

**ESSENTIAL FOODS GROUP PROJECT PROPOSAL**

Essential Foods Group, Region 3 Agro-Processing Facility.

Essential Foods Group Inc.

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## Introduction

This Environmental Impact Statement (EIS) is prepared for the proposed Essential Foods Group Agri-processing facility to be located in Region3, West Bank Demerara, Guyana. This facility aims to play a significant role in the Guyanese Agri-processing industry while adhering to the highest standards of environmental and social responsibility.

### Environmentally Sound Business Practices:

The design, construction, and operation of the facility will prioritize environmentally sound business practices. This includes:

- **Operations:** Utilizing energy-efficient technologies and renewable energy sources where possible to minimize our carbon footprint.
- **Raw Materials:** Implementing sustainable sourcing practices to ensure responsible agricultural practices by partnering with local rice farmers.
- **Waste Products:** Developing a comprehensive waste management plan that prioritizes waste reduction, reuse, and recycling.

### Environmental Impact Assessment:

This EIS will thoroughly examine the potential impacts of the Agri-processing facility on the surrounding environment, including:

- **Soil:** Assessing potential soil erosion and contamination risks, and proposing mitigation measures like proper land management practices.
- **Air:** Evaluating potential air quality impacts from dust generation and emissions during processing. Mitigation strategies like dust suppression systems and emission control technologies will be explored.
- **Water:** Using well water with sustainable water management practices and proper wastewater treatment is essential.
- **Noise:** Evaluating potential noise pollution during construction and operation. Measures like noise reduction equipment and strategic facility design will be considered to minimize noise impact.

### Positive Social Impacts:

This project is committed to creating positive social impacts within the local community. This includes:

- **Increased Business Opportunities:** The facility will create opportunities for local businesses by prioritizing sourcing of materials and services from the surrounding community.
- **Employment Opportunities:** The project will generate significant employment opportunities throughout construction and operation phases, with a focus on hiring from the local workforce.

- **Community Partnerships:** We are committed to building strong partnerships with local communities through open communication, participation in community events, and exploration of potential social development programs.

This EIS demonstrates our commitment to environmental stewardship and social responsibility. We believe this project will contribute significantly to the economic and social development of the region while minimizing environmental impacts.

Following this introduction, the EIS will provide detailed information on the proposed facility, the environmental and social baseline conditions, potential environmental and social impacts, mitigation measures, and a comprehensive monitoring plan.

## **1.0 Description of the location**

Essential Foods Group, Inc (“EFG”) acquired a 10-acre plot of land in Uitkomst, located on the West Bank of the Demerara River in Region 3, Guyana, South America. The land is relatively flat with minimal vegetation and is composed of grey clay. Its coordinates are 6°47'03" N, 58°14'38" W. The plot measures 179 feet along the southern boundary, 227 feet along the northern boundary, and has a length of 2143 feet on both the eastern and western boundaries.

