



**29 June 2016**

**10:20 – 10:40**

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**AQUATAINI**  
LINING SYSTEMS – THE TOTAL SOLUTION



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# Overview

- 50 Years experience in the supply and installation of Geosynthetic Materials
- Our activities are carried out to strict quality standards and complies with the requirements as set out in SANS 10409 and SANS 1526
- Certified Welding Technicians (CWT)
- IAGI Approved Installation Contractor (AIC )
- Long term Warrantees, supplier insurance backed
- Electric Leak Detection (ELD)
- Online quality assurance
- Through the EBS able to maintain the GCL Hydrated for the life of the site
- AIMS – ISO 9001 as certified by TUV



# Hi-drain

- Cusped drainage core material
- Manufactured from high Quality HDPE
- Yield Compression strength ranging from 350 kPa to 1200 kPa
- Supplied in :
  - Perforated
  - Geotextile Laminated
  - Non-perforated form



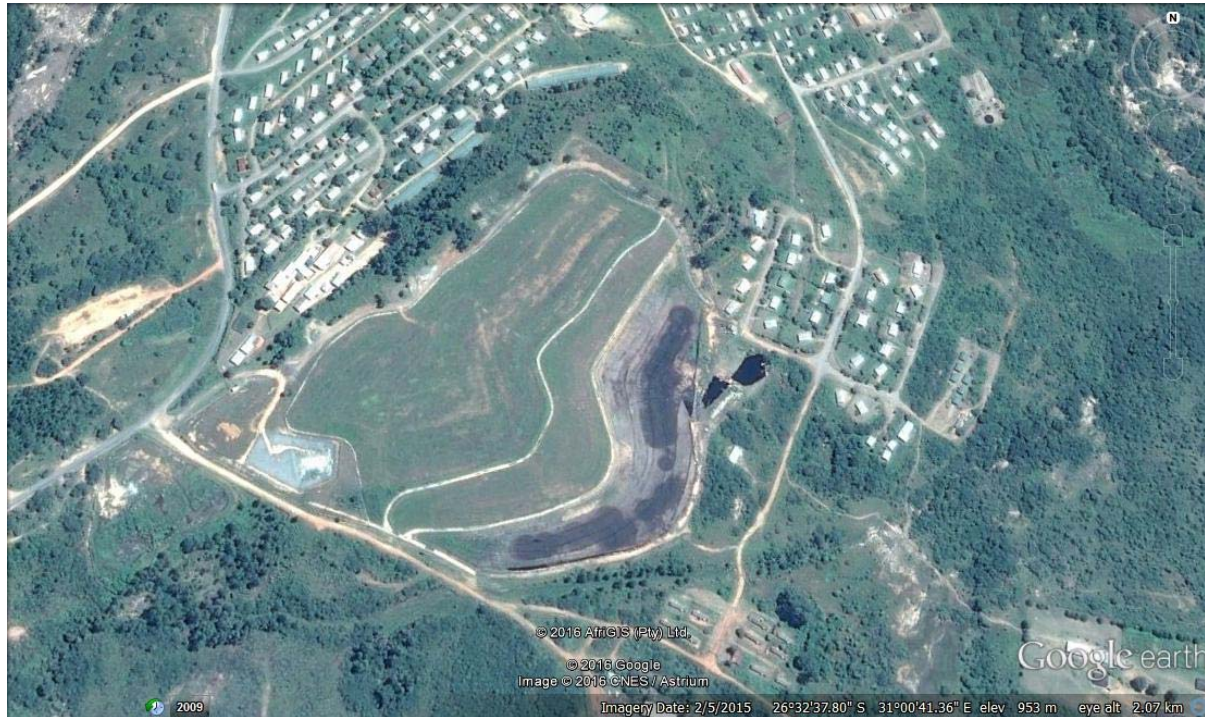
# Hi-drain

- Used in various applications
  - Subsoil drainage
  - Leakage detection between two Geomembranes
  - Post loading hydration of GCL's in combination with our EBS system
  - Gas release layers installed below liner application
  - Drainage or Gas release layer in Cappings



