Summary of Project presented to the EPA

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AJM Enterprise

Proposal for the Installation and Operation of a Concrete Batching Plant in Guyana – Great Diamond.

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1. SCOPE

This proposal sets out the company, personnel, equipment, schedule and methodology proposed, to install and operate a concrete batching plant in Guyana, under the company AJM Enterprise for the purpose of use within the construction sector.

2. COMPANY

AJM Enterprise was founded in 2019 and is a subsidiary company of N.M Trucking, Auto Sales & Agri Machinery (JUMBO JET). AJM Enterprise given its newest within arm within the construction sector is set to be a premier provider of high quality, fully specification concrete to Guyana. With a new, state of the art concrete batching plant operated by expert batchers and standard reconditioned mixer trucks, the company is set to deliver solid, consistent results with every batch of concrete.

3. MANAGEMENT

Batch Plant Operator:

An experienced concrete batch plant operator is in the process of being recruited. The candidate is required to have many years of experience with Pre-Mix, the premier concrete manufacturing.

- The Batching Plant Operator shall undergo initial and regular refresher SSHE training and shall always wear full PPE when active at the site.

Mixer Truck Drivers:

Truck drivers are to be recruited locally in Guyana.
Full evaluation and training will be mandatory for safe operation of the

and delivery equipment mounted on the truck.

- All drivers shall undergo initial and regular refresher SSHE training and shall always wear full PPE when active under AJM Enterprise.

Principal:

- All senior management and staff including the cleaners, porters, drivers, mechanics, security officers etc. shall undergo initial and regular refresher SSHE training and shall always wear full PPE when active for AJM Enterprise particularly on site.

4. INTRODUCTION

High quality concrete can be produced for all kind of projects where concrete is used by ready-mix concrete plants. These are stationary, mobile, compact and on-site type of concrete plants.

AJM Enterprise is now gearing to venture into the production of ready-mix concrete products. It is the direction in which construction work is headed in the past years in many developed countries, particularly related to road works.

The project consists of the construction of a concrete products plant. is a facility that combines various ingredients to form concrete, which is commonly used in the construction industry to produce concrete on-site for various projects such as building foundations, roads, bridges, and other structures. The process of producing concrete at a mixing station involves accurate measurement of each ingredient, ensuring the correct proportion of each component is added to the mix.

This venture will see the Company investing over $60M on plant and infrastructure development to make the production of such concrete components a reality. This investment will provide much needed job opportunities for Guyana. It will bring new technology to more persons since training is essential for its success.

Prior to the commencement of this project, the developer is required to apply for and obtain an Environmental Permit from the Environmental Protection Agency (EPA). In compliance with this requirement, the developer therefore submits an application. The following document presents a summary of the above project and contains the necessary details that may complement the attached application in all efforts to ensure a smooth and timely processing.

5. LOCATION

The proposed location is **Lot 712 Blox XX111 Plantation, Great Diamond, East Bank Demerara**. This land comprises of 2084 acres of land. Even though there is an existing plant on the location, adequate provision is made for AJM Enterprise. The layout shall be in accordance with the space allocated. Given the compound is already used as a holding pond and workshop for trucks owned and operator by AJM Enterprise. The perimeter shall be demarcated for use.

Surrounding Land Use

The surrounding land use is industrial. The land is bounded east and west by an empty plot of land and to the North an access road. While to the Southern end is currently a canal. Operations will have no impact on residency since the nearest residence is more than 1000km away. No threat to biodiversity or waterways is envisaged due to the Company's designed operation procedure.

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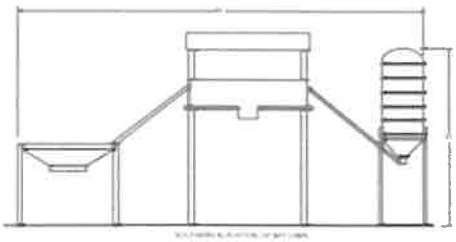
Site Plan Layout.



6. CONCRETE BATCH PLANT SPECIFICATIONS

HZS60 concrete mixing plant with theoretical productivity of 60 cubic meters per hour is also called 60 commercial concrete mixing plant. It is equipped with JS1000 forced double horizontal shaft mixing main machine with nominal capacity of 1000L, batching capacity of 1600L and screw conveyor with productivity of 80t/h. It is mainly composed of cement silo, screw conveyor, PLD batching machine, double horizontal shaft mixing main machine, computer control and automatic metering system. The whole machine adopts double computer control system, which can automatically ensure the continuous production control of the system without any influence when the double machine is switched.

