NOV11 14OCT11	1 10NOV11		-219	
10R1D00710	Construct side walls	60	18	11NOV11	01DEC11 11NOV11	11 01DEC11		-219	
10R1D00712	Construct roof	24	24	02DEC11	03JAN12 02DEC11	1 03JAN12	-	-219	
10R1D00714	Construct upstand	12	12	04JAN12	17JAN12 04JAN12	2 17JAN12	-	-219	
10R1D00716	Backfill	9	ø	16JAN12	21JAN12 16JAN12	2 21JAN12	<b>-</b>	-219	
10R1DO0730	Excavate for lower cascade construction	13	5	26JAN12	09FEB12 26JAN12	2 09FEB12	-	-219	
10R1D00732	Construct lower cascade	48	48	10FEB12	10APR12 10FEB12	2 10APR12	-	-219	
10R1D00734	Construct, baffle, railing etc.	48	48	10FEB12	10APR12 10FEB12		-	-207	
Seabed Pro	Seabed Protection Works	١		j					
Preliminary M	Preliminary Works for Outfall Basin Construction								
VO061-002	Receive VO # 061	0	0		-eoNULos	-60NULOE	***	-395	•
VO061-004	Appoint Independent Hydrographic Surveyor	09	9	02JUL09	09SEP09 02JUL09	9 09SEP09	•	-395	11
VO061-006	Carry out sounding survey	ဖ	9	10SEP09	16SEP09 08OCT09	14OCT09	-	-395	
VO061-008	Prepare/submit drwgs./report of sounding survey	9	9	17SEP09	23SEP09 15OCT09	19 21OCT09	-	-395	٠
VO061-010	SOR approves drwgs./report of sounding survey	9	9	24SEP09	30SEP09 22OCT09	9 29OCT09	-	-395	•
VO061-012	SOR issue Supplm. Environmental Review Report	30	30	02JUL09	05AUG09 02JUL09	9 05AUG09	-	-59	
VO061-014	Apply for Variation Environmental Permit (VEP)	ဖ	9	06AUG09	12AUG09 06AUG09	12AUG09	-	-59	
VO061-016	EPD review/issue VEP	30	30	13AUG09	16SEP09 13AUG09	16SEP09	-	-59	
VO061-018	Prepare/submit Revised EM&A Manual by ET	30	30	17SEP09	23OCT09 17SEP09	9 23OCT09	-	-59	
VO061-020	IEC endorse Revised EM&A Manual	12	12	24OCT09	07NOV09 24OCT09	90VON70 91	-	-59	
VO061-022	EPD acknowledge Revised EM&A Manual	9	9	60/ON60	14NOV09 09NOV09	14NOV09	-	-59	
VO061-024	Carry out baseline monitoring	28	28	16NOV09	17DEC09 16NOV09	17DEC09	-	-59	
VO061-026	Prepare/submit baseline report by ET	12	12	18DEC09	04JAN10 18DEC09		*	-59	
VO061-028	IEC endorse baseline report	12	12	05JAN10	18JAN10 05JAN10	0 18JAN10	-	-59	
VO061-030	EPD approve baseline report	30	30	19JAN10	25FEB10 19JAN10	0 25FEB10	-	-59	
VO061-032	Appoint sub-contractor for varied works	09	9	02JUL09	09SEP09 02JUL09	9 09SEP09	Т	-377	11
VO061-034	Prepare/submit method statement	30	30	02OCT09	07NOV09 10SEP09	9 16OCT09	-	-395	
VO061-036	IEC endorse method statement	12	12	60/ON60	21NOV09 17OCT09	9 31OCT09	-		*
VO061-038	SOR approve method statement	24	24	23NOV09	19DEC09 02NOV09	9 (28NOV09	τ-	-7	
VO061-040	Apply for marine notice	ω	ω	90VON90	14NOV09   30NOV09	9 05DEC09	-	-395	•
VO061-042	Revewlissue marine notice by Marine Department	30	30	16NOV09	19DEC09 07DEC09	13JAN10	*	-395	
VO061-044	Apply for dumping permit	မ	9	60/ON60	14NOV09 30NOV09	9 OSDECO9	*	-37	•
VO061-046	Review/issue dumping permit by EPD	09	09	16NOV09	27JAN10 07DEC09	9 20FEB10	+	-37	1
VO061-048	Commence works for basin construction	0	0	15APR11	11MAY11	_	-	-395	♦ following construction of box culve
VO #061; Out	VO #061; Outfall Basin Construction								
010 7007									

2008 2016 2011 2012	11	***	. "				Ţ	*	•		*	1	(8) 1	seawall type 5, 28, 4, & 1A (W)	•	1	1		for seawall type 6, 3 & 2A (E)					•				•	etts 1		• /											
2008														, TOT		_																										
Total	TEGIT	395	200	-382	-395	-395	-395	-395	-395	-395	-395	-250	-250	-345	-251	-251	-251	-251	-395	-395	-395	-287	-287	-395	-395	-395	-287	-250	-244	-250	-244	-250	-250	-287	-395	1	-395	-395	0	0	-369	-455
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WP3D	FINISh 104011C44	118A11G11	10400	29AUG11	02SEP11	09SEP11	100CT11	240CT11	10NOV11	15NOV11	22NOV11	08DEC11	03JAN12	24SEP11	110CT11	09DEC11	28JAN12	09FEB12	20DEC11	07JAN12	27FEB12	13APR12	25APR12	02MAY12	11DEC12	27DEC12	25MAY12	17JAN12	03FEB12	03FEB12	17FEB12	24FEB12	16MAR12	22JUN12	27DEC12	١	11JAN13	18JAN13	25JAN13	15FEB13	11JAN13	11JAN14
WP3D	Start	05ALIG11	100	12AUG11	30AUG11	03SEP11	10SEP11	110CT11	250CT11	NOV11	NOV11	23NOV11	09DEC11	10SEP11	26SEP11	120CT11	10DEC11	30JAN12	23NOV11	21DEC11	09JAN12	28FEB12	14APR12	28FEB12	MAR12	27MAR12	26APR12	04JAN12	JAN12	JAN12	04FEB12	04FEB12	25FEB12	26MAY12		ı	NOV12	DEC12	JAN13	JAN13	18AUG12	JAN13
	Primsh Start	71 05	-			-			15DEC11 25	20DEC11 11NOV11	30DEC11 16NOV11				12NOV11 26		01MAR12 10		-	-			12MAY12 14	30MAR12 28	02NOV12 13MAR12		09JUN12 26	24FEB12 04	09MAR12 18JAN12	09MAR12 18JAN12	23MAR12 04	-		-	16NOV12	ì	30NOV12 28NOV12	07DEC12 12DEC12	14DEC12 19JAN13	04JAN13 26JAN13	30NOV12 18	30NOV13 12JAN13
ADDA	FINISH	16CED11	1001	060CT11	110CT11	180CT11	14NOV11	28NOV11	15DE	20DE	30DE	17JAN12	10FEB12	290CT11	12NC	16JAN12	O1MA	13MAR12	11JAN12	28JAN12	13M/	30AP	12M	30M/		16NC	OBJU	24FE	/M60	/M60				-	16NC			100			30N(	
ADD4	Start 07 II IN 144	27.JUN11	DAUG11	17SEP11	070CT11	120CT11	190CT11	15NOV11	29NOV11	16DEC11	21DEC11	02JAN12	18JAN12	190CT11	310CT11	14NOV11	17JAN12	02MAR12	02JAN12	12JAN12	30JAN12	14MAR12	02MAY12	14MAR12	31MAR12	19APR12	14MAY12	11FEB12	25FEB12	25FEB12	10MAR12	10MAR12	31MAR12	11JUN12	١	ı	190CT12	03NOV12	08DEC12	15DEC12	11JUL12	01DEC12
P3D			-		4	9	23 1	12 1	15 2	4	9	14	60	12 1	12 3	51	36	10 0	24	12	40	36	10 0	50	224 3	224	24 1	12	12	12	12	18	18	24	0	8	36	30	2	. 12	120	365
		50 0	0 1	15	4	9	23	12	15	4	9	14	82	10	12	51	36	10	o	12	38	38	0	15	175	175	24	12	12	12	12	9	138	24	0	ł.	36	30	7	21	120	365
	Description	Dredge in rock armour to -3.75mPD	Place grade 400 rockfill & levelling layer	Form seawall type 2(W)	Construct detail Y	Construct mass concrete	Form seawall type 1	Construct mass concrete	Form seawall type 2 (E)	Construct detail X	Construct mass concrete	Construct coping	Place infill blocks M1 & M4	Dredge in sea bed to -3.75mPD for seawall (W)	Place grade 400 rockfill & levelling layer	Form seawall type 5, 2B, 4 & 1A (W)	Backfill sea walls west & north (half)	Place type 2 armour	Dredge in sea bed to -3.75mPD for seawall (E)	Place grade 400 rockfill & levelling layer	Form seawall type 6, 3 & 2A (E)	Backfill sea walls east & north (half)	Place type 2 armour	Dredge in sea bed for stepped blocks	Place levelling layer	Place stepped blocks	Place type 2 armour to reinstate exist. seawall	Form ground beam (W)	Form ground beam (E)	Form invert slab (W)	Form invert slab (E)	Form end wall (W)	Form end wall (E)	Reinstate rock armour	Complete basin	Remaining Works Prior to Handover	Finishing & reinstatement works; Portion D					Establishment Works at Portion D
0		VO61-055	VO61-060	VO61-065	VO61-070	VO61-075	VO61-080	VO61-085	VO61-090	VO61-095	VO61-100	VO61-105	VO61-110	VO61-115	V061-120	V061-125	VO61-130	VO61-135	VO61-140	V061-145	VO61-150	VO61-155	VO61-160	VO61-165	VO61-170	V061-175	VO61-180	VO61-185	VO61-190	VO61-195	VO61-200	VO61-205	VO61-210	V061-215	VO61-220	Remaining	10R1DO0904	10R1DO0906	10R1DO0908	10R1D00910	16R7D00902	16R7D00904

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2010 2001 2010 2013				◆ Dutfil O-1	♦Outfall O-1	◆Outfall O-1	♦Outfall 0-1	◆at Outfall O-1	◆at Outfall O-1	◆at Ouffall O-1	♦at Ouffall 0-1	and open channel underneath CPR❖	protection works at Outfall O-1	under this Cost Centre		Cilletti O de amounte				◆under this Cost Centre			•	•	•		•				•					=45m, @ 1,3m/day	M.O.	63	≣35m, @ 1,3m/day
Total 2	-219	0			1,600	1,544	1,206	069	629	1,136	1,062	713	409	388		07	2	0	996,1	919			181	0	0	165	0	0	0		209	165	165	165	165	165	165	165	165
0	<u>ب</u>	7		2	2 1,6	2 1,5	2 1,	2	2	2 1,	2 1,0	2		2		,	H			7		Ę	-	2	2	·	7	-	-	Ą	-	-	·-	·	<b>-</b>	<del>-</del>	<del>-</del>	-	
WP3D Finish	10MAY12	10MAY13		09APR09A	13AUG09	080CT09	11SEP10	09FEB12	10APR12	20NOV10	02FEB11	03JAN12	27DEC12	18JAN13	1	22 II IN14	020000	U/AFRUSA	IDSEPUS	22JUN11			24NOV09	25NOV09		02JAN10	25NOV09	09DEC09	29DEC12		17OCT09	12DEC09	03MAY10	06MAY10	18JUN10	30JUL10	22JUN10	24JUL10	25AUG10
WP3D Start	2 02APR12	10MAY13 11MAY12		٥		6			-	0			01	21	1			1						6	26NOV09	26NOV09	6	26NOV09	10DEC09	Ì		12DEC09 10DEC09	14DEC09	06MAY10 04MAY10	07MAY10	19JUN10	19JUN10	23JUN10	26JUL10
AD04 Finish	10MAY12	10MAY13		09APR09A	13AUG09	080CT09	11SEP10	09FEB12	10APR12	20NOV10	02FEB11	17JAN12	16NOV12	07DEC12	ł	25 II IN14	400000470	4CELLEGO	מאבורים!	25JUN11			24NOV09	25NOV09		02JAN10	25NOV09	09DEC09	29DEC12	I	17OCT09	12DEC09	03MAY10	06MAY10	18JUN10	30JUL10	22JUN10	24JUL10	25AUG10
AD04 Start	02APR12	11MAY12	i												i										26NOV09	26NOV09		26NOV09	10DEC09	į		10DEC09	14DEC09	04MAY10	07MAY10	19JUN10	19JUN10	23JUN10	26JUL10
Dur Dur	28	365		0	0	0	0	0	0	0	0	0	0	0	ď	c	0	5 6	o (	o			0	0	0	30	0	12	904		0	m	110	ო	35	35	က	27	27
Dur Dur	28	365	Ī	0	0	0	0	0	0	0	0	0	0	0		c	, ,	0	0	0			٥	0	0	30	0	12	904	1	0	m	110	ო	35	35	ო	27	27
Activity Description	T & C for flow measurement system	Maintain & monitor flow monitoring	Schedule of Milestones for Cost Centre No. 10R	10R 1; On completion of 20% excavation works	10R 2; On completion of 40% excavation works	10R 3; On completion of 60% excavation works	10R 4; On completion of 80% excavation works	10R 5; On completion all excavation works	10R 6; On completion of cascade structure	10R 7; On completion of spiral ramp to +16mPD	10R 8; On completion of spiral access ramp	10R 9; On completion box-culvert & open channel	10R 10; On completion of seabed protection wks	10R 11; On completion of all works under this CC	Schedule of Milestones for Cost Centre No. 14R	148 1: On complet of remove exist rock armour	#40 0: On complete of 500/ coil poiling by market	14K Z, Ort complet, of 50% soil natified by number	14K S, On completion all solling works	14R 4; On completion of all works under this CC	Drainage Improvement Works at Portion G	Works	SO consent Drainage Impact Assessment Report.	Obtain TTA (ingress & egress) approval	Possession of Portion G -700d of DOC	Site clearance/Site Establishment	Obtain approval for Geotechnical Instrumentation	Installation of Geotechnical Instrumentation	Monitor/report Geotechnical Instrumentation		Obtain SO's consent for temp, works design	Mibilization & set up for temp. platform	Construct steel working platform for H-piling	Mibilization & set up for H-piling; Wall 1	52 nos. 600mm dia. H-piles; Wall 1 @1.5 nr/day	Excavate & construct skin wall 1 at Portion G	Mibilization & set up for H-piling; Wall 2	40 nos. 600mm dia. H-piles; Wall 2 @1.5 nr/day	Excavate & construct skin wall 2 at Portion G
Q	3DL1D00903	3DL1D00904	Schedule of	10R1DO1002	10R1DO1004	10R1DO1006	10R1DO1008	10R1DO1010	10R1DO1012	10R1DO1014	10R1DO1016	10R1DO1018	10R1DO1020	10R1DO1022	Schedule of	1485001100	44BED04464	14R5DO 1104	14K5DO1106	14R5DO1108	Drainage Im	Preliminary Works	01R6GG0102	01R6GG0112	01R6GG0114	01R6GG0116	3DL6GG0104	3DL6GG0106	3DL6GG0108	Piling Works	15R6GG0200	15R6GG0202	15R6GG0204	15R6GG0206	15R6GG0208	15R6GG0210	15R6GG0212	15R6GG0214	15R6GG0216

g	Activity Description	AD04 WP3D Dur Dur	MP3D	AD04 Start	AD04 WP3D Finish Start		Finish	ID Float					
Drainage Im	Drainage Improvement Works							ı					
15R6GG0301	Obtain approval of ELS design package incl MS	0	0		02NOV09	02NOV09	60/0	2 284	4	_	• as per ER.B28.08,	as per ER.B28.08, 4 weeks prior to work commence	mmence
15R6GG0302	Install ELS & construct shaft for pipe jacking	06	06	04JAN10	26APR10 04JAN10	110 26APR10	R10	1 180	0		1		
15R6GG0304	Construct 1.5m dia. drainage by pipe jacking	85	85	27APR10	07AUG10 27APR10	310 07AUG10	IG10	1 180	Q		==85m, @1m/day	//day	
15R6GG0306	Construct 1.5m dia. drainage by open trenching	24	24	01NOV10*	27NOV10 01NOV10*	V10* 27NOV10	01/10	1 111	-		#72m, @	=72m, @3m/day	
15R6GG0308	Construct .75m & 1.5m U and Stepped Channel	12	12	29NOV10	11DEC10 29NOV10	V10 11DEC10	C10	1 111	-		\$56m, (	\$56m, @5m/day	
15R6GG0310	Construct 3 nos. manhole & 2 nos. catchpit	35	35	13DEC10	25JAN11 13DEC10	310 25JAN11	N11	1 111	-		□@1nr/week	/week	
Remaining V	Remaining Works Prior to Handover to Client						1	1					
15R6GG0312	Reinstate carriageway & footway	24	24	26JAN11	25FEB11 26JAN11	111 25FEB11	B11	1 111	+	-	<b>■</b> 72π	■72m, @3m/day	
15R6GG0402	Pre-handover inspections and remedial works	42	12	26FEB11	11MAR11 26FEB11	311 11MAR11	1R11	1 111	-		lind	including CCTV inspection	
15R6GG0404	Contractor serve notice for Works completion	7	7	12MAR11	18MAR11 12MAR11	R11 18MAR11	1R11	2 997	21		-		
15R6GG0408	SO issues completion certificate	21	21	19MAR11	08APR11 19MAR11	R11 08APR11	R11	2 997	2				
Schedule of	Schedule of Milestones for Cost Centre No. 15R												
15R6GG0502	15R 1; On completion of all temp. works	0	0		26APR10	26AP	26APR10	2 1,344	4		Pprior to comn	Pprior to commence pipe jacking at Portion G	tion G
15R6GG0504	15R 2; On completion of 25% of pipejacking	0	0		06MAY10	06M/	06MAY10	2 1,334	7		pipe jacking	pipe jacking method at Portion G	
15R6GG0506	15R 3; On completion of 50% of pipejacking	0	0		14MAY10	14M/	14MAY10	2 1,326	90		pipe jacking	pipe jacking method at Portion G	
15R6GG0508	15R 4; On completion of 75% of pipejacking	0	0		25MAY10	25M/	25MAY10	2 1,315	2		pipe jacking	pipe jacking method at Portion G	
15R6GG0510	15R 5; On completion of all pipejacking	0	0		07AUG10	07AL	07AUG10	2 1,241	Σ		♦pipe jack	Pipe Jacking method at Portion G	
15R6GG0512	15R 6; On completion of all wks under this CC	0	0		11MAR11	11M/	11MAR11	2 1,025	15		<b>♦</b>	under this Cost Centre	



# Implementation Status of Environmental Mitigation Measures

#### IMPLEMENTATION SCHEDULE October 2010

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
Air Q	uality				
3.6.1	Specific  As mentioned in Section 3.5, exceedances of 1-hour and 24-hour average TSP guideline	DSD's Contractor	Construction Work Sites	Air Pollution Control (Construction Dust) Regulation	<b>√</b>
	levels have been predicted at most of the ASRs. Hence, mitigation measures are considered necessary in order to suppress the potential dust impact.				
	The dust suppression measures set out in the <i>Air Pollution Control (Construction Dust)</i> Regulation, in fact, are more extensive. Therefore, it is expected that with watering the construction site every four times daily together with strict implementation of dust suppression measures as stipulated in the <i>Air Pollution Control (Construction Dust)</i> Regulation, the dust level is expected to be reduced by over 75%.				✓
	General				
	To further ensure compliance with the guideline and AQO limit at the ASRs at all time, it is recommended to implement the <i>Air Pollution Control (Construction Dust) Regulation</i> and include good site practice in the contract clauses to minimize cumulative dust impact. In addition, a comprehensive dust monitoring and audit programme is recommended to ensure proper implementation of the identified mitigation measures. Details of the monitoring and audit requirements are provided in a separate EM&A Manual.  • effective dust screens, sheeting or netting should be provided to enclose the scaffolding				
	from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level of the scaffolding where a scaffolding is erected around the perimeter of a building under construction;				N/A
	dump truck for material transport should be totally enclosed by impervious sheeting;				$\checkmark$
	<ul> <li>any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading;</li> </ul>				✓
	stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones;				✓
	• dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;				✓

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve?	Status
3.6.1	<ul> <li>the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;</li> </ul>	DSD's Contractor	Construction Work Sites	Air Pollution Control (Construction Dust) Regulation	✓
	• where a site boundary adjoins a road, street or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;				✓
	• every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet;				✓
	• the portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials;				✓
	• stockpile of dusty materials should be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;	_			✓
	all dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;				✓
	vehicle speed should be limited to 10 kph except on completed access roads;				✓
	• every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites;	_			✓
	the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; and				✓
	• the working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.				✓
Noise	Delta Cantantan	DSD's	Construction	PN 2/93 Noise from	
4.6.1	During Construction  Appropriate mitigation measures such as the use of quiet equipment and movable barriers will be developed to ensure that noise can be reduced to acceptable levels without causing programme delays	Contractor	Work Sites	Construction Activities & EIAO	<b>√</b>
	Good Site Practice Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during construction:				
	<ul> <li>only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works;</li> </ul>				✓
	<ul> <li>machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> </ul>				✓

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status	
4.6.1	• plant known to emit noise strongly in one direction should, where possible, be orientated to direct noise away from the NSRs;	DSD's Contractor	Construction Work	PN 2/93 Noise from Construction Activities &	✓	
	mobile plant should be sited as far away from NSRs as possible; and		Sites	EIAO	✓	
	• material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.				✓	
	<ul> <li>For Drill and Blast Works</li> <li>Charge mass per delay should be decreased by minimising the number of blastholes firing on each delay.</li> </ul>				N/A	
	Smaller blasthole patterns and longer delays should be used between dependent charges.				N/A	
	Times of blasting should be established to suit the situation and firing blasts when neighbours are busy with their daily tasks (and at a regular time such as lunch time).				N/A	
	<ul> <li>For TBM Tunnelling</li> <li>For the tunnel excavation, it is anticipated that beyond the initial length (say within 30m), excavation will be carried out well within the tunnel and door should be provided to further minimize the noise nuisance to the nearby receivers.</li> </ul>				N/A	
4.6.2	During Operation  Good site practice and noise management can significantly reduce the impact of maintenance activities on nearby NSRs. The following package of measures should be followed during construction	DSD's Contractor	Project Area	NCO & EIAO		
	only well-maintained plant should be operated on-site;					N/A
	machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; and					
	plant known to emit noise strongly in one direction should, where possible, be orientated to direct noise away from the NSRs.				N/A	
	<u>Quality</u>		1	1		
5.9.1	During Construction	DSD's Contractor	Construction Work Sites	Practice Note for Professional Persons with	✓	
	Mitigation measures and a spill control and response plan have been prepared for works at the intakes and work sites.			regard to site drainage (ProPECC PN 1/94) and		
	Precautions to be taken at any time of year when rainstorms are likely:  Temporarily exposed surfaces should be covered e.g. by tarpaulin.			WQO	✓	
	Temporarry exposed surfaces should be covered e.g. by tarpaum.     Temporary access roads should be protected by crushed stone or gravel.	-			✓	
	Trenches should be dug and backfilled in short sections. Measures should be taken to minimize the ingress of rainwater into trenches.				✓	
	Actions to be taken when a rainstorm is imminent or forecast:  • Silt removal facilities, should be checked to ensure that they can function properly.				✓	

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status		
5.9.1	• Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric.	DSD's Contractor	Construction Work Sites	WQO	<b>√</b>		
	All temporary covers to slopes and stockpiles should be secured.				✓		
	Actions to be taken during or after rainstorms:     Silt removal facilities should be checked and maintained to ensure satisfactory working conditions.				✓		
	Spill Control and Response Plan						
	1 Prevention and Precaution Measures						
	<ul><li>General Precautions</li><li>No discharge of silty water into watercourses.</li></ul>				✓		
	<ul> <li>All materials to be used during construction and operation shall be identified and their hazard potential evaluated.</li> </ul>				✓		
	<ul> <li>Maintenance of vehicles and equipment involving activities with potential for leakage and spillage shall only be undertaken with the areas appropriately equipped to control these discharges.</li> </ul>				✓		
	<ul> <li>Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.</li> </ul>	-			✓		
	• Any construction plant which causes pollution to catchwaters or water gathering ground due to leakage of oil or fuel shall be removed off-site immediately.				✓		
	• Suitable containers shall be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport						✓
	Chemical waste containers shall be suitably labelled to notify and warn the personnel who are handling the wastes to avoid accidents.				✓		
	• Storage areas shall be selected at safe locations on site and adequate space shall be allocated to the storage area.				✓		
	Prevent obstructions and tripping hazards.				✓		
	<ul> <li>Storage Precautions</li> <li>All chemical storage containers shall be correctly labelled.</li> </ul>				✓		
	Solid and impermeable enclosure walls or storage shelves shall be used.	1			✓		
	Only compatible chemical wastes shall be stored in the same storage area.	1			✓		
	The storage areas shall be inspected to detect any leakages or defective containers on a regular basis.				✓		
	• Suitable notices warning of hazards, emergency response plans, telephone numbers etc shall be posted around the site, including storage areas.				✓		
	Large and heavy containers shall be stored at ground level.				✓		

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status	
	Chemical waste containers shall be stored below eye level.				✓	
5.9.1	Adequate space for handling of the containers shall be provided	DSD's	Construction	WQO	✓	
	• Spill response kits shall be located adjacent/near to the storage areas.	Contractor	Work Sites		✓	
	A log of chemical wastes shall be maintained.				✓	
	Incompatible chemicals shall be stored separately.				✓	
	2 Responses/Action Plan					
	All Workers shall be made aware of emergency telephone numbers and the location of all relevant pollution control equipment. Training be given in emergency response/action plans. The action include the following steps:				✓	
	• Only trained personnel who are equipped with protective clothing and equipment shall be allowed to enter the spillage area for clean up.				✓	
	• Spills shall be transferred appropriate back into containers using suitable equipment.				✓	
	<ul> <li>Absorbent materials shall be used to clean up the spills and shall be disposed of as chemical wastes.</li> </ul>				✓	
	<ul> <li>Where appropriate suitable solvents may be used to clean the contaminated area after removal of all contaminated materials.</li> </ul>				✓	
	<ul> <li>All necessary protective devices, safety equipment, containers and clean up materials for emergency use shall be maintained to a high standard.</li> </ul>	-			✓	
	3 Spill Clean Up and Disposal					
	Effect the response plan.				✓	
	Control the leakage and absorb the spillage using suitably absorbent materials.				✓	
	Provide safety equipment and personal protective equipment for handling of chemical wastes would be similar to that for handling of chemicals.				✓	
	Safety equipment includes but is not limited to: • Fire extinguishers.				✓	
	• Spades, brushes, dustpan, mop and bucket (or similar readily available on site).				✓	
	<ul> <li>Absorbent material such as dry sand, tissues and toweling (all materials readily available on-site).</li> </ul>				✓	
	Containers including plaster bags, drums, etc.				✓	
	Absorbing materials.				$\checkmark$	
	Pumps.				$\checkmark$	
	Personal protective equipment includes as appropriate:  • First-aid kits.				✓	
	Safety helmet and goggles.				✓	
	Gloves which can resist chemical reaction.				✓	

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EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	Protective boot and clothing.	DSD's	Construction	WQO	✓
5.9.1	Respirators and gas masks.	Contractor	Work Sites		$\checkmark$
	Face visor and masks.				✓
5.9.2	Emergency Responses to Spillages				
	Emergency plans and clean up procedures will need to be provided by the Contractor recognising his specific working methods and construction programme, activities and sequences. Agreement must be sought prior to commencement of the construction work but the following principles should be considered.				
	The emergency plans should include the procedures for:				✓
	spill prevention and precaution;	4			,
	response actions; and				<b>√</b>
	spill clean up and disposal.				✓
	Spill prevention and precaution embraces good site practice and covers:				✓
	good housekeeping practices;	4			,
	chemical storage requirements; and				<b>√</b>
	chemical transfer and transport.				<b>√</b>
5.9.3	During Operation	DSD's Contractor	Project Area		
	Regular inspection of the tunnels is essential to monitor the structural integrity and proper functioning of the drainage tunnel, which allows repairing of structural deterioration when it begins to develop. It is recommended that routine inspection shall be carried out at least two times per year for the drainage tunnel at the beginning and end of wet season from April to September.				N/A
Waste	Management				
6.5.1	During Construction	DSD's Contractor	Construction Work	Waste Disposal Ordinance (Cap.354); Waste Disposal	<b>√</b>
	Vegetation Removed from Site Clearance Wastes generated from site clearance shall be sorted and excavated topsoil segregated from roots for re-use in landscaping works, thus eliminating the need for off-site disposal.		Sites	(Chemical Wastes) (General) Regulation (Cap 354) and ETWBTC No.	<b>V</b>
	Construction and Demolition Materials  The Contractor should reuse any C&D material on-site. C&D waste should be segregated and stored in different containers to other wastes to encourage the re-use or recycling of materials and their proper disposal. The use of wooden hoardings shall not be allowed. An alternative material, which can be reused or recycled, for example, metal (aluminium, alloy, etc) shall be used.			15/2003, Waste anagement on Construction Site	<b>~</b>

