



Cannon

Survey

Reliable Responsive Solutions

Relentless Pursuit of the *Elegant* Solution

Elegant ['ɛlɪɡənt] *adj*: simple, refined, appropriate, harmonious. We strive for it in all we do.

Our team of professionals includes:

- Surveyors
- GIS Specialists
- CAD Specialists
- Laser Scanning
- UAS Mapping
- 3D Modeling Technicians
- Mechanical Engineers
- Civil Engineers
- Agricultural Engineers
- Petroleum Engineers
- Process Engineers
- Structural Engineers
- Electrical Engineers
- Automation and Controls Engineers

We have provided Reliable Responsive Solutions to clients for projects large and small since 1976.



Safety

Ensuring safety is critical; it's not just about keeping records and maintaining programs. We are committed to providing a safe and healthful workplace, incorporating "best practices" in our policies and procedures, and identifying and correcting risks. Our safety programs and commitment to safety are intended to foster an injury-free, productive workplace. We are proud to have earned the industry's highest safety ratings and our Experience Modification Rating (EMR) places us as a leader amongst our peers.

In addition to providing an enjoyable, safe, and healthful work environment, we encourage and support employee health and wellness through a variety of fitness-related company activities throughout the year.

Safety and wellness are more than just policies at Cannon—they are cornerstones to how we work in the field and in our offices.

Survey & Mapping

Overview

Surveys

- Boundary
- Construction
- Topographic
- Control
- As-Built Certification
- ALTA/ACSM
- GPS-Based Geodetic Control
- Well Borings
- Subsidence/Settlement and Deformation Monitoring
- GIS Data Collection
- Right-of-Way/Route Survey

Documents

- Certificates of Compliance
- Legal Descriptions
- Building Certifications
- Oil Well Location Surveys/CDOGGR Certifications

Mapping

- Final Maps
- Tentative Maps
- Parcel Maps
- Topographic Maps
- Aerial Mapping
- Record-of-Survey Maps
- Lot Line Adjustments
- ALTA Maps
- Mapping and Platting
- Constraints Analysis
- Right-of-Way Mapping
- FEMA Elevation Certification
- "LOMA" Applications
- Visualizations, Hybrid 3D Exhibits and Analysis Models
- UAS/Drone Mapping
- HD Video/Photo and 3D Site Models

Cannon



Projects



Utility Base Mapping

Santa Monica, California

Santa Monica Community College selected Cannon to provide land surveying services in support of planned projects at the Santa Monica College, Main Campus. The Main Campus is roughly 1.7 million square feet. Of that, approximately 1 million square feet required utility base mapping services. Cannon conducted a limited survey, which provided the position and alignment of underground utilities. The field survey data was then used to create an AutoCAD drawing. The utility data was collected and exhibited in Cannon's CAD deliverable and registered to the project survey controls. The data was "layered" according to utility type (water, storm drain, gas, etc.).



Boundary Survey for Trilobite Solar Project

Barstow, California

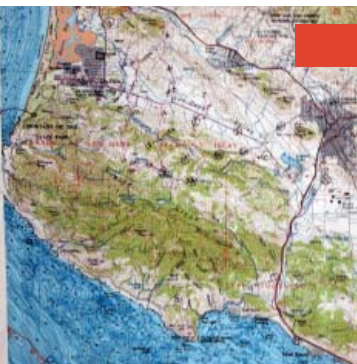
The Trilobite Solar Project is a 6,000 acre parcel of land situated in the County of San Bernardino, designated for sustainable, large-scale energy production. Cannon was selected to provide ground control for photogrammetry mapping, and to conduct a field survey of the property and file a Record of Survey map. To establish horizontal and vertical control for the aerial mapping, Cannon placed approximately 80 aerial panels on the site. In addition, Cannon obtained record boundary data from County and State agencies. This information was used in the preparation of a Record of Survey Map and was used to retrace and re-establish boundaries.



Construction Survey for Regional WWTP Upgrade

Lompoc, California

As part of the City of Lompoc's Regional Wastewater Treatment Plant (WWTP) upgrade, Cannon was selected to provide construction survey services for the new structures and pipelines. Cannon's scope of work included establishing horizontal and vertical control; staking and certification for rough grading; settlement monitoring of existing storage tanks and buildings; and staking and as-built certification of oxidation basins, new facilities, storage tanks, and pipelines.



