



Our ref: CDD/2002/L/ENV/ALL/001977
Date: 3 January 2014

By Hand

Environmental Protection Department
Environmental Impact Assessment Office
27/F., Southorn
130 Hennessy Road,
Wan Chai, Hong Kong

Attn: Mr. Ken Y.K. Wong / Mr. Billy Ma

Contract No. HY/2010/08
Central – Wan Chai Bypass – Tunnel (Slip Road 8 Section)
Submission of Noise Management Plan (Revision 03) under condition 2.9 of FEP-10/364/2009/B

Pursuant to the condition 2.9 of FEP-10/364/2009/B, we are pleased to submit the Noise Management Plan (Revision 03) for EPD deposition.

Enclosed please find the following documents for your kind perusal

- i) Certification letter of ET Leader,
- ii) Verification letter of IEC and
- iii) Noise Management Plan (4 hard copies & 1 electronic copy, with pdf & html format respectively)

Thank you for your kind attention and please do not hesitate to contact our Environmental Officer –Mr. Chi Ming, WONG at 9717 7986 should you have any further queries.

Yours faithfully,
For and on behalf of
China State Construction Engineering (Hong Kong) Ltd.

Dr. Dave Chan
Site Agent

Encl.

c.c. PRE/CWB - Attn: Mr. Peter Poon
ET/ Lam - Attn: Mr. Raymond Dai (cover only) Fax: 2882 3331
IEC/ Environ - Attn: Mr. David Yeung (cover only) Fax: 3548 6988

DC/CMW/ysk



Lam Geotechnics Limited

Ground Investigation & Instrumentation Professionals

Ref : G1120/CS/L616/FEP-10/364/2009/B
Date : 02 January 2014

China State Construction Engineering (Hong Kong) Ltd
P.O. Box 35159
King's Road Post Office

Attn: Site Agent, Dr. Dave Chan

Dear Dr. Chan,

**Contract No. HY/2010/08
Central – WanChai Bypass Tunnel (Slip Road 8 Section)**

Noise Management Plan (Rev. 3)

Referring to the captioned submission dated 24 December 2013 received through email on 02 January 2014, we have reviewed your submitted details and hereby certified this submission in accordance with Condition 2.9 of FEP-10/364/2009/B.

Should you have any enquiry, please feel free to contact the undersigned at 2839 5666.

Yours faithfully,

Raymond Dai
Environmental Team Leader

C.C.

HyD	- Mr. Jones Lai	(By Fax: 2714 5289)
CEDD	- Mr. Robert Tsoi	(By Fax: 2577 5040)
AECOM	- Mr. Frankie Fan	(By Fax: 2587 1877)
ENVIRON	- Mr. David Yeung	(By Fax: 3548 6988)

Ref.: AACWBIECEM00_0_4771L.14

3 January 2014

China State Construction Engineering (Hong Kong) Ltd
P.O. Box 35159
King's Road Post Office

By Post

Attention: Dr. Dave Chan

Dear Sir,

Re: FEP-10/364/2009/B
Contract No. HY/2010/08
Central –Wan Chai Bypass Tunnel (Slip Road 8 Section)
Noise Management Plan (Revision 3)

Reference is made to your submission of the Noise Management Plan (Revision 3 dated 24 December 2013) to us through E-mail on 2 January 2014 for our review and comment.

Please be informed that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 2.9 of FEP-10/364/2009/B.

Please feel free to contact the undersigned should you have any queries.

Yours sincerely,



David Yeung
Independent Environmental Checker

c.c.	HyD	Mr. Jones Lai	by fax: 2714 5289
	CEDD	Mr. Robert Tsoi	by fax: 2577 5040
	AECOM	Mr. Dennis Norton (CRE)	by fax: 3912 3010
	AECOM	Mr. Conrad Ng	by fax: 2691 2649
	LAM	Mr. Raymond Dai (ETL)	by fax: 2882 3331

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中國建築工程(香港)有限公司
CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD.

**Central – Wan Chai Bypass Tunnel
(Slip Road Section 8)
Contract No. HY/2010/08**

Noise Management Plan under condition 2.16 of FEP-10/ 364/2009/B

Revision: 3

December 2013

Prepared by: Environmental Officer	C.M. Wong	Date: 24 December 2013
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This document contains confidential information of China State Construction Engineering (Hong Kong) Limited and shall not be copied or amended without the approval of the Contractor's Representative

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1 INTRODUCTION

1.1 PROJECT DESCRIPTION

“Wan Chai Development phase II and Central-Wan Chai Bypass” and “Central-Wan Chai Bypass and Island Eastern Corridor Link” (hereafter called “the Project”) are Designed Project (DP) under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). The Environmental Impact Assessment (EIA) Reports for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-041/2001) and Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) have been approved on 31 August 2001 and 11 December 2008 respectively.

The key purpose of Wan Chai Development Phase II (WDII) is to provide land at Wan Chai North and North Point for construction of the Central-Wan Chai Bypass and Island Eastern Corridor Link (CWB). Land formed under the project will be developed as a world-class waterfront promenade joining that at the new Central waterfront for public enjoyment.

There is a compelling and present need for the CWB to provide relief to the very congested east-west Connaught Road Central/Harcourt Road / Gloucester Road Corridor (the Corridor) which is currently operating beyond its capacity. The CWB will provide relief to the existing congestion along the Corridor and cater for the anticipated growth of traffic on Hong Kong Island. Without the CWB and its access roads, there will not be sufficient capacity to serve the heavy traffic demands at both strategic and local levels.

China State Construction Engineering (HK) Limited was commissioned by Highways Department (HyD), as the main contractor of HY/2010/08, to undertake part of the tunnel section construction within Causeway Bay Typhoon Shelter (CBTS) and the slip road 8 section of the Project.

1.2 PURPOSE OF NOISE MANAGEMENT PLAN

Under Condition 2.9 of Environmental Permit No EP-364/2009/B (EP), a noise management plan should be prepared and submitted to EPD one month before the commencement of the corresponding parts of the Project. In accordance to



the Environmental Impact Assessment (EIA) Report and Section 3 of the relevant EM&A Manual, the noise mitigation measures are proposed to alleviate the noise impact due to the project. This noise management plan provides details regarding the works to be conducted at Slip Road 8 Section including works within Victoria Park.

2 ENVIRONMENTAL LEGISLATION, POLICIES, PLANS, STANDARDS AND CRITERIA

Environmental Impact Assessment Process (EIAO) and Noise Control Ordinance (NCO) provide the statutory framework for noise control. The following regulations, but not limited to, should be followed.

- Noise Control (Construction Work) Regulation
- Noise Control (Construction Work Designated Areas) Notice
- Noise Control (Hand Held Percussive Breakers) Regulations
- Noise Control (Air Compressors) Regulations

Pursuant to Technical Memorandum of EIA, noise standard for daytime construction activities as list in Table 1:

Noise Sources	0700 to 1900 hours on any day not being a Sunday or general holiday	1900 to 0700 hours or any time on Sundays or general holiday
Noise Standard	Leq (30 mins) dB(A)	
Uses		
All domestic premises including temporary housing accommodation	75	The criteria laid down in the relevant technical memoranda under the Noise Control Ordinance for designated areas and construction works other than percussive piling may be used for planning purpose. A Construction Noise Permit (CNP) shall be required for the carrying out of the construction work during the period.
Hotels and hostels	75	
Educational institutions including kindergartens, nurseries and all others where unaided voice communication is required	70 65 (During examinations)	

Table 1: Noise Standards for Daytime Construction Activities

3 NOISE SENSITIVE RECEIVERS AND ANTICIPATED CONSTRUCTION NOISE IMPACTS

3.1 NOISE SENSITIVE RECEIVERS (NSRs)

The nearest Noise Sensitive Receivers (NSRs) as identified in the EIA report of the Project are listed in the following table. Pursuant to TM of EIA, the noise standard for both NSRs shall be 75 Leq (30mins) dB(A) during 0700 to 1900 hours on any day not being a Sunday or general holiday. **Appendix A** shows the NSRs and the layout of the work areas.

Noise Sensitive Receivers nearby

Location	Name of building	Catalogue
Causeway Bay	Riviera Mansion	Residential
Causeway Bay	Marco Polo Mansion	Residential
Causeway Bay	Viking Garden	Residential
Tin Hau	Victoria Court	Residential
Tin Hau	Mayson Garden	Residential
Tin Hau	Gordon House	Residential
Tin Hau	Belle House	Residential

3.2 ANTICIPATED CONSTRUCTION NOISE IMPACTS

Scope of Designated Project under FEP-10/364/2009/B

- Construction of about 360 meters long CWB Tunnel structure in the CBTS by cut- and -cover method;
- Construction of about 100m long Slip Road 8 tunnel structure in CBTS by cut- and cover method;
- Construction of about 200m slip road 8 tunnel underneath Victoria Park Road and within Victoria Park by cut-and- cover method;
- Construction of about 410m at grade carriageway connecting to Tsing Fung Street;
- Re provisioning of exiting Victoria Park facilities



Having reviewed the construction methodologies and construction programme, potential construction noise impacts arise from this Project (land based activity) includes:

- Ground Investigation
- Diaphragm Wall and ELS Construction
- Ground Treatment Works
- Piling Works
- Cut and Cover Tunnel Works
- Road Works
- Backfilling, Reinstatement and Reprovision Works

4 MITIGATION OF NOISE IMPACTS DUE TO CONSTRUCTION

In order to reduce the excessive noise impacts at the affected NSR during normal daytime working hours, mitigation measures such as implementing quiet powered mechanical equipment, movable noise barriers and good site practices are recommended.

4.1 QUIET POWERED MECHANICAL EQUIPMENT (QPME)

Availability of QPME in the market will be sourced out based on EPD QPME's Inventory. Types of Construction Equipment included in the QPME system subject to the availability of the of market Also, the major powered mechanical equipment (PME) to be used on site will be considered with reference to Appendix 4.13 of the approved EIA report (Register No.: AEIAR-125/2008) during different construction tasks. Detailed list of PMEs will be proposed in corresponding method statement submitted to the Engineer.

Adaption of QPME can be applied in the works which carried out in Victoria Park.

Detailed Construction Works Programme refers to **Appendix C**.

4.2 NOISE MITIGATION MEASURES

A. MOVABLE NOISE BARRIER

To alleviate the construction noise impact on the affected NSR, movable noise barriers are proposed to be provided for particular items of plant and construction works. It is anticipated that a movable noise barrier comprised of minimum 50mm thick sound absorbing lining and 10mm thick plywood (or 1mm thick steel) backing with a cantilevered upper portion located within 5m from any static or mobile plant, that PME will be totally screened when viewed from the NSR, a negative correction of 5-10 dB(A) noise reduction would be achieved. The actual transmission loss of moveable noise barrier would be measured on substantiate site condition. "Guide on Design of Noise Barrier" from EPD would be one of the references during the design of the movable noise

barriers. A sample photo for the proposed movable noise barrier is shown in **Appendix B – Photo 1**.

B. NOISE ENCLOSURE

It is anticipated that full enclosure/partial enclosure comprised of minimum 50mm thick sound absorbing lining and 10mm thick plywood (or 1mm thick steel sheet) enclosing the PME would be provided where appropriate. The PME will be totally screened when viewed from the NSR and a negative correction of 5-10 dB(A) noise reduction would be achieved. A sample photo for the proposed partial enclosure is shown in **Appendix B – Photo 2-4**.

C. ACOUSTIC MAT

To alleviate the construction noise emitted by the noise emission source of the PME, it is anticipated that acoustic mat would be used to wrap around the noise emission source of the PME to reduce noise. A negative correction of 3 dB(A) noise reduction would be achieved. A sample photo of the proposed acoustic mat is shown in **Appendix B – Photo 5**.

D. SILENCER

To alleviate the construction noise emitted due to the use of air blower, silencer would be installed for air blowers where appropriate. A sample photo for the silencer to be adopted is shown in **Appendix B – Photo 6**.

4.3 GOOD SITE PRACTICES

The following good site practices should be adopted to further ameliorate the noise impacts:

- Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program;
- Silencers or mufflers on construction equipment shall be utilized as applicable and shall be properly maintained during the construction program;
- Mobile plant, if any, shall be sited as far away from NSR as applicable;
- Machines and plant (such as trucks) that may be in intermittent use must be shut down between works periods or shall be throttled down to a minimum;



- Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSR; and
- Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.

4.4 ADOPTION OF MULTIPLE-PHASE CONSTRUCTION SCHEDULE

Considering the works proceed on site as stipulated under the Contract, concurrent works/ multiple work fronts maybe adopt in order to shorten the time consumed and minimize the nuisance to the public nearby.

Joint arrangements such as frontier management, front line workforce, mobilization of plants, delivery of material, sequencing of works, handling of works areas, training of workers, inspection of environmental management will be made amongst different categorize of works together with works fronts.

Detailed Construction Works Programme refers to **Appendix C**

5 IMPACT MONITORING DURING CONSTRUCTION

5.1 EXTERNAL MONITORING

Environmental Monitoring and Audit (EM&A) Manual will serve as a guideline to set up of an EM&A programme to ensure compliance with the Environmental Impact Assessment (EIA) study recommendations, to assess the effectiveness of the recommended mitigation measures and to identify any further need for additional mitigation measures or remedial action.

The Environmental Team will be responsible for the setup, implement and maintain of EM&A system. Mitigation measures will be immediately implemented once the construction noise level exceeded the limit and action levels under the Manual's requirement.



5.2 INTERNAL MONITORING

Site inspections will be conducted in order to ensure the effectiveness of implemented noise mitigation measures and construction noise levels generated are fully complied with requirements.

5.3 ADDITIONAL MEASURES TO BE IMPLEMENTED AT VICTORIA PARK

Implementing an additional mitigation measures on top of those recommended in the EIA report listed above during waterbirds wintering season (from Oct to March).

