



Division/Section:  
**ITSO Division /ITSO OCC Traffic Operations**

Rev No.  
**2**

Effective Date:  
**Xx Dec 2020**

Document No:  
**ITSO/OCC/SOP/NOP02.003**

## Off Peak Hour Routine

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### DOCUMENT CONTROL

REV	DOCUMENT TITLE & COPY NUMBER	Date	Prepared by	Reviewed by	Approved by
0	Off Peak Hour Routine Copy____of ____	15 <sup>th</sup> December 2009	Mohamed Fairos Bin Mohamed Ali (OE)	Ng Soon Han, Frankie (Hd ITSO OCC)	Soh Ling Tim (MOPN)
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### AMENDMENT HISTORY RECORD

Rev · No.	Effective Date of Change	Section & Sub- Section Amended	Amendments/ References	Party Requesting for Change
1	XX Oct 2013	Whole Document	Due to organization change of division name from ITSC to ITSO.	DOM, ITSO OCC
2	XX Dec 2020	Whole Document	Due to change of Staff Designations in ITSO OCC. Delete SOE, insert DM Delete DySOE, insert DyAM	Mgr, ITSO OCC

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## Section 1. Description

- 1.1.1 The following procedure describes the daily off peak hour routine of the Duty Deputy Manager (DM), Deputy Assistant Manager (Dy AM) and Operations Executive (OE).
- 1.1.2 **Off peak hours** are defined as follows:
- Weekdays: 0930hrs-1730hrs, 2100hrs-0645hrs
  - Saturdays, Sundays & Public Holidays: Whole Day

## Section 2 Responsible persons

Deputy Manager (DM),  
Deputy Assistant Manager (DyAM)  
Operations Executives (OE)

## Section 3 Action- Off Peak Hour Routine

### Sub Section 3.1 Morning Shift Off-Peak Hour Routine

- 3.1.1 Off-peak hours for the morning shift starts at 0930hrs (for weekdays), during this time the OE will handle road works contractors calling to book in for open expressways works (Refer Attachment 1 for details). Morning shift OE shall continue all activities that are still ongoing after taking over from the night shift OE.
- 3.1.2 OE to remove some of the ERP in operation messages from the respective VMS.
- 3.1.3 DM/DyAM will do a check for the VMS to ensure that the OEs have put up and remove the appropriate messages from the VMS to reflect the current off-peak road conditions (Including advance total closure messages).
- 3.1.4 OE will Pan the Expressway cameras (PTZ) and Junction Eyes (J-eyes),EA Cameras every 15 minutes to look out for any incident and handle any incidents occurrence on a real time basis (refer to ITSO/OCC/SOP/NOP02.005,for details). Also check for any illegal road works and stop them.
- 3.1.5 OE will check Variable Message Signs (VMS) for their respective zones every 10 minutes to look out for any inaccuracies. Example: Messages that should be removed or adjusting of queue length in incidents
- 3.1.6 DM/DyAM shall do a counter check every 2 hrs for all zone cameras (including J- eyes) and VMS to ensure all is in order.
- 3.1.7 OE to answer and attend to all phone calls from various agencies and members of public and log down onto the feedback form for any feedback. DM/DyAM to assist if OE cannot handle the calls.
- 3.1.8 OE & DM/DyAM to monitor and report any equipment faults to FC and FC shall report to the respective contractors.

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- 3.1.9 OE & DM/DyAM shall report damaged road furniture if any to either the LTA 1-call center or RIM
- 3.1.10 OE & DM/DyAM shall process all submitted RC Incident / Accident / Patrol Report (refer ITSO/OCC/SOP/NOP02.006 for details).
- 3.1.11 DM/DyAM & OE shall monitor for congestions using all tools available to them and take steps to ease congestion if possible, for example adjusting of traffic lights and asking contractors to stop work and clear the area if congestion is caused by them.
- 3.1.12 OE shall also handle any major incidents or emergencies (crisis) as they occur (refer to AOP 03 - Abnormal Operations & Special requirements and EOP 04 - Emergency Crisis Operations for case specifics)
- 3.1.13 DM/DyAM shall oversee the OE handling of incidents, abnormal and emergencies occurrences and provide inputs and instructions if necessary. DM shall also escalate to management via sms when criteria for escalation is reached (refer to AOP 03 - Abnormal Operations & Special requirements and EOP 04 - Emergency Crisis Operations for case specifics).
- 3.1.14 During lull periods OE and DM/DyAM shall check emails for latest LTA and Control Room updates, example: road closures, planned road works. In addition DM shall try to process as many EMAS work permits via the ERMS as possible
- 3.1.15 Handover to the afternoon shift when shift ends.