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
6.5.1	As referred to the section 6.4.1, the 317,936m <sub>3</sub> of inert surplus material generated by the project is suitable for public fill. The public fill reception facility at Tuen Mun Area 38 provides a suitable facility for the reuse of surplus inert C&D material generated from the project.	DSD's Contractor	Construction Work Sites	WDO (Cap.354), ETWBTC No. 15/2003, ETWBTC No. 12/2002 and ETWBTC No. 31/2004	
	Under the contract, the contractor will be required to minimise the generation of C&D material and reuse it on site through the following:				
	(a) to plan in the design and construction, methods to minimise the generation of C&D material;				✓
	(b) to submit a Waste Management Plan (WMP) in accordance with Environment Transport and Works Bureau Technical Circular (ETWBTC) No. 15/2003 or any superseding circular(s);	_			✓
	(c) to reuse recycled aggregates in accordance with ETWBTC No. 12/2002 or any superseding circular(s);	_			✓
	(d) to observe the requirements of the Trip-Ticket System, stipulated in ETWBTC No. 31/2004 or any superceding circular(s), for disposal of C&D material;				✓
	(e) to incorporate a Waste Management System into the WMP for effective management and control of C&D materials to avoid/reduce/minimise the generation of C&D material during construction.				✓
	The contractor will be required to properly sort into inert C&D materials, metals, timber and other non-inert C&D material in the workplace to prevent cross-contamination.				$\checkmark$
	In addition, DSD will conduct site inspection to monitor the contractors' performance in the implementation of the WMP and other relevant specified requirements.	DSD	Construction Work Sites	WDO (Cap.354) and ETWBTC No. 15/2003	<b>√</b>
	Excavated Materials  Excavated materials should be segregated from other wastes to avoid contamination thereby ensuring acceptability at public filling areas and avoiding the need for disposal at landfill.  Municipal Waste	DSD's Contractor	Construction Work Sites	WDO (Cap.354) and ETWBTC No. 15/2003	<b>V</b>
	Temporary refuse collection facilities should be set-up by the contractor and wastes should be stored in appropriate containers prior to collection and disposal.				✓
	Domestic effluent generated by the workforce will be directed to foul sewer or chemical toilets if public facilities are not available.				$\checkmark$
6.5.1	Waste Management Plan  A Waste Management Plan (WMP) for the construction of the Project should be prepared as part of the contractors submission. It will provide recommendations for appropriate recycling or disposal route and should include method statement for stockpiling and transportation of the excavated material and other construction wastes should also be included in the WMP and approved before the commencement of construction. All mitigation measures arising from the approved WMP shall be fully implemented.	DSD's Contractor	Construction Work Sites	WDO (Cap.354), ETWBTC No. 15/2003 and ETWBTC No. 33/2002	<b>√</b>

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	For the purpose of enhancing the management of C&D material including rock, and to minimize its generation at source, a C&D Material Management Plan (C&DMMP) has been prepared for this project and would be processed in accordance with the Environment, Transport and Works Bureau Technical Circular (Works) No. 33/2002 - Management of Construction and Demolition Material Including Rock.				N/A
<b>Ecology</b>					
7.7.1	Avoidance  The surface structures are located mainly on existing disturbed areas (ie pollution and urbanisation) and have generally avoided the natural stream sections of higher species diversity and abundance of aquatic organisms.  The major construction activities at streams are scheduled to avoid wet season of high water	DSD's Contractor	Construction Work Sites	EIAO	<b>√</b>
	flow which may adversely affect the downstream natural habitats due to the construction runoff.				✓
7.7.2	Minimisation  The previous discussion in Section 7.6.4 has indicated that the impacts on ecological resources due to the construction and operation of the proposed Project are generally expected to be low. The following mitigation measures to minimise impacts and disturbance to the surrounding habitats, are recommended.  Measures for Construction Runoff  Install sheet piles/cofferdam/weir along the boundary of the works area within the stream habitats in particular Sam Dip Tam Stream and Tso Kung Tam Stream before the commencement of works to prevent construction runoff during construction. Provision of adequate designed sand/ silt removal facilities such as sand traps, silt traps and sediment basin in the areas which could potentially be affected may be required.  Good Construction Practice  Erect fences along the boundary of the works area before the commencement of works to	DSD's	Construction	EIAO	✓
	prevent tipping, vehicle movements, and encroachment of personnel onto adjacent areas, particularly the stream habitats.  Avoid any damage and disturbance, particularly those caused by filling and illegal dumping,	Contractor	Work Sites	EIAO	✓
	Avoid any damage and disturbance, particularly those caused by fifting and fliegal dumping, to the remaining and surrounding natural stream habitats.  Regularly check the work site boundaries to ensure that they are not breached and that no	-			<b>√</b>
	damage occurs to surrounding areas.  Prohibit and prevent open fires within the site boundary during construction and provide temporary fire fighting equipment in the work areas.	_			<b>√</b>
	Treat any damage that may have occurred to individual major trees in the adjacent area with surgery.				✓

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure?	Location of the measure	What requirements or standards for the measure to achieve?	Status
	Reinstate temporary work sites/disturbed areas, particularly stream of natural bottom and bank, plantation, intertidal habitat, and the areas located within the proposed Ecological Park, immediately after completion of the construction works, ie through on-site tree/shrub planting and reprovision of natural or semi-natural bottom (also refer to Section 7.7.3), in order to facilitate the recolonisation of the wildlife recorded during the baseline surveys. Tree/shrub species used should make reference from those in the surrounding area	DSD's Contractor	Construction Work Sites	EIAO	✓
7.7.3	Provide natural stream bed (approximately 0.03 ha) for the new Dry Weather Flow Channel (created from village-orchard) by laying natural stones at Intake I-2 (Figure 7.7). The reinstated stream bed shall mimic the existing natural conditions with certain portion of big boulders creating the lentic and lotic zones for the aquatic fauna, and while it will be developed during detailed design may draw on concepts shown in Figure 2.18.  Provide natural stream bed (approximately 0.5 ha,) for the Approach Channel and Dry				N/A
	Weather Flow Channel by laying natural stones at Intake I-3 (Figure 7.8). The reinstated stream bed shall mimic the existing natural conditions (rocky bottom with very limited aquatic plants) with certain portion of big boulders creating the lentic and lotic zones for the aquatic fauna, and while it will be developed during detailed design may draw on concepts shown in Figure 2.18.				N/A
	Provide natural bottom (ie retain the existing stream bed or reinstate the stream bed by providing boulders/ rocks, riprap or gabion) for the affected stream sections (Figure 7.8) in order to allow natural colonisation of aquatic fauna.				N/A
	Provide at least 2.2 ha of compensatory planting on the permanent and temporary affected plantation areas, particularly the slopes along access road and adjacent to Intake I-3 and cascade at Outfall O-1, after construction to stabilise the slope to present soil erosion and consequent stream sedimentation. Among the 2.2 ha compensatory planting, at least 0.5 ha of compensatory tree planting on the new formed slope along the access road of the Intake I-3 and 0.5 ha of compensatory tree planting over the cascade (by constructing intermediate platform) at Outfall O-1 will be provided (location refer to Figures 7.4 – 7.6). Species used for planting should take reference from the species identified in Appendix F and be native to Hong Kong or South China region.				N/A
	Provide armour rocks for the affected intertidal habitat in order to allow natural colonisation of intertidal organisms.				N/A

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
Cultural	<u>Heritage</u>				
8.6	As no impacts on recorded archaeological sites or area with archaeological potential were identified within the Study Area, no mitigation measure for archaeological resources is considered necessary.				N/A
	The construction methods to be employed should seek to avoid potential vibration impacts to Kuen Yuen Tung Monastery at Lo Wai, the Western Monastery, Yuen Yuen Home for the Aged, Hong Hoi Chee Hong Temple, Chiu Yum Tsing Yuen, Tse's Grave, Wan Lin Bridge and Sam Dip Tam Rock Carving in Sam Dip Tam and the Tin Hau Temple, Yam Kom Tau Village Rural Committee and the Yeung's Ancestral Hall in Yau Kom Tau as these sites fall within 50 m of the Preferred Option of the drainage tunnel alignment or associated Intakes/Outfall construction activities. Construction works that generates excessive vibration in close proximity to these sites should be restricted to protect the building from adverse vibration impacts and to ensure that the building structures will not be damaged as a result of these impacts.	DSD's Contractor	Construction Work Sites	EIAO	<b>√</b>
	In order to ensure that no structural or superficial damage will be caused by the construction activities, a precautionary approach involving a pre-construction condition survey and establishment of appropriate vibration limits for the potentially impacted structures should be adopted. Protection measures for the potentially impacted structures, if considered necessary from the pre-construction condition survey, should be implemented prior to the commencement of construction works. Vibration monitoring during the construction phase should be undertaken as part of the EM&A programme.	Qualified archaeologist/ built heritage specialist	Construction Work Sites	EIAO	<b>√</b>
Fisherie		•	•	<u> </u>	
10.6	In accordance with the guidelines in the <i>EIAO-TM</i> on fisheries impact assessment the general policy for mitigating impacts to fisheries, in order of priority are avoidance, minimization and compensation.	DSD's Contractor	Construction Work Sites	EIAO	N/A
	Impacts to fisheries resources and fishing operations have largely been avoided during the construction and operation of the drainage tunnel through the avoidance of dredging, reclamation and filling activities. Good construction practice and associated measures were recommended in Water Quality Assessment in Section 5 to control water quality impacts to within acceptable levels and are also expected to control impacts to fisheries resources. Hence, no fisheries-species mitigation measures are required during construction and operation of the drainage tunnel.				N/A

Remarks:

Compliance of mitigation measure

× Non-compliance of mitigation measure

N/A Not applicable

#### IMPLEMENTATION SCHEDULE November 2010

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
Air Q	uality				
3.6.1	Specific  As mentioned in Section 3.5, exceedances of 1-hour and 24-hour average TSP guideline	DSD's Contractor	Construction Work Sites	Air Pollution Control (Construction Dust) Regulation	<b>√</b>
	levels have been predicted at most of the ASRs. Hence, mitigation measures are considered necessary in order to suppress the potential dust impact.				
	The dust suppression measures set out in the <i>Air Pollution Control (Construction Dust)</i> Regulation, in fact, are more extensive. Therefore, it is expected that with watering the construction site every four times daily together with strict implementation of dust suppression measures as stipulated in the <i>Air Pollution Control (Construction Dust)</i> Regulation, the dust level is expected to be reduced by over 75%.				✓
	General				
	To further ensure compliance with the guideline and AQO limit at the ASRs at all time, it is recommended to implement the <i>Air Pollution Control (Construction Dust) Regulation</i> and include good site practice in the contract clauses to minimize cumulative dust impact.In addition, a comprehensive dust monitoring and audit programme is recommended to ensure proper implementation of the identified mitigation measures. Details of the monitoring and audit requirements are provided in a separate EM&A Manual.				
	• effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level of the scaffolding where a scaffolding is erected around the perimeter of a building under construction;				N/A
	dump truck for material transport should be totally enclosed by impervious sheeting;				✓
	• any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading;				✓
	stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones;				✓
	<ul> <li>dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> </ul>				✓

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
3.6.1	• the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;	DSD's Contractor	Construction Work Sites	Air Pollution Control (Construction Dust) Regulation	✓
	where a site boundary adjoins a road, street or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;				✓
	• every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet;				✓
	• the portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials;				✓
	• stockpile of dusty materials should be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;				✓
	all dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;				✓
	vehicle speed should be limited to 10 kph except on completed access roads;				$\checkmark$
	• every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites;				✓
	the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; and				✓
	• the working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.				✓
<b>Noise</b> 4.6.1	During Construction	DSD's	Construction	PN 2/93 Noise from	
4.0.1	Appropriate mitigation measures such as the use of quiet equipment and movable barriers will be developed to ensure that noise can be reduced to acceptable levels without causing programme delays	Contractor	Work Sites	Construction Activities & EIAO	✓
	Good Site Practice Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during construction:				
	<ul> <li>only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works;</li> </ul>				✓
	• machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;				✓

EIA	Recommended Mitigation Measures	Who to	Location of the	What requirements or	Status
Ref.	Recommended wingation weastres	implement the	measure	standards for the measure	Status
		measure ?		to achieve ?	
4.6.1	• plant known to emit noise strongly in one direction should, where possible, be orientated	DSD's Contractor	Construction Work Sites	PN 2/93 Noise from Construction Activities & EIAO	<b>√</b>
	to direct noise away from the NSRs;				•
	mobile plant should be sited as far away from NSRs as possible; and				✓
	• material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.				✓
	<ul> <li>For Drill and Blast Works</li> <li>Charge mass per delay should be decreased by minimising the number of blastholes firing on each delay.</li> </ul>				N/A
	Smaller blasthole patterns and longer delays should be used between dependent charges.				N/A
	Times of blasting should be established to suit the situation and firing blasts when neighbours are busy with their daily tasks (and at a regular time such as lunch time).				N/A
	<ul> <li>For TBM Tunnelling</li> <li>For the tunnel excavation, it is anticipated that beyond the initial length (say within 30m), excavation will be carried out well within the tunnel and door should be provided to further minimize the noise nuisance to the nearby receivers.</li> </ul>				N/A
4.6.2	During Operation	DSD's Contractor	Project Area	NCO & EIAO	
	Good site practice and noise management can significantly reduce the impact of maintenance activities on nearby NSRs. The following package of measures should be followed during construction				
	only well-maintained plant should be operated on-site;				N/A
	machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; and				N/A
	• plant known to emit noise strongly in one direction should, where possible, be orientated to direct noise away from the NSRs.				N/A
	<u>Quality</u>				
5.9.1	During Construction	DSD's Contractor	Construction Work Sites	Practice Note for Professional Persons with	✓
	Mitigation measures and a spill control and response plan have been prepared for works at the intakes and work sites.			regard to site drainage (ProPECC PN 1/94) and	
	Precautions to be taken at any time of year when rainstorms are likely:			WQO	✓
	Temporarily exposed surfaces should be covered e.g. by tarpaulin.  The surface of the surfa	-			./
	<ul> <li>Temporary access roads should be protected by crushed stone or gravel.</li> <li>Trenches should be dug and backfilled in short sections. Measures should be taken to</li> </ul>				<b>v</b>
	minimize the ingress of rainwater into trenches.				✓
	<ul> <li>Actions to be taken when a rainstorm is imminent or forecast:</li> <li>Silt removal facilities, should be checked to ensure that they can function properly.</li> </ul>				✓

Recommended Mitigation Measures	Who to implement the measure?	Location of the measure	What requirements or standards for the measure to achieve?	Status	
<ul> <li>Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric.</li> </ul>	DSD's Contractor	Construction Work Sites		✓	
<ul> <li>All temporary covers to slopes and stockpiles should be secured.</li> </ul>				✓	
<ul> <li>Actions to be taken during or after rainstorms:</li> <li>Silt removal facilities should be checked and maintained to ensure satisfactory working conditions.</li> </ul>				✓	
Spill Control and Response Plan					
1 Prevention and Precaution Measures					
<ul><li>General Precautions</li><li>No discharge of silty water into watercourses.</li></ul>				✓	
<ul> <li>All materials to be used during construction and operation shall be identified and their hazard potential evaluated.</li> </ul>				$\checkmark$	
<ul> <li>Maintenance of vehicles and equipment involving activities with potential for leakage and spillage shall only be undertaken with the areas appropriately equipped to control these discharges.</li> </ul>				✓	
<ul> <li>Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.</li> </ul>				✓	
<ul> <li>Any construction plant which causes pollution to catchwaters or water gathering ground due to leakage of oil or fuel shall be removed off-site immediately.</li> </ul>				✓	
<ul> <li>Suitable containers shall be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport</li> </ul>					$\checkmark$
<ul> <li>Chemical waste containers shall be suitably labelled to notify and warn the personnel who are handling the wastes to avoid accidents.</li> </ul>					✓
<ul> <li>Storage areas shall be selected at safe locations on site and adequate space shall be allocated to the storage area.</li> </ul>				✓	
Prevent obstructions and tripping hazards.				✓	
Storage Precautions  • All chemical storage containers shall be correctly labelled.				✓	
Solid and impermeable enclosure walls or storage shelves shall be used.				✓	
Only compatible chemical wastes shall be stored in the same storage area.				✓	
<ul> <li>The storage areas shall be inspected to detect any leakages or defective containers on a regular basis.</li> </ul>					✓
<ul> <li>Suitable notices warning of hazards, emergency response plans, telephone numbers etc shall be posted around the site, including storage areas.</li> </ul>				✓	
Large and heavy containers shall be stored at ground level.				✓	

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	Chemical waste containers shall be stored below eye level.				✓
5.9.1	Adequate space for handling of the containers shall be provided	DSD's Contractor	Construction Work Sites	WQO	✓
	Spill response kits shall be located adjacent/near to the storage areas.				✓
	A log of chemical wastes shall be maintained.				$\checkmark$
	Incompatible chemicals shall be stored separately.				$\checkmark$
	2 Responses/Action Plan				
	All Workers shall be made aware of emergency telephone numbers and the location of all relevant pollution control equipment. Training be given in emergency response/action plans. The action include the following steps:				✓
	• Only trained personnel who are equipped with protective clothing and equipment shall be allowed to enter the spillage area for clean up.				✓
	• Spills shall be transferred appropriate back into containers using suitable equipment.				✓
	<ul> <li>Absorbent materials shall be used to clean up the spills and shall be disposed of as chemical wastes.</li> </ul>				✓
	<ul> <li>Where appropriate suitable solvents may be used to clean the contaminated area after removal of all contaminated materials.</li> </ul>				✓
	<ul> <li>All necessary protective devices, safety equipment, containers and clean up materials for emergency use shall be maintained to a high standard.</li> </ul>				✓
	3 Spill Clean Up and Disposal				
	Effect the response plan.				$\checkmark$
	Control the leakage and absorb the spillage using suitably absorbent materials.				$\checkmark$
	Provide safety equipment and personal protective equipment for handling of chemical wastes would be similar to that for handling of chemicals.				✓
	Safety equipment includes but is not limited to: • Fire extinguishers.				✓
	• Spades, brushes, dustpan, mop and bucket (or similar readily available on site).				$\checkmark$
	<ul> <li>Absorbent material such as dry sand, tissues and toweling (all materials readily available on-site).</li> </ul>			✓	
	Containers including plaster bags, drums, etc.				$\checkmark$
	Absorbing materials.				$\checkmark$
	Pumps.				$\checkmark$
	Personal protective equipment includes as appropriate:  • First-aid kits.				✓
	Safety helmet and goggles.				$\checkmark$
	Gloves which can resist chemical reaction.				$\checkmark$

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EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	Protective boot and clothing.	DSD's	Construction	WQO	✓
5.9.1	Respirators and gas masks.	Contractor	Work Sites		$\checkmark$
	Face visor and masks.	1			✓
5.9.2	Emergency Responses to Spillages				
	Emergency plans and clean up procedures will need to be provided by the Contractor recognising his specific working methods and construction programme, activities and sequences. Agreement must be sought prior to commencement of the construction work but the following principles should be considered.				
	The emergency plans should include the procedures for:				✓
	spill prevention and precaution;	_			,
	response actions; and	_			<b>V</b>
	spill clean up and disposal.				<b>√</b>
	Spill prevention and precaution embraces good site practice and covers:				✓
	• good housekeeping practices;	4			,
	chemical storage requirements; and	_			<b>v</b>
7.0.0	chemical transfer and transport.	D G D A			<b>√</b>
5.9.3	During Operation	DSD's Contractor	Project Area		
	Regular inspection of the tunnels is essential to monitor the structural integrity and proper functioning of the drainage tunnel, which allows repairing of structural deterioration when it begins to develop. It is recommended that routine inspection shall be carried out at least two times per year for the drainage tunnel at the beginning and end of wet season from April to September.				N/A
	Management	1	•		
6.5.1	During Construction  Vegetation Removed from Site Clearance  Wastes generated from site clearance shall be sorted and excavated topsoil segregated from roots for re-use in landscaping works, thus eliminating the need for off-site disposal.	DSD's Contractor	Construction Work Sites	Waste Disposal Ordinance (Cap.354); Waste Disposal (Chemical Wastes) (General) Regulation (Cap 354) and ETWBTC No. 15/2003, Waste anagement on Construction Site	<b>√</b>
	Construction and Demolition Materials  The Contractor should reuse any C&D material on-site. C&D waste should be segregated and stored in different containers to other wastes to encourage the re-use or recycling of materials and their proper disposal. The use of wooden hoardings shall not be allowed. An alternative material, which can be reused or recycled, for example, metal (aluminium, alloy, etc) shall be used.				✓

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
6.5.1	As referred to the section 6.4.1, the 317,936m3 of inert surplus material generated by the project is suitable for public fill. The public fill reception facility at Tuen Mun Area 38 provides a suitable facility for the reuse of surplus inert C&D material generated from the project.	DSD's Contractor	Construction Work Sites	WDO (Cap.354), ETWBTC No. 15/2003, ETWBTC No. 12/2002 and ETWBTC No. 31/2004	
	Under the contract, the contractor will be required to minimise the generation of C&D material and reuse it on site through the following:				,
	(a) to plan in the design and construction, methods to minimise the generation of C&D material;				✓
	(b) to submit a Waste Management Plan (WMP) in accordance with Environment Transport and Works Bureau Technical Circular (ETWBTC) No. 15/2003 or any superseding circular(s);				<b>√</b>
	(c) to reuse recycled aggregates in accordance with ETWBTC No. 12/2002 or any superseding circular(s);				✓
	(d) to observe the requirements of the Trip-Ticket System, stipulated in ETWBTC No. 31/2004 or any superceding circular(s), for disposal of C&D material;				✓
	(e) to incorporate a Waste Management System into the WMP for effective management and control of C&D materials to avoid/reduce/minimise the generation of C&D material during construction.				✓
	The contractor will be required to properly sort into inert C&D materials, metals, timber and other non-inert C&D material in the workplace to prevent cross-contamination.				$\checkmark$
	In addition, DSD will conduct site inspection to monitor the contractors' performance in the implementation of the WMP and other relevant specified requirements.	DSD	Construction Work Sites	WDO (Cap.354) and ETWBTC No. 15/2003	<b>√</b>
	Excavated Materials Excavated materials should be segregated from other wastes to avoid contamination thereby ensuring acceptability at public filling areas and avoiding the need for disposal at landfill.  Municipal Waste	DSD's Contractor	Construction Work Sites	WDO (Cap.354) and ETWBTC No. 15/2003	<b>√</b>
	Temporary refuse collection facilities should be set-up by the contractor and wastes should be stored in appropriate containers prior to collection and disposal.				$\checkmark$
	Domestic effluent generated by the workforce will be directed to foul sewer or chemical toilets if public facilities are not available.				✓
6.5.1	Waste Management Plan  A Waste Management Plan (WMP) for the construction of the Project should be prepared as part of the contractors submission. It will provide recommendations for appropriate recycling or disposal route and should include method statement for stockpiling and transportation of the excavated material and other construction wastes should also be included in the WMP and approved before the commencement of construction. All mitigation measures arising from the approved WMP shall be fully implemented.	DSD's Contractor	Construction Work Sites	WDO (Cap.354), ETWBTC No. 15/2003 and ETWBTC No. 33/2002	✓

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	For the purpose of enhancing the management of C&D material including rock, and to minimize its generation at source, a C&D Material Management Plan (C&DMMP) has been prepared for this project and would be processed in accordance with the Environment, Transport and Works Bureau Technical Circular (Works) No. 33/2002 - Management of Construction and Demolition Material Including Rock.				N/A
<b>Ecology</b>					
7.7.1	Avoidance  The surface structures are located mainly on existing disturbed areas (ie pollution and urbanisation) and have generally avoided the natural stream sections of higher species diversity and abundance of aquatic organisms.  The major construction activities at streams are scheduled to avoid wet season of high water flow which may adversely affect the downstream natural habitats due to the construction runoff.	DSD's Contractor	Construction Work Sites	EIAO	✓ ✓
7.7.2	Minimisation  The previous discussion in Section 7.6.4 has indicated that the impacts on ecological resources due to the construction and operation of the proposed Project are generally expected to be low. The following mitigation measures to minimise impacts and disturbance to the surrounding habitats, are recommended.  Measures for Construction Runoff  Install sheet piles/cofferdam/weir along the boundary of the works area within the stream habitats in particular Sam Dip Tam Stream and Tso Kung Tam Stream before the commencement of works to prevent construction runoff during construction. Provision of adequate designed sand/silt removal facilities such as sand traps, silt traps and sediment				✓
	basin in the areas which could potentially be affected may be required.  Good Construction Practice	_			✓
	Erect fences along the boundary of the works area before the commencement of works to prevent tipping, vehicle movements, and encroachment of personnel onto adjacent areas, particularly the stream habitats.	DSD's Contractor	Construction Work Sites	EIAO	<b>√</b>
	Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the remaining and surrounding natural stream habitats.  Regularly check the work site boundaries to ensure that they are not breached and that no				<b>√</b>
	damage occurs to surrounding areas.  Prohibit and prevent open fires within the site boundary during construction and provide				<b>√</b>
	temporary fire fighting equipment in the work areas.  Treat any damage that may have occurred to individual major trees in the adjacent area with surgery.				<b>∀</b>

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EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve?	Status
	Reinstate temporary work sites/disturbed areas, particularly stream of natural bottom and bank, plantation, intertidal habitat, and the areas located within the proposed Ecological Park, immediately after completion of the construction works, ie through on-site tree/shrub planting and reprovision of natural or semi-natural bottom (also refer to Section 7.7.3), in order to facilitate the recolonisation of the wildlife recorded during the baseline surveys. Tree/shrub species used should make reference from those in the surrounding area	DSD's Contractor	Construction Work Sites	EIAO	<b>√</b>
7.7.3	Compensation  Provide natural stream bed (approximately 0.03 ha) for the new Dry Weather Flow Channel (created from village-orchard) by laying natural stones at Intake I-2 (Figure 7.7). The reinstated stream bed shall mimic the existing natural conditions with certain portion of big boulders creating the lentic and lotic zones for the aquatic fauna, and while it will be developed during detailed design may draw on concepts shown in Figure 2.18.  Provide natural stream bed (approximately 0.5 ha,) for the Approach Channel and Dry				N/A
	Weather Flow Channel by laying natural stones at Intake I-3 (Figure 7.8). The reinstated stream bed shall mimic the existing natural conditions (rocky bottom with very limited aquatic plants) with certain portion of big boulders creating the lentic and lotic zones for the aquatic fauna, and while it will be developed during detailed design may draw on concepts shown in Figure 2.18.				N/A
	Provide natural bottom (ie retain the existing stream bed or reinstate the stream bed by providing boulders/ rocks, riprap or gabion) for the affected stream sections (Figure 7.8) in order to allow natural colonisation of aquatic fauna.				N/A
	Provide at least 2.2 ha of compensatory planting on the permanent and temporary affected plantation areas, particularly the slopes along access road and adjacent to Intake I-3 and cascade at Outfall O-1, after construction to stabilise the slope to present soil erosion and consequent stream sedimentation. Among the 2.2 ha compensatory planting, at least 0.5 ha of compensatory tree planting on the new formed slope along the access road of the Intake I-3 and 0.5 ha of compensatory tree planting over the cascade (by constructing intermediate platform) at Outfall O-1 will be provided (location refer to Figures 7.4 – 7.6). Species used for planting should take reference from the species identified in Appendix F and be native to Hong Kong or South China region.				N/A
	Provide armour rocks for the affected intertidal habitat in order to allow natural colonisation of intertidal organisms.				N/A

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EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
Cultura	l Heritage				
8.6	As no impacts on recorded archaeological sites or area with archaeological potential were identified within the Study Area, no mitigation measure for archaeological resources is considered necessary.				N/A
	The construction methods to be employed should seek to avoid potential vibration impacts to Kuen Yuen Tung Monastery at Lo Wai, the Western Monastery, Yuen Yuen Home for the Aged, Hong Hoi Chee Hong Temple, Chiu Yum Tsing Yuen, Tse's Grave, Wan Lin Bridge and Sam Dip Tam Rock Carving in Sam Dip Tam and the Tin Hau Temple, Yam Kom Tau Village Rural Committee and the Yeung's Ancestral Hall in Yau Kom Tau as these sites fall within 50 m of the Preferred Option of the drainage tunnel alignment or associated Intakes/Outfall construction activities. Construction works that generates excessive vibration in close proximity to these sites should be restricted to protect the building from adverse vibration impacts and to ensure that the building structures will not be damaged as a result of these impacts.	DSD's Contractor	Construction Work Sites	EIAO	✓
	In order to ensure that no structural or superficial damage will be caused by the construction activities, a precautionary approach involving a pre-construction condition survey and establishment of appropriate vibration limits for the potentially impacted structures should be adopted. Protection measures for the potentially impacted structures, if considered necessary from the pre-construction condition survey, should be implemented prior to the commencement of construction works. Vibration monitoring during the construction phase should be undertaken as part of the EM&A programme.	Qualified archaeologist/ built heritage specialist	Construction Work Sites	EIAO	<b>✓</b>
Fisherie	1 1 0		1		
10.6	In accordance with the guidelines in the <i>EIAO-TM</i> on fisheries impact assessment the general policy for mitigating impacts to fisheries, in order of priority are avoidance, minimization and compensation.	DSD's Contractor	Construction Work Sites	EIAO	N/A
Remarks	Impacts to fisheries resources and fishing operations have largely been avoided during the construction and operation of the drainage tunnel through the avoidance of dredging, reclamation and filling activities. Good construction practice and associated measures were recommended in Water Quality Assessment in Section 5 to control water quality impacts to within acceptable levels and are also expected to control impacts to fisheries resources. Hence, no fisheries-species mitigation measures are required during construction and operation of the drainage tunnel.				N/A

Remarks:

Compliance of mitigation measure Non-compliance of mitigation measure x

N/A Not applicable

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#### IMPLEMENTATION SCHEDULE December 2010

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
Air Q	uality				
3.6.1	Specific  As mentioned in Section 3.5, exceedances of 1-hour and 24-hour average TSP guideline	DSD's Contractor	Construction Work Sites	Air Pollution Control (Construction Dust) Regulation	<b>√</b>
	levels have been predicted at most of the ASRs. Hence, mitigation measures are considered necessary in order to suppress the potential dust impact.  The dust suppression measures set out in the <i>Air Pollution Control (Construction Dust)</i>				
	Regulation, in fact, are more extensive. Therefore, it is expected that with watering the construction site every four times daily together with strict implementation of dust suppression measures as stipulated in the Air Pollution Control (Construction Dust) Regulation, the dust level is expected to be reduced by over 75%.				✓
	General				
	To further ensure compliance with the guideline and AQO limit at the ASRs at all time, it is recommended to implement the <i>Air Pollution Control (Construction Dust) Regulation</i> and include good site practice in the contract clauses to minimize cumulative dust impact. In addition, a comprehensive dust monitoring and audit programme is recommended to ensure proper implementation of the identified mitigation measures. Details of the monitoring and audit requirements are provided in a separate EM&A Manual.				
	• effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level of the scaffolding where a scaffolding is erected around the perimeter of a building under construction;				N/A
	dump truck for material transport should be totally enclosed by impervious sheeting;				$\checkmark$
	<ul> <li>any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading;</li> </ul>				✓
	stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones;				✓
	• dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;				✓