Main Components of HZS60 Concrete Batching Plant
JS1000 Twin-shaft concrete mixer
PLD2400 Aggregate batching machine with 4 bins
100T Cement silo or other capacity
LSY273 Screw conveyor

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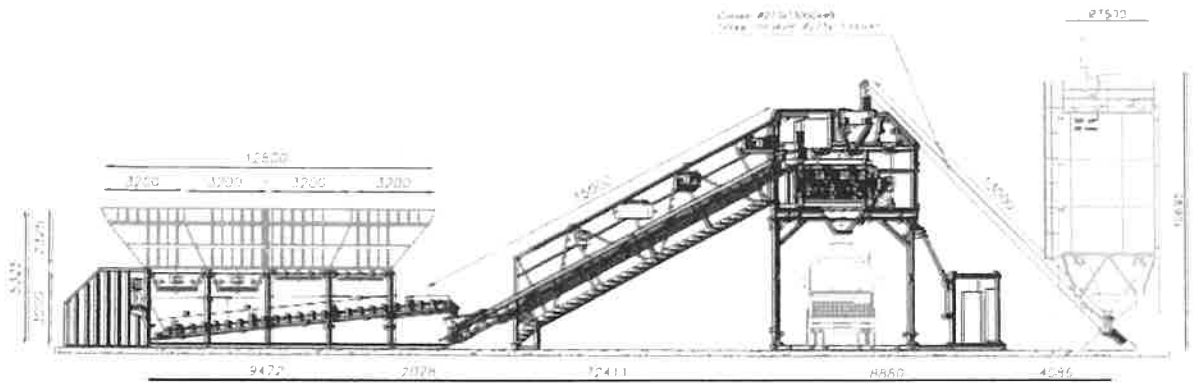

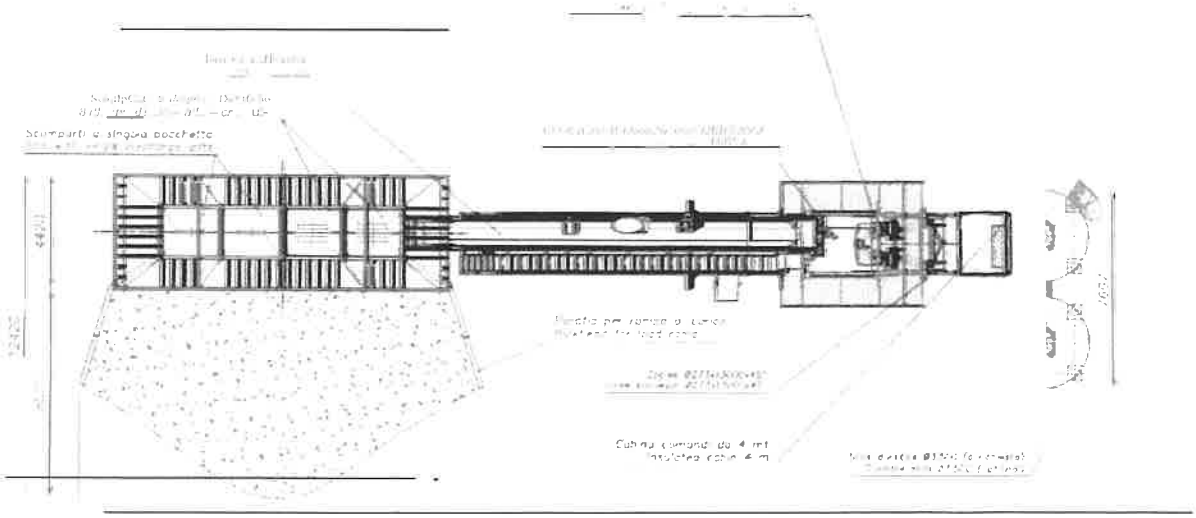

*Overview

Mobile batching plant for the concrete wet production, equipped with twin shaft mixer. Theoretical hourly output 120 -135 m^3/h.

Main features:

- Mixer Capacity 4500/3000l or 5000/3350*l.
- Twin Shaft
- Aggregate storage Bin Capacity- 4*20m3
- Possibility of moving the plant from one site to another
- Low maintenance costs
- Saving of space with integrated control cabin
- Pre-cabled and pre-assembled at the workshop
- Speed of assembling in site

The Pre-Batching:

Before starting the Batching Plant, all personnel working on that shift/day will assemble with the sound of a horn. In that way the Plant Supervisor and or Operator can see all persons present in the plant and ensure all personnel are attired in their appropriate PPE.

Before starting the mixer, the plant operator will check the Mixer and other moving parts of the Batching Plant. The Loader and Forklift operators must be cautious when operating these machines. The grounds man/porter must at all times direct the trucks under the mixing area in a safe manner. The Plant is going to be completely enclosed before mixing commences so as to avoid any noise or dust pollution to neighbours.