Such measures might include:

- (a) avoiding heavy construction work and limiting all construction works to daylight hours within a sufficient buffer distance (say 30m to 50m) from waterbirds roosting sites and
- (b) placing light diffusers on the construction site lighting, if any, within this buffer distance.

Location plan showing the location of the water birds roosting sites and the buffer distance from heavy construction works, please refers to **Appendix D**.

Photo of light diffusers used on construction site, please refers to **Appendix E**.

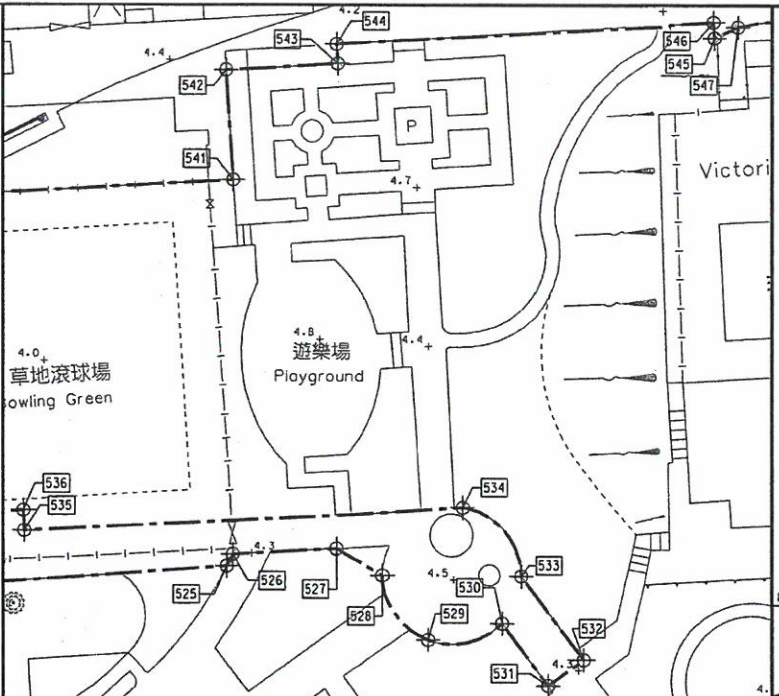
APPENDIX A

Site Layout Plans and Noise Sensitive Receivers (NSRs)

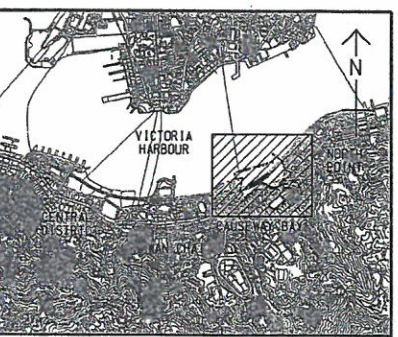
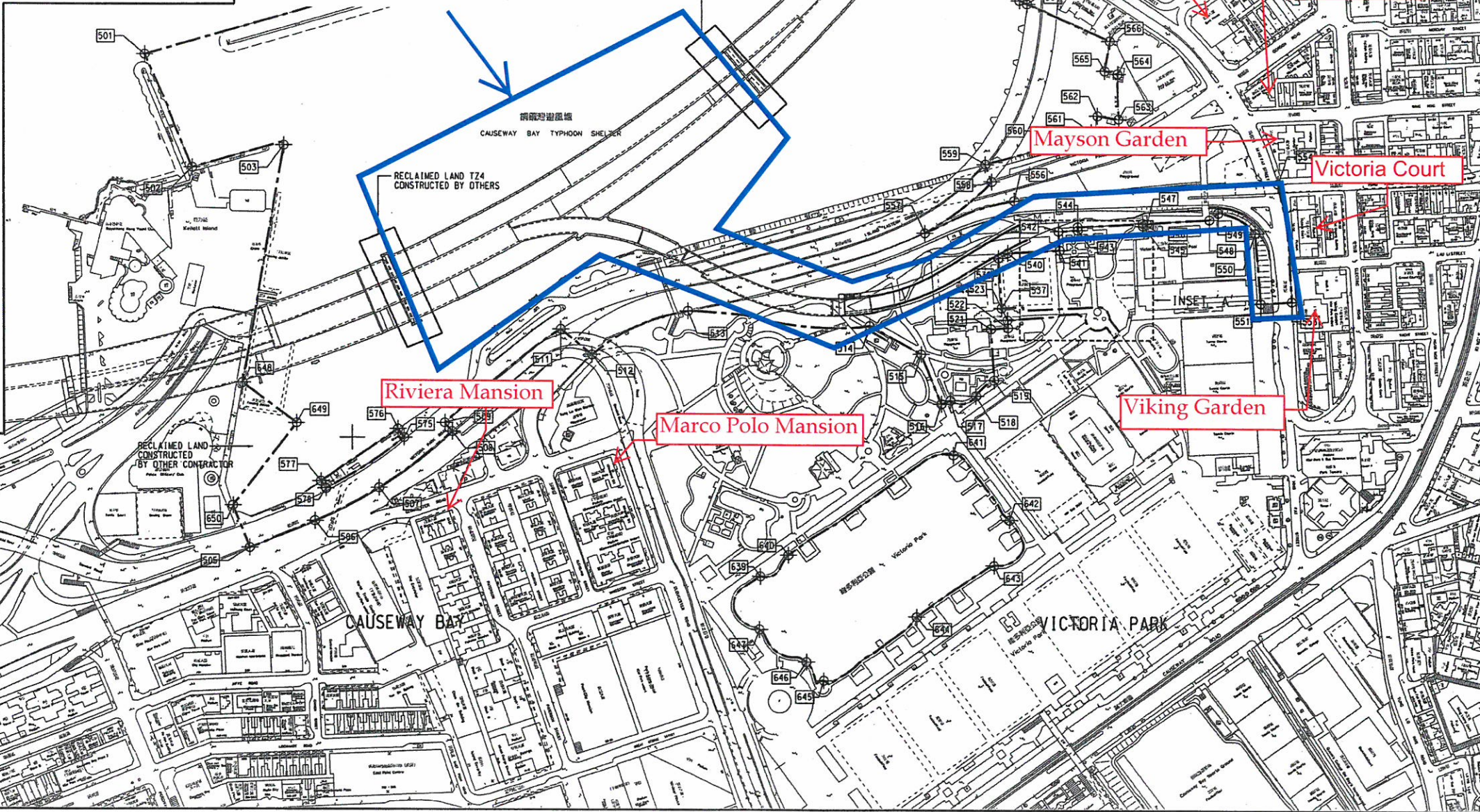


SETTING OUT POINT	COORDINATE	
	EASTING	NORTHING
501	836834.654	816307.053
502	836872.619	816216.508
503	836945.132	816234.375
505	836917.671	815911.415
506	836970.018	815932.954
507	837021.214	815959.576
508	837079.921	816004.859
509	837073.916	816011.852
511	837165.638	816087.100
512	837190.364	816066.670
513	837266.408	816101.801
514	837410.032	816089.928
515	837450.507	816067.349
516	837466.630	816027.453
517	837473.629	816030.282
518	837493.915	816033.802
519	837508.273	816046.332
521	837505.793	816087.606
522	837519.320	816086.530
523	837518.851	816094.820
525	837559.660	816097.721
526	837560.526	816099.355
527	837574.907	816100.135
528	837581.189	816096.430
529	837587.391	816087.496
530	837597.625	816089.774
531	837603.921	816081.148
532	837608.806	816084.714
533	837600.246	816096.314
534	837592.181	816105.802
535	837531.534	816102.607
536	837531.442	816105.401
537	837514.273	816104.428
539	837511.734	816144.714
540	837519.057	816148.795
541	837560.575	816151.097
542	837559.579	816166.316
543	837575.057	816167.209
544	837574.917	816169.930
545	837626.766	816170.783
546	837626.621	816173.030
547	837630.020	816172.310
548	837679.081	816175.812
549	837685.893	816181.330
550	837715.118	816165.153
551	837719.566	816108.737
553	837744.174	816110.151
554	837733.251	816204.909
556	837524.380	816190.704
557	837453.512	816164.827
558	837506.486	816206.018
559	837501.445	816219.760

SETTING OUT POINT	COORDINATE	
	EASTING	NORTHING
560	837553.668	816236.393
561	837585.734	816245.792
562	837590.726	816258.832
563	837607.548	816256.268
564	837606.695	816292.565
565	837596.488	816294.986
566	837600.533	816318.981
567	837534.474	816348.401
568	837528.378	816351.116
569	837496.712	816446.217
570	837506.143	816459.701
571	837410.934	816523.765
572	837344.386	816453.325
575	837041.237	816000.027
576	837036.516	816006.971
577	836974.738	815964.852
578	836978.719	815958.996
639	837323.361	815888.727
640	837345.577	815906.013
641	837475.955	815986.456
642	837520.471	815934.035
643	837507.994	815897.484
644	837446.668	815856.474
645	837373.643	815805.415
646	837359.746	815820.364
647	837322.594	815846.270
648	836912.225	816043.885
649	836955.096	816011.630
650	836904.562	815945.321



Works Area of the Contract:
HY/2010/08
Central-Wan Chai Bypass Tunnel
(Slip Road 8 Section)



LOCATION PLAN
SCALE A1 : 5000
A3 : 10000

- NOTES:
- ALL COORDINATES GIVEN ACCORDING TO HONG KONG (1980) GRID IN METERS.
 - COORDINATES TO BE VERIFIED WITH THE ENGINEER ON SITE.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. 60095653/T2/1102 AND 1103

LEGEND:



SETTING OUT POINT	COORDINATE	
	EASTING	NORTHING
652	813055.694	817117.076
653	813099.429	817078.191
654	813125.333	817107.346
655	813103.658	817126.607
656	813083.936	817118.715
657	813068.906	817132.091
662	813272.658	817273.155
663	813267.320	817276.040
664	813263.643	817276.260
665	813174.315	817221.758
666	813126.969	817198.951
667	813136.310	817222.643
668	813141.945	817243.542
669	813174.898	817247.094
670	813262.526	817301.530
671	813280.714	817278.683
674	834794.531	811537.874
675	834827.583	811489.761
676	834969.773	811499.102
677	835088.314	811368.359
678	835077.993	811225.951
679	834986.804	811108.427
680	834992.939	811082.830
681	834985.709	811073.445
682	834797.862	811030.209
683	834781.050	811058.028
684	834780.743	811078.331
685	834748.106	811170.611
686	834730.947	811395.771
687	834713.773	811464.060
688	834617.598	811103.804
689	834699.994	811126.324
690	834740.857	810940.338
691	834654.505	810921.365

B WORKING DRAWING	JYHC/RPCM MAR. 13
A TENDER ADDENDUM NO. 1	JYHC/RPCM AUG. 12
TENDER DRAWING	JYHC/RPCM JUL. 12

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK
PWP ITEM NO. 579 TH
工務計劃項目編號

CENTRAL - WAN CHAI BYPASS - TUNNEL
(SLIP ROAD 8 SECTION)
LIMIT OF SITE BOUNDARY
AND SETTING OUT PLAN

AECOM

DRG. NO. 圖紙編號	60095653/T2/1101 B
DESIGNED BY 設計	JYHC
CONTRACT NO. 合約編號	HY/2010/08
APPROVED BY 核對	CW
STATUS 狀態	WORKING DRAWING
SCALE 比例尺	A1 : 2000 A3 : 4000
DIMENSIONS 尺寸	METRES
© COPYRIGHT RESERVED 版權所有	

