Advance Health Care International

Developer: Dr. Kumar Sukhraj
Registered Business: Advance Health Care International
Address: 1799 Section C, Block X, Diamond, EBD
Telephone:615-2919; Email:advancehealthcareinternational@gmail.com

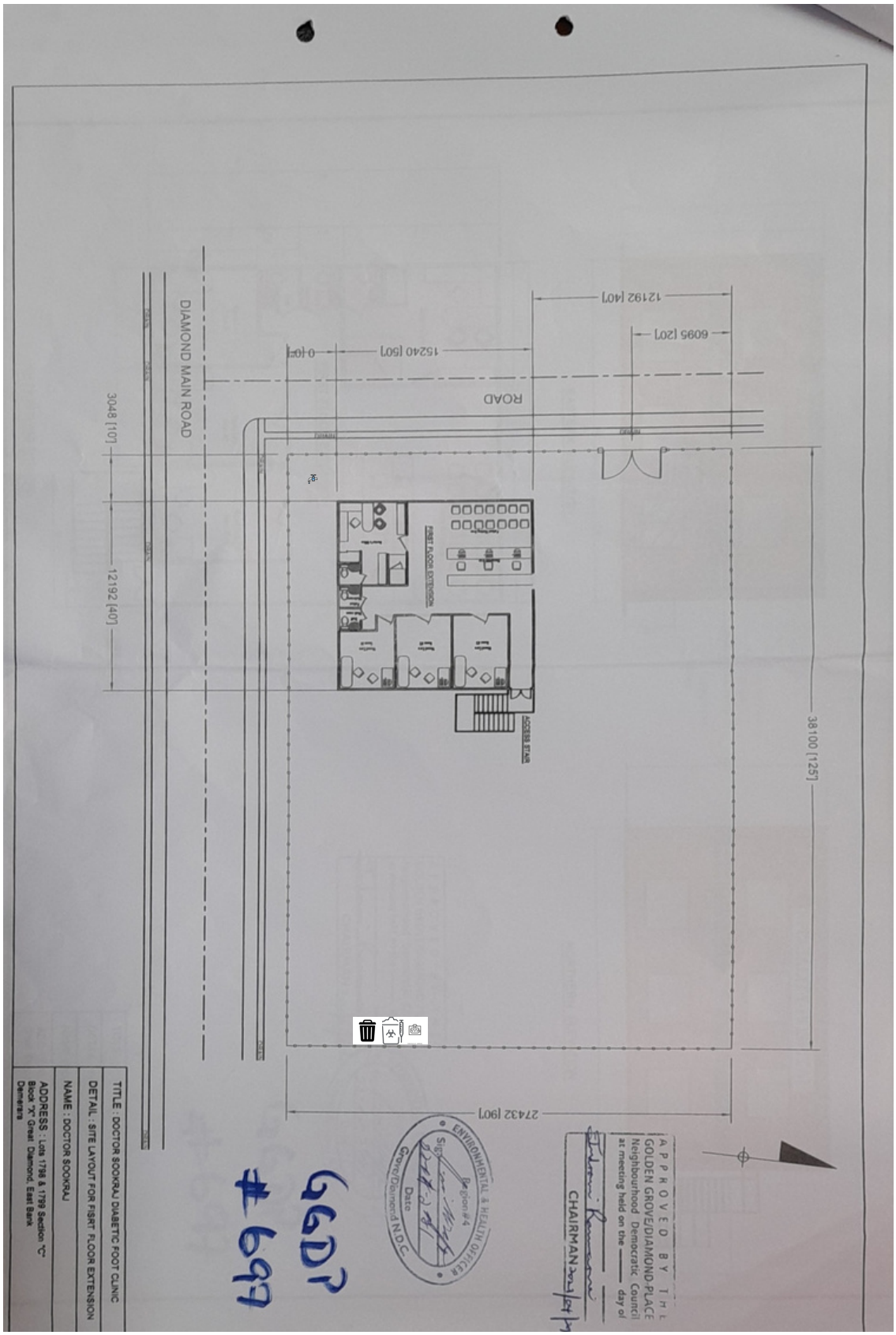
Date: 25th May 2023; Submitted by: Dr. Kumar Sukhraj, CEO

