

GENSTRU is an acronym for Geotechnical, Environmental and Structural Engineering.

Complete services from Concept to Execution is what GENSTRU offers to the fields of Integrated Planning, Engineering and Project Management in application sectors of Geotechnical, Environmental, Hydraulics and Structural Engineering.

Our experience, know-how and professional skills are backed by a commitment towards Investigation, Testing, Analysis and Design, Monitoring, Research and Development; enabling us to provide innovative and efficient solutions.

Inclusive Engineering[©] is our motto, and we always keep in mind the benefit of all the stakeholders while providing our solutions. Thus, respect to public safety and the environment remains our priority while working on a solution.

Our Vision

To become a professionally managed leading consultancy firm in providing & managing implementation of solutions related to Civil Engineering in the domain of Geotechnical, Environmental and Structural Engineering.

Our Mission

To provide reliable & dependable consultancy mostly dealing with Geotechnical, Hydraulics, Environmental and Structural Interaction Solutions, fully backed by exploration, testing and monitoring, using best method practices, instruments and equipment, and priced to give value to all stakeholders.

Our Infrastructure

Our registered office in Wakad, is a contemporary office with open sitting arrangement, Conference room and sufficient working space for each employee. Our testing laboratory located in Hinjewadi, Pune, is equipped with state of the art equipment, competent technical staff and sufficient space for carrying out various laboratory functions independently. Laboratory is established on 3 floors with the first two floors dedicated for testing and the top floor is used as an administrative section of the laboratory.

Our Certifications and Accreditations

Our organization is ISO 9001:2015 certified.

Our testing laboratory is accredited by NABL in accordance with the standard ISO/IEC 17025:2017







Environmental Engineering

- 1. Planning and designing of landfills for hazardous waste and municipal solid waste.
- 2. Water and waste water engineering
- 3. Architecture and landscape
- 4. Environmental Impact Assessment



Water Resources and Costal Engineering

- 1. River training
- 2. Lake restoration
- 3. Dam and reservoirs
- 4. Shoreline protection
- 5. Bioengineering solutions



Geotechnical Engineering

- 1. Geotechnical & Geophysical Investigation & testing
- 2. Drone Survey & 3D Modeling
- 3. Instrumentation & Monitoring
- 4. Foundation Engineering
- 5. Ground Improvement
- 6. Erosion Control
- 7. Slope Stabilization & Landslide Mitigation
- 8. Pavement design and subgrade stabilization



Structural Engineering

- 1. Soil Structure Interaction solutions
- 2. Tunnel linings
- 3. Earth Retaining Structure
- 4. Enabling Structure



Rock Mechanics and Tunnelling

- Rockfall protection
- 2. Nailing and rock bolting
- 3. Tunnel Design

Services Offered

A. Pre Feasibility Studies

- Problem Analysis
- Study of Alternative Solutions

B. Feasibility Studies

- Preliminary Design and Stability Checks
- Economic Analysis
- Environmental Impact
- Aesthetics

C. Site Investigation

- I. Geospatial Survey
 - Topographical Survey
 Drone Survey
 - Geological Mapping LiDAR survey
- II. Geophysical Survey
 - Electrical Resistivity Test (ERT)
 - Seismic Refraction Test (SRT)
 - MASW
 GPR
 - Downhole & Crosshole
- III. Geotechnical Investigation
 - Field Bore logging (§)
 - Field Testing

D. Laboratory Testing

- Physical & Engineering Properties of Soil & Rock
- Chemical Testing of Water & Soil
- Building Material Testing

E. Detailed Design and Engineering

- Design, Detailing, Drawings, Quantity Estimation & Costing
- Technical Specifications
- Approval from Client or Concerned Authorities

F. Procurement Assistance

- Vendor Selection
 Specification Comparisons
- Cost Comparisons
- G. Project Management & Co-ordination
- H. Construction Supervision

Domain Services

- i. Geotechnical Engineering
- ii. Environmental Engineering & Science
- iii. Structural Engineering
- iv. Water Resources & Coastal Engineering
- v. Rock-Mechanics and Tunneling



Registered Address: Genstru Consultants Pvt. Ltd.

B-415, Ganga Osian Square, Survey No. 249/250, Mankar Chowk, Wakad, Pune - 411057.



NABL Accredited Laboratory Genstru Consultants Pvt. Ltd.