APPENDIX B

Noise Mitigation Measures





Photo 1 – Noise Barrier

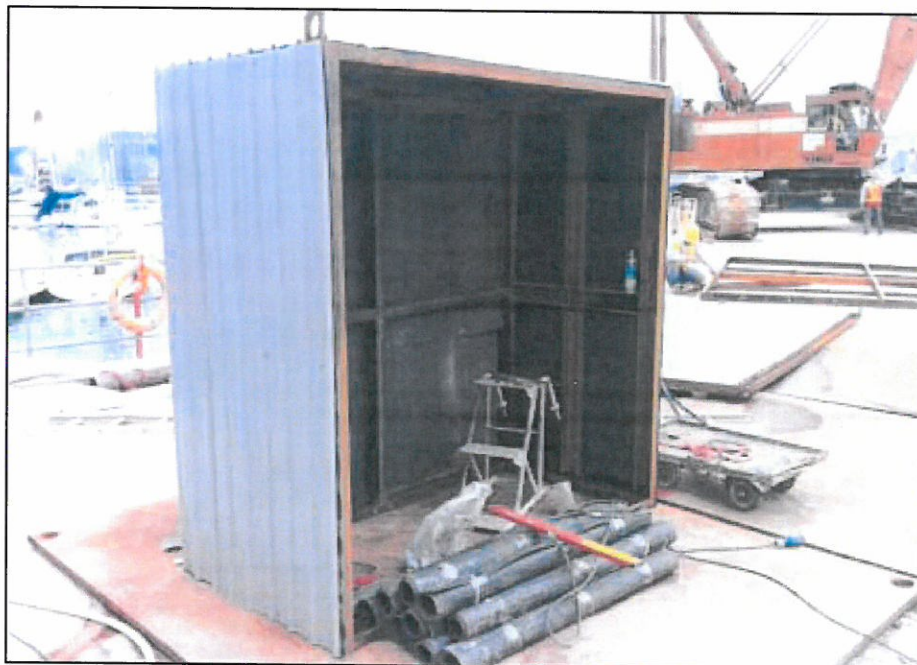


Photo 2 – Partial Enclosure



Photo 3 – Enclosure for Drilling Plant



Photo 4 – Breaker Tips were wrapped with noise absorbing material



Photo 5 – Acoustic Mat to wrap the noise emission source of the PME



Photo 6 – Silencer for air blower

APPENDIX C

Construction Programme of the Project

Activity ID	Activity Name	Calendar	Original Duration	Start	Finish	Total Float	2013 2014 2015 2016 2017 2018 2019																											
							2013				2014				2015				2016				2017				2018				2019			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
DWP: HY/2010/08- Central-Wan Chai Bypass Tunnel (Slip Road 8 Section)																																		
Key Dates																																		
Commencement of Works																																		
100	Project Start	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13		0.0	◆ Project Start																											
110	Contract Completion	Cal 3 - 7 days / wk (no holidays)	0.0		20-Nov-19*	0.0																												
Site Possession Dates																																		
XIV	Site Possession of Portion XIV (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion XIV (0d)																											
XV	Site Possession of Portion XV (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion XV (0d)																											
XVII	Site Possession of Portion XVII (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion XVII (0d)																											
XIX	Site Possession of Portion XIX (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion XIX (0d)																											
XX	Site Possession of Portion XX (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion XX (0d)																											
II	Site Possession of Portion II (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion II (0d)																											
IVA	Site Possession of Portion IVA (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion IVA (0d)																											
IVB	Site Possession of Portion IVB (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion IVB (0d)																											
VA	Site Possession of Portion VA (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion VA (0d)																											
VB	Site Possession of Portion VB (0d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-13*		0.0	◆ Site Possession of Portion VB (0d)																											
XVIII	Site Possession of Portion XVIII (180d)	Cal 3 - 7 days / wk (no holidays)	0.0	17-Sep-13*		0.0	◆ Site Possession of Portion XVIII (180d)																											
XI	Site Possession of Portion XI (245d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Nov-13*		0.0	◆ Site Possession of Portion XI (245d)																											
XII	Site Possession of Portion XII (245d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Nov-13*		0.0	◆ Site Possession of Portion XII (245d)																											
VI	Site Possession of Portion VI (245d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Nov-13*		0.0	◆ Site Possession of Portion VI (245d)																											
IA	Site Possession of Portion IA (389d)	Cal 3 - 7 days / wk (no holidays)	0.0	14-Apr-14*		0.0	◆ Site Possession of Portion IA (389d)																											
IB	Site Possession of Portion IB (389d)	Cal 3 - 7 days / wk (no holidays)	0.0	14-Apr-14*		0.0	◆ Site Possession of Portion IB (389d)																											
X	Site Possession of Portion X (420d)	Cal 3 - 7 days / wk (no holidays)	0.0	15-May-14*		0.0	◆ Site Possession of Portion X (420d)																											
XIIIA	Site Possession of Portion XIIIA (420d)	Cal 3 - 7 days / wk (no holidays)	0.0	15-May-14*		0.0	◆ Site Possession of Portion XIIIA (420d)																											
XIIIB	Site Possession of Portion XIIIB (420d)	Cal 3 - 7 days / wk (no holidays)	0.0	15-May-14*		0.0	◆ Site Possession of Portion XIIIB (420d)																											
XVI	Site Possession of Portion XVI (420d)	Cal 3 - 7 days / wk (no holidays)	0.0	15-May-14*		0.0	◆ Site Possession of Portion XVI (420d)																											
III	Site Possession of Portion III (420d)	Cal 3 - 7 days / wk (no holidays)	0.0	15-May-14*		0.0	◆ Site Possession of Portion III (420d)																											
VIII	Site Possession of Portion VIII (486d)	Cal 3 - 7 days / wk (no holidays)	0.0	20-Jul-14*		0.0	◆ Site Possession of Portion VIII (486d)																											
VII	Site Possession of Portion VII (665d)	Cal 3 - 7 days / wk (no holidays)	0.0	15-Jan-15*		0.0	◆ Site Possession of Portion VII (665d)																											
IECM	Instruction to proceed with Section 8 (IEC Abutment M)- subject to excision 945d	Cal 3 - 7 days / wk (no holidays)	0.0	22-Oct-15*		0.0	◆ Instruction to proceed with Section 8 (IEC Abutment M)- subject to excision 945d																											
IX	Site Possession of Portion IX (1096d)	Cal 3 - 7 days / wk (no holidays)	0.0	21-Mar-16*		0.0	◆ Site Possession of Portion IX (1096d)																											
Stage / Section Completion of Works																																		
KD1	KD1 - Achievement of Stage 1 (120d)	Cal 3 - 7 days / wk (no holidays)	0.0		18-Jul-13*	0.0	◆ KD1 - Achievement of Stage 1 (120d)																											
KD16	KD16 - Completion of Section 10A of the Works (240d)	Cal 3 - 7 days / wk (no holidays)	0.0		15-Nov-13*	0.0	◆ KD16 - Completion of Section 10A of the Works (240d)																											
KD4	KD4 - Completion of Section 1B of the Works (635d)	Cal 3 - 7 days / wk (no holidays)	0.0		15-Dec-14*	0.0	◆ KD4 - Completion of Section 1B of the Works (635d)																											
KD3	KD3 - Completion of Section 1A of the Works (635d)	Cal 3 - 7 days / wk (no holidays)	0.0		15-Dec-14*	0.0	◆ KD3 - Completion of Section 1A of the Works (635d)																											
KD5	KD5 - Completion of Section 2 of the Works (849d)	Cal 3 - 7 days / wk (no holidays)	0.0		17-Jul-15*	0.0	◆ KD5 - Completion of Section 2 of the Works (849d)																											
KD15	KD15 - Completion of Section 9 of the Works (994d)	Cal 3 - 7 days / wk (no holidays)	0.0		09-Dec-15*	0.0	◆ KD15 - Completion of Section 9 of the Works (994d)																											
KD2	KD2 - Achievement of Stage 2 (994d)	Cal 3 - 7 days / wk (no holidays)	0.0		09-Dec-15*	0.0	◆ KD2 - Achievement of Stage 2 (994d)																											
KD6	KD6 - Completion of Section 3 of the Works (1125d)	Cal 3 - 7 days / wk (no holidays)	0.0		18-Apr-16*	0.0	◆ KD6 - Completion of Section 3 of the Works (1125d)																											
KD14	KD14 - Completion of Section 8 of the Works (1125d)	Cal 3 - 7 days / wk (no holidays)	0.0		18-Apr-16*	0.0	◆ KD14 - Completion of Section 8 of the Works (1125d)																											
KD12	KD12 - Completion of Section 7B of the Works (1214d)	Cal 3 - 7 days / wk (no holidays)	0.0		16-Jul-16*	0.0	◆ KD12 - Completion of Section 7B of the Works (1214d)																											
KD7	KD7 - Completion of Section 4 of the Works (1226d)	Cal 3 - 7 days / wk (no holidays)	0.0		28-Jul-16*	0.0	◆ KD7 - Completion of Section 4 of the Works (1226d)																											
KD9	KD9 - Completion of Section 5B of the Works (1341d)	Cal 3 - 7 days / wk (no holidays)	0.0		20-Nov-16*	0.0	◆ KD9 - Completion of Section 5B of the Works (1341d)																											
KD10	KD10 - Completion of Section 6 of the Works (1341d)	Cal 3 - 7 days / wk (no holidays)	0.0		20-Nov-16*	0.0	◆ KD10 - Completion of Section 6 of the Works (1341d)																											
KD8	KD8 - Completion of Section 5A of the Works (1399d)	Cal 3 - 7 days / wk (no holidays)	0.0		17-Jan-17*	0.0	◆ KD8 - Completion of Section 5A of the Works (1399d)																											
KD17	KD17 - Completion of Section 10B of the Works (1706d)	Cal 3 - 7 days / wk (no holidays)	0.0		20-Nov-17*	0.0	◆ KD17 - Completion of Section 10B of the Works (1706d)																											
KD13	KD13 - Completion of Section 7C of the Works (1706d)	Cal 3 - 7 days / wk (no holidays)	0.0		20-Nov-17*	0.0	◆ KD13 - Completion of Section 7C of the Works (1706d)																											
KD11	KD11 - Completion of Section 7A of the Works (1730d)	Cal 3 - 7 days / wk (no holidays)	0.0		14-Dec-17*	0.0	◆ KD11 - Completion of Section 7A of the Works (1730d)																											
KD18	KD18 - Completion of Section 11 of the Works (2436d)	Cal 3 - 7 days / wk (no holidays)	0.0		20-Nov-19*	0.0																												
Handover Dates																																		
HXVII	Handover of Portion XVII	Cal 3 - 7 days / wk (no holidays)	0.0		15-Aug-13*	0.0	◆ Handover of Portion XVII																											

Activity ID	Activity Name	Calendar	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017				2018				2019								
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
PER_1170	EPD review and issue Dumping Permit (DASO)	Cal 1 - 6 days / wk less holidays	72.0	07-Nov-13	05-Feb-14	60.0																																	
Marine Department																																							
PER_1130	Preparation and Application of MDN Marine Dept.	Cal 1 - 6 days / wk less holidays	30.0	10-Dec-13	16-Jan-14	40.0																																	
PER_1133	MD - Marine Notice Promulgation	Cal 1 - 6 days / wk less holidays	30.0	17-Jan-14	24-Feb-14	40.0																																	
Submission & Approval																																							
Method Statement																																							
TS3E_1000	(01)Marine SI method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	28-Nov-13	27-Dec-13	50.0																																	
TS3E_1010	(02)Dredging works method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	12-Dec-13	11-Jan-14	50.0																																	
TS3E_1015	(01)Marine SI method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	28-Dec-13	25-Jan-14	62.0																																	
TS3E_1020	(03) Seawall block works method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	28-Dec-13	25-Jan-14	50.0																																	
TS3E_1025	(02)Dredging works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	13-Jan-14	12-Feb-14	50.0																																	
TS3E_1035	(03) Seawall block works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	27-Jan-14	26-Feb-14	50.0																																	
TS3E_1005	Appoint Independent Hydrographic Surveyor	Cal 1 - 6 days / wk less holidays	27.0	29-Jan-14	04-Mar-14	33.0																																	
TS3E_1030	(04) Reclamation works method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	14-Apr-14	16-May-14	2.0																																	
TS3E_1040	(04) Reclamation works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	17-May-14	14-Jun-14	2.0																																	
Temporary Works Design																																							
TS3E_1050	(02) Seawall design- submission	Cal 1 - 6 days / wk less holidays	18.0	26-Mar-14	16-Apr-14	15.0																																	
TS3E_1055	(02) Seawall design - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	18.0	17-Apr-14	13-May-14	15.0																																	
Seawall Block Fabrication																																							
TS3E_1045	Seawall block fabrications (less reuse from C15)	Cal 1 - 6 days / wk less holidays	72.0	12-Feb-14	13-May-14	63.0																																	
TS3E - Reclamation Works																																							
TS3E_1370	Site Possession - Portion IA/IB (389d)	Cal 1 - 6 days / wk less holidays	0.0	14-Apr-14	01-Aug-14	0.0																																	
TS3E_1400	Marine SI (CPPT etc.)	Cal 1 - 6 days / wk less holidays	15.0	14-Apr-14	05-May-14	0.0																																	
IW_1060	Hydrographic Survey	Cal 1 - 6 days / wk less holidays	12.0	14-Apr-14	30-Apr-14	0.0																																	
TS3E_1300	Dredging	Cal 1 - 6 days / wk less holidays	26.0	22-Apr-14	23-May-14	0.0																																	
TS3E_1310.01	Rockfill + leveling - south side	Cal 1 - 6 days / wk less holidays	24.0	02-May-14	30-May-14	0.0																																	
TS3E_1310.02	Rockfill + leveling - north side	Cal 1 - 6 days / wk less holidays	24.0	19-May-14	16-Jun-14	0.0																																	
TS3E_1320.01	Seawall block installation (start of reclamation works) - south side	Cal 1 - 6 days / wk less holidays	19.0	31-May-14	23-Jun-14	0.0																																	
TS3E_1320.02	Seawall block installation - north side	Cal 1 - 6 days / wk less holidays	19.0	17-Jun-14	09-Jul-14	0.0																																	
TS3E_1390	General fill + Compaction	Cal 1 - 6 days / wk less holidays	38.0	18-Jun-14	01-Aug-14	0.0																																	
TS3E_1340	Handover TS3E to D Wall works	Cal 1 - 6 days / wk less holidays	0.0		01-Aug-14	0.0																																	
TS3W - Reclamation Works																																							
TS3W_1175	Site Possession - Portion III, X, XIII, XIII, XVI (420D)	Cal 1 - 6 days / wk less holidays	0.0	15-May-14	19-Nov-14	0.0																																	
TS3W_1185	Marine SI (CPPT etc.)	Cal 1 - 6 days / wk less holidays	24.0	15-May-14	12-Jun-14	0.0																																	
TS3W_1190	Dredging	Cal 1 - 6 days / wk less holidays	42.0	31-May-14	21-Jul-14	0.0																																	
TS3W_1200.01	Rockfill + leveling - south side	Cal 1 - 6 days / wk less holidays	20.0	12-Jun-14	05-Jul-14	0.0																																	
TS3W_1200.02	Rockfill + leveling - north side	Cal 1 - 6 days / wk less holidays	78.0	07-Jul-14	08-Oct-14	0.0																																	
TS3W_1210.01	Seawall block installation (start of reclamation works) - south side	Cal 1 - 6 days / wk less holidays	13.0	29-Jul-14	12-Aug-14	0.0																																	
TS3W_1210.02	Seawall block installation - north side	Cal 1 - 6 days / wk less holidays	52.0	13-Aug-14	15-Oct-14	0.0																																	
TS3W_1280	General fill + Compaction	Cal 1 - 6 days / wk less holidays	58.0	11-Sep-14	19-Nov-14	0.0																																	
TS3W_1285	Handover TS3W to D Wall works	Cal 1 - 6 days / wk less holidays	0.0		19-Nov-14	0.0																																	
Works for Box Culvert Q & Water Intake																																							
Temporary Diversion Works - Design																																							
TS3EW_1005	(02) Box culvert Q temp diversion design- submission	Cal 1 - 6 days / wk less holidays	36.0	19-Nov-13	02-Jan-14	63.0																																	
TS3EW_1015	(02) Box culvert Q temp diversion design - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	36.0	03-Jan-14	17-Feb-14	63.0																																	
TS3EW_1000	(01) Water intake temp diversion design- submission	Cal 1 - 6 days / wk less holidays	36.0	10-Feb-14	22-Mar-14	122.0																																	
TS3EW_1010	(01) Water intake temp diversion design - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	36.0	24-Mar-14	10-May-14	122.0																																	
Method Statement																																							
TS3EW_1025	(02) Box Culvert Q works method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	18-Feb-14	17-Mar-14	63.0																																	
TS3EW_1035	(02) Box Culvert Q works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	18-Mar-14	15-Apr-14	63.0																																	
TS3EW_1020	(01)Water intake method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	12-May-14	09-Jun-14	122.0																																	
TS3EW_1030	(01)Water intake method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	10-Jun-14	08-Jul-14	122.0																																	
Water Intake																																							