Site Description

- The site of Advance Health Care International (AHI) is located on Lot 1799 Section C, Block X, Great Diamond, East Bank Demerara.
- The site houses an outpatient health center facility, diabetic foot center, dental clinic, pharmacy, and medical laboratory. Walkways are covered and there is a water fountain along the northern wall adjacent to the patient waiting area, with a garden and lawn area north of the facility.
- It is located on the Northeastern corner of Diamond Main Road and 20th Avenue.
- The plot is bounded to the North, the West, and South by roads and council drains, and to the east by a residence separated by a solid concrete fence.
- The external council drains have been converted from earthen drains to concrete drains
- Waste water from the building is piped to concrete chambers on the property which is drained via pipes into the external concrete drains.
- The area of the site of Advance Health Care International is 11,325.53 square feet with a carpark of equal dimensions on the North-Western corner of Diamond Main Road and 20th Avenue.
- The site comprises a two-story building (the second story is currently being erected).
- The water inlet mains is located near the South-Western boundary. (See Plans attached below)
- There are two gates, one along the western boundary of the AHI facility which is used as the main gate for ingress and egress of staff, patients and visitors. The other gate is along of the southern boundary of the property and is intended to be the service delivery ingress and egress.
- A septic system is located near the eastern boundary.
- The main waste disposal area is also located near the eastern boundary
- A generator is also located along the eastern boundary.

Site Description

Site Description



Project Design

The project being developed and operated is a health center and diabetes foot care center working with a multi-disciplinary approach with the related services of psychiatry mental health, physiotherapy for rehabilitation, and dentistry. There are also ancillary services of a pharmacy and medical laboratory.

Construction of the facility begun in 2019 and the first floor was completed in January 2022.

Attached is the schedule of works for labor and materials for proposed two-storey doctor's office building.

WATER SUPPLY:
Water is recieved from GWI mains water supply

ELECTRICITY SUPPLY:

- Electricity is sourced from from GPL 1898Kwh
- A generator will be used during power outages; the capacity of the generator is 22KVA

WASTE DISPOSAL:

- Domestic, Clerical and Infectious waste is stored temporarily on site for collection by Puran Brothers. Infectious waste is stored under lock and key.

WASTE STORAGE:

- Domestic and Clerical waste is collected in appropriately colored bags and stored in large plastic receptacles. Infectious waste and sharps are collected in labeled bins lined with red bags designated for infectious waste and are routinely collected and stored under lock and key for collection by Puran Brother's Waste Management Services.
- Puran Brother's Waste Management Services has been hired through a contract to collect waste. Infectious waste collected by Puran Brother's is treated and disposed within the GPHC arrangement for treatment and disposal of infectious wast

