

GUYANA ENVIRONMENTAL PROTECTION AGENCY
PROJECT SUMMARY SUBMISSION

PROJECT SUMMARY

Environmental Authorisation Application

Proposed Concrete Batching (Ready-Mix Concrete) Plant

Upgrading of the Palmyra to Moleson Creek Highway Project – Sub Concrete Batch Plant

Developer / Company	China Road and Bridge Corporation (CRBC)
Project Name	Upgrading of the Palmyra to Moleson Creek Highway – Sub Concrete Batch Plant
Project Location	No. 48 Village, Middle Walk Dam Farmlands, Corentyne, Berbice, Guyana
Prepared For	Environmental Protection Agency (EPA), Guyana
Project Duration	November 2025 to November 2029 (Temporary Facility)
Capital Investment	Approximately USD 400,000
Project Area	Approximately 4 Acres
Date Prepared	June 2025
Prepared By	China Road and Bridge Corporation (CRBC)
Contact Details	China Road and Bridge Corporation (CRBC), Guyana

Submitted in accordance with Section 11(2) of the Environmental Protection Act, Cap. 20:05, Laws of Guyana

2. DETAILED DESCRIPTION OF THE PROPOSED PROJECT

2(i). Physical Location and Characteristics

The proposed facility is located at No. 48 Village, Middle Walk Dam Farmlands, Corentyne, Berbice, Guyana, within the jurisdiction of the Good Hope To No. 51 Neighbourhood Democratic Council. The site is situated along the Palmyra to Moleson Creek Highway corridor.

GPS Coordinates	6.074442,-57.190296
Nearest Residential Area	Approximately 177 metres
Nearest Drainage Canal	Within 101–500 metres
Sea Defence	More than 1 kilometer away
Terrain	Generally flat
Predominant Soil Type	Clay and alluvial soils
Land Use Classification	Industrial / Infrastructure (temporary)
Flooding Risk	Area rarely experiences flooding

Predominant land use of the area is agricultural and rural. No significant sensitive receptors (schools, hospitals, or daycare facilities) have been identified in the immediate vicinity. The site is currently undergoing mobilization and preparation activities for plant installation. The land is of non-disputed nature and has been designated for use by the project proponent.

2(ii). Feasible and Reasonable Alternatives

The following alternatives were considered in the planning of this project:

Alternative 1: Procurement of Ready-Mix Concrete from Existing Commercial Suppliers

This option was considered but found to be logistically and economically unfeasible given the remote location of the highway project, the large volumes of concrete required, and the need for consistently fresh concrete deliveries over an extended period.

Alternative 2: Establish Batching Plant at a Different Location

Alternative sites along the highway corridor were evaluated. The selected site at No. 48 Village was determined to be the most suitable based on proximity to the highway works, land availability, minimal conflict with sensitive receptors, and access road conditions.

Alternative 3: No Project (No-Build Alternative)

This alternative would prevent the timely completion of the Palmyra to Moleson Creek Highway upgrade, a critical national infrastructure project. This option was rejected.

2(iii). Baseline Environmental Information**Physical Environment:**

- Landscape: Flat coastal plain terrain typical of the Berbice coastline
- Soils: Predominantly clay and alluvial soils with moderate compaction
- Water: Drainage canals present within 101–500 metres; sea defence located over 1 km away
- Air Quality: Baseline air quality is generally acceptable; no significant point-source industrial emissions in the vicinity
- Natural Resources: Limited natural resource extraction anticipated; primary inputs (aggregates, cement) to be sourced commercially

Ecological Environment:

- Flora: The site has been cleared; vegetation consists primarily of grasses and secondary scrub
- Fauna: No protected or endangered species have been identified at the project location; no significant wildlife habitat observed

Social Environment:

- Economic: The area is predominantly agricultural; the project will generate temporary employment for local communities
- Cultural: No known archaeological, historical, or cultural sites have been identified within the project footprint
- Nearest community: Approximately 177 metres from the site boundary

2(iv). Site Layout and Map

A site layout map has been prepared and is to be submitted as an appendix to this Project. The map includes:

- Accurate indication of the proposed site position at No. 48 Village, Corentyne, Berbice
- Positions of plant components (silos, mixing units, settling ponds, washout areas, fuel storage, generator area)
- Major access road: Palmyra–Moleson Creek Highway
- Identification of nearby drainage canal (receiving waterbody)
- Identification of washout and settling pond discharge points