# KNOTS DUMP CAPPING - SWAZILAND

- Location: Bhunya Swaziland



# KNOTS DUMP CAPPING - SWAZILAND

- The closure design involved an effective long term solution for the mitigation of pollution and environmental risks
- The cover layer was designed to minimise infiltration and be flexible to accommodate settlement.
- Cover layer should not be adversely effected by chemicals in the waste body





# KNOTS DUMP CAPPING - SWAZILAND

- Other design considerations were :
  - Release of possible landfill gas
  - Heat from seated smouldering
  - Surface seepage of leachate
  - Stability of the capping layer

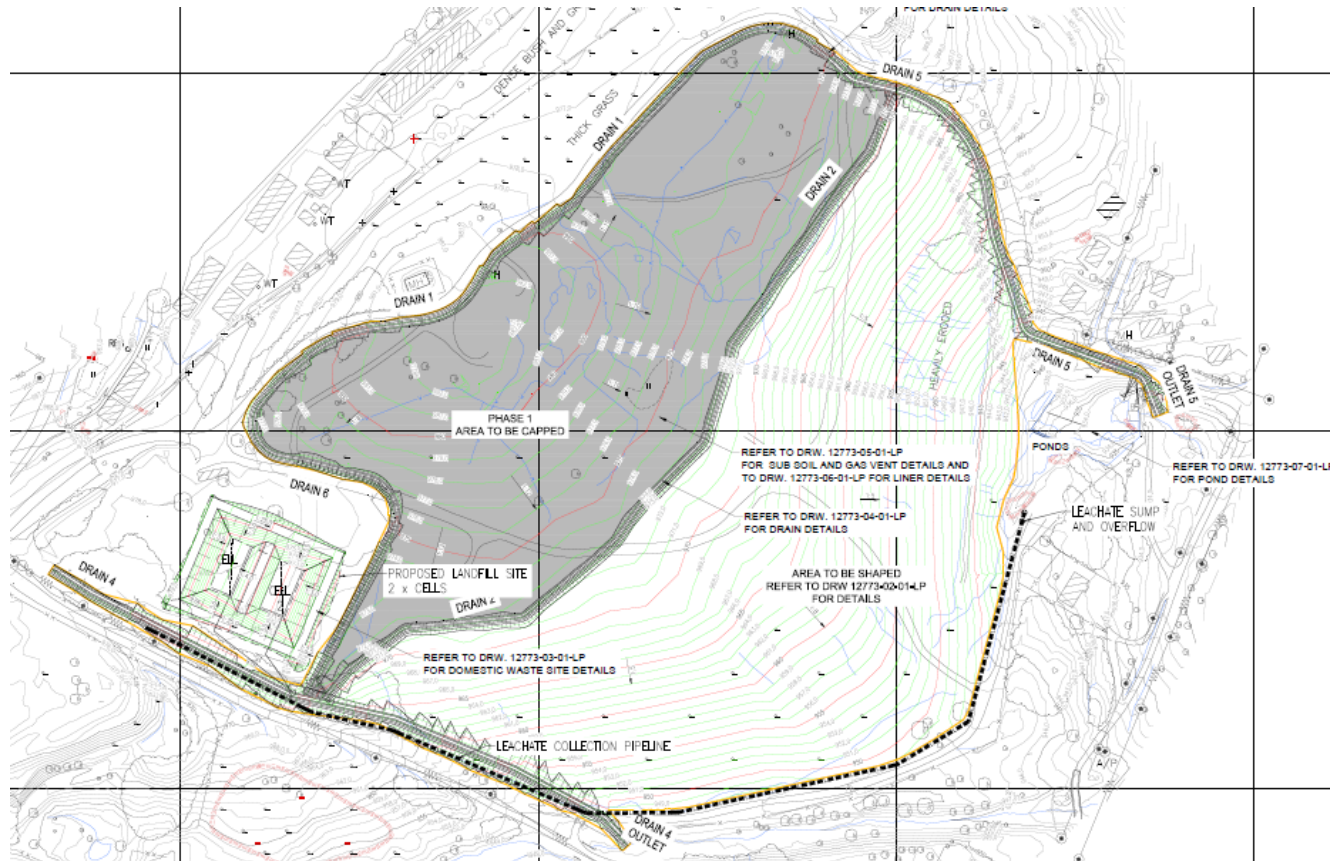




# KNOTS DUMP CAPPING - SWAZILAND



# KNOTS DUMP CAPPING - SWAZILAND





# KNOTS DUMP CAPPING - SWAZILAND

Leachate Streams



# KNOTS DUMP CAPPING - SWAZILAND

Gas escaping through Cracks



Subsurface Smouldering



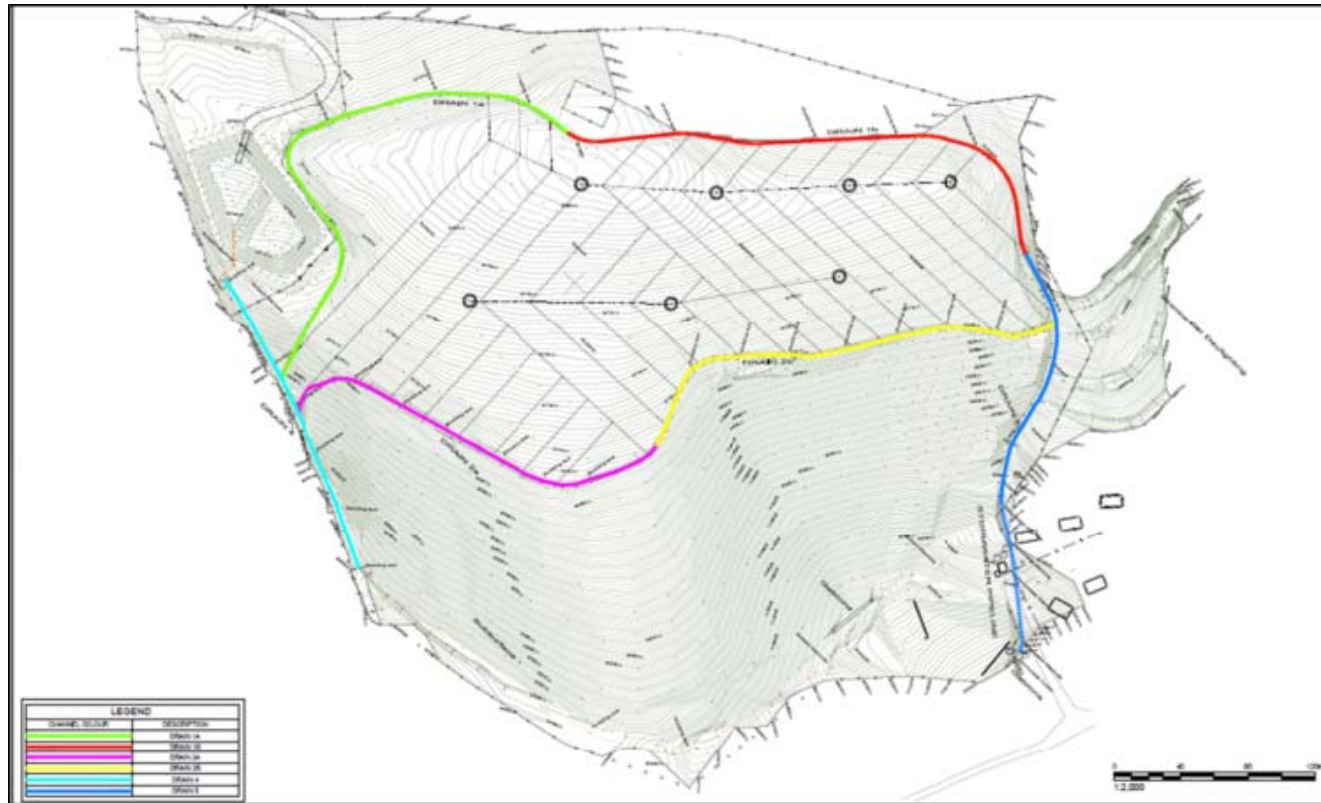
# KNOTS DUMP CAPPING - SWAZILAND

- Drainage Design:
  - Divided into two parts
    - Clean water – Collected and diverted off site via concrete drains
    - Leachate collected in the subsoil drainage and stored in leachate collection ponds.