Bhumanthan, 50/1, Parkhe Vasti, Hirai Sitai Mandir Road, Hinjawadi, Pune - 411057.

Phone: 94224 09449

Email: email@genstru.in, lab@genstru.in

Website: www.genstru.in

- https://in.linkedin.com/company/ genstru-consultants-pvt-ltd-
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Inclusive Engineering[©]

Geophysical Services

Precision, Efficiency and Innovation

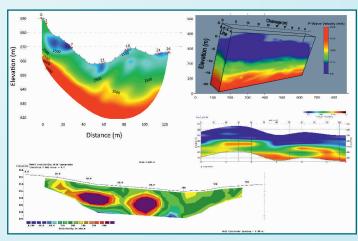
GENSTRU Consultants Pvt Ltd. is an acronym for Geotechnical, Environmental and Structural Engineering. We offer comprehensive services from concept to execution, specializing in integrated planning, engineering, and project management across geotechnical, environmental, hydraulics, and structural sectors.

With a commitment to **P**recision, **E**fficiency and **I**nnovation, our geophysical investigations enhance project planning, risk assessment, and decision-making in geotechnical and structural engineering applications

Geophysical Services

Genstru provides the following geophysical services throughout India and neighboring countries:

- Electrical Resistivity Tomography (ERT)
- Seismic Refraction Tomography (SRT)
- Multi-Channel analysis of Surface waves (MASW)
- Borehole Seismic Testing (Downhole, Cross hole etc.)
- Consultancy on selection of suitable Geophysical tests and interpretation



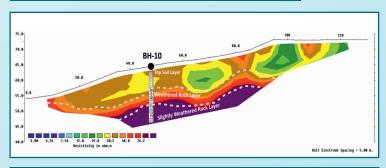
Benefits of Geophysical Survey

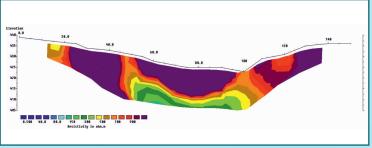
- Geophysical Methods can be used to evaluate vast area to produce 2D and 3D models of the subsurface.
- Surface Geophysical Methods (ERT, SRT, MASW etc) are non-intrusive and can be used to avoid unintentional situations that can generate from drilling or excavation.
- Geophysical Survey can be done to cover entire area of interest and identified anomalous zones can be clarified with calibration boreholes.
- Geophysical Survey can be used to select locations for boreholes and optimize drilling.

Electrical Resistivity Tomography (ERT)

- Measures bedrock & water table depth
- Detects solution features & voids
- Locates buried alluvial channels
- Maps leachate contamination
- Defines saline groundwater incursions
- Maps freshwater-saltwater interfaces in coastal aquifers.
- Identifies weak zones, fractures, and cavities in soil and rock

<u>2D-ERT apparent resistivity models</u> and correlation with Drilled Boreholes

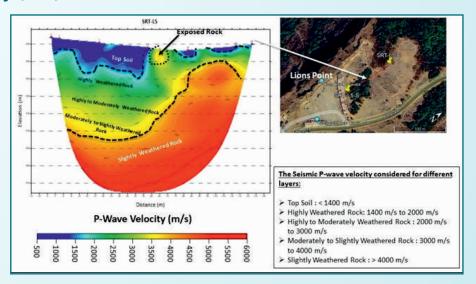




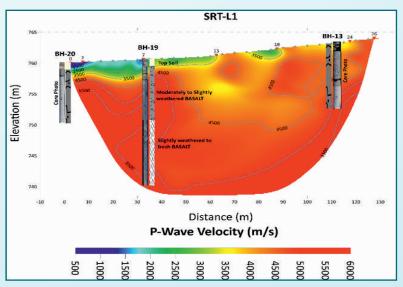
Seismic Refraction Tomography (SRT)

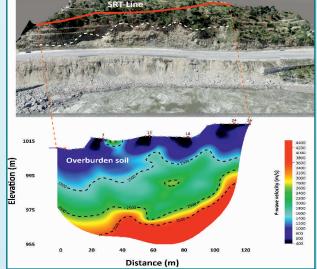
2D-SRT Velocity interpretation

- Measures Bedrock Depth & Overburden Thickness.
- Identifies Fractures zones in bedrock.
- Maps Bedrock contour.
- Determines Ripability Parameters.
- Locates Geological Features.
- Defines Ancient Landfill Sites.
- Identifies active fault zones and seismic velocity contrasts.

