



# Ordot Dump Review of Closure Construction

Presented by  
Christopher Lund, P.E.  
Receiver Project Engineer  
GBB Vice President  
Gershman, Brickner & Bratton, Inc.  
Solid Waste Receiver  
for the Guam Solid Waste Authority  
Pursuant to Order of the  
United States District Court of Guam

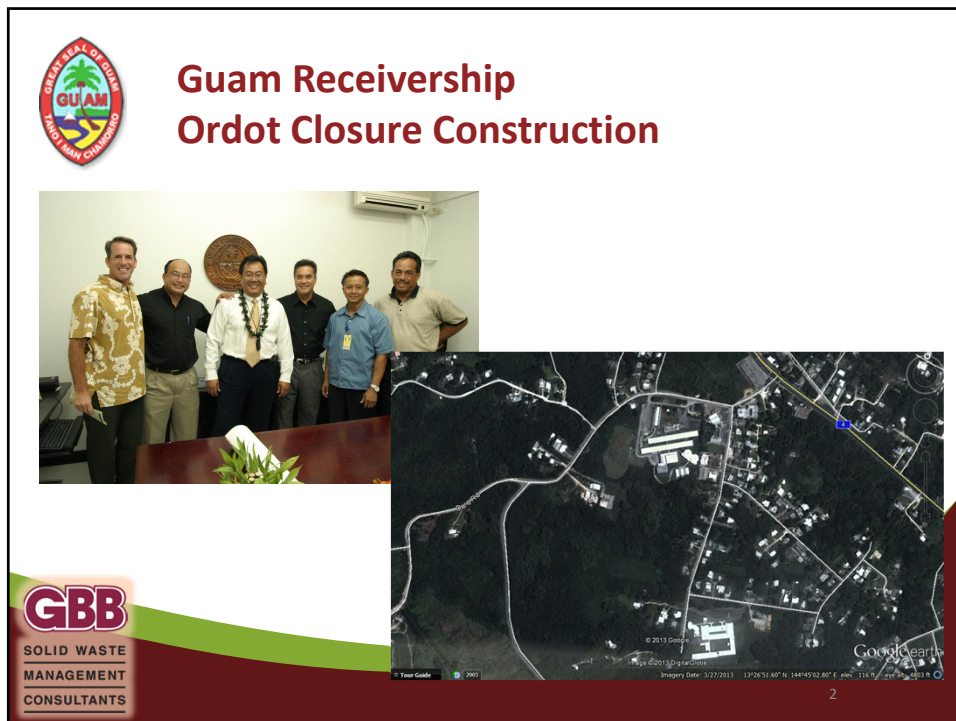



January 9, 2014



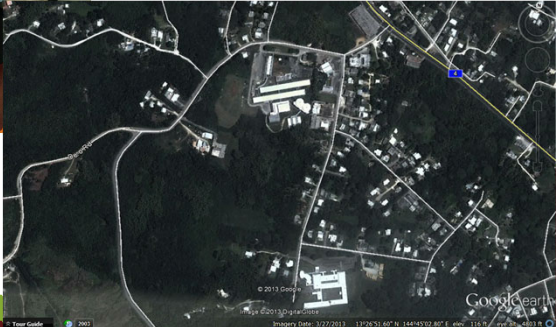

1


1






# Guam Receivership Ordot Closure Construction






2

2




## Guam Receivership Ordot Closure Construction

- Closure
- Closure Systems
- Construction Schedule, Phasing and Major milestones
- Construction Management/Construction Quality Assurance




3


3



## Closure



- A system designed and constructed to cease discharges
- A system to manage, control, and monitor of Leachate, Landfill Gas and Stormwater
- A system for Post-Closure Care management for 30 years



4

4

**Closure Systems**

- Cover
- Leachate Collection and Removal System
- Gas Collection and Removal System
- Stormwater Management System

