ROYAL MANUFACTURING INC.

ECO-INDUSTRIAL DEVELOPMENT (EID)

PROJECT SUMMARY & ENVIRONMENTAL SCREENING BRIEF

Location: Little Diamond, East Bank Demerara

Project Area: Approximately 70 Acres

Proponent: Royal Manufacturing Inc.

Prepared for: Environmental Protection Agency (EPA), Guyana

TABLE OF CONTENTS

PROJECT SUMMARY TABLE

Category	Details
Project Title	Royal Manufacturing Inc. – Eco-Industrial Development (EID)
Proponent / Developer	Royal Manufacturing Inc.
Registered Address	Lot 14 – 16 Industrial Area, Little Diamond, East Bank Demerara, Guyana
Postal Address	Same as above
Company Rep:	Ms. K. Geer (231-2993)
Env. Consultant	Mr. Omar Persaud - (653-0629)
Telephone Number	+592 231 2993
Project Location	Little Diamond, East Bank Demerara,
GPS Coordinates (Approx. Centre)	372388.65 m E 742640.54 m N (WGS84, UTM, 21N)
Total Land Area	≈ 70 acres
Current Land Use	Idle, previously agricultural lands (abandoned sugar estate lands with secondary vegetation)
Proposed Land Use	A master-planned Eco-Industrial Park supporting manufacturing, processing, warehousing, and administrative facilities
Construction Phase Duration	Approximately 12 – 18 months
Investment	$2,000,000 USD

1. INTRODUCTION AND PURPOSE OF THE PROJECT

Royal Manufacturing Inc. proposes the development of a master-planned Eco- Industrial Development (EID) at Little Diamond, East Bank Demerara. The project seeks to establish a modern, centrally regulated industrial estate that consolidates compatible manufacturing, processing, warehousing, and support services within a single, purpose-designed footprint.

The primary objective of the project is to support Guyana's rapidly expanding industrial and construction sectors while avoiding the environmental, social, and planning challenges associated with uncoordinated industrial sprawl.Circular-economy principles, industrial symbiosis, and international best-practice environmental management guide the project. By clustering industrial activities within a regulated estate equipped with shared utilities and centralised environmental impact controls, the EID significantly reduces cumulative environmental impacts relative to scattered standalone facilities.

This Project Summary and Environmental Screening Brief has been prepared to support the EPA's determination of the appropriate level of environmental authorization and to demonstrate that, with the proposed design and mitigation measures, environmental and social impacts will be low, localized, and not significant.

2. PROJECT PROPONENT AND DEVELOPMENT VISION

Royal Manufacturing Inc. is a Guyanese industrial development company established to support national infrastructure growth and industrial modernisation. The company's development philosophy is rooted in the belief that industrial growth must occur within structured, environmentally responsible, and socially accountable frameworks.

The Eco-Industrial Development is envisioned as a national benchmark industrial estate that demonstrates how modern manufacturing, environmental protection, and economic growth can coexist. The project integrates centralised waste management, wastewater treatment, energy-e□icient systems, circular resource use, and digital monitoring as core elements of estate operations. The development also prioritizes local employment, skills transfer, and community engagement.

This project will see an investment of approximately $2,000,000 USD in the local economy.

3. SITE LOCATION, EXISTING LAND USE AND ENVIRONMENTAL SETTING

The proposed Eco-Industrial Development is located at Little Diamond, East Bank Demerara, approximately four kilometres east of the East Bank Public Road and immediately south of the Mocha–Diamond corridor. The site benefits from direct access to the expanding national highway network, including the Heroes Highway and the New East Bank Highway, while remaining spatially separated from dense residential settlements.

The development occupies approximately 70 acres of previously cultivated sugar estate lands that have remained idle for several decades. Current land cover consists of secondary regrowth vegetation, abandoned drainage canals, and compacted agricultural soils. The terrain is flat and characteristic of the East Demerara coastal plain, with elevations generally between 1.0 and 1.5 metres above mean sea level. Soils consist predominantly of clayey alluvium with localized organic layers.