Project Size

Capital Investment - $ 81,550,955.00

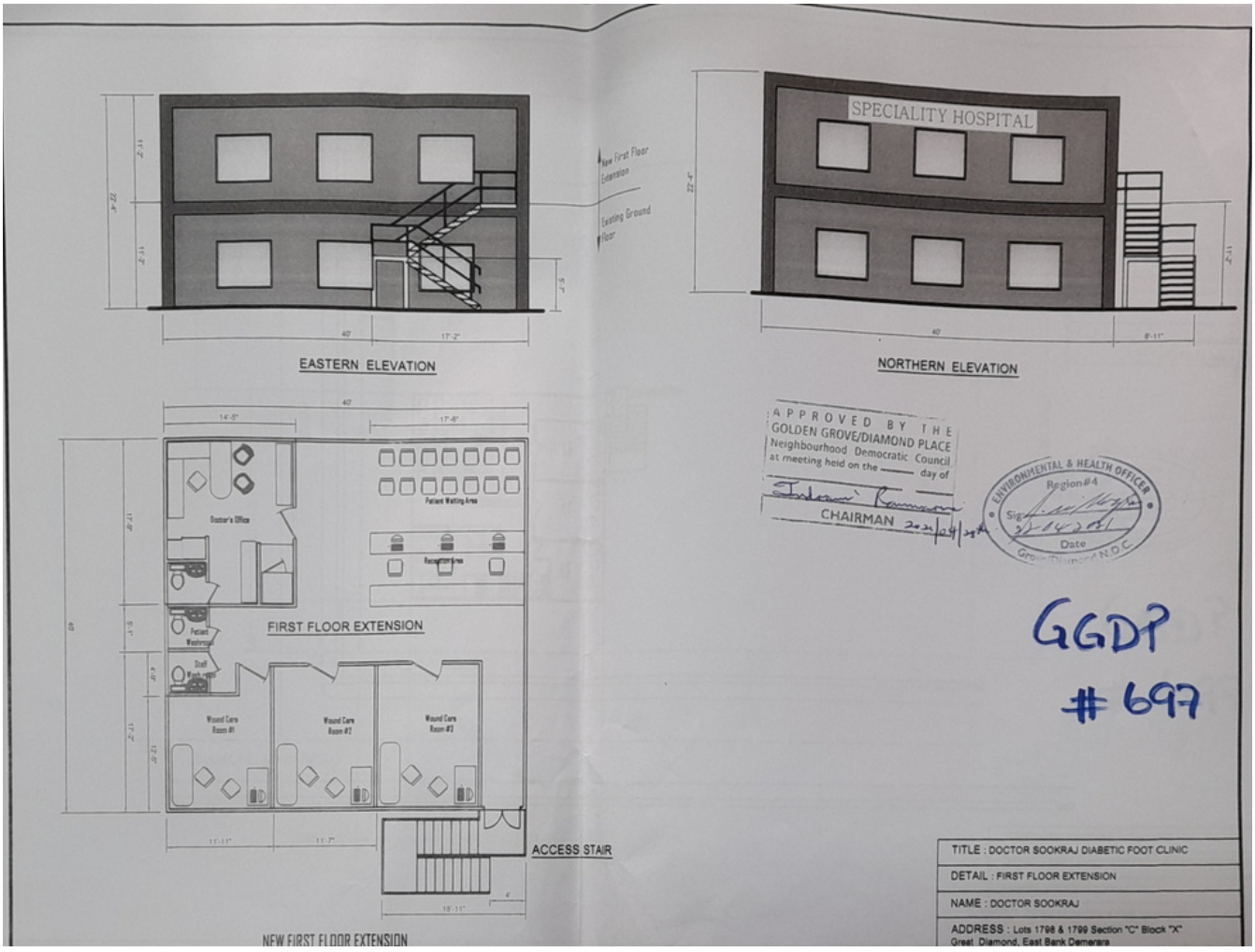
Number of Employees	Stage of Project
3	• Clearing and Filling to building Area
6	• Foundation , Pedestals, Retaining Walls & Ground Floor Slab
6	• Structural Steel frame
6	• Concrete Works to Superstructure
6	• Rainwater Goods
6	• External and Internal Blockwork
2	• Carpentry and Joinery
4	• Mental Work & Glazing
4	• Plasterwork & Other finishing
2	• Plumbing Installation
6	• Electrical, AC Installation, Fire Alarm & Data Network systems.
2	• Cupboards and Counters
2	• Painting & Decorating
6	• Septic Tank
5	• Glass Work

Project Size

Rate of Production

1st Story (Ground Floor) - 24 months (January 2019 - January 2022)

2nd Story - 12 months - 12 months (September 2022 - August 2023)



Project Summary

Advance Health Care International is a medical facility that is certified by the Department of Standards & Technical Services, Ministry of Health as a Health Facility (Health Centre), Out Patient Clinic, Diabetes Foot Care, and related services including Dentistry, Medical Laboratory, and Pharmacy.

At Advance Health Care International our vision is to create a socially responsive health care approach, that is holistic and aimed at optimizing the quality of life for our patients the communities we serve, and our team in ways that are ecologically sustainable.