#### Appendix D

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
3.6.1	• the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;	DSD's Constructive Work Sites		Air Pollution Control (Construction Dust) Regulation	✓
	<ul> <li>where a site boundary adjoins a road, street or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;</li> </ul>				✓
	• every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet;				✓
	• the portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials;				✓
	• stockpile of dusty materials should be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;				✓
	• all dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;	_			✓
	• vehicle speed should be limited to 10 kph except on completed access roads;				✓
	<ul> <li>every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites;</li> </ul>				✓
	<ul> <li>the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; and</li> </ul>				✓
	• the working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.				✓
Noise		T = x = .		T	
4.6.1	During Construction	DSD's Contractor	Construction Work	PN 2/93 Noise from Construction Activities &	,
	Appropriate mitigation measures such as the use of quiet equipment and movable barriers will be developed to ensure that noise can be reduced to acceptable levels without causing programme delays		Sites	EIAO	✓
	Good Site Practice Good site practice and noise management can significantly reduce the impact of construction				
	site activities on nearby NSRs. The following package of measures should be followed during construction:				
	<ul> <li>only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works;</li> </ul>				✓
	<ul> <li>machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> </ul>				✓

### Appendix D

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EIA Ref.	Recommended Mitigation Measures	Who to implement the	Location of the measure	What requirements or standards for the measure	Status
Kei.		measure ?	measure	to achieve?	
4.6.1	• plant known to emit noise strongly in one direction should, where possible, be orientated	DSD's	Construction	PN 2/93 Noise from	
	to direct noise away from the NSRs;	Contractor	Work	Construction Activities &	✓
	mobile plant should be sited as far away from NSRs as possible; and	•	Sites	EIAO	✓
	material stockpiles and other structures should be effectively utilised, where practicable,	-			
	to screen noise from on-site construction activities.				✓
	For Drill and Blast Works	1			
	Charge mass per delay should be decreased by minimising the number of blastholes				N/A
	firing on each delay.				
	Smaller blasthole patterns and longer delays should be used between dependent charges.				N/A
	Times of blasting should be established to suit the situation and firing blasts when				N/A
	neighbours are busy with their daily tasks (and at a regular time such as lunch time).	_			14/11
	For TBM Tunnelling				
	• For the tunnel excavation, it is anticipated that beyond the initial length (say within 30m), excavation will be carried out well within the tunnel and door should be provided to				N/A
	further minimize the noise nuisance to the nearby receivers.				
4.6.2	During Operation	DSD's	Project Area	NCO & EIAO	
		Contractor			
	Good site practice and noise management can significantly reduce the impact of maintenance				
	activities on nearby NSRs. The following package of measures should be followed during				
	<ul> <li>construction</li> <li>only well-maintained plant should be operated on-site;</li> </ul>	+			N/A
	machines and plant that may be in intermittent use should be shut down between work	-			IVA
	periods or should be throttled down to a minimum; and				N/A
	plant known to emit noise strongly in one direction should, where possible, be orientated	1			27/4
	to direct noise away from the NSRs.				N/A
	<u>Quality</u>		1		
5.9.1	During Construction	DSD's	Construction	Practice Note for	
	Mitigation massyres and a smill control and response plan have been prepared for works at	Contractor	Work Sites	Professional Persons with	✓
	Mitigation measures and a spill control and response plan have been prepared for works at the intakes and work sites.			regard to site drainage (ProPECC PN 1/94) and	
	Precautions to be taken at any time of year when rainstorms are likely:	1		WQO	,
	Temporarily exposed surfaces should be covered e.g. by tarpaulin.				✓
	Temporary access roads should be protected by crushed stone or gravel.				✓
	Trenches should be dug and backfilled in short sections. Measures should be taken to	]			✓
	minimize the ingress of rainwater into trenches.	1			•
1	Actions to be taken when a rainstorm is imminent or forecast:				✓
	Silt removal facilities, should be checked to ensure that they can function properly.	<u> </u>	<u> </u>		

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status			
5.9.1	• Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric.	DSD's Construction WQO Work Sites					WQO	✓
	All temporary covers to slopes and stockpiles should be secured.				✓			
	Actions to be taken during or after rainstorms:     Silt removal facilities should be checked and maintained to ensure satisfactory working conditions.			✓				
	Spill Control and Response Plan							
	1 Prevention and Precaution Measures							
	<ul><li>General Precautions</li><li>No discharge of silty water into watercourses.</li></ul>				✓			
	<ul> <li>All materials to be used during construction and operation shall be identified and their hazard potential evaluated.</li> </ul>			✓				
	<ul> <li>Maintenance of vehicles and equipment involving activities with potential for leakage and spillage shall only be undertaken with the areas appropriately equipped to control these discharges.</li> </ul>							✓
	<ul> <li>Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.</li> </ul>				✓			
	• Any construction plant which causes pollution to catchwaters or water gathering ground due to leakage of oil or fuel shall be removed off-site immediately.							
	• Suitable containers shall be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport					✓		
	Chemical waste containers shall be suitably labelled to notify and warn the personnel who are handling the wastes to avoid accidents.				✓			
	• Storage areas shall be selected at safe locations on site and adequate space shall be allocated to the storage area.				✓			
	Prevent obstructions and tripping hazards.				✓			
	<ul> <li>Storage Precautions</li> <li>All chemical storage containers shall be correctly labelled.</li> </ul>				✓			
	Solid and impermeable enclosure walls or storage shelves shall be used.	1			✓			
	Only compatible chemical wastes shall be stored in the same storage area.	-			✓			
	The storage areas shall be inspected to detect any leakages or defective containers on a regular basis.				✓			
	• Suitable notices warning of hazards, emergency response plans, telephone numbers etc shall be posted around the site, including storage areas.							✓
	Large and heavy containers shall be stored at ground level.				✓			

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status	
	Chemical waste containers shall be stored below eye level.				✓	
5.9.1	Adequate space for handling of the containers shall be provided	DSD's	Construction	WQO	✓	
	• Spill response kits shall be located adjacent/near to the storage areas.	Contractor	Work Sites		✓	
	A log of chemical wastes shall be maintained.				✓	
	Incompatible chemicals shall be stored separately.				✓	
	2 Responses/Action Plan					
	All Workers shall be made aware of emergency telephone numbers and the location of all relevant pollution control equipment. Training be given in emergency response/action plans. The action include the following steps:				✓	
	• Only trained personnel who are equipped with protective clothing and equipment shall be allowed to enter the spillage area for clean up.				✓	
	• Spills shall be transferred appropriate back into containers using suitable equipment.				✓	
	<ul> <li>Absorbent materials shall be used to clean up the spills and shall be disposed of as chemical wastes.</li> </ul>				✓	
	<ul> <li>Where appropriate suitable solvents may be used to clean the contaminated area after removal of all contaminated materials.</li> </ul>			✓		
	<ul> <li>All necessary protective devices, safety equipment, containers and clean up materials for emergency use shall be maintained to a high standard.</li> </ul>				✓	
	3 Spill Clean Up and Disposal					
	Effect the response plan.				✓	
	Control the leakage and absorb the spillage using suitably absorbent materials.				✓	
	Provide safety equipment and personal protective equipment for handling of chemical wastes would be similar to that for handling of chemicals.				✓	
	Safety equipment includes but is not limited to: • Fire extinguishers.				✓	
	• Spades, brushes, dustpan, mop and bucket (or similar readily available on site).				✓	
	<ul> <li>Absorbent material such as dry sand, tissues and toweling (all materials readily available on-site).</li> </ul>				✓	
	Containers including plaster bags, drums, etc.				✓	
	Absorbing materials.				$\checkmark$	
	Pumps.				$\checkmark$	
	Personal protective equipment includes as appropriate:  • First-aid kits.		]			✓
	Safety helmet and goggles.				✓	
	Gloves which can resist chemical reaction.				✓	

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EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	Protective boot and clothing.	DSD's	Construction	WQO	✓
5.9.1	Respirators and gas masks.	Contractor	Work Sites		✓
	Face visor and masks.				✓
5.9.2	Emergency Responses to Spillages				
	Emergency plans and clean up procedures will need to be provided by the Contractor recognising his specific working methods and construction programme, activities and sequences. Agreement must be sought prior to commencement of the construction work but the following principles should be considered.				
	The emergency plans should include the procedures for: • spill prevention and precaution;				$\checkmark$
	response actions; and				✓
	spill clean up and disposal.	1			✓
	Spill prevention and precaution embraces good site practice and covers:  • good housekeeping practices;				✓
	chemical storage requirements; and				✓
	chemical transfer and transport.	1			✓
5.9.3	During Operation	DSD's Contractor	Project Area		
	Regular inspection of the tunnels is essential to monitor the structural integrity and proper functioning of the drainage tunnel, which allows repairing of structural deterioration when it begins to develop. It is recommended that routine inspection shall be carried out at least two times per year for the drainage tunnel at the beginning and end of wet season from April to September.				N/A
Waste	Management	•	•		
6.5.1	During Construction  Vegetation Removed from Site Clearance	DSD's Contractor	Work (Cap.354); Waste Disposa (Chemical Wastes)	Waste Disposal Ordinance (Cap.354); Waste Disposal (Chemical Wastes)	<b>√</b>
	Wastes generated from site clearance shall be sorted and excavated topsoil segregated from roots for re-use in landscaping works, thus eliminating the need for off-site disposal.	_		(General) Regulation (Cap 354) and ETWBTC No.	
	Construction and Demolition Materials  The Contractor should reuse any C&D material on-site. C&D waste should be segregated and stored in different containers to other wastes to encourage the re-use or recycling of materials and their proper disposal. The use of wooden hoardings shall not be allowed. An alternative material, which can be reused or recycled, for example, metal (aluminium, alloy, etc) shall be used.				<b>✓</b>

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status	
6.5.1	As referred to the section 6.4.1, the 317,936m <sub>3</sub> of inert surplus material generated by the project is suitable for public fill. The public fill reception facility at Tuen Mun Area 38 provides a suitable facility for the reuse of surplus inert C&D material generated from the project.	DSD's Contractor		Construction Work Sites	WDO (Cap.354), ETWBTC No. 15/2003, ETWBTC No. 12/2002 and ETWBTC No. 31/2004	
	Under the contract, the contractor will be required to minimise the generation of C&D material and reuse it on site through the following:					
	(a) to plan in the design and construction, methods to minimise the generation of C&D material;				✓	
	(b) to submit a Waste Management Plan (WMP) in accordance with Environment Transport and Works Bureau Technical Circular (ETWBTC) No. 15/2003 or any superseding circular(s);	_			✓	
	(c) to reuse recycled aggregates in accordance with ETWBTC No. 12/2002 or any superseding circular(s);	_			✓	
	(d) to observe the requirements of the Trip-Ticket System, stipulated in ETWBTC No. 31/2004 or any superceding circular(s), for disposal of C&D material;	_			✓	
	(e) to incorporate a Waste Management System into the WMP for effective management and control of C&D materials to avoid/reduce/minimise the generation of C&D material during construction.				✓	
	The contractor will be required to properly sort into inert C&D materials, metals, timber and other non-inert C&D material in the workplace to prevent cross-contamination.				$\checkmark$	
	In addition, DSD will conduct site inspection to monitor the contractors' performance in the implementation of the WMP and other relevant specified requirements.	DSD	Construction Work Sites	WDO (Cap.354) and ETWBTC No. 15/2003	<b>√</b>	
	Excavated Materials  Excavated materials should be segregated from other wastes to avoid contamination thereby ensuring acceptability at public filling areas and avoiding the need for disposal at landfill.  Municipal Waste	DSD's Contractor	Construction Work Sites	WDO (Cap.354) and ETWBTC No. 15/2003	<b>V</b>	
	Temporary refuse collection facilities should be set-up by the contractor and wastes should be stored in appropriate containers prior to collection and disposal.			✓		
	Domestic effluent generated by the workforce will be directed to foul sewer or chemical toilets if public facilities are not available.				$\checkmark$	
6.5.1	Waste Management Plan  A Waste Management Plan (WMP) for the construction of the Project should be prepared as part of the contractors submission. It will provide recommendations for appropriate recycling or disposal route and should include method statement for stockpiling and transportation of the excavated material and other construction wastes should also be included in the WMP and approved before the commencement of construction. All mitigation measures arising from the approved WMP shall be fully implemented.	DSD's Contractor	Construction Work Sites	WDO (Cap.354), ETWBTC No. 15/2003 and ETWBTC No. 33/2002	<b>√</b>	

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure ?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
	For the purpose of enhancing the management of C&D material including rock, and to minimize its generation at source, a C&D Material Management Plan (C&DMMP) has been prepared for this project and would be processed in accordance with the Environment, Transport and Works Bureau Technical Circular (Works) No. 33/2002 - Management of Construction and Demolition Material Including Rock.				N/A
Ecology					
7.7.1	Avoidance  The surface structures are located mainly on existing disturbed areas (ie pollution and urbanisation) and have generally avoided the natural stream sections of higher species diversity and abundance of aquatic organisms.	DSD's Contractor	Construction Work Sites	EIAO	✓
	The major construction activities at streams are scheduled to avoid wet season of high water flow which may adversely affect the downstream natural habitats due to the construction runoff.				✓
7.7.2	Minimisation				
	The previous discussion in Section 7.6.4 has indicated that the impacts on ecological resources due to the construction and operation of the proposed Project are generally expected to be low. The following mitigation measures to minimise impacts and disturbance to the surrounding habitats, are recommended.  Measures for Construction Runoff				
	Install sheet piles/cofferdam/weir along the boundary of the works area within the stream habitats in particular Sam Dip Tam Stream and Tso Kung Tam Stream before the commencement of works to prevent construction runoff during construction. Provision of adequate designed sand/ silt removal facilities such as sand traps, silt traps and sediment basin in the areas which could potentially be affected may be required.				✓
	Good Construction Practice				✓
	Erect fences along the boundary of the works area before the commencement of works to prevent tipping, vehicle movements, and encroachment of personnel onto adjacent areas, particularly the stream habitats.	DSD's Contractor	Construction Work Sites	EIAO	✓
	Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the remaining and surrounding natural stream habitats.				✓
	Regularly check the work site boundaries to ensure that they are not breached and that no damage occurs to surrounding areas.				✓
	Prohibit and prevent open fires within the site boundary during construction and provide temporary fire fighting equipment in the work areas.				✓
	Treat any damage that may have occurred to individual major trees in the adjacent area with surgery.				✓

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure?	Location of the measure	What requirements or standards for the measure to achieve?	Status
	Reinstate temporary work sites/disturbed areas, particularly stream of natural bottom and bank, plantation, intertidal habitat, and the areas located within the proposed Ecological Park, immediately after completion of the construction works, ie through on-site tree/shrub planting and reprovision of natural or semi-natural bottom (also refer to Section 7.7.3), in order to facilitate the recolonisation of the wildlife recorded during the baseline surveys. Tree/shrub species used should make reference from those in the surrounding area	DSD's Contractor	Construction Work Sites	EIAO	✓
7.7.3	Provide natural stream bed (approximately 0.03 ha) for the new Dry Weather Flow Channel (created from village-orchard) by laying natural stones at Intake I-2 (Figure 7.7). The reinstated stream bed shall mimic the existing natural conditions with certain portion of big boulders creating the lentic and lotic zones for the aquatic fauna, and while it will be developed during detailed design may draw on concepts shown in Figure 2.18.  Provide natural stream bed (approximately 0.5 ha,) for the Approach Channel and Dry				N/A
	Weather Flow Channel by laying natural stones at Intake I-3 (Figure 7.8). The reinstated stream bed shall mimic the existing natural conditions (rocky bottom with very limited aquatic plants) with certain portion of big boulders creating the lentic and lotic zones for the aquatic fauna, and while it will be developed during detailed design may draw on concepts shown in Figure 2.18.				N/A
	Provide natural bottom (ie retain the existing stream bed or reinstate the stream bed by providing boulders/ rocks, riprap or gabion) for the affected stream sections (Figure 7.8) in order to allow natural colonisation of aquatic fauna.				N/A
	Provide at least 2.2 ha of compensatory planting on the permanent and temporary affected plantation areas, particularly the slopes along access road and adjacent to Intake I-3 and cascade at Outfall O-1, after construction to stabilise the slope to present soil erosion and consequent stream sedimentation. Among the 2.2 ha compensatory planting, at least 0.5 ha of compensatory tree planting on the new formed slope along the access road of the Intake I-3 and 0.5 ha of compensatory tree planting over the cascade (by constructing intermediate platform) at Outfall O-1 will be provided (location refer to Figures 7.4 – 7.6). Species used for planting should take reference from the species identified in Appendix F and be native to Hong Kong or South China region.				N/A
	Provide armour rocks for the affected intertidal habitat in order to allow natural colonisation of intertidal organisms.				N/A

EIA Ref.	Recommended Mitigation Measures	Who to implement the measure?	Location of the measure	What requirements or standards for the measure to achieve ?	Status
Cultural l	<u>Heritage</u>				
8.6	As no impacts on recorded archaeological sites or area with archaeological potential were identified within the Study Area, no mitigation measure for archaeological resources is considered necessary.				N/A
	The construction methods to be employed should seek to avoid potential vibration impacts to Kuen Yuen Tung Monastery at Lo Wai, the Western Monastery, Yuen Yuen Home for the Aged, Hong Hoi Chee Hong Temple, Chiu Yum Tsing Yuen, Tse's Grave, Wan Lin Bridge and Sam Dip Tam Rock Carving in Sam Dip Tam and the Tin Hau Temple, Yam Kom Tau Village Rural Committee and the Yeung's Ancestral Hall in Yau Kom Tau as these sites fall within 50 m of the Preferred Option of the drainage tunnel alignment or associated Intakes/Outfall construction activities. Construction works that generates excessive vibration in close proximity to these sites should be restricted to protect the building from adverse vibration impacts and to ensure that the building structures will not be damaged as a result of these impacts.	DSD's Contractor	Construction Work Sites	EIAO	<b>√</b>
	In order to ensure that no structural or superficial damage will be caused by the construction activities, a precautionary approach involving a pre-construction condition survey and establishment of appropriate vibration limits for the potentially impacted structures should be adopted. Protection measures for the potentially impacted structures, if considered necessary from the pre-construction condition survey, should be implemented prior to the commencement of construction works. Vibration monitoring during the construction phase should be undertaken as part of the EM&A programme.	Qualified archaeologist/ built heritage specialist	Construction Work Sites	EIAO	<b>√</b>
<b>Fisheries</b>	<del>,</del>	1			
10.6	In accordance with the guidelines in the <i>EIAO-TM</i> on fisheries impact assessment the general policy for mitigating impacts to fisheries, in order of priority are avoidance, minimization and compensation.	DSD's Contractor	Construction Work Sites	EIAO	N/A
	Impacts to fisheries resources and fishing operations have largely been avoided during the construction and operation of the drainage tunnel through the avoidance of dredging, reclamation and filling activities. Good construction practice and associated measures were recommended in Water Quality Assessment in Section 5 to control water quality impacts to within acceptable levels and are also expected to control impacts to fisheries resources. Hence, no fisheries-species mitigation measures are required during construction and operation of the drainage tunnel.				N/A
Remarks:	<ul> <li>✓ Compliance of mitigation measure</li> <li>× Non-compliance of mitigation measure</li> <li>N/A Not applicable</li> </ul>				



Appendix E

## **Monitoring Locations**

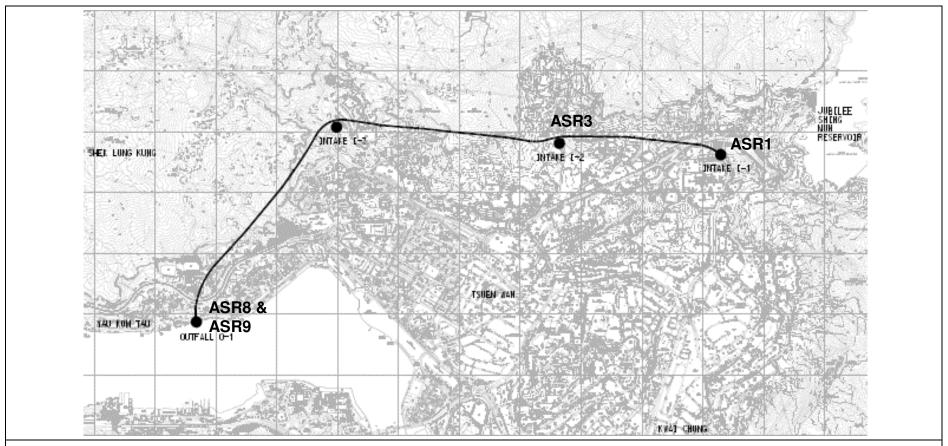


Figure 1 Air Quality Monitoring Stations

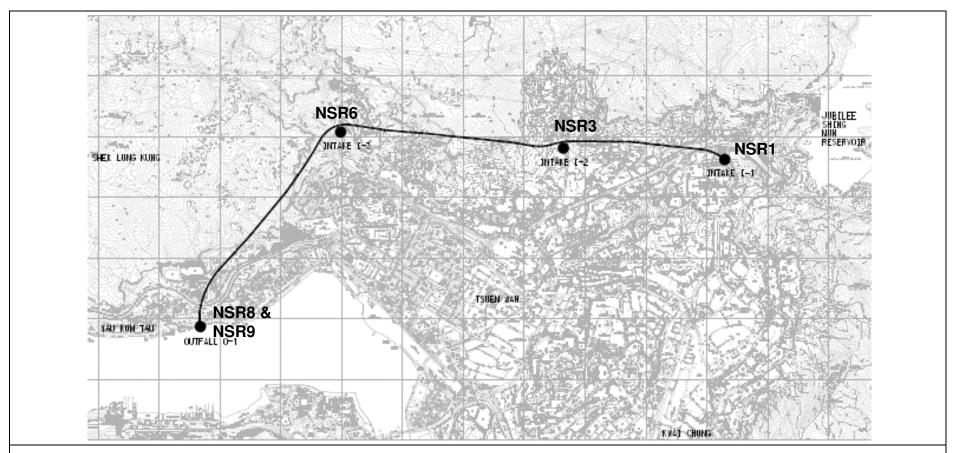


Figure 2 Noise Monitoring Stations

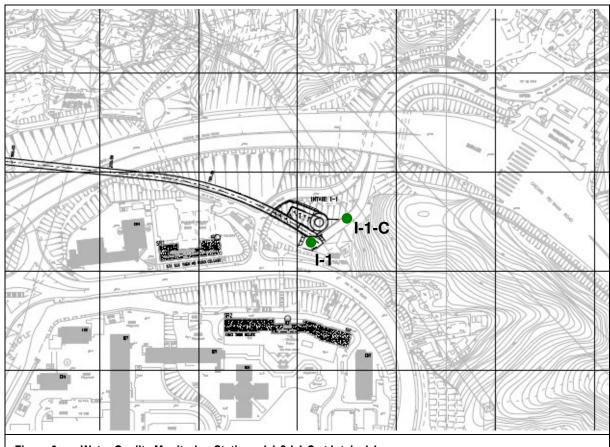
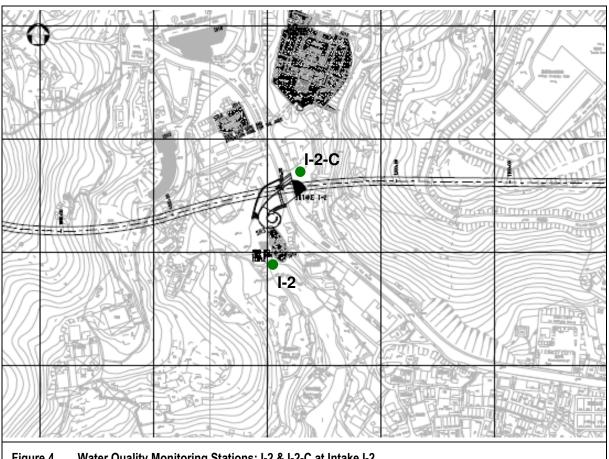
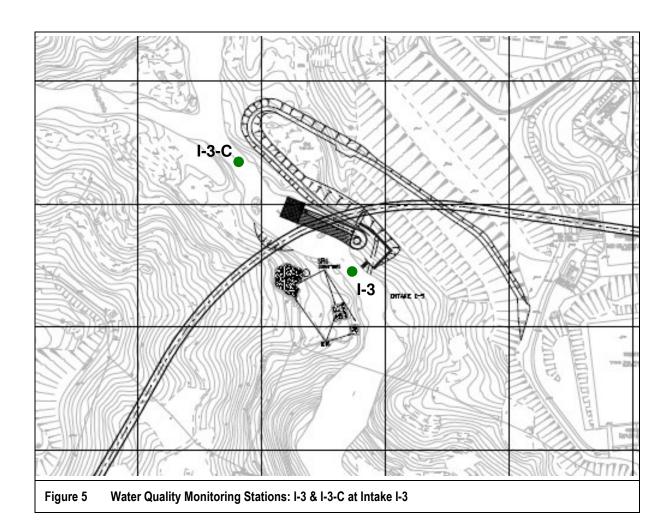


Figure 3 Water Quality Monitoring Stations: I-1 & I-1-C at Intake I-1



Water Quality Monitoring Stations: I-2 & I-2-C at Intake I-2 Figure 4



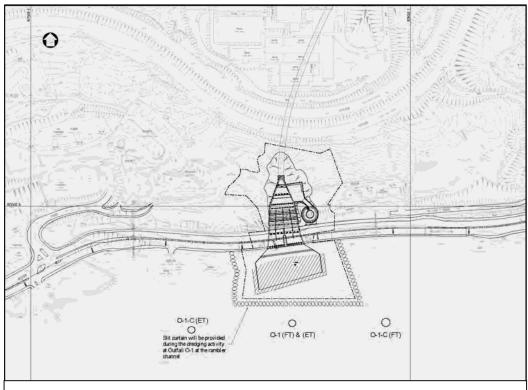


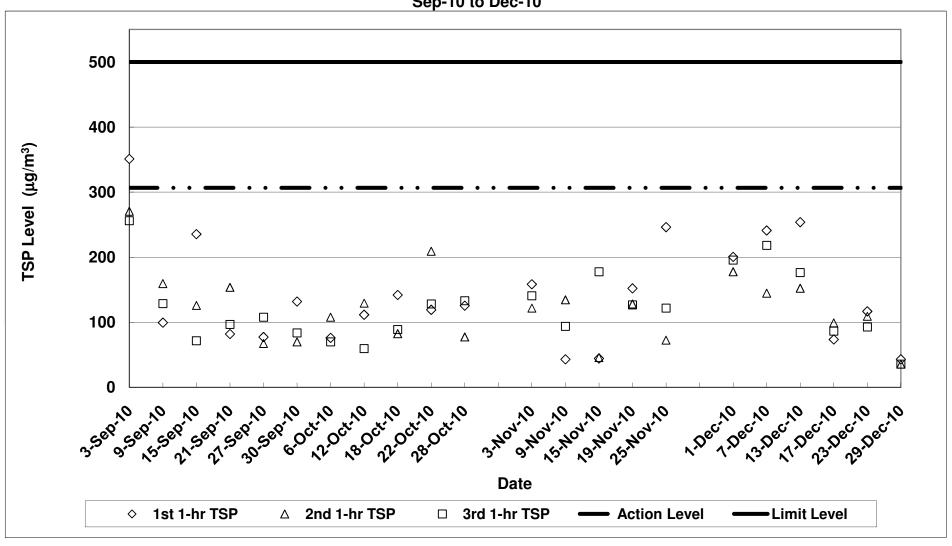
Figure 6 Water Quality Monitoring Stations: O-1 (FT) & (ET), O-1-C(FT) & O-1-C(FT) at Outfall O-1



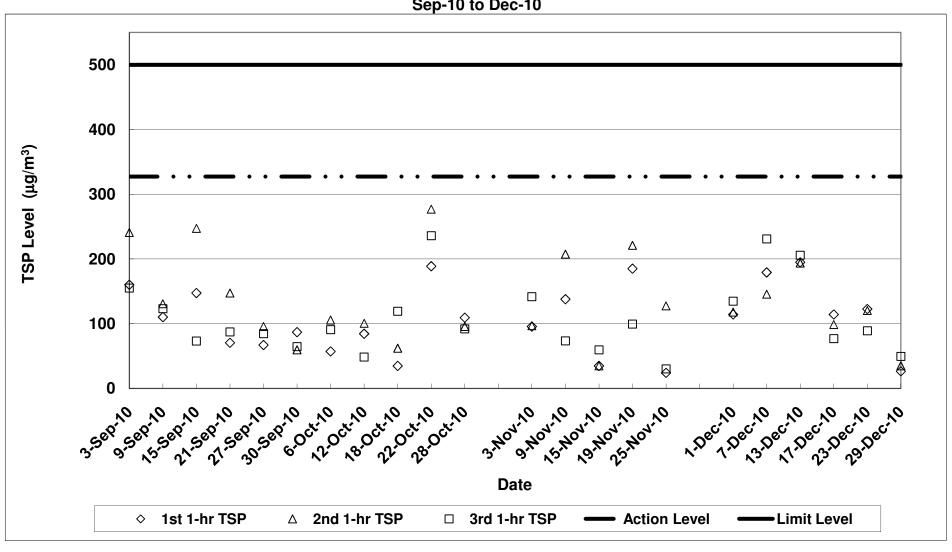
Appendix F

## **Monitoring Results**

Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Air Quality Monitoring (1-hr TSP) Results at Sik Sik Yuen Ho Fung College - Intake (ASR1) Sep-10 to Dec-10

