BIM FOR GEOTECHNICAL ENGINEERS

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Consulting Specialized
Authorized Developer
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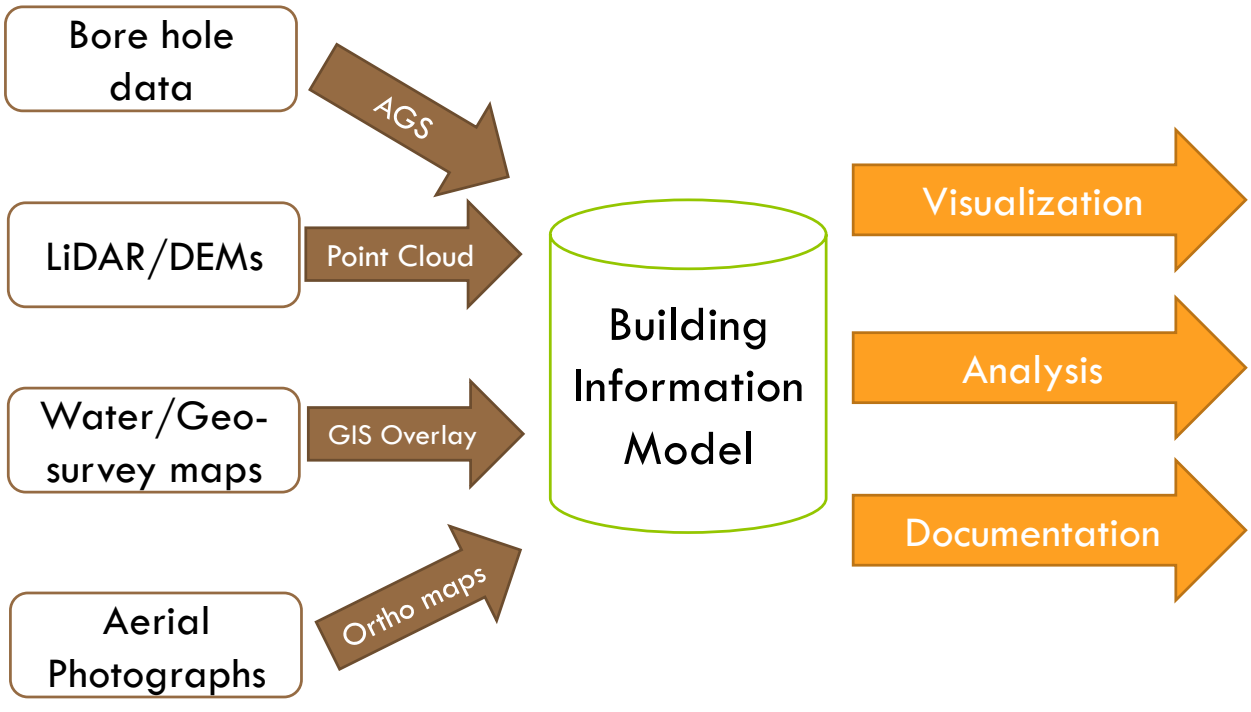
37% overrun in building project is due to ground problem (NEDO, UK)

70% delay Civil infra project is due to ground problem (National Audit Office, UK)

Complicated ground data

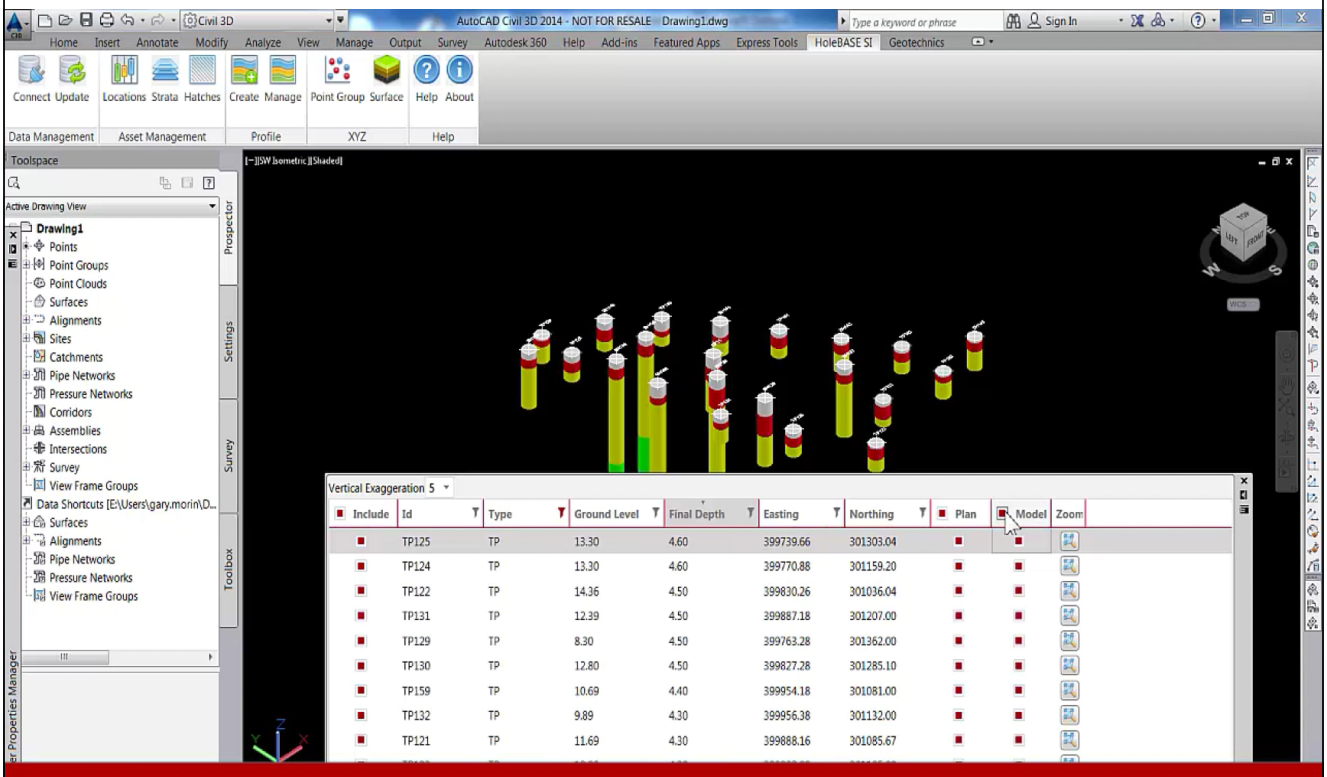
- Scatter source of information
  - Borehole data
  - Scanned Report Archives
  - Earthwork condition reports
  - Maintenance requirements
  - Drainage networks
  - Aerial photos and maps
  - LiDAR/DEMs
- Limited budget for Ground Investigation

