VDC
Virtual Design Construction
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VDC Integrated Project Delivery

Data Life Cycle and Workflow
Comprehensive Modeling Environment…
Virtual Design Construction

**Virtual**
- 3D DTM $\leftrightarrow$ 3D DDM
- 24/7 Access
- Secure Cloud Services
- Multiple Hardware

**Design**
- Design Grade Survey
- 2D Plans
- 3D Models
- 4D Schedule
- 5D Cost

**Construction**
- Eliminate CCO’s
- Expedite RFI
- Real Time Monitoring
- Real Time Traffic
Digital Terrain Model (DTM)

Horizontal & Vertical Controls

50 Scale Aerial Photogrammetry

Conventional Survey

LiDAR Point Cloud

DTM – Break Lines

DTM – TIN Model

DTM – Existing Contours
Digital Design Model (DDM)

Plans, Specifications & Estimate (PS&E) Package

Horizontal Alignment

Super Elevation

Design Cross Section

Design Surface
Construction

Quantity

Schedule

3D Construction Model
DEVOR Interchange
Autodesk Recap Engine - 2014 version
Bentley – Micro station Select Series -II
ESRI- ArcScene Version 10.2
Alameda 84-RTE

Data Life Cycle and Workflow
Reality Modeling…

Physical Assets

Infrastructure Projects
Need Context

Reality Modeling Services
Unmanned Aerial System (UAS) + Stationary Terrestrial Scanning (STLS) + Conventional Survey
Route ALA-84, PM 12.0/13.0
Director’s Order Emergency Slide Project
Unmanned Aerial System (UAS) + Stationary Terrestrial Scanning (STLS) + Conventional Survey