Land Survey Services for PG&E's Service Territory

Northern and Central California

Pacific Gas and Electric (PG&E) owns approximately 270,000 acres of property and operates thousands of miles of both electric and gas transmission and distribution lines, hydro facilities, and substations within 48 counties of California. Cannon was selected to perform land surveying services for PG&E under a Master Services Agreement on an as-needed basis throughout their service territory. Cannon assisted PG&E in meeting business needs in construction of new facilities, as well as management of existing company facilities. Surveying services included route surveys, property (boundary) and control surveys, topographic surveys, records-of-survey, monitoring surveys, right-of-way, aerial topographic surveys, and construction surveying.

Construction Staking

Overview

Construction Staking

- Demolition and Saw Cuts
- Rough and Final Grading
- Fencing
- Retaining Walls
- Storm Drain
- Sewer
- Water/Fire Water
- Dry Utilities: Gas and Electrical
- Building Layout and Grid Lines
- Multistory Buildings Control
- Paving and Concrete Curbs
- Complex Site Flatwork

As-Built Certifications

- Pad and Form Board Certifications
- Floor Level Verification
- Site Utility As-Built Certifications
- Construction Tolerance Reporting

Additional Services

- Underground Utility Location
- Laser Scanning for Precise As-built
- 3D BIM Modeling; REVIT, Navisworks

Projects



Burton Way Apartments

Beverly Hills, California

This mixed-use development located just outside Beverly Hills consists of 88 luxury apartment units on five levels, and one level of retail space at the base. The design features a contemporary tower with floor to ceiling glass, stone and smooth plaster facades, and a pedestrian-friendly streetscape. Cannon was selected to provide construction staking and as-built survey services. The scope included establishing horizontal and vertical control staking; rough grade; utilities (sewer, water lines, storm drains, electrical, and lighting); building layout; multi-level control for foundation piles; masonry walls and enclosures; final grades for curb, gutter, and cross-gutter; and foundation bolt and utility certification.



Grand Ave Student Housing Survey Staking Phase II

San Luis Obispo, California

This dormitory-style student community, which will consist of seven 3- to 5-story concrete framed residence hall buildings and an adjacent 4-level parking structure, is located at the corner of Slack Street and Grand Avenue. Cannon was selected to provide civil engineering design and surveying services on the project. Survey services included topographic and utility mapping information as needed to support the project engineering. The topographic base map of the project limits was prepared in accordance with the specifications for required deliverables. In addition, Cannon provided construction staking for the project, which included rough and final grades as well as staking for all underground utilities, buildings, parking, sidewalks, and related site improvements.



Vandenberg Air Force Base New Housing

Santa Barbara, California

Cannon was selected to provide a topographic survey, construction staking, and utility locating and mark-out services for new base housing, other housing renovations, and a new 6,608-square-foot community center. The project spans an area of nearly 20 acres and consists of 502 homes to be demolished, 164 new units, and a total of 703 existing homes to be renovated. As part of the project, sustainability concepts were tested. Concepts included the use of recycled-content materials; energy and water conservation; limiting air emissions from construction and operation activities; preserving and restoring the site's natural resources; and identification of building materials and products that meet agreed upon recycled-content goals.



Warren J. Baker Center for Science & Mathematics

San Luis Obispo, California

Cannon was selected to provide the engineering, survey, and consulting services for Cal Poly's Warren J. Baker Center for Science and Mathematics. Cannon's scope of work included the preparation of construction documents which illustrated the following: grading and drainage plans; a demolition plan; a composite utility plan; horizontal control plans; a Storm Water Pollution Prevention Plan; and construction administration. Cannon's surveyors provided all staking and as-built services for the project. The \$119 million, 189,000-square-foot building was made possible by voter-approved State education bonds and \$19 million in private donations to the University.

