HPS Holdings

Ready Mix and Construction Inc

Project Summary

Date prepared: 20 June 2025

Activity type: Concrete Batching Plant

1.0 INTRODUCTION

Guyana's construction and manufacturing sectors have seen remarkable growth in recent years. According to the Government of Guyana's Budget Report, the construction industry grew by 29.8% in 2022, followed by 26.3% in 2023, and 26.8% in 2024. Growth is projected to continue with an estimated increase of 23.4% in 2025. This consistent upward trend is largely driven by increased public infrastructure projects and sustained private sector investment, particularly in housing developments and the hospitality industry. As a result, the demand for construction materials, especially concrete products used in housing, roads, bridges, and soil stabilization, has surged, outpacing the current supply. HPS Concrete Plant is strategically positioned to help meet this growing demand. By delivering high-quality, reliable concrete products, the plant aims to support national development and play a key role in advancing both public and private construction projects across the country.

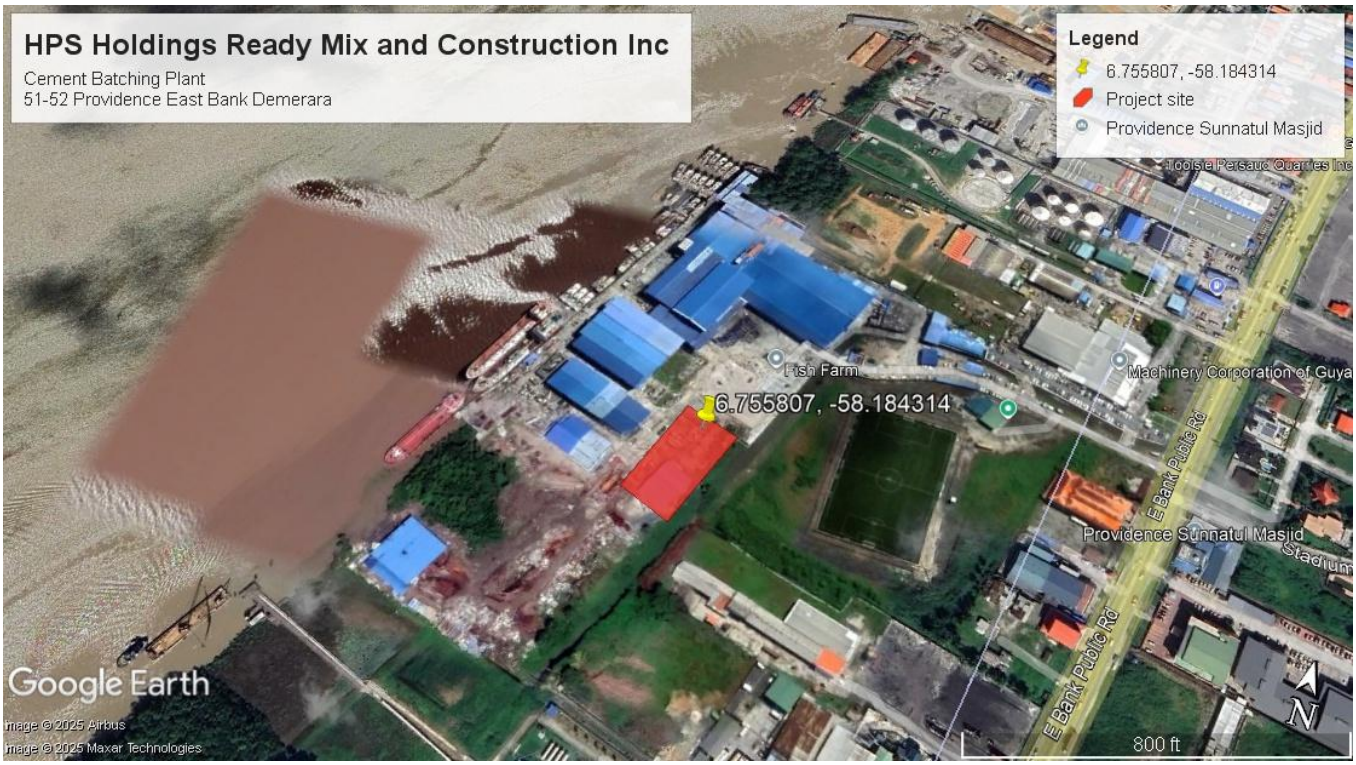
1.1 PROJECT SITE

HPS Holdings Ready Mix and Construction Inc. plans to establish a concrete batching plant at Lots 51-52, Providence, East Bank Demerara. The plant will specialize in the production of rigid concrete. The exact location coordinates are 6.755807, -58.184314, and the project area spans approximately 166 ft x 72 ft.

The site is situated in a mixed-use zone, bordered by residential properties to the east and industrial facilities to the north and south. Notably, Machinery Corporation of Guyana Ltd. (MACORP) is located to the north, while Sterling Products Limited lies directly to the south. The Demerara River borders the site to the west, and the East Bank Public Road runs along the eastern boundary.

The site was previously used by Pritipaul Singh Investments Inc. to operate a small concrete batching plant for internal purposes. The existing infrastructure includes underground drainage systems that channel water to external drains located southeast of

the property. A shed remains on-site, which currently houses remnants of the former plant. The area has already been developed with a reinforced concrete foundation, specifically designed to accommodate the weight and operational demands of the new batching plant, while minimizing the risk of ground settling.



