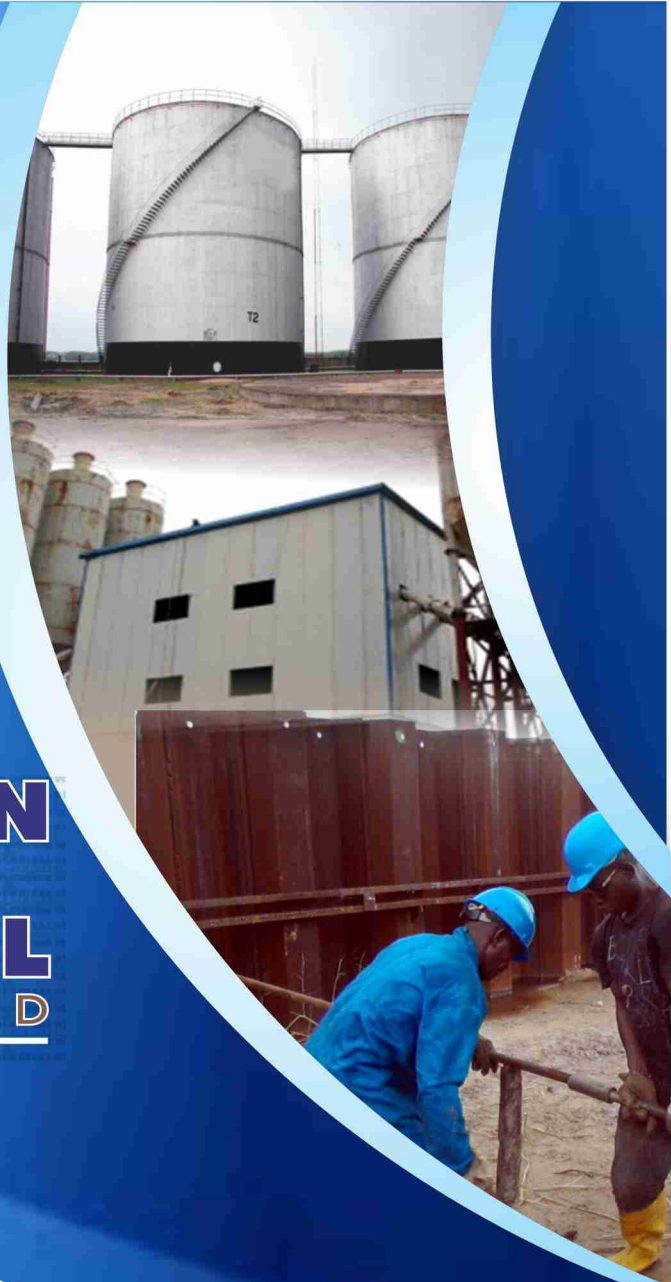




RC 449241

VIBROFLOTATION & GEOTECHNICAL NIGERIA LIMITED



VGNL.... Constructing Underground To Support What Is Built Above Ground

Vision

- *"Being the leading deep foundation engineering and construction company in Nigeria and among the best around the globe."*

Mission Statement

- *By providing economically safe foundations solution that has no equal, through a high level of disciplined and committed staff with world- class solutions (Softwares and Equipment), creating a Healthy, Safe and conducive environment to operate.*

Our Services

- **Ground Improvement by Vibroflotation Method**
- **Shore Protection**
- **Civil Works for specialized foundation**
- **Marine Construction**
- **Deep Foundation Consultancy Services**

Vibroflotation & Geotechnical (Nig.) Limited (VGNL) was incorporated in May 2002 and has its head office in Lagos with branch offices in Port-Harcourt and Warri.

VGNL is the sole licensee (in Nigeria) of the Vibroflotation Group- Solentache Bachy, France, a multinational vibroflotation company based in France whose impact has been felt in major ground improvement projects around the world. Because of its interest in the Nigerian market, V.G. France provides technical and technological support to VGNL.

VGNL is also in Technical Partnership with Betterground GmbH, a leading German based Deep Foundation Specialist Company.

VGNL is committed to being the leading deep foundation engineering and construction company in Nigeria and is currently the best and most equipped vibroflotation company Nigeria has ever had. Our desire is to bring excellent solutions to your engineering projects requiring ground improvement with world class success records.

Shoreline Protection

Shoreline protection is the process of constructing a barrier along the shoreline to prevent the shore from being washed away by erosion or scouring activities.

Shore protection can also be adopted for land reclamation where the existing natural shoreline is shifted further into the water to regain additional dry land for various activities.

Various Shore protection methods include;

- Grassy of the shore
- Laying of Geomattress/Geofabric
- Sheet Piling Work
- Stone Pitching/Laying of Interlocking Sandcrete.



