

PROJECT SUMMARY

Name of Project:

Poultry Farm, Hatchery & Processing Plant

Developer:

Camex Broiler Breeders Inc.

Contact Details:

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Date Prepared & By Whom:

September 10, 2021;

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1. DESCRIPTION OF THE SITE

The project site is comprised of 5 acres of agricultural land behind Pearl Village, East Bank Demerara in an area zoned for agricultural activities. This site, used for poultry rearing, is presently occupied by four, 20ft x 100ft wood and concrete chicken pens and living quarters for the farmhand. The project site is surrounded by vegetation which serves as a barrier against visual impacts. It is bordered to the north and east by similar agricultural activities, residential activities to the west and a canal to the south of the facility. This information is also presented on a map.

2. PROJECT DESIGN

The project is designed to last for a period of at least 20 years. The activities that are associated with all stages of the development of this project are outlined below.

a) Construction & Operation of a Hatchery:

A 2800 sq. ft. hatchery is proposed to be constructed to the northeastern section of the facility. It will be constructed from concrete and steel. Construction activities include marking, excavation, concreting, brick masonry, roof laying, flooring, and finishing. The activities that are associated with the operation of the hatchery are outlined below:

- 1) Receiving hatching eggs: hatchery will receive imported hatching eggs every week.
- 2) Traying and fumigating hatch eggs: Eggs will be trayed in egg setter and placed in fumigation chamber for fumigation with formaldehyde. Eggs not set immediately after receiving will be kept in cold storage at temperature of 65 °f.
- 3) Transfer of eggs: Eggs are transferred from setter to hatcher at the 19th day of incubation or when approximately 1% of the eggs are slightly pipped.
- 4) Hatch: When hatched, chicks are placed in chick boxes. Prior to moving to pens, chicks will be inspected to ensure they meet minimum standards checks. They are also vaccinated against common diseases including fowl pox and fowl cholera before they move to pens.
- 5) Moving to prepared pens: Chickens are transported to prepared pens onsite. Here, they will be raised for about 42 days until they are ready for processing. The pens and all equipment are completely cleaned before each new flock. Additionally, fresh wood shavings are placed on the concrete to give chickens a comfortable surface. They will be kept warm with forty-nine 40-watt bulbs (for each 100ft² of floor space) placed close to the ground.
- 6) Washing and cleaning: Hatchery will be cleaned between hatches. All equipment would be thoroughly vacuumed, scrubbed, disinfected, and fumigated.

b) Construction & Operation of a Processing Plant:

A 13000 sq. ft. single story poultry processing facility will be constructed onsite. The building will be constructed from concrete and steel. Construction activities include marking, excavation, concreting, brick masonry, roof laying, flooring, and finishing.

The operating processes of the Processing Plant are outlined in the steps below:

step 1: Poultry receiving and holding area

step 2: Electrical stunning: Suspension of chickens by their foot on moving line

step 3: Slaughter: Chickens are passed by a sharp mechanical blade that severs the jugular and carotid arteries in the neck. Any birds not killed by the machine are quickly killed by a person with a knife assigned to this area. Here, the birds are permitted to bleed between 55 seconds to two minutes and thirty seconds. Blood is collected in a bleeding trough.

step 4: Scalding: After bleeding, the chickens go through scalding tanks. These tanks contain hot water that softens the skin so that the feathers can be removed.

step 5: Defeathering: The chickens then go through the feather-picking machines, which are equipped with rubber “fingers” specifically designed to beat off the feathers. They are moved through a sequence of machines, each optimized for removing different sets of feathers. At this point also, the chickens are usually singed by passing through a flame that burns off any remaining feathers.

step 6: Removal of heads and legs: The heads of the chickens go into a channel where they are pulled off mechanically; the legs of the birds are removed with a rotary knife.

step 7: Evisceration: To minimize cross contamination, this step will be separated by a wall from the previous steps. Here the internal organs of the chickens are removed and the edible offal such as the liver are removed and are independently processed.

step 8: Cleaning and chilling: The organs are removed and the chickens are then washed thoroughly before inspection. They are then chilled to a temperature below 4 °c (40 °f) to keep fresh and clean.

step 9: Cutting, deboning, packing: Here chicken is cut-up into parts such as breast, legs, thighs, wings and packaged.

