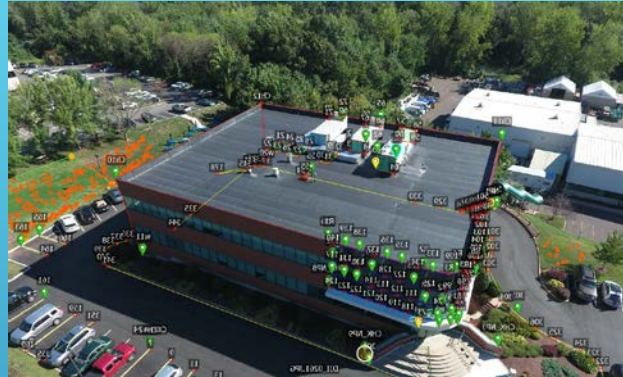


SURVEYING WITH DRONES



Presented By:

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Colburn Strategic Partners, Inc.
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Date: February 27, 2018

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**FOSTER
SURVEY**



About Eric D. Colburn, PLS

- Eric Colburn, PLS, is a land surveyor, UAV/Drone mapping expert and AutoCAD Civil 3D consultant with over thirty years of experience. Eric is a successful entrepreneur, industry writer, product development consultant, RI licensed professional land surveyor, president of Foster Survey Company founded in 1993, publisher of EricColburn.com since 2008 and president of Colburn Strategic Partners, Inc. since 2013.
- A technology and productivity evangelist, Eric often explores innovative tools and technologies to improve the productivity and profits of land surveyors and civil engineering professionals.



About Foster Survey Company

- Foster Survey Company is a professional land surveying company serving all of Rhode Island. Established in 1993, we are celebrating over 25 years of providing our clients with superior professional land surveying services that encompass our core beliefs of value, experience, and quality.
- Our mission is to provide superior, prompt, and expert professional land surveying services utilizing the latest high-tech surveying equipment.

PROFESSIONAL LAND SURVEYING OFFERINGS INCLUDE:

- Drone Mapping
- Drone Inspection
- Close-Range Photogrammetry
- Stockpile Volumes
- Aerial Mapping/Control
- ALTA Surveys
- Boundary Surveys
- Cadastral Surveying
- Cartographic Mapping
- Condominiums
- Construction Layout
- Expert Witness Testimony
- FAA-2C Certification
- Geographic Information Systems (GIS)
- Global Positioning Systems (GPS)
- Geospatial Consulting
- Land Planning
- Land Development
- Lot Surveys
- Perc Tests
- Septic System Design
- Subdivision Design
- Topographic Mapping
- Wetlands Applications
- FEMA Flood Certificates