The Batching/Mixing Process:

Concrete is made up of four raw ingredients (stone, sand, cement and water).

Raw materials (sand & stone) will first be moved from the storage stockpile area by a front-end loader and placed into the loading bins/hopper which is attached to the concrete batching plant. The sand and the stone (aggregates) will then be weighed under the loading bin based on the required design, which then will transports/conveys the material into the mixing chamber/mixer by means of a conveyer belt.

A forklift truck operator will then transport the cement tonne sack from the temporary storage area to the cement bin/hopper. An auger/spiral conveyer will send cement into a weighing bin on top of the mixer based on the amount of cement required, then it goes into the mixer. From the silo, which is equipped with air filter, will feed the conveyor to the batching plant. This will be done via an enclosed system.

The water will then flow from the water storage tank into the water weighing thank then to the mixer by means of an electric pump. The batcher (Personnel) who will control the operation in the control room by a control panel that control each component of the Cement Batching Plant in order to produce liquid concrete.

After having all the raw materials in the mixer, the batcher will then turn on the mixing chamber. As the Mixer then mixes until completion. The Batcher will sound a horn to indicate to the truck driver that the liquid concrete is ready to load, and a truck reverses under the mixer lower door/gate. The Batcher releases the chamber gate/door, where liquid concrete flows into the concrete mixing truck.

The Shutter located in-front the plant, then opens and the truck drives out to take the concrete to the awaiting construction site. A next truck backs into the plant then the shutter closes again.

- Easy and cheap transport

Technical features	**SI UNITS**	**US UNITS**
Theoretical hourly output	120* m3/h	157* yd3/h
Aggregate storage	65+95 m3	85+124 yd3
Aggregate storage bins	4 n°	4 n°
Discharge gates/Pneumatic cylinders	6/6 n°	6/6 n°
Aggregate weighing hopper	7 m3	9 yd3
Aggregate weighing system	10.000 kg	22,045 lb
Cement weighing hopper	2 m3	2.6 yd3
Cement weighing system	2000 kg	4,4101b
Water weighing hopper	1000 L	264 gal
Extractor belt with sheet 1000 mm	600 m3/h	785 yd3/h
Loading belt with sheet 1000 mm	600 m3/h	785 yd3/h
Twin shaft mixer MEB	4500/3000	4500/3000
Air compressor	500 L	500 L
Operating voltage	400V	400V
Operating frequency	50/60 Hz	60 Hz
Absorbed electrical power**	308/230 HP/kW	308/230 HP/kW
Installed electrical power**	328/245 HP/kW	328/245 HP/kW

** mixing time 30"; unloading time 35" - ** basic version and for n.2 silos*

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7. FOUNDATIONS –

The batching plant and silo pad foundations are to be pre-cast off-site and transported and lifted into place by suitable lifting machinery on site. The structural design check and slab dimension calculations shall be determined and signed off in accordance with the location and soil conditions.

8. POSSIBLE ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impacts to Air Quality (Noise and Dust)

Air emissions from cement, stone and sand will be generated via two phases of the project which are construction and operation phases.

- ***Construction Phase***

Potential impacts to air quality will be experienced through construction of the facility and related plant; however, these impacts will be short term, localized and insignificant. The following are ways by which air quality will be impacted:

- Dust from land clearance associated with construction activities and constant movement of equipment; and
- Noise from the operation of equipment used during the construction of facilities and access roads.

- ***Operational Phase***

The localised air quality within the confines of the project area will be affected during the course of operations; however, these impacts are localized, avoidable and can be mitigated. The following are ways by which air quality will be impacted:

- Generation of sand and cement dust during storage, mixing and transporting;
- Noise from the operation of equipment such as the batching plant and other noisy equipment;
- Noise from loading and offloading of materials and finished products.

Mitigation of Impacts on Air Quality

The following mitigation measures will be implemented to manage impacts to air quality:

- Ensure that machinery and equipment are working efficiently and have the required silencers/mufflers installed.
- Dust collection system will be installed and attached to all equipment which generates dust and particles.
- Dust screens made of geotextile fabric will be installed 12 feet above the fence which will be above the level of the stockpile and batching plant to prevent dust from being airborne.

- Material Stockpiles will be covered with Tarpaulins and the wet suppression method will also be employed to reduce dust from being airborne.
- Project proponent will implement mitigation measures recommended by the EPA for management of impacts to air quality.
- Wet suppression of the area, when needed.
- Paving of the compound and access road ways.
- Maintaining vehicular speed limits.
- Generators (if installed) will be equipped with silences and housed in an enclosed area.