BIM as a collaborative database



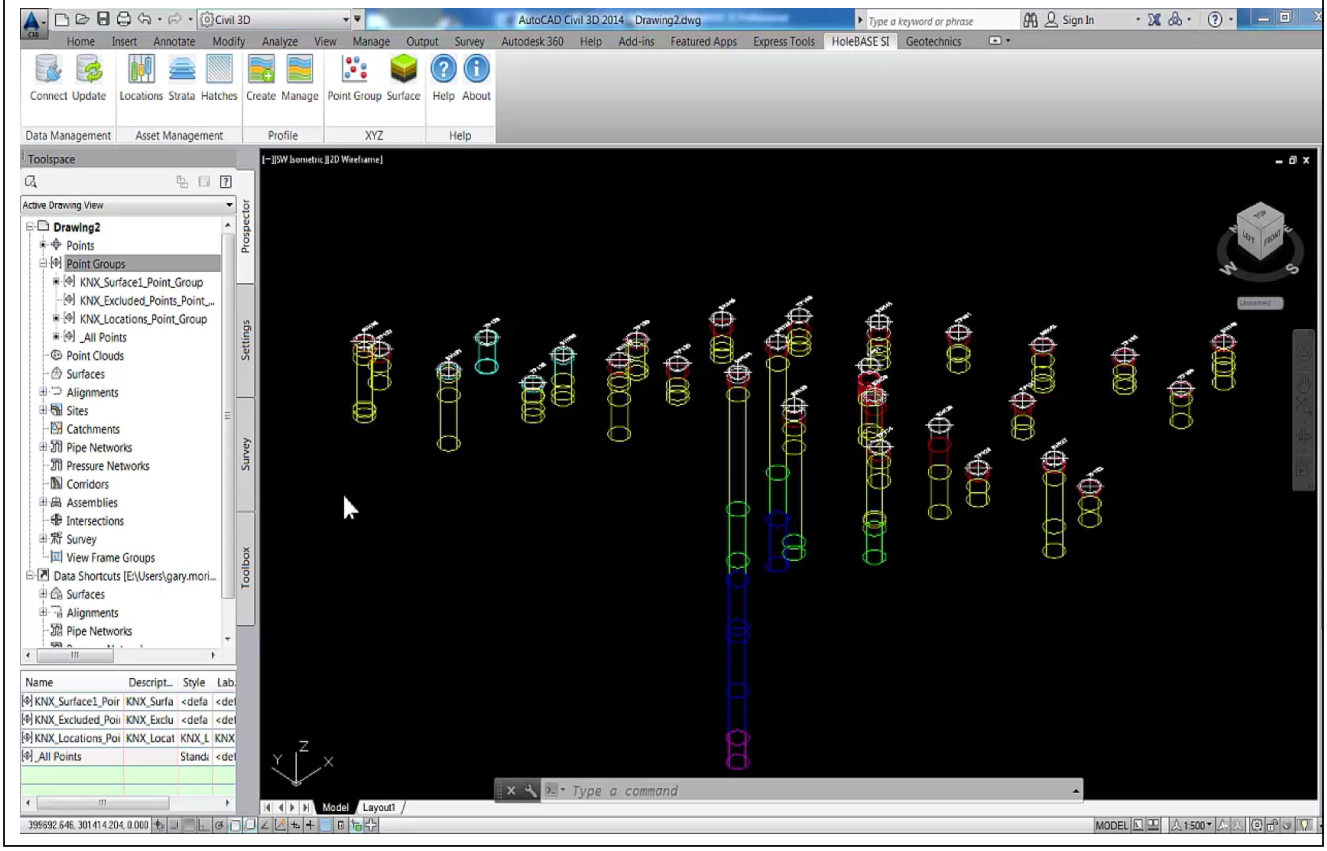
Bore hole Data

Bore hole Data with AGS

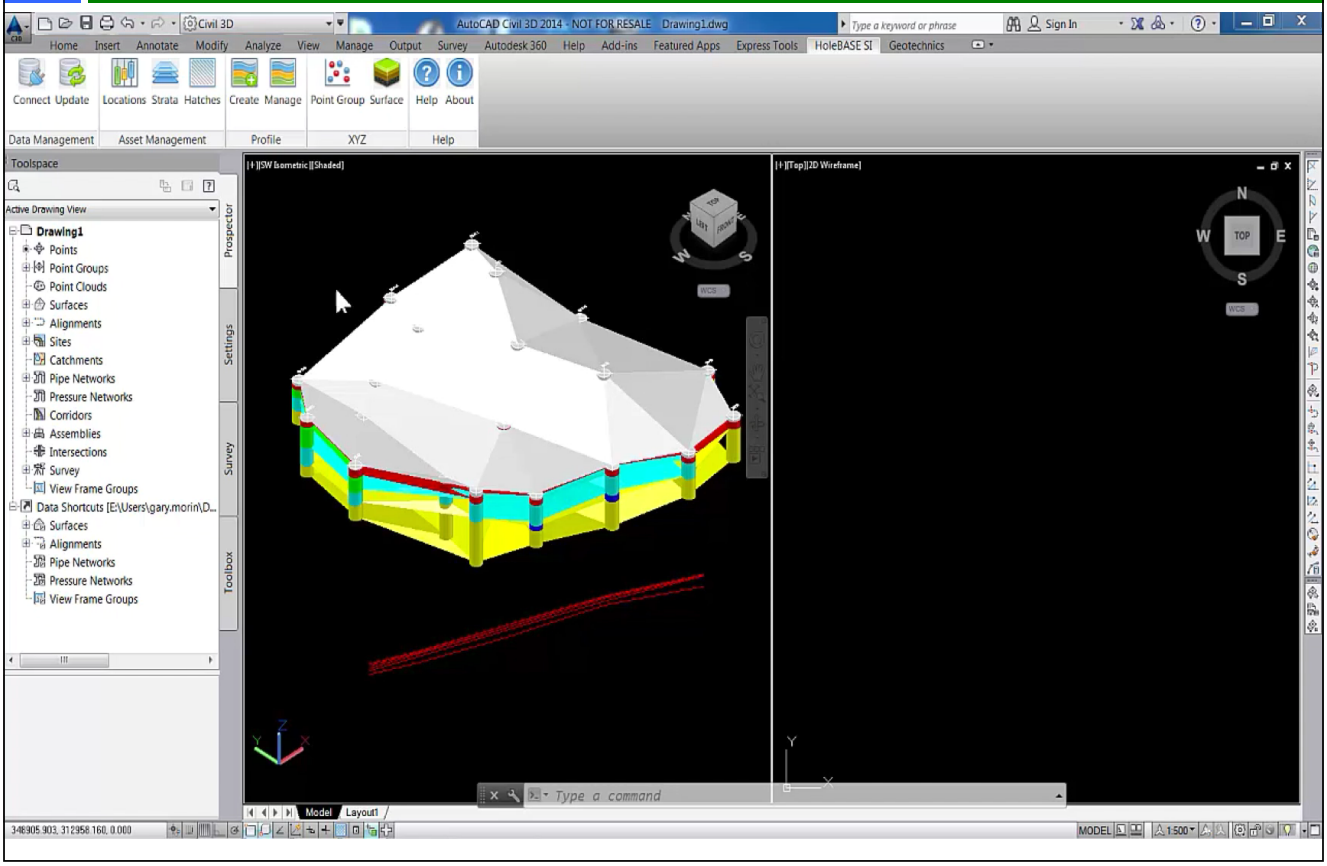


Manage the boreholes to display

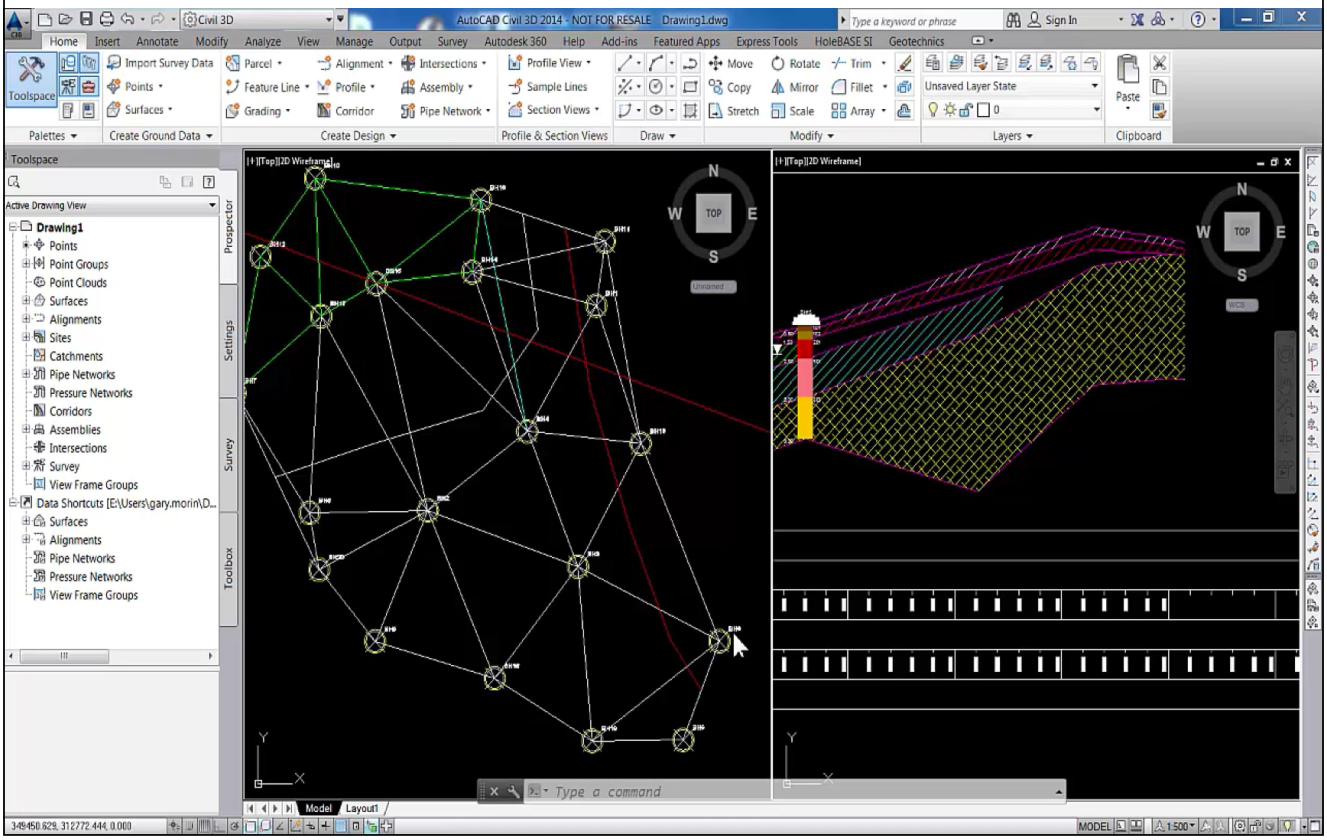
Interactive Filtering