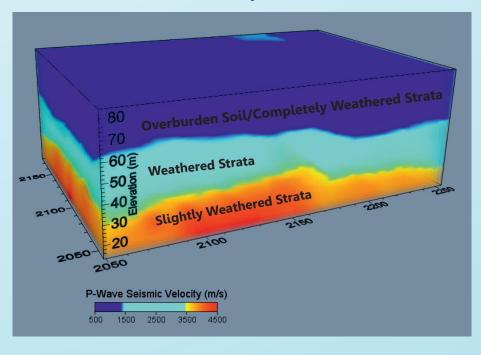


2D-SRT Velocity model and correlation with Drilled Boreholes





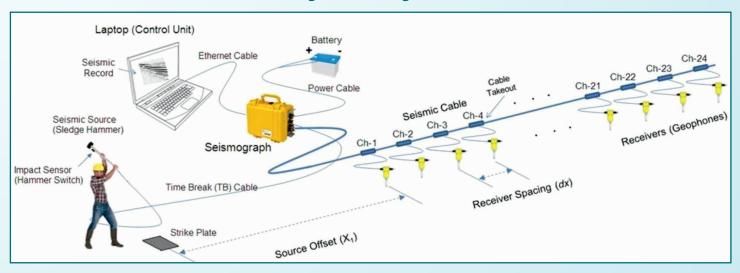
3D-SRT Velocity model



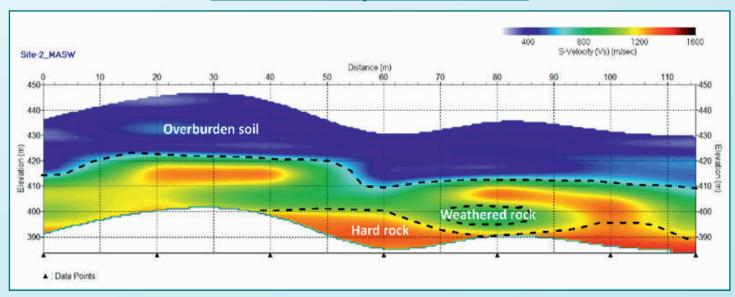
Multi-Channel Analysis of Surface Waves (MASW):

- Measures the thickness and elevation of soil and sediment layers, as well as subsurface boundaries.
- Categorizes sites according to UBC/IBC standards for seismic design purposes.
- Evaluates the rigidity of soil.
- Detects areas with reduced velocity (weaker zones), including voids and cavities.
- Assesses the elastic characteristics of soil and rock.

Schematic Diagram showing MASW site work



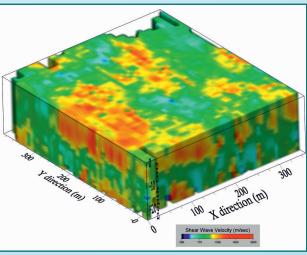
2D Shear wave velocity models of MASW data



2D MASW model in backfilled area

Line-6 Extent of backfilled area Depth (m) -20 10 15 201 25 30 Chainage (m) 400 500 600 700 88 Shear Wave Velocity (m/s)

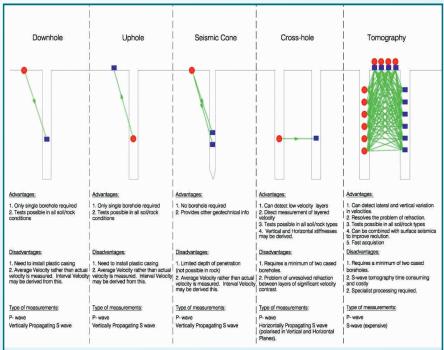
3D Shear wave velocity model of MASW data



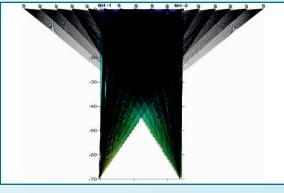
Borehole Seismic Tests

• Borehole seismic tests are geophysical methods used to investigate subsurface properties by generating and recording seismic waves within boreholes. These tests help determine rock and soil characteristics, detect subsurface anomalies, and estimate elastic properties.

