

PROFESSIONAL SERVICES



C2 GROUP

IT &
Analytics

② Schedule
&
Budget
Management

Substation
Design
&
as-builts

GIS
Database

Plant
Maps

- Inspection Reports
- As-builts Docs
- Project Status
- Schedule

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WBENC



SBA WOSB
Woman Owned Small Business

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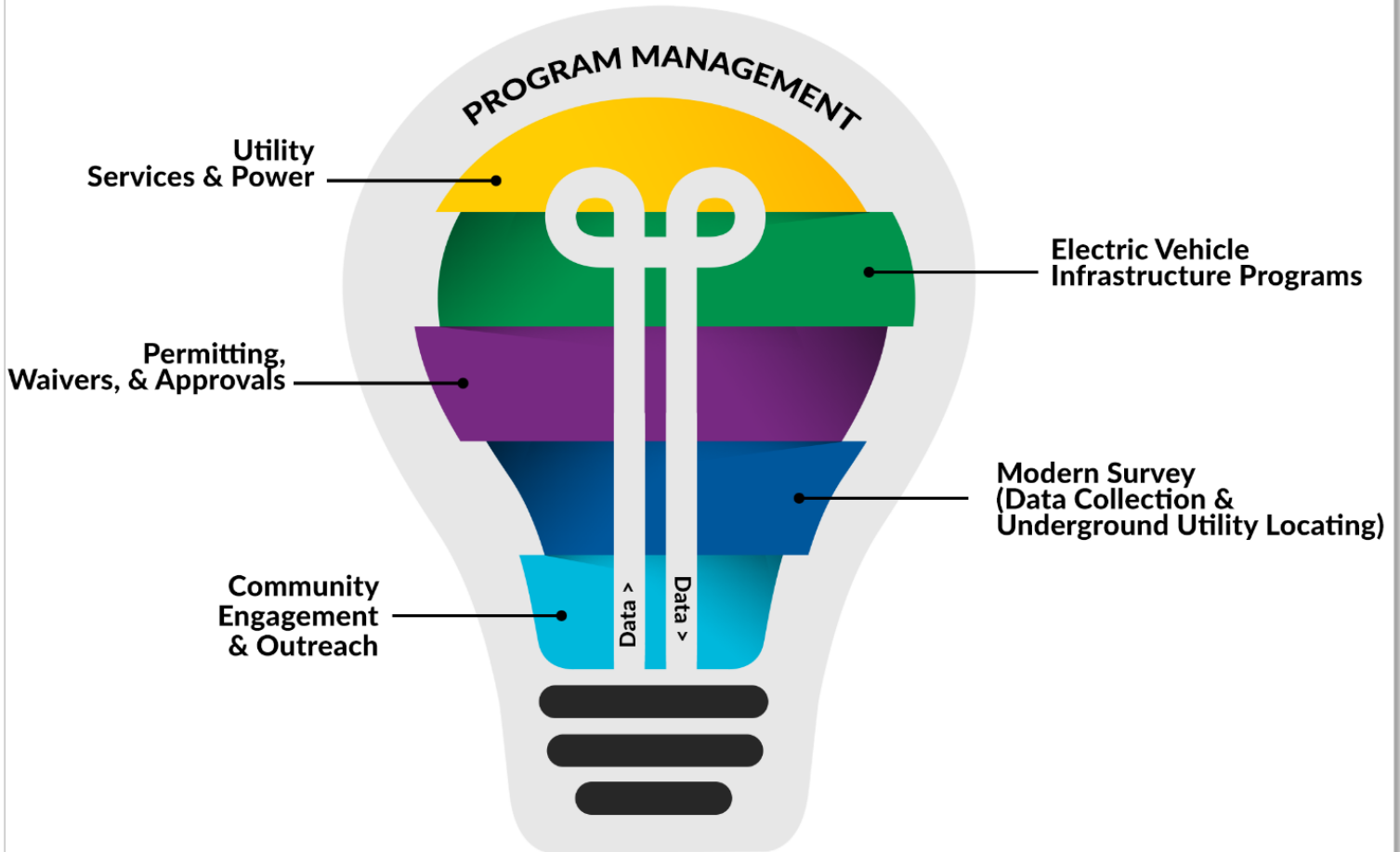


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Certifications

| DBE Category | Certifying Agency |
|--------------|--|
| DBE | CUCP (Caltrans) |
| SBE | Department of General Services – State of California |
| SLBE | City of San Diego |
| WBE | CPUC (California Public Utilities Commission) |
| National WBE | WBENC |
| WOSB | SAM.GOV |





At C2 Group, we understand that communication and data flow are vital to every project or program's success, regardless of size. From routing the data appropriately to the interpretation before inbound and outbound dissemination and ending with alignment and confirmation of understanding. Communication and data management are a staple of our solutions, ensuring transparency with our partners in our collaborative efforts to support the desired outcome.

Our company culture embraces collaboration and creative approaches for improved efficiencies and deliverables. We firmly believe that open dialogues and brainstorming with our clients deliver uncommon results that are fostered in trusted partnerships to reach common goals. This belief is echoed throughout the professional services we provide.

"There is a tremendous amount of craftsmanship between a great idea and a great product" - Steve Jobs

At the foundation of our Program Management and Project Delivery services is understanding the path to the end product, its risks, the interconnectedness of the various projects, subprojects, agencies involved, stakeholders, and the people performing the work. During the lifecycle of a program, many interests need to be considered; these include non-linear timelines of many deliverables requiring an understanding of hard deadlines and less tangible relationships that need to be developed.

C2 Group's approach includes utilizing the program management controls and systems that characterize our holistic way of managing and monitoring program health and combining it with data collection and visualization tools to establish metrics, spot trends, and forecast. We can help you plan your program, assess an existing one, or augment and fill in the gaps to support expertise or resource needs. The following are specific expertise and examples of how we have provided these services.

Expertise:

- ❑ Planning and Strategy
- ❑ Project Management & Owner's Representation
- ❑ Construction Administration & Management
- ❑ (GIS) Geographic Information System
- ❑ Project and Program Controls
- ❑ Quality Assurance/Quality Control
- ❑ Design-Build
- ❑ Cost Estimating
- ❑ Feasibility Assessment
- ❑ Risk Management
- ❑ Contract Administration
- ❑ Third-Party Review

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**CONSTRUCTION
MANAGEMENT**

FIRM - SDG&E

2017

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SDG&E FIRM



OVERVIEW

The construction management scope of work is an integral part of the Fire Risk Mitigation (FRM) program and is central to its success and cohesion. SDG&E's Project Management team and the Program Management Consultant, C2 Group, have worked closely together for the past year to develop a program strategy and build all associated processes and procedures to ensure the program's budget targets are met at the end of the each year (2016 and 2017).

The program resides within the Construction Services Department, which allows SDG&E to leverage its resources, construction contracts, contract administration, and field oversight of the proper execution of SDG&E's construction standard.

C2 GROUP

The program scope consists of the removal of wood electrical distribution poles replacing them with steel poles and the replacement of copper wire that is displaced. Each project within the FRM program is a section/segment of a circuit that is comprised of 30-50 poles and is designed, managed, coordinated, tracked from planning to construction closeout. The following milestones are considered to be the primary and most critical in the successful execution and completion of each project and consequently the entire FRM program:

- Engineering & Project Management, includes Pre-Design, 3D Models, 30% Design, 60% Design, and Final Engineering
- Project Closeout, includes Electrical System Inspection & Acceptance, Collection of As-Built Documentation
- Lead & Environmental Coordination and Approvals
- Customer Coordination
- Construction Management & Coordination, includes Inspection, weekly management and reporting, change order field verification and coordination
- Program Planning, includes Scoping, Program Forecasting, Program Management Systems & Software Applications

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- 01 Pre-Construction Coordination**
 - 1.1 30% Design Job Walk
 - 1.2 Construction Yard Acquisition
- 02 Active Construction Coordination**
 - 2.1 Weekly Construction Updates
 - 2.2 Facilitate Internal SDG&E Coordination
 - 2.3 RFI and FCO Coordination
 - 2.4 Construction Inspection Coordination
- 03 Construction Closeout Coordination**
 - 3.1 Post-Construction Inspections
 - 3.2 Punch List
 - 3.3 As-Built and Final Documents
- 04 Conclusion**
 - 4.1 Final Remarks

With the recent management changes within SDG&E and the establishment of a fully functioning system, the construction management scope of work can be transitioned to a dedicated team that is focused solely on construction to sustain the success of the FRM program.

To ensure full integration of the new team and to maintain consistency amongst other teams managing different aspects of the program, C2 Group has a partial oversight scope of work to support SDG&E, which includes support in coordinating site walks, locating construction yards, customer communication, and providing scheduling guidance to the inspection team. C2 Group support also includes assistance with RFIs and related communication between the field, project staff and the engineering consultants.

This is currently a support role in SDG&E project management and Field Control Administrators (FCAs) during the various construction phases. Direct management and direction is provided by SDG&E project and field management staff.

June, 2017 3

Related Program/Project Delivery Highlights:

Client/Program:

San Diego Gas & Electric (SDG&E) Fire Risk Mitigation **(FiRM)** Program, implemented to reduce the risk of wildfires due to electric distribution wire down events.

Problem:

Approximately two years into the implementation of an existing program, the client requested an overall program assessment to evaluate areas of opportunity and potential solutions as the program was trending to exceed budget and not meet critical project timelines. Due to the unique nature of the program, established workflows were not compatible, contributing to both inefficiencies and increased costs which lead the client to look to for more innovative means and methods to address the nuances and scale of the program.

