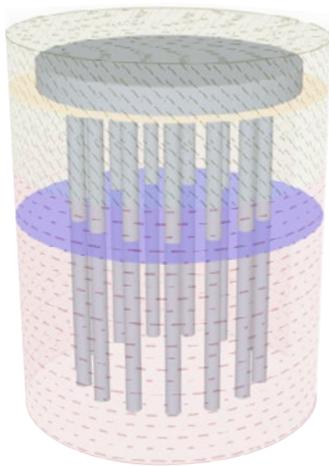




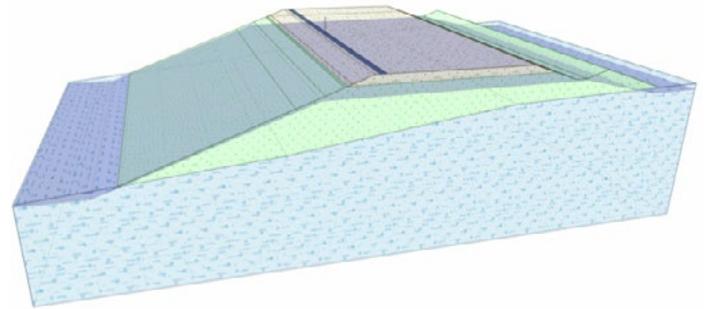
Our team of experienced geotechnical designers manage complex geotechnical project, achieving confidence in safety & structural stability, whilst reducing environmental impact and budget.

Natural Power's geotechnical design experience has been applied across the global renewable energy sector, including: onshore and offshore wind, solar and hydro with wider applications into highways, rail, and commercial buildings and structures. The team has produced robust geotechnical design for: shallow and deep foundations, earthworks, slope stability, retaining walls, bridges, sheet piling and tunnels. Natural Power adopts the latest standards and geotechnical design software to ensure consistency, quality and efficiency in all deliverables.

Pile group foundation analysis



Earthwork stability analysis



Detailed design stage

- In-house multi-phase geotechnical investigations
- Earthworks design & specification
- Floating access design
- Foundation bearing capacity and settlement analysis
- Slope design
- Soil reinforcement
- Ground & structure, failure analysis
- Retaining systems and anchors
- Ground improvement design
- Grouting assessment & design
- Geotechnical design reports

Early stage review

- Geotechnical desk studies
- Preliminary design & layout
- Geotechnical hazard assessment
- Slope stability risk assessment & analysis
- Swelling and sensitive soil risk
- Geochemical attack risk
- Mining & quarrying feasibility, planning & design

// our aim is to provide the highest quality geotechnical design solutions for our clients, ensuring safety, efficiency and a reduced environmental impact at all stages of planning, design and construction //

Gavin Germaine, Senior Geotechnical Engineer



Natural Power Geotechnical Design Services



Case Study **Foundation & infrastructure design package**

Natural Power was appointed by I&H Brown to provide geotechnical design services for an eleven turbine wind farm in the Western Highlands, UK. The scope was to deliver the geotechnical design report and earthworks specification including testing and inspection regime for the construction phase. Design elements were completed in accordance with British Eurocode standards and included the specification for highway works to address the detailed earthworks requirements.

Additional ground investigations were initially specified and carried out by Natural Power to obtain high quality undisturbed core samples through a deep profile of glacial deposits. Following geotechnical laboratory testing, bearing capacity and settlement analysis for the associated foundation and permanent hardstand was undertaken. Additional design support was provided in relation to geogrid reinforcement to access tracks. Planning, design, inspection and testing of a rock fill displacement hardstand in deep peat conditions was also undertaken.

Edge stability calculations were performed across infrastructure to ensure safe passage of construction and operational vehicles along access and hardstand areas.



Natural Power's aerial imaging during design construction phase

Testimonial

// We employed Natural Power as our design partner on a recent wind farm project we had been awarded. Our experience throughout both the design & construction phases was very positive and we found the staff to be both knowledgeable and prompt in identifying practicable solutions to issues as they arose on-site. They worked collaboratively with our site team, and the client's design team to develop a relatively detailed and well-scrutinised design, bringing specific benefits to the project, which have worked out well on-site. Design elements were delivered on-time. We would like to use them again on future projects. //

James Wood, Design Co-ordinator,
I & H Brown Ltd.

