

**JOB NO.: TCS00975/18** 

# CEDD CONTRACT AGREEMENT NO. EDO/04/2018 -Environmental Team for Cross Bay Link, Tseung Kwan O

MONTHLY ENVIRONMENTAL MONITORING & AUDITING Report of the Project – January 2021

PREPARED FOR CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	<b>Reference No.</b>	Prepared By	Certified By
10 February 2021	TCS00975/18/600/R0516v2	Http	Am

Martin Li (Environmental Consultant)

Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	5 February 2021	First Submission
2	10 February 2021	Amended against IEC's comment



Acuity Sustainability Consulting Limited – Nature & Technologies (HK) Limited Joint Venture



Our ref: PL-202102027

AECOM Asia Company Limited 8/F., Grand Central Plaza, Tower 2 138 Shatin Rural Committee Road Shatin, New Territories, Hong Kong

Attention: Mr. Conrad NG

11 February 2021

Dear Sir,

Contract No. NE/2017/07 & NE/2017/08 Cross Bay Link, Tseung Kwan O Monthly EM&A Report for January 2021

I refer to the email of the ET concerning the Monthly EM&A Report for January 2021 (Version 2) with Ref. No. TCS00975/18/600/R0516v2. We have no adverse comment on it and verify the captioned according to Conditions 1.9 and 4.4 of Environmental Permit with No. EP-459-2013.

Yours faithfully,

Li Wai Ming Kevin Independent Environmental Checker

cc. Mr. T.W. TAM (ETL) Ms. Sheri S.Y. LEUNG (CEDD)



# **EXECUTIVE SUMMARY**

- ES01 Civil Engineering and Development Department (hereafter referred as "CEDD") is the Project Proponent and the Permit Holder of the Project Cross Bay Link, Tseung Kwan O (hereinafter referred as "the Project") which is a Designated Project to be implemented under Environmental Permit number EP-459/2013 (hereinafter referred as "the EP-459/2013" or "the EP").
- ES02 AUES was awarded the CEDD Contract Agreement No. EDO/04/2018 Environmental Team for Cross Bay Link, Tseung Kwan O (hereinafter called "the Service Contract"). The Services under the Service Contract is to provide environmental monitoring and audit (EM&A) services for the Works Contracts pursuant to the requirement of Environmental Team (ET) under the Approved EM&A Manual to ensure that the environmental performance of the Works Contracts comply with the requirement specified in the EM&A Manual and EIA Report of Agreement No. CE 43/2008 (HY) Cross Bay Link, Tseung Kwan O - Investigation and other relevant statutory requirements.
- ES03 To facilitate management, the proposed Works of the project was divided into two Civil Engineering and Development Department (CEDD) Works contracts included Contract 1 (Contract No. NE/2017/07) and Contract 2 (Contract No. NE/2017/08). The date for commencement of Contract 1 was 3<sup>rd</sup> December 2018 while the date for commencement of Contract 2 was 17<sup>th</sup> January 2019.
- ES04 According to the Approved Environmental Monitoring & Audit (EM&A) Manual, air quality, noise and water quality monitoring are required to be conducted during the construction phase of the Project. As part of the EM&A programme, baseline monitoring shall undertake before the Project construction work commencement to determine the ambient environment condition. The baseline air quality, background noise and water quality monitoring has been carried out between 21<sup>st</sup> September 2018 and 13<sup>th</sup> November 2018 at the designated and interim locations. The baseline monitoring report under the EP-459/2013 has been compiled by the ET and verified by Independent Environmental Checker (hereinafter the "IEC") prior submitted to EPD on 19<sup>th</sup> November 2018 for endorsement.
- ES05 This is the  $26^{\text{th}}$  Monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from  $1^{st}$  to  $31^{st}$  January 2021 (hereinafter 'the Reporting Period').

#### CONSTRUCTION WORKS CONDUCTED AT THE REPORTING MONTH

- ES06 The major construction activities of Contract 1 (Contract No. NE/2017/07) undertaken in this Reporting Period are:-
  - Precast Pier and box girder installation at Portion II
  - Stage Concrete for pile caps at portion II
  - ABWF works, E&M Work and External Work a Portion V Plant Room Building
  - 1, 2, 3 and 4 round arch rib segment assembly
  - Precast Pier fabrication for Pier W5
- ES07 The major construction activities of Contract 2 (Contract No. NE/2017/08) undertaken in this Reporting Period are:-
  - Excavation (Portion III,VI)
  - Drainage Installation (Portion VI)
  - Footing construction(Portion VI)
  - Excavation & RC works (Superstructure) (Portion III)
  - RC construction for U-trough(Portion III)
  - Sheet-pilling (Portion VI)
  - Seawall modification
  - ELS & manhole construction at SMH012 & SMH011



#### **ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES**

ES08 Environmental monitoring activities under the EM&A program in this Reporting Period are summarized in the following table.

Table ES-4	Summary Environmental Monitoring Activities Undertaken in the Reporting
	Period

Issues	Enviro	nmental Monitoring Parameters / Inspection	Sessions
Air Quality Construction Noise	1-Hour TSF		18
	24-Hr TSP		5
	Leq (30min	) Daytime	8
	Leq (5min)	Evening <sup>(Note 1)</sup>	0
Water Quality	Marine Wat	er Sampling <sup>(Note 2)</sup> (Note 3)	0
Inspection / Audit	Contract 1	ET Regular Environmental Site Inspection	4
	Contract 1	Joint site audit with Project Consultant and IEC	1
	Contract 2	ET Regular Environmental Site Inspection	4
	Contract 2	Joint site audit with Project Consultant and IEC	1

Note 1 Total sessions are counted by every 3 consecutive Leq5min

Note 2 Total sessions are counted by monitoring days

*Note 3* Since the marine construction works that requires marine water quality monitoring as stated in the EM&A Manual were completed, the impact water quality monitoring was ceased with effect from 1 May 2020.

#### BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES09 No air quality monitoring exceedance was recorded in this Reporting Period. For construction noise monitoring, one (1) noise complaints (which triggered Action Level) was recorded in this Reporting Period. The statistics of environmental exceedance and investigation of exceedance are summarized in the following table.

Table ES-5	Summary Environmental Monitoring Parameter Exceedance in the Reporting
	Period

Environmental	Monitoring	Action	Limit		Event & Action
Issues	Parameters	Level	Linnt Level	Investigation Results	<b>Corrective Actions</b>
Air Quality	1-Hour TSP	0	0		
	24-Hr TSP	0	0		
Construction Noise	Leq <sub>30min</sub> Daytime	1	0	Project related	Noise mitigation measures was implemented during the complaint period and considered the construction noise received at representative NSR were within acceptable level.
	Leq <sub>5min</sub> Evening	0	0		
Water Quality	DO	0	0		
Water Quality (Marine Water)	Turbidity	0	0		
(Marine Water)	SS	0	0		

### **ENVIRONMENTAL COMPLAINT**

**ES10** In the reporting period, one (1) environmental complaints was recorded for the Project. The statistics of environmental complaint are summarized in the following table.



Tuble Lo o Summary Linthonnental Complaint Records in the Reporting Ferror	Table ES-6	Summary Environmental Complaint Records in the Reporting Period	
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Reporting	Contract	Enviro	nmental Compl	aint Statistics	Related with the
Period	Contract	Frequency	Cumulative	<b>Complaint Nature</b>	Works Contract(s)
1 – 31 January	1	0	12	NA	NA
2021	2	1	7	Noise	Project Related

#### NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES11 No environmental summons or prosecutions was received in this Reporting Period for the Project. The statistics of environmental summons or prosecutions are summarized in the following tables.

#### Table ES-7 Summary Environmental Summons Records in the Reporting Period

Reporting	Contract	Enviro	nmental Summ	ons Statistics	Related with the
Period	Contract	Frequency	Cumulative	<b>Complaint Nature</b>	Works Contract(s)
1-31 January	1	0	0	NA	NA
2021	2	0	0	NA	NA

1able ES-6 Summary Environmental Prosecutions Records in the Reporting Perio	Table ES-8	Summary Environmental Prosecutions Records in the Reporting P	<b>Period</b>
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Reporting	Contract	Environ	mental Prosect	ution Statistics	Related with the
Period	Contract	Frequency	Cumulative	<b>Complaint Nature</b>	Works Contract(s)
1 – 31 January	1	0	0	NA	NA
2021	2	0	0	NA	NA

#### **REPORTING CHANGE**

ES12 There is no reporting change made for this monthly report.

#### SITE INSPECTION BY EXTERNAL PARTIES

ES13 No site inspection was undertaken by AFCD within the Reporting Period. EPD inspection was undertaken on 26 January 2021.

#### **FUTURE KEY ISSUES**

- ES14 Due to the dry and windy season has begun in Hong Kong, the Contractor was reminded that all the works to undertaking must be fulfill environmental statutory requirement, especially construction dust come from working sites of the Project.
- ES15 Construction noise would be the key environmental issue as Lohas Park Phase 4 was already available for resident occupation. The noise mitigation measures such as use of quiet plants and installation of temporary noise barrier at the construction noise predominate area should be fully implemented in accordance with the EM&A requirement.



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# 1. INTRODUCTION

### **1.1 PROJECT BACKGROUND**

- 1.1.1 Civil Engineering and Development Department (hereafter referred as "CEDD") is the Project Proponent and the Permit Holder of the Project Cross Bay Link, Tseung Kwan O (hereinafter referred as "the Project") which is a Designated Project to be implemented under Environmental Permit number EP-459/2013 (hereinafter referred as "the EP-459/2013" or "the EP").
- 1.1.2 AUES was awarded the CEDD Contract Agreement No. EDO/04/2018 Environmental Team for Cross Bay Link, Tseung Kwan O (hereinafter called "the Service Contract"). The Services under the Service Contract is to provide environmental monitoring and audit (EM&A) services for the Works Contracts pursuant to the requirement of Environmental Team (ET) under the Approved EM&A Manual to ensure that the environmental performance of the Works Contracts comply with the requirement specified in the EM&A Manual and EIA Report of Agreement No. CE 43/2008 (HY) Cross Bay Link, Tseung Kwan O - Investigation and other relevant statutory requirements.
- 1.1.3 To facilitate management, the proposed Works of *Cross Bay Link, Tseung Kwan O* (hereinafter called "the Project') was divided into two Civil Engineering and Development Department (CEDD) Works contracts included *Contract 1 (Contract No. NE/2017/07)* and *Contract 2 (Contract No. NE/2017/08)*. The details of each contract Works are summarized below and the delineation of each contract is shown in *Appendix A*.

Contract 1 (Contract No. NE/2017/07)

- (i) 400m section of marine viaducts of steel deck sections including the Eternal Arch Bridge;
- (ii) 600m section of marine viaducts of concrete deck sections;
- (iii) An E&M Plantroom and associated building services; and
- (iv) E&M provisions.

Contract 2 (Contract No. NE/2017/08)

- (i) Elevated deck structures along Road D9;
- (ii) A 210m section of cycle track and footpath ramp bridge;
- (iii) A 630m section of noise semi-enclosure covering the entire length of Road D9, and;
- (iv) Lift, staircase, modification of existing seawall along Road D9, landscaping and miscellaneous works.
- 1.1.4 The date for commencement of Contract 1 is  $3^{rd}$  December 2018 while the date for commencement of Contract 2 is  $17^{th}$  January 2019.
- 1.1.5 As part of the EM&A programme, baseline monitoring shall be undertaken before the Project construction work commencement to determine the ambient environmental condition. The baseline air quality, background noise and water quality monitoring has been carried out between **21**<sup>st</sup> September 2018 and 13<sup>th</sup> November 2018 at the designated and interim locations. The baseline monitoring report under the EP-459/2013 has been compiled by the ET and verified by Independent Environmental Checker (hereinafter the "IEC") prior submitted to EPD on 19<sup>th</sup> November 2018 for endorsement.
- 1.1.6 This is the  $26^{\text{th}}$  Monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from  $I^{st}$  to  $31^{st}$  *January 2021* (hereinafter 'the Reporting Period').

#### **1.2 REPORT STRUCTURE**

- 1.2.1 The Environmental Monitoring and Audit (EM&A) Monthly Report is structured into the following sections:-
  - Section 1IntroductionSection 2Project Organization and Construction ProgressSection 3Summary of Impact Monitoring RequirementsSection 4Air Quality MonitoringSection 5Construction Noise Monitoring



Section 6	Water Quality Monitoring
Section 7	Waste Management
Section 8	Site Inspections
Section 9	Landfill Gas Monitoring
Section 10	Environmental Complaints and Non-Compliance
Section 11	Implementation Status of Mitigation Measures
Section 12	Conclusions and Recommendations



# 2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS AND SUBMISSION

# 2.1 **PROJECT ORGANIZATION**

2.1.1 The project organization is shown in *Appendix B*. The responsibilities of respective parties are:

#### The Project Consultant

- 2.1.2 The Project Consultant (hereinafter "the Consultant") is responsible for overseeing the construction works and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the Consultant with respect to EM&A are:
  - Monitor the Contractors' compliance with contract specifications, including the implementation and operation of the environmental mitigation measures and their effectiveness
  - Monitor Contractors', ET's and IEC's compliance with the requirements in the Environmental Permit (EP) and EM&A Manual
  - Facilitate ET's implementation of the EM&A programme
  - Participate in joint site inspection by the ET and IEC
  - Oversee the implementation of the agreed Event / Action Plan in the event of any exceedance
  - Adhere to the procedures for carrying out complaint investigation

### The Contractor(s) of Works Contract(s)

- 2.1.3 There will be one contractor for each individual works contract. The Contractor(s) should report to the Consultant. The duties and responsibilities of the Contractor are:
  - Comply with the relevant contract conditions and specifications on environmental protection
  - Participate in the site inspections by the ET and IEC, and undertake any corrective actions
  - Provide information / advice to the ET regarding works programme and activities which may contribute to the generation of adverse environmental impacts
  - Submit proposals on mitigation measures in case of exceedances of Action and Limit levels in accordance with the Event / Action Plans
  - Implement measures to reduce impact where Action and Limit levels are exceeded
  - Adhere to the procedures for carrying out complaint investigation

# Environmental Team (ET)

- 2.1.4 ET shall not be in any way an associated body of the Contractor(s) and employed by the Permit Holder (i.e., CEDD) to conduct the EM&A programme. The ET should be managed by the ET Leader. The ET Leader shall be a person who has at least 7 years' experience in EM&A and has relevant professional qualifications. Suitable qualified staff should be included in the ET, and resources for the implementation of the EM&A programme should be allocated in time under the Contract(s), to enable fulfillment of the Project's EM&A requirements as specified in the EM&A Manual during construction of the Project. ET shall report to the Project Proponent and the duties shall include:
  - Conduct baseline monitoring, impact monitoring and post-construction monitoring and the associated in-situ and laboratory tests to monitor various environmental parameters as required in the EM&A Manual and the EP
  - Analyze the environmental monitoring and audit data, review the success of EM&A programme and the adequacy of mitigation measures implemented, confirm the validity of the EIA predictions and identify any adverse environmental impacts arising
  - Carry out regular site inspection to investigate and audit the Contractors' site practice, equipment/plant and work methodologies with respect to pollution control and environmental mitigation, and effect proactive action to pre-empt problems
  - Monitor compliance with conditions in the EP, environmental protection, pollution prevention and control regulations and contract specifications

- Audit environmental conditions on site
- Report on the environmental monitoring and audit results to EPD, the Consultant, the IEC and Contractor(s) or their delegated representatives
- Recommend suitable mitigation measures to the Contractor in the case of exceedance of Action and Limit levels in accordance with the Event and Action Plans
- Liaise with the IEC on all environmental performance matters and timely submit all relevant EM&A proforma for approval by IEC
- Advise the Contractor(s) on environmental improvement, awareness, enhancement measures etc., on site
- Adhere to the procedures for carrying out complaint investigation
- Set up a dedicated web site where the project information, all environmental monitoring and audit data and reports described in Condition 5.2 of the EP, and all finalized submissions and plans required under the EP are to be placed for public inspection
- Upload the environmental monitoring results to the dedicated web site in accordance with requirements of the EP and EM&A Manual
- To carry out the Operational Phase Landfill Gas monitoring during effluent drainage system maintenance for one year

# Independent Environmental Checker (IEC)

- 2.1.5 IEC will be employed for this Project. The Independent Environmental Checker (IEC) should not be in any way an associated body of the Contractor(s) or the ET for the Project. The IEC should be employed by the Permit Holder (i.e., CEDD) prior to the commencement of the construction of the Project. The IEC should have at least 7 years' experience in EM&A and have relevant professional qualifications. The duty of IEC should be:
  - Provide proactive advice to the Project Consultant and the Project Proponent on EM&A matters related to the project, independent from the management of construction works, but empowered to audit the environmental performance of construction
  - Review and audit all aspects of the EM&A programme implemented by the ET
  - Review and verify the monitoring data and all submissions in connection with the EP and EM&A Manual submitted by the ET
  - Arrange and conduct regular, at least monthly site inspections of the works during construction phase, and ad hoc inspections if significant environmental problems are identified
  - Check compliance with the agreed Event / Action Plan in the event of any exceedance
  - Check compliance with the procedures for carrying out complaint investigation
  - Check the effectiveness of corrective measures
  - Feedback audit results to ET by signing off relevant EM&A proforma
  - Check that the mitigation measures are effectively implemented
  - Report the works conducted, the findings, recommendation and improvement of the site inspections, after reviewing ET's and Contractor's works, and advices to the Project Consultant and Project Proponent on a monthly basis

# 2.2 CONSTRUCTION PROGRESS

2.2.1 3-month rolling construction program of the each Works Contract is enclosed in *Appendix C*; and the major construction activities undertaken in the Reporting Period is presented in below sub-sections.

# Contract 1 (Contract No. NE/2017/07)

- 2.2.2 The major construction activities of Contract 1 undertaken in this Reporting Period are:-
  - Precast Pier and box girder installation at Portion II
    - Stage Concrete for pile caps at portion II
    - ABWF works, E&M Work and External Work a Portion V Plant Room Building
    - 1, 2, 3 and 4 round arch rib segment assembly
    - Precast Pier fabrication for Pier W5

Contract 2 (Contract No. NE/2017/08)



- 2.2.3 The major construction activities of Contract 2 undertaken in this Reporting Period are:-
  - Excavation (Portion III,VI)
  - Drainage Installation (Portion VI)
  - Footing construction(Portion VI)
  - Excavation & RC works (Superstructure) (Portion III)
  - RC construction for U-trough(Portion III)
  - Sheet-pilling (Portion VI)
  - Seawall modification
  - ELS & manhole construction at SMH012 & SMH011

#### 2.3 SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.3.1 The required documents list below shall be to submit to EPD for retention:

### Table 2-1 Documents Submission under Environmental Permit Requirement

EP condition	Submission to EPD	Requirement	Situation
1.11		no later than 1 month prior to the commencement of construction of the Project	
2.3	the Community Liaison	commencement of construction of the Project	<ul> <li>CLG setting has submitted to EPD on 9 Oct 2018</li> </ul>
2.4	Organization of Main	No later than 2 weeks before the commencement of construction of the Project	6 6
2.5	Waste Management Plan (WMP)	No later than 1 month before commencement of construction of the Project	
2.6	Landscape Mitigation Plan (LSMP)	No later than 1 month before commencement of construction of the Project	<ul> <li>LSMP was submitted on 1 Nov 2018</li> </ul>
2.7	Landfill Gas Hazards	No later than 1 month before commencement of construction of the Project	

- 2.3.2 Upon completed baseline monitoring, a Baseline Monitoring Report was verified by IEC on 19 November 2018 and submitted to EPD on that day for endorsement.
- 2.3.3 The notification of Project dedicated web site to EPD was made on 9 January 2019 (http://www.envcbltko.hk/).
- 2.3.4 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project are presented in *Table 2-2*.



#### Table 2-2 Status of Environmental Licenses and Permits of the Project Works (Contract 1)

	License/Permit Status					
Item	Description	Permit no./	Valid 3	Period	Status	
Item	Description	Account no./ Ref. no.	From	То		
1	Notification pursuant to Air pollution Control (Construction Dust) Regulation				Notified on 11 July 2018	
2	Chemical Waste Producer Registration	5213-839-C1232 -19	28 Aug 2018	N/A		
3	Water Pollution Control Ordinance - Discharge	WT00032842-20 18	1 Mar 2019	31 Mar 2024	Valid until 31 March 2024	
	License	WT00034178-20 19	15 Jul 2019	31 Jul 2024	Valid until 31 July 2024	
4	Billing Account for Disposal of Construction Waste	7031412	24 Jul 2018	N/A		

Remark: No evening work and night work was carried out for Contract 1

		License/Permit Status				
Item	Description	Permit no./	Valid 1	Period	Status	
Item	Description	Account no./ Ref. no.	From	То		
1	Notification pursuant to Air pollution Control (Construction Dust) Regulation				Notified on 31 October 2018	
2	Chemical Waste Producer Registration	5213-839-B2500 -04	22 Nov 2018	N/A		
3	Water Pollution Control Ordinance - Discharge License	WT00034244-20 19	8 Jul 2019	31 Jul 2024	Valid until 31 July 2024	
4	Billing Account for Disposal of Construction Waste	7032702	8 Nov 2018	N/A		
5	Construction Noise Permit	GW-RE0695-20	25 Aug 2020	1 Feb 2021	Valid until 1 Feb 2021	

Remark: No evening work and night work was carried out for Contract 2



# 3. SUMMARY OF ENVIRONMENTAL MONITORING PROGRAMMES AND REQUIREMENTS

# 3.1 GENERAL

3.1.1 The Environmental Monitoring and Audit Programmes and requirements are set out in the Approved EM&A manual. Environmental issues such as air quality, construction noise and water quality were identified as the key issues during the construction phase of the Project. A summary of EM&A programmes and requirements are presented in the sub-sections below.

# 3.2 MONITORING PARAMETERS

3.2.1 Monitoring parameters of air quality, noise and water quality are summarized in *Table 3-1*.

Tuble 5.1 Summary of Livient Requirements					
Environmental Issue	Parameters				
Air Quality	<ul><li>1-hour TSP by Real-Time Portable Dust Meter; and</li><li>24-hour TSP by High Volume Air Sampler</li></ul>				
Noise	<ul> <li>Leq (30min) in six consecutive Leq(5 min) between 07:00-19:00 on normal weekdays</li> <li>Supplementary information for data auditing, statistical results such as L<sub>10</sub> and L<sub>90</sub> shall also be obtained for reference.</li> </ul>				
Water Quality	<ul> <li>In-situ measurement – Dissolved Oxygen (DO) concentration (mg/L) &amp; saturation (%), pH, Salinity (mg/L), Temperature (°C) and Turbidity (NTU); and</li> <li>Laboratory analysis – SS (mg/L)</li> </ul>				

# Table 3-1 Summary of EM&A Requirements

# 3.3 MONITORING LOCATIONS

Air Quality and Construction Noise

3.3.1 According to the Approved EM&A Manual Section 5.4 and Section 6.3, three (3) representative air sensitive receivers (ASR) and four (4) representative noise sensitive receivers were designated as monitoring stations. The designated air quality and noise monitoring locations are listed in *Table 3-2* and *Table 3-3*, and illustrated in *Appendix D*.

#### Table 3-2 Designated Air Quality Monitoring Location recommended in EM&A Manual

ID	Location in the EM&A Manual	<b>Currently Situation</b>
AM1	Tung Wah Group of Hospitals Aided Primary School & Secondary School	Not yet construct
AM2	Lohas Park Stage 2 (Planned Development in Area 86)	Under Construction
AM3	Lohas Park Stage 3 (Planned Development in Area 86)	Under Construction

# Table 3-3 Designated Construction Noise Monitoring Location recommended by EM&A Manual

ID	Location Currently S					
CNMS-1	Lohas Park Stage 1(Planned Development in Area 86, Package 4) (Southeast facade) Available for resource occupation November 2019					
CNMS-2	Lohas Park Stage 1 (Planned Development in Area 86, Package 6) (Southeast facade)	Under Construction				
CNMS-3	Lohas Park Stage 3 (Planned Development in Area 86,Package 11) (West facade)	<sup>a</sup> Under Construction				
CNMS-4	Fung Wah Group of Hospitals Aided Primary School & Secondary School (Southwest facade)Not yet construct					

3.3.2 As observed and confirmed by ET and IEC during the joint site visit on 29<sup>th</sup> August 2018, the designated air quality and noise monitoring locations are under construction or yet to construct. It is considered that these designated locations are not appropriate to perform air quality and noise monitoring. In this regard, alternative locations were proposed as interim arrangement to carry out air quality and noise monitoring before occupation of the designated monitoring location. A letter enclosed with the alternative location proposal and IEC verification (Our Ref: TCS00975/18/300/L0038) was sent to EPD on 19<sup>th</sup> October 2018 and the proposal was agreed by

EPD. Therefore, air quality and construction noise impact monitoring would be performed at the agreed alternative locations until the designated sensitive receivers occupied and granted the premises.

3.3.3 The designated and interim alternative monitoring location for impact air quality and noise monitoring in the Reporting Period are summarized in Table 3-4 and illustrated in *Appendix D*.

Table 3-4	Designated	and	interim	alternative	location	for	air	quality	and	noise
	monitoring i	n the	Reportir	ng Period						

Location ID	Monitoring Parameter	Location
AM4	1-Hour TSP Air Quality	Podium of Lohas Park Phase 2A (Le Prestige)
AM5	24-Hour TSP Air Quality	Boundary of Site Office near Junction of Wan Po Road and Wan O Road
CNMS-1	Noise (L <sub>eq</sub> , L <sub>10</sub> & L <sub>90</sub> )	Podium of Lohas Park Package 4
CNMS-5	Noise (L <sub>eq</sub> , L <sub>10</sub> & L <sub>90</sub> )	Podium of Lohas Park Phase 2A (Le Prestige)

Remark: Since 24-Hour TSP Air Quality monitoring is not granted at AM4 Lohas Park Phase 2A, the 24-Hour TSP monitoring was therefore proposed at AM5 which is located at the boundary of the project site office.

#### Water Quality

3.3.4 According to Table 7.1 of the approved EM&A Manual Section 7.4, two Control Stations (C3 & C4), six (6) sensitive receivers (CC1, CC2, CC3, CC4, CC13 & SWI1) and one (1) Gradient station (I1) are recommended to perform water quality monitoring. Details and coordinate of these water quality monitoring stations are described in *Table 3-5* and the locations is shown in *Appendix D*.

 Table 3-5
 Location of Water Quality Monitoring Station

Station	Coordinates		Description
Station	Easting	Northing	Description
CC1	843201	816416	Sensitive Receiver – Coral Sites at Chiu Keng Wan
CC2	844076	817091	Sensitive Receiver – Coral Sites at Junk Bay
CC3	844606	817941	Sensitive Receiver – Coral Sites at Junk Island
CC4	845444	815595	Sensitive Receiver – Coral Sites at Fat Tong Chau West
CC13	844200	817495	Sensitive Receiver – Coral Sites at Junk Bay near Chiu Keng Wan
SWI1	845512	817442	Sensitive Receiver – Tseung Kwan O Salt Water Intake
C3	843821	816211	Control Station (Ebb Tide) – within Junk Bay
C4	844621	815770	Control Station (Flood Tide) – within Junk Bay
I1	844602	817675	Gradient Station – in between Lam Tin Tunnel (LTT) and CBL

# 3.4 MONITORING FREQUENCY AND PERIOD

3.4.1 To according with the approved *EM&A Manual*, impact monitoring requirements are presented as follows.

#### Air Quality Monitoring

- 3.4.2 Air quality impact monitoring frequency is as follows:
  - Once every 6 days of 24-hour TSP and 3 times of 1-hour TSP monitoring; during course of works throughout the construction period

# Construction Noise Monitoring

- 3.4.3 Construction noise monitoring frequency is as follows:
  - One set of Leq<sub>(30min)</sub> measurements in a weekly basis between 07:00 and 19:00 hours on normal weekdays during course of works as throughout the construction period
  - If construction works are extended to include works during the hours of 1900-0700, additional weekly impact monitoring shall be carried out during evening and night-time works. Applicable permits under the NCO shall be obtained by the Contractor.



#### Water Quality (Marine Water) Monitoring

- 3.4.4 Marine water impact monitoring frequency is as follows:
  - Three days a week, at mid ebb and mid flood tides during course of pile excavation works for the bridge pier foundations underway. Moreover, the intervals between 2 consecutive sets of monitoring day shall not be less than 36 hours.

# 3.5 MONITORING EQUIPMENT

# <u>Air Quality Monitoring</u>

3.5.1 The 24-hour and 1-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50)*, Appendix *B*. If the ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to the IEC to prove that the instrument is capable of achieving a comparable results to the HVS. The instrument should be calibrated regularly, and the 1-hour sampling shall be determined on yearly basis by the HVS to check the validity and accuracy of the results measured by direct reading method. The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory. The equipment used for air quality monitoring is listed in *Table 3-6*.

Equipment		Model	
24-hour TSP	High Volume Air Sampler	TISCH High Volume Air Sampler, HVS Model TE-5170	
	Calibration Kit	TISCH Model TE-5025A (S/N: 1612)	
1- hour TSP	Portable Dust Meter	Laser Dust Monitor Sibata LD-3B Laser Dust Monitor (S/N: 3Y6501)	

# Table 3-6 Air Quality Monitoring Equipment

# Noise Monitoring

3.5.2 Sound level meter in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in ms<sup>-1</sup>. Noise equipment will be used for impact monitoring is listed in *Table 3-7*.

#### Table 3-7 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	Rion NL-52 (S/N:00142581)
Calibrator	Rion NC-74 (S/N:34246492)
Portable Wind Speed Indicator	Anemometer AZ Instrument 8908

# Water Quality Monitoring

- 3.5.3 For water quality monitoring, the equipment should fulfill the requirement under the Approved *EM&A Manual Section 7.2.* The requirement is summarized below:
  - **Dissolved Oxygen and Temperature Measuring Equipment** The instrument should be a portable, weatherproof dissolved oxygen measuring instrument completed with cable, sensor, comprehensive operation manuals, and should be operable from a DC power source. It should be capable of measuring: dissolved oxygen levels in the range of 0-20 mg/L and 0-200% saturation; and a temperature of 0-45 degrees Celsius. It should have a membrane electrode with automatic temperature compensation complete with a cable of not less than 35 m in length. Sufficient stocks of spare electrodes and cable should be available for replacement where necessary.
  - *Turbidity Measurement Equipment* The instrument shall be a portable, weatherproof turbidity-measuring instrument complete with comprehensive operation manual. The equipment shall use a DC power source. It shall have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU.
  - Salinity Measurement Instrument A portable salinometer capable of measuring salinity in the range of 0-40 ppt should be provided for measuring salinity of the water at each monitoring location.



- *Water Depth Detector* A portable, battery-operated echo sounder should be used for the determination of water depth at each designated monitoring station. A detector affixed to the bottom of the works boat, if the same vessel is to be used throughout the monitoring programme, is preferred.
- **Positioning Device** hand-held or boat-fixed type digital Global Positioning System (GPS) with way point bearing indication or other equipment instrument of similar accuracy, should be provided and used during water quality monitoring to ensure the monitoring vessel is at the correct location before taking measurements.
- *Water Sampling Equipment* A water sampler, consisting of a transparent PVC or glass cylinder of not less than two liters, which can be effectively sealed with cups at both ends, should be used. The water sampler should have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth.

# 3.5.4 Equipment used for water quality impact monitoring is listed in *Table 3-8*.

Equipment	Model		
A Digital Global Positioning System	GPS12 Garmin		
Water Depth Detector	Eagle Sonar CUDA 300		
Water Sampler	A 2-litre transparent PVC cylinder with latex cups at both ends		
Thermometer & DO meter			
pH meter	YSI ProDSS Digital Sampling System Water Quality Meter		
Turbidimeter	1 ST 1 10D55 Digital Sampling System water Quality Meter		
Salinometer			
Sample Container	High density polythene bottles (provided by laboratory)		
Storage Container	'Willow' 33-litter plastic cool box with Ice pad		

# Table 3-8Water Monitoring Equipment

## 3.6 MONITORING PROCEDURES <u>Air Quality</u>

1-hour TSP

- 3.6.1 The 1-hour TSP monitor was a brand named "*Sibata LD-3 Laser Dust monitor Particle Mass Profiler & Counter*" which is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90° light scattering. The 1-hour TSP monitor consists of the following:
  - (a.) A pump to draw sample aerosol through the optic chamber where TSP is measured;
  - (b.) A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and
  - (c.) A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

# 24-hour TSP

- 3.6.2 The equipment used for 24-hour TSP measurement is TISCH, Model TE-5170 TSP High Volume Air Sampler, which complied with *EPA Code of Federal Regulation, Appendix B to Part 50*. The High Volume Air Sampler (HVS) consists of the following:
  - (a.) An anodized aluminum shelter;
  - (b.) A 8"x10" stainless steel filter holder;
  - (c.) A blower motor assembly;
  - (d.) A continuous flow/pressure recorder;
  - (e.) A motor speed-voltage control/elapsed time indicator;
  - (f.) A 7-day mechanical timer, and
  - (g.) A power supply of 220v/50 Hz
- 3.6.3 For HVS for 24-hour TSP monitoring, the HVS is mounted in a metallic cage with a top for protection and also it is sat on the existing ground or the roof of building. The flow rate of the HVS between 0.6m<sup>3</sup>/min and 1.7m<sup>3</sup>/min will be properly set in accordance with the



manufacturer's instruction to within the range recommended in *EPA Code of Federal Regulation, Appendix B to Part 50.* Glass Fiber Filter 8" x 10" of TE-653 will be used for 24-Hour TSP monitoring and would be supplied by laboratory. The general procedures of sampling are described as below:-

- A horizontal platform with appropriate support to secure the samples against gusty wind should be provided;
- No two samplers should be placed less than 2 meters apart;
- The distance between the sampler and an obstacle, such as building, must be at least twice the height that the obstacle protrudes above the sample;
- A minimum of 2 meters of separation from any supporting structure, measured horizontally is required;
- Before placing any filter media at the HVS, the power supply will be checked to ensure the sampler work properly;
- The filter paper will be set to align on the screen of HVS to ensure that the gasket formed an air tight seal on the outer edges of the filter. Then filter holder frame will be tightened to the filter hold with swing bolts. The holding pressure should be sufficient to avoid air leakage at the edge.
- The mechanical timer will be set for a sampling period of 24 hours (00:00 mid-night to 00:00 mid-night next day). Information will be recorded on the field data sheet, which would be included the sampling data, starting time, the weather condition at current and the filter paper ID with the initial weight;
- After sampling, the filter paper will be collected and transfer from the filter holder of the HVS to a sealed envelope and sent to a local HOKLAS accredited laboratory for quantifying.
- 3.6.4 All the sampled 24-hour TSP filters will be kept in normal air conditioned room conditions, i.e. 70% HR (Relative Humidity) and 25°C, for six months prior to disposal.
- 3.6.5 The HVS used for 24-hour TSP monitoring will be calibrated in two months interval for in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A) to establish a relationship between the follow recorder meter reading in cfm (cubic feet per minute) and the standard flow rate, Qstd, in m<sup>3</sup>/min. Motor brushes of HVS will be regularly replaced. The calibration certificates of the air quality monitoring equipment used for the impact monitoring and the HOKLAS accredited certificate of laboratory was provided in Appendix G.

# Noise Monitoring

- 3.6.6 As referred to in the Technical Memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.
- 3.6.7 All noise measurements will be performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq). Leq<sub>(30 min)</sub> in six consecutive Leq<sub>(5 min)</sub> measurements will be used as the monitoring parameter for the time period between 07:00-19:00 hours on weekdays throughout the construction period.
- 3.6.8 The sound level meter will be mounted on a tripod at a height of 1.2 m and placed at the assessment point and oriented such that the microphone is pointed to the site with the microphone facing perpendicular to the line of sight. The windshield will be fitted for all measurements. Where a measurement is to be carried out at a building, the assessment point would normally be at a position 1 m from the exterior of the building façade. Where a measurement is to be made for noise being received at a place other than a building, the assessment point would be at a position 1.2 m above the ground in a free-field situation, i.e. at least 3.5 m away from reflective surfaces



such as adjacent buildings or walls.

- 3.6.9 Immediately prior to and following each noise measurement the accuracy of the sound level meter will be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements will be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0 dB.
- 3.6.10 Noise measurements will not be made in fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed will be checked with a portable wind speed meter capable of measuring the wind speed in m/s.
- 3.6.11 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis. The calibration certificates of noise monitoring equipment used for the impact monitoring was provided in Appendix G.

# Marine Water Quality

- 3.6.12 Marine water quality monitoring would be conducted at all designated locations in accordance with Table 7.1 of the approved EM&A Manual. The procedures of water sampling, in-situ measurement and chemical analysis are described as below:
  - A Global Positioning System (GPS) will be used to ensure that the correct location was selected prior to sample collection. A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring station.
  - The marine water sampler will be lowered into the water body at a predetermined depth. The trigger system of the sampler is activated with a messenger and opening ends of the sampler are closed accordingly then the sample of water is collected.
  - During the sampling, the sampling container will be rinsed to use a portion of the marine water sample before the water sample is transferred to the container. Upon sampling completion, the container will be sealed with a screw cap.
  - Before the sampling process, general information such as the date and time of sampling, weather condition and tidal condition as well as the personnel responsible for the monitoring will be recorded on the monitoring field data sheet.
  - In-situ measurement including water temperature, turbidity, dissolved oxygen, salinity, pH and water depth will be recorded at the identified monitoring station and depth. At each station, marine water samples will be collected at three depths: 1m below water surface, 1m above sea bottom and at mid-depth when the water depth exceeds 6m. Samples at 1m below water surface and 1m above sea bottom will be collected when the water depth is between 3m and 6m. And sample at mid-depth will be taken when the water depth is below 3m.
  - For the in-situ measurement, two consecutive measurements of sampling depth, temperature, dissolved oxygen, salinity, turbidity and pH concentration will be measured at the sea. The YSI ProDSS Multifunctional Meter will be retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference in the value between the first and second readings of each set is more than 25% of the value of the first reading, the reading is discarded and further readings is taken.
  - Marine water sample will be collected by using a water sampler. The high-density polythene bottles will be filled after the water sample collected from the sea. Before the water sample being fills into the sampling bottles, the sampling bottles will be pre-rinsed with the same water sample. The sampling bottles will then be packed in cool-boxes (cooled at 4°C without being frozen), and delivered to HOKLAS accredited laboratory for the chemical analysis as followed APHA *Standard Methods for the Examination of Water and Wastewater* 19ed 2540D, unless otherwise specified.
- 3.6.13 Before each round of monitoring, the dissolved oxygen probe will be calibrated by wet bulb method; a zero check in distilled water will be performed with the turbidity and salinity probes. The turbidity probe also will be checked with a standard solution of known NTU and known

value of the pH standard solution were used to check the accuracy of pH value before each monitoring day. Moreover, all in-situ measurement equipment used marine water monitoring will be calibrated at three months interval.

#### Laboratory Analysis

3.6.14 All water samples included the duplicate samples, was tested with chemical analysis as specified in the EM&A Manual by a HOKALS accredited laboratory - ALS Technichem (HK) Pty Ltd. The chemicals analysis method and reporting limit show *Table 3-9*.

#### Table 3-9 Testing Method and Reporting Limit of the Chemical Analysis

Parameter	ALS Method Code	In-house Method Reference (1)	Reporting Limit
Total Suspended Solids	EA025	APHA 2540D	1 mg/L

Note:

1.

The exact method shall depend on the laboratory accredited method. APHA = Standard Methods for the Examination of Water and Wastewater by the American Public Health Association.

3.6.15 The determination works will start within 24 hours after collection of the water samples or within the holding time as advised by the laboratory.

### **Meteorological Information**

- 3.6.16 The meteorological information including wind direction, wind speed, humidity and temperature etc. of impact monitoring is extracted from the closest Tseung Kwan O Hong Kong Observatory Station. Moreover, the data of rainfall and air pressure would be extracted from King's Park Station.
- 3.6.17 For marine water quality monitoring, tidal information would be referred to tide gauge at Tai Miu Wan.

#### 3.7 DETERMINATION OF ACTION/LIMIT (A/L) LEVELS

3.7.1 The baseline results form the basis for determining the environmental acceptance criteria for the impact monitoring. A summary of the Action/Limit (A/L) Levels for air quality, construction noise and water quality are shown in *Tables 3-10*, *3-11* and *3-12* respectively.

Monitoring Station	Action Level (µg /m <sup>3</sup> )		Limit Level (µg/m <sup>3</sup> )		
Monitoring Station	1-Hour TSP	24-Hr TSP	1-Hour TSP	24-Hr TSP	
AM4	278	NA	500	NA	
AM5	NA	190	90 NA 2		
Note: 1-Hour & 24-Hr TSP of Action Level = $(Average Baseline Results \times 1.3 + Limit level)/2$					

Table 3-10Action & Limit Levels of Air Quality (1-Hour & 24-Hr TSP)



#### Table 3-11 Action and Limit Levels for Construction Noise, dB(A)

Monitoring Location	Action Level	Limit Level		
Time Period: 0700-1900 hours on normal weekdays (Leq3				
CNMS-1	When one or more documented complaints are received	75 dB(A)		
CNMS-5	Time Period: 1900-2300 hours on all days (Leq15min)			
	When one or more documented complaints are received	55 dB(A)		
Remarks:				
CNMS4 once they	are available and permission are granted	gnated locations CNMS-2, CNMS-3 and ; ed at residential building which are still		

- under construction, Limit Level of 75dB(A) will be adopted until they are occupied;
- The designated location CNMS-4 is located at planned school and still not yet to construction. When the school occupied and operated, Limit Level of 70dB(A) should be adopted and should be reduced to 65dB(A) during examination period; and
   If construction works are required during restricted hours the conditions stipulated in the
  - 4. If construction works are required during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority shall be followed.

Table 3-12Action and Limit Levels for Water Quality

Monitoring	Depth Average of SS (mg/L)				
Station	Actio	on Level	Li	mit Level	
CC1	7.8	<b>OR</b> 120% of upstream control	9.3	<b>OR</b> 130% of upstream control	
CC2	9.0	station at the same	9.2	station at the same	
CC3	8.2	tide of the same day (Control Station C3 at Ebb tide and	9.0	tide of the same day (Control Station C3 at Ebb tide and	
CC4	13.8	Control Station C4 at	15.4	Control Station C4 at	
CC13	8.9	Flood tide), whichever is higher	10.3	Flood tide) , whichever is higher	
SWI1	8	mg/L		10 mg/L	
		Dissolved Oxy	gen (mg/L)		
Monitoring Location	Depth Average of S	Surface and Mid-depth	Bottom		
Location	Action Level	Limit Level	Action Leve	l Limit Level	
CC1	5.8	5.7	5.3	5.2	
CC2	5.8	5.7	5.3	5.1	
CC3	5.5	5.4	4.9	4.7	
CC4	5.7	5.7	5.5	5.4	
CC13	5.6	5.5	5.3	5.2	
SWI1	5.4	4.8	5.1	5.0	
Monitoring		Depth Average of T			
Location	Actio	on Level	Li	mit Level	
CC1	5.8	<b>OR</b> 120% of	6.0	<b>OR</b> 130% of	
CC2	4.6	upstream control station at the same	5.5	upstream control station at the same	
CC3	4.8	tide of the same day (Control Station C3	5.4	tide of the same day (Control Station C3	
CC4	6.1	at Ebb tide and	7.1	at Ebb tide and	
CC13	6.0	Control Station C4 at Flood tide),	6.3	Control Station C4 at Flood tide),	
SWI1	6.1	whichever is higher	7.1	whichever is higher	



3.7.2 Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan which presented in *Appendix E*.

# 3.8 DATA MANAGEMENT AND DATA QA/QC CONTROL

- 3.8.1 All monitoring data will be handled by the ET's in-house data recording and management system. The monitoring data recorded in the equipment will be downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data will input into a computerized database properly maintained by the ET. The laboratory results will be input directly into the computerized database and checked by personnel other than those who input the data.
- 3.8.2 For monitoring parameters that require laboratory analysis, the local laboratory shall follow the QA/QC requirements as set out under the HOKLAS scheme for the relevant laboratory tests.



# 4. AIR QUALITY MONITORING

# 4.1 GENERAL

- 4.1.1 In the Reporting Period, 1-Hour TSP and 24-Hr TSP of air quality monitoring were respectively performed at interim alternative monitoring locations AM4 and AM5. The air quality monitoring schedule is presented in *Appendix F*.
- 4.1.2 Valid calibration certificates of monitoring equipment are shown in *Appendix G* and the monitoring results are summarized in the following sub-sections

#### 4.2 **RESULTS OF AIR QUALITY MONITORING IN THE REPORTING MONTH**

4.2.1 During the Reporting Period, *18* sessions of 1-hour TSP and 5 sessions of 24-hours TSP monitoring were carried out and the monitoring results are summarized in *Table 4-1*. The detailed 24-hour TSP monitoring data are presented in *Appendix H* and the relevant graphical plots are shown in *Appendix I*.

AM5		AM4				
24-Hr TS	$P(\mu g/m^3)$	1-Hour TSP (µg/m <sup>3</sup> )				
Date	Meas. Result	Date	Start Time	1 <sup>st</sup> Meas.	2 <sup>nd</sup> Meas.	3 <sup>rd</sup> Meas.
5-Jan-21	103	2-Jan-21	14:16	71	68	77
11-Jan-21	121	6-Jan-21	14:10	69	66	74
16-Jan-21	100	12-Jan-21	9:09	59	62	64
22-Jan-21	156	18-Jan-21	9:08	77	85	80
28-Jan-21	162	23-Jan-21	10:11	80	77	74
		29-Jan-21	9:32	80	82	77
Average (Range)	128 (100 - 162)	Average (Range)		5		

 Table 4-1
 1-Hour and 24-Hour TSP Air Quality Impact Monitoring Results

- 4.2.2 As shown in *Table 4-1*, all the 1-hour TSP and 24-hour TSP monitoring results were below the Action / Limit Levels. No Notification of Exceedance (NOE) was issued in this Reporting Period.
- 4.2.3 The meteorological data during impact monitoring period is summarized in *Appendix J*.



# 5. CONSTRUCTION NOISE MONITORING

# 5.1 GENERAL

- 5.1.1 In the Reporting Period, construction noise quality monitoring was performed at designated monitoring location **CNMS-1** and interim alternative monitoring location **CNMS-5**. The construction noise monitoring schedule is presented in *Appendix F*.
- 5.1.2 Valid calibration certificates of monitoring equipment is shown in *Appendix G* and the construction noise monitoring results are summarized in the following sub-sections:

#### 5.2 **RESULTS OF NOISE MONITORING**

5.2.1 **8** sessions of daytime construction noise monitoring were performed at both the designated monitoring location CNMS-1 and the interim alternative location CNMS-5 in the reporting period. The daytime noise monitoring results are summarized in *Table 5-1* and *Table 5-2*. The detailed noise monitoring data are presented in *Appendix H* and the relevant graphical plots are shown in *Appendix I*.

Table 5-1	<b>Daytime Construction Noise Impact Monitoring Results at CNMS-1</b>
Indice	Duyume Construction rouse impuer roumoring results at er and

Date	Time	Measurement Result (dB(A))		
		Leq30min	Façade Correction	
6-Jan-21	14:28	65.1	NA	
12-Jan-21	9:22	70.1	NA	
18-Jan-21	9:33	65.9	NA	
29-Jan-21	10:29	68.8	NA	

Table 5-2         Daytime Construction Noise Impact Monitoring Results a
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Data	Time	Measurement Result (dB(A))	
Date	Time	L <sub>eq30min</sub>	Façade Correction
6-Jan-21	15:19	65.2	NA
12-Jan-21	10:14	67.8	NA
18-Jan-21	10:19	67.5	NA
29-Jan-21	9:33	67.4	NA

- 5.2.2 As shown in *Table 5-1* and *Table 5-2*, all the measured results were below 75dB(A) of the acceptance criteria. No adverse weather condition which may affect the monitoring result was encountered during the course of noise monitoring in the reporting period.
- 5.2.3 No evening noise monitoring was carried out at both the designated monitoring location CNMS-1 and the interim alternative location CNMS-5.