Solutions Implemented:

C2 Group assessed the overall program, and implemented the below solutions resulting in the following program improvement highlights:

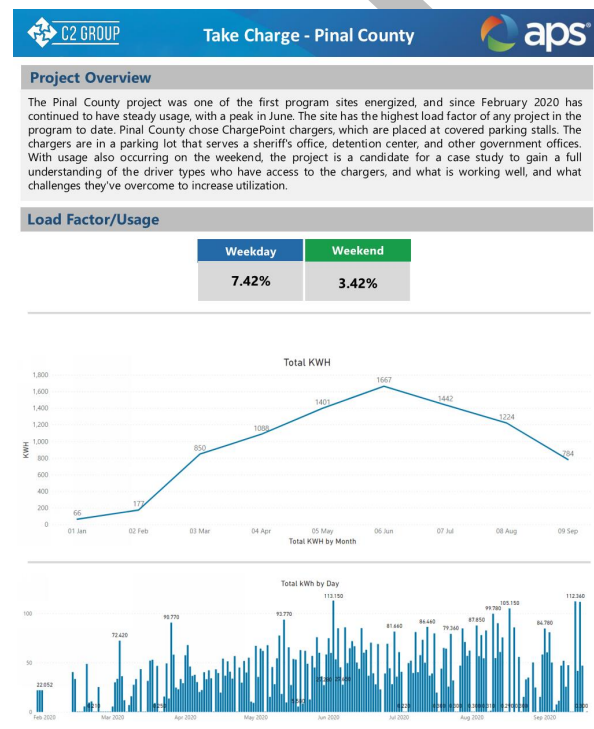
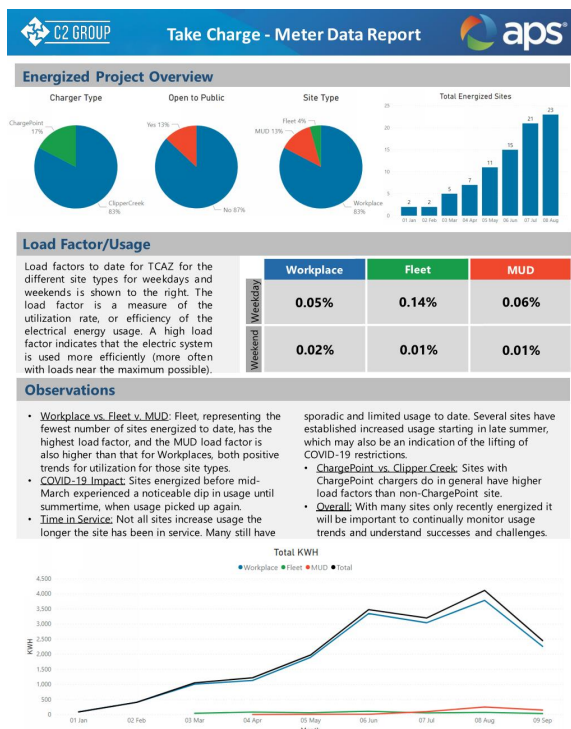
- C2 created a centralized program management office, including a database with visualization dashboards. The change illuminated inefficiencies across the span of workflow processes. As a result, overall workforce productivity increased, and overhead management and administrative staffing were **reduced by approximately 15%**.
- C2 helped assess and source experienced engineering resources while establishing both transparencies in performance and a workload distribution process that matched the engineering company's output performance. This resulted in increased production, decreased costs, and an atmosphere where constant improvements to support deliverable outputs were developed. Production **output increased by 35%** while improving the quality of the engineering product.
- Initial survey data collection was a workflow pinch point considering that the nature of the work included miles of distribution lines, often in hard to reach rural areas. C2 helped source, validate, and establish the utilities first drone data capture program, which more than doubled the amount of survey-grade data collected and resulted in the **reduction of costs by approximately 40%**.
- C2 designed and implemented a program-specific design-build workflow alongside the traditional design-bid-build approach, validating further program **cost savings of approximately 20%** over the conventional method and improved product output through better engineer/contractor collaboration.

Ingrained in our company culture and experience is our understanding of data management and architecture for database development and Business Intelligence (BI) visualization solutions for centralizing numerous disparate and disconnected systems to provide visibility to our clients for critical decision making. Along with our knowledge of dataflows across systems, our years of experience from planning, field operations, engineering, construction, and energization provides the framework for identifying key data points for collection at distinct stages of a program.

We model and streamline data collection within developed databases for integration into BI visualizations that provide you the decisive metrics necessary to forecast, actualize, and report on the program progression. These on-demand visualizations provide you with audited and accurate information of your program or project, giving you the visibility necessary to adjust processes or resources essential for continued program success.

Expertise:

- ☐ Data Engineering/Data Integration
- ☐ Data Migration
- ☐ Data Strategy and Planning
- ☐ Modern Data Architecture
- ☐ Process Automation
- ☐ On-Premise to Cloud Migrations
- ☐ Modern Data Analytics
- ☐ Dashboards and Reporting
- ☐ Dashboards and Reporting Migrations



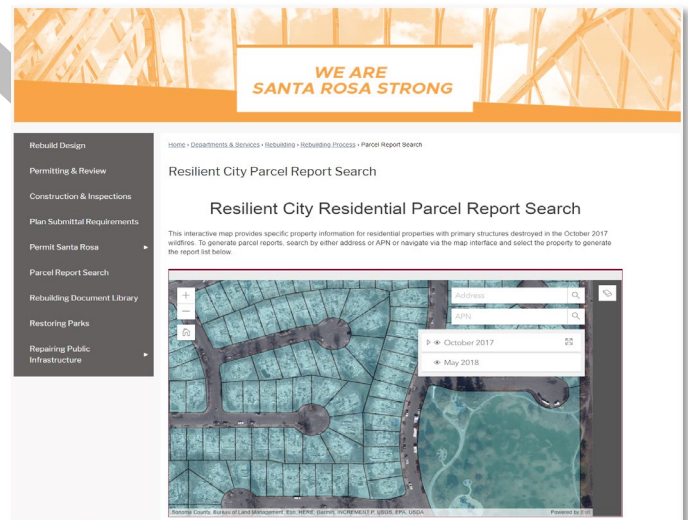
Related Program/Project Delivery Highlights

City of Santa Rosa - Resilient City Recovery Fire Rebuild

C2's knowledge and experience in program management, engineering, permitting, zoning, data management, and data collection technology provided the foundation for creating customized solutions to meet the City's need and provide residential parcel data for residents rebuilding from the October 2017 Tubbs wildfire. In collaboration with the City, C2 Group developed an online GIS portal to provide residents access to the collected, organized, and classified data from digitized record plans, aerial ortho imagery, parcel record information including setbacks, and individual parcel UAV images. This online portal provided a centralized source of data not only for the residents rebuilding but also utilities, contractors, and others supporting the rebuild.



(Above) Link to the GIS web maps C2 produced:
<https://santarosa.maps.arcgis.com/apps/MapSeries/index.html?appid=4e3496891e2b4726a2b3235cd9f186c8>

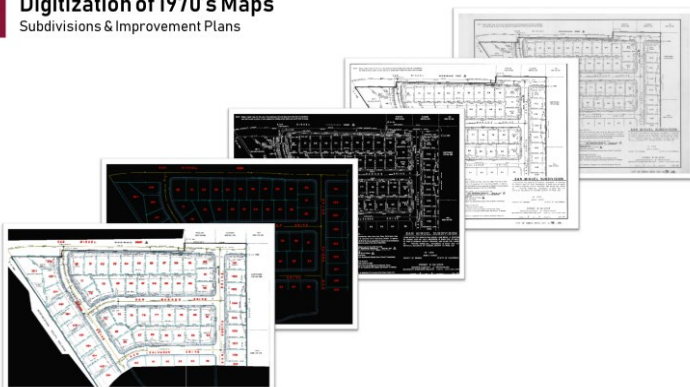


(Above) Link to the online (individual) Parcel Reports C2 created to assist with permitting and construction, a full understanding of zoning, set-backs, floor area ratio's and more with detailed drone imagery:

<https://srcity.org/2886/Parcel-Report-Search>

(Left) Developed a process to take old as-builts, created by hand and improve their condition using a combination of Adobe and AutoCAD products. The process combined with aerial imagery and several survey monuments was able to accurately and efficiently create parcel maps for residents.

Digitization of 1970's Maps Subdivisions & Improvement Plans



Pacific Gas & Electric (PG&E) - Wildfire Safety Inspection Program (WSIP)

Following the 2017 and 2018 California wildfires, the PG&E WSIP was created to accelerate the completion of inspections of approximately 50,000 Transmission Structures and 230 Substations utilizing UAVs to collect high-resolution imagery of electrical transmission structures located within the Tier 2 Elevated and Tier 3 Extreme fire-threat areas. Fundamentally enhancing PG&E's inspections for incorporating UAVs, C2 developed and evolved the interim IT system infrastructure to process, standardize, and track imagery captured by the UAVs for review by PG&E's inspection team. Additionally, C2 designed and established the database schema for the Substation inspection team's progression tracking and created the Microsoft PowerBI dashboards connected to this established database for transparency and streamlining program reporting. In tandem with the program dashboards, data workflows were identified and documented within created user manuals to provide end-users references of definitions and assumptions along with step-by-step instructions for executing code.

