10/30/2024

MABURA FIVE SAWMILL, FURNITURE WORKSHOP &CHARCOAL PRODUCTION FACILITY

PROJECT SUMMARY

Bishram Prashad
MABURA FIVE SAWMILL

Name of Developer: Bishram Prashad

Developers' Address: Lot 2265 Diamond Housing Scheme East Bank Demerara

Contact details: 6440447

Project Type: Sawmill, Charcoal production and Furniture making

Projected Capital Investment: Guy$30M

Annual Turnover: Projected Guy$60M

Project Duration: Approx. 5-10 years dependent on customers' demands

Project Location: Tract 'WB', Bamia, Right Bank Demerara River

Project Location and Description

MABURA Five SAWMILL is dedicated to providing customers (local and international) with the finest quality finished materials.The business is primarily wholesale with some amount retail. The company intends to purchase lumber from small- and large-scale loggers from across the country but more extensively from the Region No. 10.

This existing Sawmill, Charcoal production and Furniture making facility is on two (2) acres of land which is located at Tract 'WB', Bamia, Right Bank Demerara River and can be accessed from the Soesdyke/Linden Highway. The surrounding of my operation is mixed with other sawmills which is located a short distance away.

Figure 1: Showing my operation and surrounding land uses

Operational phase for the sawmill

This existing operation processes 60,000 to 80,000 bm of logs per month. The sawmill has an existing mill shed of (100Lx40W) that is placed on concrete foundation which also covers the following equipment, two (2) Lt70 wood mizer mill, three (3) edger, three (3) planer, one (1) moulder, one (1) log loader and one (1) fork lift, there is an office (12Lx10W) and a living quarter for the sawmill supervisor (60x25). Dressed and rough lumbers are produced and these are stored on dunnage because within three days lumbers are transported via trucks to my lumber yard in Diamond housing scheme. Some of the timber species that are process at my sawmill are as follows, Tatabu, Torinario, Farm Board or Baroamalli, Antwood, Karatie, Silverballi, Dukalie, Purpleheart, Greenheart etc. The logs are sourced from logging concessionaires from Ituni, Kwakwani, Mabura, etc. and will be transported to the site by hired log trucks. The logs will be offloaded from the log truck by the log loader and discharged in the log pond. The logs are temporarily stored in the log pond, which has the capacity to hold approximately 300-420 m^3 of logs. From the log pond, the log loader will transport the logs to the mill for processing to remove the bark and saw it into the boards. From the mill, the boards are further processed by the edger. Both dressed and rough lumber are produced.

Utilities such as water and electricity are provided by Guyana Water Incorporated (GWI) and the Electric utility company in Linden respectively while the telephone service is provided by One Communication Network. Solar lights will be utilized to provide lights for the dwelling house, office and mill shed. No generator will be used.

Fifteen (15) people are employed to work daily at the sawmill. Working hours are from 8:00 hr to 17:00 hr, Monday to Saturday. All loading and offloading of logs and lumber will occur during the working hours. Personal Protective Equipment (PPE) provided to the workers is gloves, visibility vests, helmets, goggles and steel tip boots. A First Aid Kit will be placed in the office to treat any minor cut(s) or bruise(s) and a vehicle will be standby to transport any injured person to the Linden Hospital Complex.

Six (6) fire extinguishers and six (6) sand buckets are placed at strategic points of throughout my operation and "No Smoking" sign are placed contiguous area.

Operational phase for the charcoal production

Charcoal will be burn at a designated area on the same land of the sawmill which is approximately two (2) acres of state land

In this business the same employees for the sawmill will be involved for this charcoal production of process. All raw material will be gathered from my sawmill such as wood chips and rejected wood product that will be good for charcoal making.

Burning will take place about 4 days. When the charcoal is finished burning, it will then be allowed to cool naturally and takes approximately 72 hours to cool off. After which, the coal will be removed from the pits with spades and filled into the polystyrene bags. Each pit will produce about 4-6 bags (1lb polystyrene bags) of coal.

There are no fixed working hours but all operation will be conducted in the day since the production will be based on customers' demand.

Workers will be provided with their Personal Protective Equipment (PPE) such as gloves, masks, visibility vests, long booths etc. based on job specifications. One first aid kit will be kept onsite in ease of minor cases of emergency/injury.

Process of Making Charcoal

Step 1: Acquiring lumber
Lumber will be acquired from my Sawmill; the wood will be then transported with forklift and be placed in metal bins.

Step 2: Preparing the bin
The bin will be cleaned of all particles, after which the wood will be packed neatly into the bin and the chimney will be placed into the bin so that the bin can be prepared for lighting.