# 6. WATER QUALITY MONITORING

# 6.1 GENERAL

- 6.1.1 According to the approved EM&A Manual Section 7.6.1, the impact marine water quality monitoring work shall be carried out during the CBL piling and pile excavation works (marine construction activity) of the Project. Impact marine water quality monitoring was commenced in December 2018 when CBL piling and pile excavation works started.
- 6.1.2 As confirmed, all the marine piling and piling excavation work were completed in January 2020 and all pile cap installation work was completed in mid-March 2020. Due to the marine construction works that requires marine water quality monitoring as stated in the EM&A Manual were completed, the impact water quality monitoring was ceased with effect from 1 May 2020 and IEC has no particular comment on this arrangement.
- 6.1.3 No impact water quality monitoring was therefore carried out in the reporting period.



# 7. WASTE MANAGEMENT

# 7.1 GENERAL WASTE MANAGEMENT

7.1.1 Waste management would be carried out by an on-site Environmental Officer or an Environmental Consultant from time to time.

#### 7.2 **RECORDS OF WASTE QUANTITIES**

- 7.2.1 All types of waste arising from the construction work are classified into the following:
  - Construction & Demolition (C&D) Material;
  - Chemical Waste; and
  - General Refuse
- 7.2.2 According to the information provided by Contractor of Contract 1 and Contract 2, waste disposal was made in the Reporting period are summarized in *Tables 7-1* and *7-2*.

	Cont	tract 1	Contract 2	
Type of Waste	Quantity	Disposal Location	Quantity	Disposal Location
Total C&D Materials (Inert) ('000m <sup>3</sup> )	0.132	-	1.685	-
Reused in this Contract (Inert) ('000m <sup>3</sup> )	0	-	0	-
Reused in other Projects (Inert) ('000m <sup>3</sup> )	0	-	0	-
Disposal as Public Fill (Inert) ('000m <sup>3</sup> )	0.132	TKO 137	1.685	TKO 137
Imported Fill ('000m <sup>3</sup> )	0	-	0.744	-

# Table 7-1Summary of Quantities of Inert C&D Materials

#### Table 7-2Summary of Quantities of C&D Wastes

	Cont	ract 1	Contract 2	
Type of Waste	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal ('000kg)	0	-	0.005	Collected by licensed collector
Recycled Paper / Cardboard Packing ('000kg)	0.113	Collected by paper recycling company	0.050	Collected by paper recycling company
Recycled Plastic ('000kg)	0	-	0.020	Collected by licensed collector
Chemical Wastes ('000kg)	0	-	0	Collected by licensed collector
General Refuses ('000m <sup>3</sup> )	0.399	NENT	0.036	NENT

7.2.3 The Monthly Summary Waste Flow Table of the Contracts 1 and Contract 2 are shown in *Appendix K*.



# 8. SITE INSPECTION

# 8.1 **REQUIREMENTS**

8.1.1 According to the approved EM&A Manual, the environmental site inspection shall be formulation by ET Leader. Weekly environmental site inspections should carry out to confirm the environmental performance.

# 8.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH Contract 1

- 8.2.1 In this Reporting Month, weekly joint site inspection to evaluate site environmental performance for the *Contract 1* was carried out by the Project Consultant, ET and the Contractor on 5, 15, 20 & 27 January 2021. Moreover, the Independent Environmental Checker (IEC) monthly site inspection was conducted on 15 January 2021.
- 8.2.2 The findings / deficiencies of *Contract 1* that observed during the weekly site inspection are listed in *Table 8-1* and the site layout plan was provided in **Appendix A**.

Date	Findings / Deficiencies	Follow-Up Status
5 January 2021	<ul> <li><u>Observation:</u></li> <li>Proper dust mitigation measures should be provided for stockpile of loose materials storage on-site. (Portion V)</li> </ul>	• Stockpile of loose materials storage on-site was removed.
	• On-site sorting for general refuse and consruction waste should be provied. (Portion V)	• General refuse and construction waste was removed.
15 January 2021	<ul> <li><u>Observation:</u></li> <li>Drip tray should be provided for chemical storage on-site. (Box Girder&amp;Works Area A)</li> </ul>	• Chemical storage on-site was removed.
20 January 2021	<ul> <li><u>Observation:</u></li> <li>On-site sorting should be provied. C&amp;D waste and general refuse should be stored separately. (PortionV)</li> </ul>	<ul> <li>C&amp;D waste and general refuse was removed.</li> </ul>
27 January 2021	<ul> <li><u>Observation:</u></li> <li>Drip tray shold be provided for chemical storage. (Box Girder)</li> </ul>	• Chemical storage on-site was removed.

### Table 8-1Site Observations of the Contract 1 (Contract No. NE/2017/07)

# Contract 2

- 8.2.3 In this Reporting Month, weekly joint site inspection to evaluate site environmental performance for the *Contract 2* were carried out by the Project Consultant, ET and the Contractor on 5, 15, 20 & 27 January 2021. Moreover, the Independent Environmental Checker (IEC) monthly site inspection was conducted on 15 January 2021.
- 8.2.4 The findings / deficiencies of *Contract 2* that observed during the weekly site inspection are listed in *Table 8-2* and the site layout plan was provided in **Appendix A**.

Table 8-2Site Observations of the Contract 2 (Contract No. NE/2017/08)

Date	Findings / Deficiencies	Follow-Up Status
5 January 2021	<ul> <li><u>Observation:</u></li> <li>Hole under the drip tray should be plugged properly to prevent leakage. (Portion VI, Wan O Road)</li> </ul>	• Hole has been plugged properly.
	• Oil and water mixture cumulated inside the drip tray should be cleaned.	• Oil and water mixture cumulated inside drip tray has been



Date	Findings / Deficiencies	Follow-Up Status
	(Portion VI)	removed.
15 January 2021	<ul> <li><u>Observation:</u></li> <li>Drip tray should be provided for chemical storage on-site. (Portion III)</li> </ul>	• The chemical contrainers have been removed from site.
20 January 2021	• No adverse environmental issue was observed.	• NA
27 January 2021	• No adverse environmental issue was observed.	• NA

#### 8.3 IMPLEMENTATION STATUS OF SURFACE RUNOFF MITIGATION MEASURES

8.3.1 During the inspection of the reporting month, implementation of surface runoff mitigation measures were observed in both Contracts. The surface runoff mitigation measures observed during the weekly site inspection of Contract 1 and Contract 2 are summarized below and the photo recorded was provided in **Appendix L**.

#### Contract 1 (Contract No. NE/2017/07)

8.3.2 The surface runoff mitigation measures of Contract 1 implemented in this Reporting Period are:
Treatment facilities was installed at site to treat the site generated water prior discharge.

#### Contract 2 (Contract No. NE/2017/08)

- 8.3.3 The surface runoff mitigation measures of Contract 2 implemented in this Reporting Period are:
  Treatment facilities was installed at site to treat the site generated water prior discharge.
- 8.3.4 Overall, the surface runoff mitigation measures of Contract 1 and Contract 2 observed during the inspection of the reporting period are efficient.



# 9. LANDFILL GAS MONITORING

#### 9.1 GENERAL REQUIREMENT

- 9.1.1 Pursuant to Section 13 of the Project's EM&A Manual, landfill gas monitoring shall perform during excavation work within the 250m Consultation Zone of Tseung Kwan O Stage II & III Landfill. For landfill gas monitoring requirements, pre entry and routine measurement shall be undertaken in accordance with the *Factories and Industrial Undertaking (Confined Spaces) Regulation.*
- 9.1.2 According to Environmental Mitigation Implementation Schedule (EMIS) S14.7.6, portable monitoring equipment can be used to conduct landfill gas monitoring. Moreover, the frequency and areas to be monitored should be set down prior to commencement of the works either by the Safety Officer or by an appropriately qualified person.

### 9.2 LIMIT LEVELS AND EVENT AND ACTION PLAN

9.2.1 In event of the trigger levels specified in Table 14.6 of the EIA report being exceeded, a person, such as the Safety Officer, shall be nominated, with deputies, to be responsible for dealing with any emergency which may occur due to LFG. In an emergency situation the nominated person, or his deputies, shall have the necessary authority and shall ensure that the confined space is evacuated and the necessary works implemented for reducing the concentrations of gas. The Limit levels and relevant Action Plans for landfill gas detected in utilities and any on-site areas following construction is listed in *Table 9-1*.

Parameter	Limit Level	Actions
	>10% LEL (i.e.	Post "No Smoking" signs
	>0.5% by volume)	Prohibit hot works
Methane		• Ventilate to restore methane to <10% LEL
Wiethalle	>20% LEL (i.e.	Stop excavation works
	>1% by volume)	<ul> <li>Evacuate personnel/prohibit entry</li> </ul>
		• Increase ventilation to restore methane to <10% LEL
	>0.5%	• Ventilate to restore carbon dioxide to <0.5%
Carbon	>1.5%	Stop excavation works
dioxide		Evacuate personnel/prohibit entry
		• Increase ventilation to restore carbon dioxide to <0.5%
	<19%	Ventilation to restore oxygen >19%
Ovugan	<18%	Stop excavation works
Oxygen		Evacuate personnel/prohibit entry
		<ul> <li>Increase ventilation to restore oxygen to &gt;19%</li> </ul>

 Table 9-1
 Actions in the Event of Landfill Gas Being Detected in Excavations

9.2.2 In the event of the trigger levels specified in Table 9-1 being exceeded, the Safety Officer shall be responsible for dealing with any emergency which may occur due to landfill gas.

# 9.3 LANDFILL GAS MONITORING

- 9.3.1 In the Reporting Period, landfill gas monitoring was conducted at the zone Wan O Road which excavation work of Contract 2 was carried out. A Crowcon gas detector was used for the landfill gas monitoring and the valid calibration certificate is presented in **Appendix G**.
- 9.3.2 There were a total of 25 days monitoring were carried by the Safety Officer or an approved and qualified persons. The results of landfill gas measurement are summarized in *Table 9-2*. Moreover, database of monitoring result is attached in Appendix H.



Landfill Gas	A ation I anal	Limit Level Detectable a		at LMR	
Parameter	Action Level	Linnt Level	Min	Max	
Methane	>10% LEL (>0.5% v/v)	>20% LEL (>1% v/v)	0.0%	0.0%	
Oxygen	<19%	<18%	20.6%	20.8%	
Carbon Dioxide	>0.5%	>1.5%	0.0%	0.0%	

Table 9-2Summary of Landfill Gas Measurement Results

9.3.3 The measurement results shown that slightly methane and Carbon Dioxide concentration were detected, oxygen concentration measured was over 19.0 %. No exceedance was triggered and therefore no corrective action was required accordingly.



# 10. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

#### 10.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

10.1.1 In the Reporting Period, one (1) environmental complaint was received with respect to construction noise arising from the Project. Besides, no summons and prosecution under the EM&A Programme was lodged for the project. Investigation for the complaints was undertaken by the ET and presented below.

#### Complaint received on 27 January 2021

- 10.1.2 A complaint was received by EPD regarding the construction works near Lohas Park Phase 4 which cause noise nuisance to the resident.
- 10.1.3 As advised by the Contractor of Contract 2, sheet piling work was carried out near Lohas Park Phase 4 at Wan O Road in January 2021. The sheet piling work was scheduled after 9am on weekdays (i.e. Monday to Friday) and after 10 am on Saturday in order to minimize the noise nuisance to the nearby residents. The sheet piling work at Wan O Road is expected to be finished at the end of February 2021.
- 10.1.4 In order to reduce the noise impact to the nearby resident, the Contractor has also implemented several noise mitigation measures for the operation of sheet piling work and other minor work at Wan O Road, such as noise barrier was provided for the sheet piling work; movable noise barrier was provided for the air compressor used on site; air compressor was placed away from NSRs and Quality Powered Mechanical Equipment (QPME) was used as far as practicable.
- 10.1.5 According to the recent noise monitoring event held at Lohas Park Phase 4 where operation of the sheet piling work was observed, the obtained monitoring result Leq30min is well below the noise criteria 75 db(A). This implies that the noise impact generated from the sheet piling work should be acceptable at Lohas Park Phase 4.
- 10.1.6 The Investigation conducted by the ET revealed that the complaint is related to the Project. However, noise mitigation measure has been provided properly by the Contractor to minimize the noise nuisance to the residents. Nevertheless, the Contractor was reminded to implement the noise mitigation measures as far as practicable to reduce noise impact to the public.
- 10.1.7 The statistical summary table of environmental complaint is presented in *Tables 10-1, 10-2* and *10-3*.

Donorting Doriod	Contract	Environ	mental Complaint S	Statistics
<b>Reporting Period</b>	Contract	Frequency	Cumulative	<b>Complaint Nature</b>
1 – 31 January 2021	1	0	12	NA
1 – 31 January 2021	2	1	7	Noise

 Table 10-1
 Statistical Summary of Environmental Complaints

Table 10-2         Statistical Summary of Environmental Summo
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Departing Devied	Contract	<b>Environmental Summons Statistics</b>		
Reporting Period	Contract	Frequency	Cumulative	Summons Nature
1 – 31 January 2021	1	0	0	NA
1 – 31 January 2021	2	0	0	NA

Departing Daried	Contract	<b>Environmental Prosecution Statistics</b>		
Reporting Period	Contract	Frequency	Cumulative	<b>Prosecution Nature</b>
1 – 31 January 2021	1	0	0	NA
1 – 31 January 2021	2	0	0	NA



# 11. IMPLEMENTATION STATUS OF MITIGATION MEASURES

#### **11.1 GENERAL REQUIREMENTS**

- 11.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved EM&A Manual covered the issues of dust, noise, water and waste and they are summarized presented in *Appendix M*.
- 11.1.2 The Contractors had been implementing the required environmental mitigation measures according to the Environmental Monitoring and Audit Manual subject to the site condition. Environmental mitigation measures generally implemented by the Contractors in this Reporting Month are summarized in *Table 11-1* and photo record of water mitigation measure was provided in Appendix L.

Issues	Environmental Mitigation Measures				
Construction	· Regularly to maintain all plants, so only the good condition plants were used				
Noise	on-site ;				
	• If possible, all mobile plants onsite operation has located far from NSRs;				
	• When machines and plants (such as trucks) were not in using, it was switched off;				
	• Wherever possible, plant was prevented oriented directly the nearby NSRs;				
	• Provided quiet powered mechanical equipment to use onsite;				
	<ul> <li>Weekly noise monitoring was conducted to ensure construction noise meet the criteria.</li> </ul>				
Air Quality					
	<ul> <li>Stockpile of dusty material was covered entirely with impervious sheeting or sprayed with water so as to maintain the entire surface wet;</li> </ul>				
	• The construction plants regularly maintained to avoid the emissions of black smoke;				
	• The construction plants switched off when it not in use;				
	• Water spraying on haul road and dry site area was provided regularly;				
	• Where a vehicle leaving the works site is carrying a load of dusty materials, the				
	load has covered entirely with clean impervious sheeting; and				
	• Before any vehicle leaving the works site, wheel watering has been performed.				
Water Quality	Debris and refuse generated on-site collected daily;				
	• Oils and fuels were stored in designated areas;				
	<ul> <li>The chemical waste storage as sealed area provided;</li> </ul>				
	• Site hoarding with sealed foot were provided surrounding the boundary of working site to prevent wastewater or site surface water runoff get into public areas; and				
	<ul> <li>Portable chemical toilets were provided on-site. A licensed contractor was</li> </ul>				
	regularly disposal and maintenance of these facilities.				
	• Silt curtain was installed and maintained in accordance with EP condition				
Waste and	• Excavated material reused on site as far as possible to minimize off-site disposal.				
Chemical	<ul> <li>Scrap metals or abandoned equipment should be recycled if possible;</li> </ul>				
Management	• Waste arising kept to a minimum and be handled, transported and disposed of in a suitable manner;				
	• Disposal of C&D wastes to any designated public filling facility and/or landfill				
	followed a trip ticket system; and				
	• Chemical waste handled in accordance with the Code of Practice on the Packaging,				
	Handling and Storage of Chemical Wastes.				
General	<ul><li>The site is generally kept tidy and clean.</li><li>Mosquito control is performed to prevent mosquito breeding on site.</li></ul>				

 Table 11-1
 Environmental Mitigation Measures in the Reporting Month

# **11.2** TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

11.2.1 Tentative construction activities to be undertaken in February 2021 should be included:-

#### Contract 1

- Pile Cap construction work
- Construction of Cast-in situ works for pier E1 and W1
- Installation of Precast V-pier
- 2 stage Pile Cap Casting
- Construct Cast in-situ diaphragm



- Installation of second Batch of Precast Deck
- Install Main Span of Steel Deck

# Contract 2

- Excavation (Portion III,VI)
- Drainage Installation (Portion VI)
- Footing construction(Portion VI)
- Excavation & RC works (Superstructure) (Portion III)
- RC construction for U-trough(Portion III)
- Sheet-pilling (Portion VI)
- Seawall modification
- ELS & manhole construction at SMH012 & SMH011

# **11.3 IMPACT FORECAST**

- 11.3.1 Potential environmental impacts arising from the works of the Contracts 1 and Contract 2 include:
  - Construction waste
  - Air quality
  - Construction noise
  - Water quality
- 11.3.2 Environmental mitigation measures shall be properly implemented and maintained as per the Mitigation Implementation Schedule in Appendix L to ensure site environmental performance is acceptable.



# 12. CONCLUSIONS AND RECOMMENDATIONS

### 12.1 CONCLUSIONS

- 12.1.1 This is the monthly EM&A report as presented the monitoring results and inspection findings for the reporting period from 1<sup>st</sup> to 31<sup>st</sup> January 2021.
- 12.1.2 In the Reporting Period, one (1) construction noise action level exceedance was recorded. Investigation was undertaken by ET. The daytime construction noise action level exceedances triggered was Project related.
- 12.1.3 In this Reporting Period, no 1-Hour TSP or 24-Hr TSP air quality monitoring exceedance was recorded. No NOE or the associated corrective actions were therefore issued.
- 12.1.4 In the Reporting Period, one (1) environmental complaint was recorded for the Project with respect to the construction noise arising from the Project. Investigation for the complaint was undertaken by ET and indicated that noise complaint was Project related.
- 12.1.5 No notification of summons or prosecution were received and recorded for the Project.

#### 12.2 **RECOMMENDATIONS**

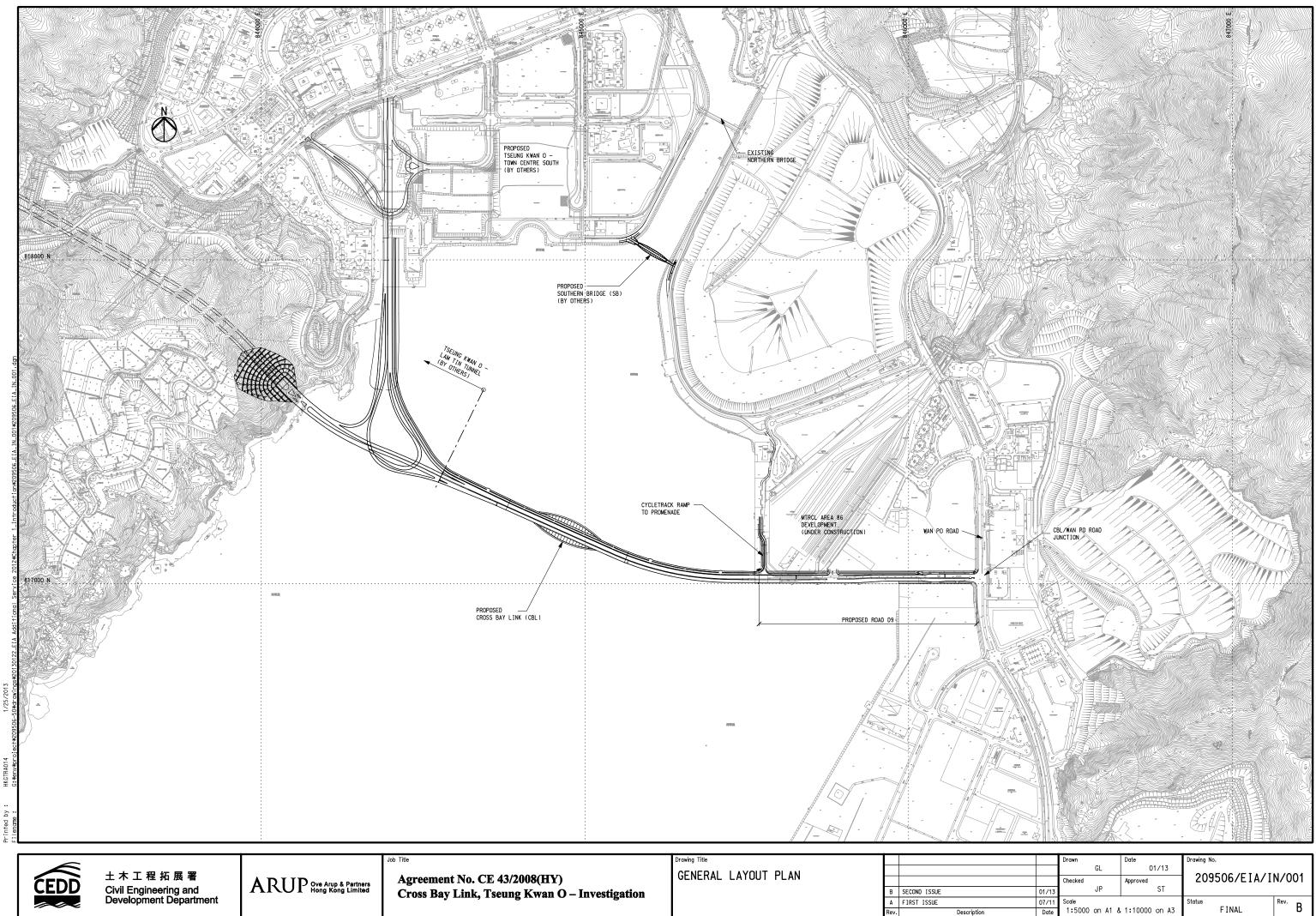
- 12.2.1 Due to the dry and windy season has begun in Hong Kong, the Contractor was reminded that all the works to undertaking must be fulfill environmental statutory requirement, especially construction dust come from working sites of the Project.
- 12.2.2 Construction noise would be the key environmental issue as Lohas Park Phase 4 was already available for resident occupation. The noise mitigation measures such as use of quiet plants and installation of temporary noise barrier at the construction noise predominate area should be fully implemented in accordance with the EM&A requirement.



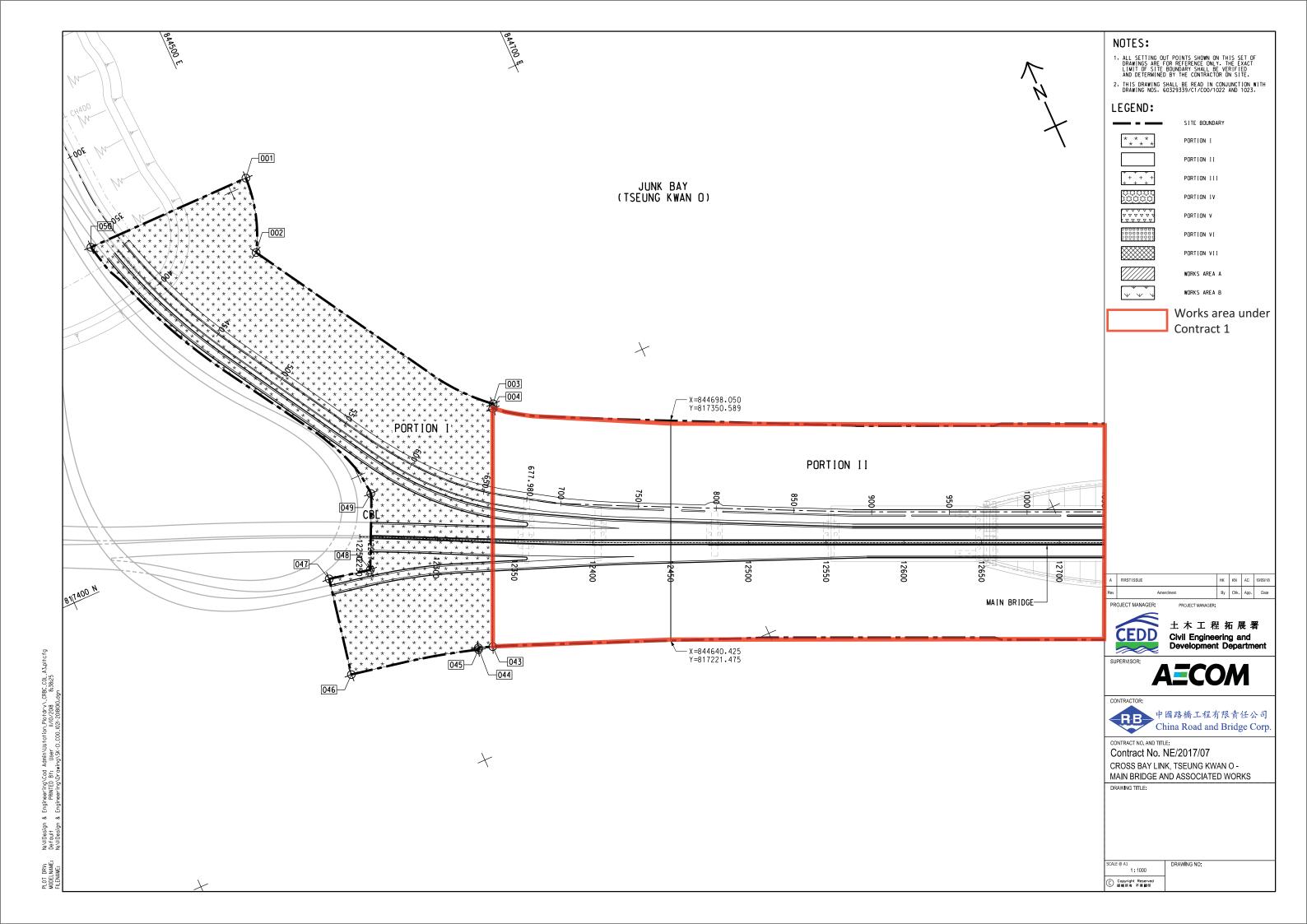
Appendix A

**Project Layout Plan** 

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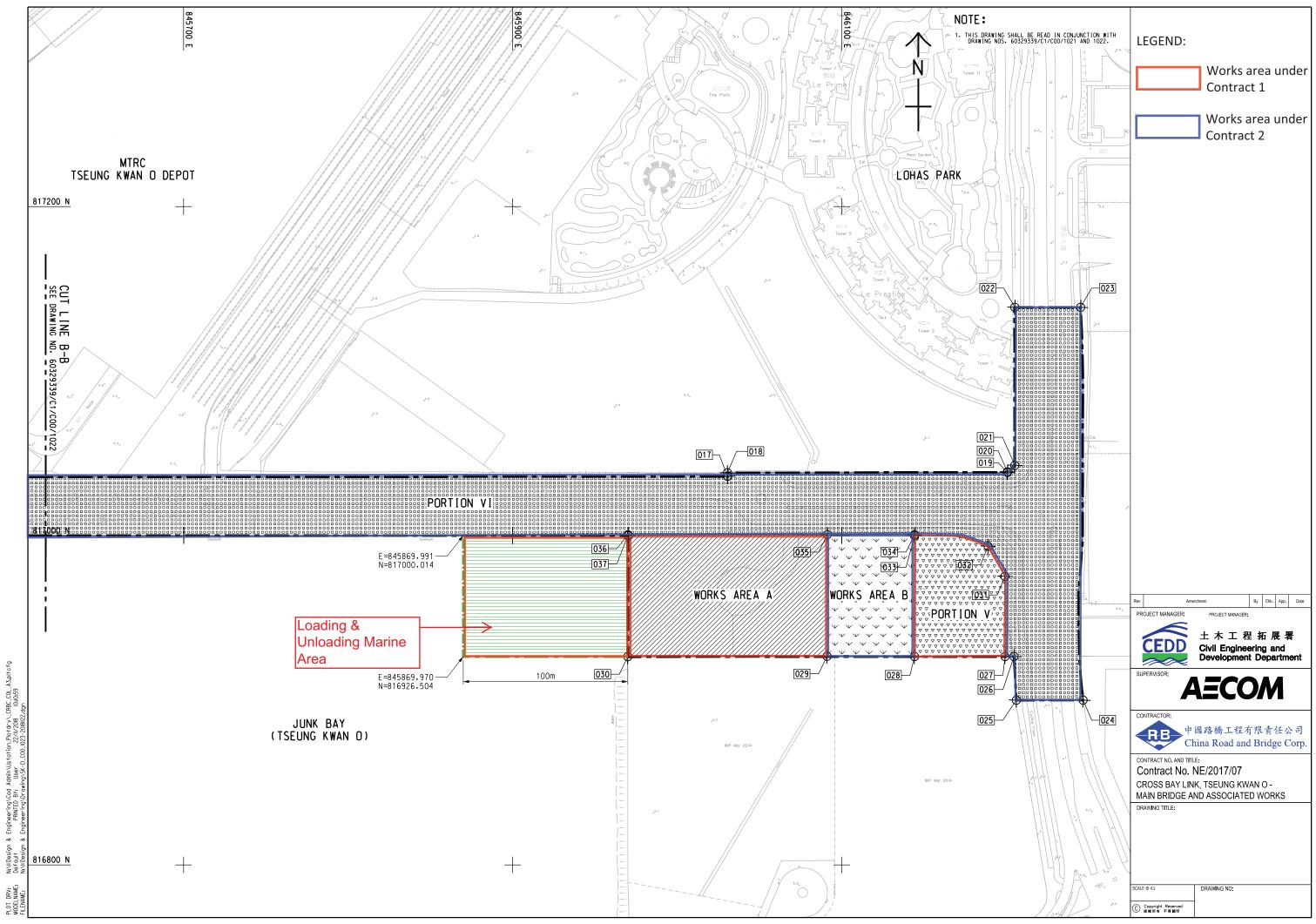


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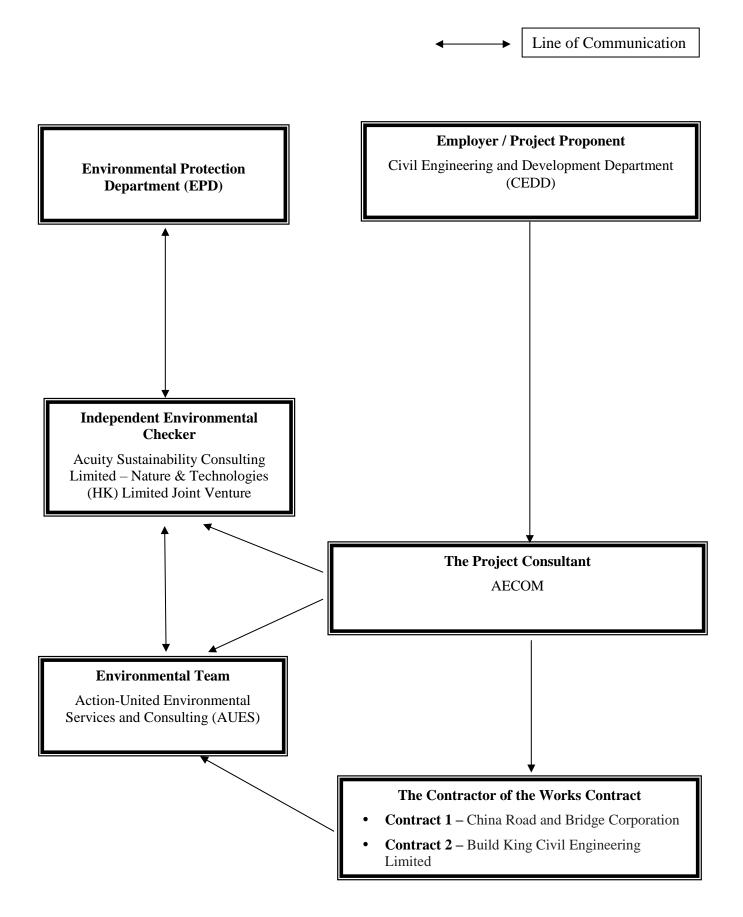


### **Appendix B**

Project Organization Chart & Contact Details of Key Personnel for the Project



#### **Project Organization Structure**





Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Project Proponent	CK Lam	2301 1398	2714 5174
CEDD	Project Proponent	Sheri Leung	2301 1398	2714 5174
AECOM	Senior Resident Engineer	Jackie Chan	3595 8045	3596 6118
AECOM	Resident Engineer	Kingman Chan	3595 8045	3596 6118
ASC – N&T JV	Independent Environmental Checker	Kevin Li	2698 6833	2698 9383
ASC – N&T JV	Senior Environmental Consultant	Tandy Tse	2698 6833	2698 9383
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Martin Li	2959 6059	2959 6079
CRBC	Site Agent	Raymond Suen	9779 8871	2283 1689
CRBC	Environmental Officer	Calvin So	9724 6254	2283 1689
CRBC	Environmental Supervisor	Lila Lui	9790 5433	2283 1689
Build King	Site Agent	Stephen Leung	9071 7657	TBA
Build King	Environmental Officer	Michael Lam	6476 4299	TBA
Build King Environmental Supervisor		Kenneth Hung	6170 9304	TBA

#### **Contact Details of Key Personnel for the Project**

#### Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Project Consultant) – AECOM Asia Co. Ltd.

ASC – N&T JV (IEC) – Acuity Sustainability Consulting Limited – Nature & Technologies (HK) Limited Joint Venture

AUES (ET) – Action-United Environmental Services & Consulting

CRBC (the Main Contractor of the Works Contract 1) – China Road and Bridge Corporation

Build King (the Main Contractor of the Works Contract 2) - Build King Civil Engineering Limited



## Appendix C

### **3-Month Rolling Construction Programme**



**Contract 1** 

Data Date :08-Jan-21 Sheet 1 of 8

ctivity ID	AchtyName	Original Duration	Remaining Duration	Start	Planned+Start	Finish	Plamed+Finish	Total Float	Activity% Complete	TRA	/ariance+-+Finish+I	27	m	January2021 10 17 24	February2021
Cross Bay Link, Tse	ung Kwan O Main Bridge and Associated Works Submission	1484	493	29-Jun-18 A	29-Jun-18	16-May-22	21-Jul-22	344			66	21	w	10 17 24	
	ates and Section of the Works	0	0	12-Jan-21	12-Jan-21	12-Jan-21	12-Jan-21	0			0				s and Section of the Works
Contractual Key I		0	0	12-Jan-21	12-Jan-21	12-Jan-21	12-Jan-21	0	08/	0	0			Contractual Key Date     Key Data 1 Complete	s ion of all Works in Portion V of
KDS1220	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0	20.7 10.1	20.1 10	12-Jan-21*	12-Jan-21	0	0%	0	0			♦ Key Date 1- Completi	
Executive Summa	ry Programme the Works- All Works within Portion I of the Site (Entrusted Works of TKOI Viaduct)	1484 157	493 157	29-Jun-18 A 13-Jan-21	29-Jun-18 13-Jan-21	16-May-22 18-Jun-21	21-Jul-22 18-Jun-21	-93 0			66			····•	
ESP10720	Pre-drilling Works	71	71	13-Jan-21	13-Jan-21	24-Mar-21	24-Mar-21	52	0%	0	0				
ESP10740	Piling Works	140	140	30-Jan-21	30-Jan-21	18-Jun-21	18-Jun-21	0	0%	0	0				
	Works-All Works within Portion II.III.IV and VI	1240	493	17-Sep-18 A	28-Feb-19	16-May-22	21-Jul-22	-93			66				
ESP10920	CBL Main Bridge and Marine Viaduct	1240	493	17-Sep-18 A	28-Feb-19	16-May-22	21-Jul-22	-93	60.24%	0	66		-		
ESP10980	Pile Cap	321	18	23-Jul-19 A	08-Aug-19	26-Jan-21	23-Jun-20	-11	94.39%	0	-217			Pil	e Cap
ESP11000	Pier	221	91	16-Mar-20 A	09-Mar-20	09-Apr-21	15-Oct-20	-16	58.82%	0	-176		-		
ESP11080	Concrete Bridge Decks	395	217	05-Jun-20 A	09-Jul-20	13-Aug-21	07-Aug-21	-7	45.06%	0	-6	_	-		
ESP11160	E&M Works for CBL Main Bridge and Marine Viaduct	493	493	09-Jan-21	09-Dec-20	16-May-22	16-May-22	-93	0%	0	0		-		
	the Works-All Works within Portion V (CBL E&M Plantroom)	345	49	22-Jan-20 A	13-Feb-20	26-Feb-21	20-Jan-21	260			-37				
ESP11280	Architectural & External Works	153	13	22-Jan-20 A	13-Feb-20	21-Jan-21	14-Jul-20	-9	91.5%	0	-191			Architectu	ural & External Works
ESP11300	E&M Works and FSD Inspection	159	49	30-Jul-20 A	15-Aug-20	26-Feb-21	20-Jan-21	260	69.18%	0	-37		-		
ESP11310	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from	0	0			22-Jan-21*	12-Jan-21	-10	0%	0	-10			♦ Key Dat	te 1- Completion of all Works in
Access Date	FSD and CLP	0	0	13-Jan-21	13-Jan-21	13-Jan-21	13-Jan-21	0			0			<ul> <li>Access Date</li> </ul>	
ESP10060	Access Date of Portion I	0	0	13-Jan-21*	13-Jan-21			0	0%	0	0			& Access Date of Portio	on E
Contractual Key	Dates and Section of the Works	0	0	12-Jan-21	12-Jan-21	12-Jan-21	12-Jan-21	0			0			♥ Contractual Key Dates	s and Section of the Works
Key Dates		0	0	12-Jan-21	12-Jan-21	12-Jan-21	12-Jan-21	0			0			▼ Key Dates	6 HW 1 1 D / W 6
ESP10220	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0			12-Jan-21*	12-Jan-21	0	0%	0	0			••••	ion of all Works in Portion V of
Anticipated Key D Key Dates	Dates and Section of the Works	0	0	22-Jan-21 22-Jan-21	12-Jan-21 12-Jan-21	22-Jan-21 22-Jan-21	12-Jan-21 12-Jan-21	-10			-10 -10			<ul> <li>✓ Anticipa</li> <li>✓ Key Dat</li> </ul>	ted Key Dates and Section of th
ESP11360	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from	0	0	22-Jali-21	12-Jall-21	22-Jan-21*	12-Jan-21	-10	0%	0	-10			•	te 1- Completion of all Works in
Preliminaries, Co	FSD and CLP ntractor's Design & Method Statement Submission & Approval	1253	275	29-Jun-18 A	29-Jun-18	10-Oct-21	02-Dec-21	31			53				
ESP10400	Temporary Works Design	695	35	13-Aug-18 A	13-Aug-18	12-Feb-21	07-Jul-20	-22	94.96%	0	-220		-		Temporary
ESP10420	Method Statement Submission for Major Construction Works	736	53	27-Aug-18 A	27-Aug-18	02-Mar-21	31-Aug-20	-17	92.8%	0	-183		-		
ESP10440	Contractor's Design Submission and Approval	869	265	06-Aug-18 A	06-Aug-18	30-Sep-21	21-Dec-20	-62	69.51%	0	-283		-		
ESP10480	General Submission	843	0	29-Jun-18 A	29-Jun-18	14-Dec-20 A	18-Oct-20	-	100%	0	-57	nission			
ESP10500	Project Manager's Acceptance of Subcontractors	556	0	14-Aug-18 A	21-Feb-19	09-Jan-21	29-Aug-20	203	100%	0	-132		1	Project Manager's Acceptar	nce of Subcontractors
ESP10560	Procurement, Factory Acceptance Test, Delivery and Temporary Storage of Major E&M Equipment	0	134	13-May-20 A	09-Jun-20	22-May-21	09-Jun-20	172	0%	0	-348		-		
ESP10570	Precasting of Precast Shell (TKOI Entrustment Works)	200	200	09-Jan-21	09-Dec-20	27-Jul-21	05-Aug-21	0	0%	0	9	-	-		
ESP10580	Precasting of Precast Segments (TKOI Entrustment Works)	359	275	16-Sep-20 A	09-Oct-20	10-Oct-21	02-Oct-21	0	23.4%	0	-8	-	_		
ESP10620	Fabrication of Precast Box Girder	713	0	10-Nov-18 A	13-May-19	06-Jan-21 A	24-Apr-21		100%	0	108		Hab	rication of Precast Box Gir	der
ESP10640	Fabrication of Steel Arch Bridge and Side Spans	623	66	30-Aug-19 A	08-Apr-19	15-Mar-21	24-Api-21 20-Dec-20	-83	89.41%	0	-85				
ESP10660			93	12-Jul-20 A	11-Oct-20				77.75%	0	235	_	_		
	Assembly of Steel Arch Bridge	418				11-Apr-21	02-Dec-21	-100							
ESP10680	Assembly of Side Spans	102	102	09-Jan-21	11-Jan-21	20-Apr-21	22-Apr-21	-85	0%	0	2		EW	NCE, CE and PMI	
EW, NCE, CE and	PMI mpensation Event NCE	274 0	0	08-Dec-20 A 28-Dec-20 A	08-Feb-19	05-Jan-21 A 28-Dec-20 A	08-Aug-19				-516	▼ Notific		OCE, CE and PMI	
NCE2681	NCE134 - Additional L5 Lighting Poles with Footings (RFI-00466)	0	0	28-Dec-20 A 28-Dec-20 A		20 DC-20 A			100%	0				ional L5 Lighting Poles wit	h Footings (RFI-00466)
Compensation Ev		0	0	08-Dec-20 A	08-Aug-19	31-Dec-20 A	08-Aug-19				-511	C	ompensatio	on Event (CE)	
CE2141	CE109- Air Tight Stainless Steel Doors at Diaphragms E2 and W2	0	0	08-Dec-20 A	08-Aug-19				100%	0	-488	nless Steel D	oors at Di	aphragms E2 and W2	
CE2161	CE110- Revised Details of Planters st E&M Plantroom	0	0	08-Dec-20 A	08-Aug-19				100%	0	-488	ils of Planter	s st E&M	Plantroom	
CE2181	CE111- Revised Details of Stainless Steel Gullies on the Steel Bridge	0	0	09-Dec-20 A					100%	0		ails of Stainl	ess Steel C	Gullies on the Steel Bridge	
CE2201	CE112- Revised Reinforcement Details for Diaphragms at W4 - W2 and E2 - EA	0	0	16-Dec-20 A					100%	0		vised Reinfo	orcement I	Details for Diaphragms at V	V4 - W2 and E2 - EA
CE2221	CE113- Revised Drawings for the Changes to the Cable Hanger Details	0	0	19-Dec-20 A					100%	0		- Revised D	rawings fo	or the Changes to the Cable	Hanger Details
CE2241	CE114- Engaging a HOKLAS Lab for Testing of Couplers to AC133 (August 2020 - April 2020)	0	0	22-Dec-20 A				_	100%	0		E114- Engag	ing a HOR	CLAS Lab for Testing of C	Couplers to AC133 (August 202
CE2261	CE115- Engaging a HOKLAS Lab for Testing of Prestressing Strands (October 2020 - April 2021)	0	0	31-Dec-20 A					100%	0		◆ CI	E115- Eng	gaging a HOKLAS Lab for	Testing of Prestressing Strands
Project Manager's		0	0	08-Dec-20 A	08-Feb-19	05-Jan-21 A	08-Feb-19				-697			ct Manager's Instruction PM	
PMI2581	PMI146 - Revised Details of Planters st E&M Plantroom (PMI No. 146)	0	0	08-Dec-20 A	08-Feb-19				100%	0	-669	tails of Plant		A Plantroom (PMI No. 146	:
PMI2601	PMI147 - Engaging a HOKLAS Lab for Testing of Couplers to AC133 (August 2020 - April 2020)	0	0	22-Dec-20 A					100%	0		41147 - Enga	aging a HO	OKLAS Lab for Testing of	Couplers to AC133 (August 20
PMI2621	PMI148 - Revised Pavement Thickness along Footpath of Concrete Bridge (PMI No. 148)	0	0	28-Dec-20 A					100%	0		◆ PMI14	8 - Revise	ed Pavement Thickness alor	ng Footpath of Concrete Bridge
PMI2641	PMI149 -Engaging a HOKLAS Lab for Testing of Prestressing Strands (October 2020 - April 2021)	0	0	31-Dec-20 A					100%	0		◆ PN	vII149 -En	gaging a HOKLAS Lab fo	or Testing of Prestressing Strand
PMI2661	PMI150 -Request for Quotation - Feasibility Study of Fireworks Arrangement at Steel Bridge	0	0	30-Dec-20 A					100%	0					lity Study of Fireworks Arranger
		· ·		50 Dec 20 A					100/0	Ŭ					
Remainir	ng Level of Effort Remaining Work $\blacklozenge$ Milestone					ſ	RBC						<u> </u>	Date	Revis
Primary E					TL								08-Jar	n-21 Month	ly updated on 08 Janua
Actual W					Inr	ee Month I	coming Pr	ogra	inme						

21	28 07	arch 2021 14 21	28	04	April 2021	18 25
of the Site ne	cessary to comply w	ith the requirem	ents fro	m FSD and (	CLP	
		I	Pre-drilli	ng Works		
	-					
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	* * *					
- E	SP Section 5 of the	Works-All Work	cs within	h Portion V (	CBL E&M Pla	ntroom)
E	&M Works and FSI	O Inspection				
	of the Site necessar		h the req	uirements fr	om FSD and C	LP
		-				
of the Site ne	cessary to comply w	ith the requirem	ents fro	m FSD and (	CLP	
of the Works						
ts in Portion V	of the Site necessar	y to comply with	h the rec	uirements fr	om FSD and C	LP
orary Works De	Method Statem	ent Submission	for Mai	or Constructi	on Works	
	Method Statem	ent Submission	IOI IVIAJO	or Constructi	on works	
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		Exprication of	f Steel A	rch Bridge a	nd Side Spans	
		Tableation o	I Sleel A	lien bridge a		of Steel Arch B
						Assembly of
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t 2020 - April						
dge (PMI No. ands (October	148) 2020 - April 2021)					
ngement at Ste						
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evision nuary 202	21		Chec	жed	Appr	bved
		1				