OUR TYPICAL DRONE BASED PROJECTS



COMMERCIAL BUILDINGS AND SITES



RESIDENTIAL AND BUILDING FACADES

OUR TYPICAL DRONE BASED PROJECTS



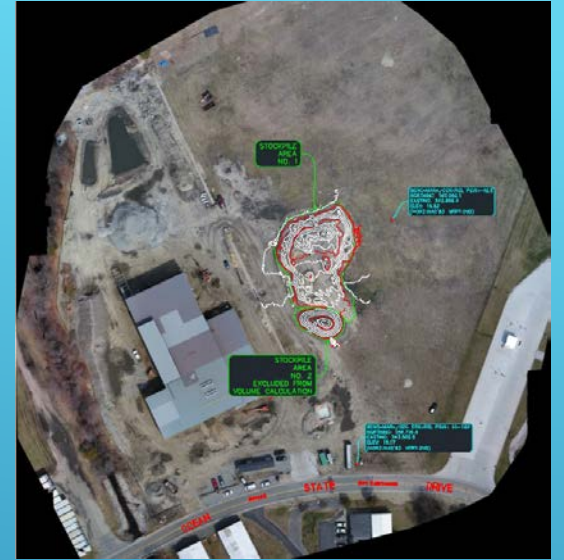
CELL TOWER SURVEYS AND INSPECTIONS



HIGHWAYS AND RAILWAYS

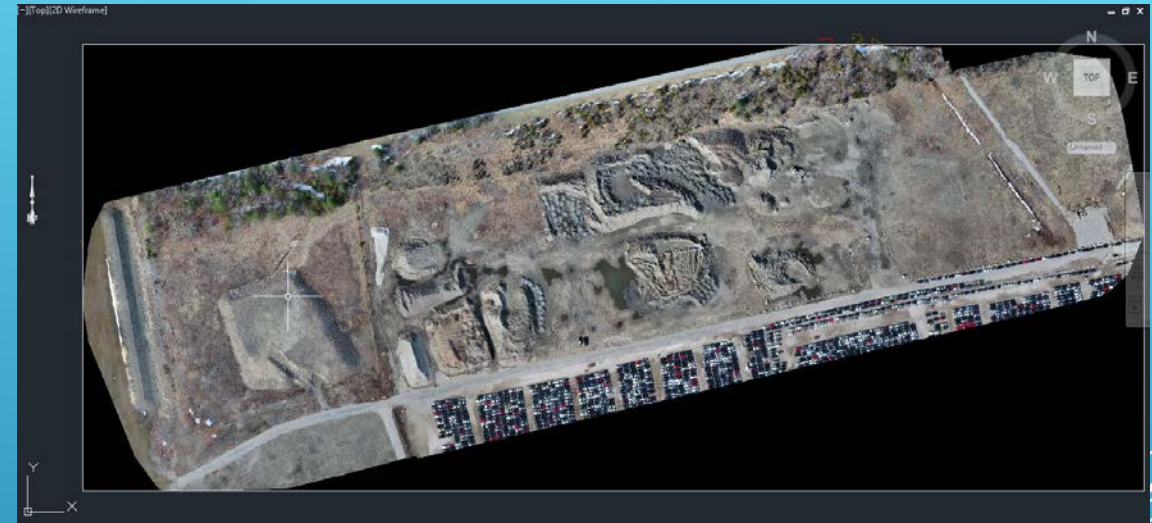
HOW I GOT HERE:

- 1984 – Started working as a land surveyor
- 1993 – Founded Foster Survey Company
 - Late 90's one of first to use GPS
 - 2008 implemented Robotics
 - 2014 implemented Close-Range Photogrammetry/Drones
- 2013 – Founded Colburn Strategic Partners, Inc.
 - Provided geospatial software startups with product development, consulting, assisted in capital funding process, marketing and sales.
 - 2013 – Entered the Close-Range Photogrammetry/Drone industry



CASE STUDY: STOCKPILES

- Quonset Business Park
- 2 Sites:
 - 13 Ac.± multiple stockpile area with multiple stockpiles in each.
 - On runway flightpath
 - Single stockpile area (and aerial images of building for marketing)