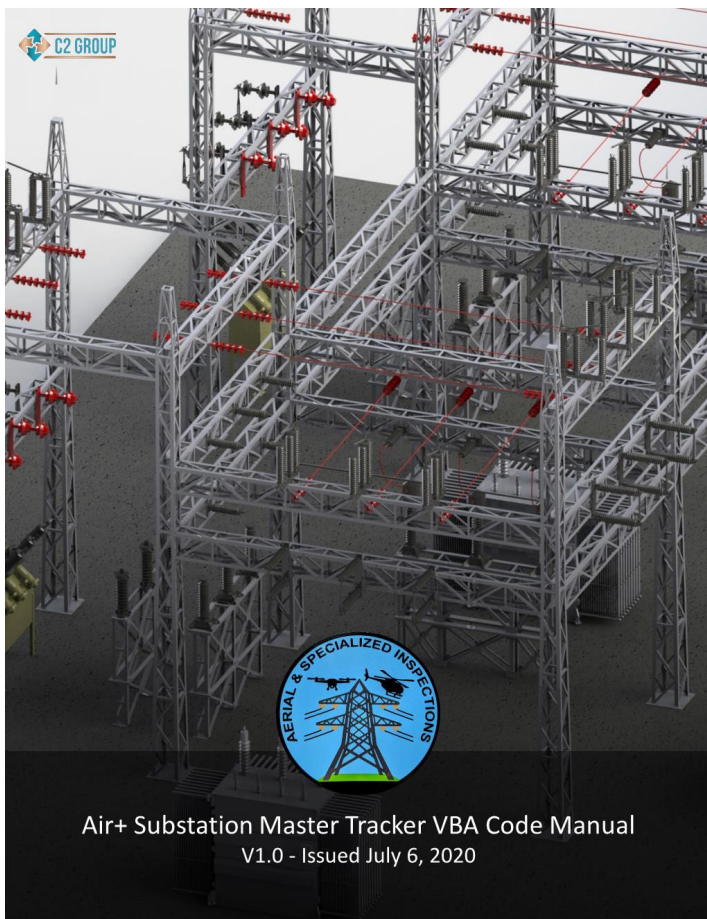


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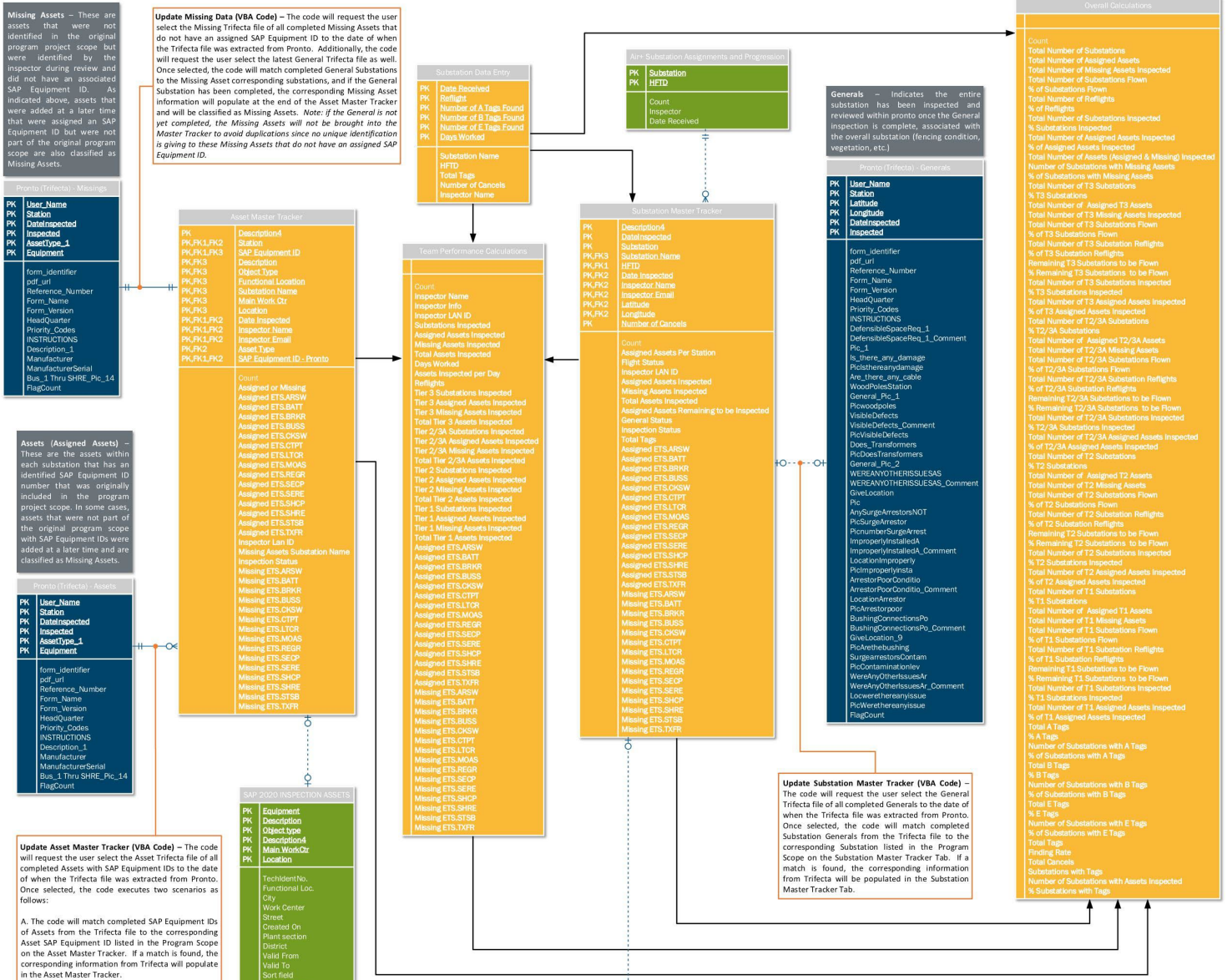


Example Manual and PowerBI Dashboards

C2 Developed Database Schema for Migration from Excel Tracking and VBA Coding to SQL Database

Air+ Substation Inspections - Substation Master Tracker Schema

July 20, 2020



Legend

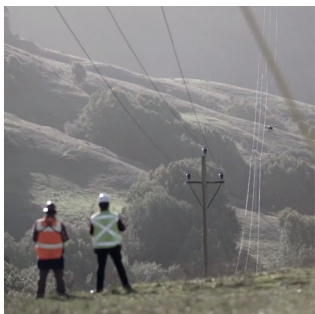
— Data Field Relationships

— Excel VBA Code Execution Description

— Data Field Connections for Calculations

Coupled with our Program Management and Modern Survey services, C2 Group has technical services that complement both, assisting utility clients in asset inspections, design and engineering. C2's hands on team experience as inspectors and construction managers is a strength when applied to designing and engineering projects in the power industry. Our capabilities include technical project feasibility assessments, route selection, 3D structure modeling, overhead line design, underground design, standards development and detailed inspection.

We understand that most projects include the assessment of existing assets, the integration of new, and therefore strong technical knowledge and creativity to assist clients with finding solutions that meet regulatory, budget and environmental requirements. By starting with the end goal in mind, our team of professional engineers and designers builds up each detail of a project to be in alignment, creating results our clients seek.



Expertise:

- ☐ Civil Engineering
- ☐ Fiber Optic Cable and Telecommunications
- ☐ Electric Distribution Overhead & Underground Lines Engineering
- ☐ Electric Transmission Overhead & Underground Lines Engineering
- ☐ Lineman and Engineering Inspection Services
- ☐ Drone Asset Images, Thermal Imaging, and LiDAR

Related Program/Project Delivery Highlights

Pacific Gas & Electric (PG&E) - Wildfire Safety Inspection Program (WSIP)

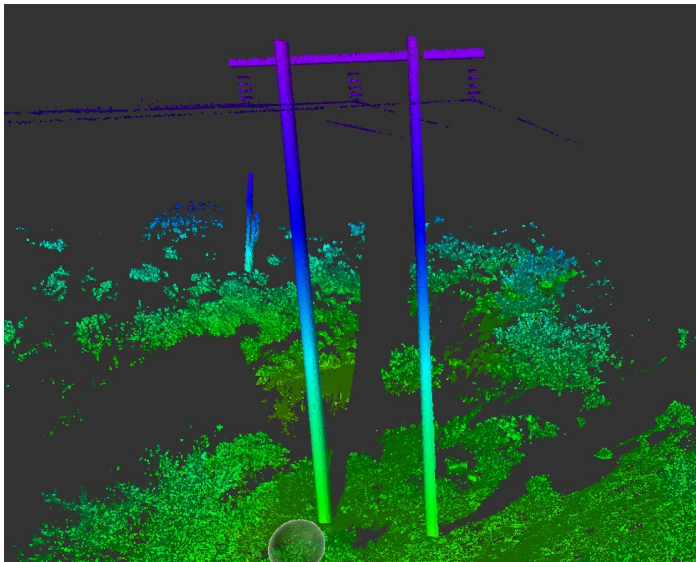
Our inspection team, comprised of Journeyman Linemen and Civil Engineers, perform detailed visual inspections of over 100 structures per day supporting PG&E's WSIP accelerated inspections of approximately 50,000 Transmission Structures and 230 Substations. Each inspector is responsible for evaluating the physical conditions of hundreds of components per structure - every connection plate, cross-arm, insulator, nut, bolt, washer, cotter key, wire, etc. is examined in fine detail and checked against construction and design standards, safety requirements, and General Order compliance. Our internal Subject Matter Expert provides additional knowledge and resources and is responsible for evaluating and approving all inspection reports before dispatching repair crews responsible for performing corrective actions identified by our inspection team.



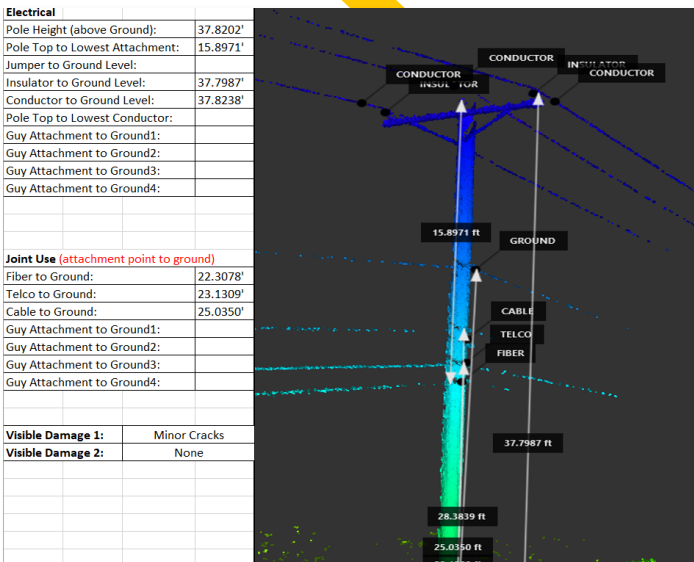
High-resolution aerial imagery of Transmission Structures taken by drone.



