Sustainable Environment Solutions /SES/ Waste Management Infrastructure

METHOD OF CONSTRUCTION

1. Project Description

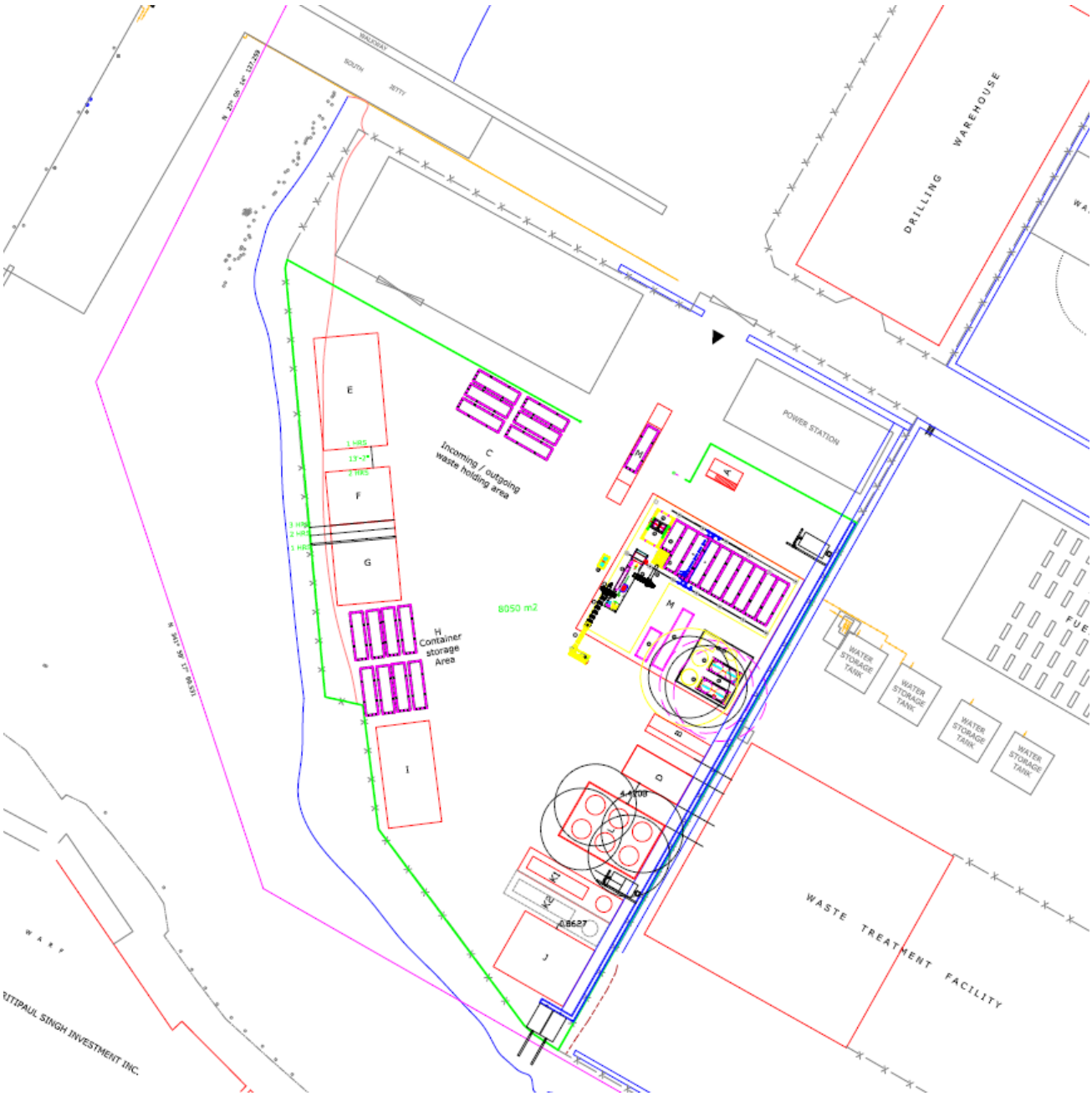
SES Waste Management Infrastructure will be built utilizing a plot that is currently used as a laydown yard at the southwest corner of GISBY's operational Shore Base Plantation 'A', Houston District, Georgetown. The area is graded, compacted crush rock covered, sloped and has a rainwater drainage channel adjacent.