Transportation & ROW

Overview

Right-of-Way Surveying

- Due Diligence; Record Data Research
- Geodetic Control Networks
- Field Reconnaissance; Monument Recovery
- Pre- and Post-Construction Corner Records and Record Of Survey
- PS&E Contract Monument Preservation and Replacement
- Right-of-Way Staking
- Certified Right-of-Way Reports and Exhibits
- Legal Descriptions and Exhibit Plats for Right-of-Way Acquisition
- Underground Utility Research and Mapping
- Terrestrial and Mobile Scanning
- sUAS; Aerial Photography and Surface Mapping

Right-of-Way Engineering Survey Support

- Alignment Analysis and Conflict Resolution
- As-Built Certifications for Existing Structures and Utilities
- Sound Wall Profiles and Cross-Sections
- Condemnation Documents
- Resolution of Remnant Parcels
- Utility Relocation Analysis
- Agency Coordination
- Right-of-Way Acquisition Support; Prepare Legal Descriptions and Exhibit Plats
- FEMA Certifications; LOMA and CLOMR

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Projects



State Route 178 Widening Project Right-of-Way Mapping

Bakersfield, California

The SR-178 Widening Project is part of the greater Thomas Roads Improvement Program (TRIP) Bakersfield highway projects. Cannon was selected to provide survey services in support of engineering design and right-of-way retracement/reconciliation for the alignment. Cannon also prepared a Record of Survey with 51 subsequent plat maps and legal descriptions required for right-of-way acquisitions by the City of Bakersfield, ultimately to be transferred to Caltrans. Cannon used its recent field survey of the route and the resulting existing conditions survey map to prepare a reconciled base map of the parcels; plats and legals were produced based on the field survey, deeds, and record mapping.



24th Street Improvements

Bakersfield, California

Cannon was selected to provide surveying services for the 24th Street Improvements project, which includes State Route 58 (Rosedale Highway) and State Route 178 (24th Street) from the southbound State Route 99 ramp intersection to 0.2 miles east of M Street. This TRIP project will widen 24th Street to accommodate an additional lane in each direction, improve the SR 99 southbound on-ramp, construct a northbound auxiliary lane along SR 99 south of 24th Street, make improvements to all approaches at the Oak Street/24th Street intersection, and add one lane on 23rd Street and 24th Street.



Hutton Road Improvements

Nipomo, California

The County of San Luis Obispo selected Cannon to design and prepare construction documents for improvements on Hutton Road for a distance of approximately 1,500 linear feet. Cannon prepared the plans, specifications, and cost estimate for super-elevation correction; widening travel lanes; center two-way left-turn lane striping; shoulder widening and improvements; and guardrail improvements. Cannon's survey team provided topographic survey and right-of-way; construction staking; and coordination with Caltrans District 5. In addition to the design and contract document preparation, Cannon provided federal-aid funding administration services.



Union Road & State Route 46 East Intersection Alignment

Paso Robles, California

The segment of roadway associated with this project presented an opportunity for the City of Paso Robles to eliminate pinch points and safely improve roadway capacity from Highway 46 into the City and affected residential areas. Cannon's survey team was responsible for performing the pre-construction field topographic surveying, right-of-way mapping, utility as-built mapping, and as-needed verifications. During the construction staking phase, Cannon's surveyors provided staking and grade certifications of the various new roadway and utility improvements.

Laser Scanning for Precise As-Built

Overview

Benefits of Scanning

- Increased Safety
- Cost Savings
- Decreased Field Time
- High Level of Accuracy
- Minimized Construction Delays
- Eliminate Design and Field Change Orders
- Captures "All Features" Inside and Out
- Ability for Entire Project Team to Take a Virtual Tour of the Project Site
- Clash Detection and Routing Analysis
- Visually Intuitive, Provides an Analysis of Key Design Factors
- Supports 3D Engineering and Design Applications

Where You Can Use Scanning

Facilities

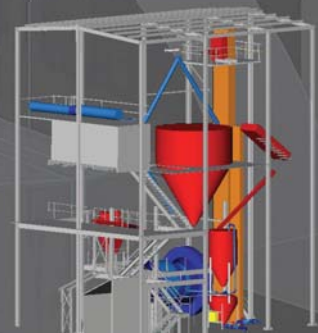
- Boiler Rooms and Pump Stations
- Tanks, Skids, and Piping
- Existing Buildings and Bridges
- Conflict Analysis and Clearance Mapping
- Building Information Management (BIM)
- Asset and Facility Management Information Systems

Infrastructure

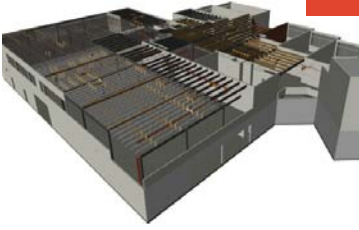
- Roads, Bridges, Intersections, Freeway On- and Off-Ramps
- Railroads and Tunnels
- Reservoirs, Dams, Levees,

and Drainage Channels

- Scour Detection and Modeling
- Shoreline Erosion Remediation Studies
- Earthwork Quantity Calculations for Landfills and Mining Excavations



Projects



Academy of Entertainment Technology Construction As-Built

Santa Monica, California

Cannon performed a laser scan survey, created a detailed 3D REVIT as-built model of the new AET Academy Building interior, and verified whether construction design changes would affect the location of HVAC/MEP systems and structural modifications. The team reviewed the 3D REVIT model with the general contractor and architect, which allowed them to quickly revise their HVAC/MEP designs and avoid delays or conflicts to the project schedule as well as costly field change orders.



