Project Summary- Blocks making Facility

NAME OF PROJECT:
X-Blocks

LOCATION OF PROJECT:
Loo Creek, Linden Soesdyke, highway

NAME OF DEVELOPERS:
Jagdeo Tarchand

DEVELOPERS:
Lot 71, Tuschen, East Bank Essequbio

CONTACT DETAILS:
641-8282

EMAIL ADDRESS:

DATE PREPARED:
January 30, 2024

SITE DESCRIPTION

With approximately six and a half (6.5) acres of Prime land located in Look Creek, on the Eastern Side, Soesdyke Highway, the proposed Block-making facility and office will occupy approximately two and a half (2.5 acres) of the land. The site will include the Plant, office space and storage area etc.

At the project's site no groundwork has commenced at the project location. The project will be established on the eastern side of the Soesdyke highway in an area comprising mainly of thickly vegetated land. No surface water drainage network is not located within close proximity to the project. The project site is not fully accessible.

Caption #1: Showing a Google Satellite image of the Facility's location

PROJECT DESIGN

(SOURCE OF UTILITIES SERVICES)

A metal shed (45 ft. by 120 ft.) will be constructed, to house a number of block-making equipment and machinery with a daily output capacity of approximately 10,000 blocks per day, of various types.

This factory will also include a batching plant which will be in an enclosed area with a dust restrictive mechanism. This factory will include equipment to make concrete slabs used in heavy construction e.g. drains, culverts, road arms, curbs, pedestrian walkways, piles, bridges, walls, floors, dummy columns, and flat and curve slabs.

A metal storage bond will be constructed, 60ft by 80ft to house all dried finished products and raw materials.

The transportation of finished products from the drying area to the storage bond is set to be facilitated through the use of a forklift. The drying area, an open-air 50ft x 100ft flat concrete space, is intended to accommodate the products produced from the plant, which will be packed on pallets and transported to the drying area.

Following the drying process, the finished products will be transported to the aforementioned storage bond. The drying area will also serve as a storage space for the essential raw materials required in the manufacturing process, including cement and steel rods, ensuring that they are readily accessible during the manufacturing process.

Smaller items, such as spares, will be kept in a secure, enclosed room located at the back of the bond. This decision was reached to ensure the safety and security of these items. Overall, the company has made pragmatic decisions to streamline the manufacturing and storage process.

Power Generation:

A 15 ft. by 20 ft. concrete and insulated power generating room will be constructed to house generator set.

Fuel Storage

Double-wall tanks will store 500 gallons (2273.05L) of diesel above ground within secondary containment.

Office:

A 60' x 24' modular office building that offers a more compact yet still functional option, providing 1440 square feet of usable office space. The building will be design to maximize

usable office space, accommodating workstations, meeting areas, and other essential office functions.

Workshop:

A workshop and tools shed will be constructed for repairing and servicing vehicles and plant equipment. The facility will also serve as a parking bay or garage when not in use. Sumps will be installed in the workshop to prevent any accidental waste oil discharge.

Water Storage:

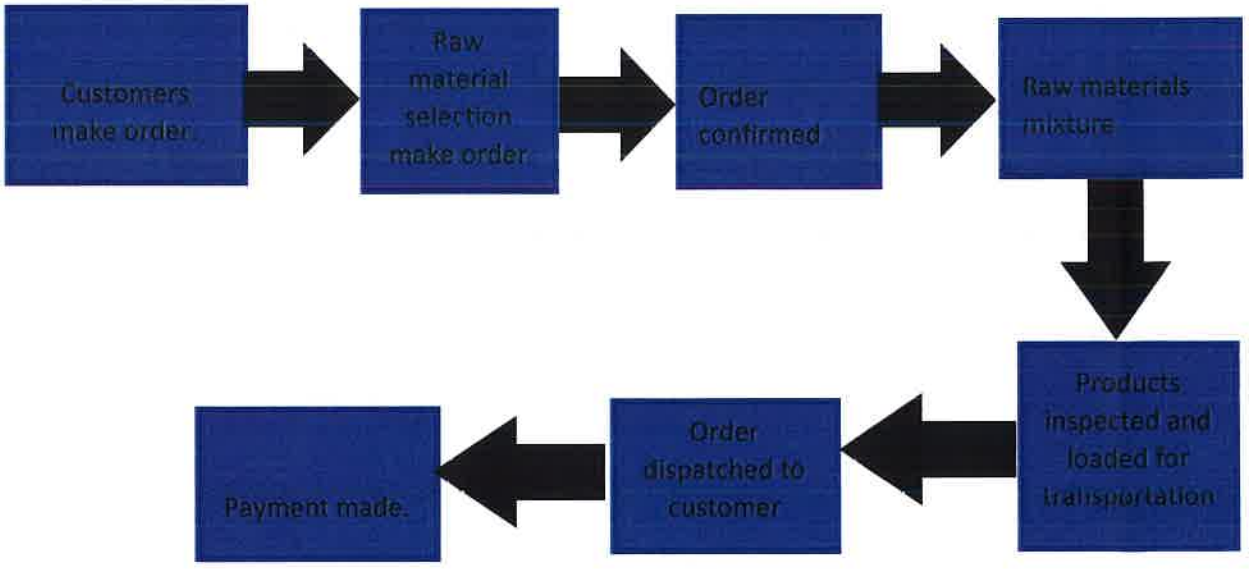
Gallon tanks will be installed to capture rainwater that comes off the roofs of the factory and storage bond. The collected water will be piped to the factory for use in the block making process. A pressurized water treatment system will be used to clean and make the water portable for all intended uses.