The required buildings and facilities for the infrastructure will be designed and constructed in accordance with the waste management process engineers' requirements.

The construction engineering design is done by Sitts & Hill Engineers, Inc. (USA), construction will be done by selected subcontractors according the requirements under the management and supervision of SES and GISBY personnel.

The infrastructure will consist the following structures:

a. Building A – Weigh Office
b. Building B – Office / Laboratory
c. Facility C – Incoming / Outgoing Waste Area
d. Building D – Work Shop
e. Building E – Non-Hazardous Waste Treatment Area
f. Building F&G – Incinerator & Hazardous Waste Treatment Area
g. Facility H – Container Storage Area
h. Building I – IBC and Drum Wash Down Area
i. Building J – Decanter
j. Facility Ki & Kii – Waste Water Treatment Plant
k. Facility L – Liquid Tank Farm
l. Building M – HTDU
m. Facility N – Weigh Scale
n. Building O – Restrooms
o. Rain water collection drain trench


DRILLING WAREHOUSE
POWER STATION
WASTE TREATMENT FACILITY
WATER STORAGE TANK
WATER STORAGE TANK
WATER STORAGE TANK
WATER STORAGE TANK
E
F
G
H
Container storage Area
I
J
C
Incoming / outgoing waste holding area
8050 m2
M
O
WARF

Pictures of the Proposed Site

Image #1 – Open Area for SESGI – Waste Treatment Facility – view from southern direction (ground level). Sand filled and composed of crush and run (stone, gravel and sand).

Image #2 – Eastern view from proposed site (ground level)

Image #3 – Proposed site for IWTF (red arrow) and Tiger Rentals WTF (orange arrow-east of operation). The length of GYSBI (blue arrow-north of operation). Also, oil/water separators will be installed along the area highlighted yellow (south of site).