Sheet Piling Work

Various materials that can be adopted in sheet piling work include;

- Steel Sheet Pile
- Concrete Sheet Pile
- Plastic Sheet Pile
- Vinyl Sheet pile
- Wooden Sheet Pile
- Fiberglass Sheet pile

The first three (Steel, Concrete and Plastic) are the most commonly used, depending on prevailing factors around the site.

Comparism of Various Materials

	Concrete	Steel	Plastic
Installation Techniques	Cumbersome	Simple	Simple
Maximum Length	Limited to 12m	Unlimited	Limited
Economy	Materials - Cheap, Installation - High	Materials - High, Installation - Cheap	Materials - Cheap, Installation - Cheap
Durability	Good	Good	Good
Self Weight	High	Medium	Light
Aesthetics	Poor	Good	Very good
Speed of Installation	Low	High	High
Leakage of retained materials	High	Low	Low
Strength	High	High	Low

Design Considerations

Factors of utmost importance in designing of sheet pile include;

- Height of retained materials/final dredged level
- Nature of materials being retained/in-situ underlying soil
- Activities along the shoreline(Probable loading condition)
- Chemical nature of water/soil prevailing in the area
- Anticipated service life
- Locally available technology/materials
- Environmental impact

Pre Design Requirement

- Subsoil information
- Topographical survey
- Bathymetric survey





Ground Improvement by Vibroflotation Method

WHAT IS VIBROFLOTATION?

It is a Specialist Deep Foundation Technique used for Ground improvement to considerable depth, up to 75 meters. It uses a probe called Vibro-flot (which could be powered electrically or hydraulically) to strengthen the soil by Deep Compaction to make the soil suitable to support Proposed Imposed Load. It involves the introduction of backfill granular material (Sand or Granite) to form Stone columns interlocking with surrounding soil. Treatment is to provide adequate bearing capacity; restrict total and differential settlements to acceptable magnitudes under the proposed loading and provide acceptable long-term performance of the treated ground.





Vibro-Replacement

This method involves the partial replacement of poor soil material, by flushing out the weak soil with Water/Air Jet and replacing with granular material. This is installation of stone column (made up of granite). This can be used in various soil type that includes Clay (soft, firm, stiff), lateritic Soil, Sandy Clay (of various constituent) and Peaty Soil.

Type of Vibroflotation Method

- Vibro Compaction Method
- Vibro Replacement Method(Wet top feed)
- Vibro Displacement Method(Dry method)

Vibro-Compaction

It is the densification of granular soil. Natural deposit as well as artificially reclaimed and can be compacted to achieve desired bearing capacity and minimal settlement. This is used for purely sandy soil of loose constituent.

Vibro-Displacement

This method is used where the environment plays a critical role in project. It can be either top or bottom feed. Little or no water is used in the construction. The vibro-flot is inserted into soil and the soil is displaced laterally as the stone column is being formed and compacted.



Civil Works

Civil Works practice by Vibroflotation & Geotechnical Nigeria Limited include;
Engineering studies and Design of Building Structure
Infrastructural structural appraisal of projects

Design and Construction of Tank Foundation/Base

Design and Construction of Concrete Pavement to withstand high traffic load (Rigid Pavement Design)

Design and Construction of Bund wall, Oil Water Separator (OWS) Tank

Hydrological/Structural Design of Drainage system
Design and Construction of Harbour/Marine Structures like Jetty, Bollards and Dolphins



FINAL WORDS

VIBROFLOTATION HAS
BECOME SO POPULAR IN
USE THROUGHOUT THE
WORLD BECAUSE OF THE
REMARKABLE SUCCESSES
IT HAS RECORDED IN THE
PROVISION OF VERY
ECONOMICAL AND SAFE
DEEP FOUNDATION
SOLUTIONS FOR OVER 3
CENTURIES OF ITS USE

CORPORATE HEAD OFFICE

VIBROFLOTATION & GEOTECHNICAL NIGERIA LTD
(DEEP FOUNDATION SPECIALIST)

6/8 MICHAEL ADEKOYA STREET, ILUPEJU, LAGOS

P. O. BOX 6104, FESTAC TOWN, LAGOS

Tel: + 234 (0) 806 649 2227 +234 (1)-7641244, + 234 (0) 809 569 3371

E-mail: info@vibroflotation-ng.com

Website: www.vibroflotation-ng.com

LIAISON OFFICE

Port Harcourt Liaison Office

14, Emekuku Street,

D/Line: P. O. Box 2656, Port Harcourt

Tel: + 234 - 803 342 2346, +234 - 802 307 0089