JAPARTS CONSTRUCTION INC.

PROJECT SUMMARY

Bulk Aggregates Storage with Mechanic and Fabrication Workshop

June 25, 2024

INTRODUCTION

Japarts Construction Inc.; is a company incorporated under the Companies Act of Guyana with a primary focus on infrastructure construction and mining operations. In this regard, Japarts has secured several road construction projects with the Government of Guyana including the rehabilitation of the Massy Road in Providence, EBD. To support the company's construction projects aggregates including sand, stone, and loam are stored in bulk quantities at Lot A22 Peter's Hall, East Bank Demerara.

The facility at Lot A22 Peter Hall also serves as a parking area for the company fleet of vehicles and equipment and includes a mechanic and fabrication workshop. In light of the aforementioned activities and their potential impacts on the environment, Japarts is seeking environmental authorization.

PROJECT LOCATION

Lot A22 comprising 4.58 acres within Peter's Hall, East Bank Demerara borders the industrial area including the Heroes Highway, Concrete Batching Plants, and Oil and Gas Chemical Storage Facilities. Before the recent industrial development of the area, the area was sugar cane fields buffering the Haags Bosch Sanitary Landfill. Presently, downwind of this industrial area is the Peter's Hall Perseverance Housing Scheme.

Figure 1: Google Map showing Japart Industrial Yard

PROJECT DESCRIPTION

Bulk Storage of Aggregates

Construction aggregates including sand, loam, stone, crusher run and laterite are bulk stored in quantities of 1000 tons at the project location. The storage of aggregates by Japarts is to facilitate the road construction works/projects currently awarded to the company.

While the entire 4.58 acres of the project location are bunded by a concrete curb wall, the aggregate storage area occupies approximately 20% (1 acre) of the project site. This area is located to the north of the project site; the boundary furthest from residents that are located south of the project location. The aggregate storage area is further buffered by the parking space which accommodates parking for the company fleets of vehicles (60) and occupies 50% of the project location.

Figures 2 and 3: Aggregates stockpiles at the project location

Mechanic and Fabrication Workshop

Source One Oil and Marine Supplies Inc. a subsidiary of Japarts, is an environmentally authorized (***Environmental Authorization Ref.#: 202140622-PPTHC***) service provider transporting oil and gas chemicals, tools, and equipment within Region 4, primarily Georgetown and along the East Bank Demerara corridor. The environmental authorization issued for five years during January 2022 will expire in December 2026.

In providing transportation services to the oil and gas sector, Source One utilized twenty (20) hauler trucks with trailers that require monthly maintenance. To accommodate the maintenance of the project fleet of trucks, a mechanic and fabrication workshop exist at the project location. The workshops occupy approximately 30% of the project site and are situated to the west of the project location

Further, the workshops also maintain the vehicles transporting the aggregates including

- 40- 6*6 dump trucks each with a carrying capacity of 32 tons
- 3 - Caterpillar excavator 323 D31,

- 2- Caterpillar Front End Wheel Loader 95.

Figures 4 and 5: Aggregate dump trucks

The two workshops that exist at the project location are partially enclosed sheds with zinc roofing and an impermeable concrete base. The first workshop (situated closest to the southern boundary) is utilized for general mechanic and fabrication maintenance. The second workshop is used primarily for oil changes, tire changes, and brake inspections.

Figures 6 and 7: Mechanic and Fabrication Workshops; first and second workshop

Activities conducted at the workshops include:

Oil Change – removal of hydraulic oil (waste oil) from vehicles and re-oiling as required. Removed oil is placed in 1000 liters IBC totes and stored on-site. Approximately 2000 liters of waste oil is generated monthly.

Tire Change – this includes the manual removal of waste tires from vehicles and equipment. Approximately 10 waste tires are generated daily. Waste tires are stored under the shed of the workshop, protected from rain, and are subsequently transported to the Haags Bosch Sanitary Landfill for disposal.

Brake Inspections – brake performance inspection determines the quality of the brake (good or bad) which requires the brake pads and lining to be changed if bad. Approximately 80 waste brake pads are generated monthly by the project. This waste is transported to Haags Bosch Sanitary Landfill for disposal.