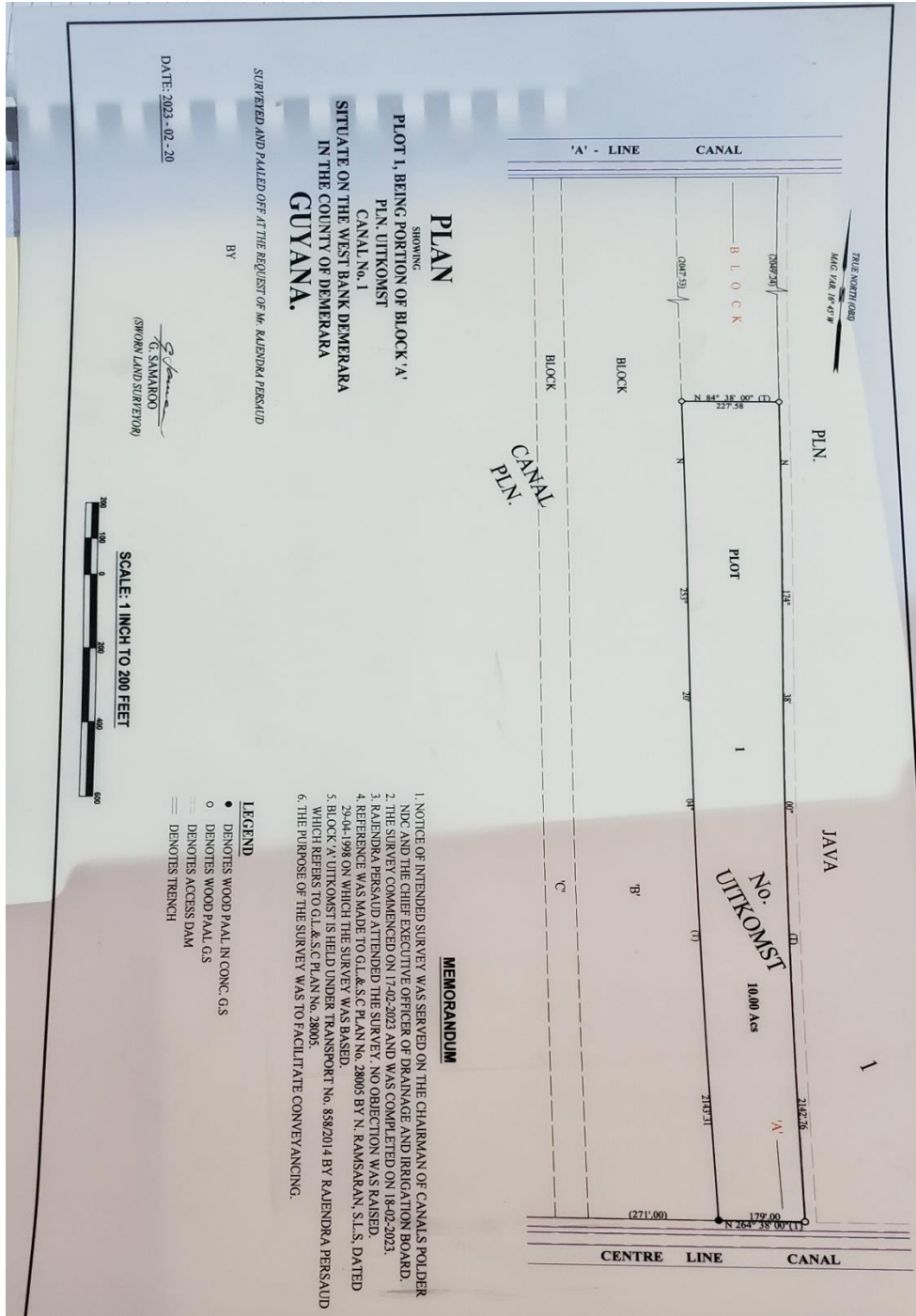
Previously used for rice cultivation, the land was purchased with the intention of developing a proposed rice mill and Agro-processing facility. On the eastern boundary, there are two residential communities, Onderneeming and Westminster, located approximately 400 to 700 meters away. Additionally, a newly installed oil and gas line lies 400 to 500 meters from the plot, but it does not interfere with EFG's operations, nor will EFG's operations affect the oil and gas line.

The western, southern, and northern boundaries are surrounded by agricultural lands, which were previously used for rice plantations but are now being utilized for other crops, such as pineapples. The plot is situated 7.37 kilometers from the nearest hospital, 2.16 kilometers from the nearest school, 6.50 kilometers from the nearest river, sea defense, and protected areas, 1 kilometer from the nearest water treatment plant, and 1.3 kilometers from the nearest religious building.

See Fig. 2 for more details. The wind direction on the plot is eastward, ensuring that residents of both Onderneeming and Westminster are not at risk from dust or smoke emissions.

See file attached. Fig 1

Attachment: Survey / Cadaster Plan



See file attached. Fig 2

Attachment: Map of Location



This map is a visual summary of the location and its surroundings, showing the communities of Onderneeming and Westminster on the Eastern Boundary of the site and on the Western, Southern and Northern boundaries, agricultural lands.

## **1.1 The Project Design**

The EFG Region 3 Argo-Processing project was designed with a primary emphasis on practicality and functionality, ensuring its design seamlessly integrates with its intended purpose. The project prioritizes green solutions, demonstrating a strong commitment to sustainability by leveraging environmentally friendly approaches to minimize adverse impacts. Additionally, the project incorporates effective and efficient measures to combat all forms of pollution, reflecting a conscientious effort to address and mitigate risks associated with environmental degradation.

