

**OK TEDI**

**TRAFFIC MANAGEMENT**

**PLAN**

***DRAFT DOCUMENT 13 JUNE 2019***

**DOCUMENT USERS :**

**PERSON RESPONSIBLE FOR : SAFETY  
KEEPING DOCUMENT CURRENT MANAGER**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Revision** | **Prepared** | **Reviewed** | **Approved** | **Date** | **Description** |
| 1 |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**CONTENTS**

1.0 INTRODUCTION 5

2.0 PURPOSE 5

3.0 SCOPE 5

4.0 DEFINITIONS 5

4.1 VEHICLE TYPES 5

5.0 REFERENCES 6

5.1 REFERENCES 6

6.0 RESPONSIBILITIES 6

6.1 GENERAL MANAGER 6

6.2 MANAGERS 6

6.3 COORDINATORS / SUPERVISORS 7

6.4 ALL EMPLOYEE’S AND CONTRACTOR’S 7

7.0 SAFE WORK PRACTICES 7

7.1 GENERAL ROAD TRAFFIC RULES 7

7.2 NO OVERTAKING 8

7.3 GENERAL OPERATIONAL REQUIREMENTS 8

7.4 DISTANCE BETWEEN VEHICLES 9

7.5 SITE RADIO CHANNELS 9

7.6 EMERGENCY RADIO COMMUNICATION 10

7.7 EMERGENCY VEHICLES 10

7.8 SPEED MANAGEMENT 11

7.9 PARKING REQUIREMENTS 11

7.10 POOR VISIBILITY DUE TO FOG, DUST, EXCESSIVE RAIN 12

7.11 INCLEMENT WEATHER & SPEED LIMITS 12

7.12 PEDESTRIANS 12

7.13 BLAST GUARDS 12

7.14 PASSENGER TRANSPORT (BUS AND CANTER / PMV) 13

7.15 LOADS 13

7.16 HEAVY MOBILE EQUIPMENT INTERACTIONS 14

7.17 HME & LIGHT VEHICLE INTERACTION 15

7.18 EXCLUSION ZONES 15

7.19 RIGHT OF WAY 15

7.20 EFFECTIVE COMMUNICATION – LV / LV & LV / HV 16

8.0 COMPETENT PEOPLE 17

8.1 DRIVER TRAINING AND QUALIFICATION 17

8.2 DRIVER FITNESS AND ALERTNESS 17

8.3 PRIVATE USE 18

9.0 FIT FOR PURPOSE EQUIPMENT 18

9.1 LIGHT VEHICLE SPECIFICATIONS 18

9.2 MOBILE EQUIPMENT INSPECTION 19

9.3 PRESTART INSPECTIONS 19

9.4 BREAKDOWNS 19

9.5 RE-FUELLING 19

10.0 FIT FOR PURPOSE ROADWAYS 20

10.1 GENERAL INTERSECTION DESIGN 20

10.2 GENERAL ROAD DESIGN REQUIREMENTS 20

10.3 ROAD & TRAFFIC SIGNS - GENERAL 20

10.4 GUIDE POSTS AND DELINEATION 21

10.5 CLASSIFICATION OF OTML ROADS 22

11.0 ROAD MAINTENANCE 24

11.1 REGULAR MAINTENANCE 24

11.2 ROAD MAINTENANCE AND/OR CONSTRUCTION ACTIVITY 24

# INTRODUCTION

Road use and the interaction of people and machines has been identified as a significant risk to the safety and wellbeing of all site personnel. The intent of the Traffic Management Plan is to create as far as is practicable a “Controlled Work Environment” on our roads, as such we need to manage;

* + - Interactions between pedestrians and vehicular traffic;
    - Increased or altered traffic conditions on OTML site roads;
    - Heavy vehicles and oversized loads
    - Mobile equipment – light vehicle interaction
    - Mobile equipment – mobile equipment interaction
    - Light vehicle – light vehicle interaction

# PURPOSE

The Traffic Management Plan applies to all areas within OTML operations. The purpose of this Plan is to detail how vehicles and driving hazards will be controlled in the workplace. It provides clear and consistent safety rules and procedures for all traffic (operation and project) within the operation.

# SCOPE

This Traffic Management Plan applies to all personnel involved in the OTML Mine Site and Operations including all contractors and visitors

# DEFINITIONS

## VEHICLE TYPES

|  |  |
| --- | --- |
| Light Vehicles and Canters / PMVs (Passenger Vehicles) | Land-cruiser Troop Carriers and Utes or similar |
| Heavy Vehicles | Any vehicles other than light vehicles. This includes Mobile Equipment, Mining Fleet, Construction Fleet, Road Haulage, Freight and Delivery Trucks |
| Mobile Equipment | Construction and Mining equipment including Excavators, loaders, dump trucks, articulated dump trucks, dozers, graders, rollers, water carts, fuel trucks, forklifts cranes, and elevated work platforms. |
| Road Haulage, Freight and Delivery Trucks | Vehicles used to ship materials to site and move materials around the site (other than mining and earthworks activities). This includes fuel tankers, low-loaders, Trucks moving containerised freight, 3.52 and 4 tonne canters designed to move freight and other types of delivery equipment |

# REFERENCES

## REFERENCES

* + - AS/NZS 1742.2:1994 – Manual of uniform traffic control devices traffic control devices for general use.
    - AS/NZS 1742.3:2002 – Manual of uniform traffic control devices Traffic control devices for works on roads
    - AS/NZS 1742.4:1999 - Manual of uniform traffic control devices speed controls.
    - AS/NZS 1743:2001 – Road signs – Specifications. (another section 5.2 on all other site documents references for more detail) \*\*\*\*\*\* *– PNG Vehicle Use*

*\*\*\*\*\*\* – Emergency Response Driving Procedure etc*

# RESPONSIBILITIES

## GENERAL MANAGER

The General Manager for OTML is responsible:

* + - For ensuring that the requirements of this Traffic Management plan (TMP) is reviewed at least annually;
    - For ensuring that all parties are aware of the Traffic Management Plan, and that all Departments and Contractors implement and enforce the requirements of this Traffic Management Plan;
    - For ensuring appropriate resources are provided for the implementation of the plan.