3. DESCRIPTION OF THE DESIGN OF THE PROPOSED PROJECT

3(i). Design and Construction Specifications

The concrete batching plant will consist of the following primary structures and systems:

- Cement silos (vertical steel, enclosed, with dust filtration units)
- Aggregate stockpile areas (600m²)
- Weigh batching and mixing plant (automated/semi-automated)
- Water storage tanks (for production and dust suppression)
- Concrete washout facility (lined, with sedimentation)
- Settling ponds (minimum two-stage)
- Backup diesel generator (Cummins 250 kW)
- Site drainage channels and collection sumps
- Truck loading and dispatch area

- **1. Main technical parameters**
 - System Model: HLS60
 - Host Model: PL1600QD;
 - Theoretical productivity 60m³/h;
- **2. Powder storage and supply system**
 - Supporting cement 2 silos;
 - Supporting cement screw conveyor.
- **3. Dust removal system**
 - Reserve pulse anti -blowing system.

3(ii). Project Size and Scale

Capital Investment	Approximately USD 400,000
Project Area	Approximately 4 Acres
Workforce	Approximately 120 personnel (construction and operational phases combined)
Rate of Production	To be confirmed based on highway project concrete demand schedules approximately 100-130 tons of concrete per hour
Transportation Route	No.56 To No.43 Village
Project Duration	November 2025 to November 2029 (approximately 4 years)

3(iii). Activities Associated with All Development Stages

Construction Phase:

- Site clearing and grading
- Installation of cement silos, aggregate stockpile areas, and batching equipment
- Construction of drainage infrastructure, settling ponds, and washout facilities
- Installation of water storage tanks, generator
- Utility connections and commissioning

Operational Phase:

- Aggregate receiving, stockpiling, and handling
- Cement delivery and pneumatic silo loading
- Water storage and management
- Admixture storage and controlled dosing
- Automated weigh batching and concrete mixing
- Ready-mix truck loading and dispatch
- Equipment maintenance and cleaning
- Ongoing environmental monitoring

Closure/Decommissioning Phase:

- Removal of all plant equipment and structures
- Decontamination of site (fuel storage area, washout area)
- Removal and disposal of residual materials
- Site restoration and grading

Process Flow Summary:

Raw materials (cement, aggregates, water, admixtures) → Receiving and Stockpiling → Weigh Batching (automated) → Drum/Transit Mixing → Ready-Mix Truck Loading → Dispatch to Construction Site

3(iv). Use of Natural Resources

Portland Cement	Sourced commercially; delivered by bulk tanker or bagged supply
Fine Aggregate (Sand)	Sourced from approved local/regional quarry suppliers
Coarse Aggregate (Stone)	Sourced from approved local/regional quarry suppliers
Water	Sourced from GWI supply or approved borehole/surface water with treatment
Admixtures	Approved chemical admixtures sourced from certified suppliers

3(v). Utility Services

- Water Supply: Primary supply from Guyana Water Incorporated mains supplemented by on-site storage tanks. Water treatment (filtration and settling) applied as required for production quality.
- Electricity: Primary supply from GPL; diesel backup generator for continuity of operations.
- Communications: Standard telecommunications and mobile network connectivity.

3(vi). Waste Production and Management

Solid Waste:

- Construction debris (steel, timber, packaging) – segregated and disposed at authorised facility
- Waste oil and lubricants – stored in labelled containers; collected by licensed waste contractor
- Domestic waste from workforce – managed through on-site bins; collected and disposed at municipality approved sites

Wastewater Sources and Management:

- Concrete washout water: Directed to lined washout facility and two-stage settling ponds; solids allowed to settle; supernatant reused or discharged in compliance with EPA standards
- Equipment cleaning water: Treated through settling ponds prior to discharge or reuse
- Domestic sewage: Managed via portable sanitation units or approved septic system; regularly serviced by licensed contractor

Effluent discharge will comply with the Environmental Protection (Water Quality) Regulations and applicable EPA standards. Chemical analysis of effluent will be conducted as required by the EPA.