Auditorium Laser Scanning As-Built

San Luis Obispo, California

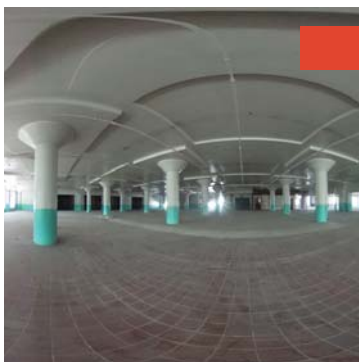
In order to create an as-built for the auditorium, Cannon was selected to provide a 3D laser scan. Cannon verified, set, and extended horizontal and vertical control to fully model the auditorium. A fully registered/certified point cloud model in data format compatible with REVIT and Navisworks was delivered. A Quality Assurance Review was performed on the scan and 3D model data to ensure final deliverables were complete and accurate.



Justice Center Laser Scanning Construction As-Built

Riverside, California

Cannon conducted a laser scan as-built survey for the City of Banning's new Justice Center, which replaced an original building built in 1951. The laser scan was used to verify the location of exterior and interior walls in reference to structural drawings. After locating and referencing existing project control points, Cannon created a highly accurate point cloud scan and 3D model to overlay with the building layout plans. Deliverables included a 3D as-built CAD model and certified 2D as-built drawings. All surveying was completed quickly and efficiently without any delay to the facility's construction phase, which allowed the City to bypass potentially high costs for re-design and field change orders.



LA Scanning Project Precise REVIT As-Built/BIM Model

Los Angeles, California

A new mixed-use development is planned for a three-story building in East Los Angeles. The building will feature a combination of office, retail, and restaurant uses. Cannon was selected to perform a complete 3D laser scan survey using a FARO x330 Scanner and FARO's Scene software to register the point clouds. Autodesk REVIT (building information modeling) software was used to create a 3D model of the building. Additional tasks included establishing horizontal and vertical control to register multiple scans; on-site coordination with a construction representative to confirm key structural components were included in the scanning data collection; creating a project database listing of the individual point clouds; 360° photos; and a scan region definitions exhibit.

3D Modeling & Visualizations



Overview

Architecture

- Architectural As-Built Drawings
- Building Façades
- Interior Details
- Historic Building Preservation and Renovation
- Visual Surface and Texture Analysis
- Access, Safety, and Constructability Analysis
- Building Information Modeling and 3D Visualizations
- GSA Compliance

Public Infrastructure

- Buildings (Interior and Exterior)
- Bridges and Support Structures
- Railroads and Tunnels
- Roadways/Intersections
- Parkways and Landscaping
- Reservoirs, Dams, Levees, and Drainage Channels
- Landfill and Mining Excavations
- Detailed 3D Models
- Profiles, Cross-Sections, and Earthwork Quantity Verification
- Hydrology and Floodplain Mapping
- Tree and Ground Cover (Habitat) Mapping

Forensics

- Existing Site Conditions
- 360° Digital Photography Overlay on 3D Model
- Deformation and Subsidence Monitoring Surveys
- Quality Assurance for Permitting and Certification
- Basis for Assessment Studies for Litigation Protection
- Clearance Evaluations for Industrial Safety Reviews

GSA BIM & Industrial, Oil & Gas, Power Distribution

- 3D Pipeline and Facility Models
- Visual Constraints and Conflict Analysis
- Access, Safety, and Constructability Analysis
- Digital Color Mapped Visualizations and Fly-Throughs
- As-Built Site Surveys for Certification and Regulatory Compliance
- Power Line and Electrical Facility Management Using GIS

Projects

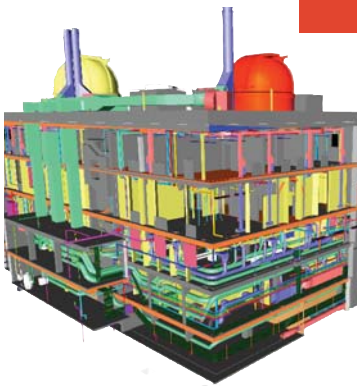


 "Complex 3D BIM" Article
Featured in LiDAR Magazine!