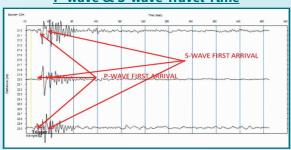
Different Borehole seismic test configurations



Ray Path

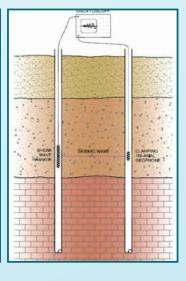


P-wave & S-wave Travel Time

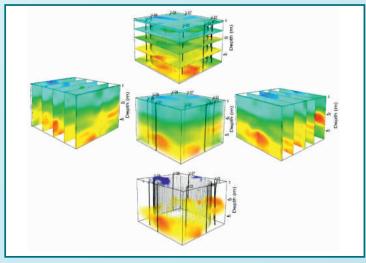


Downhole Seismic

Cross hole Seismic



3D Modelling with Crosshole Tomography



Contact Us

GENSTRU CONSULTANTS PVT LTD.

Registered Address: B - 415, Ganga Osian Square, Survey No. 249/250, Mankar Chowk, Wakad, Pune - 57. T: 094224 09449 | E: email@genstru.in

Laboratory Address: Bhumanthan,

Survey No. 50/1, Parkhe Vasti, Hirai Sitai Mandir Road, Hinjewadi, Pune Pune - 57. T: 96070 61107, 9158098980 | E: lab@genstru.in



TC-5082

An ISO 9001:2015 Certified Company & ISO 17025 accredited laboratory



Inclusive Engineering°

Soil, Rock & Building Material Testing Laboratory

Proficiency, Quality & Reliability.

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As a premier engineering firm, our NABL accredited testing laboratory provides **P**recise and **R**eliable testing for soil, rock, and building materials, adhering to national and international standards. We are committed to engineering excellence through advanced technologies, a skilled team, and stringent Quality Assurance plan.

Our Comprehensive Testing Services

Soil Testing

We provide comprehensive soil testing services to determine soil characteristics, based on which an educated decision can be made for its suitability for particular use.

- Soil Classification & Index Properties
- Shear Strength Parameters (Direct Shear, Triaxial)
- Consolidation & Swelling pressure
- Soil Compaction (Proctor Test, Modified Proctor Test) & CBR
- Permeability



Rock and Stone Testing

For projects requiring deep foundations or those in areas with substantial rock formations, our rock testing services provide assessments of essential parameters such as strength, durability, and the behaviours of rock.

- Uniaxial Compressive Strength (UCS)
- Modulus of elasticity and Poisons Ratio
- Specific Gravity, Water Absorption & Porosity
- Slake Durability Index
- Moh's Hardness, Moisture content

- Point Load Strength
- Rock Shear Strength (Triaxial test)
- Brazilian Tensile Strength Test
- Rock Abrasivity



Building Material Testing

Our laboratory testing checks the suitability of materials used in construction as per relevant standards for strength and durability.

- Aggregate Quality Testing (Gradation, Flakiness, Elongation, etc.)
- GGBS Quality Testing (GSA, Fineness, Density, Slag Activity Index)
- Concrete Testing (Compressive Strength)
- Cement Testing (Fineness, Consistency, Setting Time, Soundness, etc.)
- Bricks & Paver Blocks Testing (Compressive Strength, Water Absorption, Dimensions, etc.)





Why Choose Us?

- ISO/IEC 17025 (NABL) accredited laboratory since 2016
- **ISO 9001:2015** certified organization Since 2017
- Commitment to Customer Satisfaction with a Customer-Centric Approach
- State of the art equipments and standard testing methodologies
- Team of Trained and Experienced engineers and technicians
- Reliable Tests, Timely Turnaround, Valuable Reports
- Tailored testing packages addressing project specific needs
- Priced to Provide Value

Our Commitment to Quality

At **GENSTRU**, we uphold the highest standards of **Quality**, **Reliability**, & **Safety**. Beyond testing, we provide comprehensive insights to ensure project success and safety. Rooted in scientific precision and ethical practice, our NABL accreditation reflects our dedication to delivering results you can trust!

Contact Us

GENSTRU CONSULTANTS PVT LTD.

(NABL Accredited Soil, Rock, and Building Material Testing Laboratory) "Bhumanthan", Survey No. 50/1, Parkhe Vasti, Near Hirai Sitai Mandir, Hinjewadi, Pune - 411057

Phone: 9607061107, 9158098980, 8308550902

Email: <u>lab@genstru.in</u> | <u>bd@genstru.in</u> | <u>email@genstru.in</u>

Website: www.genstru.in

