	ACACIA FOREST INDUSTRIES SDN BHD STANDARD OPERATING PROCEDURE OPERATIONS	Document No.: AFI/SUPP/07
		Date Issued : 01/03/2011
		Last Update: 09/05/2017
Section: SUPPLY CHAIN	Work Scope Area: HARVESTING ROADS TO LOGYARD	Revision No: 2
Activity: ROAD CONSTRUCTION, ROAD UPGRADING & MAINTENANCE		Responsible Person: Infrastructure Manager
Title: SOP ROAD UPGRADING & MAINTENANCE BY EXCAVATOR		Page No: 1 of 4
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STANDARD OPERATING PROCEDURE

1.0 TITLE Road upgrading and maintenance by Excavator

2.0 OBJECTIVES

- To ensure safe handling of materials to be loaded/unloaded to/from dump trucks and timber lorries
- To ensure proper road drainage, bridge and culvert installation
- To ensure proper removal and disposal of debris and soil material

3.0 PERSON IN CHARGE (PIC)

- This procedure applies to the Excavator Operator for the road maintenance scope of works.
- This procedure may also apply to the Dump Truck Operator for the loading material such as black soil, crusher run, debris and hill rock on to the Dump Truck Bucket to be transported to the requirement location.
- This procedure applies to the Infrastructure Manager and Infrastructure Supervisors.


4.0 DEFINITIONS

- **Concrete culverts** of 2 to 4 ft. in diameter
- **Steel Pipe**-Steel Pipe culvert in 2 ½ ft or 5 ft diameter
- Timber/logs which have been placed on the road surface of the unsettled road portion.
- **HDPE**-High Density Pipe Ethylene, black color and thick pipe used besides than using the Steel Pipe culvert and Box culvert.

5.0 JUSTIFICATION AND SCOPE

For almost all road upgrading and maintenance works the use of excavators is required. This SOP shall assure usage according to higher specifications and safety for everybody involved at all times.

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INFRA MANAGER	SUPPLY CHAIN MANAGER


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- The Excavator Operator shall have a clear understanding of the system of signaling e.g. stop the machine from operating swinging its arms when there is incoming vehicles passing the road
- The Excavator Operator shall ensure that the machine is operated in a safe and correct manner.
- The Excavator Operator shall be in view of other worker around the area of the operation at all times.
- The Excavator Operator shall be aware of the operational machine area where hazardous or dangerous accident may occur e.g. landslide, falling trees, cliffs.
- The Excavator Operator shall plan the position of the Dump trucks for the loading operation.
- The Excavator Operator shall ensure that after completion of any works, he must ensure that large and deep holes are not left and proper terrace cutting has been done for any cutting hills works.

6.0 PROCEDURE


- Safety
 - Mandatory
 - Operator gloves
 - Steel toe cap boots
 - Helmet
 - Optional
 - High visibility vest(If not wearing company T-Shirt green &orange).
- **Start up**
 - The Excavator Operator shall ensure the steering frame lock is stored in the unlocked position.
 - The Excavator Operator shall sit on the driver's seat and adjust the seat for full driver control.
 - The Excavator Operator shall clean and set all review windows.
 - The Excavator Operator shall secure all door and windows in the preferred positions.

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- The Excavator Operator shall ensure there is nobody under, on or near the machine before starting.
 - The Excavator Operator shall move all hydraulic controls to the hold position before starting.
 - The Excavator Operator shall insert key and switch to the on position.
 - The Excavator Operator shall ensure that all controls and gauges respond.
 - The Excavator Operator shall place the throttle to start/ idle.
 - The Excavator Operator shall engage the park brake.
 - The Excavator Operator shall start the engine while seated.
 - The Excavator Operator shall allow the engine to idle and check the proper functioning of the machine from the gauges.
 - The Excavator Operator shall allow the engine to idle for 2 minutes until the correct engine operating temperature and oil pressure is achieved.
 - The Excavator Operator shall test the horn and the backup alarm if fitted.
 - The Excavator Operator shall ensure the oil gauge pipes are securely placed during refueling and oil level shall be monitored to avoid spillage. The excavator shall be parked and switched off during refueling. No smoking or open flames are permitted near the refueling area.
- Excavation Of Road Side Drain/Clearing Landslide/debris/Installation Steel Pipe Culvert//log bridge.
 - The Excavator Operator shall set up safety precaution and warning signage (e.g. reflector cone and working signage) 30 meters both upper and lower section of the road from the location of operating machine Excavator working.
 - The Excavator operator shall be familiar and understand signal from signalman to stop and to proceed with the works to ensure the traffic flow smoothly on that particular road.
 - The Excavator Operator shall excavate the earth side drain according to the standard requirement e.g. 3 ft width and 2ft depth.
 - **Loading onto Dump Trucks Bucket**
 - The Excavator Operator shall monitor the load volume by regular visual checks.
 - The Excavator Operator shall follow the specific instruction from the truck driver as he is responsible for the load.

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- The Excavator Operator shall take care not to damage the truck.
- The Excavator Operator shall ensure no excessive loaded materials are loaded onto the Dump truck bucket (avoid over load).
- The Excavator Operator shall not swing the boom above of the driver cabin.

- **Shut down**

- The Excavator Operator shall park the excavator on a leveled surface.
- The Excavator Operator shall throttle the engine to idle RPM.
- The Excavator Operator shall lower all attachments to the ground. The operator shall ensure that they are stable.
- The Excavator Operator shall engage parking brakes.
- The Excavator Operator shall ensure all controls are in neutral position.
- The Excavator Operator shall check all gauges and instrumentation for correct readings.
- The Excavator Operator shall allow the machine to idle for a minimum of 3 minutes and if the machine has been working excessively, the idle time shall be extended to 5 minutes before shutdown.
- The Excavator Operator shall turn off the engine and remove the key from ignition.

6.0 RELATED DOCUMENTATION

- AFI/SUPP/11 Plantation Road Specification

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