Date	Revision	Checked	Approved
16-Oct-13	HY/2010/08 DWP Rev. 03 (3rd Submission)	DL/WC	DC

Activity ID	Activity Name	Calendar	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017				2018				2019			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Stage 1 - Water Intake Works																																		
TS3_1170.10	Install Water Intake Interim Measures and connection to WSD	Cal 1 - 6 days / wk less holidays	98.0	20-Nov-14	20-Mar-15	10.0	■ Install Water Intake Interim Measures and connection to WSD																											
TS3_1170.20	Sheet Piling and ELS	Cal 1 - 6 days / wk less holidays	24.0	18-Dec-14	17-Jan-15	10.0	■ Sheet Piling and ELS																											
TS3_1170.30	Construction of Concrete Sump and Install Sump Pump	Cal 1 - 6 days / wk less holidays	24.0	19-Jan-15	14-Feb-15	10.0	■ Construction of Concrete Sump and Install Sump Pump																											
TS3_1170.40	Extension of Water Intake Pipes to to East and West of Reclamation	Cal 1 - 6 days / wk less holidays	36.0	02-Feb-15	18-Mar-15	10.0	■ Extension of Water Intake Pipes to to East and West of Reclamation																											
TS3_1170.50	Test and trial run	Cal 1 - 6 days / wk less holidays	2.0	19-Mar-15	20-Mar-15	10.0	Test and trial run																											
Stage 2 - Water Intake Shutdown and Connection																																		
TS3_1180.10	Shut Down intake from WSD and Connect Water Intake to Extended Systems	Cal 1 - 6 days / wk less holidays	1.0	21-Mar-15	21-Mar-15	10.0	Shut Down intake from WSD and Connect Water Intake to Extended Systems																											
TS3_1180.20	Backfilling and Removal of Sheet Pile and Struts	Cal 1 - 6 days / wk less holidays	12.0	23-Mar-15	09-Apr-15	10.0	■ Backfilling and Removal of Sheet Pile and Struts																											
Box Culvert Q																																		
Stage 1 - TZ4 Interface Island (Upon Possession of TZ4)																																		
TS3_1145.10	Site Possession of TZ4	Cal 1 - 6 days / wk less holidays	102.0	15-May-14	13-Sep-14	31.0	◆ Site Possession of TZ4																											
TS3_1145.20	Sheet Piling	Cal 1 - 6 days / wk less holidays	0.0	15-May-14	28-May-14	43.0	■ Sheet Piling																											
TS3_1145.30	Ground Treatment / Grouting	Cal 1 - 6 days / wk less holidays	12.0	29-May-14	12-Jun-14	43.0	■ Ground Treatment / Grouting																											
TS3_1145.40	Excavation and Lateral Support	Cal 1 - 6 days / wk less holidays	24.0	13-Jun-14	11-Jul-14	43.0	■ Excavation and Lateral Support																											
TS3_1145.50	Install 2 Pipe Culvert with concrete surround	Cal 1 - 6 days / wk less holidays	24.0	27-Jun-14	25-Jul-14	43.0	■ Install 2 Pipe Culvert with concrete surround																											
TS3_1145.130	Backfill and Remove Struting and Sheet Pile	Cal 1 - 6 days / wk less holidays	12.0	26-Jul-14	08-Aug-14	43.0	■ Backfill and Remove Struting and Sheet Pile																											
TS3_1145.110	Precast Box Culvert Connection	Cal 1 - 6 days / wk less holidays	18.0	23-Aug-14	13-Sep-14	31.0	■ Precast Box Culvert Connection																											
Stage 2 - During Reclamation (Culvert Parallel to D-Wall)																																		
TS3_1145.60	Site Reclamation complete at West Portion	Cal 1 - 6 days / wk less holidays	0.0	18-Oct-14	31-Dec-14	4.0	◆ Site Reclamation complete at West Portion																											
TS3_1145.70	Sheet Piling	Cal 1 - 6 days / wk less holidays	6.0	18-Oct-14	24-Oct-14	4.0	■ Sheet Piling																											
TS3_1145.80	Ground Treatment / Grouting	Cal 1 - 6 days / wk less holidays	12.0	25-Oct-14	07-Nov-14	4.0	■ Ground Treatment / Grouting																											
TS3_1145.90	Excavation and Lateral Support	Cal 1 - 6 days / wk less holidays	24.0	08-Nov-14	05-Dec-14	4.0	■ Excavation and Lateral Support																											
TS3_1145.100	Install 2 Pipe Culvert with concrete surround	Cal 1 - 6 days / wk less holidays	24.0	22-Nov-14	19-Dec-14	4.0	■ Install 2 Pipe Culvert with concrete surround																											
TS3_1145.120	Backfill and Remove Struting and Sheet Pile	Cal 1 - 6 days / wk less holidays	8.0	20-Dec-14	31-Dec-14	4.0	■ Backfill and Remove Struting and Sheet Pile																											
Stage 3 - Outfall Connection																																		
TS3_1160.01.1	Divert Water to Out Fall Box B	Cal 1 - 6 days / wk less holidays	4.0	25-Oct-14	29-Oct-14	10.0	■ Divert Water to Out Fall Box B																											
TS3_1160.01.2	Sheet Piling + ELS to divert Water to West of Outfall and Isolate Box A	Cal 1 - 6 days / wk less holidays	12.0	28-Oct-14	10-Nov-14	10.0	■ Sheet Piling + ELS to divert Water to West of Outfall and Isolate Box A																											
TS3_1160.01.3	Backfill to Invert Level and Install Precast Concrete Box A and connect to Outfall A	Cal 1 - 6 days / wk less holidays	8.0	11-Nov-14	19-Nov-14	10.0	■ Backfill to Invert Level and Install Precast Concrete Box A and connect to Outfall A																											
TS3_1160.01.4	Divert Water to Outfall A / Precast Concrete Box A	Cal 1 - 6 days / wk less holidays	2.0	27-Nov-14	28-Nov-14	10.0	Divert Water to Outfall A / Precast Concrete Box A																											
TS3_1160.01.5	Backfill and Remove Struts and Sheet File	Cal 1 - 6 days / wk less holidays	8.0	29-Nov-14	08-Dec-14	10.0	■ Backfill and Remove Struts and Sheet File																											
TS3_1160.01.6	Sheet piling + ELS to Invert Level (Outfall Box B)	Cal 1 - 6 days / wk less holidays	12.0	09-Dec-14	22-Dec-14	10.0	■ Sheet piling + ELS to Invert Level (Outfall Box B)																											
TS3_1160.01.7	Install 2nd Precast Concrete Box and connect to Outfall B	Cal 1 - 6 days / wk less holidays	12.0	02-Jan-15	15-Jan-15	4.0	■ Install 2nd Precast Concrete Box and connect to Outfall B																											
TS3_1160.01.8	Remove Diversion to Outfall	Cal 1 - 6 days / wk less holidays	2.0	16-Jan-15	17-Jan-15	4.0	Remove Diversion to Outfall																											
TS3_1160.01.9	Box Culvert Q diversion - backfilling	Cal 1 - 6 days / wk less holidays	8.0	19-Jan-15	27-Jan-15	4.0	■ Box Culvert Q diversion - backfilling																											
Works in TS3-East																																		
Diaphragm Wall																																		
TS3 East ELS Temporary Works Design Submission to AECOM/GEO																																		
TS3E_2000	1st Submission - preparation and submission to AECOM	Cal 1 - 6 days / wk less holidays	180.0	16-Nov-13	28-Jun-14	28.0	■ 1st Submission - preparation and submission to AECOM																											
TS3E_2005	1st Submission - Review and comments by Aecom	Cal 1 - 6 days / wk less holidays	24.0	16-Nov-13	13-Dec-13	20.0	■ 1st Submission - Review and comments by Aecom																											
TS3E_2010	1st Submission - preparation, and formal submission (with ICE) to AECOM/GEO	Cal 1 - 6 days / wk less holidays	24.0	14-Dec-13	14-Jan-14	20.0	■ 1st Submission - preparation, and formal submission (with ICE) to AECOM/GEO																											
TS3E_2015	1st Submission - Review and approval by Aecom	Cal 1 - 6 days / wk less holidays	24.0	15-Jan-14	28-Jan-14	20.0	■ 1st Submission - Review and approval by Aecom																											
TS3E_2020	1st Submission - Review by GEO (assume 4 months)	Cal 1 - 6 days / wk less holidays	120.0	29-Jan-14	28-Jun-14	28.0	■ 1st Submission - Review by GEO (assume 4 months)																											
Method Statement																																		
TS3E_2025	(01)Diaphragm wall method statement - submission	Cal 1 - 6 days / wk less holidays	48.0	01-Mar-14	30-Apr-14	20.0	■ (01)Diaphragm wall method statement - submission																											
TS3E_2030	(01)Diaphragm wall method statement- review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	01-Mar-14	28-Mar-14	20.0	■ (01)Diaphragm wall method statement- review and approval by AECOM																											
TS3-East Pre-D/wall Works																																		
TS3E_2510	Bentonite silo & plant establishment	Cal 1 - 6 days / wk less holidays	98.0	02-Aug-14	27-Nov-14	0.0	■ Bentonite silo & plant establishment																											
TS3E_2520	Ground Investigation (SI)	Cal 1 - 6 days / wk less holidays	48.0	02-Aug-14	27-Sep-14	0.0	■ Ground Investigation (SI)																											
TS3E_2530	Curtain grout/soil pre-treatment/slurry wall	Cal 1 - 6 days / wk less holidays	98.0	02-Aug-14	27-Nov-14	0.0	■ Curtain grout/soil pre-treatment/slurry wall																											
TS3E_2540	Guidewall construction	Cal 1 - 6 days / wk less holidays	21.0	02-Aug-14	26-Aug-14	0.0	■ Guidewall construction																											
TS3-East Diaphragm Construction																																		
TS3E_3110	Diaphragm wall construction (49 panels @ proposed bulkhead)	Cal 1 - 6 days / wk less holidays	98.0	19-Aug-14	13-Dec-14	0.0	■ Diaphragm wall construction (49 panels @ proposed bulkhead)																											