Advance Health Care International's mission is to provide quality, patient-centered and evidence based healthcare in a caring, professional and relaxing environment, that builds trust with our patients, their caregivers, and the communities we serve, by encouraging a shared committed, empowered and unified team working to build an institution that is economically, socially and environmentally viable.

Duration of Project Phases

Phases of Project

- **Phase 1**
  1st Floor (Ground Floor) - 24 months (January 2019 - January 2022)
- **Phase 2**
  Shed/Seating Area - 3 months (December 2021 - February 2022)
- **Phase 3**
  2nd Floor - 12 months (September 2022 - August 2023)

Environmental Effects

The environment is a complex, interconnected system that can be affected by various projects and human activities.

The construction of a medical facility is a crucial project that aims to improve healthcare services and enhance the well-being of the community. However, such projects can potentially have significant effects on the environment, including impacts on land, soil, water, air, and the use of natural resources.

LAND

Land Clearing and Habitat Destruction

Constructing a medical facility often requires clearing land, which can result in habitat destruction. This process can potentially displace animals, plants, and other organisms, leading to a decline in biodiversity. Moreover, the destruction of natural habitats can disrupt the ecosystem balance, affecting the availability of food and other resources for the remaining species.

SOIL

Soil Compaction

The construction of a medical facility can have a significant impact on soil quality. Heavy machinery and construction activities can cause soil compaction, which reduces the soil's ability to absorb water and support plant growth. This can lead to increased soil erosion, reduced crop yields, and the loss of valuable topsoil.

Soil Contamination

Construction projects can potentially contaminate soil through the release of hazardous materials, such as fuel, oil, and chemicals. Soil contamination can harm plant and animal life and pose risks to human health, particularly if the contaminants enter the food chain or contaminate groundwater.

Environmental Effects

WATER

Surface Water Contamination

The construction of a medical facility can potentially affect surface water quality through the release of pollutants, such as sediment, chemicals, and debris. These pollutants can harm aquatic life, disrupt ecosystems, and impair the quality of water resources used for drinking, irrigation, and other purposes.

Groundwater Contamination

The use of hazardous materials during construction can also pose risks to groundwater quality. If contaminants seep into the ground and reach the water table, they can spread through the aquifer and contaminate drinking water sources. Groundwater contamination can have serious implications for human health and the environment.

Alteration of Water Flow and Drainage Patterns

Construction activities can potentially alter the natural flow of water and drainage patterns. This can lead to increased flooding, erosion, and sedimentation, which can damage ecosystems and infrastructure.

AIR

Emissions from Construction Activities

The construction of a medical facility can contribute to air pollution through the release of emissions from construction vehicles, equipment, and machinery. These emissions can include particulate matter, nitrogen oxides, sulfur dioxide, and volatile organic compounds, which can harm human health and the environment.

Dust and Particulate Matter

Construction activities can generate significant amounts of dust and particulate matter, which can reduce air quality and pose risks to human health, particularly for those with respiratory conditions. Dust can also harm ecosystems by blocking sunlight, reducing photosynthesis, and affecting the growth of plants.

Environmental Effects

NOISE

Construction projects, including the construction of a medical facility, can generate high levels of noise pollution. This can disturb wildlife, affect their behavior and reproductive success, and cause physiological stress. Noise pollution can also harm human health by causing stress, sleep disturbances, and other adverse effects.

ENERGY & RESOURCE

Energy Consumption during Construction

The construction of a medical facility can consume significant amounts of energy, primarily through the operation of construction vehicles, equipment, and machinery. This energy consumption can contribute to greenhouse gas emissions and climate change, as well as the depletion of non-renewable energy resources.

Resource Extraction and Use

The construction of a medical facility requires the extraction and use of various natural resources, such as metals, minerals, and fossil fuels. This extraction can have significant environmental impacts, including habitat destruction, pollution, and the depletion of non-renewable resources.

WASTE GENERATION

Construction and Demolition Waste

The construction of a medical facility can generate large amounts of waste, including construction and demolition waste, which can consist of materials such as concrete, wood, metals, and plastics. If not properly managed, this waste can contribute to pollution, landfill space shortages, and the depletion of natural resources.