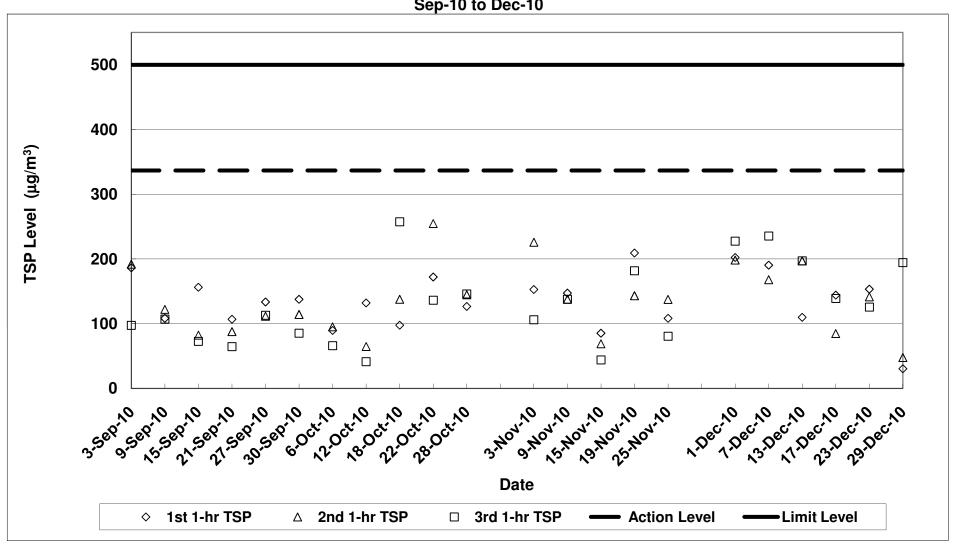


Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Air Quality Monitoring (1-hr TSP) Results at Hong Hoi Chee Hong Temple - Intake (ASR3) Sep-10 to Dec-10



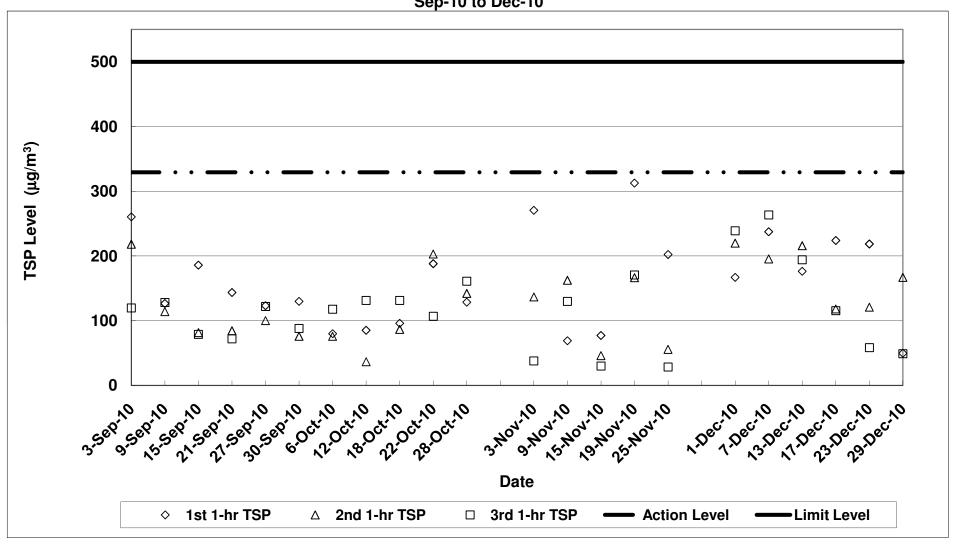
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Air Quality Monitoring (1-hr TSP) Results at Long Beach Gardens - Outfall (ASR8)

Sep-10 to Dec-10

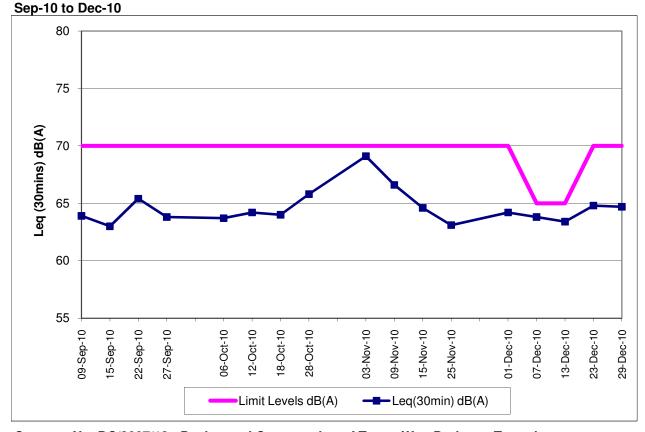


Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Air Quality Monitoring (1-hr TSP) Results at Greenview Terrance - Outfall (ASR9)

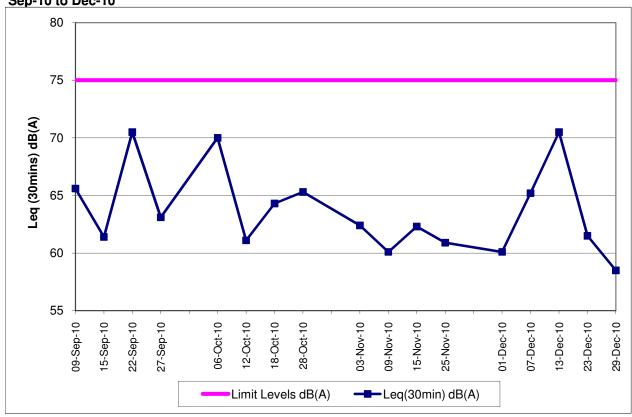
Sep-10 to Dec-10



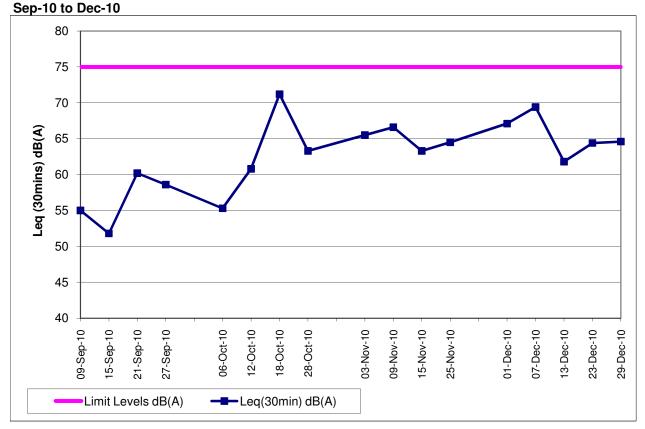
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Noise Monitoring Results at Sik Sik Yuen Ho Fung College (NSR 1)



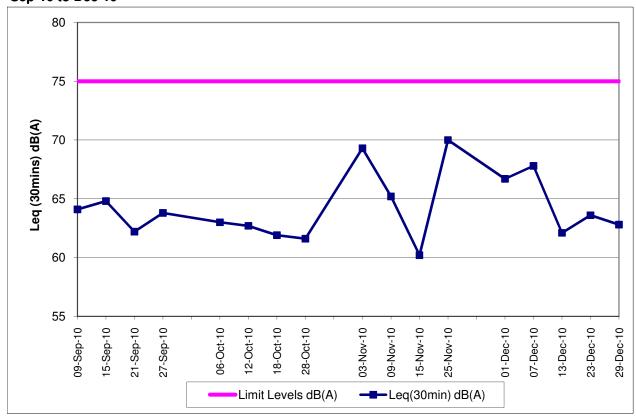
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Noise Monitoring Results at Hong Hoi Chee Hong Temple (NSR 3)
Sep-10 to Dec-10



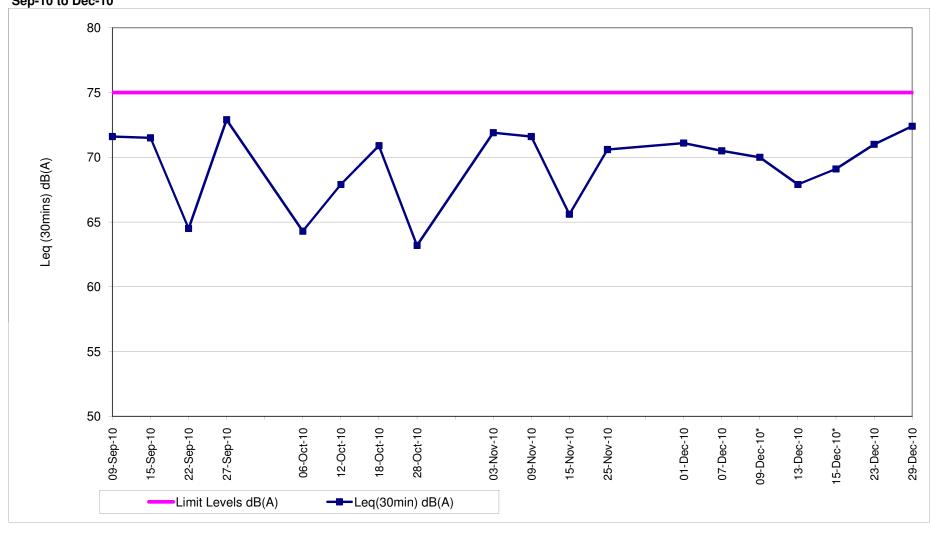
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Noise Monitoring Results at Squatters (NSR 6)



Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Noise Monitoring Results at Long Beach Gardens (NSR 8) Sep-10 to Dec-10

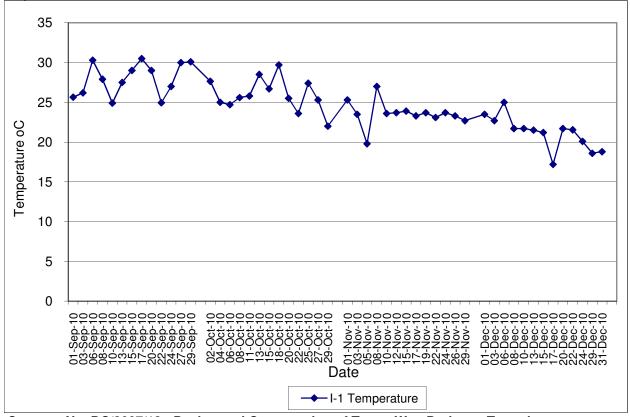


Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Noise Monitoring Results at Greenview Terrace (NSR 9) Sep-10 to Dec-10

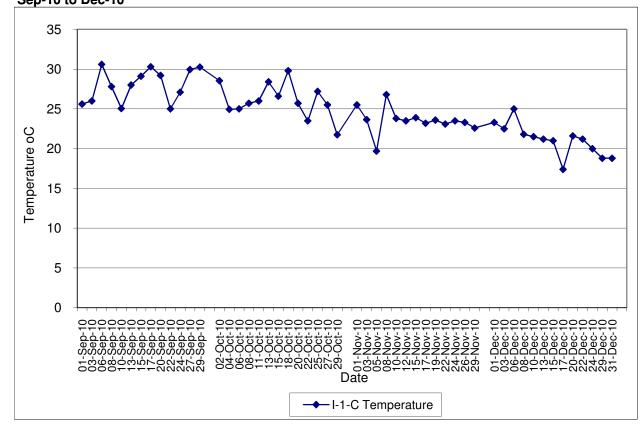


<sup>\*</sup> Additional Noise Monitoring

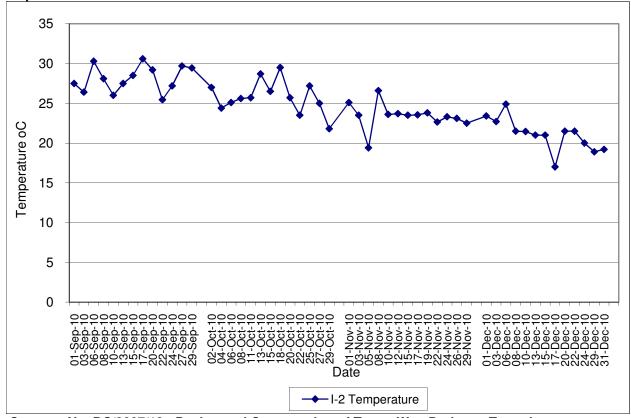
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1) Sep-10 to Dec-10



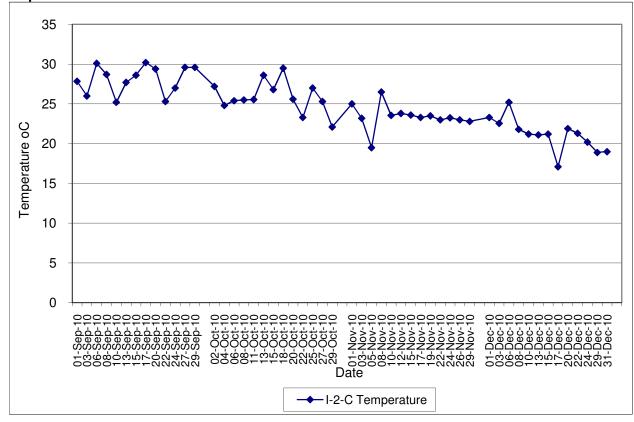
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1-C) Sep-10 to Dec-10



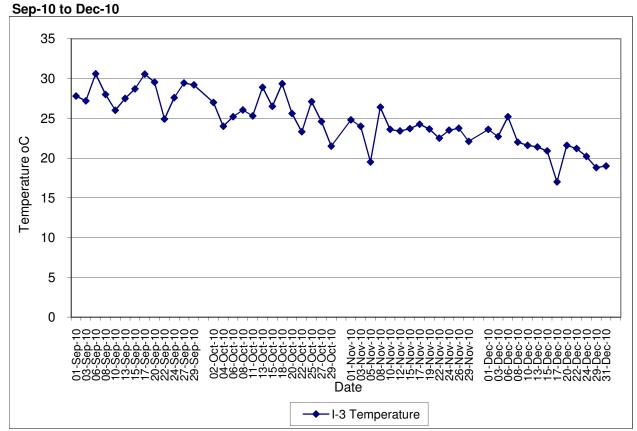
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Hong Hoi Chee Hong Temple (I-2) Sep-10 to Dec-10



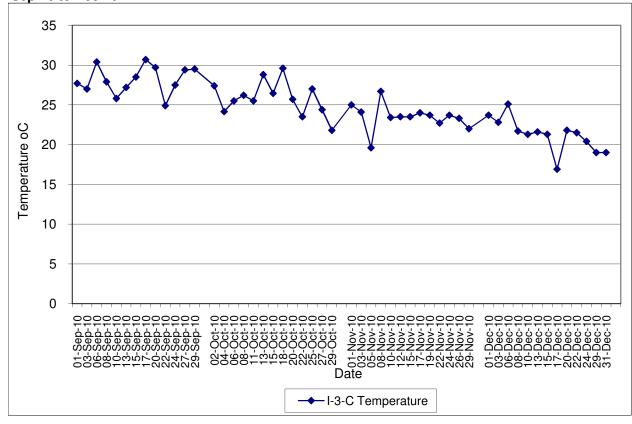
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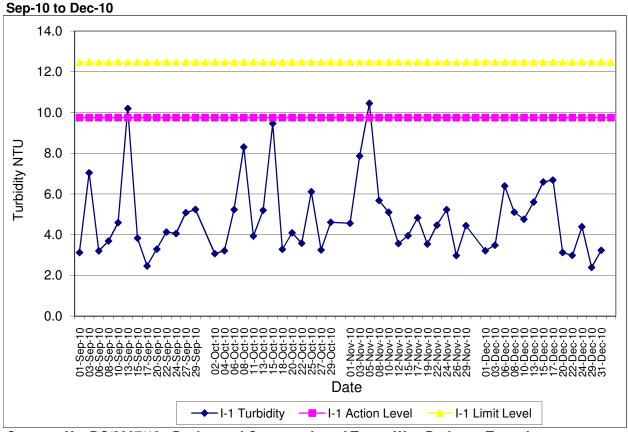
# Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3)



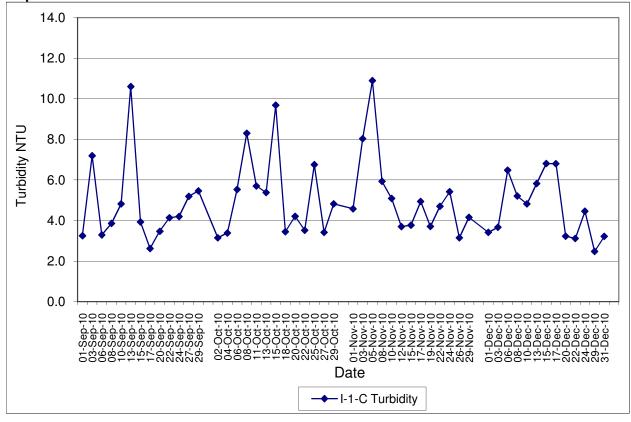
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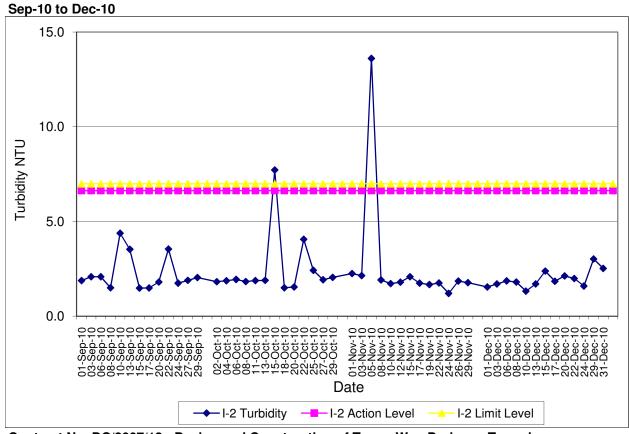
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1)



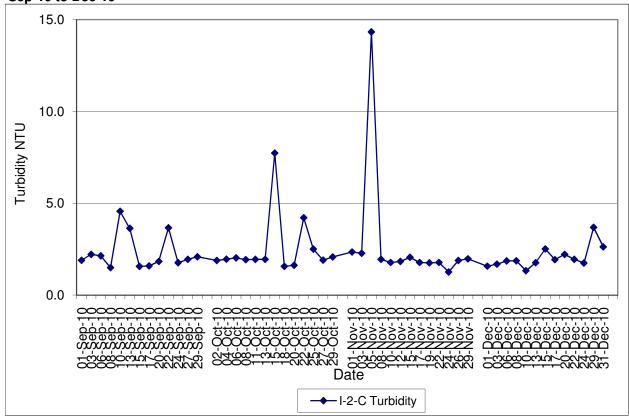
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1-C) Sep-10 to Dec-10



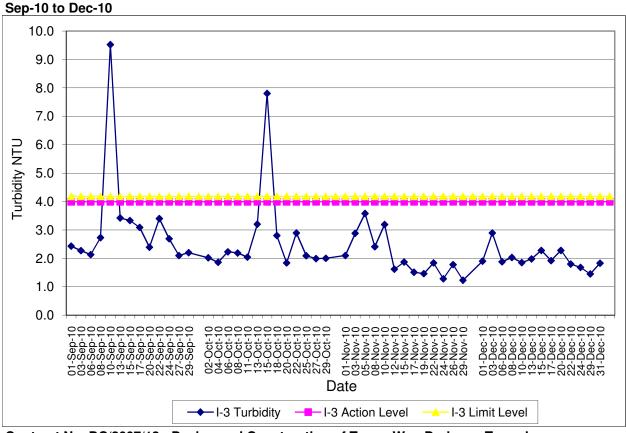
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Hong Hoi Chee Hong Temple (I-2)



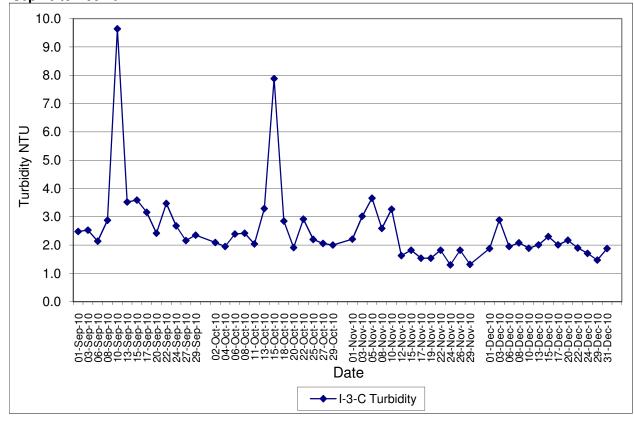
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Hong Hoi Chee Hong Temple (I-2-C) Sep-10 to Dec-10



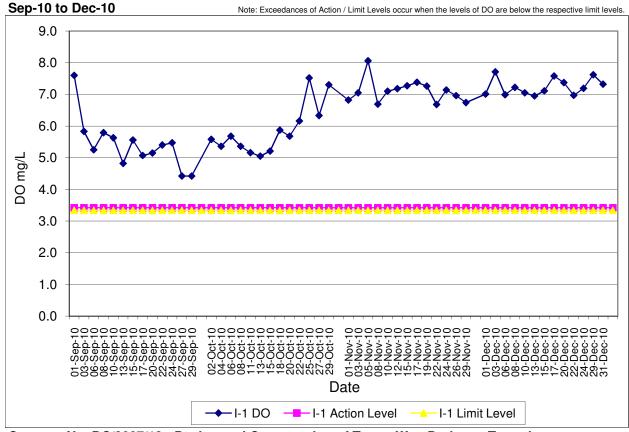
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3)



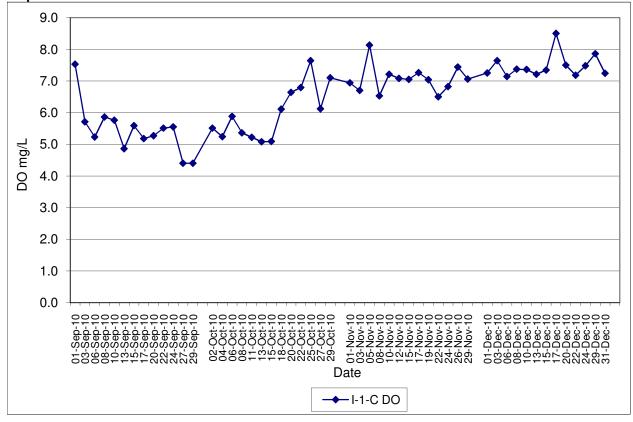
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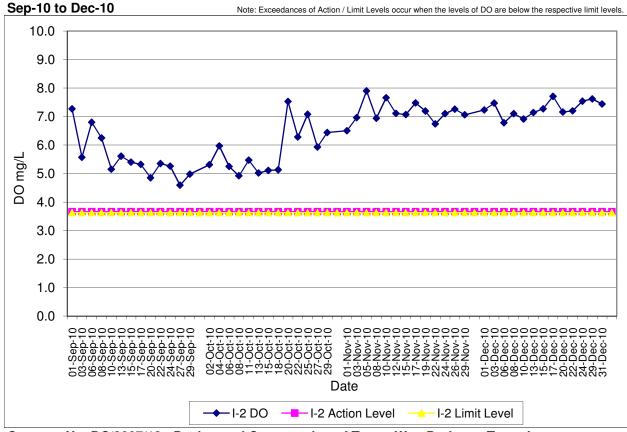
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1)



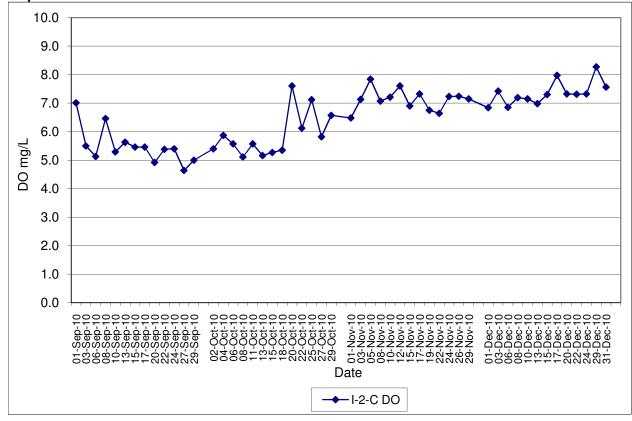
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Sep-10 to Dec-10



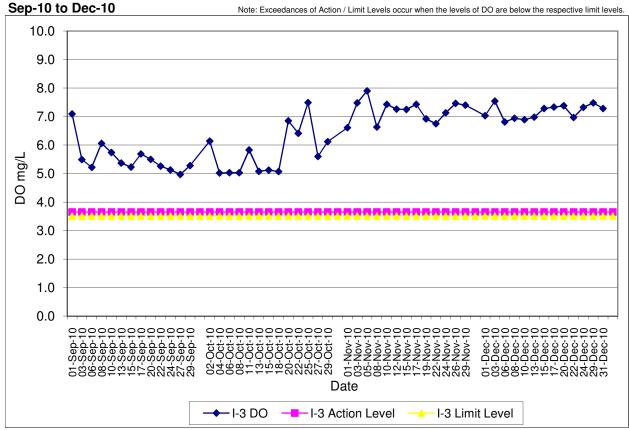
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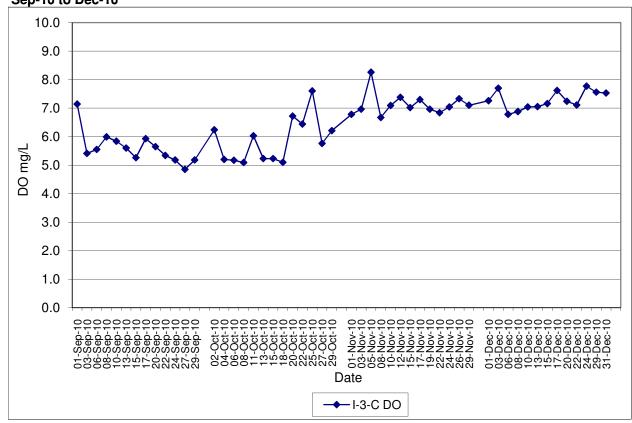
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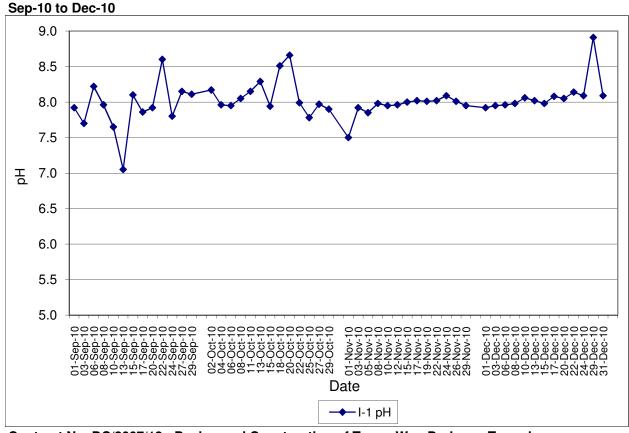
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3)