## MANAGERS

All OTML Operations and Projects Managers are responsible:

* + - For ensuring that all employees and contractors under their areas of control fully implement and comply with the requirements of this Traffic Management Plan and related policies and procedures as specified in Section 6.1.
    - For ensuring only necessary travel is undertaken seeking to eliminate journeys wherever possible.
    - For ensuring JSA’s are completed for any non-routine hazardous travel.
    - For ensuring appropriate resources are supplied for the implementation of control.
    - For participating in the annual review of the Traffic Management Plan.
    - For ensuring Coordinators/Supervisors verify that every employee or contractor in their area holds all necessary licences, tickets or certificates of competency to be Authorised to Operate equipment they are assigned to operate.
    - For ensuring the appropriate actions are taken for any breaches of the Traffic Management Plan.

## COORDINATORS / SUPERVISORS

All Coordinators/Supervisors are responsible:

* + - For implementing and enforcing the requirement of the OTML Traffic Management Plan.
    - For ensuring only necessary travel is undertaken seeking to eliminate journeys wherever possible.
    - For ensuring that every employee or contractor in their area holds all necessary licences, tickets or certificates of competency to be authorised to Operate equipment they are assigned to operate. .
    - For ensuring every employee under their control who drives or operates mobile equipment or vehicle fully complies with the requirement of this Traffic Management Plan.
    - For investigating reports of non compliance levelled against employees under their control including contractors and take the appropriate remedial or disciplinary actions.

## ALL EMPLOYEE’S AND CONTRACTOR’S

All OTML employees and contractors are responsible for fully complying with the requirement of the Traffic Management Plan. In addition, it is extremely important also to:

* + - Report any mechanical fault identified on an equipment or vehicle immediately to be rectified;
    - Report any road condition that is unsafe due to extreme weather condition to the relevant supervisor;
    - Report any “at risk” behaviour of a driver i.e. dangerous driving or speeding with a vehicle or equipment to the relevant Supervisor or Site Security to be followed up and investigated.

# SAFE WORK PRACTICES

## GENERAL ROAD TRAFFIC RULES

Minimum requirements that apply to all roads and road users on the OTML Mine lease include:

* + - All vehicles must be approved by OTML and have undergone an incoming safety inspection
    - Seat belts must be worn by all persons travelling in vehicles or mobile plant at all times
    - Headlights and flashing light must be operating at all times the vehicle is in operation
    - Mobile phones must not be used whilst driving or operating any vehicles or mobile equipment
    - Personal listening devices such as I Pods & MP3 players must not be used by any person operating a vehicle or mobile equipment
    - All vehicle drivers and mobile equipment operators must hold the appropriate licences, competencies and be approved by OTML to drive vehicles or operate mobile equipment on the OTML lease
    - Drive within the posted speed limits which are the maximum allowable speed limits, however consideration must be given to road, and weather and traffic conditions on site.
    - All vehicles and mobile plant must be in a roadworthy condition
    - All vehicles and mobile equipment must have pre-start inspections completed at the commencement of each shift as a minimum
    - No person shall ride in the tray of utilities
    - Vehicle drivers and equipment operators must obey all road signs
    - No transporting of unauthorised persons in OTML vehicles or equipment

#### Breach of any of these requirements may result in loss of driving privileges and disciplinary action

## NO OVERTAKING

No vehicle may overtake any other vehicle on any road within the OTML Mine lease. This means:

* + - Light vehicles cannot overtake other light vehicles ( including PMV’s and Buses)
    - Light vehicles cannot overtake haul trucks or other transport trucks
    - Haul trucks or transport trucks cannot overtake light vehicles Exceptions to this rule are:
    - Overtaking track mounted equipment ( e.g. dozers, drills and excavators ) including their escorts; and
    - Working road maintenance equipment ( e.g. graders, dozers, wheel loaders, water trucks, compactors or rollers can be overtaken if the following is adhered to:
      * Positive communication between the vehicle / equipment operators is achieved;
      * As directed by a spotter;
      * There is unrestricted and continuous visibility of any oncoming traffic;
      * Speed limits are not exceeded; and
      * Vehicles are driven to suite environmental or altered traffic conditions.

Vehicles parked off the side of a road can be passed provided the above conditions are met and adhered too.

## GENERAL OPERATIONAL REQUIREMENTS

The following general requirements shall be adhered to when operating vehicles or mobile equipment at OTML OTML Mine:

* + - All vehicles must have fully operational and effective head lights / tail lights and operating rotating / flashing orange light.
      * At night drivers must drive within limitations of headlights and dip headlights to oncoming traffic.
      * Lights (including flashing orange light) shall remain on at all time except when parked off any haul road.
    - No person shall climb on or off moving vehicles or equipment
    - No driver or operator shall leave the controls of a running machine
    - For earthmoving equipment with a boom, no person shall walk within 1.5 times the length of the boom unless positive contact has been made with the operator

## DISTANCE BETWEEN VEHICLES

Following too closely to the rear of another vehicle is a dangerous practice. This is particularly relevant behind haul trucks and road transport trucks where the operator’s vision is substantially restricted.

Light vehicles must maintain a distance of at least 50 meters and should position their vehicle to the left of the road so they are in full view of the operator’s left hand mirror.

This distance must be increased in poor weather, at night and whilst travelling up ramps, where there is the possible danger of rocks falling from the trays of haul trucks.

***Ref: \*\*\*\*\*\**** *– Driving Rules on OTML Mining Sites*

***\*\*\*\*\*\**** *– PNG Vehicle Use*

## SITE RADIO CHANNELS

Two way radios shall only be used for work related matters. Non work related matters shall be discussed over the radio.