Laser Scanning and 3D Model for Building Retrofit

Los Angeles, California

Cannon performed a complete 3D laser scan survey of the existing building using FARO x330 Scanner and FARO's Scene software to register the point clouds. Cannon used Autodesk REVIT (building information modeling) software to create a 3D Model of the building that included the interior surface of all exterior walls on each floor, the interior floors, column supports and beams, ceilings, and stairs wells. Additional scope of work items included establishing horizontal and vertical control to register the multiple scans; on-site coordination to ensure key structural components were included in the scanning data collection as specified by the client; creating a project database listing of the individual point clouds; 360° photos; a scan region definitions exhibit; and fully featured REVIT/BIM model.



3D Scanning for Cal Tech Linde + Robinson Laboratory

Pasadena, California

The 78-year-old laboratory at California Institute of Technology (Cal Tech) was slated to become a state-of-the-art facility for the Cal Tech Linde + Robinson Laboratory for Global Environmental Sciences. Cannon provided 3D scanning services of the existing laboratory, approximately 45,000 gross square feet. The 3D scan provided the design team accurate measurements (within 5mm) and aided design professionals in modeling and analyzing the site remotely, thus providing Cal Tech an opportunity for cost savings. Cannon's scope of the work included a 3D scan of the interior floors, walls, and ceilings of the sub-basement, basement, ground floor, first floor, second floor, and rooms on the roof and roof deck. Cannon established horizontal and vertical control points within the building's interior and tied data into existing horizontal and vertical control.



3D Laser Scanning for Space Launch Complex 6

Vandenberg, California

Cannon provided 3D scanning and as-built modeling services to the United Launch Alliance Team for pre-launch safety certifications of the Mobile Services Tower (MST). Cannon digitally captured the existing MST with a ground based laser scanner and then incorporated this data with a 3D model of the Delta IV Rocket. The resulting 3D model enabled Cannon to perform detailed analysis of the clearance rattle space between the Delta IV Rocket and the multiple service platforms of the MST. This use of technology provided significant cost and time savings as compared to conventional approaches to retrofitting the MST service platforms.



Pecho Coast Trailhead Access Bridge Design Alternatives

Avila Beach, California

PG&E, in coordination with the Port Harbor District, selected Cannon to prepare a study of design alternatives for a stairway that would provide public access to the Coastal Trailhead in Avila Beach. To begin, Cannon conducted a 3D scan of the existing site and surrounding area. This information was used to create a base map for design of cast-in-place concrete supports at the base and upper landing, as shown in the conceptual site drawing. Then, Cannon prepared working exhibits of site visualizations and preliminary design concepts to convey the conceptual project design for agency and community reviews.

Small Unmanned Aircraft Systems (sUAS)



Overview

- FAA Certified Pilots
- Preliminary Engineering and Proposed Alignments
- 3D Point Cloud Models
- 3D DTM/TIN Surface Models for CAD and Geographic Information Systems (GIS)
- Construction Site Volumetrics and Earthwork Quantities
- Visual Pipeline and Utility Inspections
- Forensic Analysis Studies
- Vegetation and Habitat Studies
- Drainage Studies and Flood Analysis
- Structural Inspections for Bridges, Cell Towers, and Roof Solar Installations
- Documentation of Remote or Difficult to Access Locations
- Virtual Site Tours and Visualizations
- Emergency Safety Readiness and Assessments
- Marketing Images and Videos for Company and Public Events
- Cultural Resource Mapping for Historical Sites
- High Resolution/HD 360° Aerial Photography and Video

The combination of a well-established multi-disciplinary team of registered Structural, Civil, Mechanical, Electrical, and Automation Engineers along with licensed Land Surveyors means that you get more than a simple fly-over.

Our sUAS team works closely with our surveyors and engineers to fully integrate the data into usable and meaningful platforms.