There are no natural forests, wetlands, protected habitats, or ecologically sensitive ecosystems within or immediately adjacent to the project footprint. All existing drainage features are artificial remnants of the former plantation drainage network. The site has therefore already undergone extensive historical modification, and the proposed development does not involve conversion of pristine or high-value natural ecosystems.

Surrounding land uses include industrial activities to the west and emerging residential communities at Little Diamond, Great Diamond, and Mocha Arcadia further outward. The site's historical use, drainage characteristics, and proximity to transport corridors make it highly suitable for planned industrial redevelopment.

Map 1: Location and Access to the Project Site

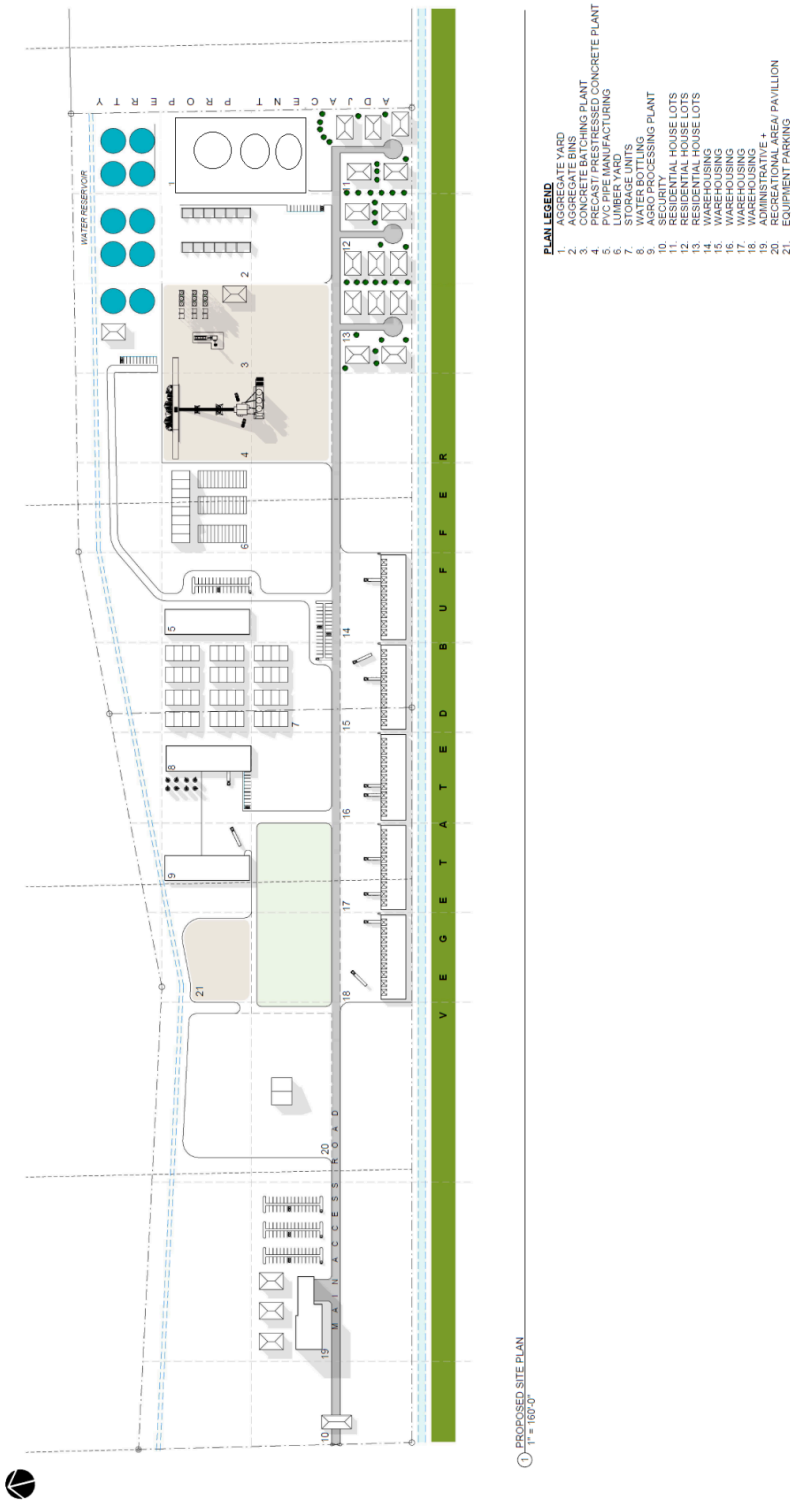
4. OVERALL PROJECT DESIGN CONCEPT AND LAYOUT

