

**Sustainable Environment
Solutions /SES/ Waste
Management Infrastructure**

METHOD OF CONSTRUCTION

1. Project Description

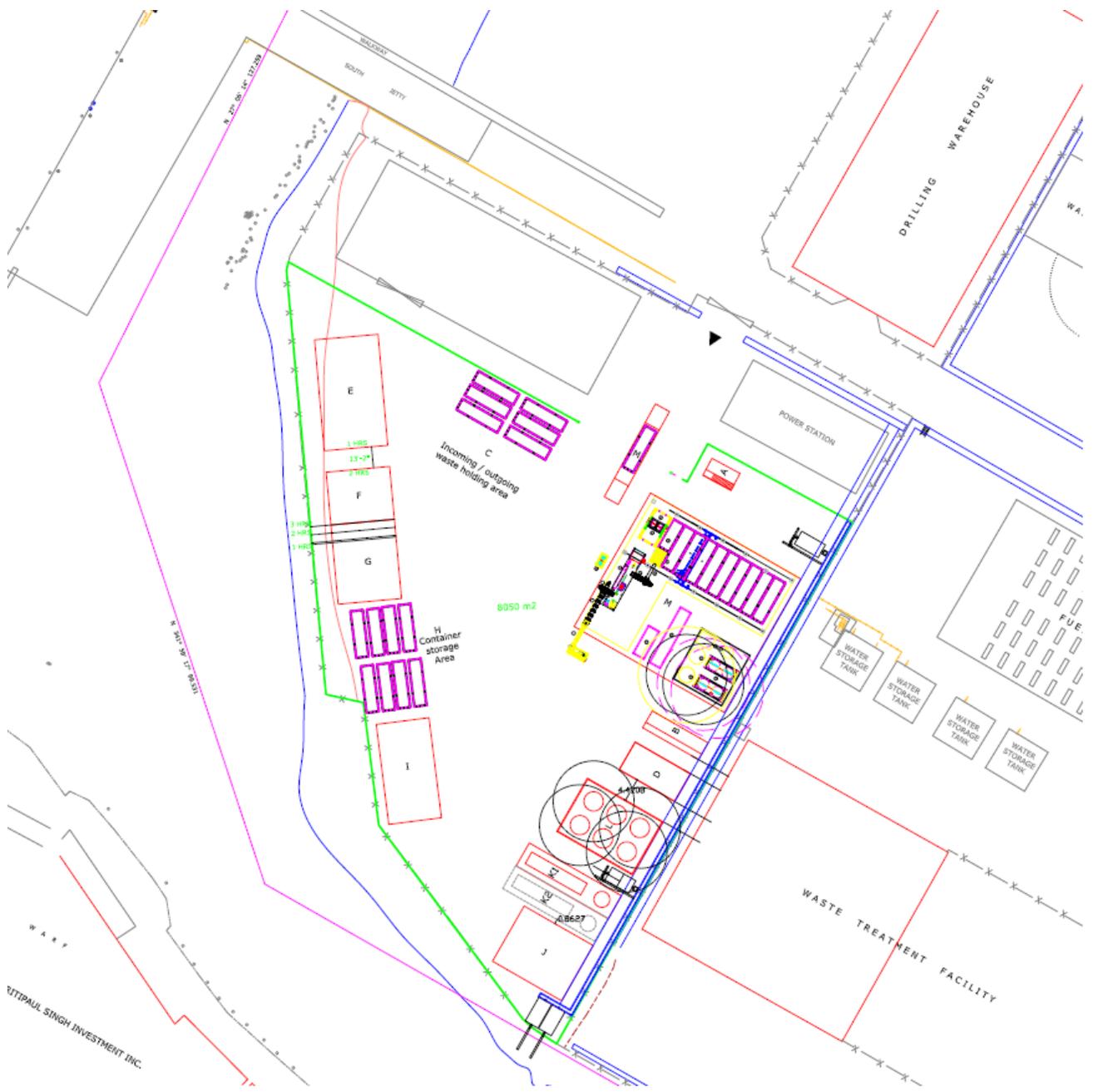
SES Waste Management Infrastructure will be built utilizing a plot that is currently used as a laydown yard at the southwest corner of GISBY's operational Shore Base Plantation 'A', Houston District, Georgetown. The area is graded, compacted crush rock covered, sloped and has a rainwater drainage channel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

The infrastructure will consist of 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



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).