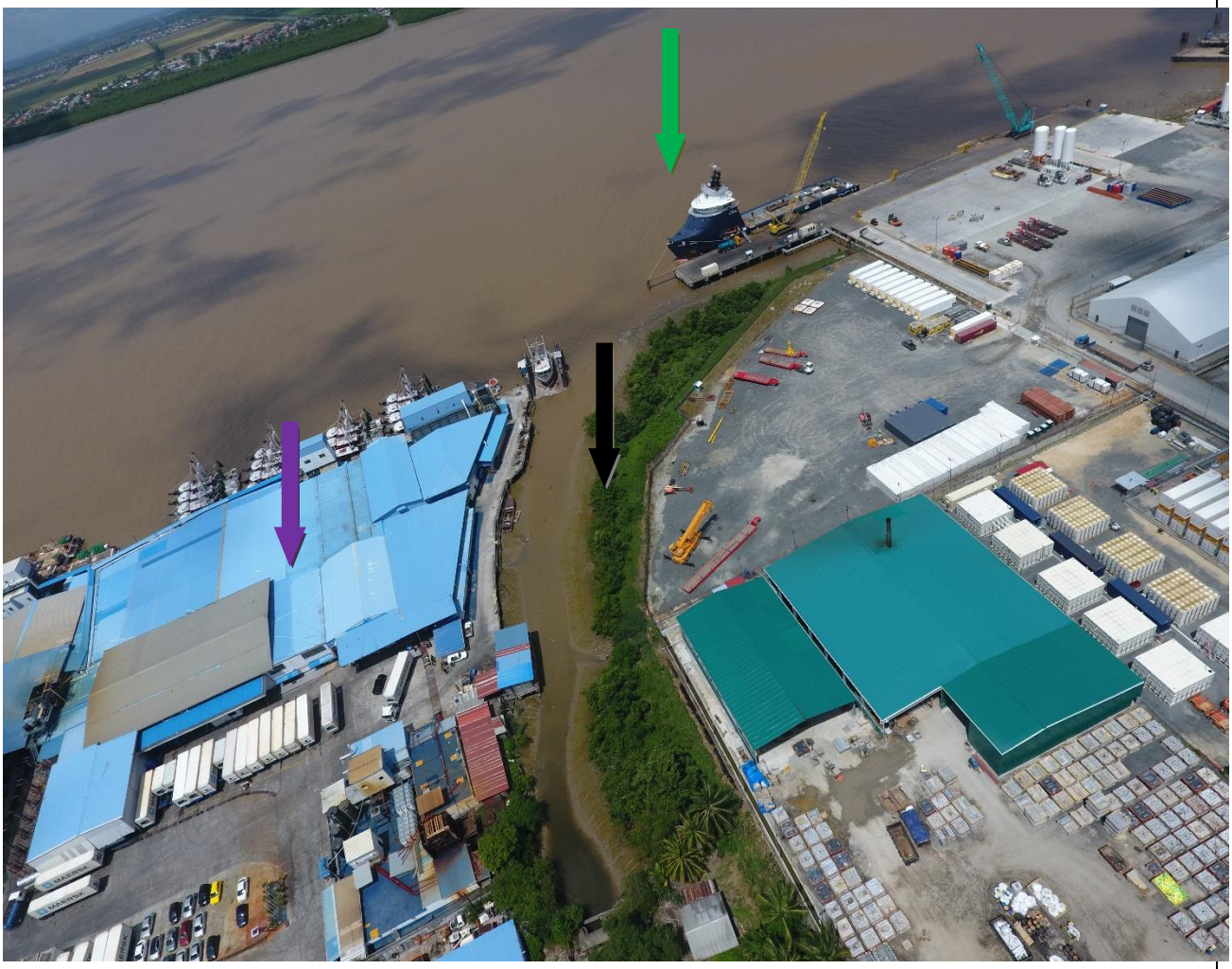


Image #4 – Pritipaul Singh Investment Inc. (purple arrow –south of operation) and Demerara River (green arrow – west of operation). Canal (black arrow) between the proposed site and 'Pritipaul Singh' that discharges into the Demerara River.

Image # 5 - South - more of Pritipaul Singh Investment Inc. and surrounding areas south (Drone Image)

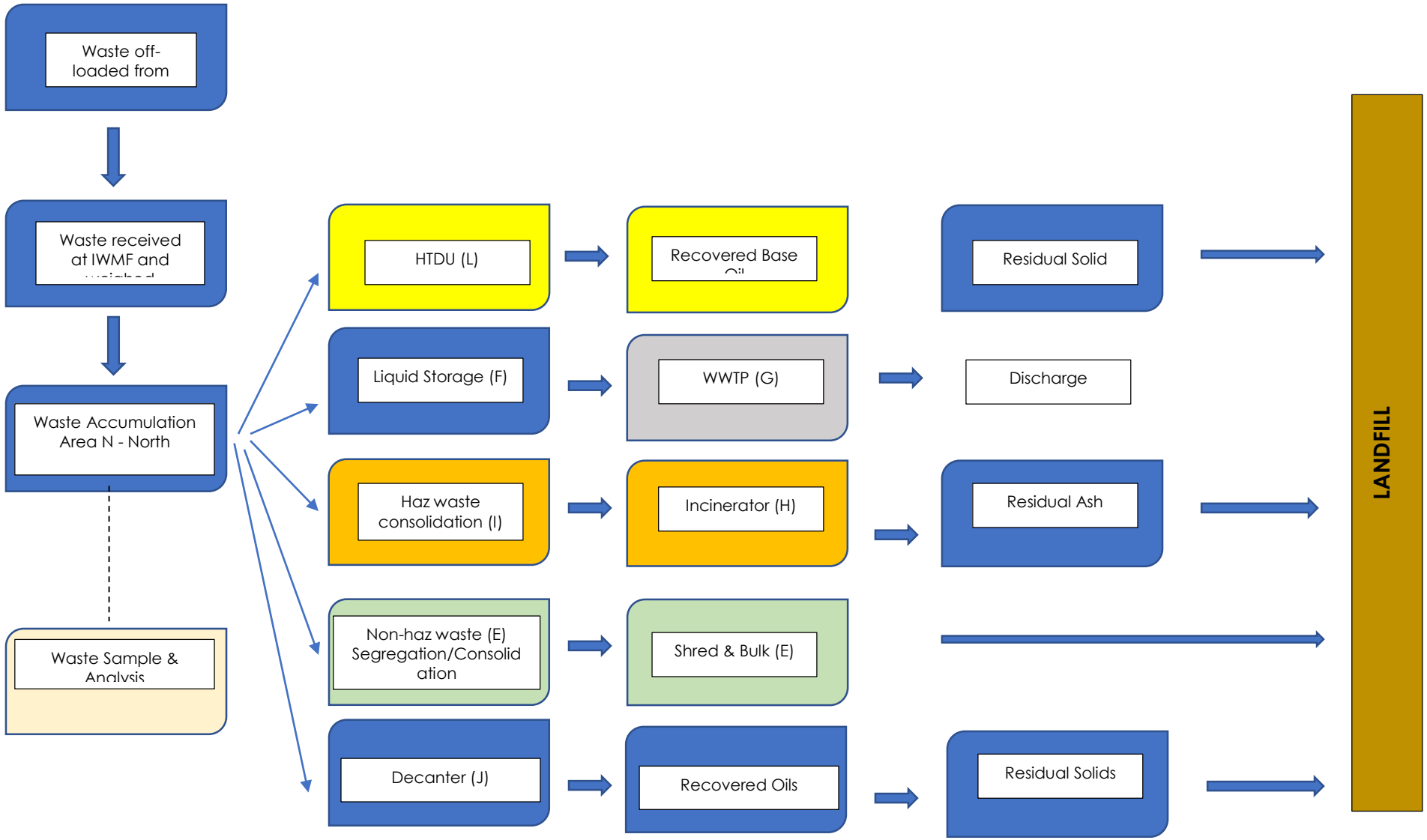
Image # 6 - East of Pritipaul Singh Investments Inc.– view of canal (north-orange arrow) & Tiger Rentals (north of canal -red arrow & Public Road (further east – blue arrow).