Offensive language will not be tolerated under any circumstances. Security personnel will monitor all radio conversations. Any person found to using offensive language or misusing two way radios will be subject to disciplinary action.

|  |  |
| --- | --- |
| **OTML OTML Two Way Radio Channels** | |
| All areas Emergency | Channel 1 |
| Mining – OTML | Channel 5 |
| Mining – | Channel 10 |
| Mill Communications – Utilise for Helicopter | Channel 11 |
| Mill Communications – Processing & Power Station | Channel 12 |
| Mill Communications – Crusher | Channel 13 |
| Mill Communications – | Channel 14 |
| Asset Protection | Channel 6 |
| Maintenance – | Channel 7 |

|  |  |
| --- | --- |
| Project Services | Channel 15 & 99 |
| Geology, Environment, Traverse Drilling | Channel 8 |
| Safety / Medical / Logistics | Channel 9 |

**Ref: \*\*\*\*\*\*\*** – Two Way Radio Communications

## EMERGENCY RADIO COMMUNICATION

The emergency radio channel at OTML OTML mine site is 1.

If you need to make an emergency call over the radio, use the following procedure:

1. Announce on the operating channel on which you are working that you have an emergency situation.
2. Supply an outline to the supervisor responding to your call.
3. Set the radio to channel 1.
4. Announce over the radio: ‘EMERGENCY, EMERGENCY, EMERGENCY’.
5. Wait for a response and then give clear concise information and answers to questions.
6. Be prepared to give the following information:
   1. your name
   2. your location
   3. the nature of the emergency
   4. the type of assistance required
   5. the number of people injured (if applicable)
   6. details of any particular hazards (eg, fire, etc).
7. Follow instructions, stand-by on the radio (1) and provide whatever assistance you can at the emergency site.

***Ref : \*\*\*\*\**** *– Emergency Response & Management \*\*\*\*\*\* – Emergency Response Plan*

## EMERGENCY VEHICLES

The management of traffic during the activation of the site emergency response team shall be given consideration in the site emergency preparedness procedures. Consideration must be given to:

* + - The design and construction of workshops, work areas and roadways to accommodate emergency response vehicles
    - Restriction in the use of vehicles or heavy mobile equipment during an emergency situation where there is a risk of them restricting emergency response vehicle access or use

Emergency Response vehicles shall only have right of way when under emergency situations, in all other instances emergency response vehicles shall be considered as normal road users and adhere to standard road user practices.

***Ref: \*\*\*\*\*\**** *– Emergency Response Driving Procedure*

## SPEED MANAGEMENT

Speed checks will be conducted using Speed Guns to monitor road user’s behaviour. The ***Speed Limit Enforcement Procedure* (\*\*\*\*\*\*)** clearly defines the minimum requirement for managing speed and the enforcement of non-compliance to the site specific speed rules. All employees must familiarise themselves with this procedure and comply.

***Ref: \*\*\*\*\*\**** *Speed Limit Enforcement Procedure*

### SPEED REDUCTION DEVICES (SPEED HUMPS)

A speed of 10kph is generally accepted as a safe speed for areas of high levels of interaction between vehicles and pedestrians (e.g. 17 km quarry, in front of the mess, administration building, or bus pick- up and drop off, opposite the Mine Department Offices, etc.). Where there is a requirement to reduce speed due to a hazard or pedestrian walk area “Speed Humps” may be used.

* + - * Where a speed hump is used there must be a speed reduction sign at least 50m prior to the device advising the driver / operator that there is a speed hump ahead. The speed limit sign (i.e. 10kph for pedestrian walk areas) must be placed immediately prior to the device on the approach, and the new speed limit (i.e. 40kph for site on the outward side of the speed hump).

## PARKING REQUIREMENTS

Any vehicle that has been left stationary and unattended is deemed to be parked. All vehicles and mobile equipment shall be parked in a manner so that they are fundamentally stable and there is no risk of any unplanned movement of the vehicle or mobile equipment.

Fundamentally stable parked vehicles shall be parked in manner that prevents any unplanned movement of a vehicle when parked in neutral, out of gear and no mechanical means of restraining the vehicle.

Where vehicles cannot be parked in a fundamentally stable manner, other means such as the use of wheel chocks shall be used to prevent a vehicle from any unplanned movement.

All equipment shall be parked in a manner that allows for safe access and egress for operators and passengers. When parking, every effort should be made to park the vehicle in a manner that allows the first move when leaving the parking space to be forward (Reverse Parking).

* All parked vehicles must be shut down and the parking brake applied, wheels turned towards a safety berm and/or away from traffic, with the transmission in a gear opposite to the incline of the vehicle (manual). Automatic Transmissions shall be placed in “Park”.
* For load shifting/mobile equipment, before the operator leaves their seat they must ensure that the equipment is placed in a “parked” gear if available, or neutral if not. Operators must ensure that the “park” brake is fully applied before leaving the cabin.
* All vehicles should be parked in designated car parking places, where there are no designated spaces; vehicles shall be parked in a safe manner. Light vehicles shall be reverse parked. Heavy vehicles shall be discouraged from reverse parking, with operations designing drive-through parking bays. *A spotter shall be utilized wherever a Heavy vehicle is reversing.*
* For mobile equipment no operator shall leave the controls with the engine running, and unless all implements are supported or on the ground.
* All designated parking areas shall be provided with adequate lighting if used at night
* All parking areas shall have designated pedestrian walkways to allow safe access and egress to vehicles, equipment and buildings

## POOR VISIBILITY DUE TO FOG, DUST, EXCESSIVE RAIN

Where visibility drops to below 50m due to excessive rain, fog, cloud or dust, those operating in the area shall have the discretion to stop equipment or vehicles or amend work practices to ensure safety of all equipment or vehicles operating in the area. Fog lights should be used in addition to headlights and a flashing amber beacon under such circumstances.

## INCLEMENT WEATHER & SPEED LIMITS

Where the road condition deteriorates due to inclement weather, Supervisors may impose temporary speed limits through radio communication with employees. In extreme cases the Supervisor shall shut down equipment or temporarily close roads. It is the Duty of Care of anyone operating in conditions they believe to be unsafe to stop, then bring this to the attention of their Supervisor who may then call for work to stop across all or other work activities affected by inclement until conditions improve or appropriate controls are put in place.