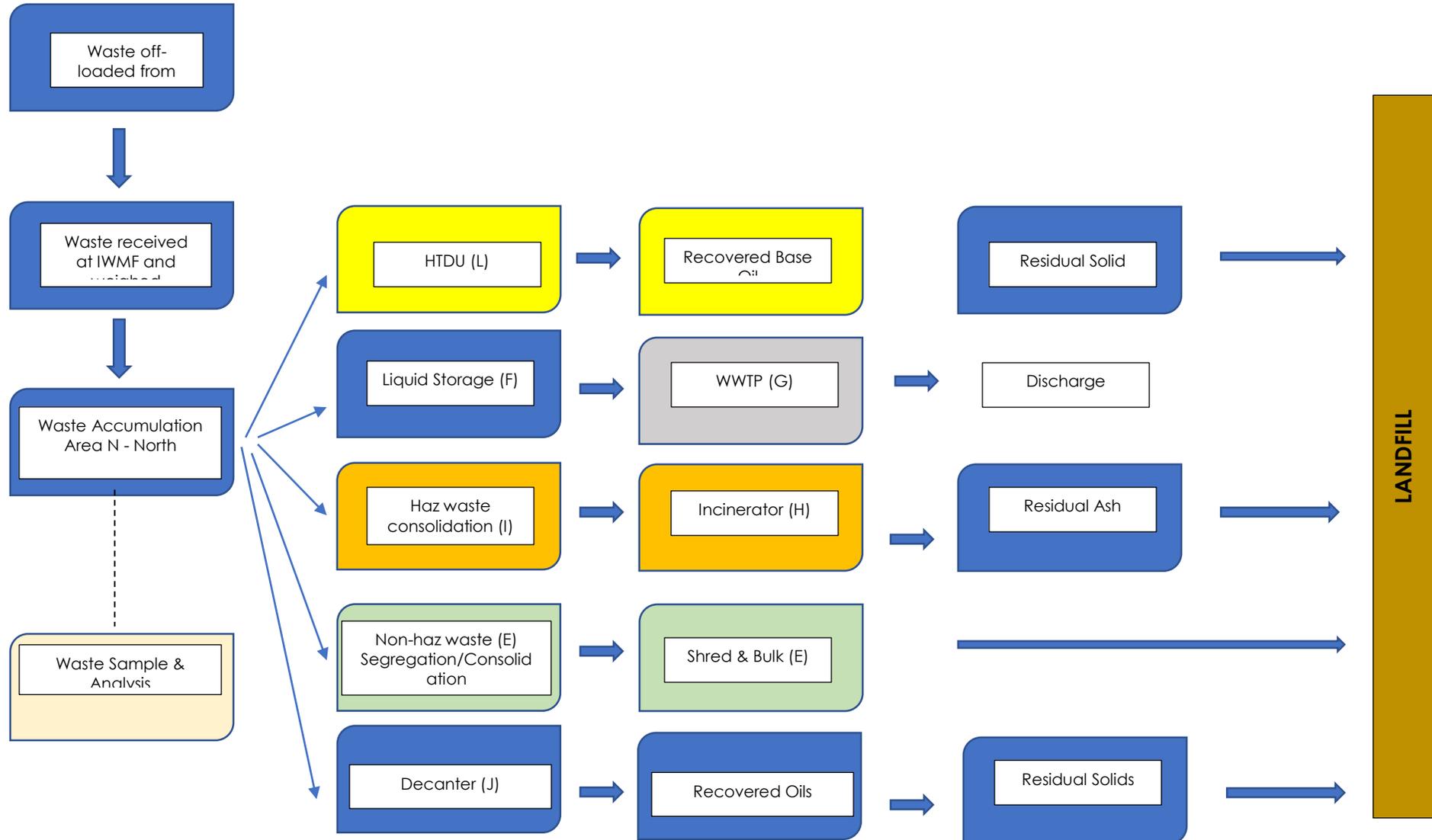


Residents (green) – East of GYSBI (>100 metres away).