C2 Drone Field Team mission with DJI M210RTK capturing high-resolution aerial imagery.



3D Colorized Point Clouds from LiDAR Scans of Transmissions Structures.

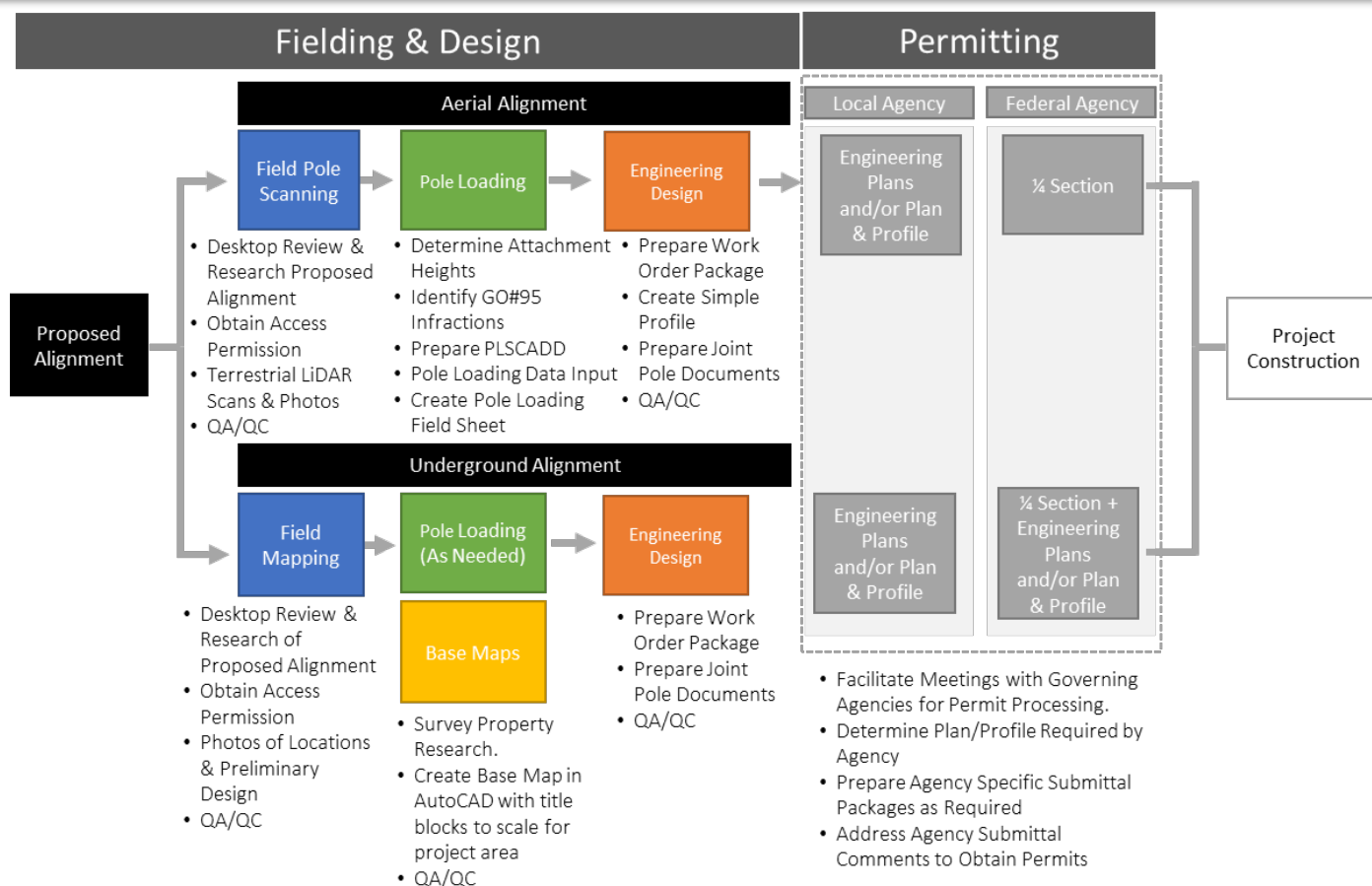


Transmission Structure as-built report example with measurements taken from LiDAR Scans.

San Carlos Irrigation Project (SCIP) – Transmission Structure LiDAR and Assessment

With the data collection of LiDAR scans with up to 1,000,000 points per second rate and an accuracy to the millimeter, our field teams scanned over 1,200 existing SCIP Transmission structures into colorized 3D Point cloud to create structure assessments taking accurate structure measurements to various components for validating equipment and conductor clearances. Our inspectors prepared detailed and color-coded damage assessments of each structure with associated damage classifications such as delamination spalling, spiral cracks (major/minor), vertical cracks, and missing guys for SCIP review and dispatch of maintenance crews.

Below, a customized typical project workflow developed for a fiber installation program.



We develop program specific process flows to not only align and educate our internal teams on how their work intertwines with their team members, but also to communicate with all program partners, to help assure mutual understanding on the planned steps to accomplish work.

Since the launch of our Transportation Electrification division in 2017, our team has developed industry-specific toolkits and best practices that enable us to effectively meet project goals and program timelines across the West Coast, from our headquarters in San Diego, California. Our TE division's strength is rooted in cross-functional collaboration, both internally and with our client partners, and our company culture of providing holistic support. This culture has led to the diversity of the customizable solutions that we can offer large scale programs while maintaining the agility and responsiveness that sets us apart from other engineering firms.

At the core of a successful electric vehicle infrastructure program is the effective communication of program benefits and requirements to customers, retaining customer program participation through trust, and defining project eligibility requirements that translate to repeatable engineering standards and guidelines. The duality and balance of meeting customer requests while streamlining engineering deliverables make C2 Group uniquely suited to support clients with their EV charging programs through a diverse set of services.

Expertise:

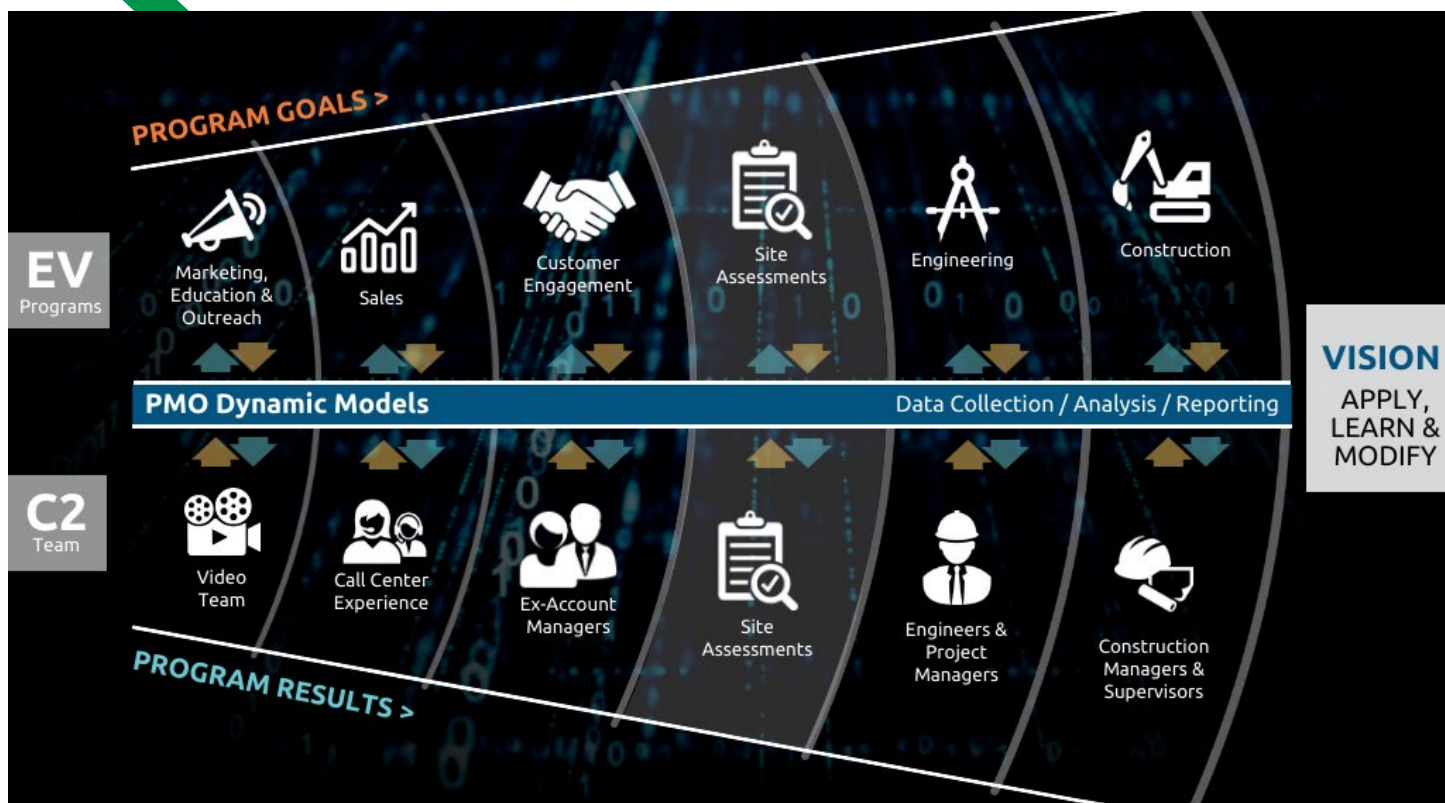
- ☐ Regulatory Strategy Development
- ☐ Program Organizational Structuring Development
- ☐ Program Process Development and Workstreams
- ☐ Customer Outreach Strategy and Implementation
- ☐ Customer Onboarding and Management
- ☐ Engineering Guideline Creation
- ☐ Construction Specifications, Details and Drawing Template Creation
- ☐ Contractor Bid Creation and Execution
- ☐ Site Assessment and Feasibility Plans
- ☐ Project Cost Estimating and Analysis
- ☐ Low Voltage Engineering Design
- ☐ Distribution/High Voltage Engineering Design
- ☐ Accessibility Design
- ☐ Building Permitting
- ☐ Construction Management and Inspection
- ☐ Operations and Maintenance Strategy and Development

Related Program/Project Delivery Highlights

Arizona Public Service (APS) - Take Charge AZ Program

Offering the first of its kind customer opt in utility EV charging program in Arizona, C2 Group worked with APS to create the program structure, including the customer journey, eligibility requirements, engineering standards, and the program metrics and tracking system. The result is a program set to build over 50 projects in its first year of construction, with interest rising to expand the program in its second full year. C2 Group continues to support the program in every project stage, from customer application, to construction close out, as well as with programmatic advising and forecasting.

