Frisoli s.r.l.

Maximizing Landfill Capacity by Vertical Expansion

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Frisoli s.r.l.

The FRISOLI s.r.l., with over 20 years experience, works with groundbreaking techniques in order to pursue the growing necessity of minimizing environmental impacts and inadequate use of natural resources, offering a wide variety of operations, as:

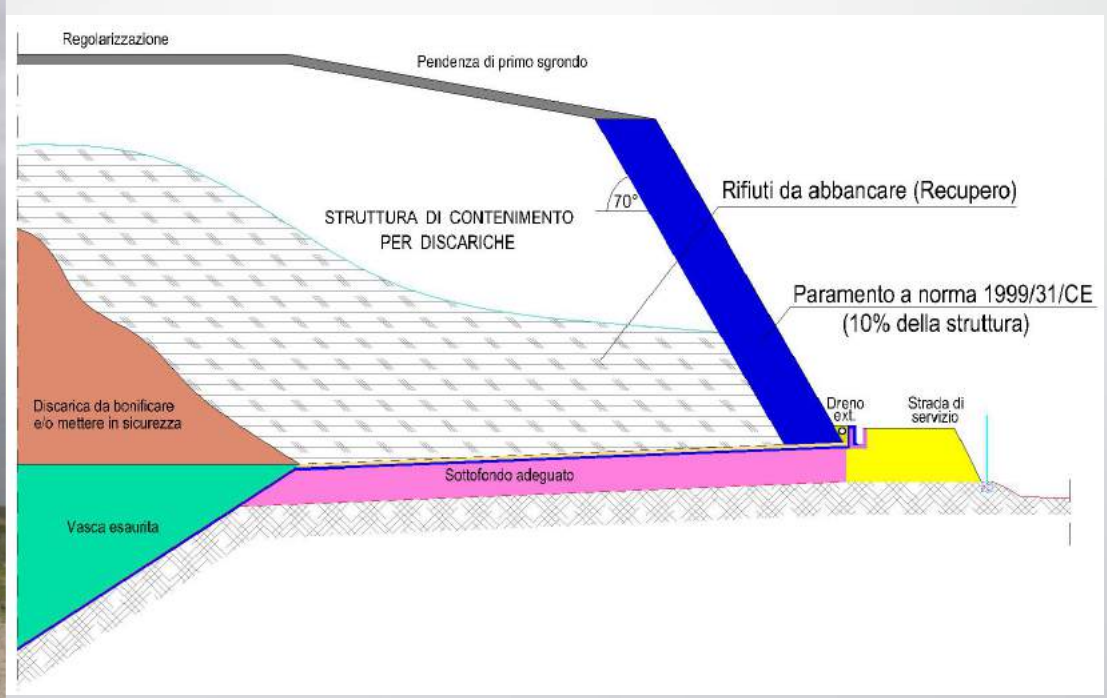
- Recovery of volumes within active or exhausted landfills;
- Remediation of uncontrolled landfill sites;
- Management, monitoring and exploiting of leachate collected from waste facilities;
- Reclamation of polluted sites.

Patented Landfill Retaining Structures

RISANAMENTO AMBIENTALE
FRISOLI
Aumento Volumetrie in Discariche

Refuse Dump Containment Structure

RECOVERY OF VOLUMES WITHIN ACTIVE OR EXHAUSTED LANDFILLS



- Retaining structures for waste with an inclination of 70°
- Recoverable increased volume is indicatively between 40% and 80% of the effectively authorized volume!