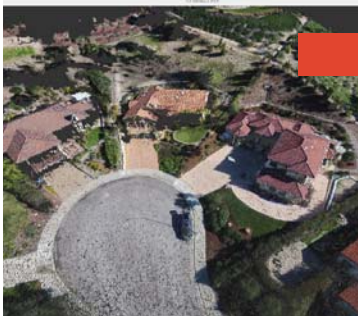
Projects



Surveying and sUAS Services for Agricultural Field

Ventura, California

Cannon was selected to map an 80-acre parcel following recent rains to assess damages from the overrun of an adjacent flood control channel. Due to rehabilitation efforts on the parcel, time was of the essence. In order to expedite services, Cannon used a combination of terrestrial 3D laser scanning, conventional ground surveying, and aerial imagery captured by sUAS mapping. This data was combined to create a singular 3D survey base map that was used to design improved flood control measures along the boundary of the parcel.



sUAS Mapping for Residential Neighborhood

Arroyo Grande, California

In order to analyze drainage issues within a residential neighborhood, Cannon was selected to gather aerial imagery and HD-quality aerial video via sUAS Mapping and perform a field topographic survey. The aerial photos, video fly around, and 3D terrain model exhibits were prepared to aid the property owner in presenting their case to the Home Owners Association, and the field topographic survey was used by a grading and drainage engineer for assessing the causes of the drainage and preparing design solutions to avoid further damage to the property.



Surveying and sUAS Mapping for Local Business

Pismo Beach, California

Due to safety concerns and project costs for manual inspection of an unsound structure, Cannon was selected to provide a preliminary structural inspection via sUAS mapping as an alternative solution. In addition, Cannon inspected and documented that drainage piping was installed per specifications in another location at the project site with the UAS; without the UAS, the procedure would have been highly dangerous as it would have required repelling from a cliff to view the entire length of pipe.