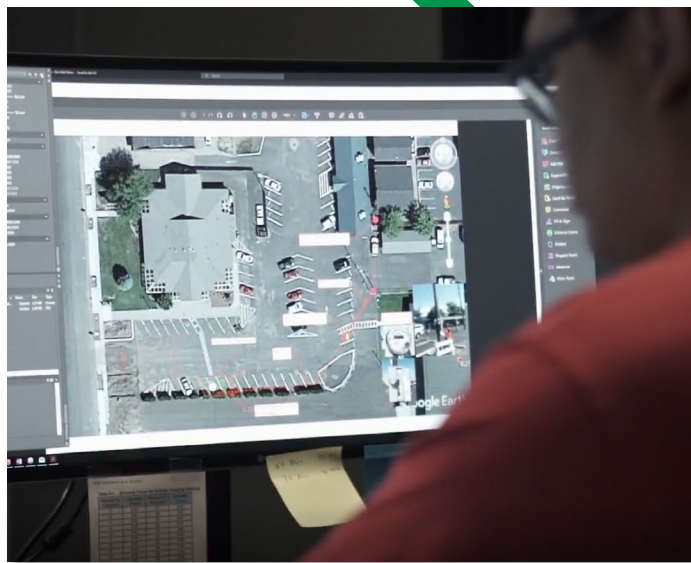
Professional Services Electric Vehicle Infrastructure Programs



As EV industry specialists, C2 Group has extensive experience developing and supporting all phases of EV programs from marketing and outreach, planning, site assessments, engineering, permitting, and construction of Level 2 and Direct Current Fast Charger (DCFC) projects.



Our Construction Managers oversee EV projects while managing multiple contractors, outages and phases, and communicate to project stakeholders.



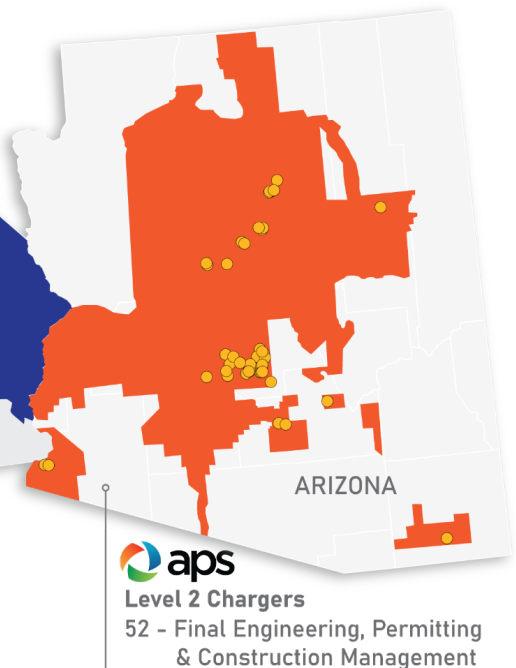
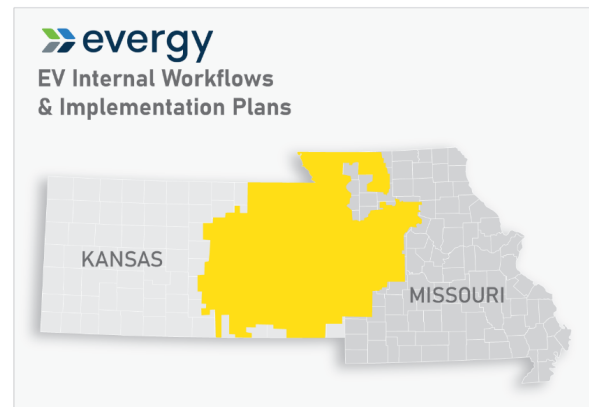
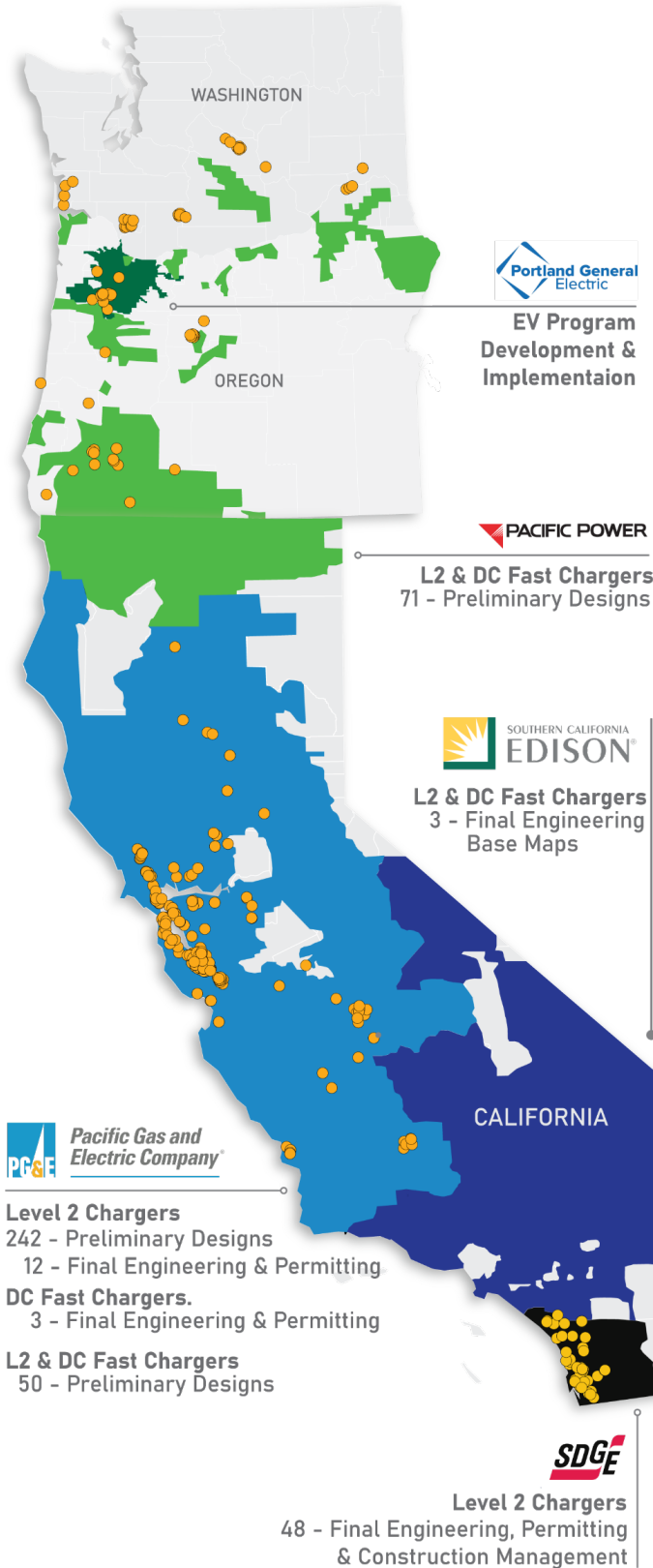
Engineers utilize georectified drone aerial orthoimagery to create EV Engineering Construction Drawings.