### **Sub Section 3. 2 Afternoon Shift Off-Peak Hour Routine**

- 3.2.1 Off-peak hours for the afternoon shift starts the moment the morning shift handovers at 1500hrs till 1730hrs, afternoon off-peak will start again at 2100hrs until he/she handover to the night shift (for weekdays). Afternoon OE shall continue all activities that are still ongoing after taking over from the morning shift OE.
- 3.2.2 DM/DyAM will do a check for the VMS to ensure that the OEs have put up and remove the appropriate messages from the VMS to reflect the current off-peak road conditions (Including advance total closure messages).
- 3.2.3 OE will Pan the Expressway cameras (PTZ) ,Junction Eyes (J-eyes),and EA cameras every 15 minutes to look out for any incident and handle any incidents occurrence on a real time basis (refer to ITSO/OCC/SOP/NOP02.005,for details). Also check for any illegal road works and stop them.
- 3.2.4 OE will check Variable Message Signs (VMS) for their respective zones every 10 minutes to look out for any inaccuracies. Example: Messages that should be removed or adjusting of queue length in incidents
- 3.2.5 DM/DyAM shall do a counter check every 2hrs for all zone cameras (including J-eyes),EA Cameras and VMS to ensure all is in order.
- 3.2.6 OE to answer and attend to all phone calls from various agencies and members of public and log down onto the feedback form for any feedback. DM/DyAM to assist if OE cannot handle the calls

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- 3.2.7 OE & DM/DyAM to monitor and report any equipment faults to FC and FC shall report to the respective contractors
- 3.2.8 OE & DM/DyAM shall report damaged road furniture if any to either the LTA 1-call center or RIM
- 3.2.9 OE shall put up the ERP in operation messages to the respective VMS when ERP start operation and to remove the message when it stops operations.
- 3.2.10 To handle road works contractor booking out at 1630hrs in preparation for evening peak hours.
- 3.2.11 DM/DyAM & OE shall monitor for congestions using all tools available to them and take steps to ease congestion if possible, for example adjusting of traffic lights and asking contractors to stop work and clear the area if congestion is caused by them.
- 3.2.12 OE shall also handle any major incidents or emergencies (crisis) as they occur (refer to AOP 03 - Abnormal Operations & Special requirements and EOP 04 - Emergency Crisis Operations for case specifics). DyAM to assist OE.
- 3.2.13 DM/DyAM shall oversee the OE handling of incidents, abnormal and emergencies occurrences and provide inputs and instructions if necessary. DM shall also escalate to management via sms when criteria for escalation is reached (refer to AOP 03 - Abnormal Operations & Special requirements and EOP 04 - Emergency Crisis Operations for case specifics).
- 3.2.14 During lull periods OE and DM/DyAM shall check emails for latest LTA and Control Room updates, example: road closures, planned road works. In addition, DM shall try to process as many EMAS work permits via the ERMS as possible
- 3.2.15 Handover to night shift when shift ends.

### Sub Section 3. 3 Night Shift Off-Peak Hour Routine

- 3.3.1 Off-peak hours for the night shift starts the moment the afternoon shift handovers at 2200hrs till 0645hrs. Night shift duty OE shall continue all activities that are still ongoing.
- 3.3.2 DM/DyAM will do a check for the VMS to ensure that the OEs have put up and remove the appropriate messages from the VMS to reflect the current off-peak road conditions (Including advance total closure messages).
- 3.3.3 OE will Pan the Expressway cameras (PTZ) , Junction Eyes (J-eyes) and EA Cameras every 15 minutes to look out for any incident and handle any incidents occurrence on a real time basis (refer to ITSO/OCC/SOP/NOP02.005,for details). Also check for any illegal road works and stop them.

