

PROJECT SUMMARY FOR COLLECTION AND TRANSPORTATION OF NON- HAZARDOUS SOLID WASTES

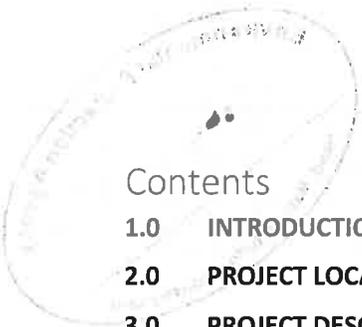


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1.0 INTRODUCTION

The Environmental Protection Act; Cap. 20:05 defines wastes as any matter which is discharged, emitted, or deposited in the environment in such volume, composition, or manner as to cause an adverse effect. Proper solid waste collection is essential for the protection of society's public and environmental health.

The collection and transportation of solid waste is a labor-intensive activity, accounting for approximately three-quarters of the total cost of solid-waste management. Public employees are often assigned to the task, but sometimes it is more economical for private companies to do the work under contract to the municipality or for private collectors to be paid by individual homeowners.

In Guyana, poor and untimely collection of solid wastes has led to indiscriminate and illegal dumping of solid wastes; a common occurrence within communities, particularly commercial zone areas with lots of activities on specific days during the week. Waste is often disposed of in available open areas, irrigation and drainage canals, and along roadway verges; resulting in contamination of waterways and its environs.

Guyana Waste Solution has entered into an agreement with the Ministry of Local Government and Regional Development for operation services at Esplanade Waste Disposal Facility at New Amsterdam. In this regard, the company intends to provide collection and transportation services for solid non-hazardous wastes to the communities in proximity to the disposal facility.

Further to providing waste collection and transportation services in Region 6, the company intends to expand its services to Regions 4, 5, 9, and 10.

2.0 PROJECT LOCATION

Guyana Waste Solution's operation of collection and transportation of solid non-hazardous wastes is a service-oriented project. The aforementioned services will be provided to communities in proximity to the Esplanade Waste Disposal Facility at New Amsterdam, given that wastes collected from the communities will be transported to the disposal Facility for final disposal.



Figure 1: Google Map showing Project Service Areas

The company will initiate its service-oriented project in Region 6 with the intention to expand to other regions including 4, 5, 9, and 10.

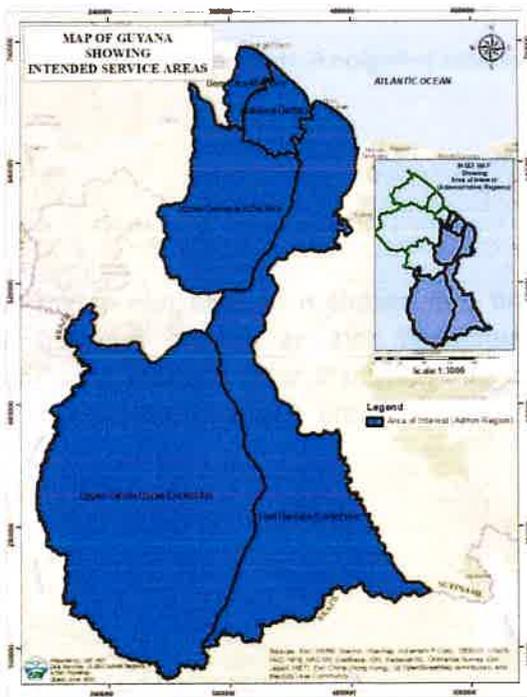


Figure 2: Map of Guyana showing Region of Interest for the Project

3.0 PROJECT DESCRIPTION

Guyana Waste Solution will employ sound environmental practices to provide efficient waste collection and transportation services. Solid non-hazardous wastes will be collected from residents, commercial entities, and private and public sectors utilizing seven (7) Dennis Eagle /DAF 75 Refuse Collection Trucks.



Figure 2: Photo of DAF 75 Refuse Collection Truck

The DAF 75 Refuse Collection Truck is a compactor, compression garbage truck consisting of sealed garbage containers, hydraulic systems, and operating systems. The entire vehicle is fully sealed, self-contained, self-dumping, and leachate in the compression process all enter the leachate chamber, which completely solves the problem of secondary pollution during transport.

Each truck has a capacity of 5 to 10 tons and loading is done at the rear of the truck. Compaction reduces the volume of garbage in the truck to less than half of its loose volume.

The task of selecting the optimal collection routes is a complex problem, especially for the service areas which are densely populated zones. The optimal routes will result in the most efficient use of the 18 employees and 7 trucks, and for the selection of such routes, the company will apply computer analyses that account for all the many design variables within the service areas. Variables include frequency of collection, haulage distance, type of service, and climate. Garbage collection will occur at least twice per month.

4.0 ENVIRONMENTAL IMPACTS OF PROPOSED OPERATION

4.1 Positive Environmental Impacts

The collection and transportation of solid wastes within the service areas will satisfy a demand for environmentally sound management of wastes generated in the Regions. The services will result in enhanced aesthetics in the Regions.

The availability of waste disposal services will reduce the littering and indiscriminate dumping of solid wastes by residents and commercial entities and the associated likelihood of health impacts associated with improper waste disposal in these areas. These impacts will extend over the duration of the services and will have positive residual impacts on the health and aesthetics of the Regions.

4.2 Negative Environmental Impacts

Gaseous exhaust consisting primarily of carbon monoxide and unburned hydrocarbons and fugitive dust emitted by the garbage collection trucks, as they conduct the service, may impact air quality. Noise levels above the alert threshold of 86 decibels and hazard threshold of 95 decibels will be produced from the trucks as they transverse through the communities.

Odors will be generated by the leachate as the garbage is compressed in the truck to reduce its volume. The aforementioned impacts will extend over the duration of the service within any one particular area and thus will be short-term and temporary.

5.0 MITIGATION PLAN

Mitigation measures to address the adverse impacts identified above on the physical environment are detailed below.

5.1 Air Quality

The air quality may be impacted by gaseous and fugitive dust emissions from the trucks during the conduct of the services.

Operation specifications mandate the provision of equipment that is no more than three years old. Trucks/Vehicles with exhaust emissions above designed limits will be removed from the project and replaced by another truck/vehicle that conforms to the emission standards. Further, the impact on air quality will be short-term and temporary.

5.2 Odors

Odors would be emitted during the collection of the waste when the waste is being upended from the storage bins to the collection trucks and during the compression process which will generate leachate. Each truck will be fitted with a leachate chamber that acts as a sump for leachate generated during the compression process.

5.3 Noise

The air quality may be impacted by noise emissions from the trucks during the transport of the waste. To mitigate this adverse impact, the project will ensure that trucks are serviced in accordance with maintenance specifications. This impact will also be short-term and temporary.

5.4 Records and Documentation

The project will maintain records of all mitigation measures implemented in all phases of the project. Records for each phase shall include the following:

- media impacted
- applicable regulations and standards
- mitigation measures
- effectiveness of mitigation

Records will be filed and maintained by the project.

6.0 REFERENCES

US Army Corps of Engineers Mobile District & Topographic Engineering Centre, December 1998, **Water Resources Assessment of Guyana.**

Website: <https://www.britannica.com/technology/solid-waste-management>