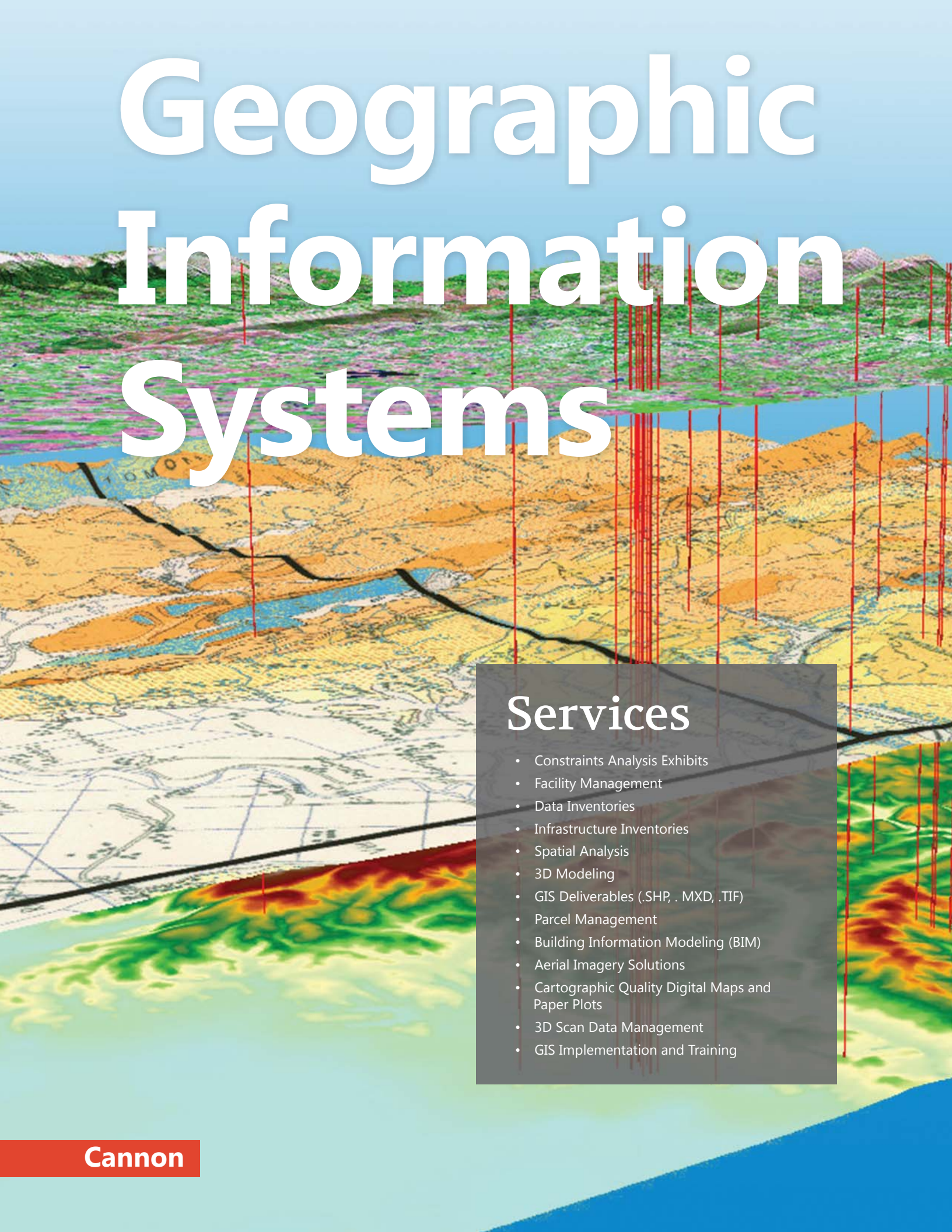


Laser Scanning and sUAS Mapping for Forensics Analysis

Los Angeles County, California

Southern California Gas Company selected Cannon to provide laser scanning and surveying services to acquire existing conditions mapping of a well site for forensic failure analysis. Using conventional, GPS, 3D Laser Scanning, and UAS survey methods to collect field data, Cannon processed and compiled the results into detailed AutoCAD Civil 3D drawings, exhibits, and digital terrain models showing precise (0.25') contours and 3D modeled visualizations of the post-event conditions of the structures and adjacent improvements within the site. The terrestrial data was complimented by geo-referenced digital aerial ortho-imagery obtained from sUAS mapping.

Geographic Information Systems



Services

- Constraints Analysis Exhibits
- Facility Management
- Data Inventories
- Infrastructure Inventories
- Spatial Analysis
- 3D Modeling
- GIS Deliverables (.SHP, .MXD, .TIF)
- Parcel Management
- Building Information Modeling (BIM)
- Aerial Imagery Solutions
- Cartographic Quality Digital Maps and Paper Plots
- 3D Scan Data Management
- GIS Implementation and Training

Projects



GIS Pipeline Inventory and Facilities Assessment

Santa Maria Valley, California

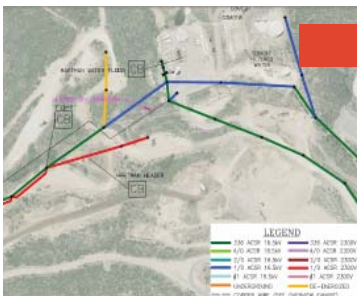
Cannon was selected to compile a comprehensive inventory of all pipelines and facilities for an oil facility. As part of the inventory, Cannon was asked to identify areas where pipelines were either in or adjacent to developed areas, or areas of potential development. Cannon compiled and reviewed available records and then created a mosaic of record drawings. This graphic showed an overview of the project area, as well as called out pipelines within the project area.



GIS for ALTA Survey

Orcutt, California

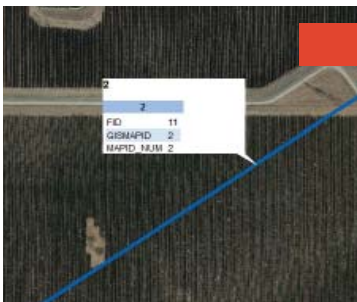
As part of a multi-use development, Cannon was selected by Wells Fargo Bank to prepare an ALTA survey. Cannon's scope of work included use of ESRI's ArcMap GIS software to prepare an updated Property Ownership Exhibit Drawing showing owner's name, tax assessor's parcel number and an APN Listing of all client owned and adjacent parcels. The GIS Map was created by incorporating County GIS information, AutoCAD drawings and MS Access Database information into an ArcMap Project to create the desired layout format, informational content, color coding, and legend as requested by the client. Using ESRI's ArcMap GIS software, Cannon was able to quickly create an enhanced Parcel Ownership Exhibit with APN and Ownership listings. This exhibit proved a valuable resource throughout the project for coordination of the Deed Title Ownership and Easement reviews.