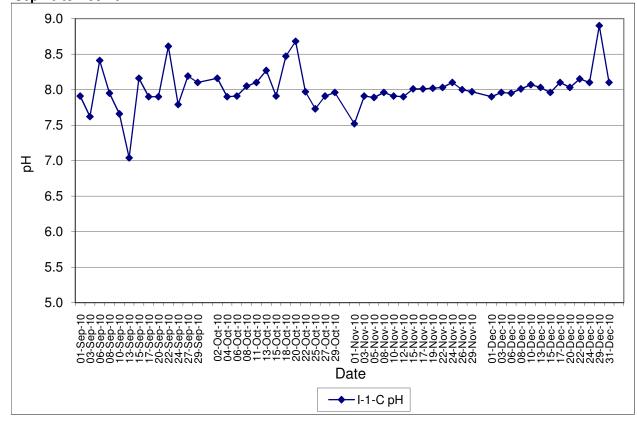
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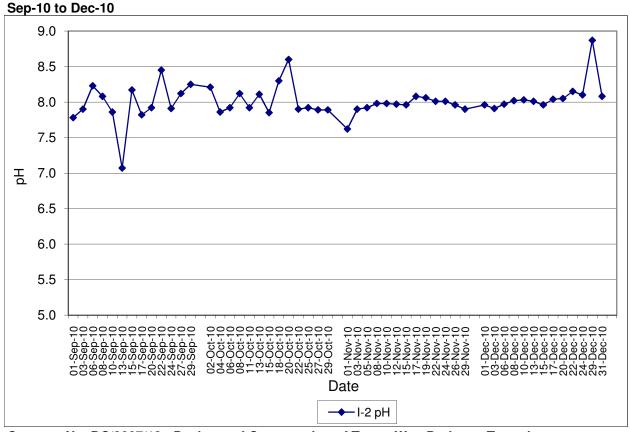
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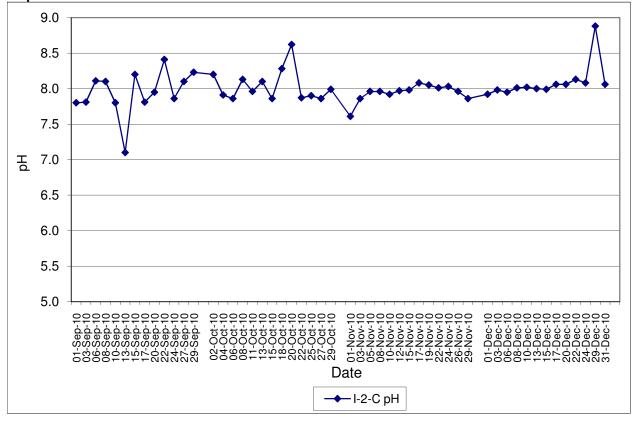
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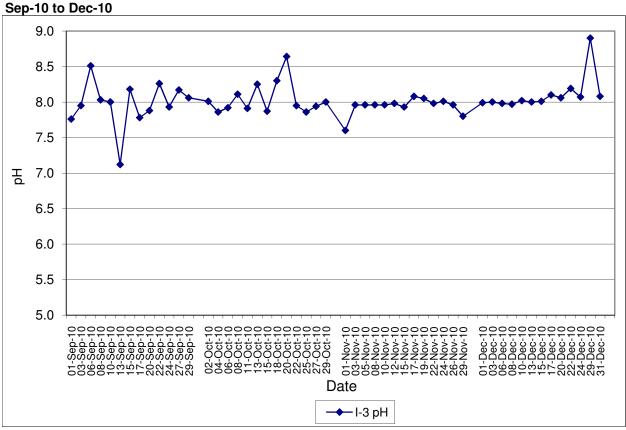
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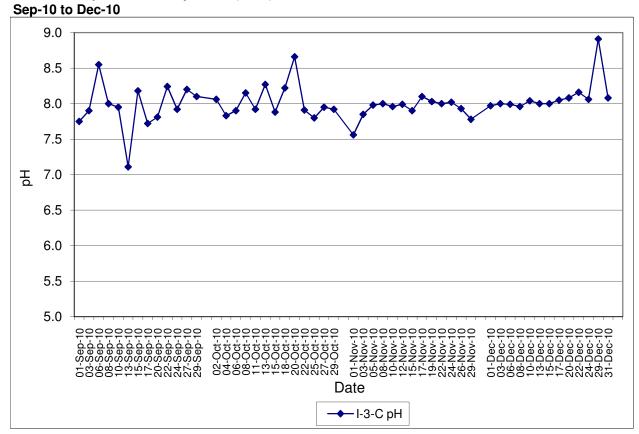
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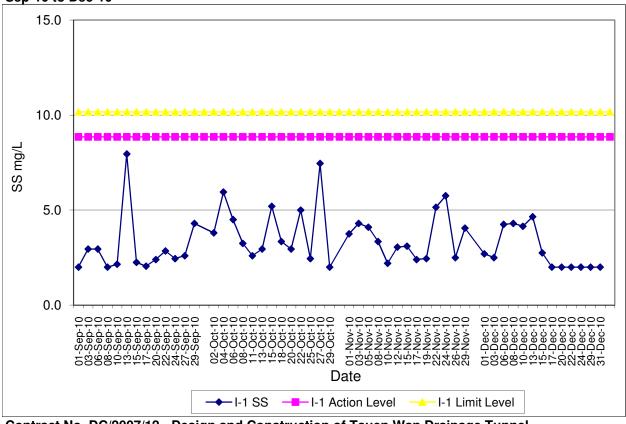
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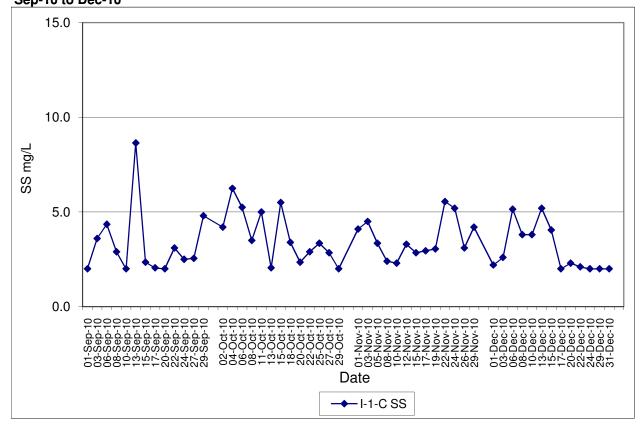
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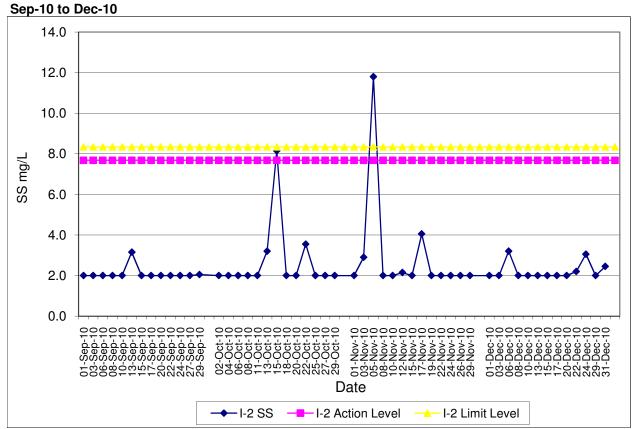
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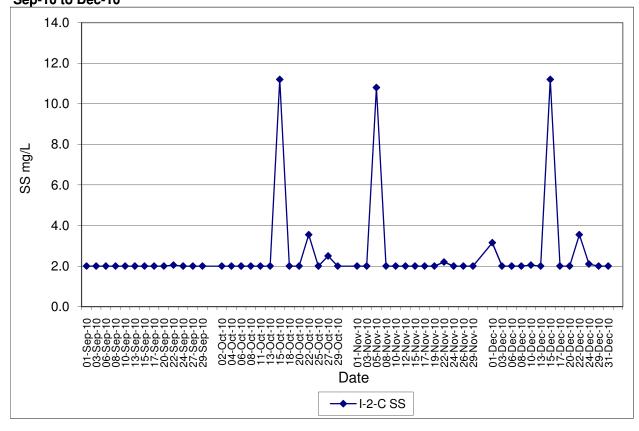
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Sik Sik Yuen Ho Fung College (I-1-C) Sep-10 to Dec-10



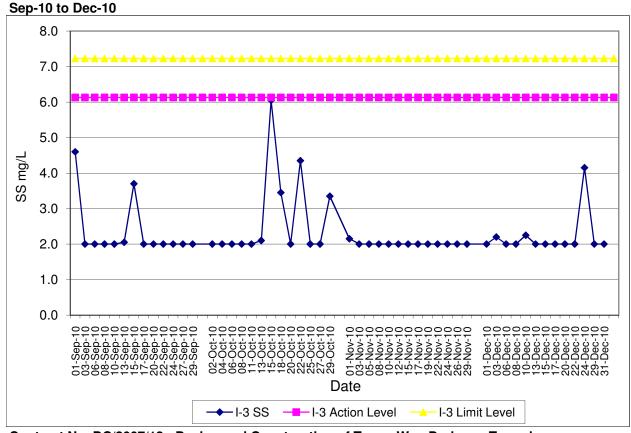
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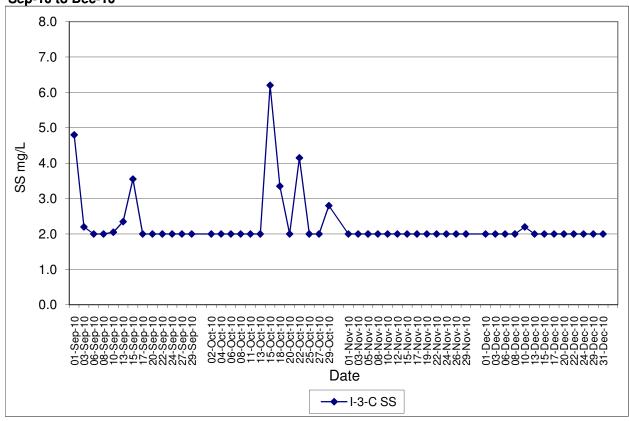
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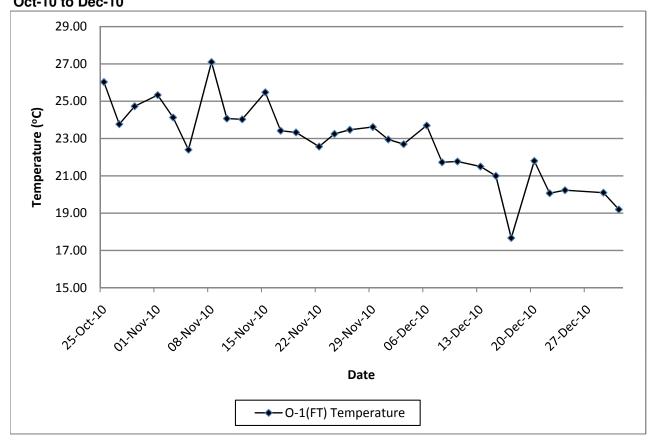
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3)



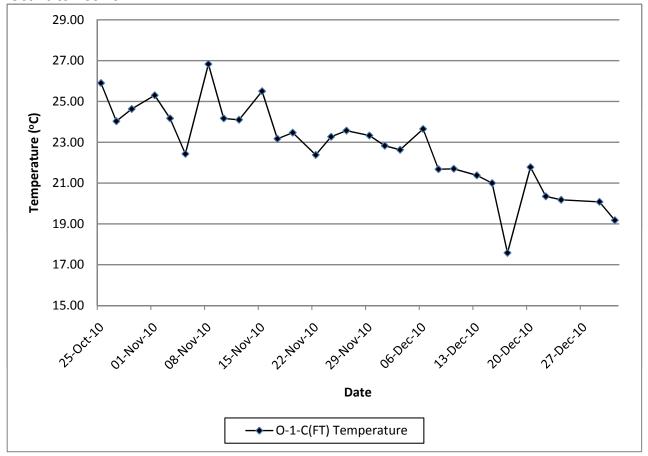
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Squatters (I-3-C) Sep-10 to Dec-10



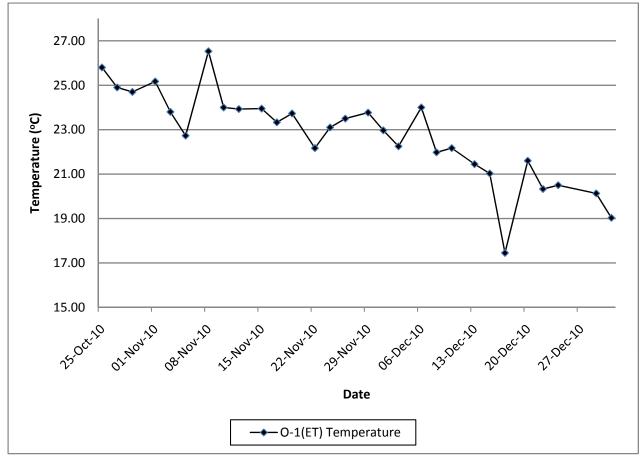
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Outfall 1 During Flood Tide (O-1(FT))
Oct-10 to Dec-10



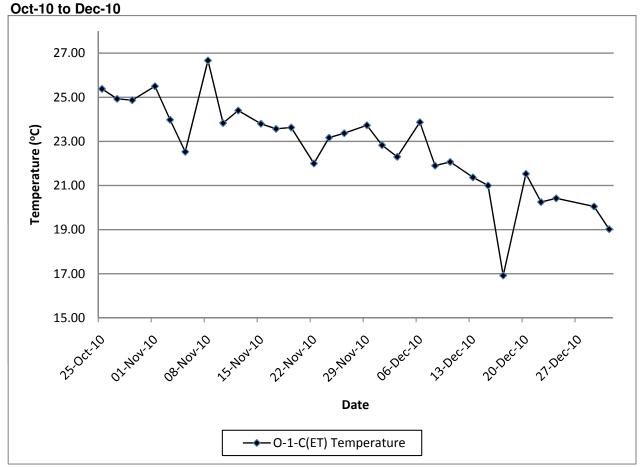
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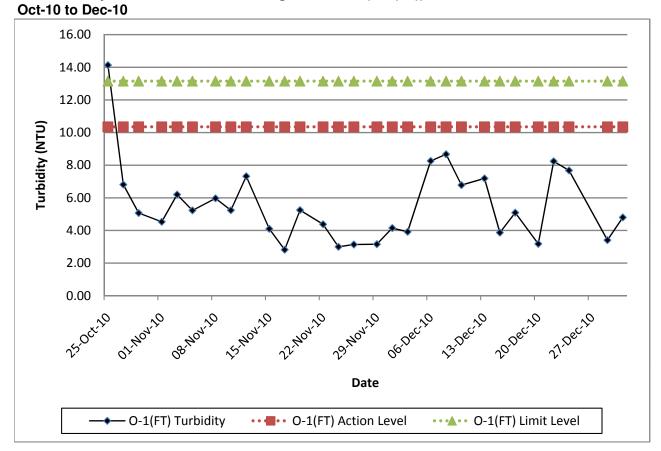
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Outfall 1 During Ebb Tide (O-1(ET))
Oct-10 to Dec-10



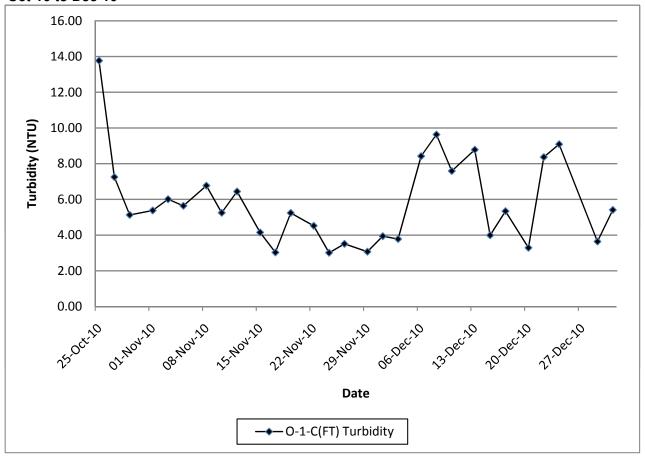
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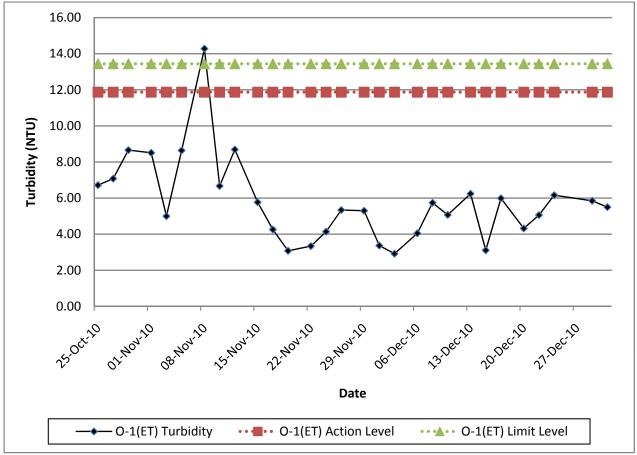
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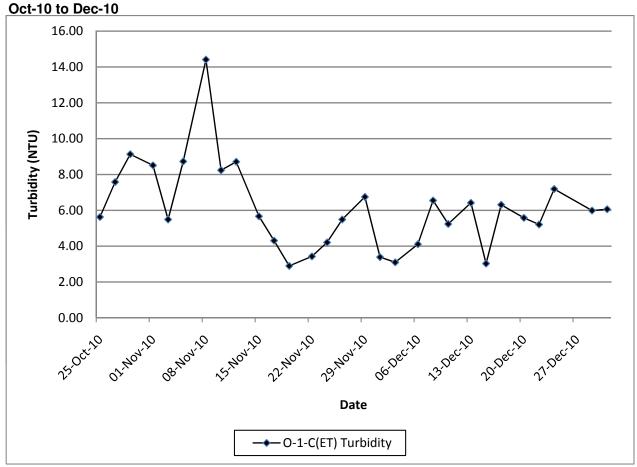
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Control of Outfall 1 During Flood Tide (O-1-C(FT)) Oct-10 to Dec-10



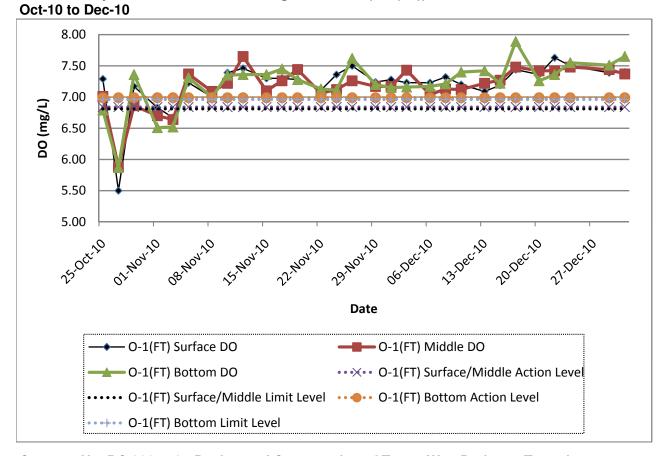
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Oct-10 to Dec-10



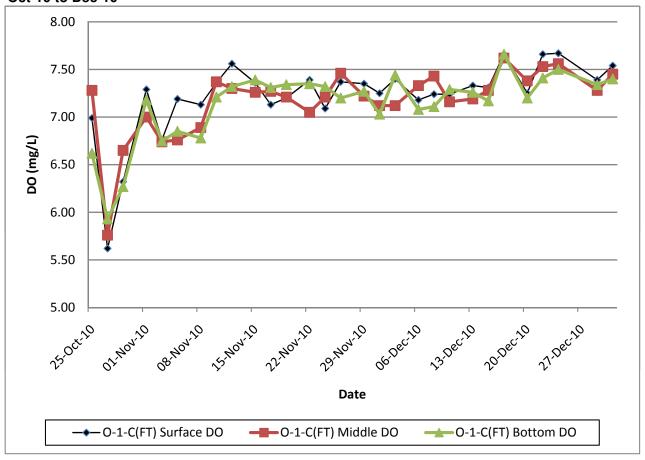
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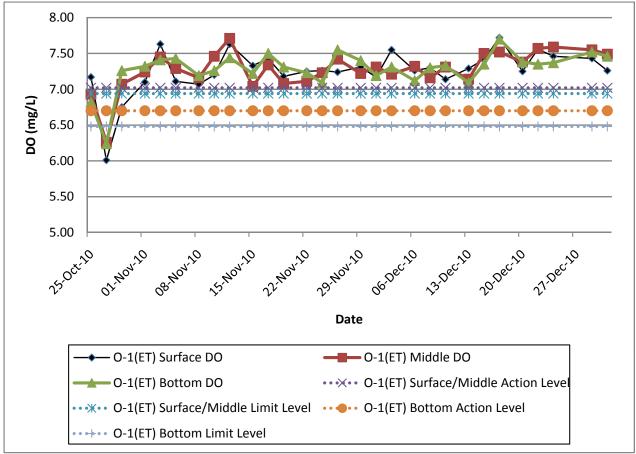
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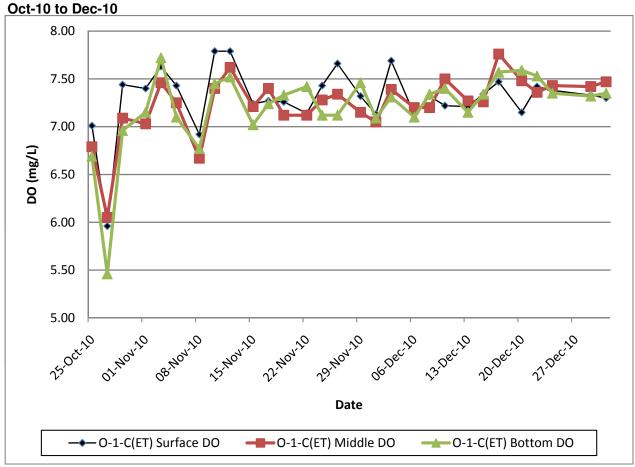
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Control of Outfall 1 During Flood Tide (O-1-C(FT)) Oct-10 to Dec-10



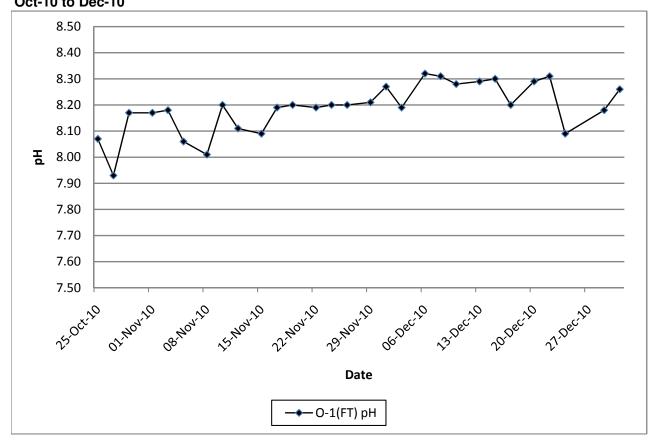
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Outfall 1 During Ebb Tide (O-1(ET))
Oct-10 to Dec-10



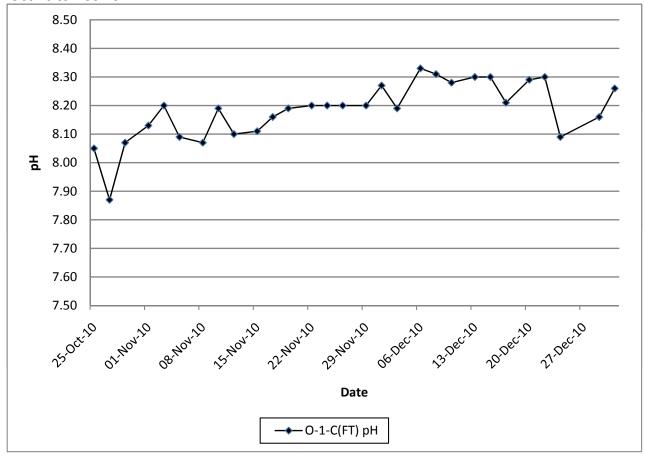
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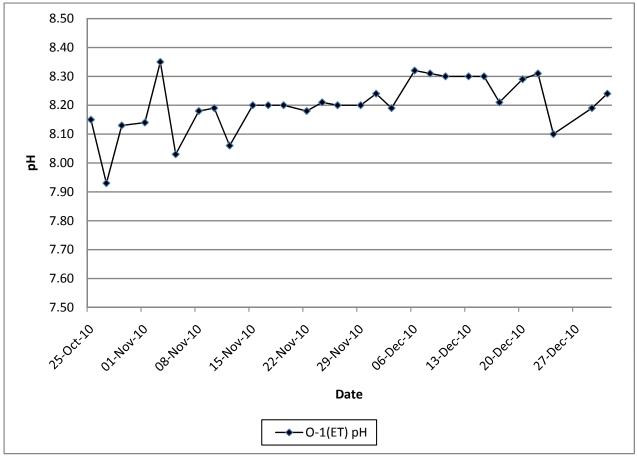
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Oct-10 to Dec-10



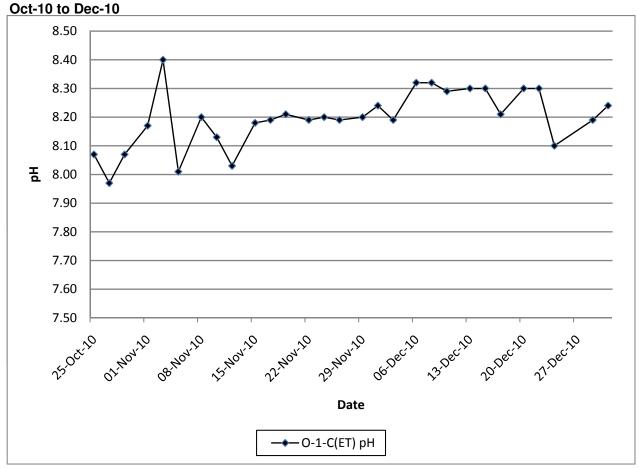
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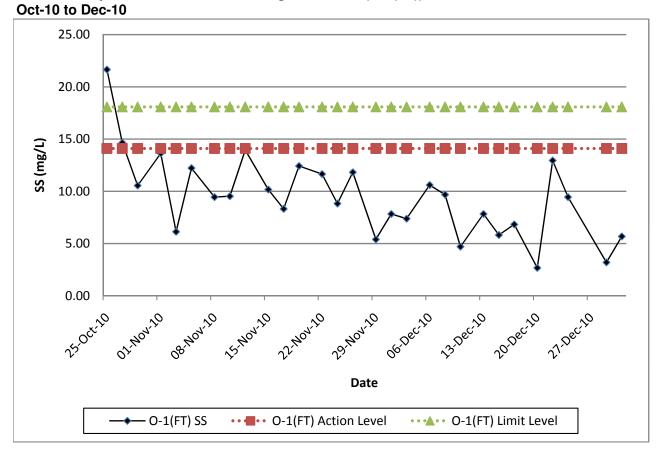
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Oct-10 to Dec-10



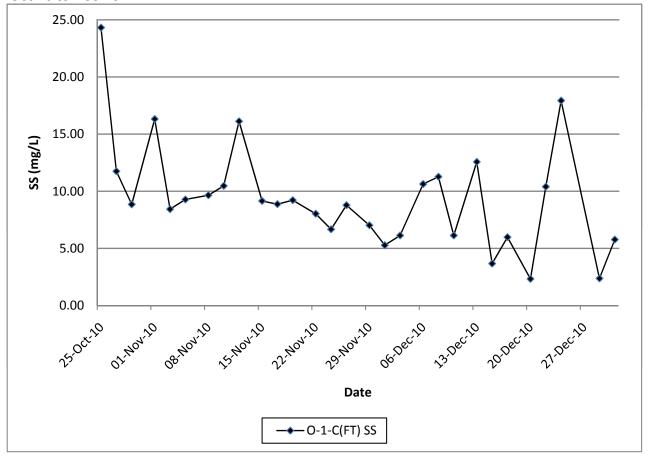
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Control of Outfall 1 During Ebb Tide (O-1-C(ET))



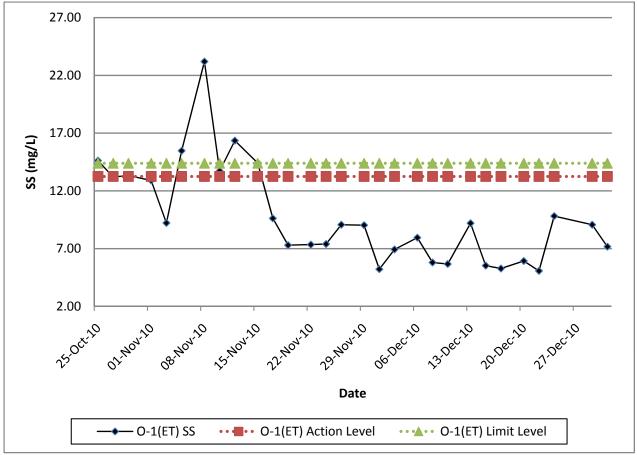
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Outfall 1 During Flood Tide (O-1(FT))



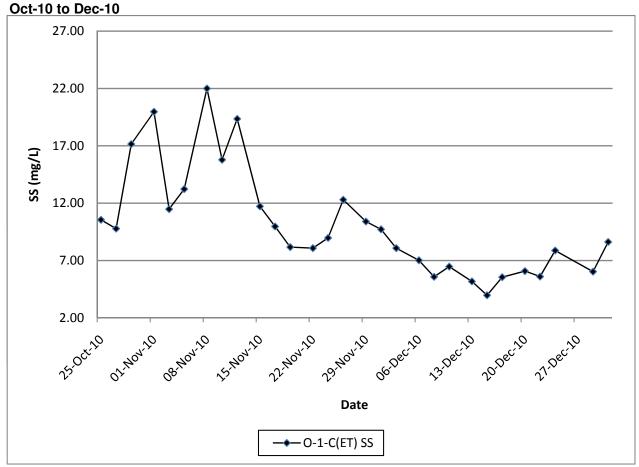
Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Control of Outfall 1 During Flood Tide (O-1-C(FT)) Oct-10 to Dec-10



Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Outfall 1 During Ebb Tide (O-1(ET))
Oct-10 to Dec-10



Contract No. DC/2007/12 - Design and Construction of Tsuen Wan Drainage Tunnel Water Quality Results at Control of Outfall 1 During Ebb Tide (O-1-C(ET))





Appendix G

Interim Notifications of Environmental Quality Limits Exceedances

### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel		
Date	15-Oct-10		
Time	9:38 AM		
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)		
Parameter	Turbidity		
Action & Limit Levels	6.63/6.99		
Measured Level	7.72		
Possible reason for Action or Limit Level Non-compliance	A high turbidity level of 7.73 is recorded at Control Station (I-2-C)		
Actions taken / to be taken	The measured turbidity level was above the Baseline Limit level and beyond the range of baseline turbidity concentration (2.17-7.08 NTU). Construction activities including General Site Cleaning & Housekeeping; Excavation and rock splitting at Vortex Drop Shaft; Excavation and rock splitting at Man Access Shaft; Pipe Jacking at Portion G; and Erect formwork and rebar fixing of pile caps at Portion G. No direct disturbance was observed from the site. Thus, the exceedance is considered to be natural variation and no action should be taken.		
Remarks	Following mitigation measures were provided: (1) Waste water will be collected to Waste Water Treatment Plant and treat before discharge; (2) Existing Stream has been diverted and bunded by sealed concrete block wall.		

Prepared by:	Ken Wong
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Designation: Environmental Team Leader

Signature:

Date: 21-Oct-10

## Photographic record for exceedance of Turbidity recorded at Hong Hoi Chee Hong Temple (I-2) on 15-Oct-10



Site photo.



Photo taken at I-2



Photo taken at I-2-C

### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel		
Date	15-Oct-10		
Time	9:00 AM		
Monitoring Location	Squatters (I-3)		
Parameter	Turbidity		
Action & Limit Levels	3.99 / 4.18		
Measured Level	7.80		
Possible reason for Action or Limit Level Non-compliance	A high turbidity level of 7.88 is recorded at Control Station (I-3-C).		
Actions taken / to be taken	The measured turbidity level was above the Baseline Limit level and beyond the range of baseline turbidity concentration (1.41-4.23 NTU). Construction activities including General Site Cleaning & Housekeeping; Excavation of footpath, breaking existing wall and lay concrete blocks at PB Wall; Excavation of Shaft. No direct disturbance was observed from the site. Thus, the exceedance is considered to be natural variation and no action should be taken.		
Remarks	Following mitigation measures were provided: 1) Waste water will be collected to Waste Water Treatment Plant and treat before discharge; 2) Existing Stream has been diverted and bunded by sealed concrete block wall.		

Prepared by:	Ken Wong
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Designation: Environmental Team Leader

Signature:

Date: 21-Oct-10

### Photographic record for exceedance of Turbidity recorded at Squatters (I-3) on 15-Oct-10



Site photo



Photo taken at I-3



Photo taken at I-3C

### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	13-Oct-10	
Time	11:27 AM	
Monitoring Location	Sik Sik Yuen Ho Fung College (I-1)	
Parameter	Suspended Solid	
Action & Limit Levels	8.85 / 10.17	
Measured Level	2.95 (higher than 130% of control station's SS)	
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.05 was recorded at Control Station (I-1-C)	
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and was within the range of baseline SS concentration (1-10.5mg/L). General site cleaning and housekeeping; Formwork erection for Planter at Bay 18; Formwork erection for wall at Bay 19; and Set up Plant for horizontal drilling were undertaken during the measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.	
Remarks	Following mitigation measures were provided: 1) Waste water will be collected to Waste Water Treatment Plant and treated before discharge; 2) Nullah and site had been separated by sealed concrete block wall.	