Residents (green) – East of GYSBI (>100 metres away).

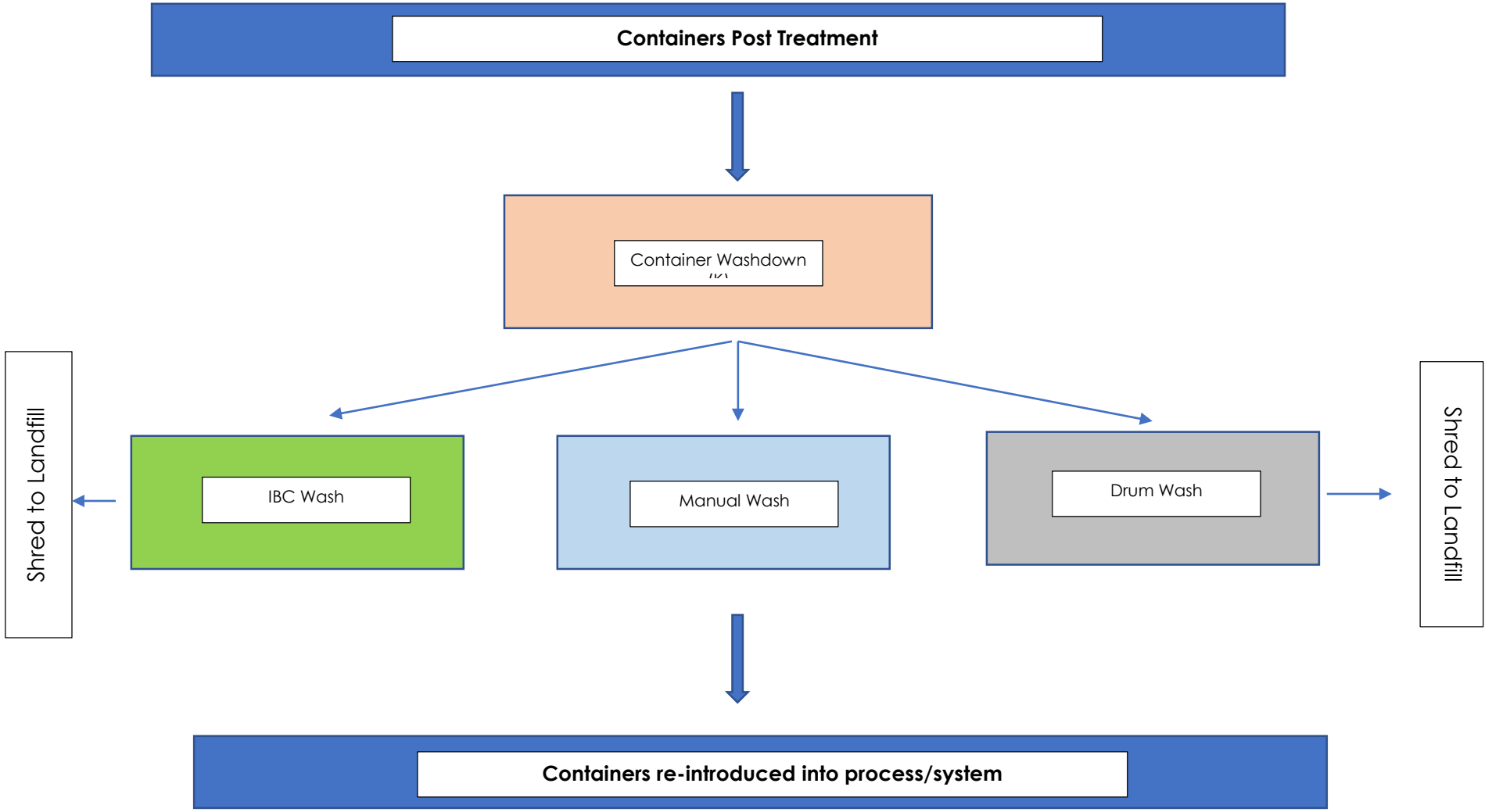
Summary of Operation:

Flow Diagrams:

SES Integrated Waste Management Facility Flow Diagram (1)



SES Integrated Waste Management Facility Flow Diagram (2)



Sustainable Environmental Solutions (Guyana) Inc

Integrated Waste Management Facility for EEPGL

Brief Facility Non-technical Description

Plantation "A", Houston District, East Bank Demerara,Georgetown, Guyana

Integrated Waste Management Facility for EEPGL

- Todesign, build and operate a new Integrated Waste Management

  Facility for EEPGL generated hazardous & non-hazardous wastes
- Sited at existing GYSBI Shorebase operation
- Tohave the ability to safely manage all wastes (generated

  offshore/onshore)
- In line with EEPGL corporate, social & environmental responsibilities
- Conforming to local, national and international standards

SUSTAINABLE ENVIRONMENTAL SOLUTIONS

Facility Location & Design

Key Features – Location

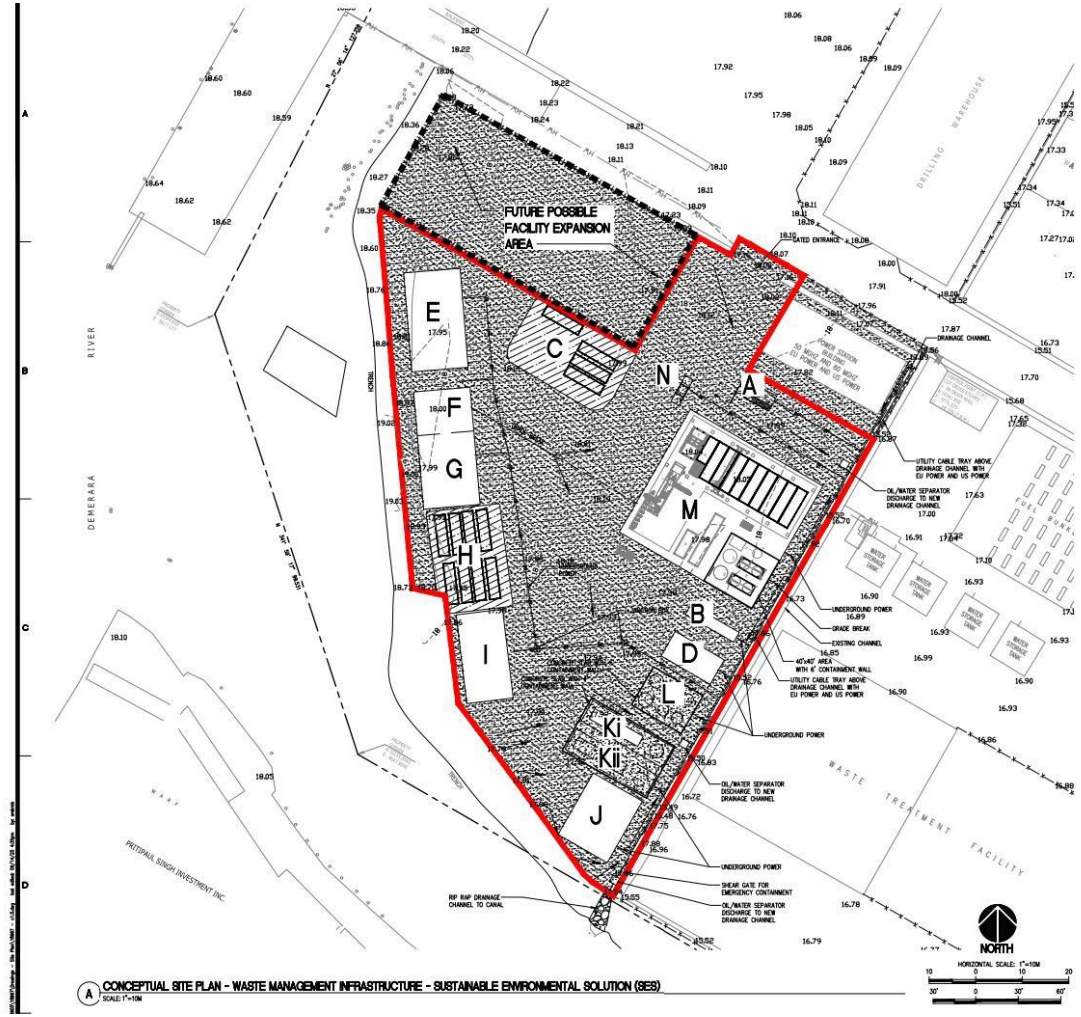
- EEPGL requirement to have the facility sited at their existing GYSBI Shorebase.
- Significant reduction in vehicle movements on main highways.
- Established use.
- Demonstrable “Best Environmental Techmologies”.