The Eco-Industrial Development is designed as a centrally managed industrial estate where multiple industrial tenants operate within a coordinated environmental and infrastructural framework. Rather than functioning as isolated facilities, all tenants share utilities, waste management systems, traffic circulation systems, and estate-wide environmental oversight.

The estate will accommodate concrete batching and precast manufacturing, PVC and plastic manufacturing, agro-processing, water bottling, timber processing, warehousing and logistics operations, administrative offices, hazardous waste storage, internal road networks, drainage infrastructure, fire-water reservoirs, and staff welfare facilities.

The layout deliberately positions higher-intensity industrial activities toward the interior of the site, while landscaped buffer zones are established along estate boundaries and transport corridors. These buffer zones serve to attenuate noise, intercept dust, provide visual screening, and enhance the local micro-ecology. Internal circulation routes separate heavy vehicles from pedestrian movement to enhance safety and operational efficiency.

A defining feature of the estate is the integration of industrial symbiosis, whereby waste or by-products from one operation are reused by another wherever feasible. This transforms waste into a resource and significantly reduces off-site disposal requirements.



1 PROPOSED SITE PLAN
1" = 160'-0"

Map 2: Proposed Site Layout

5. DEVELOPMENT PHASING AND CONSTRUCTION METHODOLOGY

Development will occur in two structured phases. Phase One focuses on site preparation and core infratructure development. Activities include vegetation clearing, re-grading, drainage rehabilitation, construction of new stormwater channels and retention systems, internal road construction, installation of utility corridors for water, electricity and communications, construction of perimeter security fencing , and development of the central administrative complex. Construction impacts at this stage are temporary and fully reversible. Phase Two involves construction and commissioning of the industrial and warehousing facilities, installation of centralized wastewater and fire-water systems, activation of environmental monitoring infrastructure, and commencement of industrial operations. Construction employment is estimated at 150–200 persons, while long-term operations are expected to generate 250–400 permanent jobs.

6. INDUSTRIAL OPERATIONS AND EMBEDDED ENVIRONMENTAL CONTROLS

All industrial operations within the estate are governed by a centralized Estate-Wide Environmental Management System (EMS). This system regulates air emissions, wastewater, noise, hazardous materials, waste handling, emergency response, and environmental monitoring.

Concrete production and precast manufacturing utilize fully enclosed batching and conveyor systems. Cement is stored in sealed silos fitted with high-e□iciency dust filtration units. All wash-down water is routed through sedimentation and neutralization systems prior to reuse or safe infiltration. Settled residues are reused internally as construction materials.

PVC and plastic manufacturing operates under closed-loop extrusion systems. All o□- spec material and production scrap are granulated and reintegrated into the manufacturing cycle. Localized air extraction and filtration systems control gaseous emissions.

Agro-processing operations incorporate hygienic washing, grading and processing systems. Organic waste is segregated and composted or reused in agricultural applications. Water bottling operations employ multi-stage filtration and ultraviolet disinfection systems. Packaging waste is transferred to licensed recyclers. Warehousing and logistics facilities feature engineered concrete floors, defined truck routes, digital inventory systems, and internal circulation controls that segregate pedestrians from vehicular movement.

7. UTILITY INFRASTRUCTURE AND ENVIRONMENTAL PROTECTION SYSTEMS

Water is supplied via licensed boreholes, municipal supply connections, and rainwater harvesting systems. Extraction and consumption are digitally metered. Storage is provided through elevated tanks and ground-level reservoirs.