Sheet 2of 8 17 24 31 07 1 03 10 17 24 31 07 14
 PMII51 - Clarification of Connection Point for FS Direct Tele PMI2681 PMI151 - Clarification of Connection Point for FS Direct Telephone Line under Cross Bay Link 0 04-Jan-21 A 100% 0 0 PMI2701 PMI152 - Request for Quotation - Additional Access Faciliti PMI152 - Request for Ouotation - Additional Access Facilities on the Cross Beams of Pier E1 and W1 0 0 05-Jan-21 A 100% 0 ▼ Access Date 13-Jan-2 13-Jan-21 13-Jan-21 Access Date Access To Portion I Access To Portion I PAD1010 13-Jan-21\* 13-Jan-21 0% 0 0 0 0 Planned Key Dates and Section of the Planned Key Dates and Section of the Works 22-Ian-2 12-Jan-2 22-Jan-2 12-Jan-2 ▼ Planned Kev Dates **Planned Key Dates** 22-Jan-21 12-Jan-21 22-Jan-21 12-Jan-21 0 -10 -10 • Key Date 1- Completion of all Work Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from 22-Jan-21\* KDS1040 0 12-Jan-21 -10 0% 0 -10 0 0 FSD and CLP -May-20 09-Jun-2 22-May-2 22-Apr-2 Manufacture E&M Equipments Procurement and 283 13-May-20 A 09-Jun-20 22-May-21 22-Apr-21 142 **Procurement and Manufacture** 107 -24 Procurement and Manufacture of LV S Procurement and Manufacture of LV Switch Board 127 P-PC10120 10 13-May-20 A 09-Jun-20 20-Jan-21 09-Nov-20 68 92.13% 0 -59 102 -170 P-PC10160 Procurement and Manufacture of Generator 96 01-Jul-20 A 09-Jun-20 08-May-21 09-Oct-20 128 5.88% 0 P-PC10180 Procurement and Manufacture of UPS 76 76 18-Feb-21 18-Jan-21 22-May-21 22-Apr-21 142 0% 0 -24 12-Jun-19 A 08-Jul-19 24-May-21 26-May-2 Preliminaries, Contractor's Design & Method Statement Submission & Approval 689 136 67 **Temporary Works Design** 141 13-Jan-20 A 10-Feb-20 12-Feb-21 22-Jul-20 -176 30 -19 Temp TDS2140 Design of temporary works for superstructure of steel bridge (incl. 35 days TRA) 141 30 13-Jan-20 A 10-Feb-20 12-Feb-21 22-Jul-20 -19 78.72% 35 -176 Desig Submission for Major Construction Works 124 15-Jul-19 A 24-Sep-20 02-Mar-21 15-Feb-2 -14 -13 Method Stat Method statement submission for delivery of steel bridge deck of side span (incl. 35 days TRA) MDS1220 81 35 15-Jul-19 A 13-Nov-20 18-Feb-21 15-Feb-21 -4 56.79% 35 -3 MDS1225 Method statement submission for delivery of steel arch bridge (incl. 21 days TRA) 82 30 15-Aug-19 A 24-Sep-20 12-Feb-21 28-Dec-20 -36 63.41% 21 -40 Metho MDS1230 67 15-Jul-19 A 55.22% -12 Method statement submission for installation of the steel bridge deck of side span (incl. 21 days TRA) 30 13-Nov-20 12-Feb-21 29-Jan-21 1 21 Meth MDS1270 Method statement submission for installation of steel arch bridge (incl. 21 days TRA) 82 45 15-Jul-19 A 29-Sep-20 02-Mar-21 01-Jan-21 -41 45.12% 21 -51 689 50 12-Jun-19 A 08-Jul-19 24-May-2 Contractor's Design Submission and Approval 136 26-May-21 Design of Isolation panel and its structural frame (incl. 7 days TRA) 97 27-Mar-20 17-Jul-20 -53 80.41% . Design of Isolation pane CDS1120 19 19-Nov-19 A 30-Jan-21 7 -169 97 CDS1140 Design of Functional lighting system, road lighting system, etc (incl. 7 days TRA) 97 01-Feb-21 31-Dec-20 24-May-21 22-Apr-21 -53 0% 7 -27 Design of UPS (E&M Plant Room) -251 CDS1160 284 40 09-Oct-19 A 02-Sep-19 17-Feb-21 11-Jun-20 146 85 92% 0 CDS1200 Design of Structural health monitoring system (incl. 14 days TRA) 172 35 12-Jun-19 A 08-Jul-19 18-Feb-21 119 79.65% 14 -336 23-Jan-20 CDS1220 Design of SCADA system(SCADAS) (incl. 14 days TRA) 171 116 31-Mar-20 A 09-Nov-20 24-May-21 26-May-21 -53 32.16% 14 2 30 09-Dec-20 A 08-Dec-20 08-Jan-21 07-Jan-21 203 -1 Preliminaries, Submission, Subcontracting and Procure Preliminaries, Submission, Subcontracting and Procurement 09-Dec-20 14-Dec-20 A 07-Jan-21 24 General Submis 09-Dec-20 A Prepare & submit the Construction Noise Mitigation Plan for Entrustment Work P-GS1210 09-Dec-20 A 09-Dec-20 14-Dec-20 A 07-Jan-21 100% 24 repare & submit the Construction Noise Mitigation Plan 30 0 7 Project Manager's Acceptance of Subcontractors Project Ma Acceptance of Subcontractors 08-Jan-21 08-Dec-20 08-Jan-21 08-Dec-20 P-SP1540 0% Waterproofing Works Waterproofing Works 08-Jan-21 08-Dec-20 203 0 -31 0 0 Supply and installation of steel parapet and sign gantry -76 0% 0 -31 P-SP1580 Supply and installation of steel parapet and sign gantry 0 08-Jan-21 08-Dec-20 09-May-20 10-Oct-2 10-Oct-2 Precasting & Fabrication Works 521 24-Apr-20 A 368 275 16-Sep-20 A 09-Oct-20 10-Oct-21 10-Oct-2 0 Fabrication of Precast Shell and Precast Segments 240 200 09-Dec-20 A 09-Dec-20 27-Jul-21 Precast Shell P-PS3145 Fabrication of Precast shell for pile cap of TKO entrustment work (total 17nos) 16.67% 21 240 200 09-Dec-20 A 09-Dec-20 27-Jul-21 05-Aug-21 0 9 (TKOI Entrustment Works) Setting up precast yard for precast segment (incl. 21 days TR P-PF1140 Setting up precast yard for precast segment (incl. 21 days TRA) 14-Dec-20 67 16-Sep-20 A 09-Oct-20 04-Jan-21 A 100% -21 P-PF1160 Fabrication of Precast segments for TKOI Viaduct (total 255nos) (incl. 21 days TRA) 276 7.97% -4 254 05-Jan-21 A 14-Dec-20 19-Sep-21 15-Sep-21 0 21 P-PF1180 Pre-Stressing of Precast segments for TKOI Viaduct 259 259 25-Jan-21 25-Jan-21 10-Oct-21 10-Oct-21 0 0% 0 0 68 cation of Precast Box Girder 13-Oct-20 A 09-Oct-20 15-Dec-20 -22 **Fabrication of Precast Box Girder** 06-Jan-21 A ox Girder Fabrication - 2nd Batch (6 Pieces) Box Girder Fabrication - 2nd Batch (6 Pieces) 13-Oct-20 A 09-Oct-20 06-Jan-21 A 15-Dec-20 -22 abrication of Precast box girder, Including Cast-in Items Fabrication of Precast box girder, Including Cast-in Items -Span W2-W3(North) P-BG1407 68 0 13-Oct-20 A 09-Oct-20 06-Jan-21 A 15-Dec-20 100% 0 -22 228 24-Apr-20 A 09-May-20 14-Feb-21 22-Dec-20 Fabrication of Precast Pier P-PF1470 Fabrication of Precast pier W5 90 37 24-Apr-20 A 09-May-20 14-Feb-21 06-Aug-20 -17 58.89% 0 -192 prication of Precast pier W2 75 P-PF1480 Fabrication of Precast pier W2 0 11-Sep-20 A 09-Oct-20 23-Dec-20 A 22-Dec-20 100% 0 -1 75 P-PF1490 Fabrication of Precast pier E2 0 11-Aug-20 A 09-Sep-20 10-Dec-20 A 22-Nov-20 100% 0 -18 t pier E2 301 27-Jul-2 29-May-21 23-May-2 Fabrication of Steel Arch Bridge and Side Spans 141 01-Jul-20 A 301 141 27-Jul-20 23-May-21 -68 -6 Main Bridge Spans and Arch Rib Fabrication 29-May-21 teel Bridge Sub-Installation UnderDeck Maintenance Walkway 284 137 27-Jul-20 A 09-Aug-20 25-May-21 19-May-21 -68 51.76% -6 P-SAB2221 P-SAB2241 Walkway Installation 288 141 27-Jul-20 A 27-Jul-20 29-May-21 10-May-21 -68 51.04% -19 215 -30 P-SAB2261 79 -68 TMD Installation 08-Aug-20 A 27-Jul-20 29-Mar-21 26-Feb-21 63.12% P-SAB2281 301 141 27-Jul-20 A 27-Jul-20 23-May-21 -68 53.16% -6 Dehumidification Installation for Steel Bridge 29-May-21 144 27\_Feb\_21 ntal Dec hly Worl Deck Segment Joint Assembl P-SAB2181 Deck Segment Joint Assembly for C18+C19 114 27-Aug-20 A 12-Sep-20 26-Jan-21 A 03-Jan-21 100% -23 0

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works

Data Date :08-Jan-21

Remaining Level of Effort	Remaining Work	♦ ♦ Milestone	CRBC	Date	Re
Primary Baseline	Critical Remaining Work	Summary		08-Jan-21	Monthly updated on 08 Jar
Actual Work		V V Odminiary	Three Month Rolling Programme		
				1	

March 2021			A rel 2021
21 28 07 14	21 26	3 04	April 2021 11 18 25
phone Line under Cross Bay Link			
es on the Cross Beams of Pier E1 and W1			
ne Works			
is in Portion V of the Site necessary to comp	bly with the rec	juirements fr	om FSD and CLP
witch Board			
which bound			
rary Works Design			
of temporary works for superstructure of st	teel bridge (inc	l. 35 days TI	RA)
Mathad Statement Sylum	issian fan Mai	Constanti	an Wanta
Method Statement Subm	-		:
Method statement submission for delivery	ot steel bridge	deck of side	e span (incl. 35 days TRA)
d statement submission for delivery of steel	arch bridge (ir	cl. 21 days T	TRA)
d statement submission for installation of the			
Method statement submis	ssion for instal	lation of stee	l arch bridge (incl. 21 days TR
and its structural forms (incl. 7. Jan TD A)			
and its structural frame (incl. 7 days TRA)			
Docion of LIDS (E&M Plant Poom)			
Design of UPS (E&M Plant Room)			
Design of Structural health monitoring sys	stem (incl. 14 o	lays TRA)	
		:	
nent			
for Entrustment Work			
A)			
-Span W2-W3(North)			
rication of Precast Pier			
rication of Preçast pier W5			
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	·	MD Install	on.
	T	MD Installati	011
Commonited Death Assessed 1. 1	hele		
Segmental Deck Assembly W for C18+C19	WIK		
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evision	Cheo	ked	Approved
evision nuary 2021	Cheo	ked	Approved
	Cheo	ked	Approved

Data Date :08-Jan-21 Sheet 3of 8

P-SAB2201 D	week Segment Joint Assembly for C18/19 +C20	Duration 16		18-Jan-21 A	Planned+Start 18-Dec-20	27-Feb-21 A	02-Jan-21		Activity% Complete	-56	2	27 03	January2021 February2 10 17 24 31 07
Primary Deck Segmer	· ·	10	24		01-Dec-20	01-Feb-21 A	02-Jan-21 18-Mar-21	-100	100%	-50			Primary Deck Seg
	egment Section C10 ~C13 Jointing wih Section C14/C15	108	0	27-Aug-20 A 27-Aug-20 A	01-Dec-20 01-Dec-20	01-Feb-21 12-Jan-21 A	18-Mar-21 18-Mar-21	-100	100%	65			· Finnary Deck Seg
P-SAB2341 S	egment Section C10 ~C15 Jointing wih Section C16/C17	12	0	05-Dec-20 A	10-Dec-20	12-Dec-20 A	21-Dec-20		100%	9	ment S	ection C10	~C15 Jointing wih Section C16/C17
P-SAB2361 S	egment Section C10 ~ C17 Jointing wih Section C08/C09	12	4	05-Jan-21 A	22-Dec-20	12-Jan-21	02-Jan-21	-100	66.67%	-10		<u> </u>	Segment Section C10 ~ C17 Jointing wih Sec
P-SAB2381 S	egment Section C08 ~ C17 Jointing wih Section C18 ~C20	12	1	28-Dec-20 A	03-Jan-21	13-Jan-21	14-Jan-21	-99	91.67%	1		<u> </u>	Segment Section C08 ~ C17 Jointing wih
P-SAB2401 S	egment Section C08 ~ C20 Jointing wih Section C07	8	8	14-Jan-21	15-Jan-21	21-Jan-21	22-Jan-21	-99	0%	1			Segment Section C08 ~ C20 Jo
P-SAB2421 S	egment Section Arch Rib NG 19 & SG19 with Section C 21	20	20	13-Jan-21	13-Jan-21	01-Feb-21	01-Feb-21	-100	0%	0			Segment Section
	egment Section C07 ~ C20 Jointing with Section C21	10	10	22-Jan-21	23-Jan-21	31-Jan-21	01-Feb-21	-99	0%	1	_		Segment Section
Arch Rib Full Assembl	· · ·	69	69	28-Dec-20 A	09-Dec-20	18-Mar-21	31-Mar-21	-86		13			
	rection and set up of Sub Assembly Frame for Steel Arch Rib	40	18	28-Dec-20 A	09-Dec-20	26-Jan-21	17-Jan-21	-94	55%	-9	╶┝╼═		Erection and set up of Su
	embly and Jointing Work To Steel Deck pinting of North Arch Rib NG01 to Steel Deck	45 24	45 24	02-Feb-21 02-Feb-21	02-Feb-21 02-Feb-21	18-Mar-21 25-Feb-21	31-Mar-21 25-Feb-21	-86 -100	0%	13	_		
	ointing of North Arch Rib NG14 ~ NG18 to Steel Deck	30	30	10-Feb-21	02-Feb-21	11-Mar-21	10-Mar-21	-100	0%	-1			
	ointing of North Arch Rib NG02 ~ NG06 to Steel Deck and North Arch Rib		20		16-Feb-21	08-Mar-21				-1			
		20		17-Feb-21			07-Mar-21	-100	0%				
	ointing of North Arch Rib NG07 ~ NG13 to Steel Deck and North Arch Rib	20	20	27-Feb-21	12-Mar-21	18-Mar-21	31-Mar-21	-86	0%	13			
	ouch Up Work for Arch Rib and Removal of Temporary Support	5	5	06-Mar-21	19-Mar-21	10-Mar-21	23-Mar-21	-86	0%	13	_		
	eembly and Jointing Work To Steel Deck pinting of South Arch Rib SG01 to Steel Deck	46 24	46 24	01-Feb-21 01-Feb-21	02-Feb-21 02-Feb-21	18-Mar-21 24-Feb-21	31-Mar-21 25-Feb-21	-86 -98	0%	13	-		
P-SAB2621 Jo	binting of South Arch Rib SG14 ~ SG18 to Steel Deck	30	30	08-Feb-21	09-Feb-21	09-Mar-21	10-Mar-21	-98	0%	1	_		
P-SAB2641 Jo	pinting of South Arch Rib SG02 ~ SG06 to Steel Deck and South Arch Rib	20	20	15-Feb-21	16-Feb-21	06-Mar-21	07-Mar-21	-98	0%	1			
P-SAB2661 Jo	binting of South Arch Rib SG07 ~ SG13 to Steel Deck and South Arch Rib	20	20	27-Feb-21	12-Mar-21	18-Mar-21	31-Mar-21	-86	0%	13			
P-SAB2681 T	ouch Up Work for Arch Rib and Removal of Temporary Support	5	5	06-Mar-21	19-Mar-21	10-Mar-21	23-Mar-21	-86	0%	13			
	on Work for Main Span	50	50	17-Feb-21	16-Feb-21	07-Apr-21	06-Apr-21	-100		-1			
P-SAB2701 A	nemometer Installation	7	7	18-Mar-21	31-Mar-21	24-Mar-21	06-Apr-21	-86	0%	13			
P-SAB2721 Fr	rame Support Installation for Roll Out and Delivery	10	10	11-Mar-21	24-Mar-21	20-Mar-21	02-Apr-21	-82	0%	13			
P-SAB2741 C	ably Stay Installation and Pre-Stressing	14	14	11-Mar-21	24-Mar-21	24-Mar-21	06-Apr-21	-86	0%	13			
P-SAB2761 T	rack Installation for the Inspection Gantry Maintenance Work	50	50	17-Feb-21	16-Feb-21	07-Apr-21	06-Apr-21	-100	0%	-1			
P-SAB2781 S	teel Bridge Walkway Installation	50	50	17-Feb-21	16-Feb-21	07-Apr-21	06-Apr-21	-100	0%	-1			
P-SAB2801 In	stallation of Dehumidification System for Main Span	50	50	17-Feb-21	16-Feb-21	07-Apr-21	06-Apr-21	-100	0%	-1			
Bridge Arch Rib Sand Blasting and Pai	nting for Main Steel Bridge Arch Rib	247 231	49 22	01-Jul-20 A 18-Jul-20 A	09-Aug-20 25-Aug-20	26-Feb-21 30-Jan-21	12-Apr-21 12-Apr-21	-86 -93		45 72			Sand Blasting and
	mal Painting For South Arch Rib and Blasting and Internal Painting For Section NG02 to NG06	153 153	22 0	18-Jul-20 A 18-Jul-20 A	11-Nov-20 11-Nov-20	30-Jan-21 04-Jan-21 A	12-Apr-21 12-Apr-21	-94	100%	72 98		<u> </u>	Sand Blasting and
	and Blasting and Internal Painting For Section NG07 to NG13	24	22	06-Jan-21 A	16-Dec-20	30-Jan-21	08-Jan-21	-94	8.33%	-22			Sand Blasting and
	and Blasting and Painting For Section NG19	10	8	05-Jan-21 A	03-Jan-21	16-Jan-21	12-Jan-21	-94	20%	-4			Sand Blasting and Painting For Section
	and Blasting and Painting For Section NG01	15	13	05-Jan-21 A	18-Jan-21	26-Jan-21	01-Feb-21	-94	13.33%	6			Sand Blasting a
	mai Painting For North Arch Rib					30-Jan-21	01-Feb-21	-93	15.5570	•			Sand Blasting and
	and Blasting and Internal Painting For Section SG02 to SG06			18-Jul-20 A				15	4				Sand Blasting and Internal
P-SAB1761 S	and Blasting and Internal Painting For Section SG02 to SG06	171 153	22 0	18-Jul-20 A 18-Jul-20 A	25-Aug-20 25-Aug-20	04-Jan-21 A	24-Jan-21		100%	20			Sand Diasting and memai
	and Blasting and Internal Painting For Section SG02 to SG06 and Blasting and Internal Painting For Section SG07 to SG13							-93	100% 8.33%	20	_		
P-SAB1781 S	· · ·	153	0	18-Jul-20 A	25-Aug-20	04-Jan-21 A	24-Jan-21	-93 -94					Sand Blasting and
P-SAB1781 Si P-SAB1782 Si	and Blasting and Internal Painting For Section SG07 to SG13	153 24	0	18-Jul-20 A 06-Jan-21 A	25-Aug-20 21-Dec-20	04-Jan-21 A 30-Jan-21	24-Jan-21 13-Jan-21		8.33%	-17			Sand Blasting and Painting For Section
P-SAB1781 S P-SAB1782 S P-SAB1783 S Segmental Arch Rib Jo	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG19 and Blasting and Painting For Section SG01	153 24 10 15 227	0 22 8 13 37	18-Jul-20 A 06-Jan-21 A 05-Jan-21 A 05-Jan-21 A 09-Aug-20 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21	-94 -93 -86	8.33% 20%	-17 -4 6 13			Sand Blasting and Painting For Section Sand Blasting and Painting For Section Sand Blasting a
P-SAB1781 S P-SAB1782 S P-SAB1783 S Segmental Arch Rib Jo South Arch Rib Segment	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG19 and Blasting and Painting For Section SG01 Dirting ntal Jointing	153 24 10 15 227 227	0 22 8 13	18-Jul-20 A 06-Jan-21 A 05-Jan-21 A 05-Jan-21 A 09-Aug-20 A 09-Aug-20 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 27-Feb-21	-94 -93	8.33% 20% 13.33%	-17 -4 6		G14 to SG1	Sand Blasting and Painting For Section
P-SAB1781 S P-SAB1782 S P-SAB1783 S Segmental Arch Rib Jd South Arch Rib Segment P-SAB1881 S	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG19 and Blasting and Painting For Section SG01 obting tail Jointing G14 to SG18 Segmental Jointing	153 24 10 15 227 227 134	0 22 8 13 37 37 0	18-Jul-20 A 06-Jan-21 A 05-Jan-21 A 05-Jan-21 A 09-Aug-20 A 09-Aug-20 A 09-Aug-20 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 27-Feb-21 20-Dec-20	-94 -93 -86 -86	8.33% 20% 13.33%	-17 -4 6 13 13		G14 to SG1	Sand Blasting and Painting For Sector Sand Blasting and Painting For Sector Sand Blasting a Sand Blasting a
P-SAB1781 Si P-SAB1782 Si P-SAB1783 Si Segmental Arch Rib Segme P-SAB1881 Si P-SAB1901 Si	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG19 and Blasting and Painting For Section SG01 pinting Ital Jointing Gl4 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing	153 24 10 15 227 227 134 47	0 22 8 13 37 37 0 17	18-Jul-20 A 06-Jan-21 A 05-Jan-21 A 05-Jan-21 A 09-Aug-20 A 09-Aug-20 A 09-Aug-20 A 14-Dec-20 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 20-Dec-20 31-Jan-21	-94 -93 -86 -86 -93	8.33% 20% 13.33% 100% 63.83%	-17 -4 6 13 -8 -8 6		;G14 to SG1	Sand Blasting and Painting For Sector Sand Blasting and Painting For Sector Sand Blasting a Sand Blasting a
P-SAB1781 S P-SAB1782 S P-SAB1783 S Segmental Arch Rib Jd South Arch Rib Segmental P-SAB1881 S P-SAB1901 S P-SAB1921 S	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG09 and Blasting and Painting For Section SG01 <b>Difting</b> G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing	153           24           10           15           227           134           47           45	0 22 8 13 37 37 0 17 15	18-Jul-20 A 06-Jan-21 A 05-Jan-21 A 05-Jan-21 A 09-Aug-20 A 09-Aug-20 A 09-Aug-20 A 14-Dec-20 A 05-Jan-21 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20 14-Jan-21	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 20-Dec-20 31-Jan-21 27-Feb-21	-94 -93 -86 -86 -93 -86	8.33% 20% 13.33%	-17 -4 6 13 -8 6 13	S	;G14 to SG1	Sand Blasting and Painting For Sector Sand Blasting and Painting For Sector Sand Blasting a Sand Blasting a
P-SAB1781 S P-SAB1782 S P-SAB1783 S Segmental Arch Rib Segme P-SAB1881 S P-SAB1901 S P-SAB1921 S North Arch Rib Segmer	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG09 and Blasting and Painting For Section SG01 <b>Difting</b> G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing	153 24 10 15 227 227 134 47	0 22 8 13 37 37 0 17	18-Jul-20 A 06-Jan-21 A 05-Jan-21 A 05-Jan-21 A 09-Aug-20 A 09-Aug-20 A 09-Aug-20 A 14-Dec-20 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 20-Dec-20 31-Jan-21	-94 -93 -86 -86 -93	8.33% 20% 13.33% 100% 63.83%	-17 -4 6 13 -8 -8 6			Sand Blasting and Sand Blasting and Sand Blasting and Sand Blasting and Painting For Section
P-SAB1781 S P-SAB1782 S P-SAB1783 S Segmental Arch Rib Jd South Arch Rib Segment P-SAB1881 S P-SAB1901 S P-SAB1921 S North Arch Rib Segment P-SAB1821 N	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG09 and Blasting and Painting For Section SG01 <b>Dirting</b> G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing ttal Jointing	153 24 10 15 227 227 134 47 45 227	0 22 8 13 37 0 17 15 37	18-Jul-20 A 06-Jan-21 A 05-Jan-21 A 05-Jan-21 A 09-Aug-20 A 09-Aug-20 A 14-Dec-20 A 05-Jan-21 A 09-Aug-20 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20 14-Jan-21 09-Aug-20	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21 14-Feb-21 14-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 20-Dec-20 31-Jan-21 27-Feb-21 27-Feb-21 27-Feb-21	-94 -93 -86 -86 -93 -86	8.33% 20% 13.33% 100% 63.83% 66.67%	-17 -4 6 13 -8 6 13 13 13			Sand Blasting and Sand Blasting and Painting For Sector Sand Blasting Sand Blasting Sand Blasting Sand Blasting Sand Blasting Sand Blasting Sand Blasting
P-SAB1781         Si           P-SAB1782         Si           P-SAB1783         Si           Segmental Arch Rib Jegmental Arch Rib Segmental Arch Rib Segmental Arch Rib Segmental Si         Si           P-SAB1881         Si           P-SAB1901         Si           P-SAB1921         Si           North Arch Rib Segmental Arch Rib Segm	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG09 and Blasting and Painting For Section SG01 <b>Difting</b> G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing tal Jointing IG14 to NG18 Segmental Jointing	153       24       10       15       227       134       47       45       227       134	0 22 8 13 37 0 17 15 37 0	18-Jul-20 A           06-Jan-21 A           05-Jan-21 A           05-Jan-21 A           09-Aug-20 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20 14-Jan-21 09-Aug-20 09-Aug-20	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 20-Dec-20 31-Jan-21 27-Feb-21 27-Feb-21 27-Feb-21 20-Dec-20	-94 -93 -86 -86 -93 -86 -86	8.33% 20% 13.33% 100% 63.83% 66.67% 100%	-17 -4 6 13 -8 6 13 13 -8 6 13 -8			Sand Blasting and Sand Blasting and Painting For Section Sand Blasting Sand Sand Sand Sand Sand Sand Sand Sand
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P-SAB1781 S P-SAB1782 S P-SAB1782 S South Arch Rib Segmental Arch Rib J South Arch Rib Segment P-SAB1881 S P-SAB1901 S P-SAB1901 S North Arch Rib Segment P-SAB1821 N P-SAB1821 N P-SAB1841 N P-SAB1841 N	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG01 and Blasting and Painting For Section SG01 <b>Drifting</b> <b>Intal Jointing</b> G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing G14 to NG18 Segmental Jointing G02 to NG06 Segmental Jointing G07 to NG18 Segmental Jointing G07 to NG18 Segmental Jointing G07 to NG18 Segmental Jointing G07 to NG18 Segmental Jointing	153       24       10       15       227       227       134       47       45       227       134       47       45       227       134       47       45       227       134       47       45       227       134       47       45	0 22 8 13 37 0 17 15 37 0 14 15	18-Jul-20 A           06-Jan-21 A           05-Jan-21 A           05-Jan-21 A           09-Aug-20 A           14-Dec-20 A           09-Aug-20 A           14-Dec-20 A           09-Aug-20 A           14-Dec-20 A           05-Jan-21 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 16-Dec-20 14-Jan-21 09-Aug-20 09-Aug-20 11-Dec-20 11-Dec-20 14-Jan-21	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21 28-Dec-20 A 22-Jan-21 14-Feb-21 14-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 20-Dec-20 26-Jan-21 27-Feb-21	-94 -93 -86 -86 -93 -86 -86 -86 -86 -90 -86	8.33% 20% 13.33% 100% 63.83% 66.67% 100% 70.21%	-17 -4 6 13 -8 6 13 -8 6 13 -8 4 13 -8 4			Sand Blasting and Sand Blasting and Painting For Section Sand Blasting Sand Sand Sand Sand Sand Sand Sand Sand Sand Sand Sand Sand Sand Sand Sand Sand Sand Sand
P-SAB1781 Si P-SAB1782 Si P-SAB1783 Si Segmental Arch Rib Ju South Arch Rib Segment P-SAB1881 Si P-SAB1821 Si North Arch Rib Segment P-SAB1821 N P-SAB1821 N P-SAB1821 N P-SAB1841 N P-SAB1861 N Arch Rib External Paint External Painting For Si	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG01 and Blasting and Painting For Section SG01 ointing futal Jointing G02 to SG06 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing G07 to NG13 Segmental Jointing G02 to NG06 Segmental Jointing G07 to NG13 Segmental Jointing G07 to NG13 Segmental Jointing	153         24         10         15         227         227         134         47         45         227         134         47         45         227         134         47         45         227         134         47         45         29         49         49	0 22 8 13 37 0 17 15 37 0 14 15 49 49	18-Jul-20 A           06-Jan-21 A           05-Jan-21 A           05-Jan-21 A           09-Aug-20 A           09-Aug-	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20 14-Jan-21 09-Aug-20 09-Aug-20 11-Dec-20 14-Jan-21 21-Dec-20 26-Dec-20	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21 28-Dec-20 A 22-Jan-21 14-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 11-Mar-21 11-Mar-21	-94 -93 -86 -86 -93 -86 -86 -86 -90 -86 -86 -86	8.33% 20% 13.33% 100% 63.83% 66.67% 100% 70.21% 66.67%	-17 -4 6 13 13 -8 6 13 13 -8 4 4 13 13 13 13			Sand Blasting and Sand Blasting and Painting For Section Sand Blasting Sand
P-SAB1781 S P-SAB1782 S P-SAB1782 S South Arch Rib Segmental S P-SAB1901 S P-SAB1901 S North Arch Rib Segment P-SAB1821 N P-SAB1821 N P-SAB1841 N P-SAB1861 N Arch Rib External Paint External Painting For S P-SAB2021 E P-SAB2021 E	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG09 and Blasting and Painting For Section SG01 obiting full Jointing G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing G14 to NG18 Segmental Jointing G14 to NG18 Segmental Jointing G07 to NG13 Segmental Jointing G07 to NG13 Segmental Jointing Ktmg G07 to NG13 Segmental Jointing G07 to NG13 Segmental Jointing G07 to NG13 Segmental Jointing G14 to NG13 Segmental Jointing G15 to NG13 Segmental Jointing G16 To NG13 Segmental Jointing G17 to NG13 Segmental Jointing G18 to NG13 Segmental Jointing G18 to NG13 Segmental Jointing G19 to NG13 Segmental Jointing G10 to NG13 S	153         24         10         15         227         237         134         47         45         227         134         47         15         134         47         135         134         47         135         136         137         138         139         139         130         131         132         134         135         135         136	0 22 8 13 37 0 17 15 37 0 14 15 49 49 14 15	18-Jul-20 A           06-Jan-21 A           05-Jan-21 A           05-Jan-21 A           09-Aug-20 A           09-Aug-21 A           05-Jan-21 A           05-Jan-21 A           26-Jan-21	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20 14-Jan-21 09-Aug-20 09-Aug-20 11-Dec-20 14-Jan-21 21-Dec-20 26-Dec-20 26-Dec-20 01-Feb-21	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21 28-Dec-20 A 22-Jan-21 14-Feb-21 26-Feb-21 26-Feb-21 22-Jan-21 09-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 11-Mar-21 09-Jan-21 15-Feb-21	-94 -93 -86 -86 -93 -93 -86 -86 -86 -90 -93	8.33% 20% 13.33% 100% 63.83% 66.67% 100% 70.21% 66.67% 6.67% 0%	-17 4 6 13 13 -8 6 13 13 -8 4 13 -8 4 13 -13 -13			Sand Blasting and Sand Blasting and Painting For Section Sand Blasting Segmental Jointing SG02 to SG06 Sand Blasting SG02 to SG06 Sand Blasting SG02 to SG06 Segmental Jointing
P-SAB1781 S P-SAB1782 S P-SAB1782 S Segmental Arch Rib Segme P-SAB1783 S P-SAB1881 S P-SAB1881 S P-SAB1901 S P-SAB1901 S North Arch Rib Segmer P-SAB1821 N P-SAB1821 N P-SAB1841 N P-SAB1861 N Arch Rib External Paint External Painting For S P-SAB2021 E P-SAB2021 E	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG01 and Blasting and Painting For Section SG01 oliting trat Jointing G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing G07 to NG18 Segmental Jointing G02 to NG06 Segmental Jointing G07 to NG13 Segmental Jointing G08 Segmental Jointing G09 Segmental Jointin	153         24         10         15         227         237         134         47         45         227         134         47         45         227         134         47         45         227         134         47         15         15	0 22 8 13 37 0 17 15 37 0 14 15 49 49 14	18-Jul-20 A           06-Jan-21 A           05-Jan-21 A           05-Jan-21 A           09-Aug-20 A           05-Jan-21 A           05-Jan-21 A           26-Jan-21           15-Feb-21	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20 14-Jan-21 09-Aug-20 09-Aug-20 11-Dec-20 11-Dec-20 14-Jan-21 21-Dec-20 26-Dec-20 26-Dec-20 01-Feb-21 28-Feb-21	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21 28-Dec-20 A 22-Jan-21 14-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 20-Dec-20 31-Jan-21 27-Feb-21 27-Feb-21 20-Dec-20 26-Jan-21 27-Feb-21 11-Mar-21 15-Feb-21 11-Mar-21 11-Mar-21	-94 -93 -86 -86 -93 -93 -86 -86 -90 -86 -86 -86 -90	8.33% 20% 13.33% 100% 63.83% 66.67% 100% 70.21% 66.67%	-17 4 6 13 -8 6 13 -8 6 13 -8 4 13 -8 4 13 -8 4 13 -8 -8 6 13 -8 -8 6 13 -8 -8 -8 -8 -8 -8 -8 -8 -8 -8			Sand Blasting and Sand Blasting and Painting For SG14
P-SAB1781 S P-SAB1782 S P-SAB1782 S Segmental Arch Rib J South Arch Rib Segment P-SAB1881 S P-SAB1901 S P-SAB1901 S North Arch Rib Segment P-SAB1821 N P-SAB1821 N P-SAB1841 N P-SAB1841 N P-SAB1861 S P-SAB2041 E P-SAB2041 E P-SAB2061 E	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG01 and Blasting and Painting For Section SG01 oliting trat Jointing G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing G07 to NG18 Segmental Jointing G02 to NG06 Segmental Jointing G07 to NG13 Segmental Jointing G08 Segmental Jointing G09 Segmental Jointin	153         24         10         15         227         23         227         134         47         45         227         134         47         45         227         134         47         45         29         49         49         15         15         15         12	0 22 8 13 37 0 17 15 37 0 14 15 49 49 14 15 12	18-Jul-20 A           06-Jan-21 A           05-Jan-21 A           05-Jan-21 A           09-Aug-20 A           09-Aug-21 A           05-Jan-21 A           05-Jan-21 A           26-Jan-21	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20 14-Jan-21 09-Aug-20 09-Aug-20 11-Dec-20 14-Jan-21 21-Dec-20 26-Dec-20 26-Dec-20 01-Feb-21	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21 28-Dec-20 A 22-Jan-21 14-Feb-21 26-Feb-21 26-Feb-21 22-Jan-21 09-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 11-Mar-21 09-Jan-21 15-Feb-21	-94 -93 -86 -86 -93 -86 -86 -86 -90 -90 -93 -86	8.33% 20% 13.33% 100% 63.83% 66.67% 100% 70.21% 66.67% 6.67% 0%	-17 -4 6 13 -3 -8 6 13 -3 -3 -13 6 13			Sand Blasting and Sand Blasting and Painting For Section Sand Blasting Sand Sand Sand Sand Sand Sand Sand Sand
P-SAB1781         S.           P-SAB1782         S.           P-SAB1783         S.           Segmental Arch Rib Josemu         P-SAB1881           P-SAB1781         S.           Osoth Arch Rib Segmen         P-SAB1881           P-SAB1901         S.           P-SAB1901         S.           P-SAB1821         N           P-SAB1821         N           P-SAB1841         N           P-SAB1841         N           P-SAB1841         N           P-SAB1861         N           Arch Rib External Painting For S         P-SAB2021           P-SAB2021         E           P-SAB2021         E           P-SAB2041         E <td>and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG01 and Blasting and Painting For Section SG01 olifting full Jointing G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing G14 to NG18 Segmental Jointing G07 to NG13 Segmental Jointing G07 to NG13 Segmental Jointing G07 to NG13 Segmental Jointing Hilling Outh Arch Rib xternal Painting For SG14 to SG18 xternal Painting For SG07 to SG13 orth Arch Rib</td> <td>153         24         10         15         227         237         134         47         45         227         134         47         15         12         49</td> <td>0 22 8 13 37 0 17 15 37 0 14 15 49 49 49 14 15 12 49</td> <td>18-Jul-20 A           06-Jan-21 A           05-Jan-21 A           05-Jan-21 A           09-Aug-20 A           09-Aug-21 A           05-Jan-21 A           05-Jan-21 A           26-Jan-21           15-Feb-21           05-Jan-21 A</td> <td>25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20 16-Dec-20 16-Dec-20 14-Jan-21 09-Aug-20 09-Aug-20 11-Dec-20 14-Jan-21 21-Dec-20 26-Dec-20 01-Feb-21 28-Feb-21 28-Feb-21 21-Dec-20</td> <td>04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21 28-Dec-20 A 22-Jan-21 14-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21</td> <td>24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 11-Mar-21 15-Feb-21 11-Mar-21 11-Mar-21 11-Mar-21</td> <td>-94 -93 -86 -86 -93 -93 -86 -86 -86 -90 -90 -93 -86 -86 -86 -86</td> <td>8.33% 20% 13.33% 100% 63.83% 66.67% 100% 70.21% 66.67% 66.67% 0% 0%</td> <td>-17 4 6 13 13 -8 6 13 13 -8 4 13 -13 6 13 13 -13 6 13</td> <td></td> <td></td> <td>Sand Blasting and Sand Blasting and Painting For Section Sand Blasting and Painting For Section Sand Blasting and Sand Sand Sand Sand Sand</td>	and Blasting and Internal Painting For Section SG07 to SG13 and Blasting and Painting For Section SG01 and Blasting and Painting For Section SG01 olifting full Jointing G14 to SG18 Segmental Jointing G02 to SG06 Segmental Jointing G07 to SG13 Segmental Jointing G14 to NG18 Segmental Jointing G07 to NG13 Segmental Jointing G07 to NG13 Segmental Jointing G07 to NG13 Segmental Jointing Hilling Outh Arch Rib xternal Painting For SG14 to SG18 xternal Painting For SG07 to SG13 orth Arch Rib	153         24         10         15         227         237         134         47         45         227         134         47         15         12         49	0 22 8 13 37 0 17 15 37 0 14 15 49 49 49 14 15 12 49	18-Jul-20 A           06-Jan-21 A           05-Jan-21 A           05-Jan-21 A           09-Aug-20 A           09-Aug-21 A           05-Jan-21 A           05-Jan-21 A           26-Jan-21           15-Feb-21           05-Jan-21 A	25-Aug-20 21-Dec-20 03-Jan-21 18-Jan-21 09-Aug-20 09-Aug-20 09-Aug-20 16-Dec-20 16-Dec-20 16-Dec-20 14-Jan-21 09-Aug-20 09-Aug-20 11-Dec-20 14-Jan-21 21-Dec-20 26-Dec-20 01-Feb-21 28-Feb-21 28-Feb-21 21-Dec-20	04-Jan-21 A 30-Jan-21 16-Jan-21 26-Jan-21 14-Feb-21 14-Feb-21 28-Dec-20 A 25-Jan-21 14-Feb-21 28-Dec-20 A 22-Jan-21 14-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21 26-Feb-21	24-Jan-21 13-Jan-21 12-Jan-21 01-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 27-Feb-21 11-Mar-21 15-Feb-21 11-Mar-21 11-Mar-21 11-Mar-21	-94 -93 -86 -86 -93 -93 -86 -86 -86 -90 -90 -93 -86 -86 -86 -86	8.33% 20% 13.33% 100% 63.83% 66.67% 100% 70.21% 66.67% 66.67% 0% 0%	-17 4 6 13 13 -8 6 13 13 -8 4 13 -13 6 13 13 -13 6 13			Sand Blasting and Sand Blasting and Painting For Section Sand Blasting and Painting For Section Sand Blasting and Sand Sand Sand Sand Sand

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C08/C09														
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Rib NG 19 8	SG19	with Section	on C 21											
~ C20 Jointin	: g wih So	ection C21	I											
				Arch F	Rib Fu	ıll As	sembl	y Worl	c					
mbly Frame	for Steel	Arch Rib												
Joi	inting of	North Arc		North IG01 to				sembl	y and	Joint	ing W	ork	To S	Steel
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l Painting For	Section	NG07 to	NG13											
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8 F	xternal	Painting F	or North	Arch l	K1D									
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nuary 202	21			+						- 1				

Data Date :08-Jan-21 Sheet 4of 8

ActivityName	Original Duration	Remaining Duration	Start	Planned+Start	Finish	Planned+Finish	Total Float	Activity% Complete	TRA /ariance+-+Finish+i	27	January2021 03 10	17 24 31 07
P-SAB1981 External Painting For NG02 to NG06	15	15	23-Jan-21	27-Jan-21	06-Feb-21	10-Feb-21	-90	0%	4			Exten
P-SAB2001 External Painting For NG07 to NG13	12	12	15-Feb-21	28-Feb-21	26-Feb-21	11-Mar-21	-86	0%	13			•
Arch Rib Sub-Assembly Work North Arch Rib Sub-Assembly Work	190 170	7	01-Jul-20 A 01-Jul-20 A	09-Aug-20 29-Aug-20	15-Jan-21 15-Jan-21	14-Feb-21 14-Feb-21	-90 -91		30 30			h Rib Sub-Assembly Work rth Arch Rib Sub-Assembly Work
P-SAB1401 Arch Rib Sub- Assembly for Section NG19	170	0	01-Jul-20 A	29-Aug-20	09-Dec-20 A	14-Feb-21		100%	67			
P-SAB1441 Arch Rib Sub-Assembly for Section NG01	122	0	25-Aug-20 A	29-Aug-20	05-Jan-21 A	28-Dec-20		100%	-8		Arch Rib Sub- As	ssembly for Section NG01
P-SAB1461 Arch Rib Sub-Assembly for Section NG08 to NG12	126	7	01-Jul-20 A	12-Sep-20	15-Jan-21	15-Jan-21	-91	94.44%	0			h Rib Sub-Assembly for Section NG
South Arch Rib Sub-Assembly Work           P-SAB1520         Arch Rib Sub-Assembly for Section SG02 to SG07	159 104	7 0	01-Jul-20 A 30-Jul-20 A	09-Aug-20 09-Aug-20	15-Jan-21 19-Dec-20 A	14-Jan-21 20-Nov-20	-90	100%	-1 -29	Rib Sub- Assem	Sou Soly for Section SG(	th Arch Rib Sub-Assembly Work 2 to SG07
P-SAB1521 Arch Rib Sub- Assembly for Section SG19	159	0	12-Jul-20 A	09-Aug-20	09-Dec-20 A	14-Jan-21		100%	36		Arch	Rib Sub-Assembly for Section SG19
P-SAB1561 Arch Rib Sub- Assembly for Section SG01	122	0	25-Aug-20 A	19-Aug-20	05-Jan-21 A	18-Dec-20		100%	-18		Arch Rib Sub- As	ssembly for Section SG01
P-SAB1581 Arch Rib Sub-Assembly for Section SG08 to SG12	126	7	01-Jul-20 A	29-Aug-20	15-Jan-21	01-Jan-21	-90	94.44%	-14		Arc	h Rib Sub-Assembly for Section SG0
des Span Fabrication	160	98	16-Jul-20 A	27-Nov-20	16-Apr-21	05-May-21	-85		19			
Sub-Assembly of Side Spans	160	45	16-Jul-20 A	27-Nov-20	22-Feb-21	05-May-21	-83	1009/	72			
P-SAB1161 Sub-Assembly Work for Section of C01 to C07 Main Deck of Steel	·	0	16-Jul-20 A	27-Nov-20	26-Dec-20 A	05-May-21	02	100%	130			
P-SAB1181 Sub-Assembly Work for Section of C23 to C28 Main Deck of Steel	-	45	29-Dec-20 A 09-Jan-21	17-Dec-20 11-Jan-21	22-Feb-21	11-Feb-21	-83 -85	21.05%	-11			
Full Assembly Work for Sides Span East Side Span Assembly Work	98 69	98 69	09-Jan-21 09-Jan-21	11-Jan-21 11-Jan-21	16-Apr-21 18-Mar-21	18-Apr-21 20-Mar-21	-85		2		•	
P-SAB2880 Frame Support Installation for Roll Out and Delivery	14	14	09-Jan-21	11-Jan-21	22-Jan-21	24-Jan-21	-85	0%	2			Frame Support Installation fo
P-SAB2881 Full Assembly and Touch up of East Side Span C01 to C06	55	55	23-Jan-21	25-Jan-21	18-Mar-21	20-Mar-21	-85	0%	2			
West Side Span Assembly Work           P-SAB2920         Frame Support Installation for Roll Out and Delivery	69 14	69 14	05-Feb-21 05-Feb-21	09-Feb-21 09-Feb-21	14-Apr-21 18-Feb-21	13-Apr-21 22-Feb-21	-83 -78	0%	-1			· · · · · · · · · · · · · · · · · · ·
P-SAB2921 Full Assembly and Touch up of West Side Span C21 To C28	50	50	24-Feb-21	23-Feb-21	14-Apr-21	13-Apr-21	-83	0%	-1	_		
Sub-Element Installation Work for Sides Span	40	40	08-Mar-21	10-Mar-21	16-Apr-21	18-Apr-21	-85		2			
P-SAB2961 Track Installation for the Inspection Gantry Maintenance Work	40	40	08-Mar-21	10-Mar-21	16-Apr-21	18-Apr-21	-85	0%	2			
P-SAB2981 Installation of Dehumidification System for Sides Spans	40	40	08-Mar-21	10-Mar-21	16-Apr-21	18-Apr-21	-85	0%	2			
and Blasting and Painting For Side Span P-SAB1241 Sand Blasting and Painting for the Steel Bridge of Section C01 to C0	66 7 34	66 12	27-Dec-20 A 27-Dec-20 A	17-Dec-20 17-Dec-20	15-Mar-21 20-Jan-21	14-Mar-21 19-Jan-21	-83 -83	64.71%	-1 -1			Sand Blasting and Painting for the
P-SAB1241 Sand Blasting and Painting for the Steel Bridge of Section C01 to C0 P-SAB1261 Sand Blasting and Painting for the Steel Bridge of Section C22 to C2		31	13-Feb-21	17-Dec-20 12-Feb-21	15-Mar-21	19-Jan-21 14-Mar-21	-83	0%	-1			
		157	13-Jan-21	13-Jan-21	19-Jun-21	19-Jun-21	-05	070	-1			
on 1 of the Works- All Works within Portion I of the Site (Entruster In Piling Works		140	30-Jan-21	30-Jan-21	19-Jun-21	19-Jun-21	0		0			
red Piling Construction Group 1 - 2 Nos. Bored Piling Rig	140	140	30-Jan-21	30-Jan-21	19-Jun-21	19-Jun-21	0		0			·
S1-BP-10010         Piling Platform Erection for Bored Pile 5B	32 5	32 5	30-Jan-21 30-Jan-21	30-Jan-21 30-Jan-21	03-Mar-21 04-Feb-21	03-Mar-21 04-Feb-21	0	0%	0			Piling Platfor
S1-BF-10020     Bored Piling Construction for Pile 5B - Bridge S400 (2 Piles) - 1 Piling		20	04-Feb-21	04-Feb-21	24-Feb-21	24-Feb-21	0	0%	0			
S1-BP-10030 Piling Platform dismantle from Pile 5B and relocate to Pile 5C	7	7	24-Feb-21	24-Feb-21	03-Mar-21	03-Mar-21	0	0%	0			
Bored Pile Test	100	100	11-Mar-21	11-Mar-21	19-Jun-21	19-Jun-21	0		0			
S1-BP-10210 Group 1 Bored Pile Test and Dismantle All Platform	100	100	11-Mar-21	11-Mar-21	19-Jun-21		0	0%	0			
ored Piling Construction for Pile 9B (Bridge CT) - 1no.Piling Rig	32		30-Jan-21	30-Jan-21	03-Mar-21	03-Mar-21	0		0			
S1-BP-10040 Piling Platform Erection for Bored Pile 9B	5	5	30-Jan-21	30-Jan-21	04-Feb-21	04-Feb-21	0	0%	0			Piling Platfor
S1-BP-10050 Bored Piling Construction for Pile 9B - Bridge CT (2Piles) - 1 Piling	-	20	04-Feb-21	04-Feb-21	24-Feb-21	24-Feb-21	0	0%	0			
S1-BP-10060 Piling Platform dismantle from Pile 9B and relocate to Pile 9C	7	7	24-Feb-21	24-Feb-21	03-Mar-21	03-Mar-21	0	0%	0			
Stored Piling Construction for Pile 5C (Bridge S400) - 1no.Piling Rig           S1-BP-10070         Bored Piling Construction for Pile 5C - Bridge S400 (2 Piles) - 1 Piling	27 g Rig 20	27 20	03-Mar-21 03-Mar-21	03-Mar-21 03-Mar-21	30-Mar-21 23-Mar-21	30-Mar-21 23-Mar-21	0	0%	0			
S1-BP-10080 Piling Platform dismantle from Pile 5C and relocate to Pile 5H	7	7	23-Mar-21	23-Mar-21	30-Mar-21	30-Mar-21	0	0%	0			
ored Piling Construction for Pile 9C (Bridge CT) - 1no.Piling Rig	27	27	03-Mar-21	03-Mar-21	30-Mar-21	30-Mar-21	0		0			
S1-BP-10090 Bored Piling Construction for Pile 9C - Bridge CT (2 Piles) - 1 Piling	Rig 20	20	03-Mar-21	03-Mar-21	23-Mar-21	23-Mar-21	0	0%	0			
S1-BP-10100 Piling Platform dismantle from Pile 9C and relocate to Pile 9H	7	7	23-Mar-21	23-Mar-21	30-Mar-21	30-Mar-21	0	0%	0			
ored Piling Construction for Pile 5H (Bridge S400) - 1no.Piling Rig S1-BP-10110 Bored Piling Construction for Pile 5H - Bridge S400 (2 Piles) - 1 Pili	20 g Rig 20	20 20	30-Mar-21 30-Mar-21	30-Mar-21 30-Mar-21	19-Apr-21 19-Apr-21	19-Apr-21 19-Apr-21	25	09/	0			
bred Piling Construction for Pile 9H (Bridge CT) - 1no.Piling Rig	20 20 20		30-Mar-21	30-Mar-21 30-Mar-21	19-Apr-21	19-Apr-21	25 0	0%	0			
S1-BP-10130         Bored Piling Construction for Pile 9H - Bridge CT (2 Piles) - 1 Piling		20	30-Mar-21	30-Mar-21	19-Apr-21	19-Apr-21	0	0%	0			
red Piling Construction Group 2 - 2 Nos. Bored Piling Rig	113	113	06-Feb-21	06-Feb-21	30-May-21	30-May-21	6		0			
ored Piling Construction for Pile 5D (Bridge S400) - 1no.Piling Rig S1-BP-10220 Piling Platform Erection for Bored Pile 5D	32	32 5	06-Feb-21 06-Feb-21	06-Feb-21 06-Feb-21	10-Mar-21 11-Feb-21	10-Mar-21 11-Feb-21	0	0%	0			Pil
S1-BF-10220         Priling Plauonn Election for Boled Pile 3D           S1-BP-10230         Bored Piling Construction for Pile 5D - Bridge S400 (2 Piles) - 1 Pili	5 g Rig 20	20	11-Feb-21	11-Feb-21	03-Mar-21	03-Mar-21	0	0%	0			
S1-BP-10240 Piling Platform dismantle from Pile 5D and relocate to Pile 5E ored Pile Test	7	7	03-Mar-21 19-Feb-21	03-Mar-21 19-Feb-21	10-Mar-21 30-May-21	10-Mar-21 30-May-21	0	0%	0			
S1-BP-10400 Group 2 Bored Pile Test and Dismantle All Platform	100 100	100 100	19-Feb-21 19-Feb-21	19-Feb-21 19-Feb-21	30-May-21 30-May-21	30-May-21 30-May-21	6	0%	0			
Bored Piling Construction for Pile 9D (Bridge CT) - 1no.Piling Rig	32		06-Feb-21	06-Feb-21	10-Mar-21	10-Mar-21	0		0			· · · · · · · · · · · · · · · · · · ·
Remaining Level of Effort Remaining Work	♦ ♦ Milestone				C	RBC					Date	Manal 111
Primary Baseline Critical Remaining V	/ork Summary			The	ee Month I		oare	mme		0	8-Jan-21	Monthly updated on 0
Actual Work $\diamond$ Baseline Milestone		1		1 11 1		vining 11	USI di	inne				

