


**土木工程拓展署**  
**Civil Engineering and Development Department**

**Environmental Monitoring and Audit for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation Agreement No. CE 4/2009(EP)**

**24<sup>th</sup> Monthly Progress Report for Contaminated Mud Pits at Sha Chau – June 2011**

Revision 0

15 September 2011

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# Environmental Monitoring and Audit for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation

## 24<sup>th</sup> Monthly Progress Report for Contaminated Mud Pits at Sha Chau – June 2011

Revision 0

Document Code: 0103262 Monthly Report June 11\_v0.doc

Client: Civil Engineering and Development Department (CEDD)		Project No: 0103262			
Summary:  This document presents progress of monitoring works on contaminated mud pits at Sha Chau in June 2011 under Agreement No. CE 4/2009 (EP).		Date: 15 September 2011			
		Approved by:   Craig Reid Partner			
1					
0	24 <sup>th</sup> Monthly Progress Report for CMP	JF	JT	CAR	15/09/11
Revision	Description	By	Checked	Approved	Date
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Agreement No. CE 4/2009 (EP)  
Environmental Monitoring and Audit  
for Contaminated Mud Pit at Sha Chau (2009-2013) - Investigation

24<sup>th</sup> MONTHLY PROGRESS REPORT  
FOR CONTAMINATED MUD PITS AT SHA CHAU  
June 2011

**1.1 BACKGROUND**

Since 1992, the East of Sha Chau area has been the site of a series of dredged contaminated mud pits (CMPs) designed to provide confined marine disposal capacity for contaminated mud arising from the HKSAR's dredging and reclamation projects. CMP IVc is presently in operation for backfilling by contaminated mud and is anticipated to reach its capacity in 2011. A series of four newly constructed seabed pits at the East of Sha Chau area, CMP Va-d, will be provided for the disposal of contaminated mud after CMP IVc is full. Dredging operations were completed for the construction of CMP Va and are now taking place to construct CMP Vb. The environmental monitoring and audit (EM&A) programme for the CMPs at the East of Sha Chau area presently covers disposal and capping operations at CMP IV and dredging operations at CMP Vb.

**1.2 REPORTING PERIOD**

This *Monthly Progress Report* covers the monitoring period of June 2011.

**1.3 DETAILS OF SAMPLING AND LABORATORY TESTING ACTIVITIES**

Water Column Profiling and Water Quality Monitoring during Capping Operations were conducted for CMP IV on 21 June 2011 and an additional round of Water Column Profiling was carried out on 29 June 2011 as disposal was not taking place during the previous monitoring day. For CMP V, sampling for *Impact Water Quality Monitoring during Dredging Operations* was conducted on 24 June 2011. A summary of field activities are presented in *Annex A*.

A summary of laboratory analysis results submitted by the Contractor in this reporting month is presented in *Table 1.1*.

**Table 1.1** *Summary of laboratory analysis results submitted by the Contractor during the reporting month*

Key Task	Monitoring Component	Results Received from the Contractor
<b>CMP V</b>		
Impact Monitoring during Dredging Operations	Water Quality	May 2011 sampling: 17 June 2011

#### **1.4** *DETAILS OF OUTSTANDING SAMPLING AND/OR ANALYSIS*

No outstanding sampling and laboratory analysis remained from June 2011.

#### **1.5** *BRIEF DISCUSSION OF THE MONITORING RESULTS*

Results of *Impact Water Quality Monitoring during Dredging Operations* for June 2011 are presented for CMP V. Detailed results will be discussed in the *8<sup>th</sup> Quarterly Report*.

##### **1.5.1** *CMP V*

*Impact Water Quality Monitoring during Dredging Operations of CMP V – June 2011*

*Impact Water Quality Monitoring during Dredging Operations of CMP V* was conducted on 24 June 2011. On the survey day, sampling was conducted during both mid-ebb and mid-flood tides at two Reference (Upstream) stations upstream and five Impact (Downstream) stations downstream of the dredging operations at CMP V. Monitoring was also conducted at the Ma Wan station. At each station, *in-situ* measurements of water quality parameters as well as water samples were taken from three depths in the water column (ie surface: 1 m below sea surface, mid-depth and bottom: 1 m above the seabed).