## **1.2 Associated activities**

The initial phases of the project have seen the completion of crucial activities, including the formation of the company, laying a solid foundation for the project's execution. Land procurement and assessment have also been successfully accomplished, securing the necessary space and evaluating the site's suitability. Planning, designing, and seeking necessary approvals are currently ongoing, involving meticulous planning and innovative design to ensure alignment with project goals.

Once the construction phase is completed, rigorous testing and feedback will be conducted to ensure proper training and functioning of equipment. Inspections will play a pivotal role in ensuring compliance with quality standards. Finally, the project will transition into production, culminating the production of high-quality products.

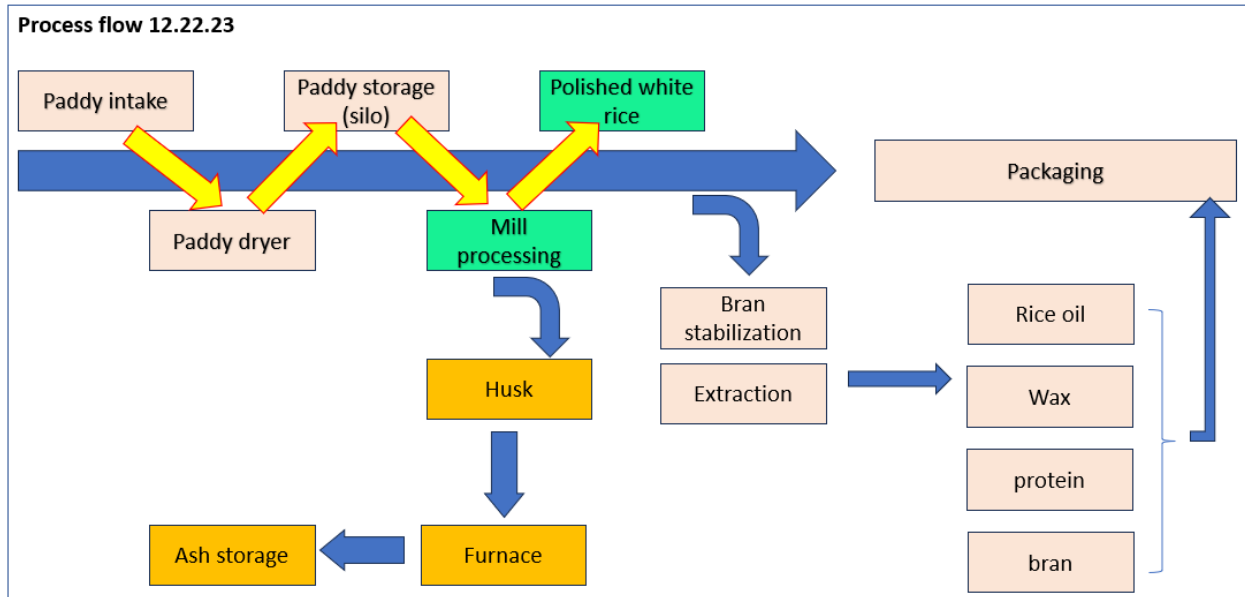
## **1.3 All stages of the project from raw materials to finished products**

**A.** The initial stage of production begins with the crucial process of paddy intake, where raw materials are received and assessed for quality and quantity. Following this, the paddy undergoes thorough grading, a systematic procedure that categorizes it based on various characteristics to ensure consistency and facilitate subsequent processing. Next, the graded paddy enters the drying phase, an essential step to reduce moisture content to optimal levels, enhancing storability and preserving quality throughout the production chain. These initial stages lay the foundation for the seamless progression of the production cycle, ensuring the quality and integrity of the final output.

**B.** The subsequent stages of the production process involve the milling of the processed paddy to extract and refine the rice kernels into their final form. After milling, rigorous testing procedures are implemented to verify the quality and characteristics of the rice, ensuring it meets stringent standards and specifications. Once the rice passes these tests, it is carefully packaged using methods that preserve its freshness and integrity. The packaged rice then undergoes a comprehensive final quality assessment, where it is

thoroughly scrutinized and evaluated to ensure it adheres to the highest quality benchmarks before reaching the market for distribution and consumption. These sequential stages are conducted with precision, guaranteeing superior-quality rice products.