Prepared by	/: F	−an	Cheong	Tsang

Designation: Environmental Team Leader

Signature: Harften Reof

Date: 27-Oct-10

## Photographic record for exceedance of Suspended Solid recorded at Sik Sik Yuen Ho Fung College (I-1) on 13-Oct-10



Site photo



Photo taken at I-1



Photo taken at I-1C

### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel		
Date	13-Oct-10		
Time	10:50 AM		
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)		
Parameter	Suspended Solid		
Action & Limit Levels	7.68 / 8.34		
Measured Level	3.20 (higher than 130% of control station's SS)		
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.00 was recorded at Control Station (I-2-C)		
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and was within the range of baseline SS concentration (1-8.5mg/L). General site clenaing and housekeeping; excavation and rock splitting at vortex drop shaft; excavation and rock splitting at man access shaft; pipe jacking at portion G; and erect formwork and fix rebar pile caps at Portion G were undertaken during the measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.		
Remarks	Following mitigation measures were provided: 1)Waste water will be collected to Waste water treatment plant and treated before discharge; 2) Exsiting stream has been diverted and bunded by sealed concrete block wall.		

Prepared by:	Fan Cheong Tsang
i Topaioa by.	ran encong reang

Designation: Environmental Team Leader

Signature: Harften Reof

Date: 27-Oct-10

### Photographic record for exceedance of Suspended Solid recorded at Hong Hoi Chee Hong Temple (I-2) on 13-Oct-10



Site photo



Photo taken at I-2



Photo taken at I-2C

### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel		
Date	15-Oct-10		
Time	9:38 AM		
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)		
Parameter	Suspended Solid		
Action & Limit Levels	7.68 / 8.34		
Measured Level	8.15		
Possible reason for Action or Limit Level Non-compliance	A high SS level of 11.20 was recorded at Control Station (I-2-C)		
Actions taken / to be taken	The measured SS level was above Baseline Action Level and beyond range of baseline SS concentration (1-8.5mg/L). General site clenaing and housekeeping; excavation, rock splitting and gantry repair at vortex drop shaft; pipe jacking at portion G; erect formwork and fix rebar pile caps at portion G were undertaken during the measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by high SS level at control station and natural variation and no action should be required.		
Remarks	Following mitigation measures were provided: 1) Waste water will be collected to waste water treatment plant and treated before discharge; 2) Exsiting stream has been diverted and bunded by sealed concrete block wall.		

Prepared by:	Fan Cheong	Tsang

Designation: Environmental Team Leader

Signature: Foughten Rhog

Date: 27-Oct-10

### Photographic record for exceedance of Suspended Solid recorded at Hong Hoi Chee Hong Temple (I-2) on 15-Oct-10



Site photo



Photo taken at I-2



Photo taken at I-2C

### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	20-Oct-10	
Time	10:27 AM	
Monitoring Location	Sik Sik Yuen Ho Fung College (I-1)	
Parameter	Suspended Solid	
Action & Limit Levels	8.85/10.17	
Measured Level	2.95 (higher than 120% of control station's SS)	
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.35 was recorded at Control Station (I-1-C)	
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and was within the range of baseline SS concentration (1-10.5mg/L). General site clenaing and housekeeping; formwork and rebar erection for slab at Bay 19; formwork erection at Bay 20 wall; rebar erection at Bay 21 wall; and horizontal drilling were undertaken during the measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.	
Remarks	Following mitigation measures were provided: 1) Waste water will be collected to Waste Water Treatment Plant and treated before discharge; 2) Nullah and site had been separated by sealed concrete block well.	

Prepared by	<b>/</b> :	Fan C	Cheong <sup>-</sup>	Γsang

Designation: Environmental Team Leader

Signature: Foughten theof

Date: 02-Nov-10

## Photographic record for exceedance of Suspended Solid recorded at Sik Sik Yuen Ho Fung College (I-1) on 20-Oct-10



Site photo



Photo taken at I-1



Photo taken at I-1C

### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	22-Oct-10	
Time	9:58 AM	
Monitoring Location	Sik Sik Yuen Ho Fung College (I-1)	
Parameter	Suspended Solid	
Action & Limit Levels	8.85/10.17	
Measured Level	5.00 (higher than 130% of control station's SS)	
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.90 was recorded at Control Station (I-1-C)	
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and was within the range of baseline SS concentration (1-10.5mg/L). General site cleaning and housekeeping; formwork erection for planter at Bay 19; formwork erection at Bay 20 & 21 wall; and horizontal drilling were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.	
Remarks	Following mitigation measures were provided: 1) Waste water will be collected to Waste Water Treatment Plant and treated before discharge; 2) Nullah and site had been separated by sealed concrete block well.	

Prepared by:	Fan Cheong	Tsang

Designation: Environmental Team Leader

Signature: Harften Cheof

Date: 02-Nov-10

# Photographic record for exceedance of Suspended Solid recorded at Sik Sik Yuen Ho Fung College (I-1) on 22-Oct-10



Site photo



Photo taken at I-1



Photo taken at I-1C

#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	27-Oct-10	
Time	10:10 AM	
Monitoring Location	Sik Sik Yuen Ho Fung College (I-1)	
Parameter	Suspended Solid	
Action & Limit Levels (mg/L)	8.85/10.17	
Measured Level (mg/L)	7.45 (higher than 130% of control station's SS)	
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.85 mg/L was recorded at Control Station (I-1-C)	
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and was within the range of baseline SS concentration (1 - 10.5 mg/L). General site cleaning and housekeeping; formwork erection for slab at Bay 20; rebar erection at Bay 22 wall; and horizontal drilling were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.	
Remarks	Following mitigation measures were provided: 1) Waste water will be collected to wastewater treatment plant and treated before discharge; 2) Nullah and site had been separated by sealed concrete block well.	

Prepared	by:	Fan	Cheong	Isang	j
Prepared	by:	-an	Cheong	I san	

Designation: Environmental Team Leader

Signature: Hayfulley

Date: 5-Nov-10

## Photographic record for exceedance of Suspended Solid recorded at Sik Sik Yuen Ho Fung College (I-1) on 27-Oct-10



Site photo



Photo taken at I-1



Photo taken at I-1C

#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	25-Oct-10	
Time	9:35 AM	
Monitoring Location	O-1(FT)	
Parameter	Dissolved Oxygen (marine bottom)	
Action & Limit Levels (mg/L)	6.99 / 6.96	
Measured Level (mg/L)	6.79	
Possible reason for Action or Limit Level Non-compliance	The measured DO level (marine bottom) was below baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) marine bottom DO variation between 2.2 and 8.8 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.4 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Marker buoys were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 25 October 2010. Thus, the exceedance is considered to be contributed by natural variation and no action is required.	
Actions taken / to be taken	None	
Remarks	None	

Prepared by:	Fan Cheong Tsang

Designation: Environmental Team Leader

Signature: Hough English

Date: 5-Nov-10

### Photographic record for exceedance of Dissolved Oxygen (marine bottom) recorded at O-1(FT) on 25-Oct-10



Site photo

#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	25-Oct-10
Time	12.55:00 PM
Monitoring Location	O-1(ET)
Parameter	Dissolved Oxygen (mid-depth)
Action & Limit Levels (mg/L)	7.02 / 6.94
Measured Level (mg/L)	6.93
Possible reason for Action or Limit Level Non-compliance	The measured DO level (mid-depth) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) middepth DO records between 2.6 and 9.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.9 and 8.5 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Marker buoys were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 25 October 2010. Thus, the exceedance is considered to be contributed by natural variation and no action is required.
Actions taken / to be taken	None
Remarks	None

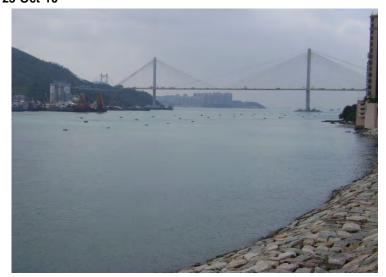
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ong Tsang
OH

Designation: Environmental Team Leader

Signature:

# Photographic record for exceedance of Dissolved Oxygen (mid-depth) recorded at O-1(ET) on 25-Oct-10



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	27-Oct-10
Time	9:05 AM
Monitoring Location	O-1(FT)
Parameter	Dissolved Oxygen (marine surface)
Action & Limit Levels (mg/L)	6.84 / 6.81
Measured Level (mg/L)	5.50
Possible reason for Action or Limit Level Non-compliance	The measured DO level (marine surface) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) marine surface DO records between 4.3 and 9.4 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 4.2 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 27 October 2010. Thus, the exceedance is considered to be contributed by natural variation and no action is required.
Actions taken / to be taken	None
Remarks	None

Prepared by:	Fan Cheong Tsang
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Designation: Environmental Team Leader

Signature: Hough Fendle of

# Photographic record for exceedance of Dissolved Oxygen (marine surface) recorded at O-1(FT) on 27-Oct-10



Site photo



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	27-Oct-10
Time	9:05 AM
Monitoring Location	O-1(FT)
Parameter	Dissolved Oxygen (mid-depth)
Action & Limit Levels (mg/L)	6.84 / 6.81
Measured Level (mg/L)	5.88
Possible reason for Action or Limit Level Non-compliance	The measured DO level (mid-depth) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) middepth DO records between 2.6 and 9.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.9 and 8.5 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 27 October 2010. Thus, the exceedance is considered to be contributed by natural variation and no action is required.
Actions taken / to be taken	None
Remarks	None

repared by:	Fan Cheong Tsang
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Designation: Environmental Team Leader

Signature: Hayfulley

# Photographic record for exceedance of Dissolved Oxygen (mid-depth) recorded at O-1(FT) on 27-Oct-10



Site photo



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	27-Oct-10
Time	9:05 AM
Monitoring Location	O-1(FT)
Parameter	Dissolved Oxygen (marine bottom)
Action & Limit Levels (mg/L)	6.99 / 6.96
Measured Level (mg/L)	5.87
Possible reason for Action or Limit Level Non-compliance	The measured DO level (marine bottom) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) marine bottom DO records between 2.2 and 8.8 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.4 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 27 October 2010. Thus, the exceedance is considered to be contributed by natural variation and no action is required.
Actions taken / to be taken	None
Remarks	None

Prepared by:	Fan Cheong Tsang
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Designation: Environmental Team Leader

Signature: Hough tendle of

# Photographic record for exceedance of Dissolved Oxygen (marine bottom) recorded at O-1(FT) on 27-Oct-10



Site photo



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	27-Oct-10
Time	3:00 PM
Monitoring Location	O-1(ET)
Parameter	Dissolved Oxygen (marine surface)
Action & Limit Levels (mg/L)	7.02 / 6.94
Measured Level (mg/L)	6.01
Possible reason for Action or Limit Level Non-compliance	The measured marine surface DO level was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) marine surface DO records between 4.3 and 9.4 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 4.2 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 27 October 2010. Thus, the exceedance is considered to be contributed by natural variation and no action is required.
Actions taken / to be taken	None
Remarks	None

Prepared by:	Fan Cheong Tsang
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Designation: Environmental Team Leader

Signature: Fauften Cheof

# Photographic record for exceedance of Dissolved Oxygen (marine surface) recorded at O-1(ET) on 27-Oct-10



Site photo



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	27-Oct-10
Time	3:00 PM
Monitoring Location	O-1(ET)
Parameter	Dissolved Oxygen (mid-depth)
Action & Limit Levels (mg/L)	7.02 / 6.94
Measured Level (mg/L)	6.26
Possible reason for Action or Limit Level Non-compliance	The measured DO level (mid-depth) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) middepth DO records between 2.6 and 9.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.9 and 8.5 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 27 October 2010. Thus, the exceedance is considered to be contributed by natural variation and no action is required.
Actions taken / to be taken	None
Remarks	None

Designation: Environmental Team Leader

Signature: Hough English

# Photographic record for exceedance of Dissolved Oxygen (mid-depth) recorded at O-1(ET) on 27-Oct-10



Site photo



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	27-Oct-10
Time	3:00 PM
Monitoring Location	O-1(ET)
Parameter	Dissolved Oxygen (marine bottom)
Action & Limit Levels (mg/L)	6.70 / 6.48
Measured Level (mg/L)	6.24
Possible reason for Action or Limit Level Non-compliance	The measured DO level (marine bottom) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) marine bottom DO records between 2.2 and 8.8 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.4 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 27 October 2010. Thus, the exceedance is considered to be contributed by natural variation and no action is required.
Actions taken / to be taken	None
Remarks	None

Prepared by:	Fan Cheong Tsang
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Designation: Environmental Team Leader

Signature: Harftenley

# Photographic record for exceedance of Dissolved Oxygen (marine bottom) recorded at O-1(ET) on 27-Oct-10



Site photo



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	29-Oct-10
Time	16:25:00 PM
Monitoring Location	O-1(ET)
Parameter	Dissolved Oxygen (marine surface)
Action & Limit Levels (mg/L)	7.02 / 6.94
Measured Level (mg/L)	6.75
Possible reason for Action or Limit Level Non-compliance	The measured marine surface DO level was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) marine surface DO records between 4.3 and 9.4 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 4.2 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Marine dredging was undertaken at the outfall basin on 29 October 2010. Silt curtains had been deployed along the dredging boundary line and extended from seawater level to the bottom of seabed. Frame type silt curtain had been employed for the derrick barge. All dredging operation was confined in the frame type silt curtain. Thus, the exceedance is considered to be essentially due to natural variation.
Actions taken / to be taken	1. Silt curtains have been deployed along the dredging boundary line and extended from seawater level to the bottom of seabed. 2. Frame type silt curtain have been employed for the derrick barge and all dredging operation has been confined in the frame type silt curtain. 3. Closed grab has been used and the daily dredging rate is limited to a maximum 960 m³. 4. Sufficient slack of silt curtain is allowed to ensure the curtain rested on the seabed to cope with waves and tides.
Remarks	None

Prepared by: Fan Cheong Tsang

Designation: Environmental Team Leader

Signature: Hough English

# Photographic record for exceedance of Dissolved Oxygen (marine surface) recorded at O-1(ET) on 29-Oct-10



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	25-Oct-10
Time	9:35 AM
Monitoring Location	O-1(FT)
Parameter	Turbidity (Tby)
Action & Limit Levels (NTU)	10.35 / 13.15 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (NTU)	14.13
Control Station	O-1-C(FT)
Measured Level (depth averaged) at Control Station (NTU)	13.77
Possible reason for Action or Limit Level Non-compliance	The measured Tby level (depth-averaged) at O-1(FT) was above the baseline Action / Limit Level but was less than 120% of the upstream control station's Tby level (at O-1-C(FT)) at the same tide of the same day. These measurement results are also within the ranges of 3-year (2007 - 2009) turbidity records between 2.9 and 18.8 NTU at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.6 and 19.3 NTU at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Marker buoys were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 25 October 2010. Thus, the exceedance is considered to be contributed by natural variation and no action is required.
Actions taken / to be taken	None
Remarks	None

Prepared by:	F. C. Tsang
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Designation: Environmental Team Leader

Signature: Hough ten the of

Photographic record for exceedance of Turbidity (Tby) recorded at O-1(FT) on 25-Oct-10



Site photo



Site photo



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	25-Oct-10
Time	9:35 AM
Monitoring Location	O-1(FT)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	14.10 / 18.08 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	21.65
Control Station	O-1-C(FT)
Measured Level (depth averaged) at Control Station (mg/L)	24.32
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was above the baseline Action / Limit Level but was less than 120% of the upstream control station's SS level (at O-1-C(FT)) at the same tide of the same day. These measurement results are beyond the ranges of 3-year (2007 - 2009) SS records between 3.0 and 20.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.2 and 15.3 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Marker buoys were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 25 October 2010. Thus, the exceedance is considered not related to the marine works on site.
Actions taken / to be taken	None
Remarks	None

Tsang

Designation: Environmental Team Leader

Signature: Hangten Cheof

Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 25-Oct-10



Site photo



Site photo



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	25-Oct-10
Time	12:55 P.M.
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	14.62
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	10.55
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was above the baseline Action / Limit Level and more than 130% of the upstream control station's SS level (at O-1-C(ET)) at the same tide of the same day. However, these measurement results are within the ranges of 3-year (2007 - 2009) SS records between 3.0 and 20.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.2 and 15.3 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Marker buoys were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 25 October 2010. Thus, the exceedance is considered not related to the marine works on site.
Actions taken / to be taken	None
Remarks	None

Prepared by:	F. C. Tsang
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Designation: Environmental Team Leader

Signature: Hayfunkley

Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 25-Oct-10



Site photo



Site photo



## Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	27-Oct-10
Time	9:05 AM
Monitoring Location	O-1(FT)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	14.10 / 18.08 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	14.65
Control Station	O-1-C(FT)
Measured Level (depth averaged) at Control Station (mg/L)	11.75
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was between the baseline Action Level and the Limit Level and was about 125% of the upstream control station's SS level (at O-1-C(FT)) at the same tide of the same day. However, these measurement results are within the ranges of 3-year (2007 - 2009) SS records between 3.0 and 20.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.2 and 15.3 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 27 October 2010. Thus, the exceedance is considered not related to the marine works on site.
Actions taken / to be taken	None
Remarks	None

Prepared by:	F. C. Tsang
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Designation: Environmental Team Leader

Signature: Faughenthon

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 27-Oct-10



Site photo



#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	27-Oct-10
Time	3:00 P.M.
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	13.20
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	9.78
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was lower than the baseline Action / Limit Level but was more than 130% of the upstream control station's SS level (at O-1-C(ET)) at the same tide of the same day. However, these measurement results are within the ranges of 3-year (2007 - 2009) SS records between 3.0 and 20.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.2 and 15.3 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 27 October 2010. Thus, the exceedance is considered not related to the marine works on site.
Actions taken / to be taken	None
Remarks	None

Prepared by:	F. C. Tsang
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Designation: Environmental Team Leader

Signature: Houghten Please

Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 27-Oct-10



Site photo



#### Incident Report on Action Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	29-Oct-10
Time	4:25 P.M.
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	13.33
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	17.15
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was between the baseline Action Level and the Limit Level, but was less than 120% of the upstream control station's SS level (at O-1-C(ET)) at the same tide of the same day. The measurement results are within the range of 3-year (2007 - 2009) SS records between 3.0 and 20.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan. Marine dredging was undertaken at the outfall basin on 29 October 2010. Silt curtains had been deployed along the dredging boundary line and extended from seawater level to the bottom of seabed. Frame type silt curtain had been employed for the derrick barge. All dredging operation was confined in the frame type silt curtain. Thus, the exceedance is considered to be contributed by natural variation. No further action is required.
Actions taken / to be taken	1. Silt curtains have been deployed along the dredging boundary line and extended from seawater level to the bottom of seabed. 2. Frame type silt curtain have been employed for the derrick barge and all dredging operation has been confined in the frame type silt curtain. 3. Closed grab has been used and the daily dredging rate is limited to a maximum 960 m <sup>3</sup> . 4. Sufficient slack of silt curtain is allowed to ensure the curtain rested on the seabed to cope with waves and tides.
Remarks	None

Prepared by:		۲. (	C.	Isang
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Designation: Environmental Team Leader

Signature: Foughten the of

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 29-Oct-10



Site photo



#### Incident Report on Action Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	1-Nov-10
Time	11.28 A.M.
Monitoring Location	O-1(FT)
Parameter	Dissolved Oxygen (marine surface)
Action & Limit Levels (mg/L)	6.84 / 6.81
Measured Level (mg/L)	6.83
Control Station	O-1-C(FT)
Measured Level at the Control Station (mg/L)	7.29
Possible reason for Action or Limit Level Non-compliance	The measured DO level (marine surface) was below the baseline Action Level but was within the ranges of 3-year (2007 - 2009) marine surface DO records between 4.3 and 9.4 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 4.2 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Dredging was conducted at the Outfall basin (portion E). Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m³; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Prepared by:	F. C. Ts	ang

Designation: Environmental Team Leader

Signature: Foughten Cheof

Date: 12-Nov-10

# Photographic record for exceedance of Dissolved Oxygen (marine surface) recorded at O-1(FT) on 01-Nov-10



Site photo



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	1-Nov-10
Time	11.28 A.M.
Monitoring Location	O-1(FT)
Parameter	Dissolved Oxygen (mid-depth)
Action & Limit Levels (mg/L)	6.84 / 6.81
Measured Level (mg/L)	6.7
Control Station	O-1-C(FT)
Measured Level at the Control Station (mg/L)	7.00
Possible reason for Action or Limit Level Non-compliance	The measured DO level (mid-depth) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) mid-depth DO records between 2.6 and 9.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.9 and 8.5 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Dredging was conducted at the Outfall basin (portion E). Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m³; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Hang Fandheof

Prepared by: F. C. Tsang

Designation: Environmental Team Leader

Signature:

Date: 12-Nov-10

# Photographic record for exceedance of Dissolved Oxygen (mid-depth) recorded at O-1(FT) on 01-Nov-10



Site photo



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	1-Nov-10
Time	11.28 A.M.
Monitoring Location	O-1(FT)
Parameter	Dissolved Oxygen (marine bottom)
Action & Limit Levels (mg/L)	6.99 / 6.96
Measured Level (mg/L)	6.51
Control Station	O-1-C(FT)
Measured Level at the Control Station (mg/L)	7.18
Possible reason for Action or Limit Level Non-compliance	The measured DO level (marine bottom) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) marine bottom DO records between 2.2 and 8.8 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.4 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Dredging was conducted at the Outfall basin (portion E). Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m³; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Prepared by:	F. C.	Tsang

Designation: Environmental Team Leader

Signature: Hangten Cheof

Date: 12-Nov-10

# Photographic record for exceedance of Dissolved Oxygen (marine bottom) recorded at O-1(FT) on 01-Nov-10



Site photo



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	3-Nov-10
Time	14:10 P.M.
Monitoring Location	O-1(FT)
Parameter	Dissolved Oxygen (marine surface)
Action & Limit Levels (mg/L)	6.84 / 6.81
Measured Level (mg/L)	6.67
Control Station	O-1-C(FT)
Measured Level at the Control Station (mg/L)	6.76
Possible reason for Action or Limit Level Non-compliance	The measured DO level (marine surface) was below the baseline Limit Level but was within the ranges of 3-year (2007 - 2009) marine surface DO records between 4.3 and 9.4 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 4.2 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Dredging was conducted at the Outfall basin (portion E). Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m³; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Prepared I	by:	F. (	j.	Isang
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Designation: Environmental Team Leader

Signature: Hangten Cheof

Date: 12-Nov-10

# Photographic record for exceedance of Dissolved Oxygen (marine surface) recorded at O-1(FT) on 03-Nov-10



Site photo



Site photo



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	3-Nov-10
Time	14:10 P.M.
Monitoring Location	O-1(FT)
Parameter	Dissolved Oxygen (mid-depth)
Action & Limit Levels (mg/L)	6.84 / 6.81
Measured Level (mg/L)	6.64
Control Station	O-1-C(FT)
Measured Level at the Control Station (mg/L)	6.74
Possible reason for Action or Limit Level Non-compliance	The measured DO level (mid-depth) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) mid-depth DO records between 2.6 and 9.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.9 and 8.5 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Dredging was conducted at the Outfall basin (portion E). Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m³; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Houghten Shoof

Prepared by: F. C. Tsang

Designation: Environmental Team Leader

Signature:

Date: 12-Nov-10

## Photographic record for exceedance of Dissolved Oxygen (mid-depth) recorded at O-1(FT) on 03-Nov-10



Site photo



Site photo



Site photo

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	3-Nov-10
Time	14:10 P.M.
Monitoring Location	O-1(FT)
Parameter	Dissolved Oxygen (marine bottom)
Action & Limit Levels (mg/L)	6.99 / 6.96
Measured Level (mg/L)	6.52
Control Station	O-1-C(FT)
Measured Level at the Control Station (mg/L)	6.75
Possible reason for Action or Limit Level Non-compliance	The measured DO level (marine bottom) was below the baseline Action / Limit Level but was within the ranges of 3-year (2007 - 2009) marine bottom DO records between 2.2 and 8.8 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.4 and 8.6 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Dredging was conducted at the Outfall basin (portion E). Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frametype silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m³; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Prepared by: F	. C.	Tsang
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Designation: Environmental Team Leader

Signature: Harftenley

Date: 12-Nov-10

## Photographic record for exceedance of Dissolved Oxygen (marine bottom) recorded at O-1(FT) on 03-Nov-10



Site photo



Site photo



Site photo

## Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	03-Nov-10
Time	12:00 PM
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)
Parameter	Suspended Solid
Action & Limit Levels	7.68 / 8.34
Measured Level	2.9
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.00 is recorded at Control Station (I-2-C)
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and was within the range of baseline SS concentration (1-8.5mg/L). General site cleaning & housekeeping; install wire mesh and shotcreting at vortex drop shaft; excavation (hole drilling) at man access shaft; preparation work for skin wall; erect steel frame for ventilation system at 20T gantry; pipe jacking (rock breaking for 12th jacking pipe) at Portion G; and erect formwork and rebar fixing of pile caps at Portion G were undertaken during the measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.
Remarks	Following mitigation measures were provided: (1) Waste water was collected to Waste Water Treatment Plant and treated before discharge; (2) Existing Stream has been diverted and bunded by sealed concrete block wall.

Hang Fundhoof

Prepared by:	F. C. Tsa	nq

Designation: Environmental Team Leader

Signature:

Date: 16-Nov-10

# Photographic record for exceedance of Suspended Solid recorded at Hong Hoi Chee Hong Temple (I-2) on 03-Nov-10



Site photo.



Photo taken at I-2-C

## Incident Report on Action Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	05-Nov-10
Time	11:35 AM
Monitoring Location	Sik Sik Yuen Ho Fung College (I-1)
Parameter	Turbidity
Action & Limit Levels	9.75/12.47
Measured Level	10.45
Possible reason for Action or Limit Level Non-compliance Actions taken / to be taken	A high turbidity level of 10.89 was recorded at Control Station (I-1-C) and rainfall was recorded on 5 Nov 2010.  The measured turbidity level was above baseline Action Level. It was within the range of baseline turbidity concentration (3.13 - 13.15 NTU). General site cleaning & housekeeping; dismantle formwork for Bay 19 spiral ramp; erection of formwork for Bay 22 & 23 spiral ramp and horizontal drilling were undertaken during measurement. No direct disturbance was observed from the site and the turbidity result at monitoring station was below the level of control station. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.
Remarks	Following mitigation measures were provided: (1) Waste water was collected to Waste Water Treatment Plant and treated before discharge; (2) Existing Stream has been diverted and bunded by sealed concrete block wall.

Prepared by:	Fan Cheong Tsa
i iepaieu by.	r an Oncong rad

Designation: Environmental Team Leader

Signature: Hauftenfleof

Date: 16-Nov-10

## Photographic record for exceedance of Turbidity recorded at Sik Sik Yuen Ho Fung College (I-1) on 05-Nov-10



Site photo



Photo taken at I-1



Photo taken at I-1C

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	05-Nov-10
Time	11:06 AM
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)
Parameter	Turbidity
Action & Limit Levels	6.63/6.99
Measured Level	13.61
Possible reason for Action or	A high turbidity level of 14.33 is recorded at Control Station (I-2-C)
Limit Level Non-compliance	and rainfall was recorded on 5 Nov 2010.
Actions taken / to be taken	The measured turbidity level was above the Baseline Limit level and beyond the range of baseline turbidity concentration (2.17-7.08 NTU). Construction activities including general site cleaning & housekeeping; excavation (hole drilling) at vortex drop shaft; excavation (rock splitting and mucking) at man access shaft; preparation work for skin wall; pipe jacking (rock breaking for 13th jacking pipe) at Portion G; dismantling formwork for pile caps were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be natural variation and no action should be taken.
Remarks	Following mitigation measures were provided: (1) Waste water was collected to Waste Water Treatment Plant and treated before discharge; (2) Existing Stream has been diverted and bunded by sealed concrete block wall.

Harften Reof

Prepared by: F.C. Tsang

Designation: Environmental Team Leader

Signature:

Date: 16-Nov-10

# Photographic record for exceedance of Turbidity recorded at Hong Hoi Chee Hong Temple (I-2) on 05-Nov-10



Site photo.



Photo taken at I-2



Photo taken at I-2-C

## Incident Report on Action Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	05-Nov-10
Time	11:35 AM
Monitoring Location	Sik Sik Yuen Ho Fung College (I-1)
Parameter	Suspended Solid
Action & Limit Levels	8.85 / 10.17
Measured Level	4.10 (higher than 120% of control station's SS)
Possible reason for Action or Limit Level Non-compliance	A low SS level of 3.35 was recorded at Control Station (I-1-C) and rainfall was recorded on 5 Nov 2010.
Actions taken / to be taken	The measured SS level was below baseline Action Level. It was also within the range of baseline SS concentration (1-10.5mg/L). General site cleaning & housekeeping; dismantle formwork for Bay 19 spiral ramp; erection of formwork for Bay 22 & 23 spiral ramp and horizontal drilling were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.
Remarks	Following mitigation measures were provided: (1) Waste water was collected to Waste Water Treatment Plant and treated before discharge; (2) Existing Stream has been diverted and bunded by sealed concrete block wall.

