New Technology
Survey Applications

Data Management for a Surveying Company
“…the way we do business”

Timothy Patch, PLS
SGC Engineering, LLC
Surveying and GIS/Data Management

Agenda

• Part I - Surveying, GIS, and Data Management
  • Business Operations
  • Projects
  • Technology

• Part II – New Technology
  • High Density Terrestrial Scanning
  • Unmanned Aerial Systems
  • Unmanned Hydro Systems
Professional Surveyor Licensure

SGC Individuals Licensed or Pending – Is This a GIS?
Spatial Data Management

ArcGIS Online – Cloud GIS

Business Operations
Right of Way Boundary Surveys (VAoT)
Survey / GIS / Data Management

Recent SGC Projects

- **St Albans** – VT 104 & VT 105 – 4.6 miles (2015-2016)
- **Swanton** – VT 105 – 3.9 miles (2015-2016)

Agency Defined Project Tasks

- Land Owner Notifications
- Road Records Research
- Owner Records Research
- Field Investigation
- Geodetic Network
- Location Survey
- Analysis of Survey Results
- Legal Support
- Statutory Survey
- Publication of Survey Results
Pipeline Overview

Lifecycle of a Pipeline Survey Project

• Preliminary Survey
• Boundary Survey and Plats
• Construction Staking
• Materials Tally
• As-built Survey
Preliminary Survey
Legal Survey - Plat Development
Consistent Workflow and Automated Process Results in Timely Delivery

- CAD and GIS integration to maximize each platform’s strengths
- Utilize staff to their highest and best use (compilers, drafters, GIS, etc.)
- Manage iterations of centerline, workspaces, etc.
- Mitigate potential human errors of repetitive updates
Construction Staking

Workspace Staking

Centerline Staking

Access Staking

Wetlands Staking

Projects

www.sgceng.com
Pipe Tally - Verifiable, Traceable and Complete (VTC)
Emerging Technology - UAVs (Drones)
Safe Hi-res Inspections, Survey Controlled, Photo Overlap and Processing
Asset Management

Detect Anomalies Such As Coating Defects From Point Cloud Data Sets
Emerging Technology - Hydrographic & Waterbody Surveys
Safe, Efficient, and Accurate with a Fast and Easy Deployment
Thank You

Comments and Questions?

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