Fig. 3



C. Continuing its commitment to a low to zero waste approach, EFG's third stage involves extraction of all remaining materials from the production process to ensure maximum utilization and minimal waste (see fig.3). These extracted materials undergo thorough testing to guarantee their quality and adherence to established standards, affirming their suitability for subsequent use. After quality assurance, the materials are systematically packaged using sustainable methods that prioritize eco-friendliness and durability. A final round of stringent quality assessments ensures that the packaged materials meet the highest quality benchmarks before being directed for distribution. This approach underscores the project's dedication to sustainability and responsible resource management throughout the production cycle.

### 1.3.1 Source of utility services

#### A. Water supply

The water for the production process will be sourced from an on-site well specifically installed for this purpose. This dedicated water source is located within the compound to provide a consistent supply essential for power and ancillary stages of production. Its on-

site positioning ensures convenient and efficient access to the necessary water resources, emphasizing a self-sufficient and sustainable approach while minimizing reliance on external sources. Additionally, rigorous measures will be implemented to ensure the quality and purity of the water drawn from this well, guaranteeing its suitability for production processes and compliance with stringent quality standards.

## **B. Potable water**

All potable water necessary for the production processes will be generated through a specialized steam application system designed specifically for this purpose. This innovative approach uses steam to produce and purify potable water, ensuring high levels of cleanliness and quality.

By utilizing this steam-based system, the production facility will have a self-sustaining method for generating potable water, reducing dependency on external sources while maintaining stringent hygiene standards.

This method underscores the project's commitment to resource efficiency, innovation, and sustainability, ensuring a reliable and consistent supply of safe, drinkable water for various operational needs within the production facility.

## **C. Sewer**

EFG intends to implement the septic system as illustrated in the attached building plans. This planned septic system is a crucial component of the infrastructure, designed to efficiently manage and treat wastewater and sewage within the facility. Following the proposed design, the system aligns with environmental regulations and standards, ensuring responsible waste disposal and minimizing environmental impact. By adhering to these specified plans, EFG underscores its commitment to sustainable practices and responsible waste management, ensuring compliance with guidelines while prioritizing the preservation of surrounding ecosystems and communities.

*Shown on attached building plan.*

## **D. Electricity**

At EFG, we're committed to sustainability. We plan to install an onsite turbine specifically designed to meet our electrical needs, using paddy husk as its fuel source. This demonstrates our dedication to utilizing renewable resources. Additionally, we will integrate an exhaust heat recovery system to support our paddy drying process. By harnessing this recovered heat, we aim to maximize efficiency and minimize waste, repurposing the ash generated within our downstream operations. This endeavor reflects

our ongoing commitment to sustainable energy production and responsible operational practices.

**i. Back-up power**

The backup power supply system will be established through a direct connection to the Guyana Power and Light (GPL) grid. This integration will serve as a reliable contingency measure, ensuring uninterrupted power provision during annual maintenance cycles.. By leveraging the stability and accessibility of the GPL grid, our setup guarantees continuous and seamless operations, allowing us to maintain productivity and service delivery without interruption. This connection underscores our commitment to reliability and readiness, providing a dependable backup power solution for sustained functionality and operational resilience.

**E. Communication**

All communication will be done through Satellite and internet services in Guyana. EFG will be working with the GTT (Guyana Telephone and Telegraph Company.)

**F. Waste management**

Our plant is proudly embracing the ethos of a 'Green Plant,' setting the standard for minimal waste output within our operations. As part of our commitment to sustainability, we are dedicated to utilizing every aspect of the paddy we process, ensuring no resource goes untapped.

The only waste generated, water from the rice polishing process, will be repurposed for responsible use in our landscaping and shrubbery watering systems. This closed-loop system maximizes efficiency and minimizes environmental impact. Additionally, we are actively pursuing responsible waste management practices for non-agricultural waste.

All plastic and paper waste within our facilities will be systematically collected by a reputable waste management company. We will select a waste management partner based on their commitment to environmentally conscious practices, aligning with our values of sustainability and responsible resource utilization. This approach underscores our dedication to minimizing our ecological footprint while fostering a culture of environmental stewardship within our operations.