March 2021			April 2024	
21 28 07 14	21 28	04	April 2021	18 25
Painting For NG02 to NG06				
External Pair	ting For NG0	7 to NG13		
h Rib Sub-Assembly for Section NG19				
o NG12				
SG12				
				idaa Suan Fahriaa
				ides Span Fabrica
Sub-Assembly of Side Spans				
Sub-Assembly Work for Section of C	23 to C28 Ma	in Deck of	Steel bridge	
			-	
	011.0			ull Assembly Wor
	st Side Span A	ssembly Wo	rĸ	
Il Out and Delivery				
:	Full Assembly	and Touch u	p of East Si	de Span C01 to C
Encode a service a s	. 15 1		Wes	t Side Span Asser
Frame Support Installation for Roll C	out and Delive	ry		
			Full	Assembly and To
			S	ub-Element Insta
				Track Installatio
				Installation of D
				instantion of B
Sand B	lasting and Pa	inting For Si	de Span	
l Bridge of Section C01 to C07				
Sand B	locting and De	nting for th	Steel Dride	a of Section C22
Sand B	asung and ra	inung ior un	e Steel Bridg	e of Section C22
Barned Biling Construction	for Dila 5D (	Duidoo E400	) Inc Dilin	a Dia
Bored Piling Construction	ii ioi File 3B (	Bridge 5400	) - 110.Film	g rig
Bored Piling Construction for Pile	5B - Bridge Sé	400 (2 Piles)	- 1 Piling R	ig
				-
Piling Platform dismantle	from Pile 5B	and relocate	to Pile 5C	
				:
<ul> <li>Bored Piling Construction</li> </ul>	n for Pile 9B (	Bridge CT)	- 1no.Piling	Rig
ection for Bored Pile 9B				
Bored Piling Construction for Pile	9B - Bridge C	r (2Piles) -	l Piling Rig	
_				
Piling Platform dismantle	from Pile 9B	and relocate	to Pile 9C	
		ored Diling	Construction	for Pile SC (D.
				for Pile 5C (Brid
	- Dored Pilin	g Constructi	on for Pile 5	C - Bridge S400
	P	iling Platfori	n dismantle	from Pile 5C and
		and D'?	Const :	for Dil- OC (D
		-		for Pile 9C (Brid
	Bored Pilin	g Constructi	on for Pile 9	C - Bridge CT (2
	P	iling Platfori	n dismantle	from Pile 9C and
		-		
				Bored Piling Co
				Bored Piling Ct
	-			Bored Piling Co
				Bored Piling Co
				0
Bored Piling C	onstruction for	Pile 5D (Br	idge S400) -	1no.Piling Rig
atform Erection for Bored Pile 5D				
Bored Piling Construction	n for Pile 5D	Bridge \$40	() (2 Pilee)	l Piling Rig
Borea i ming Consultcito		Dridge 340	- (2 1 ncs) -	· · und rug
Piling Platform	dismantle from	n Pile 5D ar	nd relocate to	Pile 5E
-				
Bored Piling Co	onstruction for	Pile 9D (Br	idge CT) - 1	no.Piling Rig
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vision	0	lo d	Α	anal (c -l
evision	Chec	keu	Ар	proved
nuary 2021				

Data Date :08-Jan-21 Sheet 5of 8

Sh Activity D	leet 5of 8	ActivityName	Original	Remaining Duration	Start	Planned+Start	Finish	Planned+Finish	Total Float	Activity% Complete	TRA /ariance+-+Finish+Dat			January2021		February2021
	S1-BP-10250	Piling Platform Erection for Bored Pile 9D	Duration 5	5	06-Feb-21	06-Feb-21	11-Feb-21	11-Feb-21	0	0%	0	27	03	10 1	7 24	31 07 14 Piling Platf
	S1-BP-10260	Bored Piling Construction for Pile 9D - Bridge CT (2 Piles) - 1 Piling Rig	20	20	11-Feb-21	11-Feb-21	03-Mar-21	03-Mar-21	0	0%	0					
	S1-BP-10270	Piling Platform dismantle from Pile 9D and relocate to Pile 9E	7	7	03-Mar-21	03-Mar-21	10-Mar-21	10-Mar-21	0	0%	0					
	Bored Piling Cons	struction for Pile 5E (Bridge S400) - 1no.Piling Rig	27	27	10-Mar-21	10-Mar-21	06-Apr-21	06-Apr-21	0		0					
	S1-BP-10280	Bored Piling Construction for Pile 5E - Bridge S400 (2 Piles) - 1 Piling Rig	20	20	10-Mar-21	10-Mar-21	30-Mar-21	30-Mar-21	0	0%	0					
	S1-BP-10290	Piling Platform dismantle from Pile 5E and relocate to Pile 5F	7	7	30-Mar-21	30-Mar-21	06-Apr-21	06-Apr-21	0	0%	0					
	Bored Piling Cons S1-BP-10300	struction for Pile 9E (Bridge CT) - 1no.Piling Rig Bored Piling Construction for Pile 9E - Bridge S400 (2 Piles) - 1 Piling Rig	27 20	27 20	10-Mar-21 10-Mar-21	10-Mar-21 10-Mar-21	06-Apr-21 30-Mar-21	06-Apr-21 30-Mar-21	0	0%	0					
	S1-BP-10310	Piling Platform dismantle from Pile 9E and relocate to Pile 9F	7	7	30-Mar-21	30-Mar-21	06-Apr-21	06-Apr-21	0	0%	0					
		struction for Pile 5F (Bridge S400) - 1no.Piling Rig	20	20	06-Apr-21	06-Apr-21	26-Apr-21	26-Apr-21	1		0					
	S1-BP-10320	Bored Piling Construction for Pile 5F - Bridge CT (2 Piles) - 1 Piling Rig	20	20	06-Apr-21	06-Apr-21	26-Apr-21	26-Apr-21	1	0%	0					
	Bored Piling Cons S1-BP-10340	struction for Pile 9F (Bridge CT) - 1no.Piling Rig Bored Piling Construction for Pile 9F - Bridge 400 (2 Piles) - 1 Piling Rig	20 20	20 20	06-Apr-21 06-Apr-21	06-Apr-21 06-Apr-21	26-Apr-21 26-Apr-21	26-Apr-21 26-Apr-21	0	0%	0					
	Pile Cap Construc	stion	21	21	30-Mar-21	30-Mar-21	20-Apr-21	20-Apr-21	0		0					
		tion Group 1 - 2 Construction Teams ction for Pile Cap 5B (Bridge S400) - 1 Construction Team	14	14	30-Mar-21	30-Mar-21	13-Apr-21	13-Apr-21	2		0					
	S1-PC-10010	Precast Shell Preparation Work For Pile Cap 5B (1 Pile Cap) - 1 Construction Team	14 14	14 14	30-Mar-21 30-Mar-21	30-Mar-21 30-Mar-21	13-Apr-21 13-Apr-21	13-Apr-21 13-Apr-21	2	0%	0					
		ction for Pile Cap 9B (Bridge CT) - 1 Construction Team	14	14	30-Mar-21	30-Mar-21	13-Apr-21	13-Apr-21	2		0					
	S1-PC-10040	Precast Shell Preparation Work For Pile Cap 9B (1 Pile Cap) - 1 Construction Team	14	14	30-Mar-21	30-Mar-21	13-Apr-21	13-Apr-21	2	0%	0					
		tion Group 2 - 2 Construction Teams ction for Pile Cap 5D (Bridge S400) - 1 Construction Team	14	14 14	06-Apr-21 06-Apr-21	06-Apr-21 06-Apr-21	20-Apr-21 20-Apr-21	20-Apr-21 20-Apr-21	0		0					
	S1-PC-10310	Precast Shell Preparation Work For Pile Cap 5D (1 Pile Cap) - 1 Construction Team	14	14	06-Apr-21	06-Apr-21	20-Apr-21	20-Apr-21	0	0%	0					
	Pile Cap Construct S1-PC-10340	ction for Pile Cap 9D (Bridge CT) - 1 Construction Team Precast Shell Preparation Work For Pile Cap 9D (1 Pile Cap) - 1 Construction Team	14 14	14 14	06-Apr-21 06-Apr-21	06-Apr-21 06-Apr-21	20-Apr-21 20-Apr-21	20-Apr-21 20-Apr-21	0	0%	0					
	Pre-drilling Works		71	71	13-Jan-21	13-Jan-21	25-Mar-21	25-Mar-21	52	0,0	0					
	Pre -Drilling Const	ruction Group 1 - 4 Nos. Pre-Drilling Rigs	69	69	13-Jan-21	13-Jan-21	23-Mar-21	23-Mar-21	52		0					
	Pre -Drilling for Pi S1-PD-10010	ier 5B (Bridge S400)- 2 Nos. Drilling Rigs Platform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 5B	17 5	17 5	13-Jan-21 13-Jan-21	13-Jan-21 13-Jan-21	30-Jan-21 18-Jan-21	30-Jan-21 18-Jan-21	0	0%	0			P		e -Drilling for Pier 5B(E and Pre-Drilling Rig Mobi
	S1-PD-10020	Pre-Drilling for Pile 5B (2 holes) Bridge S400 - 2 Drilling Rigs	7	7	18-Jan-21	18-Jan-21	25-Jan-21	25-Jan-21	0	0%	0				Pre-Dril	ing for Pile 5B (2 holes) B
	S1-PD-10030	Dismantle Platform and Pre-Drilling Rig from Pile 5B and Relocate to Pile 5C	5	5	25-Jan-21	25-Jan-21	30-Jan-21	30-Jan-21	0	0%	0				<b>—</b> Þ	ismantle Platform and Pre
		ier 9H (Bridge CT)- 2 Nos. Drilling Rigs	12	12	23-Feb-21	23-Feb-21	07-Mar-21	07-Mar-21	16		0					
	S1-PD-10170	Pre-Drilling for Pile 9H (2 holes) Bridge CT - 2 Drilling Rigs	7	7	23-Feb-21	23-Feb-21	02-Mar-21	02-Mar-21	16	0%	0					
	S1-PD-10180	Dismantle Platform and Pre-Drilling Rig from Pile 9H and Relocate to Pile 1L/2L	5	5	02-Mar-21	02-Mar-21	07-Mar-21 30-Jan-21	07-Mar-21 30-Jan-21	16 0	0%	0			·····		e -Drilling for Pier 9B (E
	S1-PD-10040	Platform Erection and Pre-Drilling Rigs Platform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 9B	5	5	13-Jan-21	13-Jan-21	18-Jan-21	18-Jan-21	0	0%	0					and Pre-Drilling Rig Mobi
	S1-PD-10050	Pre-Drilling for Pile 9B (2 holes) Bridge CT - 2 Drilling Rigs	7	7	18-Jan-21	18-Jan-21	25-Jan-21	25-Jan-21	0	0%	0			-	Pre-Drill	ing for Pile 9B (2 holes) B
	S1-PD-10060	Dismantle Platform and Pre-Drilling Rig from Pile 9B and Relocate to Pile 9C	5	5	25-Jan-21	25-Jan-21	30-Jan-21	30-Jan-21	0	0%	0				D	ismantle Platform and Pre
	Pre -Drilling for Pi S1-PD-10070	ier 5C (Bridge S400)- 2 Nos. Drilling Rigs Pre-Drilling for Pile 5C (2 holes) Bridge S400 - 2 Drilling Rigs	12 7	12 7	30-Jan-21 30-Jan-21	30-Jan-21 30-Jan-21	11-Feb-21 06-Feb-21	11-Feb-21 06-Feb-21	13 13	0%	0					Pre -Drillin Pre-Drilling for Pi
	S1-PD-10080	Dismantle Platform and Pre-Drilling Rig from Pile 5C and Relocate to Pile 5F	5	5	06-Feb-21	06-Feb-21	11-Feb-21	11-Feb-21	13	0%	0					Dismantle
		ier 9C (Bridge CT) - 2 Nos. Drilling Rigs	12	12	30-Jan-21	30-Jan-21	11-Feb-21	11-Feb-21	13		0				-	Pre -Drillin
	S1-PD-10090	Pre-Drilling for Pile 9C (2 holes) Bridge CT - 2 Drilling Rigs	7	7	30-Jan-21	30-Jan-21	06-Feb-21	06-Feb-21	13	0%	0				-	Pre-Drilling for Pi
	S1-PD-10100	Dismantle Platform and Pre-Drilling Rig from Pile 9C and Relocate to Pile 9F	5	5	06-Feb-21	06-Feb-21	11-Feb-21	11-Feb-21	13	0%	0					Dismantle ]
	Pre -Drilling for Pi S1-PD-10110	ier 5F (Bridge S400)- 2 Nos. Drilling Rigs Pre-Drilling for Pile 5F (2 holes) Bridge S400 - 2 Drilling Rigs	12 7	12 7	11-Feb-21 11-Feb-21	11-Feb-21 11-Feb-21	23-Feb-21 18-Feb-21	23-Feb-21 18-Feb-21	16 16	0%	0					P
	S1-PD-10120	Dismantle Platform and Pre-Drilling Rig from Pile 5F and Relocate to Pile 5H	5	5	18-Feb-21	18-Feb-21	23-Feb-21	23-Feb-21	16	0%	0					-
	Pre -Drilling for Pi	ier 9F (Bridge CT) - 2 Nos. Drilling Rigs	12	12	11-Feb-21	11-Feb-21	23-Feb-21	23-Feb-21	16		0					·
	S1-PD-10130	Pre-Drilling for Pile 9F (2 holes) Bridge CT - 2 Drilling Rigs	7	7	11-Feb-21	11-Feb-21	18-Feb-21	18-Feb-21	16	0%	0					P
	S1-PD-10140	Dismantle Platform and Pre-Drilling Rig from Pile 9F and Relocate to Pile 9H	5	5	18-Feb-21	18-Feb-21	23-Feb-21	23-Feb-21	16	0%	0					
	Pre -Drilling for Pi S1-PD-10190	ier 1L (Bridge ML) - 3 Nos. Drilling Rigs Pre-Drilling for Pile 1L (3 holes) Bridge ML - 3 Drilling Rigs	9 7	9 7	07-Mar-21 07-Mar-21	07-Mar-21 07-Mar-21	16-Mar-21 14-Mar-21	16-Mar-21 14-Mar-21	59 59	0%	0					
	S1-PD-10200	Dismantle Platform of Pre-Drill Pile 1L	2	2	14-Mar-21	14-Mar-21	16-Mar-21	16-Mar-21	59	0%	0					
		ier 2L (Bridge ML) - 1 Nos. Drilling Rig	16	16	07-Mar-21	07-Mar-21	23-Mar-21	23-Mar-21	27		0					
	S1-PD-10210	Pre-Drilling for Pile No. 2L (2 holes) - 1 Machine	14	14	07-Mar-21	07-Mar-21	21-Mar-21	21-Mar-21	27	0%	0					
	S1-PD-10220	Dismantle Platform of Pre-Drill Pile 2L	2	2	21-Mar-21	21-Mar-21	23-Mar-21	23-Mar-21	27	0%	0					
	Pre -Drilling for Pi S1-PD-10150	ier 5H (Bridge S400)- 2 Nos. Drilling Rigs Pre-Drilling for Pile 5H (2 holes) Bridge S400 - 2 Drilling Rigs	12 7	12 7	23-Feb-21 23-Feb-21	23-Feb-21 23-Feb-21	07-Mar-21 02-Mar-21	07-Mar-21 02-Mar-21	16 16	0%	0					
	S1-PD-10160	Dismantle Platform and Pre-Drilling Rig from Pile 5H and Relocate to Pile 1L	5	5	02-Mar-21	02-Mar-21	07-Mar-21	07-Mar-21	16	0%	0					
		ruction Group 2 - 2 Nos Pre-Drilling Rigs	71	71	13-Jan-21	13-Jan-21	25-Mar-21	25-Mar-21	52		0			<u> </u>		
	Pre -Drilling for Pi	ier 5D (Bridge S400)- 1 No. Drilling Rig	24	24	13-Jan-21	13-Jan-21	06-Feb-21	06-Feb-21	0		0			•		Pre -Drilling for P
	Remainin	ng Level of Effort Remaining Work $\blacklozenge$ $\blacklozenge$ M	lilestone				ſ	CRBC						Date		Rev
_	Primary B	Baseline Critical Remaining Work V	ummary			The	ee Month 1		0.0720	mme			08-Ja	in-21	Monthlyu	pdated on 08 Janu
	Actual Wo	ork $\diamond$ $\diamond$ Baseline Milestone				1 11 0		ixoning 11	ogra	mile						

March 2021			April 2021
21 28 07 14 tform Erection for Bored Pile 9D	21 28	04	11 18 25
Bored Piling Construction	n for Pile OD	Bridge CT	(2 Piles) - 1 Piling Rig
			nd relocate to Pile 9E
			ed Piling Construction for Pile
	E E		Construction for Pile 5E - Brid
	-	Pili	ng Platform dismantle from Pi
		Bor	ed Piling Construction for Pile
	E	lored Piling	Construction for Pile 9E - Brid
	-	Pili	ng Platform dismantle from Pi
			Borec
		_	Bored
			Borec
	·····		✓ Pile Cap Cons
	-		Pile Cap Construction C
	-		<ul> <li>Pile Cap Construction for Precast Shell Preparation</li> </ul>
	_		Pile Cap Construction ft
	-		Precast Shell Preparation
		_	Pile Cap Cons
			Pile Cap Cons Precast Shell I
			Pile Cap Cons
			Precast Shell I
	Pre-drill	ing Works	
Dide 6400 2No Dilling Die	Pre -Drillir	g Constructi	on Group 1 - 4 Nos. Pre-Drill
Bridge S400)- 2 Nos. Drilling Rigs bilisation for Pre - Drilling Work For Pile 5E	3		
Bridge S400 - 2 Drilling Rigs			
re-Drilling Rig from Pile 5B and Relocate to	Pile 5C		
Pre -Drilling for Pie		2 CT)- 2 Nos	s. Drilling Rigs
Pre-Drilling for Pile 9H (2			
Dismantle Platform	and Pre-Drill	ing Rig fron	n Pile 9H and Relocate to Pile
Bridge CT) - 2 Nos. Drilling Rigs			
bilisation for Pre - Drilling Work For Pile 9E	3		
Bridge CT - 2 Drilling Rigs			
re-Drilling Rig from Pile 9B and Relocate to	Pile 9C		
ing for Pier 5¢ (Bridge S400)- 2 Nos. Dril Pile 5C (2 holes) Bridge S400 - 2 Drilling F			
e Platform and Pre-Drilling Rig from Pile 50	-	e to Pile 5F	
ing for Pier 9C (Bridge CT) - 2 Nos. Drilli			
Pile 9C (2 holes) Bridge CT - 2 Drilling Rig			
e Platform and Pre-Drilling Rig from Pile 90	C and Relocat	e to Pile 9F	
Pre -Drilling for Pier 5F (Bridge S4			
Pre-Drilling for Pile 5F (2 holes) Bridge S4			and to Dile SIL
Dismantle Platform and Pre-Drilling	-		ocare to File JFI
Pre-Drilling for Pier 9F (Bridge CT Pre-Drilling for Pile 9F (2 holes) Bridge CT			
Dismantle Platform and Pre-Drilling	Rig from Pile	9F and Rel	ocate to Pile 9H
	-		ML) - 3 Nos. Drilling Rigs idge ML - 3 Drilling Rigs
	ntle Platform		
			L (Bridge ML) - 1 Nos. Drill
	-		L (2 holes) - 1 Machine
			Pre-Drill Pile 2L
Pre-Drilling for Pie Pre-Drilling for Pile 5H (2			
Dismantle Platform	and Pre-Drill	ing Rig fron	n Pile 5H and Relocate to Pile
Pier 5D (Bridge S400)- 1 No. Drilling Rig		lling Constru	iction Group 2 - 2 Nos Pre-D
			<u>_</u>
vision	Cheo	ked	Approved
nuary 2021			

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| Crane Barge 1000 Tons Installation of Pier -W2 Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2 Installation of temp. bearing/jacking system -W2 Installation of Pier -E2 Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -E2 Installation of temp. bearing/ jacking system-E2 rane barge 4000 Tons Installation of Pier -W5 Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W5 | 23<br>23<br>4<br>14<br>5<br>23<br>4<br>14<br>5<br>38<br>38<br>38<br>4<br>19  | 23<br>23<br>4<br>14<br>5<br>23<br>4<br>14<br>5<br>38<br>38<br>38<br>4<br>19   | 09-Jan-21<br>09-Jan-21<br>09-Jan-21<br>14-Jan-21<br>30-Jan-21<br>09-Jan-21<br>09-Jan-21<br>14-Jan-21<br>30-Jan-21<br>22-Feb-21<br>22-Feb-21<br>22-Feb-21<br>26-Feb-21   | 18-Dec-20           23-Dec-20           23-Dec-20           30-Dec-20           16-Jan-21           18-Dec-20           18-Dec-20           18-Dec-20           23-Dec-20           12-Jan-21           22-Jan-21           22-Jan-21           22-Jan-21           22-Jan-21           27-Jan-21  
   |
04-Feb-21<br>04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21<br>04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21<br>09-Apr-21<br>09-Apr-21<br>25-Feb-21<br>19-Mar-21  
  | 21-Jan-21<br>29-Dec-20<br>15-Jan-21<br>21-Jan-21<br>16-Jan-21<br>22-Dec-20<br>11-Jan-21<br>16-Jan-21<br>10-Mar-21<br>10-Mar-21<br>26-Jan-21<br>20-Feb-21   | -12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12  | 0%<br>0%<br>0%<br>0%<br>0%<br>0%  
  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | -12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-16<br>-16<br>-16<br>-16<br>-23<br>-23<br>-23<br>-23  |   
   |   | Installation of Pier  | Pier W2     Pier W2     Rebar fixing and 2nd stag     Installation of ter     Pier E2   
   |
|--|--|---|---
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---|--|---
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Installation of Pier -W2 Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2 Installation of temp. bearing/jacking system -W2 Installation of Pier -E2 Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -E2 Installation of temp. bearing/ jacking system-E2 rane barge 4000 Tons Installation of Pier -W5	23 4 14 5 23 4 14 5 38 38 38 4	23 4 14 5 23 4 14 5 38 38 38 4
   | 04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21<br>04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21<br>09-Apr-21<br>25-Feb-21      
   
   | 21-Jan-21<br>29-Dec-20<br>15-Jan-21<br>21-Jan-21<br>22-Dec-20<br>11-Jan-21<br>16-Jan-21<br>16-Jan-21<br>10-Mar-21<br>26-Jan-21   | -12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12  | 0%<br>0%<br>0%<br>0%<br>0%   
   | 0<br>0<br>0<br>0<br>0  | -12<br>-12<br>-12<br>-12<br>-12<br>-16<br>-16<br>-16<br>-16<br>-16<br>-23<br>-23<br>-23   |  
  |   |   | Pier W2     Rebar fixing and 2nd stag     Installation of ter     Pier E2     Rebar fixing and 2nd stag  
  |
| Installation of Pier -W2<br>Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2<br>Installation of temp. bearing/jacking system -W2<br>Installation of Pier -E2<br>Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -E2<br>Installation of temp. bearing/ jacking system-E2<br>rane barge 4000 Tons   | 23<br>4<br>14<br>5<br>23<br>4<br>14<br>5<br>38<br>38   | 23<br>4<br>14<br>5<br>23<br>4<br>14<br>5<br>38<br>38  | 09-Jan-21<br>09-Jan-21<br>14-Jan-21<br>30-Jan-21<br>09-Jan-21<br>09-Jan-21<br>14-Jan-21<br>30-Jan-21<br><u>22-Feb-21</u><br>22-Feb-21   | 23-Dec-20<br>23-Dec-20<br>30-Dec-20<br>16-Jan-21<br>18-Dec-20<br>18-Dec-20<br>23-Dec-20<br>12-Jan-21<br>22-Jan-21<br>22-Jan-21   
   | 04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21<br>04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21<br>09-Apr-21<br>09-Apr-21      
   
   | 21-Jan-21<br>29-Dec-20<br>15-Jan-21<br>21-Jan-21<br>22-Dec-20<br>11-Jan-21<br>16-Jan-21<br>10-Mar-21<br>10-Mar-21  | -12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12  | 0%<br>0%<br>0%<br>0%   
   | 0 0 0 0 0 0 0  | -12<br>-12<br>-12<br>-12<br>-16<br>-16<br>-16<br>-16<br>-16<br>-23<br>-23   |  
  |   |   | Pier W2     Rebar fixing and 2nd stag     Installation of ter     Pier E2     Rebar fixing and 2nd stag  
  |
| Installation of Pier -W2<br>Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2<br>Installation of temp. bearing/jacking system -W2<br>Installation of Pier -E2<br>Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -E2<br>Installation of temp. bearing/ jacking system-E2   | 23<br>4<br>14<br>5<br>23<br>4<br>14<br>5   | 23<br>4<br>14<br>5<br>23<br>4<br>14<br>5  | 09-Jan-21<br>09-Jan-21<br>14-Jan-21<br>30-Jan-21<br>09-Jan-21<br>09-Jan-21<br>14-Jan-21<br>30-Jan-21  | 23-Dec-20<br>23-Dec-20<br>30-Dec-20<br>16-Jan-21<br>18-Dec-20<br>18-Dec-20<br>23-Dec-20<br>12-Jan-21   
   | 04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21<br>04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21                                
   
   | 21-Jan-21<br>29-Dec-20<br>15-Jan-21<br>21-Jan-21<br>22-Dec-20<br>11-Jan-21<br>16-Jan-21  | -12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12  | 0%<br>0%<br>0%   
   | 0 0 0 0 0 0  | -12<br>-12<br>-12<br>-12<br>-16<br>-16<br>-16<br>-16<br>-16   |  
  |   |   | Pier W2     Rebar fixing and 2nd stag     Installation of ter     Pier E2     Rebar fixing and 2nd stag  
  |
| Installation of Pier -W2<br>Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2<br>Installation of temp. bearing/jacking system -W2<br>Installation of Pier -E2<br>Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -E2   | 23<br>4<br>14<br>5<br>23<br>4<br>14  | 23<br>4<br>14<br>5<br>23<br>4<br>14   | 09-Jan-21<br>09-Jan-21<br>14-Jan-21<br>30-Jan-21<br>09-Jan-21<br>09-Jan-21<br>14-Jan-21   | 23-Dec-20<br>23-Dec-20<br>30-Dec-20<br>16-Jan-21<br>18-Dec-20<br>18-Dec-20<br>23-Dec-20  
   | 04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21<br>04-Feb-21<br>13-Jan-21<br>29-Jan-21   
   
   | 21-Jan-21<br>29-Dec-20<br>15-Jan-21<br>21-Jan-21<br>16-Jan-21<br>22-Dec-20<br>11-Jan-21  | -12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12<br>-12  | 0%<br>0%<br>0%   
   | 0 0 0 0 0 0  | -12<br>-12<br>-12<br>-12<br>-12<br>-16<br>-16<br>-16  |  
  |   |   | Pier W2     Rebar fixing and 2nd stag     Installation of ter     Pier E2     Rebar fixing and 2nd stag  
  |
| Installation of Pier -W2<br>Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2<br>Installation of temp. bearing/jacking system -W2   | 23<br>4<br>14<br>5<br>23   | 23<br>4<br>14<br>5<br>23  | 09-Jan-21<br>09-Jan-21<br>14-Jan-21<br>30-Jan-21<br>09-Jan-21   | 23-Dec-20<br>23-Dec-20<br>30-Dec-20<br>16-Jan-21<br>18-Dec-20  
   | 04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21<br>04-Feb-21   
   
   | 21-Jan-21<br>29-Dec-20<br>15-Jan-21<br>21-Jan-21<br>16-Jan-21  | -12<br>-12<br>-12<br>-12<br>-12<br>-12  | 0%   
   | 0  | -12<br>-12<br>-12<br>-12<br>-12<br>-16  |  
  |   |   | Pier W2     Pier W2     Rebar fixing and 2nd stag     Installation of ter     Pier E2  
  |
| Installation of Pier -W2<br>Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2   | 23<br>4<br>14<br>5   | 23<br>4<br>14<br>5  | 09-Jan-21<br>09-Jan-21<br>14-Jan-21<br>30-Jan-21  | 23-Dec-20<br>23-Dec-20<br>30-Dec-20<br>16-Jan-21   
   | 04-Feb-21<br>13-Jan-21<br>29-Jan-21<br>04-Feb-21  
   
   | 21-Jan-21<br>29-Dec-20<br>15-Jan-21<br>21-Jan-21   | -12<br>-12<br>-12<br>-12  | 0%   
   | 0  | -12<br>-12<br>-12<br>-12  |  
  |   | Installation of Pier  | Pier W2     Pier W2     Rebar fixing and 2nd stag     Installation of ter  
  |
| Installation of Pier -W2<br>Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W2   | 23<br>4<br>14  | 23<br>4<br>14   | 09-Jan-21<br>09-Jan-21<br>14-Jan-21   | 23-Dec-20<br>23-Dec-20<br>30-Dec-20  
   | 04-Feb-21<br>13-Jan-21<br>29-Jan-21   
   
   | 21-Jan-21<br>29-Dec-20<br>15-Jan-21  | -12<br>-12<br>-12   | 0%   
   | 0  | -12<br>-12<br>-12   |  
  |   | Installation of Pier  | Pier W2     Rebar fixing and 2nd stage   
  |
| Installation of Pier - W2  | 23<br>4  | 23<br>4   | 09-Jan-21<br>09-Jan-21  | 23-Dec-20<br>23-Dec-20   
   | 04-Feb-21<br>13-Jan-21  
   
   | 21-Jan-21<br>29-Dec-20   | -12<br>-12  |  
   | -  | -12<br>-12  |  
  |   | Installation of Pier  | Pier W2  
  |
| Crane Barge 1000 Tons  |  |   |   |  
   |   
   
   |  |   |  
   |  |   |  
  |   | •<br>•  | Pier W2  
  |
|  |  |   |   |  
   |   
   
   | 21-Jan-21  | -12   |  
   |  | -12   |  
  |   |   | Pier Erection wit  
  |
| nder CSD)  | 72   | 72  | 09-Jan-21   | 18-Dec-20  
   | 09-Apr-21   
   
   | 10-Mar-21  | -11   |  
   |  | -23   |  
  |   |   |  
  |
| Rebar fixing and Concreting -W1 (C - Side Cap)   | 21   | 15  | 16-Nov-20 A   | 09-Dec-20  
   | 26-Jan-21   
   
   | 05-Jan-21  |   | 28.57%   
   | 0  | -18   |  
  |   |   | Rebar fixing and Concreting  
  |
|  |  |   |   |  
   |   
   
   |  |   | 71.43%   
   | 0  |   |  
  |   | , in the second s   | Pile Cap (C Side Cap) for Pi  |
| p) for Pier E1   | 21   | 6   | 08-Oct-20 A   | 09-Nov-20  
   | 15-Jan-21   
   
   | 02-Dec-20  | 0   | 71.42%   
   | 0  | -35   |  
  |   |   | le Cap) for Pier E1<br>nd Concreting -E1 (C - Side C   
  |
|  | 47   | 15  | 08-Oct-20 A   | 09-Nov-20  
   | 26-Jan-21   
   
   | 05-Jan-21  | -9  |  
   |  | -18   |  
  |   |   | Pile Cap   
  |
|  |  |   |   |  
   |   
   
   |  |   |  
   |  |   |  
  |   |   |  
  |
|  | 2  | 2   | 23-Mar-21   | 23-Mar-21  
   | 25-Mar-21   
   
   | 25-Mar-21  |   | 0%   
   |  | 0   |  
  |   |   |  
  |
|  | 7  | 7   | 16-Mar-21   |  
   |   
   
   | 23-Mar-21  | 52  | 0%   
   |  | 0   |  
  |   |   |  
  |
| r 2K (Bridge ML) - 2 No. Drilling Rig  | 9  | 9   | 16-Mar-21   | 16-Mar-21  
   | 25-Mar-21   
   
   | 25-Mar-21  | 52  |  
   |  | 0   |  
  |   |   |  
  |
| Dismantle Platform and Pre-Drilling Rig from Pile 9G and Relocate to Pile 2K   | 5  | 5   | 11-Mar-21   | 11-Mar-21  
   | 16-Mar-21   
   
   | 16-Mar-21  | 41  | 0%   
   |  | 0   |  
  |   |   |  
  |
| r 9G (Bridge CT) - 1 No. Drilling Rig<br>Pre-Drilling for Pile 9G (2 holes) Bridge CT - 1 Drilling Rigs  | 19<br>14   | 19<br>14  | 25-Feb-21<br>25-Feb-21  | 25-Feb-21<br>25-Feb-21   
   | 16-Mar-21<br>11-Mar-21  
   
   | 16-Mar-21<br>11-Mar-21   | 41<br>41  | 0%   
   |  | 0<br>0  |  
  |   |   |  
  |
| Dismantle Platform and Pre-Drilling Rig from Pile 5G and Relocate to Pile 2K   | 5  | 5   | 11-Mar-21   | 11-Mar-21  
   | 16-Mar-21   
   
   | 16-Mar-21  | 55  | 0%   
   |  | 0   |  
  |   |   |  
  |
| Pre-Drilling for Pile 5G (2 holes) Bridge S400 - 1 Drilling Rig  | 14   | 14  | 25-Feb-21   | 25-Feb-21  
   | 11-Mar-21   
   
   | 11-Mar-21  | 55  | 0%   
   |  | 0   |  
  |   |   |  
  |
|  | 19   | 19  |   |  
   |   
   
   |  |   | 0,0  
   |  | 0   |  
  |   |   |  
  |
|  |  |   |   |  
   |   
   
   |  |   |  
   |  |   | _  
  |   |   |  
  |
| r 9E (Bridge CT)- 1 No. Drilling Rig   | 19   | 19  | 06-Feb-21   | 06-Feb-21  
   | 25-Feb-21   
   
   | 25-Feb-21  | 41  | 00/  
   |  | 0   |  
  |   |   |  
  |
| Dismantle Platform and Pre-Drilling Rig from Pile 5E and Relocate to Pile 5G   | 5  | 5   | 20-Feb-21   | 20-Feb-21  
   | 25-Feb-21   
   
   | 25-Feb-21  | 55  | 0%   
   |  | 0   |  
  |   |   |  
  |
| Pre-Drilling for Pile 5E (2 holes) Bridge S400 - 1 Drilling Rig  | 14   | 19  | 06-Feb-21   | 06-Feb-21  
   | 20-Feb-21   
   
   | 20-Feb-21  | 55  | 0%   
   |  | 0   |  
  |   |   |  
  |
|  | -  | -   |   |  
   |   
   
   |  | -   | 070  
   |  | -   |  
  |   |   |  
  |
|  |  |   |   |  
   |   
   
   |  | -   |  
   |  |   | -  
  |   |   | Dismantle P  
  |
|  |  | 14  |   |  
   |   
   
   |  | 0   |  
   |  | 0   |  
  |   |   | Pre-Drilling for Pil   
  |
| r 9D (Bridge C1)-1 No. Drilling Rig<br>Platform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 9D   | 5  | 24<br>5   | 13-Jan-21<br>13-Jan-21  | 13-Jan-21<br>13-Jan-21   
   | 06-Feb-21<br>18-Jan-21  
   
   | 06-Feb-21<br>18-Jan-21   | 0   | 0%   
   |  | 0   |  
  |   | Platform Er   | ection and Pre-Drilling Rig  
  |
|  |  | -   |   |  
   |   
   
   |  | -   | 0,0  
   |  | 0   |  
  |   | ·····   | Pre -Drilling  
  |
| Dismantle Platform and Pre-Drilling Rig from Pile 5D and Relocate to Pile 5E   | 5  | 5   | 01-Feb-21   | 01-Feb-21  
   | 06-Feb-21   
   
   | 06-Feb-21  | 0   | 0%   
   |  | 0   |  
  |   |   | Dismantle P  
  |
| Pre-Drilling for Pile 5D (2 holes) Bridge S400 - 1 Drilling Rig  | 14   | 14  | 18-Jan-21   | 18-Jan-21  
   | 01-Feb-21   
   
   | 01-Feb-21  | 0   | 0%   
   |  | 0   |  
  |   |   | Pre-Drilling for Pile  
  |
| Platform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 5D  | 5  | 5   | 13-Jan-21   | 13-Jan-21  
   | 18-Jan-21   
   
   | 18-Jan-21  | 0   | 0%   
   |  | 0   |  
  |   | Platform Er   | ection and Pre-Drilling Rig  
  |
| r  | Platform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 5D Pre-Drilling for Pile 5D (2 holes) Bridge S400 - 1 Drilling Rig Dismantle Platform and Pre-Drilling Rig from Pile 5D and Relocate to Pile 5E 9D (Bridge CT)-1 No. Drilling Rig Platform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 9D Pre-Drilling for Pile 9D (2 holes) Bridge CT - 1 Drilling Rigs Dismantle Platform and Pre-Drilling Rig from Pile 9D and Relocate to Pile 9E 5E (Bridge S400)-1 No. Drilling Rig Pre-Drilling for Pile 9D (2 holes) Bridge CT - 1 Drilling Rig Pre-Drilling for Pile 5E (2 holes) Bridge S400 - 1 Drilling Rig Dismantle Platform and Pre-Drilling Rig from Pile 9D and Relocate to Pile 9E 5E (Bridge S400)-1 No. Drilling Rig Pre-Drilling for Pile 5E (2 holes) Bridge CT - 2 Drilling Rigs Dismantle Platform and Pre-Drilling Rig from Pile 5E and Relocate to Pile 5G 9E (Bridge CT)-1 No. Drilling Rig Pre-Drilling for Pile 9E (2 holes) Bridge CT - 2 Drilling Rigs Dismantle Platform and Pre-Drilling Rig from Pile 9E and Relocate to Pile 9G 5G (Bridge S400)-1 No. Drilling Rig Pre-Drilling for Pile 5G (2 holes) Bridge CT - 1 Drilling Rig Dismantle Platform and Pre-Drilling Rig from Pile 5G and Relocate to Pile 2K 9G (Bridge CT)-1 No. Drilling Rig Pre-Drilling for Pile 9G (2 holes) Bridge CT - 1 Drilling Rigs Dismantle Platform and Pre-Drilling Rig from Pile 9G and Relocate to Pile 2K 2K (Bridge ML)-2No. Drilling Rig Pre-Drilling Rig form Pile 9G and Relocate to Pile 2K 2K (Bridge ML)-2No. Drilling Rig Pre-Drilling Rigs Dismantle Platform on Pre-Drilling Rig form Pile 9G and Relocate to Pile 2K 2K (Bridge ML)-2No. Drilling Rig Pre-Drilling Rigs Dismantle Platform on Pre-Drilling Rig form Pile 9G and Relocate to Pile 2K 2K (Bridge ML)-2No. Drilling Rig Pre-Drilling Rigs Dismantle Platform of Pre-Drilling Rig form Pile 9G Dismantle Platform of Pre-Drilling Rigs Dismantle Pla | DurationDurationPlatform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 5D5Pre-Drilling for Pile 5D (2 holes) Bridge S400 - 1 Drilling Rig14Dismantle Platform and Pre-Drilling Rig from Pile 5D and Relocate to Pile 5E5 <b>90 (Bridge CT) - 1 No. Drilling Rig</b> 24Platform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 9D5Pre-Drilling for Pile 9D (2 holes) Bridge CT - 1 Drilling Rigs14Dismantle Platform and Pre-Drilling Rig from Pile 9D and Relocate to Pile 9E5 <b>5E (Bridge S400)- 1 No. Drilling Rig</b> 19Pre-Drilling for Pile 5E (2 holes) Bridge S400 - 1 Drilling Rig14Dismantle Platform and Pre-Drilling Rig from Pile 9E and Relocate to Pile 9G5 <b>5E (Bridge S400)- 1 No. Drilling Rig</b> 19Pre-Drilling for Pile 9E (2 holes) Bridge CT - 2 Drilling Rigs14Dismantle Platform and Pre-Drilling Rig from Pile 9E and Relocate to Pile 9G5 <b>5G (Bridge S400)- 1 No. Drilling Rig</b> 19Pre-Drilling for Pile 9E (2 holes) Bridge CT - 1 Drilling Rigs14Dismantle Platform and Pre-Drilling Rig from Pile 9E and Relocate to Pile 9G5 <b>5G (Bridge S400)- 1 No. Drilling Rig</b> 19Pre-Drilling for Pile 9C (2 holes) Bridge CT - 1 Drilling Rig19Pre-Drilling for Pile 9G (2 holes) Bridge CT - 1 Drilling Rigs14Dismantle Platform and Pre-Drilling Rig from Pile 9G and Relocate to Pile 2K5 <b>3G (Bridge CT) - 1 No. Drilling Rig</b> 9Pre-Drilling for Pile 9G (2 holes) Bridge CT - 2 Drilling Rigs7Disman | DurationDurationPlatform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile SD55Pre-Drilling for Pile 5D (2 holes) Bridge S400 - 1 Drilling Rig1414Dismantle Platform and Pre-Drilling Rig from Pile SD and Relocate to Pile 5E55 <b>5D (Bridge CT) - 1 No. Drilling Rig</b> 2424Platform Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 9D55 <b>5r</b> Pre-Drilling for Pile 9D (2 holes) Bridge CT - 1 Drilling Rigs1414Dismantle Platform and Pre-Drilling Rig from Pile 9D and Relocate to Pile 9E55 <b>5E (Bridge S400) - 1 No. Drilling Rig</b> 191919Pre-Drilling for Pile 5E (2 holes) Bridge S400 - 1 Drilling Rig1414Dismantle Platform and Pre-Drilling Rig from Pile SE and Relocate to Pile 5G55 <b>5E (Bridge S400) - 1 No. Drilling Rig</b> 191919Pre-Drilling for Pile 9E (2 holes) Bridge CT - 2 Drilling Rigs1414Dismantle Platform and Pre-Drilling Rig from Pile 9E and Relocate to Pile 9G55 <b>5G (Bridge S400) - 1 No. Drilling Rig</b> 1414Dismantle Platform and Pre-Drilling Rig from Pile 9E and Relocate to Pile 2K55 <b>5G (Bridge S400) - 1 No. Drilling Rig</b> 1919Pre-Drilling for Pile 9G (2 holes) Bridge CT - 1 Drilling Rigs1414Dismantle Platform and Pre-Drilling Rig from Pile 9G and Relocate to Pile 2K55 <b>5G (Bridge CT) - 1 No. Drilling Rig</b> 99Pre-Drilling for Pile 9G (2 holes) Bridge CT - | Date         Date           Parlorm Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pis SD         5         5         13-Jan-21           Pre-Drilling for Pile SD (2 holes) Bridge S400 - 1 Drilling Rig         14         14         14         14         14         14         14         14         14         14         14         14         14         14         14         14         14         14         14         13-Jan-21           Dismantle Platform and Pre-Drilling Rig from Pile SD and Relocate to Pile SE         5         5         01-Feb-21           Parlorm Erection and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 9D         5         5         01-Feb-21           Dismantle Platform and Pre-Drilling Rig from Pile 9D and Relocate to Pile 9E         5         5         01-Feb-21           Dismantle Platform and Pre-Drilling Rig from Pile 9D and Relocate to Pile SG         5         20-Feb-21           Pre-Drilling for Pile SE (2 holes) Bridge 5400 - 1 Drilling Rig         14         04         06-Feb-21           Dismantle Platform and Pre-Drilling Rig from Pile 5E and Relocate to Pile SG         5         20-Feb-21           Dismantle Platform and Pre-Drilling Rig from Pile 9E and Relocate to Pile SG         5         20-Feb-21           Dismantle Platform and Pre-Drilling Rig from Pile SG and Relocate to Pile SC </td <td>Interface         Interface         Interface         Interface         Interface           Platform Encetion and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile SD         5         5         13-Jan-21         13-Jan-21           Pre-Drilling for Pile SD (2 holes) Bridge S400 - 1 Drilling Rig         124         144         144         144         14-Jan-21         13-Jan-21           Dismantle Platform and Pre-Drilling Rig         125         5         01-Feb-21         01-Feb-21           20 (Bridge CT) - 1 No. Drilling Rig         13-Jan-21         13-Jan-21         13-Jan-21           Platform Encetion and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 9D         5         5         01-Feb-21         01-Feb-21           Pre-Drilling for Pile 9D (2 holes) Bridge CT 1 Drilling Rig         14         14         14         04-Feb-21         04-Feb-21           Pre-Drilling for Pile 5E (2 holes) Bridge S400 - 1 Drilling Rig         14         14         06-Feb-21         06-Feb-21         06-Feb-21           Pre-Drilling for Pile 5E (2 holes) Bridge CT - 2 Drilling Rigs         14         14         06-Feb-21         06-Feb-21         06-Feb-21           Dismantle Platform and Pre-Drilling Rig from Pile 5E and Relocate to Pile 9G         5         5         11-Mar-21         24-Feb-21         24-Feb-21         24-Feb-21<td>Data         Data         Data         Data         Data         Data           Pleform Erccion and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile SD         5         5         11-3 Jan-21         118-Jan-21           Pre-Drilling for Pile SD (2 holes) Bridge S400 - 1 Drilling Rig         184         14         14         14         18-Jan-21         01-Feb-21         00-Feb-21           S0 (Bridge CT) + 180: Drilling Rig         184         14         14         18-Jan-21         01-Feb-21         00-Feb-21           S0 (Bridge CT) + 180: Drilling Rig         196         12-3         04-Feb-21         04-Fe</td><td>Index         Index         Index         Index         Index         Index         Index           Pre-Drilling Rey Mobilisation for Pre-Drilling Wark For Pile SD         5         5         13-Jane21         13-Jane21         13-Jane21         13-Jane21         01-Reb-21         06-Reb-21         06-Reb-21</td><td>Date         Date         <th< td=""><td>Per-Dilling Rep Pb SD (2 loke) Bridge S400 - 1 Drilling Rig         Ind         I 4         I 4         I 8         I 8 Jam-21         I 8 Jam-21         O 1 Feb-21         O 0 Feb-21         O 1 Feb-21</td></th<><td>Index         Index         Instance         I</td><td>Index         Index         <th< td=""><td>Image         Image         <th< td=""><td>Index         Index         <th< td=""><td>Image for the balang Rig Medelination for Pro-Ding Work Nor Pick 200         S         I Jam 21         J Jam 21         <thj 21<="" jam="" th=""></thj></td></th<></td></th<></td></th<></td></td></td> | Interface         Interface         Interface         Interface         Interface           Platform Encetion and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile SD         5         5         13-Jan-21         13-Jan-21           Pre-Drilling for Pile SD (2 holes) Bridge S400 - 1 Drilling Rig         124         144         144         144         14-Jan-21         13-Jan-21           Dismantle Platform and Pre-Drilling Rig         125         5         01-Feb-21         01-Feb-21           20 (Bridge CT) - 1 No. Drilling Rig         13-Jan-21         13-Jan-21         13-Jan-21           Platform Encetion and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile 9D         5         5         01-Feb-21         01-Feb-21           Pre-Drilling for Pile 9D (2 holes) Bridge CT 1 Drilling Rig         14         14         14         04-Feb-21         04-Feb-21           Pre-Drilling for Pile 5E (2 holes) Bridge S400 - 1 Drilling Rig         14         14         06-Feb-21         06-Feb-21         06-Feb-21           Pre-Drilling for Pile 5E (2 holes) Bridge CT - 2 Drilling Rigs         14         14         06-Feb-21         06-Feb-21         06-Feb-21           Dismantle Platform and Pre-Drilling Rig from Pile 5E and Relocate to Pile 9G         5         5         11-Mar-21         24-Feb-21         24-Feb-21         24-Feb-21 <td>Data         Data         Data         Data         Data         Data           Pleform Erccion and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile SD         5         5         11-3 Jan-21         118-Jan-21           Pre-Drilling for Pile SD (2 holes) Bridge S400 - 1 Drilling Rig         184         14         14         14         18-Jan-21         01-Feb-21         00-Feb-21           S0 (Bridge CT) + 180: Drilling Rig         184         14         14         18-Jan-21         01-Feb-21         00-Feb-21           S0 (Bridge CT) + 180: Drilling Rig         196         12-3         04-Feb-21         04-Fe</td> <td>Index         Index         Index         Index         Index         Index         Index           Pre-Drilling Rey Mobilisation for Pre-Drilling Wark For Pile SD         5         5         13-Jane21         13-Jane21         13-Jane21         13-Jane21         01-Reb-21         06-Reb-21         06-Reb-21</td> <td>Date         Date         <th< td=""><td>Per-Dilling Rep Pb SD (2 loke) Bridge S400 - 1 Drilling Rig         Ind         I 4         I 4         I 8         I 8 Jam-21         I 8 Jam-21         O 1 Feb-21         O 0 Feb-21         O 1 Feb-21</td></th<><td>Index         Index         Instance         I</td><td>Index         Index         <th< td=""><td>Image         Image         <th< td=""><td>Index         Index         <th< td=""><td>Image for the balang Rig Medelination for Pro-Ding Work Nor Pick 200         S         I Jam 21         J Jam 21         <thj 21<="" jam="" th=""></thj></td></th<></td></th<></td></th<></td></td> | Data         Data         Data         Data         Data         Data           Pleform Erccion and Pre-Drilling Rig Mobilisation for Pre - Drilling Work For Pile SD         5         5         11-3 Jan-21         118-Jan-21           Pre-Drilling for Pile SD (2 holes) Bridge S400 - 1 Drilling Rig         184         14         14         14         18-Jan-21         01-Feb-21         00-Feb-21           S0 (Bridge CT) + 180: Drilling Rig         184         14         14         18-Jan-21         01-Feb-21         00-Feb-21           S0 (Bridge CT) + 180: Drilling Rig         196         12-3         04-Feb-21         04-Fe | Index         Index         Index         Index         Index         Index         Index           Pre-Drilling Rey Mobilisation for Pre-Drilling Wark For Pile SD         5         5         13-Jane21         13-Jane21         13-Jane21         13-Jane21         01-Reb-21         06-Reb-21         06-Reb-21 | Date         Date <th< td=""><td>Per-Dilling Rep Pb SD (2 loke) Bridge S400 - 1 Drilling Rig         Ind         I 4         I 4         I 8         I 8 Jam-21         I 8 Jam-21         O 1 Feb-21         O 0 Feb-21         O 1 Feb-21</td></th<> <td>Index         Index         Instance         I</td> <td>Index         Index         <th< td=""><td>Image         Image         <th< td=""><td>Index         Index         <th< td=""><td>Image for the balang Rig Medelination for Pro-Ding Work Nor Pick 200         S         I Jam 21         J Jam 21         <thj 21<="" jam="" th=""></thj></td></th<></td></th<></td></th<></td> | Per-Dilling Rep Pb SD (2 loke) Bridge S400 - 1 Drilling Rig         Ind         I 4         I 4         I 8         I 8 Jam-21         I 8 Jam-21         O 1 Feb-21         O 0 Feb-21         O 1 Feb-21 | Index         Index         Instance         I | Index         Index <th< td=""><td>Image         Image         <th< td=""><td>Index         Index         <th< td=""><td>Image for the balang Rig Medelination for Pro-Ding Work Nor Pick 200         S         I Jam 21         J Jam 21         <thj 21<="" jam="" th=""></thj></td></th<></td></th<></td></th<> | Image         Image <th< td=""><td>Index         Index         <th< td=""><td>Image for the balang Rig Medelination for Pro-Ding Work Nor Pick 200         S         I Jam 21         J Jam 21         <thj 21<="" jam="" th=""></thj></td></th<></td></th<> | Index         Index <th< td=""><td>Image for the balang Rig Medelination for Pro-Ding Work Nor Pick 200         S         I Jam 21         J Jam 21         <thj 21<="" jam="" th=""></thj></td></th<> | Image for the balang Rig Medelination for Pro-Ding Work Nor Pick 200         S         I Jam 21         J Jam 21 <thj 21<="" jam="" th=""></thj> |