The speed limit change or road closure shall be done in accordance with the following:-

* A new speed limit shall be advised over all appropriate radio channels;
* A sign communicating the Speed Limit shall be installed.

Longer term changes (closure or speed limit change for a period in excess of 24 hours) are to be communicated across site via e-mail, broadcast on all two way radio channels

* By Security Control and communicated at pre-start meetings. In this case new speed limits will be posted over existing signs by the Safety Department.
* For road closure a sign will be erected at either end and placed in the middle of the road and the road barricaded, where this is not possible Traffic Controllers shall be used. Failure to acknowledge this sign or the instructions of a traffic controller will result in a safety breach and disciplinary action.

## PEDESTRIANS

Pedestrians using designated walkways shall be given right of way over all vehicles at all times. All permanent infrastructure and facilities shall include designated access paths with vehicular barriers, or other means of separation. Where a designated path crosses a roadway signage shall be installed to advise operators of pedestrians and to slow traffic. In areas of high pedestrian traffic and/or increased risk an appropriate speed control device shall be installed.

## BLAST GUARDS

Where blasting is within 500m of a road, all effected roads will be closed to all traffic during blasting activities. This is to be done in accordance with the following:

* Blast guards shall be in place to prevent any person from entering the 500m exclusion zone
* The road block must include a sign and physical barrier which physically prevents all access
* The road block must be in a location so that any traffic stopped and parked at the barrier does not pose a risk to other traffic.

***Ref: \*\*\*\*\*\**** *– Blast Guard Duties*

*\*\*\*\*\*\* – Explosives & Blasting Practices at Surface*

## PASSENGER TRANSPORT (BUS AND CANTER / PMV)

A passenger transport vehicle is any vehicle which is designed to carry five or more passengers. The following are minimum requirements for operation of buses on the OTML Lease:

* The driver of the bus or Canter/PMV must have a PNG Class 6 licence, have completed a site defensive driving course (or equivalent) and obtain a site drivers permit. The driver must also complete a site general induction.
* The driver must have undertaken a medical examination prior to employment with special attention to checking eye-sight and hearing annually.
* All persons must be seated and wear seatbelts. If a seat is not fitted with a seatbelt it must not be used.
* Buses must only stop where passengers can disembark safely or at designated bus stops.
* The driver, Asset Protection Department (APD) Officers and OTML Management/supervision have the right to refuse any person to travel on a bus or PMV.
* Where overhead racks are fitted on the bus a barrier must be installed behind the driver.
* Loose items, bags etc. are not to be stored in the aisle.
* Buses transporting employees on business or for breaks must call security control at all designated call up points from Tabubil - Kiunga and visa versa.
* Where a bus breaks down, passengers are to remain on the bus or move to a safe location away from the road. Hazard lights are to be used and reflective triangles placed 30 metres either side of the broken down vehicle.
* All bus / PMV drivers shall complete fatigue awareness training, and no driver shall drive for more than 6.5 hours in any one 18 hour period.

Two drivers shall be available at all times on buses undertaking Tabubil - Kiunga or Kiunga - Tabubil journeys. Drivers travelling from Tabubil - Kiunga (who are not normally resident in Kiunga) shall be accommodated in Kiunga and vice versa.

* Overnight accommodation in Tabubil - Kiunga HV to ensure adequate rest. The practice of sleeping in buses is not permitted.
* The OTML Supply and Logistics Department shall audit compliance with item 10 and 11 through checks of log sheets and monthly audits triggered by INX.

## LOADS

All loads must be secured. This can be either through physical tie down restraint or by design of the compartment for the load e.g. toolbox. For light vehicles a cargo barrier / load restraint must be used

where loads are to be carried in the passenger compartment. Pre-start checks must include checking the load where appropriate. Loads on freight and delivery trucks should be secured by competent individuals who have received appropriate documented training to perform this task. Senior Supply and Logistics personnel shall check all loads secured on Freight and Delivery Trucks by OTML employees prior to departure.

### OVERSIZE LOADS

Any oversize loads must be escorted by a vehicle which complies with the requirements of this Traffic Management plan. Oversize loads are any load which protrudes past the side or back of the equipment and shall be subject to the following;

* + - * Oversize loads which exceed 3.5m in width require an escort vehicle in front of the loaded truck.
      * Oversize loads which exceed 4.5m in width and/or extend more than 1.25 m off the back of the trailer require escort vehicles front and rear.
      * Any load which exceeds 5.0m either high or wide can only be moved on OTML Access Roads or Haul roads with the permission of the General Manager, The Supply and Logistics Manager or their delegates.
      * Any load which protrudes past the side or back of the equipment shall have a marker on each extremity of the load.
      * Oversize loads should not be moved at night. If however this is absolutely necessary the following precautions will be taken;
        + The extremities of the load shall be illuminated.
        + Managers approval and notification to the OTML Safety and Asset Protection Departments.

### ESCORT VEHICLES

Escorts must have two flashing lights (one flashing beacon and hazard lights complies) and must maintain radio contact with the vehicle being escorted, The driver of any escort vehicle operating on the site must hold a site vehicle driving permit and have completed a site induction.

Where escort is provided for three or more trucks, the number of trucks being escorted must be displayed on the front of the leading escort vehicle. This includes escorts from Tabubil - Kiunga and vice versa

Where escort vehicles are used they shall be at a distance that provides other road users with adequate warning of the hazard following.

***Ref: \*\*\*\*\*\**** *– Escort Procedure & Responsibilities*

## HEAVY MOBILE EQUIPMENT INTERACTIONS

Heavy mobile equipment operations pose unique hazards on site. The range of hazards include interaction with pedestrian and light vehicle traffic and interaction with OTML mining equipment such as haul trucks. This may also include non standard mine equipment such as semi trailers and mobile cranes for example.