**GBB**  
SOLID WASTE  
MANAGEMENT  
CONSULTANTS

5

5

**Closure Systems (cont'd)**  
**Cover**

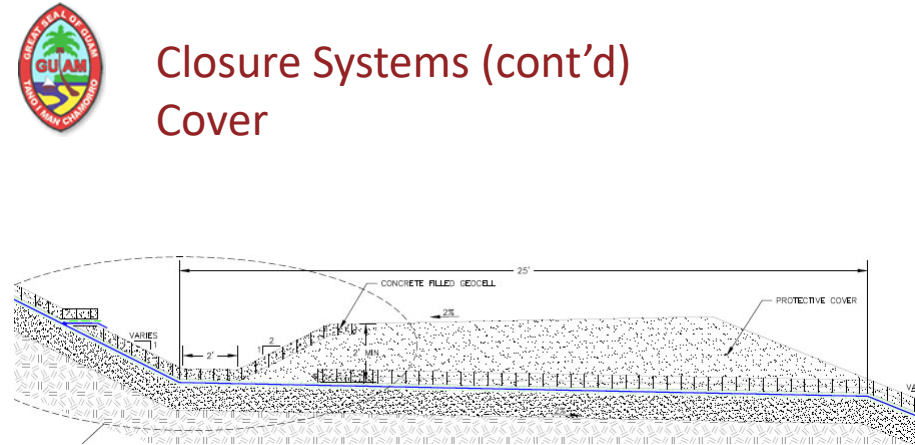
Layered system of geosynthetics and coralline limestone gravel for protection of the system.

**GBB**  
SOLID WASTE  
MANAGEMENT  
CONSULTANTS

6

6



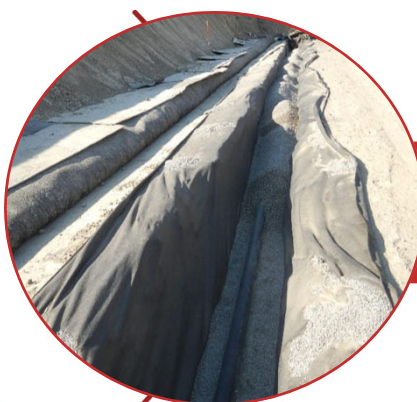


The diagram shows a cross-section of a waste closure system. It features a concrete-filled geocell structure on top of a protective cover. Dimensions are indicated: a 25-foot width for the geocell and a 2-foot depth for the cover. Labels include 'CONCRETE FILLED GEOCELL', 'PROTECTIVE COVER', and 'VAL'. The Great Seal of the State of Guam is in the top left, and the GBB logo is in the bottom left.

### Closure Systems (cont'd) Cover

9

9




The photograph shows a close-up of a leachate collection system, featuring a series of parallel collection pipes laid out on a surface. A red callout box points to the pipes with the text: 'Collection pipes, tankage, pumps, and conveyance pipes.' The Great Seal of the State of Guam is in the top left, and the GBB logo is in the bottom left.

### Closure Systems (cont'd) Leachate Collection and Removal System

Collection pipes, tankage, pumps, and conveyance pipes.