Refuse Dump Containment Structure

- Recovery of volume: vertical expansion
- Landfill lifetime extension
- Costs reduction
- Fast construction: no need of excavation

Refuse Dump Containment Structure

The technique:

- allows for capping of the landfill during its realization
- can be applied and adapted to the conformation of almost all landfills

Main Works

PARITI 2 LANDFILL (MANFREDONIA, ITALY)

Main Works

PASSO BRECCIOSO LANDFILL (FOGGIA, ITALY)

Main Works

PARITI 2 LANDFILL (MANFREDONIA, ITALY)

02/2001

Original condition: strong instability

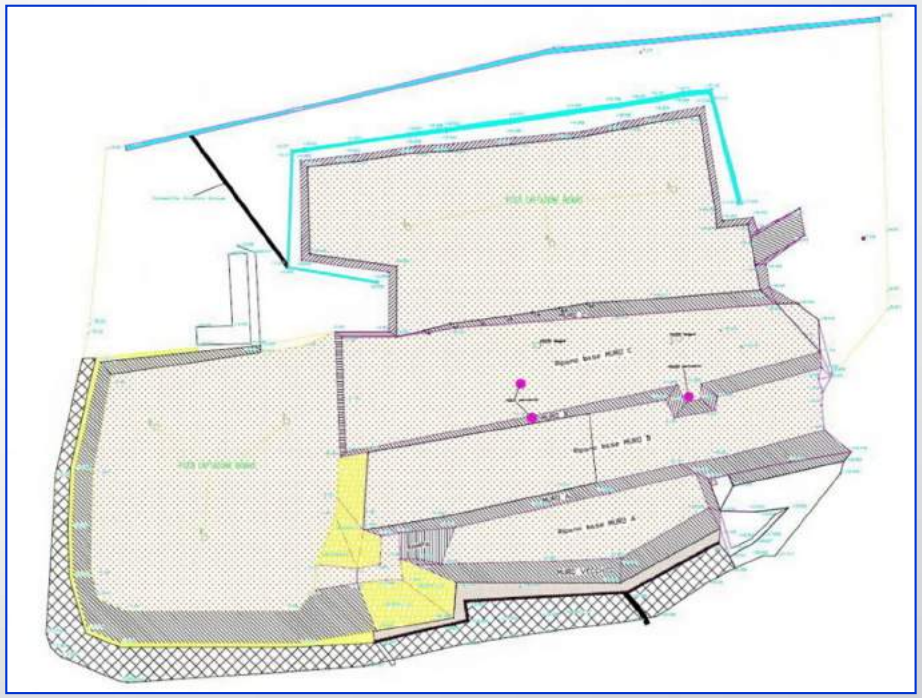
08/2004

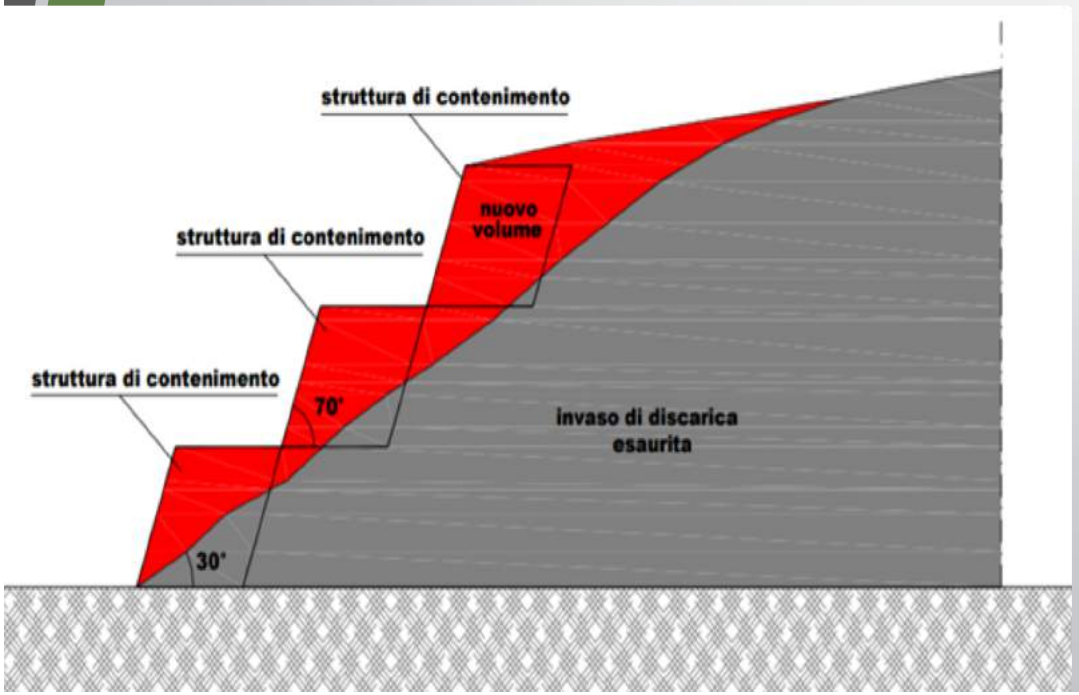
Final condition: application of the patented technique