Activity ID	Activity Name	Calendar	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017				2018				2019			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TS3-East Post D/wall Works																																		
TS3E_4100	D/wall Interface coring + grouting	Cal 1 - 6 days / wk less holidays	48.0	17-Nov-14	14-Jan-15	0.0	■ D/wall Interface coring + grouting																											
TS3E_4110	D/wall coring + fissure grouting	Cal 1 - 6 days / wk less holidays	48.0	17-Nov-14	14-Jan-15	0.0	■ D/wall coring + fissure grouting																											
TS3E_4120	D/wall integrity test	Cal 1 - 6 days / wk less holidays	48.0	17-Nov-14	14-Jan-15	0.0	■ D/wall integrity test																											
TS3E_4130	Dewatering & observation well installation	Cal 1 - 6 days / wk less holidays	36.0	24-Nov-14	07-Jan-15	0.0	■ Dewatering & observation well installation																											
TS3E_4140	Pumping test	Cal 1 - 6 days / wk less holidays	6.0	08-Jan-15	14-Jan-15	0.0	■ Pumping test																											
ELS																																		
Method Statement																																		
TS3E_2050	(01)ELS works method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	02-May-14	28-Jun-14	20.0	■ (01)ELS works method statement - submission																											
TS3E_2060	(01)ELS works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	31-May-14	28-Jun-14	20.0	■ (01)ELS works method statement - review and approval by AECOM																											
ELS Fabrication Works																																		
TS3E_2040	Shop drawing submission	Cal 1 - 6 days / wk less holidays	24.0	31-May-14	28-Jun-14	20.0	■ Shop drawing submission																											
TS3E_2045	Review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	30-Jun-14	28-Jul-14	20.0	■ Review and approval by AECOM																											
TS3E_2055	Shop drawing re-submission	Cal 1 - 6 days / wk less holidays	24.0	29-Jul-14	25-Aug-14	20.0	■ Shop drawing re-submission																											
TS3E_2065	Review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	26-Aug-14	23-Sep-14	20.0	■ Review and approval by AECOM																											
TS3E_2070	Start Fabrication works	Cal 1 - 6 days / wk less holidays	0.0	24-Sep-14		20.0	◆ Start Fabrication works																											
TS3E_5510	ELS struts & waling fabrication	Cal 1 - 6 days / wk less holidays	72.0	24-Sep-14	18-Dec-14	20.0	■ ELS struts & waling fabrication																											
TS3-East ELS Works																																		
TS3E_5515	King Post installation	Cal 1 - 6 days / wk less holidays	40.0	10-Dec-14	28-Jan-15	0.0	■ King Post installation																											
TS3E_5520	Layer 1 - Soft Excav + Strut installation	Cal 1 - 6 days / wk less holidays	30.0	15-Jan-15	18-Feb-15	0.0	■ Layer 1 - Soft Excav + Strut installation																											
TS3E_5540	Layer 2: Soft excavation + Strut installation	Cal 1 - 6 days / wk less holidays	21.0	03-Feb-15	02-Mar-15	0.0	■ Layer 2: Soft excavation + Strut installation																											
TS3E_5560	Layer 3: Soft excavation + Strut installation	Cal 1 - 6 days / wk less holidays	21.0	11-Feb-15	10-Mar-15	0.0	■ Layer 3: Soft excavation + Strut installation																											
TS3E_5580	Layer 4: Soft excavation + Strut installation	Cal 1 - 6 days / wk less holidays	21.0	23-Feb-15	18-Mar-15	0.0	■ Layer 4: Soft excavation + Strut installation																											
TS3E_5600	Layer 5: Soft excavation + Strut installation	Cal 1 - 6 days / wk less holidays	21.0	03-Mar-15	26-Mar-15	0.0	■ Layer 5: Soft excavation + Strut installation																											
TS3E_5620	Layer 6: Soft excavation + Strut installation	Cal 1 - 6 days / wk less holidays	21.0	11-Mar-15	08-Apr-15	0.0	■ Layer 6: Soft excavation + Strut installation																											
TS3E_5660	Excavation up to formation level	Cal 1 - 6 days / wk less holidays	21.0	25-Mar-15	22-Apr-15	0.0	■ Excavation up to formation level																											
Cut & Cover Tunnel Structure																																		
Temporary Works Design																																		
TS3E_2080	(01) RC Temp Work Design - submission	Cal 1 - 6 days / wk less holidays	24.0	21-Nov-14	18-Dec-14	24.0	■ (01) RC Temp Work Design - submission																											
TS3E_2085	(01) RC Temp Work Design - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	19-Dec-14	19-Jan-15	24.0	■ (01) RC Temp Work Design - review and approval by AECOM																											
Method Statement																																		
TS3E_2090	(01)RC works method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	20-Jan-15	16-Feb-15	24.0	■ (01)RC works method statement - submission																											
TS3E_2095	(01)RC works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	17-Feb-15	19-Mar-15	24.0	■ (01)RC works method statement - review and approval by AECOM																											
TS3-East CCT - Ch.4500.000 to Ch.4582.140																																		
TS3 East CCT - Blinding + Waterproofing																																		
TS3E_6515	TS3(E) Blinding - Bay 1 - 8	Cal 1 - 6 days / wk less holidays	18.0	22-Apr-15	13-May-15	0.0	■ TS3(E) Blinding - Bay 1 - 8																											
TS3E_6505	Commence CCT Works	Cal 1 - 6 days / wk less holidays	0.0	22-Apr-15		0.0	◆ Commence CCT Works																											
TS3E_6525	TS3(E) Waterproofing - Bay 1 - 8	Cal 1 - 6 days / wk less holidays	12.0	29-Apr-15	13-May-15	0.0	■ TS3(E) Waterproofing - Bay 1 - 8																											
TS3 East CCT - Base Slab + Drainage System																																		
TS3E_6570	CCT Base Slab - Bay 1 (Ch.4500.000 to Ch.4510.000)	Cal 1 - 6 days / wk less holidays	8.0	07-May-15	15-May-15	0.0	■ CCT Base Slab - Bay 1 (Ch.4500.000 to Ch.4510.000)																											
TS3E_6580	CCT Base Slab - Bay 2	Cal 1 - 6 days / wk less holidays	8.0	16-May-15	26-May-15	0.0	■ CCT Base Slab - Bay 2																											
TS3E_6590	CCT Base Slab - Bay 3	Cal 1 - 6 days / wk less holidays	8.0	27-May-15	04-Jun-15	0.0	■ CCT Base Slab - Bay 3																											
TS3E_6600	CCT Base Slab - Bay 4	Cal 1 - 6 days / wk less holidays	8.0	03-Jun-15	11-Jun-15	0.0	■ CCT Base Slab - Bay 4																											
TS3E_6610	CCT Base Slab - Bay 5	Cal 1 - 6 days / wk less holidays	8.0	10-Jun-15	18-Jun-15	0.0	■ CCT Base Slab - Bay 5																											
TS3E_6620	CCT Base Slab - Bay 6	Cal 1 - 6 days / wk less holidays	8.0	17-Jun-15	26-Jun-15	0.0	■ CCT Base Slab - Bay 6																											
TS3E_6630	CCT Base Slab - Bay 7	Cal 1 - 6 days / wk less holidays	8.0	25-Jun-15	04-Jul-15	0.0	■ CCT Base Slab - Bay 7																											
TS3E_6640	CCT Base Slab - Bay 8	Cal 1 - 6 days / wk less holidays	8.0	03-Jul-15	11-Jul-15	0.0	■ CCT Base Slab - Bay 8																											
TS3 East CCT - Walls + Removal of Struts 7 & 8																																		
TS3E_6650	CCT Walls - Bay 1	Cal 1 - 6 days / wk less holidays	10.0	16-May-15	28-May-15	0.0	■ CCT Walls - Bay 1																											
TS3E_6660	CCT Walls - Bay 2	Cal 1 - 6 days / wk less holidays	10.0	29-May-15	09-Jun-15	0.0	■ CCT Walls - Bay 2																											
TS3E_6670	CCT Walls - Bay 3	Cal 1 - 6 days / wk less holidays	10.0	05-Jun-15	16-Jun-15	0.0	■ CCT Walls - Bay 3																											
TS3E_6680	CCT Walls - Bay 4	Cal 1 - 6 days / wk less holidays	10.0	12-Jun-15	24-Jun-15	0.0	■ CCT Walls - Bay 4																											
TS3E_6690	CCT Walls - Bay 5	Cal 1 - 6 days / wk less holidays	10.0	19-Jun-15	02-Jul-15	0.0	■ CCT Walls - Bay 5																											

Activity ID	Activity Name	Calendar	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017				2018				2019			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Method Statement																																		
TS3W_2025	(01) D Wall works method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	05-Aug-14	01-Sep-14	41.0	■ (01) D Wall works method statement - submission																											
TS3W_2030	(01) D Wall works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	02-Sep-14	30-Sep-14	41.0	■ (01) D Wall works method statement - review and approval by AECOM																											
TS3-West Pre-D/wall Works																																		
TS3W_2510	Bentonite silo & plant establishment	Cal 1 - 6 days / wk less holidays	48.0	20-Nov-14	17-Jan-15	0.0	■ Bentonite silo & plant establishment																											
TS3W_2540	Guidewall construction	Cal 1 - 6 days / wk less holidays	60.0	20-Nov-14	31-Jan-15	0.0	■ Guidewall construction																											
TS3W_2520	Ground Investigation (SI)	Cal 1 - 6 days / wk less holidays	82.0	20-Nov-14	02-Mar-15	0.0	■ Ground Investigation (SI)																											
TS3W_2530	Curtain grout/soil pre-treatment/slurry wall	Cal 1 - 6 days / wk less holidays	137.0	20-Nov-14	11-May-15	0.0	■ Curtain grout/soil pre-treatment/slurry wall																											
TS3-West Diaphragm Construction																																		
TS3W_3110	Diaphragm wall construction (137 panels)	Cal 1 - 6 days / wk less holidays	206.0	15-Dec-14	27-Aug-15	0.0	■ Diaphragm wall construction (137 panels)																											
TS3-West Post D/wall Works																																		
TS3W_3510	D/wall Interface coring + grouting	Cal 1 - 6 days / wk less holidays	48.0	31-Jul-15	24-Sep-15	0.0	■ D/wall Interface coring + grouting																											
TS3W_3520	D/wall coring + fissure grouting	Cal 1 - 6 days / wk less holidays	48.0	31-Jul-15	24-Sep-15	0.0	■ D/wall coring + fissure grouting																											
TS3W_3530	D/wall integrity test	Cal 1 - 6 days / wk less holidays	48.0	31-Jul-15	24-Sep-15	0.0	■ D/wall integrity test																											
TS3W_3540	Dewatering & observation well installation	Cal 1 - 6 days / wk less holidays	36.0	31-Jul-15	10-Sep-15	0.0	■ Dewatering & observation well installation																											
TS3W_3550	Pumping test	Cal 1 - 6 days / wk less holidays	12.0	11-Sep-15	24-Sep-15	0.0	■ Pumping test																											
ELS & Rock Excavation																																		
ELS Fabrication Works																																		
TS3W_2095	Shop drawing submission	Cal 1 - 6 days / wk less holidays	24.0	17-Nov-14	13-Dec-14	8.0	■ Shop drawing submission																											
TS3W_2100	Review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	15-Dec-14	14-Jan-15	8.0	■ Review and approval by AECOM																											
TS3W_2105	Shop drawing re-submission	Cal 1 - 6 days / wk less holidays	24.0	15-Jan-15	11-Feb-15	8.0	■ Shop drawing re-submission																											
TS3W_2110	Review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	12-Feb-15	14-Mar-15	8.0	■ Review and approval by AECOM																											
TS3W_4510	ELS struts & waling fabrication	Cal 1 - 6 days / wk less holidays	120.0	24-Apr-15	15-Sep-15	8.0	■ ELS struts & waling fabrication																											
Method Statement																																		
TS3W_2115	(01) ELS works method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	16-Mar-15	16-Apr-15	86.0	■ (01) ELS works method statement - submission																											
TS3W_2120	(01) ELS works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	17-Apr-15	15-May-15	86.0	■ (01) ELS works method statement - review and approval by AECOM																											
TS3-West ELS Works																																		
TS3W_4515	King Post installation	Cal 1 - 6 days / wk less holidays	35.0	28-Aug-15	09-Oct-15	0.0	■ King Post installation																											
TS3W_4520	Start of ELS - Layer 1: Soft excavation struts installation	Cal 1 - 6 days / wk less holidays	30.0	25-Sep-15	02-Nov-15	0.0	■ Start of ELS - Layer 1: Soft excavation struts installation																											
TS3W_4530	Layer 2: Soft excavation struts installation	Cal 1 - 6 days / wk less holidays	23.0	15-Oct-15	11-Nov-15	0.0	■ Layer 2: Soft excavation struts installation																											
TS3W_4540	Layer 3: Soft excavation struts installation	Cal 1 - 6 days / wk less holidays	23.0	26-Oct-15	20-Nov-15	0.0	■ Layer 3: Soft excavation struts installation																											
TS3W_4550	Layer 4 Soft excavation struts installation	Cal 1 - 6 days / wk less holidays	23.0	04-Nov-15	30-Nov-15	0.0	■ Layer 4 Soft excavation struts installation																											
TS3W_4560	Layer 5: Soft excavation struts installation	Cal 1 - 6 days / wk less holidays	23.0	13-Nov-15	09-Dec-15	0.0	■ Layer 5: Soft excavation struts installation																											
TS3W_4570	Layer 6: Soft excavation struts installation	Cal 1 - 6 days / wk less holidays	23.0	21-Nov-15	17-Dec-15	0.0	■ Layer 6: Soft excavation struts installation																											
TS3W_4580	Layer 7: Soft excavation struts installation	Cal 1 - 6 days / wk less holidays	23.0	30-Nov-15	28-Dec-15	0.0	■ Layer 7: Soft excavation struts installation																											
TS3W_4660	Soft excavation up to rock head level	Cal 1 - 6 days / wk less holidays	23.0	05-Dec-15	04-Jan-16	0.0	■ Soft excavation up to rock head level																											
TS3W_4670	Rock excavation up to formation level	Cal 1 - 6 days / wk less holidays	21.0	19-Dec-15	15-Jan-16	0.0	■ Rock excavation up to formation level																											
Cut & Cover Tunnel Structure																																		
Temporary Works Design																																		
TS3W_2125	(01) RC Temp Work Design - submission	Cal 1 - 6 days / wk less holidays	24.0	23-Sep-15	23-Oct-15	44.0	■ (01) RC Temp Work Design - submission																											
TS3W_2130	(01) RC Temp Work Design - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	24-Oct-15	20-Nov-15	44.0	■ (01) RC Temp Work Design - review and approval by AECOM																											
Method Statement																																		
TS3W_2135	(01) RC works method statement - submission	Cal 1 - 6 days / wk less holidays	24.0	27-Oct-15	23-Nov-15	18.0	■ (01) RC works method statement - submission																											
TS3W_2140	(01) RC works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	24-Nov-15	21-Dec-15	18.0	■ (01) RC works method statement - review and approval by AECOM																											
TS3-West CCT																																		
TS3 West Box Structure (TS4 Bulkhead CH.4265.200 to CH.4300.000)																																		
TS3W Box Structure - Blinding + Waterproofing																																		
TS3W_5510.10	Blinding Bay 1 to Bay 3	Cal 1 - 6 days / wk less holidays	12.0	16-Jan-16	29-Jan-16	0.0	■ Blinding Bay 1 to Bay 3																											
TS3W_5510.20	Waterproofing - Bay 1 to Bay 3	Cal 1 - 6 days / wk less holidays	12.0	23-Jan-16	09-Feb-16	0.0	■ Waterproofing - Bay 1 to Bay 3																											
TS3W Box Structure - Base Slab + Drainage																																		
TS3W_5520.10	Base Slab + Drainage - Bay 1 (Commence at CH.4265.200)	Cal 1 - 6 days / wk less holidays	8.0	30-Jan-16	11-Feb-16	0.0	■ Base Slab + Drainage - Bay 1 (Commence at CH.4265.200)																											
TS3W_5520.20	Base Slab + Drainage - Bay 2	Cal 1 - 6 days / wk less holidays	8.0	11-Feb-16	19-Feb-16	0.0	■ Base Slab + Drainage - Bay 2																											
TS3W_5520.30	Base Slab + Drainage - Bay 3	Cal 1 - 6 days / wk less holidays	8.0	18-Feb-16	26-Feb-16	0.0	■ Base Slab + Drainage - Bay 3																											