Professional Services Electric Vehicle Infrastructure Programs



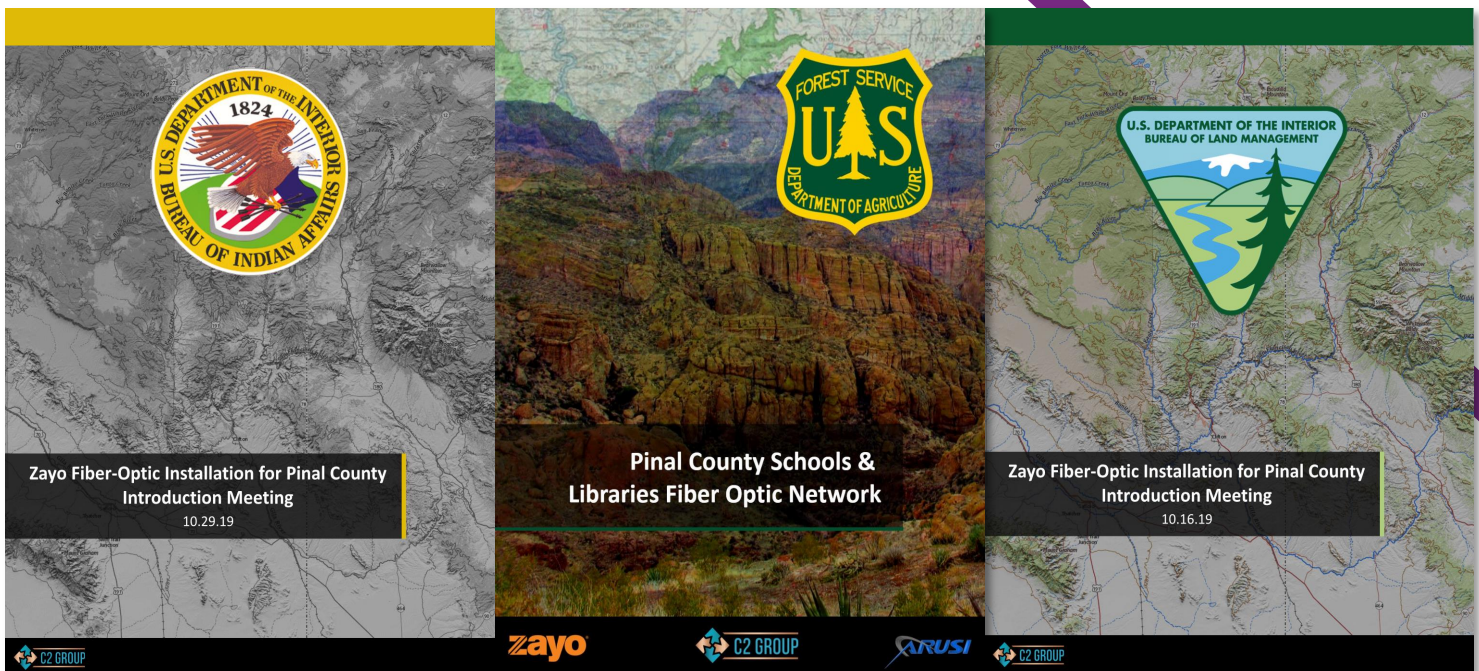
- 1x EV Site
- PACIFIC GAS & ELECTRIC
- PACIFIC POWER
- SAN DIEGO GAS & ELECTRIC
- ARIZONA PUBLIC SERVICE
- PORTLAND GENERAL ELECTRIC
- SOUTHERN CALIFORNIA EDISON
- EVERGY



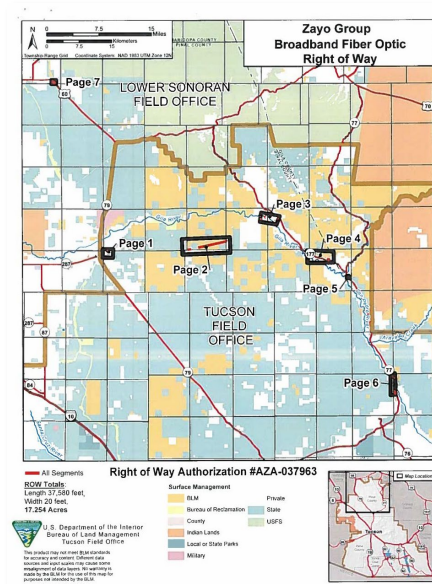
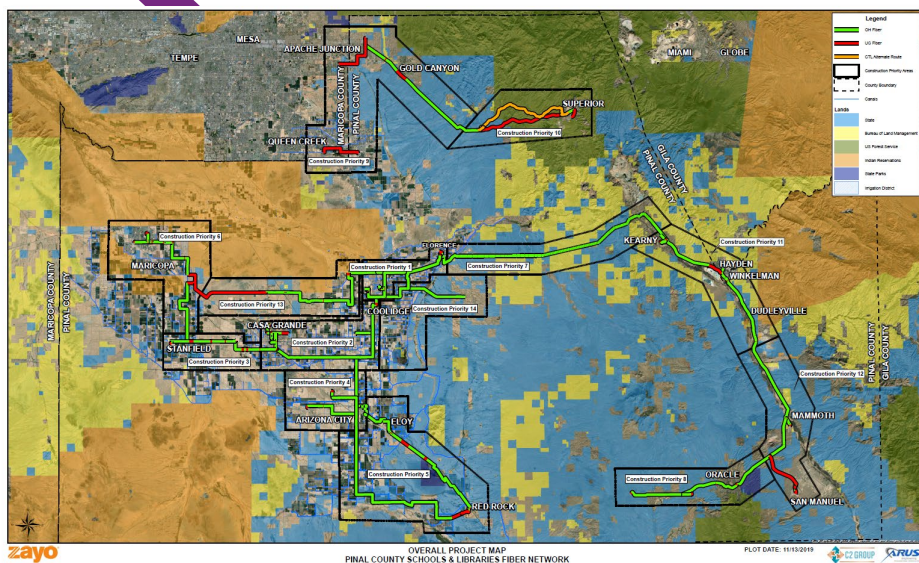
C2 Group's extensive first-hand experience permitting through numerous Federal, State, and Local governing agencies gives us in-depth understanding of permitting applications, submittal documents, and processes while navigating each governing agency's political and unique cultures. The dynamic nature and acceleration of permitting require an approach that is collaborative and agile with project progress tracking and continuous monitoring of trends to identify process or alignment adjustments needed to meet your project goals and expedited timelines. The following are a sampling of specific agency permits we have processed and obtained permits for diverse projects across various agencies.

Local Agency, Municipality, and Utility Expertise:

- ☐ Grading and Improvement Plan Permits
- ☐ Encroachment Right-of-Way Permits
- ☐ Irrigation and Drainage District License to Use Right-of-Way for Utility Crossing Permits
- ☐ Traffic Control Permits
- ☐ California and Arizona Various Counties and Cities Drone Right-of-Entry Permits
- ☐ Custom Solution Regulatory Approval Assistance



Examples of meeting agenda and notes for the introduction of the Zayo Pinal County Fiber Project to the BIA, USFS, and BLM Land Right-of-Way agents for initiating and processing permitting for the project.



Federal and State Expertise:

- ❑ Clean Water Act, Section 404 Permits from the U.S. Army Corps of Engineers
- ❑ Clean Water Act, Section 401 Water Quality Certifications from the Regional Water Quality Control Board
- ❑ Federal Endangered Species Act Permits from the U.S. Fish and Wildlife Service
- ❑ U.S. Forestry Service (USFS) Special Use Permits
- ❑ Bureau of Land Management (BLM) Right-of-Way Grant Permits
- ❑ Bureau of Indian Affairs (BIA) Grant of Easement for Right-of-Way Permits
- ❑ Bureau of Reclamation (BOR) Land Use Authorizations
- ❑ Caltrans Encroachment Permits
- ❑ National Parks Service Special Use Permits from the California Department of Parks and Recreation Special Use Permits
- ❑ California Department of Fish & Wildlife (CDFW) 1602 Lake and Streambed Alteration Agreements
- ❑ San Francisco Public Utilities Commission (SFPUC) Drone Right-of-Entry Permit
- ❑ Arizona State Land Department (ASLD) Right-of-Way and Right-of-Entry Permits
- ❑ FAA Special Governmental Interest (SGI) Process for Emergency Drone Operations.
- ❑ FAA Part 107.41 Waiver for Operations Within Restricted Airspace
- ❑ FAA Low Altitude Authorization and Notification Capability (LAANC)

Related Program/Project Delivery Highlights

Zayo - Pinal County Fiber Installation for Underserved Communities

With over 190-miles of fiber optic lines throughout Pinal County, C2 prepared, developed, and processed the permit submittal packages and coordinated with Federal Agencies (BLM, BIA, BOR, USFS), Arizona State Land Department (ASLD), and multiple local irrigation districts. These permit packages included county right-of-way records research, environmental coordination with cultural and native plant surveys, legal descriptions, wetland/stream exhibits, ingress and egress mapping, SF299 application, and additional agency applications.

Professional Services Modern Survey (Data Collection and Underground Utility Locating)

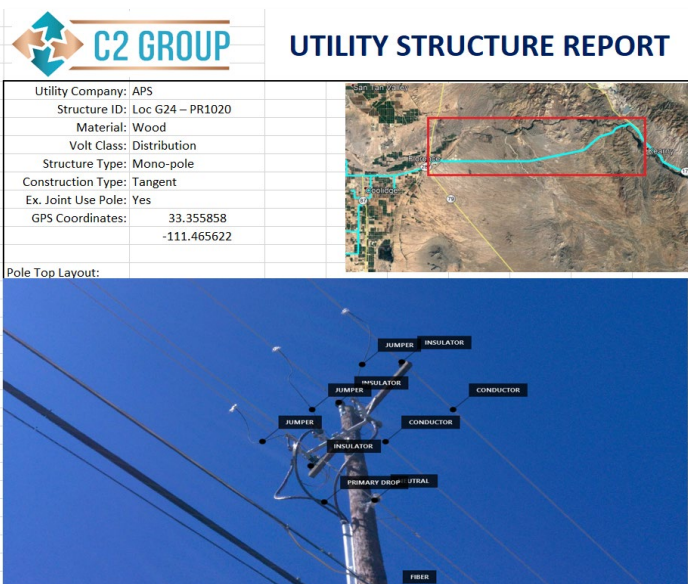


By merging the latest in technology in the form of precision LiDAR scanning at up to 1,000,000 points per second at 1mm accuracy, ultra-high-resolution aerial photogrammetry, and traditional survey methods we produce deliverables that meet and far exceed industry standards. Additionally, we provide high accuracy underground utility locating services, using ground penetrating radar (GPR) and radio detection (RD), that have a maximum of 10% variance in positional accuracy that we integrate into our design/engineering and GIS workflows.

Bringing technological innovation into site design has been the single most significant advantage in cutting costs, providing actionable data, reducing project deliverable durations and minimizing the number of site visits required for every design project we work on. Another advent of high-resolution imagery, LiDAR, precision utility locating, and better up-front design is a reduction in contractor RFI's and change orders that are a result of incomplete or inaccurate information and allows the engineer to assist clients in driving accountability with construction contractors.