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- 3.3.4 OE will check Variable Message Signs (VMS) for their respective zones every 10 minutes to look out for any inaccuracies. Example: Messages that should be removed or adjusting of queue length in incidents
- 3.3.5 DM/DyAM shall do a counter check every 2hrs for all zone cameras (including J- eyes) and VMS to ensure all is in order.
- 3.3.6 OE to handle road works contractors calling to book in for open expressways and Tunnel night works (Refer Attachment 1 and 2 for details).
- 3.3.7 OE to answer and attend to all phone calls from various agencies and members of public. DM/DyAM to assist if OE cannot handle the calls.
- 3.3.8 OE to answer and attend to all phone calls from various agencies and members of public and log down onto the feedback form for any feedback. DM to assist if OE cannot handle the calls
- 3.3.9 OE & DM/DyAM shall report damaged road furniture if any to either the LTA 1-call center or RIM
- 3.3.10 OE & DM/DyAM shall process all submitted RC Incident / Accident / Patrol Report (refer ITSO/OCC/SOP/NOP02.006 for details).
- 3.3.11 DM/DyAM & OE shall monitor for congestions using all tools available to them and take steps to ease congestion if possible, for example adjusting of traffic lights and asking contractors to stop work and clear the area if congestion is caused by them.
- 3.3.12 OE shall also handle any major incidents or emergencies (crisis) as they occur (refer to AOP 03 - Abnormal Operations & Special requirements and EOP 04 - Emergency Crisis Operations for case specifics). DyAM to assist.
- 3.3.13 DM/DyAM shall oversee the OE handling of incidents, abnormal and emergencies occurrences and provide inputs and instructions if necessary. DM shall also escalate to management via sms when criteria for escalation is reached (refer to AOP 03 - Abnormal Operations & Special requirements and EOP 04 - Emergency Crisis Operations for case specifics).
- 3.3.14 During lull periods OE and DM/DyAM shall check emails for latest LTA and Control Room updates, example: road closures, planned road works.
- 3.3.15 Handle the booking out of road works contractor at 0500hrs in preparation for morning peak
- 3.3.16 Handover to morning shift when shift ends.

#### **Sub Section 3. 4 Additional Duties for Tunnel Position**

- 3.4.1 In addition to the normal off peak hour routine describe in sub-sections 3.1 to 3.3, the OE manning the Tunnel position is required to execute the following additional task.

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- 3.4.2 Check and record Tunnel boost lighting luminance level (refer to Attachment 5 for record form).
- 3.4.3 Check and record Tunnel ventilation jet fans operation and CO level (refer to Attachment 4 for record form).

## Section 4 Abbreviations

CTE Central Expressway  
ERP Electronic Road Pricing  
EMAS Expressway Monitoring Advisory System  
ERMS Enhance Road Management System  
FC Fault Coordinator  
EA Emas Arterial  
LTA Land Transport Authority  
OE Operations Executive  
RC Recovery Crew  
RIM. Road Infrastructure Management  
DM Deputy Manager  
Dy AM Deputy Assistant Manager

## Section 5 References & Attachments

1. Intelligent Transport Systems Operations(Operations), Integrated Standard Operating Procedures

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## ATTACHMENT 1- Allowable Work Timings for Expressways

**EXPRESSWAYS - WORKING PROCEDURES**

SUBMISSION OF EMAS WORK APPLICATIONS	
Type of Work	Advance Notification
Scheduled work	At least 3 working days
Emergency work **	On actual day or the next working day
Total Closure of Expressway ***	At least 2 weeks notice
Total Closure of Slip Road ***	At least 2 weeks notice

\*\*The User Department Officer must inform ITSC EMAS officer during office hours and after office hours, the EMAS Operators for all emergency works.

\*\*\* The User Department will submit closure plans, diversion plans, letters on the road closure and gazette notice (if any) to ITSC EMAS Officer.

WORK CO-ORDINATION	
Before work start	1 Contractor to call Operator
	2 Supply site supervisor's name and contact no - handphone, pager
	3 Inform Operator whenever there is a change of lane or location
Completion of work	1 Call Operator upon completion of work and after the site been cleared

**NOTE :** No works are allowed on eve of public holidays. The EMAS Operations Staff has the right to stop all works that are affecting the safety of the expressways users and causing congestion, even though approval had been given. Works in CTE Tunnels and its boundary shall follow the CTE Tunnels Rules and Regulations.