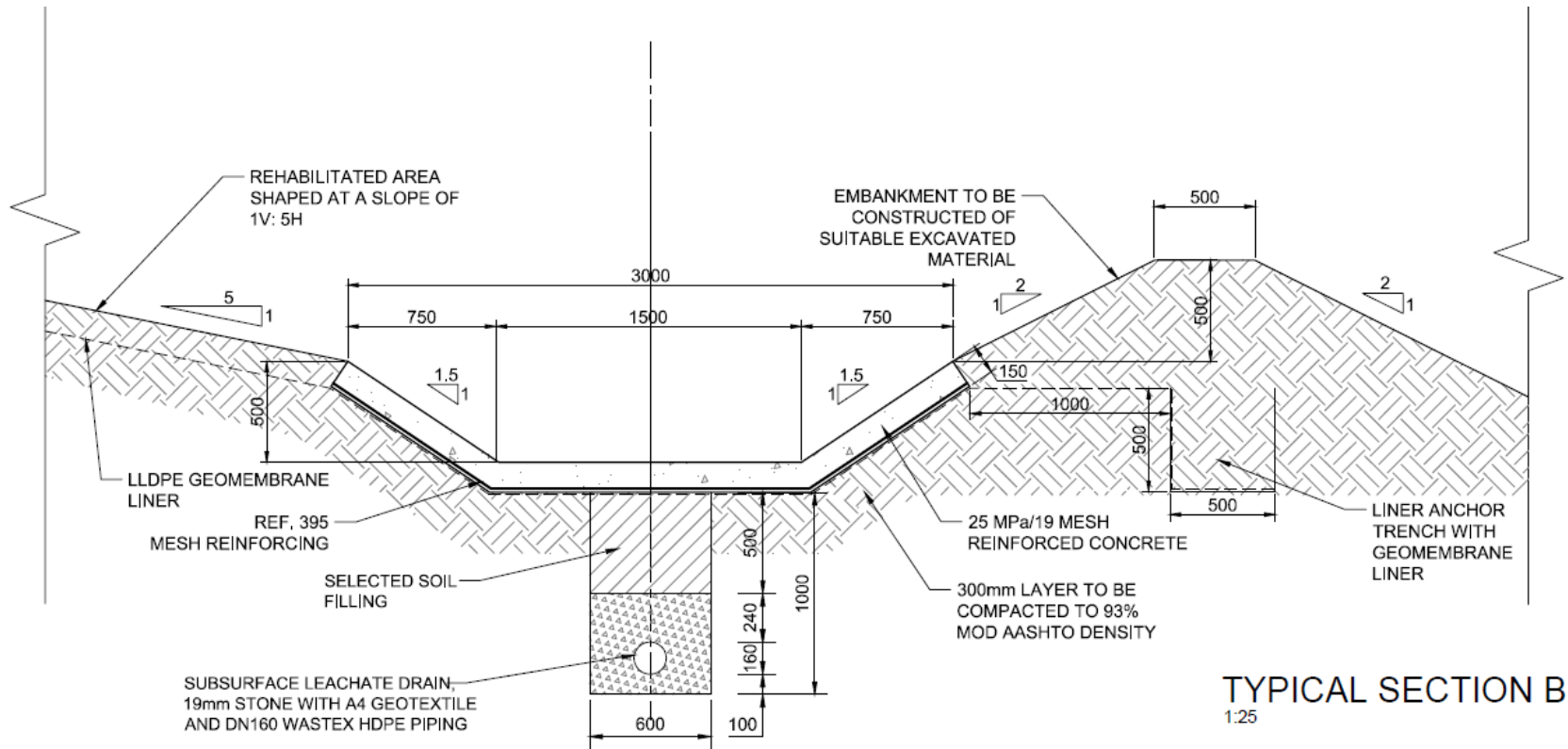




# KNOTS DUMP CAPPING - SWAZILAND



# KNOTS DUMP CAPPING - SWAZILAND



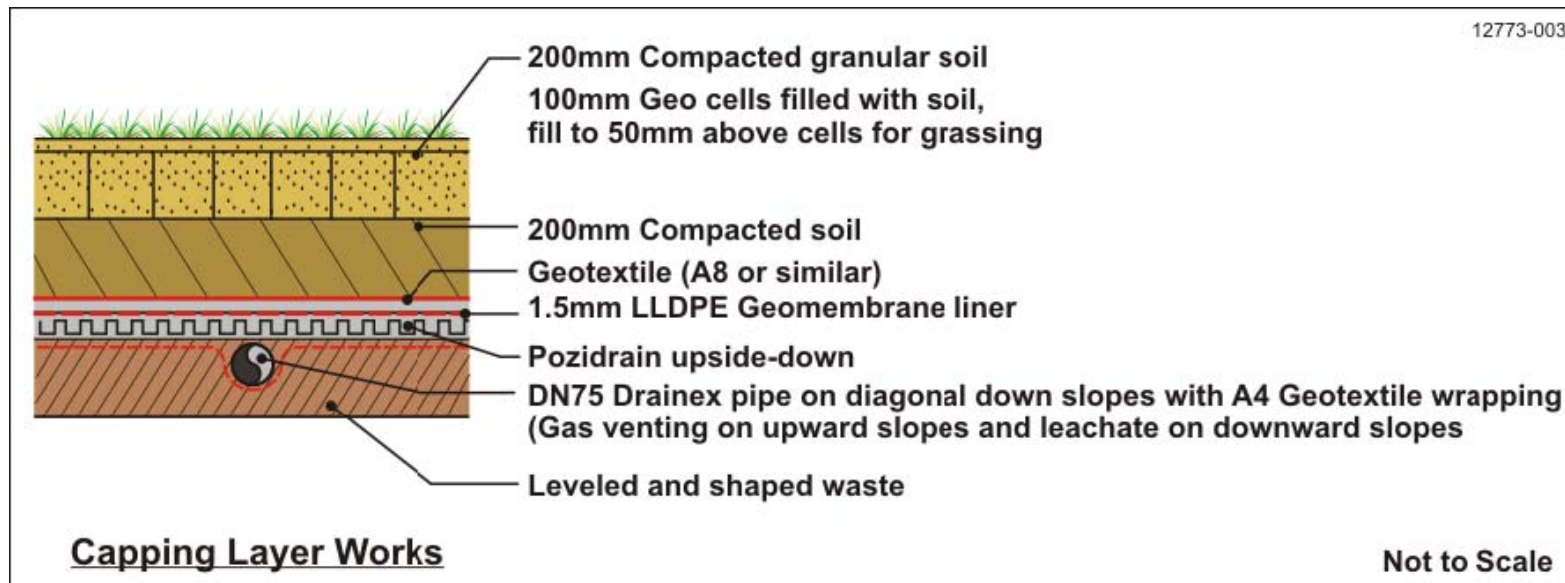


# KNOTS DUMP CAPPING - SWAZILAND

- Cap design
  - A combination of shallow subsoil drains was incorporated for leachate seepage
  - A cusped drainage layer was installed to provide for gas release
  - A Geomembrane was installed to minimize infiltration of water into the waste body
  - In order to accommodated settlement, the more flexible LLDPE was installed