March 2021				April 202	1	
21 28 07 14 bilisation for Pre - Drilling Work For Pile 5D	21 28	3	04	11	18	25
(2 holes) Bridge S400 - 1 Drilling Rig						
orm and Pre-Drilling Rig from Pile 5D and F	Relocate to Pi	e 5E				
Pier 9D (Bridge CT)- 1 No. Drilling Rig bilisation for Pre - Drilling Work For Pile 9D	1					
(2 holes) Bridge CT - 1 Drilling Rigs	1.1	. OF				
rm and Pre-Drilling Rig from Pile 9D and F			Rig			
Pre-Drilling for Pile 5E (2 holes) Bridge	S400 - 1 Dri	ling Rig				
Dismantle Platform and Pre-Drilli				ocate to	Pile 5G	
Pre-Drilling for Pile 9E (2 holes) Bridge	CT - 2 Drillin	ng Rigs	-			
Dismantle Platform and Pre-Drilli						
Pre-Drilling fo	illing for Pier r Pile 5G (2 l		•	· ·		
Dismar	tle Platform a	and Pre-	Drilling	g Rig fro	m Pile	5G and Rel
Pre -Dr Pre-Drilling fo	illing for Pier r Pile 9G (2 l		-			;
Dismar	ntle Platform a	and Pre-	Drilling	g Rig fro	m Pile	9G and Rel
	Pre -Dri Pre-Drillin	-				- 2 No. Dr 77 - 2 Dril
	Disman	tle Platfo	orm of	Pre-Dril	l Pile 21	x
p)						
W1 V1 (C - Side Çap)						
			P	ier (Prec	ast Pier	under CSE
Crane Barge 1000 Tons						
Concreting for connection between pier and	l pile cap -W	2				
p. bearing/jacking system -W2						
Concreting for connection between pier and	d pile cap -E2					
p. bearing/jacking system-E2						
v v				ier Erect ier W5	ion wit	n crane barg
Installation of Pier -W5	1 6 .	10.5			c	
Re	ebar fixing an		-	-		nection bet beam -W5
		situ				np. Bearing
	<u></u>					
			- SE	7-4		
	Preparation	n Work,			Delivery	of Precast
-	Erection	of preca	-	-		Abutment I
			— ке	4110ve Si	apporui	ng Beam an
ery of Precast Box Girder Span E3 - E4 (No	orth Deck)					
or Span E3 - E4 (North Deck)	6. E					
pporting Beam and Delivery Barge Return NE2-3	to Factory					
Preparation Work, Roll Out and I				er Span	E2 - E3	(North Dec
Erection of Precast Girder for S	pan E2 - E3(	North D	еск)			
vision	Cheo	ked		Ap	prov	ed
nuary 2021						

Data Date :08-Jan-21 Sheet 7of 8

S2-CB2430	ActivityName Pamous Supporting Dama and Dalissest Dama Patisms to Ecotors:	Original Duration	Remaining Duration	27-Feb-21	Planned+Start 26-Jan-21	Finish 10-Mar-21	05-Feb-21	Total Float 0	Activity% Complete	0 TRA	/ariance+-+Finish+E	27	Jan. 03 10	17 24	February2021 31 07 14
S2-CB2430	Remove Supporting Beam and Delivery Barge Return to Factory	10	22	27-Feb-21 11-Feb-21	26-Jan-21 21-Jan-21	10-Mar-21 11-Mar-21	18-Feb-21	0	0%	0					
S2-CB2440	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E2 - E3 (South Deck)	11	11	11-Feb-21	21-Jan-21 21-Jan-21	26-Feb-21	02-Feb-21	0	0%	0	-18 -18				
S2-CB2450	Erection of Precast Girder for Span E2 - E3 (South Deck)	1	1	27-Feb-21	03-Feb-21	27-Feb-21	03-Feb-21	0	0%	0	-18				e
S2-CB2460	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	01-Mar-21	04-Feb-21	11-Mar-21	18-Feb-21	0	0%	0	-18				
SE3-4		28	28	09-Jan-21	23-Dec-20	10-Feb-21	20-Jan-21	0			-18		·	P	SE3-4
S2-CB2380	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E3 - E4 (South Deck)	11	11	09-Jan-21	23-Dec-20	21-Jan-21	07-Jan-21	6	0%	0	-12			-	Work, Roll Out and Deliv
S2-CB2390	Erection of Precast Girder for Span E3 - E4 (South Deck)	1	1	29-Jan-21	08-Jan-21	29-Jan-21	08-Jan-21	0	0%	0	-18			• •	Erection of Precast Girder
S2-CB2400	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	30-Jan-21	09-Jan-21	10-Feb-21	20-Jan-21	0	0%	0	-18				Remove
S2-CB3000	liisation For 2nd BaachConcrete Deck Installaiton Mobilization of crane barge (~4000T) for 2nd barge of concrete Deck Installation ** Assume 28/01/2021	0	0	28-Jan-21 28-Jan-21*		28-Jan-21		0	0%	0					ane Barge Mobilisation For obilization of crane barge
NW5-4 S2-CB2290	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W4 - W5 (North Deck)	11	11 11	12-Mar-21 12-Mar-21	19-Feb-21 19-Feb-21	24-Mar-21 24-Mar-21	03-Mar-21 03-Mar-21	0	0%	0	-18 -18				
Procurement and I	Delivery	326	160	28-Oct-19 A	09-Jul-20	26-Jul-21	11-Aug-21	4			14				
S2-CB2485	Procurement and delivery of bearing system	180	54	28-Oct-19 A	09-Jul-20	16-Mar-21	10-Feb-21	76	70%	0	-26				
S2-CB2486	Procurement and delivery of fabricated movement joints	180	105	20-Oct-20 A	09-Nov-20	20-May-21	19-Jun-21	10	41.67%	0	25				
S2-CB2488	Procurement and delivery of bituminous materials	180	160	03-Sep-21 A	02-Jan-21	26-Jul-21	11-Aug-21	4	11.11%	0	14				
eel Bridge Side Span Deck(St	eel)	47	47 47	09-Jan-21 09-Jan-21	29-Dec-20 29-Dec-20	08-Mar-21 08-Mar-21	11-Feb-21 11-Feb-21	-18 -18			-18 -18		· · · · · · · · · · · · · · · · · · ·		<u>:</u>
West Side Span D	eck	47	47	09-Jan-21	09-Jan-21	08-Mar-21	11-Feb-21	-18			-18				
S2-SS2000	Installation of temporary support bracket at Pier W2	18	18	16-Feb-21	22-Jan-21	08-Mar-21	11-Feb-21	-18	0%	0	-18				Installation of Temporary
S2-SS2005	Installation of Temporary Support Tower at Pier W1	18	18	09-Jan-21	09-Jan-21	29-Jan-21	29-Jan-21	-5	0%	0	0				
East Side Span De S2-SS2105	Installation of temporary support bracket at Pier E2	41 18	41 18	09-Jan-21 05-Feb-21	29-Dec-20 18-Jan-21	01-Mar-21 01-Mar-21	06-Feb-21 06-Feb-21	-12 -12	0%	0	-16 -16		· · · ·		
S2-SS2110	Installation of Temporary Support Tower at Pier E1	18	18	09-Jan-21	29-Dec-20	29-Jan-21	19-Jan-21	-5	0%	0	-9	-		I	Installation of Temporary
er (In-situ Pier und	ler Conforming Design)	95	25	20-Sep-20 A	21-Oct-20	06-Feb-21	29-Jan-21	-12			-7				Pier (In-situ Pi
Pier W1 S2-PR3860	Construction of Cross Beam, Parapet wall and Prestressing Work (3rd Pour) - W1	80 50	25 0	01-Nov-20 A 01-Nov-20 A	09-Nov-20 09-Nov-20	06-Feb-21 06-Jan-21 A	29-Jan-21 08-Jan-21	-12	100%	0	-7 2		Constru	action of Cross Beam.	Pier W1 Parapet wall and Prestres
S2-PR3900	Construction of Decoration wall 1 (Section 1 to Section 7) - W1	42	0	17-Nov-20 A	09-Dec-20	18-Dec-20 A	29-Jan-21		100%	0	33				Construction of Decoration
S2-PR3920	Construction of Decoration wall 2 (WIC) - After install the prefabrication Decoration Wall-W1	15	10	06-Jan-21 A	29-Dec-20	06-Feb-21	15-Jan-21	-12	33.33%	0	-19	_		. 💻	Construction
S2-PR3940	Installation of temporary Bearing/ Jacking System and Access Ladder	18	18	09-Jan-21	09-Jan-21	29-Jan-21	29-Jan-21	-5	0%	0	0	_		;	Installation of temporary
Pier E1		86	18	20-Sep-20 A	21-Oct-20	29-Jan-21	19-Jan-21	-5			-9				Pier El
S2-PR3495	Construction of Cross Beam, Parapet wall and Prestressing Work (3rd Pour) - E1	50	0	20-Sep-20 A	21-Oct-20	28-Dec-20 A	18-Dec-20		100%	0	-6	Constru	ction of Cross I	Beam, Parapet wall and	d Prestressing Work (3rd
S2-PR3525	Construction of Decoration wall 2 (E1C) - After install the prefabrication Decoration Wall- E1	15	7	24-Dec-20 A	16-Dec-20	23-Jan-21	05-Jan-21	0	53.33%	0	-16			Construc	tion of Decoration wall 2
S2-PR3530	Installation of temporary Bearing/ Jacking System and Access Ladder	18	18	09-Jan-21	29-Dec-20	29-Jan-21	19-Jan-21	-5	0%	0	-9			I	Installation of temporary
	rks-All Works within Portion V (CBL E&M Plantroom)	498	169	22-Jan-20 A	10-Feb-20	26-Jun-21	22-May-21	140			-35				
VF Work -PR2080	ABWF Work and EVA Routing	131 131	11 11	22-Jan-20 A 22-Jan-20 A	10-Feb-20 10-Feb-20	21-Jan-21 21-Jan-21	20-Jul-20 20-Jul-20	-8 -8	91.6%	0	-153 -153			ABWF Wor	k k and EVA Routing
nianing Work	AD WF WORK and E VA ROUGING	151	125	30-Jul-20 A	07-Sep-20	21-Jan-21 26-Jun-21	10-Mar-21	-0	91.070	0	-155				
5-PR2120	External works (inclluding lanscaping)	90	75	30-Jul-20 A	07-Sep-20	26-Apr-21	23-Dec-20	116	16.67%	0	-97		_		
5-PR2200	Water works, pluming and drainage works	60	50	30-Jul-20 A	24-Dec-20	26-Jun-21	10-Mar-21	116	16.67%	0	-87		_		
estone and Key	Date related to KD5	0	0	22-Jan-21	12-Jan-21	22-Jan-21	12-Jan-21	-10			-10			▼ Milestone	and Key Date related to
-PR2260	Completion of Key Date 1 of the Works	0	0			22-Jan-21	12-Jan-21	-10	0%	0	-10		۰	<ul> <li>Completio</li> </ul>	on of Key Date 1 of the V
-PR2280	Key Date 1	0	0			22-Jan-21*	12-Jan-21	-10	0%	0	-10		۰	Key Date	Ē
or Services Sys	stem	344	164	25-Jun-20 A	13-Jul-20	21-Jun-21	22-May-21	145			-30				
ectrical System		280	126 0	25-Jun-20 A 17-Nov-20 A	13-Jul-20 19-Dec-20	21-Jun-21 16-Dec-20 A	22-May-21 12-Jan-21	121			-24 20	Room			
S5-PR2470	Cable Termination of LV Switch Board	18	0	17-Nov-20 A	19-Dec-20	16-Dec-20 A	12-Jan-21		100%	0	20		Ci	able Termination of LV	Switch Board
S5-PR2480	Power Energisation of LV Switch Board	0	0			16-Dec-20 A	12-Jan-21		100%	0	20		♦ Po	ower Energisation of L	V Switch Board
UPS Room		100	100	18-Feb-21	18-Jan-21	21-Jun-21	22-May-21	118			-24				
S5-PR2580	UPS Installation (Including E&M Work)	100	100	18-Feb-21	18-Jan-21	21-Jun-21	22-May-21	118	0%	0	-24	Dog Doom 1 or	I Deam 2		
Transformer Room S5-PR2400	CLP Installation Work	152 75	0	25-Jun-20 A 25-Jun-20 A	13-Jul-20 13-Jul-20	16-Dec-20 A 16-Dec-20 A	11-Dec-20 09-Oct-20		100%	0	-4 -57	er Room 1 an lation Work	I KOOII 2		
S5-PR2420	Power On of CLP Transfomer	0	0			16-Dec-20 A	11-Dec-20		100%	0	-4	of CLP Trans	fomer		
Generator Room		116	116	15-Jan-21	15-Dec-20	08-Jun-21	10-May-21	131			-24			,	-
S5-PR2500	Generator Installation (Including E&M Work)	90	90	18-Feb-21	18-Jan-21	08-Jun-21	10-May-21	128	0%	0	-24				
S5-PR2550	EPD Submission and Approval	56	56	15-Jan-21	15-Dec-20	24-Mar-21	24-Feb-21	191	0%	0	-24				
e Services Syste		123	31	28-Sep-20 A	09-Oct-20	08-Feb-21	11-Jan-21	278			-28			Statuto	Fire Service
statutory Submiss S5-PR2680	ion Completion of All Necessary FSD Requirement and Submission of FSI/314 and FSI/501 to FSD	14 14	14 14	09-Jan-21 09-Jan-21	09-Dec-20 09-Dec-20	22-Jan-21 22-Jan-21	22-Dec-20 22-Dec-20	-10 -10	0%	0	-31 -31			•	n of All Necessary FSD
			1										Data		: 
	g Level of Effort 📃 Remaining Work 🔶 🔶 Milestor	e	1			C	RBC					Ļ	Date		Re
<ul> <li>Remaining</li> <li>Primary Ba</li> </ul>						U	NDU					I	08-Jan-21	Monthly	updated on 08 Ja

	March 2021		April 2021
21	28 07 14 21 2		11 18 25
	Remove Supporting Beam	and Delivery	Darge Keturn to Factory
P	V SE2-3 reparation Work, Roll Out and Delivery of	Precast Box (	Girder Span E2 - E3 (South D
1	Erection of Precast Girder for Span E2 - E3	(South Dec	k)
	Remove Supporting Beam	and Deliver	y Barge Return to Factory
ery of Precast	Box Girder Span E3 - E4 (South Deck)		
for Span E3 -	E4 (South Deck)		
Supporting Be	am and Delivery Barge Return to Factory		
	oncrete Deck Installaiton nd barge of concrete Deck Installation ** /	ssume 28/01	1/2021
	• NW5-4		
	Preparat	ion Work, Ro	oll Out and Delivery of Precas
	Procurement and de	livery of bea	aring system
	Steel Bridge		
	Side Span Deck(Steel)		
	West Side Span Deck		
	Installation of temporary suppo	irt bracket at	Pier W2
Support Tower	at Pier W1		
	East Side Span Deck		
	Installation of temporary support bracket	at Pier E2	
Support Tower			
r under Confo	rming Design)		
ing Work (3rd	Pour) - W1		
n wall 1 (Secti	on 1 to Section 7) - W1		
	all 2 (W1C) - After install the prefabrication	Decoration	Wall- W1
	g System and Access Ladder		
our) - El			
(E1C) - After i	nstall the prefabrication Decoration Wall- E	1	
earing/ Jackin	g System and Access Ladder		
			Exte
D5			
orks			
		-	
	EPD Su	bmission and	l Approval
System			
equirement an	d Submission of FSI/314 and FSI/501 to FS	3D	
evision	Cheo	ked	Approved
nuary 202	T		

	ActivityName	Original R Duration	emaining Duration	Start	Planned+Start	Finish	Planned+Finish	Total Float	Activity% Complete	TRA	/ariance+-+Finish+D		January2021	February2021	March 2021	April 2021
nstallation of Fir	re Services	84	0	28-Sep-20 A	09-Oct-20	21-Dec-20 A	02-Jan-21				8	allation of Fire Se		31 07 14 21	28 07 14 21 28	04 11
S5-PR2740	Fire services Installation Work	70	0	28-Sep-20 A	09-Oct-20	19-Dec-20 A	02-Jan-21		100%	0	9		services Installation Work			
S5-PR2760	Fire Sevices Testing	6	0	21-Dec-20 A	12-Dec-20	21-Dec-20 A	18-Dec-20		100%	0	-2	Sevices Testing				
tatutory Inspect	tion	26	26	09-Jan-21	09-Dec-20	08-Feb-21	11-Jan-21	226			-24		•••••	Statutory Inspection		
S5-PR2800	WSD Inspection	14	14	09-Jan-21	09-Dec-20	25-Jan-21	24-Dec-20	-8	0%	0	-24		WSD	Inspection		
S5-PR2820	FSD Inspection	14	14	23-Jan-21	23-Dec-20	08-Feb-21	11-Jan-21	226	0%	0	-24			FSD Inspection		
S5-PR3020	Accomplish of FS Work	0	0			08-Feb-21	11-Jan-21	226	0%	0	-24		•	<ul> <li>Accomplish of FS Work</li> </ul>		
AC System		114	39	28-Sep-20 A	09-Oct-20	26-Feb-21	26-Jan-21	213			-24				MVAC System	
stallation of M	VAC System	114	39	28-Sep-20 A	09-Oct-20	26-Feb-21	26-Jan-21	213			-24			•	Installation of MVAC System	
S5-PR2840	MVAC Installation Work	70	21	28-Sep-20 A	09-Oct-20	02-Feb-21	02-Jan-21	213	70%	0	-26			MVAC Installation Work		
S5-PR2900	MVAC Testing and Commisioning	18	18	03-Feb-21	06-Jan-21	26-Feb-21	26-Jan-21	213	0%	0	-24	-			MVAC Testing and Commisioning	
S5-PR2920	Accomplish of MVAC Installation	0	0			26-Feb-21	26-Jan-21	213	0%	0	-24		•	•	Accomplish of MVAC Installation	

Remaining Level of Effort	Remaining Work	♦ ♦ Milestone	CDDC	Date	Revis
Primary Baseline	Critical Remaining Work	Summary		08-Jan-21	Monthly updated on 08 Janua
Actual Work	A Baseline Milestone	V V Ourninary	Three Month Rolling Programme		

evision	Checked	Approved
nuary 2021		



**Contract 2** 

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	Activity Name	Original Duration		Remaining Duration	alendar	Start	Finish	Late Start	Late Finish	Total TR. Float	A Activity % Complete			2020 Q4	
PU20201108 NE/201	7/08 Programme Update (Nov 2020)	939.0	549.0	493.0		02-Jan-19 A	11-Jul-22	31-Jul-20	28-Mar-22	-82.5					
IPU20201108.2 Desig	n and Method Statement, Material Submissions	264.0	147.0	117.0	(7days)	15-Jun-20 A	05-Mar-21	28-Sep-20	23-Jul-21	139.5					
MPU20201108.2.1 Contra	actor's Design	128.0	34.0	94.0	(7days)	06-Oct-20 A	10-Feb-21	28-Sep-20	24-May-21	103.0					
MPU20201108.2.1.3 Desig	gn of Noise Enclosure Structural Steek Works	21.0	4.0	7.0	(7days)	05-Nov-20 A	15-Nov-20	28-Sep-20	05-Oct-20	-41.5			-	15-Nov-20, N	/IPU20201108.
<b>PD1093</b>	Review and Acceptance of Design of Noise Enclosure Structural Steel Works (Rev.B)	21.0	4.0	7.0	(7days)	05-Nov-20 A	15-Nov-20	28-Sep-20	05-Oct-20	-41.5 0	66.67%			Review and A	Acceptance of D
MPU20201108.2.1.7 Desig	gn of Noise Enclosure Transparent Panels	21.0	34.0	1.0	(7days)	06-Oct-20 A	09-Nov-20	04-Feb-21	05-Feb-21	87.5				09-Nov-20, MPU20	201108.2.1.7 [
PD1110	Review and Acceptance of Design of Noise Enclosure Transparent Panels by PM (Rev. B)	21.0	34.0	1.0	(7days)	06-Oct-20 A	09-Nov-20	04-Feb-21	05-Feb-21	87.5 0	95.24%			Review and Accepta	ance of Design
MPU20201108.2.1.4 Desig	gn of E&M Works for Lift Installation	63.0	0.0	63.0	(7days)	10-Dec-20	10-Feb-21	23-Mar-21	24-May-21	103.0					-
🛑 PD1040	Prepare and Submission of Design of E&M Works for Lift Installation	21.0	0.0	21.0	(7days)	10-Dec-20	30-Dec-20	23-Mar-21	12-Apr-21	103.0 0	0%				
PD1043	Review and Acceptance of E&M Works for Lift Installation (21D for PM Acceptance)	21.0	0.0	21.0	(7days)	31-Dec-20	20-Jan-21	13-Apr-21	03-May-21	103.0 0	0%				
PD1047	Review and Acceptance of E&M Works for Lift Installation (21D for HyD Acceptance)	21.0	0.0	21.0	(7days)	21-Jan-21	10-Feb-21	04-May-21	24-May-21	103.0 0	0%				-
MPU20201108.2.2 Tempo	orary Works Design	114.0	18.0	96.0	(7days)	22-Oct-20 A	12-Feb-21	14-Oct-20	11-May-21	88.0		-			
MPU20201108.2.2.22 Ten	nporary Working Platform for Seawall Modification Type II	21.0	18.0	3.0	(7days)	22-Oct-20 A	11-Nov-20	14-Oct-20	17-Oct-20	-25.5		-		11-Nov-20, MPU2	20201108.2.22
TW1520	Review and Acceptance of Temp. Working Platform for Seawall Modification Type 2 (21D for PM Acceptance)	21.0	18.0	3.0	(7days)	22-Oct-20 A	11-Nov-20	14-Oct-20	17-Oct-20	-25.5 0	85.71%	_		Review and Accep	pance of Temp
MPU20201108.2.2.21 For	rmwork Design for Seawall Modification Type I	35.0	0.0	35.0	(7days)	09-Nov-20	13-Dec-20	25-Jan-21	01-Mar-21	77.5				-	
<b>TW1490</b>	Prepare and Submission of Formwork Design for Seawall Modification Type 1	14.0	0.0	14.0	(7days)	09-Nov-20	22-Nov-20	25-Jan-21	08-Feb-21	77.5 0	0%			Prep	are and Subm
<b>—</b> TW1500	Review and Acceptance of Formwork Design for Seawall Modification Type 1 (21D for	21.0	0.0	21.0	(7days)	23-Nov-20	13-Dec-20	08-Feb-21	01-Mar-21	77.5 0	0%			-	
MPU20201108.2.2.16 For	PM Acceptance) rmwork Design for Elevated Cycle Track Decking	35.0	0.0	35.0	(7days)	21-Dec-20	24-Jan-21	07-Apr-21	11-May-21	107.0					
<b>TW1390</b>	Prepare and Submission of Formwork Design for Elevated Cycle Track Decking	14.0	0.0	14.0	(7days)	21-Dec-20	03-Jan-21	07-Apr-21	20-Apr-21	107.0 0	0%				
💼 TW1400	Review and Acceptance of Formwork Design for Elevated Cycle Track Decking (21 D for	21.0	0.0	21.0	(7days)	04-Jan-21	24-Jan-21	21-Apr-21	11-May-21	107.0 0	0%				
MPU20201108.2.2.8 Form	PM Acceptance) nwork Design for Elevated Deck Beams/Slab	35.0	0.0	35.0	(7days)	09-Nov-20	13-Dec-20	19-Dec-20	23-Jan-21	40.5					
TW1230	Prepare and Submission of Formwork Design for Elevated Beams/Slab	14.0	0.0	14.0	(7days)	09-Nov-20*	22-Nov-20	19-Dec-20	02-Jan-21	40.5 0	0%			Prep	are and Subm
— TW1240	Review and Acceptance of Formwork Design for Elevated Beams/Slab (21D for PM	21.0	0.0	21.0	(7days)	23-Nov-20	13-Dec-20	02-Jan-21	23-Jan-21	40.5 0	0%				
	Acceptance) rmwork Design for Elevated Cycle Track Columns	29.0	7.0	22.0	(7days)	02-Nov-20 A	30-Nov-20	05-Feb-21	26-Feb-21	88.0			-		30-Nov-20
TW1370	Prepare and Submission of Formwork Design for Elevated Cycle Track Columns	14.0	7.0	1.0	(7davs)	02-Nov-20 A	09-Nov-20	05-Feb-21	05-Feb-21	88.0 0	92.86%		_	Prepare and Submi	sion of Form
TW1380	Review and Acceptance of Formwork Design for Elevated Cycle Track Columns (21D for					10-Nov-20	30-Nov-20	06-Feb-21		88.0 0	0%				Review ar
	PM Acceptance) rmwork and Falsework Design for Construction of Lift Tower	14.0				30-Jan-21	12-Feb-21		03-May-21	80.0					1
TW1330	Prepare and Submission of Formwork Design for Lift Tower	14.0				30-Jan-21	12-Feb-21	20-Apr-21	03-May-21	80.0 0	0%				
		137.0				20-Oct-20 A	05-Mar-21		24-May-21	80.0	078				
	d Statement for Major Construction Works											ľ			
MPU20201108.2.3.10 Cor		36.0				29-Jan-21	05-Mar-21	20-Apr-21		80.0					
💼 MS1100	Prepare and Submission of Method Statement for Construction of Lift Tower (21D for PN Acceptance)					30-Jan-21	05-Mar-21	20-Apr-21	24-May-21	80.0 0	0%				
💼 MS1150	Prepare and Submission of Method Statement for Installation of Lift (21D for PM Acceptance)	35.0	0.0			29-Jan-21	04-Mar-21	20-Apr-21	24-May-21	81.0 0	0%				
MPU20201108.2.3.11 Sea	avall Modification Type I	35.0	0.0	35.0	(7days)	09-Nov-20	13-Dec-20	25-Jan-21	01-Mar-21	77.5					
<b>MS1350</b>	Prepare and Submission of Method Statement for Seawall Modification Type I	14.0	0.0	14.0	(7days)	09-Nov-20	22-Nov-20	25-Jan-21	08-Feb-21	77.5	0%			Prep	are and Subm
👝 MS1540	Review and Acceptance of Method Statement for Seawall Modification Type I by PM	21.0	0.0	21.0	(7days)	23-Nov-20	13-Dec-20	08-Feb-21	01-Mar-21	77.5	0%			L=	
MPU20201108.2.3.20 Sea	awall Modification Type I	24.0	20.0	10.0	(7days)	20-Oct-20 A	18-Nov-20	07-Oct-20	17-Oct-20	-32.5				▼ 18-Nov-2	0, MPU20201
— MS1555	Prepare and Submission of Method Statement for Seawall Modification Type II (Rev.1)	4.0	0.0	4.0	(7days)	09-Nov-20	12-Nov-20	07-Oct-20	11-Oct-20	-32.5	0%			Prepare and Sul	bmission of Me
		1	I [			<u> </u>	1					11			<u>!</u>
Actual Level of Ef	fort   Milestone	Ţ								MPU	J (Nov-	20)		Date 08-Nov-20	Monthly
Actual Work	summary									Page	: 1			00-1100-20	рионину

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			<b>1</b> 0	-Feb-21, MPU2	0201108
in of Noise	Enclosure Structural Steek Wo	rke			
oise Enclosu	re Structural Steel Works (Rev	и.В)			
oise Enclosi	ure Transparent Panels				
closure Tra	nsparent Panels by PM (Rev. E	3)			
			<b></b> 10	-Feb-21, MPU2	0201108
	Prepare and Submission of D	esian	of F&M Works	for Lift Installatio	n
		-			
· <b>►</b> [	Revie	w an	d Acceptance of	E&M Works for	Lift Insta
	<del>اه</del> ا		Re	eview and Accept	ance of
				12-Feb-21, MPU	202011
ry Working	Platform for Seawall Modificati	on Ty	vpe II		
Platform for	Seawall Modification Type 2 (2	1D fo	r PM Acceptano	xe)	
	0201108.2.2.21 Formwork De				
			or Seawaii Moo	incation type t	
mwork Des	ign for Seawall Modification Ty	be 1			
and Accept	ance of Formwork Design for S	Seaw	all Modification	Type 1 (21D for	PM Acce
	2	4-Ja	n-21, MPU2020	1108.2.2.16 For	mwork [
	Prepare and Submission	of Fo	rmwork Design	for Elevated Cy	cle Track
	► R	levie	w and Acceptan	ce of Formwork	Design fo
	0201108.2.2.8 Formwork Desi				
		giric	Elevated Dec	C Dearns Slab	
mwork Des	ign for Elevated Beams/Slab				
and Accept	ance of Formwork Design for I	Eleva	ted Beams/Slat	0 (21D for PM Ac	ceptanci
1108.2.2.1	Formwork Design for Elevate	ed Cy	cle Track Colum	nns	
for Elevate	d Cycle Track Columns				
e of Formv	vork Design for Elevated Cycle	Trac	k Columns (21D	for PM Accepta	nce)
		-		12-Feb-21, MPU	1202011
		•			
				Prepare and Sul	pmission
					<b>–</b> (
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					Pr
-20, MPI 12	0201108.2.3.11 Seawall Modifi	catio	n Tvpe I		
mod Staten	ent for Seawall Modification Ty	pe I			
and Accept	ance of Method Statement for	Seav	wall Modification	Type I by PM	
Seawall Mo	dification Type II				
nent for Sea	wall Modification Type II (Rev.1	)			
Revisi	on	(	Checked	Approve	ed
nme Up	date (Nov 2020)	ΤL		StL	

ctivity ID		Activity Name	Original Actual Duration Duration		Start	Finish	Late Start	Late Finish	Total TRA Float	Activity % Complete			2020		1		2021	
	<b>MS1560</b>	Review and Acceptance of Method Statement for Seawall Modification Type II (Rev.1) by	21.0 20.0		20-Oct-20 A	18-Nov-20	11-Oct-20	17-Oct-20	-32.5	71.43%			Q4 Review an	Acceptance of Met	hod Statemen	nt for Seawall Modification Type II (R	Q1 ev:1) by PM	
	MPU20201108.2.3.14 Noise Barrier C	PM Construction	21.0 20.0	3.0 (7davs)	20-Oct-20 A	11-Nov-20	19-Oct-20	22-Oct-20	-20.5				11-Nov-20, MPU20	2011 08.2.3.14 Noi	sel Barrier Cor	nstruction		
	<u> </u>									05 740/								
	📺 MS1530	Review and Acceptance of Method Statement for Noise Barrier Construction (Rev.A) by PM	21.0 20.0	3.0 (7days)	20-Oct-20 A	11-Nov-20	19-Oct-20	22-Oct-20	-20.5 0	85.71%			Review and Accept	ance of Method Sta	tement for No	ise Barrier Construction (Rev.A) by		
5	MPU20201108.2.4 General Submiss	sions	242.0 147.0	95.0 (7days)	15-Jun-20 A	11-Feb-21	10-Nov-20	23-Jul-21	161.5								▼ 11-Feb-21, N	IPU202011 0
	💼 GS1165	Preparation & Submission of ICE (E&M) PII Policy	28.0 0.0	28.0 (7days)	31-Dec-20	27-Jan-21	27-Apr-21	24-May-21	117.0 0	0%		$\square$			ſ	►	Preparation & Submission of I	CE (E&M) PI
	MPU20201108.2.4.1 TTA and XP Sub	mission	242.0 147.0	95.0 (7days)	15-Jun-20 A	11-Feb-21	10-Nov-20	23-Jul-21	161.5								▼ 11-Feb-21, N	1PU2020110
	MPU20201108.2.4.1.3 Wan Po Roa	ad	242.0 147.0	95.0 (7days)	15-Jun-20 A	11-Feb-21	10-Nov-20	23-Jul-21	161.5								▼ 11-Feb-21, N	/IPU2020110
	GS2000	Preparation of TTA and Submission of TTA (Carriageway) to TMLG	80.0 147.0	5.0 (7days)	15-Jun-20 A	13-Nov-20	10-Nov-20	15-Nov-20	1.5 0	93.75%			Preparation of T	A and Submission	of TTA (Carria	ageway) to TMLG		
	GS2010	Review of TTA Scheme (Carriageway)	30.0 0.0	30.0 (7days)	14-Nov-20	13-Dec-20	24-May-21	23-Jun-21	191.5 0	0%		 	<b>&gt;</b>	R	eview of TTA	Scheme (Carriageway)		
	GS2020	Submission of Revised TTA (Carriageway) and Acceptance of TTA in TMLG	30.0 0.0	30.0 (7days)	14-Dec-20	12-Jan-21	23-Jun-21	23-Jul-21	191.5 0	0%						Submission of Re	vised TTA (Carriageway) and	Acceptance
							15-Nov-20											
	GS2500	Preparation of TTA and Submission of TTA (Footpath) to TMLG		60.0 (7days)		12-Jan-21			1.5 0	0%			-				A and Submission of TTA (Fo	
	GS2510	Review of TTA Scheme (Footpath)	30.0 0.0	30.0 (7days)	13-Jan-21	11-Feb-21	14-Jan-21	13-Feb-21	1.5 0	0%						· <b>&gt;</b>	Review of TT	A Scheme (F
4	MPU20201108.2.5 Project Manager	Acceptance of Sub-Contractors	0.0 0.0	0.0 (7days)	30-Dec-20	30-Dec-20	30-Dec-20	30-Dec-20	0.0							▼ 30-Dec-20, MPU20201108.2.5	Project Manager Acceptance o	of Sub-Contra
	<b>SC1040</b>	ICE for E&M Works	0.0 0.0	0.0 (7days)		30-Dec-20*		30-Dec-20	0.0 0	0%						<ul> <li>ICE for E&amp;M Works,</li> </ul>		
	MPU20201108.7 Construction	Works	438.0 307.0	125.0	28-Oct-19 A	13-Apr-21	31-Jul-20	27-Oct-21	161.5									
	MPU20201108.7.1 Preliminaries		338.0 243.0	95.0	14-Jan-20 A	05-Mar-21	09-Sep-20	12-May-21	53.5									
	PREL1130-02	Sample Selection and Testing for Structural Steels for Pre-fabrication of Noise Enclosure	33.0 108.0	20.0 (6days)	02-Jul-20 A	01-Dec-20	09-Sep-20	05-Oct-20	-48.5 0	39.39%				Sample Selection	on and Testing	for Structural Steels for Pre-fabrica	ion of Noise Enclosure	
-	PREL1130-12	Fabrication of Structural Elements for Noise Enclosure	60.0 0.0	60.0 (6days)	02-Dec-20	16-Feb-21	05-Oct-20	15-Dec-20	-48.5 0	0%							Fabrica	ation of Struct
	PREL1130-22	Delivery of Structural Elements for At-grade Road Noise Enclosure	60.0 0.0	60.0 (6days)		27-Feb-21	16-Oct-20		-48.5 0	0%		 						Delivery
	PREL1140-01	Fabrication of Sub-frame and PMMA Panels for Noise Enclosure	60.0 0.0	60.0 (6days)	02-Dec-20	16-Feb-21	05-Feb-21	23-Apr-21	53.5 0	0%			-				Fabrica	ation of Sub-f
	PREL1140-21	Delivery of Sub-frame and PMMA Panels for Noise Enclosure	30.0 0.0	30.0 (6days)	27-Jan-21	05-Mar-21	06-Apr-21	12-May-21	53.5 0	0%						La		
	PREL1150-00	Procurement, factory acceptance test for Lift	90.0 0.0	90.0 (6days)	09-Nov-20	27-Feb-21	23-Dec-20	16-Apr-21	38.0 0	0%								Procure
	PREL1250	Procurement, Factory Acceptance Test and Delivery of Bearing	80.0 300.0	22.0 (7days)	14-Jan-20 A	30-Nov-20	15-Dec-20	06-Jan-21	36.5 0	72.5%			Г	Procurement, Fa	actory Accpeta	nce Test and Delivery of Bearing		
	MPU20201108.7.2 Construction Wo	orks of Portion I	118.0 27.0	92.0 (6days)	07-Oct-20 A	02-Mar-21	11-Sep-20	27-Oct-21	194.5			 						02-1
	MPU20201108.7.2.1 Cycle Track - U-	trough	116.0 27.0	90.0 (6days)	07-Oct-20 A	27-Feb-21	16-Mar-21	27-Oct-21	196.5			_						27-Feb
	MPU20201108.7.2.1.1 Excavation	to U-tough Level(+5.0mPD to +4.4mPD) (700m3)	38.0 0.0	38.0 (6days)	30-Dec-20	16-Feb-21	03-Jul-21	17-Aug-21	148.5							▼	▼ 16-Feb	o-21, MPU202
	PORI.UT.EX1050	Excavation to U-trough Founding Level for Construction of Bay 1-2 (+5.0mPD to	8.0 0.0	8.0 (6days)	30-Dec-20	08-Jan-21	03-Jul-21	13-Jul-21	148.5 0	0%					-	Excavation to U-troug	h Founding Level for Construc	ction of Bay 1
	PORI.UT.EX1060	+4.4mPD) Utilities Diversion for Bay 1-2	30.0 0.0	30.0 (6days)		16-Feb-21		17-Aug-21	148.5 0	0%								Diversion for
										078		 					01-Feb-21, MPU202011	
		on of U-trough Structure (9 Bays, 27D/Bay, 1 Team)	70.0 0.0	70.0 (6days)		01-Feb-21		27-Oct-21									01-Feb-21, MP0202011	J8.7.2.1.2 C
	PORI.UT.ST1010-23	Construction of U-trough Structure Bay 9 Wall Stem (2nd pour)	10.0 0.0	10.0 (6days)	09-Nov-20	19-Nov-20	03-Aug-21	14-Aug-21	216.5 0	0%			Constructi	on of U-trough Str	icture Bay 9 W	/all Stem (2nd pour)		
	PORI.UT.ST1010-33	Construction of U-trough Structure Bay 8 Wall Stem (2nd pour)	10.0 0.0	10.0 (6days)	20-Nov-20	01-Dec-20	14-Aug-21	26-Aug-21	216.5 0	0%				Construction of	U-trough Stru	icture Bay 8 Wall Stem (2nd pour)		
	PORI.UT.ST1010-43	Construction of U-trough Structure Bay 7 Wall Stem (2nd pour)	10.0 0.0	10.0 (6days)	02-Dec-20	12-Dec-20	26-Aug-21	07-Sep-21	216.5 0	0%				Co	nstruction of L	J-trough Structure Bay 7 Wall Stem	(2nd pour)	
	PORI.UT.ST1010-53	Construction of U-trough Structure Bay 6 Wall Stem (2nd pour)	10.0 0.0	10.0 (6days)	14-Dec-20	24-Dec-20	07-Sep-21	18-Sep-21	216.5 0	0%				┕╼┏		nstruction of U-trough Structure Bay	6 Wall Stem (2nd pour)	
	PORI.UT.ST1040-21	Construction of U-trough Structure Bay 3 Base Slab	14.0 0.0	14.0 (6days)	09-Nov-20	24-Nov-20	12-May-21	29-May-21	148.5 0	0%		 ·····	Con:	struction of U-troug	h Structure Ba	ay 3 Base Slab		
	PORI.UT.ST1040-51	Construction of U-trough Structure Bay 3 Wall Stem (1st pour)	14.0 0.0	14.0 (6days)	25-Nov-20	10-Dec-20	29-May-21	16-Jun-21	148.5 0	0%			-	Cons	truction of U-ti	rough Structure Bay 3 Wall Stem (1	st pou r)	
	PORI.UT.ST1040-61	Construction of U-trough Structure Bay 5 Wall Stem (2nd pour)	10.0 0.0	10.0 (6days)	28-Dec-20	08-Jan-21	18-Sep-21	02-Oct-21	216.5 0	0%						Construction of U-trou	igh Structure Bay 5 Wall Stem	1 (2 nd pour)
																Г		
	PORI.UT.ST1040-71	Construction of U-trough Structure Bay 4 Wall Stem (2nd pour)	10.0 0.0	10.0 (6days)	09-0811-21	20-Jan-21	02-Oct-21	15-00-21	216.5 0	0%						Constru	ction of U-trough Structure Ba	y + vvan Sten
			I						1				Date	1	Por	ision	Checked Appr	roved
	Actual Level of Effort	♦ ♦ Milestone								(Nov-	20)		08-Nov-20	Monthly Prog		Jpdate (Nov 2020) T		roved
	Actual Work Remaining Work	summary							Page	2						· 1	•	
	Critical Remaining Work																	
	-								1				1					1