Area specific, such as Mining, Processing and \*\*\*\*\*\* access road vehicle / equipment interaction requirements shall be established and included in area specific inductions and driving permit requirements. These requirements shall be signposted at access points into each area.

As a result task and area risk assessment processes such as the development of JSA’s shall be conducted on any proposed HME activities prior to the commencement of any such activities. These JSA’s should address the interactions of light vehicle traffic and other HME with the restricted road use restrictions as a result of road maintenance activities.

## HME & LIGHT VEHICLE INTERACTION

In the instances where HME use causes a restriction in road availability and use, task specific controls shall be implemented to eliminate the potential for any uncontrolled interaction between HME and light vehicles. Controls that may be implemented include:

* Designing and constructing alternate vehicle routes that eliminate the need for HME light vehicle interaction
* Restricting access to light vehicles within designated areas when HME are required to operate in the area
* Utilising stop / go spotters to control traffic flow into areas where HME are operating. These spotters shall be uniquely identifiable.
* Installing physical barricading, signage and other traffic control devices to provide clear instruction as to where vehicles are required to operate This barricading should provide physical isolation between HME and all other traffic in the vicinity.
* Ensuring all HME are fitted with a flashing amber light
* Ensuring positive contact protocols are used when interacting with HME

## EXCLUSION ZONES

Except for HME and light vehicles in a designated parking area, a visitor vehicle exclusion zone should be established around HME or the designated loading and dumping area. This exclusion zone should be consistent with the visibility and risk profile of the HME. Visitor vehicles should remain outside this exclusion zone until authorisation is given by the HME Operator who is in control of the work area.

Under certain circumstances, for example refuelling and maintenance, vehicles will need to park within close proximity of the HME. The initial engagement should follow the positive contact protocol then, after the light vehicle or service vehicle is parked within the ‘restricted parking’ area of the exclusion zone, the HME should be isolated. Wherever practical, the light or service vehicle should park where it can be seen from the HME operator’s cabin.

Once the work is completed, the HME operator should confirm all light and service vehicles are clear of the exclusion zone before operating the equipment.

## RIGHT OF WAY

Where HME interact with other vehicles on roadways, right of way protocols must be observed. Right of way protocols are fundamental to the efficient and safe interaction of all vehicles when on any roadway. These protocols shall be followed at all times unless work area specific traffic controls are in place that are required to be followed to ensure safe interaction of vehicles, plant and equipment.

Right of way protocols are as follows:

* All HME shall have right of way over light vehicles
* All loaded HME shall have right of way over unloaded HME
* All mobile plant (such as graders) shall give way to all HME
* All mobile plant shall have right of way over light vehicles unless there is clear unobstructed roadway on which to pass

***All emergency vehicles shall have right of way over all vehicles and HME in the event of an emergency***

## EFFECTIVE COMMUNICATION – LV / LV & LV / HV

### ENGAGEMENT WITH HEAVY MOBILE EQUIPMENT

Where situations arise which have been identified that require interaction between light vehicles and HME, a vehicle management plan shall be developed in consultation with OTML and other affected parties

The vehicle management plan shall address the following where applicable:

* + - * Right of way protocols
      * Communication processes
      * Travel routes
      * HME involved in the activities
      * Interaction with OTML or contractor operations
      * Pedestrian traffic management

JSEA’s addressing any of the above issues may be utilised as part of the vehicle management plan.

### TWO WAY RADIO COMMUNICATION

Positive contact must be made with any HME operator for any vehicle not involved in the normal production process prior to approaching within 50 metres, positive contact must be achieved through either radio communications or physical acknowledgement through hand signals.

Once initial radio contact has been made with the HME operator, the operator should park the HME fundamentally stable, lower any implements, and provide positive confirmation to the person(s) wanting to approach. This positive confirmation should be designed to avoid the wrong HME operator replying to the request.

Positive confirmation could be achieved by using radio protocols that include HME identification; the HME operator getting out of the operating cabin, turning on hazard lights or flashing the head lights, etc. An example of positive contact is:

Request: “Light vehicle 15 requests permission to approach truck 2.” Response: “Truck 2 gives OK to light vehicle 15 to approach.”

By using the identification of the vehicles both times, the possibility of miscommunication is reduced.

# COMPETENT PEOPLE

## DRIVER TRAINING AND QUALIFICATION

Without authorisation no person shall operate any mobile equipment or vehicle within the OTML project site. Authorisation shall be granted to qualified individuals through the appropriate license, ticket, or certificate of competency.

Drivers must be appropriately licensed, trained, and have the functional capacity to operate the vehicle. All drivers must have in their possession a valid driving/operator’s licence or certificate and site driving permit: For example for OTML employees or Contractors to operate a light vehicle on site drivers must have a site Vehicle Driving Permit, have completed the Defensive Driver Course, passed an assessment of the Traffic Management Plan and must hold a minimum of a class 6 PNG Drivers licence. An Australian equivalent driving license is acceptable in place of a PNG license, however, it should be noted that PNG Legislation demands a PNG Licence within 6 months.

All employees and Contractors who are required to drive on site or on company business shall complete defensive driving instruction, or based on relevant PNG mine based experience have reviewed a short presentation and successfully completed an assessment. Additional training for high-risk environments and for specialised vehicles should also be taken. This includes access to mining and mill processing areas.

The need for refresher defensive training and assessment shall be based on a driver’s performance and risk exposure, with a refresher at least every three years following the initial training.

All personnel operating vehicles or mobile equipment at OTML must drive to conditions. Personnel are to be fully familiarised with the project area including traffic flow and controls in place prior to being allowed to operate any vehicle or equipment within the area. This shall include a Site re- familiarization in the Mine areas if the driver has not driven for more than 5 days.

*Ref : Mine Drivers Unrestricted Permit*

*OTML Operations Open Pit Induction*

## DRIVER FITNESS AND ALERTNESS

All persons employed as drivers and persons driving on OTML business must be medically assessed to ensure that they have the functional capacity to operate a vehicle/equipment safely. Special attention is to be given to sight and hearing.