Monitoring results are presented in *Table B1 of Annex B*. Levels of Dissolved Oxygen (DO), Turbidity and Total Suspended Solids (TSS) complied with the Action and Limit Levels set in the *Baseline Monitoring Report* <sup>(1)</sup>. Therefore, there appears to be no evidence of any unacceptable adverse water quality impacts arising from the dredging operations of CMP V at ESC.

#### **1.6** *ACTIVITIES SCHEDULED FOR THE NEXT MONTH*

The following monitoring activities will be conducted in the next monthly period of July 2011:

(1) ERM (2009) Baseline Monitoring Report. Environmental Monitoring and Audit for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation. Agreement No. CE 4/2009(EP). Submitted to EPD in September 2009.

- *Water Column Profiling* for CMP IV;
- *Demersal Trawling* for CMP IV; and
- *Impact Water Quality Monitoring during Dredging Operations* for CMP V.

The sampling schedule is presented in *Annex A*.

## 1.7 **STUDY PROGRAMME**

A summary of the Study programme is presented in *Annex C*.

Annex A

## Sampling Schedule





Baseline Water Quality Monitoring			2009												2010												2011											
			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D						
Near Field	ESC-WNAA		*	*																																		
	ESC-WNAB		*	*																																		
	ESC-WNAC		*	*																																		
	ESC-WNAD	To be surveyed 24 times (3 days per week during mid-flood and mid-ebb tide of each day) in the month prior to commencement of marine works	*	*																																		
	ESC-WNBA		*	*																																		
	ESC-WNBB		*	*																																		
	ESC-WNBC		*	*																																		
ESC-WNBD	*		*																																			
Mid Field	ESC-WMB	To be surveyed 24 times (3 days per week during mid-flood and mid-ebb tide of each day) in the month prior to commencement of marine works	*	*																																		
	ESC-WMA		*	*																																		
Far Field	ESC-WFA	To be surveyed 24 times (3 days per week during mid-flood and mid-ebb tide of each day) in the month prior to commencement of marine works	*	*																																		
	ESC-WFB		*	*																																		
	MW1		*	*																																		
Reference Stations	NM1		*	*																																		
	NM2		*	*																																		
	NM3	To be surveyed 24 times (3 days per week during mid-flood and mid-ebb tide of each day) in the month prior to commencement of marine works	*	*																																		
	NM5		*	*																																		
	NM6		*	*																																		
<b>Water Column Profiling</b>			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D						
Plume Stations	Upstream				2	2	2	2	2	2																												
	Downstream				2	2	2	2	2	2																												
<b>Water Quality Impact Monitoring for Dredging</b>			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D						
Downcurrent Impact Stations	1			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						
	2			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						
	3			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						
	4			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						
	5			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						
Upcurrent Stations	1			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						
	2			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						
	MW1			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						

Sampling completed  
 Sampling to be completed

Annex B

## Monitoring Results

**Table B1**      *Summary Table of DO, Turbidity and TSS Levels Recorded in June 2011*

Sampling Date	Tidal Period	Station	Average DO Levels (mg/L)		Average Turbidity Level (NTU)	Average TSS Level (mg/L)
			Bottom	Surface and Mid Depth		
2011/06/24	ME	DS1	5.63	5.84	10.01	13.83
		DS2	5.65	5.82	8.92	11.00
		DS3	5.15	5.76	9.87	13.17
		DS4	5.66	5.92	9.64	11.33
		DS5	5.72	5.95	8.85	10.50
		MW1	5.04	5.12	5.32	6.00
	MF	US1	5.90	5.96	13.26	13.67
		US2	5.88	5.94	11.50	13.33
		DS1	5.42	5.91	10.80	11.83
		DS2	5.48	5.81	8.13	9.00
		DS3	5.40	5.49	8.33	9.83
		DS4	5.54	5.75	7.32	9.00
		DS5	5.45	5.38	8.08	9.67
		MW1	4.94	5.16	6.63	8.00
		US1	5.39	5.75	7.77	9.00
		US2	5.10	5.92	9.09	11.67