Impacts to Socio-Economic Environment

❖ *Health and Safety of Workers*

Workers' health can be impacted during the construction and operation phases of the project. The major impacts are:

- Risks of accidents during the establishment of infrastructure and operation of equipment;
- Risks of accidents during the operation of phase;
- Exposure to excessive noise generated from equipment during construction and operation phases which can result in auditory ailments; and
- Exposure to excessive dust during construction and operational phases which can result respiratory ailments.

Mitigation of Impacts on Health and Safety of Workers

The following will be implemented to prevent or minimize impacts to workers' health and safety:

- Workers will be mandated to wear appropriate PPE in accordance with the Occupation Health and Safety Guidelines and the Company policies relating to occupational health and safety; and
- Training will be provided on occupational, health and safety.

Impacts from Hazardous Materials/ Waste Materials

- ❖ Hazardous materials are categorized as fuel, lubricants and other materials of similar nature. Impacts can arise through the accidental introduction of these materials into the environment through spills onto land and in water ways. Hazardous materials spilt on land can enter groundwater reservoirs through seepage via soil strata.

❖ Waste Management

During project implementation several types of waste can be generated from a number of sources. Each waste stream may or may not require different disposal methods. The main categories of waste generated are (1) solid waste (2) liquid waste; and (3) hazardous waste.

1) Solid waste

During both phases of the project several categories of solid waste will be generated and are discussed below, these are:

a) **Construction Waste** – includes materials generated from construction buildings, ancillary facilities and internal roads. Materials will be sorted and reused where possible. For materials deemed as non-usable, disposal will be undertaken by the company's disposal truck to Haggs Bosch landfill site.

b) **General Waste** – include waste such as office waste (paper and cardboard), domestic waste (plastics and paper boxes), kitchen waste (food), cement bags, plastic containers etc. Collection bins will be placed at strategic points to be used by workers and will be emptied on a regular basis. Disposal will be undertaken by the Company at an approved landfill site.

2) **Liquid Waste** – includes two types of effluent streams (grey and black water from sinks, bathrooms and sewage). Sewage will be disposed of in septic tanks constructed in accordance with GNBS Code of Practice for the Design and Construction of Septic Tanks and Associated Secondary Treatment and Disposal Systems. Grey water will be channeled into a soak away system before being discharged into drainage systems and finally into the environment.

- ✓ **Plant Wash Down/Portable Sedimentation Pond**

To facilitate the wash down of the batching plant a portable dumpster bin (sedimentation pond) will be built to facilitate the catching and trapping of all waste products from the wash down. The bin will be equipped with a filter system to trap all sediments in the bin and discharge the water appropriately to be reused. The solid debris remaining would then be appropriately discarded as landfill material. The bin will be built twenty (20) feet long by eight (8) feet wide and would have a depth of four (4) feet. This size of portable sediment pond was derived by calculating the required water for wash down and adding a percentile factor for the solid waste coming forth from the wash down.

3) **Hazardous Waste** – includes waste oil, used filters and oily rags. Waste oil be collected and stored in containers. Efforts will be made to reuse waste oil, either in chainsaws or will be given to chainsaw operators. Used filters and oily rags will be disposed of in a manner approved by the EPA.

- ✓ Adequate safety signage is in place such as "Highly Flammable", "No Smoking". These are plastered on the wall of the tank. There is also a danger sign that is prominently displayed giving warning.
- ✓ Chemical Fire Extinguishers will also be provided.

Environmental Compliance

The developer intends to comply with all regulations and guidelines prescribed by the EPA as well as, other regulators prescribed by other governmental entities, in all efforts to ensure good environmental practices are maintained throughout the various phases of this operation. To this effect, an application will be made to the Guyana Environmental Protection Agency (EPA) for the issuing of an environmental permit to operate the facility.

9. CONCRETE SPECIFICATIONS

All aggregates shall have chemical analysis and sieve test results available for submittal. Water chemical analysis is available for submittal.

Admixture material data sheets shall be available for submittal.

All mix designs shall be batched in accordance with ACI and BSI concrete batching standards and a library of all mix designs maintained.

All batches produced shall have cube tests in accordance with ACI and BSI standards and a test record maintained.

MATERIAL SUPPLIER

Rock Hard
Aggregates:
Water: GWI
Electrical Power- GPL /Generator
Admixtures:

PLANT OPERATION

The plant shall be operated in accordance with ACI and BSI standards.
The plant operation procedure manual shall be on site at all times and a copy shall be available upon request and for submittal.

10. SSHE

The company has a complete Safety, Security, Health, and Environment System in place for operation and all aspects of the offloading, delivery, installation and operation of the concrete batching plant shall be governed in accordance with the SSHE system. SAFETY IS THE BEST AND OUR POLICY.

11. PERMISSIONS

EPA
CHPA
Neighbourhood Democratic Council permission