#### **1.4 Project Size, e.g., Capital investment, Number of Employees Projected for each stage of the project, rates of production, etc.**

The EFG Region 3 Agro-Processing Facility is a medium-scale initiative with a total investment of \$5.5 million USD. To ensure seamless operations and efficient management, the project will employ a dedicated workforce of roughly 25 full-time operational staff supported by an additional 25 full-time administrative personnel.

With a strategic focus on productivity and output, EFG aims to process 120,000 metric tons of paddy annually, meeting market demands while maintaining consistent, high-quality output. This framework enables efficient resource management, optimized production capacities, and the upholding of the excellence expected from our operations.

#### **1.5 Non-Technical Summary of the project**

EFG is constructing the main office for the EFG Plant, which will serve as the control center for our eco-friendly food production project. This building will house staff responsible for administrative functions, including payroll, human resources, finance, and operations administration.

Our goal is to address food security issues in the Caricom region by increasing local food production instead of relying on imports from outside Caricom countries. This office will be the hub for all planning and decision-making related to our food production stages.

The EFG Agro Processing Facility will be the site where operations are executed. This facility will encompass approximately 77,000 square feet of factory space, surrounded by roads and utilities to ensure smooth operations. In the first year, EFG plans to process rice, and by-products including rice protein, bran, rice wax, and rice oil.

#### ***Our project happens in three main parts:***

1. In the first year we'll focus on processing rice and everything that comes from rice.
2. After the first five years we'll also start working on processing cocoa to make different products.
3. In the sixth year we'll expand to processing coconuts for various products as well.

This project aims to bring to the West Bank of Demerara much needed agricultural technological development while providing jobs and job security for many individuals by taking advantage of a three (8hr) eight hour shifts system.

## **1.6 Project Duration**

### Company formation and registrations:

*A total of 6 months duration period.*

### Location and land assessments:

*A total of 8 months duration period.*

### Planning, design, and approvals:

*It is expected to be completed in a 2 months period.*

### Construction, testing and feedback, inspections, and production:

*EFG expects to complete this phase of the project in 6 months*

## **1.7 Potential effects on the environment**

### **1. Onsite Well for Water Needs:**

EFG recognizes the importance of responsible water usage and aims to minimize its environmental impact. To achieve this, the company will construct an onsite well to meet its water requirements. This approach reduces dependency on external water sources and ensures potable (safe for drinking) water is used only where necessary. By strategically separating water sources, EFG conserves clean water for essential needs while using well water for industrial or non-potable purposes, thereby contributing to water conservation efforts. For more details, see the EMP.

## **2. Dust Management through Cyclone Devices:**

The processing of agricultural products, such as rice, can generate dust that might impact the environment. To address this concern, EFG has equipped the plant with cyclone devices strategically positioned along the processing lines. These devices efficiently trap and minimize airborne dust particles, reducing their release into the environment by an impressive 99%. Capturing the majority of the dust and rice bran during this process is crucial, as EFG plans to store the rice bran for future use and marketing.

By capturing dust at its source, these cyclone devices (Vertex Vacuums) help maintain a cleaner and healthier working environment while mitigating potential impacts on the surrounding area. For more details, see the EMP.

## **3. Management of Ash and smoke from Paddy Husk burning:**

Burning paddy husk can generate ash and smoke, potentially contributing to environmental issues if not properly managed. To mitigate these concerns, EFG implements a carefully controlled process. The husk burning is conducted at specific times, durations, and temperatures designed to significantly minimize the production of fly-ash and smoke. Additionally, the generated ash is collected and recovered for downstream processing. This recycling of ash ensures that by-products are effectively utilized within the plant's operations, minimizing waste and eliminating potential environmental repercussions associated with improper ash disposal.

## **4. Non-Agricultural Waste Management**

EFG is dedicated to minimizing solid waste in accordance with our 'Green Plant' ethos. To achieve this, we will develop a comprehensive Solid Waste Policy and partner with a local waste management company, such as Puran Brothers Waste Collection Company, to ensure weekly waste collection from the plant. Additionally, we will implement a plan to reuse paper and sort waste by type, ensuring that only essential waste is disposed of.

## **5. Noise Pollution Mitigation**

(See EMP)

**NB: These measures underscore EFG's commitment to sustainable practices, prioritizing environmental responsibility and minimizing adverse impacts throughout its operations.**

**Details will be mentioned in the EMP Environmental Management Plan**