ALLOWABLE TIMING	
DAY	TIME
AYE, ECP, PIE	
MONDAY TO FRIDAY	0930HRS TO 1630HRS 2230HRS# TO 0500HRS(NEXT MORNING)
SATURDAY	0930HRS TO 1230HRS
SUNDAY, PUBLIC HOLIDAY	1430HRS TO 0500HRS(NEXT MORNING) 0001HRS TO 0500HRS(NEXT MORNING)
BKE, KJE, SLE, TPE	
MONDAY TO FRIDAY	0930HRS TO 1630HRS 2030HRS TO 0500HRS(NEXT MORNING)
SATURDAY	0930HRS TO 1230HRS
SUNDAY, PUBLIC HOLIDAY	1430HRS TO 0500HRS(NEXT MORNING) 0001HRS TO 0500HRS(NEXT MORNING)
CTE - TOWARDS CITY/AYE DIRECTION	
MONDAY TO SATURDAY	2300HRS TO 0500HRS(NEXT MORNING)
SUNDAY, PUBLIC HOLIDAY	0001HRS TO 0500HRS(NEXT MORNING)
CTE - TOWARDS SLE DIRECTION	
MONDAY TO SATURDAY	0930HRS TO 1200HRS 2300HRS TO 0500HRS(NEXT MORNING)
SUNDAY, PUBLIC HOLIDAY	0001HRS TO 0500HRS(NEXT MORNING)

# 2030hr - Earlier starting hr for these sections of expressways :

AYE - From Jurong Town Hall (AYE 13km) to end of AYE 27 km - both directions  
ECP - From Airport (ECP 0 km) to Marine Parade (ECP 10 km) - Towards City direction only  
PIE - From PIE/ECP (PIE 0 km) to Bedok (PIE 8 km) and from Jln Anak Bukit (AYE 27 km) to PIE/AYE (PIE 42km) - both directions

\* PIE - WITH EFFECT FROM 7 MARCH 2009 VLG WORKS ON PIE TO BE  
SCHEDULE OUTSIDE SATURDAY MORNING HRS (SATURDAY 0930 - 1430HRS NO WORKS)  
EMAS Work Procedure - Revised 28 January 2002

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## ATTACHMENT 2-Allowable Work Timings for Tunnel

# TUNNEL OPERATION

## RULES AND REGULATIONS FOR WORKING IN CTE TUNNELS

### 1. WORKING HOURS :

#### a. MAIN TUNNELS - for one lane closure

Monday to Friday      2300 to 0500 hrs (Slow lane only)  
                                      0001 to 0500 hrs (Centre or Fast lane)

Sunday                      0830 to 0500 hrs

Friday, Saturdays and eve of public holidays - **NO work allowed.**

Work requiring two lanes closure will only be allowed between 0001hrs and 0500hrs.

#### b. SLIP ROADS

Require total closure and need to be gazetted and announced/published over mass media at least two weeks in advance.

Presently, slip roads are closed on Monday or Tuesday between 2359hrs to 0500hrs of the following day once every fortnight.

### 2. APPLICATION TO WORK IN TUNNELS

- a. Before commencement of work, an EMAS Work application to work in tunnel must be submitted and approved by the ITSO Officer at least 7 (seven) working days before first date of work. A detail work program must be attached with the application. Application forms are available at ITSO Control Centre.
- b. Priority will be based on urgency and first-come-first-served basis.
- c. Request for total closure of main tunnel or slip roads (other than already scheduled) will not be entertained.
- d. The ITSO Officer has the right to stop all works that are affecting the safety of the tunnels users and/or causing congestion in the tunnels, even though approvals have been given for such works to be carried out in the tunnels.