Electrical Facilities Atlas Map

Ventura, California

Aera Energy selected Cannon to update their Ventura Field Electrical Facilities Atlas Maps. This update included locations for wells, pumps, power poles, overhead electrical lines, and associated facilities. Cannon coordinated development of prototype drawing standards. The final product showed the aerial orthophotograph screened back so existing improvements and roads were highly visible, while maintaining clear and legible electrical lines and facilities for daily use by the field engineers and facility managers. The final maps were also used by the field inspectors and maintenance personnel.



PG&E Pipeline QA/QC Review

Arroyo Grande, California

Cannon was selected by PG&E to perform reviews and verify pipeline segment information contained in their GIS database related to their Pipeline Safety Enhancement Program. The scope of work included review and verification of pipeline ID and location data: City and County name; tax assessor's parcel number; City-County jurisdiction; pipeline route ID; segment number and length; and distance to nearest adjacent City boundary and City center. Cannon provided PG&E with updated .SHP and .MXD GIS project files, an updated Excel spreadsheet and MS Access database and .KMZ overlay for Google Earth.

Due Diligence

"The degree of care that a prudent person would exercise, which is a legally relevant standard for establishing liability; The disclosure, to potential buyers, of all relevant information that applies to a security or property."

Services

- American Land Title Association (ALTA) Surveys
- Boundary Analysis/Record of Survey
- Deed and Title Research
 - » Title Exception/Easements and Leasehold Analysis
 - » Ownership Research Through Public Records
 - » Lot Analysis
- Zoning and Land Use Reviews
- FEMA Flood Elevation Certificates/Flood Zone Analysis
- LOMA Applications
- Site Condition Studies
 - » Erosion, Debris, and Materials Stockpiles
 - » Infrastructure Impact Analysis
 - » Undocumented Access
 - » Encroachments
- Constraints and Entitlement Surveys
- Underground Utility Plans/As-Built Certifications
- Site Investigation Reports (Habitat, Environmental, Hazard)

Projects



45-Mile Pipeline Topographic and Right-of-Way Mapping Survey

San Luis Obispo County, California

Cannon was selected to provide professional surveying, mapping, and right-of-way acquisition support services for the Nacimiento Water Project. This water-delivery project spans a 45-mile pipeline corridor, with several pump stations and multiple storage tanks. Cannon's scope of work included topographic field surveys, aerial mapping, property boundary and right-of-way determinations, legal descriptions, and exhibit drawings. The topographic information was the basis for the design of the pipeline and water handling facilities. The legal descriptions and exhibits were used in negotiating temporary easements and permanent right-of-way acquisition across more than 60 parcels.



3,000 Acre ALTA Survey and Record of Survey

San Luis Obispo, California

California Polytechnic State University's Facilities Management Department selected Cannon to provide an ALTA survey and file a record-of-survey map for more than 3,000 acres of the University's land parcels adjacent to a regional military base. The ALTA and boundary survey provided an accurate basis for updating lease agreements and identifying areas where access and utility easements needed to be acquired. The project required detailed research of historical government land title records and review of over 300 unrecorded survey drawings and deeds. In addition to the research and analysis of the University's land records, Cannon reviewed City and County Records, Caltrans Right-of-Way Maps, State Park Lands Maps, Government Land Office Sectionalized Land Survey notes from the 1800's, Parcel and Subdivision Tract Maps, and Records of Survey.



11,200- Acre Boundary Survey

San Luis Obispo, California

The California Army National Guard selected Cannon to execute a boundary survey for one of its military bases. The scope of work included performing a "Dependent Resurvey and Subdivision of Townships and Sections" within the Public Land Survey System and setting approximately 50 boundary corner monuments. Cannon researched historical land records, performed a field boundary survey in accordance with the California Business and Professional Code (Land Surveyor's Act), BLM Manual of Instructions for the Survey of Public Lands Surveys, and ACSM/NSPS Accuracy Standards for Survey Measurements Controlling Land Boundaries. The Survey also included setting monumentation on railroad right-of-way and Historical Creek boundaries that ran through the property.



Rice Ranch 580 Acre ALTA Survey

Orcutt, California

Cannon was selected by Wells Fargo Bank to prepare an ALTA/ACSM Land Title Survey. The ALTA survey covered multiple developed and undeveloped phases of the Rice Ranch Project. This included showing all existing improvements, surface and underground utilities, and multiple Table-A Items required for certification of the ALTA Map. The survey covered over 580 acres and required a thorough and comprehensive level of "Due Diligence" to ensure all Ownership Rights and Exceptions described in multiple Title Commitments were accurately identified.



Reliable Responsive Solutions

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