PORLUT.ST1040-81       Construction of U-trough Structure Bay 3 Wall Sem (2nd pour)       100       0.0       100       (6days)       21-Jan-21       01-Feb-21       15-Oct-21       27-Oct-21       21-56       0       0.0       0.0       0.0       100       (6days)       21-Jan-21       01-Feb-21       15-Oct-21       21-56       0       0.0       0.0       0.0       100       (6days)       21-Jan-21       01-Feb-21       15-Oct-21       21-56       0       0.0       0.0       0.0       100       (6days)       11-Dec-20       29-Dec-20       16-Jun-21       0.3-Jul-21       148.5       0       0.0       0		Activity Name	Original	Actual	Remaining Duration	alendar	Start	Finish	Late Start	Late Finish	Total TRA	A Activity % Complete				2020		
Product 24 - 4 model and a low of the low o	PORI.UT.ST1040-81	Construction of U-trough Structure Bay 3 Wall Stem (2nd pour)					21-Jan-21	01-Feb-21	15-Oct-21	27-Oct-21						Q4		<b>—</b>
BOULT MOD       Bound Structure Stru	PORI.UT.ST1050	Access Road Modification from Seaside to Depot Side	14.0	0.0	14.0	) (6days)	11-Dec-20	29-Dec-20	16-Jun-21	03-Jul-21	148.5 0	0%						
POINT (ITTE)       Concentrational Distance Inductional Distance Inductinal Distance Inductinal Distance Inductional Distance Inductional	MPU20201108.7.2.1.4 Rema	ining Works	116.0	27.0	90.0	(6days)	07-Oct-20 A	27-Feb-21	16-Mar-21	07-Jul-21	103.5				$\square$		_	
CALL NO       Canada - Diama La Britona Briton			30.0	27.0					16-Mar-21	12-Apr-21		33,33%					Revir	iew an
PRULETION       Control of angle V 34H (1) (2) 24H (1)       Vice       Vice      <																		
TRUE DATA       110       20       60       100001       100002       1000011 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																		
PALE 24 / 22 means       PAL       PAL </td <td></td> <td>0%</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>												0%						
Function Victor       Function Victor       6.0       7.00													•					
100/10/10/00       extent of Concent (extored (extore	<u> </u>	ration to Pile Cap Level (+5.0mPD to +2.8mPD) (2000m3)	53.0	23.0	30.0	) (6days)	12-Oct-20 A	12-Dec-20	11-Sep-20	04-Jan-21	16.0							
OPENEEDHOND         Deside Dark Dar Cachendral Capergramme         Sol         Sol <td>PORI.ED.EX1030</td> <td>Excavation to Strut Level (+5.0mPD to +4.0mPD)</td> <td>8.0</td> <td>23.0</td> <td>8.0</td> <td>) (6days)</td> <td>12-Oct-20 A</td> <td>17-Nov-20</td> <td>11-Sep-20</td> <td>21-Sep-20</td> <td>-46.5 0</td> <td>0%</td> <td></td> <td></td> <td></td> <td>Excava</td> <td>ion to Strut Le</td> <td>evel</td>	PORI.ED.EX1030	Excavation to Strut Level (+5.0mPD to +4.0mPD)	8.0	23.0	8.0	) (6days)	12-Oct-20 A	17-Nov-20	11-Sep-20	21-Sep-20	-46.5 0	0%				Excava	ion to Strut Le	evel
Number Num Number Number Number Number Number Number N	PORI.ED.EX1040	Installation of Concrete Blocks and Struts for ELS	20.0	0.0	20.0	) (6days)	14-Nov-20	07-Dec-20	03-Dec-20	28-Dec-20	16.0	0%			$\neg$			Ins
OPRILE DC1016         Centurition of PC10 bit Initialization of Cogening parts         1 <th< td=""><td>PORI.ED.EX1060</td><td>Excavation to Pile Cap Founding Level (+2.8mPD)</td><td>20.0</td><td>0.0</td><td>20.0</td><td>(6days)</td><td>20-Nov-20</td><td>12-Dec-20</td><td>09-Dec-20</td><td>04-Jan-21</td><td>16.0</td><td>0%</td><td></td><td></td><td></td><td>┕╸</td><td></td><td></td></th<>	PORI.ED.EX1060	Excavation to Pile Cap Founding Level (+2.8mPD)	20.0	0.0	20.0	(6days)	20-Nov-20	12-Dec-20	09-Dec-20	04-Jan-21	16.0	0%				┕╸		
ONITED CRUCE       Generator of ORD period leaders/ Capacy gales/       140 <td>MPU20201108.7.2.2.5 Const</td> <td>truction of Pile Caps (10 PC, 14D/Cap, 4teams)</td> <td>42.0</td> <td>0.0</td> <td>42.0</td> <td>(6days)</td> <td>18-Nov-20</td> <td>08-Jan-21</td> <td>20-Nov-20</td> <td>06-Apr-21</td> <td>69.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	MPU20201108.7.2.2.5 Const	truction of Pile Caps (10 PC, 14D/Cap, 4teams)	42.0	0.0	42.0	(6days)	18-Nov-20	08-Jan-21	20-Nov-20	06-Apr-21	69.0							
<ul> <li>PORLID-POIND</li> <li>Commution of Diginal instantiant of Caganguation</li> <li>PORLID-POIND</li> <li>Commution of DC fract instantin dC Gagnaguation<!--</td--><td>PORI.ED.PC1010</td><td>Construction of PC10 (incl. Installation of Capping plate)</td><td>14.0</td><td>0.0</td><td>14.0</td><td>) (6days)</td><td>18-Nov-20</td><td>03-Dec-20</td><td>20-Nov-20</td><td>05-Dec-20</td><td>2.0</td><td>0%</td><td></td><td></td><td></td><td>-</td><td><b></b> ⊷</td><td>onstr</td></li></ul>	PORI.ED.PC1010	Construction of PC10 (incl. Installation of Capping plate)	14.0	0.0	14.0	) (6days)	18-Nov-20	03-Dec-20	20-Nov-20	05-Dec-20	2.0	0%				-	<b></b> ⊷	onstr
PORLED.PC1001         Cardration of CC (ric, Induktion of Cacegorg Joint)         Idda	PORI.ED.PC1020	Construction of PC9 (incl. Installation of Capping plate)	14.0	0.0	14.0	) (6days)	18-Nov-20	03-Dec-20	20-Nov-20	05-Dec-20	2.0	0%				<b>-</b>		onstr
PRIED PC108         Contractor of PC6 (rod Instaltation of Capping skin)         Image: PC 1000         PD 10000         PD 10000         PD 1000         PD 10000         PD 100000         PD 1000000         PD 1000000         PD 100000000000         PD 100000000000000000000000000	PORI.ED.PC1030	Construction of PC8 (incl. Installation of Capping plate)	14.0	0.0	14.0	) (6days)	18-Nov-20	03-Dec-20	20-Nov-20	05-Dec-20	2.0	0%				-		onst
OPRILED PC1000         Contractor of PC5 incl. Intralation of Captors grinted         14.0<	PORI.ED.PC1040	Construction of PC7 (incl. Installation of Capping plate)	14.0	0.0	14.0	) (6days)	04-Dec-20	19-Dec-20	21-Dec-20	08-Jan-21	14.0	0%					-	
OPRILED PC1000         Contractor of PC5 incl. Intralation of Captors grinted         14.0<	PORI.ED.PC1050	Construction of PC6 (incl. Installation of Capping plate)	14.0	0.0	14.0	) (6days)	04-Dec-20	19-Dec-20	21-Dec-20	08-Jan-21	14.0	0%						
PRILED PC1970       Oralization of PC4 (Pd. Initiation of Capera gales)       10       10       10       10       10       10       10       10       10       10       100			14.0	0.0					21-Dec-20	08-Jan-21	14.0	0%					-	
PORLED PC1080         Communication of IPC3 (rd. Installation of Capping plata)         140         0         140         064         21.0e         0         0.40         0.64         0         0.40         0.64         0         0.40         0.64         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0.40         0         0         0.40         0         0         0.40         0																		
PORLED PC1600         Contranuction of PC2 (red. Installation of Capeling pine)         14.0         14.																		
PRRED PC1 00         Construction of PC1 (not. Introduction of Capero galaxie)         100 <td></td>																		
MPU2020108.7.2.2.6 Construction of Abutment (16pcs, 10D/column, 4 teams)         Add         A			14.0	0.0	14.0	) (6days)	21-Dec-20	08-Jan-21	09-Jan-21	25-Jan-21	14.0	0%						
PORLED.CP1010       Construction of Abutment 1A       360       360       6409       04-De-20       11-Jan-21       16-Mar-21       22-Apr-21       81.0       0       0/6         PORLED.CP1020       Installation of Bearings       150       0       150       (6499)       12-Jan-21       28-Jan-21       19-Jan-21	PORI.ED.PC1100	Construction of PC1 (incl. Installation of Capping plate)	14.0	0.0	14.0	) (6days)	21-Dec-20	08-Jan-21	09-Jan-21	25-Jan-21	14.0	0%						
PORLED.CP1020       Installation of Bearings       Installation of Bearins       Installation of Bearings <td>MPU20201108.7.2.2.6 Const</td> <td>truction of Columns and Abutment (16pcs, 10D/column, 4 teams)</td> <td>54.0</td> <td>0.0</td> <td>54.0</td> <td>) (6days)</td> <td>04-Dec-20</td> <td>08-Feb-21</td> <td>27-Feb-21</td> <td>11-May-21</td> <td>72.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	MPU20201108.7.2.2.6 Const	truction of Columns and Abutment (16pcs, 10D/column, 4 teams)	54.0	0.0	54.0	) (6days)	04-Dec-20	08-Feb-21	27-Feb-21	11-May-21	72.0							
- Doralized Construction Column PC9-CA       - Construction Column PC9-CB       - Construction Column PC9	PORI.ED.CP1010	Construction of Abutment 1A	30.0	0.0	30.0	) (6days)	04-Dec-20	11-Jan-21	16-Mar-21	22-Apr-21	81.0 0	0%					-	_
- Doral ED CP1040       Construction Column PCs-CB       Construc	PORI.ED.CP1020	Installation of Bearings	15.0	0.0	15.0	(6days)	12-Jan-21	28-Jan-21	23-Apr-21	11-May-21	81.0 0	0%						
CCC	PORI.ED.CP1030	Construction Column PC9-CA	10.0	0.0	10.0	(6days)	21-Dec-20	04-Jan-21	27-Feb-21	10-Mar-21	53.0	0%						
-       -	PORI.ED.CP1040	Construction Column PC9-CB	10.0	0.0	10.0	(6days)	21-Dec-20	04-Jan-21	27-Feb-21	10-Mar-21	53.0	0%						
PORLED.CP1070Construction Column PC7-CAConstruction Column PC7-CBConstruction Column PC6-CBConstruction	PORI.ED.CP1050	Construction Column PC8-CA	10.0	0.0	10.0	) (6days)	21-Dec-20	04-Jan-21	27-Feb-21	10-Mar-21	53.0	0%						
Image: Construction Column PC7-CB       Image: Construction Column PC6-CA       Image:	PORI.ED.CP1060	Construction Column PC8-CB	10.0	0.0	10.0	) (6days)	21-Dec-20	04-Jan-21	27-Feb-21	10-Mar-21	53.0	0%						
And and an analysis       And and and an analysis       And and an analysis       And and an analysis       And and an analysis       And and analysis       And	PORI.ED.CP1070	Construction Column PC7-CA	10.0	0.0	10.0	) (6days)	05-Jan-21	15-Jan-21	11-Mar-21	22-Mar-21	53.0	0%						
A       A	PORI.ED.CP1080	Construction Column PC7-CB	10.0	0.0	10.0	) (6days)	05-Jan-21	15-Jan-21	11-Mar-21	22-Mar-21	53.0	0%						
A construction Column PC6-CBConstruction Column PC5-CAConstruction Column PC5-CBConstruction Column PC5-CBConstruction Column PC5-CBConstruction Column PC5-CAConstruction Column PC5-CBConstruction Column PC5-CB <t< td=""><td></td><td>Construction Column PC6-CA</td><td>10.0</td><td>0.0</td><td>10.0</td><td>) (6days)</td><td>05-Jan-21</td><td>15-Jan-21</td><td>11-Mar-21</td><td>22-Mar-21</td><td>53.0</td><td>0%</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>		Construction Column PC6-CA	10.0	0.0	10.0	) (6days)	05-Jan-21	15-Jan-21	11-Mar-21	22-Mar-21	53.0	0%						
C         C	PORI.ED.CP1090			0.0	10.0	) (6davs)	05-Jan-21	15-Jan-21	11-Mar-21	22-Mar-21	53.0	0%						
Construction Column PC5-CB         Construction Column PC4-CA         Construction Column PC4-CA <th< td=""><td></td><td>Construction Column PC6-CB</td><td>10.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		Construction Column PC6-CB	10.0															
Image: Construction Column PC4-CA	PORI.ED.CP1095				10.0	) (6days)	16-Jan-21				00.0	0,0						
	<ul><li>PORI.ED.CP1095</li><li>PORI.ED.CP1100</li></ul>	Construction Column PC5-CA	10.0	0.0						00 4== 04	50.0	00(						
PORI.ED.CP1130       Construction Column PC4-CB       10.0       0.0       10.0       (6days)       16-Jan-21       27-Jan-21       23-Mar-21       06-Apr-21       53.0       0%	<ul> <li>PORI.ED.CP1095</li> <li>PORI.ED.CP1100</li> <li>PORI.ED.CP1110</li> </ul>	Construction Column PC5-CA Construction Column PC5-CB	10.0	0.0	10.0	) (6days)	16-Jan-21	27-Jan-21	23-Mar-21									
	<ul> <li>PORI.ED.CP1095</li> <li>PORI.ED.CP1100</li> <li>PORI.ED.CP1110</li> <li>PORI.ED.CP1120</li> </ul>	Construction Column PC5-CA Construction Column PC5-CB	10.0	0.0	10.0	) (6days)	16-Jan-21	27-Jan-21	23-Mar-21									
Actual Level of Effort  MIPU (Nov-20)	<ul> <li>PORI.ED.CP1095</li> <li>PORI.ED.CP1100</li> <li>PORI.ED.CP1110</li> <li>PORI.ED.CP1120</li> </ul>	Construction Column PC5-CA Construction Column PC5-CB Construction Column PC4-CA	10.0	0.0	10.0	) (6days) ) (6days)	16-Jan-21 28-Jan-21	27-Jan-21 08-Feb-21	23-Mar-21 07-Apr-21	17-Apr-21	53.0	0%	202			Date		

					2021 Q1		
					Construction	of U-trough Stru	icture Ba
A	ccess	Road	Modification fro	m Sea	side to Depot S	ide	
						v	27-Feb-
nce of Desig	n for F	Sfor	Drainage				
ice of 2 colg							
			Constructi	on of D	rainage for SM	H102 to SMH103	5
			<b>-</b>				Constru
							<b>V</b> 02-N
20, MPU202	201108	3.7.2.2.	4 Excavation to	o Pile C	ap Level (+5.0	mPD to +2.8mPD	) (2000r
o +4.0mPD)							
0 <del>1</del> 4.011F D)							
Concrete Blo	ocks a	nd Stru	ts for ELS				
on to Pile C	ap Fou	unding	Level (+2.8mPI	D)			
		• 08	-Jan-21, MPU2	202011	08.7.2.2.5 Con	struction of Pile C	aps (10
10 (incl Ins	tallatio	n of Ca	apping plate)				
9 (incl. Insta	Illation	of Cap	oping plate)				
8 (incl. Insta	Illation	of Cap	oping plate)				
Construction	of PC	7 (Incl	Installation of	Cappin	g plate)		
Construction	of PC	C6 (Incl	Installation of	Cappin	g plate)		
			Installation of				
Construction	IUIFC		. Installation of	Cappin	g plate)		
Construction	of PC	24 (Incl	Installation of	Cappin	g plate)		
	-		onstruction of P	C3 (inc	I. Installation of	Capping plate)	
	_		onstruction of P	C2 (inc	I. Installation of	Capping plate)	
		Co	onstruction of P	C1 (inc	I. Installation of	Capping plate)	
					08-5	eb-21, MPU202	11108 7
						00 21,111 0202	
			Construction of	f Abutr	nent 1A		
		╘╸		💻 Ir	stallation of Be	arings	
		Constr	uction Column I	PC9-C	A		
		Constr	uction Column I	PC9-Cl	в		
		Constru	uction Column	PC8-C	A		
	Γ						
	P	Constr	uction Column I	PC8-CI	В		
	-		Construc	ion Co	umn PC7-CA		
	-		Construc	ion Co	umn PC7-CB		
	-		Construc	ion Co	umn PC6-CA		
					umn PC6-CB		
	-		Γ				
			-	Co	nstruction Colu	mn PC5-CA	
			-	Co	nstruction Colu	mn PC5-CB	
				-	Con	struction Column	PC4-CA
			<b> </b>	Co	nstruction Colu	mn PC4-CB	
Revisi					Checked	Approve	h
nme Upo		(Nov	( 2020)	TL		Approve StL	,u

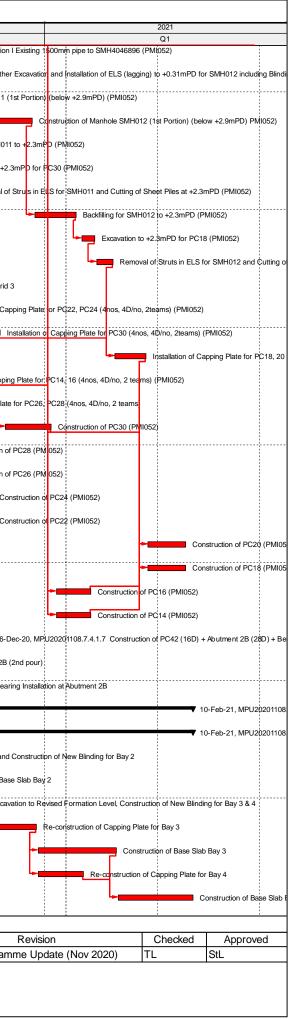
	Activity Name	Original	Actual Duration	Remaining Duration	alendar	Start	Finish	Late Start	Late Finish	Total T Float	RA Activity % Complete			2020		
PORI.ED.CP1140	Construction Column PC3-CA	10.0	ļ		) (6days)	28-Jan-21	08-Feb-21	07-Apr-21	17-Apr-21	53.0	0%			Q4		
PORI.ED.CP1150	Construction Column PC3-CB	10.0	0.0	10.0	) (6days)	28-Jan-21	08-Feb-21	07-Apr-21	17-Apr-21	53.0	0%					
MPU20201108.7.2.2.9 Drai	inage Works	70.0	0.0	70.0	(6days)	04-Dec-20	02-Mar-21	07-Dec-20	04-Mar-21	2.0						
PORI.ED.DRA1015	Excavation for Construction of Drainage	10.0	0.0	10.0	) (6days)	04-Dec-20	15-Dec-20	07-Dec-20	17-Dec-20	2.0	0%					
PORI.ED.DRA1020	Construction of Drainage from SMH105 to SMH106	20.0	0.0	20.0	) (6days)	16-Dec-20	11-Jan-21	18-Dec-20	13-Jan-21	2.0	0%					
PORI.ED.DRA1030	Construction of Drainage from SMH106 to SMH107	20.0				12-Jan-21	03-Feb-21	14-Jan-21	05-Feb-21	2.0	0%					
PORI.ED.DRA1040	Construction of Drainage from SMH107 to SMH108	20.0				04-Feb-21	02-Mar-21		04-Mar-21	2.0	0%					
MPU20201108.7.2.3 Lift and		28.0					10-Feb-21		02-Mar-21		078					
						09-Jan-21										
<u>–</u>	avation to Pile Cap Level (+5.0mPD to +2.8mPD)	5.0				09-Jan-21		26-Jan-21		14.0					1	
PORI.LS.EX1010	Excavation to Pile Cap Level (+5.0mPD to +2.8mPD)	5.0	0.0	5.0	) (6days)	09-Jan-21	14-Jan-21	26-Jan-21	30-Jan-21	14.0 0	0%					
MPU20201108.7.2.3.5 Con	nstruction of Pile Caps (5 PC, 14D/Cap, 3teams)	23.0	0.0	23.0	(6days)	15-Jan-21	10-Feb-21	01-Feb-21	02-Mar-21	14.0						
PORI.LS.PC1000	Construction of Pile Caps (5PC, 14D/cap, 3 teams)	23.0	0.0	23.0	) (6days)	15-Jan-21	10-Feb-21	01-Feb-21	02-Mar-21	14.0 0	0%					
MPU20201108.7.3 Construc	tion Works of Portion II	50.0	7.0	35.0	(6days)	31-Oct-20 A	30-Dec-20	21-Sep-20	23-Jan-21	19.5				-		
MPU20201108.7.3.1 Abutmer	nt 2A	15.0	0.0	15.0	) (6days)	01-Dec-20	17-Dec-20	06-Jan-21	23-Jan-21	28.5						
MPU20201108.7.3.1.4 Con	nstruction of Abutment Structure	15.0	0.0	15.0	) (6days)	01-Dec-20	17-Dec-20	06-Jan-21	23-Jan-21	28.5						
PORII.AB.ST1040	Installation of Bearing	15.0	0.0	15.0	) (6days)	01-Dec-20	17-Dec-20	06-Jan-21	23-Jan-21	28.5 0	0%				-	
MPU20201108.7.3.2 Elevated	d Deck	50.0	7.0	35.0	(6days)	31-Oct-20 A	30-Dec-20	21-Sep-20	23-Jan-21	19.5				<b>_</b>		
MPU20201108.7.3.2.14 Co	onstruction of Structure at Grid C	32.0	7.0	16.0	) (6davs)	31-Oct-20 A	07-Dec-20	19-Nov-20	23-Jan-21	37.5						<b>V</b> 07-D
PORII.ED.GC1040	Construction of Column at PC13	10.0				31-Oct-20 A			23-Nov-20	0.5 0	70%	-			Construction of	
PORII.ED.GC1050																Back
_	Backfilling to Interim Formation Level (7 Layers, 1.5D/Layer) (Grid C)	11.0				25-Nov-20	07-Dec-20		23-Jan-21	37.5 0	0%					
<u>*</u>	onstruction of Structure at Grid D	35.0				18-Nov-20		21-Sep-20		-59.5						
PORII.ED.GD1000	Excavation to Pile Cap Founding Level (+2.3mPD) (Grid D)	5.0	0.0	5.0	) (6days)	18-Nov-20	23-Nov-20	21-Sep-20	26-Sep-20	-46.5 0	0%				Excavation to	) Pile Ca
PORII.ED.GD1010	Installation of Capping Plate (2no, 4D/no) (Grid D)	8.0	0.0	8.0	) (6days)	24-Nov-20	02-Dec-20	26-Sep-20	08-Oct-20	-46.5 0	0%					stallation
PORII.ED.GD1020	Construction of PC12	9.0	0.0	9.0	(6days)	18-Dec-20	30-Dec-20	08-Oct-20	19-Oct-20	-59.5 0	0%					
MPU20201108.7.4 Construc	tion Works of Portion III	93.0	15.0	78.0	(6days)	21-Oct-20 A	10-Feb-21	31-Jul-20	23-Jan-21	-15.5		+			·····	
MPU20201108.7.4.1 Constru	iction of Elevated Deck and Abutment 2B	91.0	15.0	76.0	(6days)	21-Oct-20 A	08-Feb-21	10-Aug-20	23-Jan-21	-13.5		┝━━┿		╺╋╼╾┿		
MPU20201108.7.4.1.13 Co	onstruction of Grid B Structure	29.0	15.0	14.0	) (6days)	21-Oct-20 A	24-Nov-20	09-Nov-20	11-Jan-21	37.5		┝━━┿		╺╋━━┿	▼ 24 Nov-20, I	MPU20
PORIII.ED.GB.1080	Construction of Columns at PC36	10.0	15.0	3.0	) (6days)	21-Oct-20 A	11-Nov-20	09-Nov-20	12-Nov-20	0.5 0	70%			Construction	n of Columns at	t PC36
PORIII.ED.GB.1140	Backfilling to Interim Formation Level (Remaining Area, 7 Layers, 1.5D/Layer) (Grid B)	11.0	0.0	11.0	) (6days)	12-Nov-20	24-Nov-20	28-Dec-20	11-Jan-21	37.5	0%				Backfilling to	o Interin
MPU20201108.7.4.1.19 Co	onstruction of Grid C Structure	40.0	15.0	22.0	(6days)	21-Oct-20 A	07-Dec-20	12-Nov-20	23-Jan-21	37.5					<u></u>	<b>V</b> 07-D
PORIII.ED.GC.1050	Construction of Column at PC15	10.0	7.0	3.0	) (6days)	31-Oct-20 A	21-Nov-20	19-Nov-20	23-Nov-20	0.5 0	70%			<b>_</b> ,	Construction of	f Columr
PORIII.ED.GC.1060	Construction of Column at PC17	10.0	5.0	3.0	) (6days)	03-Nov-20 A	18-Nov-20	16-Nov-20	19-Nov-20	0.5 0	70%				nstruction of Col	olumn at
PORIII.ED.GC.1070	Construction of Column at PC19	10.0				03-Nov-20 A		16-Nov-20	19-Nov-20	0.5 0					nstruction of Col	
														_		
PORIII.ED.GC.1080	Construction of Column at PC21	10.0				21-Oct-20 A		12-Nov-20	16-Nov-20	0.5 0				Construc	ction of Column	
PORIII.ED.GC.1140	Backfilling to Interim Formation Level (7 Layers, 1.5D/Layer) (Grid C)	11.0	0.0	11.0	(6days)	25-Nov-20	07-Dec-20	11-Jan-21	23-Jan-21	37.5 0	0%		$\mathbf{N}$	L L P		Back
MPU20201108.7.4.1.20 Co	onstruction of Grid D Structure	79.0	3.0	76.0	) (6days)	05-Nov-20 A	08-Feb-21	10-Aug-20	10-Nov-20	-74.5						
PORIII.ED.GD.0180	Excavation to Pile Cap Bottom Level except PC18, PC20 & PC30 (+2.3mPD) includ. demolish Abandoned Drain pipe (Grid D)	8.0	0.0	8.0	(6days)	09-Nov-20	17-Nov-20	27-Aug-20	05-Sep-20	-59.5 0	0%			Exca	vation to Pile Ca	ap Botto

Actual Level of Effort	•	<ul> <li>Milestone</li> </ul>		MPU (Nov-20)	Date	
Actual Work	-	summary			08-Nov-20	Monthly Program
	•	▼ Summary		Page 4		
Remaining Work				0		
Critical Remaining Work						

					0004				
					2021 Q1				
				-		Cons	struction (	Column	PC3-C
				╞		Cons	struction (	Column	PC3-CI
									▼ 02-1
vation for Cor	nstructior	n of Drain	age						
		Cons	struction of	of Drain	age from	SMH1	105 to SN	IH106	
	1	-			Cons	structio	on of Dra	inage fi	rom SMI
					<b>-</b>				Cor
						▼ 10	-Feb-21,	MPU2	0201108
	_								
					0201108.				
	►		xcavation	n to Pile	Cap Leve	el (+5.0	OmPD to	+2.8mF	D)
		-				▼ 10	-Feb-21,	MPU2	0201108
							onstructio	n of Pile	Caps (
- 3	0-Dec-2	0, MPU2	0201108.	.7.3 Co	nstruction	VVOrk	IS OF PORT	on II	
Dec-20, MPI	J202011	08.7.3.1	Abutmer	nt 2A					
Dec-20, MPl	J202011	08.7.3.1.	4 Constr	ruction	of Abutme	nt Stru	ucture		
tallation of Be	earing								
- 3	0-Dec-2	0, MPU2	0201108.	.7.3.2 E	levated D	еск			
PU20201108.	7.3.2.14	Constru	iction of S	Structur	e at Grid (	2			
iterim Format	tion Lieve	l (7 Laye	rs, 1.5D/	Layer)	Grid C)				
	0.000.0		02011.08	7004	E Constru	otion	of Chruch	re et O	rid D
• 3	0-Dec-2	U, MPU2	0201108.	.7.3.2.1	5 Constru	ICtion (	or Structu	ire at G	na D
ng Level (+2.3	3mPD) (	Grid D)							
ng Plate (2no	, 4D/ho)	(Grid D)							
c	Construct	ion of PC	:12						
						10	Ech 21	MDU2	201109
						• 10	-Feb-21,	IVIF UZ	201100
						08-F	eb-21, M	PU202	01108.7
4.1.13 Cons	truction o	of Grid B	Structure	e					
n Level (Ren	naining A	rea 7 la	ivers 1.5	D/Lave	r) (Grid B)				
PU20201108.	7.4.1.19	Constru	iction of C	Grid C S	Structure				
iterim Format	tion Leve	l (7 Laye	rs, 1.5D/	Layer)	Grid C)				
	_					08-F	eb-21, M	PU202	01108.7
except PC18,	PC20 &	PC30 (+	2.3mPD)	includ	demolish	Abanc	loned Dr:	ain pipe	(Grid F
								F.90	, <b>u b</b>
Devici	<u> </u>			<b>—</b>	beeler		۸	Dro	
Revisio		ov 202	20)		Checke		Ap StL	prove	÷u
		0/	-/	1.2					

ID		Activity Name	Original	Actual	Remaining alendar Start	Finish	Late Start	Late Finish	Total TF	RA Activity %			2020		
			Duration Du						Float	Complete			Q4		
	PORIII.ED.GD.0200	Drainage Diversion of Portion I Existing 1500mm pipe to SMH4046896 (PMI052)	14.0	0.0	14.0 (6days) 09-Nov-20	24-Nov-20	10-Aug-20	26-Aug-20	-74.5 0	0%				Drainage Di	version of
	PORIII.ED.GD.0220	Further Excavation and Installation of ELS (lagging) to +0.31mPD for SMH012 including Blinding (NCE108, PMI052)	17.0	0.0	17.0 (6days) 25-Nov-20	14-Dec-20	26-Aug-20	15-Sep-20	-74.5 0	0%			4		٢
	PORIII.ED.GD.0230	Construction of Manhole SMH011 (1st Portion) (below +2.9mPD) (PMI052)	10.0	3.0	10.0 (6days) 05-Nov-20 A	19-Nov-20	25-Aug-20	05-Sep-20	-61.5 0	0%		7	Co	onstruction of M	anhole SN
	PORIII.ED.GD.0240	Construction of Manhole SMH012 (1st Portion) (below +2.9mPD) PMI052)	10.0	0.0	10.0 (6days) 15-Dec-20	28-Dec-20	15-Sep-20	26-Sep-20	-74.5 0	0%		N			اما
	PORIII.ED.GD.0250	Backfilling for SMH011 to +2.3mPD (PMI052)	10.0	0.0	10.0 (6days) 20-Nov-20	01-Dec-20	05-Sep-20	17-Sep-20	-61.5 0	0%			┕╴══	Back	kfilling for
	PORIII.ED.GD.0250-01	Excavation to +2.3mPD for PC30 (PMI052)	4.0	0.0	4.0 (6days) 02-Dec-20	05-Dec-20	17-Sep-20	22-Sep-20	-61.5 0	0%					Excavatic
	PORIII.ED.GD.0260	Removal of Struts in ELS for SMH011 and Cutting of Sheet Piles at +2.3mPD (PMI052)	4.0	0.0	4.0 (6days) 07-Dec-20	10-Dec-20	22-Sep-20	26-Sep-20	-61.5 0	0%					Rer
	PORIII.ED.GD.0270	Backfilling for SMH012 to +2.3mPD (PMI052)	10.0	0.0	10.0 (6days) 29-Dec-20	09-Jan-21	26-Sep-20	10-Oct-20	-74.5 0	0%					
	PORIII.ED.GD.0270-01	Excavation to +2.3mPD for PC18 (PMI052)	4.0	0.0	4.0 (6days) 11-Jan-21	14-Jan-21	10-Oct-20	15-Oct-20	-74.5 0	0%					
	PORIII.ED.GD.0280	Removal of Struts in ELS for SMH012 and Cutting of Sheet Piles at +2.3mPD (PMI052)	4.0	0.0	4.0 (6days) 15-Jan-21	19-Jan-21	15-Oct-20	20-Oct-20	-74.5 0	0%					
	PORIII.ED.GD.0310	Excavate to +2.3mPD for Grid 3	5.0	0.0	5.0 (6days) 18-Nov-20	23-Nov-20	03-Oct-20	09-Oct-20	-37.5 0	0%				Excavate to +	-2 3mPD f
	PORIII.ED.GD.1010-02	Installation of Capping Plate for PC22, PC24 (4nos, 4D/no, 2teams) (PMI052)	8.0	0.0	8.0 (6days) 27-Nov-20	05-Dec-20	16-Sep-20	25-Sep-20	-58.5 0	0%				r-	Installatio
	PORIII.ED.GD.1010-03	Installation of Capping Plate for PC30 (4nos, 4D/no, 2teams) (PMI052)	8.0	0.0	8.0 (6days) 11-Dec-20	19-Dec-20	26-Sep-20	08-Oct-20	-61.5 0	0%					· [
	PORIII.ED.GD.1010-04	Installation of Capping Plate for PC18, 20 (4nos, 4D/no, 2teams) (PMI052)	8.0	0.0	8.0 (6days) 20-Jan-21	28-Jan-21	20-Oct-20	30-Oct-20	-74.5 0	0%					
	PORIII.ED.GD.1010-05	Installation of Capping Plate for PC14, 16 (4nos, 4D/no, 2 teams) (PMI052)	8.0	0.0	8.0 (6days) 24-Nov-20	02-Dec-20	09-Oct-20	19-Oct-20	-37.5 0	0%			<sub>+</sub>	Ins	tallation of
	PORIII.ED.GD.1010-06	Installation of Capping Plate for PC26, PC28 (4nos, 4D/no, 2 teams)	8.0	0.0	8.0 (6days) 18-Nov-20	26-Nov-20	05-Sep-20	15-Sep-20	-59.5 0	0%			-	nstallation	n of Cappi
	PORIII.ED.GD.1020	Construction of PC30 (PMI052)	9.0	0.0	9.0 (6days) 21-Dec-20	02-Jan-21	08-Oct-20	19-Oct-20	-61.5 0	0%					
	PORIII.ED.GD.1021	Construction of PC28 (PMI052)	9.0	0.0	9.0 (6days) 27-Nov-20	07-Dec-20	15-Sep-20	25-Sep-20	-59.5 0	0%				►	Constru
	PORIII.ED.GD.1022	Construction of PC26 (PMI052)	9.0	0.0	9.0 (6days) 27-Nov-20	07-Dec-20	15-Sep-20	25-Sep-20	-59.5 0	0%					Constru
	PORIII.ED.GD.1023	Construction of PC24 (PMI052)	9.0	0.0	9.0 (6days) 08-Dec-20	17-Dec-20	25-Sep-20	08-Oct-20	-59.5 0	0%				-	
	PORIII.ED.GD.1024	Construction of PC22 (PMI052)	9.0	0.0	9.0 (6days) 08-Dec-20	17-Dec-20	25-Sep-20	08-Oct-20	-59.5 0	0%					-
	PORIII.ED.GD.1025	Construction of PC20 (PMI052)	9.0	0.0	9.0 (6days) 29-Jan-21	08-Feb-21	30-Oct-20	10-Nov-20	-74.5 0	0%					
	PORIII.ED.GD.1026	Construction of PC18 (PMI052)	9.0	0.0	9.0 (6days) 29-Jan-21	08-Feb-21	30-Oct-20	10-Nov-20	-74.5 0	0%					
	PORIII.ED.GD.1027	Construction of PC16 (PMI052)	9.0	0.0	9.0 (6days) 04-Jan-21	13-Jan-21	19-Oct-20	30-Oct-20	-61.5 0	0%					
	PORIII.ED.GD.1028	Construction of PC14 (PMI052)	9.0	0.0	9.0 (6days) 04-Jan-21	13-Jan-21	19-Oct-20	30-Oct-20	-61.5 0	0%					
	MPU20201108.7.4.1.7 Constru	ction of PC42 (16D) + Abutment 2B (28D) + Bearing Installation (14D)	33.0	0.0	33.0 (6days) 09-Nov-20	16-Dec-20	18-Dec-20	23-Jan-21	29.5						
	PORIII.AB2B.1010-01	Construction of Abutment 2B (2nd pour)	14.0	0.0	14.0 (6days) 09-Nov-20	24-Nov-20	18-Dec-20	07-Jan-21	34.5 0	0%				Construction	n of Abutm
	PORIII.AB2B.1020	Bearing Installation at Abutment 2B	14.0	0.0	14.0 (6days) 01-Dec-20	16-Dec-20	07-Jan-21	23-Jan-21	29.5 0	0%				····	
	MPU20201108.7.4.2 Construction	n of U-trough Structure	88.0	10.0	78.0 (6days) 28-Oct-20 A	10-Feb-21	31-Jul-20	03-Nov-20	-82.5		•				
	MPU20201108.7.4.2.6 Constru	ction of U-trough Structure	88.0	10.0	78.0 (6days) 28-Oct-20 A	10-Feb-21	31-Jul-20	03-Nov-20	-82.5		•	$\square$			
	PORIII.UT.ST1107	Excavation to Revised Formation Level and Construction of New Blinding for Bay 2	10.0	10.0	4.0 (6days) 28-Oct-20 A	12-Nov-20	31-Jul-20	05-Aug-20	-82.5 0	60%			Excavation	to Revised For	rmation Le
	PORIII.UT.ST1110	Construction of Base Slab Bay 2	18.0	0.0	18.0 (6days) 13-Nov-20	03-Dec-20	05-Aug-20	26-Aug-20	-82.5 0	0%				C	onstructior
	PORIII.UT.ST1115	Excavation to Revised Formation Level, Construction of New Blinding for Bay 3 & 4	10.0	0.0	10.0 (6days) 04-Dec-20	15-Dec-20	26-Aug-20	07-Sep-20	-82.5 0	0%					
	PORIII.UT.ST1117	Re-construction of Capping Plate for Bay 3	10.0	0.0	10.0 (6days) 16-Dec-20	29-Dec-20	07-Sep-20	18-Sep-20	-82.5 0	0%					Ę
	PORIII.UT.ST1120	Construction of Base Slab Bay 3	18.0	0.0	18.0 (6days) 30-Dec-20	20-Jan-21	18-Sep-20	12-Oct-20	-82.5 0	0%					
	PORIII.UT.ST1125	Re-construction of Capping Plate for Bay 4	10.0	0.0	10.0 (6days) 30-Dec-20	11-Jan-21	28-Sep-20	12-Oct-20	-74.5 0	0%					
	PORIII.UT.ST1130	Construction of Base Slab Bay 4	18.0	0.0		10-Feb-21		03-Nov-20	-82.5 0	0%					
	Actual Level of Effort	♦ ♦ Milestone							MD	U (Nov-20)			Date	e	
	Actual Work	v summary								U (1NUV-2U)			08-Nov-2	20 Mon	thly Pro

Critical Remaining Work



	Activity Name	Original Duration		Remaining Duratio	g alendar Start	Finish	Late Start	Late Finish	Total TRA Float	Activity % Complete	2020 Q4	
MPU20201108.7.5 Modification of	f Seawall (Portion II and III)	80.0	13.0	80.0	0 (6days) 23-Oct-20 A	26-Feb-21	17-Oct-20	23-Jan-21	-26.5		Q4	
MPU20201108.7.5.3 Seawall Modi	fication Type 2	80.0	13.0	80.	0 (6days) 23-Oct-20 A	26-Feb-21	17-Oct-20	23-Jan-21	-26.5		 	
SW.WWII.1000	Construction of Seawall Modification Type 2 (2 teams, <15m per bay)	80.0	13.0	80.0	0 (6days) 23-Oct-20 A	26-Feb-21	17-Oct-20	23-Jan-21	-26.5 0	0%		
MPU20201108.7.6 Construction	of the At-grade Noise Semi Enclosures	244.0	119.0	125.0	0 (6days) 17-Jun-20 A	13-Apr-21	10-Sep-20	06-Mar-21	-29.5			
1	of Northern Drainage (SMH001 to SMH003)	82.0	0.0	82.1	0 (6days) 09-Nov-20	18-Feb-21	10-Sep-20	18-Dec-20	-47.5			
PORIII.AG.1102	Utilities Ducts Laying across Road D9 (Northern Portion)	32.0			0 (6days) 09-Nov-20	15-Dec-20		20-Oct-20	-47.5 0	0%		
PORIII.AG.2000	Cable Laying and Decomissioning of Existing Cross Road UUs at Wan O Road	50.0	0.0		0 (6days) 16-Dec-20	18-Feb-21	20-Oct-20	18-Dec-20	-47.5 0	0%		
										0%		
MPU20201108.7.6.3 Construction		171.0			0 (6days) 17-Jun-20 A	11-Jan-21		06-Mar-21	43.5			
MPU20201108.7.6.3.3 Base Sla	b	30.0	0.0	30.0	0 (6days) 23-Nov-20	29-Dec-20	15-Jan-21	23-Feb-21	43.5			
MPU20201108.7.6.3.3.1 Nort	h Bound	30.0	0.0	30.	0 (6days) 23-Nov-20	29-Dec-20	15-Jan-21	23-Feb-21	43.5			
PORIII.AG.1460	Construction of Pad Footing Bay NB-N17 Base Slab	10.0	0.0	10.0	0 (6days) 23-Nov-20	03-Dec-20	15-Jan-21	27-Jan-21	43.5 0	0%		Constru
PORIII.AG.1470	Construction of Pad Footing Bay NB-N18 Base Slab	10.0	0.0	10.0	0 (6days) 16-Dec-20	29-Dec-20	08-Feb-21	23-Feb-21	43.5 0	0%		
MPU20201108.7.6.3.4 Wall Ster	n	171.0	119.0	52.	0 (6days) 17-Jun-20 A	11-Jan-21	15-Sep-20	06-Mar-21	43.5			
MPU20201108.7.6.3.4.2 Sou	th Bound	134.0	119.0	30.	0 (6days) 17-Jun-20 A	12-Dec-20	15-Sep-20	22-Oct-20	-43.5			
PORIII.AG.1910	Backfilling to Interim Formation Level (7 Layers, 5D/layer) for Bay 1 to 11	35.0	119.0	20.	0 (6days) 17-Jun-20 A	01-Dec-20	26-Sep-20	22-Oct-20	-33.5 0	42.86%		Backfilling
PORIII.AG.1920	Backfilling to Interim Formation Level (7 Layers, 5D/layer) for Bay 12 to 16	35.0	20.0	30.	0 (6days) 15-Oct-20 A	12-Dec-20	15-Sep-20	22-Oct-20	-43.5 0	14.29%		-
		30.0	0.0		0 (6days) 04-Dec-20	11-Jan-21	27-Jan-21	06-Mar-21	43.5			
PORIII.AG.1890	Construction of Pad Footing Bay NB-N17 Wal Stem	10.0			0 (6days) 04-Dec-20	15-Dec-20	27-Jan-21	08-Feb-21	43.5 0	0%		
												-
PORIII.AG.1900	Construction of Pad Footing Bay NB-N18 Wal Stem	10.0	0.0		0 (6days) 30-Dec-20	11-Jan-21	23-Feb-21		43.5 0	0%		
· <b>T</b>	of Semi-Noise Enclosure and Directional Sign	90.0	0.0	90.0	0 (6days) 19-Dec-20	13-Apr-21	22-Oct-20	09-Feb-21	-48.5			
PORIII.AG.1190	Construction of Semi-Noise Enclosure CH13532.187 to CH13878 Main Frame	90.0	0.0	90.	0 (6days) 19-Dec-20	13-Apr-21	22-Oct-20	09-Feb-21	-48.5 0	0%		
MPU20201108.7.8 Wan O Road		407.0	307.0	94.0	0 (6days) 28-Oct-19 A	04-Mar-21	27-Aug-20	13-Mar-21	7.5			
MPU20201108.7.8.2 Carriage Way	Excavation Permit	407.0	307.0	94.0	0 (6days) 28-Oct-19 A	04-Mar-21	27-Aug-20	13-Mar-21	7.5			
MPU20201108.7.8.2.1 TTA Stag	e1	38.0	307.0	18.0	0 (6days) 28-Oct-19 A	12-Dec-20	10-Sep-20	03-Oct-20	-59.5			
WO.CA.TTA1030	UU Diversion and Installation of Sheet Pile at Northern Footpath (Except Roundabout)	38.0	307.0	18.0	0 (6days) 28-Oct-19 A	12-Dec-20	10-Sep-20	03-Oct-20	-59.5 0	52.63%	, <b>–</b>	
MPU20201108.7.8.2.3 TTA Stag	e 2	297.0	204.0	94.0	0 (6days) 03-Mar-20 A	04-Mar-21	27-Aug-20	13-Mar-21	7.5		 	
MPU20201108.7.8.2.3.1 Nort	hern Portion	265.0	171.0	94.0	0 (6days) 15-Apr-20 A	04-Mar-21	27-Aug-20	18-Dec-20	-59.5			
MPU20201108.7.8.2.3.1.2	PBSH Works	148.0	171.0	12.0	0 (6days) 15-Apr-20 A	21-Nov-20	27-Aug-20	09-Nov-20	-11.5		21-Nov	v-20, MPU202
WO.CA.TTA2NP.1150	Construction of PBSH (23nos, Rig 2) (PC60, 61, 63-65)	76.0			0 (6days) 15-Apr-20 A	16-Nov-20	02-Sep-20		-54.5 0	90.79%	Construction	
WO.CA.TTA2NP.1150-0		30.0			0 (6days) 04-Sep-20A	21-Nov-20	24-Oct-20	09-Nov-20	-11.5 0	60%		
												uction of PBS
WO.CA.TTA2NP.1150-0		31.0	150.0		0 (6days) 12-May-20 A	21-Nov-20	04-Sep-20	10-Sep-20	-59.5 0	83.87%		uction of PBS
WO.CA.TTA2NP.1170	Construction of PBSH (14nos, Rig 1) (PC66-PC72)	60.0	89.0	7.0	0 (6days) 24-Jul-20 A	16-Nov-20	27-Aug-20	04-Sep-20	-59.5 0	88.33%	Construction	of PBSH (14
MPU20201108.7.8.2.3.1.3	Excavation and Construction of RC Structure	73.0	0.0	73.	0 (6days) 03-Dec-20	04-Mar-21	03-Oct-20	18-Dec-20	-59.5			
WO.CA.TTA2NP.1060	Installation of Sheet pile at Roundabout Northern Portion	12.0	0.0	12.	0 (6days) 03-Dec-20	16-Dec-20	19-Nov-20	03-Dec-20	-11.5 0	0%	1	-
WO.CA.TTA2NP.1065	Installation of Struts and Excavation to Pile Cap Level at Roundabout Northern Portion	13.0	0.0	13.	0 (6days) 17-Dec-20	04-Jan-21	03-Dec-20	18-Dec-20	-11.5 0	0%		
	Concrete Block Installation as Lateral Support on top of Box Culvert	25.0	0.0	25.	0 (6days) 14-Dec-20	14-Jan-21	03-Oct-20	03-Nov-20	-59.5 0	0%	 	
WO.CA.TTA2NP.1067		1				1	1	1	1	1	,	1
WO.CA.TTA2NP.1067	Construction of ELS (Northern Footpath)	39.0	0.0	39.	0 (6days) 15-Jan-21	04-Mar-21	03-Nov-20	18-Dec-20	-59.5 0	0%		

Actual Level of Effort $\blacklozenge$ $\blacklozenge$ Milestone	MPU (Nov-20)	Dale	
Actual Work Summary	· · · · ·	08-Nov-20	Monthly Program
Remaining Work	Page 6		
Critical Remaining Work			

