MTR Corporation Limited

South Island Line (East)

Monthly EM&A Report No. 5

December 2011

Verified by:

Thomas Chan

Independent Environmental Checker

Date:

14 December 2011

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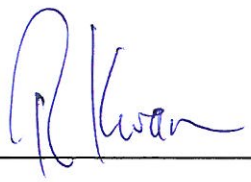
Certified by:



Richard Kwan

Environmental Team Leader

Date: 14 DEC 2011

EXECUTIVE SUMMARY

With the main civil works contracts of the South Island Line (East) (SIL(E)) Project awarded in May 2011, the commencement date of construction of the Project was on 25 June 2011. The Environmental Monitoring and Audit (EM&A) programme of the Project also commenced on 25 June 2011. This is the fifth Monthly EM&A Report for SIL(E) Project. The Report presents the results of EM&A works undertaken during the period of 1 November 2011 to 30 November 2011. The major construction activities in the reporting period included piling and slope stabilization works.

Impact monitoring for air quality and noise were conducted in the reporting period. No exceedance was found and there was no breach of Action / Limit Levels for air quality and noise. Impact water quality monitoring was undertaken at Aberdeen Channel in the reporting period. Exceedances in DO against Action/ Limit Levels were recorded and the exceedances were considered not related to the project works.

Two environmental complaints were received from EPD in the reporting period. Investigations have been carried out in accordance with the EM&A Manual and investigation reports have been sent to EPD. No notification of summon or prosecution related to the environmental issue was received in the reporting period.

Regular site inspections were conducted by the Environmental Team (ET) to check the implementation of environmental mitigation measures. No non-conformance to the environmental requirements was identified in the reporting period.

Future key issues envisaged in the coming month include noise and dust emission from site works. The ET will continue the implementation of the EM&A programme in accordance to the EM&A Manual.

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1 INTRODUCTION

1.1 Project Background

The South Island Line (East) (SIL(E)) of 7.0km approximately is a new medium capacity railway with stations at South Horizons (SOH), Lei Tung (LET), Wong Chuk Hang (WCH), Ocean Park (OCP) and Admiralty (ADM), comprising underground and elevated structures. A depot is required at Wong Chuk Hang to provide maintenance support for the SIL(E).

1.2 Project Programme

Main civil works contracts of the SIL(E) was awarded in May 2011. The commencement date of construction of the Project was on 25 June 2011. The construction of the Project is expected to complete in 2015.

1.3 Coverage of EM&A Report

The Environmental Monitoring and Audit (EM&A) programme of the Project commenced on 25 June 2011. This is the fifth Monthly Environmental Monitoring and Audit (EM&A) Report for the Project. The Report presents the results of EM&A undertaken during the period of 1 to 30 November 2011.

2 PROJECT INFORMATION

2.1 Project Organization and Management Structure

The project organization is shown in **Appendix A1**. Contacts of key personnel of the Project are shown in **Appendix A2**.

2.2 Construction Activities in the Reporting Month

Major construction activities carried out by the respective SIL(E) civil works contractors during the reporting period include:

Contract No. 901

Site	Construction Activities
Harcourt Garden	- ISL/TWL cofferdam - Piling at cooling tower - H-piles and plunge columns - Secant piles

Contract No. 902

Site	Construction Activities
Hong Kong Park Ventilation Shaft	- Trial pit excavation - LCSD cables diversion - Pipe-piling and sheet-piling for Stage 1a - Plant room excavation

Nam Fung Portal	- Hoarding erection - Temporary haul road construction - Bored piling works - Pipe piling for ventilation building & transition box - Soil nailing works opposite to Nam Fung Road
Chung Hom Shan (CHS) Magazine	- Construction of magazine structures - Construction of miscellaneous items for E&M installation

Contract No. 903

Site	Construction Activities
New OCP Site Office	- Demolition of temporary site office - Pre-drilling / ground investigation
WCH Station	- Pre-drilling / Ground Investigation - Bored piling/ installation of socket-H-piles - Pipe piling - Demolition of existing nullah wall and construction of new nullah wall - Reinstatement of nullah base slab - Slope stabilisation
Zone B (Ex-Canadian Site to OCP Station)	- Bored piling - Pile cap construction - Viaduct pier construction
Zone C (OCP Station to WCH Station)	- Pre-drilling/ Ground investigation/Utility diversion - Bored piling/ installation of socket-H-piles - Rising main change-over
Zone D (WCH Station to WCH nullah)	- Hoarding erection - Pre-drilling/ Ground Investigation - Cable diversion - Soil nailing - Excavation and slope stabilisation
Zone E (Aberdeen Channel)	- Pre-drilling/ Ground Investigation - Bored piling - Pile cap construction

Contract No. 904

Site	Construction Activities
Ex-Harbour Mission School	- Site clearance and formation - Pipe piling - Preparation work for demolition of caisson wall
Lee Wing Street	- Slope excavation - Slope protection works
LET Station Entrance A	- Site clearance and formation - Drainage construction - Excavation - Soil nailing
LET Station Entrance B	- Site clearance and preparation - Pipe piling
South Horizons	- Site clearance and formation - Water mains diversion - Installation of king post/soldier piles
Project site office at Ap Lei Chau Bridge Playground	- Establishment of welfare facility - Erection of car park canopy

Contract No. 907

Site	Construction Activities
WCH Depot	- Site formation and utility diversion - Bored piling - Pipe piling - Preparatory works for blasting - Demolition of existing hoarding and erection of new hoarding - Construction of bus terminus (EPIW) completed
Lee Nam Road Barging Facility	- Barging facility in operation

2.3 Construction Activities for the Coming Month

The scheduled major construction activities in the next reporting month are as follows:

Contract No. 901

Site	Construction Activities
Harcourt Garden	- ISL/TWL cofferdam - Piling at cooling tower - H-piles and plunge columns - Secant piles - Construction of site office

Contract No. 902

Site	Construction Activities
Hong Kong Park Ventilation Shaft	- Excavation and construction for plant room - Pipe piling / Sheet piling at the upper platform
Nam Fung Portal	- Hoarding erection - Temporary haul road construction - Pipe piling for ventilation building & transition box - Soil nailing opposite to Nam Fung Road
Chung Hom Shan Magazine	- Substantial completion of construction of magazine structures and miscellaneous items for E&M installation

Contract No. 903

Site	Construction Activities
New OCP Site Office	- Pre-drilling / ground investigation - Demolition of temporary site office - Bored piling
WCH Station	- Construction of footings / Bored piling - Installation of socket-H-piles - Pipe piling - Demolition of existing nullah wall & new south nullah wall excavation - Reinstatement of nullah base slab - Station pad footing
Zone B (Ex-Canadian Site to OCP Station)	- Bored piling - Pile cap construction - Segment erection
Zone C (OCP Station to WCH Station)	- Pre-drilling/ Ground investigation/ Utility diversion - Pipe piling

Site	Construction Activities
	- Bored piling - Pre-bored socket-H-piles - Construction of platform crossing nullah
Zone D (WCH Station to WCH nullah)	- Pre-drilling/ Ground investigation - Soil nailing and slope stabilisation - Bored piling - Pipe piling - Construction of pile cap
Zone E (Aberdeen Channel)	- Bored piling - Construction of pile cap

Contract No. 904

Site	Construction Activities
Ex-Harbour Mission School	- Site clearance and formation - Pipe piling - Excavation - Installation of anchor bolt and preparation work for demolition of caisson wall
Lee Wing Street	- Slope excavation - Slope protection works - Retaining wall extension
LET Station Entrance A	- Site clearance and formation - Drainage construction - Excavation - Soil nailing
LET Station Entrance B	- Site clearance and preparation - Construction of retaining wall
South Horizons	- Site clearance and formation - Water mains diversion - Installation of king post/ soldier piles
Project site office at Ap Lei Chau Bridge Playground	- Establishment of welfare facility - Erection of car park canopy

Contract No. 907

Site	Construction Activities
WCH Depot	- Bored piling - Pipe piling - Preparatory works for blasting
Lee Nam Road Barging Facility	- Barging facility in operation

2.4 Project Areas and Environmental Monitoring Locations

The works areas of the Project are shown in **Figures 1 and 2**.

The locations of environmental monitoring stations are shown in **Figures 3 to 9**. Tables 1 and 2 below shows the details of the active monitoring stations as reported in Sections 3.1 to 3.3 below.

Table 1 Summary of impact dust and noise monitoring stations

ID	Monitoring Station
Dust	
CD1	Wong Chuk Hang San Wai
CD2	Police College – Police Quarters
CD3	San Wui Commercial Society of HK Chan Pak Sha School
CD4	Shan On House
CD5*	South Horizons Phase IV – Block 25
Noise	
CN1	San Wui Commercial Society of HK Chan Pak Sha School (Educational Institution)
CN2	Holy Spirit Seminary (Education Institution)
CN3*	Shun Fung Building (Residential)
CN4*	South Horizons Phase IV – Block 25 Dover Court (Residential)
CN5*	TWGHs Jockey Club Rehabilitation Complex Block A (Convalescent Home)

* Location updated due to site access problem, or as per the agreement with the premises landlord, and agreed with EPD

Table 2 Summary of impact water quality monitoring stations

ID	Location	Easting	Northing
WM1	Aberdeen West Typhoon Shelter	833953	811923
WM2	Wong Chuk Hang Nullah	834547	811966
WM3	WSD Brick Hill Seawater Intake	834896	811567
WM4	Aberdeen South Typhoon Shelter	834761	811292
CS1	Control Station	832689	811967
CS2	Control Station	834852	810689

2.5 Summary of EM&A Requirements

The EM&A programme as specified in the EM&A Manual has been implemented during the construction stage.

In the reporting period, impact monitoring of LAeq, 30min noise levels was carried out at the monitoring locations as shown in Table 1 once every week. Also, 24-hour TSP monitoring was conducted at the monitoring locations as shown in Table 1 once every week. Impact water quality monitoring at Aberdeen Channel was also undertaken at the monitoring locations as shown in Table 2 three working days per week at mid-ebb and mid-flood tides.

Action and Limit Levels for construction noise and air quality as well as water quality are shown in Appendices B1 and B2 respectively. Should non-compliance of the criteria occurs, action in

accordance with the respective Event and Action Plans for construction noise, air quality and water quality in the EM&A Manual / Updated EM&A Manual should be carried out.

Monthly monitoring of the ardeid night roost location beside Wong Chuk Hang Nullah by qualified ecologist was also conducted.

In addition, regular site inspection to active works areas was carried out. The areas of inspection included the pollution control and mitigation measures within the site. Waste management and landscape and visual aspects were covered.

3 IMPACT MONITORING

3.1 Air Quality

Monitoring Methodology

24-hour TSP samples were collected by High Volume Sampler (Graseby-Andersen) following United Sates Environmental Protection Agency regulations.

The sampling procedure follows to that described in the App. B of Pt 50 in 40CFR Ch.1 (U.S. Environmental Protection Agency). TSP is sampled by drawing air through a conditioned, pre-weighed filter paper inside the high volume sampler at a controlled rate. After 24-hour sampling, the filter paper with retained particles is collected and returned to the laboratory for drying in a desiccators followed by weighing. TSP levels are calculated from the ratio of the mass of particulate retained on the filter paper to the total volume of air sampled.

The samplers have been properly maintained. Prior to dust monitoring commencing, appropriate checks have been made to ensure that all equipment and necessary power supply are in good working condition.

Calibration Requirements

The flow rate of the high volume sampler with mass flow controller is calibrated using an orifice calibrator. Initial calibration (five points) is conducted upon installation and prior to commissioning. Calibration will be carried out every six months. The calibration records are shown in **Appendix C**.

Monitoring Results

To examine the construction dust levels, 24-hour TSP monitoring was undertaken at the monitoring locations as shown in Table 1 according to the EM&A Manual.

Monitoring results are presented in the following table (see **Appendix D** for graphical plots). The 24-hour TSP levels were within the Action Level. No exceedance was found. This indicates that the construction activities did not have a noticeable adverse effect on the general air quality of the project areas.

Date	TSP (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)	Compliance (Yes/No)	Weather Condition
CD1 Wong Chuk Hang San Wai					
1-Nov	75.7	173	260	Yes	Cloudy
8-Nov	24.8	173	260	Yes	Cloudy
15-Nov	93.0	173	260	Yes	Fine
22-Nov	75.8	173	260	Yes	Fine
29-Nov	50.0	173	260	Yes	Fine
CD2 Police College – Police Quarters					
1-Nov	80.7	184	260	Yes	Cloudy
8-Nov	33.6	184	260	Yes	Cloudy
15-Nov	110.1	184	260	Yes	Fine
22-Nov	89.7	184	260	Yes	Fine
29-Nov	61.4	184	260	Yes	Fine
CD3 San Wui Commercial Society of HK Chan Pak Sha School					
1-Nov	87.5	169	260	Yes	Cloudy
8-Nov	34.3	169	260	Yes	Cloudy
15-Nov	91.6	169	260	Yes	Fine
22-Nov	82.6	169	260	Yes	Fine
29-Nov	54.2	169	260	Yes	Fine
CD4 Shan On House					
1-Nov	69.1	176	260	Yes	Cloudy
8-Nov	23.8	176	260	Yes	Cloudy
15-Nov	47.1	176	260	Yes	Fine
21-Nov	68.1	176	260	Yes	Fine
28-Nov	84	176	260	Yes	Fine
CD5 South Horizons Phase IV – Block 25					
1-Nov	81.3	169	260	Yes	Cloudy
7-Nov	37.4	169	260	Yes	Fine
15-Nov	71.9	169	260	Yes	Fine
21-Nov	96.4	169	260	Yes	Fine
28-Nov	123.5	169	260	Yes	Fine

Note: Please refer to Figures 3 to 6 for the location of construction air quality monitoring stations

3.2 Noise

Monitoring Methodology

Monitoring was conducted using B&K sound analysis equipment – B&K SLM 2250. Microphone was extended 1 meter from building facades and oriented towards the works area.

Calibration Requirements

B&K 2250 sound level meters and B&K 4231 calibrators which complied with the International Electrotechnical Commission Publication 651:1979 (Type 1) and 804:1985 (Type 1), specification as referred to in the Technical Memoranda to the NCO were used for the impact monitoring. The sound level meters and calibrators are verified by the certified laboratory or manufacturer once every two years to ensure they perform to the same level of accuracy as stated in the manufacturer's specifications. The calibration records are shown in **Appendix C**.

Immediately prior to and following each set of measurements at any NSR, the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. If the calibration levels before and after the measurement differs by more than 1.0dB, the measurement shall be repeated to obtain a reliable result (note: maximum deviation during this initial baseline monitoring period was 0.3dB). Periods of prolonged or repeated overloading of the sound level meter detector were avoided by setting the meter with adequate headroom prior to commencing measurements. Measurements were recorded to the nearest 0.1 dB, with values of 0.05 being rounded up.

Monitoring Results

Impact monitoring of LAeq, 30min noise levels was undertaken to measure construction noise levels in accordance with the Updated EM&A Manual at the monitoring locations as shown in Table 1. The monitoring was conducted during the course of construction works, please refer to S2.2 for major construction activities of the respective SIL(E) civil works contracts in the reporting month. Weather conditions throughout the monitoring period were mild with light wind of not exceeding 2-3m/s on average.

Monitoring results are presented in the following table (see **Appendix D** for graphical plots). No exceedance was found. It was noted that the noise levels recorded at San Wui Commercial Society of HK Chan Pak Sha School on 10, 17, 23 and 30 November 2011 were of 74.2dBA to 75.0dBA. Though this exceeded the construction noise criteria of 70dBA, this was in line with the updated prediction of noise levels as contained in the construction noise mitigation measures plan submitted under the Environmental Permit and thus complied with the Limit Level as defined in the updated EM&A Manual. No further action was taken.

Date	Time	LAeq (dBA)	Limit Level (dBA)	Compliance (Yes/No)	Weather Condition
CN1 San Wui Commercial Society of HK Chan Pak Sha School					
3-Nov	15:50	70.2	70#	Yes	Cloudy
10-Nov	16:00	74.4	70#	Yes	Cloudy
17-Nov	14:45	74.5	70#	Yes	Cloudy
23-Nov	14:10	74.2	70#	Yes	Fine
30-Nov	14:10	75.0	70#	Yes	Fine
CN2 Holy Spirit Seminary					
2-Nov	10:30	67.7	70#	Yes	Cloudy
9-Nov	16:20	67.8	70#	Yes	Cloudy
16-Nov	10:40	68.6	70#	Yes	Cloudy
23-Nov	10:45	67.3	70#	Yes	Fine
30-Nov	15:55	69.8	70#	Yes	Fine
CN3 Shun Fung Building					
8-Nov	11:00	64.7	75#	Yes	Cloudy
15-Nov	10:00	67.5	75#	Yes	Fine
21-Nov	11:25	64.8	75#	Yes	Fine
29-Nov	10:20	65.1	75#	Yes	Fine
CN4 South Horizons Phase IV – Block 25 Dover Court					
7-Nov	16:45	66.7	75#	Yes	Fine
15-Nov	9:00	70.2	75#	Yes	Fine
21-Nov	10:25	72.8	75#	Yes	Fine
28-Nov	10:20	69.1	75#	Yes	Fine

Date	Time	LAeq (dBA)	Limit Level (dBA)	Compliance (Yes/No)	Weather Condition
CN5 TWGHs Jockey Club Rehabilitation Complex Block A					
3-Nov	11:20	71.5	75	Yes	Cloudy
10-Nov	10:45	71.0	75	Yes	Cloudy
16-Nov	9:50	73.0	75	Yes	Cloudy
24-Nov	16:00	71.4	75	Yes	Fine
30-Nov	15:05	72.3	75	Yes	Fine

Note: (#)Or updated prediction of noise levels as contained in the construction noise mitigation measures plan
Please refer to Figures 7 to 8 for the location of construction noise monitoring stations

3.3 Water Quality

Monitoring Methodology

Water quality was monitored in terms of the following parameters: Dissolved Oxygen (DO, mg/L) and Dissolved Oxygen Saturation (DO %), temperature (^{o}C), pH, turbidity (NTU), salinity (ppt), suspended solids (mg/L) and water depth (m). All parameters were measured in-situ whereas SS shall be determined by the laboratory.

Water samples were taken with a water sampler, consisting of a transparent PVC cylinder of 2 litres that can be effectively sealed with cups at both ends. The water sampler has a positive latch system to keep it open and prevent premature closure until released by a messenger when the sampler arrives is at the pre-determined depth.

Measurement was taken at 3 water depths, namely, 1m below water surface, mid-depth and 1m above sea bed, except where the water depth less that 6m, the mid-depth station may be omitted. Should the water depth be less than 3m, only the mid-depth station was monitored.

Duplicate in-situ measurements and samples were collected and analyzed to ensure a robust statistically interpretable dataset. Where the difference in value between the first and second measurement of DO or turbidity parameters is more than 25% of the value of the first reading, the reading was discarded and further readings were taken.

Water samples for all monitoring parameters were collected, stored, preserved and analyzed according to APHA Standard Methods. Water samples were stored in high-density polythene bottles, packed in ice and delivered to the laboratory of ETS-Testconsult Limited, a HOKLAS accredited laboratory.

The SS determination work was start within 24 hours after collection of the water samples. The SS analyses followed the standard method APHA 2540D with a detection limit of 1mg/L as described in APHA Standard Methods for the Examination of Water and Wastewater.

A digital depth detector was employed to determine the water depth at selected stations when flows permit.

Calibration Requirements

On-site monitoring equipment namely the salinity meter, pH meter, turbidity meter, dissolved oxygen meter and temperature meter were calibrated before use. The methodologies for the calibration are referred to the instruction manual provided by the manufactures respectively. The calibration records are shown in **Appendix C**. Response of sensors and electrodes was checked with certified standard solutions before each use.

Monitoring Results

Impact water quality monitoring was undertaken in accordance with the EM&A Manual at the six designated monitoring locations at Aberdeen Channel as shown in Table 2 during the reporting period. Monitoring locations WM1-WM4 cover the Aberdeen West Typhoon Shelter, Wong Chuk Hang Nullah, WSD Brick Hill Seawater intake and Aberdeen South Typhoon Shelter while monitoring location CS1 and CS2 are the control stations. CS1 and CS2 are the upstream control stations for the Ebb and Flood tide conditions respectively.

Monitoring results and graphical plots are presented in **Appendix D**.

3.4 Action taken in Event of Exceedence

There was no exceedance in air quality and noise monitoring parameters recorded in the reporting period, therefore no action was taken.

Exceedances in DO against Action/ Limit Levels were recorded at monitoring stations WM1 to WM4 on 2nd, 4th, 7th, 9th, 11th, 14th, 16th, 18th, 21st, 23rd, 25th, 28th and 30th in the reporting month. The exceedances were considered not related to the project works. Please refer to **Appendix E** for the review of exceedance in water quality monitoring.

4 LANDSCAPE AND VISUAL

4.1 EM&A Requirements

The landscape and visual mitigation measures undertaken by the contractors during the construction phase have been audited on a regular basis according to the EM&A Manual.

4.2 Site Audit Results

Regular inspections and audits were conducted by the Certified Arborist as required by the EP and it was found that the transplanting works and the tree protection works being carried out by the civil works and transplantation contractors were in accordance with the EP/ EIA. No non compliance was identified in the reporting period.

Retained Trees

No immediate hazards were noted for any of the OVTs during reporting period.

Health conditions of the two retained and pruned trees, *Ficus elastica*, located at Wong Chuk Hang San Wai have been monitored. The contractor had enhanced the tree protection zone and was reminded to properly maintain the protection zone.

Transplanted Tree

Total of 399 trees of the SIL(E) had been transplanted as of the reporting month. They were mostly transplanted to the holding nursery at Chung Hom Shan and Kellett Bay, permanent receptor sites such as Lok Ma Chau or in-situ under project areas.

5 ECOLOGY

5.1 EM&A Requirements

Auditing of the ecological mitigation measures during the construction phase have been carried out on a regular basis according to the EM&A Manual.

5.2 Site Audit Results

Ardeid Night Roost

Regular inspections to the works areas around the ardeid night roost have been conducted by the ecologist to check the ecological mitigation measures with regard to the ardeids at Wong Chuk Hang Nullah. Inspections of the ardeid night roost have been made for any active ardeid nests. Whilst ardeids have never been recorded nesting at this site, precautionary checks for active nests or signs of breeding have been made.

Monthly monitoring of the ardeid night roost location was also conducted by the ecologist from a vantage point, the Ap Lei Chau Bridge (on the Wong Chuk Hang side), with an unobstructed view over the area. According to the EM&A Manual, the surveys have been commenced approximately one hour before sunset and continue for 20 minutes after sunset, or until nightfall, which comes sooner. Any aggregation of night roosting ardeid in the degraded woodland or adjacent area have been located and counted.

The monthly night ardeid survey was conducted on 16 November 2011 at 5:45 p.m. A total of 527 ardeids, all of which were Little Egrets, arrived at the roost location at Wong Chuk Hang Nullah and no ardeid breeding behaviour was recorded during the monitoring survey.

Proper tree protection measures have been implemented as practical as possible by the contractor to the current and potential roost trees retained on site. However, potential risks of some of these slope trees were noted and these slope trees had been removed due to the safety concerns.

Plant Species of Conservation Interest

Detailed field survey led by the ecologist was undertaken in March and early May 2011 to ascertain the presence of any rare or protected flora species to be affected. The surveys covered all above ground works areas of the project and the survey results were presented in the Detailed Transplanting Baseline Survey Report submitted under the Environmental Permit.

As in the Detailed Transplantating Baseline Survey Report, two plant species of conservation interest recorded in the degraded woodland to the south of Wong Chuk Hang Nullah, namely herb *Houttuynia cordata* and tree *Aquilaria sinensis* (including seedlings), and planted young tree *Ailanthus fordii* (including seedlings) recorded in a plantation area near Hong Kong Park will be influenced by the project works. Other plant species of conservation interest identified will be protected on-site and appropriate tree protection measures would be established if needed. Health condition of the most plant species generally remained unchanged as in the Detailed Transplanting Baseline Survey Report. However, it is noted that health condition of *Ailanthus fordii* (tree no. OCP-T2231), which is outside the active works area at Wong Chuk Hang San Wai, was found to be declining. Two *Aquilaria sinensis*, which are located outside the active works area to the north of Nam Fung Road, were also found in very poor health condition and suspected to be dead specimens.

Regular monitoring on the transplanted *H. cordata*, *Ai. fordii* and the root-pruned *Aq. sinensis* has been conducted. The transplanted *H. cordata* and *Ai. fordii* were in fair health condition and protection fences have been maintained around the receptor sites. The two root-pruned, *Aq. sinensis*, have remained in fair health condition and have been supported by guying to ensure their stability on the slope.

6 WASTE MANAGEMENT

Mitigation measures on waste management have been implemented in accordance with the site waste management plans for the respective civil works contracts. The C&D materials have been disposed of at the public fill reception facilities while C&D wastes have been disposed of at the landfills. Quantities of wastes disposed in the reporting period are summarized in the following table:

Contract No	Inert C&D Materials Disposed at Public Fill (m^3)	Inert C&D Materials Reused (m^3)	Non-inert Waste Disposed at Landfill (m^3)	Chemical Waste to Designated Treatment Facility (litre)
Reporting Period: November 2011				
Contract 901	0	1,398	50	0
Contract 902	1,128	1,794	144	0
Contract 903	0	5,052	119	652
Contract 904	8,537	42	24	0
Contract 907	24,511	151	148	1,200

7 RECORD OF ENVIRONMENTAL COMPLAINTS

Two environmental complaints were referred from EPD in the reporting period:-

1. A complaint was referred from EPD on 4 November 2011 regarding percussive piling noise from the construction site at Hong Kong Park.

   It was noted from site investigations that the major construction activities involved pipe piling works and trenching works for utilities diversion and no percussive piling was undergone. Nevertheless, the above pipe piling works activities have been finished in early November 2011. Extensive noise mitigation measures including fixed and movable noise barriers as well as noise insulating fabric were implemented on site as appropriate.

   The investigation report had been sent to EPD.

2. A complaint was referred from EPD on 9 November 2011 regarding daytime construction noise in early morning (7a.m.) from the construction site at ex-Wong Chuk Hang Estate.

   It was noted from the site investigations that proper noise mitigation measures including acoustic fabric and movable noise barriers have been implemented. In addition, further re-sequencing of the works such that those relatively noisy works at the inner and perimeter of the site start after 7:30a.m. and 8:00a.m. respectively has been adopted in order to minimize the noise impact.

   The investigation report had been sent to EPD.

8 RECORD OF NON-COMPLIANCES

As detailed in S3.4, exceedances in water quality monitoring parameters against Action/ Limit Levels were recorded in the reporting month. The exceedances were considered not related to the project works. There was no other non-compliance identified in the reporting period.

9 RECORD OF NOTIFICATIONS OF SUMMONS AND PROSECUTIONS

No summon or prosecution related to environmental issue was received or made against the Project in the reporting period.