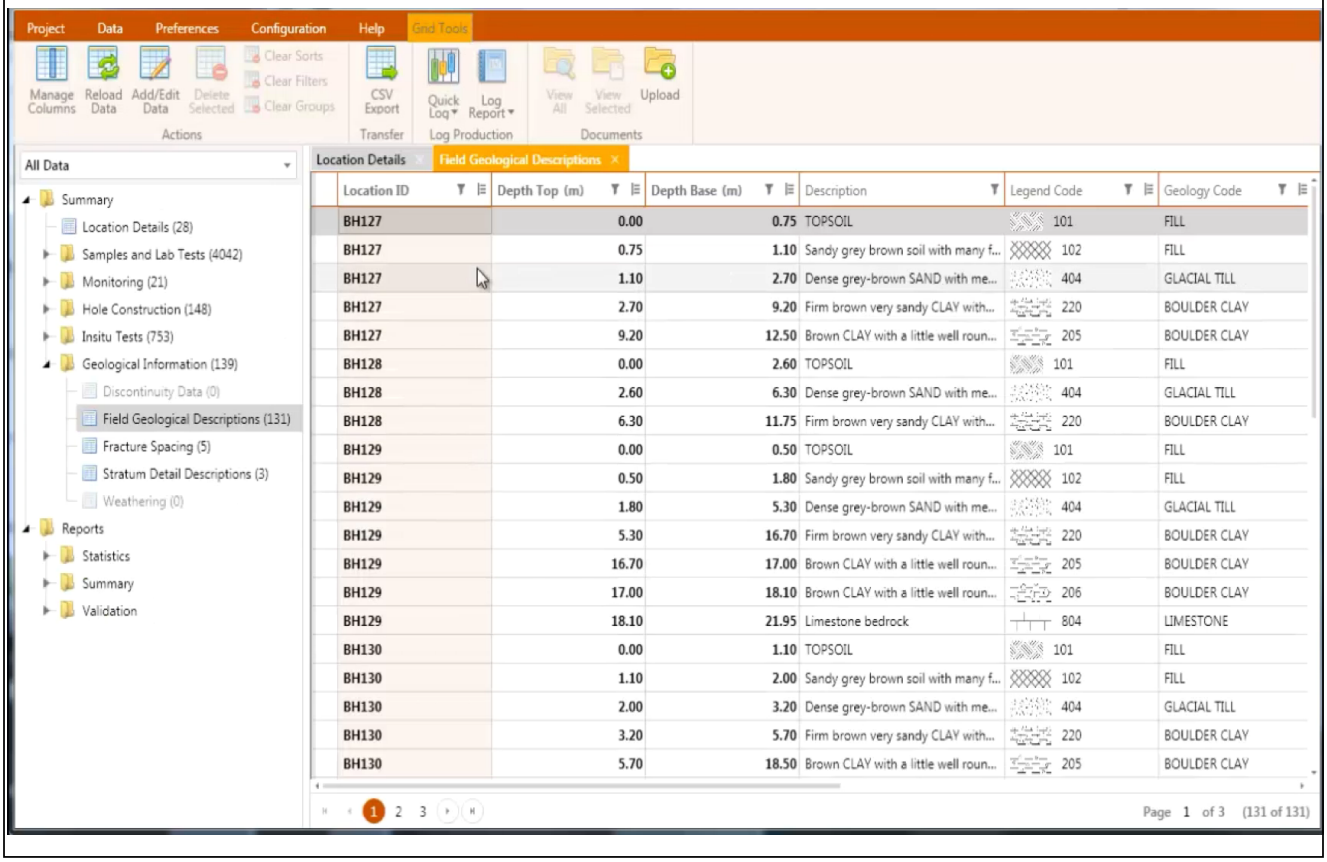
Interactive Profiles



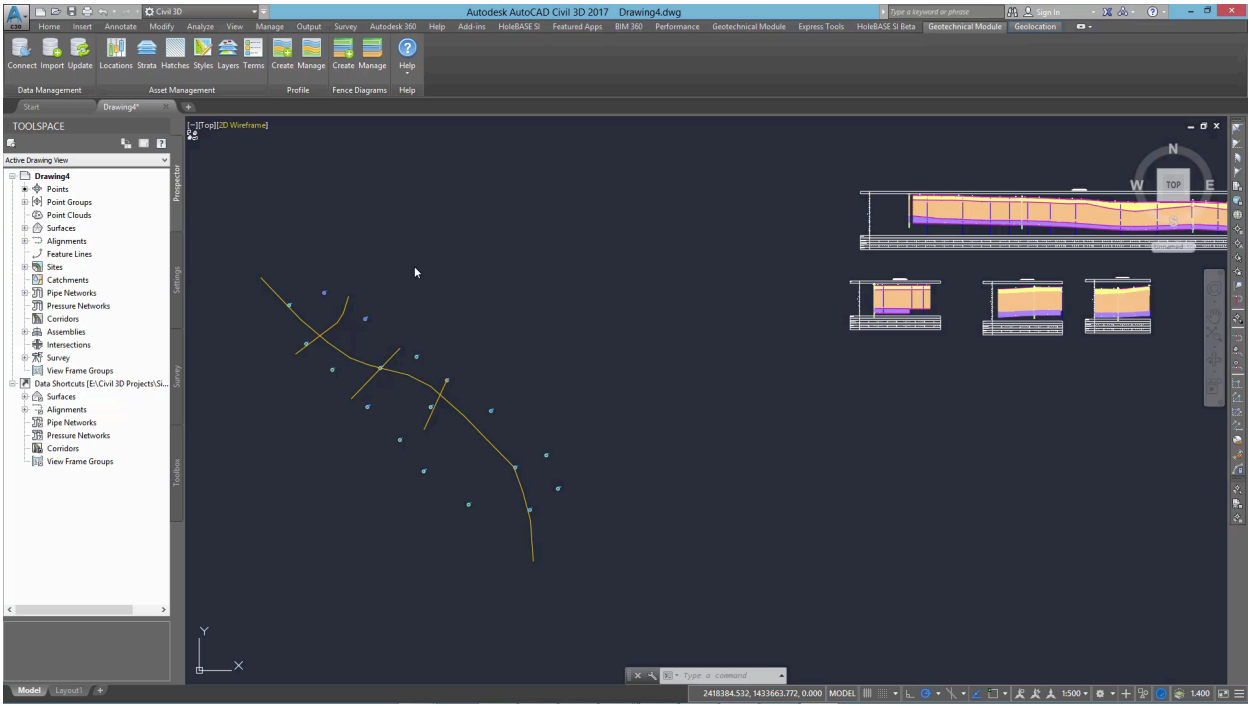
Strata modeling



Bore Log

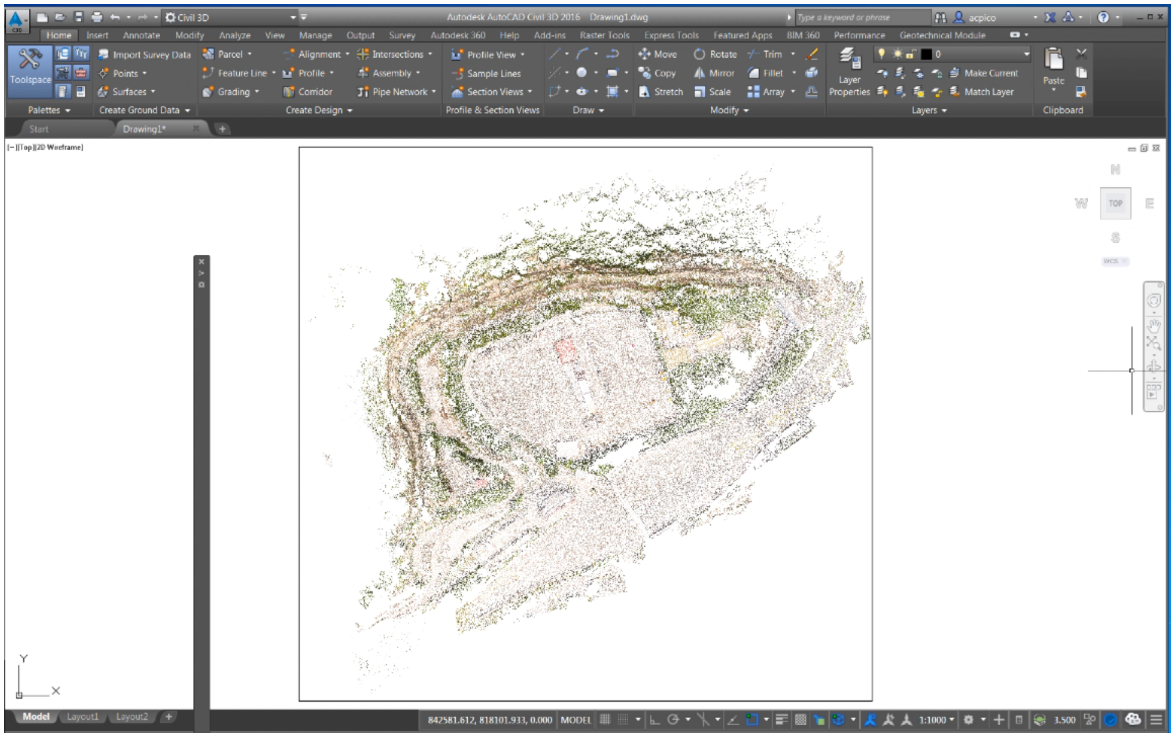


Handling of uncertainties

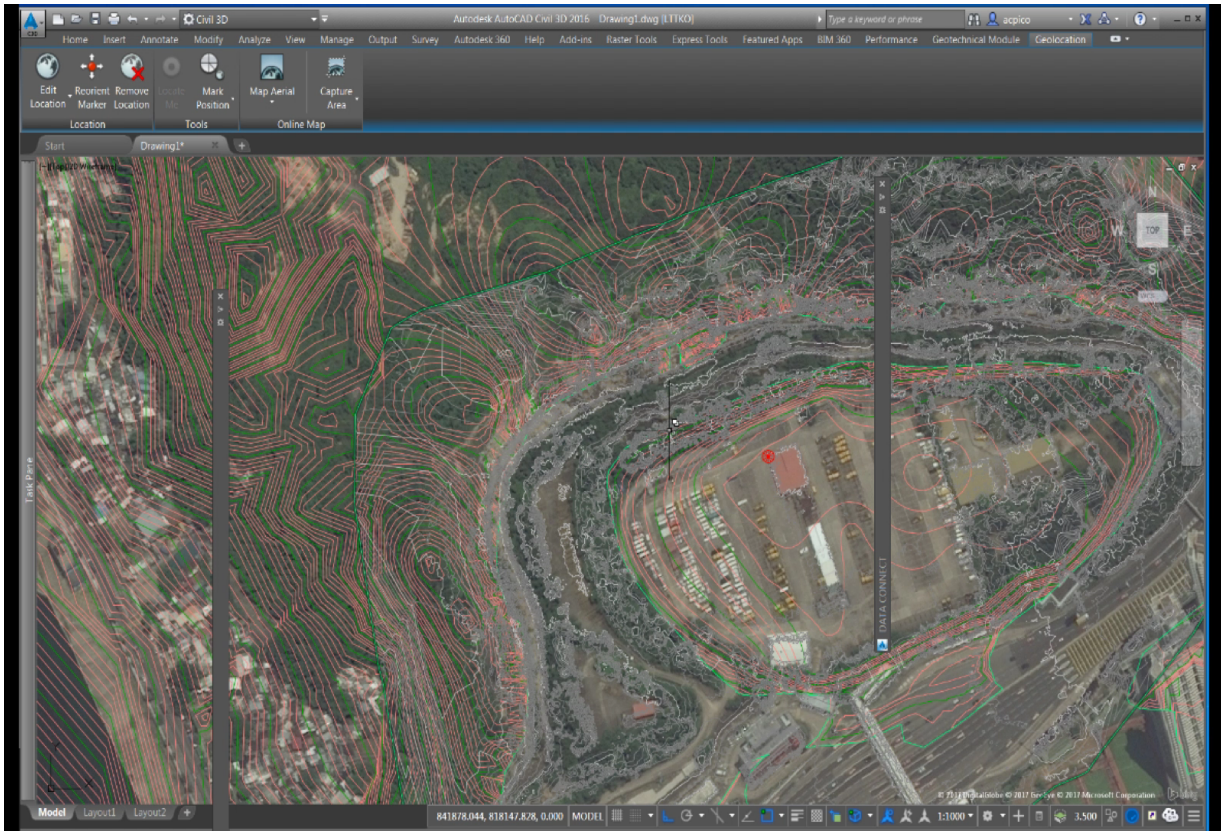


LiDAR/GIS/Aerial photos

Terrain model from LiDAR data