Annex C

## Study Programme

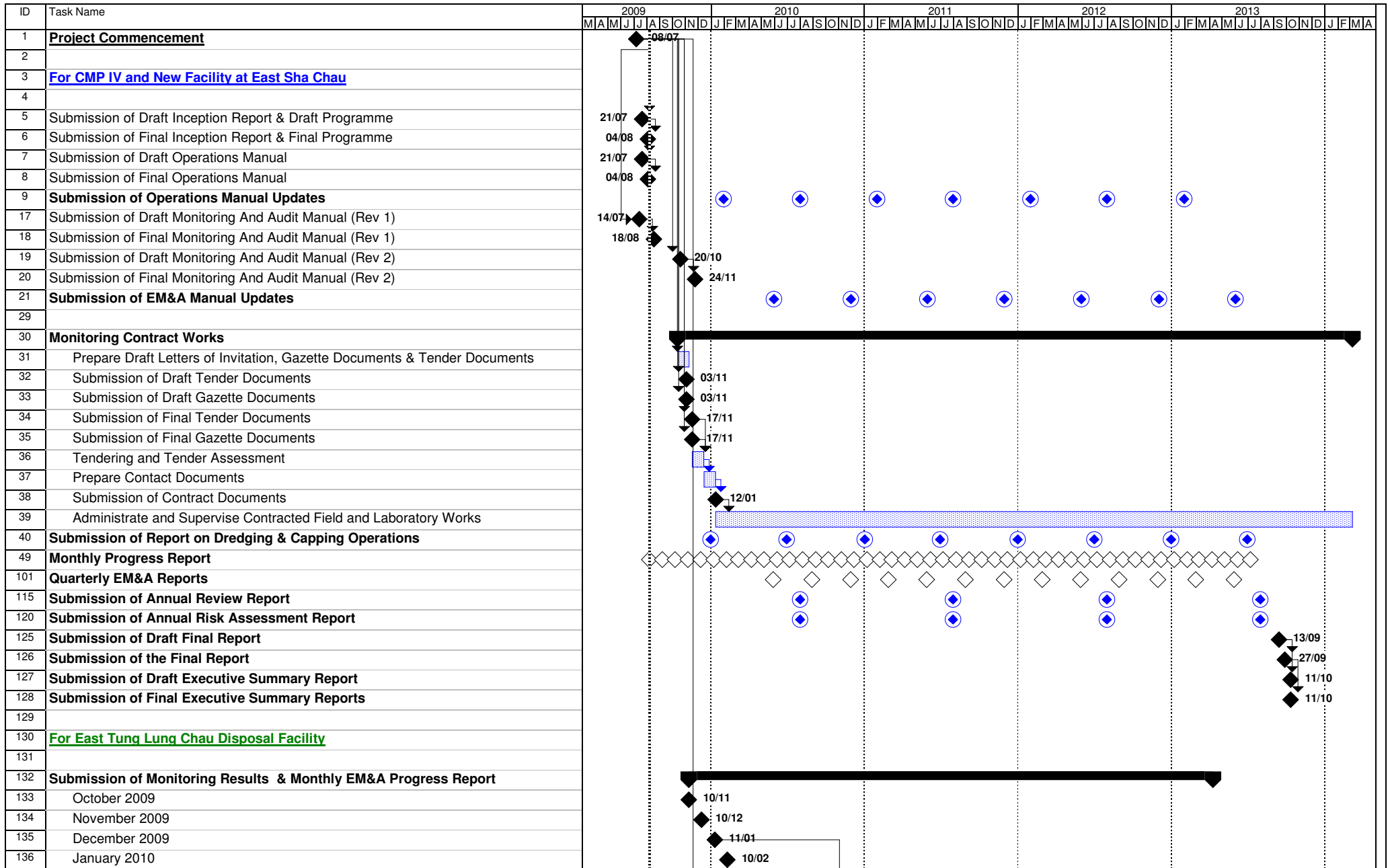


Figure 4.1 - Study