Activity ID	Activity Name	Calendar	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017				2018				2019			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TS3W Box Structure - Walls																																		
TS3W_5530.10	Walls - Bay 1	Cal 1 - 6 days / wk less holidays	12.0	12-Feb-16	25-Feb-16	0.0																												
TS3W_5530.20	Walls - Bay 2	Cal 1 - 6 days / wk less holidays	12.0	20-Feb-16	04-Mar-16	0.0																												
TS3W_5530.30	Walls - Bay 3	Cal 1 - 6 days / wk less holidays	12.0	27-Feb-16	11-Mar-16	0.0																												
TS3W Box Structure - OHVD Slab																																		
TS3W_5540.10	OVHD Slab - Bay 1	Cal 1 - 6 days / wk less holidays	10.0	26-Feb-16	08-Mar-16	1.0																												
TS3W_5540.20	OVHD Slab - Bay 2	Cal 1 - 6 days / wk less holidays	10.0	09-Mar-16	19-Mar-16	1.0																												
TS3W_5540.30	OVHD Slab - Bay 3	Cal 1 - 6 days / wk less holidays	10.0	21-Mar-16	05-Apr-16	1.0																												
TS3W Box Structure - Walls & Roof Slab																																		
TS3W_5550.10	Walls and Roof Slab - Bay 1	Cal 1 - 6 days / wk less holidays	12.0	09-Mar-16	22-Mar-16	1.0																												
TS3W_5550.20	Walls and Roof Slab - Bay 2	Cal 1 - 6 days / wk less holidays	12.0	23-Mar-16	09-Apr-16	1.0																												
TS3W_5550.30	Walls and Roof Slab - Bay 3	Cal 1 - 6 days / wk less holidays	12.0	11-Apr-16	23-Apr-16	1.0																												
TS3W Box Structure - Waterproofing + Screeding + Cable Trough																																		
TS3W_5560.10	Waterproofing to Walls Bay 1 to Bay 3	Cal 1 - 6 days / wk less holidays	20.0	12-Mar-16	08-Apr-16	44.0																												
TS3W_5560.20	Waterproofing to Roof Slab Bay 1 to Bay 3	Cal 1 - 6 days / wk less holidays	12.0	25-Apr-16	07-May-16	31.0																												
TS3W_5560.40	Cable Trough - Bay 1 to Bay 3	Cal 1 - 6 days / wk less holidays	20.0	25-Apr-16	18-May-16	35.0																												
TS3W_5560.30	Screeding to Roof Slab Bay 1 to Bay 3	Cal 1 - 6 days / wk less holidays	12.0	09-May-16	23-May-16	31.0																												
Bay 1-13 TS3 West CCT Structure - Ch.4300.000 to Ch.4440.000 (Ref. East Bound)																																		
Blinding + Waterproofing Bay 1-13 (Ch.4300.000 to Ch.4440.000)																																		
TS3W_5610.10	TS3(W) CCT Blinding - Bay 1 - 13	Cal 1 - 6 days / wk less holidays	13.0	05-Jan-16	19-Jan-16	0.0																												
TS3W_5610.15	TS3(W) - Waterproofing Bay 1 - 13	Cal 1 - 6 days / wk less holidays	13.0	09-Jan-16	23-Jan-16	0.0																												
Base Slab + Drainage Bay 1-13 (Ch.4300.000 to Ch.4440.000)																																		
TS3W_5630	TS3(W) Base Slab + Drainage - Bay 1 Ch.4300.000 to Ch. 4310.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	15-Jan-16	23-Jan-16	0.0																												
TS3W_5640	TS3(W) Base Slab + Drainage - Bay 2 Ch.4310.000 to Ch. 4320.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	22-Jan-16	30-Jan-16	0.0																												
TS3W_5650	TS3(W) Base Slab + Drainage - Bay 3 Ch.4320.000 to Ch. 4330.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	29-Jan-16	10-Feb-16	0.0																												
TS3W_5660	TS3(W) Base Slab + Drainage - Bay 4 Ch.4330.000 to Ch. 4340.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	11-Feb-16	19-Feb-16	0.0																												
TS3W_5670	TS3(W) Base Slab + Drainage - Bay 5 Ch.4340.000 to Ch. 4350.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	18-Feb-16	26-Feb-16	0.0																												
TS3W_5680	TS3(W) Base Slab + Drainage - Bay 6 Ch.4350.000 to Ch. 4360.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	27-Feb-16	07-Mar-16	0.0																												
TS3W_5690	TS3(W) Base Slab + Drainage - Bay 7 Ch.4360.000 to Ch. 4370.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	05-Mar-16	14-Mar-16	0.0																												
TS3W_5700	TS3(W) Base Slab + Drainage - Bay 8 Ch.4380.000 to Ch. 4390.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	15-Mar-16	23-Mar-16	0.0																												
TS3W_5710	TS3(W) Base Slab + Drainage - Bay 9 Ch.4390.000 to Ch. 4400.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	22-Mar-16	04-Apr-16	0.0																												
TS3W_5720	TS3(W) Base Slab + Drainage - Bay 10 Ch.4400.000 to Ch. 4410.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	05-Apr-16	13-Apr-16	0.0																												
TS3W_5730	TS3(W) Base Slab + Drainage - Bay 11 Ch.4410.000 to Ch. 4420.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	12-Apr-16	20-Apr-16	0.0																												
TS3W_5740	TS3(W) Base Slab + Drainage - Bay 12 Ch.4420.000 to Ch. 4430.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	21-Apr-16	29-Apr-16	0.0																												
TS3W_5750	TS3(W) Base Slab + Drainage - Bay 13 Ch.4430.000 to Ch. 4440.000 (Ref. Eastbound)	Cal 1 - 6 days / wk less holidays	8.0	30-Apr-16	09-May-16	2.0																												
Intermediated Walls Bay 1 -13 (Ch.4300.000 to Ch. 4440.000)																																		
TS3W_5820	TS3(W) Intermediate Walls - Bay 1	Cal 1 - 6 days / wk less holidays	10.0	22-Jan-16	05-Feb-16	0.0																												
TS3W_5830	TS3(W) Intermediate Walls - Bay 2	Cal 1 - 6 days / wk less holidays	10.0	01-Feb-16	15-Feb-16	0.0																												
TS3W_5840	TS3(W) Intermediate Walls - Bay 3	Cal 1 - 6 days / wk less holidays	10.0	13-Feb-16	24-Feb-16	0.0																												
TS3W_5850	TS3(W) Intermediate Walls - Bay 4	Cal 1 - 6 days / wk less holidays	10.0	20-Feb-16	02-Mar-16	0.0																												
TS3W_5860	TS3(W) Intermediate Walls - Bay 5	Cal 1 - 6 days / wk less holidays	10.0	27-Feb-16	09-Mar-16	0.0																												
TS3W_5870	TS3(W) Intermediate Walls - Bay 6	Cal 1 - 6 days / wk less holidays	10.0	08-Mar-16	18-Mar-16	0.0																												
TS3W_5880	TS3(W) Intermediate Walls - Bay 7	Cal 1 - 6 days / wk less holidays	10.0	15-Mar-16	29-Mar-16	0.0																												
TS3W_5890	TS3(W) Intermediate Walls - Bay 8	Cal 1 - 6 days / wk less holidays	10.0	24-Mar-16	08-Apr-16	0.0																												
TS3W_5900	TS3(W) Intermediate Walls - Bay 9	Cal 1 - 6 days / wk less holidays	10.0	07-Apr-16	18-Apr-16	0.0																												
TS3W_5910	TS3(W) Intermediate Walls - Bay 10	Cal 1 - 6 days / wk less holidays	10.0	14-Apr-16	25-Apr-16	0.0																												
TS3W_5920	TS3(W) Intermediate Walls - Bay 11	Cal 1 - 6 days / wk less holidays	10.0	21-Apr-16	02-May-16	0.0																												
TS3W_5930	TS3(W) Intermediate Walls - Bay 12	Cal 1 - 6 days / wk less holidays	10.0	30-Apr-16	11-May-16	0.0																												
TS3W_5940	TS3(W) Intermediate Walls - Bay 13	Cal 1 - 6 days / wk less holidays	10.0	12-May-16	24-May-16	0.0																												
OHVD Bay 1 to Bay 13 (Ch.4300.000 to Ch.4440.000)																																		
TS3W_6020	TS3(W) Overhead Ventilation Duct (OVHD) - Bay 1	Cal 1 - 6 days / wk less holidays	10.0	06-Feb-16	17-Feb-16	0.0																												
TS3W_6030	TS3(W) Overhead Ventilation Duct (OVHD) - Bay 2	Cal 1 - 6 days / wk less holidays	10.0	16-Feb-16	26-Feb-16	0.0																												
TS3W_6040	TS3(W) Overhead Ventilation Duct (OVHD) - Bay 3	Cal 1 - 6 days / wk less holidays	10.0	25-Feb-16	07-Mar-16	0.0																												