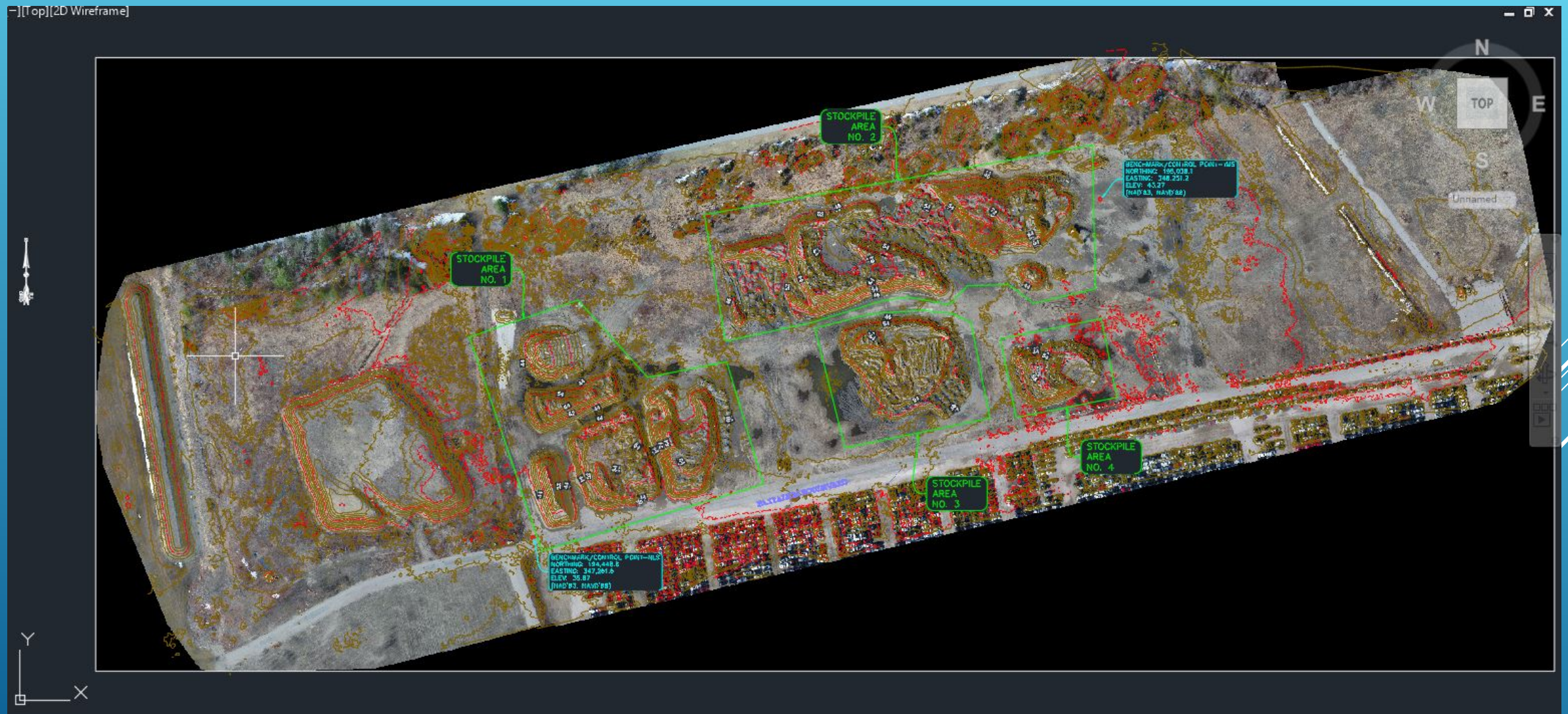


CASE STUDY: STOCKPILE SITE 1