Main Works

PARITI 2 LANDFILL (MANFREDONIA, ITALY)

- Working area: 10.250 m2
- Estimated recovered volume: 160.000 m3





This adopted solution shows the great flexibility of the technique

Main Works

PASSO BRECCIOSO LANDFILL (FOGGIA, ITALY)

Main Works

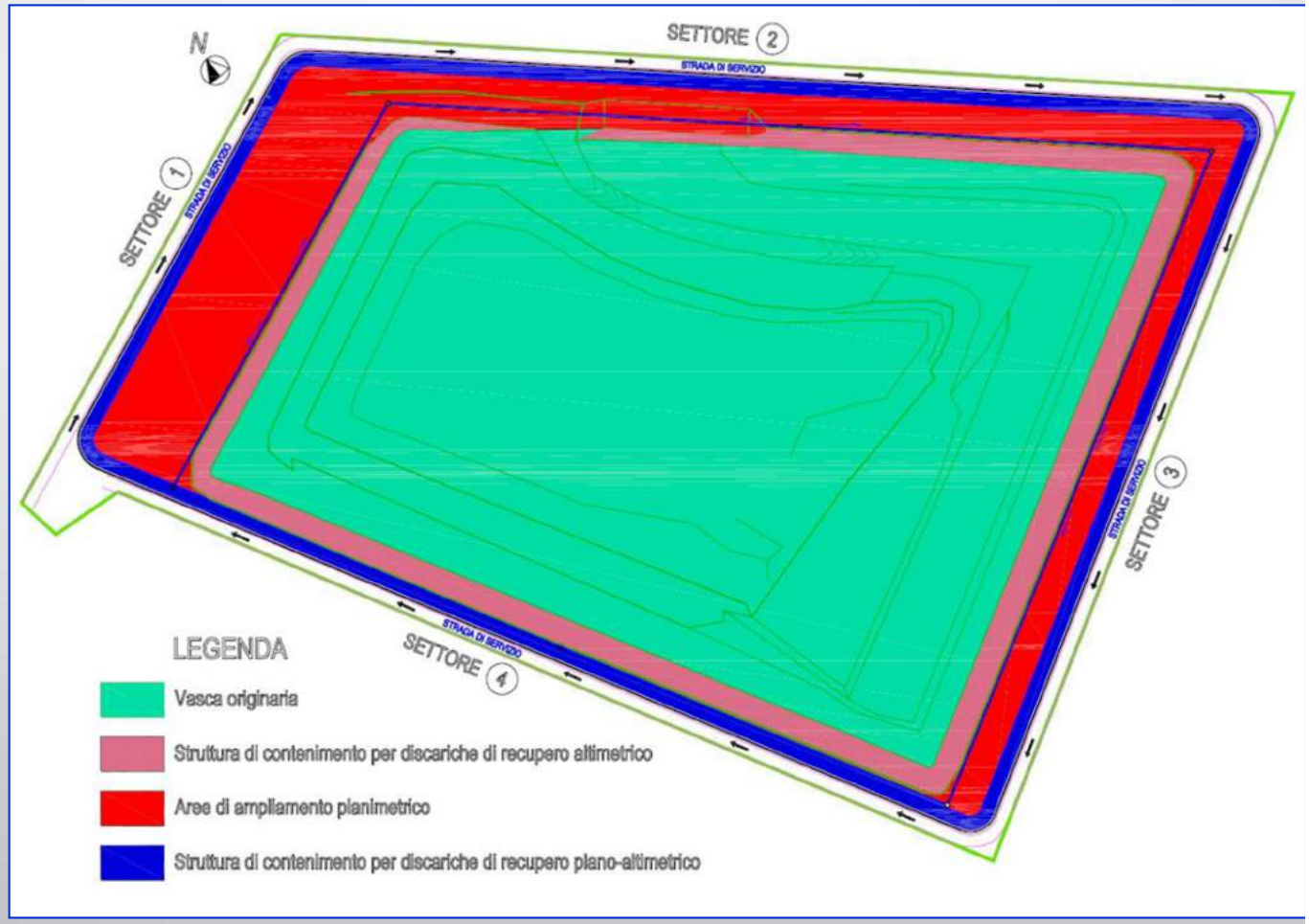
PASSO BRECCIOSO LANDFILL (FOGGIA, ITALY)