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### 3. **SAFETY IN TUNNELS**

The following must be strictly complied with:

- a. Notify EMAS Tunnel Operator in ITSO Control Centre at Tel no: 3326946/7 before commencement of each activity, change of lane and upon completion of each activity.
- b. Obey all existing road/traffic rules and regulations.
- c. Provide all necessary temporary traffic and directional signs, warning lamps, rubber cones, etc as required by the LTA Code of Practice Traffic Control at Work Zone throughout the duration of work.
- d. All workers, supervisor, etc, must put on reflective vests at all times when working in the tunnels.
- e. All vehicles used in the work must clearly display flashing revolving lights throughout duration of work. A vehicle with truck-mounted attenuator (**TMA**) attached **must** be provided at the site.
- f. Work area will be according to the approved work program submitted. Any amendment is subject to exigency of work.
- g. Maintain two-way communications with the control room Duty Officer.
- h. There shall be no smoking in the tunnels.
- i. Contractors working in the tunnels must co-ordinate with one another to ensure smooth flow of traffic in the tunnels and safety of the tunnels users.
- j. Comply all instructions (in regard to lane closure and safety) by EMAS Officer, ITSO Operator, Traffic Police or other relevant authorities.

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## ATTACHMENT 3 - NON-ALLOWABLE Work Timings for Arterial Roads

List of Roads & their Corresponding Non-Allowable Working Hours  
(updated as at 28 Feb 2007)

Road Name	Non-Allowable Working Hours
<ul style="list-style-type: none"> <li>Eu Tong Sen Street (between Outram Rd &amp; River Valley Rd)</li> <li>Hill Street (between River Valley Rd &amp; Bras Basah Rd)</li> <li>Victoria Street (between Bras Basah Rd &amp; Lavender Street)</li> <li>Bras Basah Road</li> <li>Penang Road</li> <li>Somerset Road</li> </ul>	Monday to Saturday (except public holiday) 7.30am to 8.00pm
<ul style="list-style-type: none"> <li>Orchard Road</li> </ul>	Monday to Saturday (except public holiday) 7.00am to 12.00 midnight  Sunday & Public Holiday 11.00am to 11.00pm
<ul style="list-style-type: none"> <li>All roads within the CBD</li> <li>Stevens Road</li> <li>Bukit Timah Road (between Selegie Road &amp; Balmoral Road)</li> <li>Whitley Road</li> <li>Dunearn Road</li> <li>Newton Circus</li> <li>Farrer Road</li> <li>North Buona Vista Road (between Dover Close East &amp; Holland Drive)</li> <li>Dunearn Road (from Chancery Road to Newton Circus)</li> <li>Rochor Canal Road</li> <li>Rochor Road</li> <li>Ophir Road</li> <li>Sungei Road</li> </ul>	Monday to Friday (except public holiday) 7.30am to 9.30am 11.30am to 2.00pm 4.30pm to 8.00pm  Saturday (except public holiday) 7.30am to 9.30am 11.30am to 2.00pm

Road Name	Non-Allowable Working Hours
<ul style="list-style-type: none"> <li>Thomson Road (between Newton Road &amp; PIE)</li> </ul>	Monday to Friday (except public holiday) 7.30am to 9.30am 11.30am to 2.00pm 4.30pm to 8.00pm  Saturday 7.30am to 8.00pm  Sunday 7.00am to 1.30pm
<ul style="list-style-type: none"> <li>Tanjong Katong Road (between Dunman Road &amp; Geylang Road)</li> </ul>	Monday to Friday (except public holidays) Normal peak hours  Saturday 5.00pm to 7.00pm  Sunday 8.00am to 3.30pm

Important Notes:

- For all other roads, the normal peak hours will apply.
- Regardless of the allowable working hours, traffic lane/s must be opened to traffic immediately when there is a traffic build-up.

## ATTCHMENT 4 CTE TUNNEL VENTILATION CHECK RECORD FORM

## CTE Tunnel Ventilation Fans Records

Date: \_\_\_\_\_

Time	Jet Fans In Operation (A - Auto, M - Manual)	Remarks
0001		
0100		
0200		
0300		
0400		
0500		
0600		
0700		
0800		
0900		
1000		
1100		
1200		
1300		
1400		
1500		
1600		
1700		
1800		
1900		
2000		
2100		
2200		
2300		