		2021 Q1	
			26-Feb-
			26-Feb-2
			Construc
			10 5-5-01 MDU/
			■ 18-Feb-21, MPU2
tilities Ducts La	wing across Road D9 (Northern	n Portion)	
			Cable Laying and
	▼ 11-Jan-21, MPU	20201108.7.6.3 Co	onstruction of Pad Footing
<b></b>	29-Dec-20, MPU20201108.7.6	.3.3 Base Slab	
	29-Dec-20, MPU20201108.7.6.	.3.3.1 North Bound	
Pad Footing B	ay NB-N17 Base Slab		
-			
	Construction of Pad Footing Ba	y NB-N18 Base Sia	b
	▼ 11-Jan-21, MPU	20201108.7.6.3.4 V	Nall Stem
ec-20, MPU20	201108.7.6.3.4.2 South Bound	i	
im Formation L	evel (7 Layers, 5D/layer) for B	ay 1 to 11	
filling to Interim	Formation Level (7 Layers, 5D	D/layer) for Bay 12 to	o 16
	▼ 11-Jan-21, MPU	120201108.7.6.3.4.1	North Bound
- activition of I			
onstruction of a	Pad Footing Bay NB-N17 Wall		
₩	Construction of I	Pad Footing Bay NB	-N18 Wall Stem
,			
	1 1 1 1		• 04
			• 04
ec-20, MPU20	201108.7.8.2.1 TTA Stage 1		
		Footpath (Eyre	ort Doundahout)
	stallation of Sheet Pile at North		
			• 04
			• 04
.8.2.3.1.2 PBS	H Works		
2) (PC60, 61,	63-65)		
Rig 2) (PC57-	58)		
Rig 1) (PC66-	69)		
1) (PC66-PC7			
1) (PC00-rCi	2)		
			• 04
nstallation of S	heet pile at Roundabout Northe	ern Portion	
	Installation of Struts and	Excavation to Pile C	ap Level at Roundabout
	Concrete Blo	ock Installation as La	teral Support on top of Bo
	L		c
Revisi	ion	Checked	Approved
	date (Nov 2020)	TL	StL

	Activity Name	Original Duration	Actual Duration	Remaining alend	ar Start	Finish	Late Start	Late Finish	Total TRA Float	Activity % Complete	2020		2021 Q1
MDU00004400.7.0.0.0	3.2 Southern Portion and Central Barrier				s) 03-Mar-20 A	00 Day 00	07 4	40 Мак 04	59.5	· ·	Q4		Q1 29-Dec-20, MPU20201108.7.8.2.3.2 Southern Portion and Centra
	.2 Southern Portion and Central Barrier	245.0	204.0	42.0 (60ay	s) 03-mar-20 A	29-Dec-20	27-Aug-20	13-Mar-21	59.5			•	29-Dec-20, MP020201108.7.8.2.3.2 Southern Portion and Cent
MPU20201108.7.8.	2.3.2.2 PBSH Works	245.0	204.0	42.0 (6day	s) 03-Mar-20 A	29-Dec-20	27-Aug-20	13-Mar-21	59.5				29-Dec-20, MPU20201108.7.8.2.3.2.2 PBSH Works
WO.CA.TTA2SF	Construction of PBSH (25nos, Rig 1) (PC73 to PC81)	75.0	204.0	7.0 (6day	s) 03-Mar-20 A	16-Nov-20	27-Aug-20	04-Sep-20	-59.5 0	90.67%		of PBSH (25nos, Rig 1) (PC73 to P	,
WO.CA.TTA2SF	Construction of PBSH (12nos, Rig 2) (PC59 & PC62)	45.0	56.0	18.0 (6day	s) 01-Sep-20A	02-Dec-20	29-Oct-20	19-Nov-20	-11.5 0	60%		Construction of PBSH (12nos,	Rig 2) (PC59 & PC62)
WO.CA.TTA2SF	P.1330 Pile Loading Test	21.0	0.0	21.0 (6day	s) 03-Dec-20	29-Dec-20	17-Feb-21	13-Mar-21	59.5 0	0%		-	Pile Loading Test
MPU20201108.7.8.2.15	Wan Po Road	63.0	48.0	15.0 (6day	s) 10-Sep-20A	25-Nov-20	14-Sep-20	30-Sep-20	-45.0		▼ 25-	Nov-20, MPU20201108.7.8.2.15 W	an Po Road
MPU20201108.7.8.2.1	5.1 Laying of Cable Duct and Earthing Conductor at Portion III (CE030)	63.0	48.0	15.0 (6day	s) 10-Sep-20A	25-Nov-20	14-Sep-20	30-Sep-20	-45.0		▼ 25-	Nov-20, MPU20201108.7.8.2.15.1	aying of Cable Duct and Earthing Conductor at Portion III (CE
👜 WO1299	Ducting Works	9.0	48.0	9.0 (6day	s) 10-Sep-20A	18-Nov-20	14-Sep-20	23-Sep-20	-45.0 0	0%	Ducting We	orks	
😑 WO1309	Backfilling, Reinstatement of Road Works and Closing of TTA	6.0	0.0	6.0 (6day	s) 19-Nov-20	25-Nov-20	24-Sep-20	30-Sep-20	-45.0 0	0%	Ba	xfilling, Reinstatement of Road Wor	ks and Closing of TTA
😑 WO1319	Handover to C1 for Power Energization of the E&M Plant Room (CE030)	0.0	0.0	0.0 (6day	s)	25-Nov-20*		30-Sep-20	-45.0 0	0%	Ha	ndover to C1 for Power Energization	of the E&M Plant Room (CE030),
PU20201108.8 Miscel	Ianeous Works (Portion I, II and III)	939.0	549.0	493.0 (6day	s) 02-Jan-19 A	11-Jul-22	31-Jul-20	28-Mar-22	-82.5				
MISC4030	Tree Preservatiion and Protection Works	939.0	549.0	493.0 (6day	s) 02-Jan-19 A	11-Jul-22	31-Jul-20	28-Mar-22	-82.5 0	47.5%			

Actual Level of Effort   Milestone	MDU (Nov. 20)	Date	Revision	Checked	Approved
Actual Work	MPU (Nov-20)	08-Nov-20	Monthly Programme Update (Nov 2020)	TL	StL
	Page 7				
Remaining Work					
Critical Remaining Work					

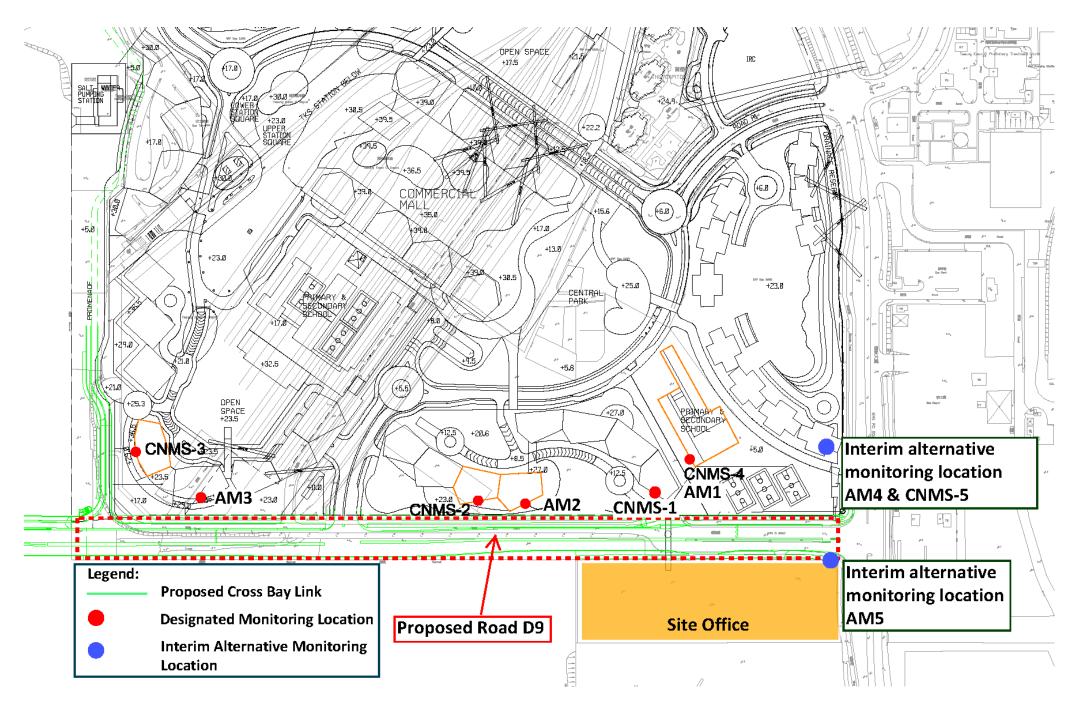


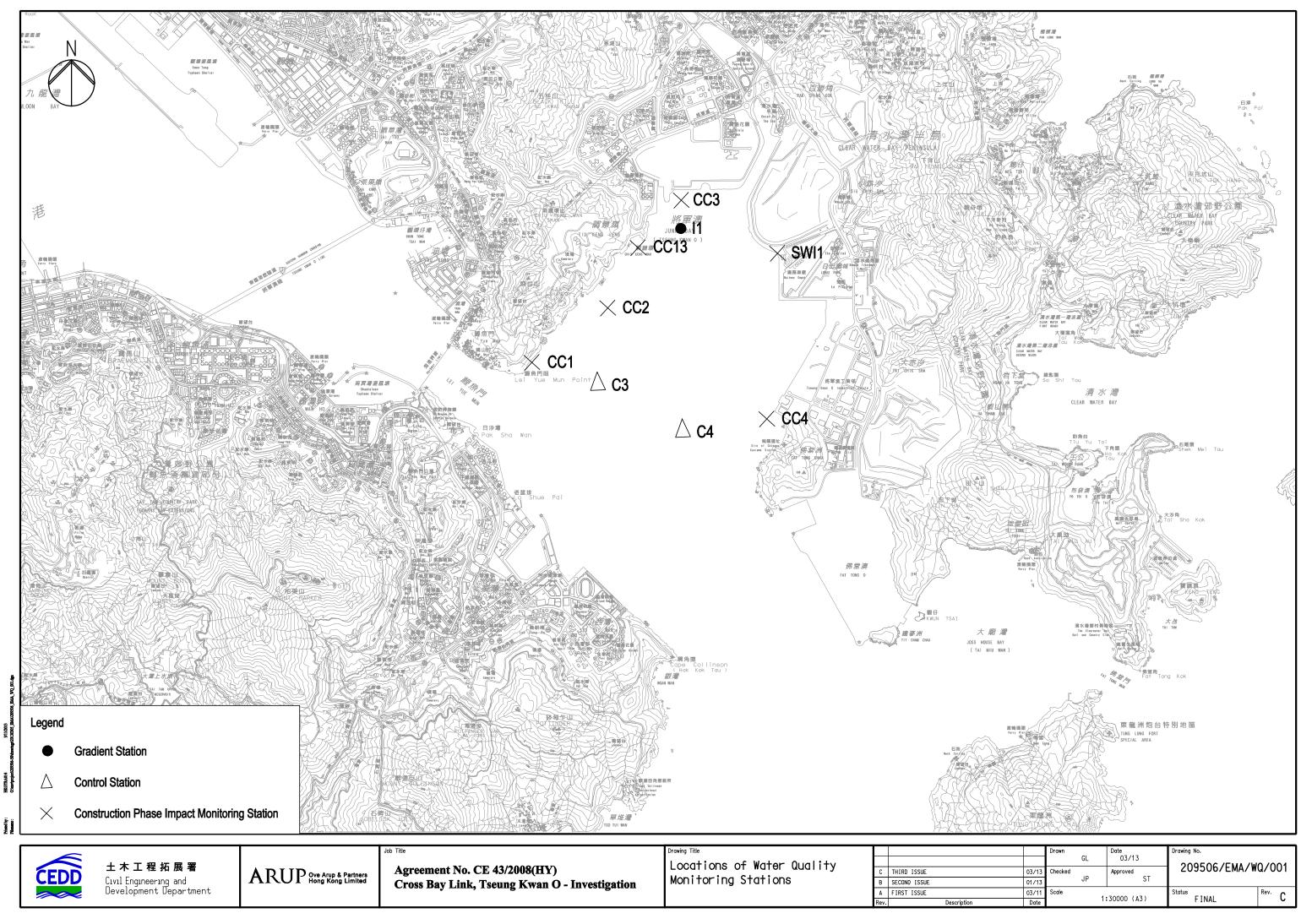
## Appendix D

Monitoring Location (Air Quality, Noise and Water Quality)

#### CEDD Contract Agreement No. EDO/04/2018 -Environmental Team for Cross Bay Link, Tseung Kwan O Designated and Interim Alternative Air Quality and Noise Monitoring Location

# AUES





		UL.	00/10		0/001
03/13	Checked	10	Approved	209506/EMA/W	u/001
01/13		JP	ST		
03/11	Scale	4.	20000 (17)	Status	Rev. C
Date		13	30000 (A3)	FINAL	U U



Appendix E

**Event and Action Plan** 



		ACTION		
EVENT	Environmental Team (ET)	Independent Environmental Checker (IEC)	Project Consultant	Contractor
ACTION LEVEL				
Exceedance for one sample	<ol> <li>Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform IEC and Project Consultant;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ol>	1. Notify Contractor.	<ol> <li>Rectify any unacceptable practice;</li> <li>Amend working methods if appropriate.</li> </ol>
Exceedance for two or more consecutive samples	<ol> <li>Identify source;</li> <li>Inform IEC and Project Consultant;</li> <li>Advise the Project Consultant on the effectiveness of the proposed remedial measures;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Discuss with IEC and Contractor on remedial actions required;</li> <li>If exceedance continues, arrange meeting with IEC and Project Consultant;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>Supervise Implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial measures properly implemented.</li> </ol>	<ol> <li>Submit proposals for remedial actions to IEC within</li> <li>working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>



		ACTION		
EVENT	Environmental Team (ET)	Independent Environmental Checker (IEC)	Project Consultant	Contractor
LIMIT LEVEL				
Exceedance for one sample	<ol> <li>Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform Project Consultant, Contractor, IEC and EPD;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Project Consultant informed of the results.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the Project Consultant on the effectiveness of the proposed remedial measures;</li> <li>Supervise implementation of remedial measures.</li> </ol>	notification of failure in writing; 2. Notify Contractor;	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within</li> <li>working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>

#### CEDD Contract Agreement No. EDO/04/2018 -Environmental Team for Cross Bay Link, Tseung Kwan O Event and Action Plan for Air Quality Monitoring



	ACTION			
EVENT	Environmental Team (ET)	Independent Environmental Checker (IEC)	Project Consultant	Contractor
LIMIT LEVEL		1		
Exceedance for two or more consecutive samples	<ol> <li>Notify IEC, Project Consultant, Contractor and EPD;</li> <li>Identify source;</li> <li>Repeat measurement to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Arrange meeting with IEC and Project Consultant to discuss the remedial actions to be taken;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Project Consultant informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Discuss amongst Project Consultant, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the Project Consultant accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Ensure remedial measures properly implemented;</li> <li>If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not under control;</li> <li>Stop the relevant portion of works as determined by the Project Consultant until the exceedance is abated.</li> </ol>

	ACTION			
EVENT	Environmental Team (ET)	Independent Environmental Checker (IEC)	Project Consultant	Contractor
Action Level	<ol> <li>Notify IEC and contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, Project Consultant and Contractor;</li> <li>Discuss with the Contractor and formulate remedial measures;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol> <li>Review the analysed results submitted by the ET;</li> <li>Review the proposed remedial measures by the Contractor and advise the Project Consultant accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of exceedance in writing; 2. Notify Contractor;</li> <li>Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>Ensure remedial measures are properly implemented</li> </ol>	<ol> <li>Submit noise mitigation proposals to IEC;</li> <li>Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol> <li>Identify source;</li> <li>Inform IEC, Project Consultant, EPD and Contractor;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Inform IEC, Project Consultant and EPD the causes and actions taken for the exceedances;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and Project Consultant informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Discuss amongst Project Consultant, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the Project Consultant accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>Ensure remedial measures properly implemented;</li> <li>If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not under control;</li> <li>Stop the relevant portion of works as determined by the Project Consultant until the exceedance is abated.</li> </ol>



	ACTION			
EVENT	Environmental Team (ET)	Independent Environmental Checker (IEC)	Project Consultant	Contractor
Action level being exceeded by one sampling day at water sensitive receiver(s)	<ol> <li>Identify the source(s) of impact by comparing the results with those collected at the gradient stations and the control stations as appropriate;</li> <li>If exceedance is found to be caused by the marine works, repeat <i>in-situ</i> measurement to confirm findings;</li> <li>Inform IEC and contractor;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>If exceedance occurs at WSD salt water intake, inform WSD;</li> <li>Discuss mitigation measures with IEC and Contractor;</li> <li>Repeat measurement on next day of exceedance.</li> </ol>	<ol> <li>Discuss mitigation measures with ET and Contractor;</li> <li>Review proposal on mitigation measures submitted by Contractor and advise the Project Consultant accordingly;</li> <li>Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol> <li>Discuss proposed mitigation measures with IEC;</li> <li>Make agreement on the mitigation proposal.</li> </ol>	<ol> <li>Inform the Project         <ul> <li>Consultant and confirm             notification of the non-             compliance in writing;</li> <li>Rectify unacceptable             practice;</li> <li>Check all plant and             equipment;</li> <li>Amend working methods             if appropriate;</li> <li>Discuss with ET and IEC             and propose mitigation             measures to IEC and Project             Consultant;</li> <li>Implement the agree             mitigation measures.</li> </ul> </li> </ol>
Action level being exceeded by two or more consecutive sampling days at water sensitive receiver(s)	<ol> <li>Identify the source(s) of impact by comparing the results with those collected at the gradient stations and the control stations as appropriate;</li> <li>If exceedance is found to be caused by the marine works, repeat <i>in-situ</i> measurement to confirm findings;</li> <li>Inform IEC and contractor;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>Discuss mitigation measures with IEC, and Contractor;</li> <li>Ensure mitigation measures are</li> </ol>	<ol> <li>Discuss mitigation measures with ET and Contractor;</li> <li>Review proposal on mitigation measures submitted by Contractor and advise the Project Consultant accordingly;</li> <li>Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol> <li>Discuss proposed mitigation measures with IEC;</li> <li>Make agreement on the mitigation proposal;</li> <li>Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol> <li>Inform the Project Consultant and confirm notification of the noncompliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment and consider changes of working methods;</li> <li>Discuss with ET, IEC and Project Consultant and propose mitigation measures to IEC and Project Consultant within 3 working</li> </ol>



EVENTEnvironmental Team (ET)Independent Environmental Checker (IEC)Project ConsultantContractorimplemented; 7. Prepare to increase the monitoring frequency to daily; 8. If exceedance occurs at WSD salt water intake, inform WSD; 9. Repeat measurement on next day of exceedance.I. Identify the source(s) of impact by comparing the results with those contractor and EPD 4. Check monitoring masures with 1EC, ER and Contractor; 3. Inform IEC, contractor and EPD 4. Check monitoring receiver(s)1. Discuss mitigation measures with 2. Review proposal on mitigation measures submitted by Contractor; and advise the Project Consultant and accordingly; 3. Inform IEC, contractor and EPD 4. Check monitoring data, all plant, equipment and Contractor; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. If exceedance to corts at WSD salt water intake, inform WSD 8. ET should contact AFCD if the limit level is exceeded by in exessitive receiver(s)1. Discuss mitigation assess the effectiveness of the implemented mitigation measures.1. Discuss proposed mitigation measures with it Discuss mitigation measures with it proposal of mitigation accordingly; 3. Assess the effectiveness of the implemented mitigation measures.1. Inform the Project Consultant and submitted by Contractor and advise the Project Consultant and submitted by contractor; 9. Consultant and submitted by contractor so or more consultant; 6. Ensure mitigation measures with IEC, ER and Contractor; 8. ET should contact AFCD if the limit level is exceeded by one sampling days of notification; 5. Implement the agreed mitigation measures with it proposal of mitigation m		ACTION			
7. Prepare to increase the monitoring frequency to daily;8. If exceedance occurs at WSD salt water intake, inform WSD;9. Repeat measurement on next day of exceedance5. Implement the agreed mitigation measures.Limit level by one sampling collected at the gradient stations and the control stations as appropriate; sensitive1. Linicus mitigation measures with ET and contractor; 0. Reveedance is found to be caused by the marine works, repeat <i>in-situ</i> assures with ET and contractor and advise the Project Consultant and confirm mitigation measures of the implemented; 5. Discuss mitigation measures are implemented; 7. If exceedance occurs at WSD salt water intake, inform WSD. 8. ET should contact AFCD if the limit level is exceeded by one sampling days at water sensitive receiver(s)1. Discuss mitigation measures are implemented; 7. If exceedance occurs at WSD salt water intake, inform WSD. 8. ET should contact AFCD if the limit level is exceeded by one sampling days at water sensitive receiver(s).1. Discuss mitigation measures with ET and measures with ET and measures with ET and notification measures with level is exceeded by one sampling days at water sensitive receiver(s).1. Discuss mitigation measures with ET and measures with ET and notification measures with measures with ET and mitigation measures with level in the source(s) of impact by measures with ET and measures with ET and mitigation measures with level in exceeded by the marine working methods; measures with ET and mitigation measures with level in the source(s) of impact by measures with ET and mitigation measures with level in the source(s) of impact by measures with ET and1. Discuss proposed mitigation measures with level i	EVENT	Environmental Team (ET)	Environmental Checker	Project Consultant	Contractor
being exceeded by one sampling day at watercomparing the results with those collected at the gradient stations and the control stations as appropriate; 2. If exceedance is found to be caused by the marine works, repeat <i>in-situ</i> measurement to confirm findings; 3. Inform IEC, contractor and EPD 4. Check monitoring data, all plant, equipment and 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures with IEC, RE and Contractor; 6. Ensure mitigation measures are implemented; 7. If exceedance occurs at WSD salt water intake, inform WSD.measures with ET and Contractor; and advise the Project 3. Assess the effectiveness of the implemented mitigation measures.mitigation measures with equipment and consultant and submitted by Contractor and advise the Project 3. Assess the effectiveness of the implemented mitigation measures.Consultant and confirm notification of the noncompliance in writing; a. Rectify unacceptable working methods; 4. Discuss with ET and consultant and submitted by Contractor and advise the Project Consultant and measures.mitigation measures with equipment and consultant and submit proposal of mitigation measures.Consultant and confirm notification a. Check all plant and equipment and submit proposal of mitigation measures.8. ET should contact AFCD if the limit level is exceeded by one sampling days at water sensitive receiver(s).1. Discuss mitigation measures with ET and consultant water intigation measures with ET and consultant water intake, inform WSD.I. Inform the Project Consultant and confirmLimit level being exceeded1. Identify the source(s) of impact by comparing the results with those1. Di		<ul> <li>7. Prepare to increase the monitoring frequency to daily;</li> <li>8. If exceedance occurs at WSD salt water intake, inform WSD;</li> <li>9. Repeat measurement on next day of exceedance.</li> </ul>			5. Implement the agreed mitigation measures.
Limit level being exceeded1. Identify the source(s) of impact by comparing the results with those1. Discuss mitigation measures with ET and1. Discuss proposed mitigation measures with1. Inform the Project Consultant and confirm	being exceeded by one sampling day at water sensitive	<ul> <li>comparing the results with those</li> <li>collected at the gradient stations and the</li> <li>control stations as appropriate;</li> <li>2. If exceedance is found to be caused</li> <li>by the marine works, repeat <i>in-situ</i></li> <li>measurement to confirm findings;</li> <li>3. Inform IEC, contractor and EPD</li> <li>4. Check monitoring data, all plant,</li> <li>equipment and</li> <li>Contractor's working methods;</li> <li>5. Discuss mitigation measures with</li> <li>IEC, ER and Contractor;</li> <li>6. Ensure mitigation measures are</li> <li>implemented;</li> <li>7. If exceedance occurs at WSD salt</li> <li>water intake, inform WSD.</li> <li>8. ET should contact AFCD if the limit</li> <li>level is exceeded by one sampling day</li> <li>or two or more consecutive sampling</li> </ul>	<ul> <li>measures with ET and Contractor;</li> <li>Review proposal on mitigation measures submitted by Contractor and advise the Project Consultant accordingly;</li> <li>Assess the effectiveness of the implemented mitigation</li> </ul>	<ul> <li>mitigation measures with</li> <li>IEC, ET and Contractor;</li> <li>2. Request Contractor to</li> <li>critically review the</li> <li>working methods;</li> <li>3. Make agreement on the</li> <li>mitigation measures to be</li> <li>implemented;</li> <li>4. Assess the effectiveness of</li> <li>the implemented mitigation</li> </ul>	Consultant and confirm notification of the noncompliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Discuss with ET, IEC and Project Consultant and submit proposal of mitigation measures to IEC and Project Consultant within 3 working days of notification; 5. Implement the agreed
					5
by two or more in collected at the gradient stations and the intractor.	being exceeded by two or more	comparing the results with those collected at the gradient stations and the	measures with ET and Contractor;	mitigation measures with IEC, ET and Contractor;	Consultant and confirm notification of the



	ACTION			
EVENT	Environmental Team (ET)	Independent Environmental Checker (IEC)	Project Consultant	Contractor
consecutive sampling days at	control stations as appropriate; 2. If exceedance is found to be caused	2. Review proposal on mitigation measures	2. Request Contractor to critically review the	<ul><li>noncompliance in writing;</li><li>2. Rectify unacceptable</li></ul>
water sensitive receiver(s)	<ul> <li>by the marine works, repeat <i>in-situ</i> measurement to confirm findings;</li> <li>3. Inform IEC, contractor and EPD;</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>5. Discuss mitigation measures with IEC, and Contractor;</li> <li>6. Ensure mitigation measures are implemented;</li> <li>7. Prepare to increase the monitoring frequency to daily;</li> <li>8. If exceedance occurs at WSD salt water intake, inform WSD;</li> <li>9. Repeat measurement on next day of exceedance.</li> </ul>	submitted by Contractor and advise the Project Consultant accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	<ul> <li>working methods;</li> <li>3. Make agreement on the mitigation measures to be implemented;</li> <li>4. Assess the effectiveness of the implemented mitigation measures;</li> <li>5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level.</li> </ul>	practice; 3. Check all plant and equipment and consider changes of working methods; 4. Discuss with ET, IEC and Project Consultant and submit proposal of mitigation measures to IEC and Project Consultant within 3 working days of notification; 5. Implement the agreed mitigation measures; 6. As directed by the Engineer, to slow down or to stop all or part of the construction activities.



### Appendix F

### Impact Monitoring Schedule of the Reporting Month and Coming Month



#### Impact Monitoring Schedule for the reporting month – January 2021

	Date	Noise Monitoring		Monitoring
		(Leq30min)	1-Hour TSP	24-Hour TSP
Fri	1-Jan-21			
Sat	2-Jan-21		✓	
Sun	3-Jan-21			
Mon	4-Jan-21			
Tue	5-Jan-21			✓
Wed	6-Jan-21	✓	$\checkmark$	
Thu	7-Jan-21			
Fri	8-Jan-21			
Sat	9-Jan-21			
Sun	10-Jan-21			
Mon	11-Jan-21			✓
Tue	12-Jan-21	✓	√	
Wed	13-Jan-21			
Thu	14-Jan-21			
Fri	15-Jan-21			
Sat	16-Jan-21			✓
Sun	17-Jan-21			
Mon	18-Jan-21	✓	✓	
Tue	19-Jan-21			
Wed	20-Jan-21			
Thu	21-Jan-21			
Fri	22-Jan-21			✓
Sat	23-Jan-21		✓	
Sun	24-Jan-21			
Mon	25-Jan-21			
Tue	26-Jan-21			
Wed	27-Jan-21			
Thu	28-Jan-21			✓
Fri	29-Jan-21	✓	✓	
Sat	30-Jan-21			
Sun	31-Jan-21			
	√	Monitoring Day		
		Sunday or Public Holiday		



#### Impact Monitoring Schedule for coming month – February 2021

	Date Noise Monitoring Air Quality Monitoring			
		(L <sub>eq</sub> 30min)	1-Hour TSP	24-Hour TSP
Mon	1-Feb-21			
Tue	2-Feb-21			
Wed	3-Feb-21			✓
Thu	4-Feb-21	$\checkmark$	$\checkmark$	
Fri	5-Feb-21			
Sat	6-Feb-21			
Sun	7-Feb-21			
Mon	8-Feb-21			
Tue	9-Feb-21			✓
Wed	10-Feb-21	$\checkmark$	✓	
Thu	11-Feb-21			✓
Fri	12-Feb-21			
Sat	13-Feb-21			
Sun	14-Feb-21			
Mon	15-Feb-21			
Tue	16-Feb-21	✓	✓	
Wed	17-Feb-21			✓
Thu	18-Feb-21			
Fri	19-Feb-21		✓	
Sat	20-Feb-21			
Sun	21-Feb-21			
Mon	22-Feb-21			
Tue	23-Feb-21			✓
Wed	24-Feb-21			
Thu	25-Feb-21	✓	✓	
Fri	26-Feb-21			
Sat	27-Feb-21			
Sun	28-Feb-21			
	√	Monitoring Day		
		Sunday or Public Holiday		



# Appendix G

### Calibration Certificates of Equipment and Accreditation Laboratory Certificate



Certificate No. : C204290 證書編號

ITEM TESTED / 送檢項	目 (Job No. / 序引編號: IC20-1324)	Date of Receipt / 收件日期: 30 July 2020
Description / 儀器名稱 :	Sound Calibrator (EQ083)	
Manufacturer / 製造商 :	Rion	
Model No. / 型號 :	NC-74	
Serial No. / 編號 :	34246492	
Supplied By/委託者 :	Action-United Environmental Services an	d Consulting
	Unit A, 20/F., Gold King Industrial Build	ing,
	35-41 Tai Lin Pai Road, Kwai Chung, N.	Г.

#### TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Line Voltage / 電壓 : --- Relative Humidity / 相對濕度 : (50±25)%

#### TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 2 August 2020

#### TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. The results do not exceed manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies

:

- Fluke Everett Service Center, USA

Tested By 測試

H T Wong

Assistant Engineer

K C Lee Engineer

Certified By 核證

Date of Issue 簽發日期

:

3 August 2020

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部海印本證書需先獲本實驗所書面批准。



Certificate No. : C204290 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- 2. The results presented are the mean of 3 measurements at each calibration point.
- 3. Test equipment :

Equipment IDDescriptionCertificate No.CL130Universal CounterC203952CL281Multifunction Acoustic CalibratorCDK1806821TST150AMeasuring AmplifierC201309

- 4. Test procedure : MA100N.
- 5. Results :
- 5.1 Sound Level Accuracy

UUT	Measured Value	Mfr's Spec.	Uncertainty of Measured Value
Nominal Value	(dB)	(dB)	(dB)
94 dB, 1 kHz	94.0	± 0.3	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's	Uncertainty of Measured Value
(kHz)	(kHz)	Spec.	(Hz)
1	1.002	1 kHz ± 1 %	±1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Certificate No. : C205469 證書編號

ITEM TESTED / 送檢項	目 (Job No. / 序引編號: IC20-1324) Date of Receipt / 收件日期: 22 September 2020
Description / 儀器名稱 :	Sound Level Meter (EQ015)
Manufacturer / 製造商 :	Rion
Model No. / 型號 :	NL-52
Serial No. / 編號 :	00142581
Supplied By / 委託者 :	Action-United Environmental Services and Consulting
	Unit A, 20/F., Gold King Industrial Building,
	35-41 Tai Lin Pai Road, Kwai Chung, N.T.

#### TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Line Voltage / 電壓 : --- Relative Humidity / 相對濕度 : (50 ± 25)%

#### TEST SPECIFICATIONS / 測試規範

Calibration

DATE OF TEST / 測試日期 : 29 September 2020

#### TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. The results do not exceed manufacturer's specification. (after adjustment) The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA
- The Bruel & Kjaer Calibration Laboratory, Denmark

Tested By 測試

K P Cheuk Assistant Engineer

Certified By 核證

the H C Chan Engineer

Date of Issue 簽發日期 :

30 September 2020

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準,局部複印本證書需先獲本實驗所書面批准。

Sun Creation Engineering Limited - Calibration & Testing Laboratory c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong 輝創工程有限公司 - 校正及檢測實驗所 c/o 香港新界屯門興安里一號四樓 Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵; callab@suncreation.com Website/網址: www.suncreation.com Page 1 of 4



Certificate No. : C205469 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- 2. Self-calibration using the internal standard (After Adjustment) was performed before the test 6.1.1.2 to 6.3.2.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C200258
CL281	Multifunction Acoustic Calibrator	CDK1806821

- 5. Test procedure : MA101N.
- 6. Results :
- 6.1 Sound Pressure Level
- 6.1.1 Reference Sound Pressure Level
- 6.1.1.1 Before Adjustment

	UUT	Setting	10.0 Aug 2.01	Applie	d Value	UUT	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	
30 - 130	LA	A	Fast	94.00	1	* 92.4	± 1.1

## 6.1.1.2 After Adjustment

-	UUT	Setting		Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	94.0	± 1.1

#### 6.1.2 Linearity

	UU	T Setting	Applie	UUT			
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	
30 - 130	LA	Α	Fast	94.00	1	94.0 (Ref.)	
				104.00		104.0	
	the second second			114.00		114.2	

IEC 61672 Class 1 Spec. :  $\pm$  0.6 dB per 10 dB step and  $\pm$  1.1 dB for overall different.

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輝創工程有限公司 Sun Creation Engineering Limited Calibration & Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No.: C205469 證書編號

#### 6.2 Time Weighting

	UUT	Setting	-	Applie	d Value	UUT	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

#### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

	UUT Setting				ied Value	UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB) 67.7 77.8 85.3 90.7 94.0 95.2	Class 1 Spec. (dB)
30 - 130	L <sub>A</sub>	Α	Fast	94.00	63 Hz	67.7	$-26.2 \pm 1.5$
				100	125 Hz	77.8	$-16.1 \pm 1.5$
					250 Hz	85.3	$-8.6 \pm 1.4$
					500 Hz	90.7	$-3.2 \pm 1.4$
					1 kHz	94.0	Ref.
			2 kHz	95.2	$+1.2 \pm 1.6$		
					4 kHz	95.0	$+1.0 \pm 1.6$
					8 kHz	93.0	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.6	-4.3 (+3.0 ; -6.0)

#### 6.3.2 C-Weighting

	UUT	Setting		Appl	ied Value	UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Class 1 Spec. (dB)
30 - 130	Lc	C	Fast	94.00	63 Hz	93.1	$-0.8 \pm 1.5$
					125 Hz	93.8	$-0.2 \pm 1.5$
					250 Hz	94.0	$0.0 \pm 1.4$
					500 Hz	94.0	$0.0 \pm 1.4$
					1 kHz	94.0	Ref.
					2 kHz	93.8	$-0.2 \pm 1.6$
					4 kHz	93.2	$-0.8 \pm 1.6$
					8 kHz	91.1	-3.0 (+2.1 ; -3.1)
				_	12.5 kHz	87.6	-6.2 (+3.0 ; -6.0)

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate No. : C205469 證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 15585

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :	94 dB : 63 Hz - 125 Hz 250 Hz - 500 Hz	$\pm 0.35 dB$
	1 kHz	
		$\pm 0.20 \text{ dB}$
	2 kHz - 4 kHz	$\pm 0.35 \text{ dB}$
	8 kHz	$\pm 0.45 \text{ dB}$
	12.5 kHz	: ± 0.70 dB
	104 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB)
	114 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

## ALS Technichem (HK) Pty Ltd

#### **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES

#### SUB-CONTRACTING REPORT



CONTACT	: MR BEN TAM	WORK ORDER HK2012986
CLIENT	ACTION UNITED ENVIRONMENT	
	SERVICES AND CONSULTING	
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41	SUB-BATCH : 1
	TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG	DATE RECEIVED : 6-APR-2020
	KONG	DATE OF ISSUE : 7-APR-2020
PROJECT	:	NO. OF SAMPLES : 1
		CLIENT ORDER

#### **General Comments**

- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.
- Sample information (Project name, Sample ID, Sampling date/time, etc., if any) is provided by client.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

#### Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	Position	
Kiland Jong		
Richard Fung	Managing Director	

This is the Final Report and supersedes any preliminary report with this batch number.

All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd Part of the ALS Laboratory Group

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com WORK ORDER SUB-BATCH

CLIENT

PROJECT

: HK2012986

<sup>1</sup> ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING : .....



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2012986-001	S/N: 3Y6501	AIR	06-Apr-2020	S/N: 3Y6501

#### **Equipment Verification Report (TSP)**

#### **Equipment Calibrated:**

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6501
Equipment Ref:	EQ111
Job Order	HK2012986

#### **Standard Equipment:**

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	9 March 2020
Last Calibration Date:	9 March 2020

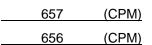
#### **Equipment Verification Results:**

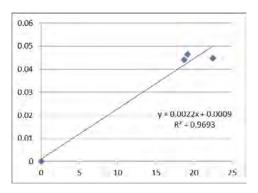
Verification Date:

13 March 2020

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr	09:20 ~ 11:20	21.4	1015.7	0.044	2250	18.8
2hr01min	11:25 ~ 13:26	21.4	1015.7	0.045	2711	22.5
2hr01min	13:42 ~ 15:43	21.4	1015.7	0.046	2311	19.2

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)





#### Date of Issue

Slope (K-factor):

Linear Regression of Y or X

Correlation Coefficient (R) 0.9845 16 March 2020

0.0022

#### Remarks:

#### 1. Strong Correlation (R>0.8)

2. Factor 0.0022 should be apply for TSP monitoring

\*If R<0.5, repair or re-verification is required for the equipment



### TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Location ID :	Gold Kir Calibrati	0	trial Buildi n	ng, Kv	wai Ch	ung	Date of Calibration: 9-Mar-20 Next Calibration Date: 9-Jun-20
					COND	ITIONS	
Se	ea Level F Temp	Pressure erature	. ,	]	23.4		Corrected Pressure (mm Hg) 756.375 Temperature (K) 296
				CALI	BRATI		CE
		Calibrat	Make-> Model-> ion Date->	502	SCH 25A 2b-20		Qstd Slope ->2.03014Qstd Intercept ->-0.04616Expiry Date->7-Feb-21
					CALIB	RATION	
Plate         H20 (L)           No.         (in)           18         6.1           13         4.9           10         3.8           8         2.4	H2O (R) (in) 6.1 4.9 3.8 2.4	H20 (in) 12.2 9.8 7.6 4.8	Qstd (m3/min) 1.744 1.565 1.381 1.102	(ch 5 4 4	I 65 69 62 62	IC corrected 55.02 49.01 42.01 32.01	LINEAR REGRESSION Slope = 36.8508 Intercept = -8.9222 Corr. coeff. = 0.9997
5 1.4 Calculations :	1.4	2.8	0.847	2	22	22.01	
Qstd = $1/m[Sqrt(H)]$ IC = I[Sqrt(Pa/Pstd Qstd = standard flc IC = corrected chan I = actual chart resp m = calibrator Qstd b = calibrator Qstd Ta = actual temper Pstd = actual press <b>For subsequent ca</b> 1/m((I)[Sqrt(298/m)] m = sampler slope b = sampler interc I = chart response Tav = daily averag Pav = daily averag	l)(Tstd/Ta ow rate et respone ponse d slope intercept ature duri ure during <b>alculation</b> Tav)(Pav/ ept e tempera	ng calib g calibra <b>o of san</b> (760)]-b	pration ( deg ation ( mm ]		00 90 00 00 00 01 01	.00	FLOW RATE CHART

		PL.		-			RECALIB DUE D	
						F		
viro			100		1	L	February	1, 2021
	February 7,	/	Calibration C Rootsm		on Informat	ion Ta: 2		
Operator: . Calibration N	Jim Tisch	TE-5025A	Calik	orator S/N:	1612	Pa: 7	'45.5 mm	Hg
Calibration	10del #.	1E-3023A	Callu	rator s/in:	1012			
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔH	
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)	
	1	1	2	1	1.3730	3.2	2.00	
	2	3	4	1	0.9820	6.4	4.00	
	3	5	6	1	0.8780	8.0	5.00	
	4	7	8	1	0.8340	8.8	5.50	
L.	5	9	10	1	0.6900	12.8	8.00	
ſ			D	Data Tabulat	tion			
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$	)( <u>Tstd</u> )		Qa V	$\Delta H(Ta/Pa)$	
l	(m3)	(x-axis)	(y-axis		Va	(x-axis)	(y-axis)	
1	0.9866	0.7186	1.407		0.9957	0.7252	0.8896	
	0.9824	1.0004	1.990		0.9914	1.0096	1.2581	
ŀ	0.9802	1.1165	2.225		0.9893	1.1267	1.4066	
ŀ	0.9792	1.1741	2.334		0.9882	1.1849	1.4753	
F	0.5755	1.4114 m=	2.015		0.9020	1.4244 m=	1.27124	
	QSTD	b=	-0.046		QA	b=	-0.02917	
	4515	r=	0.9999		Sec.	r=	0.99995	
ī				Calculation				
F	Vstd=	ΔVol(/Pa-ΔP	)/Pstd)(Tstd/Ta			ΔVol((Pa-ΔP)	(Pa)	
F		Vstd/ATime				Va/ATime	// 4/	
			For subseque	ent flow rat				
[	Qstd=	1/m (( \\ \[ \[ \] \  \  \  \  \  \  \  \  \  \  \  \  \	$\left(\begin{array}{c} Pa \\ \hline Pstd \end{array}\right)\left(\begin{array}{c} Tstd \\ \hline Ta \end{array}\right)$	))-b)		//	(Ta/Pa))-b)	
		Conditions						-
Tstd:	298.15					RECALI	BRATION	
Pstd:		mm Hg Key			US EPA reco	ommends and	nual recalibration pe	r 1998
ΔH: calibrato			n H2O)				egulations Part 50 to	
		eter reading					Reference Method fo	
ΔP: rootsmet								
ΔP: rootsmet Ta: actual abs Pa: actual bas	solute temp				Determinat	ion of Suspen	nded Particulate Ma	tter in

Tisch Environmental, Inc.

145 South Miami Avenue

Village of Cleves, OH 45002

<u>www.tisch-env.com</u> TOLL FREE: (877)263-7610 FAX: (513)467-9009

### TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Junction	n of Wan	Po Roa	d and Wan (	) Ro	oad	Date of C	Calibr	ation: 2-Jan	-21			
Location 1	D :	AM5				N	lext Calibra	ation	Date: 1-Ma	r-21			
Name and	Model: '	TISCH H	IVS Mo	del TE-5170	)		Т	Techn	ician: Ho				
					С		IONS						
				F							_		
	Se	a Level I	Pressure	(hPa)	1	022.9		(	Corrected Pr	essure (mr	n Hg)	767.1	.75
		Temp	berature	(°C)		14.0			Tempe	erature (K)		2	287
				CA	LIB	RATIO	N ORIFICE						
				г							F		
				Make->		+			Qstd Sl	-		2.03014	
				Model->					Qstd Interc	cept ->	-	0.0461	6
				Serial # ->	1612	2							
					C	ALIBR	ATION						
Plate	<u>нэо (т)</u>	H2O (R)	H20	Qstd		Ι	IC			LINEAR			
No.	(in)	(in)	(in)	(m3/min)		nart)	corrected		וק	EGRESSIC	)N		
18	5.80	5.80	11.6	1.740		57	59.46			lope = 24			
13	3.80	3.80	7.6	1.413		51	53.20			rcept = 18			
10	2.40	2.40	4.8	1.128		45	46.94			eept = 10 eeff. = 0			
7	1.80	1.80	3.6	0.980		40	41.73		0011.00	0011. – 0	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
5	1.30	1.30	2.6	0.836		36	37.56						
	1.50	1.50	2.0	0.050		50	51.50						
Calculatio	ons :								FLOW RATE	E CHART			
Qstd = 1/r	n[Sart(H	20(Pa/Ps	td)(Tstd	/Ta))-b]		70.0	0						
IC = I[Squ													
	,					60.0	0						
Qstd = sta	ndard flo	w rate											
IC = corrections			es			50.0	0						
I = actual		-				(jc)				•			
m = calibi	ator Qst	l slope				<b>8</b> 40.0	0						
b = calibra	ator Qstd	intercep	t			odse			<b></b>				
Ta = actua	al temper	ature dui	ring calil	oration ( deg	Κ	t t							
Pstd = act	ual press	ure durin	ng calibra	ation ( mm H	Ig	0.08 <b>chai</b>	0						
						Actual chart response (IC)							
For subse	equent ca	alculatio	n of san	npler flow:		₹ <sub>20.0</sub>	0						
1/m((I)[S	Sqrt(298/	Tav)(Pav	/760)] <b>-</b> t	))									
						10.0	0						
m = samp	ler slope												
b = samp	ler interc	ept				0.0	0						
I = chart r	esponse					0.0	0.000	0.50	00 1.0	00 1	.500	2.0	00
Tav = dail	ly averag	e temper	ature					S	tandard Flow F	Rate (m3/min)			
Pav = dail	y averag	e pressur	e										]

		PL.		-			RECALIB DUE D	
						F		
viro			100		1	L	February	1, 2021
	February 7,	/	Calibration C Rootsm		on Informat	ion Ta: 2		
Operator: . Calibration N	Jim Tisch	TE-5025A	Calik	orator S/N:	1612	Pa: 7	'45.5 mm	Hg
Calibration	10del #.	1E-3023A	Callu	rator s/in:	1012			
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔH	
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)	
	1	1	2	1	1.3730	3.2	2.00	
	2	3	4	1	0.9820	6.4	4.00	
	3	5	6	1	0.8780	8.0	5.00	
	4	7	8	1	0.8340	8.8	5.50	
L.	5	9	10	1	0.6900	12.8	8.00	
[			D	Data Tabulat	tion			
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$	)( <u>Tstd</u> )		Qa V	$\Delta H(Ta/Pa)$	
l	(m3)	(x-axis)	(y-axis		Va	(x-axis)	(y-axis)	
1	0.9866	0.7186	1.407		0.9957	0.7252	0.8896	
	0.9824	1.0004	1.990		0.9914	1.0096	1.2581	
ŀ	0.9802	1.1165	2.225		0.9893	1.1267	1.4066	
ŀ	0.9792	1.1741	2.334		0.9882	1.1849	1.4753	
F	0.5755	1.4114 m=	2.015		0.9020	1.4244 m=	1.27124	
	QSTD	b=	-0.046		QA	b=	-0.02917	
	4515	r=	0.9999		Sec.	r=	0.99995	
ī				Calculation				
F	Vstd=	ΔVol(/Pa-ΔP	)/Pstd)(Tstd/Ta			ΔVol((Pa-ΔP)	(Pa)	
F		Vstd/ATime				Va/ATime	// 4/	
			For subseque	ent flow rat				
[	Qstd=	1/m (( \\ \[ \[ \] \  \  \  \  \  \  \  \  \  \  \  \  \	$\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)$	))-b)		//	(Ta/Pa))-b)	
		Conditions						
Tstd:	298.15					RECALI	BRATION	
Pstd:		mm Hg Key			US EPA reco	ommends and	nual recalibration pe	r 1998
ΔH: calibrato			n H2O)				egulations Part 50 to	
		eter reading					Reference Method fo	
ΔP: rootsmet								
ΔP: rootsmet Ta: actual abs Pa: actual bas	solute temp				Determinat	ion of Suspen	nded Particulate Ma	tter in

Tisch Environmental, Inc.