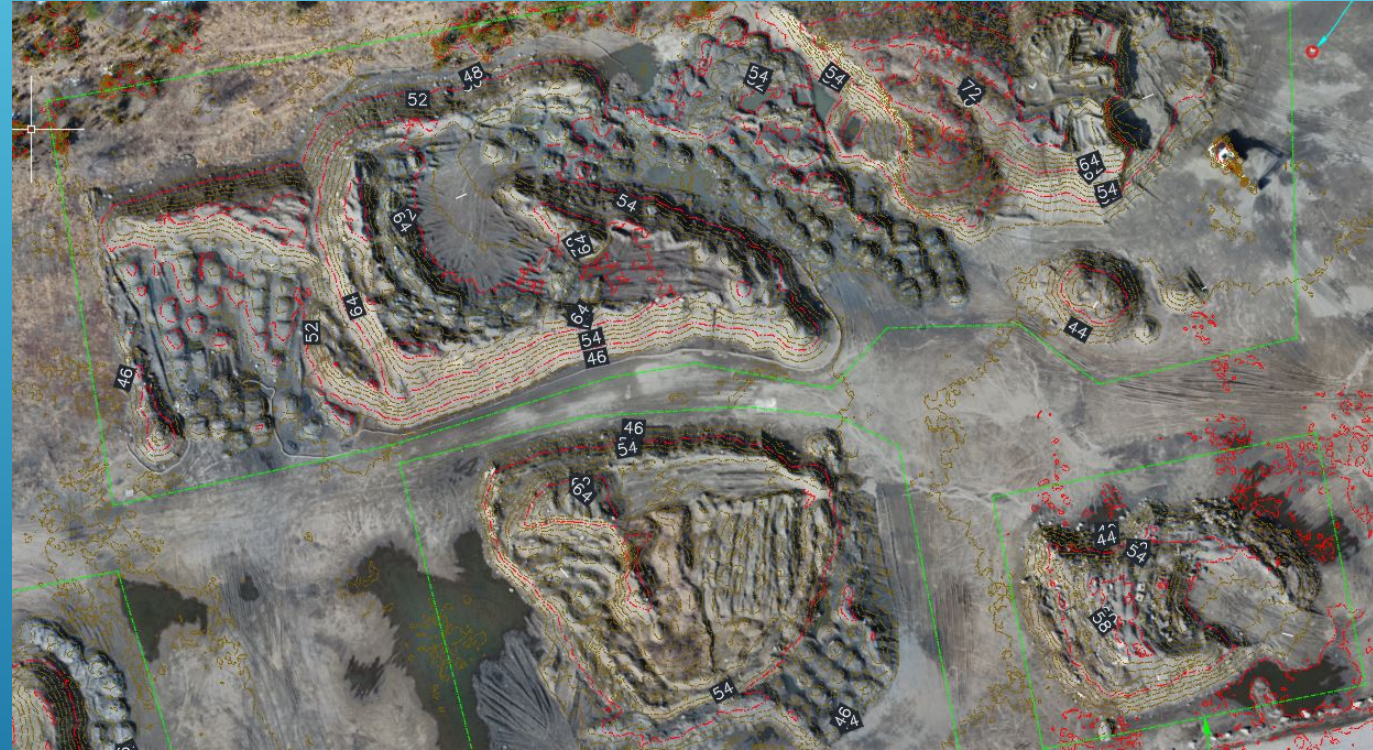
[-] [Top] [2D Wireframe]