10 STATUS OF STATUTORY SUBMISSIONS

10.1 Submissions required under Environmental Permit

A summary of the status of submissions required under the SIL(E) Environmental Permit as of 30 November 2011 is shown below:

EP Clause No.	Description of Submission	Status
1.11	Commencement date of construction	Submitted on 25 May 2011
1.14	Commencement date of operation	To be submitted no later than 2 months prior to commencement of operation of the Project
2.1 & 2.2	Employment of IEC & ET	Submitted on 6 Apr 2011
2.3	Employment of Qualified Ecologist	Submitted on 6 Apr 2011
2.4	Employment of Certified Arborist	Submitted on 6 Apr 2011
2.5	Management organization of main construction companies	Submitted on 9 Jun 2011
2.6	Construction programme & EP submission schedule	Submitted on 10 Jun 2011
2.7	Set up of Community Liaison Group	Submitted on 20 Apr 2011
2.8	Updated EM&A Manual	Submitted on 16 May 2011
2.9	Construction noise mitigation measures plan	Contract 903: Resubmitted on 28 Jul 2011 Contract 907: Resubmitted on 5 Aug 2011 Contract 904 (South Horizons): Revised plan sent for agreement on 29 Nov 2011 Contract 904 (Lei Tung): Submitted on 17 Aug 2011
2.11	Construction & demolition materials management plan for barging points	Further comments received on 10 Nov 2011

EP Clause No.	Description of Submission	Status
2.13 (a)	Ecological planting & landscape plan	Revised plan sent for agreement on 25 Nov 2011 and further comments received on 29 Nov 2011
2.13 (b)	As built drawings of ecological planting & landscape works	To be submitted no later than 1 month after completion of planting works (at Wong Chuk Hang nullah)
2.13 (c)	Final monitoring report of ecological planting & landscape works	To be submitted no later than 1 month after completion of the 3-year post planting care and maintenance period
2.14 (a)	Detailed transplanting baseline survey report for plant species of conservation interest	Resubmitted on 8 Sep 2011
2.14 (b)	Transplantation proposal for plant species of conservation interest	H. cordata: EP Condition fulfilled dated 15 Sep 2011 Aq. sinensis: Further comments received on 25 Oct 2011 Ai. fordii: EP Condition fulfilled dated 18 Oct 2011
2.14 (c)	As built drawings of transplanting works for plant species of conservation interest	H. cordata: EP Condition fulfilled dated 15 Sep 2011 Aq. sinensis: To be submitted no later than 1 month after completion of transplanting works Ai. fordii: Submitted on 24 Nov 2011
2.15	Tree protection plan	EP Condition fulfilled dated 12 Aug 2011
2.16(a)	Silt curtain plan	EP Condition fulfilled dated 12 Aug 2011
2.19	Operational groundborne noise review plan	To be submitted no later than 1 month after completion of corresponding parts of tunnel excavation
2.20	Operational groundborne noise mitigation measures plan	To be submitted no later than 1 month prior to installation of rail tracks
2.21	As built drawings for operational groundborne noise mitigation measures	To be submitted no later than 1 month after completion of tracks installation

EP Clause No.	Description of Submission	Status
2.23	As built drawings for operational airborne noise mitigation measures on viaduct section	To be submitted no later than 1 month after completion of noise mitigation measures installation on viaduct section
2.24	Noise performance test report	To be submitted no later than 1 month prior to commencement of operation of the Project
2.25	Fixed plant noise audit report	To be submitted no later than 1 month prior to commencement of operation of the Project
2.26	Visual & landscape plan	To be submitted no later than 1 month before commencement of corresponding parts of landscape works
3.3	Baseline monitoring report	Revised report (amendment pages) sent for agreement on 30 Sep 2011
3.4	Monthly EM&A reports	Submit within 2 weeks after the end of the reporting month
4.2	Internet address of EM&A and project data	Submitted on 25 Jul 2011

10.2 Statutory Permits and Licenses

A summary of the status of all relevant environmental permit and licenses as of 30 November 2011 is shown below:

Description		Effective Date	Expiry Date
Environmental Permit for South Island Line (East)	EP-407/2010	8/12/2010	N/A
Application for Variation of Environmental Permit No. EP-407/2010		Application submitted on 28/11/2011	N/A
Contract 901			
Chemical Waste Producer Licence	5213-124-K3004-01	23/5/2011	N/A
Waste Disposal	7012859	1/6/2011	N/A
Water Discharge Licence	WT00009466-2011	4/7/2011	30/7/2016
Construction Noise Permit (CNP) for Harcourt Road	GW-RS0739-11	11/8/2011	31/1/2012
CNP for covered walkway		Application submitted on 15/11/2011	Rejected
Contract 902			
Chemical Waste Producer Licence	5213-175-N2206-12	24/6/2011	N/A
Chemical Waste Producer Licence	5213-124-N2345-02	28/10/2011	N/A

Description		Effective Date	Expiry Date
Waste Disposal	7012912	26/5/2011	N/A
Water Discharge Licence for HK Park	WT00009688-2011	22/7/2011	30/7/2016
Water Discharge Licence for Nam Fung Path	WT00009749-2011	22/7/2011	30/7/2016
Water Discharge Licence for CHS Magazine	WT00009842-2011	11/8/2011	31/8/2016
Water Discharge Licence for Telegraph Bay Barging Point	WT00010649-2011	27/10/2011	31/10/2016
CNP for Nam Fung Path	GW-RS0755-11	19/08/2011	19/1/2012
Contract 903			
Chemical Waste Producer Licence	5213-175-L2174-31	14/6/2011	N/A
Chemical Waste Producer Licence	5213-175-L2174-32	30/6/2011	N/A
Chemical Waste Producer Licence	5213-175-L2174-33	30/6/2011	N/A
Chemical Waste Producer Licence	5213-175-L2174-34	30/6/2011	N/A
Chemical Waste Producer Licence	5213-175-L2174-35	30/6/2011	N/A
Waste Disposal	7012721	12/5/2011	N/A
Water Discharge Licence for Ap Lei Chau (ALC) Bridge	WT00009838-2011	5/8/2011	31/8/2016
Water Discharge Licence for WCH Station	WT00009928-2011	16/8/2011	31/8/2016
Water Discharge Licence for Zone B	WT00009931-2011	16/8/2011	31/8/2016
Water Discharge Licence for OCP station	WT00010501-2011	3/10/2011	31/10/2016
Water Discharge Licence for Zone D	WT00010319-2011	3/10/2011	31/10/2016
Water Discharge Licence for Zone C	WT00010648-2011	24/10/2011	31/10/2016
CNP for WCH station	GW-RS0674-11	29/7/2011	Cancelled on 27/10/2011
CNP for Zone E	GW-RS0747-11	16/8/2011	Cancelled on 19/9/2011
CNP for OCP station	GW-RS0750-11	19/8/2011	14/2/2012
CNP for ALC Bridge	GW-RS0842-11	19/9/2011	Cancelled on 25/10/2011
CNP for Zone B	GW-RS0920-11	12/10/2011	Cancelled on 8/11/2011
CNP for WCH station (Designated Area)	GW-RS0974-11	27/10/2011	Cancelled on 11/11/2011
CNP for WCH station (Non Designated Area)	GW-RS0976-11	27/11/2011	Cancelled on 11/11/2011
CNP for Zone D	GW-RS0999-11	4/11/2011	3/5/2012
CNP for Zone E	GW-RS1016-11	11/11/2011	9/5/2012
CNP for WCH station and Zone C	GW-RS1020-11	11/11/2011	10/3/2012
CNP for Zone E	GW-RS1071-11	18/11/2011	17/5/2012
CNP for Zone C and WCH station	338076	Application submitted on 18/11/2011	Pending
CNP for Zone C	338399	Application submitted on 25/11/2011	Pending
Contract 904			
Chemical Waste Producer License for ALC Bridge Rd near Sham Wan Towers	5111-174-L2758-04	4/8/2011	N/A
Chemical Waste Producer License for ALC Bridge Rd near Harbour Mission School	5111-174-L2758-03	4/8/2011	N/A
Chemical Waste Producer License for ALC Main Street near Sunny Court	5111-174-L2758-05	4/8/2011	N/A

Description		Effective Date	Expiry Date
Chemical Waste Producer License for Lei Tung Estate Rd near Kaifong Primary School	5111-174-L2758-02	4/8/2011	N/A
Chemical Waste Producer License for Lee Nam Rd Sitting Out Area	5111-174-L2758-01	4/8/2011	N/A
Chemical Waste Producer License for Lee Nam Rd Sitting Out Area No. 2	5111-174-L2758-07	4/8/2011	N/A
Chemical Waste Producer License for Yi Nam Rd intersect with Lee Nam Rd & SOH Drive	5111-174-L2758-06	4/8/2011	N/A
Waste Disposal	7012979	25/6/2011	N/A
Water Discharge License for ALC Bridge Rd near Sham Wan Towers	WT00009781-2011	5/8/2011	31/8/2016
Water Discharge License for ALC Bridge Rd near Harbour Mission School	WT00009778-2011	5/8/2011	31/8/2016
Water Discharge License for ALC Main Street near Sunny Court	WT00009777-2011	5/8/2011	31/8/2016
Water Discharge License for Lei Tung Estate Rd near Kaifong Primary School	WT00009780-2011	5/8/2011	31/8/2016
Water Discharge License for Lee Nam Rd Sitting Out Area	WT00009779-2011	5/8/2011	31/8/2016
Water Discharge License for Lee Nam Rd Sitting Out Area No. 2	WT00009783-2011	5/8/2011	31/8/2016
Water Discharge License for Yi Nam Rd intersect with Lee Nam Rd & SOH Drive	WT00009775-2011	5/8/2011	31/8/2016
CNP for ALC Bridge Playground	GW-RS0700-11	5/8/2011	4/2/2012
CNP for ALC Bridge Road	GW-RS0953-11	1/11/2011	31/12/2011
CNP for Lee Nam Road near Horizon Plaza	GW-RS1090-11	28/11/2011	28/2/2012
CNP for Main Street, Ap Lei Chau	GW-RS1089-11	28/11/2011	10/12/2012
Contract 907			
Chemical Waste Producer Licence	5113-175-C3675-01	24/6/2011	N/A
Waste Disposal	7012950	31/5/2011	N/A
Waste Disposal for barges	7013400	26/8/2011	N/A
Water Discharge Licence for barging point	WT00009896-2011	11/8/2011	31/8/2016
Water Discharge Licence for WCH Depot	WT00010365-2011	21/9/2011	30/9/2016
Water Discharge Licence for bus terminus	WT00010366-2011	21/9/2011	30/9/2016

11 SITE INSPECTIONS

11.1 Implementation of Environmental Mitigation Measures

Regular site inspections were undertaken by the ET in accordance with the EM&A Manual to check the implementation of environmental mitigation measures in the EIA. The contractors' performance on environmental matters was assessed. The environmental mitigation measures are being implemented by the civil works contractors where appropriate.

11.2 Observations

The findings from the site inspections and the associated recommendations on improvement to the environmental protection and pollution control works were raised to the contractors for reference and/ or action. Observations against the implementation of the mitigation measures recommended in the EP/ EIA are summarized as follows:

Item	Description	Follow up Status
	Contract 901	
1	The contractor was reminded to provide drip trays for chemicals and set up the chemical waste store.	The chemical waste store has been set up.
2	The contractor was reminded to segregate C&D waste and general refuse properly. Proper labeling should be provided at sorting area.	Improved and standard to be maintained.
3	The contractor was reminded to improve the site drainage system to divert the surface runoff to wastewater treatment facilities.	On-going
4	The contractor was reminded to remove the sewage of temporary toilet on a regular basis to avoid overflow.	On-going
5	The contractor was reminded to improve the tree protection works and keep tree protection zone free of materials stacking.	Improved and standard to be maintained.
6	The contractor was reminded to spray water to active works areas and cover the stockpiles properly for dust suppression.	On-going
7	The contractor was reminded to display copy of EP at the site entrance.	Improved and standard to be maintained.
	Contract 902	
1	The contractor was reminded to provide drip trays for chemicals.	Improved and standard to be maintained
2	The contractor was reminded to properly maintain the site drainage system and provide adequate silt removal facilities.	On-going
3	The contractor was reminded to properly maintain the tree protection zone.	On-going
4	The contractor was reminded to spray water to the haul road and during handling of dusty materials for dust suppression.	On-going
5	The contractor was reminded to cover stockpiling or remove them as soon as possible.	Improved and standard to be maintained
6	The contractor is reminded to provide adequate temporary noise mitigation measures.	On-going
	Contract 903	
1	The contractor was reminded to provide drip tray for chemicals.	Ongoing
2	The contractor was reminded to provide appropriate labels for the chemical waste in the chemical waste store.	Ongoing
3	The contractor was reminded to improve housekeeping of the site.	Improved and standard to be maintained
4	The contractor was reminded to enhance the site drainage control on the temporary working platform in the nullah. Sand bags and bunds had been provided and the contractor would monitor closely ensuring that the mitigation measures are properly maintained.	Ongoing
5	The contractor was reminded to improve the tree protection works.	On-going
6	Water spraying system has been installed by the contractor at the WCH station area for dust suppression.	Improved and standard to be maintained

Item	Description	Follow up Status
	Contract 904	
1	The contractor was reminded to provide drip trays for chemicals and remove stagnant water inside.	Improved and standard to be maintained
2	The contractor was reminded to maintain good housekeeping.	Improved and standard to be maintained
3	The contractor was reminded to properly maintain the site drainage system and provide adequate silt removal facilities.	On-going
4	The contractor was reminded to improve dust suppression measures.	On-going
5	The contractor was reminded to improve wheel washing facilities	On-going
6	The contractor was reminded to provide adequate temporary noise mitigation measures.	On-going
	Contract 907	
1	The contractor was reminded to provide drip tray for chemicals.	On-going
2	The contractor was reminded to provide drip tray / tarpaulin sheet during equipment maintenance works to prevent oil leakage.	On-going
3	The contractor was reminded to provide appropriate labels for the chemical waste in the chemical waste store.	Improved and standard to be maintained
4	The contractor was reminded to maintain good housekeeping.	On-going
5	The contractor was reminded to spray water to the haul/ access roads for dust suppression.	Improved and standard to be maintained
6	Movable noise barriers and acoustic fabric have been provided for the designated PMEs and along the site boundary respectively. Acoustic fabric has also been erected next to the rock breaking works near the Police Quarters and along Nam Long Shan Road. The contractor was reminded to utilize the movable barrier for the breaking works.	On-going

11.3 Solid and Liquid Waste Management Status

Base on the findings of the site inspections, the Contractors' performance in solid and liquid waste management were acceptable and compliance with the EIA requirements were demonstrated. The current management standard should be maintained.

11.4 Other Notable Events

IEC Site Inspections

The IEC conducted site inspections for respective works areas on 9, 14, 17, 23 and 29 November 2011. Observation was made for Contract 903 regarding the site drainage control on the temporary working platform in the nullah. Other minor irregularities including provision of movable noise barriers as necessary and enhancing dust suppression measures were observed during the site inspections. Follow up actions had been taken by the respective civil works contractors.

12 FUTURE KEY ISSUES

Future key issues envisaged in the coming month include noise and dust emission from site works, disposal of C&D wastes arising as well as tree protection on site. The ET will continue the implementation of the EM&A programme in accordance to the EM&A Manual.

13 CONCLUSIONS

It is concluded from the environmental monitoring and audit works for the SIL(E) Project that the construction works were undertaken in an appropriately environmentally sensitive manner in the reporting period. The environmental protection and pollution control measures provided by the respective civil works contractors were generally acceptable apart from some minor irregularities which were rectified timely by the contractors.

The ET will continue the implementation of the EM&A programme in accordance to the EM&A Manual and to a level consistent with MTRCL's Corporate Sustainability Policy.

FIGURES

Figure 1 – Works Areas of the Project (1 of 2)

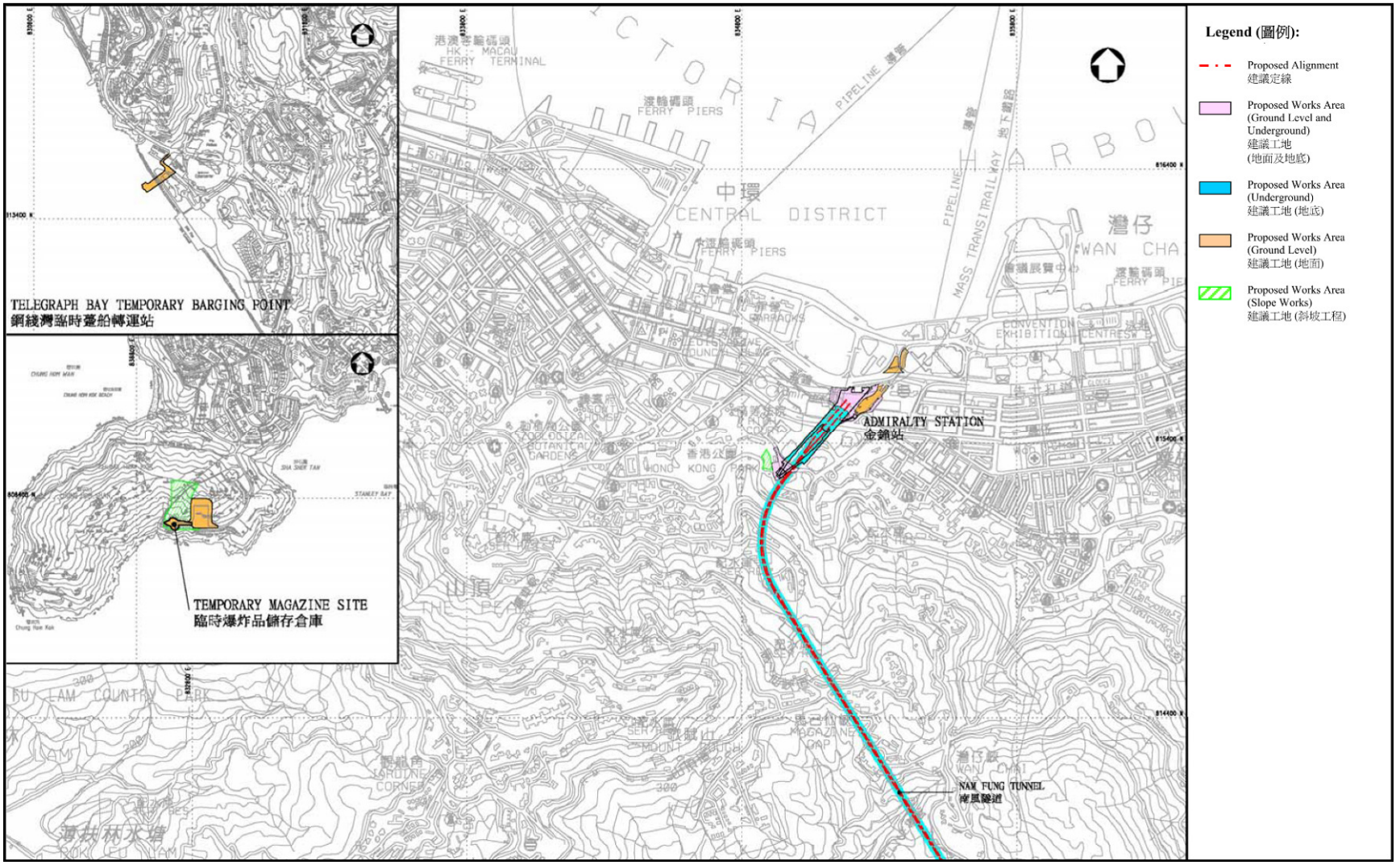


Figure 2 – Works Areas of the Project (2 of 2)

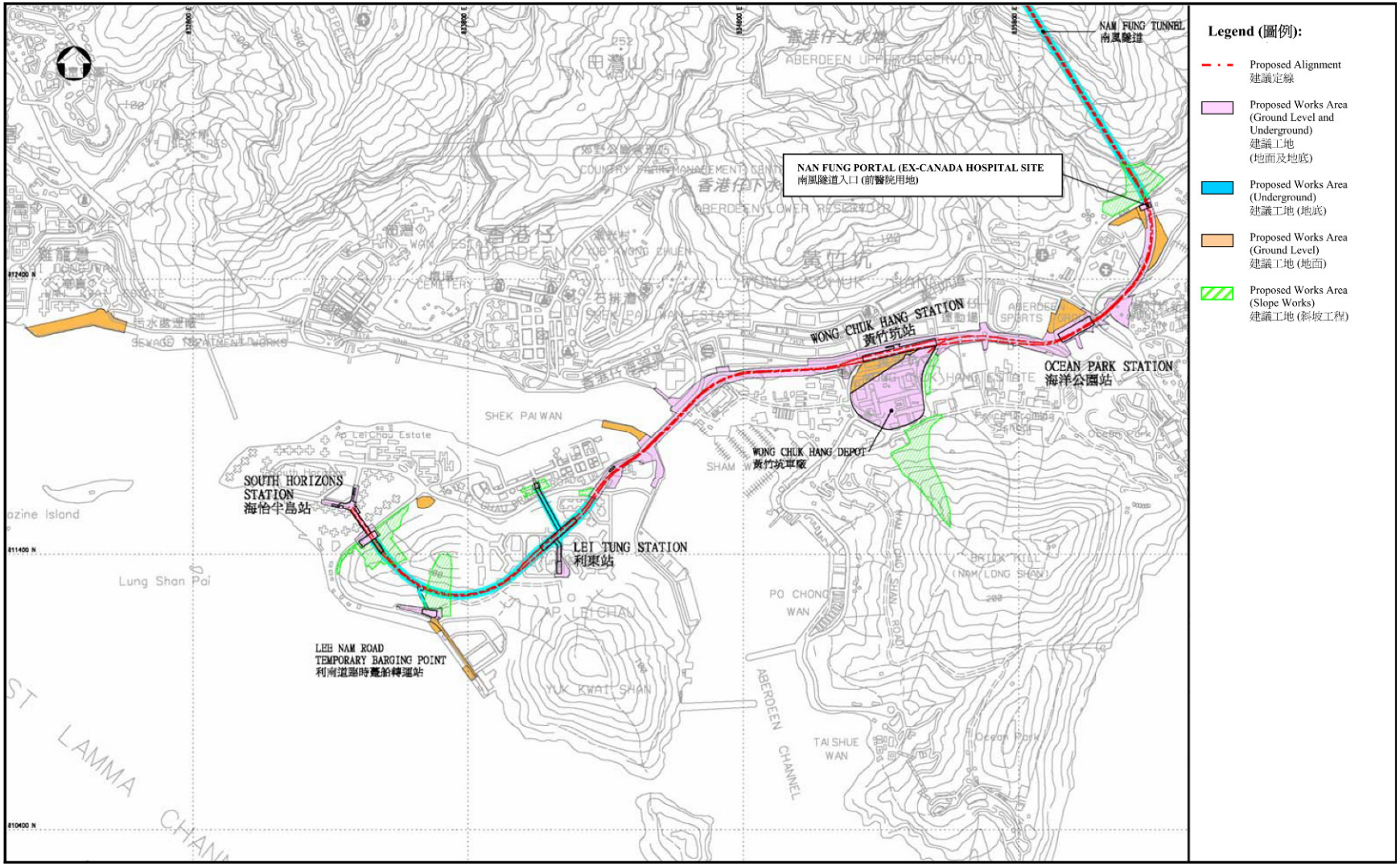


Figure 3 – Location of Construction Air Quality Monitoring Stations (1 of 4)

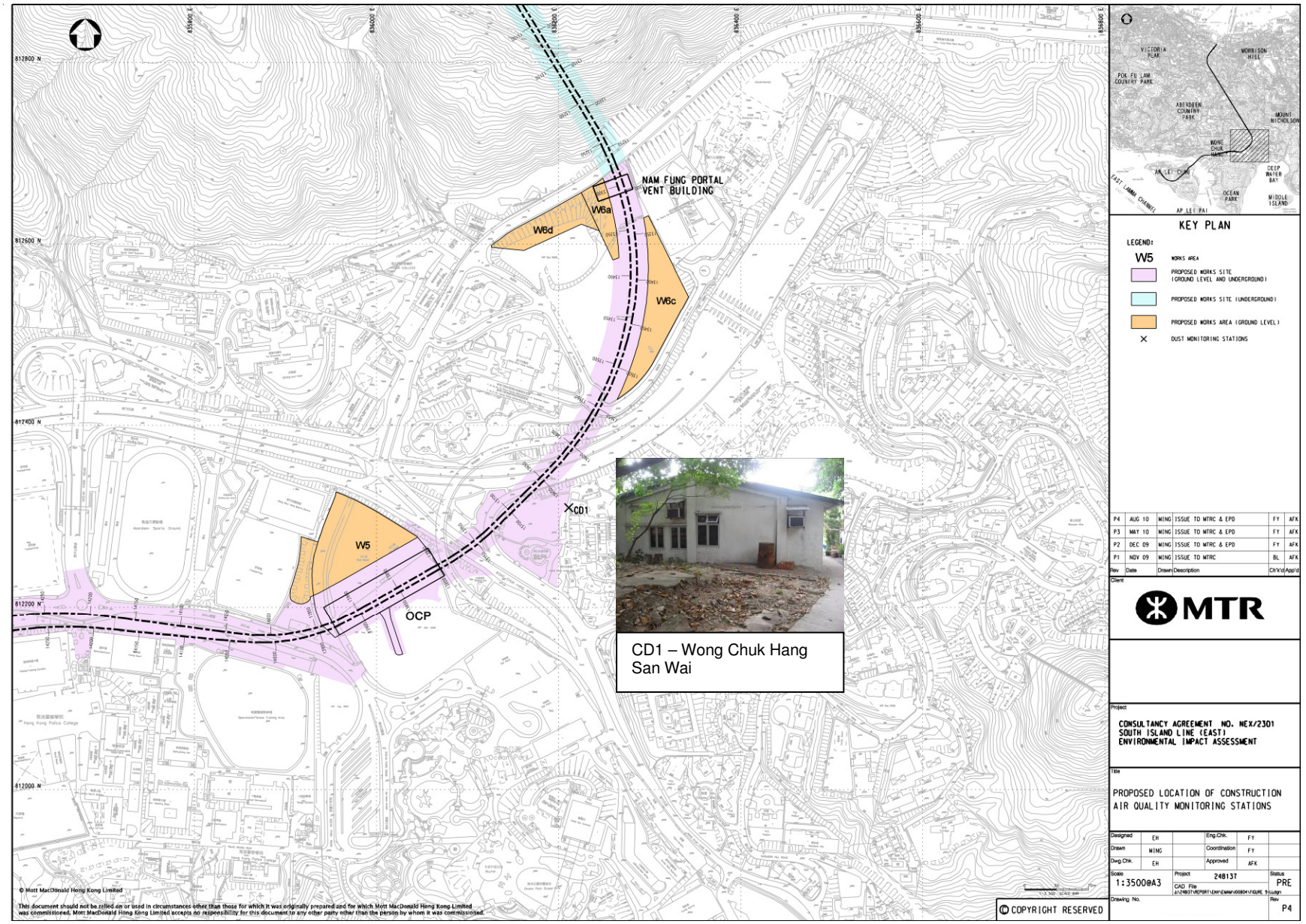


Figure 4 – Location of Construction Air Quality Monitoring Stations (2 of 4)

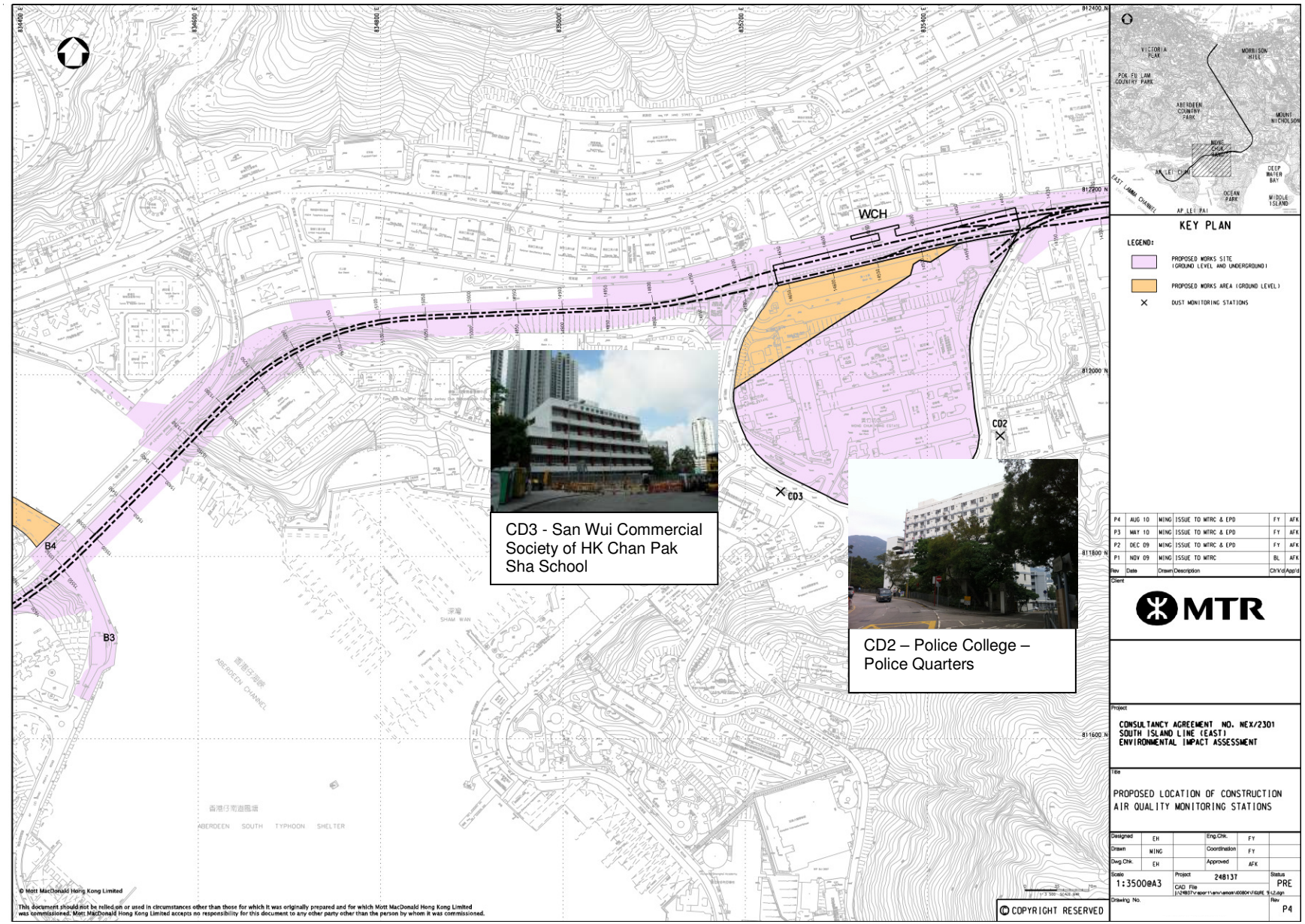


Figure 5 – Location of Construction Air Quality Monitoring Stations (3 of 4)

Figure 6 – Location of Construction Air Quality Monitoring Stations (4 of 4)

Figure 7 – Location of Construction Noise Monitoring Stations (1 of 2)

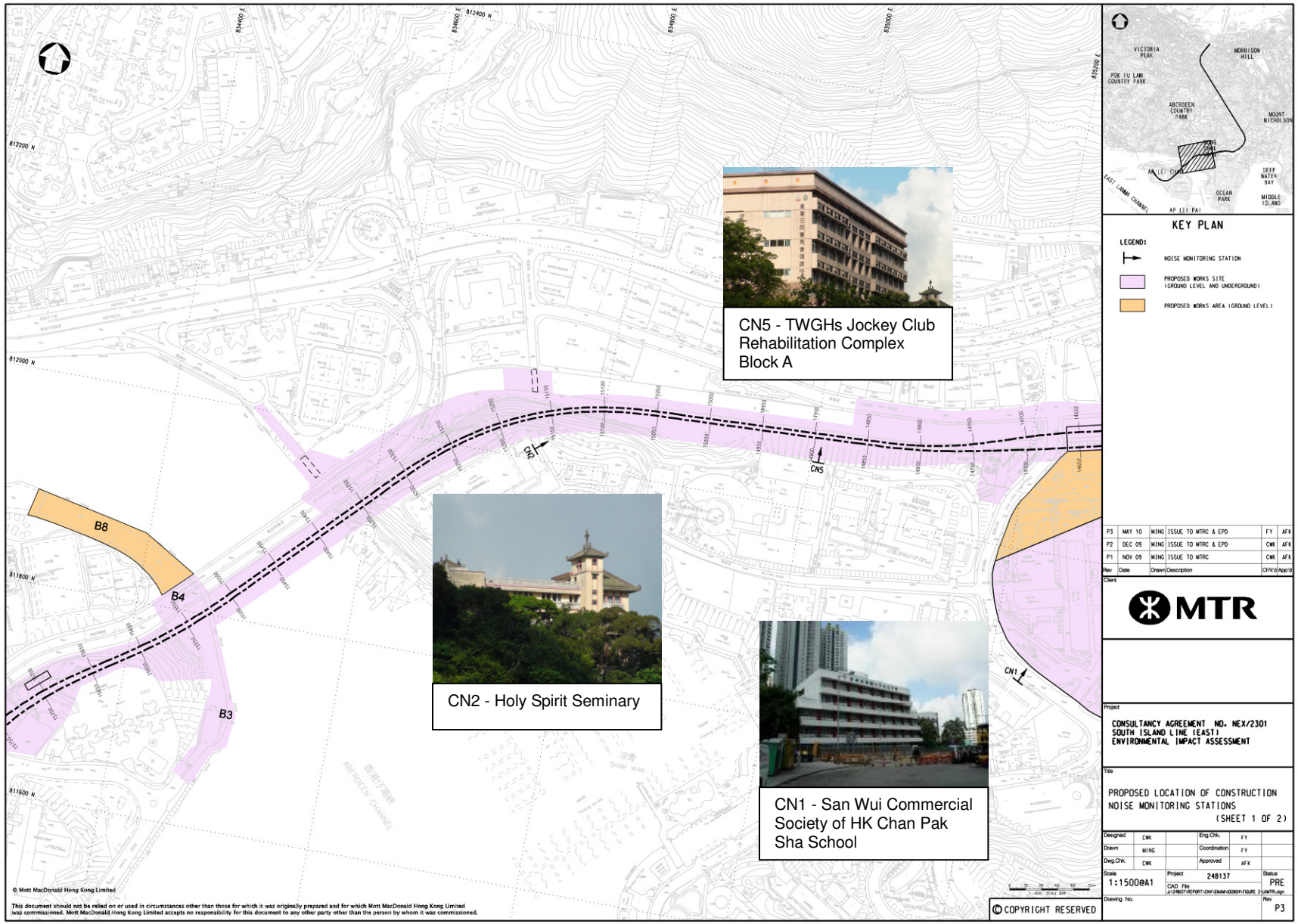


Figure 8 – Location of Construction Noise Monitoring Stations (2 of 2)