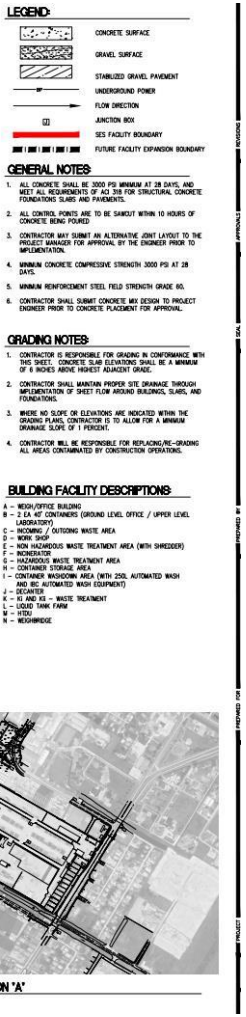
Key Features – Design

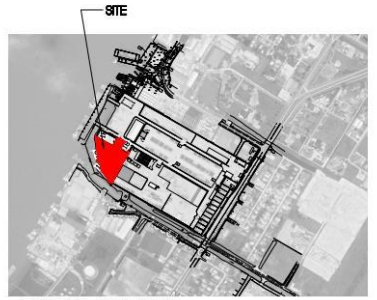
- Modular approach to the facility layout – “waste footprint”
- Fully bunded & concreted area – protects all round soil & groundwater.
- Operational flow – waste receipt – recovery – recycling – consolidation – treatment- minimal residual waste to be transported off-site.
- On site Laboratory for waste analysis and validation.

SUSTAINABLE ENVIRONMENTAL SOLUTIONS

Integrated Waste Management Facility
Site Layout







Waste Treatment Approach

- **Hazardous waste – Drill cuttings; slops; sludges**

  Treatment Methods
  - Hot-oil Thermal Desorption Unit (HTDU)
  - Decanter/Centrifuge

- **Hazardous waste – small volume hazardous waste; drums; rags; solvents; contaminated water**

  Treatment Methods
  - Incineration
  - Wastewater Treatment
  - Decanter/Centrifuge
  - Haz waste transfer/storage area
  - Shredder
  - Drum baler
  - Container washdown area

- **Non-hazardous waste – wood; plastic; metal; domestic**

  Treatment Methods
  - Recovery; recycling; final disposal (landfill)

SUSTAINABLE ENVIRONMENTAL SOLUTIONS