Remarks: \_\_\_\_\_

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## ATTACHMENT 5 CTE TUNNEL BOOST LIGHTING CHECK RECORD FORM

## ATTACHMENT 5 CTE TUNNEL BOOST LIGHTING CHECK RECORD FORM

DAILY RECORD OF TUNNEL BOOST LIGHTING LUMINANCE LEVELS  
AND CAMERA LUMINANCE VALUES

DATE: 1 / 1

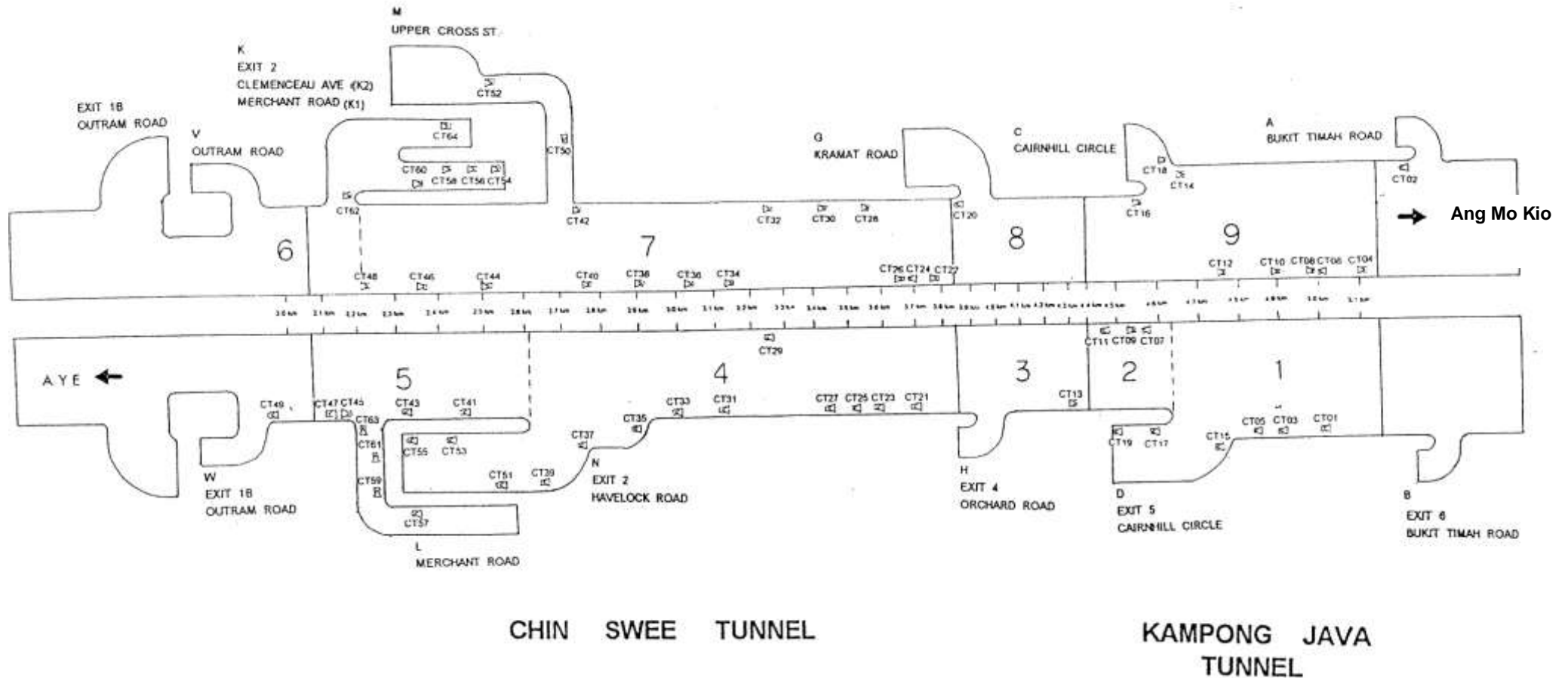
DATE: / /

KAMPONG JAVA TUNNEL						
TIME	WEST BOX		EAST BOX		SLIP C	
	LEVEL	VALUE	LEVEL	VALUE	LEVEL	VALUE
0700						
0730						
0800						
0830						
0900						
1000						
1100						
1200						
1300						
1400						
1500						
1600						
1700						
1730						
1800						
1830						
1900						

[illegible]

ATTACHMENT 6

CTE TUNNEL SECTOR REFERENCE USED FOR LTM, VRS & IN-HOUSE CONTRACTORS



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