# KNOTS DUMP CAPPING - SWAZILAND



# KNOTS DUMP CAPPING - SWAZILAND

Shaping of Earthworks



Installation of Laminated Hi-drain



# KNOTS DUMP CAPPING - SWAZILAND

Installation of Geomembrane

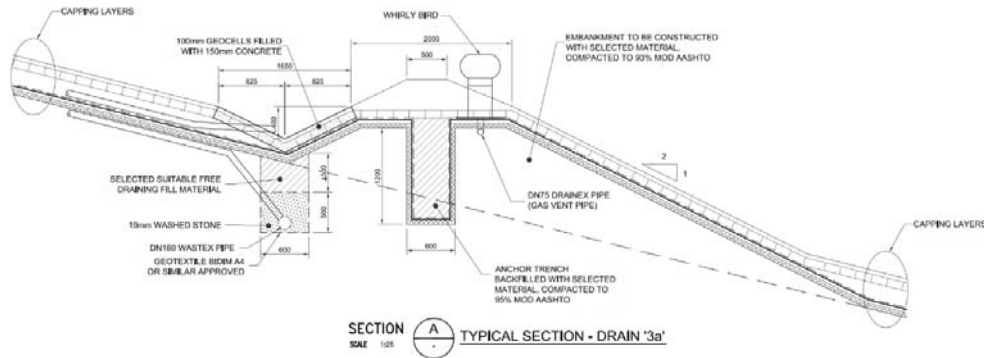


Installation of Geotextile

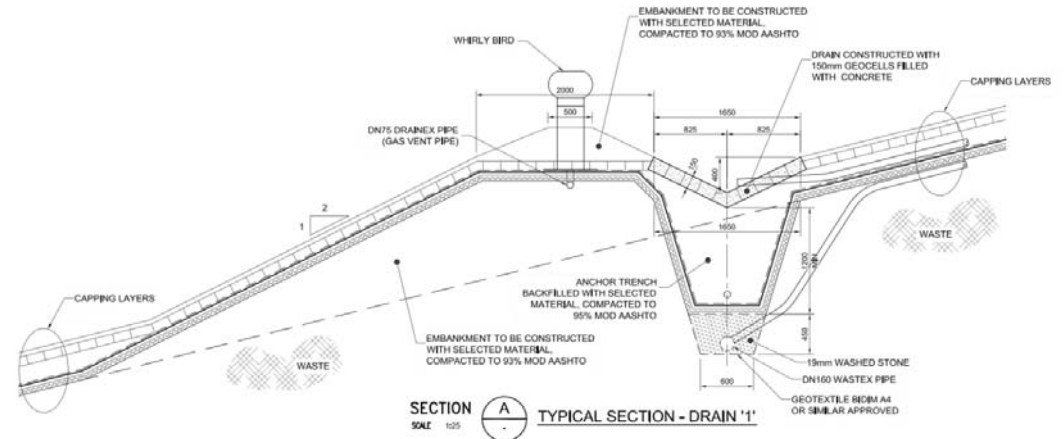


# KNOTS DUMP CAPPING - SWAZILAND

Contour drainage and Seepage Trench



Contour drainage with Geogrid Anchorage





# KNOTS DUMP CAPPING - SWAZILAND

Layer Works



Placing of Cover Soil



# KNOTS DUMP CAPPING - SWAZILAND





# KNOTS DUMP CAPPING - SWAZILAND

Knots Dump before capping



# KNOTS DUMP CAPPING - SWAZILAND

Knots Dump after Phase 1 Capping





# KNOTS DUMP CAPPING - SWAZILAND

Knots Dump after Phase 2 Capping



# SEBENZA LANDFILL CAPPING





# SEBENZA LANDFILL CAPPING



# HERNIC FERROCHROME CHROME CAPPING



# HERNIC FERROCHROME CHROME CAPPING

Before



After





# CONCLUSION

- Aquatan is a specialised **IAGI, AIC with CWT and employing Online Quality Control system**, installation contractor with 50 years of experience in Capping installation.
- We have the ability to **maintain the GCL Hydrated through the life of the system refer Enhanced Barrier system (EBS)**.
- Our Hi-drain Material is an excellent product for:
  - Extraction of gas
  - Drainage of groundwater
  - Reduction of Hydraulic Pressure between Geomembranes
  - Post loading hydration of GCL's in combination with our Patented EBS
- Please visit our exhibition stand for more detail.



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# Thank you