- Working area:

45.000 m2

- Volumetric recover:

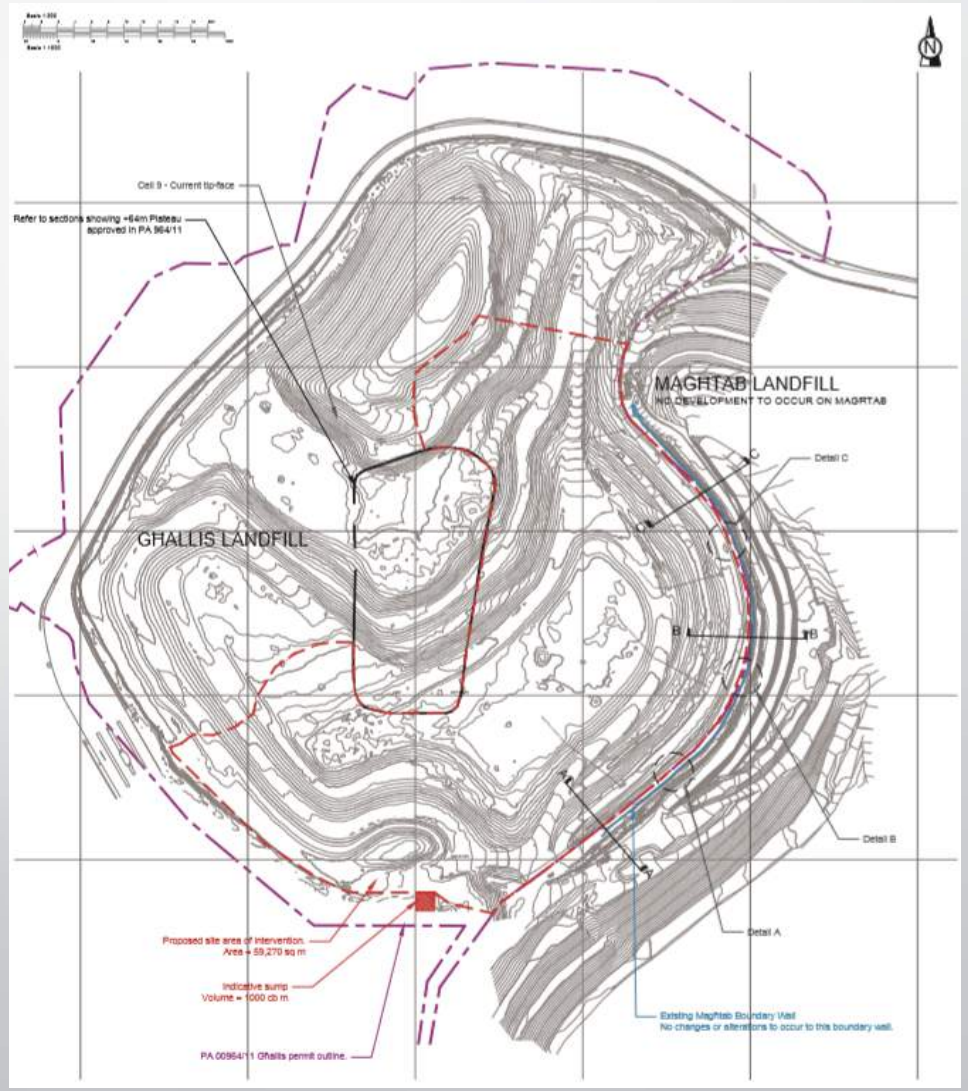
575.000 m3



On-Going Projects

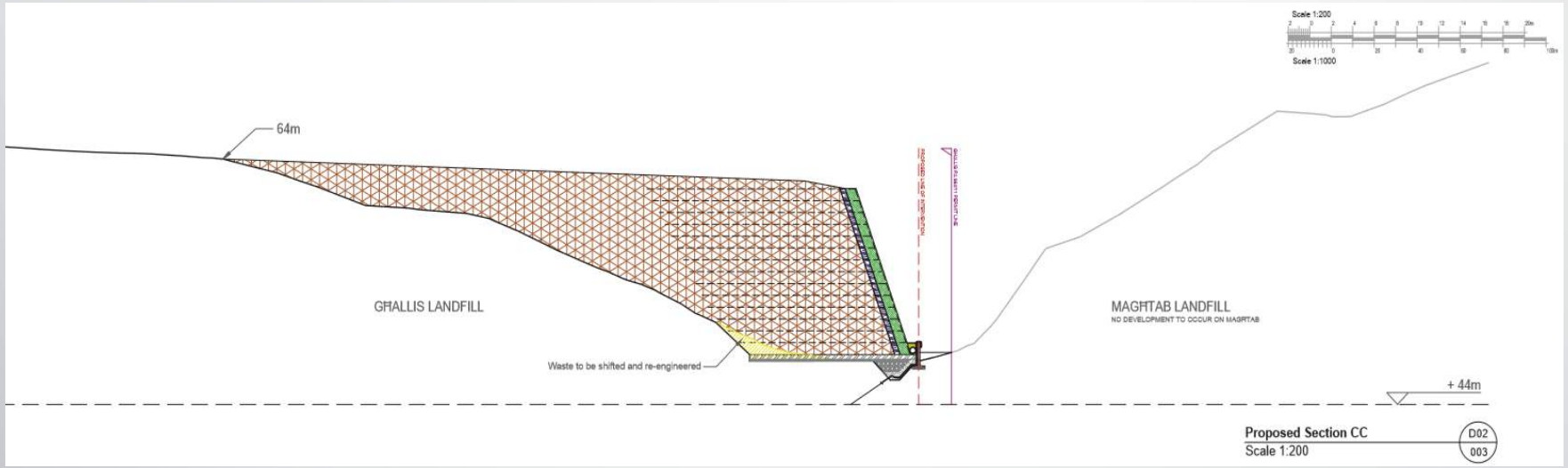
GHALLIS LANDFILL – MAGHTAB COMPLEX (MALTA)

- Alteration to the internal lateral landfill profile to extend the Ghallis landfill capacity
- Perimeter of the intervention: 667 l.m.
- These engineering works would extend the Ghallis landfill lifespan, by increasing void space by circa **350,000 m³**
- Max. height of the structures: 15 m



On-Going Projects

GHALLIS LANDFILL – MAGHTAB COMPLEX (MALTA)



The proposal model consists of:

- Side-slope lining system for connection with the existent one;
- "Foundation" constituted of a layer of mixed stabilized material wrapped with a woven geocomposite;
- Retaining structure (Side-Cap) with an angle of 70° constructed according to the "Refuse dump containment structure®" of Frisoli EP 1661635 A1 (European patent).

Innovative Solutions

RESEARCH PROJECT: ENVIRONMENTAL REMEDIATION AND OPTIMIZATION OF MUNICIPAL LANDFILLS

- Re-vegetation of landfill areas introducing typical vegetal species of the south-east Italy ("INULA VISCOSA")

- "Inula viscosa" is a tough plant, very resistant to adverse conditions and degraded environments

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Thank you for your attention

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