Drones for Construction Savings

Richard O’Hearn | Daryl Amaral | Peter Kurt
MassDOT Aeronautics | Highway D2 | Highway D3
Workflow Development Overview
Richard O’Hearn, MassDOT Aeronautics DOP
Data Collection

- Site Attributes & Customer Objectives
- Accurate Automated Flights
- Ground Control & Truthing
## Ground Control & Truthing

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11 features 0 selected
Processing
Dissemination: Site/Asset Conditions

Image Segmentation is where advanced solutions start.
Dissemination: Project Progress
Corridor Assessments
Daryl Amaral, MassDOT Highway District 2
• Then to Now
Corridor Assessments
Safety, Spotlighting, & Savings
Public Relations, Risk, & Assets
Development

Drawing Setup

Drawing setups should follow the MassDOT AutoCAD standards in all regards. However, there are two parameters that should have special attention paid to them as in case the drawings are in PDF form and require conversion, both of which can be found in “Drawing Settings”, an option in the Application Menu which is at the top left corner of the software:

1. Units & Zone

The first tab in the “Drawing Settings” window is the “Units and Zone” tab. This is where the units, scale, units, and coordinate system are specified by the user. The objective of this step is to make sure the Civil 3D drawing file’s units and projections match those in any PDF drawings that are going to be converted to Civil 3D/AutoCAD (*.dwg) file format drawing entities.

The PDF plans used in this exercise have the following units and coordinate system specified on them:

Drawing Units: Feet
Coordinate System: Massachusetts State Planes, Mainland Zone, US Foot

2. Transformation

The parametric (Civil 3D) file is the file that specifies the transformation.
Imagery Overlay
• Moving Forward
Construction Project Management
Peter Kurt, MassDOT Highway District 3
Annotations tools let Engineers determine the accuracy of material applications and estimates.
Overlaying plans provides a space to evaluate progress between existing and design.
D3 – Westborough Bridge Replacement

Annotations help quantify work to date.

A slide comparison tool can be used for project tracking.