It is forbidden to drink alcohol / take drugs or chew Betel Nut (Buai) in any vehicle or equipment operated by OTML employees or contractors, or any vehicle operated on OTML business.

Drivers and operators shall not operate a vehicle or equipment while under the influence of alcohol, drugs, narcotics, medication or Betel Nut (Buai) or any substance that could impair the operator’s ability to safety operate the vehicle or equipment.

Drivers must be subjected to a breath alcohol (BAC%) test at \*\*\*\*\*\*\* late on entry and exit.

All incidents relating to the above matter must be reported immediately to the relevant Supervisor. OTML OTML Mine has a zero tolerance towards illegal drugs and alcohol.

Drivers must not use mobile phones or MP3 players while driving. Drivers may only use 2-way radios when making mandatory call-ups to state location, or for essential communications related to safety or production. Radio communications while driving should be limited to an absolute minimum. If a second driver is available on the vehicle that person should take prime responsibility for radio operations.

Drivers shall not operate vehicles or equipment if they are impaired or potentially impaired by fatigue.

***Ref: \*\*\*\*\*\**** *– Fitness for Work*

*\*\*\*\*\*\* – OTML Mining Hours of Work APR \*\*\*\*\*\* – Fatigue Management*

*\*\*\*\*\*\* - Drug & Alcohol Guideline*

## PRIVATE USE

Any person requiring the use of a company vehicle for private reasons without the express written approval of their Supervisor may be required to relinquish the use of the vehicle (subject to the Business Unit Manager’s discretion) and be subject to disciplinary action

Any person found to be operating a OTML Mining vehicle in contravention of the PNG road rules or OTML requirements may be required to relinquish the use of that vehicle (subject to the Business Unit Managers discretion) and be subject to disciplinary action

Any person not directly engaged by OTML (private citizens) are not permitted to ride in or operate any OTML owned or controlled vehicles

Should a person be approved to use or take a company vehicle offsite they are not to use that vehicle for any other reason other than authorised OTML activities . Failure to comply with this requirement will result in disciplinary action

# FIT FOR PURPOSE EQUIPMENT

## LIGHT VEHICLE SPECIFICATIONS

Vehicles shall be fit for purpose and be maintained in safe working order in line with manufacturers’ specifications and Legal PNG road user requirements.

As a minimum all vehicles being used at OTML OTML shall have the following mandatory safety items fitted:

* + - Cab mounted external amber flashing light
    - Audible reversing alarm
    - Seat belts fitted to all seats
    - Heavy duty buggy whip aerial with hi-visibility flag
    - First aid kit (OTML approved)
    - Dry chemical powder fire extinguisher
    - Company identification and logo
    - Vehicles used to carry explosives shall have blue flashing lights.
    - Emergency response vehicles shall have red and yellow flashing lights when travelling under emergency conditions.

***Ref: \*\*\*\*\*\**** *– Light Vehicle Guideline \*\*\*\*\*\* – Vehicle Specification*

*\*\*\*\*\*\* – Vehicle Specification*

## MOBILE EQUIPMENT INSPECTION

All equipment operated within OTML shall be maintained to a standard and be in accordance with PNG road regulations. All mobile equipment will be subject to an initial inspection upon commissioning, either by an approved contractor or by an appropriately qualified OTML employee, and then be subject to an ongoing pre-start check system and regular planned maintenance program.

The minimum requirements prior to use on site are that the vehicle or equipment passes the PNG Government requirements for road worthiness. Items such as brakes, steering suspension and restraint devices are deemed to be a critical safety issue. If a fault is found by an initial inspection or pre-start check the equipment or vehicle is not to be utilised until repairs of such faults are affected.

All vehicles entering the Site shall be subjected to these checks. Any vehicle which fails shall be held outside the entrance gate at the risk of the equipment owner.

***Ref : \*\*\*\**** *– Certificate of Inspection*

*\*\*\*\* – Heavy Equipment Pre-Mobilisation Inspection Checklist*

## PRESTART INSPECTIONS

All mobile equipment or vehicles onsite must undergo a pre-start inspection check prior to first use on each shift. These will assess the overall condition of the vehicle and check all necessary fluids and operations prior to commencing work with a piece of equipment.

***Ref: \*\*\*\**** *- Light Vehicle Checklist*

## BREAKDOWNS

Any vehicle that is broken down should be moved off the road, provided it can be done so safely. Where equipment requires maintenance on the roadside, hazard lights shall be left operating. For all light vehicles, Haulage trucks and Heavy Equipment the wheels must be chocked and reflective triangles and witches hats used. In addition the hazard should be communicated through Security Control using all available radio channels to warn other operators.

No person can work on a broken down vehicle where they are at risk of being hit by passing traffic unless a second person either slows passing traffic or acts as a spotter to warn the person conducting the maintenance.

***Ref: \*\*\*\*\*\**** *– Towing of bogged / broken down equipment*

## RE-FUELLING

The following are minimum requirements for re-fuelling or servicing:

1. The engine is to be shut down and ignition off.
2. No person is permitted in the cab while another person is refuelling.
3. No equipment is to be left unattended during re-fuelling.
4. No smoking or use of mobile phones while re-fuelling.

***Ref: \*\*\*\*\*\**** *– Fueling*

# FIT FOR PURPOSE ROADWAYS

To promote an adequate standard of construction and maintenance for OTML roads, design, construction materials and methods must be approved by the Mine and/or Maintenance Manager prior to works. Adequate profile and sheeting condition (within the constraints of available materials) is a requirement of all construction and maintenance work.

## GENERAL INTERSECTION DESIGN

All intersections should be:

* + - At right angles, wherever practical;
    - Illuminated at night wherever practicable;
    - Shall be designed to allow for clear visibility for approaching traffic and be provided with the appropriate traffic signs that give clear direction.
    - Stop Signs shall be installed over “Give Way Signs”.