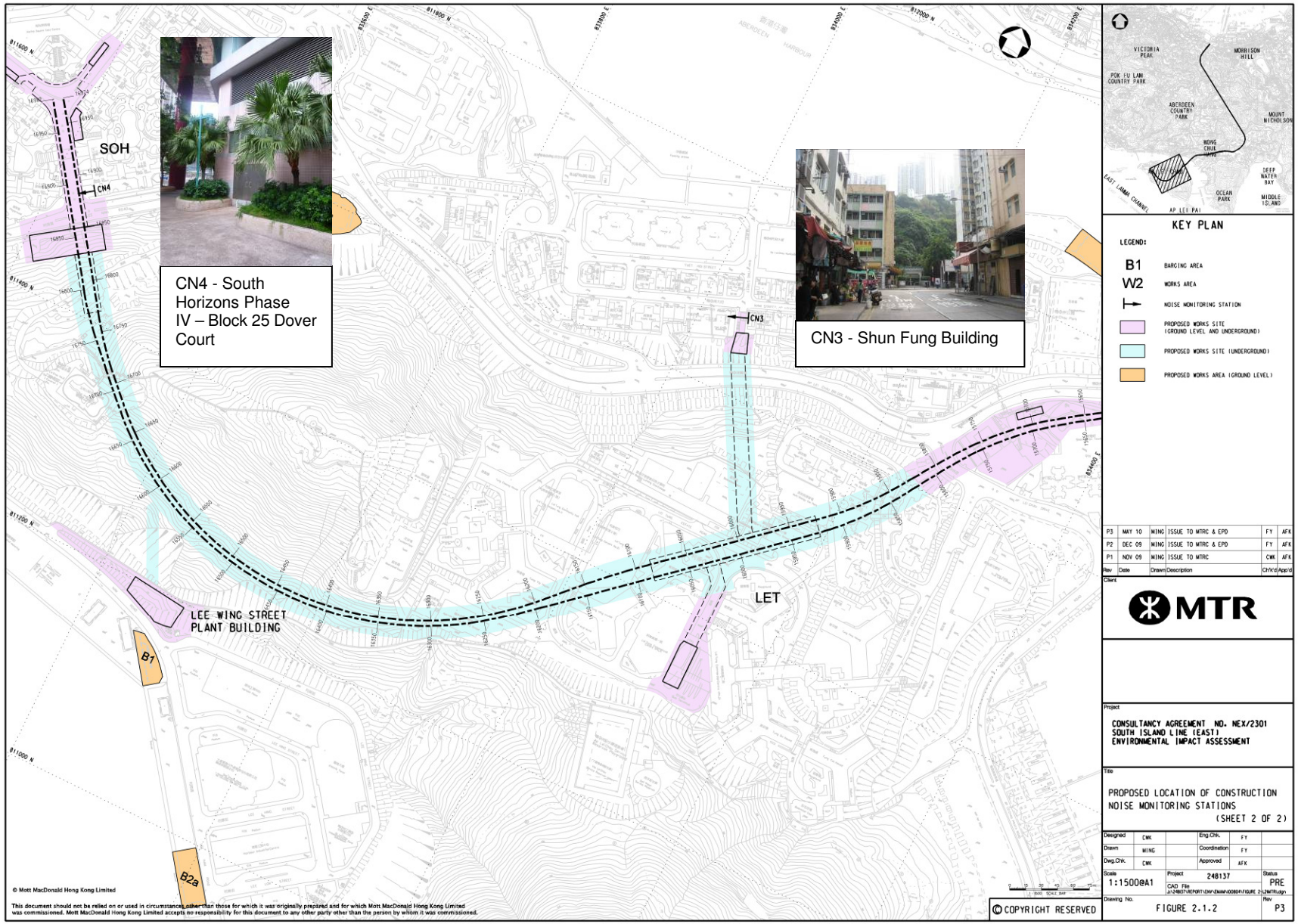
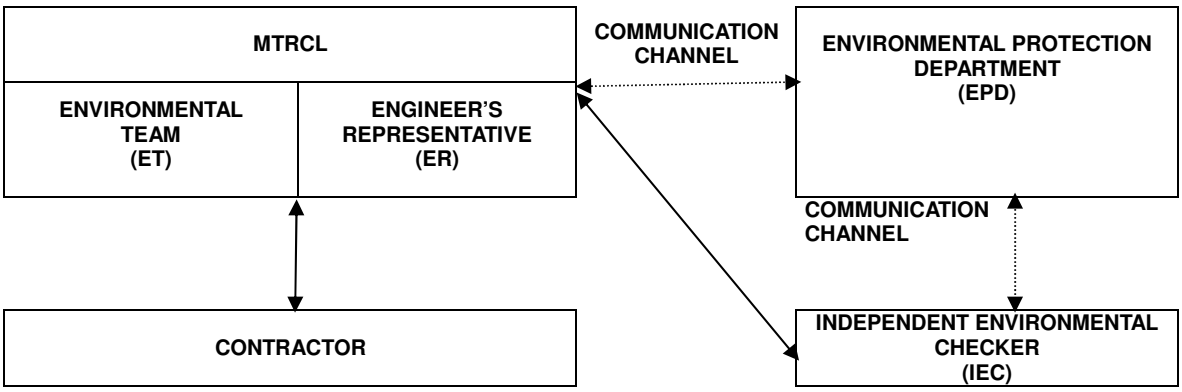


Figure 9 – Location of Water Quality Monitoring Stations

APPENDIX A1

Project Organization

Appendix A1
Project Organization and Lines of Communications



APPENDIX A2

Contact List of Key Personal of the Project

Appendix A2
Contact List of Key Personnel

Table A2.1 Contact List of Key Personnel of Project Management

Organization	Name	Telephone
Independent Environmental Checker	Mr. Thomas Chan	2268 3093
Environmental Team Leader	Mr. Richard Kwan	2688 1179
Engineer's Representative		
Project Manager – SIL Civil	Mr. Mark Cuzner	3987 8288
Construction Manager – SIL (901)	Mr. Neil Smith	2206 8688
Construction Manager – SIL (902 / 904)	Mr. Ken Wong	3987 8388
Construction Manager – SIL (903 / 907 / 908)	Mr. Kit Chan	2871 5888
Contract No. 901 **Admiralty Integrated Station and SCL Enabling Works** Main Contractor: Kier – Laing O'Rourke – Kaden Joint Venture		
Project Director	Mr. Matthew Bowe	9726 6117
QA & Environmental Manager	Mr. Ronald Fung	9777 7667
Contract No. 902 **Nam Fung Tunnel and Ventilation Buildings** Main Contractor: Nishimatsu Construction Co., Ltd.		
Contractors Representative	Mr. Colin Birky	9641 2485
Project Manager	Mr. Kozo Suguta	9227 9717
Contract No. 903 **Ocean Park Station, Wong Chuk Hang Station, Viaduct and Aberdeen Channel Bridge** Main Contractor: Leighton Contractors (Asia) Ltd.		
Project Director	Mr. Paul Freeman	9856 1988
Project Manager, Stations and Nullah	Mr. Ian Rawsthorne	9383 0735
Project Manager, Viaducts, Bridge and Precast	Mr. Jon Kitching	9101 9013

Organization	Name	Telephone
Contract No. 904 **Lei Tung Station, South Horizons Station and Tunnels** Main Contractor: Leighton – John Holland Joint Venture		
Operation Manager	Mr. Brain Gillon	2823 1178
Project Manager	Mr. Ken Henderson	2823 1134
Contract No. 907 **Wong Chuk Hang Depot Site Formation and Piling** Main Contractor: Chun Wo – Hip Hing Joint Venture		
Construction Manager	Mr. Wallace Yeung	9773 9711
Project Manager	Mr. Patrick Wong	9465 1064

Table A2.2 Contact List of Key Personnel of EPD

Organization	Name	Telephone
EPD		
Sr Env Protection Offr (Metro Assessment)	Mr. Steve Li	2835 1142
Sr Env Protection Offr (Regional S)	Mr. YK Chan	2516 1802
Sr Env Protection Offr (Regional S)	Mr. Sean Law	2516 1806

APPENDIX B1

Action and Limit Levels for Construction Noise and Air Quality

Appendix B1
Action and Limit Levels for Construction Noise and Air Quality

Action and Limit Levels for 24-hours TSP

Table B1.1 Action and Limit Levels for 24-hour TSP

ID	Description	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
CD1	Wong Chuk Hang San Wai	173	260
CD2	Police College – Police Quarters	184	260
CD3	San Wui Commercial Society of HK Chan Pak Sha School	169	260
CD4	Shan On House	176	260
CD5	South Horizons Phase IV – Block 25	169	260

Note: TSP levels are to the nearest whole number, with values of 0.5 rounded up

Action and Limit Levels for 1-hour TSP

Table B1.2 Action and Limit Levels for 1-hour TSP

ID	Description	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
CD1	Wong Chuk Hang San Wai	315	500
CD2	Police College – Police Quarters	311	500
CD3	San Wui Commercial Society of HK Chan Pak Sha School	322	500
CD4	Shan On House	318	500
CD5	South Horizons Phase IV – Block 25	336	500

Note: 1-hour TSP criterion recommended in the EIAO-TM
TSP levels are to the nearest whole number, with values of 0.5 rounded up

Action and Limit Levels for Construction Noise

Table B1.3 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
Daytime (0700-1900), Monday through Saturday excluding Public Holidays	When one document complaint received.	$L_{Aeq\ 30mins}$ 75dB(A)[(1)(2)]
All evenings (1900-2300)		Subject to control under the Noise Control Ordinance
General Holidays (including all Sundays) during the daytime and evening (0700-2300)		Subject to control under the Noise Control Ordinance
All night time periods (2300-0700)		Subject to control under the Noise Control Ordinance

(1) 70dB(A) for schools and 65dB(A) during school examination periods.
(2) Updated prediction of noise levels as contained in the construction noise mitigation measures plan.

APPENDIX B2

Action and Limit Levels for Water Quality

Appendix B2
Action and Limit Levels for Water Quality

Table B2.1 Action and Limit Levels for Ebb Condition

Tide: **Ebb** Location: **WM1**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	5.9	Surface	5.5
	Middle	6.0	Middle	5.6
	Bottom	6.0	Bottom	5.7
SS in mg/L (depth averaged)	14.9 and 120% of upstream control station of the same day		16.4 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	4.4 and 120% of upstream control station of the same day		5.2 and 130% of upstream control station of the same day	
Tide: **Ebb** Location: **WM2**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	5.9	Surface	5.5
	Middle	NA	Middle	NA
	Bottom	6.0	Bottom	5.7
SS in mg/L (depth averaged)	14.7 and 120% of upstream control station of the same day		15.5 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	5.5 and 120% of upstream control station of the same day		7.0 and 130% of upstream control station of the same day	

Tide: **Ebb** Location: **WM3**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.1	Surface	5.7
	Middle	6.1	Middle	5.7
	Bottom	6.3	Bottom	5.9
SS in mg/L (depth averaged)	14.4 and 120% of upstream control station of the same day		16.0 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.4 and 120% of upstream control station of the same day		3.8 and 130% of upstream control station of the same day	
Tide: **Ebb** Location: **WM4**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.1	Surface	5.8
	Middle	6.3	Middle	6.0
	Bottom	6.5	Bottom	6.2
SS in mg/L (depth averaged)	14.0 and 120% of upstream control station of the same day		15.5 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.0 and 120% of upstream control station of the same day		3.2 and 130% of upstream control station of the same day	

Table B2.2 Action and Limit Levels for Flood Condition

Tide: **Flood** Location: **WM1**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	5.9	Surface	5.6
	Middle	6.1	Middle	5.7
	Bottom	6.2	Bottom	5.8
SS in mg/L (depth averaged)	12.7 and 120% of upstream control station of the same day		12.9 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.8 and 120% of upstream control station of the same day		4.0 and 130% of upstream control station of the same day	

Tide: **Flood** Location: **WM2**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.0	Surface	5.7
	Middle	NA	Middle	NA
	Bottom	6.1	Bottom	5.8
SS in mg/L (depth averaged)	12.8 and 120% of upstream control station of the same day		13.6 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.5 and 120% of upstream control station of the same day		3.9 and 130% of upstream control station of the same day	
Tide: **Flood** Location: **WM3**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.0	Surface	5.7
	Middle	6.2	Middle	5.8
	Bottom	6.2	Bottom	5.9
SS in mg/L (depth averaged)	11.5 and 120% of upstream control station of the same day		11.5 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.1 and 120% of upstream control station of the same day		3.2 and 130% of upstream control station of the same day	
Tide: **Flood** Location: **WM4**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.0	Surface	5.8
	Middle	6.2	Middle	5.8
	Bottom	6.3	Bottom	6.1
SS in mg/L (depth averaged)	13.4 and 120% of upstream control station of the same day		15.6 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	2.7 and 120% of upstream control station of the same day		2.8 and 130% of upstream control station of the same day	

APPENDIX C

Calibration Details

Summary of Calibration Certificate

Noise Equipment

Model	Serial Number	Calibration Date	Expiry Date	Remark
B&K 2250L	2741137	21 Jan 2011	21 Jan 2013 *	
B&K 2250	2551244	25 Jan 2011	25 Jan 2013 *	
B&K 4231 Calibrator	2725557	15 Jun 2011	15 Jun 2013 *	
B&K 4231 Calibrator	2309393	15 Jun 2011	15 Jun 2013 *	

High Volume Sampler

Model	Sampler	Calibration Date	Expiry Date	Remark
Graseby-Andersen	694-0661	5 Aug 2011	5 Feb 2012 **	
Graseby-Andersen	894-0833	5 Aug 2011	5 Feb 2012 **	
Graseby-Andersen	994-0878	8 Aug 2011	8 Feb 2012 **	
Graseby-Andersen	1294-1104	8 Aug 2011	8 Feb 2012 **	
Graseby-Andersen	1294-1111	5 Aug 2011	5 Feb 2012 **	

Water Quality Monitoring Equipment

Model	Serial Number	Calibration Date	Expiry Date	Remark
Turbidimeter				
HACH 2100P	06070C018334	29 Oct 2011	28 Jan 2011 ****	
HACH 2100P	08060C030281	13 Oct 2011	12 Jan 2012 ****	
pH Meter				
HANNA HI8314	674469	13 Oct 2011	12 Nov 2011 ****	
HANNA HI8314	674469	12 Nov 2011	11 Dec 2011	
Multimeter for Temperature / Dissolved Oxygen / Salinity				
YSI 85D	08L100716	24 Sep 2011	23 Dec 2011 ***	

Note: * Calibration certificates refer to Appendix C of EM&A report - August 2011.
** Calibration certificates refer to Appendix C of EM&A report - September 2011.
*** Calibration certificates refer to Appendix C of EM&A report - October 2011.
**** Calibration certificates refer to Appendix C of EM&A report - November 2011.

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Form E/CE/R/15/Issue 6 (1/1) [08/03]

Internal Calibration & Performance Check Report of pH Meter

Equipment Ref. No. : ET/EW/007/003   Manufacturer : HANNA
Model No. : HI 8314   Serial No. : 674469
Date of Calibration : 12/11/2011   Calibration Due Date : 11/12/2011

Liquid Junction Error

Primary Standard Solution Used : Phosphate   Ref No. of Primary Solution: 003/5.2/001/6
Temperature of Solution : 20.1 $pH_{½}$ = +0.08
pH value of diluted buffer : 6.76   pH (S) = 6.881
pH = pH(S) - pH of diluted buffer = 0.121 (Observed Deviation)
Liquid Junction Error (pH_j) = pH - $pH_{½}$ = 0.041

Shift on Stirring

pH of buffer solution (with stirring), pH_s = 6.89
Shift on stirring, pH_s= pH_s - pH(S) - pH_j = 0.009

Noise

Noise, pH_n = difference between max and min reading : 0.01

Verification of ATC

Ref. No. of reference thermometer used: ET/0521/001
Temperature record from the reference thermometer (T_R): 20.1 °C
Temperature record from the ATC (T_{ATC}): 20.0 °C
Temperature Difference (T_R - T_{ATC}) 0.1 °C

Acceptance Criteria

Performance Characteristic		Acceptable Range
Liquid Junction Error	pHj	≤0.05
Shift on Stirring	pHs	≤0.02
Noise	pHn	≤0.02
Verifcation of ATC	Temperature Difference	≤0.5°C

The pH meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

* Delete as appropriate

Calibrated by : [signature]   Approved Signatory : [signature]

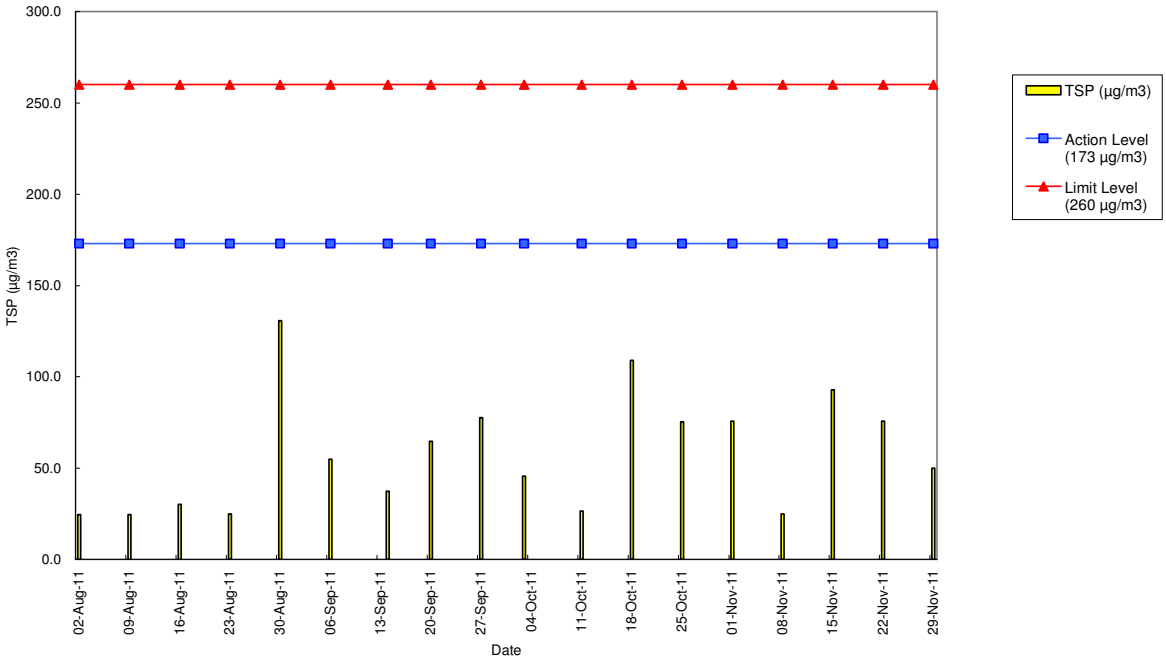
CPE/015/W

APPENDIX D

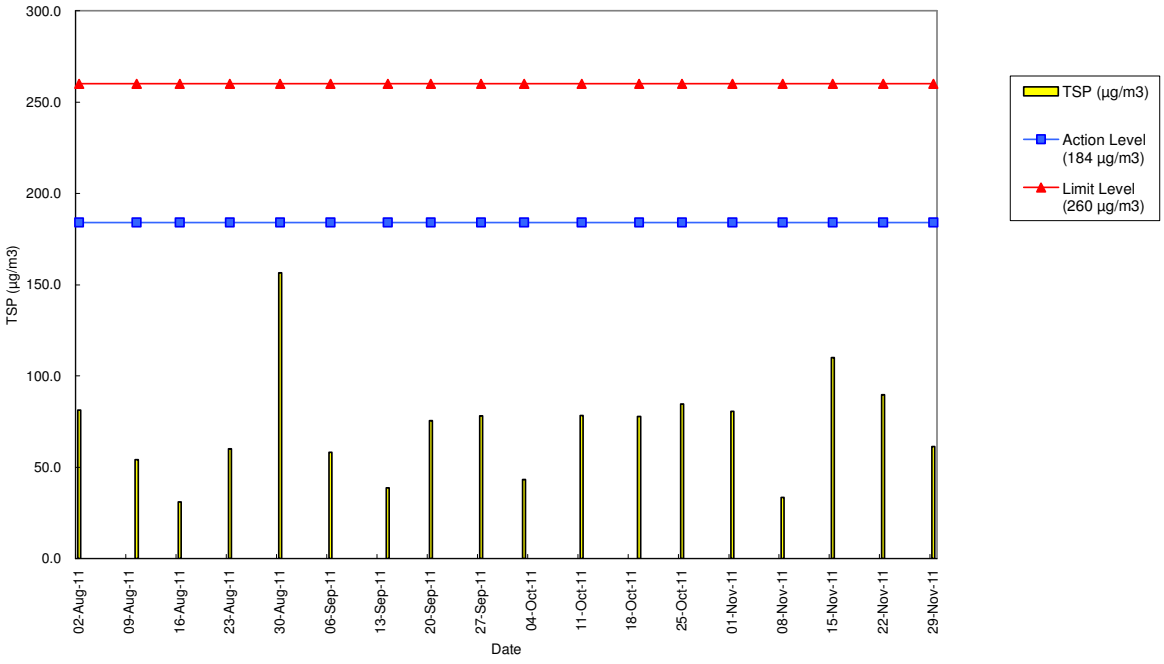
Graphical Plots of Air Quality, Noise & Water Quality Impact Monitoring and Monitoring Results for Water Quality

Graphical Plots of Air Quality Monitoring Results

24-hr TSP Level at CD1 Wong Chuk Hang San Wai

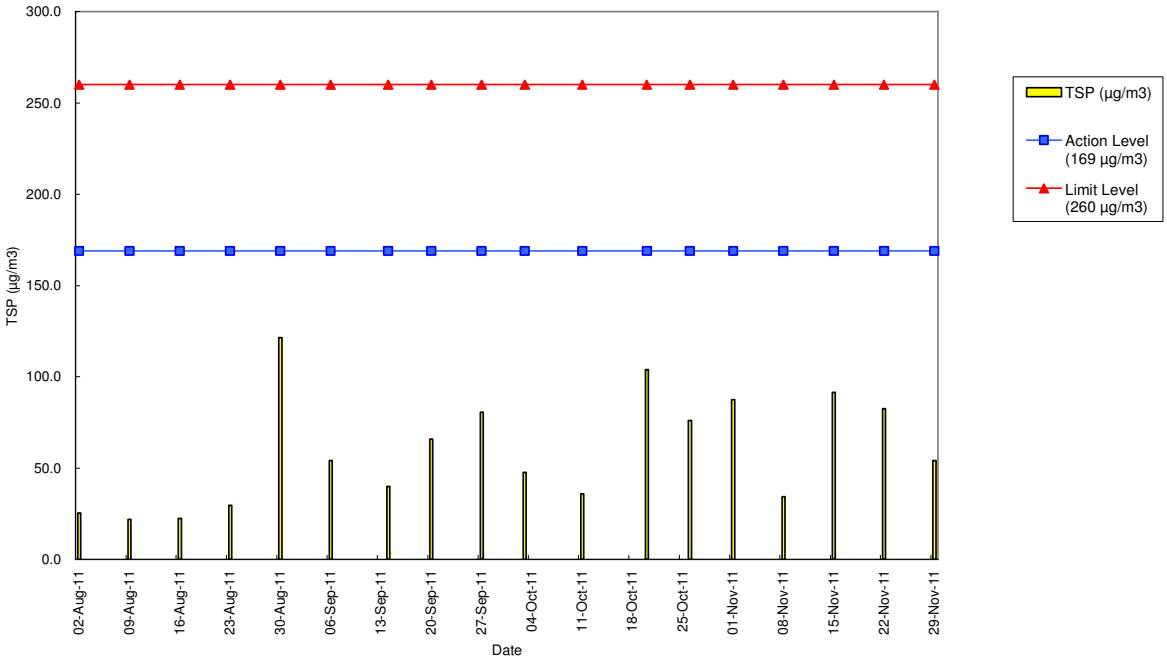


24-hr TSP Level at CD2 Police College - Police Quaeters

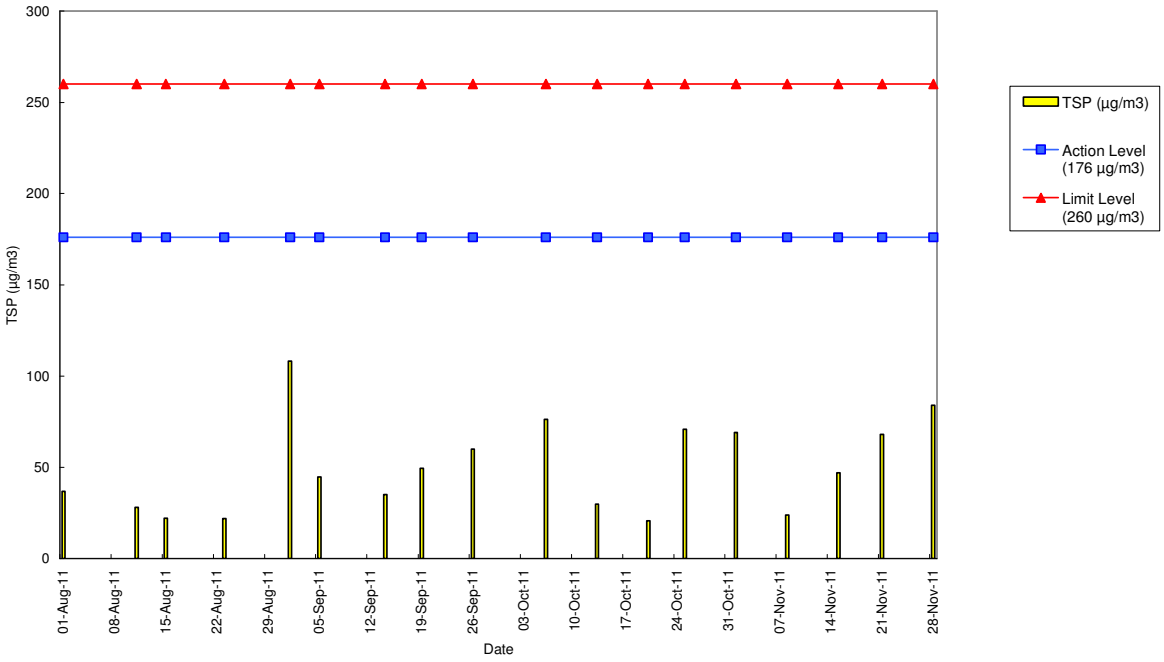


Graphical Plots of Air Quality Monitoring Results

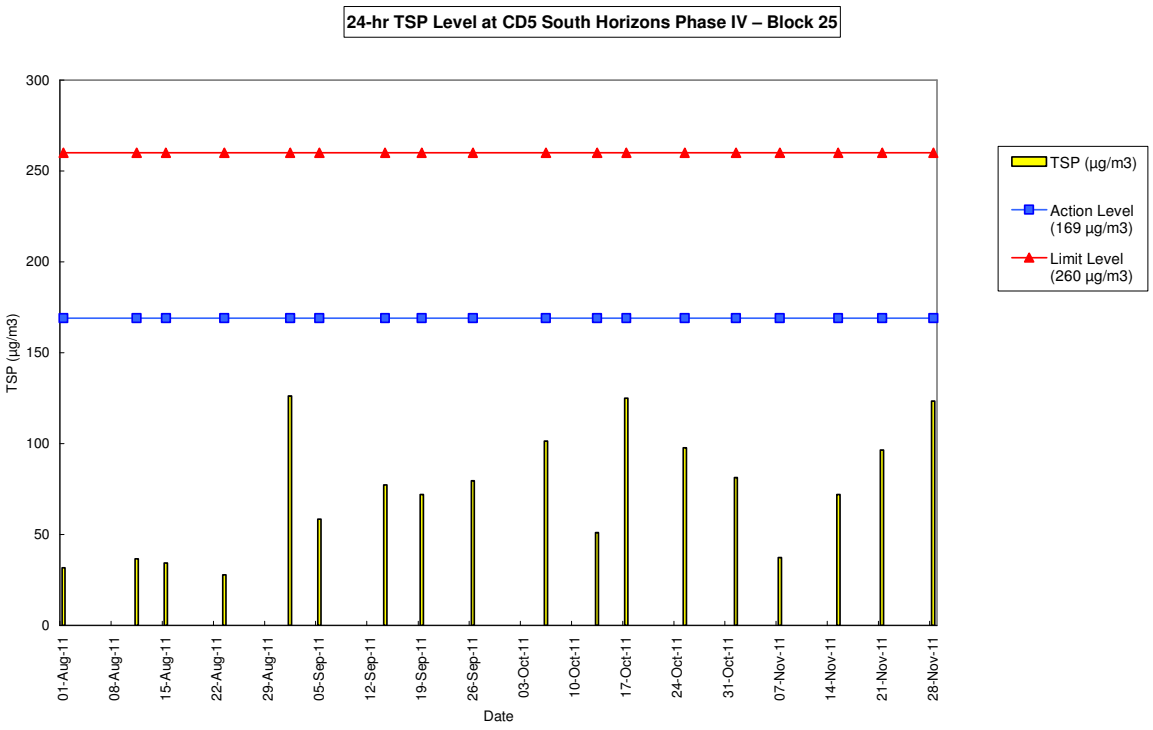
24-hr TSP Level at CD3 San Wui Commercial Society of HK Chan Pak Sha School