Step 3: Lighting the bin
A cover will be placed over the bin, then the fire is lit in the bin. After the fire has been lit enough, the bin will be then fully covered, leaving it to burn until finished.

Step 4: After the burn
At the completion of the burning period, the chimneys will all have fire to indicate that the burning period has been completed. The chimneys will then be sealed, so that the bin can cool off.

Step 5: Emptying the bin
Once cool off the cover will be removed from the bin then the coals will then be placed into bags, to be sold.

Operational phase for the furniture making

The furniture workshop is located at the back of my sawmill in a wooden shop that has the dimension of (20LxW30). It currently has two employees who are responsible for making small amount furniture's such as Doors and cupboards etc. The following Machines that are used at my operation are as follows:

- Lathe- A lathe machine is a stationary cutting tool used primarily for shaping wood and metal
- Jointer - A Jointer is used to create a square surface on the edge of a board.
- Sharper - Shapers can cut much larger profiles than routers - such as for crown molding and raised-panel doors - and readily drive custom-made bits fabricated with unique profiles.
- Surfacer- This machine is used to prepare wood by creating flat faces and square edges.
- Bandsaw- This saw is used to cut intricate shapes, curves, and joints for creating custom furniture.

Environmental Effects

The following environmental effects may be generated from the operation of the Sawmill, Charcoal production and Furniture making facility:

Noise Nuisance

The source of noise will be from the operation of the equipment, and machinery. The equipment and machinery will be worked during working hours and serviced according to manufacturer's specifications.

Fire

The source of the fire may be as results of defective electrical equipment such as loose wiring, overload sockets, etc. or arson or the carelessness of workers who may smoke onsite.

Vibration

Vibrations generated from the use of the equipment and heavy-duty machinery.

Particulate Matter (dust)

It is expected that dust will be emitted from the equipment such as the planer, mill and bandsaw.

Mitigation Measures

Noise Nuisance

Our company plans to enclosed all sound making devices at the facility.e.g. planers with materials of good noise insulation properties such as hollow concrete blocks, insulation boards, solid clay bricks, **however there is no residents living nearby my facility but I'm willing to set the standards of my operation to the required level of the Environmental Protection Agency**. In addition, my equipment is equipped with silencers and mufflers to reduce the noise level to also add to that our equipment purchased is the new models so the noise levels generated will not be significant as compared to the old models. The equipment and machinery will be worked during working hours. These will be serviced and maintained according to manufacturer's specifications. Blades will be checked and replaced with sharp ones. Workers will be provided with appropriate Personal Protective Equipment (PPE).

Fire

Fire extinguishers and sand buckets are placed at strategic points within the sawmill so in case there is a fire emergency then the firefighting equipment can be used. Staffs are trained in the use of the fire extinguishers. The electrical circuits and points are checked regularly.

Vibration

All equipment is placed on concrete foundation to dampen the vibrations and the loader usually work only when the need arises that is to 'feed' the mill with logs. The equipment and machinery are worked during working hours and serviced according to manufacturer's specifications.

Particulate Matter (dust) and mitigation

Wood shaving/ Sawdust generated by the mills are removed from the mill floor daily a worker and we usually try to not let it exceeds 10cm in height and sawdust from the planer are trap in a 25 x 20 dust containment bin, when this bin full farmers/interested persons along the linden highway would usually collect for various personal reasons and the remainder are used to land fill a gully which is located at the back of my facility.
The employees are given appropriate PPE to protect themselves from dust. The mill floor is wet from time to time to keep down the dust particles.

Waste Generation

Solid Waste Management

Domestic waste such as food boxes, beverage containers, etc. will be collected in a covered garbage receptacle and will be emptied once weekly by the Puran Brothers Waste Disposal Services.

Wood waste such as sawdust will be collected/bagged from the mill floor in a timely manner we will try our best to not allow our sawdust to accumulate to more than 10cm, shavings, wood ends, slabs/barks and wood chips etc. will be used as landfill and other revetment works around the site. **The excess wood ends will be used for my charcoal production and other pieces of wood are reused at my furniture workshop.** Extractor systems will be installed on planers and connected to the dust containment bin. The bins dimensions will be based on quantity of shaving and sawdust generated from the planers.

Effluent

Grey and sewage water produced by workers and customers; as such, the effluent will be discharged into the septic tank to be treated anaerobically. The septic tank will be accessible for cleaning and will be emptied when fill by Puran Waste Disposal Service.

Hazardous Waste

Waste oil of approximately 5-8 gallons will be generated from the servicing of the loader, and forklift. The waste oil will be stored in tightly covered 5-gallon plastic pails to avoid spillage and they will be kept in a designated area for storage also some wastes are reused in the chainsaws on site.

Prepared by: *Bishram Prashad*

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