Programme



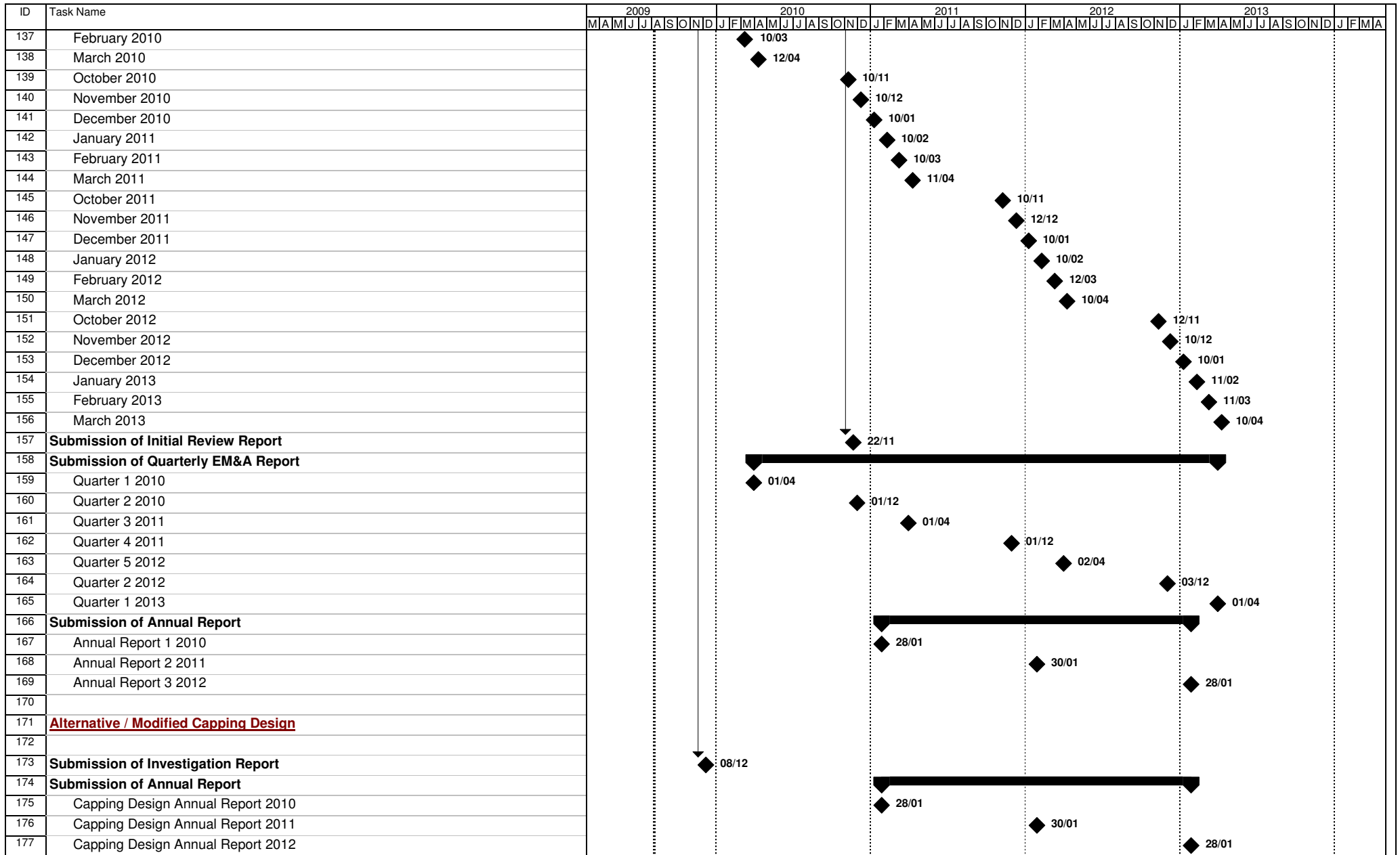


Figure 4.1 - Study Programme