24-hr TSP Level at CD4 Shan On House

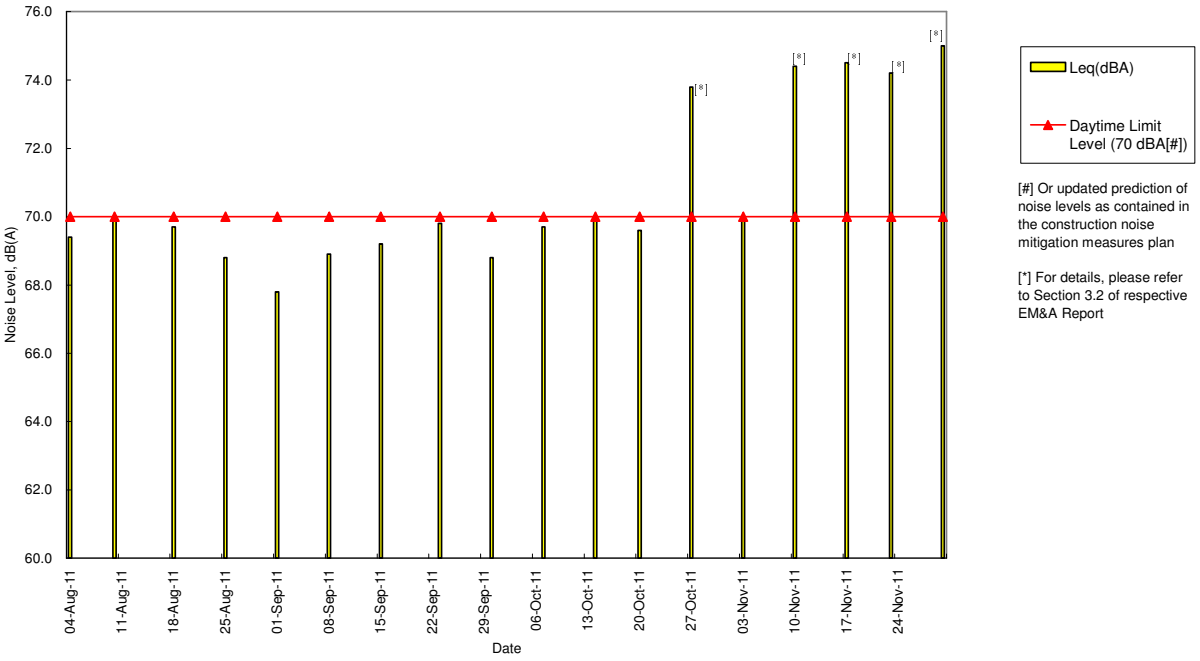


Graphical Plots of Air Quality Monitoring Results



Graphical Plots of Noise Monitoring Results

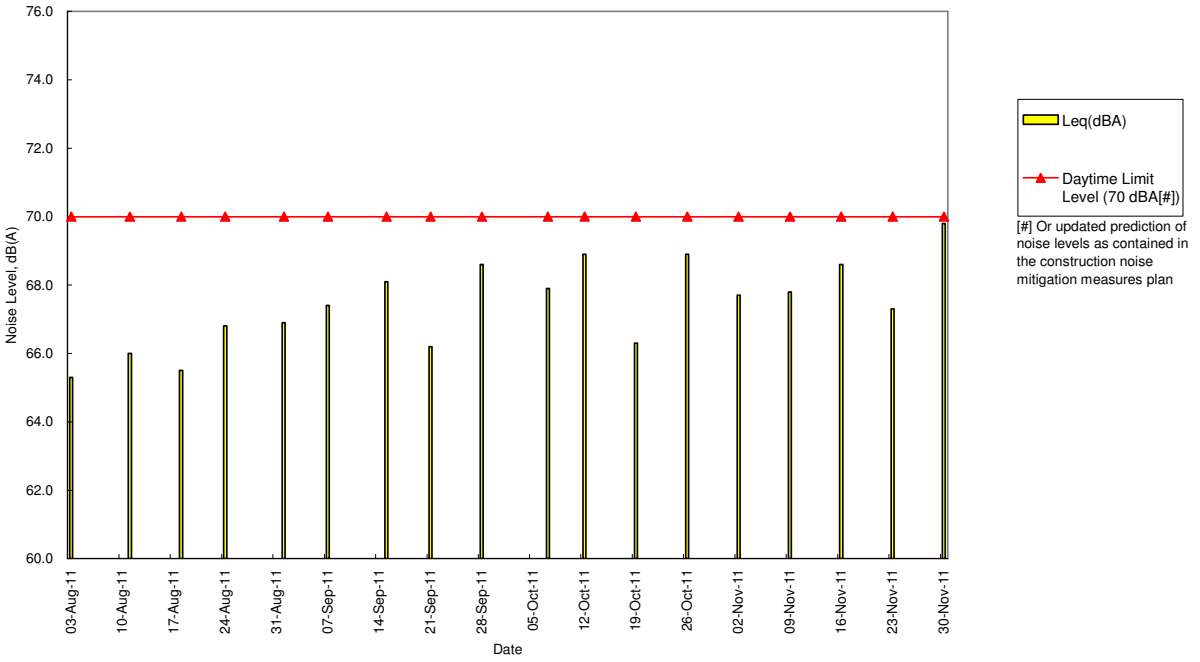
Noise Level at CN1 San Wui Commercial Society of HK Chan Pak Sha School (Educational Institution)



[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

[*] For details, please refer to Section 3.2 of respective EM&A Report

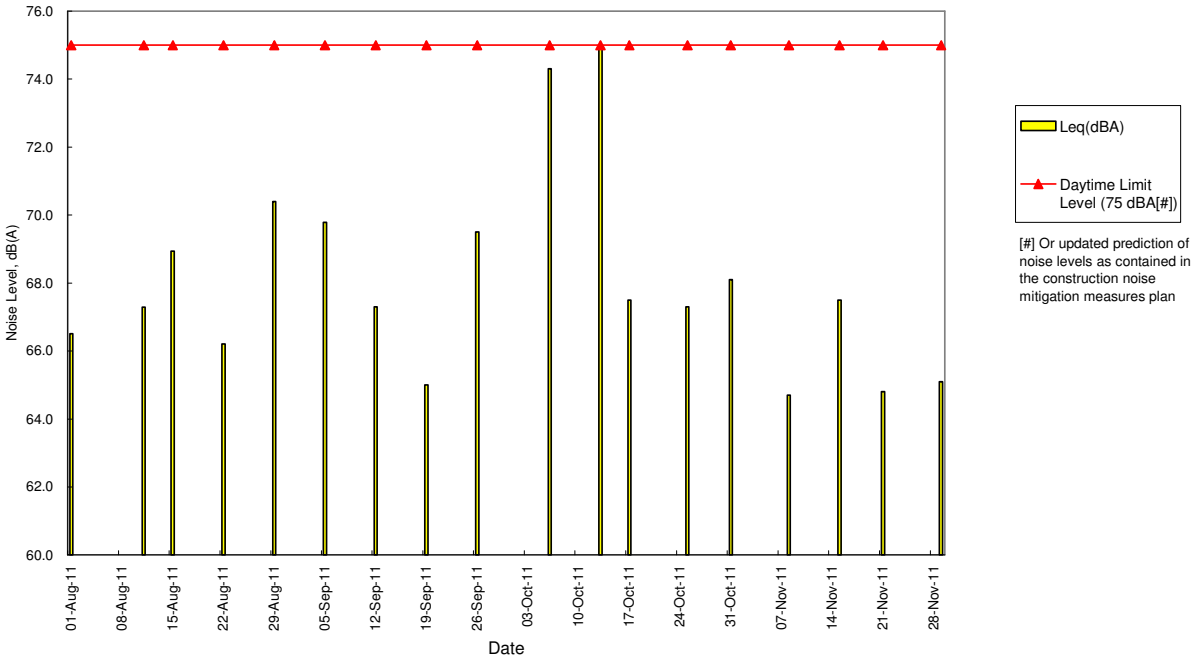
Noise Level at CN2 Holy Spirit Seminary (Educational Institution)



[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

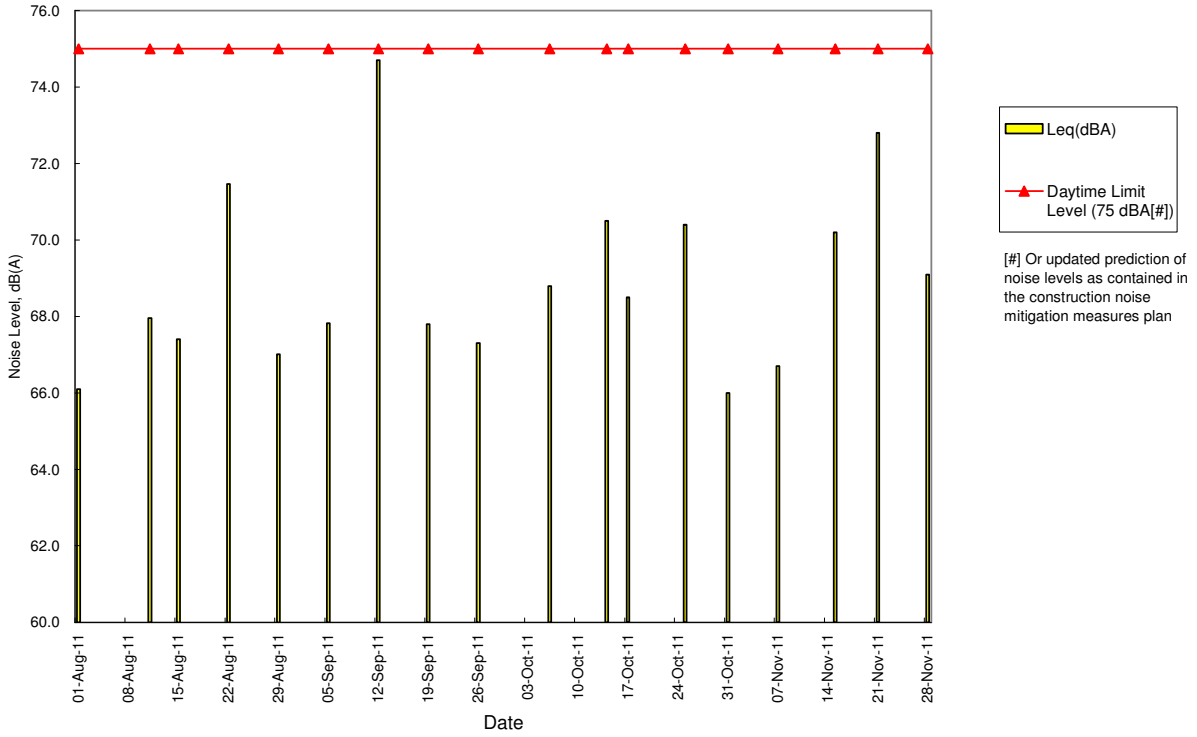
Graphical Plots of Noise Monitoring Results

Noise Level at CN3 Shun Fung Building (Residential)



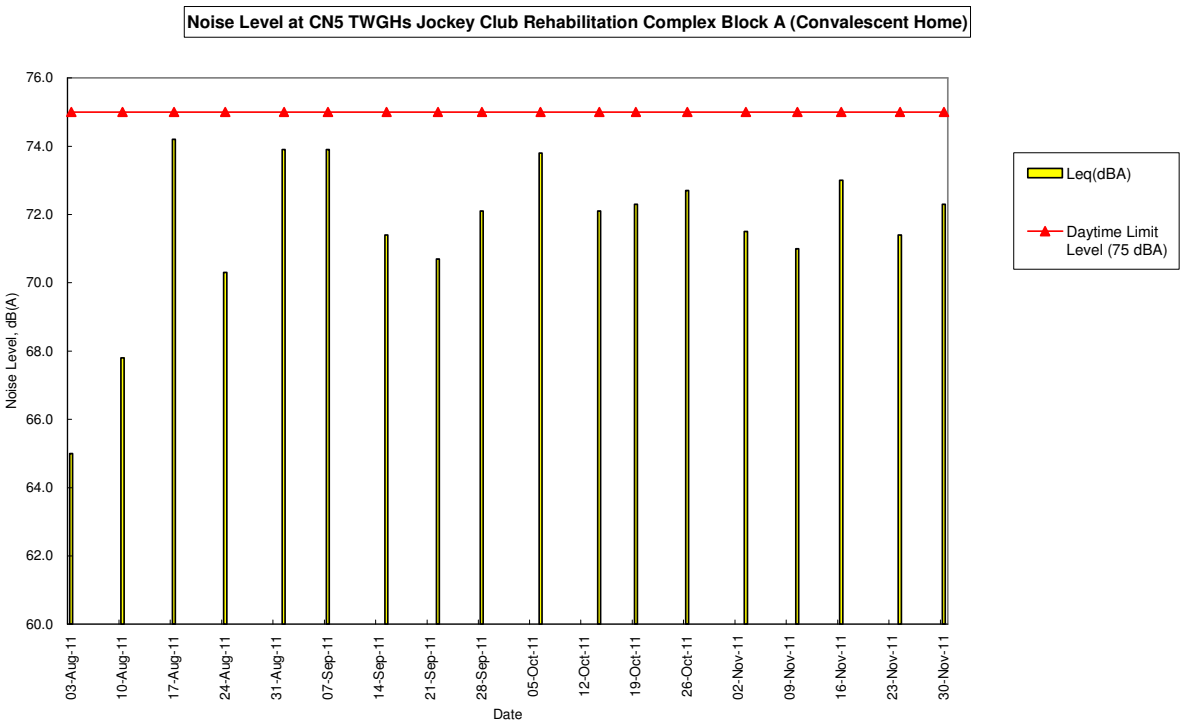
[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

Noise Level at CN4 South Horizons Phase IV – Block 25 Dover Court (Residential)



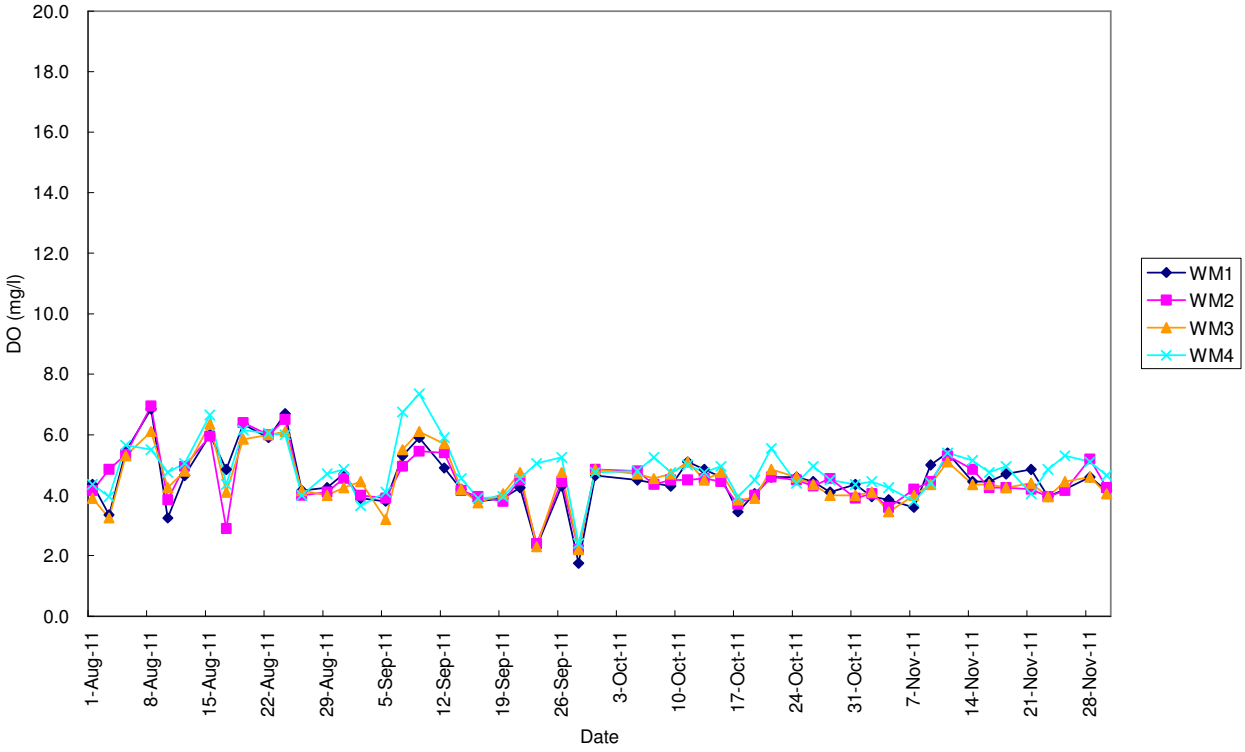
[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

Graphical Plots of Noise Monitoring Results

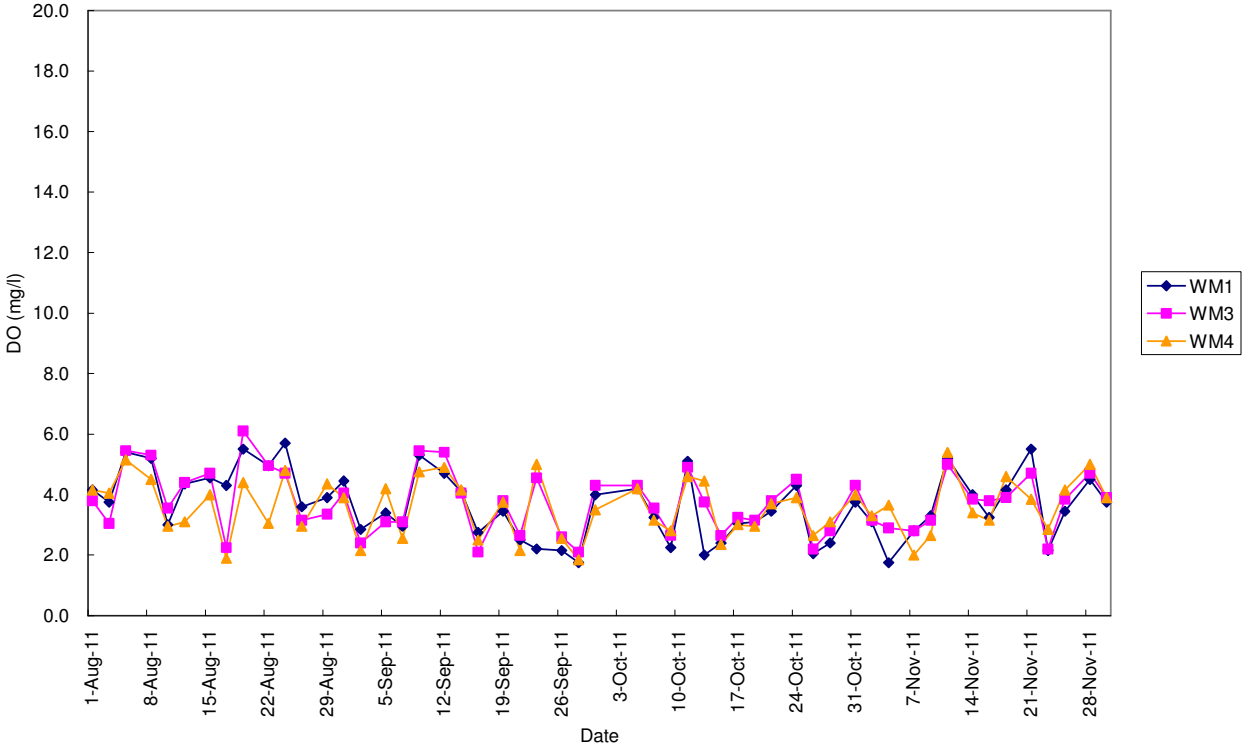


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Flood Tide - Surface Level

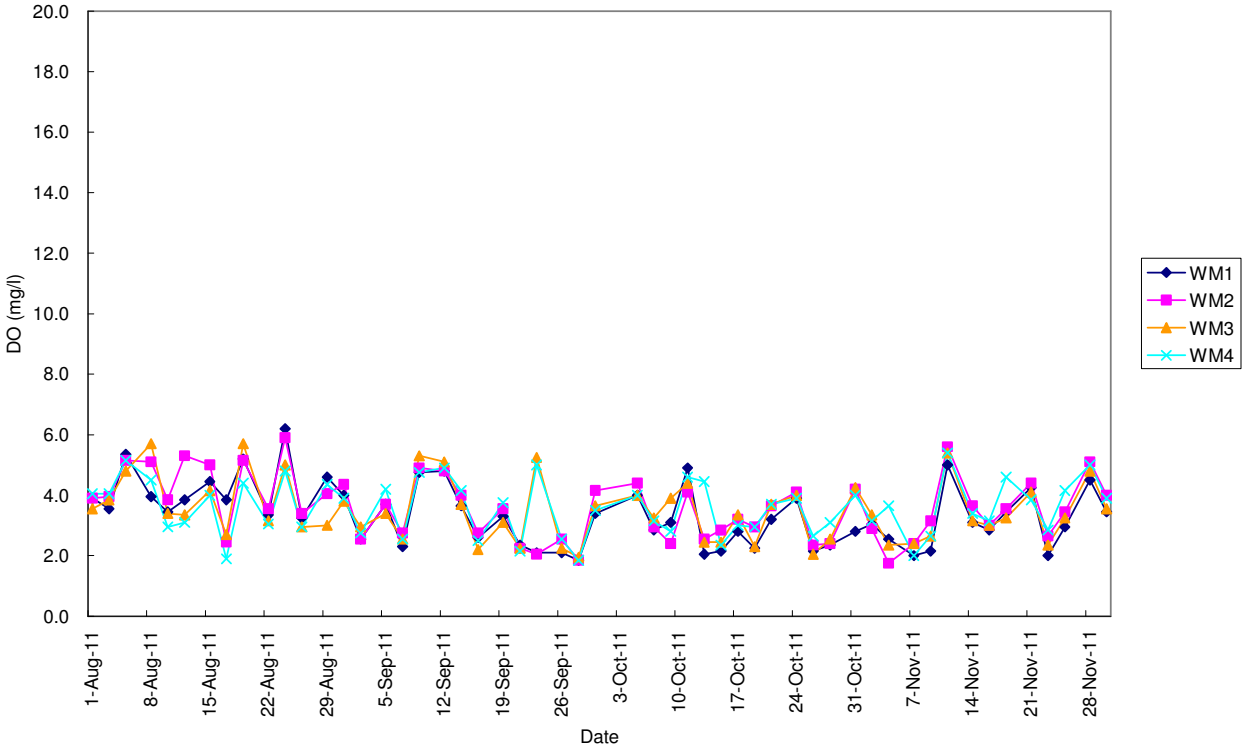


Monitoring Results for Dissolved Oxygen in Flood Tide - Middle Level

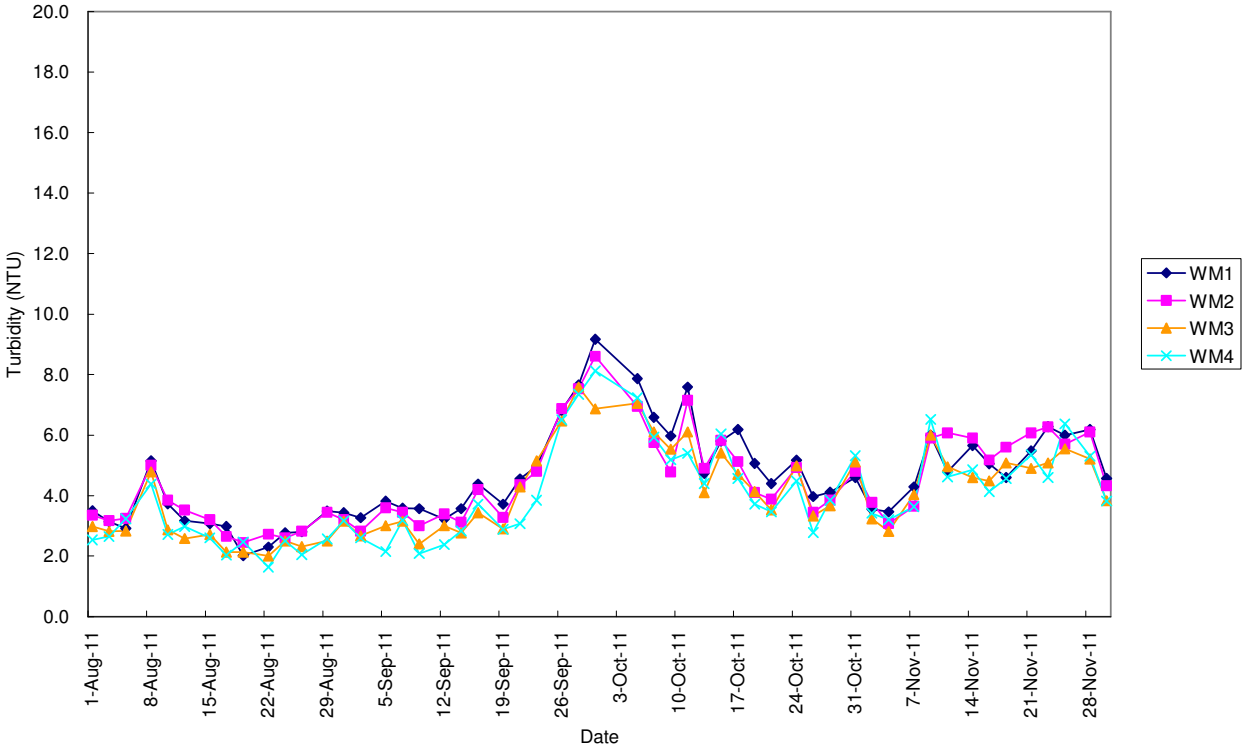


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Flood Tide - Bottom Level

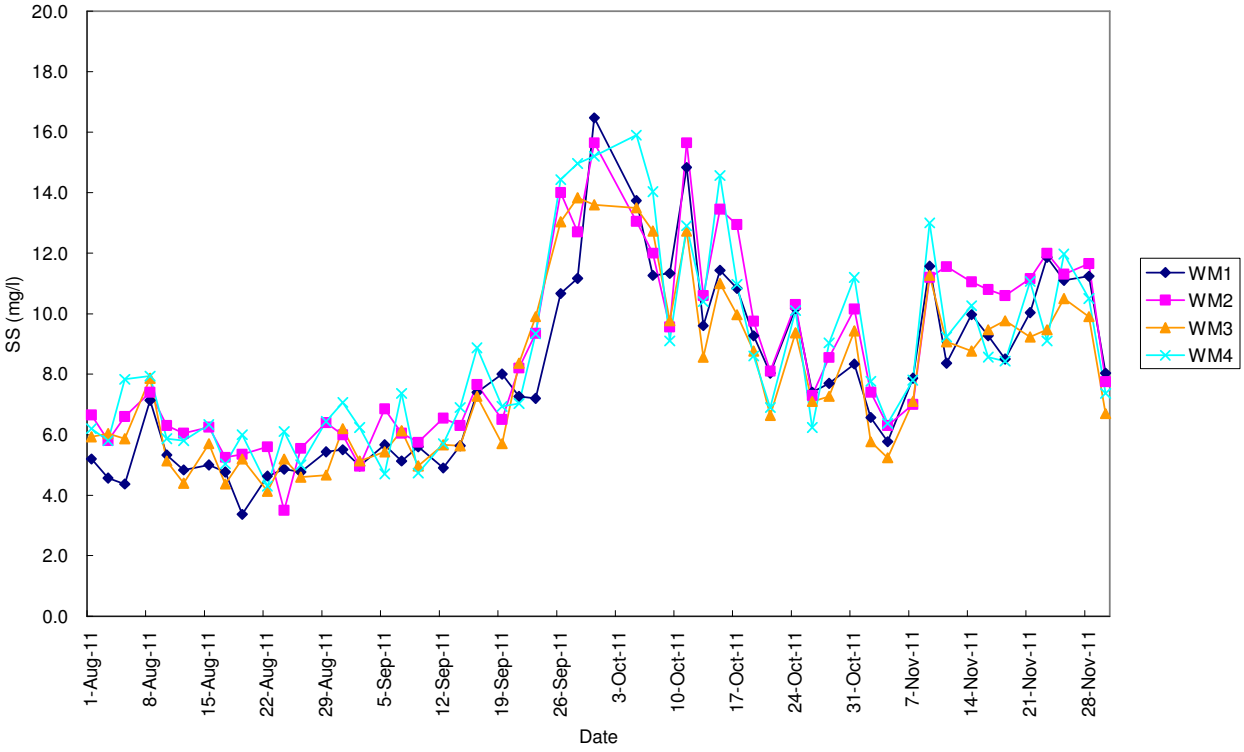


Monitoring Results for Turbidity in Flood Tide - Depth Average

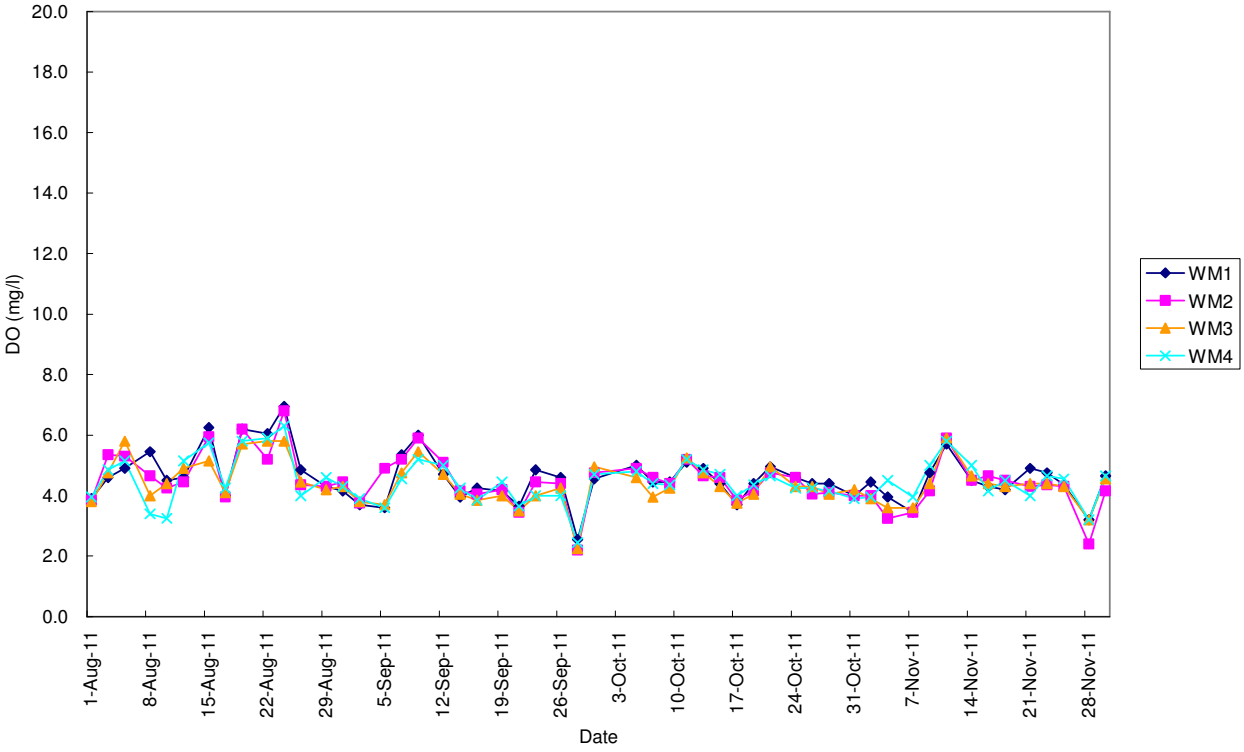


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Suspended Solids in Flood Tide - Depth Average