Waste Water Treatment System & Solid Waste Management:

A ground-based water treatment system shall be installed on-site. The system boasts a superior capacity to treat up to 1000 gallons of wastewater at any given time.

All solid waste shall be deposited into a rented skip, subsequently removed at intervals by a reputable waste disposal company such as Cevons or Puran Disposal Company.

Process diagram of activity



Potential impacts associated with the block- making AIR AND NOISE POLLUTION

There is the potential for air and noise emissions from both the construction and operation phases of this project.

Construction

During the construction phase of the facility, it is imperative to acknowledge the possibility of particulate matter release, primarily due to wind erosion of material stockpiles, including sand, stone, and cement, as well as masonry works. It is essential to note that particulate matter is a significant environmental and health concern, particularly in the construction industry. Thus, it is crucial to develop and implement effective mitigation measures to reduce dust emissions and minimize exposure risks.

The implementation of measures such as dust suppression systems, windbreaks, and regular watering of the site can minimize the release of particulate matter. Therefore, it is crucial to prioritize adequate planning, management, and monitoring of construction activities to ensure compliance with regulatory requirements and minimize the environmental impact.

Operation

The utilization of block-making equipment has the potential to impact the air quality in the vicinity, primarily due to the storage and stockpiling of materials required for the production process.

The movement and transfer of sand and aggregate, mixer loading, and blowing of sand and aggregate from the stockpiles can generate air pollution.

In addition, the operation of the plant and generator, as well as the movement of vehicles required to support the project activities, can produce noise. Furthermore, there is a possibility of carbon monoxide release from the generator.

MITIGATION MEASURES

Mitigation measures proposed by Blocks X to aid in the reduction of Air emissions during the operational phase:

1. A metal shed will be constructed, 45 ft. by 120 ft. to house a number of blocks-making equipment;
2. A metal storage bond will be constructed, 40ft by 80ft to house all dried finished products and cement. A forklift will be used to transport finished products from the drying area to the storage bond. The drying area will be on flat concrete 50ft by 100 ft in the open air. Products produced from the plant will be packed on pallets

and transported to the drying area and then to the storage bond. Main raw materials such as cement and steel rods will also be stored within this area.

3. The company plans to ensure that all trucks are fitted with tray pull-over screens such that sand being transported is covered during transportation to control dust pollution.
4. In addition, dust screens will be installed around the batching plant to mitigate the dust from this process.
5. Stockpiles of sand and stone in the open yard will be covered with tarpaulin to ensure dust is contained.
6. The company plans to install dust suppression systems, the implementation of windbreaks, and regularly watering the site dust suppression systems, windbreaks, and regular watering of the site to minimize the release of particulate matter.

NOISE & VIBRATION

The site is susceptible to noise pollution due to the operation of heavy machinery utilized during the land clearing and construction phase. The equipment that contributes to this noise includes forklifts, cranes, trucks, and block-making machines.
These machines produce a range of sounds, such as engine noise, beeping sounds, and the sounds of heavy objects being moved. The noise generated from these sources can be a nuisance to workers and can cause hearing damage if proper precautions are not taken.

However, no construction will be conducted for the offices, and prefabricated containers will be utilized for office space. Such impacts are temporary, given that the cleaning and construction are expected to last for approximately two to three months.

The following mitigation measures will be implemented to reduce operational phase impacts on baseline noise levels:

1. A concrete base will be constructed at the project site, including entry from the road. This will help to dampen vibrations caused by the operation of the plant and the movement of heavy-duty vehicles.
2. Noise-generating equipment or machinery will be used with the necessary muffling apparatus to reduce operational noise to acceptable levels.
3. Routine equipment inspection to ensure proper functionality of noise and vibration suppression devices.
4. Vehicles and machinery will be turned off when not in use.
5. All engine covers will remain closed while the equipment is operating.
6. Warning signs will be posted in areas of high noise levels instructing employees to wear ear protection.

7. Use of appropriate PPE by workers near heavy-duty machinery and plants.
8. The generator will be purchased within a noise-resistant enclosure. It will be placed within the generator room which will be constructed with hollow blocks and a 20 ft. muffler silencer affixed to the building.

Water Pollution and Spills

Water is produced during the facility's wash-down process. To reduce the environmental impact, there is a collection sump in place that captures all wastewater. The sediments from the collection sump are regularly removed and then recycled through landfilling.

Liquid cement, fuel, admixture, or other substances may accidentally spill and contaminate the environment. To prevent this from happening, spill pallets have been installed in the facility to capture any potential spills. Additionally, spill kits are available on-site in case of an emergency. Drip pans are also in place to collect any drips that may result from admixture collection.

Waste Management

Non-hazardous waste, such as empty cement bags and food boxes, is disposed of in a designated bin located in a secure area. The bin is enclosed by concrete walls and a gate. Puran Brothers Disposal Inc. collects the waste once a week, or more frequently if necessary.

Hazardous waste, specifically waste oil generated by the facility, is temporarily stored in metal drums in a designated holding area. Interested individuals can collect the waste oil regularly, as it is made available for collection.

Additional information to be noted:

- Puran Bros. Disposal Inc. collects all domestic waste.
- Water will be pumped from the surrounding canal and treated to be used in plant.
- The facility generates the following types of waste and emissions:
- Noise during the production/mixing process. - Solids (cement tonne sacks from the process).