



UTILISATION OF DREDGED SLUDGE

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Possible technologies – Lagoon mass stabilisation



Lagoon mass stabilisation

- Dredge mass placed in high volume lagoons
 - Natural, mostly man made structures
- Lagoon depth usually < 5 meters
- Mass stabilisation work "ordinary"

Lagoon mass stabilisation, examples

- Helsinki, Vuosaari TBT-stabilisation, appr. 450 000 m³



Lagoon mass stabilisation, examples

- Valencia, Spain stabilisation, 300 000m³



Possible technologies – Barge mass stabilisation



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Barge mass stabilisation

- Dredge mass is treated directly in barges or special container
- Used when lagoon stabilisation impossible or stabilised mass volume low
- Compared to lagoon stabilisation, barge stabilisation method slower
- Examples, Turku (Finland), Trondheim (Norway)

Possible technologies – Process mass stabilisation

- New method for high volume dredge mass stabilisation
- Designed especially for contaminated dredge masses
- End placement lagoons > 5 m depth
- Turku Stable-project

TECHNICAL OVERVIEW

● MAIN COMPONENTS

- 2 separate silos for dry binder materials
- 1 belt conveyor for fly ash
- Sediment input tank
- Mixer
- Control room
- Treated mass output tank

Binder management



Dredge mass input



- Input screening
 - 2 - 4 separate cut screens a 3 x 3 m
 - 80 - 240 mm throughput, large dimension pieces screen out
- Input tank, Volume 40 m³
 - Continuous input to mixer

Mixing

- Mixer – modified and pressurised double twin-shaft mixer
 - Water volume 9 m³
 - Dry/empty weight 14 tn
 - Mixing capacity appr. 500 m³/h
 - Continuous mixing



Treated mass output

- Output tank volume of 40 m³
- Transport to end placement
 - Pump
 - Belt conveyor
 - Truck
 - Etc



Other componets

- Control logic
 - Fully automation
 - Every single transaction is monitored and stored
→ wide range of reporting
- Winter equipped
- Power generation needed from outside
(aggregate or grid power)



**Thanks for your kind
attention!**

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