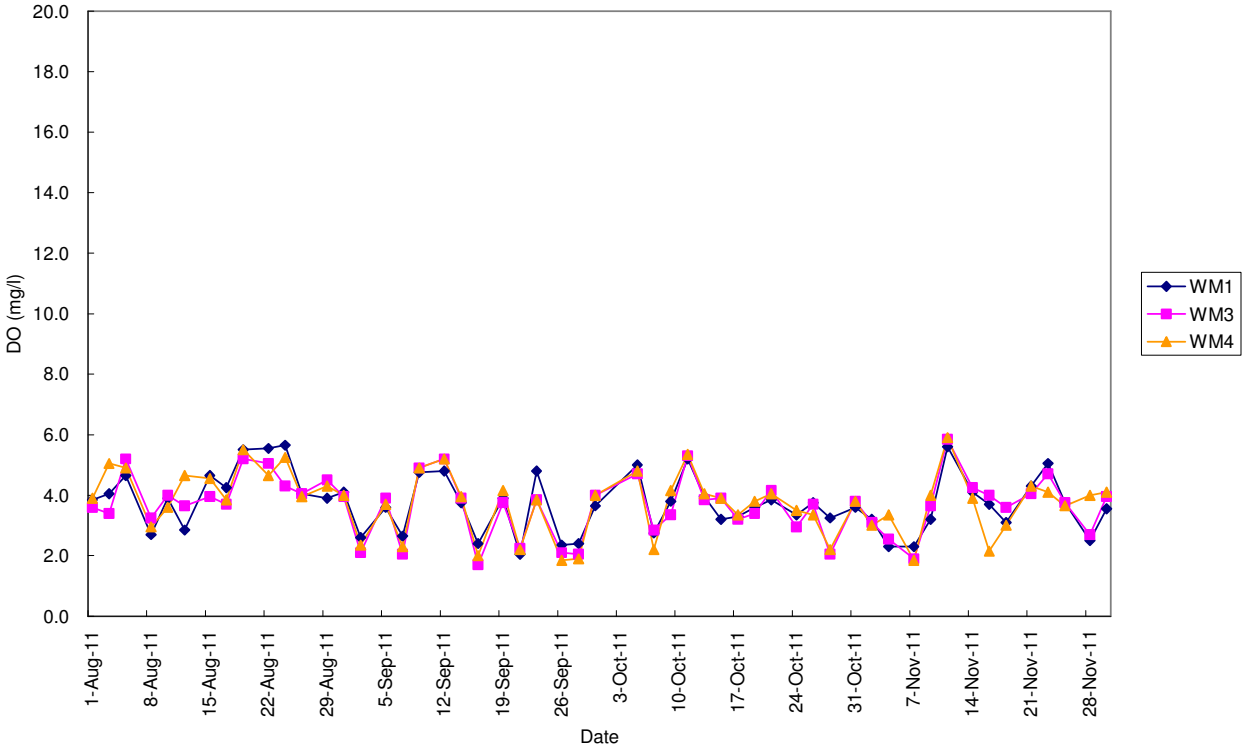


Monitoring Results for Dissolved Oxygen in Ebb Tide - Surface Level

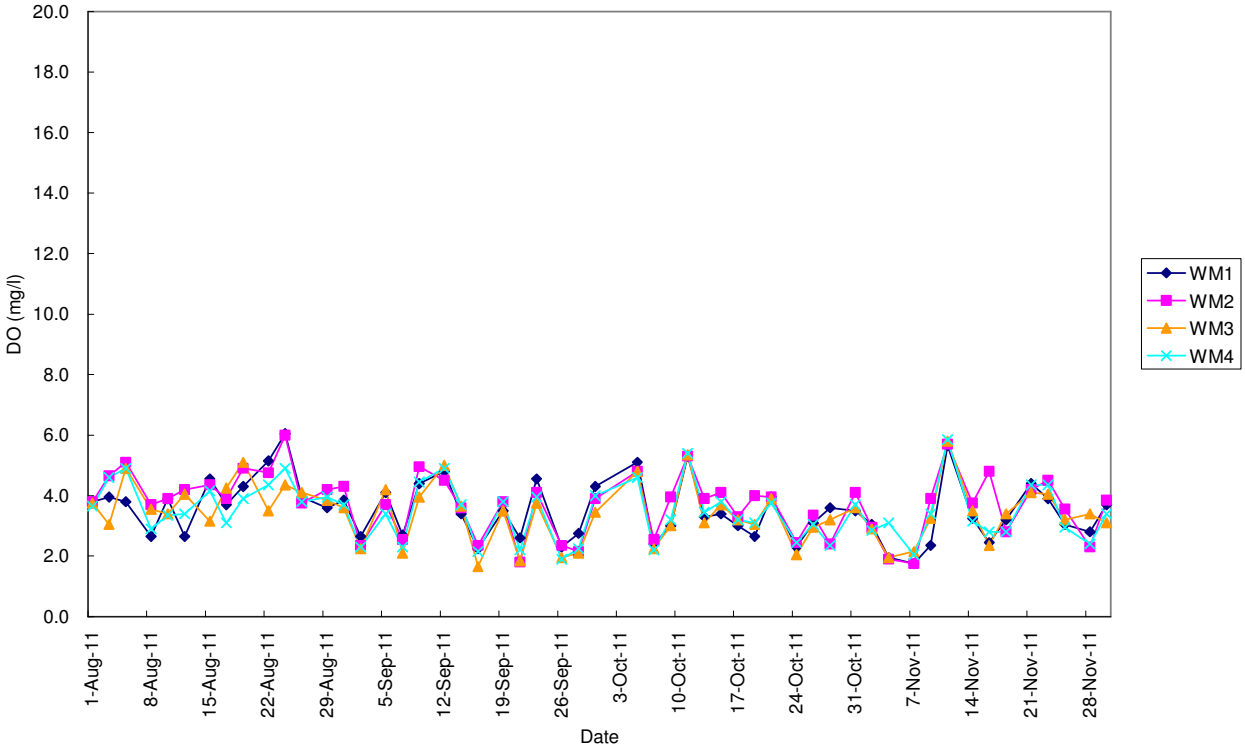


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Ebb Tide - Middle Level

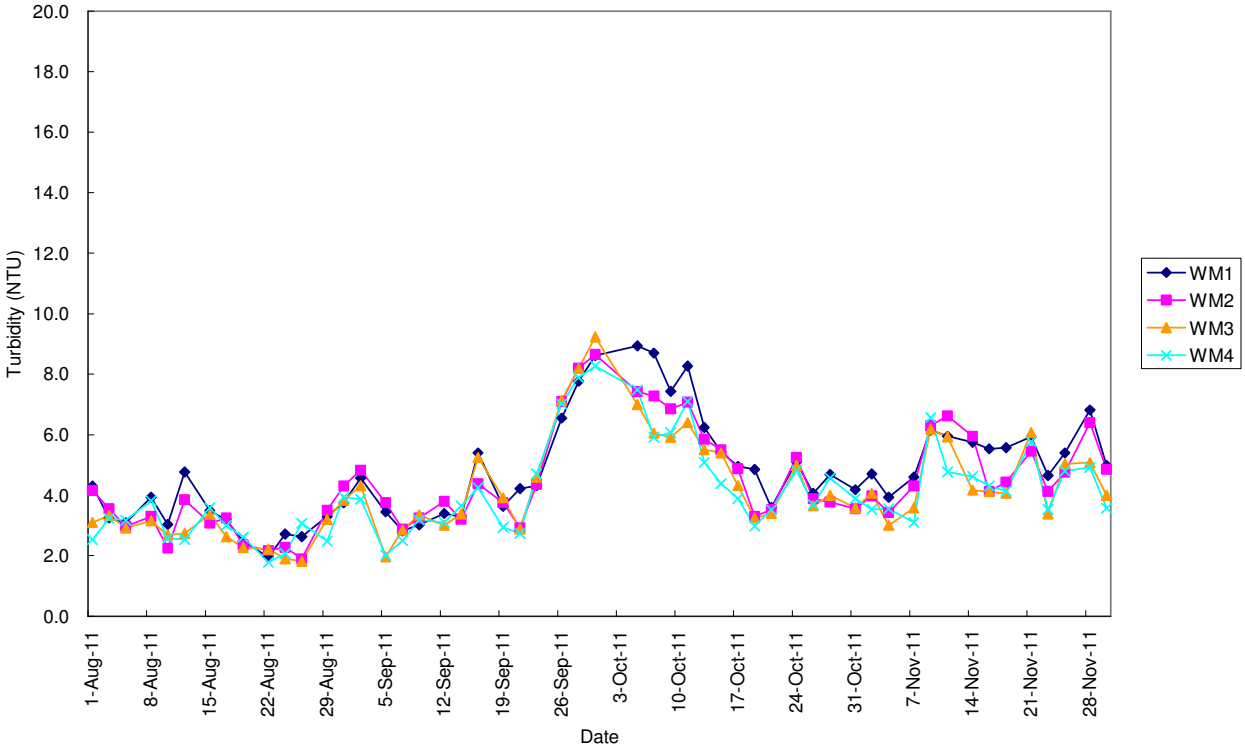


Monitoring Results for Dissolved Oxygen in Ebb Tide - Bottom Level

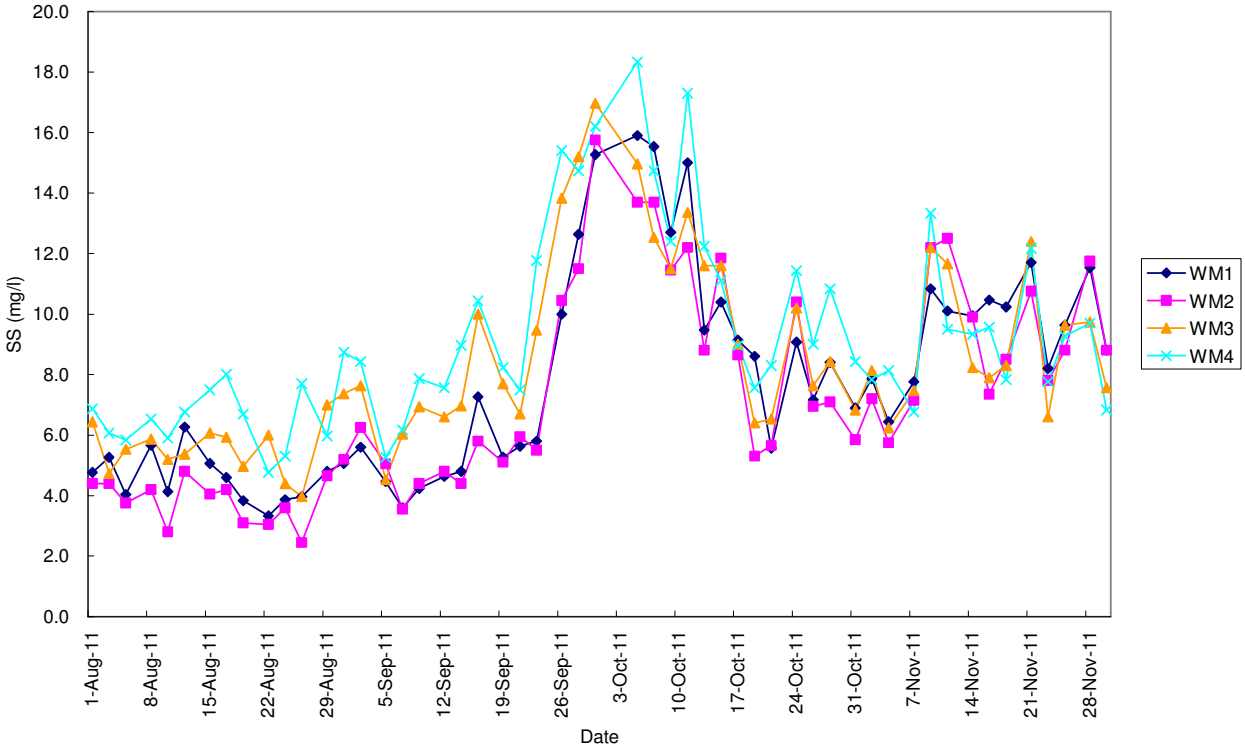


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Turbidity in Ebb Tide - Depth Average



