

Airborne LiDAR and Imagery for Canal Infrastructure Maps/Monitoring



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Fernley Nevada



- About 30 miles east of Reno
- Sits on century old Truckee Canal
- Around 12,000 residents



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2008 Truckee Canal Breach at Fernley



- January 5th, 2008
- 30' section of the canal's earthen levee failed
- 600 homes affected
- No injuries
- \$Millions in damage



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Borrowing Rodents..



"The investigation into the Fernley flood found "evidence of numerous flaws in the embankment," including berms "riddled" with rodent burrows, some as deep as 25 feet."



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Mapping Fernley and surrounding area



- Contracted in fall of 2008
- High resolution imagery and LiDAR
- Latest technology



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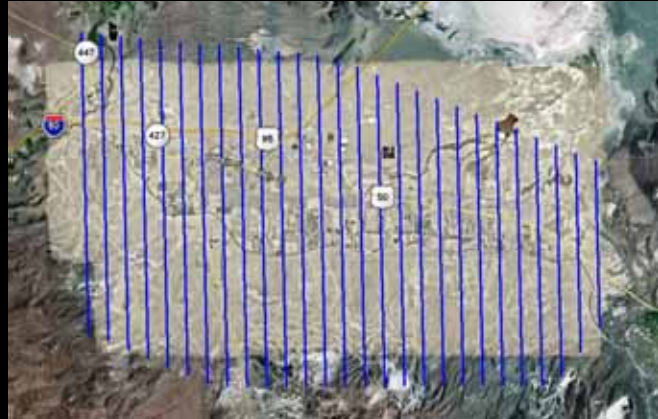
Mapping Fernley and surrounding area



24 Ground
Survey
Points

11 Digital
Camera
Flightlines

26 Airborne
LiDAR
Flightlines



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Mapping Fernley and surrounding area



Specifications

- LiDAR
 - 1M Post Spacing
 - Support 2' Interval Contours
- Imagery
 - 3 Inch Resolution
 - 24-bit Color, GeoTiff



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Mapping Fernley and surrounding area



Deliverables

- True color orthoimagery, (.25' resolution) in GeoTIFF format (by Map Tile (grid) Reference System).
- MrSID image file of the project area.
- AutoCAD 2007 format DTM (mass points and break lines) of project area by Map Tile (grid) Reference System.
- AutoCAD 2007 format, 2' Interval Contours of project area by Map Tile (grid)
- ArcGIS/ESRI format, 1' resolution Raster GRID format DEM files by Map Tile (grid)
- Metadata Files for all deliverables



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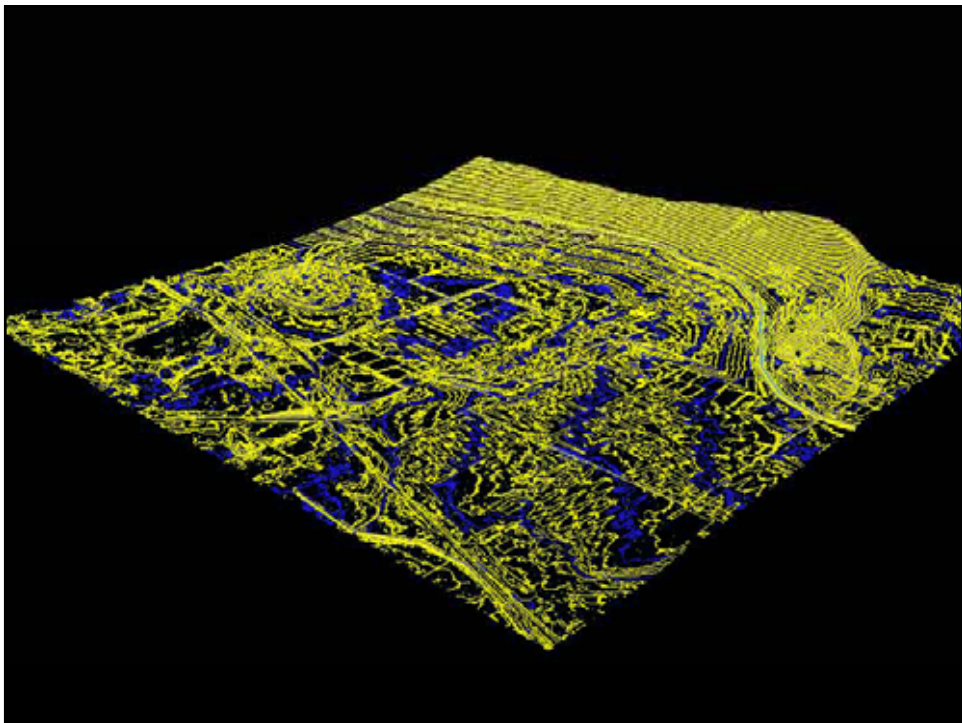
Project Examples



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Geospatial Data for Monitoring



Reclamation owns 7,911 miles of canals across 17 western states

"As a result of this, we are taking a look at our canals with a little more scrutiny. ... We have an extremely effective dam safety program, and we are in the process of developing a more aggressive canal safety program." Jeffrey McCracken, regional spokesman for the Bureau of Reclamation in Sacramento, Calif.



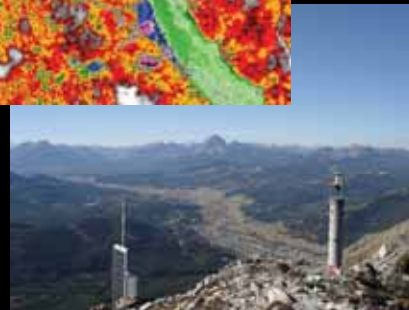
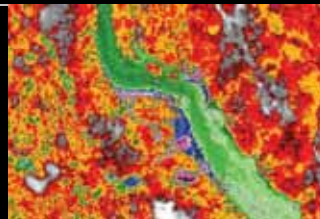
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Geospatial Data for Monitoring



- High Resolution, High Accuracy
- Thermal imagery
- LiDAR for deformation
- Broadcasting GPS for deformation
- **Answers looking for questions...**



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Questions?



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