Map showing project location

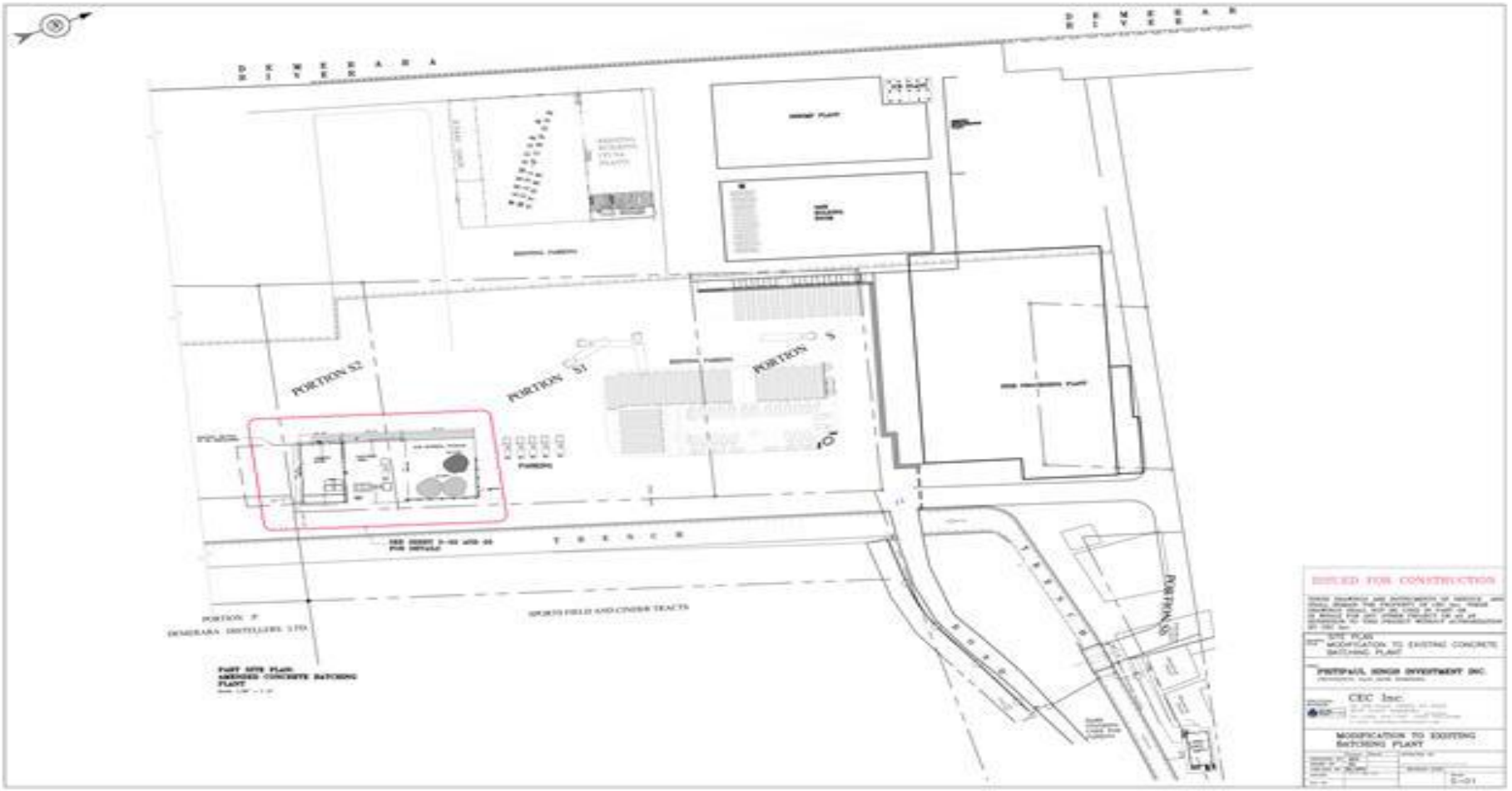


Diagram 1: Showing site plan

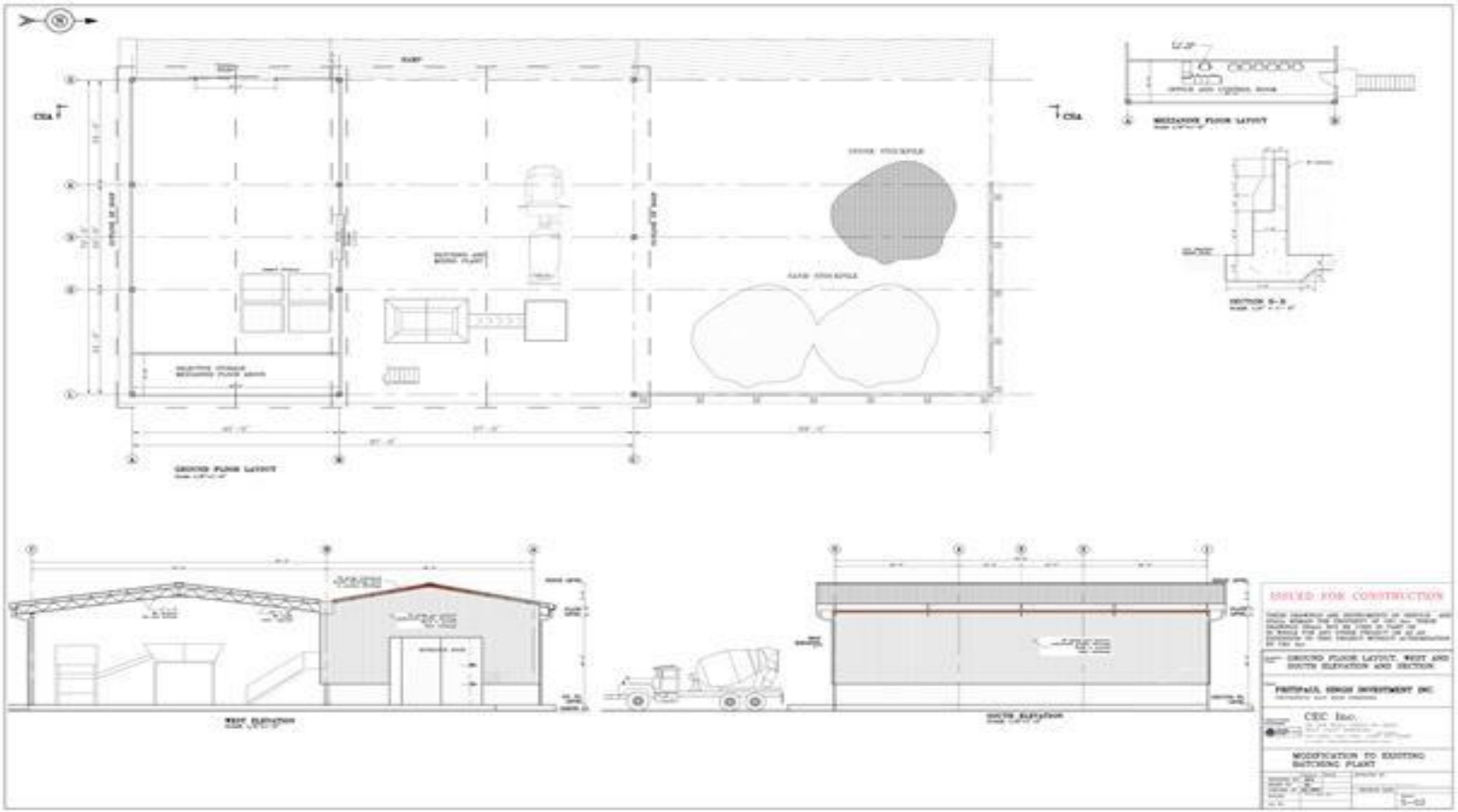


Diagram 2: Site layout plan

2.0 DESCRIPTION OF PROJECT

HPS Holdings Ready Mix and Construction Inc. is expected to produce approximately 5,000 cubic yards of concrete per month.

Mixing and Batching Procedures

The process of making concrete in a batching plant involves the following steps:

- Aggregate feeding - crushed stone and sand are fed into feeder bins.
- Powder feeding - cement and additives, in addition to other chemicals, are added as needed.
- Water - water is used as a binding agent to combine the aggregates and chemicals, such as cement, and is added to the trucks.
- Control system - controls the quality of the product by sorting the amount of ingredients that go into the mixer.

Development stages:

Pre-construction

A reinforced concrete foundation was previously constructed to support the weight and operational demands of the batching plant, effectively minimizing the risk of settling and potential soil damage. Underground drains are already in place to manage surface water runoff effectively.