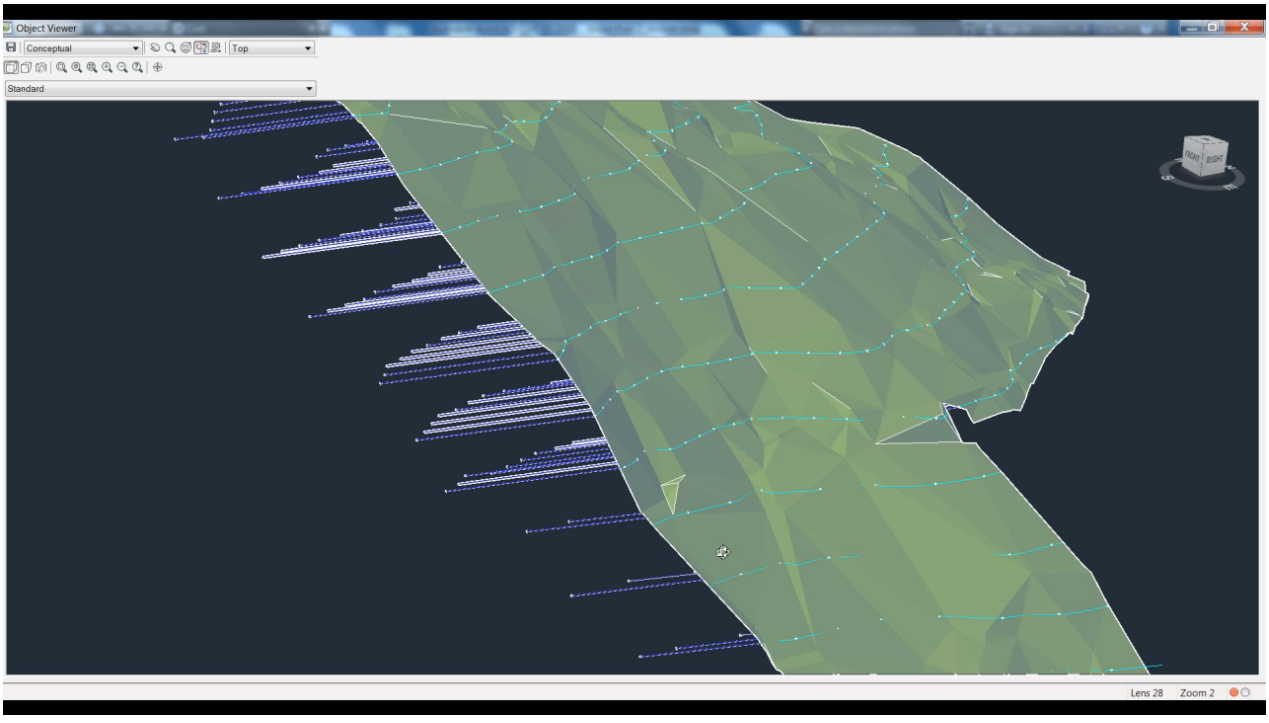


Overlay of GIS Data

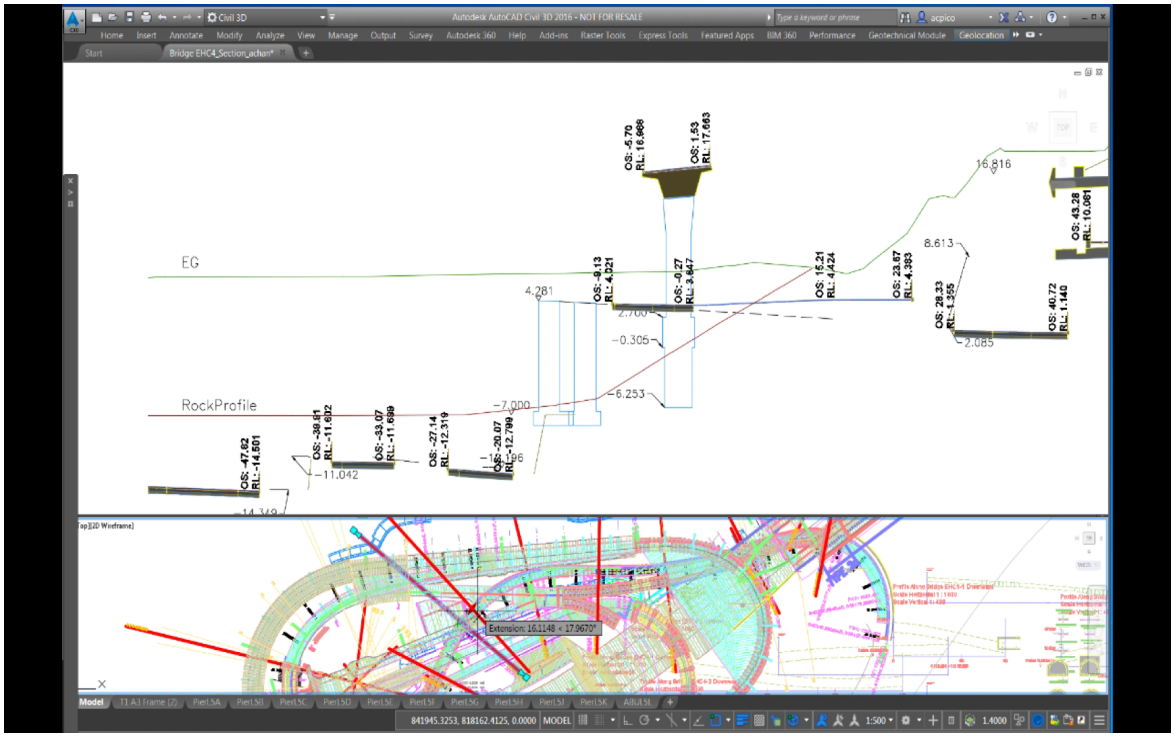


Integrated with Design model

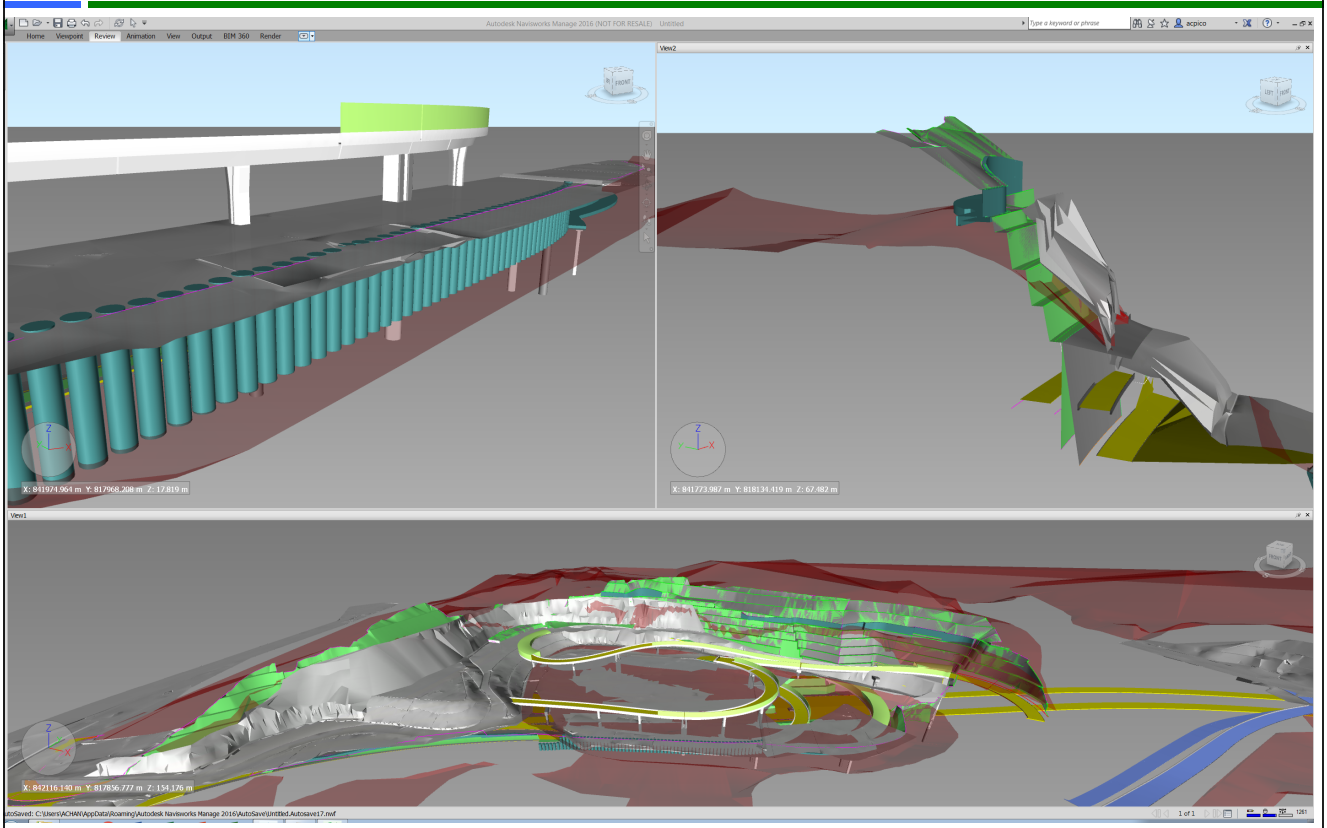
Soil Nail Layout



Interactive Sections

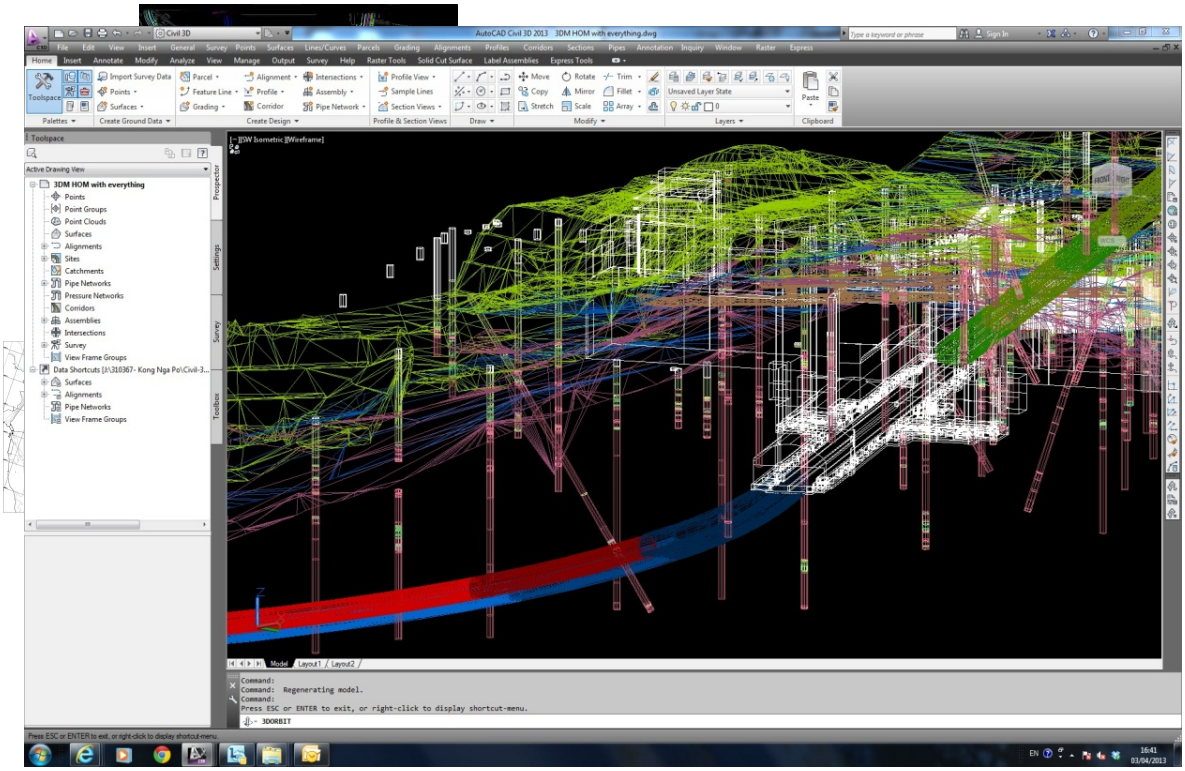