Full cleaning and sanitization of the facility will be done daily after facility closure with chlorine bleach.

c) Construction of an access bridge:

A separate access bridge will be constructed to provide direct access to the hatchery from the access road. The 8ft wide bridge will be constructed of concrete and steel. The area will be cleared of grass to facilitate construction.

d) Construction of Internal roads:

Approximately 750ft of internal roads will be constructed on the property to facilitate easy connection between operations on the property. Internal roads will measure 8ft in width. Construction entails marking the course of the road, using a motor grader to clear the area of grass, removing a thin layer of the topsoil with the grader blade, laying and compacting foundation layer with crushed stone above the level of adjacent land. Roads will be surfaced with concrete.

e) Accommodation for water tanks and generators

Utility services which include potable water and electricity for the facility will be provided by state agencies – The Guyana Water Incorporated and the Guyana Power and Light, respectively. To guarantee a constant and safe water supply to the facility, water will be stored onsite in 500-gallon black tanks from where it will be pumped to various areas onsite. Two 250 kW silent diesel generators will be on hand to ensure that there is no disruption to the electricity supply for the factory.

A 50ft x 40ft elevated platform will be constructed from concrete to the west of the facility to accommodate water storage tanks and generators. The areas for the water storage tanks and the generators will be separated by a concrete wall.

To guarantee a constant safe water supply to the facility, potable water that is supplied by the Guyana Water Incorporated (GWI) will be stored onsite in 500-gallons black tanks. To guarantee the safety of the water for food processing, the water will be treated chlorine.

f) Waste Management

Wastes generated from the operation of this facility will be responsibly managed in accordance with established environmental regulations to prevent and mitigate negative impacts to the environment.

A centrifuge system will be used to manage both solid and liquid waste. Solid and liquid waste from processing activities will be drained into a wastewater treatment facility onsite where it will pass through a centrifuge. This system separates the solid waste from the liquid waste. Separated solid waste which includes feathers, internal organs and fats will either be bagged and given to pig rearers as food for their pig stock or collected and disposed by an EPA compliant waste disposal company or composted. Remaining wastewater will be treated and discharged via pipes into the drainage canal behind the facility which drains into the Demerara River.

g) Decommissioning Phase

At the end of its lifetime, the project will be decommissioned in a way that protects the integrity of the environment and in accordance with the Environmental Protection Act. 1996. Decommissioning activities include:

- Removing all necessary aboveground structures and facilities from the site;
- Removing of equipment and vehicles from the site;
- Removing and clearing all waste from the site; and
- Re-establishing the terrain of the site.

3. PROJECT SIZE

The project will entail a capital investment of approximately 200 million dollars (G\$200,000,000) with an expected annual turnover of 200 million dollars (G\$200,000,000). Higher return on investment and a steady growth of business is expected as time progresses with the project generating direct employment opportunity for 10 persons during the initial construction phase and 40 persons during the operational phase.

4,000 – 6,000 chickens will be processed weekly at the facility. The expected monthly volume of production is 64,000 to 96,000 pounds of chicken. Chicken will be packaged whole and cut into pieces for offsite retail and wholesale.

4. Non-Technical Explanation of the Project

The proposed project is the establishment and operation of a Hatchery and Poultry Processing Plant at Lot C1, Plantation Pearl, East Bank Demerara on 5 acres of agricultural land.

The plant will be designed to hatch fertilized eggs, rear, and process chickens for meat production for at least 20 years. The project will focus on the growing need for healthy chicken meat to supply the local market. It will create employment for 50 persons in the community of Pearl and contiguous communities during its construction (10 persons) and operational (40 persons) phases. The project will operate at the highest standards to safeguard the environment and in accordance with the requisite laws and regulations of Guyana such as the Environmental Protection Act, 1996 and the Occupational Safety and Health Act, 1997.

The Hatchery would be constructed on the northeastern section of the land with a footprint of 2800 sq. feet. The Processing Plant would be constructed on the southwestern part of the land. It will be a single-storey facility with a total occupied area of 13000 sq. ft. Both the Hatchery and Processing Facility will be constructed of concrete and steel.

The project also entails the construction of additional facilities to support the main operation of the Hatchery & Poultry Processing facility. This includes an 8ft wide access bridge to the facility from the main access road and about 750ft of internal roads to link various operations on the property.

Each week, between 4,000 to 6,000 chickens will be processed at this facility. The facility will operate on a single shift from 8:00am to 5:00pm. Poultry processing will be done 2-3 times per week.

Waste will be managed to reflect the principles of sound environmental management in accordance with established environmental regulations to prevent and mitigate negative impacts to the environment.

A centrifuge system will be used to manage both solid and liquid waste. Solid and liquid waste from processing activities will be drained into a wastewater treatment facility onsite where it will pass through a centrifuge. This system separates the solid waste from the liquid waste. Separated solid waste which includes feathers, internal organs and fats will either be bagged and given to pig rearers as food for their pig stock or collected and disposed by an EPA compliant waste disposal company or composted. Remaining wastewater will be treated and discharged via pipes into the drainage canal behind the facility which drains into the Demerara River.