Repairs: General Vehicle Maintenance – this includes the use of hand tools such as sledgehammers; and a welding plant (SAE 400 Lincoln Electric) in the maintenance of vehicles. Hazardous wastes generated by this activity are scrap metal waste, oily rags, used oil filters, etc.

Figure 8: SAE 400 Lincoln Electric Welding Plant

POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This section identifies and describes the potential adverse environmental impacts of the Project. Mitigation measures, both existing and planned are described in detail to reduce or mitigate the identified impacts.

Project Activities	Potential Environmental Impacts	Existing Mitigation Measures	Planned Mitigation Measures
Bulk Storage of Aggregates.	**Dust Emission** Dust emissions occur at several points in the storage cycle of aggregates, such as material loading onto the pile, disturbances by strong wind currents, and load out from the pile. The movement of trucks and loading equipment in the storage pile area is also a substantial source of dust. The quantity of dust emissions from aggregate storage operations varies with the volume of aggregate passing through the storage cycle. Emissions also depend on three parameters of the condition of a particular storage pile: age of the pile, moisture content, and proportion of aggregate fines. When freshly processed aggregate is loaded onto a storage pile, the potential for dust emissions is at a maximum. Fines are easily disaggregated and released to the atmosphere upon exposure to air currents, either from aggregate transfer itself or from high winds. As the aggregate pile weathers, however, the potential for dust emissions is greatly reduced. Moisture causes aggregation and cementation of fines to the surfaces of larger particles. Any significant rainfall soaks the interior of the pile, and then the drying process is very slow.	Frequent wetting of aggregate stockpiles, primarily during dry and windy weather conditions. Aggregate stockpiles are maintained below the height of the boundary fence.	Extent the northern and western boundary fence to a height of 6ft to provide sufficient enclosure for stockpiles; Installation of dust screens at the aforementioned boundaries to reduce wind erosion thus reducing emissions. Apply chemical agents (such as surfactants) to aggregate stockpiles - Continuous chemical treating of material loaded onto piles, coupled with watering or treatment of roadways, can reduce total particulate emissions from aggregate storage operations by up to 90 percent.

	Shifting or movement within the foundation as a result of the weight/volume of the aggregates stored by the project – the storage capacity of the project site.	Aggregate stockpiles are distributed across the designated storage areas in piles not exceeding 6ft. This allows for even distribution of the load capacity across the 1 acre allotted for storage of aggregates. A front-end loader is maintained at the project site to ensure that stockpiles maintain a horizontal layout.	
	Noise and Vibration Caused by the movement of vehicles and equipment loading and offloading of aggregates.	Limiting the hours during which site activities are likely to create high levels of noise or vibration to between 6 am and 6 pm. Siting the aggregate storage areas at the northern boundary; the further boundary from the residents. Siting the aggregate storage area behind the parking lot allows for the trucks and equipment to create a buffer for sound and air emissions.	Establish channels of communication with the Local Authority and residents. Activities exceeding the working hours will be communicated via signs posted at the project boundaries. Monitor the levels of noise and vibration during critical periods and at sensitive locations to ensure compliance with noise standards.
Mechanic and Fabrication Workshop	**Soil and water contamination from the discharge of hazardous materials and waste** In mechanic workshops, there are accidental or deliberate discharges of petrol, diesel, solvents,	The impervious surface/base of the workshop reduces soil contamination.	Install a secondary bund around the designated waste oil storage area (workshop #2).

	grease, and lubricants on the land and into waterways. Many of these petroleum products are organic and synthetic chemicals that can be highly toxic and hazardous to animals including humans. Used oil is less viscous than unused oil; when disposed of into the soil, it adsorbs the soil particles, reduces porosity, and therefore reduces the aeration of the soil; resulting in metal contamination of topsoil.	Waste oil and fuel are collected and secured in IBC totes and stored within the workshop on an impervious surface.	Construct and maintain defined drainage around the second workshop that manages oil change, etc. Install labeling and signs at both workshops. Designate a scrap metal waste storage area on an impervious surface/base.
	Noise and Vibration Generated by the use of the sledgehammer and welding machine.	Limiting the hours during which site activities are likely to create high levels of noise or vibration to between 6 am and 6 pm. The welding machine is suitably enclosed with mufflers and buffers. It is also placed on a foundation, thus reducing vibration.	