Monitoring Results for Suspended Solids in Ebb Tide - Depth Average



SIL(E) Water Quality Monitoring Data Record Sheet

Date: 2-Nov-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1305	11.0	*Surface*	26.1	26.2	26.2	8.0	8.1	8.1	31.3	31.4	31.4	4.3	4.5	4.4	65.2	67.1	66.2	3.2	3.4	3.3		6.4	6.8	6.6	
			Middle	26.2	26.2	26.2	8.1	8.1	8.1	31.4	31.4	31.4	3.3	3.4	3.4	50.3	50.9	50.6	4.5	4.3	4.4	4.4	9.6	9.4	9.5	8.8
			Bottom	25.9	25.9	25.9	8.1	8.1	8.1	31.6	31.5	31.6	3.1	3.2	3.2	47.2	48.3	47.8	5.3	5.6	5.5		10.0	10.8	10.4	
WM1	1223	13.4	*Surface*	26.1	26.2	26.2	8.1	8.0	8.1	31.3	31.3	31.3	3.9	4.0	4.0	59.0	60.0	59.5	3.8	3.8	3.8		6.4	6.4	6.4	
			Middle	26.0	26.0	26.0	8.1	8.1	8.1	31.2	31.3	31.3	3.1	3.1	3.1	46.3	47.4	46.9	3.7	3.5	3.6	3.6	6.8	6.0	6.4	6.6
			Bottom	25.8	25.9	25.9	8.1	8.1	8.1	31.2	31.3	31.3	3.1	3.0	3.1	46.7	45.8	46.3	3.2	3.3	3.3		6.8	7.0	6.9	
WM2	1157	5.6	*Surface*	26.2	26.3	26.3	8.1	8.0	8.1	31.1	31.0	31.1	4.0	4.1	4.1	60.9	61.8	61.4	3.8	3.7	3.8		7.6	7.4	7.5	
			Middle																			3.8				7.4
			Bottom	26.4	26.4	26.4	8.1	8.1	8.1	31.2	31.2	31.2	2.9	2.9	2.9	43.6	44.5	44.1	3.7	3.9	3.8		7.0	7.6	7.3	
WM3	1125	9.2	*Surface*	26.2	26.2	26.2	8.1	8.1	8.1	31.1	31.2	31.2	4.0	4.2	4.1	60.9	62.5	61.7	2.8	2.9	2.9		4.2	4.6	4.4	
			Middle	25.9	25.9	25.9	8.0	8.1	8.1	31.4	31.4	31.4	3.1	3.2	3.2	47.3	48.2	47.8	3.1	3.1	3.1	3.2	6.0	5.6	5.8	5.8
			Bottom	25.8	25.9	25.9	8.1	8.1	8.1	31.5	31.6	31.6	3.4	3.3	3.4	51.1	50.2	50.7	3.7	3.8	3.8		7.0	7.2	7.1	
WM4	1055	9.6	*Surface*	26.1	26.1	26.1	8.1	8.1	8.1	31.6	31.6	31.6	4.4	4.5	4.5	66.1	67.4	66.8	3.0	3.1	3.1		6.8	7.2	7.0	
			Middle	25.9	26.0	26.0	8.1	8.1	8.1	31.6	31.6	31.6	3.3	3.3	3.3	49.6	50.5	50.1	3.3	3.3	3.3	3.4	7.4	7.2	7.3	7.8
			Bottom	25.9	25.9	25.9	8.1	8.1	8.1	31.7	31.7	31.7	3.2	3.1	3.2	48.5	47.0	47.8	3.8	4.0	3.9		9.0	9.0	9.0	
CS2	1030	14.0	*Surface*	26.2	26.3	26.3	8.0	8.1	8.1	31.6	31.5	31.6	5.1	5.0	5.1	76.4	75.3	75.9	2.8	3.0	2.9		5.6	6.0	5.8	
			Middle	25.9	25.9	25.9	8.1	8.1	8.1	31.7	31.7	31.7	3.5	3.6	3.6	53.1	54.0	53.6	3.4	3.2	3.3	3.6	6.6	6.2	6.4	7.2
			Bottom	25.8	25.8	25.8	8.1	8.1	8.1	31.6	31.7	31.7	3.8	3.7	3.8	56.6	55.7	56.2	4.6	4.3	4.5		9.8	9.0	9.4	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 2-Nov-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Calm
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0600	10.8	*Surface*	26.1	26.2	26.2	8.0	8.0	8.0	31.3	31.3	31.3	6.7	6.6	6.7	101.4	99.8	100.6	5.0	4.8	4.9		8.4	7.6	8.0	
			Middle	25.9	25.9	25.9	7.9	8.0	8.0	31.1	31.2	31.2	5.0	5.1	5.1	75.6	77.4	76.5	5.3	5.4	5.4	6.1	8.4	8.6	8.5	9.9
			Bottom	25.8	25.8	25.8	8.1	8.1	8.1	31.2	31.3	31.3	3.8	3.6	3.7	57.5	55.4	56.5	8.0	8.2	8.1		13.0	13.4	13.2	
WM1	0630	13.2	*Surface*	26.2	26.3	26.3	8.0	8.1	8.1	31.3	31.3	31.3	4.5	4.4	4.5	68.7	67.3	68.0	4.6	4.8	4.7		7.6	8.2	7.9	
			Middle	26.0	26.0	26.0	8.1	8.1	8.1	31.3	31.3	31.3	3.1	3.3	3.2	47.8	49.5	48.7	4.9	5.0	5.0	4.7	8.2	8.6	8.4	7.9
			Bottom	26.0	25.9	26.0	8.0	8.1	8.1	31.3	31.4	31.4	3.0	3.1	3.1	45.7	46.9	46.3	4.3	4.6	4.5		7.0	7.6	7.3	
WM2	0700	5.4	*Surface*	26.2	26.2	26.2	8.1	8.1	8.1	31.3	31.3	31.3	4.0	4.0	4.0	60.1	61.0	60.6	4.5	4.5	4.5		8.0	8.2	8.1	
			Middle																			4.0				7.2
			Bottom	26.0	26.0	26.0	8.0	8.1	8.1	30.9	30.9	30.9	3.0	2.9	3.0	45.0	44.4	44.7	3.6	3.3	3.5		6.6	6.0	6.3	
WM3	0727	9.2	*Surface*	26.2	26.2	26.2	8.0	8.1	8.1	31.1	31.1	31.1	4.0	3.8	3.9	60.2	58.3	59.3	3.5	3.4	3.5		6.6	6.4	6.5	
			Middle	25.9	26.0	26.0	8.1	8.1	8.1	31.3	31.3	31.3	3.1	3.1	3.1	46.5	47.3	46.9	4.0	4.0	4.0	4.1	8.0	7.6	7.8	8.1
			Bottom	25.8	25.8	25.8	8.1	8.1	8.1	31.3	31.4	31.4	2.9	2.9	2.9	43.8	44.5	44.2	4.7	4.8	4.8		10.0	10.2	10.1	
WM4	0800	9.4	*Surface*	26.1	26.2	26.2	8.1	8.1	8.1	31.2	31.2	31.2	3.9	4.0	4.0	59.8	60.9	60.4	2.9	2.9	2.9		6.6	6.6	6.6	
			Middle	25.9	25.9	25.9	8.1	8.0	8.1	31.3	31.3	31.3	3.0	3.0	3.0	45.0	45.9	45.5	3.5	3.7	3.6	3.5	7.6	7.8	7.7	7.8
			Bottom	25.8	25.7	25.8	8.1	8.1	8.1	31.4	31.4	31.4	2.8	2.9	2.9	43.1	44.0	43.6	4.0	4.2	4.1		9.0	9.4	9.2	
CS2	0828	14.0	*Surface*	26.2	26.2	26.2	8.0	8.0	8.0	31.4	31.4	31.4	4.2	4.2	4.2	63.0	64.1	63.6	4.0	4.2	4.1		8.0	8.6	8.3	
			Middle	25.8	25.9	25.9	8.0	8.1	8.1	31.5	31.6	31.6	3.3	3.2	3.3	49.9	49.0	49.5	3.0	3.4	3.2	3.7	5.6	5.8	5.7	7.3
			Bottom	25.8	25.8	25.8	8.1	8.1	8.1	31.4	31.5	31.5	2.7	2.8	2.8	41.2	42.7	42.0	3.6	3.8	3.7		7.6	8.0	7.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 4-Nov-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Small Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1440	10.1	*Surface*	26.4	26.5	26.5	8.2	8.2	8.2	31.4	31.4	31.4	4.3	4.4	4.4	63.2	64.5	63.9	4.7	4.4	4.6		8.4	8.2	8.3	
			Middle	26.6	26.5	26.6	8.1	8.2	8.2	31.3	31.4	31.4	3.9	3.6	3.8	57.4	54.4	55.9	5.3	5.1	5.2	6.1	10.2	9.2	9.7	11.1
			Bottom	26.7	26.7	26.7	8.2	8.2	8.2	31.3	31.3	31.3	2.8	2.8	2.8	41.8	41.1	41.5	8.6	8.6	8.6		15.6	15.2	15.4	
WM1	1358	11.1	*Surface*	26.4	26.4	26.4	8.2	8.1	8.2	31.2	31.1	31.2	3.8	3.9	3.9	55.4	56.7	56.1	3.5	3.3	3.4		5.4	5.0	5.2	
			Middle	27.1	27.1	27.1	8.2	8.2	8.2	30.9	31.0	31.0	1.7	1.8	1.8	24.7	25.9	25.3	3.2	3.4	3.3	3.5	5.0	5.4	5.2	5.8
			Bottom	26.9	26.9	26.9	8.1	8.2	8.2	31.1	31.1	31.1	2.5	2.6	2.6	37.7	38.0	37.9	3.7	3.7	3.7		6.8	7.0	6.9	
WM2	1331	5.8	*Surface*	26.5	26.6	26.6	8.2	8.1	8.2	31.0	31.0	31.0	3.5	3.7	3.6	51.5	53.5	52.5	3.0	2.7	2.9		6.6	6.8	6.7	
			Middle																			3.1				6.3
			Bottom	26.5	26.6	26.6	8.2	8.2	8.2	31.1	31.0	31.1	1.7	1.8	1.8	26.1	26.8	26.5	3.3	3.3	3.3		5.8	6.0	5.9	
WM3	1259	8.3	*Surface*	26.5	26.5	26.5	8.2	8.2	8.2	30.9	31.0	31.0	3.5	3.4	3.5	52.3	51.6	52.0	3.1	3.0	3.1		4.8	4.6	4.7	
			Middle	26.9	26.8	26.9	8.2	8.2	8.2	31.2	31.2	31.2	2.8	3.0	2.9	42.7	44.3	43.5	2.8	2.7	2.8	2.8	6.2	6.0	6.1	5.2
			Bottom	27.1	27.0	27.1	8.2	8.1	8.2	30.9	30.8	30.9	2.3	2.4	2.4	33.9	34.5	34.2	2.6	2.7	2.7		5.0	4.8	4.9	
WM4	1227	10.1	*Surface*	26.4	26.3	26.4	8.1	8.2	8.2	31.4	31.4	31.4	4.2	4.3	4.3	62.0	63.4	62.7	3.4	2.7	3.1		7.2	5.4	6.3	
			Middle	27.2	27.1	27.2	8.2	8.2	8.2	31.2	31.2	31.2	3.6	3.7	3.7	55.1	55.9	55.5	3.2	3.1	3.2	3.2	6.8	6.6	6.7	6.4
			Bottom	27.1	27.1	27.1	8.2	8.1	8.2	31.2	31.2	31.2	3.6	3.7	3.7	57.2	59.1	58.2	3.4	3.4	3.4		6.4	5.8	6.1	
CS2	1200	14.2	*Surface*	26.6	26.7	26.7	8.0	8.0	8.0	31.3	31.3	31.3	6.1	6.2	6.2	90.5	91.2	90.9	2.5	2.4	2.5		5.4	5.2	5.3	
			Middle	26.5	26.5	26.5	8.1	8.0	8.1	31.4	31.5	31.5	4.9	4.9	4.9	73.3	73.9	73.6	3.3	3.3	3.3	2.8	6.0	5.8	5.9	5.7
			Bottom	26.9	26.9	26.9	8.1	8.1	8.1	31.4	31.4	31.4	4.0	3.8	3.9	60.5	58.8	59.7	2.8	2.6	2.7		6.2	5.6	5.9	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 4-Nov-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1730	9.5	*Surface*	26.4	26.5	26.5	8.2	8.1	8.2	30.8	30.9	30.9	3.2	3.6	3.4	46.8	53.1	50.0	4.4	4.7	4.6		6.6	7.4	7.0	
			Middle	27.0	26.9	27.0	8.2	8.1	8.2	31.2	31.2	31.2	2.5	2.4	2.5	36.4	34.9	35.7	4.9	5.0	5.0	5.0	8.4	9.0	8.7	8.6
			Bottom	27.2	27.1	27.2	8.1	8.1	8.1	31.1	31.2	31.2	2.1	1.9	2.0	30.4	27.8	29.1	5.4	5.6	5.5		9.8	10.2	10.0	
WM1	1801	10.4	*Surface*	26.5	26.5	26.5	8.1	8.2	8.2	31.1	31.1	31.1	4.1	3.8	4.0	59.7	55.5	57.6	3.4	3.6	3.5		5.8	5.4	5.6	
			Middle	26.7	26.6	26.7	8.2	8.2	8.2	31.1	31.0	31.1	2.4	2.2	2.3	35.1	32.2	33.7	3.9	4.0	4.0	3.9	6.2	6.8	6.5	6.4
			Bottom	26.7	26.7	26.7	8.1	8.2	8.2	31.1	31.2	31.2	1.9	2.0	2.0	27.8	29.5	28.7	4.2	4.5	4.4		6.8	7.6	7.2	
WM2	1831	5.3	*Surface*	26.5	26.4	26.5	8.3	8.2	8.3	31.0	30.9	31.0	3.2	3.3	3.3	47.4	48.7	48.1	3.1	3.3	3.2		4.8	5.0	4.9	
			Middle																			3.4				5.8
			Bottom	26.6	26.6	26.6	8.3	8.3	8.3	31.0	31.0	31.0	2.0	1.8	1.9	29.5	26.7	28.1	3.7	3.6	3.7		6.8	6.4	6.6	
WM3	1902	8.1	*Surface*	26.5	26.4	26.5	8.2	8.3	8.3	30.9	30.9	30.9	3.7	3.5	3.6	54.5	51.6	53.1	2.5	2.9	2.7		5.0	5.6	5.3	
			Middle	26.8	26.8	26.8	8.1	8.2	8.2	31.1	31.2	31.2	2.7	2.4	2.6	39.6	35.1	37.4	3.2	3.3	3.3	3.0	6.8	7.0	6.9	6.2
			Bottom	26.9	26.8	26.9	8.2	8.2	8.2	31.2	31.1	31.2	2.0	1.9	2.0	29.2	27.5	28.4	3.0	3.1	3.1		6.4	6.6	6.5	
WM4	1934	9.5	*Surface*	26.3	26.3	26.3	8.1	8.2	8.2	31.3	31.4	31.4	4.7	4.3	4.5	68.7	63.1	65.9	3.0	3.2	3.1		6.6	6.8	6.7	
			Middle	26.9	26.8	26.9	8.2	8.2	8.2	31.4	31.3	31.4	3.4	3.3	3.4	50.1	48.5	49.3	3.5	3.6	3.6	3.6	7.8	8.0	7.9	8.1
			Bottom	26.9	26.9	26.9	8.1	8.2	8.2	31.3	31.3	31.3	3.2	3.0	3.1	47.1	44.4	45.8	4.1	3.9	4.0		10.4	9.2	9.8	
CS2	2005	13.4	*Surface*	26.6	26.6	26.6	8.3	8.2	8.3	31.2	31.3	31.3	5.7	5.9	5.8	84.1	87.0	85.6	2.7	2.6	2.7		5.4	5.0	5.2	
			Middle	26.6	26.5	26.6	8.2	8.2	8.2	31.3	31.5	31.4	4.9	5.0	5.0	72.1	73.4	72.8	3.2	3.2	3.2	3.2	6.0	6.2	6.1	6.5
			Bottom	26.7	26.7	26.7	8.1	8.2	8.2	31.4	31.5	31.5	3.4	3.5	3.5	50.2	51.7	51.0	3.6	3.7	3.7		8.0	8.6	8.3	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 7-Nov-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1602	14.4	*Surface*	26.5	26.5	26.5	8.1	8.1	8.1	31.1	31.1	31.1	4.8	4.8	4.8	76.8	76.5	76.7	4.8	4.4	4.6		10.2	10.2	10.2	
			Middle	26.4	26.4	26.4	8.2	8.2	8.2	31.3	31.3	31.3	3.1	3.1	3.1	49.6	49.0	49.3	4.8	4.9	4.9	4.9	10.2	9.4	9.8	9.3
			Bottom	26.2	26.2	26.2	8.2	8.2	8.2	31.3	31.4	31.4	3.0	3.0	3.0	48.2	48.4	48.3	5.2	5.0	5.1		8.2	7.8	8.0	
WM1	1529	10.6	*Surface*	26.4	26.4	26.4	8.2	8.2	8.2	31.3	31.3	31.3	3.6	3.6	3.6	57.6	57.4	57.5	4.2	4.5	4.4		7.2	8.0	7.6	
			Middle	26.2	26.3	26.3	8.1	8.1	8.1	31.4	31.4	31.4	2.8	2.8	2.8	44.6	44.4	44.5	4.0	3.8	3.9	4.3	6.2	6.2	6.2	7.9
			Bottom	26.2	26.2	26.2	8.1	8.1	8.1	31.3	31.3	31.3	2.0	2.0	2.0	31.5	31.9	31.7	4.7	4.5	4.6		10.0	9.6	9.8	
WM2	1459	5.6	*Surface*	26.5	26.4	26.5	8.2	8.2	8.2	30.8	30.8	30.8	4.2	4.2	4.2	67.2	67.0	67.1	3.4	3.0	3.2		7.2	6.4	6.8	
			Middle																			3.7				7.0
			Bottom	26.2	26.3	26.3	8.1	8.1	8.1	31.1	31.1	31.1	2.4	2.4	2.4	38.4	38.1	38.3	4.0	4.2	4.1		6.8	7.6	7.2	
WM3	1430	9.4	*Surface*	26.5	26.5	26.5	8.2	8.2	8.2	31.0	31.1	31.1	4.0	4.0	4.0	65.2	65.8	65.5	3.7	3.5	3.6		6.0	5.6	5.8	
			Middle	26.3	26.3	26.3	8.1	8.1	8.1	31.4	31.4	31.4	2.8	2.8	2.8	44.8	44.1	44.5	4.2	4.0	4.1	4.0	7.6	7.4	7.5	7.1
			Bottom	26.2	26.2	26.2	8.1	8.1	8.1	31.3	31.3	31.3	2.4	2.4	2.4	38.4	38.8	38.6	4.4	4.4	4.4		8.0	8.0	8.0	
WM4	1359	10.2	*Surface*	26.4	26.4	26.4	8.1	8.1	8.1	31.2	31.2	31.2	3.8	3.8	3.8	60.8	60.5	60.7	3.2	3.0	3.1		7.2	6.4	6.8	
			Middle	26.3	26.3	26.3	8.2	8.2	8.2	31.3	31.3	31.3	2.2	2.2	2.2	35.2	35.4	35.3	3.8	3.7	3.8	3.6	8.2	7.8	8.0	7.8
			Bottom	26.2	26.3	26.3	8.2	8.2	8.2	31.4	31.4	31.4	2.0	2.0	2.0	32.1	32.4	32.3	4.0	4.1	4.1		8.8	8.4	8.6	
CS2	1330	14.6	*Surface*	26.5	26.5	26.5	8.2	8.2	8.2	31.4	31.4	31.4	4.0	4.0	4.0	64.9	64.6	64.8	4.9	4.7	4.8		9.8	9.0	9.4	
			Middle	26.4	26.3	26.4	8.1	8.1	8.1	31.5	31.5	31.5	3.2	3.2	3.2	51.2	51.6	51.4	5.8	5.5	5.7	5.5	10.6	10.0	10.3	11.0
			Bottom	26.1	26.2	26.2	8.2	8.2	8.2	31.4	31.4	31.4	2.6	2.6	2.6	41.6	41.0	41.3	6.0	6.1	6.1		13.4	13.0	13.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 7-Nov-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0900	11.0	*Surface*	26.6	26.5	26.6	8.2	8.3	8.3	31.0	31.0	31.0	4.1	4.2	4.2	60.4	61.7	61.1	3.3	3.5	3.4		5.0	5.6	5.3	
			Middle	26.4	26.4	26.4	8.1	8.2	8.2	31.3	31.3	31.3	2.8	2.7	2.8	41.6	39.6	40.6	4.1	4.2	4.2	4.1	6.4	6.8	6.6	6.9
			Bottom	26.3	26.2	26.3	8.2	8.2	8.2	31.2	31.3	31.3	2.5	2.6	2.6	37.0	38.1	37.6	4.9	4.8	4.9		9.0	8.8	8.9	
WM1	0930	9.4	*Surface*	26.6	26.5	26.6	8.2	8.2	8.2	31.2	31.2	31.2	3.4	3.5	3.5	50.3	52.1	51.2	3.7	3.6	3.7		6.0	5.8	5.9	
			Middle	26.4	26.3	26.4	8.1	8.2	8.2	31.2	31.3	31.3	2.4	2.2	2.3	35.9	32.8	34.4	4.6	4.7	4.7	4.6	7.2	7.6	7.4	7.8
			Bottom	26.4	26.4	26.4	8.2	8.2	8.2	31.3	31.2	31.3	1.8	1.7	1.8	25.9	24.4	25.2	5.4	5.6	5.5		9.8	10.2	10.0	
WM2	1000	5.3	*Surface*	26.5	26.5	26.5	8.2	8.1	8.2	30.8	30.7	30.8	3.5	3.4	3.5	51.8	50.4	51.1	4.0	3.9	4.0		6.8	6.4	6.6	
			Middle																			4.3				7.2
			Bottom	26.3	26.2	26.3	8.1	8.2	8.2	31.0	31.0	31.0	1.8	1.7	1.8	26.1	24.7	25.4	4.6	4.7	4.7		7.4	8.0	7.7	
WM3	1031	8.9	*Surface*	26.3	26.4	26.4	8.2	8.2	8.2	31.1	31.1	31.1	3.7	3.5	3.6	53.8	51.5	52.7	3.3	3.4	3.4		6.2	6.4	6.3	
			Middle	26.3	26.3	26.3	8.1	8.1	8.1	31.3	31.2	31.3	2.0	1.8	1.9	29.6	27.3	28.5	3.6	3.4	3.5	3.6	7.4	7.6	7.5	7.5
			Bottom	26.2	26.2	26.2	8.1	8.2	8.2	31.3	31.3	31.3	2.2	2.1	2.2	33.2	31.8	32.5	4.0	3.8	3.9		9.0	8.2	8.6	
WM4	1102	9.8	*Surface*	26.3	26.3	26.3	8.2	8.2	8.2	31.2	31.1	31.2	4.0	3.9	4.0	58.2	57.1	57.7	2.9	3.0	3.0		5.8	6.4	6.1	
			Middle	26.4	26.5	26.5	8.3	8.2	8.3	31.2	31.1	31.2	1.9	1.8	1.9	28.3	26.4	27.4	2.8	2.9	2.9	3.1	7.2	7.0	7.1	6.8
			Bottom	26.3	26.3	26.3	8.3	8.2	8.3	31.4	31.5	31.5	2.1	2.0	2.1	31.7	29.8	30.8	3.4	3.6	3.5		7.0	7.2	7.1	
CS2	1133	14.3	*Surface*	26.3	26.3	26.3	8.1	8.2	8.2	31.4	31.3	31.4	4.2	4.3	4.3	61.9	63.3	62.6	3.8	3.7	3.8		7.8	7.0	7.4	
			Middle	26.2	26.3	26.3	8.2	8.2	8.2	31.4	31.4	31.4	2.6	2.7	2.7	39.5	40.4	40.0	4.4	4.7	4.6	4.5	8.0	8.6	8.3	8.9
			Bottom	26.2	26.2	26.2	8.1	8.2	8.2	31.5	31.4	31.5	2.6	2.4	2.5	38.3	36.1	37.2	5.0	5.1	5.1		11.2	10.8	11.0	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 9-Nov-11
Tide: Mid-Flood
Weather: Rainy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1635	11.8	*Surface*	25.2	25.3	25.3	8.1	8.1	8.1	32.9	32.8	32.9	5.2	5.1	5.2	76.7	75.3	76.0	3.8	4.1	4.0		7.6	7.8	7.7	
			Middle	25.3	25.2	25.3	8.1	8.2	8.2	32.8	32.9	32.9	4.4	4.6	4.5	64.8	67.1	66.0	6.2	6.0	6.1	5.6	10.4	11.0	10.7	10.4
			Bottom	25.1	25.3	25.2	8.1	8.1	8.1	32.9	32.9	32.9	3.1	3.0	3.1	45.7	44.0	44.9	6.8	6.9	6.9		13.0	12.6	12.8	
WM1	1557	9.3	*Surface*	25.1	25.0	25.1	8.2	8.1	8.2	32.2	32.1	32.2	5.1	4.9	5.0	74.5	71.3	72.9	5.3	5.2	5.3		9.4	9.6	9.5	
			Middle	25.1	25.1	25.1	8.1	8.2	8.2	32.2	32.2	32.2	3.4	3.2	3.3	49.7	46.9	48.3	6.1	5.9	6.0	6.0	11.6	11.2	11.4	11.6
			Bottom	25.1	25.2	25.2	8.1	8.2	8.2	32.3	32.2	32.3	2.1	2.2	2.2	30.6	32.4	31.5	6.7	6.8	6.8		13.6	14.0	13.8	
WM2	1527	5.8	*Surface*	25.1	25.0	25.1	8.2	8.2	8.2	32.1	32.1	32.1	4.6	4.3	4.5	67.1	63.3	65.2	5.8	6.1	6.0		11.2	11.6	11.4	
			Middle																			5.9				11.2
			Bottom	25.1	25.1	25.1	8.1	8.2	8.2	32.1	32.0	32.1	3.1	3.2	3.2	45.4	46.9	46.2	5.9	5.8	5.9		10.8	11.2	11.0	
WM3	1456	9.7	*Surface*	25.0	25.1	25.1	8.3	8.2	8.3	32.0	32.0	32.0	4.3	4.4	4.4	63.9	66.1	65.0	5.2	5.3	5.3		9.0	9.6	9.3	
			Middle	25.1	25.1	25.1	8.2	8.2	8.2	32.1	32.0	32.1	3.2	3.1	3.2	47.3	46.2	46.8	5.6	5.7	5.7	6.0	12.0	12.2	12.1	11.3
			Bottom	25.1	25.2	25.2	8.3	8.2	8.3	32.3	32.2	32.3	2.7	2.6	2.7	39.6	38.2	38.9	7.0	7.2	7.1		12.6	12.2	12.4	
WM4	1426	10.4	*Surface*	25.1	25.0	25.1	8.1	8.1	8.1	31.9	32.0	32.0	4.3	4.5	4.4	63.4	66.0	64.7	5.9	6.0	6.0		11.6	12.0	11.8	
			Middle	25.1	25.1	25.1	8.1	8.2	8.2	32.1	32.0	32.1	3.2	3.4	3.3	46.9	49.7	48.3	6.4	6.6	6.5	6.5	13.0	13.4	13.2	13.0
			Bottom	25.1	25.2	25.2	8.2	8.2	8.2	32.2	32.2	32.2	2.7	2.6	2.7	39.6	38.2	38.9	7.0	7.2	7.1		13.8	14.2	14.0	
CS2	1400	14.8	*Surface*	25.1	25.0	25.1	8.2	8.1	8.2	32.3	32.3	32.3	5.9	6.1	6.0	86.7	89.4	88.1	4.3	4.4	4.4		9.0	9.2	9.1	
			Middle	25.1	25.2	25.2	8.1	8.1	8.1	32.4	32.3	32.4	4.7	4.8	4.8	68.6	70.1	69.4	5.5	5.7	5.6	5.4	11.0	11.4	11.2	10.9
			Bottom	25.2	25.2	25.2	8.2	8.1	8.2	32.6	32.6	32.6	3.4	3.1	3.3	49.8	45.3	47.6	6.2	6.3	6.3		12.4	12.6	12.5	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 9-Nov-11
Tide: Mid-Ebb
Weather: Rainy
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0930	11.4	*Surface*	25.1	25.1	25.1	8.1	8.1	8.1	32.8	32.9	32.9	5.4	5.6	5.5	78.9	80.3	79.6	4.0	4.2	4.1		6.8	7.4	7.1	
			Middle	25.2	25.2	25.2	8.2	8.1	8.2	32.9	32.9	32.9	5.3	5.2	5.3	78.1	77.6	77.9	6.7	6.4	6.6	6.0	12.2	11.6	11.9	10.8
			Bottom	25.3	25.2	25.3	8.2	8.1	8.2	32.9	33.0	33.0	3.6	3.4	3.5	52.9	51.7	52.3	7.2	7.4	7.3		13.0	13.8	13.4	
WM1	1005	8.5	*Surface*	25.1	25.1	25.1	8.1	8.2	8.2	32.0	32.1	32.1	4.8	4.7	4.8	69.2	68.4	68.8	5.6	5.4	5.5		9.4	8.8	9.1	
			Middle	25.0	25.1	25.1	8.2	8.2	8.2	32.0	32.0	32.0	3.3	3.1	3.2	47.7	45.7	46.7	6.2	6.0	6.1	6.2	11.2	10.8	11.0	10.8
			Bottom	25.3	25.3	25.3	8.2	8.2	8.2	32.3	32.4	32.4	2.4	2.3	2.4	34.8	33.2	34.0	6.9	6.8	6.9		12.6	12.2	12.4	
WM2	1037	5.4	*Surface*	25.0	25.1	25.1	8.1	8.2	8.2	32.0	31.9	32.0	4.1	4.2	4.2	60.6	61.0	60.8	6.2	6.5	6.4		12.4	12.6	12.5	
			Middle																			6.3				12.2
			Bottom	25.0	25.1	25.1	8.1	8.1	8.1	32.0	31.9	32.0	3.9	3.9	3.9	57.4	56.8	57.1	6.2	6.3	6.3		11.8	12.0	11.9	
WM3	1105	8.7	*Surface*	25.1	25.1	25.1	8.2	8.2	8.2	32.1	32.2	32.2	4.5	4.3	4.4	67.0	65.2	66.1	5.8	5.8	5.8		10.6	10.8	10.7	
			Middle	25.2	25.1	25.2	8.2	8.1	8.2	32.1	32.1	32.1	3.6	3.7	3.7	52.9	53.4	53.2	6.1	6.1	6.1	6.2	12.4	12.4	12.4	12.2
			Bottom	25.0	25.1	25.1	8.1	8.2	8.2	32.3	32.3	32.3	3.2	3.3	3.3	46.5	47.2	46.9	6.5	6.8	6.7		13.2	13.8	13.5	
WM4	1137	9.9	*Surface*	25.0	25.0	25.0	8.1	8.2	8.2	32.1	32.0	32.1	5.1	4.9	5.0	75.6	73.6	74.6	6.4	6.3	6.4		12.2	12.0	12.1	
			Middle	25.1	25.1	25.1	8.1	8.1	8.1	32.1	32.2	32.2	3.9	4.1	4.0	57.1	58.5	57.8	6.9	6.6	6.8	6.6	13.8	13.2	13.5	13.3
			Bottom	25.1	25.1	25.1	8.2	8.2	8.2	32.4	32.4	32.4	3.4	3.4	3.4	49.3	49.7	49.5	6.6	6.6	6.6		14.6	14.2	14.4	
CS2	1210	14.3	*Surface*	25.2	25.1	25.2	8.1	8.1	8.1	32.4	32.5	32.5	5.8	5.7	5.8	85.3	84.1	84.7	4.7	4.7	4.7		9.8	9.4	9.6	
			Middle	25.2	25.2	25.2	8.2	8.1	8.2	32.4	32.4	32.4	5.5	5.2	5.4	81.7	78.3	80.0	5.1	5.3	5.2	5.2	11.0	11.4	11.2	11.1
			Bottom	25.1	25.2	25.2	8.1	8.1	8.1	32.7	32.7	32.7	3.7	3.7	3.7	52.4	53.3	52.9	5.5	5.6	5.6		12.2	12.6	12.4	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 11-Nov-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1719	10.4	*Surface*	24.1	24.1	24.1	8.2	8.2	8.2	31.5	31.5	31.5	5.7	5.7	5.7	82.6	82.2	82.4	7.3	7.6	7.5		12.4	12.6	12.5	
			Middle	24.0	24.0	24.0	8.3	8.3	8.3	31.8	31.8	31.8	5.9	5.9	5.9	85.6	85.2	85.4	7.4	7.6	7.5	7.2	12.8	13.2	13.0	12.2
			Bottom	24.2	24.1	24.2	8.3	8.3	8.3	32.8	32.8	32.8	5.6	5.6	5.6	81.1	81.4	81.3	6.4	6.7	6.6		10.8	11.4	11.1	
WM1	1637	12.2	*Surface*	24.6	24.6	24.6	8.3	8.3	8.3	32.8	32.8	32.8	5.4	5.4	5.4	78.9	78.3	78.6	5.9	5.1	5.5		9.4	8.6	9.0	
			Middle	24.2	24.3	24.3	8.2	8.2	8.2	32.6	32.6	32.6	5.2	5.2	5.2	74.4	74.0	74.2	4.8	4.1	4.5	4.8	8.0	7.0	7.5	8.4
			Bottom	24.3	24.3	24.3	8.3	8.3	8.3	32.3	32.3	32.3	5.0	5.0	5.0	72.5	72.0	72.3	4.6	4.2	4.4		8.8	8.4	8.6	
WM2	1607	5.4	*Surface*	24.7	24.7	24.7	8.2	8.2	8.2	32.1	32.1	32.1	5.3	5.3	5.3	76.2	76.6	76.4	7.0	6.8	6.9		13.2	13.0	13.1	
			Middle																			6.1				11.6
			Bottom	24.7	24.7	24.7	8.3	8.3	8.3	32.4	32.4	32.4	5.6	5.6	5.6	81.2	81.8	81.5	5.1	5.4	5.3		10.2	9.8	10.0	
WM3	1542	9.2	*Surface*	24.5	24.5	24.5	8.3	8.3	8.3	32.8	32.8	32.8	5.1	5.1	5.1	74.2	74.6	74.4	4.9	4.3	4.6		8.4	7.2	7.8	
			Middle	24.4	24.5	24.5	8.3	8.3	8.3	32.9	32.9	32.9	5.0	5.0	5.0	73.2	73.0	73.1	5.2	5.0	5.1	5.0	9.8	9.6	9.7	9.1
			Bottom	24.4	24.3	24.4	8.4	8.4	8.4	32.9	32.9	32.9	5.4	5.4	5.4	79.3	79.6	79.5	5.0	5.3	5.2		9.4	10.0	9.7	
WM4	1514	9.8	*Surface*	24.7	24.7	24.7	8.3	8.4	8.4	32.8	32.8	32.8	5.4	5.4	5.4	78.3	78.1	78.2	4.5	4.1	4.3		8.6	8.0	8.3	
			Middle	24.4	24.5	24.5	8.4	8.4	8.4	32.7	32.7	32.7	5.2	5.2	5.2	75.0	75.4	75.2	4.8	4.2	4.5	4.6	9.6	8.4	9.0	9.2
			Bottom	24.2	24.2	24.2	8.4	8.4	8.4	32.5	32.5	32.5	5.4	5.4	5.4	79.0	78.9	79.0	4.9	5.2	5.1		10.0	10.8	10.4	