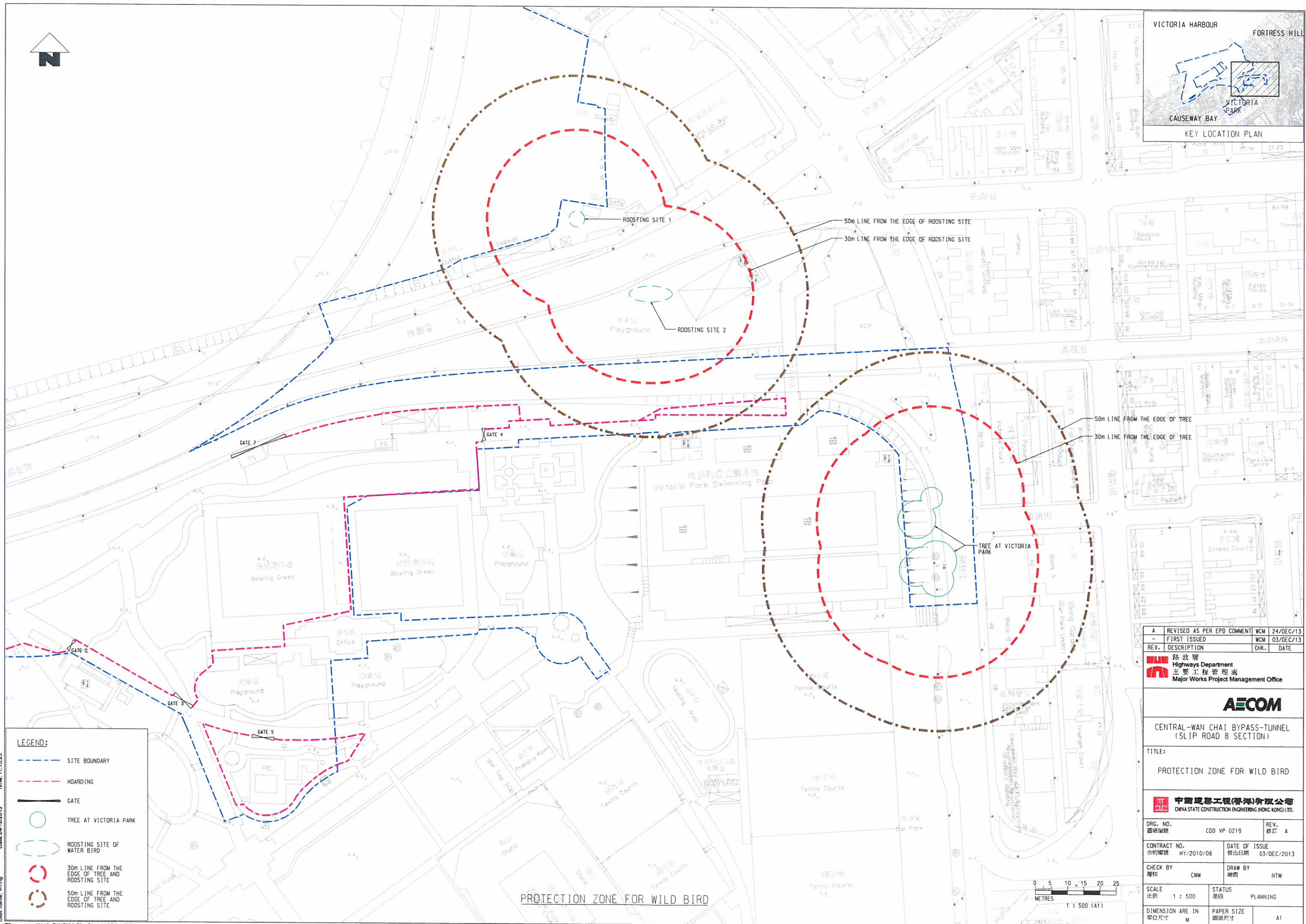
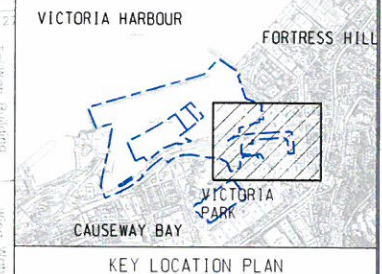
Activity ID	Activity Name	Calendar	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017				2018				2019			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TTA Stage 0 (East Bound)																																		
Piling / Utility Diversion Stage 1 - Area 1B																																		
SR8_1212	ULG coordination with UU for diversions works	Cal 1 - 6 days / wk less holidays	310.0	21-Mar-13	07-Apr-14	0.0																												
SR8_1080	Receipt of excavation permit	Cal 1 - 6 days / wk less holidays	208.0	21-Mar-13	30-Nov-13	0.0																												
SR8_1210	Trial pit excavation	Cal 1 - 6 days / wk less holidays	72.0	21-Mar-13	20-Jun-13	0.0																												
SR8_1120	Install new traffic signs prior to removal of existing sign gantry	Cal 1 - 6 days / wk less holidays	0.0	21-Jun-13	16-Jul-13	0.0																												
SR8_1220	SI drilling	Cal 1 - 6 days / wk less holidays	21.0	17-Jul-13	30-Jul-13	0.0																												
SR8_1240.01	Trench Excavation to expose underground Utilities	Cal 1 - 6 days / wk less holidays	12.0	31-Jul-13	27-Aug-13	0.0																												
SR8_1240.10	Diversion 11kv Cable to top of 132kv trough along Seafront	Cal 1 - 6 days / wk less holidays	24.0	28-Aug-13	10-Sep-13	0.0																												
SR8_1240.20	Diversion / Protection of Telecom Cables along Seafront	Cal 1 - 6 days / wk less holidays	12.0	11-Sep-13	26-Sep-13	0.0																												
SR8_1230	Diversion / Protection of Telecom Cables along Seafront	Cal 1 - 6 days / wk less holidays	13.0	26-Sep-13	11-Oct-13	0.0																												
SR8_1230	Site Formation / Working Platform / Footpath diversion	Cal 1 - 6 days / wk less holidays	14.0	12-Oct-13	29-Oct-13	0.0																												
SR8_1300.10	Temporary pipe pile - Stage 1	Cal 1 - 6 days / wk less holidays	28.0	30-Oct-13	30-Nov-13	0.0																												
Piling / Utility Diversion Stage 2 - Area 1B																																		
SR8_1240.30	Diversion of Water Mains along Seafront	Cal 1 - 6 days / wk less holidays	102.0	02-Dec-13	07-Apr-14	0.0																												
SR8_1240.40	Diversion of Town Gas Pipes along Seafront (Footpath)	Cal 1 - 6 days / wk less holidays	15.0	02-Dec-13	18-Dec-13	0.0																												
SR8_1300.20	Temporary pipe pile - Stage 2	Cal 1 - 6 days / wk less holidays	15.0	19-Dec-13	08-Jan-14	0.0																												
SR8_1240.50	Temporary pipe pile - Stage 2	Cal 1 - 6 days / wk less holidays	28.0	21-Dec-13	25-Jan-14	0.0																												
SR8_1240.50	Diversion of Town Gas along Sea Front (carriage way)	Cal 1 - 6 days / wk less holidays	15.0	09-Jan-14	25-Jan-14	0.0																												
SR8_1320	Pile Foundation - Pre-Bored H Piles	Cal 1 - 6 days / wk less holidays	30.0	23-Jan-14	01-Mar-14	0.0																												
SR8_1330	Curtain grout & ground improvement works	Cal 1 - 6 days / wk less holidays	30.0	30-Jan-14	08-Mar-14	0.0																												
SR8_1240.60	Escavate and Install Steel Hangers to support Utilities	Cal 1 - 6 days / wk less holidays	24.0	10-Feb-14	08-Mar-14	0.0																												
SR8_1360	Temp. Decking for TTA - Area 1B / Pit A	Cal 1 - 6 days / wk less holidays	24.0	10-Mar-14	07-Apr-14	0.0																												
SR8_1355	Install D. Wells & Carry out Pump test	Cal 1 - 6 days / wk less holidays	12.0	10-Mar-14	22-Mar-14	0.0																												
Area 2 / Pit C (Ch 490 to Ch 480 - Retrieval Pit)																																		
TTA (Submissions, Approvals and Implementation)																																		
SR8_150	Preparation and submission	Cal 1 - 6 days / wk less holidays	347.0	16-Dec-13	16-Feb-15	0.0																												
SR8_155	TMLG - review and approval	Cal 1 - 6 days / wk less holidays	60.0	16-Dec-13	01-Mar-14	30.0																												
SR8_160	TTA drawing endorsement	Cal 1 - 6 days / wk less holidays	24.0	16-Jan-14	15-Feb-14	30.0																												
SR8_165	Apply and receive RWA	Cal 1 - 6 days / wk less holidays	0.0	15-Feb-14	30.0																													
Method Statement																																		
SR8_140	(01)ELS works method statement - submission	Cal 1 - 6 days / wk less holidays	48.0	06-Jan-14	05-Mar-14	27.0																												
SR8_145	(01)ELS works method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	06-Feb-14	05-Mar-14	27.0																												
TTA Stage 1A (VP Road / IEC East Bound)																																		
SR8_175	Implement TTA Stage 1A - divert traffic in Area 1B	Cal 1 - 6 days / wk less holidays	257.0	08-Apr-14	16-Feb-15	0.0																												
Cofferdam and ELS Works																																		
SR8_1380	Implement - TTA Stage 1A	Cal 1 - 6 days / wk less holidays	0.0	08-Apr-14	0.0																													
SR8_1420	Ground pretreatment	Cal 1 - 6 days / wk less holidays	257.0	08-Apr-14	16-Feb-15	0.0																												
SR8_1430	Gas main connection & other U/G utilities	Cal 1 - 6 days / wk less holidays	14.0	08-Apr-14	26-Apr-14	0.0																												
SR8_1460	SI drilling	Cal 1 - 6 days / wk less holidays	21.0	08-Apr-14	07-May-14	0.0																												
SR8_1500	Pipe pile for cofferdam/ bulkhead	Cal 1 - 6 days / wk less holidays	18.0	08-May-14	28-May-14	0.0																												
SR8_1570	Foundation works (Pre-bored H Piles)	Cal 1 - 6 days / wk less holidays	96.0	29-May-14	20-Sep-14	0.0																												
SR8_1580	Curtain grout & ground improvement works	Cal 1 - 6 days / wk less holidays	48.0	22-Sep-14	18-Nov-14	0.0																												
SR8_1610	Install dewatering well & Pump Test	Cal 1 - 6 days / wk less holidays	38.0	06-Oct-14	18-Nov-14	0.0																												
SR8_1630	Excavation and Lateral Support (ELS)	Cal 1 - 6 days / wk less holidays	20.0	19-Nov-14	11-Dec-14	0.0																												
SR8_1630	Excavation and Lateral Support (ELS)	Cal 1 - 6 days / wk less holidays	54.0	12-Dec-14	16-Feb-15	0.0																												
Area 6 / Pit B (Ch 430 to Ch 420)																																		
TTA (Submissions, Approvals and Implementation)																																		
SR8_185	Preparation and submission	Cal 1 - 6 days / wk less holidays	141.0	21-Mar-13	10-Sep-13	29.0																												
SR8_190	TMLG - review and approval	Cal 1 - 6 days / wk less holidays	60.0	21-Mar-13	05-Jun-13	59.0																												
SR8_195	TTA drawing endorsement	Cal 1 - 6 days / wk less holidays	24.0	06-Jun-13	05-Jul-13	59.0																												
SR8_200	Apply and receive RWA	Cal 1 - 6 days / wk less holidays	0.0	05-Jul-13	59.0																													
SR8_205	Trial Run	Cal 1 - 6 days / wk less holidays	24.0	06-Jul-13	02-Aug-13	59.0																												
SR8_210	Implement TTA for site access/ tree transplanting works	Cal 1 - 6 days / wk less holidays	2.0	07-Sep-13	09-Sep-13	29.0																												
SR8_210	Implement TTA for site access/ tree transplanting works	Cal 1 - 6 days / wk less holidays	1.0	10-Sep-13	10-Sep-13	29.0																												
Temp. Pit & Jacking Pit: ELS Temp. Work Design Submission to AECOM/GEO																																		
GEO_1090	1st Submission package - Preparation and submission	Cal 1 - 6 days / wk less holidays	127.0	30-Apr-13	30-Sep-13	28.0																												
GEO_1090	1st Submission package - Preparation and submission	Cal 1 - 6 days / wk less holidays	61.0	30-Apr-13	13-Jul-13	28.0																												

Activity ID	Activity Name	Calendar	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017				2018				2019			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
VP_1060.01	CP - Initial works, hoarding erection	Cal 2 - 5.5 days / wk less holidays	12.0	18-Oct-13	31-Oct-13	155.0					■																							
VP_1060.02	CP - Initial works, site clearance	Cal 2 - 5.5 days / wk less holidays	12.0	01-Nov-13	14-Nov-13	155.0					■																							
VP_1080.01	CP - Demolition of Water Pond	Cal 2 - 5.5 days / wk less holidays	6.0	15-Nov-13	21-Nov-13	155.0					■																							
VP_1080.02	CP - Backfill and Site Formation Works	Cal 2 - 5.5 days / wk less holidays	6.0	22-Nov-13	28-Nov-13	155.0					■																							
VP_1080.03	CP - Catchpits + U-Channel Drainage System	Cal 2 - 5.5 days / wk less holidays	20.0	29-Nov-13	21-Dec-13	155.0					■																							
VP_1090	CP - Footings / Foundation Works	Cal 2 - 5.5 days / wk less holidays	24.0	23-Dec-13	22-Jan-14	155.0					■																							
VP_1100	CP - Base Slab	Cal 2 - 5.5 days / wk less holidays	24.0	23-Jan-14	22-Feb-14	155.0					■																							
VP_1690	CP - Roadworks including Kerbs and Planters	Cal 2 - 5.5 days / wk less holidays	45.0	24-Feb-14	17-Apr-14	155.0					■																							
VP_1140	CP - Lighting System	Cal 2 - 5.5 days / wk less holidays	20.0	09-Apr-14	07-May-14	155.0					■																							
VP_1200	CP - Install Play Equipment	Cal 2 - 5.5 days / wk less holidays	24.0	08-May-14	05-Jun-14	155.0					■																							
VP_1230	CP - Install Safety Matting	Cal 2 - 5.5 days / wk less holidays	12.0	29-May-14	12-Jun-14	155.0					■																							
VP_1160	CP - Completion of KD4 - Works in Section1B	Cal 2 - 5.5 days / wk less holidays	0.0		12-Jun-14	155.0					◆																							
Bowling Green Office			406.9	05-Aug-13	15-Dec-14	0.0																												
Temp. Works Design			48.0	05-Aug-13	30-Sep-13	49.0																												
VP_0140	(01) Temp. Work Design + ICE - submission	Cal 1 - 6 days / wk less holidays	24.0	05-Aug-13	31-Aug-13	49.0					■																							
VP_0150	(01) Temp. Work Design - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	02-Sep-13	30-Sep-13	49.0					■																							
Structural Submissions			108.0	22-Aug-13	31-Dec-13	16.0																												
Materials			108.0	22-Aug-13	31-Dec-13	16.0																												
VP_6600	Materials submission (Specification and Samples)	Cal 1 - 6 days / wk less holidays	24.0	22-Aug-13	18-Sep-13	16.0					■																							
VP_6610	Materials - ER review and approval	Cal 1 - 6 days / wk less holidays	24.0	19-Sep-13	19-Oct-13	16.0					■																							
VP_6620	Issue P.O. / Manufacturing / Fabrication	Cal 1 - 6 days / wk less holidays	36.0	21-Oct-13	30-Nov-13	16.0					■																							
VP_6630	Materials Delivery	Cal 1 - 6 days / wk less holidays	24.0	02-Dec-13	31-Dec-13	16.0					■																							
Shop Drawing			60.0	21-Oct-13	31-Dec-13	16.0																												
VP_6520	Shopdrawing submission	Cal 1 - 6 days / wk less holidays	36.0	21-Oct-13	30-Nov-13	16.0					■																							
VP_6530	Shopdrawing - ER review and approval	Cal 1 - 6 days / wk less holidays	36.0	18-Nov-13	31-Dec-13	16.0					■																							
Method Statement			60.0	21-Oct-13	31-Dec-13	16.0																												
VP_6270	(01) Method statement - submission	Cal 1 - 6 days / wk less holidays	36.0	21-Oct-13	30-Nov-13	16.0					■																							
VP_6260	(01)Method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	36.0	18-Nov-13	31-Dec-13	16.0					■																							
ABWF Submissions			180.0	17-Oct-13	28-May-14	37.0																												
Materials			180.0	17-Oct-13	28-May-14	37.0																												
VP_6560	Materials submission (Specification and Samples)	Cal 1 - 6 days / wk less holidays	36.0	17-Oct-13	27-Nov-13	37.0					■																							
VP_6570	Materials - ER review and approval	Cal 1 - 6 days / wk less holidays	36.0	14-Nov-13	27-Dec-13	37.0					■																							
VP_6580	Issue P.O. / Manufacturing / Fabrication	Cal 1 - 6 days / wk less holidays	72.0	28-Dec-13	26-Mar-14	37.0					■																							
VP_6590	Materials Delivery	Cal 1 - 6 days / wk less holidays	48.0	27-Mar-14	28-May-14	37.0					■																							
Shop Drawing			108.0	28-Dec-13	14-May-14	49.0																												
VP_6440	Shopdrawing submission	Cal 1 - 6 days / wk less holidays	60.0	28-Dec-13	12-Mar-14	49.0					■																							
VP_6450	Shopdrawing - ER review and approval	Cal 1 - 6 days / wk less holidays	60.0	27-Feb-14	14-May-14	49.0					■																							
Method Statement			108.0	28-Dec-13	14-May-14	49.0																												
VP_6290	(01) Method statement - submission	Cal 1 - 6 days / wk less holidays	60.0	28-Dec-13	12-Mar-14	49.0					■																							
VP_6280	(01)Method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	60.0	27-Feb-14	14-May-14	49.0					■																							
E&M Works Submission			180.0	21-Nov-13	04-Jul-14	28.0																												
Materials			180.0	21-Nov-13	04-Jul-14	28.0																												
VP_6320	Materials submission (Specification and Samples)	Cal 1 - 6 days / wk less holidays	36.0	21-Nov-13	04-Jan-14	28.0					■																							
VP_6330	Materials - ER review and approval	Cal 1 - 6 days / wk less holidays	36.0	19-Dec-13	05-Feb-14	28.0					■																							
VP_6340	Issue P.O. / Manufacturing / Fabrication	Cal 1 - 6 days / wk less holidays	72.0	06-Feb-14	07-May-14	28.0					■																							
VP_6350	Materials Delivery	Cal 1 - 6 days / wk less holidays	48.0	08-May-14	04-Jul-14	28.0					■																							
Shop Drawing			96.0	06-Feb-14	05-Jun-14	52.0																												
VP_6360	Shopdrawing submission	Cal 1 - 6 days / wk less holidays	60.0	06-Feb-14	17-Apr-14	52.0					■																							
VP_6370	Shopdrawing - ER review and approval	Cal 1 - 6 days / wk less holidays	60.0	20-Mar-14	05-Jun-14	52.0					■																							
Method Statement			96.0	06-Feb-14	05-Jun-14	52.0																												
VP_6310	(01) Method statement - submission	Cal 1 - 6 days / wk less holidays	60.0	06-Feb-14	17-Apr-14	52.0					■																							
VP_6300	(01)Method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	60.0	20-Mar-14	05-Jun-14	52.0					■																							
Construction Works			317.0	21-Nov-13	15-Dec-14	0.0																												