Integrated Visualization



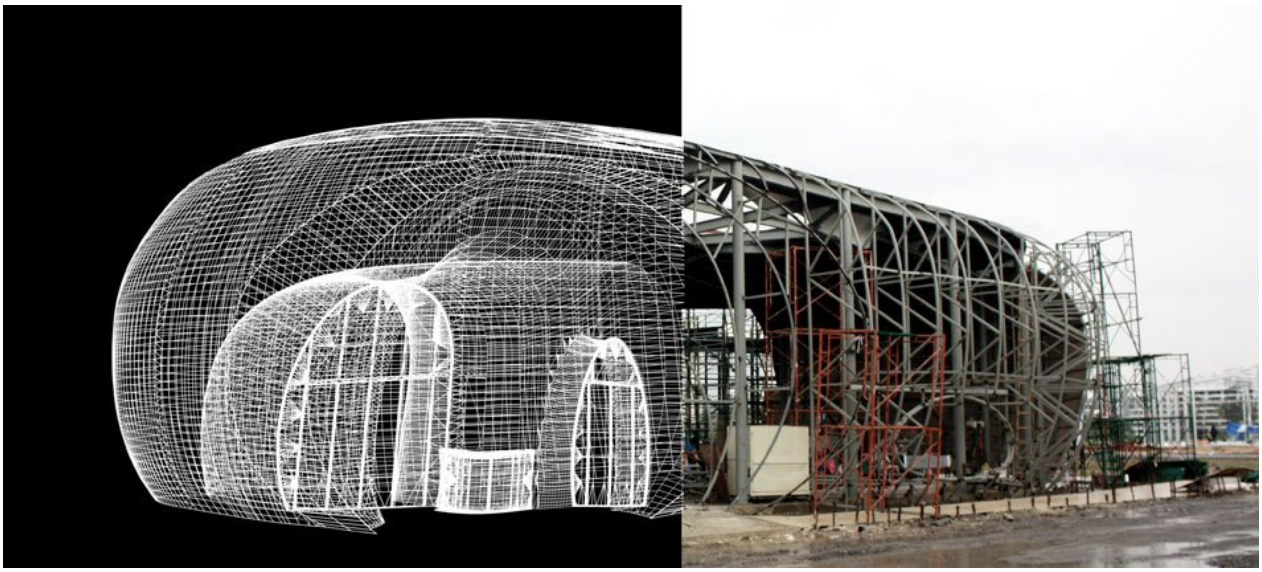
CASE Sharing

CKR Conceptual Design

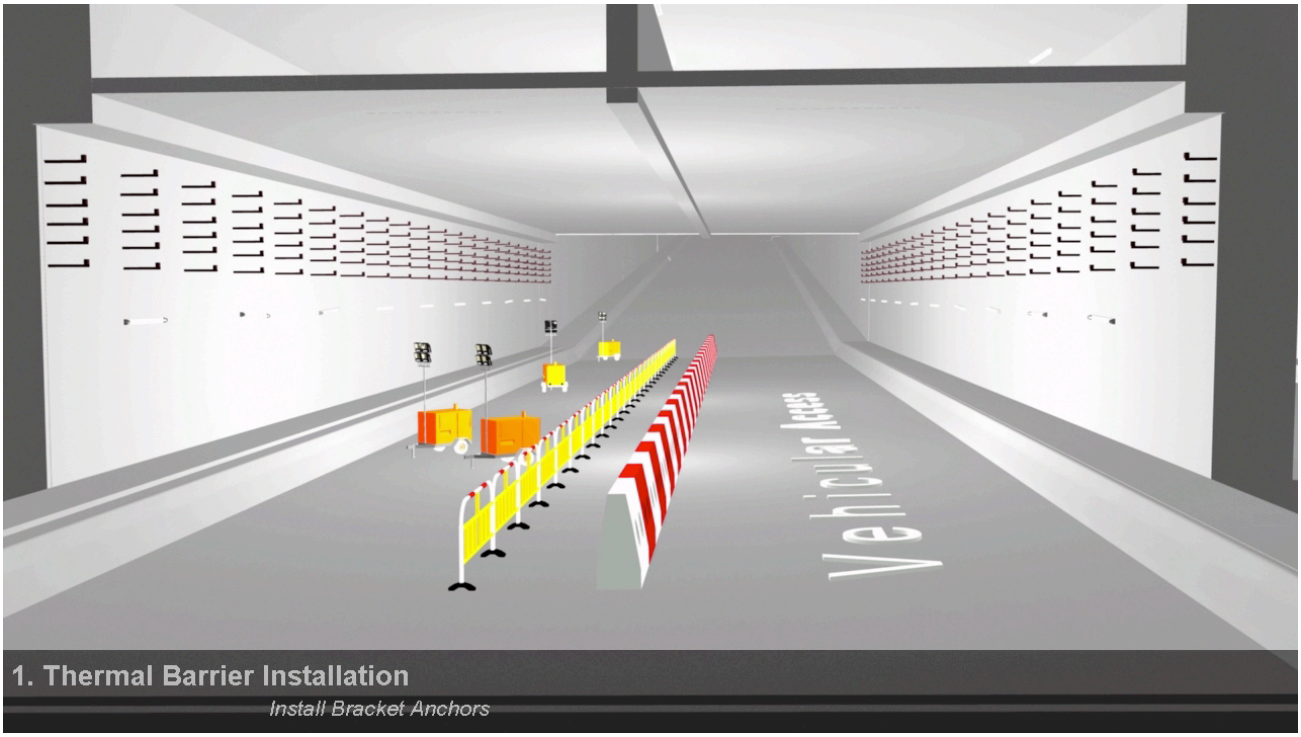


BIM is more than Visualization

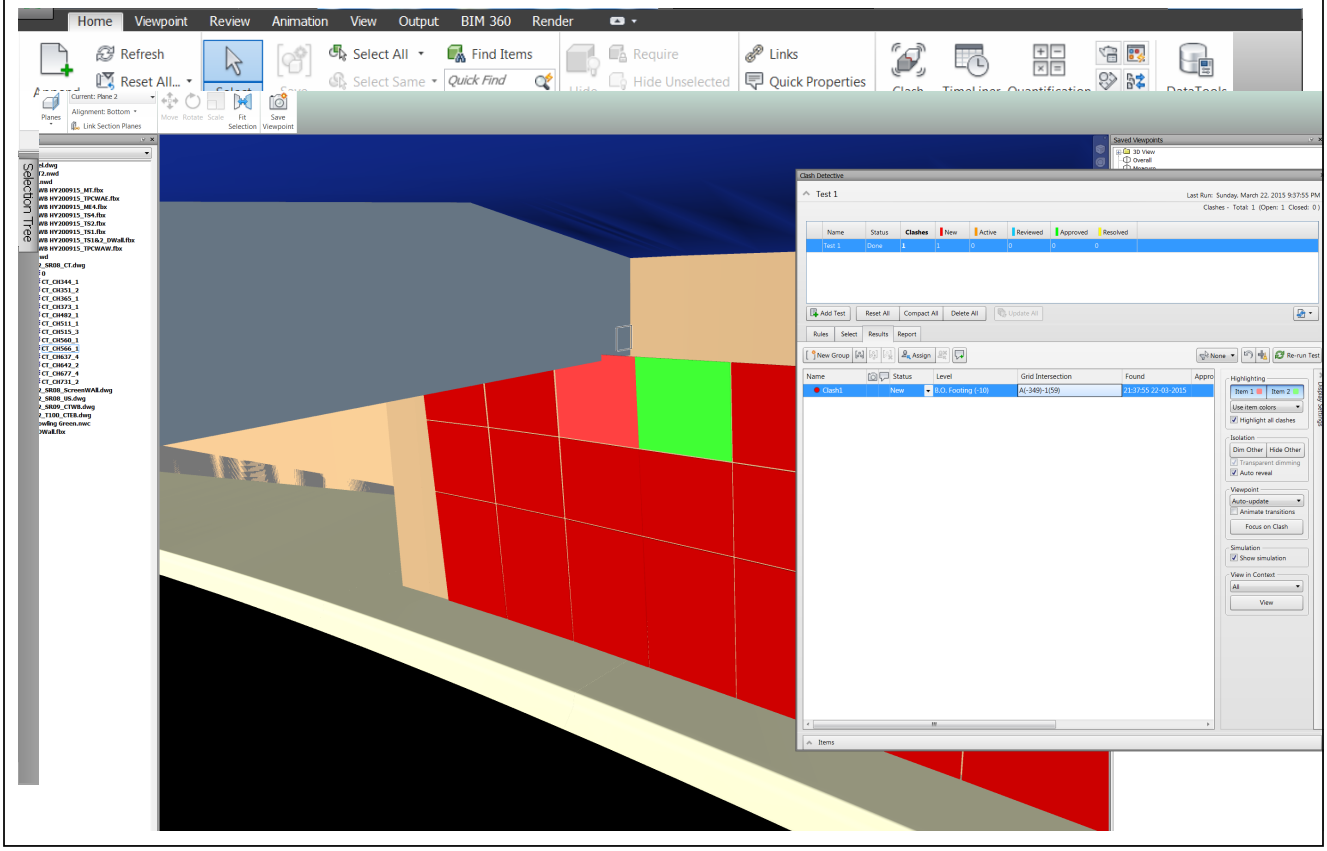
BIM Fundamental : Digital Prototyping



BIM is not Visualization