Construction Phase

During this phase, the site will be repurposed to accommodate the installation of the new batching plant. Key activities will include the construction of a shed that will be an addition to the current bond facility. The current bond area is made out of concrete and industrial profile sheeting, which will house the cement and the batching equipment. The shed will house all the aggregates needed for the functioning of the plant.

Auxiliary infrastructure, such truck scale, will also be installed. The truck scale will be used to weigh aggregates delivered by third-party suppliers, as well as measure materials sold to clients and the volume of concrete leaving the facility in transit mixers.

Operational Phase

Concrete production at the facility will utilize sand, stone, water, and cement. These materials will be delivered to the site and stored in their designated areas**.** The Concrete Batching Plant will be capable of producing approximately 25 to 60 cubic meters of concrete per hour (m^3/h). The plant is designed for precision, reliability, and high-efficiency output.

All raw materials are weighed to ensure consistency and quality. Aggregates (both fine and coarse) are stored separately and loaded into the hopper in measured amounts. Cement, water, and any admixtures or additives are also carefully measured. Before each batching cycle, weighing scales are reset to zero to ensure accurate measurements. After each production cycle, the plant is thoroughly washed. Wash water is directed to a settling pond, where it is treated and reused in the production process, reducing water waste.

Estimated monthly material usage:

- Sand: 356,070.01 kg
- Aggregate: 534,377 kg
- Cement: 178,120 kg
- Water: Variable based on daily production requirements

Auxiliary and Support Services

The plant will employ approximately eight (8) staff members onsite. Regular working hours will be Monday to Saturday, from 07:30 hrs to 16:00 hrs. However, during high-demand periods, operations may run 24 hours a day and extend to a 7-day work week to meet client needs.