## GENERAL ROAD DESIGN REQUIREMENTS

The design of roads shall wherever possible be such that the visibility from any surface Mobile Equipment or Vehicle is greater than the stopping distance of that equipment travelling at the maximum allowable speed.

Roads shall be free draining and provided with signs to indicate operating requirements as outlined in this Traffic Management Plan; and edges that are clearly marked so that they are visible at all times. Road delineators shall be installed on all site roads, Mine access roads and permanent haul roads (at least) every 50meters.

Roads shall be designed so that in the event of a loss of control the mobile equipment or vehicle can: leave the road safely; or be prevented from leaving the road by windrows or barriers designed for the largest mobile equipment or vehicle operating on the road (half wheel height of that piece of equipment).

Subject to the availability of materials, the road pavement surface should be made from a material that: will reduce the likelihood of loss of control of equipment in wet conditions; and minimise the generation of dust.

## ROAD & TRAFFIC SIGNS - GENERAL

All signs used in conjunction with roads should be designed with reference to ***AS 1742 (Set) – Manual of uniform traffic control devices*** and ***AS 1743:2001 – Road signs - Specifications***. All signs,

Other than those used exclusively on haul roads in active mining areas, must be approved by the Mine and Safety Manager or his delegate before being installed.

All road traffic control devices and traffic management must be done with reference to ***AS 1742.2:1994.*** Where signage is put in place, it shall all be deemed as mandatory and shall be obeyed at all times. Failure to do so will result in disciplinary action in accordance with the ***OTML Mining OTML Speed Limit Enforcement Procedure (\*\*\*\*\*\*)*** and the ***Disciplinary Guidelines (\*\*\*\*\*\*)***.

## GUIDE POSTS AND DELINEATION

### GUIDE POSTS

Guide posts, with or without reflectorised delineators (commonly known as reflectors), are placed in series on one or both sides of a road formation to indicate to road users the alignment of the roadway ahead, especially at horizontal and vertical curves. The delineators act as effective aids for night driving. Red delineators should be used on the left side of the road and white delineators on the right.



**Design of Guide Posts *-*** The design of guide posts shall be as follows:

* + - * **Standard type** The minimum requirement for a standard type guide post shall be a post 1000 +- 100mm high with a white area at least 100mm wide over at least the upper 300mm of the post displayed towards oncoming traffic, double sided on a two-way carriageway. If 1000mm high posts obstruct visibility across the

inside of a curve, the overall height may be reduced to 600mm minimum.

A delineator shall be mounted on each white face displayed towards oncoming traffic, at a maximum of every 50m or where road conditions or restricted visibility require guide posts to be installed at distances less than 50m to facilitate adequate delineation of all roadways.

* + - * **Construction of guide posts** Guide posts, including snow poles, shall be constructed so that they do not constitute a hazard if stuck by a vehicle.
      * **Sitting and Alignment of Guide Posts** *-* Guide posts shall be erected at or near the edge of formation and wherever practicable, the distance from the pavement edge shall be uniform. Taking into account the effect of super-elevation and irregularities in shoulder contours, posts shall be set so that their tops are on a smooth grade.
      * **Spacing of Guide Posts** *-* The spacing of guide posts shall be as follows:
      * **On straight sections -** The normal spacing of guide posts on a straight section of road shall be 50m, with the posts in pairs, one each side of the formation.
      * **Restricted visibility –** At a distance no greater than 50m or as determined to ensure adequate delineation of all roadways in situations of restricted visibility

**Bridges and culverts** *-* At bridges and culverts where guard fencing or bridge rail is not provided and kerbing or headwall is at or inside the edge of formation, guide posts shall be erected as follows:

* + - * At structures 5m or more in length, four posts – one at each end of headwall or kerbing, plus additional pairs of posts at spacing of 10m maximum for structures longer than 10m
      * At structures less than 5m in length, two posts – one on each left-hand approach end of headwall or kerbing.
      * At all pipe and single cell box culverts, one post at each headwall.

Where kerbing or headwall is outside the edge of formation, the additional posts specified in items a, b or c is not required. Only posts at the spacing specified elsewhere in this Clause, are provided.

## CLASSIFICATION OF OTML ROADS

All roads within the OTML Mining Easement (\*\*\*\*) and Mining Lease (\*\*\*\*\*) have been classified into four main types:

* Site Access Road;
* Site Road;
* Mine Access Road and;
* Mine Haul Road.

### SITE ACCESS ROAD

“Site Access Road” is defined as the OTML controlled access road covered by Mining Easement \*\*\*\*, via which all goods and personnel access the site (see Appendix A). This road starts at the intersection with the \*\*\*\* – \*\*\*\*\*\*\* road (Km 0) and ends at the Security Gate on the boundary of the Mining Lease (Km \*\*).

Any Mobile Equipment or light vehicle passing the boom gate must comply with the following requirements:

* + - * The driver must have a valid PNG drivers licence for the class of vehicle being operated, and must not be under the influence of alcohol or drugs or in the possession of Buai, weapons or firearms.
      * The driver shall be subject to a breath alcohol (BAC%) test and must provide a 0.00% reading before being granted access past the boom gate
      * The vehicle must be fully insured and roadworthy
      * The vehicle shall have a flashing amber light and should preferably have a fire extinguisher and a first aid kit.
      * In the case of a bus or PMV must have a current PNG Government safety certificate.
      * No driver is to park on or travel over re-vegetated areas
      * No driver is to pick up any passengers other than those manifested to travel on OTML bus services.
      * No driver is to buy or accept produce from local people.
      * All drivers and passengers are to use seatbelts, and no-one is to be carried in the open tray of a vehicle.

To avoid unnecessary risk exposure on Site Access Roads travel to and from site will be restricted to necessary journeys only. Any employee, contractor or visitor who is resident in a camp on the OTML Mining Lease must remain on site for the full duration of their roster, and may not leave the site after the hours of work except with the written authorisation of their Manager. Authorisation to leave site outside working hours will normally be given for valid compassionate or medical reasons.