Prepared by:	Fan Cheong	Tsang
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Designation: Environmental Team Leader

Signature: Harften Reof

Date: 16-Nov-10

## Photographic record for exceedance of Suspended Solid recorded at Sik Sik Yuen Ho Fung College (I-1) on 05-Nov-10



Site photo



Photo taken at I-1



Photo taken at I-1C

## Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	05-Nov-10
Time	11:06 AM
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)
Parameter	Suspended Solid
Action & Limit Levels	7.68 / 8.34
Measured Level	11.80
Possible reason for Action or Limit Level Non-compliance Actions taken / to be taken	A high SS level of 10.80 was recorded at Control Station (I-2-C) and rainfall was recorded on 5 Nov 2010.  The measured SS level was above baseline Action / Limit Level and beyond the range of baseline SS concentration (1-8.5mg/L). were undertaken during the measurement. General site cleaning & housekeeping; excavation (drilling holes and mucking) at vortex drop shaft; excavation (rock splitting and mucking) at Man Access Shaft; preparation for skin wall; erect platform for Air Compressor; pipe jacking (rock breaking for 13 th jacking pipe) at Portion G; dismantle formwork for pile caps at Portion G were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural
Remarks	variation and no action should be required.  Following mitigation measures were provided: (1) Waste water was collected to Waste Water Treatment Plant and treated before discharge; (2) Existing Stream has been diverted and bunded by sealed concrete block wall.

Harften Cheof

Prepared by:	Fan Cheong Tsang

Designation: Environmental Team Leader

Signature:

Date: 16-Nov-10

## Photographic record for exceedance of Suspended Solid recorded at Hong Hoi Chee Hong Temple (I-2) on 05-Nov-10



Site photo



Photo taken at I-2



Photo taken at I-2C

## Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	08-Nov-10
Time	12:10 PM
Monitoring Location	Sik Sik Yuen Ho Fung College (I-1)
Parameter	Suspended Solid
Action & Limit Levels	8.85 / 10.17
Measured Level	3.35 (higher than 130% of control station's SS)
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.40 was recorded at Control Station (I-1-C)
Actions taken / to be taken	The measured SS level was below baseline Action Level. It was also within the range of baseline SS concentration (1-10.5mg/L). General site cleaning and housekeeping; general cleaning at Bay 21 spiral ramp; dismantle formwork for Bay 22 spiral ramp; rebar fixing for Bay 23 spiral ramp; and horizontal drilling were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.
Remarks	Following mitigation measures were provided: (1) Waste water was collected to Waste Water Treatment Plant and treated before discharge; (2) Existing Stream has been diverted and bunded by sealed concrete block wall.

Prepared by:	Fan Cheong	Tsang
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Designation: Environmental Team Leader

Signature: Harften Reof

Date: 16-Nov-10

# Photographic record for exceedance of Suspended Solid recorded at Sik Sik Yuen Ho Fung College (I-1) on 08-Nov-10



Site photo



Photo taken at I-1



Photo taken at I-1C

## Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	05-Nov-10
Time	3:00 PM
Monitoring Location	O-1(FT)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	14.10 / 18.08 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	12.22 (higher than 130% of control station's SS)
Control Station	O-1-C(FT)
Measured Level (depth averaged) at Control Station (mg/L)	9.28
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action Level and the Limit Level but higher than 130% of the control station's SS level. These measurement results are within the ranges of 3-year (2007 - 2009) SS records between 3.0 and 20.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan and between 3.2 and 15.3 mg/L at EPD VM14 marine water quality monitoring station towards the north of Rambler Channel. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 5 November 2010. Thus, the exceedance is considered not related to the marine works on site.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m3; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Prepared by:	F. C. Tsang
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Designation: Environmental Team Leader

Signature: Hangten Phone

Date: 17-Nov-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 05-Nov-10



Site photo



Photo taken at O-1-C(FT)

## Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	05-Nov-10
Time	9:33 AM
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth- averaged) at Monitoring Location	15.47
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	13.23
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was higher than baseline action level and the limit level. However, these measurement results are within the ranges of 3-year (2007 - 2009) SS records between 3.0 and 20.1 mg/L at EPD WM4 marine water quality monitoring station near Ma Wan. Silt curtains were setting up at the dredging area during measurement. No marine dredging activity was undertaken on 5 November 2010. Thus, the exceedance is considered not related to the marine works on site.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m3; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Prepared by:	F. C. Tsang
Prepared by:	F. C. Tsang

Designation: Environmental Team Leader

Signature: Hough ten Cheof

Date: 17-Nov-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 05-Nov-10



Site photo



Photo taken at O-1-C(ET)

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	8-Nov-10
Time	9:36 AM
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	23.20
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	22.0
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was above the baseline Action/Limit Level but less than 120% of the control station's SS level (O-1-C(ET)) at the same tide of the same day. Dredging was undertaken at Portion E. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation (high background level of SS) and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m³; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Designation: Environmental Team Leader

Signature: Hough English

Date: 29-Nov-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 08-Nov-10



Site photo



Photo taken at O-1-C(ET)

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	8-Nov-10
Time	9:36 AM
Monitoring Location	O-1(ET)
Parameter	Turbidity
Action & Limit Levels (NTU)	11.87 / 13.44 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (NTU)	14.28
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (NTU)	14.41
Possible reason for Action or Limit Level Non-compliance	The measured turbidity level (depth-averaged) at O-1(ET) was above the baseline Action / Limit Level but less than 120% of the control station's turbidity level (O-1-C(ET)) at the same tide of the same day. Dredging was undertaken at Portion E. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation (high background level of turbidity) and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m3; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Designation: Environmental Team Leader

Signature: Hougherf

Date: 29-Nov-10

## Photographic record for exceedance of Turbidity recorded at O-1(ET) on 08-Nov-10



Site photo



Photo taken at O-1-C(ET)

#### Incident Report on Action Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	10-Nov-10
Time	11:30 AM
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	13.72
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	15.78
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was between the baseline Action Level and the Limit Level, but below the control station's SS level (at O-1-C(ET)) at the same tide of the same day. Marine dredging was undertaken at the outfall basin (Portion E) on 10 November 2010. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation (high background level of suspended solids) and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m3; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Houghten Shoof

Prepared by: F. C. Tsang

Designation: Environmental Team Leader

Signature:

Date: 29-Nov-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 10-Nov-10



Site photo



Photo taken at O-1-C(ET)

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	12-Nov-10
Time	1:30 PM
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	16.35
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	19.35
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was above the baseline Action Level and the Limit Level, but below the control station's SS level (at O-1-C(ET)) at the same tide of the same day. Only rocks removal at seawall was undertaken at the outfall basin on 12 November 2010. Thus, the exceedance is considered to be contributed by natural variation (high level of background SS level). No further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m³; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Prepared by: F. C. Tsang

Designation: Environmental Team Leader

Hang ten Shoof

Signature:

Date: 30-Nov-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 12-Nov-10



Site photo



Site photo

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	15-Nov-10
Time	3:58 PM
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	14.42
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	11.72
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was above the baseline Action Level and the Limit Level, but below 130% of the control station's SS level (at O-1-C(ET)) at the same tide of the same day. Repair of silt curtains was undertaken and no dredging was undertaken at the outfall basin on 15 November 2010. Thus, the exceedance is considered to be contributed by natural variation. No further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along the dredging boundary line and extended from the seawater level to the bottom of seabed; (2) Frame-type silt curtains had been employed for the derrick barge and all dredging operation was confined in the frame-type silt curtain; (3) Closed grab had been used and the daily dredging rate was less than 960 m3; (4) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (5) Condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (6) Operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Hang ten theory

Prepared by	<b>/</b> :	F.	C.	Tsang

Designation: Environmental Team Leader

Signature:

Date: 29-Nov-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 15-Nov-10



Site photo



Site photo

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	17-Nov-10	
Time	1:40 PM	
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)	
Parameter	Suspended Solid	
Action & Limit Levels (mg/L)	7.68 / 8.34	
Measured Level (mg/L)	4.05	
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.00 mg/L was recorded at Control Station (I-2-C)	
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and within the range of baseline SS concentration (1 - 8.5 mg/L) but was more than 130% of the SS level measured at the upstream control station (I-2-C). General site cleaning and housekeeping, excavation (drilling holes and rock splitting) at vortex drop shaft, excavation (drilling holes) at man access shaft, preparation for skin wall, erection of the noise enclosure for ventilation fan, pipe jacking (rock breaking for the 14th jacking pipe) at Portion G, pipe jacking (jacking for the 13th concrete pipe) at Portion G, and erection of the 60-tonne temporary steel platform at Portion G were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action should be required.	
Remarks	The following mitigation measures had been provided: (1) Waste water was collected and diverted to the on-site waste water treatment facilities before discharge; (2) Exsiting stream had been diverted and bunded by sealed concrete block wall; (3) Existing stream had been bunded off by sand bag to prevent excavated material from washing out from the working area.	

Prepared by:	⊦an	Cheong	ısang
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Designation: Environmental Team Leader

Signature: Hougherf

Date: 29-Nov-10

# Photographic record for exceedance of Suspended Solid recorded at Hong Hoi Chee Hong Temple (I-2) on 17-Nov-10



Site photo



Site photo



Photo taken at I-2C

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	19-Nov-10
Time	1:30 PM
Monitoring Location	O-1(FT)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	14.10 / 18.08 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	12.42
Control Station	O-1-C(FT)
Measured Level (depth averaged) at Control Station (mg/L)	9.22
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action/Limit Level but was higher than 130% of the control station's SS level (O-1-C(FT)) at the same tide of the same day. No dredging was undertaken at Portion E on 19 November 2010. Silt curtains were under modification and extension. As such, the exceedance is considered to be contributed by natural variation and no further action is required.
Actions taken / to be taken	None
Remarks	None

Prepared	l by:	F. C.	Tsang
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Designation: Environmental Team Leader

Signature: Hough tenklog

Date: 30-Nov-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 19-Nov-10



Site photo



Site photo

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	22-Nov-10
Time	2:52 P.M.
Monitoring Location	O-1(FT)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	14.10 / 18.08 (derived from the baseline monitoring data)
Measured Level (depth-averaged) at Monitoring Location (mg/L)	11.65
Control Station	O-1-C(FT)
Measured Level (depth averaged) at Control Station (mg/L)	8.03
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action/Limit Level but was higher than 130% of the control station's SS level (O-1-C(FT)) at the same tide of the same day. Only rock removal at the seabed was undertaken at Portion E on 22 November 2010. Silt curtains had been provided along Portion E boundary line and extended from seawater level to the bottom of seabed. Frame / floating type silt curtains had been employed for the derrick barge, and rocks removal operation was confined in the inner (frame / floating type) silt curtain. As such, the exceedance is considered to be contributed by natural variation and no further action is required.
Actions taken / to be taken	(1) Silt curtains had been provided along Portion E boundary line and extended from seawater level to the bottom of seabed; (2) frame / floating type silt curtains had been employed for the derrick barge; (3) rocks removal operation was confined in the inner (frame / floating type) silt curtain; (4) closed grab had been used and the daily dredging rate was less than 960 m³; (5) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (6) condition of silt curtains had been checked by the on-broad supervisor daily before any dredging activity; (7) operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the frame-type silt curtains.
Remarks	None

Prepared by: F.	C.	Tsang
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Designation: Environmental Team Leader

Signature: Auften Phone

Date: 30-Nov-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 22-Nov-10



Site photo



Site photo

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	24-Nov-10	
Time	3:30 PM	
Monitoring Location	O-1(FT)	
Parameter	Suspended Solids (SS)	
Action & Limit Levels (mg/L)	14.10 / 18.08 (derived from the baseline monitoring data)	
Measured Level (depth-averaged) at Monitoring Location (mg/L)	8.83	
Control Station	O-1-C(FT)	
Measured Level (depth averaged) at Control Station (mg/L)	6.67	
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action/Limit Level but was higher than 130% of the control station's SS level (O-1-C(FT)) at the same tide of the same day. Only rocks removal at Portion E (in which works suspended from 15:00 to 17:45 due to high tidal flow) was undertaken on 24 November 2010. Silt curtains had been provided along Portion E boundary line and extended from seawater level to the bottom of seabed. Frame / floating type silt curtains had been employed for the derrick barge, and rocks removal operation was confined in the inner (frame / floating type) silt curtain. As such, the exceedance was considered to be contributed by natural variation and no further action is required.	
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Frame / floating type silt curtain had been employed for the derrick barge and rocks removal operation was confined in the inner (frame / floating type) silt curtain; (3) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (4) condition of silt curtains had been checked by the on-broad supervisor daily before any marine works activity; (5) operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the inner (frame / floating type) silt curtains; (6) and closed grab had been used for dredging operation and the daily dredging rate was limited to less than 960 m <sup>3</sup> .	
Remarks	None	

Prepared by	<b>/</b> :	F.	C.	Tsang

Designation: Environmental Team Leader

Signature: Hayfulkery

Date: 8-Dec-10

Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 24-Nov-10



Site photo



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	26-Nov-10
Time	9:42 AM
Monitoring Location	O-1(FT)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	14.10 / 18.08 (derived from the baseline monitoring data)
Measured Level (depth- averaged) at Monitoring Location	11.82
Control Station	O-1-C(FT)
Measured Level (depth averaged) at Control Station (mg/L)	8.78
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action/Limit Level but was higher than 130% of the control station's SS level (O-1-C(FT)) at the same tide of the same day. Rocks removal at Portion E and noise isolation blanket next to wire drums were undertaken on 26 November 2010. Silt curtains had been provided along Portion E boundary line and extended from seawater level to the bottom of seabed. Frame / floating type silt curtains had been employed for the derrick barge, and rocks removal operation was confined in the inner (frame / floating type) silt curtain. As such, the exceedance is considered to be contributed by natural variation and no further action is required.
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Frame / floating type silt curtain had been employed for the derrick barge and rocks removal operation was confined in the inner (frame / floating type) silt curtain; (3) Sufficient slacks of silt curtains were allowed to ensure the curtains rested on the seabed to cope with waves and tides; (4) condition of silt curtains had been checked by the on-broad supervisor daily before any marine works activity; (5) operator had been instructed to manoeuvre the grab with due care to prevent fast lifting out of the grab from the inner (frame / floating type) silt curtains; (6) and closed grab had been used for dredging operation and the daily dredging rate was limited to less than 960 m <sup>3</sup> .
Remarks	None

Prepared by: F. C. Tsang

Designation: Environmental Team Leader

Houghersheof

Signature:

Date: 08-Dec-10

Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 26-Nov-10



Site photo



#### Incident Report on Action Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	01-Dec-10	
Time	3:35 PM	
Monitoring Location	Sik Sik Yuen Ho Fung College (I-1)	
Parameter	Suspended Solid	
Action & Limit Levels (mg/L)	8.85 / 10.17	
Measured Level (mg/L)	2.70 (higher than 120% of control station's SS)	
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.20 mg/L was recorded at Control Station (I-1-C)	
Actions taken / to be taken	The measured SS level was below the baseline Action Level. It was also within the range of baseline SS concentration (1 - 10.5 mg/L). General site cleaning and housekeeping, rebar fixing at Bay 23, formwork at Bay 23, horizontal drilling and GI monitoring were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance is considered to be contributed by natural variation and no action is required.	
Remarks	The following mitigation measures were provided: (1) Waste water was collected and diverted to on-site waste water treatment plant for treatment before discharge; (2) Nullah and site area were separated by sealed concrete block wall and sandbags barrier.	

Prepared by	<i>r</i> :	Fan	Cheong	Tsang

Designation: Environmental Team Leader

Signature: Hauftenfleof

Date: 14-Dec-10

## Photographic record for exceedance of Suspended Solid recorded at Sik Sik Yuen Ho Fung College (I-1) on 01-Dec-10



Site photo



Photo taken at I-1



Photo taken at I-1C

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	03-Dec-10	
Time	2:33 PM	
Monitoring Location	O-1(FT)	
Parameter	Suspended Solids (SS)	
Action & Limit Levels (mg/L)	14.1 / 18.08 (derived from the baseline monitoring data)	
Measured Level (depth- averaged) at Monitoring Location	7.38	
Control Station	O-1-C(FT)	
Measured Level (depth averaged) at Control Station (mg/L)	6.13	
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action/Limit Level but higher that 120% of the control station's SS level (O-1-C(FT)) at the same tide of the same day. Only rock removal was undertaken at Portion E. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed at the derrick barge and marine works was confined in the frame-type silt curtain. In addition, red tide at Tsuen Wan Hoi Hing Road seashore was reported during the week from 26 November 2010 to 3 December 2010 contributing to high SS level. As such, the exceedance is considered to be contributed by natural variation and no further action is required.	
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Floating type silt curtain had been employed at the derrick barge; (3) Rock removal operation was confined in the inner (frame/floating type) silt curtain; (4) Sufficient slack of silt curtain was allowed to cope with the wave and tidal action to ensure the curtain was rested on seabed; (5) Condition of silt curtain had been checked by the on-broad supervisor daily before the start of any marine works activity; (6) Operator had been instructed to handle with due care and prevent fast lifting out of the grab from the inner (frame/floating type) silt curtain; (7) Closed grab had been used for dredging operation; and (8) the daily dredging rate was limited to less than 960 m <sup>3</sup> .	
Remarks	None	

Prepared by: F. C. Tsang

Designation: Environmental Team Leader

Signature:

Harpten Reof Date: 13-Dec-10

### Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 03-Dec-10



Site photo



Photo taken at O-1-C(ET)

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	01-Dec-10	
Time	1:57 PM	
Monitoring Location	O-1(FT)	
Parameter	Suspended Solids (SS)	
Action & Limit Levels (mg/L)	14.1 / 18.08 (derived from the baseline monitoring data)	
Measured Level (depth- averaged) at Monitoring Location	7.93	
Control Station	O-1-C(FT)	
Measured Level (depth averaged) at Control Station (mg/L)	5.28	
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action/Limit Level but higher than 130% of the control station's SS level (O-1-C(FT)) at the same tide of the same day. Only rock fill removal from sea bed was undertaken at Portion E. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed. Frame-type silt curtain had been employed at the derrick barge and marine works was confined in the frame-type silt curtain. As such, the exceedance is considered to be contributed by natural variation and no further action is required.	
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Floating type silt curtain had been employed at the derrick barge; (3) Rock removal operation was confined in the inner (frame/floating type) silt curtain; (4) Sufficient slack of silt curtain was allowed to cope with the wave and tidal action to ensure the curtain was rested on seabed; (5) Condition of silt curtain had been checked by the on-broad supervisor daily before the start of any marine works activity; (6) Operator had been instructed to handle with due care and prevent fast lifting out of the grab from the inner (frame/floating type) silt curtain; (7) Closed grab had been used for dredging operation; and (8) the daily dredging rate was limited to less than 960 m <sup>3</sup> .	
Remarks	None	

Prepared by: F. C. Tsang

Designation: Environmental Team Leader

Harftentheof

Signature:

Date: 16-Dec-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 01-Dec-10



Site photo



Photo taken at O-1-C(ET)

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	13-Dec-10	
Time	6:20 PM	
Monitoring Location	O-1(ET)	
Parameter	Suspended Solids (SS)	
Action & Limit Levels (mg/L)	14.1 / 18.08 (derived from the baseline monitoring data)	
Measured Level (depth- averaged) at Monitoring Location	9.2	
Control Station	O-1-C(ET)	
Measured Level (depth averaged) at Control Station (mg/L)	5.18	
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was below the baseline Action/Limit Level but higher than 130% of the control station's SS level (O-1-C(ET)) at the same tide of the same day. No marine works was undertaken at Portion E during measurement. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed and floating type silt curtain had been employed at the inner side. As such, the exceedance was considered to be contributed by natural variation and no further action was required.	
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Floating type silt curtain had been employed at the inner side; and (3) Sufficient slack of silt curtain was allowed to cope with the wave and tidal action to ensure the curtains (outer and inner) were rested on seabed.	
Remarks	None	

Prepared by:	F. C. I	sang
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Designation: Environmental Team Leader

Hang ten theory

Signature:

Date: 20-Dec-10

### Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 13-Dec-10



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	06-Dec-10	
Time	1:40 PM	
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)	
Parameter	Suspended Solid	
Action & Limit Levels (mg/L)	7.68 / 8.34	
Measured Level (mg/L)	3.2	
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.00 mg/L was recorded at Control Station (I-2-C)	
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and within the range of baseline SS concentration (1 - 8.5 mg/L) but was more than 130% of the SS level measured at the upstream control station (I-2-C). General site cleaning & housekeeping, excavation (drilling holes) at vortex drop shaft, excavation (drilling holes) at man access shaft, rock breaking for jacking pipe at Portion G and erection of 60 ton temporary steel platform at Portion G were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.	
Remarks	The following mitigation measures had been provided: (1) Waste water was collected and diverted to the on-site waste water treatment facilities before discharge; (2) Existing stream had been diverted and bunded by sealed concrete block wall; (3) Existing stream had also been bunded off by sand bag to prevent excavated material from washing out from the working area.	

Houghten Shoof

Prepared by: Fan Cheong Tsang

Designation: Environmental Team Leader

Signature:

Date: 22-Dec-10

# Photographic record for exceedance of Suspended Solid recorded at Hong Hoi Chee Hong Temple (I-2) on 06-Dec-10



Site photo



Site photo



Photo taken at I-2C

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel	
Date	15-Dec-10	
Time	12:55 PM	
Monitoring Location	O-1(FT)	
Parameter	Suspended Solids (SS)	
Action & Limit Levels (mg/L)	14.10 / 18.08 (derived from the baseline monitoring data)	
Measured Level (depth- averaged) at Monitoring Location	5.82	
Control Station	O-1-C(FT)	
Measured Level (depth averaged) at Control Station (mg/L)	3.67	
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action/Limit Level but was higher than 130% of the control station's SS level (O-1-C(FT)) at the same tide of the same day. No marine works was undertaken on 15 December 2010. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed and floating type silt curtain had also been employed at the inner side. As such, the exceedance was considered to be contributed by natural variation and no further action was required.	
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Floating type silt curtain had been employed at the inner side; and (3) Sufficient slack of silt curtain was allowed to cope with the wave and tidal action to ensure the curtains (outer and inner) were rested on seabed.	
Remarks	None	

Harftentheof

Prepared by:	F. C. Tsan
riepaieu by.	r. U. 18a1

Designation: Environmental Team Leader

Signature:

Date: 24-Dec-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 15-Dec-10



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	15-Dec-10
Time	8:35 AM
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth- averaged) at Monitoring Location	5.53
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	3.97
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was below the baseline Action/Limit Level but was higher than 130% of the control station's SS level (O-1-C(ET)) at the same tide of the same day. No marine works was undertaken on 15 December 2010. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed and floating type silt curtain had also been employed at the inner side. As such, the exceedance was considered to be contributed by natural variation and no further action was required.
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Floating type silt curtain had been employed at the inner side; and (3) Sufficient slack of silt curtain was allowed to cope with the wave and tidal action to ensure the curtains (outer and inner) were rested on seabed.
Remarks	None

Houghten theory

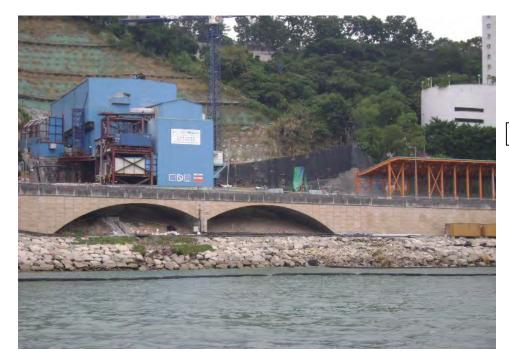
Prepared by:	٠.	C.	Tsang
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Designation: Environmental Team Leader

Signature:

Date: 24-Dec-10

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 15-Dec-10



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	22-Dec-10
Time	9:20 AM
Monitoring Location	O-1(FT)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	14.10 / 18.08 (derived from the baseline monitoring data)
Measured Level (depth- averaged) at Monitoring Location	12.95
Control Station	O-1-C(FT)
Measured Level (depth averaged) at Control Station (mg/L)	10.4
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action/Limit Level but was higher than 120% of the control station's SS level (O-1-C(FT)) at the same tide of the same day. Amour rock removal from the sea wall to the derrick barge at Portion E was undertaken during the measurement on 22 December 2010. As observed on site, silt curtains had been deployed along the marine works boundary line and extended from the seawater level to the seabed and floating type silt curtain had also been employed at the inner side to contain any SS dispersion within the construction site. As such, the exceedance was considered to be contributed by natural variation and no further action was required.
Actions taken / to be taken	(1) Silt curtain was provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Floating type silt curtain had also been employed at the inner side; (3) Sufficient slack of silt curtain was allowed to cope with the wave and tidal action to ensure the curtains (outer and inner) were rested on seabed; and (4) Condition of silt curtains had been checked by the supervisor daily prior to marine works operation.
Remarks	None

Prepared by:	F. C. Tsang
i icbaica by.	1.0.13414

Designation: Environmental Team Leader

Hougherfleof

Signature:

Date: 30-Dec-10

Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 22-Dec-10



Site photo



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	24-Dec-10
Time	10:55 AM
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)
Parameter	Suspended Solid
Action & Limit Levels (mg/L)	7.68 / 8.34
Measured Level (mg/L)	3.05
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.10 mg/L was recorded at Control Station (I-2-C)
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and within the range of baseline SS concentration (1 - 8.5 mg/L) but was more than 130% of the SS level measured at the upstream control station (I-2-C). General site cleaning and housekeeping, excavation (drilling holes) at vortex drop shaft and excavation (drilling holes) at man access shaft, rock breaking for 16th jacking pipe at Portion G, erection of 60ton temporary steel platform at Portion G and excavation for 750 step channel (SC) and catchpit were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.
Remarks	The following mitigation measures had been provided: 1) Waste water was collected to waste water treatment plant and treated before discharge; (2) existing stream has been diverted and bunded by sealed concrete block wall; and (3) existing stream had been bunded off by sand bag to prevent excavated material from washing out of the working area.

Prepared by: Fan Cheong Tsang

Designation: Environmental Team Leader

Signature: For Funcher

Date: 04-Jan-11

## Photographic record for exceedance of Suspended Solid recorded at Hong Hoi Chee Hong Temple (I-2) on 24-Dec-10



Site photo



Photo taken at I-2



Photo taken at I-2C

#### Incident Report on Action Level or Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	24-Dec-10
Time	10:16 AM
Monitoring Location	Squatters (I-3)
Parameter	Suspended Solid
Action & Limit Levels	6.13 / 7.23
Measured Level	4.15
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.00 mg/L was recorded at Control Station (I-3-C)
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and within the range of baseline SS concentration (1 - 7.5 mg/L) but was more than 130% of the SS level measured at the upstream control station (I-3-C). General site cleaning and housekeeping, PB wall H-pile extension, approach channel extension; and shaft excavation were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.
Remarks	Following mitigation measures were provided: (1) All waste water was collected and diverted to waste water treatment plant prior to discharge; (2) existing stream has been diverted and bunded by sealed concrete block wall; and (3) excavated area had been bunded and sealed by concrete block wall to prevent any excavated material runoff from working area.

Houghen though

Prepared by:	Fan Chaona Teana
riepaieu by.	Fan Cheong Tsang

Designation: Environmental Team Leader

Signature:

Date: 04-Jan-11

Photographic record for exceedance of Suspended Solid recorded at Squatters (I-3) on 24-Dec-



Site photo



Photo taken at I-3

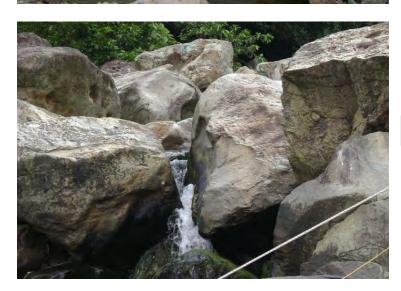


Photo taken at I-3C

#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	24-Dec-10
Time	2:24 PM
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	14.1 / 18.08 (derived from the baseline monitoring data)
Measured Level (depth- averaged) at Monitoring Location	9.82
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	7.87
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was below the baseline Action/Limit Level but higher than 120% of the control station's SS level (O-1-C(ET)) at the same tide of the same day. No amour rock removal from the sea wall to the derrick barge at Portion E was undertaken during measurement. Silt curtains had been deployed along the dredging boundary line and extended from the seawater level to the seabed and floating type silt curtain had been employed at the inner side. As such, the exceedance was considered to be contributed by natural variation and no further action was required.
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Floating type silt curtain had been employed at the inner side; and (3) Sufficient slack of silt curtain was allowed to cope with the wave and tidal action to ensure the curtains (outer and inner) were rested on seabed.
Remarks	None

Prepared by:	F. C. Tsang
riepaieu by.	г. С.

Designation: Environmental Team Leader

Houghten theory

Signature:

Date: 04-Jan-11

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 24-Dec-10



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	29-Dec-10
Time	1:20 PM
Monitoring Location	O-1(FT)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	14.1 / 18.08 (derived from the baseline monitoring data)
Measured Level (depth- averaged) at Monitoring Location	3.2
Control Station	O-1-C(FT)
Measured Level (depth averaged) at Control Station (mg/L)	2.37
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(FT) was below the baseline Action/Limit Level but higher than 130% of the control station's SS level (O-1-C(FT)) at the same tide of the same day. Derrick barge was under repair on that day and no marine works was undertaken at Portion E. Silt curtains werer deployed along the dredging boundary line and extended from the seawater level to the seabed. Floating type silt curtain were also deployed at the inner side. As such, the exceedance was considered to be contributed by natural variation and no further action was required.
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Floating type silt curtain had been employed at the inner side; and (3) Sufficient slack of silt curtain was allowed to cope with the wave and tidal action to ensure the curtains (outer and inner) were rested on seabed.
Remarks	None

Prepared by:	F. C. Tsang
riepaieu by.	г. С.