Our surveying teams, drone pilots, and field inspection teams are supplied with and trained in the use of the following hardware:

- FARO Focus 350s & 70s LiDAR Scanners (+/- 1mm ranging accuracy)
- ROCK Robotics R1A UAS LiDAR (Real-time RTK/PPK GNSS @ +/- 5cm global accuracy)
- Intel Falcon 8+ Inspection & Survey Drones
- DJI M600 Pro, M300, and M210 Inspection & Survey Drones
- Trimble S7 Robotic Total Stations with 3D scanning (+/- 1mm ranging accuracy)
- Trimble R10 GNSS Receivers with HD-GNSS processing
- Trimble DiNi Digital Levels
- Trimble Ruggedized PC Tablets & TSC3 Controllers
- GSSI UtilityScan 200Mhz, 350Mhz, and 300/800Mhz Dual Frequency GPR units



Expertise:

- ☐ Aerial Photogrammetry
- ☐ ALTA Surveys
- ☐ Boundary Surveys
- ☐ Right-of-Way Engineering
- ☐ Easement Documents
- ☐ Building Information Modeling (BIM)
- ☐ Terrestrial LiDAR Scanning
- ☐ Mobile LiDAR Scanning
- ☐ Aerial (Drone) LiDAR Scanning
- ☐ Geographic Information Services (GIS)
- ☐ Underground Utility Locating
- ☐ Aerial Topography Mapping



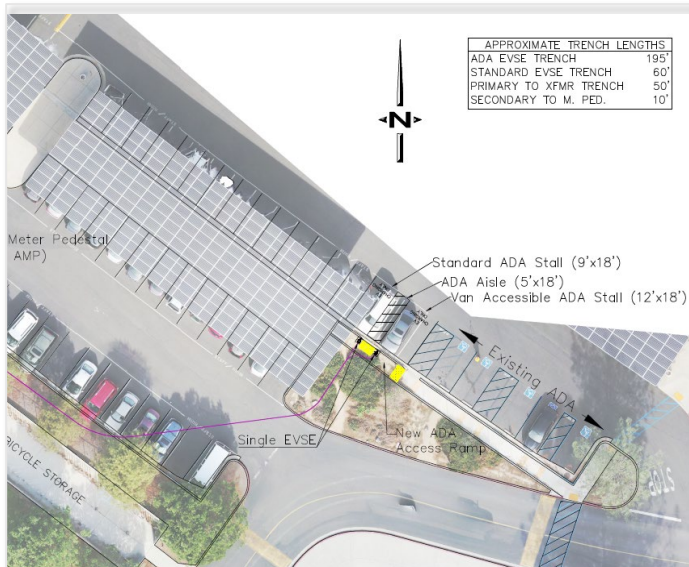
Professional Services Modern Survey (Data Collection and Underground Utility Locating)



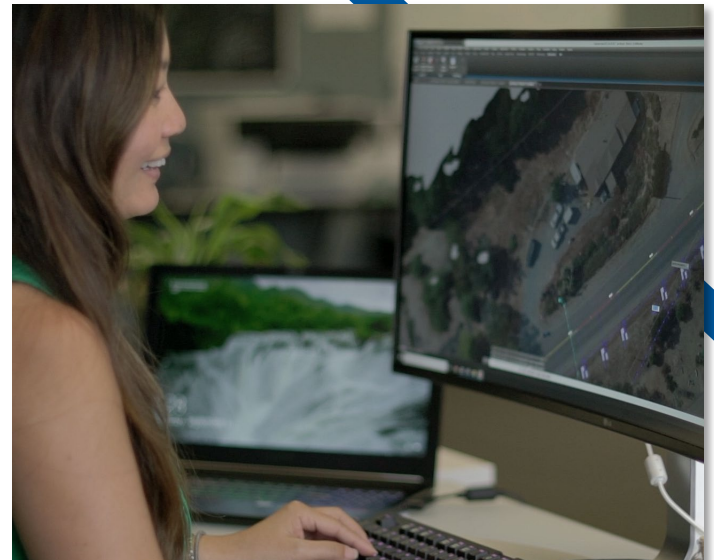
Locating an existing water main with GSSI Ground Penetrating Radar (GPR).



GPR utility locating – identifying water, gas, electric, TELCO/CATV, and sewer/storm drain locations.



Preliminary site design with planimetrics derived from LiDAR and drone acquired aerial imagery.



Basemap drafting and water main design – utilizing drone acquired aerial imagery, GPR, and RD – all tied to surveyed control points.



Leveraging our extensive program management and engineering teams as supporting resources, our outreach team with over two decades of customer service and public outreach experience play critical roles in the development and facilitation of program-driven outreach support.

Our outreach specialization team supports initiatives with unique nuances or sensitivities, which require a balance of effective communication and an unparalleled level of customer service. Serving as trusted liaisons, we aid in bridging disconnects rooted in the challenge of converting technical standards and program parameters to messaging that is more palatable to the impacted communities or businesses. With a focus on alignment of expectations and effectively addressing concerns, our team provides customized outreach and engagement solutions to that foster positive program perceptions with both internal and external stakeholders.



Expertise:

- ☐ Outreach Strategy & Development
- ☐ Program Outreach Implementation
- ☐ Messaging & Content Development
- ☐ Program Perception & Customer Escalation Support
- ☐ Cross-Functional Customer Liaison Solutions
- ☐ Video Production
- ☐ Townhall & Community Outreach Support

Related Program/Project Delivery Highlights

City of San Diego - Utility Undergrounding Program

C2's support includes post-construction outreach strategy development and implementation of outreach to residents impacted by the multi-year utility undergrounding program, creation of customer-centric program education resources, and execution of surveys to impacted property owners to extract feedback on overall program perception, identify unresolved concerns, and mitigation of escalations. Outreach support also included the development of GIS based survey and tracking tools to ensure transparency across program teams, accuracy in documentation of outreach touchpoints, and a customized weekly reporting detailing outreach efforts, number of resident touchpoints, overall program perception, and coordination with partnering utilities and agencies for resident resolution.

Zayo - Pinal County Fiber Installation for Underserved Communities

Outreach included coordination and facilitation of community town halls in partnership with the Bureau of Indian Affairs and participating utilities, to increase program awareness, provide community-centric support, and address community and stakeholder concerns. Community engagement efforts included outreach material and presentation content development, along with posters providing a customer-centric program overview to help residents better understand project impacts to the communities and residents.

City of Santa Rosa - Resilient City Recovery Fire Rebuild

Outreach efforts supported the communities and residents who lost their homes during the Tubbs Fire. Community engagement included workshops with community leaders providing an overview of City efforts and enhanced support options that were developed to aid in expediting permitting and rebuild coordination efforts. These efforts included the development of additional online resources to improve the self-service experience, incorporating resident-centric resources, partnering with utilities and contractors, and producing a video that provided an overview of the enhanced support options and walkthrough of the rebuilding process.



Behind the scenes video team capturing the San Diego Auto Show highlight video C2 produced:
<https://youtu.be/H2yDA9x8v2I>



Behind the scenes video team on the Power Your Drive Program Informational video that C2 Produced: <https://youtu.be/4ncbU4V7PNc>



The C2 Group
Oscar Miguel

Congressman, California-5th District
Mike Thompson

Our outreach team interviewing Congressmen and City Council for inclusion in C2 produced videos:
<https://youtu.be/lJODOMKQjLw>



Our Customer Outreach team providing support and staffing for the program outreach at the San Diego Auto Show.

C2 Group was formed with an understanding and a forecast that the technology solution sectors' rate of change was increasing. Technological innovation was going to be especially crucial within our infrastructure industry, which had seen little evolution in technology inclusion over the years. Drones and sensor attachments would change data collection, data centers, and high-speed data transfer technologies to contribute to geospatial and patterns recognition solutions, processing power, and the gaming industry's demands for hardware to help pull it all together.

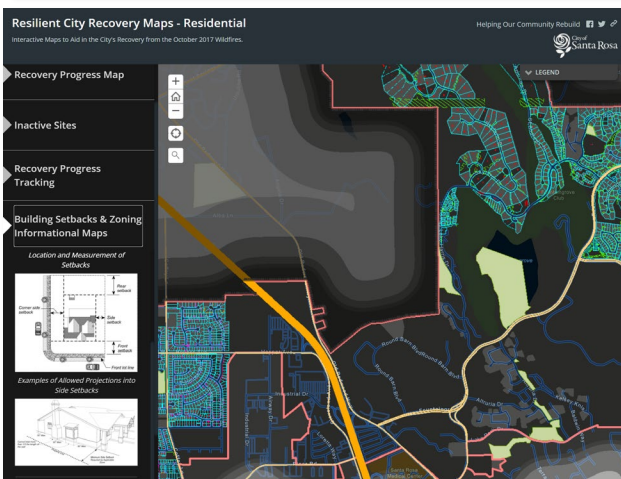
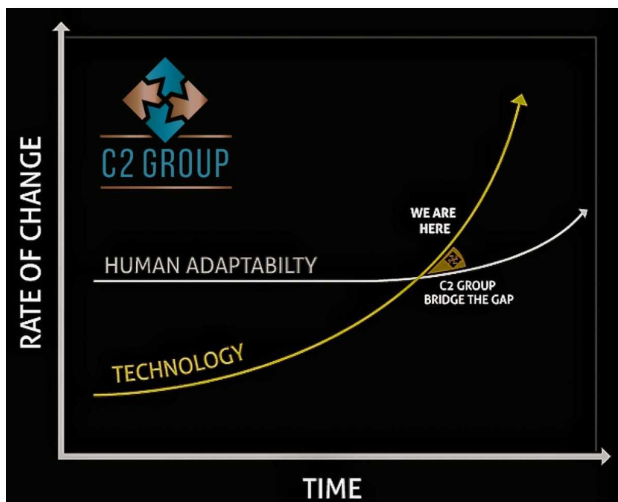
Given our baseline forecast, we combined traditional program/project/construction management, engineering, and land survey best practices with database and data architecture experts, software engineers, and media professionals to help our clients integrate technology and create new workflows and information outputs. Given our culture, our combined talent, and understanding of the infrastructure industry, we were able to help develop unique solutions to new problems. The following are highlights of some of these solutions:

Related Program/Project Delivery Highlights

GIS System Integrations

With a wide variety of program tracking and visualization methods, C2 Group utilizes ESRI's ArcGIS multiple platforms to centralize and visualize all data collected during a project life cycle. Centralizing the project data and documentation and linking it to a single geographic location has many benefits and serves various purposes. However, the primary and most important is the ease of access and searching for project information and getting the most updated version when published.