All equipment operators and vehicle drivers must notify site security at each designated control point along the site access road. These control points shall be identified in the OTML driver permit training.

### SITE ROADS

“Site Roads” are defined as OTML controlled roads at the OTML site not associated with surface mining operations and on which goods and people are transported, but to which Mining Fleet would not normally have access (See Appendix B). This road connects or traverses the following areas on site:

* + - * Road between the Main Site Security Gate and the turn-off to the Light Vehicle Workshop and Tyre bay. This road passes the warehouse, administration buildings and camp facilities;
      * From the intersection adjacent to the Saddle Dam on the Tailings Storage Facility (left turn to TSF, right turn to plant site)

In addition to the requirements under section 7.2, Site Roads shall be provided with Pedestrian Crossings which are clearly marked and also illuminated if used at night. Signage shall be installed at these crossings to advise drivers of pedestrians and to slow traffic. In areas of high pedestrian traffic and/or increased risk an appropriate speed control device shall be installed.

Any OTML or Contractor accessing a Site Road must have a site Vehicle Driving permit. All vehicles using Site Roads must be equipped with flashing Amber lights.

“Mine Access Roads” are defined as roads which Mining Equipment may use to move between active mining areas and/or access infrastructure, such as the workshop, tyre bay etc (See Appendices C and

1. Ore and waste will generally not be hauled on these roads such that haul trucks will be infrequent and restricted to unloaded trucks.

This road connects or traverses the following areas on site:

* + From the intersection adjacent to the Saddle Dam on the Tailings Storage Facility (left turn to TSF, right turn to plant site) to the Main fuel storage facility. This road crosses the Watut River and generally follows the overland conveyor alignment up onto the Bulldog track ridgeline.
  + From the main fuel storage facility up to the turn-off to the OTML ROM pad. This road passes the Mobile Equipment Workshop
  + From the ROM Pad access Haul Road to the South Dump Access haul road. This road passes the explosives plant and follows the old Bulldog Track alignment.

The following requirements shall apply:

* + All Mobile Equipment which operates on this road (construction fleet, graders and backhoes) must have a flashing amber light and comply with requirements for road maintenance (section 8.0);
  + Two way radios must be switched onto the Open Pit channel 5 when operating on the Mine Access Roads, outside of designated construction areas.
  + Any road haulage trucks (semi trailers and tankers) using these roads must be escorted. This includes any wide loads. The Open Pit Foreman must be notified over the open pit radio channel (channel 5) of haulage truck movements to ensure Mining Fleet movements will not interfere with deliveries.
  + A general announcement must be made over the radio by the Open Pit Shift Foreman when any Mine Equipment (including low-loaders carrying tracked Mining Fleet) will be travelling on Mine Access roads, again to be escorted.
  + Haul trucks travelling on Mine Access roads will have hazard lights illuminated, will not travel at speeds in excess of 15 km/hr and shall if necessary stop to allow oncoming traffic adequate time and space to give way, again to be escorted.
  + All light vehicles, other mobile equipment and construction fleet shall give way to Mining Fleet on Mine Access Roads. This may involve reversing or performing a U- turn to find a safe place to pass.
  + If prior radio communications are effective, no interaction should occur between Mining Fleet and road haulage trucks. However if this does occur the operators of the mining equipment and road haulage truck shall stop and notify the Open Pit Supervisor / Foreman who will establish a safe course of action.
  + Mobile equipment may not overtake any vehicle on Mine Access Roads.
  + All drivers using a Mine Access Road must have a site vehicle driving permit and have completed a site induction.

### MINE HAUL ROADS

“Mine Haul Roads” are defined as any road on which ore or waste is transported by haul trucks and includes all areas within pits and active mining areas. (See Appendix C and D)

Access to mine haul roads shall only be undertaken by those persons who have undertaken and completed a mine access induction and mine drivers permit.

***Ref: \*\*\*\*\*\**** *– Haul Road Standard*

# ROAD MAINTENANCE

## REGULAR MAINTENANCE

All roads shall be regularly maintained to:

* + 1. Ensure compliance with the design criteria.
    2. Ensure the surface remains free draining.
    3. Minimise the creation of airborne dust (to maintain visibility).
    4. Maintain the surface adhesion properties. and
    5. Be clear of hazards.

## ROAD MAINTENANCE AND/OR CONSTRUCTION ACTIVITY

Road Maintenance activities should be carried out with reference to ***AS 1742.3:2002 – Manual of uniform traffic control devices – Part 3: Traffic control devices for works on roads*** and the following conditions:

* + 1. All personnel on foot in the road work area are required to wear a reflective vest or high visibility clothing, safety boots, glasses and any other relevant PPE;
    2. Where personnel are working on foot in the road maintenance area the speed limit is to be reduced to 30km/h and the length of section to be maintained at one time must not exceed 0.5km;
    3. Where traffic flow is restricted to single lane then traffic controllers (Stop-Go Men) must control the traffic flow. If traffic controllers are not positioned with line-of sight they must have radio communication. Where Traffic Controllers are used they should have completed documented training in this activity;
    4. All road work areas must have signs on both approaches indicating “road work in progress,” with 30 km/hr speed limit signs, if personnel are working on foot in the road work area.
    5. All roadwork areas must have signs at the end indicating “end of road work,” and if necessary “end of roadwork speed limit”.
    6. All roadwork signs shall be designed with reference to ***AS 1742 (Set) – Manual of uniform traffic control devices*** and ***AS 1743:2001 – Road signs - Specifications***. The signs are to be placed so they are clearly visible, maintained and regularly cleaned; and
    7. All roadwork signs must be removed on completion of road works. Where signs are required to be left over night, flashing hazard lights should be left to indicate the hazard.
    8. Site security shall be notified of all altered traffic conditions, and the sub sequent re- instatement of normal traffic conditions

**Appendix A - Site Access Road – Map**

**SITE ACCESS ROAD – MAP**

**PUT MAP HERE**