Designation: Environmental Team Leader

Houghten theory

Signature:

Date: 06-Jan-11

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(FT) on 29-Dec-10



#### Incident Report on Limit Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	29-Dec-10
Time	6:20 PM
Monitoring Location	O-1(ET)
Parameter	Suspended Solids (SS)
Action & Limit Levels (mg/L)	13.25 / 14.39 (derived from the baseline monitoring data)
Measured Level (depth- averaged) at Monitoring Location	9.07
Control Station	O-1-C(ET)
Measured Level (depth averaged) at Control Station (mg/L)	6.03
Possible reason for Action or Limit Level Non-compliance	The measured SS level (depth-averaged) at O-1(ET) was below the baseline Action/Limit Level but higher than 130% of the control station's SS level (O-1-C(ET)) at the same tide of the same day. Derrick barge was under repair on that day and no marine works was undertaken at Portion E. Silt curtains werer deployed along the dredging boundary line and extended from the seawater level to the seabed. Floating type silt curtain were also deployed at the inner side. As such, the exceedance was considered to be contributed by natural variation and no further action was required.
Actions taken / to be taken	(1) Silt curtain had been provided along the Portion E boundary line and extended from seawater level to the bottom of seabed; (2) Floating type silt curtain had been employed at the inner side; and (3) Sufficient slack of silt curtain was allowed to cope with the wave and tidal action to ensure the curtains (outer and inner) were rested on seabed.
Remarks	None

Prepared by:	F. C. Tsan
riepaieu by.	r. U. 18a1

Designation: Environmental Team Leader

Houghten theory

Signature:

Date: 06-Jan-11

## Photographic record for exceedance of Suspended Solids (SS) recorded at O-1(ET) on 29-Dec-10



#### Incident Report on Action Level Non-compliance

Project	Tsuen Wan Drainage Tunnel
Date	31-Dec-10
Time	11:05 AM
Monitoring Location	Hong Hoi Chee Hong Temple (I-2)
Parameter	Suspended Solid
Action & Limit Levels (mg/L)	7.68 / 8.34
Measured Level (mg/L)	2.45
Possible reason for Action or Limit Level Non-compliance	A low SS level of 2.00 mg/L was recorded at Control Station (I-2-C)
Actions taken / to be taken	The measured SS level was below baseline Action / Limit Level and within the range of baseline SS concentration (1 - 8.5 mg/L) but was more than 120% of the SS level measured at the upstream control station (I-2-C). General site cleaning, housekeeping and temporary traffic arrangement (TTA), excavation (drilling holes) at vortex drop shaft, excavation (drilling holes and rock spilling) at man access shaft, closed formwork for dry flow channel, rock breaking for 16 <sup>th</sup> jacking pipe at Portion G; erection of 60 ton temporary steel platform at Portion G and excavation for 750 step channel (SC) and catchpit were undertaken during measurement. No direct disturbance was observed from the site. Thus, the exceedance was considered to be contributed by natural variation and no action was required.
Remarks	The following mitigation measures had been provided: (1) Waste water was collected to waste water treatment plant and treated before discharge; (2) existing stream has been diverted and bunded by sealed concrete block wall; and (3) existing stream had been bunded off by sand bag to prevent excavated material from washing out of the working area.

Prepared by: Fan Cheong Tsang

Designation: Environmental Team Leader

Signature: Foughten Cheof

Date: 07-Jan-11

## Photographic record for exceedance of Suspended Solid recorded at Hong Hoi Chee Hong Temple (I-2) on 31-Dec-10



Site photo



Photo taken at I-2



Appendix H

## **Complaint Log**

#### **APPENDIX H**

#### **COMPLAINT LOG**

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
1	CIR-001	9 March 2009 at Outfall	Public through EPD	EPD has received a complaint (EPD ref: EP3/N22/RW/04846-09) regarding to muddy effluent discharged from the outfall of the construction site from a public on 9 March 2009. Site investigation was also carried out by EPD with the Contractor on the same day.	Findings/ Observations In the afternoon on 9 March 2009, the Contractor was carrying out regular maintenance for removing silt accumulated in the wastewater treatment plant. During the maintenance works, some residual silt inside the plant was accidentally leaked out to the outfall discharge outlet. The reason was that a flexible pipe for disposing silt was found connecting to the concrete platform of the outfall discharge outlet.  Conclusion/Remedial Action The complaint was valid and it was due to maintenance works at the wastewater treatment plant at the outfall area. The contractor had cleaned up the silt at discharge outlet and the channel at the outfall area on 12 March 2009 as shown in the attached photo. The ET will closely inspect the discharge outlet and the channel during the routine site inspections and provide advice to the Contractor. The Contractor was also advised to provide mitigation measures during any occasion of the maintenance work on the wastewater treatment plant.  The discharge pipe of the treatment plant should be plugged and ensure not functioned when carrying out maintenance works on the wastewater treatment plant in order to prevent the discharge of silt or muddy water to the outlet.  Flexible pipe for discharge of sludge should not be placed on the concrete platform under the outfall discharge outlet. For disposal of slit or sludge in the	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					wastewater treatment plant, tanker should be used.	
2	CIR-002	8 May 2009 at Outfall	Public through EPD	EPD has received a complaint (EPD ref: EP3/N22/RW/09755-09) regarding to construction dust from the outfall construction site on 8 May 2009. Site investigation was also carried out by EPD with the Contractor on 14 May 2009.	Findings/ Observations Regular 1-hour TSP monitoring, in accordance with EM&A Manual, is performed by Environmental Team. The monitoring station concerned is ASR9 (i.e. at the podium level of Greenview Terrace facing to the construction site).  The closest date for the 1-hour TSP concentration monitoring was on 6 May 2009 and 12 May 2009 at Greenview Terrace, ASR9. Soil nailing works and loading & unloading excavated materials were observed during monitoring. In accordance with the EM&A Manual and the Baseline Monitoring Report, all 1-hour TSP concentrations at ASR9 were below the established Action and Limit Levels. No exceedance was recorded on 6 and 12 May 2009.  The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. It was confirmed that the air quality mitigation measures as recommended in EIA have been provided by the Contractor. The mitigation measures are as follows:  • Water spraying was provided to the exposed surface.  • Several automatic sprinklers were provided at the outfall construction site for water spraying of the haul road.  • Water spraying was provided during dust generating works (e.g. rock breaking and soil nailing works).  Conclusion/Remedial Action Based on the site inspection and monitoring results,	Closed
					the complaint is considered not justifiable since no	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					action & limit level exceedance on construction dust are identified. Air quality mitigation measures as recommended in EIA have been implemented in order to control and minimise the air quality impact and nuisance arising from the construction activities. Nevertheless, in view of the recent dry and sunny weather, the haul road and the exposed area would be dry very quickly. The Contractor was recommended to provide more frequent water spraying especially in the dry and sunny weather.	
3	CIR-003	14 May 2009 at Outfall	Public through EPD	EPD has received a complaint (EPD ref: EP/RW/080206) regarding to daytime construction rock breaking at 7:15 am and dusty at the outfall construction site on 14 May 2009.	The closest date to the complaint for the 1-hour TSP monitoring & daytime construction noise monitoring was on 12, 18 and 27 May 2009 at Greenview Terrace, ASR9 and NSR9. Soil nailing, excavation, rock breaking, loading and unloading the materials were observed during monitoring period. The measured noise levels complied with the limit level in accordance with the EIAO-TM. All 1-hour TSP concentrations at ASR9 were below the established Action and Limit Levels. No 1-hour TSP exceedance was recorded.  The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. Air quality mitigation measures as recommended in EIA have been implemented by the Contractor. However, noise mitigation measures could be further improved.  Based on our site inspection and monitoring results, the complaint for dust is considered not justifiable since no action & limit level exceedance on construction dust is identified. Air quality mitigation measures as recommended in EIA have also been implemented in order to control and minimise the air	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					quality impact arising from the construction activities. In view of the recent dry and sunny weather, the haul road and the exposed area would be dry very quickly. The Contractor was recommended to enhance water spraying especially in the dry and sunny weather.  On the other hand, the complaint for noise is considered due to works and the Contractor was agreed to improve the on-site noise mitigation measures such as the following measures. ET's site inspection and the joint inspection with relevant parties was conducted on 29 May 2009 and 4 June 2009 respectively to confirm all the below measures have been implemented.  • For the idling plant, it should be switched off to reduce noise level generated.  • The sound insulation sheets and noise insulation materials should be placed to enclose the breaking tip tightly and also aside or surrounding the breaking activities as recommended in the following photos 1-3 in noise mitigation measures.  • Noise monitoring frequency was increased in order to check the effectiveness of the mitigation measures. The additional measurement was taken on 27 May, 8 June, 10 June and 12 June 2009 after all the measures implemented. The noise levels (Leq, 30 min) were 70.9 dB (A), 70.5 dB (A), 70.3 dB (A) and 70.3 dB (A) respectively, which comply with the limit level in accordance with the EIAO-TM. Soil nailing, excavation and rock breaking were observed during monitoring period. The measures were well in place and seemed effective during the measurement.	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
4	CIR-004	10 July 2009 at Outfall	Public through EPD	EPD has received a complaint (EPD ref: EP3/N22/RW/15137-09) regarding to construction dust from the outfall construction site on 10 July 2009.	Findings/ Observations  1-hour TSP concentration monitoring was on 10 July 2009 at Greenview Terrace, ASR9. Soil nailing works, concrete breaking, excavation and loading & unloading excavated materials were observed during monitoring. All 1-hour TSP concentrations at ASR9 were below the established Action and Limit Levels. No exceedance was recorded on 10 July 2009. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. It was confirmed that the air quality mitigation measures as recommended in EIA have been provided by the Contractor. The mitigation measures are as follows:  • Water spraying was provided to the exposed surface.  • Automatic sprinklers were provided at the outfall construction site for water spraying of the haul road.  • Water spraying was provided during dust generating works (e.g. rock breaking and soil nailing works).  • Tarpaulin was used for covering the dusty works in the Portal area.  Conclusion/Remedial Action The complaint is considered not justifiable since no action & limit level exceedance on construction dust are identified	Closed
5 & 6	CIR-005	29 July 2009 & 11 August 2009 at Outfall	Public through SOR	SOR has received two complaints (SOR ref: (DC/2007/12)/M45/500/02480, 02500) from Greenview Terrace	Findings/ Observations Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in July and August 2009. According to the noise monitoring results from	Same Case with Complaint No. 11

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
				regarding to daytime construction noise exceedance recorded at NSR9 on 8, 22, 23, 27 and 29 July 2009 and a large amount dust generated at the outfall construction site. The complaint dates were corresponded to 29 July and 11 August 2009.	6 July 2009 to 31 August 2009 at NSR 9, the measured noise levels complied with the limit level in accordance with the EIAO-TM. All 1-hour TSP concentrations at ASR9 were below the established Action and Limit Levels from 6 July 2009 to 25 August 2009.  Conclusion/Remedial Action The dust complaint on 22 July 2009 was due to the soil nailing works. The Contractor was reminded enhance the dust mitigation measures during soil nailing works. A designated staff was provided to spray water continuously during soil nailing. A nylon bag was placed on the drilling hole and keeping wet to suppress dust. A sprinkler was added at the hillside of the site and water spraying was provided continuously during operation of drilling to suppress dust. The documented complaint for noise is considered to trigger the action level and the Contractor was also reminded to enhance the on-site noise mitigation measures continuously. The enhanced mitigation measures are proposed as follows:  • A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level.  • The designated staff was reminded to record all the weather condition including raining and wind speed.  • Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible.	
					Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier should be placed to the breaking activities as much	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					<ul> <li>movable noise barriers were also modified.</li> <li>Existing 25 ton rock breaker had been replaced by the another breaker.</li> <li>The breaking tap of the 25 ton rock breaker had been replaced by another breaking tap.</li> <li>A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace.</li> <li>From the additional monitoring data and monitoring data under regular EM&amp;A requirements, noise level (Leq, 30 min) between 6 July to 31 August 2009 was in the range of 71 to 74 dB(A) to the nearest integer. The noise monitoring frequency was maintained in twice per week to check whether the mitigation measures are effective. From the information of the Contractor, all the mitigation measures were implemented on 31 August 2009. Noise levels (Leq, 30 min) were also re-measured after the implementation of the mitigation measures. Noise level (Leq, 30 min) from 4 Sep to 28 Sep 2009 was in the range of 70 to 73 dB(A) to the nearest integer after the implementation of the mitigation measures. In our investigation, there was no exceedance of the measured noise level at Greenview Terrace.</li> </ul>	
7	CIR-006	12 August 2009 at Outfall	Public through SOR	SOR has received a complaint (SOR ref: (DC/2007/12)/M45/500/02527) from Greenview Terrace, via Apple Daily regarding to daytime construction noise level (L <sub>eq(30min)</sub> ) was sometimes more than 80 dB(A) and a large amount dust	Findings/ Observations Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in July and August 2009. According to the noise monitoring results from 6 July 2009 to 31 August 2009 at NSR 9, the measured noise levels complied with the limit level in accordance with the EIAO-TM. All 1-hour TSP concentrations at ASR9 were below the established	Closed

Complaint Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
			generated at the outfall construction site. The complaint date was corresponded to 12 August 2009.	Action and Limit Levels from 6 July 2009 to 25 August 2009.  Conclusion/Remedial Action The dust complaint was considered not justifiable since no action & limit level exceedance on construction dust were identified. However, it was a recurrent case from Greenview Terrace. The Contractor was recommended to enhance water spraying continuously especially in rock breaking activities. On the other hand, there was no noise levels (Leq(30min)) from the measurement taken from ET was more than 80 dB(A). However, it was a recurrent case from Greenview Terrace. The Contractor was reminded to enhance the on-site noise mitigation measures. The enhanced mitigation measures are proposed as follows:  • A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level.  • The designated staff was reminded to record all the weather condition including raining and wind speed.  • Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible.  • Movable noise barriers were placed on site and the movable noise barriers were also modified.  • Existing 25 ton rock breaker had been replaced by the another breaker.  • The breaking tap of the 25 ton rock breaker had	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					<ul> <li>been replaced by another breaking tap.</li> <li>A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace.</li> <li>From the additional monitoring data and monitoring data under regular EM&amp;A requirements, noise level (L<sub>eq, 30 min</sub>) from 6 July to 31 August 2009 was in the range of 71 to 74 dB(A) to the nearest integer. The noise monitoring frequency was maintained in twice per week to check whether the mitigation measures are effective. From the information of the Contractor, all the mitigation measures were implemented on 31 August 2009. Noise levels (L<sub>eq, 30 min</sub>) were also remeasured after the implementation of the mitigation measures. Noise level (L<sub>eq, 30 min</sub>) from 4 Sep to 28 Sep 2009 was in the range of 70 to 73 dB(A) to the nearest integer after the implementation of the mitigation measures.</li> </ul>	
8	CIR-007	14 August 2009 at Outfall	Public through EPD	EPD has received a complaint (EPD ref: EP3/N22/RW/17978-09) from Greenview Terrace regarding to daytime construction noise from the outfall construction site. The complaint date was corresponded to 14 August 2009.	Findings/ Observations Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in July and August 2009. According to the noise monitoring results from 6 July 2009 to 31 August 2009 at NSR 9, the measured noise levels complied with the limit level in accordance with the EIAO-TM.  Conclusion/Remedial Action This was a recurrent case from Greenview Terrace. The documented complaint for noise is considered to trigger the action level and the Contractor was reminded to enhance the on-site noise mitigation measures continuously. The enhanced mitigation measures are proposed as follows:	Same Case with Complaint No. 11

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					<ul> <li>A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level.</li> <li>The designated staff was reminded to record all the weather condition including raining and wind speed.</li> <li>Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible.</li> <li>Movable noise barriers were placed on site and the movable noise barriers were also modified.</li> <li>Existing 25 ton rock breaker had been replaced by the another breaker.</li> <li>The breaking tap of the 25 ton rock breaker had been replaced by another breaking tap.</li> <li>A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace.</li> <li>From the additional monitoring data and monitoring data under regular EM&amp;A requirements, noise level (Leq, 30 min) from 6 July to 31 August 2009 was in the range of 71 to 74 dB(A) to the nearest integer. The noise monitoring frequency would be maintained in twice per week to check whether the mitigation measures are effective. From the information of the Contractor, all the mitigation measures were implemented on 31 August 2009. Noise levels (Leq, 30 min) were also re-measured after the implementation of the mitigation measures. Noise level (Leq, 30 min) from 4 Sep to 28 Sep 2009 was in the range of 70 to 73</li> </ul>	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					dB(A) to the nearest integer after the implementation of the mitigation measures.	
9	CIR-008	17 August 2009 at Portion D of the Site	Public through SOR	SOR has received a complaint (SOR ref:(DC/2007/12)/M45/500/02546) from Long Bench Garden regarding to noise nuisance generated from the daytime construction work (rock-breaking) in Portion D of the Site. The complaint date was corresponded to 17 August 2009.	Findings/ Observations Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in August 2009. The monitoring results from 3 August 2009 to 31 August 2009 at NSR 8 showed the measured noise levels complied with the limit level in accordance with the EIAO-TM. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. Noise mitigation measures should be enhanced continuously due to this complaint.  Conclusion/Proposed Action The documented complaint for noise is considered to trigger the action level and the Contractor was reminded to enhance the on-site noise mitigation measures continuously. The enhanced mitigation measures are recommended as follows:  Movable noise barriers had been placed towards the direction of Long Bench Garden, particular for the pipe pile works in the portal.  Tools box talk for construction team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible.  The existing noisy 25 ton rock breaker had been replaced by the other breaker.  A joint filler wall had been fixed on the vertical face of west bound to absorb the noise generated towards Long Beach Garden.  Noise monitoring frequency was increased twice per	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					week by ET due to this complaint. The measured noise levels were complied with the limit level in accordance with the EIAO-TM. No further complaint was received from Long Bench Garden within the reporting month.	
10	CIR-009	22 August 2009 at Outfall	Public through SOR	A complaint (SOR ref: (DC/2007/12)/M45/500/02628) was received from Greenview Terrace regarding to daytime construction noise level (Leq(30min)) was sometimes exceeded 75 dB(A) at the outfall construction site. The complaint date was corresponded to 22 August 2009.	Findings/ Observations Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in July and August 2009. The monitoring results from 6 July 2009 to 31 August 2009 at NSR 9 showed the measured noise levels complied with the limit level in accordance with the EIAO-TM. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. Noise mitigation measures should be enhanced continuously due to this complaint.  Conclusion/Proposed Action The documented complaint for noise is considered to trigger the action level and the Contractor was reminded to enhance the on-site noise mitigation measures continuously. The enhanced mitigation measures are recommended as follows:  A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level.  The designated staff was reminded to record all the weather condition including raining and wind speed.  Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier	Same Case with Complaint No. 11

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					<ul> <li>should be placed to the breaking activities as much as possible.</li> <li>Movable noise barriers were placed on site and the movable noise barriers were also modified.</li> <li>Existing 25 ton rock breaker had been replaced by the another breaker.</li> <li>The breaking tap of the 25 ton rock breaker had been replaced by another breaking tap.</li> <li>A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace.</li> <li>From the additional monitoring data and monitoring data under regular EM&amp;A requirements, noise level (Leq, 30 min) from 6 July to 31 August 2009 was in the range of 71 to 74 dB(A) to the nearest integer. The noise monitoring frequency was maintained in twice per week to check whether the mitigation measures are effective. From the information of the Contractor, all the mitigation measures were implemented on 31 August 2009. Noise levels (Leq, 30 min) were also remeasured after the implementation of the mitigation measures. Noise level (Leq, 30 min) from 4 Sep to 28 Sep 2009 was in the range of 70 to 73 dB(A) to the nearest integer after the implementation of the mitigation measures. In our investigation, there was no exceedance of the measured noise level at Greenview Terrace.</li> </ul>	
11	CIR-010	24 September 2009 at Outfall	Public through SOR	A complaint (SOR ref: (DC/2007/12)/M45/500/02749) was received from Greenview Terrace regarding to daytime construction noise level	Findings/ Observations Soil nailing, excavation, rock breaking and drilling, loading and unloading the materials were generally observed during monitoring period in July and September 2009. The monitoring results from 6 July 2009 to 29 October 2009 at NSR 9 showed the	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
				(Leq(30min)) was sometimes exceeded 75 dB(A) at the outfall construction site.	measured noise levels complied with the limit level in accordance with the EIAO-TM. The contractor and the environmental team were also undertaken site investigation on the subject area in response to the complaint. Noise mitigation measures have been enhanced continuously due to this complaint.  Conclusion/Proposed Action The documented complaint for noise is considered to trigger the action level and the Contractor was reminded to enhance the on-site noise mitigation measures continuously. The enhanced mitigation measures were implemented as follows:  A staff from the Contractor was designated to take the reading of Leq (5mins) at the roof of Greenview Terrace. In case of the Leq (5min) exceed 73 dB(A), the Contractor would re-schedule the noisy plants to mitigate the escalation of noise level.  The designated staff was reminded to record all the weather condition including raining and wind speed.  Tools box talk for the Contractor's Team was carried out for reminding that the movable barrier should be placed to the breaking activities as much as possible.  Movable noise barriers were placed on site and the movable noise barriers were also modified.  Existing 25 ton rock breaker had been replaced by the another breaker.  The breaking tap of the 25 ton rock breaker had been replaced by another breaking tap.  A joint filler wall was installed at the vertical face of westbound to mitigate the noise rebound from the vertical face to high level of Greenview Terrace.	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					From the additional monitoring data above and the regular monitoring under EM&A requirements, the measured noise levels were complied with the limit level in accordance with the EIAO-TM. From the noise level on 25 September 2009 and 2 October 2009, the trend of noise level seemed to be increased since the decoration work at 14/F Greenview Terrace was the domain noise source during the monitoring. The noise level during that time would be considered for reference only. There was no exceedance of the measured noise level at Greenview Terrace in our investigation.	
12	CIR-011	2 October 2009 at I-3	Public through EPD	EPD has received a complaint (EPD ref: EP3/N22/RW/22016-09) regarding to construction dust at the Intake-3 on 2 October 2009.	Findings/ Observations  There is no representative air monitoring location as stated in the EM&A Manual. The contractor and the environmental team were undertaken site investigation on the subject area at 08-Oct-09 in response to the complaint. Air quality mitigation measures as recommended in EIA have been implemented by the Contractor. However, the dust impact by exposed area could be further improved. The mitigation measures during the site investigation were observed as follows:  • Water spraying was provided to the exposed surface.  • Wheel washing facilities for dump trucks was provided at the site exit.  • Water spraying was provided during excavation and loading/unloading works  Conclusion/Proposed Action	Closed
					Conclusion/Proposed Action  Based on our site inspection, the complaint for dust is	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					considered justifiable as it is due to windy erosion on the exposed surface. Air quality mitigation measures as recommended in EIA have also been implemented in order to control and minimise the air quality impact arising from the construction activities. In view of the recent dry season, the haul road and the exposed area would be dry very quickly. The Contractor was recommended to provide water spraying more frequently especially in the dry season.	
13	(DC/2007/12)/ M45/500/2923 & email on 11 November 2009 from MCSJV	9 November 2009 at Outfall	Greenview Terrace through EPD	Movable noise barrier was not placed close enough to the piling machine.	<ul> <li>Immediate Action         The rig was re-orientated and the barrier was placed closed to the drilling head.     </li> <li>Follow-up Action         <ul> <li>Training was conducted to the operator to ensure that the workers aware that the barrier should be placed closed not the drilling head not the machine itself.</li> <li>In order to prevent future occurrence, a permit to dig system was adopted. It should be checked by the Contractor and endorsed by the SOR before starting the drilling rig.</li> </ul> </li> <li>The follow up action was checked and a permit to dig system has been implemented.</li> </ul>	Closed
14	(DC/2007/12)/ M45/500/2978 & email on 19 November 2009 from MCSJV	18 November 2009 at Outfall	Greenview Terrace through EPD	Rock-breaking activity carried out in the eastern area of Portion D, closest to Greenview Terrace, was not totally screened and line of sight of the breaker was observed from the NSR.	Follow up Action  The bamboo scaffold was extended further away from stage 3 scaffold to further screen off the activities to the Greenview. The length of the extension was about 8 to 10 m.  A strong reminded was given to the relevant staff and sub-contractor and the barrier should be placed in the right orientation before breaking.	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					The mitigation measures were strictly followed as stated in the proposal.  The follow up action and relevant records was checked.	
15.	CIR-12	19 January 2010 at Intake-3 construction site	Public through EPD	EPD has received a public complaint (EPD ref: EP3/N22/RW/01270-10) regarding effluent discharge at Intake-3 construction site on 19 January 2010.	Findings/ Observations The effluent discharge on 19 January 2010 was due to the leakage of Gabion wall at I3. The water from the rock drilling work was flowing through the gap of the Gabion Wall to the watercourses at I3.  Immediate Action The contractor had sealed the gap at the Gabion Wall immediately after the incident.  Conclusion/Proposed Action Based on our site inspection, the complaint was due to leakage of Gabion wall. The area would be checked and maintained continuously to avoid recurrence case. The above identified mitigation measures have been implemented by the Contractor on 22 January 2010 and ET has also checked the implementation on 31 January 2010. The ET will closely inspect the watercourses during the routine site inspections and provide advice to the Contractor.	Closed.
16	CIR-13	19 January 2010 at Intake-3 construction site	Public through EPD	EPD has received a public complaint (EPD ref: EP3/N22/RW/01319-10) regarding daytime construction noise at Intake-3 construction site on 19 January 2010.	Findings/ Observations The monitoring station concerned is NSR6 (i.e. at Squatter facing to the construction site). Excavation, soil nailing, rock drilling and breaking, loading and unloading the materials were generally observed during monitoring period in mid-January 2010. The measured noise levels in January 2010 complied with the limit level in accordance with the EM&A Manual. These cases would also be treated as two action level exceedances on noise. The Contractor and the Environmental Team were also undertaken site	Closed.

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					<ul> <li>investigation on the subject area in response to complaint. The noise mitigation measures during the site investigation were recommended as follows:</li> <li>Sound insulation sheets were installed covering the working area during breaking and rock drilling in order to block the line of sight to the NSR.</li> <li>Noise insulation materials were used to enclose the drilling rig tightly.</li> <li>Conclusion/Proposed Action</li> <li>Based on the site inspection and monitoring results, the complaint was due to noise generated by rock breaking work. The identified mitigation measures have been discussed with the Contractor and the Contractor has submitted the remedial proposal. The proposal was implemented by the Contractor on 25 January 2010 and ET has also checked the implementation on 31 January 2010. The Contractor was also advised to review the mitigation measures from time to time near the NSR at I3. The ET will closely inspect the area during the routine site inspections and provide advice to the Contractor.</li> </ul>	
17	CIR-13	21 January 2010 at Intake-3 construction site	Public through EPD	EPD has received a public complaint (EPD ref: EP3/N22/RW/01444-10) regarding daytime construction noise at Intake-3 construction site on 21 January 2010.	Refers to Investigation /Mitigation Action for Complaint No. 16.	Closed
18	CIR-14	27 August 2010 near Intake-2 construction site	Public through DSD	DSD has received a public complaint regarding choked sewage manhole (MH1) at Lo Wai Road construction site on 27 August 2010.	Findings/ Observations During DSD inspection on 30 August 2010, improper discharge from the site to manhole, MH3, which is located downstream of MH1 was observed. ET had received those information from the Contractor on 09	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					September 2010. Site investigation was also carried out by SOR's representative with the Contractor on 01 September 2010. Checking with the site log, the construction activity at Lo Wai on 27 August 2010 was pipe jacking only. No site formation works was undertaken. The contractor and SOR's representative have undertaken site investigation on the subject area on 01 September 2010. On-site flow test at Portion G had conducted.  • Maeda works area is located at the lower section of Lo Wai Road and manhole MH3 is adjacent to the works area. MH1 (choked sewage manhole) is located at the upper section of Lo Wai Road. MH2 manhole is located middle section of Lo Wai Road. MH1 and MH2 are outside the works area.  • Water flow test for manhole MH2 and MH3 and no blockage was observed.  • Sewage overflow was found at MH1 during the joint site inspection on 01 September 2010  • It was reported that there were water pipes connected between the site and the MH3. Discharge was found in MH3 during DSD inspection.  • The contractor claimed that the purpose of the water pipes was to direct the storm water and underground water inside the concrete pipe "pipe jacking".  • There was no discharge license for that portion. The Contractor had stopped on 01 September 2010 the water pumping to MH3 and apply the discharge license for the Lo Wai site.	
					Conclusion/Proposed Action Based on the joint site inspection, the choked manhole MH1 was not due to works activities. The Contractor had clean up the choked manhole MH1	

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					and no sewage overflow from MH1 was observed. The Contractor was requested to divert the storm water to desilting system prior to discharge while no such discharge can be made until a valid discharge license is granted. The ET will closely inspect the vicinity area during the routine site inspections and provide advice to the Contractor as necessary.	
19&20	CIR-15	17 November 2010 at outfall construction site	Public through EPD	EPD has received a public complaint (EPD ref: EP3/N22/RW/24002-10 and EP3/N22/RW/24006-10) regarding daytime construction noise about derrick barge squeaking and rock breaking at Outfall construction site on 17 November 2010.	Findings/ Observations Drilling, excavation, marine mud dredging, rock breaking, mucking-out process and crane operation were observed during site inspections on 2 and 17 December 2010. The monitoring results measured on 15 November 2010 and 25 November at NSR 9 showed that the measured noise levels complied with the limit level (75 dB(A)) in accordance with the EIAO-TM. As part of the investigation of the noise complaints, the Contractor and the ET conducted additional site inspections and reviewed and audited the current noise mitigation practices and the Contractor's environmental performance on-site.  Conclusion / Proposed Action The documented complaints for noise triggered the action level of the noise monitoring. The Contractor had implemented the following on-site noise mitigation measures:  Erection of temporary noise insulation sheet at the rim of the spiral ramp construction site;  Moveable barriers for rock breaker;  Wrapping noise absorptive material at the rock breaker head;  Tailor made noise enclosure for drilling rig;  Semi-enclosed muck out process at muck hopper;	Closed

Complaint No.	Log Ref.	Date/Location	Complainant	Details of Complaint	Investigation / Mitigation Action	Status
					<ul> <li>Use of rock splitter (which is a relatively quieter method in contrast to rock breaker); and</li> <li>Noise insulation blanket enclosing the crane engine of derrick barge.</li> <li>Noise monitoring was increased to twice per week and the results were reported in the Complaint Investigation Report submitted on 24 December 2010. The measured noise level after implementation of the noise mitigation measures ranged from 69 to 73 dB(A) to the nearest integer and complied with the limit level in accordance with the EIAO-TM. The results showed that noise mitigation measures were effective. The contractor was advised to review the mitigation measures from time to time near the NSR 9. The ET would closely inspect the area during the routine site inspections and provide advice to the Contractor.</li> </ul>	

Signed by Environmental Team Leader:	Harften Cheor	Date:	1 January 2011	