Hazardous Waste

The construction process can also generate hazardous waste, such as chemicals, solvents, and contaminated materials. If not properly managed, this waste can pose risks to human health and the environment.

Environmental Effects

CLIMATE CHANGE

Greenhouse Gas Emissions

The construction of a medical facility can contribute to climate change through the release of greenhouse gases, such as carbon dioxide and methane. These emissions can result from various construction activities, including the operation of vehicles, equipment, and machinery, as well as the production and transportation of building materials.

Climate Change Impacts on Construction Projects

Climate change can also have direct and indirect impacts on construction projects, including the construction of a medical facility. These impacts can include increased risks of flooding, extreme weather events, and other climate-related hazards, which can affect the project's timeline, costs, and environmental performance.

CONCLUSION

The construction of a medical facility can have significant effects on the environment, including impacts on land, soil, water, air, and the use of natural resources. By understanding these potential effects and implementing appropriate mitigation measures and best practices, it is possible to minimize the environmental impacts of such projects while still achieving the important goal of improving healthcare services and enhancing the well-being of the community.

Mitigation Measures

Advance Health Care International strives for the highest standards of environmental safety and protection for our patients, visitors, staff and the community as a whole and works to create sanitary and aesthetically pleasing surroundings.

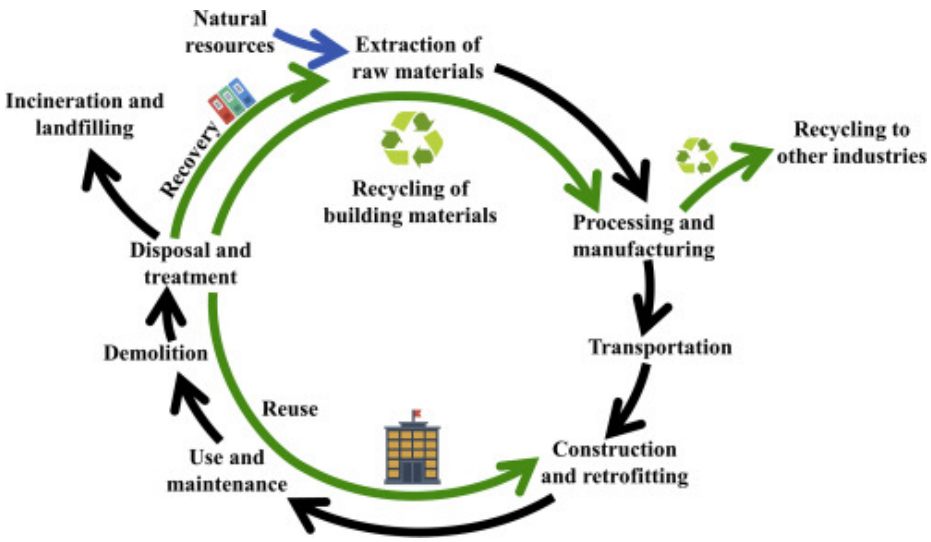
MITIGATION MEASURE & BEST PRACTICES

To minimize the potential environmental effects of constructing a medical facility, various mitigation measures and best practices can be implemented. These were the environmental considerations that AHI took into account and the mitigation measures applied to follow includes:

- Conducting environmental impact assessments to identify and address potential environmental concerns
- Implementing erosion and sediment control measures to protect soil and water resources
- Using low-impact construction techniques, such as prefabrication, to reduce waste and resource consumption
- Implementing waste management plans to minimize and properly dispose of construction waste
- Implementing noise and dust control measures to protect air quality and minimize disturbance to wildlife and human populations

Mitigation measures for adverse impacts includes:

- Regular, supervised collection and disposal of infectious wastes to a waste storage area that is under lock and key.
- Monitoring and supervision of waste collection
- Maintenance schedule for facility
- Policy reviews for waste management and infection prevention and control
- Maintaining the drains and surroundings the property.
- Ensuring the hiring of qualified contractors for building works.



www.sciencedirect.com