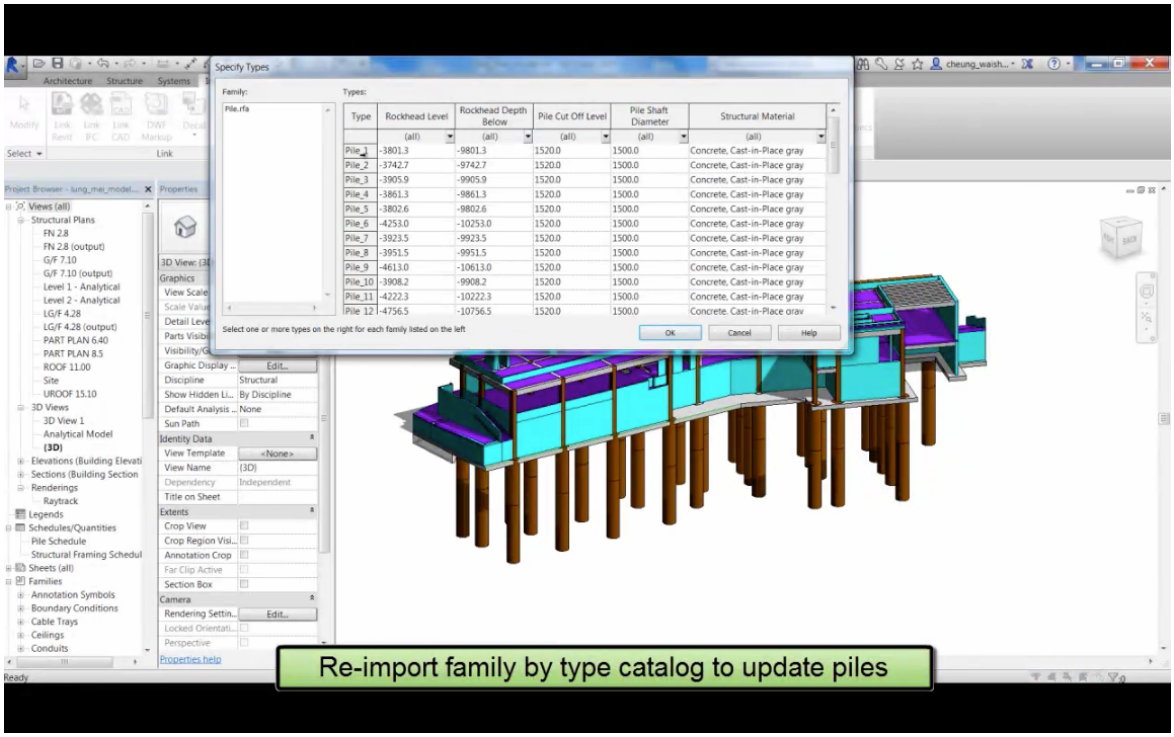
BIM: Reliable database for decision



BIM enabled
Geotechnical Analytics

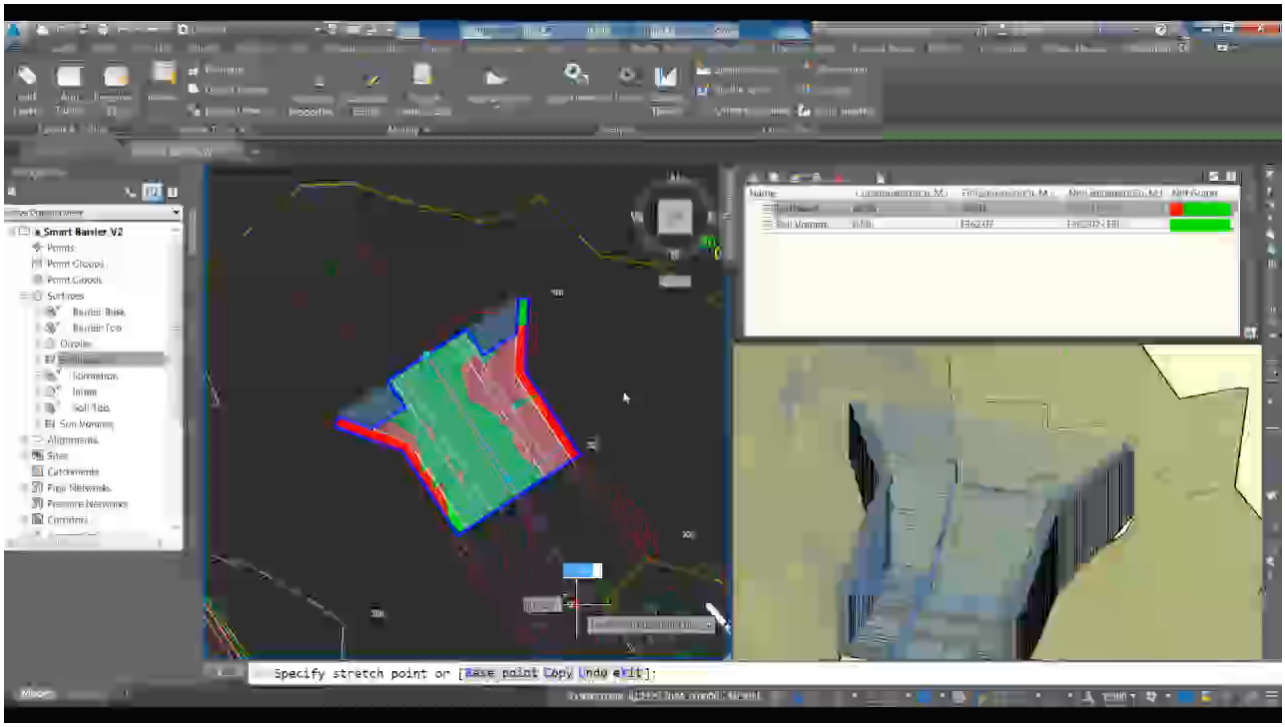
Pile Depth calculation

Pilot project



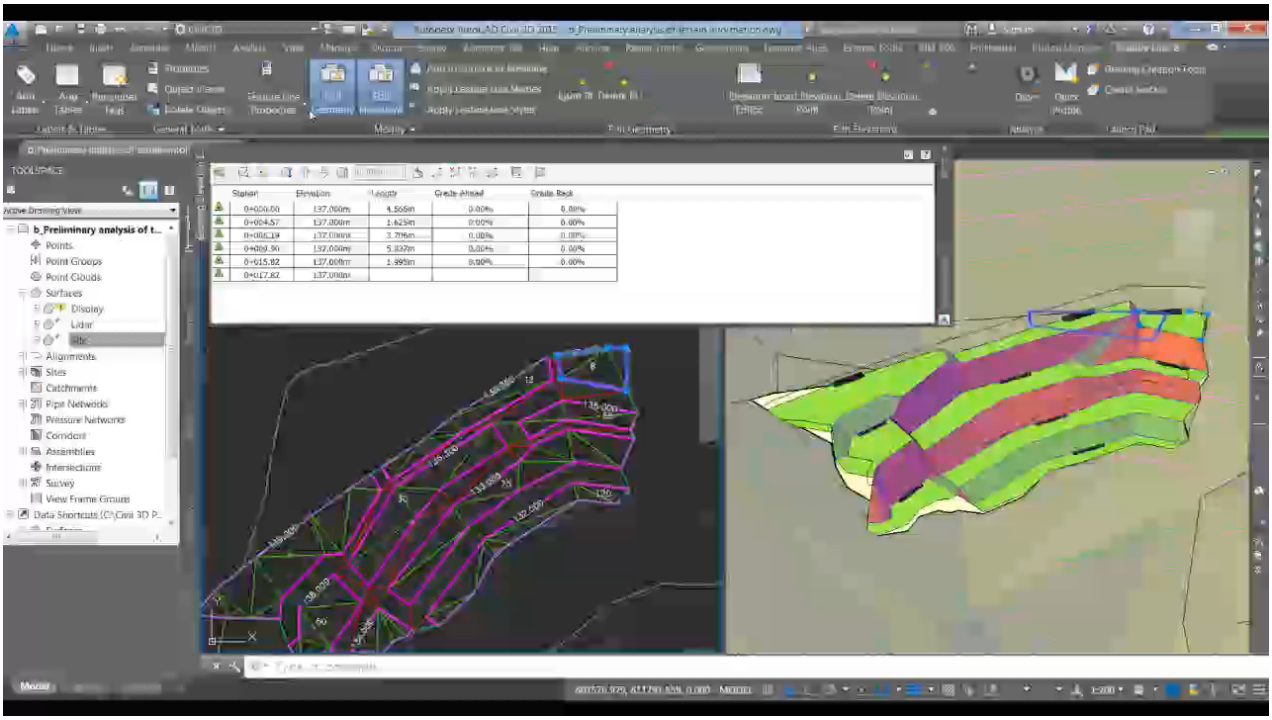
Rigid Barrier/Earthwork optimization