Wastewater is managed through two fully segregated networks. Sanitary wastewater is treated through GNBS-compliant septic systems and absorption fields. Industrial wastewater undergoes screening, oil-water separation, sedimentation, pH adjustment, and final disposal through engineered soakaways. No untreated e□luent is discharged to natural watercourses.

Stormwater management relies on rehabilitated estate canals, newly constructed channels, and retention ponds with controlled discharge structures. The system is designed for extreme rainfall events and will improve existing drainage performance without increasing flood risk.

Electricity is supplied from the national grid via a dedicated substation. Diesel backup generators operate within bunded and acoustically treated enclosures. Energy-e□icient lighting, motors, and future solar photovoltaic integration reduce overall energy demand.

8. WASTE AND HAZARDOUS MATERIALS MANAGEMENT FRAMEWORK

Solid, liquid, and hazardous wastes are managed under a unified estate-wide framework. All waste is segregated at source. Concrete, plastics, timber, cardboard and organic waste are recycled or composted internally. Residual waste is removed by EPA-licensed contractors to approved disposal facilities.

Hazardous materials such as oils, chemicals, batteries and contaminated equipment are stored within a centralized bunded hazardous waste facility constructed with impermeable floors, fire suppression systems and controlled ventilation. All hazardous waste movements are documented under cradle-to-grave tracking procedures.

9. ENVIRONMENTAL IMPACTS ASSESSMENT AND SIGNIFICANCE DETERMINATION

Air quality impacts during construction are limited to temporary dust and equipment emissions. During operations, emissions are controlled through enclosed systems and filtration. Residual air quality impacts are low and not significant.

Noise impacts are temporary during construction and well controlled during operations through spatial zoning, acoustic enclosures and landscaped bu□ers. Residual noise impacts are not significant.

Water resources are protected through strict separation of stormwater and wastewater systems, bunded fuel storage, and engineered treatment processes. No contamination of surface or groundwater is anticipated.

Soil impacts are confined to construction works and permanently stabilized through paving and landscaping. Long-term soil degradation is not expected.

Biodiversity impacts are minimal as the site contains only disturbed secondary vegetation. Landscaped bu□ers and retention ponds will enhance local habitat value.

Net biodiversity e□ect is neutral to positive. Tra□ic impacts are accommodated through major highway access and internal circulation design. No significant public safety or congestion impacts are expected.

Socio-economic impacts are strongly positive through employment creation, industrial growth, improved land-use order, and community economic upliftment.

10. ENVIRONMENTAL & SOCIAL RISK SCREENING (SUMMARY)

All identified risks—air, noise, water, soil, biodiversity, traffic, hazardous materials, occupational safety, and community health—were assessed as Moderate to High before mitigation but are all reduced to Low or Very Low residual risk following application of engineering controls, management systems and policy safeguards. No High residual risks remain.

11. MITIGATION MEASURES AND ENVIRONMENTAL MANAGEMENT SYSTEM

Mitigation is embedded directly into design and operations. Dust suppression, acoustic enclosures, wastewater treatment, bunded chemical storage, emergency spill kits, fire suppression networks, routine inspections, and continuous monitoring operate under the centralized EMS. The EMS includes auditing, corrective actions, and continuous improvement mechanisms.

12. COMMUNITY, SOCIAL SAFEGUARDS AND SOCIO-ECONOMIC BENEFITS

The project includes structured stakeholder engagement, a formal grievance mechanism, local-hire policies, workforce training, and transparent environmental reporting. The estate will generate sustained employment, strengthen industrial supply chains, and reduce informal industrial development in residential areas.

13. CONCLUSION AND ENVIRONMENTAL ACCEPTABILITY

The Royal Manufacturing Inc. Eco-Industrial Development represents a strategically planned, environmentally controlled and socially beneficial transformation of degraded agricultural lands into a modern industrial estate. With the proposed design, mitigation measures and environmental management systems, all potential environmental impacts are assessed as low and not significant. The project is therefore environmentally manageable and suitable for Environmental Authorisation subject to standard EPA conditions and monitoring requirements.