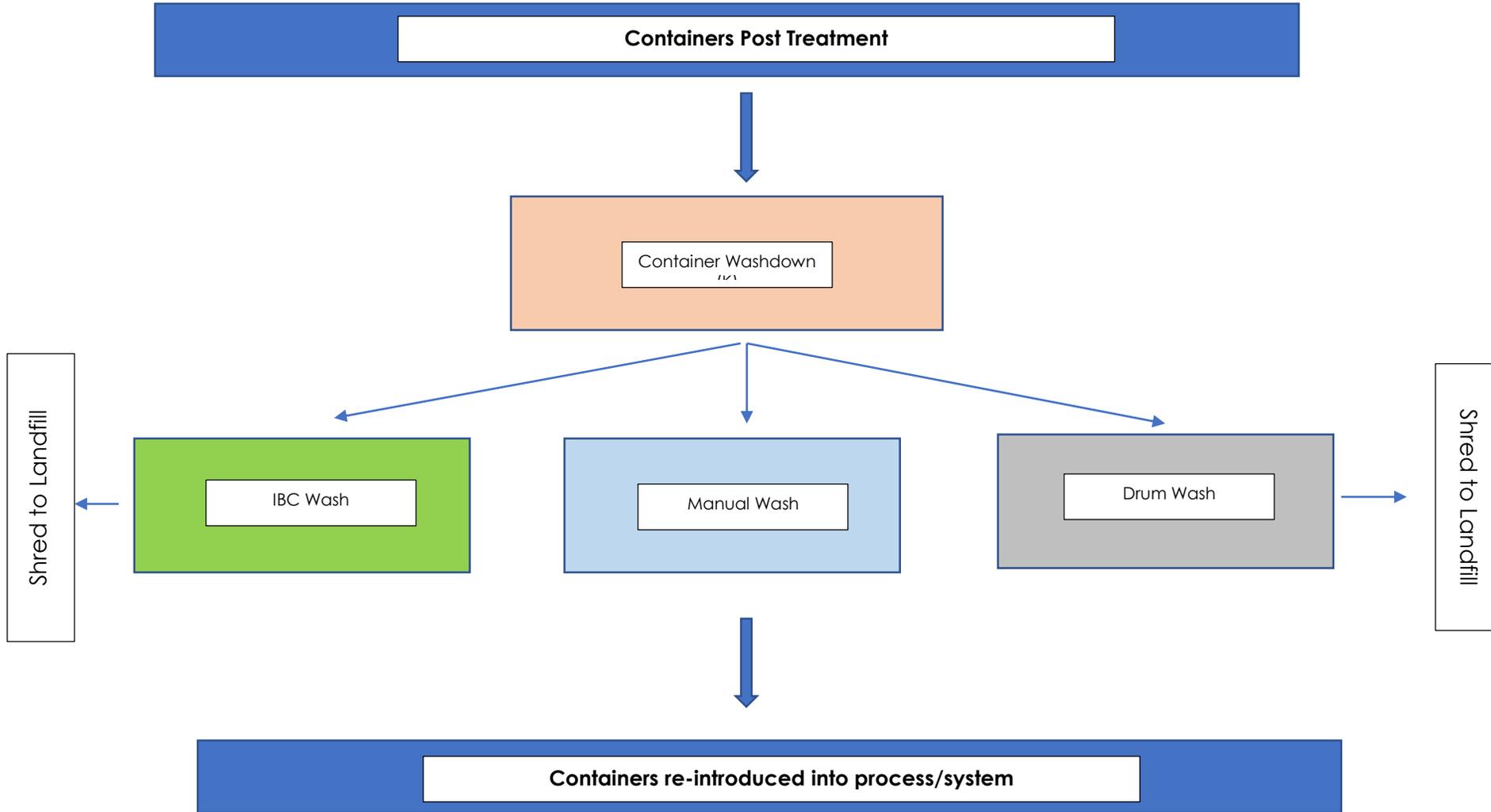
Summary of Operation:

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

- To design, build and operate a new Integrated Waste Management Facility for EEPGL generated hazardous & non-hazardous wastes
- Sited at existing GYSBI Shorebase operation
- To have 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



Facility Location & Design

Key Features – Location

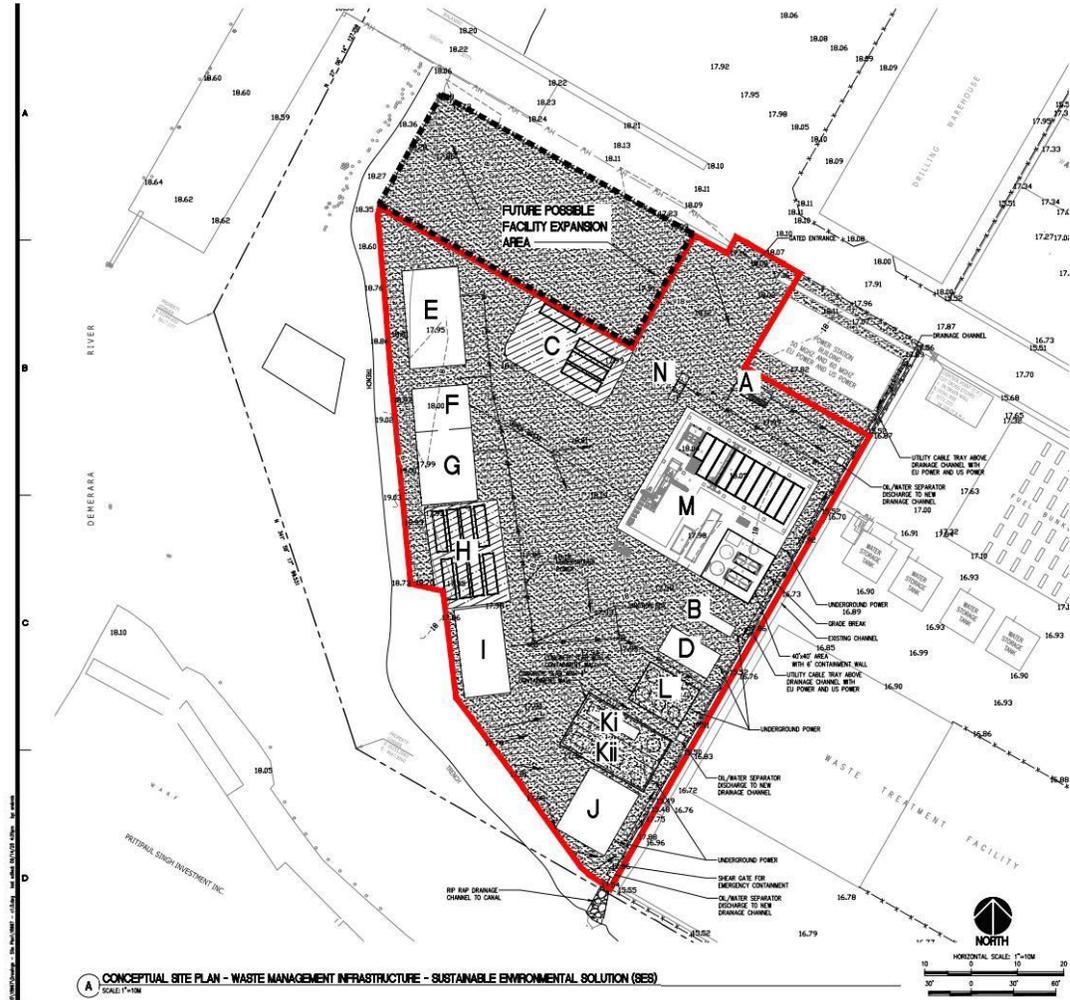
- EEPGL requirement to have the facility sited at their existing GYSBI Shorebase.
- Significant reduction in vehicle movements on main highways.
- Established use.
- Demonstrable “Best Environmental Technologies”.