Energy Supply

Electricity for the facility will be sourced from Pritipaul Singh Investment Inc.'s (PSI) electrical grid, which produces 4.375 Kwh per cubic per day. The facility will not depend on the national Electrical grid, GPL for electricity. The generators used are equipped with soundproofing to minimize the impact of noise on the environment. Fire extinguishers are placed nearby as a safety precaution.

Water Supply

A potable water system is already installed at the site. It is supplied by a well on site that pumps water into the reservoir, ensuring a reliable and clean water source for production and facility needs.

3.0 Potential Environmental Impacts

Noise impacts

The operation of the concrete batching plant has the potential to increase noise levels within the area. However, it should be noted that the project site is situated in an Industrial Area.

The most significant sources of noise generation source will be associated with the operation of the concrete batching plants. The noise-generating sources involve various components of the plants, which include,

- In the mixing process of the mixer, the sand and gravel collide within the agitator.
- Discharging from the hopper to the trucks.
- Mixer trucks receive raw materials and prepare their load.
- The diesel generators utilized to provide power to support the production process.
- Machinery utilized in the operation, such as front-end loaders and concrete trucks.

Given that the batching plant is only operational when orders for concrete mixtures are received there is no major continuous source of noise.

During the operation, the batching plant workers are exposed to relatively high levels of noise. Workers are at risk of adverse effects of noise exposure, including hearing loss, when noise exposure is at or above 85 decibels averaged over 8 working hours. Plant workers will be provided with Personal Protective Equipment (PPEs) with hearing protection to limit exposure to excessive noise and the use of PPEs will always be mandatory. This is to ensure that workers aren’t exposed to adverse noise, in line with safe work limits.

Air quality

The plant operations utilize primarily stone and sand. The materials will be stockpiled on-site in storage bays in a designated area to avoid contamination and intermingling with adjacent materials. During dry and windy conditions stockpiles of these dry loose aggregates, particularly sand, would result in emissions of particulate matter. Cement utilized in the process is stored in an enclosed bond, which prevents dust from the storage of this material. The process of loading the materials into the bins and the transport via the conveyor system can generate significant amount of particulate matter.

Sometimes materials such as sand and cement are spilled within the compound during the operational process and over time this material can build up. During dry and windy conditions, these materials can generate some amount of dust, especially with vehicles and machinery traversing the compound.

Gaseous emissions from activities are from the combustion of fuel from the vehicles and machinery utilized, and from the generators are also ways in which can also impact air quality.

Waste Generation

There will not be any significant generation of solid waste and hazardous waste by operation of the batching plant. The main sources of waste generated, and the management strategies are outlined below:

1. General solid waste, including office waste and waste from small packaging, such as paper, cardboard and plastic and food waste such as boxes, wrappers, tins and bottles and residual food.
2. Waste from the toilets is collected via septic tanks.
3. Hazardous oily waste generated from servicing vehicles and machinery will collect in drip pans and stored in drums in a designated area of the facility.

4. Other waste generated from site operations, such as empty cement bags and adhesive containers.

Water Quality

Wastewater is discharged from the facility into the environment is a byproduct of such an operation. The main sources of wastewater discharged from the facility include:

- Effluent from the sediment ponds that receive water from the batching plant and aggregate stockpiles' runoff.
- Stormwater and surface runoffs from the wash bay, dust suppression mechanism, and the general cleaning of the facility and equipment, which will be drained into internal drainage.
- Effluent from sanitary facilities (toilets and bathrooms) which are also drained into the internal drainage network.

The effluent discharge from these sources has the potential to adversely impact the waterways, resulting in the sedimentation and pollution of the waterways with a mixture of sand, cement, and aggregates associated with the production process of concrete. In addition, potential pollution can be caused by the use of fuel, lubricants, and waste oil. However, several measures have been implemented by the developer to mitigate these impacts.