3(vii). Project Duration by Phase

Construction / Mobilisation Phase	Approximately 3–6 months
Operational Phase	Approximately 3.5 years (aligned with highway project schedule)
Decommissioning / Site Restoration Phase	Approximately 1–3 months following project completion
Total Duration	November 2025 to November 2029 (approximately 4 years)

3(viii). Decommissioning Plan

Upon completion of the Palmyra to Moleson Creek Highway Project, the following decommissioning activities will be carried out:

- Removal of all batching plant equipment, cement silos, storage tanks, generators, and temporary structures
- Safe disposal or transfer of residual raw materials and chemicals
- Decontamination and cleaning of fuel storage area and washout facilities
- Demolition and removal of settling ponds and drainage infrastructure
- Site regrading and restoration to a condition acceptable to the landowner and relevant authorities
- Final environmental inspection and reporting to the EPA

4. POTENTIAL IMPACTS AND THEIR SIGNIFICANCE

4(i). Extent of Impact / Area of Influence

The primary area of environmental influence is the immediate project site (approximately 4 acres) and its surroundings within a radius of approximately 500 metres. The following aspects of the environment may be impacted:

Air / Dust	Dust from aggregate handling and cement loading; exhaust emissions from generator and delivery vehicles. Impact localised to site and immediate surroundings.
Noise	Noise from batching plant operations, delivery vehicles, and generator. Moderate impact; nearest residential area approximately 177 metres away.
Water / Drainage Canals	Potential for washout water or sediment-laden runoff to reach nearby drainage canals if containment systems fail. Risk managed through settling ponds and lined areas.
Soils / Land	Minor soil disturbance during construction and operation; potential for fuel or admixture spills.
Ecological	Minimal ecological impact expected given disturbed site conditions and absence of sensitive habitats.
Social / Economic	Positive impact through employment creation; potential minor nuisance from noise and dust for nearest residents.

4(ii). Transfrontier Nature of Impacts

No Transfrontier impacts are anticipated. The project is entirely within the territory of Guyana and its environmental influence is confined to the local and sub-regional level.

4(iii). Magnitude and Complexity of Impacts

The proposed project is a temporary industrial facility of moderate scale. Impacts are primarily associated with:

- Dust and particulate emissions during construction and material handling
- Noise generation from plant operations
- Wastewater generation from washout and cleaning operations

The magnitude of impacts is considered low to moderate given the temporary nature of the facility, its distance from sensitive receptors, and the mitigation measures to be implemented.

4(iv). Probability of Impacts

Dust Emissions	High probability during dry conditions; manageable through water suppression
Noise	Certain during operations; within acceptable range given distance to receptors
Wastewater Discharge	Certain; managed through containment and treatment systems
Chemical Spill	Low probability; managed through secondary containment and spill response plans
Flooding / Drainage Impact	Low probability given site conditions and drainage controls

4(v). Duration, Frequency, and Reversibility of Impacts

- Duration: Impacts limited to the project operational period (up to 4 years); all impacts are temporary and cease upon decommissioning
- Frequency: Dust and noise impacts occur daily during operations; wastewater generated on an ongoing basis
- Reversibility: All identified impacts are fully reversible upon project completion and site restoration

4(vi). Cumulative Impacts

The project is a sub-facility directly associated with the Upgrading of the Palmyra to Moleson Creek Highway Project. Cumulative impacts from this combination of projects include increased dust, noise, and traffic in the immediate corridor. These cumulative impacts are considered temporary, localised, and manageable through coordinated environmental management across both project components.

No significant cumulative environmental effects on the receiving environment are anticipated beyond those already identified for the highway project.

5. ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURES

5.1 Air Quality and Dust

- Regular water spraying of unpaved surfaces, stockpile areas, and access roads
- Enclosed cement silos fitted with dust collection/filtration units
- Covered conveyor transfer points where practicable
- Speed limits for vehicles on unpaved sections of the site
- Prompt cleaning of spilled cement or aggregate

5.2 Noise

- Regular maintenance of all machinery and equipment to minimise noise output
- Restriction of high-noise activities to daytime hours (07:00–17:00) where practicable
- Provision of Personal Protective Equipment (PPE) including hearing protection for workers
- Siting of noisier equipment (generator) away from the site boundary nearest to residential areas

5.3 Water and Wastewater

- Lined concrete washout facility to contain all washout water and residual concrete
- Two-stage settling pond system to treat washout and cleaning water prior to reuse or discharge
- Monitoring of effluent quality prior to discharge in accordance with EPA standards
- Prohibition of direct discharge of untreated washout water to drainage canals
- Designated filling area with secondary containment bunding

5.4 Spill Prevention and Emergency Response

- Spill response kits maintained on-site at all times
- Emergency response plan developed and communicated to all site personnel
- Regular site inspections for evidence of fuel or chemical leaks