We utilize multiple ArcGIS platforms (ArcGIS Desktop, ArcGIS Online, and ArcGIS Collector) and combine the project's mapping information with other associated data and documentation. We focus on presenting the various information/documents (such as pictures, videos, pdfs of engineering drawings, field inspection reports, aerial imagery, High Definition inspection photos, and record data) in various layers and directly linking it to the original structured folders.



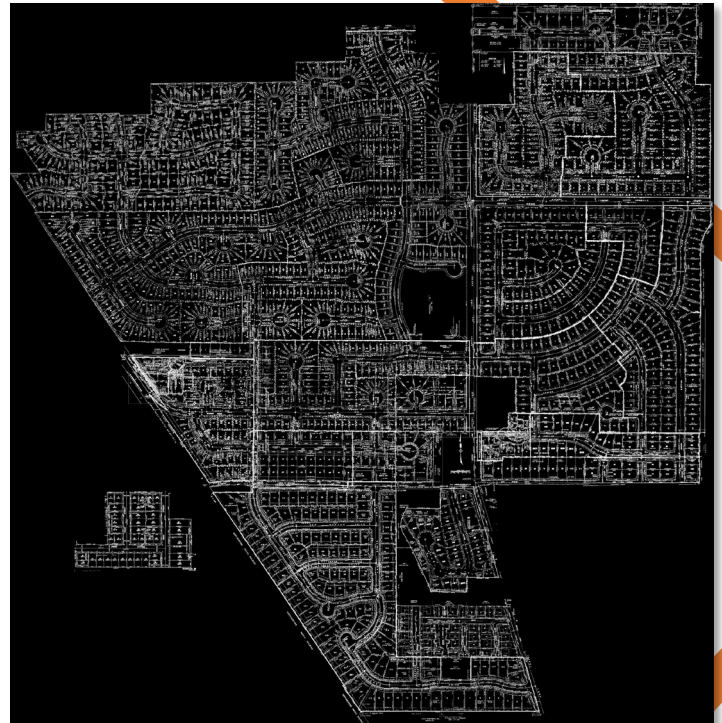
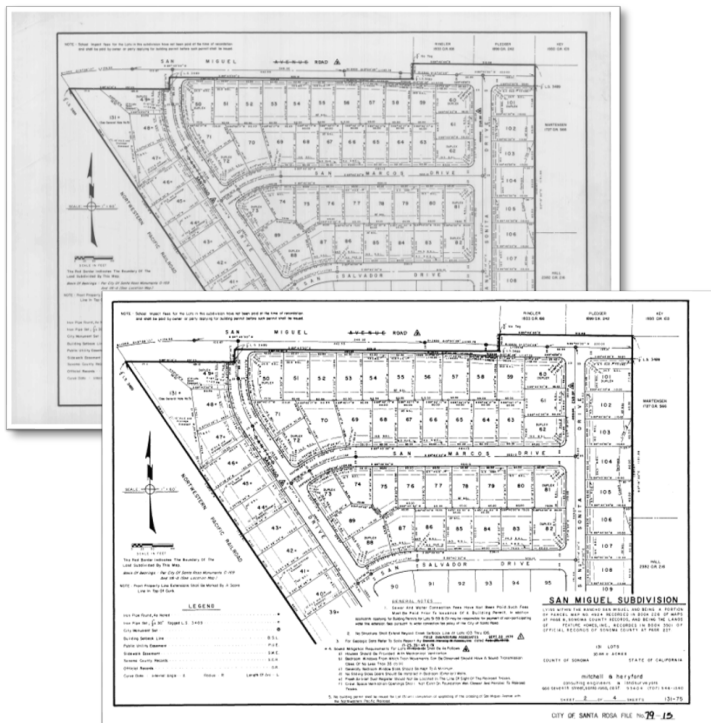
Related Program/Project Delivery Highlights

Expediting Permit Approvals of a Fire Devastated Community (paper to digital)

The City of Santa Rosa's 2017 Tubbs Fire destroyed approximately 3,000 homes. The City was looking to quickly permit those homes for reconstruction and FEMA/Insurance payout support. Parcels sizes, easement locations, setbacks, floor area ratio requirements, and more needed to be quickly understood, and the City only possessed paper copies of the parcel data. The traditional solution would typically require re-surveying and re-creating base maps from the survey work and historical documents. The approach would be both time-consuming and costly.

C2 Group was consulted. We developed a system for in-office scanning the current parcel information, re-conditioning the linework, and providing a historical validation of legal parcel and planning requirements. To save time, in the field, we identified survey monuments and set survey control, and flew the parcels with a drone to obtain accurate photogrammetry of the area. We combined the information to produce a georeferenced AutoCAD parcel map in less than half the traditional approach's time and cost.

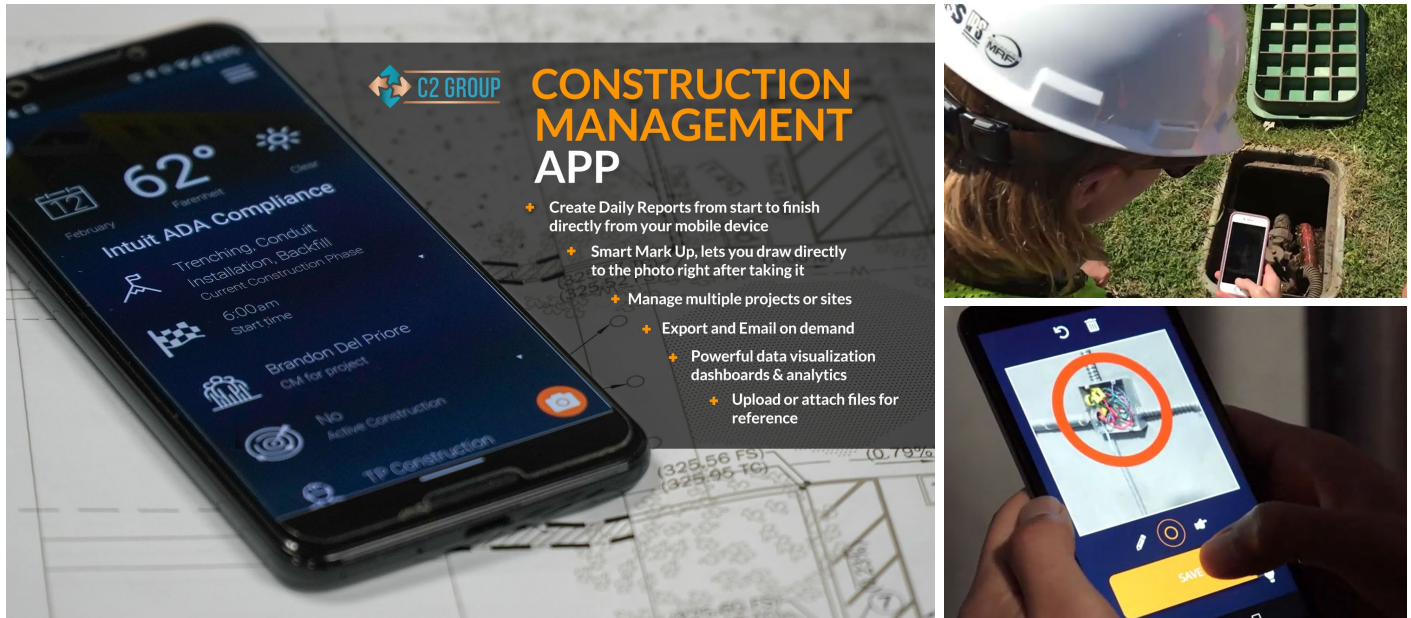
We took this one step further and created public documents so that each parcel presented the relevant information for their home rebuild planning and permitting processes, including a high definition image of each parcel, integrated within the City's GIS public platform.




Mobile and Desktop Software Application Development Construction App

We do a lot of construction management and inspection work; often in conjunction with a program we are managing. Most of our clients don't possess custom software or a centralized method to ensure that engineering and scheduling data are carried over in a continuous stream to construction management. Changes to construction, cost, and schedule are also not seamless, and change orders result in negotiations favoring the party who kept the best notes.

We decided to create a customizable web application that works both on our client's computers and as an app on the phone. The application we developed accounts for a project's lifecycle and created an inspection tool that provides transparent reporting to our clients. This is not a pay for service; if our clients choose, they can have the platform and host it on their servers, or we can host for them. The goal is to add value by providing software tools as part of being hired to support our clients while ensuring that our clients possess and own that information.



 **CONSTRUCTION
MANAGEMENT
APP**

- ♦ Create Daily Reports from start to finish directly from your mobile device
- ♦ Smart Mark Up, lets you draw directly to the photo right after taking it
- ♦ Manage multiple projects or sites
- ♦ Export and Email on demand
- ♦ Powerful data visualization dashboards & analytics
- ♦ Upload or attach files for reference



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