145 South Miami Avenue

Village of Cleves, OH 45002

<u>www.tisch-env.com</u> TOLL FREE: (877)263-7610 FAX: (513)467-9009



# **Calibration Certificate for Gas-Pro**

#### Number: CCP/78117

Customer Name:	Tops Instruments Supplies Co.
Address:	Unit 1-5, 20/F., Midas Plaza,
	1 Tai Yau Street, Sanpokong, Hong Kong.
Detector Model:	Crowcon Gas-Pro Portable Gas Detector
Serial Number:	548062/01-001

		Alarm Le	vel Settings		
Sensor Type	Measuring Range	Alarm 1	Alarm 2	Test Gas	Result
CH4	0 to 100%LEL	20	40	50%LEL	Passed
CO (Dual Toxic)	0 to 500ppm	30	100	100ppm	Passed
H2S (Dual Toxic)	0 to 100ppm	5	10	25ppm	Passed
02	0 to 25%vol	19.5	23.5	18.0%vol	Passed
CO2	0 to 5%vol	0.5	1.5	2%vol	Passed

### Next Calibration Date: 26th March 2021

#### **Remarks**:

- 1. The above equipment has been calibrated in accordance with the methods and procedures set out in Crowcon's LRQA validated ISO9001 quality manual.
- The test equipment used has been calibrated and is traceable to national standards. Standard Calibration gas
  mixtures have been prepared in accordance with BS EN ISO 6145-1-2008. This Gas Detector must be used in
  accordance to the instruction manual.

Authorized Signature

Technical Department Date: 27<sup>th</sup> March 2020

FireMark Hong Kong Limited Flat A, 11/F., Hop Hing Industrial Building, 704 Castle Peak Road, Lai Chi Kok, Kowloon, Hong Kong. Tel : (852) 2751 8871 Fax : (852) 2751 8806



# Appendix H

## **Database of Monitoring Results**

24-hour TSF	-hour TSP Monitoring Data for AM5														
DATE	SAMPLE NUMBER	ELA	APSED TIN	ME		CHAR' EADIN		AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER V (g	VEIGHT )	DUST WEIGHT COLLECTED	24-nr 15P
	NUNIDER	INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m³/min)	(std m <sup>3</sup> )	INITIAL	FINAL	(g)	(µg/m³)
5-Jan-21	26617	17318.87	17342.87	1440.00	50	50	50.0	18.8	1020.1	1.34	1930	2.6793	2.8783	0.1990	103
11-Jan-21	26430	17342.87	17366.87	1440.00	50	50	50.0	10.6	1025.8	1.38	1982	2.7668	3.0063	0.2395	121
16-Jan-21	26667	17366.87	17390.87	1440.00	46	48	47.0	16.7	1020.8	1.22	1760	2.8821	3.0576	0.1755	100
22-Jan-21	26538	17390.87	17414.87	1440.00	52	52	52.0	20.3	1013.4	1.41	2033	2.6835	3.0013	0.3178	156
28-Jan-21	26600	17414.87	17438.87	1440.00	56	56	56.0	19.1	1020.7	1.59	2292	2.6727	3.0445	0.3718	162

Daytime No	aytime Noise Measurement Results (dB) at CNMS1																			
Start		rt 1st Leq (5min)		2nd Leq (5min)		3rd Leq (5min)		4th Leq (5min)		5th Leq (5min)		6th Leq (5min)								
Date	Time	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq30min, dB(A)
	Time	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
6-Jan-21	14:28	64.1	66.0	57.5	64.8	67.0	56.5	62.9	65.0	58.0	62.9	65.0	59.0	66.9	70.0	60.5	67.2	70.5	61.0	65.1
12-Jan-21	9:22	71.9	77.0	61.0	74.5	77.5	66.0	69.6	70.0	58.5	61.8	64.0	56.5	66.3	71.0	58.0	64.2	67.5	56.5	70.1
18-Jan-21	9:33	65.7	69.5	55.5	66.1	70.5	52.0	64.9	69.5	54.0	65.9	70.5	54.5	65.2	69.0	53.5	67.2	71.5	56.5	65.9
29-Jan-21	10:29	68.6	71.1	63.1	69.3	71.6	65.9	68.6	71.1	65.0	69.5	71.6	64.5	69.8	71.6	67.6	65.8	67.7	63.3	68.8

Daytime No	Paytime Noise Measurement Results (dB) at CNMS5																			
<b>Start</b>		1st Leq (5min)		2nd Leq (5min)		nin)	3rd Leq (5min)		4th Leq (5min)		5th Leq (5min)		6th	Leq (5r	nin)					
Date	Start	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq,	L10,	L90,	Leq30min, dB(A)
	Time	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
6-Jan-21	15:19	68.9	71.0	58.0	62.4	65.0	58.5	64.0	67.0	59.0	61.0	64.0	55.5	62.4	66.0	57.5	66.8	70.0	58.0	65.2
12-Jan-21	10:14	67.9	70.5	63.5	64.3	67.5	57.5	71.0	74.0	59.0	66.5	69.5	59.0	67.8	70.5	64.0	66.1	69.5	61.0	67.8
18-Jan-21	10:19	72.4	76.0	61.5	63.9	65.5	61.5	61.9	64.0	59.5	62.1	65.0	60.0	63.2	66.0	60.5	69.4	73.0	62.0	67.5
29-Jan-21	9:33	68.0	71.6	62.1	67.9	70.7	62.4	68.8	72.3	63.6	67.1	69.8	63.2	66.2	68.2	63.8	65.9	67.7	63.1	67.4

					Landfill G	as Monitorin <sub>i</sub>	g Results (V	Wan O Road)					
Monitoring						thane (%)		0	xygen (%)		Carb	on Dioxide (%	6)
Location	Date	Time	Weather	Temperature (°C)	Measurement Result	Action Level	Limit Level	Measurement Result	Action Level	Limit Level	Measurement Result	Action Level	Limit Level
	2/1/2021	8:30	Sunny	10	0	10	20	20.7	19	18	0	0.5	1.5
	2/1/2021	14:00	Sumy	18	0	10	20	20.7	19	18	0	0.5	1.5
	4/1/2021	8:30	Fine	17	0	10	20	20.7	19	18	0	0.5	1.5
	4/1/2021	14:00		20	0	10	20	20.7	19	18	0		1.5
	5/1/2021	8:30	Sunny	17	0	10	20	20.7	19	18	0	015	1.5
	5/1/2021	14:00		21	0	10	20	20.7	19	18	0		1.5
	6/1/2021	8:30	Fine	16	0	10	20	20.7	19	18	0	0.10	1.5
	6/1/2021	14:00		19	0	10	20	20.7	19	18	0	0.10	1.5
	7/1/2021	8:30	Sunny	10	0	10	20	20.7	19	18	0	015	1.5
	7/1/2021	14:00	· · ·	18	0	10	20	20.7	19	18	0		1.5
	8/1/2021	8:30	Fine	7	0	10	20	20.6	19	18	0	0.10	1.5
	8/1/2021	14:00		10	0	10	20	20.7	19	18	0		1.5
	9/1/2021	8:30	Sunny	8	0	10	20	20.7	19	18	0	0.10	1.5
	9/1/2021	14:00		13	0	10	20	20.7	19	18	0	015	1.5
	11/1/2021	8:30	Sunny	11	0	10	20	20.8	19	18	0	0.10	1.5
	11/1/2021	14:00		15	0	10	20	20.7	19	18	0	015	1.5
	12/1/2021	8:30	Sunny	8	0	10	20	20.7	19	18	0	015	1.5
	12/1/2021	14:00	· · ·	15	0	10	20	20.8	19	18	0	015	1.5
	13/1/2021	8:30	Sunny	10	0	10	20	20.8	19	18	0	0.00	1.5
	13/1/2021	14:00	· ·	17	0	10	20	20.7	19	18	0	0.10	1.5
	14/1/2021	8:30	Sunny	11	0	10	20	20.7	19	18	0	015	1.5
	14/1/2021	14:00	,	19	0	10	20	20.6	19	18	0	0.10	1.5
	15/1/2021	8:30	Sunny	15	0	10	20	20.8	19	18	0	015	1.5
	15/1/2021	14:00		20	0	10	20	20.8	19	18	0	0.10	1.5
Wan O Road	16/1/2021	8:30	Sunny	15	0	10	20	20.7	19	18	0	0.10	1.5
Wull O Rould	16/1/2021	14:00	,	20	0	10	20	20.7	19	18	0	0.5	1.5
	18/1/2021	8:30	Sunny	12	0	10	20	20.7	19	18	0	0.5	1.5
	18/1/2021	14:00		17	0	10	20	20.7	19	18	0	0.0	1.5
	19/1/2021	8:30	Sunny	13	0	10	20	20.8	19	18	0	0.10	1.5
	19/1/2021	14:00	,	17	0	10	20	20.7	19	18	0	015	1.5
	20/1/2021	8:30	Fine	16	0	10	20	20.7	19	18	0		1.5
	20/1/2021	14:00		21	0	10	20	20.8	19	18	0	0.0	1.5
	21/1/2021	8:30	Fine	18	0	10	20	20.7	19	18	0		1.5
	21/1/2021	14:00		23	0	10	20	20.7	19	18	0	015	1.5
	22/1/2021	8:30	Sunny	18	0	10	20	20.7	19	18	0	015	1.5
ļ	22/1/2021	14:00	,	25	0	10	20	20.8	19	18	0	0.00	1.5
	23/1/2021	8:30	Sunny	18	0	10	20	20.7	19	18	0	015	1.5
	23/1/2021	14:00		24	0	10	20	20.7	19	18	0	0.10	1.5
ļ	25/1/2021	8:30	Sunny	17	0	10	20	20.7	19	18	0	015	1.5
ļ	25/1/2021	14:00	,	23	0	10	20	20.8	19	18	0	015	1.5
	26/1/2021	8:30	Fine	17	0	10	20	20.7	19	18	0	015	1.5
ļ	26/1/2021	14:00		24	0	10	20	20.8	19	18	0	0.10	1.5
ļ	27/1/2021	8:30	Fine	18	0	10	20	20.7	19	18	0	015	1.5
ļ	27/1/2021	14:00		22	0	10	20	20.7	19	18	0	0.5	1.5
	28/1/2021	8:30	Fine	17	0	10	20	20.7	19	18	0	0.0	1.5
ļ	28/1/2021	14:00		23	0	10	20	20.7	19	18	0	015	1.5
ļ	29/1/2021	8:30	Fine	14	0	10	20	20.8	19	18	0	0.10	1.5
	29/1/2021	14:00		19	0	10	20	20.7	19	18	0	0.5	1.5
	30/1/2021	8:30	Sunny	15	0	10	20	20.7	19	18	0	015	1.5
	30/1/2021	14:00	Sumy	19	0	10	20	20.7	19	18	0	0.5	1.5

Remark:	Parameter	Criteria	Measurement
	Oxygen	Action Level	< 19%
	Oxygen	Limit Level	< 18%
	Methane	Action Level	> 10% LEL (> 0.5% v/v)
	Wethane	Limit Level	> 20% LEL (>1% v/v)
	Carbon	Action Level	> 0.5%
	Dioxide	Limit Level	> 1.5%



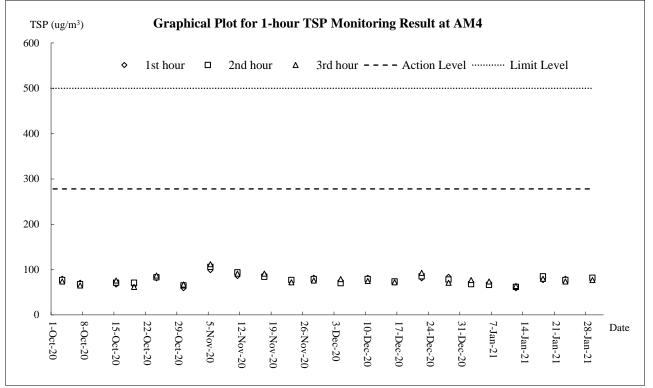
Appendix I

**Graphical Plots of Monitoring Results** 

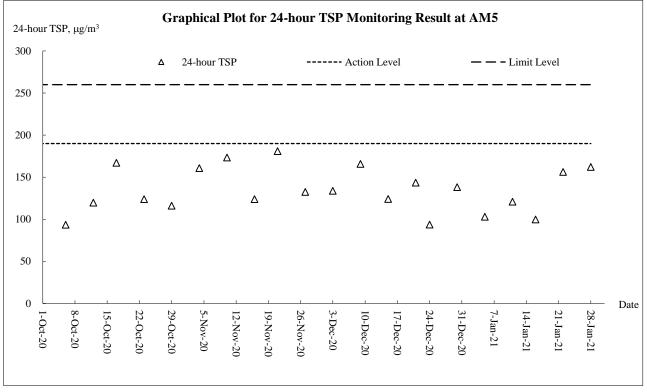
#### CEDD Contract Agreement No. EDO/04/2018 -Environmental Team for Cross Bay Link, Tseung Kwan O Monthly Environmental Monitoring & Audit Report – January 2021



#### Air Quality – 1 Hour TSP

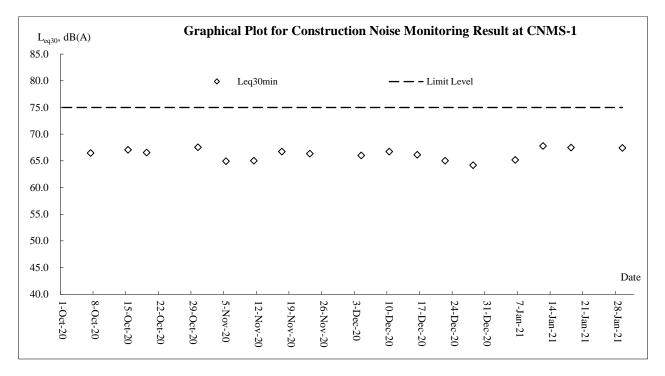


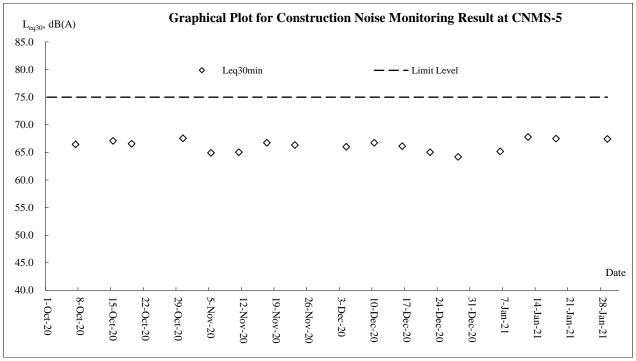
#### Air Quality - 24-Hour TSP





#### **Construction Noise**







Appendix J

**Meteorological Data** 

#### CEDD Contract Agreement No. EDO/04/2018 -Environmental Team for Cross Bay Link, Tseung Kwan O Monthly Environmental Monitoring & Audit Report – January 2021



				1	Tseung H	Kwan O Sta	tion
Date		Weather	Total Rainfall (mm)	Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction (degree)
1-Jan-21	Fri	Sunny periods in the afternoon.	0	11.8	7	59.5	N/NE
2-Jan-21	Sat	Moderate northeasterly winds.	0	13	8.5	55	N/NE
3-Jan-21	Sun	Dry with sunny periods.	0	16.7	6.2	60	N/NE
4-Jan-21	Mon	Dry with sunny periods.	0	18.3	6	63	E/NE
5-Jan-21	Tue	The weather is dry.	0	19.2	4.5	62.5	E/NE
6-Jan-21	Wed	Dry with sunny periods in the afternoon.	0	17	6.2	69.5	E/NE
7-Jan-21	Thu	Mainly cloudy tonight. Moderate northeasterly winds.	0	13.9	11.2	72.5	Ν
8-Jan-21	Fri	Cold. Mainly cloudy with bright periods.	0	9.1	10.7	53	EN/E
9-Jan-21	Sat	Very dry. Moderate to fresh northerly winds	0	10.2	8	47	N/NE
10-Jan-21	Sun	Mainly cloudy. Fresh northerly winds, strong offshore.	0	13	7	35	N/NE
11-Jan-21	Mon	Cold and very dry.	0	10.5	8.7	40.7	NE
12-Jan-21	Tue	Fine and dry with cold morning tomorrow.	0	12.6	11.7	25	NE
13-Jan-21	Wed	Fine. Very dry in the afternoon.	0	12.3	6.2	40.7	E/NE
14-Jan-21	Thu	Light to moderate northeasterly winds.	0	13.6	6	48.2	E/NE
15-Jan-21	Fri	Fine. Very dry in the afternoon.	0	16.5	7	37.5	E/NE
16-Jan-21	Sat	Fine and dry with cold morning tomorrow.	0	16.7	8.2	41	N/NW
17-Jan-21	Sun	Light to moderate northeasterly winds.	0	16.1	6.7	45	E/NE
18-Jan-21	Mon	Moderate to fresh easterly winds	0	14.1	6.2	46	N/NE
19-Jan-21	Tue	One or two light rain patches at night.	0	14.2	7.5	61.5	N/NE
20-Jan-21	Wed	Mainly cloudy. Sunny intervals during the day.	0	18.4	7.5	64.7	N/NE
21-Jan-21	Thu	Warm with sunny periods and some haze in the afternoon.	0	19.3	6.2	72.7	N/NE
22-Jan-21	Fri	Mainly cloudy tonight. Light winds.	0	21.5	7	87.5	W/SW
23-Jan-21	Sat	Mainly fine and dry.	0	20.8	10.5	81	W/SW
24-Jan-21	Sun	Moderate to fresh east to northeasterly winds	Trace	17.6	8.5	78.1	N/NE
25-Jan-21	Mon	Mainly fine and dry.	0	19.5	7	70.7	Ν
26-Jan-21	Tue	Mainly fine and dry.	0	20	5	71.5	E/NE
27-Jan-21	Wed	Warm with some haze during the day.	0	19.3	7	73.7	E/NE
28-Jan-21	Thu	Moderate northerly winds, fresh tonight. Becoming cool.	0	19.9	7.5	68.2	NE
29-Jan-21	Fri	Fine and dry. Moderate to fresh northeasterly winds	0	15.9	8.7	52.2	E/NE
30-Jan-21	Sat	Light to moderate easterly winds.	0	16.2	7	61	E/NE
31-Jan-21	Sun	Mainly fine. Warm during the day.	0	17.7	8.7	63	NE



Appendix K

Waste Flow Table



**Contract 1** 

### Monthly Summary Waste Flow Table for <u>2021</u> (year)

Name of Person completing the record: Calvin So (EO)

Project : Cross Bay Link, TKO, Main Bridge and Associated Works

Contract No.: NE/2017/07

		Actual Quantit	ies of Inert C&l	D Materials Ger		Act	ual Quantities	of C&D Waste	s Generated Mo	onthly	
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	$(in '000m^3)$	(in '000m <sup>3</sup> )	$(in'000m^3)$	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m <sup>3</sup> )
Jan	0.132	0.000	0.000	0.000	0.132	0.000	0.000	0.113	0.000	0.000	0.399
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-total	0.132	0.000	0.000	0.000	0.132	0.000	0.000	0.113	0.000	0.000	0.399
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.132	0.000	0.000	0.000	0.132	0.000	0.000	0.113	0.000	0.000	0.399

Note:

1. For non-inert portion of C&D material, assume the density of 1 m<sup>3</sup> general refuse is equal to 200 kg.

2. For inert portion of C&D material, assume 6 m<sup>3</sup> per each full-filled dump truck.

3. All values are round off to the third decimal places.



**Contract 2** 

Z:\Jobs\2018\TCS00975 (EDO-04-2018)\600\EM&A Report Submission\Monthly EM&A Report\2021\January 2021\R0516v2.docx

#### Actual Quantities of C&D Wastes Generated Monthly Actual Quantities of Inert C&D Materials Generated Monthly Hard Rock and Paper / **Total Quantity Reused in the Reused in other Disposal** as Other, e.g. Plastics Month Large Borken **Imported Fill** Cardboard Chemical Waste Metals Generated Contract Projects Public Fill (See note 3) general refuse Concrete Packaging [in '000kg] [in '000kg] [in '000kg] [in '000kg] [in '000m<sup>3</sup>] 1.685 0.000 0.000 0.000 1.685 0.744 0.005 0.050 0.020 0.000 0.036 Jan Feb Mar Apr May June SUB-1.685 0.000 0.000 0.000 1.685 0.744 0.005 0.050 0.020 0.000 0.036 TOTAL Jul Aug Sep Oct Nov Dec 1.685 0.000 0.000 0.000 1.685 0.744 0.005 0.050 0.020 0.000 0.036 TOTAL

#### Monthly Summary Waste Flow Table for 2021 Year

Note: Conversion to 1000m<sup>3</sup> for general refuse is weight in 1000kg multiply by 0.002

Conversion to 1000m<sup>3</sup> for Inert C&D is weight in 1000kg multiply by 0.0005

Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material

Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material

Assume the loaded volume of a dump truck for internal inert waste transfer is 17.9 m<sup>3</sup>



Appendix L

## Implementation Record of Water Mitigation Measures in the Reporting Month

#### Water Quality Mitigation Measures under NE/2017/07 (Contract 1)



Treatment facilities was installed at site to treat the site generated water prior discharge.

#### Water Quality Mitigation Measures under NE/2017/08 (Contract 2)



Treatment facilities was installed at site to treat the site generated water prior discharge.



Appendix M

Implementation Schedule for Environmental Mitigation Measures

		Objectives of the		Impler	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
Dust Impa	ct (Contraction Phase)			•		
\$5.5.5.1	Regular watering under good site practice shall be adopted. In accordance with the "Control of Open Fugitive Dust Sources" (USEPA AP-42), watering once per hour on exposed worksites and haul road is recommended to achieve dust removal efficiency of 91.7%.	Good construction site practices to control the dust impact on the nearby sensitive receivers to within the relevant criteria	All construction sites	Contractor	Construction stage	<ul> <li>APCO (Cap. 311); and</li> <li>Air Pollution Control (Construction Dust) Regulation</li> </ul>
\$5.5.5.3	<ul> <li>The following dust suppression measures shall also be incorporated by the Contractor to control the dust nuisance throughout the construction phase:</li> <li>Any excavated or stockpiled dusty material shall be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</li> <li>Any dusty materials remaining after a stockpile is removed shall be wetted with water and cleared from the surface of roads;</li> <li>A stockpile of dusty material shall not extend beyond the pedestrian barriers, fencing or traffic cones;</li> <li>The load of dusty materials on a vehicle leaving a construction site shall be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>Where practicable, vehicle washing facilities with high pressure water jet shall be provided at every discernible or designated vehicle exit point. The area where vehicle washing facilities and the exit point shall be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction site that is within 30m of a vehicle entrance or exit shall be kept clear</li> </ul>	Good construction site practices to control the dust impact on the nearby sensitive receivers to within the relevant criteria	All construction sites	Contractor	Construction stage	<ul> <li>APCO (Cap. 311); and</li> <li>Air Pollution Control (Construction Dust) Regulation</li> </ul>

		Objectives of the		Impler	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
	<ul> <li>of dusty materials;</li> <li>Surfaces where any pneumatic or power driven drilling, cutting, polishing or other mechanical breaking operation takes place shall be sprayed with water or a dust suppression chemical continuously;</li> <li>Any area that involves demolition activities shall be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;</li> <li>Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting shall be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</li> <li>Any skip hoist for material transport shall be totally enclosed by impervious sheeting;</li> <li>Exposed earth shall be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.</li> </ul>					
\$5.5.5.4	<ul> <li>For the barging facilities at the site compound, the following good site practice is required:</li> <li>All road surfaces within the barging facilities shall be paved.</li> <li>Vehicles should pass through designated wheel wash facilities.</li> <li>Continuous water spray shall be installed at the loading point.</li> </ul>	Good construction site practices to control the dust impact on the nearby sensitive receivers to within the relevant criteria	Site compound	Contractor	Construction stage	<ul> <li>APCO (Cap. 311); and</li> <li>Air Pollution Control (Construction Dust) Regulation</li> </ul>
S5.5.5.5	An audit and monitoring programme during the construction phase should be implemented by the Contractor to ensure that the construction dust impacts are controlled to within the HKAQO. Detailed requirements for the audit and monitoring programmes are given separately in the EM&A manual.	Monitor the 1-Hour and 24-Hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period	Selected representative dust monitoring station (Drawing no. 209506/EMA/ AIR/001)	Contractor	Construction stage	<ul> <li>APCO (Cap. 311); and</li> <li>Air Pollution Control (Construction Dust) Regulation</li> </ul>

		Objectives of the		Impler	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
S6.6.4.3	<ul> <li>Good site practice and noise management techniques:</li> <li>Only well-maintained plant shall be operated on-site and the plant shall be serviced regularly during the construction programme;</li> <li>Machines and plant (such as trucks, cranes) that are in intermittent use shall be shut down between work periods or throttled down to a minimum;</li> <li>Plant known to emit noise strongly in one direction, where possible, shall be orientated so that the noise is directed away from nearby NSRs;</li> <li>Silencers or mufflers on construction equipment shall be properly fitted and maintained during the construction works;</li> <li>Mobile plant shall be sited as far away from NSRs as possible and practicable; and</li> <li>Material stockpiles, site office and other structures shall be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>	To minimize construction noise impact arising from the Project on the affected NSRs	All construction sites	Contractor	Construction stage	• Annex 5, TM-EIAO
S6.6.4.5-6	Use of quiet powered mechanical equipment and working methods	Reduce noise levels of plant items	All construction sites	Contractor	Construction stage	• Annex 5, TM-EIAO
S6.6.4.7	Install site hoarding at the site boundaries between noisy construction activities and NSRs	Reduce the construction noise levels at low-level zone of NSRs through partial screening	All construction sites	Contractor	Construction stage	• Annex 5, TM-EIAO
S6.6.4.8-11	Use of temporary or movable noise barriers and full enclosure for relatively fixed plant source	Screen the noisy plant items to be used at all construction sites	For plant items listed in Table 6.7 and Appendix 6.1 of the EIA report at all construction sites	Contractor	Construction stage	• Annex 5, TM-EIAO
	Implement a noise monitoring programme under the EM&A manual	Monitor the construction noise levels at the selected representative locations	Selected representative noise monitoring stations ( <b>Drawing no.</b> 209506/EMA/NS/001 & 209506/EMA/NS/002)	Contractor	Construction stage	• Annex 5, TM-EIAO
\$6.7.3.1	Partial enclosures along Road D9 and application of low noise surfacing material along CBL and Road D9	To minimize road traffic noise impact arising from the CBL and Road D9 on the affected NSRs	CBL and Road D9         D9           (Drawing no.         209506/EMA/NS/003)	CEDD/ Contractor	During operational stage	• Annex 5, TM-EIAO

		Objectives of the		Implen	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
Water Qua	ality Impact (Contraction Phase)					
S8.6.4.3	<ul> <li>Marine Piling and Pile Excavation Works Marine piling and pile excavation works shall be undertaken in such a manner as to minimize re-suspension of sediments. Standard good practice measures shall be implemented, including the following requirements:</li> <li>All marine piling and pile excavation works shall be conducted within a floating single silt curtain.</li> <li>Mechanical closed grabs (with a size of5m3) shall be designed and maintained to avoid spillage and should seal tightly while being lifted.</li> <li>Barges shall have tight fitting seals to their bottom openings to prevent leakage of material.</li> <li>Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes.</li> <li>Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water. Barges shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation.</li> <li>Excess material shall be cleaned from the decks and exposed fittings of barges before the vessel is moved.</li> <li>Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action.</li> <li>All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.</li> <li>The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site.</li> </ul>	To control potential impacts from marine piling and pile excavation works	During marine piling and pile excavation works	Contractor	Construction stage	TM-EIAO; and     WPCO
S8.6.4.4	<ul> <li>Construction Site Runoff</li> <li>In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures, where appropriate, shall include the following:</li> <li>The design of efficient silt removal facilities shall be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The</li> </ul>	Control potential water quality impacts from construction site run-off	All construction sites	Contractor	Construction stage	<ul> <li>TM-EIAO; and</li> <li>WPCO</li> </ul>

		Objectives of the		Implen	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
	<ul> <li>detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction;</li> <li>Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m3 shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any marine water bodies;</li> <li>All vehicles and plant shall be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and site wheel washing facilities shall be provided at every construction site exit where practicable. Wash-water shall have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road shall be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains;</li> <li>Construction solid waste, debris and rubbish on site shall be collected, handled and disposed of properly to avoid water quality impacts;</li> <li>All fuel tanks and storage areas shall be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby; and</li> <li>Regular environmental audit on the construction site shall be carried out in order to prevent any malpractices. Notices shall be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the monder water discharde.</li> </ul>					
S8.6.4.6	<ul> <li>meander, wetlands and fish ponds.</li> <li>Sewage from workforce</li> <li>Portable chemical toilets and sewage holding tanks shall be provided for handling the construction sewage generated by the workforce;</li> <li>A licensed contractor shall be employed to provide</li> </ul>	Control potential water quality impacts from sewage	All construction sites	Contractor	Construction stage	<ul><li>TM-EIAO; and</li><li>WPCO</li></ul>

		Objectives of the		Impler	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
	appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.					
	Monitoring Implement a marine water quality monitoring programme under the EM&A on level of suspended solids (SS) / turbidity and dissolved oxygen (DO) shall be carried out.	Control potential water quality impacts from marine piling and pile excavation works	Selected monitoring stations ( <b>Drawing no.</b> 209506/EMA/WQ/001)	Contractor	Construction station	<ul><li>TM-EIAO; and</li><li>WPCO</li></ul>
\$8.7.3.2	Operational phase – Runoff from road surfaceProper drainage systems with silt traps and oil interceptors shallbe installed, maintained and cleaned at regular intervals.	Control potential water quality impacts from road surface runoff	CBL and Road D9	Contractor	Construction and operational stage	<ul><li>TM-EIAO; and</li><li>WPCO</li></ul>
Waste Mar	nagement (Contraction Phase)					
\$9.5.2	<ul> <li>Good Site Practices</li> <li>Recommendations for good site practices:</li> <li>Nomination of an approved personnel to be responsible for the implementation of good site practices, arrangements for collection and effective deposal to an appropriate facility of all wastes generated at the site;</li> <li>Training of site personnel in proper waste management and chemical handling procedures;</li> <li>Provision of sufficient waste disposal points and regular collection for disposal;</li> <li>Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre;</li> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and</li> <li>Implementation of a recording system for the amount of wastes generated/recycled and disposal sites.</li> </ul>	Good site practices which ensure waste generated during construction phase is properly managed	All construction sites	Contractor	Construction stage	<ul> <li>Waste Disposal Ordinance (Cap. 54);</li> <li>ETWB TCW No. 19/2005</li> </ul>

		Objectives of the		Impler	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
\$9.5.4	<ul> <li>Waste Reduction Measures Recommendations for achieving waste reduction include: <ul> <li>On-site reuse of any material excavated as far as practicable;</li> <li>Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal;</li> <li>Collection of aluminum cans and waste paper by individual collectors during construction should be encouraged. Separately labelled recycling bins should also be provided to segregate these wastes from other general refuse by the workforce;</li> <li>Recycling of any unused chemicals and those with remaining functional capacity as far as possible;</li> <li>Prevention of the potential damage or contamination to the construction materials though proper storage and good site practices;</li> <li>Planning and stocking of construction materials should be made carefully to minimize amount of waste generated avoid unnecessary generation of waste; and</li> <li>Training on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling should be provided to workers.</li> </ul> </li> </ul>	To reduce amount of waste generated during construction phase	All construction sites	Contractor	Construction stage	<ul> <li>Waste Disposal Ordinance (Cap. 54);</li> <li>ETWB TCW No. 19/2005</li> </ul>
\$9.5.5-6	<ul> <li>Storage, Collection and Transportation of Waste Recommendations for proper storage include:</li> <li>Waste such as soil should be handled and stored well to ensure secure containment;</li> <li>Stockpiling area should be provided with covers and water spraying system to prevent materials from being washed away and to reduce wind-blown litter; and</li> <li>Different locations should be designated to stockpile each material to enhance reuse.</li> <li>With respect to the collection and transportation of waste from the construction works, the following is recommended:</li> <li>Remove waste in a timely manner;</li> <li>Employ trucks with cover or enclosed containers for waste transportations;</li> <li>Obtain relevant waste disposal permits from the appropriate</li> </ul>	To reduce the environmental implications of improper storage	All construction sites	Contractor	Construction stage	<ul> <li>Waste Disposal Ordinance (Cap. 54);</li> <li>ETWB TCW No. 19/2005</li> </ul>

		Objectives of the		Implementation		Requirements	
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved	
	<ul> <li>authorities; and</li> <li>Disposal of waste should be done at licensed waste disposal facilities.</li> </ul>						
\$9.5.8-11	<ul> <li>C&amp;D Materials The following mitigation measures shall be implemented in handling the waste: <ul> <li>Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>Carry out on-site sorting;</li> <li>Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> <li>Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified;</li> <li>Disposal of the C&amp;D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation;</li> <li>Standard formwork or pre-fabrication order to minimise the arising of C&amp;D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage; and </li> <li>The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites </li> </ul></li></ul>	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	All construction sites	Contractor	Construction stage	<ul> <li>Waste Disposal Ordinance (Cap. 54);</li> <li>ETWB TCW No. 19/2005</li> <li>ETWB TCW No. 06/2010</li> </ul>	
\$9.5.13	<ul> <li>should be considered for such segregation and storage.</li> <li>Excavated Marine Sediments During transportation and disposal of the excavated marine sediments, the following measures shall be taken to minimize potential environmental impacts: <ul> <li>Bottom opening of barges should be fitted with tight fitting</li> </ul></li></ul>	To minimize potential impacts on water quality	All construction sites where applicable	Contractor	Construction stage	• ETWBTC (Works) No. 34/2002	

		Objectives of the		Impler	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
50 5 14 17	<ul> <li>seals to prevent leakage of material. Excess material should be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved;</li> <li>Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation;</li> <li>Transport barges or vessels should be equipped with automatic self-monitoring devices as specified by the DEP; and</li> <li>Barges should not be filled to a level that would cause the overflow of materials or sediment-laden water during loading or transportation.</li> </ul>					
S9.5.14-17	For those processes which generate chemical waste, the Contractor shall identify any alternatives that generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste.	To ensure proper management of chemical waste	All construction sites	Contractor	Construction stage	• Waste Disposal (Chemical Waste) (General) Regulation;
	If chemical waste is produced at the construction site, the Contractor is required to register with EPD as chemical waste producers. Chemical waste shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows. Containers used for storage of chemical wastes shall:					Code of Practice on the Packaging, Labelling and Storage of Chemical Waste
	• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;					
	<ul> <li>Have a capacity of less than 450 L unless the specification have been approved by EPD; and</li> <li>Display a label in English and Chinese in accordance with</li> </ul>					
	• Display a laber in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. The storage area for chemical wastes shall:					
	• Be clearly labelled and used solely for the storage of chemical wastes;					
	<ul> <li>Be enclosed on at least 3 sides;</li> <li>Have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is greatest;</li> </ul>					

		Objectives of the		Impler	nentation	Requirements	
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved	
	<ul> <li>Have adequate ventilation;</li> <li>Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste, if necessary); and</li> <li>Be arranged so that incompatible materials are adequately separated.</li> <li>Disposal of chemical waste shall:</li> <li>Be via a licensed waste collector; and</li> <li>Be to a facility licensed to receive chemical waste, such as the CWTC which also offers a chemical waste collection service and can supply the necessary storage containers; or</li> </ul>					Je Acmeveu	
\$9.5.18	Be to a re-user of the waste, under approval from EPD.     Sewage     An adequate number of portable toilets shall be provided for     the on-site construction workers. Any waste shall be transferred     to a sewage treatment works by a licensed collector.	Proper handling of sewage from worker to avoid odour, pest and litter impacts	All construction sites	Contractor	Construction stage	• Waste Disposal Ordinance (Cap. 54)	
S9.5.19	<u>General Refuse</u> General refuse generated on-site shall be stored in enclosed bins or compaction units separately from construction and chemical wastes. Recycling bins shall also be provided to encourage recycling. A reputable waste collector shall be employed by the Contractor to remove general refuse from the site on a daily basis separately from the construction and chemical wastes. Burning of refuse on construction sites is prohibited by law.	Minimize production of general refuse and avoid odour, pest and litter impacts	All construction sites	Contractor	Construction stage	• Waste Disposal Ordinance (Cap. 54)	
S10.7.2.4	Good Site Practices – The integrity and effectiveness of all silt curtains shall be regularly inspected. Effluent monitoring should be incorporated to make sure that the discharged effluent from construction sites meets the relevant effluent discharge guidelines.	To minimize potential impacts on water quality and protect marine communities within Junk Bay	All construction sites	Contractor	Construction stage	<ul><li>TM-EIAO; and</li><li>WPCO</li></ul>	
S10.7.2.5	Site runoff control – For works on land, standard site runoff control measures will be established and strictly enforced to ensure that discharge of contaminated or silt-laden runoff into marine waters is minimized.	To minimize potential impacts on water quality and protect marine communities within Junk Bay	All construction sites	Contractor	Construction stage	<ul><li>TM-EIAO; and</li><li>WPCO</li></ul>	
S10.9.1.1	The marine water quality monitoring programme recommended in Chapter 8 of this EIA report and this EMIS would also serve to protect the marine communities inside Junk Bay.	To minimize potential impacts on water quality and protect marine	Selected monitoring stations ( <b>Drawing no.</b> 209506/EMA/WQ/001)	Contractor	Construction stage	<ul><li>TM-EIAO; and</li><li>WPCO</li></ul>	

		Objectives of the		Implen	nentation	Requirements	
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved	
		communities within Junk Bay					
\$11.6.2.2	Good Site Practices: – The integrity and effectiveness of all silt curtains should be regularly inspected. Effluent monitoring shall be incorporated to make sure that the discharged effluent from construction sites meets the relevant effluent discharge guidelines.	To minimize potential impacts on water quality and protect fishery resources	All construction sites	Contractor	Construction stage	<ul><li>TM-EIAO; and</li><li>WPCO</li></ul>	
\$11.6.2.3	Site runoff control - For works on land, standard site runoff control measures will be established and strictly enforced to ensure that discharge of contaminated or silt-laden runoff is minimized.	To minimize potential impacts on water quality and protect fishery resources	All construction sites	Contractor	Construction stage	<ul><li>TM-EIAO; and</li><li>WPCO</li></ul>	
\$11.8.1.1	The marine water quality monitoring programme recommended in Chapter 8 of this EIA report and this EMIS would also serve to protect the fishery resources.	To minimize potential impacts on water quality and protect fishery resources	Selected monitoring stations ( <b>Drawing no.</b> 209506/EMA/WQ/001)	Contractor	Construction stage	<ul><li>TM-EIAO; and</li><li>WPCO</li></ul>	
Landscape	and Visual						
\$13.8.1.2	<ul> <li>The following mitigation measures should be implemented in the construction stage</li> <li>CM1 – The construction area and contractor's temporary works areas should be minimized to avoid impacts on adjacent landscape.</li> <li>CM2 – Reduction of construction period to practical minimum.</li> <li>CM3 – Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where the soil material meets acceptable criteria and where practical. The Contract Specification shall include storage and reuse of topsoil as appropriate.</li> <li>CM4 – Existing trees on boundary of the Project Area shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas. (Tree protection stage).</li> </ul>	Minimize effects of landscape and visual impacts	Work site/during construction	Funded and implemented by CEDD			

		<b>Objectives of the</b>		Implen	nentation	Requirements	
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved	
	<ul> <li>CM5 – Trees unavoidably affected by the works shall be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</li> <li>CM6 – Advance screen planting to proposed roads and associated structures.</li> <li>CM7 – hydroseeding or sheeting of soil stockpiles with visually unobtrusive material (in earth tone).</li> <li>CM8 – Screening of construction works by hoardings/noise barriers around works area in visually unobtrusive colours, to screen Works.</li> <li>CM9 – Control night-time lighting and glare by hooding all lights.</li> <li>CM10 – Ensure no run-off into water body adjacent to the Project Area.</li> <li>CM11 – Avoidance of excessive height and bulk of buildings and structures</li> </ul>						
\$13.8.1.2	OM1 – Compensatory tree planting for all felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006.	Minimize effects of landscape and visual impacts	Within the site boundary of the proposed works	and LCSD.	construction and operational stages		
\$13.8.1.2	<ul> <li>The following mitigation measures should be implemented in the operational stage:</li> <li>OM2 – A continuous belt of screen planting along the roads. Planting of the belt of trees shall be carried out as advance works ahead of other site formation and building works.</li> <li>OM3 – Maximise soft landscape of the site, where space permits, roadside berms /slope treatment works should be created.</li> <li>OM4 – During detailed design, refine structure layout to create a planting strips along the roads to enhance greenery.</li> <li>OM5 – Use appropriate (visually unobtrusive and</li> </ul>	Minimize effects of landscape and visual impacts	CBL and Road D9/during construction and operation	Funded and implemented by CEDD. Maintained by CEDD and LCSD.	construction and operational		

		Objectives of the		Impler	nentation	Requirements	
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved	
	<ul> <li>non-reflective) building materials and colours, and aesthetic design in built structures.</li> <li>OM6 – Streetscape elements (e.g. paving, signage, street furniture, lighting etc.) shall be sensitively designed in a manner that responds to the local context, and minimizes potential negative landscape and visual impacts. Lighting units should be directional and minimize unnecessary light spill.</li> <li>OM7 – Avoidance of excessive height and bulk of buildings and structures</li> </ul>						
Landfill G			Construction sites in 11	Contract	Construction	L 1011 C	
S14.7.5	<ul> <li>Precautionary measures The following guidance has been extracted from the EPD's Landfill Gas Hazard Assessment Guidance Note Guidance to ensure a robust and comprehensive set of measures to protect workers are provided.</li> <li>During all works, safety procedures shall be implemented to minimize the risks of fires and explosions, asphyxiation of workers (especially in confined space) and toxicity effects resulting from contact with contaminated soils and groundwater.</li> <li>Safety officers who are specifically trained with regard to LFG and leachate related hazards and the appropriate actions to take in adverse circumstances shall be present on all worksites throughout the works.</li> <li>All personnel who work on site and all visitors to the site shall be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid physical contact with it.</li> <li>Those staff who work in, or have responsibility for "at risk" areas, including all excavation workers, supervisors and engineers working within the consultation zone, shall receive appropriate training on working in areas susceptible to LFG hazards.</li> <li>Enhanced personal hygiene practices including washing thoroughly after working and eating only in "clean" areas shall be adopted where contact may have been made with any groundwater which is thought to be contaminated with</li> </ul>	Health and safety of the workers	Construction sites within 250m Consultation Zone (Drawing no. 209506/EMA/LFG/001)	Contractor	Construction stage	• Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)	

		Objectives of the		Implen	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
	leachate.					
	• Ground level construction plant shall be fitted with vertical exhausts at least 0.6m above ground level and with spark arrestors.					
	• During piping assembly or ducting construction, all valves/seals shall be closed immediately after installation. As construction progresses, all valves/seals should be closed as installed to prevent the migration of gases through the pipeline/conduit. All piping /ducting shall be capped at the end of each working day.					
	• Mobile offices, equipment stores, mess rooms etc. shall be located on an area which has been proven to be gas free (by survey with portable gas detectors) and ongoing monitoring shall be carried out to ensure that these areas remain gas free. Alternatively, such buildings shall be raised clear of the ground. If buildings are raised clear of the ground, the minimum, clear separation distance (as measured from the					
	highest point on the ground surface to the underside of the lowest floor joist) shall be 500mm. However, in this case, it is highly recommended that all the site offices, equipment stores and mess rooms should be located outside the 250m Consultation Zone.					
	• Smoking and naked flames shall be prohibited within confined spaces. "No Smoking" and "No Naked Flame" notices in Chinese and English shall be posted prominently around the construction site. Safety notices shall be posted warning of the potential hazards.					
	• Welding, flame-cutting or other hot works may only be carried out in confined spaces when controlled by a "permit to work" procedure, properly authorized by the Safety Office. The permit to work procedure shall set down clearly the requirements for continuous monitoring of methane,					
	carbon dioxide and oxygen throughout the period during which the hot works are in progress. The procedure shall also require the presence of an appropriately qualified person who shall be responsible for reviewing the gas measurements					
	as they are made, and who shall have executive responsibility for suspending the work in the event of					

		Objectives of the		Implen	nentation	Requirements
EIA Ref	Environmental Protection Measures/ Mitigation Measures	Recommended Measures & Main Concerns to Address	Location/ Timing	Agent	Stage	and/or Standards to be Achieved
	<ul> <li>unacceptable or hazardous conditions. Only those workers who are appropriately trained and fully aware of the potentially hazardous conditions which may arise shall be permitted to carry out hot works in confined areas.</li> <li>During the construction works, adequate fire extinguishers and breathing apparatus sets shall be made available on site and appropriate training given in their use.</li> </ul>					
S14.7.6	<ul> <li>Landfill gas monitoring</li> <li>The following monitoring shall be undertaken when construction works are carried out in confined space within the 250m Consultation Zone:</li> <li>The works area shall be monitored for methane, carbon dioxide and oxygen using appropriately calibrated portable gas detection equipment. The monitoring requirements and procedures specified in Paragraphs 8.23 to 8.28 of EPD's Guidance Note shall be followed. The monitoring frequency and areas to be monitored shall be set down prior to commencement of the works. Depending on the results of the measurements, actions required will vary. As a minimum these shall encompass the actions specified in Table 14.6 of the EIA report.</li> <li>When portable monitoring equipment is used, the frequency and areas to be monitored should be set down prior to commencement of the works either by the Safety Officer or by an appropriately qualified person.</li> <li>All measurements shall be made with the monitoring tube located not more than 10mm from the surface.</li> <li>A standard form, detailing the location, time of monitoring and equipment used together with the gas concentrations measured, shall be used when undertaking manual monitoring to ensure that all relevant data are recorded.</li> <li>If methane (flammable gas) or carbon dioxide concentrations are in excess of the trigger levels or that of oxygen is below</li> </ul>	Health and safety of the workers	Confined space of construction sites within 250m Consultation Zone	Contractor	Construction stage	• Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)
	the level specified in the Emergency Management in the following section, then evacuation shall be initiated.					
S14.7.8-9	<b>Emergency management</b> In the event of the trigger levels specified in Table 14.6 of the EIA report being exceeded, a person, such as the Safety	Health and safety of the workers	Confined space of construction sites within 250m Consultation Zone	Contractor	Construction stage	• Landfill Gas Hazard Assessment

EIA Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation		Requirements
				Agent	Stage	and/or Standards to be Achieved
	Officer, shall be nominated, with deputies, to be responsible for dealing with any emergency which may occur due to LFG.					Guidance Note (EPD/TR8/97)
	In an emergency situation the nominated person, or his deputies, shall have the necessary authority and shall ensure that the confined space is evacuated and the necessary works implemented for reducing the concentrations of gas.					
S14.7.16	<ul> <li>Protection measures - Operational phase</li> <li>An assumed presence of landfill gas shall be adopted at all times by maintenance workers;</li> <li>all maintenance workers inspecting any manhole shall be fully trained in the issue of LFG hazard;</li> <li>any manhole which is large enough to permit to access to personnel shall be subject to entry safety procedure;</li> <li>Code of Practice on Safety and Health at Work in Confined Spaces shall be followed to ensures compliance with the Factories and Industrial Undertakings (Confined Spaces) Regulations of the Factories and Industrial Undertakings Ordinance;</li> <li>a strictly regulated "work permit procedure" shall be implemented and the relevant safety procedures must be rigidly followed; and</li> <li>Adequate communication with maintenance staff shall be maintained with respect to LFG.</li> </ul>	Health and safety of the workers	Utility maintenance areas within 250m Consultation Zone/during operational period	Utility companies	Operational stage	<ul> <li>Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97); and</li> <li>Code of Practice on Safety and Health at Work in Confined Space</li> </ul>
\$14.7.17	General recommended precautionary & protection measures – Operational phase LGF surveillance exercise shall be undertaken by the utility companies at the utility manholes/inspection chambers. The surveillance exercise shall be undertaken for the duration of the site occupancy, or until such time that EPD agree that surveillance is no longer required and this shall be based on all the available monitoring data for methane, carbon dioxide and oxygen.	Health and safety of the workers	Utility maintenance areas within 250m Consultation Zone/during operational period	Utility companies	Operational stage	<ul> <li>Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97); and</li> <li>Code of Practice on Safety and Health at Work in Confined Space</li> </ul>