5.5 Waste Management

- Waste segregation at source (general waste, hazardous waste, construction debris)
- Waste oil and lubricants stored in dedicated labelled containers; collected by licensed waste contractor
- Domestic waste collected regularly and disposed at approved municipality facilities
- No open burning of waste on-site

5.6 Occupational Health and Safety

- Mandatory use of appropriate PPE (helmets, boots, gloves, dust masks, hearing protection)
- Worker induction and training on environmental and safety procedures
- First aid facilities and trained first aider available on-site at all times
- Regular workplace inspections and safety audits

5.7 Environmental Monitoring and Reporting

- Regular environmental inspections conducted by CRBC Environmental Unit
- Monitoring of effluent quality from settling ponds
- Dust and noise monitoring as required or directed by the EPA
- Incident reporting to EPA as required by law

6. SUMMARY OF PUBLIC CONSULTATIONS

CRBC acknowledges the requirement for public consultation with key stakeholders in accordance with the Environmental Protection Act and EPA guidelines. The following consultations have been undertaken or are planned:

Neighbourhood Democratic Council(NDC)	Consultations held with Good Hope to No. 51 Village NDC representatives regarding project activities, anticipated impacts, and proposed mitigation measures.
Nearest Residential Community	Community members within the nearest residential area (approximately 177 metres) have been notified of the proposed project and its temporary nature.
Regional Democratic Council	Notification provided to the relevant Regional Democratic Council for Region 6 (East Berbice–Corentyne).

Formal minutes and records of consultations conducted are available upon request and will be submitted as appendices to this Project Summary as required by the EPA.

CRBC is committed to ongoing community engagement throughout the project lifecycle and will address any concerns raised by stakeholders in a timely and transparent manner.

7. ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

7.1 Assumptions

- The project will operate in accordance with all applicable Guyana environmental regulations and EPA requirements
- Raw material supplies (aggregates, cement, water) will be sourced from approved and licensed suppliers
- The site has been confirmed as suitable for the proposed use by the landowner and relevant NDC
- No previously unknown contamination, cultural heritage sites, or sensitive ecological features exist within the project footprint

7.2 Uncertainties

- Final concrete production volumes will be determined by the highway project's construction programme, which may vary
- The precise composition and volume of effluent discharge will depend on operational conditions; monitoring will be conducted to confirm compliance

7.3 Gaps in Knowledge

- Detailed baseline soil and groundwater quality data for the specific site have not yet been formally collected; baseline sampling is recommended prior to full site mobilisation
- Formal ecological survey of the site has not been conducted; given the disturbed nature of the site, no significant ecological constraints are anticipated
- Full chemical analysis of effluent from settling ponds will be conducted during operations and reported to the EPA

8. NON-TECHNICAL SUMMARY

Summary for the General Public

China Road and Bridge Corporation (CRBC) is proposing to set up a temporary concrete batching plant at No. 48 Village, Corentyne, Berbice, Guyana. This plant will produce ready-mix concrete specifically to support the upgrading of the Palmyra to Moleson Creek Highway – an important road project in Guyana.

A concrete batching plant is a facility where ingredients such as cement, sand, stone, and water are carefully measured and mixed together to produce concrete, which is then transported by mixer trucks directly to construction sites. By setting up the plant close to the highway works, CRBC can ensure that fresh, high-quality concrete is available quickly and efficiently, which helps the road project run smoothly.

The plant is planned to operate for approximately four years (from November 2025 to November 2029) and will cover an area of about 4 acres. Once the highway project is complete, the entire plant will be dismantled and the land restored to its original condition.

We understand that any industrial facility can have some effect on the surrounding environment and community. The main concerns associated with this type of plant are dust from cement and aggregates, noise from machinery, and wastewater from cleaning the equipment. CRBC has prepared a plan to manage these issues, including:

- Spraying water regularly to keep dust levels low
- Fitting cement silos with dust filters
- Collecting and treating all washout water before it is discharged or reused
- Maintaining equipment properly to reduce noise
- Ensuring safe storage of fuel and chemicals with containment systems to prevent spills

The project will create employment opportunities for local community members and will contribute to the development of an important national road infrastructure that will benefit the people of Berbice and Guyana as a whole.

CRBC is committed to operating this facility responsibly and in full compliance with the laws and environmental standards of Guyana. We welcome any questions or concerns from the community and will work together with the Environmental Protection Agency (EPA) and local authorities to ensure the project is carried out in the best interests of both the environment and the people of Guyana.

Appendix