5. THE DURATION OF THE PROJECT (FOR EACH PHASE)

The project is designed to last for a period of at least 20 years. The construction phase of the project will take 9 months. The operational phase will be for a period more than 20 years. The decommissioning phase will last for one year.

6. ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

PHASE	ENVIRONMENTAL IMPACTS	PROPOSED MITIGATION MEASURES
Construction	<p>Impacts to land/soil:</p> <ul style="list-style-type: none"> • Impacts to land/soil will be from general site work including trenching, levelling, grading and excavation. Topsoil will be removed and temporary stockpiled from areas to be affected within the construction area. <p>Impacts to Air:</p> <ul style="list-style-type: none"> • Dust and emissions will result from soil works including bridge and internal road construction and from use of machinery. 	<ul style="list-style-type: none"> • Re-spread topsoil after the area has been rendered stable to build on. Compliance with existing regulations of managing topsoil during construction. • Occasionally sprinkle construction area with water to minimize dust. • Ensure all vehicle operators switch off engines when stationary - no idling of vehicles.
Operation	<p>Impacts to land/soil:</p> <ul style="list-style-type: none"> • Spillage or leakage of diesel for generator during transportation or storage. • Dust will also result from operation of the facility including handling of feedstock and litter. <p>Impacts to air:</p> <ul style="list-style-type: none"> • Emissions will routinely result from the use of generators. When in operation, carbon dioxide (CO₂), oxides of nitrogen (NO_x) and particulate matter may be produced. • Odours will mostly result from inadequate poultry bedding that is overloaded with manure relative to the amount of manure produced by the chickens, wet litter from leaky waterers, improper disposal of dead chickens, processing plant. 	<ul style="list-style-type: none"> • Compliance with site rules on storage and handling of fuel. • Regular inspection of storage facility to ensure proper operation. • Cover feedstock and litter when transporting. • Generators will be serviced regularly as per the manufacturer's specifications. • Common sense measures will be employed to manage odours: <ul style="list-style-type: none"> - adequate bedding will be provided for each set of chickens; - pens will be cleaned every day; maintain clean and tidy work site; - constant monitoring will be done for leaky waterers/pipes; and - feeding equipment will be cleaned regularly. - dead chickens will be promptly removed, secured, and taken to an approved landfill site in the area.

	<ul style="list-style-type: none"> • Odours will also result from transporting hatchery and hatchery waste to approved landfill <p>Impacts to water:</p> <ul style="list-style-type: none"> • Spillage during transfer of fuel to generators and maintenance of vehicles. • • Inadequate disposal of process waste. 	<ul style="list-style-type: none"> • Covered vehicles will be used for the transportation of litter and hatchery waste • Fuel storage area will be sited on concreted areas. A designated, concrete vehicle maintenance area will be set up and maintained. • A centrifuge system will be used to manage process waste. It will be serviced regularly to ensure optimum operation. Also, a grease interceptor will be installed at the facility to further treat wastewater. • Surface water quality will be routinely sampled and analysed for potential pollutants
Decommissioning	<p>Impacts to soil:</p> <ul style="list-style-type: none"> • Loss/contamination of soil during decommissioning of buildings • Spillages/ leakages of oil, fuel from machinery, equipment and vehicles impacting land and surface water. 	<ul style="list-style-type: none"> • Compliance with site rules on storage and handling of construction materials, fuel, oil products, etc. • Regular inspection to ensure proper operation.
	<p>Impacts to water quality:</p> <ul style="list-style-type: none"> • Pollution of surface water and groundwater resources due to spillage of fuel/oil or other hazardous substances in addition to, movement of vehicles and machinery/ equipment. <p>Impacts to Air quality:</p> <ul style="list-style-type: none"> • Emission of Green House Gases 	<ul style="list-style-type: none"> • Regularly inspect and clean drainage ditches. • Regularly inspect leachate collection and treatment facilities to ensure proper operational technical conditions • All vehicles must be regularly checked and their normal operational technical conditions shall be ensured. In case any leakage of oil or other liquid is observed, the vehicle must be moved to a paved impermeable area and be immediately fixed. • Groundwater and surface water quality shall be monitored at regular intervals during decommissioning. • Frequently check technical condition of vehicles and machinery. • Turn off equipment when not in use; do not idle. • Have in place a maintenance schedule; regularly service vehicles and machinery.