CS2	1445	13.8	*Surface*	24.5	24.5	24.5	8.2	8.3	8.3	33.0	33.0	33.0	5.8	5.8	5.8	84.1	84.9	84.5	5.8	5.2	5.5		11.0	9.8	10.4	
			Middle	24.4	24.3	24.4	8.3	8.3	8.3	32.9	32.9	32.9	5.6	5.6	5.6	81.2	81.0	81.1	5.0	5.8	5.4	6.1	9.6	11.0	10.3	11.8
			Bottom	24.5	24.4	24.5	8.2	8.3	8.3	32.8	32.8	32.8	5.7	5.7	5.7	82.7	82.3	82.5	7.4	7.2	7.3		15.0	14.4	14.7	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 11-Nov-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1015	11.6	*Surface*	24.0	23.9	24.0	8.2	8.2	8.2	31.5	31.5	31.5	5.9	5.9	5.9	85.3	84.9	85.1	8.7	8.8	8.8		14.4	14.0	14.2	
			Middle	24.0	24.0	24.0	8.1	8.2	8.2	32.5	32.5	32.5	5.9	5.8	5.9	84.7	84.2	84.5	7.5	7.6	7.6	8.1	12.2	12.0	12.1	13.0
			Bottom	23.9	23.9	23.9	8.2	8.2	8.2	32.7	32.6	32.7	5.7	5.8	5.8	82.6	83.1	82.9	7.8	7.9	7.9		12.6	13.0	12.8	
WM1	1044	13.2	*Surface*	23.9	23.9	23.9	8.2	8.2	8.2	32.2	32.2	32.2	5.7	5.7	5.7	82.7	82.3	82.5	6.2	6.2	6.2		10.4	9.8	10.1	
			Middle	24.3	24.3	24.3	8.2	8.2	8.2	32.5	32.5	32.5	5.6	5.6	5.6	79.8	79.4	79.6	5.9	6.0	6.0	6.0	10.2	10.4	10.3	10.1
			Bottom	24.3	24.3	24.3	8.2	8.2	8.2	32.6	32.6	32.6	5.6	5.7	5.7	81.5	82.1	81.8	5.7	5.7	5.7		10.0	9.8	9.9	
WM2	1112	5.2	*Surface*	23.7	23.7	23.7	8.2	8.2	8.2	32.6	32.6	32.6	5.9	5.9	5.9	85.1	84.8	85.0	7.7	7.7	7.7		14.6	14.2	14.4	
			Middle																			6.6				12.5
			Bottom	23.6	23.6	23.6	8.2	8.2	8.2	32.5	32.4	32.5	5.7	5.7	5.7	83.2	83.5	83.4	5.5	5.6	5.6		10.4	10.8	10.6	
WM3	1138	9.0	*Surface*	24.1	24.1	24.1	8.3	8.3	8.3	32.1	32.1	32.1	5.9	5.9	5.9	85.1	85.5	85.3	5.6	5.7	5.7		10.0	10.4	10.2	
			Middle	24.3	24.3	24.3	8.3	8.3	8.3	32.7	32.7	32.7	5.9	5.8	5.9	84.2	83.8	84.0	6.2	6.3	6.3	5.9	12.4	12.0	12.2	11.7
			Bottom	24.4	24.4	24.4	8.4	8.4	8.4	32.7	32.7	32.7	5.8	5.8	5.8	84.1	83.7	83.9	5.9	5.9	5.9		13.0	12.2	12.6	
WM4	1210	10.0	*Surface*	24.3	24.3	24.3	8.4	8.4	8.4	32.8	32.8	32.8	5.8	5.8	5.8	84.4	84.1	84.3	4.8	4.9	4.9		9.0	9.6	9.3	
			Middle	24.3	24.3	24.3	8.4	8.4	8.4	32.8	32.8	32.8	5.9	5.9	5.9	86.2	85.7	86.0	5.0	5.1	5.1	4.8	10.8	10.4	10.6	9.5
			Bottom	24.1	24.1	24.1	8.4	8.4	8.4	32.8	32.8	32.8	5.9	5.8	5.9	85.2	84.7	85.0	4.4	4.4	4.4		8.6	8.6	8.6	
CS2	1244	14.3	*Surface*	24.4	24.4	24.4	8.4	8.4	8.4	32.8	32.8	32.8	6.0	6.0	6.0	87.5	87.9	87.7	5.6	5.6	5.6		11.6	11.0	11.3	
			Middle	24.5	24.5	24.5	8.4	8.4	8.4	32.4	32.4	32.4	6.1	6.1	6.1	88.7	88.4	88.6	5.3	5.3	5.3	5.6	10.2	10.2	10.2	11.4
			Bottom	24.4	24.3	24.4	8.4	8.4	8.4	32.5	32.5	32.5	6.1	6.1	6.1	88.5	88.9	88.7	5.9	6.0	6.0		12.4	13.2	12.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 14-Nov-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1818	11.7	*Surface*	27.4	27.3	27.4	8.2	8.2	8.2	30.1	30.1	30.1	5.1	4.9	5.0	75.5	72.4	74.0	4.3	4.4	4.4		8.2	8.2	8.2	
			Middle	27.2	27.3	27.3	8.3	8.2	8.3	30.2	30.1	30.2	4.4	4.3	4.4	65.0	63.4	64.2	5.6	5.7	5.7	5.4	10.8	11.6	11.2	10.4
			Bottom	27.1	27.2	27.2	8.2	8.2	8.2	30.3	30.3	30.3	3.5	3.4	3.5	51.4	50.1	50.8	6.1	6.2	6.2		11.6	11.8	11.7	
WM1	1742	11.4	*Surface*	27.2	27.3	27.3	8.3	8.2	8.3	30.0	29.9	30.0	4.4	4.5	4.5	65.1	66.7	65.9	4.8	5.1	5.0		7.4	7.8	7.6	
			Middle	27.1	27.2	27.2	8.2	8.3	8.3	30.0	30.1	30.1	4.1	3.9	4.0	60.5	57.6	59.1	5.5	5.6	5.6	5.7	8.8	9.2	9.0	10.0
			Bottom	27.0	27.0	27.0	8.3	8.3	8.3	29.9	29.9	29.9	3.0	3.2	3.1	44.4	47.7	46.1	6.5	6.4	6.5		13.2	13.4	13.3	
WM2	1712	5.8	*Surface*	27.0	27.1	27.1	8.2	8.1	8.2	30.7	30.7	30.7	4.8	4.9	4.9	70.6	72.3	71.5	5.4	5.5	5.5		10.2	10.0	10.1	
			Middle																			5.9				11.1
			Bottom	27.1	27.0	27.1	8.1	8.2	8.2	30.8	30.7	30.8	3.6	3.7	3.7	52.9	54.6	53.8	6.3	6.4	6.4		11.8	12.2	12.0	
WM3	1641	10.3	*Surface*	26.7	26.7	26.7	8.3	8.2	8.3	30.3	30.3	30.3	4.4	4.3	4.4	65.2	64.0	64.6	3.9	4.0	4.0		7.0	7.2	7.1	
			Middle	26.7	26.6	26.7	8.2	8.2	8.2	30.4	30.4	30.4	3.8	3.9	3.9	55.9	57.5	56.7	4.6	4.7	4.7	4.6	9.6	9.8	9.7	8.8
			Bottom	26.8	26.7	26.8	8.2	8.3	8.3	30.4	30.5	30.5	3.2	3.1	3.2	47.2	45.5	46.4	5.1	5.3	5.2		9.0	10.0	9.5	
WM4	1612	9.5	*Surface*	26.7	26.7	26.7	8.2	8.2	8.2	30.6	30.6	30.6	5.2	5.1	5.2	76.8	75.2	76.0	4.1	4.2	4.2		9.2	9.0	9.1	
			Middle	26.7	26.6	26.7	8.1	8.2	8.2	30.7	30.6	30.7	4.2	4.3	4.3	62.1	63.7	62.9	4.7	4.6	4.7	4.9	9.0	9.2	9.1	10.3
			Bottom	26.6	26.6	26.6	8.2	8.2	8.2	30.9	30.8	30.9	3.5	3.3	3.4	51.8	48.7	50.3	5.8	5.7	5.8		12.8	12.4	12.6	
CS2	1545	14.6	*Surface*	26.5	26.5	26.5	8.1	8.2	8.2	31.0	31.0	31.0	5.6	5.4	5.5	82.7	79.6	81.2	4.5	4.6	4.6		9.0	8.8	8.9	
			Middle	26.4	26.5	26.5	8.2	8.1	8.2	30.8	30.9	30.9	4.8	5.0	4.9	71.1	74.3	72.7	5.2	5.3	5.3	5.2	9.8	10.4	10.1	10.5
			Bottom	26.5	26.5	26.5	8.2	8.2	8.2	31.1	31.1	31.1	4.1	3.9	4.0	60.7	57.7	59.2	5.8	5.7	5.8		12.2	12.6	12.4	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 14-Nov-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1115	10.9	*Surface*	27.3	27.3	27.3	8.2	8.2	8.2	30.2	30.1	30.2	4.7	4.9	4.8	70.2	73.1	71.7	5.4	5.6	5.5		8.8	9.2	9.0	
			Middle	27.1	27.0	27.1	8.2	8.1	8.2	30.4	30.4	30.4	5.0	5.2	5.1	74.8	77.7	76.3	6.2	6.1	6.2	6.2	11.0	11.6	11.3	10.9
			Bottom	27.1	27.1	27.1	8.1	8.2	8.2	30.5	30.4	30.5	3.1	3.2	3.2	45.8	47.2	46.5	6.8	6.9	6.9		12.4	12.6	12.5	
WM1	1147	10.6	*Surface*	27.2	27.2	27.2	8.1	8.1	8.1	29.8	29.9	29.9	4.7	4.3	4.5	69.2	65.2	67.2	5.1	5.2	5.2		8.4	7.8	8.1	
			Middle	27.1	27.1	27.1	8.2	8.1	8.2	29.8	29.9	29.9	4.2	4.0	4.1	62.4	59.5	61.0	5.8	5.7	5.8	5.8	10.0	10.2	10.1	9.9
			Bottom	27.1	27.0	27.1	8.1	8.2	8.2	29.8	29.8	29.8	3.2	3.3	3.3	47.3	48.9	48.1	6.4	6.3	6.4		11.2	12.0	11.6	
WM2	1216	5.2	*Surface*	27.0	26.9	27.0	8.1	8.2	8.2	30.8	30.7	30.8	4.4	4.6	4.5	66.2	67.8	67.0	5.2	5.5	5.4		8.6	9.4	9.0	
			Middle																			6.0				9.9
			Bottom	27.0	27.0	27.0	8.2	8.2	8.2	30.8	30.8	30.8	3.8	3.7	3.8	56.6	55.2	55.9	6.7	6.4	6.6		11.0	10.6	10.8	
WM3	1247	9.7	*Surface*	26.6	26.7	26.7	8.2	8.3	8.3	30.3	30.2	30.3	4.7	4.6	4.7	69.5	68.5	69.0	3.4	3.7	3.6		6.6	7.4	7.0	
			Middle	26.7	26.7	26.7	8.2	8.1	8.2	30.3	30.4	30.4	4.2	4.3	4.3	62.1	63.9	63.0	4.1	4.2	4.2	4.2	8.0	8.0	8.0	8.2
			Bottom	26.7	26.7	26.7	8.2	8.2	8.2	30.4	30.5	30.5	3.4	3.6	3.5	50.6	53.8	52.2	4.7	4.9	4.8		9.4	10.0	9.7	
WM4	1318	8.9	*Surface*	26.5	26.6	26.6	8.2	8.1	8.2	30.7	30.6	30.7	4.9	5.1	5.0	72.9	74.9	73.9	3.8	4.0	3.9		6.8	7.2	7.0	
			Middle	26.6	26.6	26.6	8.3	8.2	8.3	30.7	30.8	30.8	4.0	3.8	3.9	58.8	55.9	57.4	4.6	4.5	4.6	4.6	10.0	9.4	9.7	9.3
			Bottom	26.5	26.5	26.5	8.2	8.3	8.3	30.7	30.8	30.8	3.1	3.2	3.2	45.3	47.1	46.2	5.3	5.5	5.4		11.0	11.6	11.3	
CS2	1350	13.8	*Surface*	26.3	26.4	26.4	8.2	8.2	8.2	31.0	31.0	31.0	5.3	5.4	5.4	77.6	79.4	78.5	4.1	4.2	4.2		8.0	8.4	8.2	
			Middle	26.3	26.3	26.3	8.1	8.2	8.2	30.9	31.0	31.0	5.7	5.8	5.8	83.5	85.1	84.3	4.7	4.8	4.8	4.8	9.0	9.2	9.1	9.8
			Bottom	26.5	26.4	26.5	8.2	8.2	8.2	31.1	31.2	31.2	4.2	4.4	4.3	61.7	64.5	63.1	5.4	5.6	5.5		11.6	12.4	12.0	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 16-Nov-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Small Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1133	14.6	*Surface*	26.0	26.0	26.0	8.1	8.1	8.1	30.6	30.7	30.7	4.7	4.8	4.8	71.0	72.4	71.7	5.8	5.4	5.6		11.0	10.8	10.9	
			Middle	26.0	25.9	26.0	8.1	8.1	8.1	30.9	30.9	30.9	3.6	3.6	3.6	53.6	54.5	54.1	6.0	6.0	6.0	6.0	12.8	13.4	13.1	12.5
			Bottom	25.9	25.8	25.9	8.1	8.1	8.1	30.9	31.0	31.0	2.8	2.9	2.9	42.6	43.8	43.2	6.4	6.3	6.4		13.8	13.4	13.6	
WM1	1056	15.4	*Surface*	26.0	26.0	26.0	8.1	8.2	8.2	30.9	31.0	31.0	4.4	4.5	4.5	66.1	67.0	66.6	4.0	4.2	4.1		6.6	7.2	6.9	
			Middle	25.9	25.9	25.9	8.2	8.2	8.2	30.8	30.9	30.9	3.2	3.3	3.3	47.6	49.9	48.8	5.0	5.2	5.1	5.1	9.4	9.8	9.6	9.3
			Bottom	25.9	25.8	25.9	8.1	8.2	8.2	30.6	30.7	30.7	2.9	2.8	2.9	43.6	41.7	42.7	6.0	5.9	6.0		11.4	11.2	11.3	
WM2	1030	5.8	*Surface*	25.9	26.0	26.0	8.1	8.0	8.1	30.9	30.9	30.9	4.2	4.3	4.3	63.7	65.1	64.4	5.0	4.9	5.0		11.2	10.8	11.0	
			Middle																			5.2				10.8
			Bottom	26.0	26.0	26.0	8.1	8.1	8.1	29.6	29.7	29.7	3.0	3.0	3.0	44.8	45.2	45.0	5.3	5.5	5.4		10.4	10.8	10.6	
WM3	1000	9.8	*Surface*	25.9	26.0	26.0	8.1	8.1	8.1	30.4	30.5	30.5	4.3	4.4	4.4	65.2	66.1	65.7	3.7	3.6	3.7		7.6	7.8	7.7	
			Middle	26.0	26.0	26.0	8.1	8.1	8.1	30.8	30.9	30.9	3.8	3.8	3.8	57.1	57.8	57.5	4.4	4.6	4.5	4.5	10.4	9.6	10.0	9.5
			Bottom	25.9	25.9	25.9	8.1	8.2	8.2	31.1	31.1	31.1	3.0	3.0	3.0	44.7	45.5	45.1	5.2	5.4	5.3		10.4	11.0	10.7	
WM4	0928	10.4	*Surface*	26.0	26.1	26.1	8.0	8.1	8.1	31.0	30.9	31.0	4.8	4.7	4.8	71.9	71.0	71.5	3.6	3.4	3.5		7.8	7.2	7.5	
			Middle	26.0	26.0	26.0	8.1	8.1	8.1	31.0	31.0	31.0	4.0	4.2	4.1	60.9	62.5	61.7	4.7	4.4	4.6	4.1	9.2	8.6	8.9	8.6
			Bottom	26.0	26.1	26.1	8.0	8.1	8.1	31.0	31.1	31.1	3.1	3.2	3.2	47.3	48.4	47.9	4.3	4.4	4.4		9.4	9.2	9.3	
CS2	0900	14.0	*Surface*	26.5	26.4	26.5	8.0	8.0	8.0	30.2	30.2	30.2	4.9	4.8	4.9	73.0	71.9	72.5	4.7	5.0	4.9		10.0	10.6	10.3	
			Middle	26.2	26.3	26.3	8.0	8.0	8.0	31.1	31.1	31.1	4.4	4.5	4.5	66.7	67.7	67.2	4.9	4.9	4.9	5.3	9.0	8.8	8.9	10.5
			Bottom	26.0	26.0	26.0	8.0	8.0	8.0	30.8	30.8	30.8	3.2	3.3	3.3	48.2	49.6	48.9	6.1	5.9	6.0		12.6	12.2	12.4	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 16-Nov-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1330	14.3	*Surface*	26.2	26.1	26.2	8.2	8.1	8.2	30.6	30.5	30.6	7.1	7.0	7.1	103.8	102.7	103.3	5.1	5.3	5.2		8.4	9.0	8.7	
			Middle	26.1	26.1	26.1	8.1	8.1	8.1	30.9	30.9	30.9	5.0	5.2	5.1	74.9	76.3	75.6	5.9	6.2	6.1	5.8	11.0	11.6	11.3	10.5
			Bottom	26.1	26.1	26.1	8.2	8.1	8.2	31.0	30.9	31.0	5.5	5.6	5.6	82.3	83.0	82.7	6.3	6.2	6.3		11.8	11.4	11.6	
WM1	1406	15.0	*Surface*	26.1	26.1	26.1	8.2	8.2	8.2	31.0	31.0	31.0	4.3	4.3	4.3	63.4	63.9	63.7	4.1	4.2	4.2		7.4	7.2	7.3	
			Middle	26.0	26.1	26.1	8.1	8.2	8.2	30.9	31.0	31.0	3.6	3.8	3.7	53.5	54.7	54.1	5.4	5.4	5.4	5.5	10.4	10.8	10.6	10.5
			Bottom	25.9	26.0	26.0	8.2	8.1	8.2	30.7	30.8	30.8	2.4	2.5	2.5	34.0	34.9	34.5	7.0	7.1	7.1		13.4	13.6	13.5	
WM2	1438	5.5	*Surface*	25.9	26.0	26.0	8.2	8.1	8.2	30.6	30.6	30.6	4.6	4.7	4.7	68.8	69.3	69.1	4.0	4.3	4.2		7.0	7.8	7.4	
			Middle																			4.1				7.4
			Bottom	26.0	25.9	26.0	8.1	8.1	8.1	30.6	30.7	30.7	4.8	4.8	4.8	72.4	71.6	72.0	4.1	4.1	4.1		7.4	7.2	7.3	
WM3	1505	9.6	*Surface*	25.9	25.9	25.9	8.1	8.1	8.1	31.0	31.0	31.0	4.3	4.5	4.4	62.4	64.3	63.4	4.1	4.0	4.1		6.6	7.0	6.8	
			Middle	25.9	26.0	26.0	8.1	8.2	8.2	31.0	30.9	31.0	4.0	4.0	4.0	60.2	60.7	60.5	4.0	4.3	4.2	4.1	7.6	8.4	8.0	7.9
			Bottom	25.7	25.8	25.8	8.1	8.2	8.2	30.8	30.9	30.9	2.3	2.4	2.4	34.0	34.8	34.4	4.2	4.1	4.2		9.0	8.8	8.9	
WM4	1536	10.1	*Surface*	25.9	26.0	26.0	8.2	8.1	8.2	30.7	30.8	30.8	4.2	4.1	4.2	61.3	60.6	61.0	3.4	3.6	3.5		7.4	7.8	7.6	
			Middle	26.0	26.0	26.0	8.2	8.2	8.2	31.1	31.0	31.1	2.1	2.2	2.2	30.8	31.4	31.1	3.9	3.9	3.9	4.3	8.2	8.4	8.3	9.6
			Bottom	25.6	25.6	25.6	8.1	8.1	8.1	30.9	31.0	31.0	2.9	2.7	2.8	42.3	40.3	41.3	5.4	5.6	5.5		12.6	13.0	12.8	
CS2	1609	13.5	*Surface*	26.0	26.1	26.1	8.2	8.2	8.2	30.7	30.7	30.7	4.9	5.0	5.0	71.8	72.5	72.2	5.4	5.1	5.3		10.4	9.8	10.1	
			Middle	26.0	26.0	26.0	8.1	8.2	8.2	30.9	31.0	31.0	3.8	3.9	3.9	55.5	56.1	55.8	3.8	4.0	3.9	4.5	7.4	7.6	7.5	8.7
			Bottom	26.0	25.9	26.0	8.2	8.1	8.2	31.0	31.0	31.0	3.2	3.2	3.2	47.0	47.7	47.4	4.4	4.5	4.5		8.6	8.4	8.5	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 18-Nov-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1309	14.9	*Surface*	25.6	25.6	25.6	8.2	8.3	8.3	31.2	31.2	31.2	4.9	4.9	4.9	73.0	73.7	73.4	5.9	6.1	6.0		12.2	13.0	12.6	
			Middle	26.0	26.1	26.1	8.3	8.2	8.3	31.2	31.3	31.3	2.9	2.8	2.9	43.1	42.3	42.7	6.4	6.6	6.5	6.9	13.6	14.0	13.8	14.0
			Bottom	26.4	26.3	26.4	8.2	8.3	8.3	31.3	31.3	31.3	3.2	3.0	3.1	46.8	44.8	45.8	8.4	8.1	8.3		16.0	15.2	15.6	
WM1	1228	14.4	*Surface*	25.6	25.6	25.6	8.3	8.3	8.3	30.6	30.7	30.7	4.7	4.7	4.7	70.2	70.9	70.6	4.6	4.7	4.7		8.4	9.0	8.7	
			Middle	26.1	26.0	26.1	8.2	8.3	8.3	31.0	30.9	31.0	4.1	4.2	4.2	61.4	62.3	61.9	4.4	4.4	4.4	4.6	7.8	7.4	7.6	8.5
			Bottom	26.0	26.1	26.1	8.2	8.2	8.2	31.1	31.0	31.1	3.5	3.4	3.5	51.7	50.9	51.3	4.8	4.7	4.8		9.4	9.0	9.2	
WM2	1200	5.8	*Surface*	25.8	25.9	25.9	8.2	8.2	8.2	30.3	30.4	30.4	4.3	4.2	4.3	63.5	62.3	62.9	5.8	5.5	5.7		10.8	10.2	10.5	
			Middle																			5.6				10.6
			Bottom	26.1	26.0	26.1	8.3	8.2	8.3	30.5	30.5	30.5	3.5	3.6	3.6	52.1	53.4	52.8	5.5	5.6	5.6		10.6	10.8	10.7	
WM3	1128	8.7	*Surface*	25.8	25.8	25.8	8.3	8.2	8.3	30.9	30.8	30.9	4.2	4.3	4.3	62.7	63.5	63.1	5.1	5.3	5.2		9.2	9.8	9.5	
			Middle	26.4	26.4	26.4	8.2	8.3	8.3	30.6	30.7	30.7	3.8	4.0	3.9	56.9	58.1	57.5	4.4	4.6	4.5	5.1	8.6	8.8	8.7	9.8
			Bottom	26.3	26.4	26.4	8.3	8.3	8.3	31.1	31.1	31.1	3.2	3.3	3.3	48.1	48.8	48.5	5.6	5.5	5.6		11.2	11.0	11.1	
WM4	1056	9.5	*Surface*	25.7	25.8	25.8	8.2	8.3	8.3	31.1	31.0	31.1	4.9	5.0	5.0	73.2	73.8	73.5	3.8	4.1	4.0		7.0	7.2	7.1	
			Middle	26.4	26.5	26.5	8.3	8.3	8.3	30.9	30.8	30.9	5.2	5.1	5.2	85.0	84.3	84.7	4.0	4.1	4.1	4.6	7.2	7.4	7.3	8.4
			Bottom	26.4	26.4	26.4	8.2	8.3	8.3	31.2	31.1	31.2	4.7	4.5	4.6	72.2	70.6	71.4	5.6	5.8	5.7		10.6	11.2	10.9	
CS2	1030	14.1	*Surface*	26.1	26.0	26.1	8.3	8.3	8.3	31.1	31.2	31.2	6.7	6.8	6.8	99.3	100.1	99.7	4.4	4.5	4.5		8.4	8.6	8.5	
			Middle	26.3	26.3	26.3	8.3	8.2	8.3	31.2	31.3	31.3	6.2	6.4	6.3	92.4	94.7	93.6	4.9	5.1	5.0	5.9	9.4	9.8	9.6	11.1
			Bottom	26.2	26.2	26.2	8.2	8.2	8.2	31.2	31.2	31.2	5.5	5.6	5.6	83.8	84.2	84.0	8.3	8.0	8.2		15.0	15.4	15.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 18-Nov-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1500	12.9	*Surface*	25.5	25.5	25.5	8.2	8.2	8.2	31.3	31.3	31.3	5.9	5.9	5.9	85.2	85.8	85.5	7.6	7.4	7.5		13.8	13.4	13.6	
			Middle	25.6	25.6	25.6	8.2	8.2	8.2	31.3	31.3	31.3	3.6	3.6	3.6	52.5	52.1	52.3	5.3	5.7	5.5	6.2	9.8	11.0	10.4	11.7
			Bottom	25.6	25.6	25.6	8.1	8.1	8.1	31.0	31.0	31.0	3.4	3.4	3.4	46.8	46.4	46.6	5.9	5.4	5.7		11.4	10.8	11.1	
WM1	1538	13.2	*Surface*	25.6	25.5	25.6	8.3	8.3	8.3	31.1	31.1	31.1	4.2	4.2	4.2	64.1	64.7	64.4	5.4	5.0	5.2		9.6	9.4	9.5	
			Middle	25.6	25.6	25.6	8.2	8.2	8.2	30.3	30.3	30.3	3.1	3.1	3.1	47.3	47.7	47.5	6.0	5.8	5.9	5.6	10.4	10.0	10.2	10.2
			Bottom	25.6	25.6	25.6	8.2	8.2	8.2	30.9	30.9	30.9	3.2	3.2	3.2	48.0	48.6	48.3	5.9	5.3	5.6		11.6	10.4	11.0	
WM2	1609	5.6	*Surface*	25.8	25.8	25.8	8.2	8.2	8.2	30.3	30.3	30.3	4.5	4.5	4.5	64.5	64.3	64.4	4.9	4.5	4.7		9.6	9.0	9.3	
			Middle																			4.4				8.5
			Bottom	25.7	25.8	25.8	8.1	8.1	8.1	29.9	29.9	29.9	2.8	2.8	2.8	42.1	42.9	42.5	4.2	4.1	4.2		8.0	7.4	7.7	
WM3	1648	8.8	*Surface*	25.5	25.5	25.5	8.3	8.3	8.3	30.8	30.8	30.8	4.3	4.3	4.3	63.2	63.4	63.3	4.0	4.4	4.2		8.4	8.6	8.5	
			Middle	25.6	25.6	25.6	8.2	8.2	8.2	31.2	31.2	31.2	3.6	3.6	3.6	54.2	54.0	54.1	3.6	3.4	3.5	4.1	7.8	7.0	7.4	8.3
			Bottom	25.4	25.4	25.4	8.2	8.2	8.2	30.8	30.8	30.8	3.4	3.4	3.4	51.6	51.4	51.5	4.8	4.2	4.5		9.6	8.4	9.0	
WM4	1715	10.4	*Surface*	25.6	25.6	25.6	8.3	8.3	8.3	31.3	31.3	31.3	4.5	4.5	4.5	65.6	65.9	65.8	3.4	3.6	3.5		6.4	6.8	6.6	
			Middle	25.4	25.4	25.4	8.2	8.3	8.3	31.3	31.3	31.3	3.0	3.0	3.0	48.2	48.7	48.5	3.6	3.2	3.4	4.1	6.8	6.6	6.7	7.8
			Bottom	25.3	25.3	25.3	8.2	8.2	8.2	31.5	31.5	31.5	2.8	2.8	2.8	42.0	42.4	42.2	5.1	5.9	5.5		9.8	10.6	10.2	
CS2	1742	14.0	*Surface*	26.0	26.1	26.1	8.3	8.3	8.3	31.4	31.4	31.4	5.1	5.1	5.1	74.7	74.1	74.4	3.5	3.4	3.5		6.6	6.2	6.4	
			Middle	25.4	25.4	25.4	8.2	8.3	8.3	31.3	31.2	31.3	4.8	4.8	4.8	72.0	72.3	72.2	3.8	3.6	3.7	3.9	7.6	7.4	7.5	8.0
			Bottom	25.3	25.3	25.3	8.2	8.2	8.2	30.6	30.6	30.6	4.6	4.6	4.6	69.1	69.7	69.4	4.4	4.9	4.7		9.8	10.6	10.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 21-Nov-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1524	9.7	*Surface*	24.3	24.3	24.3	8.2	8.2	8.2	31.2	31.1	31.2	4.9	5.1	5.0	71.6	73.9	72.8	7.4	7.2	7.3		12.4	12.0	12.2	
			Middle	24.2	24.3	24.3	8.3	8.3	8.3	31.2	31.2	31.2	4.8	4.8	4.8	70.0	70.8	70.4	6.9	7.0	7.0	7.1	12.0	12.6	12.3	12.5
			Bottom	24.4	24.4	24.4	8.2	8.3	8.3	31.1	31.2	31.2	4.6	4.5	4.6	67.6	66.3	67.0	7.1	7.1	7.1		13.2	12.8	13.0	
WM1	1443	11.1	*Surface*	24.3	24.2	24.3	8.3	8.2	8.3	31.0	31.0	31.0	4.9	4.8	4.9	72.3	70.4	71.4	5.3	5.6	5.5		9.0	9.4	9.2	
			Middle	24.4	24.3	24.4	8.2	8.2	8.2	31.0	31.0	31.0	3.9	7.1	5.5	57.5	59.2	58.4	5.0	4.8	4.9	5.5	9.2	8.8	9.0	10.0
			Bottom	24.3	24.3	24.3	8.2	8.2	8.2	31.0	31.1	31.1	4.2	4.3	4.3	60.7	62.0	61.4	6.0	6.2	6.1		11.8	12.0	11.9	
WM2	1416	5.8	*Surface*	24.3	24.3	24.3	8.3	8.3	8.3	30.5	30.6	30.6	4.1	4.3	4.2	60.6	62.6	61.6	5.9	6.1	6.0		10.8	11.4	11.1	
			Middle																			6.1				11.2
			Bottom	24.5	24.5	24.5	8.3	8.3	8.3	30.8	30.7	30.8	4.5	4.3	4.4	67.4	65.2	66.3	6.2	6.1	6.2		11.4	11.0	11.2	
WM3	1344	10.0	*Surface*	24.6	24.5	24.6	8.2	8.3	8.3	30.9	31.0	31.0	4.3	4.5	4.4	64.1	66.4	65.3	4.6	4.8	4.7		8.4	9.0	8.7	
			Middle	24.7	24.6	24.7	8.3	8.2	8.3	31.1	31.0	31.1	4.7	4.7	4.7	70.3	70.8	70.6	4.4	4.4	4.4	4.9	8.8	8.4	8.6	9.2
			Bottom	24.4	24.5	24.5	8.2	8.2	8.2	31.2	31.2	31.2	4.2	4.0	4.1	61.2	59.1	60.2	5.5	5.7	5.6		10.0	10.8	10.4	
WM4	1312	9.4	*Surface*	24.3	24.3	24.3	8.2	8.3	8.3	31.2	31.2	31.2	4.1	4.0	4.1	58.8	57.5	58.2	5.0	5.2	5.1		10.6	10.4	10.5	
			Middle	24.6	24.5	24.6	8.3	8.2	8.3	31.0	31.0	31.0	4.0	4.2	4.1	59.3	60.4	59.9	5.2	5.2	5.2	5.4	10.2	10.6	10.4	11.1
			Bottom	24.4	24.4	24.4	8.3	8.3	8.3	31.1	31.2	31.2	3.8	3.9	3.9	55.9	56.4	56.2	5.6	5.9	5.8		11.8	12.8	12.3	
CS2	1245	14.6	*Surface*	24.1	24.1	24.1	8.1	8.2	8.2	31.2	31.3	31.3	6.0	6.1	6.1	87.8	88.3	88.1	4.6	4.9	4.8		8.6	9.2	8.9	
			Middle	24.4	24.3	24.4	8.2	8.2	8.2	31.1	31.0	31.1	5.3	5.3	5.3	77.0	77.9	77.5	5.8	5.7	5.8	5.6	10.8	11.0	10.9	10.5
			Bottom	24.1	24.2	24.2	8.1	8.2	8.2	31.2	31.2	31.2	5.7	5.6	5.7	82.7	81.9	82.3	6.1	6.3	6.2		11.6	12.0	11.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 21-Nov-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Calm
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0815	9.5	*Surface*	24.4	24.4	24.4	8.1	8.1	8.1	30.7	30.7	30.7	6.3	6.3	6.3	89.5	89.1	89.3	6.9	7.0	7.0		12.2	12.8	12.5	
			Middle	24.3	24.3	24.3	8.1	8.1	8.1	30.9	30.9	30.9	5.9	5.9	5.9	84.2	84.6	84.4	6.6	6.6	6.6	6.6	12.6	12.0	12.3	12.2
			Bottom	24.3	24.3	24.3	8.1	8.1	8.1	31.0	31.0	31.0	5.3	5.3	5.3	76.5	75.9	76.2	6.2	6.2	6.2		11.6	12.0	11.8	
WM1	0844	10.4	*Surface*	24.2	24.2	24.2	8.1	8.1	8.1	30.8	30.7	30.8	4.9	4.9	4.9	63.3	63.7	63.5	5.8	5.8	5.8		12.0	11.6	11.8	
			Middle	24.6	24.6	24.6	8.1	8.1	8.1	31.0	31.0	31.0	4.3	4.3	4.3	61.4	62.0	61.7	5.8	5.8	5.8	5.9	11.4	11.2	11.3	11.7
			Bottom	24.2	24.3	24.3	8.2	8.2	8.2	31.0	31.0	31.0	4.4	4.4	4.4	63.5	63.1	63.3	6.2	6.2	6.2		12.2	11.8	12.0	
WM2	0918	5.2	*Surface*	24.6	24.6	24.6	8.2	8.2	8.2	30.7	30.7	30.7	4.3	4.3	4.3	58.2	58.5	58.4	5.7	5.7	5.7		11.2	11.6	11.4	
			Middle																			5.5				10.8
			Bottom	24.6	24.7	24.7	8.2	8.2	8.2	30.8	30.8	30.8	4.2	4.2	4.2	57.7	58.1	57.9	5.2	5.2	5.2		10.2	10.0	10.1	
WM3	0948	9.7	*Surface*	24.2	24.3	24.3	8.3	8.3	8.3	30.9	30.9	30.9	4.4	4.4	4.4	58.1	58.5	58.3	6.2	6.2	6.2		11.8	12.0	11.9	
			Middle	24.2	24.2	24.2	8.3	8.3	8.3	30.9	30.9	30.9	4.0	4.1	4.1	57.2	57.6	57.4	5.9	5.9	5.9	6.1	12.6	13.0	12.8	12.4
			Bottom	24.8	24.8	24.8	8.3	8.3	8.3	30.8	30.8	30.8	4.1	4.1	4.1	57.0	57.5	57.3	6.1	6.1	6.1		12.2	12.8	12.5	
WM4	1017	9.7	*Surface*	24.5	24.6	24.6	8.3	8.3	8.3	30.8	30.8	30.8	4.0	4.0	4.0	56.5	56.8	56.7	5.7	5.7	5.7		10.8	11.0	10.9	