Activity ID	Activity Name	Calendar	Original Duration	Start	Finish	Total Float	2013				2014				2015				2016				2017				2018				2019			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
VP_1010.164	Material submission	Cal 1 - 6 days / wk less holidays	24.0	21-Aug-14	18-Sep-14	24.0									■																			
VP_1010.174	Materials - ER review and approval	Cal 1 - 6 days / wk less holidays	24.0	19-Sep-14	18-Oct-14	24.0									■																			
VP_1010.184	Issue PO / Manufacturing	Cal 1 - 6 days / wk less holidays	72.0	20-Oct-14	14-Jan-15	24.0									■																			
VP_1010.194	Delivery	Cal 1 - 6 days / wk less holidays	36.0	15-Jan-15	28-Feb-15	24.0									■																			
Portion VII Tree Transplanting, DBH <300mm		Cal 2 - 5.5 days / wk less holidays	87.0	15-Jan-15	05-May-15	5.0																												
VP_1330.01	Transplanting <300mm dia trees (3months) - Stage 1 root pruning	Cal 2 - 5.5 days / wk less holidays	25.0	15-Jan-15	12-Feb-15	5.0									■																			
VP_1330.02	Transplanting <300mm dia trees (3months) - Stage 2 root pruning	Cal 2 - 5.5 days / wk less holidays	25.0	13-Feb-15	17-Mar-15	5.0									■																			
VP_1330.03	Transplanting <300mm dia trees (3months) - Stage 3 root pruning	Cal 2 - 5.5 days / wk less holidays	25.0	18-Mar-15	20-Apr-15	5.0									■																			
VP_1330.04	<300mm dia trees (3months) - Stage 4 root pruning & removal/Transplanting	Cal 2 - 5.5 days / wk less holidays	12.0	21-Apr-15	05-May-15	5.0									■																			
Construction Works		Cal 2 - 5.5 days / wk less holidays	146.0	15-Jan-15	16-Jul-15	0.0																												
VP_1320	BG - Site Possession, Portion VI, VII	Cal 2 - 5.5 days / wk less holidays	0.0	15-Jan-15		0.0									◆																			
VP_1170	Demolish existing CP / BGO / Site Clearance	Cal 2 - 5.5 days / wk less holidays	24.0	15-Jan-15	11-Feb-15	0.0									■																			
VP_1180	Site Survey / Setting up	Cal 2 - 5.5 days / wk less holidays	12.0	05-Feb-15	18-Feb-15	0.0									■																			
VP_1710	BG - Install U/G Sewerage System	Cal 2 - 5.5 days / wk less holidays	24.0	12-Feb-15	14-Mar-15	0.0									■																			
VP_1720	BG - Install Drainage System	Cal 2 - 5.5 days / wk less holidays	24.0	02-Mar-15	28-Mar-15	0.0									■																			
VP_1730	BG - Install Irrigation System	Cal 2 - 5.5 days / wk less holidays	24.0	16-Mar-15	16-Apr-15	0.0									■																			
VP_1740	BG - Install Lighting System	Cal 2 - 5.5 days / wk less holidays	36.0	30-Mar-15	15-May-15	0.0									■																			
VP_1450	BG - Re-provisioning works - Hardscape & Furnitures (Green Turf/ Granite Tiles)	Cal 2 - 5.5 days / wk less holidays	36.0	05-May-15	16-Jun-15	0.0									■																			
VP_1745	Test & Commission - Lighting System	Cal 2 - 5.5 days / wk less holidays	16.0	29-May-15	16-Jun-15	0.0									■																			
VP_1455	Statutory Inspection and Certification	Cal 2 - 5.5 days / wk less holidays	24.0	17-Jun-15	16-Jul-15	0.0									■																			
VP_1490	BG - Completion of KD5 - Section 2	Cal 2 - 5.5 days / wk less holidays	0.0		16-Jul-15	0.0									◆																			
Nursery Compound (NC)			344.9	12-Oct-15	19-Nov-16	0.0																												
Temp. Works Design		Cal 1 - 6 days / wk less holidays	48.0	24-Oct-15	18-Dec-15	72.0																												
VP_0270	(01) Temp. Work Design + ICE - submission	Cal 1 - 6 days / wk less holidays	24.0	24-Oct-15	20-Nov-15	72.0													■															
VP_0280	(01) Temp. Work Design - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	24.0	21-Nov-15	18-Dec-15	72.0													■															
Structural Submissions		Cal 1 - 6 days / wk less holidays	108.0	12-Oct-15	22-Feb-16	22.0																												
Materials		Cal 1 - 6 days / wk less holidays	108.0	12-Oct-15	22-Feb-16	22.0																												
VP_6900	Materials submission (Specification and Samples)	Cal 1 - 6 days / wk less holidays	24.0	12-Oct-15	09-Nov-15	22.0													■															
VP_6910	Materials - ER review and approval	Cal 1 - 6 days / wk less holidays	24.0	10-Nov-15	07-Dec-15	22.0									■																			
VP_6920	Issue P.O. / Manufacturing / Fabrication	Cal 1 - 6 days / wk less holidays	36.0	08-Dec-15	21-Jan-16	22.0									■																			
VP_6930	Materials Delivery	Cal 1 - 6 days / wk less holidays	24.0	22-Jan-16	22-Feb-16	22.0									■																			
Shop Drawing		Cal 1 - 6 days / wk less holidays	60.0	08-Dec-15	22-Feb-16	22.0																												
VP_6840	Shopdrawing submission	Cal 1 - 6 days / wk less holidays	36.0	08-Dec-15	21-Jan-16	22.0													■															
VP_6850	Shopdrawing - ER review and approval	Cal 1 - 6 days / wk less holidays	36.0	08-Jan-16	22-Feb-16	22.0													■															
Method Statement		Cal 1 - 6 days / wk less holidays	60.0	08-Dec-15	22-Feb-16	22.0																												
VP_6710	(01) Method statement - submission	Cal 1 - 6 days / wk less holidays	36.0	08-Dec-15	21-Jan-16	22.0													■															
VP_6700	(01)Method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	36.0	08-Jan-16	22-Feb-16	22.0													■															
ABWF Submissions		Cal 1 - 6 days / wk less holidays	180.0	17-Nov-15	27-Jun-16	20.0																												
Materials		Cal 1 - 6 days / wk less holidays	180.0	17-Nov-15	27-Jun-16	20.0																												
VP_6860	Materials submission (Specification and Samples)	Cal 1 - 6 days / wk less holidays	36.0	17-Nov-15	30-Dec-15	20.0													■															
VP_6870	Materials - ER review and approval	Cal 1 - 6 days / wk less holidays	36.0	15-Dec-15	28-Jan-16	20.0									■																			
VP_6880	Issue P.O. / Manufacturing / Fabrication	Cal 1 - 6 days / wk less holidays	72.0	29-Jan-16	29-Apr-16	20.0									■																			
VP_6890	Materials Delivery	Cal 1 - 6 days / wk less holidays	48.0	30-Apr-16	27-Jun-16	20.0									■																			
Shop Drawing		Cal 1 - 6 days / wk less holidays	108.0	29-Jan-16	13-Jun-16	32.0																												
VP_6820	Shopdrawing submission	Cal 1 - 6 days / wk less holidays	60.0	29-Jan-16	15-Apr-16	32.0													■															
VP_6830	Shopdrawing - ER review and approval	Cal 1 - 6 days / wk less holidays	60.0	02-Apr-16	13-Jun-16	32.0													■															
Method Statement		Cal 1 - 6 days / wk less holidays	108.0	29-Jan-16	13-Jun-16	32.0																												
VP_6730	(01) Method statement - submission	Cal 1 - 6 days / wk less holidays	60.0	29-Jan-16	15-Apr-16	32.0													■															
VP_6720	(01)Method statement - review and approval by AECOM	Cal 1 - 6 days / wk less holidays	60.0	02-Apr-16	13-Jun-16	32.0													■															
E&M Works Submission		Cal 1 - 6 days / wk less holidays	180.0	27-Nov-15	08-Jul-16	22.0																												
Materials		Cal 1 - 6 days / wk less holidays	180.0	27-Nov-15	08-Jul-16	22.0																												
VP_6760	Materials submission (Specification and Samples)	Cal 1 - 6 days / wk less holidays	36.0	27-Nov-15	11-Jan-16	22.0													■															
VP_6770	Materials - ER review and approval	Cal 1 - 6 days / wk less holidays	36.0	28-Dec-15	11-Feb-16	22.0									■																			

APPENDIX D

Location of the water birds roosting sites



LEGEND:

- SITE BOUNDARY
- HOARDING
- GATE
- TREE AT VICTORIA PARK
- ROOSTING SITE OF WATER BIRD
- 30m LINE FROM THE EDGE OF TREE AND ROOSTING SITE
- 50m LINE FROM THE EDGE OF TREE AND ROOSTING SITE

A	REVISED AS PER EPD COMMENT	WCM	24/DEC/13
-	FIRST ISSUED	WCM	03/DEC/13
REV.	DESCRIPTION	CHK.	DATE

路政署
 Highways Department
 主要工程管理局
 Major Works Project Management Office

AECOM

CENTRAL-WAN CHAI BYPASS-TUNNEL
(SLIP ROAD 8 SECTION)

TITLE:
PROTECTION ZONE FOR WILD BIRD

中國建築工程(香港)有限公司
 CHINA STATE CONSTRUCTION ENGINEERING HONG KONG LTD.

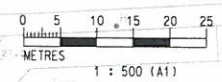
DRG. NO. 圖紙編號	CDD VP 0219	REV. 修訂	A
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CONTRACT NO. 合約編號	HY/2010/08	DATE OF ISSUE 發出日期	03/DEC/2013
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CHECK BY 覆核	CMW	DRAW BY 繪圖	NTM
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SCALE 比例	1 : 500	STATUS 階段	PLANNING
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DIMENSION ARE IN 單位尺寸	M	PAPER SIZE 圖紙尺寸	A1
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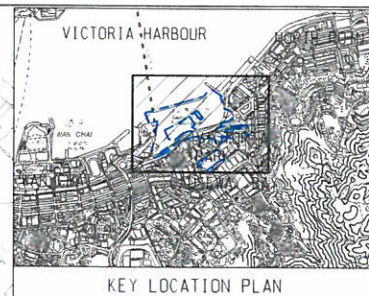


PROTECTION ZONE FOR WILD BIRD

User name: lmyg Date: 24/12/2013 Time: 11:15:25
 Filename: X:\13_DWG\06 Site Sketch\CDD VP 0219_A.dgn



HARBOUR



KEY LOCATION PLAN

CAUSEWAY BAY TYPHOON SHELTER

CAUSEWAY BAY TYPHOON SHELTER

ISLAND EASTERN CORRIDOR

VICTORIA PARK ROAD

VICTORIA PARK

PROTECTION ZONE FOR WILD BIRD

50m LINE FROM THE EDGE OF ROOSTING SITE

30m LINE FROM THE EDGE OF ROOSTING SITE

ROOSTING SITE 1

ROOSTING SITE 2

HING FAT STREET

TSING FUNG STREET

50m LINE FROM THE EDGE OF TREE

30m LINE FROM THE EDGE OF TREE

TREE AT NORTH-EASTERN PART OF VICTORIA PARK

A	REVISED AS PER EPD COMMENT	WCM	24/DEC/13
-	FIRST ISSUED	WCM	03/DEC/13
REV.	DESCRIPTION	CHK.	DATE

路政署
Highways Department
主要工程管理處
Major Works Project Management Office



CENTRAL-WAN CHAI BYPASS-TUNNEL
(SLIP ROAD 8 SECTION)

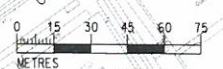
TITLE:
PROTECTION ZONE FOR WILD BIRD
(WITH CONTRACT BOUNDARY)

中國建築工程(香港)有限公司
CHINA STATE CONSTRUCTION ENGINEERING HONG KONG LTD.

DRG. NO. 圖紙編號	CDD VP 0220	REV. 修訂	A
CONTRACT NO. 合約編號	HY/2010/08	DATE OF ISSUE 發出日期	04/DEC/2013
CHECK BY 覆核	CMW	DRAW BY 繪圖	NTM
SCALE 比例	1 : 1500	STATUS 階段	PLANNING
DIMENSION ARE IN 單位尺寸	M	PAPER SIZE 圖紙尺寸	A1

LEGEND:

- SITE BOUNDARY
- HOARDING
- TREE AT VICTORIA PARK
- ROOSTING SITE OF WATER BIRD
- 30m LINE FROM THE EDGE OF TREE AND ROOSTING SITE
- 50m LINE FROM THE EDGE OF TREE AND ROOSTING SITE



User name: tmg Date: 24/12/2013 Time: 10:56:26

APPENDIX E

Photo of light diffusers