4.0 Proposed Mitigation Measures

Noise impacts

- The generators will be equipped with the necessary noise abatement measures and are placed in a designated enclosed room/area away from the working area (as much as possible) to reduce noise levels.
- Workers working in noisy areas will be equipped with ear protection, and the use of PPEs will be enforced.
- All equipment will be serviced regularly, including the generators and the screw conveyor, as is required based on the manufacturer's recommendations.
- Noise levels should be monitored quarterly at the locations as well as along the boundary lines of the facility. This is to ensure that noise levels are within the industrial limits of 100dB during the day and 80 dB at night as mandated by GNBS.

Air quality

- The aggregate stockpiles on site will not exceed 10ft in height.
- The cement plant SANY HZS120 will be retrofitted to add a bag house, an air pollution control device, to capture dust and particulate matter generated during the Batching process.
- The Baghouse will be regularly inspected, cleaned, and maintained as recommended by the manufacturer to maintain optimal baghouse performance.
- Cement is stored in a fully enclosed bond to prevent dust generation.
- Dust screens will be installed around the receiving bins and hoppers and around the convey belt system to capture dust generated from the loading of materials into the batching plant.
- Machinery, vehicles and generators are also well maintained, thus reducing the emission loads.

- The plant, especially the dust collection system, will be adequately maintained to ensure optimal operating efficiency, thus reducing emissions.
- Material stockpiles will be covered when not in use to prevent dust generation and will be maintained at a minimal height.
- Care will be taken during the loading of materials to feed the concrete to prevent dust generation.
- Workers exposed to dust generation or odor will be provided with the recommenced Personal Protective Equipment such as dust masks or respirators.
- Surfaces to be traversed by trucks and other vehicles/machineries is or concreted, thus preventing dust generation.
- Trucks transporting materials will be covered.
- Any complaint of a dust nuisance will be promptly addressed.

Waste Generation

- General solid waste, including office waste and waste from small packaging, such as paper, cardboard and plastic and food waste such as boxes, wrappers, tins and bottles and residual food, are collected in garbage bins placed around the facility.
- Waste is collected twice weekly by a third-party contractor and disposed of at the Haags Bosch Landfill at Eccles.
- Hazardous oily wastes generated from servicing vehicles and machinery are collected in drip pans and stored in drums in a designated area of the facility.
- Waste generated from site operations, such as empty cement bags, adhesives, and empty containers, is taken by a third-party contractor for disposal. These wastes are collected in waste skips.
- Waste from the toilets is collected via septic tanks. Effluent from the septic tanks is discharged via a filter bed. The septic tanks are emptied by a third-party sewage.

Water Quality

- All runoff from stockpiles, operational areas, wash bay, and process-related water is channeled to the settlement ponds before being discharged into the external drainage system.
- Lubricant, waste oil, and other hazardous materials are stored within contained and impervious areas.
- Sewage from the toilets is channeled to septic tanks for treatment and storage.
- Spill kits will be available to be utilized if a spill occurs.
- Sedimentation traps will be installed in the internal drainage systems to capture any sediment runoff.
- Aggregates are stored within large, concrete bays, which contain some of the sediments contained in runoff.
- Conduct water quality monitoring on a quarterly basis to ensure water quality is optimum.

5.0 PUBLIC CONSULTATIONS/MEETINGS

The project team is in the process of procuring all the permits required to start the construction phase through the Neighborhood Democratic Council (NDC), Environmental Protection Agency (EPA), and the Central Housing and Planning Authority (CH&PA). We plan to keep the engagement channels with all regulatory partners open, along with consulting with residents as needed, throughout the life of the project. As such, should we be advised to facilitate public consultations within the confines of the law and towards the benefit of all parties involved, we are prepared to do so.

6.0 CONCLUSION

HPS Holdings Ready Mix and Construction Inc is a Project conceived to answer the increasing demands of the market in the country and adapt to the changes in the industry. The facilities have been designed to be energy and water efficient with state-of-the-art technology. Such considerations will help to reduce the impact of daily operations on the environment, complying with the company policy to be more environmentally friendly. The construction and operation of the new facilities will provide job opportunities for the local community and will reflect the intentions of the company to be more competitive in the market by supplying high-quality concrete products.