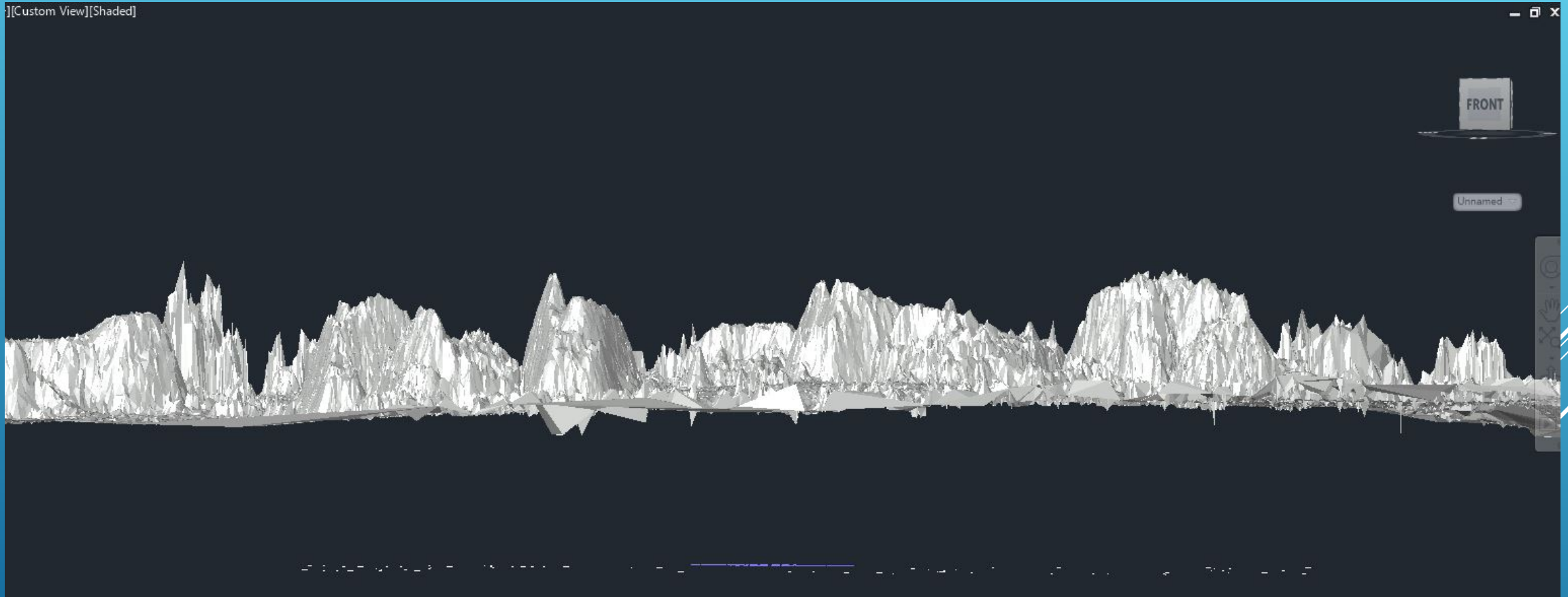
CASE STUDY: STOCKPILE SITE 1



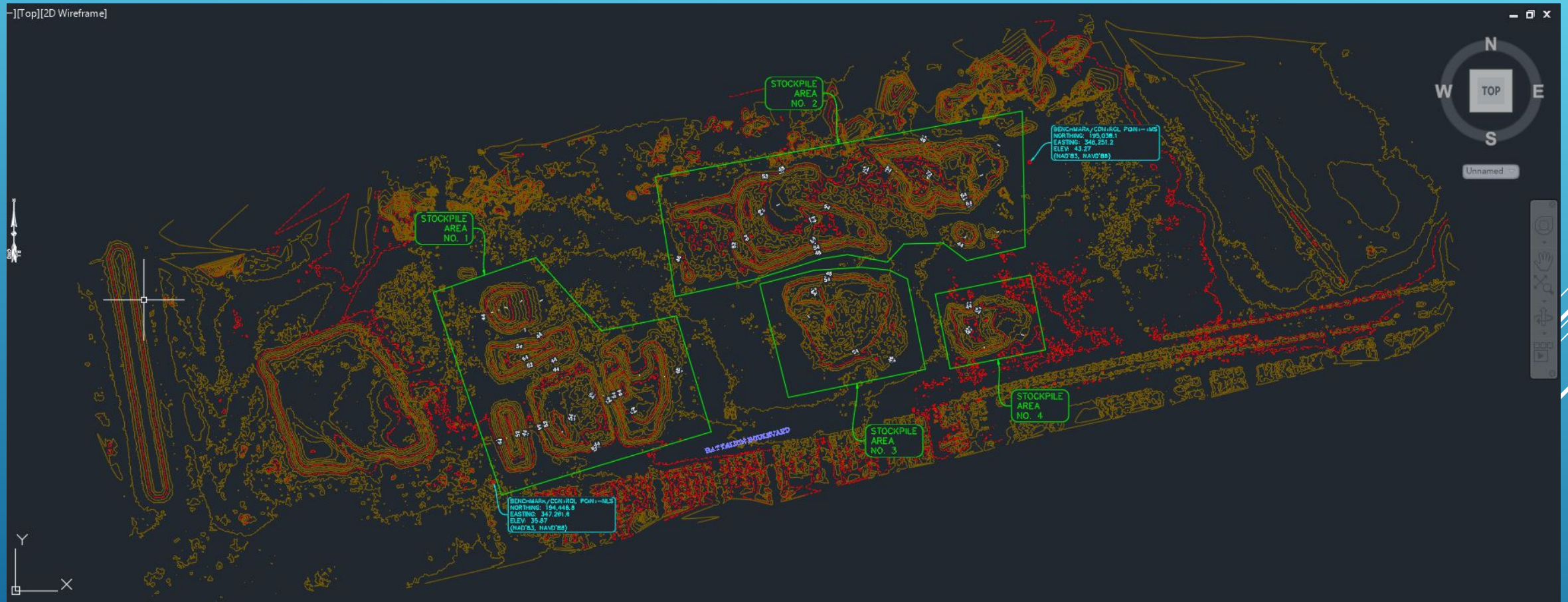
CASE STUDY: STOCKPILE SITE 1



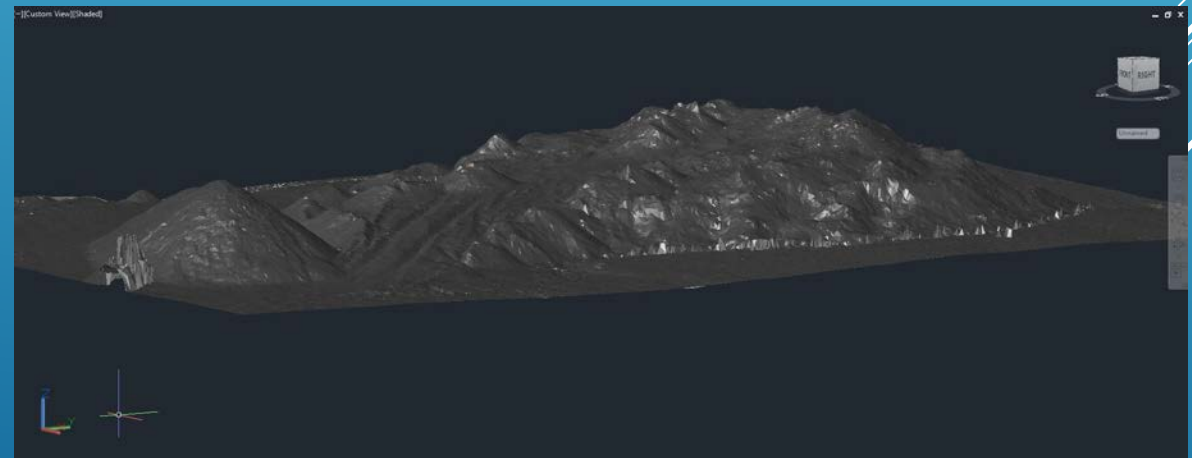
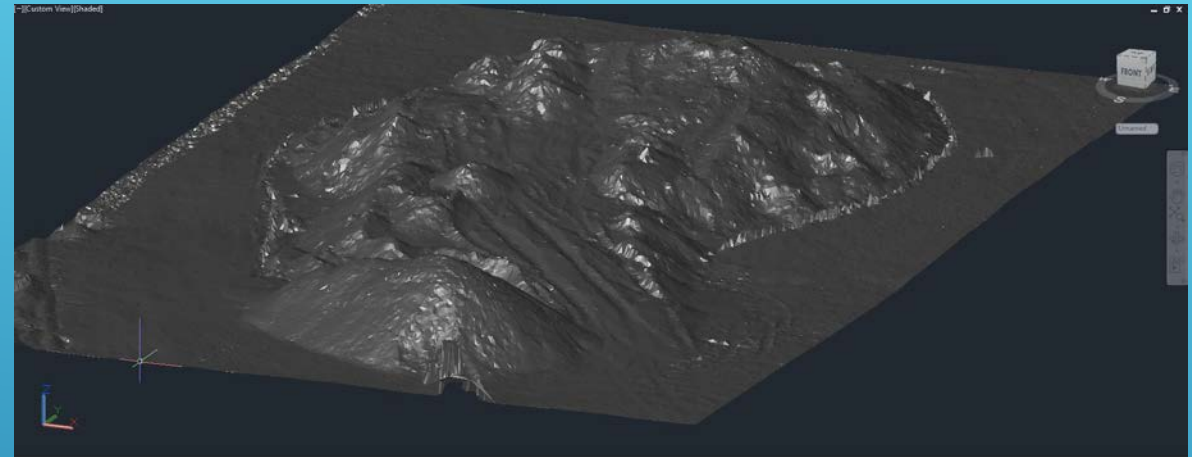
CASE STUDY: STOCKPILE SITE 1



CASE STUDY: STOCKPILE SITE 1



CASE STUDY: STOCKPILE SITE 2



CASE STUDY: ANALYSIS

Site 1:

Surveying with Drones:

- Drone flight under 30 minutes (actual time was closer to 4 hours do to wind and air traffic). Travel and pre-flight tower coordination not included (2 hrs.±)
- Surveyed ground control points 30 minutes
- Office calculations and computations 8-12 hours±

Conventional Surveying Estimates:

- Field surveying 5 days±
- Office calculations and computations 16-24 hours±

NOTE: Actual and estimated above does not include topographic survey plan deliverable.

CASE STUDY: ANALYSIS

Site 2:

Surveying with Drones:

- Drone flight under 30 minutes (including extra flight time for marketing images of building under construction). If stockpile alone, 12-15 minutes±
- Surveyed ground control points 20 minutes
- Field surveyed bottom edge of stockpiles 30 minutes
- Office calculations and computations 3-4 hours±

Conventional Surveying Estimates:

- Field surveying 2 days±
- Office calculations and computations 4 hours±

NOTE: Actual and estimated above does not include topographic survey plan deliverable.

THANK YOU!

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