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.



Integrated Waste Management Facility Site Layout



A CONCEPTUAL SITE PLAN - WASTE MANAGEMENT INFRASTRUCTURE - SUSTAINABLE ENVIRONMENTAL SOLUTION (SES)
SCALE 1"=100'

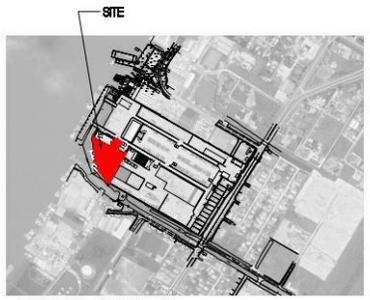
LEGEND

	CONCRETE SURFACE
	GRAVEL SURFACE
	STABILIZED GRAVEL PAVEMENT
	UNDERGROUND POWER
	FLOW DIRECTION
	ANCHORAGE BOX
	SES FACILITY BOUNDARY
	FUTURE FACILITY EXPANSION BOUNDARY

- GENERAL NOTES**
1. ALL CONCRETE SHALL BE 3000 PSI MINIMUM AT 28 DAYS, AND MEET ALL REQUIREMENTS OF ACI 308 FOR STRUCTURAL CONCRETE FOUNDATIONS SLABS AND PAVEMENTS.
 2. ALL CONTROL POINTS ARE TO BE SCAFFOLD WITHIN 10 HOURS OF CONCRETE BEING POURED.
 3. CONTRACTOR MAY SUBMIT AN ALTERNATIVE JOINT LAYOUT TO THE PROJECT MANAGER FOR APPROVAL BY THE ENGINEER PRIOR TO IMPLEMENTATION.
 4. MINIMUM CONCRETE COMPRESSIVE STRENGTH 3000 PSI AT 28 DAYS.
 5. MINIMUM REINFORCEMENT STEEL YIELD STRENGTH GRADE 60.
 6. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGN TO PROJECT ENGINEER PRIOR TO CONCRETE PLACEMENT FOR APPROVAL.

- GRADING NOTES**
1. CONTRACTOR IS RESPONSIBLE FOR GRADING IN CONFORMANCE WITH THIS SHEET. CONCRETE SLAB ELEVATIONS SHALL BE A MINIMUM OF 6 INCHES ABOVE HIGHEST ADJACENT GRADE.
 2. CONTRACTOR SHALL MAINTAIN PROPER SITE DRAINAGE THROUGH IMPLEMENTATION OF SHEET PILING AROUND BUILDINGS, SLABS, AND FOUNDATIONS.
 3. WHERE NO SLOPE OR ELEVATIONS ARE INDICATED WITHIN THE GRADING PLANS, CONTRACTOR IS TO ALLOW FOR A MINIMUM DRAINAGE SLOPE OF 1 PERCENT.
 4. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING/RE-GRADING ALL AREAS CONTAMINATED BY CONSTRUCTION OPERATIONS.

- BUILDING DESCRIPTIONS**
- A - MECH/OFFICE BUILDING
 - B - 2 EA 40' CONTAINERS (GROUND LEVEL OFFICE / UPPER LEVEL LABORATORY)
 - C - INCOMING / OUTGOING WASTE AREA
 - D - WORK SHOP
 - E - NON HAZARDOUS WASTE TREATMENT AREA (WITH SHREDDER)
 - F - HAZARDOUS WASTE TREATMENT AREA
 - G - HAZARDOUS WASTE TREATMENT AREA
 - H - CONTAINER STORAGE AREA
 - I - CONTAINER WASHDOWN AREA WITH 200L AUTOMATED WASH AND REC AUTOMATED WASH EQUIPMENT
 - J - SECURED
 - K - H1 AND H2 - WASTE TREATMENT
 - L - LIQUID TRAP PANS
 - M - HTRU
 - N - METROHOUSE



B KEY PLAN - PLANTATION 'A'
SCALE N.T.S.