Pilot projects



Site formation Design

Pilot Projects



Summary

BIM for Geotechnical Engineers

- Streamline workflow to integrate multiple source of data
- Massive database to lower operation cost and increase efficiency
  - HAGDMS, Aktins
- BIM is NOT 3D Visualization
  - Maximize with the analytical capability of BIM

QUESTION AND ANSWERS

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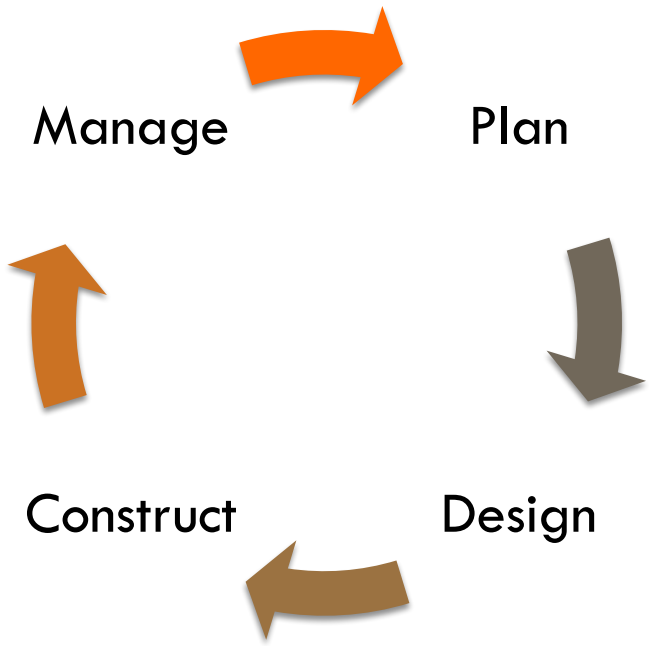
Construction Life Cycle



Key BIM Application
Collaborate
Analysis
Documentation
Visualization