

Project Capability Earthworks & Reclamation

Maxwell GeoSystems have been driving developments in observational methods for ground engineering and link influences, prediction and monitoring within an interactive design feedback scheme. Our **MissionOS** system combines instrumentation monitoring, construction data and ground condition information within a real-time environment to



The best earthworks, reclamation and ground improvement projects, successfully combine large volumes of data before, during, and post construction.

With **MissionOS** data driven architecture geotechnical ground models developed during site investigation stages can be checked and reassessed as new information comes to light during construction. This data can be supplemented by monitoring the spatially dense construction data from ground improvement holes to identify soft/deep spots not apparent during site investigation and comparing pre and post treatment ground strength with CPT gives confidence that the ground has suitably improved.

MissionOS powerful instrumentation capabilities enable embankments to be monitored closely for stability as they are erected and for settlement once they reach full height. Settlement measurements are compared with predictions in order to confirm design assumptions and answer the ever burning question: "Are my ground improvements finished so I can move on to the next stage of construction?"

Often rich information sources lay dormant, buried in static reports. **MissionOS** helps bring information alive, meaningfully presenting data to keep designers, constructors, clients, and verifiers informed of project progress..

Key Capabilities Include:

- Display AGS Borehole data in 3D along with stratigraphic surfaces based on those boreholes. Surfaces are dynamically so reflect the latest data.
- Easily display and compare multiple CPT traces.
- Produce surfaces of ground improvement (PVD, stone column) depths to compare with design models.
- Derived instrument calculations combining two or more instruments e.g. horizontal vs. vertical movement as a measure of embankment stability.
- Set-up prediction models based on adjustable input parameters. Compare predictions with measurements to assess progress and forecast forward to estimate end of construction.
- User customisable canvas sheets to display multiple graphs and maps, for up to date, easily understood, information.
- Automated reporting to produce comprehensive up to date scheduled reports.

Summary:

Too often, rich information is produced in earthworks and reclamation projects that forever remains buried in static reports. **MissionOS** can dynamically integrate many information sources so that stake holders across different locales are presented with up to date information on which to base their decisions.

The configurable data models and predictive tools enable users to build powerful feedback systems to ensure the benefits of good observational engineering can be passed to clients in the form of shorter project durations, greater certainty and reduced cost.

Category	Earthworks & Reclamation	MissionOS System	Mission Monitor
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