10

10




### Closure Systems (cont'd) Leachate Collection and Removal System


**GBB**  
SOLID WASTE  
MANAGEMENT  
CONSULTANTS

11


11



### Closure Systems (cont'd) Gas Collection and Removal System



**Collection wells,  
conveyance pipes,  
controlled Gas Flare**



12


12



## Closure Systems (cont'd) Gas Collection and Removal System




**Example of a Gas Flare Station**




13


13



## Closure Systems (cont'd) Stormwater Management System

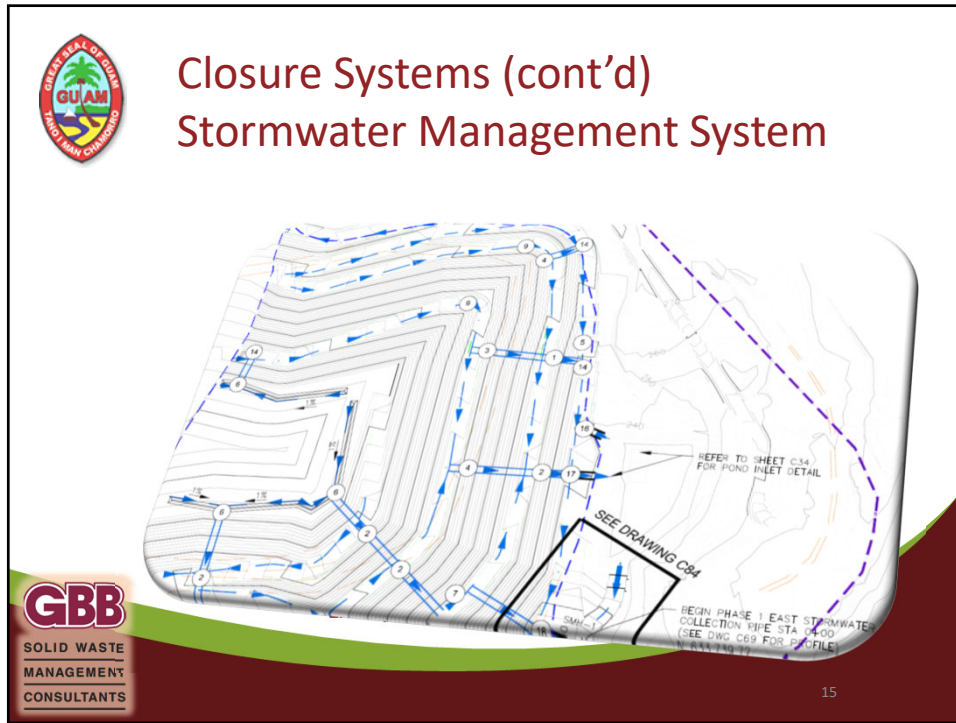


**Collection and conveyance swales, channels, ponds and discharge structures.**



14

14




15




16





## Construction Schedule – Phasing and Major Milestones (cont'd)

- Phase I – Major Milestones
  - Consolidation of waste
  - East half of cover
  - East half Leachate collection
  - Entire Leachate storage and conveyance system
  - East half stormwater management
  - East half gas collection
  - Western Channel Relocation



17

17



## Construction Schedule – Phasing and Major Milestones (cont'd)

### Phase I – Major Milestones



18

18



### Construction Schedule – Phasing and Major Milestones (cont'd)

#### Phase II – Major Milestones – similar to Phase I





19

19




### Construction Schedule – Phasing and Major Milestones (cont'd)






20

20




### Construction Management/Construction Quality Assurance

- Oversight in the field of the project execution by the Contractor to certify construction complied with the lines, grades and design intent
- Daily inspection and quality assurance testing and construction documentation
- Report and manage construction changes in the field
- Oversight in the field of closure system startup and construction closeout documentation




21

21



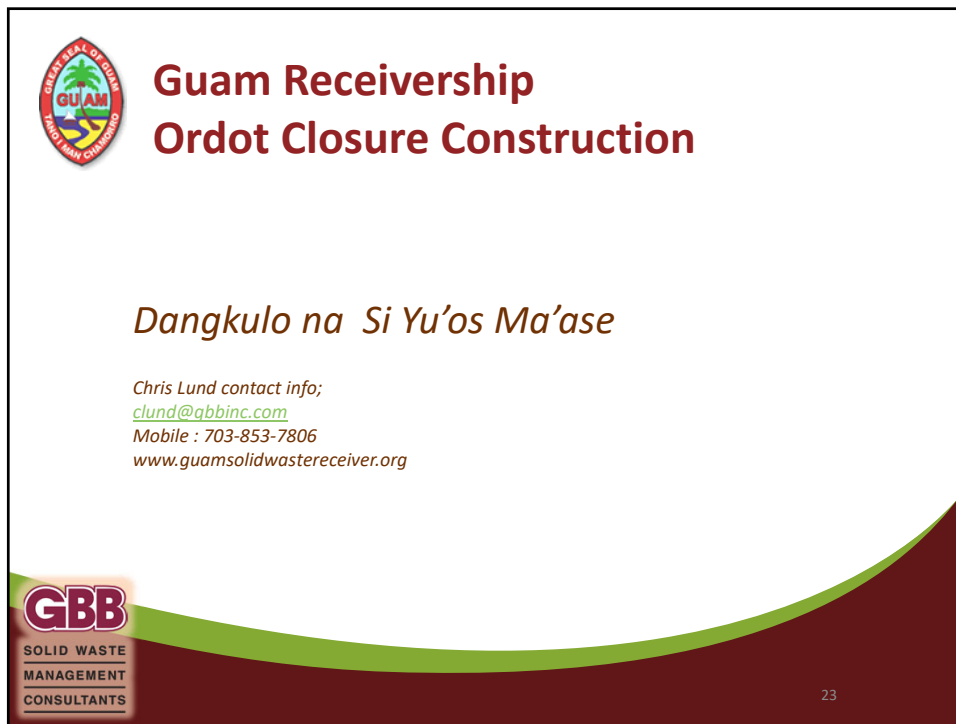
### Guam Receivership Ordot Closure Operational Phase (Post Closure Care Period)


Post Closure Care Period - the operational period of monitoring and maintenance of the Cover and ancillary cover systems for the duration of this post closure care period. This period is typically a 30-year period.



22


22



 **Guam Receivership  
Ordot Closure Construction**

*Dangkulo na Si Yu'os Ma'ase*

Chris Lund contact info;  
[clund@gbinc.com](mailto:clund@gbinc.com)  
Mobile : 703-853-7806  
[www.guamsolidwastereceiver.org](http://www.guamsolidwastereceiver.org)

 **GBB**  
SOLID WASTE  
MANAGEMENT  
CONSULTANTS

23

23