			Middle	24.8	24.8	24.8	8.3	8.3	8.3	30.8	30.8	30.8	4.3	4.3	4.3	57.1	57.6	57.4	5.0	5.0	5.0	5.8	10.8	10.4	10.6	12.2
			Bottom	24.7	24.8	24.8	8.3	8.3	8.3	30.8	30.8	30.8	4.4	4.3	4.4	58.3	57.7	58.0	6.6	6.6	6.6		15.4	14.6	15.0	
CS2	1052	13.5	*Surface*	24.2	24.3	24.3	8.3	8.3	8.3	30.7	30.8	30.8	5.0	5.0	5.0	63.2	63.6	63.4	5.0	5.0	5.0		10.8	10.0	10.4	
			Middle	24.3	24.4	24.4	8.3	8.3	8.3	30.9	30.9	30.9	4.8	4.8	4.8	62.4	62.9	62.7	4.7	4.7	4.7	5.0	10.6	10.4	10.5	10.7
			Bottom	24.5	24.5	24.5	8.3	8.3	8.3	31.0	31.0	31.0	4.8	4.8	4.8	62.0	62.4	62.2	5.2	5.2	5.2		11.2	11.0	11.1	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 23-Nov-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1542	11.4	*Surface*	24.4	24.4	24.4	8.2	8.1	8.2	31.1	31.0	31.1	4.4	4.3	4.4	62.7	61.3	62.0	6.0	6.1	6.1		10.8	11.2	11.0	
			Middle	24.3	24.4	24.4	8.2	8.1	8.2	31.2	31.1	31.2	3.0	2.8	2.9	42.8	39.4	41.1	6.8	6.7	6.8	6.9	13.6	13.4	13.5	13.2
			Bottom	24.2	24.2	24.2	8.1	8.1	8.1	31.2	31.2	31.2	2.7	2.5	2.6	38.4	35.9	37.2	7.8	7.9	7.9		15.0	15.2	15.1	
WM1	1509	15.3	*Surface*	24.5	24.5	24.5	8.1	8.2	8.2	31.0	30.9	31.0	3.9	4.0	4.0	55.1	57.3	56.2	6.0	6.3	6.2		10.0	10.6	10.3	
			Middle	24.4	24.4	24.4	8.2	8.1	8.2	31.0	31.0	31.0	2.2	2.1	2.2	31.3	30.5	30.9	6.5	6.6	6.6	6.3	12.2	12.6	12.4	11.9
			Bottom	24.4	24.3	24.4	8.1	8.2	8.2	31.1	31.0	31.1	2.1	1.9	2.0	29.8	27.1	28.5	6.1	6.2	6.2		12.6	13.2	12.9	
WM2	1443	5.8	*Surface*	24.4	24.5	24.5	8.3	8.2	8.3	30.9	31.0	31.0	3.9	4.0	4.0	54.9	56.8	55.9	5.9	6.0	6.0		11.2	11.6	11.4	
			Middle																			6.3				12.0
			Bottom	24.5	24.5	24.5	8.2	8.2	8.2	30.9	30.9	30.9	2.6	2.7	2.7	38.3	39.4	38.9	6.5	6.7	6.6		12.4	12.8	12.6	
WM3	1412	9.9	*Surface*	24.5	24.6	24.6	8.2	8.1	8.2	30.7	30.8	30.8	4.0	3.9	4.0	57.2	56.3	56.8	4.2	4.1	4.2		7.8	7.4	7.6	
			Middle	24.8	24.7	24.8	8.1	8.2	8.2	30.8	30.8	30.8	2.3	2.1	2.2	32.8	30.9	31.9	4.6	4.8	4.7	5.1	8.6	8.8	8.7	9.5
			Bottom	24.5	24.5	24.5	8.2	8.1	8.2	30.9	31.0	31.0	2.4	2.3	2.4	34.1	32.8	33.5	6.3	6.5	6.4		11.8	12.4	12.1	
WM4	1342	10.2	*Surface*	24.4	24.5	24.5	8.2	8.3	8.3	31.2	31.1	31.2	4.8	4.9	4.9	68.0	69.3	68.7	4.4	4.7	4.6		9.2	9.6	9.4	
			Middle	24.4	24.4	24.4	8.3	8.3	8.3	31.2	31.2	31.2	2.8	2.7	2.8	40.1	38.7	39.4	3.9	4.1	4.0	4.6	7.6	7.8	7.7	9.1
			Bottom	24.4	24.5	24.5	8.3	8.2	8.3	31.2	31.3	31.3	2.7	3.0	2.9	38.2	42.7	40.5	5.2	5.3	5.3		10.0	10.4	10.2	
CS2	1315	14.7	*Surface*	24.8	24.8	24.8	8.1	8.2	8.2	30.5	30.6	30.6	6.8	6.7	6.8	97.6	95.8	96.7	6.3	6.1	6.2		11.8	11.4	11.6	
			Middle	24.3	24.3	24.3	8.2	8.2	8.2	31.2	31.3	31.3	4.6	4.5	4.6	65.4	64.3	64.9	5.8	5.7	5.8	6.2	11.6	11.4	11.5	12.4
			Bottom	24.3	24.3	24.3	8.1	8.2	8.2	31.1	31.2	31.2	3.8	4.0	3.9	54.9	56.6	55.8	6.6	6.8	6.7		14.0	14.2	14.1	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 23-Nov-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0845	11.0	*Surface*	24.6	24.7	24.7	8.1	8.1	8.1	30.8	30.7	30.8	5.6	5.7	5.7	80.1	80.7	80.4	6.8	6.9	6.9		12.0	12.4	12.2	
			Middle	23.9	23.9	23.9	8.2	8.1	8.2	30.8	30.8	30.8	5.5	5.3	5.4	78.3	76.5	77.4	7.0	7.3	7.2	7.1	12.6	13.2	12.9	12.8
			Bottom	24.1	24.1	24.1	8.1	8.1	8.1	30.5	30.6	30.6	5.3	5.2	5.3	77.2	76.9	77.1	7.4	7.4	7.4		13.4	13.2	13.3	
WM1	0920	14.8	*Surface*	24.5	24.5	24.5	8.1	8.1	8.1	30.8	30.9	30.9	4.7	4.8	4.8	68.6	69.4	69.0	5.1	5.3	5.2		8.4	8.8	8.6	
			Middle	24.2	24.1	24.2	8.2	8.2	8.2	30.9	30.9	30.9	5.0	5.1	5.1	73.9	74.9	74.4	4.9	4.7	4.8	4.7	9.2	8.8	9.0	8.2
			Bottom	23.8	23.9	23.9	8.1	8.2	8.2	30.6	30.7	30.7	3.8	4.0	3.9	54.3	56.1	55.2	3.9	4.0	4.0		6.8	7.2	7.0	
WM2	0953	5.5	*Surface*	24.6	24.5	24.6	8.2	8.1	8.2	30.7	30.6	30.7	4.3	4.4	4.4	62.0	62.9	62.5	4.1	4.2	4.2		7.4	7.6	7.5	
			Middle																			4.1				7.8
			Bottom	23.8	23.9	23.9	8.2	8.2	8.2	30.9	30.9	30.9	4.6	4.4	4.5	68.7	66.5	67.6	4.1	4.1	4.1		8.4	7.8	8.1	
WM3	1020	9.4	*Surface*	24.4	24.5	24.5	8.2	8.2	8.2	30.6	30.6	30.6	4.4	4.4	4.4	62.3	62.8	62.6	2.9	3.1	3.0		5.2	5.8	5.5	
			Middle	24.1	24.2	24.2	8.1	8.2	8.2	30.9	30.8	30.9	4.8	4.6	4.7	70.5	68.8	69.7	3.2	3.1	3.2	3.4	6.2	5.8	6.0	6.6
			Bottom	23.9	23.9	23.9	8.2	8.2	8.2	31.0	31.0	31.0	4.0	4.1	4.1	58.7	59.4	59.1	3.9	4.1	4.0		8.0	8.6	8.3	
WM4	1051	10.0	*Surface*	24.3	24.3	24.3	8.1	8.1	8.1	31.0	30.9	31.0	4.6	4.7	4.7	66.1	67.5	66.8	3.3	3.3	3.3		7.4	7.4	7.4	
			Middle	23.9	24.0	24.0	8.1	8.1	8.1	31.0	31.0	31.0	4.0	4.2	4.1	58.3	59.2	58.8	3.7	4.0	3.9	3.5	7.8	8.4	8.1	7.8
			Bottom	23.7	23.7	23.7	8.2	8.1	8.2	30.8	30.9	30.9	4.4	4.3	4.4	65.0	64.4	64.7	3.4	3.5	3.5		8.0	7.6	7.8	
CS2	1124	14.1	*Surface*	24.3	24.4	24.4	8.2	8.1	8.2	31.1	31.1	31.1	4.9	5.0	5.0	72.6	73.9	73.3	5.6	5.8	5.7		10.6	11.6	11.1	
			Middle	23.8	23.8	23.8	8.1	8.2	8.2	31.0	31.1	31.1	4.8	4.7	4.8	70.5	69.7	70.1	5.6	5.6	5.6	5.7	10.8	11.2	11.0	11.6
			Bottom	23.7	23.8	23.8	8.1	8.2	8.2	30.9	31.0	31.0	5.0	4.8	4.9	73.3	71.4	72.4	5.9	5.9	5.9		12.8	12.6	12.7	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 25-Nov-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1700	12.0	*Surface*	23.9	23.9	23.9	8.0	8.0	8.0	31.1	31.1	31.1	4.5	4.6	4.6	64.9	66.3	65.6	6.9	7.0	7.0		12.6	13.0	12.8	
			Middle	23.6	23.6	23.6	8.1	8.0	8.1	31.2	31.3	31.3	3.9	4.0	4.0	56.2	57.7	57.0	7.4	7.5	7.5	7.4	13.4	14.0	13.7	13.7
			Bottom	23.3	23.3	23.3	8.0	8.0	8.0	31.6	31.7	31.7	3.4	3.3	3.4	49.0	47.6	48.3	7.7	7.8	7.8		14.4	14.6	14.5	
WM1	1625	13.0	*Surface*	24.0	24.0	24.0	8.0	8.0	8.0	30.9	30.9	30.9	4.2	4.2	4.2	59.8	59.8	59.8	5.9	5.8	5.9		10.2	10.8	10.5	
			Middle	23.7	23.6	23.7	8.0	8.1	8.1	31.2	31.3	31.3	3.5	3.4	3.5	49.8	48.4	49.1	6.1	6.2	6.2	6.0	10.8	11.2	11.0	11.1
			Bottom	23.4	23.4	23.4	8.0	7.9	8.0	31.6	31.6	31.6	3.0	2.9	3.0	42.7	41.3	42.0	6.0	6.0	6.0		11.6	12.0	11.8	
WM2	1555	5.6	*Surface*	24.0	24.0	24.0	8.0	8.0	8.0	30.9	30.9	30.9	4.1	4.2	4.2	57.5	58.9	58.2	6.0	5.9	6.0		11.6	12.0	11.8	
			Middle																			5.7				11.3
			Bottom	23.5	23.6	23.6	8.0	8.1	8.1	31.1	31.2	31.2	3.5	3.4	3.5	49.1	47.7	48.4	5.4	5.5	5.5		11.0	10.6	10.8	
WM3	1525	8.4	*Surface*	23.9	23.9	23.9	8.0	7.9	8.0	30.9	30.9	30.9	4.4	4.5	4.5	63.0	64.4	63.7	4.7	4.8	4.8		8.6	8.8	8.7	
			Middle	23.6	23.5	23.6	7.9	7.9	7.9	31.3	31.4	31.4	3.9	3.8	3.9	55.8	54.4	55.1	5.8	5.6	5.7	5.6	11.2	10.6	10.9	10.5
			Bottom	23.1	23.2	23.2	7.9	7.9	7.9	31.6	31.6	31.6	3.3	3.2	3.3	47.2	45.8	46.5	6.2	6.2	6.2		12.0	11.8	11.9	
WM4	1500	10.4	*Surface*	23.9	23.9	23.9	8.0	8.0	8.0	31.0	31.0	31.0	5.2	5.4	5.3	73.5	76.3	74.9	6.3	6.1	6.2		11.6	11.0	11.3	
			Middle	23.6	23.6	23.6	8.0	7.9	8.0	31.3	31.2	31.3	4.6	4.7	4.7	65.0	66.4	65.7	6.4	6.4	6.4	6.4	12.4	12.0	12.2	12.0
			Bottom	23.1	23.1	23.1	8.0	8.0	8.0	31.5	31.5	31.5	4.1	4.2	4.2	58.0	59.4	58.7	6.5	6.5	6.5		12.6	12.2	12.4	
CS2	1430	14.6	*Surface*	23.9	23.9	23.9	8.1	8.1	8.1	31.0	31.0	31.0	7.5	7.4	7.5	106.0	105.0	105.5	5.8	6.0	5.9		11.0	11.4	11.2	
			Middle	23.5	23.5	23.5	8.0	8.0	8.0	31.3	31.3	31.3	6.8	6.9	6.9	96.1	97.5	96.8	6.1	6.2	6.2	6.1	11.8	11.8	11.8	12.0
			Bottom	23.0	23.0	23.0	8.0	7.9	8.0	31.6	31.6	31.6	6.0	5.9	6.0	84.8	83.4	84.1	6.2	6.4	6.3		12.6	13.2	12.9	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 25-Nov-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1000	11.0	*Surface*	24.1	24.1	24.1	8.0	8.0	8.0	30.8	30.7	30.8	4.6	4.6	4.6	63.5	63.3	63.4	8.4	8.2	8.3		13.6	13.2	13.4	
			Middle	23.6	23.6	23.6	8.0	7.9	8.0	31.2	31.3	31.3	3.8	3.7	3.8	52.4	51.2	51.8	7.3	7.1	7.2	7.8	13.4	13.0	13.2	13.9
			Bottom	23.1	23.1	23.1	7.9	8.0	8.0	31.6	31.6	31.6	2.8	2.7	2.8	38.7	37.2	38.0	8.0	7.7	7.9		15.4	14.6	15.0	
WM1	1030	13.0	*Surface*	23.9	23.9	23.9	8.1	8.0	8.1	31.1	31.1	31.1	4.3	4.4	4.4	60.3	61.6	61.0	4.9	5.1	5.0		9.2	8.8	9.0	
			Middle	23.5	23.5	23.5	8.0	8.0	8.0	31.3	31.4	31.4	3.7	3.8	3.8	51.8	53.2	52.5	5.8	6.0	5.9	5.4	9.6	10.0	9.8	9.6
			Bottom	23.2	23.2	23.2	7.9	8.0	8.0	31.7	31.7	31.7	3.1	3.0	3.1	43.4	42.0	42.7	5.2	5.4	5.3		9.8	10.4	10.1	
WM2	1105	5.4	*Surface*	24.0	24.0	24.0	8.0	8.0	8.0	30.9	31.0	31.0	4.2	4.4	4.3	59.9	62.8	61.4	4.7	4.8	4.8		8.0	8.8	8.4	
			Middle																			4.8				8.8
			Bottom	23.4	23.4	23.4	8.1	8.0	8.1	31.4	31.5	31.5	3.5	3.6	3.6	49.9	51.3	50.6	4.6	4.9	4.8		9.0	9.4	9.2	
WM3	1125	7.6	*Surface*	23.9	23.9	23.9	8.0	8.0	8.0	30.9	31.0	31.0	4.4	4.2	4.3	61.8	59.0	60.4	5.2	5.3	5.3		9.2	8.8	9.0	
			Middle	23.5	23.5	23.5	8.0	7.9	8.0	31.5	31.6	31.6	3.7	3.8	3.8	52.0	53.4	52.7	4.5	4.7	4.6	5.0	8.8	8.6	8.7	9.6
			Bottom	23.0	23.1	23.1	7.9	8.0	8.0	32.1	32.0	32.1	3.3	3.1	3.2	46.3	43.5	44.9	5.3	5.2	5.3		11.6	10.8	11.2	
WM4	1156	9.8	*Surface*	24.0	24.0	24.0	8.0	8.0	8.0	31.0	31.0	31.0	4.5	4.6	4.6	64.0	65.4	64.7	4.5	4.7	4.6		8.6	9.0	8.8	
			Middle	23.4	23.5	23.5	8.1	8.0	8.1	31.4	31.4	31.4	3.7	3.6	3.7	52.6	51.2	51.9	4.9	5.0	5.0	4.8	9.2	9.8	9.5	9.3
			Bottom	23.1	23.1	23.1	8.0	7.9	8.0	31.9	31.9	31.9	3.0	2.9	3.0	42.7	41.2	42.0	4.9	4.8	4.9		9.4	9.6	9.5	
CS2	1230	14.4	*Surface*	23.8	23.8	23.8	8.0	8.0	8.0	31.1	31.1	31.1	4.6	4.6	4.6	65.4	65.4	65.4	5.5	5.7	5.6		10.4	10.8	10.6	
			Middle	23.3	23.3	23.3	8.1	8.0	8.1	31.5	31.5	31.5	3.8	3.7	3.8	54.0	52.6	53.3	5.4	5.3	5.4	5.3	10.4	10.2	10.3	10.5
			Bottom	22.7	22.8	22.8	8.0	7.9	8.0	32.0	31.9	32.0	3.1	3.2	3.2	44.1	45.5	44.8	5.0	4.8	4.9		10.8	10.2	10.5	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 28-Nov-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Calm
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1110	10.7	*Surface*	23.7	23.7	23.7	8.3	8.3	8.3	30.7	30.7	30.7	4.5	4.5	4.5	64.5	64.1	64.3	9.6	9.5	9.6		15.2	15.4	15.3	
			Middle	23.8	23.8	23.8	8.3	8.3	8.3	30.7	30.7	30.7	4.6	4.6	4.6	65.4	65.8	65.6	10.7	10.7	10.7	10.5	18.0	17.8	17.9	17.3
			Bottom	23.8	23.8	23.8	8.3	8.3	8.3	30.5	30.5	30.5	4.7	4.7	4.7	66.9	66.4	66.7	11.2	11.2	11.2		18.8	18.6	18.7	
WM1	1040	9.9	*Surface*	23.8	23.8	23.8	8.3	8.3	8.3	30.5	30.5	30.5	4.6	4.6	4.6	65.0	65.5	65.3	6.1	6.1	6.1		9.4	9.8	9.6	
			Middle	23.8	23.8	23.8	8.3	8.3	8.3	30.6	30.6	30.6	4.5	4.5	4.5	64.1	64.4	64.3	5.9	6.0	6.0	6.2	11.4	11.6	11.5	11.2
			Bottom	23.9	23.9	23.9	8.3	8.3	8.3	30.5	30.5	30.5	4.5	4.5	4.5	63.3	63.7	63.5	6.5	6.5	6.5		12.4	12.8	12.6	
WM2	1010	5.8	*Surface*	23.8	23.8	23.8	8.2	8.2	8.2	30.5	30.5	30.5	5.2	5.2	5.2	67.3	67.6	67.5	6.0	6.0	6.0		11.6	11.4	11.5	
			Middle																			6.1				11.7
			Bottom	23.7	23.8	23.8	8.2	8.2	8.2	30.5	30.5	30.5	5.1	5.1	5.1	65.6	65.9	65.8	6.2	6.2	6.2		12.0	11.6	11.8	
WM3	0930	8.7	*Surface*	23.8	23.8	23.8	8.2	8.2	8.2	30.4	30.4	30.4	4.6	4.6	4.6	65.2	65.7	65.5	4.5	4.5	4.5		7.8	8.2	8.0	
			Middle	23.8	23.8	23.8	8.2	8.2	8.2	30.6	30.6	30.6	4.7	4.7	4.7	66.3	66.6	66.5	5.2	5.3	5.3	5.2	10.2	10.4	10.3	9.9
			Bottom	23.8	23.8	23.8	8.2	8.2	8.2	30.6	30.6	30.6	4.8	4.8	4.8	67.9	67.4	67.7	5.9	5.9	5.9		11.2	11.6	11.4	
WM4	0851	9.8	*Surface*	23.6	23.6	23.6	8.1	8.1	8.1	30.5	30.5	30.5	5.1	5.1	5.1	72.4	72.8	72.6	5.8	5.8	5.8		11.2	11.0	11.1	
			Middle	23.8	23.8	23.8	8.1	8.1	8.1	30.5	30.5	30.5	5.0	5.0	5.0	70.8	70.3	70.6	5.1	5.1	5.1	5.3	9.8	10.2	10.0	10.5
			Bottom	23.7	23.7	23.7	8.1	8.1	8.1	30.6	30.6	30.6	5.0	5.0	5.0	70.8	70.4	70.6	5.0	5.0	5.0		10.6	10.2	10.4	
CS2	0830	13.8	*Surface*	23.9	23.8	23.9	8.1	8.1	8.1	30.9	30.9	30.9	6.7	6.7	6.7	95.0	95.4	95.2	6.2	6.2	6.2		11.8	11.6	11.7	
			Middle	23.6	23.7	23.7	8.0	8.0	8.0	30.5	30.5	30.5	6.3	6.3	6.3	88.6	88.2	88.4	5.9	5.9	5.9	6.0	11.2	11.4	11.3	11.4
			Bottom	23.7	23.7	23.7	8.1	8.1	8.1	30.5	30.5	30.5	5.7	5.7	5.7	80.9	81.3	81.1	5.8	5.8	5.8		11.4	11.2	11.3	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 28-Nov-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1300	11.0	*Surface*	26.2	26.2	26.2	8.3	8.2	8.3	31.0	31.0	31.0	4.1	4.1	4.1	63.9	63.7	63.8	9.5	9.4	9.5		15.4	15.2	15.3	
			Middle	24.6	24.6	24.6	8.2	8.2	8.2	30.4	30.4	30.4	3.8	3.8	3.8	56.4	56.6	56.5	8.0	8.2	8.1	9.1	13.6	14.0	13.8	15.5
			Bottom	24.3	24.2	24.3	8.3	8.3	8.3	30.6	30.6	30.6	4.0	4.0	4.0	53.4	53.8	53.6	9.7	9.9	9.8		17.6	17.2	17.4	
WM1	1335	12.0	*Surface*	24.5	24.5	24.5	8.2	8.2	8.2	30.6	30.6	30.6	3.2	3.2	3.2	46.0	46.4	46.2	5.7	5.5	5.6		9.4	9.0	9.2	
			Middle	24.5	24.5	24.5	8.2	8.2	8.2	30.7	30.7	30.7	2.5	2.5	2.5	35.1	35.4	35.3	8.5	8.0	8.3	6.8	14.2	13.4	13.8	11.5
			Bottom	24.4	24.4	24.4	8.3	8.3	8.3	30.5	30.5	30.5	2.8	2.8	2.8	41.3	41.7	41.5	6.4	6.8	6.6		11.2	12.0	11.6	
WM2	1359	5.6	*Surface*	24.3	24.3	24.3	8.2	8.2	8.2	30.5	30.5	30.5	2.4	2.4	2.4	34.0	34.4	34.2	6.6	6.8	6.7		12.0	12.6	12.3	
			Middle																			6.4				11.8
			Bottom	24.4	24.4	24.4	8.3	8.3	8.3	30.6	30.6	30.6	2.3	2.3	2.3	33.1	33.5	33.3	6.2	6.0	6.1		11.4	11.0	11.2	
WM3	1430	8.8	*Surface*	24.1	24.1	24.1	8.2	8.2	8.2	30.5	30.5	30.5	3.2	3.2	3.2	40.8	40.2	40.5	5.1	5.4	5.3		9.2	9.8	9.5	
			Middle	24.0	24.0	24.0	8.3	8.3	8.3	30.3	30.3	30.3	2.7	2.7	2.7	39.0	39.4	39.2	5.4	5.8	5.6	5.1	10.4	11.2	10.8	9.7
			Bottom	24.3	24.3	24.3	8.3	8.3	8.3	30.2	30.2	30.2	3.4	3.4	3.4	48.9	48.1	48.5	4.7	4.1	4.4		9.4	8.4	8.9	
WM4	1501	10.0	*Surface*	24.4	24.4	24.4	8.2	8.2	8.2	30.6	30.6	30.6	3.2	3.2	3.2	46.6	46.0	46.3	5.5	5.1	5.3		9.8	9.2	9.5	
			Middle	24.1	24.1	24.1	8.3	8.2	8.3	30.8	30.8	30.8	4.0	4.0	4.0	57.0	57.4	57.2	4.6	4.4	4.5	4.9	9.6	9.0	9.3	9.7
			Bottom	24.5	24.6	24.6	8.3	8.3	8.3	30.5	30.5	30.5	2.4	2.4	2.4	33.7	33.1	33.4	4.9	5.0	5.0		10.2	10.4	10.3	
CS2	1540	14.2	*Surface*	23.9	23.9	23.9	8.3	8.3	8.3	30.8	30.8	30.8	6.0	6.0	6.0	85.1	85.3	85.2	7.2	7.6	7.4		13.8	14.6	14.2	
			Middle	23.6	23.6	23.6	8.2	8.2	8.2	30.6	30.6	30.6	5.8	5.8	5.8	82.4	82.2	82.3	6.2	6.6	6.4	6.7	12.2	12.6	12.4	13.5
			Bottom	23.8	23.8	23.8	8.2	8.2	8.2	30.5	30.5	30.5	4.7	4.7	4.7	66.7	66.1	66.4	6.5	6.3	6.4		14.0	13.6	13.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 30-Nov-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Calm
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1127	12.4	*Surface*	24.0	24.0	24.0	8.0	8.1	8.1	30.7	30.7	30.7	4.4	4.3	4.4	61.1	60.6	60.9	8.0	7.9	8.0		13.4	13.6	13.5	
			Middle	24.0	24.0	24.0	8.1	8.1	8.1	30.6	30.7	30.7	3.8	3.9	3.9	52.8	54.7	53.8	7.5	7.6	7.6	8.0	13.6	14.0	13.8	13.9
			Bottom	23.8	23.7	23.8	8.1	8.1	8.1	30.9	30.9	30.9	3.4	3.3	3.4	47.2	46.7	47.0	8.4	8.7	8.6		14.2	14.8	14.5	
WM1	1053	13.2	*Surface*	24.0	24.0	24.0	8.1	8.1	8.1	30.6	30.7	30.7	4.2	4.1	4.2	58.3	57.8	58.1	4.1	4.1	4.1		6.4	6.6	6.5	
			Middle	23.9	24.0	24.0	8.1	8.1	8.1	30.7	30.7	30.7	3.8	3.7	3.8	52.8	52.3	52.6	4.7	4.6	4.7	4.6	8.4	8.4	8.4	8.0
			Bottom	23.7	23.8	23.8	8.1	8.1	8.1	30.9	30.8	30.9	3.5	3.4	3.5	49.3	48.2	48.8	5.0	4.9	5.0		9.4	9.0	9.2	
WM2	1030	5.8	*Surface*	24.0	24.0	24.0	8.1	8.1	8.1	30.5	30.5	30.5	4.2	4.3	4.3	58.8	60.0	59.4	4.0	3.9	4.0		7.2	6.8	7.0	
			Middle																			4.3				7.8
			Bottom	24.0	24.0	24.0	8.1	8.1	8.1	30.4	30.5	30.5	4.0	4.0	4.0	56.2	55.6	55.9	4.8	4.6	4.7		8.8	8.2	8.5	
WM3	1000	8.2	*Surface*	24.0	24.0	24.0	8.0	8.0	8.0	30.6	30.5	30.6	4.0	4.1	4.1	56.8	57.6	57.2	2.9	3.0	3.0		4.8	5.0	4.9	
			Middle	23.9	23.9	23.9	8.0	8.1	8.1	30.6	30.7	30.7	4.0	3.8	3.9	55.6	54.1	54.9	3.9	4.0	4.0	3.8	7.0	6.8	6.9	6.7
			Bottom	23.8	23.8	23.8	8.1	8.1	8.1	30.7	30.8	30.8	3.5	3.6	3.6	49.3	50.3	49.8	4.5	4.7	4.6		8.0	8.6	8.3	
WM4	0930	10.6	*Surface*	24.0	24.0	24.0	8.1	8.1	8.1	30.1	30.2	30.2	4.7	4.6	4.7	65.7	64.9	65.3	3.5	3.3	3.4		6.6	6.0	6.3	
			Middle	23.8	23.9	23.9	8.0	8.1	8.1	30.7	30.7	30.7	4.4	4.3	4.4	61.5	60.7	61.1	3.8	3.7	3.8	3.8	7.4	7.0	7.2	7.4
			Bottom	23.8	23.8	23.8	8.1	8.0	8.1	30.7	30.8	30.8	3.9	3.9	3.9	54.6	55.3	55.0	4.2	4.4	4.3		8.4	8.8	8.6	
CS2	0900	14.2	*Surface*	24.1	24.1	24.1	8.1	8.1	8.1	29.4	29.4	29.4	4.5	4.6	4.6	62.9	64.3	63.6	3.4	3.6	3.5		6.6	7.0	6.8	
			Middle	23.8	23.9	23.9	8.1	8.0	8.1	30.8	30.9	30.9	3.9	3.9	3.9	54.7	54.2	54.5	3.9	3.8	3.9	3.8	7.8	7.4	7.6	7.4
			Bottom	23.8	23.8	23.8	8.1	8.1	8.1	30.9	31.0	31.0	3.7	3.8	3.8	52.1	53.2	52.7	3.9	4.0	4.0		7.8	8.0	7.9	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 30-Nov-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Calm
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1330	11.8	*Surface*	25.0	24.9	25.0	8.1	8.1	8.1	30.2	30.2	30.2	5.9	6.0	6.0	84.0	85.1	84.6	8.2	8.0	8.1		13.6	13.0	13.3	
			Middle	24.4	24.5	24.5	8.1	8.0	8.1	30.5	30.5	30.5	5.6	5.6	5.6	78.9	79.6	79.3	7.1	7.0	7.1	7.5	12.0	12.6	12.3	13.0
			Bottom	24.3	24.2	24.3	8.1	8.1	8.1	30.7	30.6	30.7	5.0	4.9	5.0	70.5	69.9	70.2	7.2	7.4	7.3		13.2	13.8	13.5	
WM1	1403	13.0	*Surface*	24.8	24.7	24.8	8.1	8.1	8.1	30.6	30.5	30.6	4.6	4.7	4.7	64.6	65.3	65.0	4.3	4.5	4.4		7.0	7.4	7.2	
			Middle	24.4	24.3	24.4	8.1	8.0	8.1	30.6	30.6	30.6	3.5	3.6	3.6	49.3	50.1	49.7	5.9	5.6	5.8	5.0	9.8	10.2	10.0	8.8
			Bottom	24.1	24.1	24.1	8.1	8.1	8.1	30.6	30.7	30.7	3.7	3.7	3.7	51.4	52.0	51.7	4.8	4.8	4.8		9.0	9.4	9.2	
WM2	1434	5.6	*Surface*	24.5	24.5	24.5	8.0	8.1	8.1	30.6	30.6	30.6	4.1	4.2	4.2	58.1	58.9	58.5	5.0	5.1	5.1		8.6	9.0	8.8	
			Middle																			4.9				8.8
			Bottom	24.2	24.2	24.2	8.1	8.0	8.1	30.7	30.7	30.7	3.9	3.8	3.9	54.4	53.6	54.0	4.6	4.7	4.7		8.6	9.0	8.8	
WM3	1500	7.8	*Surface*	24.3	24.4	24.4	8.1	8.1	8.1	30.5	30.6	30.6	4.6	4.5	4.6	64.4	63.8	64.1	3.6	3.8	3.7		6.6	7.2	6.9	
			Middle	24.1	24.1	24.1	8.1	8.1	8.1	30.7	30.8	30.8	4.0	3.9	4.0	56.0	55.2	55.6	4.0	4.2	4.1	4.0	7.6	7.8	7.7	7.6
			Bottom	24.0	24.0	24.0	8.1	8.1	8.1	30.8	30.8	30.8	3.0	3.2	3.1	42.9	44.8	43.9	4.1	4.3	4.2		8.2	8.0	8.1	
WM4	1526	10.4	*Surface*	24.4	24.4	24.4	8.1	8.1	8.1	30.7	30.8	30.8	4.7	4.6	4.7	65.7	64.9	65.3	2.9	3.0	3.0		6.2	6.4	6.3	
			Middle	24.1	24.0	24.1	8.1	8.0	8.1	30.8	30.9	30.9	4.1	4.1	4.1	57.1	58.1	57.6	3.4	3.5	3.5	3.6	6.0	6.2	6.1	6.8
			Bottom	24.0	23.9	24.0	8.1	8.0	8.1	30.9	30.9	30.9	3.4	3.4	3.4	47.2	48.0	47.6	4.4	4.2	4.3		8.4	7.8	8.1	
CS2	1608	14.0	*Surface*	24.2	24.3	24.3	8.0	8.1	8.1	30.8	30.9	30.9	4.9	5.0	5.0	69.1	69.7	69.4	3.6	3.4	3.5		7.0	6.6	6.8	
			Middle	24.0	24.1	24.1	8.1	8.1	8.1	30.8	30.8	30.8	4.3	4.4	4.4	60.7	61.4	61.1	4.7	4.3	4.5	4.1	9.0	8.2	8.6	8.0
			Bottom	23.8	23.9	23.9	8.1	8.1	8.1	30.8	30.9	30.9	3.8	3.9	3.9	53.9	54.6	54.3	4.3	4.5	4.4		8.4	8.6	8.5	

Remark or Obsevation:

Note: * Average
** Depth Average

APPENDIX E

Review of Exceedance in Water Quality Monitoring

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
2 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
4 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
7 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
9 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
11 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom), except bottom level at WM1 and surface level at WM2 for mid-ebb. The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
14 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
16 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
18 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
21 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
23 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
25 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
28 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
30 Nov 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Note: AL – Action Level ; LL – Limit Level